【請求項5】　請求項1において、
前記連携手段は、前記親機が「ある動画像」を表示しているとき、前記子機に、前記親機により表示された動画像の中の「ユーザーが指定した時点における画像」を「静止画像」として再生させるものである、親子連携型の表示システム。
【請求項6】　請求項1において、
前記連携手段は、前記親機が「ある動画像」を表示しているとき、前記子機に、前記親機により表示された動画像の中の「ユーザーが指定した時点以降の動画像」を再生させるものである、親子連携型の表示システム。
【請求項7】　ユーザーの居る場所から約2～3m離れた位置に据え置かれて使用され、「テレビ放送に、より送られてくる情報」に基づいて、主として画像から成る番組コンテンツを表示するための画面表示部であって複数人のユーザーが共同で見るための画面表示部を有する、大型且つ据置型の親機、
各ユーザーの手元で使用され、文字又は画像を表示するための画面表示部を有する、小型且つ携帯型の子機、及び、
前記親機により「ある画像」が表示されているとき、「その親機の画面に表示されている画像と関連する文字又は画像」を、前記子機の画面表示部に表示させるための連携手段、を含み、
前記親機は、「親画面」と共に、その「親画面」の中に「窓」のように構成された「子画面」をも表示できる、親子画面表示機能を有する表示装置であり、
前記連携手段は、前記親機が、「親画面」の中に「子画面」を表示しているとき、前記子機の画面表示部の全体又はほぼ全体に、前記の親機の「子画面」の表示内容を表示させるものである、親子連携型の表示システム。
【請求項8】　ユーザーの居る場所から離れた位置に据え置かれて使用され、「外部の記憶装置から取り込んだ情報」に基づいて、主として画像から成る内容を表示するための画面表示部であって複数人のユーザーが共同で見るための画面表示部を有する、大型且つ据置型の親機、
各ユーザーの手元で使用され、画像を表示するための画面表示部を有する、小型且つ携帯型の子機、及び、
前記親機により「ある画像」が表示されているとき、「その親機の画面に表示されている画像と関連する画像」を、前記子機の画面表示部に表示させるための連携手段、を含むことを特徴とする、親子連携型の表示システム。
【請求項9】　請求項8において、前記親機の画面表示部は、映画館の映画スクリーンの表示装置である、ことを特徴とする、親子連携型の表示システム。
【発明の詳細な説明】
【0001】
【発明の属する技術分野】本発明は、居間に置かれた大型の表示システムで画像を複数人で見ながら、各人の好みの画像（各人が個別に見たい人物、カメラアングル、時点などの画像）は各ユーザーの手元又は近傍で見るのに適した、親子連携型の表示システムに関する。
【0002】
【従来の技術】最近は、テレビ放送の電波の隙間を使って、番組内容に関連したデータを多重化してパソコン向けに送信するデータ放送（例えば「ビットキャスト放送」）を受信して、テレビ番組の関連情報を「親画面の中に「窓」状に開かれた子画面」で表示する場合が生じる。なお、「ビットキャスト放送」は、日本国東京都渋谷区のインフォシティが開発したサービスで、テレビ画面を構成する525本の走査線の中、21本は使わないが、それらのうち4本を使って毎秒40キロビットで情報を送るものである。テレビ番組とその関連情報が同時並行して流れる点が特徴で、パソコンでテレビを見ながら番組に関連する詳しい情報をリアルタイムに呼び出せるのが売り物。日本のテレビ放送会社のTBSは、このビットキャスト放送を、1997年7月から関東地区で開始し、1997年10月から本格放送する予定である（以上は、1997年9月7日付け日本経済新聞夕刊の記事「ビットキャスト放送　パソコン画面を利用　テレビ見ながら関連データ受信」、及び、日経産業新聞の記事「TBSとバーチャルコミュニケーションズ　放送・ネット融合しゲーム」を引用した）。また、大画面上に小型の画面を映し出す「ピクチャー・イン・ピクチャー（PIP）」機能を搭載したテレビが、日本の三菱電機株式会社などから発売されているが、このPIP機能付きのテレビで見る場合は、例えば、大画面に迫力のある映像が表示され、小型の画面にその映像に関連した詳細情報が表示されることがあり、これも、「大画面（親画面）の中に小画面（子画面）が表示される場合」の一種である。なお、このPIP機能を搭載したテレビについては、米国のアンペックス（カリフォルニア州）と三菱電機との間が特許侵害訴訟が行われている（1997年9月3日付け日経産業新聞の記事「三菱電機が米社に勝訴　PIP搭載テレビで」参照）。また、テレビでインターネットのホームページを閲覧できる「インターネット・テレビ」も最近は市販されている。このインターネットのホームページは、そのリンク先のホームページに瞬時に切り替えられることを主な特徴としている。
【0003】
【発明が解決しようとする課題】以上のように、最近は、居間（リビング）に置かれたテレビで、「大画面（親画面）の中に小画面（子画面）が表示された画面（ピクチャー・イン・ピクチャー）」や、「インターネットのホームページ」などを見る機会が増えている。
【0004】従来より、居間でユーザーが約2～3m程度離れて見る「居間（リビング）文化」（家族団欒で楽しむ）の据置型の大型テレビと、オフィスや書斎で机上

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でユーザーが３０ｃｍの距離から見る「書斎文化」（個人のツールである）のパソコンとは、簡単には融合できない、と言われて来た。また、同じ文脈で、テレビは居間で受動的に「リラックス」して見るもの、パソコンは書斎・個室・職場で能動的に「緊張」して使うものともと言われる。さらに、同じ文脈で、テレビは居間のソファで「背中をもたれかけて」（リラックスして）見る、パソコンはデスクで「背中を丸めて」使う、とも表現されている。

【０００５】また、インターネットのホームページの内容によっては、ユーザーから離れた大型の表示装置で見るのに適したタイプＡのものと、各ユーザーの近傍又は手元の比較的小さい表示装置で見るのに適したタイプＢのものとがある。例えば、「ユーザーの手元」で使用するパソコンでは、タイプＡの情報を、「家族などの大勢」で見ることができないので、十分に楽しめない。このように、据置型のテレビ（家族などの大勢で使用する）のみでも、またパソコン（各ユーザーの手元で使用する）のみでも、いろいろな点でユーザーの使い勝手が悪い、という問題がある。

【０００６】また、サッカーなどの団体スポーツの試合の中継番組、劇場からの演劇中継番組、音楽演奏グループのコンサート中継番組などを、「家族などの大勢」で居間の大型のテレビで見ているときに、「各ユーザー」は、団体スポーツの中の一人の選手、演劇の中の一人の俳優、音楽演奏グループの中の一人のメンバーのみの顔を追跡して見ていたい（その「一人」を自分がファンとして慕っている場合）と希望することがある。しかし、居間に置かれた大型のテレビは、「家族全員」が共有して楽しむものであるから、「自分一人だけ」の好みを優先して前記の一人の顔をずっとその大型のテレビに写して置く訳にはいかない（家族の他のメンバーに迷惑になるため）。

【０００７】また、「家族」で居間の据置型のテレビで同様の中継番組を見ているとき、「家族の中のある一人」が、ある選手や俳優のプロフィールを見たいと希望しても、据置型のテレビの画面に例えば「子画面」としてプロフィールを表示させることは、「他の家族」に迷惑になってしまう。というのは、親子２画面方式のテレビ（テレビジョン受信機）を使用する場合、「親画面」の中に「窓」状の「子画面」を表示させるのは、「親画面」に集中して見ている人の妨げになる（「子画面」が「親画面」を集中して鑑賞するための障害となる）ためである。そのため、「家族の一人」がある選手や俳優のプロフィールを見たいと思っても、「他の家族」の迷惑になるので、なかなか実行しずらいという問題がある。

【０００８】本発明は、このような従来技術の課題に着目してなされたもので、次の２つを主たる目的としている。すなわち、まず（１）家族などの「複数人のユーザー」が共同してある画像を一緒にユーザーから２～３ｍ程度離れた位置にある大画面で見ながら、同時に、「個々の各ユーザー」のそれぞれが自分の希望する前記親機の表示画面の内容と「関連する画像」（例えば、画面の一部を拡大して表示する映像、画面の中の特定の人物を拡大して表示する映像、他のカメラアングルで撮像した映像、時間軸において関連する画像（例えば現在より少し前の時点の静止画やリピート再生画像など）など）を、個々の各ユーザーの手元又は近傍で見ることを可能にすることができるようにすること、を目的とする。また、（２）従来のピクチャーインピクチャー機能を有する親子２画面方式のテレビにおいては、親画面の中に子画面を表示させるため、その子画面の存在がユーザーが親画面を集中して鑑賞することの妨げになっていた（子画面の存在により親画面に手中できない）という問題点があったので、そのような問題点を回避・解消すること、を目的とする。

【０００９】

【課題を解決するための手段】本発明が生み出された経緯．居間に置かれる壁掛けテレビなどの大型の据置型の表示装置は、家族全員で共用して見る（家族団欒で見る）のに適しており、複数のユーザーが、表示画面から約２～３ｍ離れた位置から、テレビ番組などを見るのに適している。他方、パーソナルコンピュータ（パソコン）、ＰＤＡ（情報携帯端末）などの小型の携帯型の表示装置は、各人が個人的に利用するのに適しており（個人で使う「パーソナル・メディア」である）、個々のユーザーが、それぞれその手元又は近傍で、新聞情報などの文字・画像情報をその手元又は近傍で見るのに適している。

【００１０】このようなことから、本発明者は、居間に置かれる大型の据置型表示装置と、個人が手元で使用する小型の携帯型表示装置とでは、その表示される内容に適不適があると考えた。すなわち、居間に置かれる大型の表示装置には、家族が全員で共用して楽しめ、且つ約２～３ｍ離れて見るのに適した従来のテレビ番組などの内容を表示するのに適している。他方、個々の各ユーザー個人の手元に置かれる小型の携帯型表示装置は、ユーザーが個人的に（家族全員ではなく）利用する情報を表示するのに適している。そこで、本発明者は、両者の特性を合わせ発揮できる「親子連携型テレビ」が今後必要になると考えた。具体的には、従来のテレビの機能を、「親機」（住宅の居間に、ユーザーから２～３ｍ離れた位置に置かれる、据置型の大型のテレビ）と「子機」（ユーザーの手元に置かれる、携帯可能な小型のテレビ）とに、ハードウェア的に分離する。そして、例えば、従来のＰＩＰ（ピクチャーインピクチャー、親子２画面表示）機能を有するテレビの親画面と子画面を、それぞれ、ハードウェア的に分離された親機と子機とに分担させよう、とするものである。従来のＰＩＰ機能のテレビ画面において、子画面に表示されている画面は、ユ

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ーザーの手元の「子機」に表示させる方が望ましいからである。

【００１１】以上の観点から、前述のような従来技術の課題を解決するための本発明による親子連携型テレビは、親機と子機が互いに連携しながら、親機の表示画面の内容と子機の表示画面の内容とが互いにリアルタイムに又はほぼリアルタイムに連動して行き、また、親機と子機とがそれらの画面表示する内容及び役割を互いに分担して行くことを特徴とするものである。

【００１２】本発明の内容.

１．本発明は、ユーザーの居る場所から約２～３ｍ離れた位置に据え置かれて使用され、「テレビ放送により送られてくる情報」に基づいて、主として画像から成る番組コンテンツを表示するための画面表示部であって複数人のユーザーが共同で見るための画面表示部を有する、大型且つ据置型の親機、各ユーザーの手元で使用され、画像を表示するための画面表示部を有する、小型且つ携帯型の子機、及び、前記親機により「ある画像」が表示されているとき、「その親機の画面に表示されている画像と関連する画像」を、前記子機の画面表示部に表示させるための連携手段、を含むことを特徴とする、親子連携型の表示システムである。なお、本発明において、前記の「その親機の画面に表示されている画像と関連する画像」とは、例えば、「その画像と関連するインターネット上のホームページに表示された画像」や「前記の親機の画像に関連する画像であって、データ放送により送信された画像」などである。

【００１３】また、本発明において、「据置型」という用語は、「重量が大きいため、又は、住宅な固定されているため、容易に動かせない（非携帯型）」という意味で使用されており、この「据置型」には、居間などのフロアの上に据え置かれるタイプ、居間などの内壁に掛けられる壁掛けタイプ、居間や寝室などの天井に備え付けられるタイプ、又は、居間や寝室などにおいて天井と壁とフロアとの間を相互に移動させられるタイプなどをも含むものである。

【００１４】また、本発明においては、前記子機は、ユーザーが自由に持ち運びできる携帯型である。前記子機は「ユーザーが手元で使用できるもの」である。

【００１５】また、子機と親機との接続は無線でなく有線で行うようにしてもよい。つまり、本発明においては、子機は、無線により親機と連携するようにすることが多くの場合は望ましいが、子機に表示すべき内容のデータを、親機又はホームサーバーなどから、有線送信で、子機に送信するようにしてもよい。

【００１６】すなわち、上記の１の発明においては、子機が親機と無線で接続されていることが望ましい。しかし、子機と親機とは、必ずしも、無線で接続させていなくてもよい。なぜなら、一つの家庭についてホーム・サーバー（データ管理用コンピュータ）を設置して、放送電波又は外部の通信ネットワークからの放送又は送信された情報を、全て、いったん、このホーム・サーバーに取り込むようにし、その後、このホーム・サーバーが、親機と子機が互いに連携した情報を表示できるように、親機と子機にそれぞれ情報を送る（再配信する）ようにしてもよいからである。この場合は、子機はホーム・サーバーと無線又は有線で接続され、親機もホーム・サーバーと無線又は有線で接続される。つまり、本発明では、親機と子機との間で直接にデータをやり取りさせることが可能であるが、ホーム・サーバーを使用する場合は、親機と子機との間で直接にデータをやり取りさせることなくホーム・サーバーを介してデータをやり取りさせるようにしてもよい（「ホームサーバー」に関しては、日経ＢＰ社発行「日経エレクトロニクス」１９９７／１０／６号１００～１７０頁の記事「コネクテッドホーム」を参照）。

【００１７】また、本発明においては、前記の「小型の子機」には、ＨＭＤ（ヘッドマウントディスプレイ）も含む。なお、このＨＭＤは、メガネ型、ゴーグル型、ヘルメット型など、ディスプレイをユーザーの頭部又は顔に支持するようにしたものである。

【００１８】また、本発明においては、子機は複数台でもよい。例えば、家族４人が居間で一つの据置型の大型テレビを見ながら、家族４人がそれぞれ子機を手元に置いて、自分の好みや希望に応じた内容の画面を子機に表示させるようにしてもよい。

【００１９】また、本発明においては、前記子機は、前記親機用のリモートコントローラ（リモコン。遠隔から赤外線信号などを送信して、テレビなどの表示装置の電源のＯＮ／ＯＦＦやチャンネルの切換えを行うための携帯機器）と機器としては一体に構成してもよい。すなわち、テレビなどの表示装置の電源のＯＮ／ＯＦＦやチャンネルの切換えを行うためにユーザーが制御情報を入力するための入力装置と、この制御情報を無線送信するための送信装置と、映像を表示するための表示装置と、外部から映像情報を受信するための受信装置とを、「リモコン」として、一つの筐体（例えば、ノート型、手帳型の情報機器）の中に備えたものを構成してもよい。

【００２０】なお、本発明において、上記の親機が表示する番組を示す情報である「テレビ放送により送られてくる情報」には、デジタル衛星放送や地上波などのテレビ放送電波により送られてくる情報、ＣＡＴＶ（ケーブルテレビ）すなわち有線テレビ放送により送られてくる情報、インターネットの「プッシュ型技術」「放送型インターネット」）により自動配信されてくる情報、インターネットのホームページからそこにアクセスしたユーザーの通信端末へ連続的に送られてくるコンサート（演奏会）やスポーツの試合などの生中継の番組などの情報、などをも含むものである。特に、本発明では、「テレビ放送局やインターネット放送局から連続的に送られ

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てくる情報」が親機に表示される場合を、その使用の典型的な場合としている。

【0021】すなわち、本発明において、上記の「テレビ放送により送られてくる情報」とは、テレビ放送（地上波テレビ放送、衛星デジタルテレビ放送）の電波（地上波テレビ電波や衛星テレビ電波の隙間を利用してデータを放送する「データ放送」で利用される「テレビ電波の隙間（ＶＢＩ＝Ｖｅｒｔｉｃａｌ　Ｂｌａｎｋｉｎｇ　Ｉｎｔｅｒｖａｌ）」をも含む）、インターネットの「プッシュ技術」を利用した「インターネット放送局」から個々のユーザーの通信端末（コンピュータ端末）に自動配信（送信）されてくる情報、インターネットのサイト（ホームページ）からユーザーの端末に連続的に送信される番組（例えばコンサートの生中継映像）、などを指している。なお、本発明において、「テレビ」とは、「画像又は文字を電気信号又は光信号などの信号に変換して、それを電波やケーブルなどを介してユーザー側に送り、ユーザー側で前記の画像又は文字を再生する放送・通信の方式に基づいて、前記の画像や文字を再生するための受像機又は受信機」（参考：株式会社岩波書店より１９９４年９月１２日発行の「広辞苑第４版」の「テレビジョン」の項目）である。

【0022】なお、上記のインターネットの「プッシュ（ｐｕｓｈ）技術」（「放送型インターネット」「インターネット放送」とも呼ばれている）とは、ユーザーからのアクセスを待つことなく、インターネットで情報を積極的にユーザーに配信するための仕組みのことである。但し、現在のプッシュ型情報配信は、「Ｐｏｌｌａｎｄ　Ｐｕｌｌ」と呼ばれるもので、クライアント（通信端末）が一定間隔毎にサーバー（ネットワーク接続管理用コンピュータ）にアクセスし、情報が更新されていれば、最新の情報をダウンロードするものであり、サーバーが情報を選択して配信しているわけではない。しかし、クライアントから見れば、サーバーが自動的に情報を配信しているように感じられるので、便宜的に「プッシュ型情報配信」と呼ばれている。ホームページの自動巡回ソフトウェアの機能を拡張し、操作を自動化してものと考えればよい。米国のポイントキャスト社が１９９６年２月にサービスを開始した「Ｐｏｉｎｔｃａｓｔ　Ｎｅｔｗｏｒｋ」では、クライアントに「Ｐｏｉｎｔｃａｓｔ」というソフトウェアをインストールし、ニュースやスポーツ、健康など、自分が好きな分野を登録しておくと、その分野の最新情報を受信することができる。サーバーから受信された情報は、ティッカー（電光掲示板）やスクリーンセーバーによってクライアントのデスクトップに表示されるので、ユーザーには、最新の情報が常にサーバーから配信されているように感じられる。いわば、インターネットのホームページをテレビ感覚で見られる仕組みと言ってもよい（以上、社団法人著作権情報センター発行「コピライト」１９９７／１１号２５～２６頁、石田徹著「プッシュ型情報配信」より引用）。また、上記の「データ放送」については、下記の３の発明の説明の中で詳述する。また、上記の「インターネットのサイト（ホームページ）からユーザーの端末に連続的に送信される番組（例えばコンサートの生中継映像）」については、次のような新聞記事を、次に引用しておく。「松下電器産業はインターネットを使った中継ビジネスに進出する。カメラ一体型ビデオで撮影した動画像を、インターネット経由でパソコンにリアルタイムで送信する仕組みで、安価な機材で生中継ができるのが特徴。このほど吉本興業が大阪で開いたイベントを試験的に中継した。今後はスポーツ試合やコンサートなどを中継する考えだ。松下が試験中継したのは、若い女性に人気のある「よしもと心斎橋２丁目劇場」の若手タレントが出演したイベント。会場をカメラ一体型デジタルビデオカメラ３台で撮影、映像をいったんその場でノート型パソコンに取り込んだ上、東京、大阪など国内４カ所にある松下のインターネットサービス「Ｈｉ－Ｈｏ」のアクセスポイントにＰＨＳ（簡易型携帯電話）で送信した。Ｈｉ－Ｈｏにアクセスすればパソコン画面で中継番組を見ることができ、画面上ではビデオカメラを自由に指定でき、異なるアングルの映像を楽しめる。動画のスピードは１秒当たり２コマ。（後略）」（以上、１９９７年９月２日付け日本経済新聞の記事「インターネットで生中継」より）。なお、現在「リアルタイム・アプリケーション」が注目されている。これには、「インターネット放送」と「対戦型ゲーム」とがある。「インターネット放送」は、インターネットを介して、音声あるいは音声と動画を同時に複数のユーザーに送る同時通信の形態である。「対戦型ゲーム」は、インターネットを介して複数のプレーヤが対戦を行うものである（以上、１９９７年１２月７日付け株式会社ニュートンプレス発行「Ｎｅｗｔｏｎ１２月臨時増刊」６６頁より引用）。なお、「インターネット放送」に関しては、１９９７年１２月７日付け株式会社ニュートンプレス発行「Ｎｅｗｔｏｎ１２月臨時増刊」７２頁を次に引用しておく。

「リアルタイムに伝送・再生される音声や動画像が、インターネット利用に新しい可能性をもたらしている。（中略）１９９５年にストリームワークスが登場して以来、動画や音声データをダウンロードしながら同時に再生する「ストリーミング技術」は、大変な発達をとげて今日に至っている。最近では、ストリームワークス以外にも、リアルプレーヤー（リアルビデオ、リアルオーディオ）、ＶＤＯライブ、Ｖｉｖｏアクティブなど多くの方式が存在し、５６キロビット／秒のモデムの登場やＩＳＤＮの普及など通信速度の向上と相俟って、ハードディスク上でムービーファイルを再生するの同程度のクォリティを実現している。リアルタイム再生技術の発達は、（中略）インターネットにおける放送という新しい領域を現実のものとした。今日では、多数のインターネ

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ット放送局が、ライブ放送を含む放送を実際に行っており、主要なインターネット雑誌にはその放送スケジュールが掲載されている。（中略）今後はさらに、インターネットの双方向性を活用した全く新しい番組が登場してくるだろう。」

【００２３】

【００２４】

【００２５】

【００２６】

【００２７】テレビ電波の隙間にデジタル化したデータ信号を重ねて伝送するサービス（日本でも１２年前から実用化されている従来のテレビの「文字放送」と同じように、テレビの電波の隙間を使用してデータを送る「データ多重放送サービス」）である「データ放送」は、既に複数の企業により開始されている。例えば、日本の全国朝日放送（テレビ朝日）の「ＡＤＡＭＳ」は、番組情報やニュースなどをＨＴＭＬファイル（インターネットで広く使われているＨＴＭＬ形式のデータ）で配信しブラウザーを使用して再生するものである。また、日本の東京放送（ＴＢＳ）の「データパレード」も同様のサービスで、ＨＴＭＬファイルの配信を行い、さらに、コンピュータ・プログラムの配信も行っている。また、日本で通信衛星によるデジタル放送を運営する日本デジタル放送サービス（ＰｅｒｆｅｃＴＶ）は、１９９８年2月以降、パソコン向けのデータ放送サービス「ＰｅｒｆｅｃＰＣ」を開始する。このサービスは、パソコンに専用の受信ボードとソフトウェアを組み込んで利用する。ＨＴＭＬファイルやソフトウェアの配信機能を利用した新聞や雑誌の電子出版、インターネットのホームページのデータ、ゲーム・ソフトなどの配信を計画している。１９９８年の夏以降には、テレビ放送と連動したデータの配信も行う予定である（以上、日経ＢＰ社発行の「日経パソコン　１９９７年１２月１日号」の第２２頁より引用）。

【００２８】

【００２９】

【００３０】

【００３１】本発明においては、前記親機は、ユーザーが希望する情報を提供できる双方向型（インタラクティブ）の放送・通信サービス機能を有するものであることが望ましい。また、本発明においては、子機に親子画面表示機能を備えさせておき、子機の「親画面」に前記の「関連する画像」を表示しながら、子機の「子画面」に親機の表示内容と同じ情報を表示するようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容をも知ることができる。

【００３２】前記の「関連するインターネット上のホームページの画像情報」の提供は、インターネットでリンクされたホームページの情報をブラウザーにより閲覧することにより、可能である。また、インターネットの「プッシュ（ｐｕｓｈ）型技術」の利用、インターネットの「マルチキャスト技術」によるデータ配信の利用によっても、可能である。

【００３３】例えば、日本のＴＢＳ（東京放送）が「データパレード」（日本のベンチャー企業のインフォシティが開発した「ｂｉｔｃａｓｔ」と呼ばれる技術を利用）という名前で提供している地上波データ放送のサービスでは、テレビに放映される番組やＣＭ（コマーシャル）と連動した情報提供を可能にしている。このサービスでは、パソコンにテレビ番組を表示すると同時に、関連するインターネットのホームページの情報を表示することができる。商品のＣＭが流れている間に、より詳しい商品説明などの関連する詳細情報を掲載したホームページを流すといった使い方も可能になっている（以上、日経ＢＰ社発行の雑誌「日経マルチメディア」１９９７／１０月号５０頁「データ放送本番開始」より）。本発明によれば、例えば、この「データパレード」のサービスにおいて、親機に商品のＣＭが流れているときに、子機にそのＣＭの商品の関連詳細情報を表示させること、などが可能となる。従来は、前記の商品の関連詳細情報は、親子２画面表示方式のテレビ画面の子画面（「窓」）に表示されている。

【００３４】なお、ここで、「データ放送」とは、放送電波を使用して一般のテレビやパソコン向けに文字情報や静止画、映像、プログラム・データなどを含むマルチメディア・コンテンツを流し込めるメディアのことである。上記の「データパレード」では、地上波テレビ電波の隙間（ＶＢＩ＝Ｖｅｒｔｉｃａｌ　Ｂｌａｎｋｉｎｇ　Ｉｎｔｅｒｖａｌ）を使用して、ユーザーのパソコンなどに向けて、インターネットと同様のコンテンツを配信し、受信には文字放送用の受信ボードを拡張したものを使用している。「ｂｉｔｃａｓｔ」では、個別の小さな「番組」を次々に送る方式で、番組をリアルタイムに表示したり、メニューから選択して見ることもできる。ハード・ディスクの設定容量内で、古い番組から順に消して行くという手法をとる。ただし、ユーザーが指定した番組について削除せずに保存しておく機能を備える（以上、日経ＢＰ社発行の雑誌「日経マルチメディア」１９９７／１０月号５３～５５頁「データ放送本番開始」より）。

【００３５】また、１９９７年１２月より日本でＣＳ衛星放送を開始したＤＩＲＥＣＴＶ（ディレク・ティービー）でも、１９９８年春にテレビ向けの衛星データ放送を開始する予定で、スポーツや競馬などのテレビ番組と連動させた情報提供サービスを手掛ける予定である。日本中央競馬会（ＪＲＡ）はこのＤＩＲＥＣＴＶのデータ放送で競馬番組を流すことを検討している。ＪＲＡは既に電話回線を使ったオンライン投票（馬券購入）サービスを手掛けているが、衛星データ放送を活用した投票端

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末の開発にも着手しており、１９９８年以降にもその投票端末が誕生する（以上、日経ＢＰ社発行の雑誌「日経マルチメディア」１９９７／１０月号５１頁「データ放送本番開始」より）。本発明によれば、例えば、このＤＩＲＥＣＴＶの通信データ放送を利用する競馬番組で、親機に競馬の実況中継番組を流しながら、子機には「オンライン投票（馬券購入）のためのに必要な画面」を表示させるようにすることができる。

【００３６】ＤＩＲＥＣＴＶが予定している衛星データ放送のサービスである、簡易双方向機能「インタラクＴＶ」は、配信するデータをカルーセル（回転木馬）のように一定サイクルで繰り返し送出し、リモコン（リモートコントローラ）で必要な画面だけを取り出す仕組みである。こうすると、端末のメモリー容量が少なくて済むようにでき、衛星放送受信端末の中に標準で組み込むことが可能になる。ＤＩＲＥＣＴＶでは、この受信端末に標準搭載するデータ放送機能は、当面、「テレビ番組連動型」に限定する予定で、カタログ・ショッピングなどの「独立型」（テレビ番組とは独立した内容）のデータ放送サービスは将来的な課題とする予定である。この「インタラクＴＶ」では、カルーセル方式により、一定間隔で繰り返し送信されるデータが、ユーザーのリモコン操作により抽出されて、テレビ映像の上により表示される。ユーザーがリモコン操作するときは、テレビ映像にデータ放送による文字や図形が重ねられ、リモコンでメニューを選ぶ操作を行う。すなわち、例えば、サッカーなどのスポーツの試合の中継番組では、画面の例えば左端に、「メンバー表、試合経過の詳細、これまでの戦績、他競技場の経過」などのメニューを示す文字が表示され、ユーザーが前記のいずれかのメニューを選択すると、そのメニューの画面が「子画面」などで表示されるようになっている（（以上、日経ＢＰ社発行の雑誌「日経マルチメディア」１９９７／１０月号５６～５７頁「データ放送本番開始」より）。

【００３７】

【００３８】

【００３９】

【００４０】２．上記１において、前記連携手段は、前記親機が「複数の人物」を含む動画像を表示しているとき、前記子機の画面表示部に、前記親機の画面に表示されている「ある一人の人物」であってユーザーから指定された「特定の一人の人物」の画像を表示させるものである、親子連携型テレビ。

【００４１】本発明は、例えば、複数人を一緒に撮像した映像と、各人を撮像した映像とが一緒に放送又は送信されて来て、親機には「複数人を一緒に撮像して映像」が表示されているとき、子機に、「ユーザーが指定した特定の人物の映像」を表示させる、というものである。なお、本発明においては、子機に親子画面表示機能を持たせておき、子機の「親画面」には前記の「ユーザーが指定した特定の人物の映像」を表示させながら、子機の「子画面」には前記親機の表示内容（「複数人を一緒に撮像した映像」）をそのまま表示させるようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容をも同時に知ることができる。

【００４２】３．上記１において、前記連携手段は、前記親機が、ある対象を複数のカメラ・アングルで撮像して得られた映像の中の「あるカメラ・アングルで撮像された映像」を表示しているとき、前記子機の画面表示部に、前記親機の画面に表示されている映像のカメラ・アングルとは異なる「他のカメラ・アングルで撮像された映像」を、表示させるものである、親子連携型テレビ。

【００４３】本発明は、例えば、野球などのスポーツ試合の中継番組などで既に行われている「マルチ・カメラアングル放送・送信」などにおいて、親機の画面表示部に、あるカメラアングルからの映像が表示されているとき、子機の画面表示部には、他のカメラアングルからの映像を同時に表示させる、というものである。なお、本発明においては、子機に親子画面表示機能を持たせておき、子機の「親画面」には前記の「ユーザーが希望したカメラ・アングルから撮像した映像」を表示させながら、子機の「子画面」には前記親機の表示内容（例えば、テレビ局が選択したカメラ・アングルから撮像した映像）をそのまま表示させるようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容をも同時に知ることができる。なお、前記の「マルチ・カメラ・アングル放送」を実現する一つの方法として、一つの番組を複数のチャンネルで提供するというものがある。例えば、野球やサッカーの中継では、現在カメラの切り替えは放送局で行っているが、個々のカメラでとらえた映像を、それぞれ別のチャンネルに流すようにすれば、視聴者は、自分でチャンネルを切り替えることにより、それぞれのシーンを自分が望む角度（カメラ・アングル）から見れるようになり、「疑似インタラクティブ（双方向）テレビ」が実現できることになる（以上、１９９７年１２月７日付け株式会社ニュートンプレス発行「Ｎｅｗｔｏｎ　１２月号臨時増刊」５４頁より引用）。

【００４４】４．上記１において、前記連携手段は、前記親機が「ある動画像」を表示しているとき、前記子機の画面表示部に、前記親機が表示した画像の中の「一部」であってユーザーから指定された「一部」の画像を、表示させるものである、親子連携型テレビ。

【００４５】本発明は、例えば、ビットマップディスプレイ（情報をドット単位で表示する方式）方式の親機にある画像が表示されているとき、ユーザーが指定したある領域（画面の一部）のビットマップに係る画像のみを、子機にリアルタイムに表示させる、というものである。

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【００４６】なお、本発明においては、子機に親子画面表示機能を持たせておき、子機の「親画面」には前記の「ユーザーが指定した画面の一部」を大きく表示させながら、子機の「子画面」には前記親機の表示内容（親機の表示画面の全体）をそのまま表示させるようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容の全体をも同時に知ることができる。

【００４７】５．上記１において、前記連携手段は、前記親機が「ある動画像」を表示している最中に、前記子機に、前記親機により表示された動画像の中の「ユーザーが指定した時点における画像」を「静止画像」として再生させるものである、親子連携型テレビ。

【００４８】この６の発明においては、前記親機に表示された動画像の中の「ひとこま」を示す画像又はその一部を、前記子機に静止画像として表示するようにしている。本発明では、例えば、親機、子機又はホームサーバーなどに備えられたハードディスクやＤＲＡＭ（ダイナミック・ランダム・アクセス・メモリ）などの記録装置に、親機に表示される動画像をリアルタイムに記録させていき、ユーザーからの指示に基づいて、ある時点の画像を静止画像として子機に表示（再生）するものである。

【００４９】なお、本発明においては、子機に親子画面表示機能を持たせておき、子機の「親画面」には前記の「ユーザーが指定した静止画像」を大きく表示させながら、子機の「子画面」には前記親機の表示内容（現在進行中の動画像）をそのまま表示させるようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容をも同時に知ることができる。

【００５０】６．上記１において、前記連携手段は、前記親機が「ある動画像」を表示している最中に、前記子機に、前記親機により表示された動画像の中の「ユーザーが指定した時点以降の動画像」を再生させるものである、親子連携型テレビ。

【００５１】この７の発明においては、前記親機が前記動画像を表示している最中に、前記親機に表示された画面の全体の動画像を又は前記画面の一部の動画像を、前記子機に、リピート（巻き戻し・再生）して表示させるようにしている。本発明では、例えば、親機、子機又はホームサーバーなどに備えられたハードディスクやＤＲＡＭ（ダイナミック・ランダム・アクセス・メモリ）などの記録装置に、親機に表示される動画像をリアルタイムに記録させていき、ユーザーからの指示に基づいて、ある時点からの画像をリピート（再生）するように子機に表示するものである。

【００５２】なお、本発明においては、子機に親子画面表示機能を持たせておき、子機の「親画面」には前記の「ユーザーが指定した時点からのリピート動画像」を大きく表示させながら、子機の「子画面」には前記親機の表示内容（現在進行中の動画像）をそのまま表示させるようにしてもよい。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の表示内容をも同時に知ることができる。

【００５３】なお、上記の２から４までの発明は、親機による画面と「データ的な親子関係（関連性）」を有する画面を子機で表示する、というものである。これに対して、上記の５及び６の発明は、親機の画面と「時間的な又は時間軸の親子関係（関連性）」を有する画面（例えば、親機の画面に対して時間的に遅れた画面）を子機で表示する、というものである。

【００５４】７．本発明は、ユーザーの居る場所から約２～３ｍ離れた位置に据え置かれて使用され、「テレビ放送により送られてくる情報」に基づいて、主として画像から成る番組コンテンツを表示するための画面表示部であって複数人のユーザーが共同で見るための画面表示部を有する、大型且つ据置型の親機、各ユーザーの手元で使用され、文字又は画像を表示するための画面表示部を有する、小型且つ携帯型の子機、及び、前記親機により「ある画像」が表示されているとき、「その親機の画面に表示されている画像と関連する文字又は画像」を、前記子機の画面表示部に表示させるための連携手段、を含み、前記親機は、「親画面」と共に、その「親画面」の中に「窓」のように構成された「子画面」をも表示できる、親子画面表示機能を有する表示装置であり、前記連携手段は、前記親機が、「親画面」の中に「子画面」を表示しているとき、前記子機の画面表示部の全体又はほぼ全体に、前記の親機の「子画面」の表示内容を表示させるものである、親子連携型の表示システムである。なお、この７の発明においては、子機にも親子画面表示機能を持たせておき、子機の「親画面」には前記の親機の「子画面」の内容を表示させながら、子機の「子画面」には前記親機の「親画面」の内容をそのまま表示させるようにしてもよい。つまり、この場合は、親機と子機のそれぞれの「親画面」の内容と「子画面」の内容とが、互いに逆転する関係になる。このようにすれば、ユーザーは、子機の画面（親画面と子画面）を見るだけで、親機の親画面の内容をも同時に知ることができる。この７の発明は、従来のピクチャーインピクチャー機能（ＰＩＰ機能。親子画面表示機能）を持つテレビ（親子２画面方式のテレビジョン受信機など）において、親画面の中に子画面が「窓」（ウインドウ）のように開かれているが、この子画面を、ユーザーの手元の子機に大きく表示させて、ユーザーが手元で容易に見れるようにするものである。また、この７の発明では、子機に前記親機の「子画面」を表示させることができるので、前記親機の「子画面」は、親機に表示させ続けてもよいが、あえて表示させ続けなくても不都合はなくなる。よって、この２の発明によれば、親機に前記の「子画面」を

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表示させたままにしておく必要がなくなる（子機に親機の「子画面」の内容が表示された時点から、親機からは「子画面」を消すようにしてもよい）ので、親機の画面に「窓」がなくなり、親機の画面の全体を、ユーザーに見やすくユーザーが集中して鑑賞しやすいものにすることができる。すなわち、従来のＰＩＰ機能により一つのテレビの表示部に表示された親画面の中に「窓」のように子画面を表示させる場合は、「窓」の存在が、ユーザーが親画面の全体を集中して鑑賞する際の妨げになる、という問題があったが、本発明によりこのような問題が解消できるようになる。なお、この７の発明により子機に表示される親機の「親画面」の中の「窓のように開いた子画面」に表示される情報内容の例としては、上記のもの以外に、本明細書の段落番号００３３から００３６において述べたような内容がある。すなわち、例えば、（１）親画面に商品のＣＭが流れているときの、そのＣＭの商品の関連詳細情報（本明細書の段落番号００３３）、（２）親画面に競馬の実況中継が流れているときの、その競馬のオンライン投票（馬券購入）のための画面情報（本明細書の段落番号００３５）、（３）サッカーなどのスポーツの試合の中継番組の画面の左端に、そのスポーツの試合に関連する「メンバー表、試合経過の詳細、これまでの戦績、他競技場の経過」などのメニューの文字が表示され、ユーザーがこのいずれかのメニューを選択したときにその選択したメニューに即した内容が表示された画面（本明細書の段落番号００３６）、などである。

【００５５】８．以上に説明した上記１～６に記載した発明は、親機に「テレビ放送により送られてくる情報」を表示させる場合である。これに対して、ここで述べる８の発明では、前記「テレビ放送により送られてく情報」以外の、「外部の通信ネットワーク又は外部の記録装置から取り込んだ情報」を親機に表示させる場合、である。すなわち、この８の発明は、ユーザーの居る場所から離れた位置に据え置かれて使用され、「外部の記録装置から取り込んだ情報（通信ネットワークなどを介して取り込んだ情報を含む）」に基づいて、主として画像から成る番組のコンテンツを表示するための画面表示部であって複数人のユーザーが共同して見るための画面表示部を有する、大型且つ据置型の親機と、ユーザーの手元で使用され、画像を表示するための画面表示部を有する、小型の子機と、前記親機に画像が表示されているとき、「その親機の画面に表示された画像と関連する画像」を前記子機の画面表示部に表示させるための連携手段と、を含むことを特徴とする、親子連携型の表示システム、である。この８の発明の実施例としては、例えば、次の（ａ）～（ｃ）などの場合がある。

（ａ）インターネットのホームページの情報（画像）をブラウザで閲覧して親機に表示させながら、そのホームページのリンク先のホームページの情報（画像）を子機に表示させる場合。

（ｂ）ＤＶＤ（デジタル・ビデオ・ディスク）やＣＤ－ＲＯＭに記録された百科事典を読み取ってその読み取った情報（このようなＣＤ－ＲＯＭなどの外部記録装置に記録された情報も、親機からみれば、「外部（すなわち、ＣＤ－ＲＯＭなど）から取り込んだ情報」に含まれる）を親機に表示させながら、それと関連する事項（画像）を子機に表示させる場合。

（ｃ）ＤＶＤやＣＤ－ＲＯＭに記録されたビデオゲーム（テレビゲーム）を親機で再生させながら、そのゲームに表示されているゲームキャラクターのプロフィールや表示されているゲーム展開場面の攻略のヒント情報（画像）などの関連情報を子機に表示させる場合。

【００５６】本発明のコンセプト．ところで、図１は本発明のハードウェア面の全体構成のコンセプトを示す概念図である。図１において、２０は家庭の居間（リビング）に置かれる大型の画面表示部を有する親機（テレビなど）、２０ａはその親機２０に備えられた画面表示部（プラズマディスプレイパネル（ＰＤＰ）、液晶表示装置（ＬＣＤ）、ブラウン管（ＣＲＴ）などにより構成される）、である。また、３１，３２，３３，３４，３５は、外部機器と無線で接続するための無線送受信部（赤外線通信ポート）である。また、図１において、２１，２２，２３は前記親機２０の表示画面と連携した内容（関連する画像）を、リアルタイムに、表示するための小型の画面表示部を有する子機である。２１ａ，２２ａ，２３ａは、これらの子機２１，２２，２３にそれぞれ備えられた画面表示部（ＬＣＤ、有機ＥＬ（エレクトロ・ネミネッセンス）などにより構成される）である。また、４１，４２，４３は、前記親機２０の無線送受信部３１，３２，３３との間で無線送受信するために（つまり、前記の親機２０と各子機２１，２２，２３との間で、相互に信号を無線で送受信するために）、子機２１，２２，２３にそれぞれ備えられた無線送受信部である。また、図１において、５１，５２，５３は、前記の各子機２１，２２，２３同士の間で相互に信号を無線で送受信するために、備えられた無線送受信部である。前述のように、本発明では、前記親機２０と子機２１，２２，２３との間で互いに無線によるデータ交信が可能になっているので、相互間で、画像データ・文字データ・音声データなどのコンテンツのデータや制御信号を相互に送受信できるようになっている。したがって、所定のコンピュータ・プログラムにより、ユーザーの希望するように、親機２０の表示内容と子機２１，２２，２３の表示内容とを、互いにリアルタイムに連動させながら分担させることができる。すなわち、親機と子機が互いに連携しながら、親機の表示画面の内容と子機の表示画面の内容とが互いにリアルタイムに連動して行き、また、親機と子機とがそれらの画面表示する内容及び役割を互いに分担して行くことができる。

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【００５７】
【発明の実施の形態】次に、図２は本発明の実施形態１を主として外観面から説明するための概略図、図３は本実施形態の概念を説明するための概略ブロック図である。図２において、１は居間に置かれた家庭用の据置型の大型のテレビから成る親機、１ａはこのテレビの画面を表示するための画面表示部、２はこの親機１に接続され、外部（テレビ局や人工衛星など）からの電波による信号を受信するための受信アンテナ、３は外部機器と無線（例えば赤外線）によりデータの送受信を行うための送受信部である。
【００５８】また、図２において、４は前記親機１と約２～３ｍ離れた位置にあるテーブル（ユーザーが家族で使用するためのもの）、５は前記テーブル４の上に置かれた小型の携帯型の表示装置から成る子機、５ａはこの子機５の画面を表示するための表示部、６は前記子機５を前記テーブル４の上に置くための支持台（携帯するときは子機５と取り外すことができる）、７は外部機器との間で無線（例えば赤外線）によりデータの送受信を行うための送受信部、８は音声・音響出力用のスピーカ、である。また、図２において、９は文字又は記号などのデータや番組のチャンネル番号や電源のＯＮ／ＯＦＦ信号などの制御信号を入力するためのリモコン（リモートコントローラ）である。このリモコン９には、文字などを入力するためのキーボードと画面上の位置情報を入力するためのポインティング・デバイス（図示せず。例えば、マウス、トラックボール、スライスパッドなど）が備えられている。また、１０は外部機器との間で無線（例えば赤外線）によりデータの送受信を行うための送受信部である。なお、本実施形態では、前記のリモコン９、親機１、及び子機５は、前記の無線の送受信部３，７，１０により、３者間で互いに、無線で信号を送受信できるようになっている。
【００５９】なお、この実施形態では、子機（小型表示装置）５をテーブル４上に１台だけ図示しているが、この子機５は、家族の全メンバーがそれぞれ別個に保有することができる。また、家庭以外に、職場、図書館・美術館などの公共施設などでも、ある部屋内に一台の親機１と複数の子機５をセットで備えるようにしてもよい。
【００６０】次に、図３に基づいて本実施形態の動作を、幾つか説明する。
（Ａ）今、ユーザーがある番組（以下の例では、仮に、この番組を、スポーツの試合の実況中継番組の場合とする）を見たいと欲する場合を例にする。なお、本実施形態の親機１は、「親子２画面方式」のテレビ（「ピクチャーインピクチャー機能」を有するテレビ）とする。この場合、ユーザーは、手元のリモコン９を操作して、好みの番組を選択し、このリモコン９に備えられた前記送受信部１０から、前記親機１に制御信号を無線送信して、受信アンテナから好みの番組のあるチャンネルを選択させ、表示させる。また、ユーザーは、前記リモコン９を操作して、前記子機５の動作モードを、「親機１の画面の中の文字情報を中心に大きく表示する」という要求に対応するモードに設定しておいたとする。今、ユーザーがスポーツの試合を見ながら、「好みの選手のプロフィール」の出力を指示すると、前記親機１の大画面の中に、スポーツの試合の画面とダブらせて（畳重させて）、その選手のプロフィール（文字情報）の画面が、表示される。この文字情報の表示は、前記の親機１に表示されるのと同時に、（前記の子機５のモード設定により）ユーザーの手元又は近傍にある前記の子機５の表示部５ａにも、大きく表示される。
【００６１】なお、前記の子機５に表示させる選手のプロフィールのデータは、親機１から子機５に無線送信させる方法により、子機５に表示させることができるが、これ以外の方法も可能である。「これ以外の方法」としては、例えば、前記受信アンテナ２が受信した信号を親機１と子機５とにそれぞれ直接に送信して、子機５では受信アンテナ２が受信した信号の中の前記プロフィールを示す信号（文字情報を中心とする信号）のみを選択して大きく表示するようにしてもよい。すなわち、前記のビットキャスト放送などでは、テレビ電波の隙間に文字データなどを多重化して送信するようにしているが、この多重化された文字データのみを子機５が大きく表示するようにすることにより、前記の選手のプロフィールのみを子機５に表示させることができる。このように、本実施形態では、親機１と子機５とが互いに連携することにより、親機１の画面と子機５の画面とが互いに連動しながら、且つ、互いに表示内容や役割を分担しながら、表示されて行くようになっている。
【００６２】また、本実施形態では、前記子機５に選手のプロフィールの文字が比較大きく表示されると共に、前記子機５の文字の背景部分に、親機１に表示されたスポーツの試合を表示させるようにしてもよい。つまり、親機１にスポーツの試合の番組を表示されている場合、前記の選手のプロフィールの文字は親機１の表示部の片隅に小さく表示されるだけでユーザーには読みにくいものとなる。そこで、本実施形態では、子機５に前記のプロフィールの文字を大きく表示させて、さらに、その背景に前記のスポーツの試合の番組（親機１に表示されている内容）を表示させることもできる。
【００６３】なお、図４は本発明の範囲内ではないが、「本発明の関連技術による例」を示すものである。図４において、１２は親機１に表示された画面、１３は子機５に表示された画面である。親機１の画面１２には、洋画（外国映画）が表示されており、スーパーインポーズされた字幕スーパー（映画の登場人物の会話の内容を示す文字列）１２ａが、画面の下側部分に、畳重して表示されている。しかし、この字幕（ｃａｐｔｉｏｎ）の部分は、文字情報なので、約２～３ｍ離れた位置にある親

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機１の画面からは見にくい（特に、近視のユーザーにとって）という問題がある。そこで、本実施形態では、親機１からの無線信号に基づいて、前記の子機５の画面１３に、前記の字幕スーパーの文字情報を拡大して表示するようにしている。よって、近視の人でも、洋画を、親機１の大型の迫力ある画面で鑑賞しながら、字幕のみは、子機５により、手元の画面で読むことができる。また、この図４の関連技術の例では、子機５の画面１３には、字幕を大きく表示しながら、その背景に、親機１に表示された洋画の画像を表示させてもよい。こうすれば、ユーザーは、子機５を見るだけで、子機５の表示内容だけでなく親機１の表示内容をも一緒に把握することができるので、便利である。

【００６４】

【００６５】（Ｂ）次に、前記の「スポーツの試合の中継番組」を見ながら、ユーザーが、前記リモコン９により、前記子機５の動作モードを、「親機１の親画面の中の子画面（ピクチャー・イン・ピクチャー機能による）を大きく表示する」というモードに設定した場合を説明する。今、ユーザーがスポーツの試合を見ながら、「好みの選手のプロフィール」の出力を指示すると、前記親機１の親画面の中に「窓（ウインドウ）」のように子画面が表示されて、その子画面の中に、その選手のプロフィールが文字で表示される。このとき、前記の子画面の内容（文字の表示）は、同時に、ユーザーの手元又は近傍にある前記の子機５の表示部５ａに、大きく表示される。なお、前記の子機５に表示される子画面の内容は、文字情報が典型的であるが、図形情報・映像情報でもよい。

【００６６】なお、図５（ａ）（ｂ）はこの（Ｂ）の動作の他の例を示すものである。図５（ａ）（ｂ）において、１４は親機１の画面、１５は子機５の画面を示している。例えば、親機１の画面に有名人の対談番組などが表示されている場合に、ユーザーが、「その画面に写っている人のプロフィール」を要求すると、親機１の画面の一部に、要求されたプロフィールを示す「窓（ウインドウ）」状の「子画面」１４ａが表示される。しかし、このプロフィールを示す部分は、主として文字情報なので、約２ｍ以上離れた位置にある親機１の表示画面からは読みにくいという問題がある。そこで、親機１からの無線信号に基づいて、このプロフィールの文字情報などを、ユーザーの手元の子機５の画面１５に表示させることができる。このように、本実施形態では、親機１と子機５とが互いに連携することにより、親機１の画面と子機５の画面とが互いに連動しながら、且つ、互いに表示内容や役割を分担しながら、表示されて行くようになっている。

【００６７】また、本実施形態では、図５（ｃ）に示すように、子機５の例えば右下の位置に、「窓」状の「子画面」１５ａを表示し、この「子画面」に、親機１の「親画面」の表示内容をそのまま表示するようにしてもよい。つまり、この場合は、親機１の「親画面」と「子画面」の内容がそれぞれ、子機５の「子画面」と「親画面」の内容になっている（つまり、親機１と子機５とで、親画面と子画面の内容が互いに逆転した内容となっている）。この場合、手元又は近傍の子機５を見ているユーザーは、子機５の表示内容を見るだけで、プロフィールの内容と親機１の親画面の内容とを同時に把握できるので、便利である。

【００６８】（Ｃ）次に、前記のスポーツの試合や有名人の対談などの中継番組を見ながら、ユーザーが、前記リモコン９により、前記子機５の動作モードを、「親機１の画面の中の複数人の映像の中の、ユーザーが指定した人物を、子機５に大きく拡大して表示する」というモードに設定した場合を説明する。今、図６（ａ）に示すように、親機１の画面１６に、３人の人物１８ａ，１８ｂ，１８ｃを同時に撮像した映像が放送・送信されているとする。この場合、例えば、テレビ電波の隙間を利用したデータ放送や、インターネット「プッシュ技術」による情報配信などにより、前記の「３人の人物１８ａ，１８ｂ，１８ｃを同時に撮像した映像」だけでなく、それと共に、「３人をそれぞれアップで撮像した３つの映像データ」が、ユーザーの受信端末（この場合は親機１）まで放送・送信されているとする。

【００６９】まず、ユーザーは、図６（ａ）に示す親機１の画面１６を見ながら、「各人をアップで撮像した画面を選択するためのアイコン（絵文字）を親機１に表示せよ」との指令を、リモコン９で親機１に送信する。すると、図６（ｂ）に示すように、各人物１８ａ，１８ｂ，１８ｃの映像の上にそれぞれ、絵文字１９ａ，１９ｂ，１９ｃが表示される。そこで、ユーザーは、例えば、人物１８ｃのアップの映像を子機５に表示することを希望する場合は、図６（ｃ）に示すように、その人物１８ｃの上に表示されたアイコン１９ｃを、カーソル（矢印）９１で選択し指示する。すると、図６（ｄ）に示すように、前記テレビ電波により送られた前記の人物１８ｃをアップで撮像した映像データが、親機１を介して子機５に送られて、子機５の画面１７に、前記人物１８ｃのアップの映像が表示される。なお、この場合、図６（ｄ）に示すように、子機５（親子２画面方式を採用）の画面１７の図示右下の隅に、子画面１７ａのフレームを表示させ、この子画面１７ａに、親機１の画面１６の表示内容を表示させるようにしてもよい。このようにすれば、ユーザーは、子機１の画面１７を見るだけで、前記の選択した特定の人物１８ｃの拡大映像だけでなく、親機１の表示内容をも把握できるので、便利である。

【００７０】（Ｄ）次に、前記の有名人の対談やスポーツの試合などの中継番組を見ながら、ユーザーが、前記リモコン９により、前記子機５の動作モードを、「ある

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対象（この場合は有名人の対談やスポーツの試合）を複数の角度・場所から撮像した映像（マルチ・カメラ・アングル映像）であって、親機１に表示されている映像以外の、他の角度・場所から撮像された映像を、子機５に表示させる」というモードに設定した場合を説明する。例えば、テレビ局からスポーツの試合中継番組（マルチ・カメラ・アングル映像の番組）が放送・送信されている場合を例にすると、例えば、テレビ局側では、「バックネット裏から」、「１塁ベース側から」、「バックスクリーン側から」、「３塁ベース側から」、などの複数（マルチ）のカメラ・アングルからそれぞれ撮像し、それらのマルチ・カメラアングルの各映像を、視聴者側に向けて同時に放送・送信する。視聴者側では、それらの各映像の中から自由に映像を選んで見ることができる。これが、「マルチ・カメラアングル放送・送信」と呼ばれるものである。

【００７１】この「マルチ・カメラアングル放送・送信」の場合は、通常は、親機１の画面には、放送局が選択した例えば「バックネット側から」というカメラ・アングルで撮像した映像が、表示される。今、ユーザーが、「他のカメラ・アングルで撮像したの映像を、子機５に表示したい」という指令を、リモコン９で親機１に送信したとする。すると、親機１の画面の片隅に、親機１に現在表示されている「バックネット裏から」というカメラ・アングル以外の他のカメラ・アングルである「１塁ベース側から」、「バックスクリーン側から」、「３塁ベース側から」などの文字とそれを選択するためのアイコンとが、表示される。そこで、ユーザーは、例えば「１塁ベース側から」のカメラ・アングルで撮像した映像を子機５に表示したいと思うときは、この「１塁ベース側から」を示すアイコンをクリックして選択する。すると、親機１には前記の「バックネット側から」のカメラ・アングルで撮像した映像が表示されたままで、同時に、子機５には、「１塁ベース側から」のカメラ・アングルで撮像した映像が表示されるようになる。なお、このとき、親機１及び子機５を共に親子２画面方式とし、親子１の親画面には「バックネット側から」の映像を表示し、その子画面には「１塁ベース側から」の映像を表示すると同時に、子機５の親画面には「１塁ベース側から」の映像を表示し、その子画面には「バックネット側から」の映像を表示するようにしてもよい。つまり、この場合は、親機１と子機５の表示内容が、それぞれ、親画面と子画面とが互いに逆転した関係になる（図６（ｄ）に示すものと類似する関係になる）。

【００７２】（Ｅ）次に、前記の有名人の対談などの中継番組を見ながら、ユーザーが、前記リモコン９により、前記子機５の動作モードを、「親機１の画面の中の、例えばポインティング・デバイスで指定した一部分を、子機に大きく表示する」というモードに設定した場合、を説明する。今、ユーザーが有名人の対談番組を見ていて、その親機１の画面には、「複数人の有名人（俳優など）が対談をしている場面の映像」が表示されているとする。そのとき、ユーザーが「ファンである（好みの）一人の有名人の顔の部分のみ」をマウス等のポインティング・デバイスで指定して、クリック・選択すると、その顔の部分のみが、拡大されて、前記子機５の表示部５ａに表示される。よって、ユーザーは、好みの有名人（俳優）の顔のみを、手元の子機５に拡大表示して近くで見ることができる。

【００７３】なお、図７はこの（Ｅ）の動作の一例を示す図である。図７（ａ）において、１６は親機１の画面、１７は子機５の表示画面を示している。今、ユーザーが親機１に有名人の対談の番組を表示させているとする。そのため、親機１の画面には、３人の有名人１８ａ，１８ｂ，１８ｃが写されている。今、ユーザーが、自分が個人的にファンになっている有名人１８ｃの顔のみを大きく拡大して見たいと欲したとする。これを実現するためには、ユーザーは、まず、前記の「有名人１８ｃの顔の部分」（ユーザーが希望する「画面の一部」）を、マウス等のポインティングデバイスで指定する必要がある。図７（ｂ）～図７（ｄ）はこの動作を示すものである。まず、図７（ｂ）に示すように、ユーザーがリモコンで所定の指示を出すと、前記の「画面の一部」を指定するための基準点９２が、親機１の画面１６に表示される。ユーザーがこの基準点９２をカーソル（矢印）９３で指示しながら、図７（ｃ）及び（ｄ）に示すように、例えばカーソル９３をドラッグして行く要領で、拡大表示を希望する「画面の一部」を指定する。そして、ユーザーが、リモコン９により、この指定した「画面の一部」を子機５に拡大表示するように、親機１に対して指示する。すると、図７（ｅ）に示すように、この「画面の一部」（この場合は、前記有名人１８ｃの顔の部分）が、子機５の画面１７に拡大表示される。

【００７４】すなわち、ユーザーが、前記の指定した「画面の一部」（図７（ｄ）の符号９４で示す、四角形状に囲まれた部分）を、手元の子機５で拡大表示して欲しいという指令を、リモコン９を通じて、親機１に発する。すると、親機１から、この「画面の一部」に対応する映像データが、ほぼリアルタイムに、子機５に無線で送信される。これは、親機１の画面が「ビットマップディスプレイ方式」であるため、親機１から、図７（ｄ）のように区画された「画面の一部」のみの画像データを取り出して、子機５に無線送信することが、可能となる。そして、この無線信号に基づいて、子機５には、前記の有名人１８ｃの顔の部分（ユーザーがポインティングデバイスで指定した部分）９４が、拡大して表示されるようになる。また、親機１の画面中で、前記の有名人１８ｃの顔の部分が移動しても、コンピュータ・プログラム（例えば「エージェント（電子秘書）技術」）により、自動的に追尾（追跡）して行き、親機１から前記の

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有名人１８ｃの顔の部分の映像が継続して子機５に無線送信され、子機５には、継続的に、前記の有名人１８ｃの顔の部分（ユーザーが指定した画面の一部）が拡大表示されるようになっている。なお、この場合、図７（ｅ）に示すように、子機５の画面１７には、前記の有名人１８ａの顔の部分を大きく表示しながら、その右下の片隅に「子画面」１７ａを形成し、その子画面１７ａに、親機１に今現在表示されている映像をそのままリアルタイムに表示するようにしてもよい。このようにすれば、ユーザーは、子機５を見るだけで、前記の有名人１８ｃの顔の拡大映像のみでなく、親機１の画面の内容をもリアルタイムに把握できるので、便利である。

【００７５】（Ｆ）次に、本実施形態に備えられている機能として、親機１でインターネットのあるホームページにアクセスしているとき（特に、そのサイト＝ホームページからインターネット経由でコンサートや劇場の生中継の映像・番組を連続的に受信している場合など）に、そのホームページと関連する「リンク」先のホームページを、子機５で閲覧する場合を、説明する。図８はこの場合の一例を示すもので、親機１の表示部の画面５１には、“○○ＴＶ”の提供するホームページの情報が表示されている。そして、ユーザーは、このホームページの情報を親機１の表示部の画面５１に表示させながら、そのホームページと関連するリンク先の別のホームページ（“○○新聞”が提供するもの）の情報を、子機５の表示画面５２に表示させることができる。また逆に、ユーザーは、前記のリンク先の別のホームページの情報を親機１の画面５１に表示させながら、リンクする前のホームページの情報を子機５の画面５２に表示させることもできる。このように、本実施形態では、親機1と子機５とが互いに連携することにより、親機１の画面と子機５の画面とが互いに連動しながら、表示されて行くようになっている。

【００７６】なお、本実施形態では、さらに、図８に示すように、子機５には親子２画面方式が採用されており、子機５の表示画面５２には、前記の「親機１に表示されているホームページのリンク先のホームページの情報」が「親画面」として表示されながら、その図示右下隅の「子画面」５２ａには、親機１の表示内容と同じ内容（元のホームページの情報）がそのまま表示されるようになっている。このようにすれば、ユーザーは、手元又は近傍の子機１の画面（親画面と子画面）を見るだけで、子機の親画面の表示内容と、親機１の表示内容（＝子機５の子画面の表示内容）を同時に一度に把握できるので、便利である。なお、ここでは、インターネットのホームページの情報を親機１に表示しながら、その「リンク」先のホームページの情報を子機５に表示する場合を説明したが、それ以外にも、例えば、地上波テレビ電波や衛星テレビ電波からのテレビ画像を親機１に表示しながら、そのテレビ電波の隙間を利用する「データ放送」により送られた関連情報を、子機５に表示するようにしてもよい。

【００７７】（Ｆ）次に、本実施形態に備えられている機能として、デジタル衛星から送信される複数のテレビ番組情報を受信して、その中から、ユーザーが任意に選択したある一つの番組を親機１の画面で表示させながら、その裏番組を子機５で表示させる場合について、説明する。ここで、「裏番組」とは、現在ユーザーのテレビ放送受信機（親機１）により「受信」されてはいるがユーザーが現在選択していないために現在のところ「表示」されていない番組のことである。図９はこの機能の動作を説明するための図である。図９（ａ）及び（ｂ）において、親機１の画面５３には、ユーザーが選択したテレビ番組が表示されている。他方、子機５には、その裏番組が表示されている。子機５の裏番組の内容は、受信アンテナ２（図２参照）からの受信信号が、親機１を介して（中継されて）子機５に伝えられることにより、子機５に表示される（なお、本発明では、受信アンテナ２からの信号が、親機１の中継を経ないで、直接に、子機５に備えられたアンテナに送信されるようにしてもよい）。

【００７８】この子機５に表示される裏番組は、ユーザーが選択したどれか一つの裏番組でもよいし、ユーザーが選択した複数の裏番組でもよい。この図９に示す例では、ユーザーが選択した計９個の裏番組を、画面表示部が分割された計９個の分割画面ａ～ｉで、それぞれ表示させている。そして、ユーザーは、例えば、親機１で表示している番組がＣＭ（コマーシャル）中の場合、子機５に表示されている番組の中の任意のものを選択して、「この選択した裏番組（例えば、図９のｉで示す分割画面に表示された裏番組）を親機１で表示せよ」との命令を無線送信することにより、親機１の表示画面に、直ちに、この選択された番組（図９の分割画面ｉに表示されていた番組）が表示される。なお、前記のユーザーが「この選択した裏番組（例えば、図９のｉで示す分割画面に表示された裏番組）を親機１で表示せよ」との命令を無線送信するための構成としては、例えば、前記子機５の画面表示部５４の上に「透明のタッチパネル」を備えるようにし、ユーザーが図９（ｂ）の分割画面ｉを指先で押す（タッチする）ことにより、前記分割画面ｉに表示された裏番組を特定し、その特定された裏番組のチャンネルを親機１に送信するようにしてもよい。

【００７９】このようにして、前記のユーザーに選択された裏番組（図９（ｂ）の分割画面ｉに表示されている裏番組）が親機１に表示されるようになったときは、それまで親機１に表示されていた番組は、前記の「図９（ｂ）の分割画面ｉに表示された裏番組」と入れ替わりに、子機５の表示画面５４の中の分割画面ｉに新たに表示されるようになる。そして、例えば、ユーザーは、この新たに分割画面ｉに表示された番組のＣＭが終われ

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ば、「この番組（親機１から入れ替わって、現在、子機５の分割画面ｉに表示されている番組）を、再び、親機１に表示せよ」との命令を親機１に無線送信することにより、親機１には、再び、前記の番組が表示される。そして、そのこととの入れ替わりに、子機５の画面５４の分割画面ｉには、それまで親機１に表示されていた番組が、再び、裏番組として表示されるようになる。

【００８０】次に、図９（ｃ）は他の類似の動作を示すもので、子機５の画面５４には、番組一覧表５４ａが表示される。図９（ｃ）では番組一覧表の一部のみを示しているが、ユーザーは、この番組一覧表を、表示画面５４上で、上下にスクロールすることにより、全部の番組を表示させることができる。そして、ユーザーは、希望する番組を見つけたときは、カーソル（図示せず）をその番組を示す部分に移動させてクリックするか、画面上に備えられた透明タッチパネル上の該当部分を指先で押すことにより、希望する番組を指定する。これにより、指定された希望する番組のチャンネルが親機１に送信され、親機１にその番組が表示される。

【００８１】（Ｇ）次に、本実施形態に備えられている機能として、本実施形態の親機１に、衛星テレビ放送などのテレビ放送で送られてくるビデオゲームのデータやプログラム（インターネット経由で連続的に送られてくるビデオゲームのデータ及びプログラムなども含む）による画像を、リアルタイムに画面表示している場合の一例を説明する。この場合は、ゲームのプレーヤ（ユーザー）は、親機１の表示部１ａにビデオゲームの画面を表示させてプレーしながら、子機５の表示部５ａにそのゲームの解説（例えば、その対戦ゲームをうまくクリアするための作戦を立てるために有益な解説）を文章やキャラクター（画像又は図形）などで表示させて、ゲーム展開の作戦を考えることができる。複数人で一緒に一つの対戦ゲームをプレーするときは、一つの親機にゲームの画面を表示させながら、各人は、手持ちの子機に、「ゲームの解説、ゲーム・キャラクターの原画、ゲーム・キャラクターのデータ（プロフィール）、又は、ゲーム攻略ガイドなど」の「そのゲームに関連する情報（詳細情報）を示す画面」を表示させることにより、各人がそれぞれ、ゲーム展開の作戦を考えたり好きなキャラクターのことを調べたりすることができる。つまり、一方では、一つの親機１に表示されたゲームの展開を複数人の皆んなで共通に見ながら、他方では、各人が個別に子機１に表示された関連・詳細情報を見てゲーム展開や作戦を考えたりすることができる。また、この場合、子機５に親子画面表示機能を採用しておき、子機５の「親画面」には前記の「関連・詳細情報」を表示させながら、子機５の「子画面」には親機１の表示内容をそのまま表示させることもできる。このようにすれば、ユーザーは、子機５の表示内容を見るだけで、前記の「関連・詳細情報」と親機１の表示内容とを併せて知ることができるので、便利である。

【００８２】（Ｈ）次に、アクセスしているホームページ（サイト）からのインターネット経由での送信や衛星デジタルテレビ放送により連続的に送られてくるカラオケの番組を、リアルタイムに親機に表示している場合の、本実施形態の動作を、説明する。この場合は、親機１の表示部１ａには、あるユーザーが現在選曲して歌唱しているカラオケ曲の背景映像（環境映像など）とその曲の歌詞が表示される。また、前記の歌唱しているユーザーは、同時に、手元の子機５の表示部５ａに、その曲の歌詞を表示させて、その歌詞を自分の近くで見ながら、歌唱することができる。よって、本実施形態では、その場にいる複数人は親機１の画面を見ながら歌唱を聞くことができるし、歌唱している人は、手元の子機１の画面に表示された歌詞を見ながら歌唱することができる。よって、歌唱しているユーザーが近視の人でも、遠い大型のテレビの親機１を見ないで（２～３ｍ先の遠くにある親機１の画面に表示された文字は近視の人には見づらい）、自分の近くの子機５の表示部で歌詞を見て歌うことができる。よって、従来のように近視の人がカラオケの歌詞がよく見えなくて（歌詞が表示された画面が遠くにあるために良く見えない）うまく歌えないということがなくなる。この場合の子機５による歌詞の表示は、親機１から子機５に、歌詞データが、無線でリアルタイムに送信されることにより、実現される。

【００８３】また、本実施形態では、子機５に親子画面表示機能を備えるようにし、子機５の「親画面」には歌詞を比較的大きく表示させながら、子機５の「子画面」には親機１の表示内容と同じカラオケの背景画像（環境映像など）を表示させるようにしてもよい。このようにすれば、子機５を手に持っているユーザーは、子機５の画面（親画面と子画面）を見るだけで、カラオケの歌詞とカラオケの背景画像とを同時に一度に見ることができるので、便利である。また、カラオケを複数のユーザーが一緒に利用している場合は、今現在、歌っている一人のユーザーが持っている子機５には、前述のように、今現在流れている曲の歌詞を表示させることが便利であるが、他のユーザーが持っている子機５には、別のカラオケ曲を選択するための選曲画面、すなわち、選択できる楽曲の一覧表（楽曲のタイトルや歌手の一覧表）の画面、タイトルや歌手から所望の曲を検索するための画面、所望の楽曲を選択するための画面、選択した楽曲の識別コードと次にその楽曲を演奏するように指令する信号を子機５から親機１に送信するための操作画面、などの様々な画面を表示させることができる。つまり、ここでは、子機５をカラオケの選曲操作などを行うための「リモコン」として使用することができる。

【００８４】なお、本実施形態では、親機１の番組の音声・音響を出力するためのスピーカが、親機１のみでなく、ユーザーの手元の子機５にも備えられている（図２

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の符号８を参照）。したがって、ユーザーが難聴の人は親機１の音声を大きくしないと聞こえないという問題があるが、本実施形態では、ユーザーの手元にスピーカ８があるので、耳の遠い人でも、容易に聞き取れるようになる。また、本発明では、子機５に、前記スピーカに加えて（又は、前記スピーカに代えて）、イヤホン・ジャックなども備えるようにしてもよい。

【００８５】なお、本実施形態では、図２に示すように、リモコン９と子機５とを、それぞれ別個のハードウェアとして構成するようにしているが、本発明では、両者を、ハードウェアとしては一体に構成する（両者を一つの筐体の中に収める）ようにしてもよい（リモコン９も子機５も、いずれもユーザーの手元又は近傍に置いておくものなので、その方が便利である）。また、本実施形態では、図２に示すように、子機５はテーブル４に置くための台６に支持されるものを示しているが、本発明では、子機は、例えば、ノート型のもの、手帳型のものなど、様々なタイプのものとすることが可能である。また、本発明において、子機は、無線送受信機能を備えたノート型パソコンのように、パソコンとして使用できるものでもよい。また、子機１はノート型のようなものでなくてもよく、図２に示すようにテーブル４の上に載置して使用するタイプのもの、などでもよい。

【００８６】また、本実施形態では、単に家庭や職場で使用するだけでなく、例えば、映画館などでも使用することができる。映画館で使用するときは、従来の「映画スクリーンの表示装置」が、本発明の「親機」となる。そして、「映画監督や映画中の俳優のプロフィールなどの映画の関連情報」を子機に表示させることもできる。また、映画に出てくる場面の場所（地域）に関する情報（観光情報、食べ歩き情報）、映画に出てくるレストランなどの飲食店情報、映画に出てくるデパートなどに関する小売店情報、映画に出てくる製品の情報などの「関連情報」を、映画を見ながら、子機に表示させて見ることもできる。

【００８７】また、本実施形態において、子機は、親機と連携して使用すること以外にも、単体で、電子メール、インターネットのホームページの閲覧、テレビ放送の番組一覧表表示、ワープロ・表計算・データベースなどの事務処理などに、利用することができる。また、本実施形態においては、子機５が複数ある場合は、子機同士でデータ交換・データ交信が可能である。すなわち、子機同士で、電子メールの無線による送受信、テレビ番組の無線による送受信、などを行うことができる。

【００８８】実施形態２．次に、図１０は本発明の実施形態２を示す図である。この実施形態では、子機としてＨＭＤ（ヘッド・マウント・ディスプレイ）が使用されている。すなわち、図１～図９において使用した子機は、現在のテレビのリモコンやノート型パソコン、携帯情報端末（ＰＤＡ）などとほぼ同じ形態をしているのに対して、この他の実施形態では、子機をＨＭＤにより構成している。図１０では、親機６１のディスプレイがユーザー６０から約２～３ｍ離れた位置に据え置かれているのに対して、子機６２のディスプレイはユーザー６０の頭部（顔の前方）に支持されている。なお図１０では、子機６２の支持手段（頭部に巻くバンド状の部材、メガネのフレーム状の部材、又は、ヘルメット型の部材などの、従来から公知の支持手段）は、図示を省略している。

【００８９】図１０（ａ）では、親機１の画面と子機６２の画面とが、ユーザー６０の視野の中で互いに重ならないように、図の上下方向にずらされて位置されている。具体的には、子機６２の画面がユーザー６０の視野の下方に来るように、且つ、親機６１の画面がユーザー６０の視野の正面又はやや上方に来るように、位置されている。この場合の親機６１の画面と子機６２の画面との互いの連携・連動の仕方、相互の役割分担は、図１～図９で説明したものと同様である。

【００９０】図１０（ｂ）では、親機１の画面と子機６４の画面とが、ユーザー６０の視野の中で互いに重なるように、位置されている。具体的には、子機６４の画面と親機６３の画面とがユーザー６０の視野の中で重なって見えるように、いずれもがユーザー６０の視野の正面に来るように、位置されている。そして、この図１０（ｂ）の例では、前記子機６４の画面は「シースルー」タイプ、すなわち、「透過型」になっている。すなわち、ユーザー６０は、子機６４の画面を通して、親機６３の画面をも見ることができるようになっている。したがって、例えば、ユーザー６０は、親機６３にゲームや映画の背景画面を表示させながら、子機６４の画面にゲーム・キャラクターを表示させること、などもできる。それ以外では、この場合の親機６３の画面と子機６４の画面との互いの連携・連動の仕方、相互の役割分担は、図１～図９で説明したものと同様である。

【００９１】図１０（ｃ）の例では、子機６６が、ユーザー６０の眼の正面の位置とその上方の位置との間で移動自在になっている。よって、ユーザー６０は、子機６６を使用したいときは、子機６６を眼の正面の位置に持って来て、子機６６を使用しないときは、子機６６を眼の上方（頭部の上方。図１０（ｃ）の符号６６’で示す位置）に持って来て保持しておくことができる。この場合の親機６５の画面と子機６５の画面との互いの連携・連動の仕方、相互の役割分担は、図１～図９で説明したものと同様である。

【００９２】実施形態３．本発明の実施形態３を図１１に基づいて説明する。図１１において、７１は親機を示している。この親機７１は、外部からの信号（衛星テレビ電波など）を受信する受信部７２、この受信部７２が受信したデータを受け取って情報処理するＣＰＵ（中央処理装置）７３、このＣＰＵ７３からのデータに基づい

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て画面表示する表示部７４、前記ＣＰＵ７３との間でデータのやり取りをしてデータを記録する外部記憶装置７５、及び、前記ＣＰＵ７３からのデータを無線で送信する送信部７６から構成されている。また、図１１において、７７は子機で、前記送信部７６からの信号に基づいて所定の画面を表示する。また、７８はリモコン（リモートコントローラ）で、ユーザーの指示を親機７１のＣＰＵ７３に無線送信するものである。このリモコン７８は、子機７７とハードウェア的に一体に形成されていてもよいし、別体に形成されてもよい。

【００９３】次に、本実施形態３の動作を説明する。この実施形態３によっても、実施形態１又は実施形態２において説明したのと同様の使用方法が可能である．そして、この実施形態３では、親機の表示画面と「時間軸で関連する画面」（時間軸で親子関係にある画面）を、子機７７に表示できるようになっている。まず、ある動画番組を示す信号（動画像の情報）を乗せた地上波又は衛星テレビ電波が受信部７２で受信されると、ＣＰＵ７３は、この情報をリアルタイムに親機７１の表示部７４に表示させると共に、この同じ情報をリアルタイムに外部記憶装置（ハードディスク装置など）７５に送って記録させる。そして、ＣＰＵ７３は、リモコン７８からの指令が「親機７１の画面と同時刻の画面を子機７７に表示せよ」というものである場合は、親機７１の表示部７４で表示されているのと時間軸において同時刻の画面を表示するための信号ａ（図１１において、ａは「現在のデータ」の信号の流れを示す）を、子機７７に送信する。

【００９４】また、ＣＰＵ７３は、リモコン７８からの指令が「親機７１の画面より５秒だけ遅れた画面（５秒だけ過去の画面）を子機７７に表示せよ」というものである場合は、親機７１の表示部７４で表示されているのと時間軸において５秒だけ遅れた画面（動画像）を表示するための信号ｂ（図１１において、ｂは「過去のデータ」の信号の流れを示す）を、前記外部記憶装置７５から読み取って、その信号ｂを子機７７に送信する。また、ＣＰＵ７３は、リモコン７８からの指令が「親機７１の画面を５秒だけ巻き戻して子機７７で再生せよ」というものである場合は、その指令が発せられた時点から５秒だけ以前の時点の画面から前記指令が発せられた時点までの動画像の画面を示す信号ｂ（図１１において、ｂは「過去のデータ」の信号の流れを示す）を、前記外部記憶装置７５から読み取って、その信号ｂを子機７７に送信する。また、ＣＰＵ７３は、この動画像の「再生」中に、「この再生されている動画像を構成するデータの中のある「ひとこま」の画面を子機７７に静止画として表示せよ」との指令が前記リモコン７８から発せられたときは、その「ひとこま」の画面を静止画として子機７７に表示させる。

【００９５】また、ＣＰＵ７３は、リモコン７８から「親機７１の表示部７４に、今現在、表示されている場面（ひとこま）を、子機７７の表示部に静止画で表示せよ」という指令が発せられたときは、その指令が発せられた時点の親機７１の表示部７４に表示されている画面を示す信号ｂを、前記外部記憶装置７５から読み取って、その信号ｂを子機７７に送信して、子機７７にその静止画を表示させる。以上の様々な動作の間、親機１には、動画像の番組が通常のとおり表示されており、その最中に、リアルタイムに又はほぼリアルタイムに、子機に時間軸において関連する情報（過去の動画像や過去ののある時点の静止画像）が表示されるようになっている。

【００９６】実施形態４．次に、本発明の実施形態４を図１２に基づいて説明する。この実施形態４と実施形態３との相違点は、次のとおりである。すなわち、図１１の実施形態３では、受信部７２、ＣＰＵ７３、外部記憶装置７５、及び送信部７６を、表示部７４とハードウェア的に一体化して、これらの全ての構成要素を、「親機７１」としてハードウェア的に統合している。これに対して、図１２に示す実施形態４では、図１１（実施形態３）において受信部７２、ＣＰＵ７３、外部記憶装置７５、及び送信部７６として示されている構成要素を、表示部７４とハードウェア的に分離して、「ホーム・サーバー（管理用コンピュータ）８１」及びその「外部記憶装置８２」として独立させたものである．

【００９７】すなわち、図１２において、８１は、図１１（実施形態３）の受信部７２、ＣＰＵ７３、外部記憶装置７５、及び送信部７６などの機能を発揮できるホーム・サーバー（管理用コンピュータ）、８２はこのホーム・サーバー８１の外部記憶装置である．また、８３はこのホーム・サーバー８１からの信号（有線送信による送信信号）に基づいて画面表示するための親機、８４はこのホーム・サーバー８１からの無線信号に基づいて、前記親機８３の画面と連携した画面をリアルタイムに又はほぼリアルタイムに表示するための子機である。また、８５は、前記子機８４と一体に又は別体に構成され、前記ホーム・サーバー８１にユーザーからの指令（リクエスト）を無線送信するためのリモコンである．ホーム・サーバー８１は、外部のテレビ電波などからの信号（動画像の番組などの）を、常時、外部記憶装置８２に保存（記録）しながら読み出して、リアルタイムに又はほぼリアルタイムに、親機８３に画面表示させる。また、ホーム・サーバー８１は、前記の外部のテレビ電波などからの信号（動画像の番組などの）を、リアルタイムに又はほぼリアルタイムに、子機８４に無線送信して画面表示させるか、又は、部記憶装置８２に保存（記録）した過去の画像データを読み取ってその過去のデータを子機８４に無線送信して画面表示させる。

【００９８】この実施形態４によっても、実施形態３とほぼ同様の効果が得られる。すなわち、ユーザーがリモコン８５によって所定のリクエストをすることにより、

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ホーム・サーバー８１は、子機８４に、親機８１の画面と連携した様々な画面を表示させる。すなわち、ホーム・サーバー８１は、子機８４を制御して、例えば、実施形態１、実施形態２、実施形態３などで説明したような様々な画面（親機８３の表示内容と関連した内容の画面）を、表示させることができる。例えば、ホーム・サーバー８１は、親機８３に表示された画面の一部のみを拡大して子機８４に表示させることができる。また、ホーム・サーバー８１は、親機８３に表示されている動画像を、子機８４において巻き戻して再生させることができる。また、ホーム・サーバー８１は、親機８３において表示されている動画像のある時点の場面を示す画像を、子機８４において静止画として表示させることができる。

【００９９】なお、この実施形態４のホームサーバー８１は、親機８３に表示された字幕などの「文字部分」のデータを子機８５に送信すること、親機８３に表示された「子画面」の内容を子機８４に送信すること、親機８３に表示された内容と「関連する情報」（関連するインターネット・ホームページの情報や、テレビのデータ放送の情報など）を子機８４に送信すること、親機８３に表示された画像の中のユーザーが指定した「画面の一部」を子機８５に送信すること、親機８３に表示された複数人の画像の中の「特定の人物の拡大画像」を子機８５に送信すること、又は、親機８３に表示された画像とは「異なる他のカメラ・アングルで撮像された映像」のデータを子機８５に送信すること、などの機能をも有するものである。

【０１００】なお、例えば図１２に示す前記ホームサーバー８１や親機８３から子機８５に画像データを無線送信する場合は、データ量が多いため、伝送にある程度の時間がかかるので、親機８３の表示内容と子機８５の表示内容との「完全なリアルタイムの連動・連携」は難しいかもしれないが、「ほぼリアルタイムの連動・連携」は現在の技術でも可能である。また、日経ＢＰ社発行の「日経エレクトロニクス１９９７／１０／６号」の第１５５頁（記事「コネクテッドホーム」）には、次のように記載されている。「２００５年には、赤外線を使う無線ＬＡＮも１００Ｍビット／秒以上の伝送が可能になる。ただし、赤外線では壁で仕切られた隣の部屋までは信号は送れない。」また、本発明において、さらに、子機に記録装置を内蔵させて、子機に表示させる内容、例えば、前記の「親機に表示された、画像と文字が混合された画面の中の文字の部分（番組の中の字幕（テロップ）やフリップ（看板）の文字情報の部分）」や「親画面の中に子画面が表示された画面の中の子画面の部分」や「親機に表示された動画像のある時点の画像（静止画像）」などを、子機に内蔵された記録装置に記録するようにすれば、ユーザーが独自に編集した画像・文字データベース（「ユーザーの自分だけの番組」）が作成できるようになる。

【０１０１】

【発明の効果】以上のように、本発明によれば、親機と子機とが互いに連携することにより、親機の画面と子機の画面とが互いに連動しながら、表示できるようになっている。すなわち、本発明によれば、（１）「親機の親画面の中に子画面が表示された画面の中の子画面の部分」、（２）「親機に表示された画像の中のユーザーが指定した一部」、（３）「親機に表示された複数人の映像の中の特定の人物の映像」、又は、（４）「マルチ・カメラ・アングルで撮像された映像の中のあるカメラ・アングルで撮像された映像が親機に表示されているとき、その映像とは別のカメラ・アングルで撮像された映像」などを、ユーザーの手元の小型の携帯型表示装置で表示して見ることができる。

【０１０２】また、本発明において、子機に親子画面表示機能（親子２画面方式）を備えさせて、子機の画面表示部に、上記の（１）～（４）のような「親機の表示内容と連動・関連する内容」を、「親画面」として表示させながら、子機の「子画面」に、親機の画面と同じ画像を表示させるようにすれば、ユーザーは、手元又は近傍の子機を見るだけで、親機の表示内容をも把握することができるので、大変に便利である。

【０１０３】また、本発明によれば、従来のピクチャーインピクチャー機能（ＰＩＰ機能。親子２画面表示機能）を持つテレビジョン受信機やパソコンにおいて、親画面の中に子画面が「窓」（ウインドウ）のように開かれているが、この子画面を、ユーザーの手元の子機に大きく表示させて、ユーザーが容易に見れるようにすると共に、従来の「親画面の内に子画面が表示されると親画面を集中して鑑賞する妨げになる」という問題点を回避できる。すなわち、本発明では、子機に前記の「子画面」を表示させることができるので、親機には、前記の「子画面」は表示してもよいし、表示させなくてもよい。よって、本発明によれば、親機に前記の「子画面」を表示させなくてもよくなる（親機に「子画面」を「窓」のように表示させる必要がなくなる）ので、親機の画面に余計な「窓（子画面）」がなくなり、親機の画面をユーザーに見やすくユーザーが鑑賞しやすいものにできる、という効果が得られる。すなわち、従来のＰＩＰ機能により一つのテレビの表示部に表示された親画面の中に「窓」のように子画面を表示させる場合は、「窓」の存在が、ユーザーが親画面を集中して鑑賞する際の妨げになる、という問題があったが、本発明によりこのような問題が解消できる。

【０１０４】また、本発明によれば、インターネットからの「プッシュ技術」により自動配信（「インターネット放送」）されてくる情報は、親機１に表示させて家族全員で見ながら、それと関連する（そのリンク先の）他のホームページの情報は、家族の各人が、それぞれ、手

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元の子機に表示させて見ることができる。よって、家族と個人とが一つの居間に居ながら、複数の関連するホームページの情報を多面的に見ることが可能になる。また、本発明によれば、地上波や衛星からのテレビ番組を親機に表示しながら、「データ放送」により送られてくる関連情報を子機に表示させることもできる。

【０１０５】また、本発明によれば、ユーザーのリクエストに基づいて、親機に表示されている動画像に関連させて、ある時点からの動画像を子機において巻き戻して再生させたり、親機において表示されている動画像のある時点の場面を示す画像のみを子機において静止画として表示（再生）させること、などが可能になる。

【０１０６】

【図面の簡単な説明】

【図１】　本発明のコンセプトを示す概念図である。

【図２】　本発明の実施形態１を示す概略図である。

【図３】　本実施形態１の概念を示す概略ブロック図である。

【図４】　本発明の関連技術の例の動作を説明するための図である。

【図５】　本実施形態１の動作を説明するための図である。

【図６】　本実施形態１の動作を説明するための図である。

【図７】　本実施形態１の動作を説明するための図である。

【図８】　本実施形態１の動作を説明するための図である。

【図９】　本実施形態１の動作を説明するための図である。

【図１０】　本発明の実施形態２を説明するための図である。

【図１１】　本発明の実施形態３を説明するための図である。

【図１２】　本発明の実施形態４を説明するための図である。

【符号の説明】

１　親機（テレビ）．　１ａ，５ａ，７４　表示部．

２　受信アンテナ

３，７，１０　送受信部．　４　テーブル．　５　子機（小型表示装置）．６　支持台．　８　スピーカ．

９，７８，８５　リモコン．　１１　ＤＶＤプレーヤ．

２０，７１，８３　親機．　２０ａ，２１ａ，２２ａ，２３ａ　画面表示部．　２１，２２，２３，７７，８４　子機．　３１，３２，３３，４１，４２，４３，５１，５２，５３　無線送受信部．　７３　ＣＰＵ．

７５，８２外部記憶装置．　８１　ホーム・サーバー（管理用コンピュータ）

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フロントページの続き

(51)Int.Cl.[6]　　識別記号　　ＦＩ
　Ｈ０４Ｎ　7/081

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# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 15889735 |
| **Filing Date:** | 06-Feb-2018 |
| **Title of Invention:** | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS |
| **First Named Inventor/Applicant Name:** | Masayuki HIRABAYASHI |
| **Filer:** | Tomoki Tanida/Renell Feimster |
| **Attorney Docket Number:** | 075425-0061 |

Filed as Large Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| **Extension-of-Time:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| SUBMISSION- INFORMATION DISCLOSURE STMT | 1806 | 1 | 240 | 240 |
| | | **Total in USD ($)** | | **240** |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 35103078 |
| **Application Number:** | 15889735 |
| **International Application Number:** | |
| **Confirmation Number:** | 3694 |
| **Title of Invention:** | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS |
| **First Named Inventor/Applicant Name:** | Masayuki HIRABAYASHI |
| **Customer Number:** | 20277 |
| **Filer:** | Tomoki Tanida/Renell Feimster |
| **Filer Authorized By:** | Tomoki Tanida |
| **Attorney Docket Number:** | 075425-0061 |
| **Receipt Date:** | 08-FEB-2019 |
| **Filing Date:** | 06-FEB-2018 |
| **Time Stamp:** | 16:41:08 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $240 |
| RAM confirmation Number | 021119INTEFSW00003459500417 |
| Deposit Account | 500417 |
| Authorized User | Renell Feimster |

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Information Disclosure Statement (IDS) Form (SB08) | IDS_SB08.pdf | 1034488<br>d01c018adeb831ed28bdbe45b4541145885296d0 | no | 4 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems. | | | | | |
| 2 | Other Reference-Patent/App/Search documents | NPL_JP_OA.pdf | 689967<br>335dc14720a467243a309d348aaa3d30e824776f | no | 5 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Foreign Reference | JP2000_125223A.pdf | 697840<br>a9713946f557ab5380bee44787c72f0fcd9b408c | no | 7 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Foreign Reference | JP2001_333346A.pdf | 1048377<br>80461f830e131bb23724ed9e7ca73be5513aec71 | no | 9 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Foreign Reference | JP2006_086931A.pdf | 1156792<br>6304b998df5d14c1c926657d53e642174530ebfe | no | 12 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Foreign Reference | JPH11_196345A.pdf | 5696724<br>ef9e0adc446f7d13632dd7c5145c2078cd8b077c | no | 41 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 7 | Fee Worksheet (SB06) | fee-info.pdf | 30498<br>f393ba314b6c0b6260f71337897d81bbc121fea7 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 10354686 | | |

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/889,735 | 02/06/2018 | Masayuki HIRABAYASHI | 075425-0061 | 3694 |

20277 7590 01/25/2019

MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

| EXAMINER |
|---|
| RAHMAN, MUSTAFIZUR |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2422 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 01/25/2019 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketmwe@mwe.com

| Office Action Summary | Application No. 15/889,735 | Applicant(s) HIRABAYASHI, MASAYUKI | |
|---|---|---|---|
| | Examiner MUSTAFIZUR RAHMAN | Art Unit 2422 | AIA (First Inventor to File) Status No |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02/06/2018*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5)☒ Claim(s) *1-4* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-4* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *02/06/2018* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☒ All b)☐ Some** c)☐ None of the:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *02/06/2018*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

## DETAILED ACTION

This action is in response to the application filed February 06, 2018. Claims 1-4 have been examined and are pending with this action.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claim 1** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-2 of U.S. Patent No. **9,924,124**. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the patent No US **9,924,124** with obvious wording variations. Take an example of comparing **claim 1** of pending application and **claim 1** of the patent No US **9,924,124**:

| Pending Application **15/889,735** | (Patent No. **9,924,124**) |
|---|---|
| ***Claim 1,*** a video display apparatus comprising:<br><br>**(a),** a display unit that displays a video content from a broadcast station or from a video content delivery source;<br><br>**(b),** a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from | ***Claim 1,*** a video display apparatus comprising:<br><br>**(a),** a display unit that displays a video content from a broadcast station or from a video content delivery source;<br><br>**(b),** a direct communication unit that executes bi-directional communication directly with a first wireless terminal device without going via a router; a network communication unit that executes bi-directional communication via a router with a second wireless terminal device that is |

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| the first wireless control device;<br><br>**(c),** an infrared receiver unit that receives infrared rays from a third wireless control device; and<br><br>**(d),** a controller that controls the display unit, the communication unit and the infrared receiver,<br><br>**(e),** wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content and the communication unit sends first information for informing termination of the displaying of the first video content to the | different from the first wireless terminal;<br><br>**(c),** an infrared receiver unit that receives infrared rays from a remote controller; and<br><br>**(d),** a controller that controls the display unit, the direct communication unit, the network communication unit, and the infrared receiver;<br><br>**(e),** wherein, during display on the display unit of a first video content selected with the first wireless terminal device , if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the network communication unit via the router, the display unit terminates displaying the first video content and starts to display the second video content and the direct communication unit sends first information for informing termination of the displaying of the first video content directly |

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| first wireless control device without going via a router, and | to the first wireless terminal device without going via a router, and |
| **(f),** wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device. | **(f),** wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a second command for changing a video content on the display unit from the second video content to another video content is transmitted from the remote controller to the infrared receiver unit by infrared rays, the display unit terminates displaying the second video content and starts to display another video content and the network communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless terminal. |

**Claim 2** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-2 of U.S. Patent No. **9,924,124**. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the patent No US **9,924,124** with obvious wording variations. Take an example of comparing **claim 2** of pending application and **claim 2** of the patent No US **9,924,124**:

| Pending Application **15/889,735** | (Patent No. **9,924,124)** |
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| ***Claim 2,*** a method for changing a content on the video display apparatus comprising: | ***Claim 2,*** a method for changing a content on the video display apparatus comprising: |
| **(a),** displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus; | **(a),** displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus; |
| **(b),** first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router; | **(b),** direct communication step to execute bi-directional communication directly with a first wireless terminal device without going |

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| | via a router; |
| **(c),** second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and | **(c),** network communication step to execute bi-directional communication via a router with a second wireless terminal device that is different from the first wireless terminal device; and |
| **(d),** infrared ray receiving step to receive infrared rays from a third wireless control device; | **(d),** infrared ray receiving step to receive infrared rays from a remote controller; |
| **(e),** wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content and starts to display the second video | **(e),** wherein, during display on the display unit of a first video content selected with the first wireless terminal device, if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the video display apparatus via the router, the video display apparatus terminates |

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| content and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and | displaying the first video content and starts to display the second video content and the video display apparatus sends first information for informing termination of the displaying of the first video content directly to the first wireless terminal device without going via a router, and |
| **(f),** wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second | **(f),** wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a second command for changing a video content on the display unit from the second video content to another video content is transmitted from the remote controller to the video display apparatus by infrared rays, the display unit terminates displaying the second video content and starts to display another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via |

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| wireless control device. | the router to the second wireless terminal. |

**Claim 3** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-2 of U.S. Patent No. **9,924,124**. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the patent No US **9,924,124** with obvious wording variations. Take an example of comparing **claim 3** of pending application and **claim 1** of the patent No US **9,924,124**:

| Pending Application **15/889,735** | (Patent No. **9,924,124**) |
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| ***Claim 3***, a video display apparatus comprising: | ***Claim 1,*** a video display apparatus comprising: |

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| **(a),** a display unit that displays a video content from a broadcast station or from a video content delivery source; | **(a),** a display unit that displays a video content from a broadcast station or from a video content delivery source; |
| **(b),** a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; | **(b),** a direct communication unit that executes bi-directional communication directly with a first wireless terminal device without going via a router; a network communication unit that executes bi-directional communication via a router with a second wireless terminal device that is different from the first wireless terminal; |
| an infrared receiver unit that receives **(c),** infrared rays from a **third wireless** control device; and | **(c),** an infrared receiver unit that receives infrared rays from a remote controller; and |
| **(d),** a controller that controls the display unit, the communication unit and the infrared receiver, | **(d),** a controller that controls the display unit, the direct communication unit, the network communication unit, and the infrared receiver; |
| **(e),** wherein, if a first command for changing a video content on the display | **(e),** wherein, during display on the display |

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| unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and<br><br>**(f),** wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is | unit of a first video content selected with the first wireless terminal device , if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the network communication unit via the router, the display unit terminates displaying the first video content and starts to display the second video content and the direct communication unit sends first information for informing termination of the displaying of the first video content directly to the first wireless terminal device without going via a router, and<br><br>**(f),** wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a second command for changing a video content on the display unit from the second video content to another video content is transmitted from the remote controller to the infrared receiver unit by infrared rays, |

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| displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to another video content and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device. | the display unit terminates displaying the second video content and starts to display another video content and the network communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless terminal. |

**Claim 4** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-2 of U.S. Patent No. **9,924,124**. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the patent No US **9,924,124** with obvious wording variations. Take an example

of comparing **claim 4** of pending application and **claim 2** of the patent No US **9,924,124**:

| Pending Application **15/889,735** | (Patent No. **9,924,124)** |
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| ***Claim 4,*** a method for changing a content on the video display apparatus comprising:<br><br>**(a),** displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus;<br><br>**(b),** first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router;<br><br>**(c),** second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and | ***Claim 2,*** a method for changing a content on the video display apparatus comprising:<br><br>**(a),** displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus;<br><br>**(b),** direct communication step to execute bi-directional communication directly with a first wireless terminal device without going via a router;<br><br>**(c),** network communication step to execute bi-directional communication via a router with a second wireless terminal device that is different from the first wireless terminal device; and<br><br>**(d),** infrared ray receiving step to receive |

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| **(d),** infrared ray receiving step to receive infrared rays from a **third wireless** control device; | infrared rays from a remote controller; |
| **(e),** wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and | **(e),** wherein, during display on the display unit of a first video content selected with the first wireless terminal device, if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the video display apparatus via the router, the video display apparatus terminates displaying the first video content and starts to display the second video content and the video display apparatus sends first information for informing termination of the displaying of the first video content directly to the first wireless terminal device without going via a router, and |
| **(f),** wherein, if a second command for changing a video content on the display unit from a second video content selected | **(f),** wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a second command for changing a video |

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| by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device. | content on the display unit from the second video content to another video content is transmitted from the remote controller to the video display apparatus by infrared rays, the display unit terminates displaying the second video content and starts to display another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless terminal. |

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The claims of the application **15/826,622** encompass the same subject matter except the instant **"**a display unit that displays a video content from a broadcast station or from a video content delivery source; a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; an infrared receiver unit that receives infrared rays from a third wireless control device; and a controller that controls the display unit, the communication unit and the infrared receiver, wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video

content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device**;"** whereas the patent No.US **9,924,124** claim are to **"**a display unit that displays a video content from a broadcast station or from a video content delivery source; a direct communication unit that executes bi-directional communication directly with a first wireless terminal device without going via a router; a network communication unit that executes bi-directional communication via a router with a second wireless terminal device that is different from the first wireless terminal; an infrared receiver unit that receives infrared rays from a remote controller; and a controller that controls the display unit, the direct communication unit, the network communication unit, and the infrared receiver; wherein, during display on the display unit of a first video content selected with the first wireless terminal device , if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the network communication unit via the router, the display unit terminates displaying the first video content and starts to display the second video content and the direct communication unit sends first information for informing termination of the displaying of the first video content directly to the first wireless terminal device without going via a router, and wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a second command for changing a video content on the display unit from the second video content to another video content is transmitted from the remote controller to the infrared receiver unit by infrared rays, the

display unit terminates displaying the second video content and starts to display another video content and the network communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless terminal**."**

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to implement the patent No.US **9,838,737** "a display unit that displays a video content from a broadcast station or from a video content delivery source; a direct communication unit that executes bi-directional communication directly with a first wireless terminal device without going via a router; a network communication unit that executes bi-directional communication via a router with a second wireless terminal device that is different from the first wireless terminal; an infrared receiver unit that receives infrared rays from a remote controller; and a controller that controls the display unit, the direct communication unit, the network communication unit, and the infrared receiver; wherein, during display on the display unit of a first video content selected with the first wireless terminal device , if a first command for changing a video content on the display unit from the first video content to a second video content is transmitted from the second wireless terminal device to the network communication unit via the router, the display unit terminates displaying the first video content and starts to display the second video content and the direct communication unit sends first information for informing termination of the displaying of the first video content directly to the first wireless terminal device without going via a router, and wherein, during display on the display unit of the second video content selected with the second wireless terminal device, if a

second command for changing a video content on the display unit from the second video content to another video content is transmitted from the remote controller to the infrared receiver unit by infrared rays, the display unit terminates displaying the second video content and starts to display another video content and the network communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless terminal," because it was well known to utilize method and or a system the convenient and user-friendly video display apparatus and terminal device can be obtained.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUSTAFIZUR RAHMAN whose telephone number is (571)270-1717. The examiner can normally be reached on Monday thru Friday, 7:30 AM-5:00PM, EST, Alternate Friday.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JEFFEREY HAROLD can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MUSTAFIZUR RAHMAN/
Examiner, Art Unit 2422
/JEFFEREY F HAROLD/
Supervisory Patent Examiner, Art Unit 2422

| Notice of References Cited | Application/Control No. 15/889,735 | Applicant(s)/Patent Under Reexamination HIRABAYASHI, MASAYUKI | |
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| | Examiner MUSTAFIZUR RAHMAN | Art Unit 2422 | Page 1 of 1 |

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| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15889735 | HIRABAYASHI, MASAYUKI |
| | Examiner | Art Unit |
| | MUSTAFIZUR RAHMAN | 2422 |

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| H04N 21/433, 4852; 5/50, 4403, 44, 50; 7/173; 2005/443, 4433, 4442, 4444; | 01/15/2019 | MR |

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| 348 | 14.07; 158; 231.3; 376; 510; 552; 553; 563; 564; 567; 576; | 01/15/2019 | MR |
| 725 | 30; 32; 34; 37; 38; 40; 60; 54; 100; 110; 114; | 01/15/2019 | MR |
| 455 | 343.3; 428; | 01/15/2019 | MR |
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| 709 | 231; 203; | 01/15/2019 | MR |

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

| SEARCH NOTES | | |
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| Search Notes | Date | Examiner |

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| /MUSTAFIZUR RAHMAN/<br>Examiner.Art Unit 2422 | |

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| Consulted with Primary Examiner Brian Yenke Class 348 | 01/15/2019 | MR |
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| 348 | 731; 732; 725; 723; 719; 716; 714; 706; 705; 14.07; 158; 231.3; 376; | 01/15/2019 | MR |
| 348 | 510; 552; 553; 563; 564; 567; 576; | 01/15/2019 | MR |
| 725 | 30; 32; 34; 37; 38; 40; 60; 54; 100; 110; 114; | 01/15/2019 | MR |
| 455 | 343.3; 428; | 01/15/2019 | MR |
| 340 | 10.42 | 01/15/2019 | MR |
| 709 | 231; 203; | 01/15/2019 | MR |

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| SERIAL NUMBER | FILING or 371(c) DATE<br>RULE | CLASS | GROUP ART UNIT | ATTORNEY DOCKET NO. |
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**APPLICANTS**
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**INVENTORS**
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**** CONTINUING DATA ***************************
This application is a CON of 14/649,895 06/04/2015 PAT 9924124
which is a 371 of PCT/JP2013/079953 11/06/2013

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JAPAN 2012-267765 12/07/2012

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03/05/2018

| Foreign Priority claimed | Met after Allowance | STATE OR COUNTRY | SHEETS DRAWINGS | TOTAL CLAIMS | INDEPENDENT CLAIMS |
|---|---|---|---|---|---|
| ☑ Yes ☐ No | ☐ | JAPAN | 29 | 4 | 4 |
| 35 USC 119(a-d) conditions met ☑ Yes ☐ No | | | | | |
| Verified and Acknowledged /MUSTAFIZUR RAHMAN/ Examiner's Signature | Initials | | | | |

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UNITED STATES

**TITLE**

VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

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**EAST Search History**

**EAST Search History (Prior Art)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
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| | | "20110085088" \| "20110164188" \| "20110314510" \| "20120026299" \| "20120054790" \| "20120084653" \| "20120159536" \| "20120173753" \| "20120223819" \| "20120281141" \| "20130031162" \| "20130031594" \| "20130312040" \| "20130330053" \| "20140033900" \| "20140118625" \| "20140229994" \| "6317168" \| "6476825" \| "8223662" \| "8749426").PN. | | | | |
| L9 | 0 | ("9924124").URPN. | USPAT | OR | OFF | 2019/01/15 10:00 |
| L10 | 49 | ("20030043789" \| "20030064709" \| "20030091030" \| "20050030427" \| "20050235331" \| "20060204229" \| "20060234677" \| "20060245734" \| "20070127408" \| "20080165906" \| "20080201736" \| "20080238755" \| "20080240283" \| "20090055540" \| "20090058597" \| "20090070840" \| "20090129689" \| "20090201855" \| "20090220209" \| "20100023975" \| "20100031288" \| "20100053441" \| "20100058414" \| "20100157978" \| "20100235862" \| "20100254670" \| "20110032424" \| "20110072459" \| "20110085088" \| "20110164188" \| "20110314510" \| "20120026299" \| "20120054790" \| "20120084653" \| "20120159536" \| "20120173753" \| "20120223819" \| "20120281141" \| "20130031162" \| "20130031594" \| "20130312040" \| "20130330053" \| "20140033900" \| "20140118625" \| "20140229994" \| "6317168" \| "6476825" \| "8223662" \| "8749426").PN. OR ("9924124").URPN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2019/01/15 10:00 |
| L11 | 13044 | (H04N5/4403).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L12 | 11965 | (H04N5/44).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L13 | 11801 | (H04N5/50).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L14 | 4118 | (H04N21/433).CPC. | US-PGPUB; USPAT; | OR | OFF | 2019/01/15 10:01 |

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|---|---|---|---|---|---|---|
| | | | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| L15 | 537 | (H04N2005/4442).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L16 | 2043 | (H04N2005/443).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L17 | 470 | (H04N2005/4433).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L18 | 39391 | (L11 OR L12 OR L13 OR L14 OR L15 OR L16 OR L17) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| L19 | 44 | L18 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) SAME (USER NEAR INTERFACE) SAME (WIRELESS OR WIRELESSLY) SAME (VIDEO) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/15 10:01 |
| S1 | 2 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/14 19:20 |
| S2 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/14 19:55 |
| S3 | 40 | ((Masayuki) near2 (HIRABAYASHI)).INV. | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/14 20:27 |
| S4 | 6 | ("20030043789" \| "20090070840").PN. | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2015/12/14 20:29 |

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
| S5 | 2 | ("20030043789" \| "20090070840").PN. | US-PGPUB; USPAT | OR | OFF | 2015/12/14 20:29 |
| S6 | 1 | "20150304591" | US-PGPUB; USPAT | OR | OFF | 2015/12/14 20:31 |
| S7 | 1 | "20150304591" and (terminal near apparatus) | US-PGPUB; USPAT | OR | OFF | 2015/12/14 20:32 |
| S8 | 1 | "20150304591" and (receives near status) | US-PGPUB; USPAT | OR | OFF | 2015/12/15 07:42 |
| S9 | 6 | (transmit or transmitting or Communicate) near5 (setting or lacation) near5 (video near display) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 07:57 |
| S10 | 0 | (transmit or transmitting or Communicate) near5 (setting or lacation) near5 (video near display) near5 ((receive or receiving or received) near information or data) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 07:59 |
| S11 | 627 | (transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 07:59 |
| S12 | 0 | (transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data) near5 (output or outputting) near5 (broadcast near station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:01 |
| S13 | 0 | (transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data) same (output or outputting) near5 (broadcast near station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:01 |
| S14 | 0 | (transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data) same ((output or outputting) near5 (broadcast near station)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:01 |
| S15 | 0 | (transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data) and ((output or outputting) near5 (broadcast near station)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:02 |

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|---|---|---|---|---|---|---|
| S16 | 627 | ((transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:02 |
| S17 | 12 | ((transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data)) and (receive or receiving or received) near5 (signal near output) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:03 |
| S18 | 0 | ((transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data)) and (receive or receiving or received) near5 (signal near output) near5 (broadcast) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:04 |
| S19 | 0 | ((transmit or transmitting or Communicate) near5 (video near display) near5 ((receive or receiving or received) near information or data)) and (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:05 |
| S20 | 9 | ((transmit or transmitting or Communicate) near5 (setting or location or place or surroundings or background) near5 (video near display) near5 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:07 |
| S21 | 6742 | ((transmit or transmitting or Communicate) near5 (television) near5 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:11 |
| S22 | 80 | ((transmit or transmitting or Communicate) near5 (setting or location or place or surroundings or background) near5 (television) near5 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:11 |
| S23 | 18 | ((transmit or transmitting or Communicate) near5 (television) near5 ((receive or receiving or received) near information or data)) and (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:12 |
| S24 | 0 | ((transmit or transmitting or Communicate) near5 (television) near5 ((receive or receiving or received) near information or data)) and (receive or receiving or received) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2015/12/15 08:14 |

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|---|---|---|---|---|---|---|
| | | near5 (signal near output) near5 (broadcast or broadcasting) near5 (decodes or decoding or decoded) near3 (video near content) | DERWENT; IBM_TDB | | | |
| S25 | 31 | ((transmit or transmitting or Communicate) near3 (setting or location or place or surroundings or background) near3 (television) near3 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:14 |
| S26 | 25 | ((transmit or transmitting or Communicate) near3 (setting or location or place or surroundings or background) near3 (television) near3 ((receive or receiving or received) near information or data)) | US-PGPUB; USPAT | OR | OFF | 2015/12/15 08:15 |
| S27 | 11 | (transmit or transmitting or Communicate) near3 (setting or location or place or surroundings or background) near3 (television) near3 (receive or receiving or received) near3 (information or data) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:16 |
| S28 | 16 | (transmit or transmitting or Communicate) near3 (setting or location or place or surroundings or background) near3 (television) same (receive or receiving or received) near3 (information or data) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:17 |
| S29 | 10 | ("5319735" \| "5822360" \| "5828325" \| "5940135" \| "6233347" \| "6611607" \| "6650762" \| "6737957" \| "6738744" \| "6751337").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/15 08:24 |
| S30 | 71 | ("6751337").URPN. | USPAT | OR | OFF | 2015/12/15 08:24 |
| S31 | 185202 | (receive or receiving or received) near5 (signal near output) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:41 |
| S32 | 1347 | (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:41 |
| S33 | 41 | (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) near3 (station or position or place or lacation) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:43 |
| S34 | 1 | (receive or receiving or received) near5 (signal near output) near5 | US-PGPUB; USPAT; | OR | OFF | 2015/12/15 08:43 |

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|---|---|---|---|---|---|---|
| | | (broadcast or broadcasting) near3 (station or position or place or lacation)near5 (decodes or decoding or decoded) near3 (video near content) | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S35 | 1 | (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) near5 (decodes or decoding or decoded) near3 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:44 |
| S36 | 1 | (receive or receiving or received) near5 (signal near output) near5 (broadcast or broadcasting) near5 (decodes or decoding or decoded) near3 (video near2 content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:44 |
| S37 | 246494 | (receive or receiving or received) near10 (signal near output) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:45 |
| S38 | 2642 | (receive or receiving or received) near10 (signal near output) near15 (broadcast or broadcasting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:45 |
| S39 | 169 | (receive or receiving or received) near10 (signal near output) near15 (broadcast or broadcasting) near15 (decodes or decoding or decoded) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:46 |
| S40 | 1 | (receive or receiving or received) near10 (signal near output) near15 (broadcast or broadcasting) near15 (decodes or decoding or decoded) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:46 |
| S41 | 1 | (receive or receiving or received) near10 (signal near output) near15 (broadcast or broadcasting) near15 (decodes or decoding or decoded) near10 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:47 |
| S42 | 4 | (receive or receiving or received) near10 (output) near15 (broadcast or broadcasting) near15 (decodes or decoding or decoded) near10 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:47 |

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| S43 | 2 | "20100158109" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:51 |
| S44 | 1 | "20150304591" and (RAM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:52 |
| S45 | 1 | "20100158109" and (memory or store or stroage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:53 |
| S46 | 0 | "20100158109" and (memory or store or stroage or RAM or ROM) same (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:53 |
| S47 | 0 | "20100158109" and (memory or store or stroage or RAM or ROM) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:55 |
| S48 | 7 | "20100058414" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:55 |
| S49 | 0 | "20100058414" and (memory or store or stroage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:55 |
| S50 | 48 | (memory or store or stroage or RAM or ROM) near5 (channel) near3 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:56 |
| S51 | 5 | (memory or store or stroage or RAM or ROM) near5 (channel) near3 (video near content) near5 (display or displayed or displaying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2015/12/15 08:57 |

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| | | | DERWENT; IBM_TDB | | | |
| S52 | 0 | (memory or store or stroage or RAM or ROM) near5 (channel) near3 (video near content) near5 (display or displayed or displaying) same (remote near device) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:59 |
| S53 | 3 | (memory or store or stroage or RAM or ROM) near5 (channel) near3 (video near content) near5 (display or displayed or displaying) same (remote near control) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 08:59 |
| S54 | 3 | (memory or store or stroage or RAM or ROM) near5 (channel) near3 (video near content) near5 (display or displayed or displaying) same (remote near control) same (channel) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:00 |
| S55 | 10 | ("2010/0031288").URPN. | USPAT | OR | OFF | 2015/12/15 09:03 |
| S56 | 87 | ("20020069037" \| "20020100052" \| "20020147728" \| "20050021470" \| "20050073991" \| "20050132018" \| "20050132297" \| "20060019632" \| "20060101350" \| "20060184897" \| "20060280050" \| "20060288112" \| "20070033402" \| "20070100834" \| "20070198746" \| "20080004978" \| "20080005179" \| "20080040028" \| "20080059908" \| "20080059909" \| "20080059911" \| "20080189255" \| "20080194276" \| "20080194296" \| "20090017860" \| "20090018898" \| "20090076881" \| "20090132453" \| "20090157842" \| "20090182546" \| "20090257804" \| "20090287841" \| "20090307135" \| "20100022270" \| "20100031288" \| "20100031366" \| "20100049862" \| "20100057852" \| "20100082448" \| "20100111278" \| "20100113065" \| "20100169832" \| "20100185776" \| "20100235476" \| "20100311391" \| "20100324977" \| "20110060764" \| "20110066633" \| "20110082572" \| "20110087665" \| "20110087690" \| "20110093913" \| "20110111278" \| "20110141887" \| "20110158406" \| "20110185278" \| "20110196953" \| "20110251995" \| "20110304685" \| "20120022967" \| "20120059748" \| "20120059910" \| "20120088477" \| "20120089951" \| "20120096056" \| "20120109997" \| "20120110074" \| "20120117026" \| "20120117185" \| "20120117197" \| "20120117620" \| "20120124162" \| "20120124177" \| "20120149338" \| | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/15 09:12 |

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|---|---|---|---|---|---|---|
| | | "20120203871" \| "20130094402" \| "20130189942" \| "6813733" \| "6990638" \| "7216301" \| "7466807" \| "7596761" \| "7706778" \| "8161411" \| "8171419" \| "8254829" \| "8290471").PN. | | | | |
| S57 | 7 | "20100058414" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:12 |
| S58 | 17616 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:15 |
| S59 | 1 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (mobile near remote) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:29 |
| S60 | 0 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (mobile near remote near control) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:34 |
| S61 | 478 | (receive or receiving or received) near10 (channel) near5 (television) near5 ((RC) or (remote near (control or controller))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:49 |
| S62 | 4 | (receive or receiving or received) near10 (channel) near15 (television) near15 ((RC) or (remote near (control or controller))) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:50 |
| S63 | 15 | (receive or receiving or received) same (channel) same (television) same ((RC) or (remote near (control or controller))) same (video near content) same (memory or store or stroage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:52 |
| S64 | 1 | (receive or receiving or received) same (channel) same (television) same ((RC) or (remote near (control or controller))) same (video near content) same (memory or store or stroage or RAM or ROM) same | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/15 09:53 |

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| | | (decode or decoding or decoded) | IBM_TDB | | | |
| S65 | 1 | (receive or receiving or received) same (channel) same (television) same ((RC) or (remote near (control or controller))) same (video near content) same (memory or store or stroage or RAM or ROM) same (decode or decoding or decoded) same (display or displaying or displayed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 09:53 |
| S66 | 4 | (receive or receiving or received) near (channel) near5 (television) near5 ((RC) or (remote near (control or controller))) near5 (display or displaying or displayed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:05 |
| S67 | 112 | (video near content) near5 (channel) near5 (memory or store or stored or stroage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:11 |
| S68 | 4 | (video near content) near5 (channel) near5 (memory or store or stored or stroage or RAM or ROM) near5 (decode or decoded or decoding) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:12 |
| S69 | 5 | (video near content) near5 (channel) near15 (memory or store or stored or stroage or RAM or ROM) near15 (decode or decoded or decoding) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:13 |
| S70 | 0 | (status near information) near5 (receive or receiving or received) near10 (channel) near5 (television) near5 ((RC) or (remote near (control or controller))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:20 |
| S71 | 80 | (receive or receiving or received) near3 (channel) near3 (television) near3 ((RC) or (remote near (control or controller))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:21 |
| S72 | 26 | (receive or receiving or received) near3 (channel) near3 (television) near3 ((RC) or (remote near (control or controller))) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:25 |
| S73 | 14 | ("4375651" \| "4394691" \| "4488179" \| "4527194" \| "4706121" \| "4737993" \| | US-PGPUB; USPAT; | OR | OFF | 2015/12/15 10:27 |

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| | | "4802114" \| "4807052" \| "4841368" \| "4908713" \| "4977455" \| "5123046" \| "5151789" \| "5353121").PN. | USOCR | | | |
| S74 | 315 | ("5727060").URPN. | USPAT | OR | OFF | 2015/12/15 10:27 |
| S75 | 329 | ("4375651" \| "4394691" \| "4488179" \| "4527194" \| "4706121" \| "4737993" \| "4802114" \| "4807052" \| "4841368" \| "4908713" \| "4977455" \| "5123046" \| "5151789" \| "5353121").PN. OR ("5727060").URPN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/15 10:27 |
| S76 | 0 | (receive or receiving or received) near (channel) near (television) near3 ((RC) or (remote near (control or controller))) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:31 |
| S77 | 44 | ("20010042043" \| "20020056123" \| "20020083121" \| "20020140963" \| "20020171872" \| "20030088557" \| "20030200459" \| "20030225700" \| "20040055018" \| "20040128317" \| "20040190854" \| "20050066165" \| "20050081138" \| "20050094191" \| "20050114672" \| "20050132416" \| "20060064716" \| "20060074992" \| "20060107289" \| "20060117379" \| "20070092079" \| "4603966" \| "4858032" \| "5262860" \| "5715403" \| "5881287" \| "6139197" \| "6223213" \| "6636329" \| "6912002" \| "6930788" \| "6963858" \| "7076469" \| "7079191" \| "7197535" \| "7281272" \| "7305713" \| "7388605" \| "7395245" \| "7480382" \| "7568234" \| "7631184" \| "7792517" \| "8139768").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/15 10:36 |
| S78 | 610 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or portable) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:44 |
| S79 | 116 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or portable) near5 (command or information) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:45 |
| S80 | 610 | (transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or portable) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:45 |
| S81 | 2 | (communication near unit) near5 (transmit or transmitting or Communicate or communication) | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 10:48 |

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| | | near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or (portable near device)) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S82 | 11 | (communication near unit) same ((transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or (portable near device))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:49 |
| S83 | 393 | ((transmit or transmitting or Communicate or communication) near5 (identification or ID) near5 (code) near (cell-phone or computer or PDA or (portable near device))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:54 |
| S84 | 246 | ((transmit or transmitting or Communicate or communication) near2 (identification or ID) near2 (code) near2 (cell-phone or computer or PDA or (portable near device))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:55 |
| S85 | 15 | ((transmit or transmitting or Communicate or communication) near2 (identification or ID) near2 (code) near2 (cell-phone or computer or PDA or (portable near device))) same (display or displayed or displaying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:56 |
| S86 | 22 | ((transmit or transmitting or Communicate or communication) near2 (identification or ID) near2 (code) near2 (cell-phone or computer or PDA or (portable near device))) and (display or displayed or displaying) and (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 10:59 |
| S87 | 0 | "20150304591" and (security) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:05 |
| S88 | 0 | "20150304591" and (computer) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:06 |
| S89 | 0 | "20150304591" and (web) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:06 |

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| S90 | 0 | "20150304591" and (online) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:07 |
| S91 | 337497 | (receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:49 |
| S92 | 15512 | (receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:50 |
| S93 | 7201 | (receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) near5 ((transmit or transmitted or transmitting or Communicate) near information or data) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:52 |
| S94 | 7201 | ((receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) near5 ((transmit or transmitted or transmitting or Communicate) near information or data)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:53 |
| S95 | 124 | ((receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) near5 ((transmit or transmitted or transmitting or Communicate) near information or data)) same (tv or television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:53 |
| S96 | 29 | ((receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) near5 ((transmit or transmitted or transmitting or Communicate) near information or data)) same (tv or television) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 11:54 |

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| S97 | 43 | ((receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) with ((transmit or transmitted or transmitting or Communicate) near information or data)) same (tv or television) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:00 |
| S98 | 9 | ((receive or receives or receiving or received) near5 (command or information) near5 (transmit or transmitted or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) with ((transmit or transmitted or transmitting or Communicate) near information or data)) same (tv or television) same (wireless or wirelessly) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:12 |
| S99 | 1 | ("2007/0127408").URPN. | USPAT | OR | OFF | 2015/12/15 12:15 |
| S100 | 16848 | (signal near receiving near unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:17 |
| S101 | 41 | (signal near receiving near unit) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:19 |
| S102 | 0 | (signal near receiving near unit) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) near5 (plurality or multiple) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:20 |
| S103 | 0 | (signal near receiving) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) near5 (plurality or multiple) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:21 |
| S104 | 1037 | (signal near receiving) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:21 |
| S105 | 1 | (signal near2 receiving) near5 (simultaneously or simultaneous) near5 (receive or receiving or | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 12:22 |

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| | | received) near15 (plurality or multiple) near15 (video near content) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S106 | 1 | (signal near2 receiving) with (simultaneously or simultaneous) with (receive or receiving or received) with (plurality or multiple) with (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:22 |
| S107 | 1 | (signal near2 receiving) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) with (plurality or multiple) with (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:23 |
| S108 | 1 | (signal near2 receiving) near5 (simultaneously or simultaneous) near5 (receive or receiving or received) same (plurality or multiple) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:23 |
| S109 | 1 | (signal near2 receiving) near15 (simultaneously or simultaneous) near15 (receive or receiving or received) same (plurality or multiple) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:23 |
| S110 | 1 | (signal near2 receiving) near15 (simultaneously or simultaneous) near15 (receive or receiving or received) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:24 |
| S111 | 2 | (signal near2 receiving) near15 (simultaneously or simultaneous) near15 (receive or receiving or received) same (video near contents) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:24 |
| S112 | 23 | (simultaneously or simultaneous) near5 (receive or receiving or received) with (plurality or multiple) with (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:25 |
| S113 | 2 | (simultaneously or simultaneous) near5 (receive or receiving or received) with (plurality or multiple) with (video near content) same (tv or television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:33 |
| S114 | 4356 | (channel) near5 (receive or received | US-PGPUB; | OR | OFF | 2015/12/15 |

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| | | or receiving) near5 (cell-phone or PDA or computer or (portable near device)) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 12:42 |
| S115 | 20 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:45 |
| S116 | 24 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) same (video near3 content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:45 |
| S117 | 11 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) same (video near3 content) near5 (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:45 |
| S118 | 0 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) same (video near3 content) near5 (channel) near5 (decoded or decode or decoding) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:46 |
| S119 | 1 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) and (video near3 content) near5 (channel) near5 (decoded or decode or decoding) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:47 |
| S120 | 11 | (channel) near5 (receive or received or receiving) near5 (cell-phone or PDA or computer or (portable near device)) same (video near content) same (television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 12:50 |
| S121 | 87 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:00 |
| S122 | 1 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) near5 (receiving or receive or received) near (unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/15 13:04 |

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| | | | IBM_TDB | | | |
| S123 | 2 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) near5 (receiving or receive or received) near3 (unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:04 |
| S124 | 2 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) near5 (receiving or receive or received) near5 (unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:04 |
| S125 | 2 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) same (receiving or receive or received) near5 (unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:05 |
| S126 | 1 | (video near2 content) near5 (channel) near3 (decode or decoded or decoding) same (output or outputting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:06 |
| S127 | 344 | (video near3 content) same (channel) same (decode or decoded or decoding) same (output or outputting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:07 |
| S128 | 10 | (video near3 content) same (channel) same (decode or decoded or decoding) same (output or outputting) near5 (broadcast or broadcasting or telecast or webcast) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:10 |
| | | (video near3 content) same (channel) same (decode or decoded or decoding) same (output or outputting) near5 (broadcast or broadcasting or telecast or webcast) same (display or displayed or displaying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:11 |
| S130 | 2 | (video near3 content) same (channel) same (decode or decoded or decoding) same (output or outputting) near5 (broadcast or broadcasting or telecast or webcast) same (display or displayed or displaying) same (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:18 |
| S131 | 6860 | (channel) same ((identification or ID) near code) | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 13:24 |

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| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S132 | 2005 | (channel) same ((identification or ID) near code) same (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:24 |
| S133 | 51 | (channel) same ((identification or ID) near code) same (memory or store or stored or storage or RAM or ROM) same (memory near unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:25 |
| S134 | 155509 | (channel near (receive or received or receiving)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:34 |
| S135 | 314 | (channel near (receive or received or receiving)) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:35 |
| S136 | 2776 | ((identification or ID) near code) near3 (differs or different or unlike or dissimilar) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:41 |
| S137 | 232 | ((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:42 |
| S138 | 232 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:43 |
| S139 | 0 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM))) same (transmit or transmitting or Communicate) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:45 |

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| S140 | 26 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM))) same (transmit or transmitting or Communicate) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:45 |
| S141 | 0 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM))) same (transmit or transmitting or Communicate) same (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:46 |
| S142 | 11 | (((identification or ID) near code) near5 (differs or different or unlike or dissimilar) near5 ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 13:47 |
| S143 | 35342 | (television or TV) near5 (remote near (control or controlling)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:04 |
| S144 | 4390 | (television or TV) near5 (remote near (control or controlling)) near5 (display or displayed or displaying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:05 |
| S145 | 311 | (television or TV) near5 (remote near (control or controlling)) near5 (display or displayed or displaying) near5 (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:05 |
| S146 | 213 | (television or TV) near5 (remote near (control or controlling)) near5 (display or displayed or displaying) near5 (channel) and (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:06 |
| S147 | 25 | (television or TV) near2 (remote near (control or controlling)) near2 (display or displayed or displaying) near2 (channel) and (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:08 |
| S148 | 5 | (television or TV) near2 (remote near (control or controlling)) near2 (display or displayed or displaying) near2 | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 14:08 |

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| | | (channel) same (cell-phone or PDA or computer or (portable near device)) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S149 | 40 | (television or TV) near2 (remote near (control or controlling)) near2 (display or displayed or displaying) near2 (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:09 |
| S150 | 37 | (television or TV) near2 (remote near (control or controlling)) near2 (display or displayed or displaying) near2 (channel) same (television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:22 |
| S151 | 2 | "2001802017 36" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:32 |
| S152 | 1 | "2001802017 36" and (output or outputting) same (broadcast) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:33 |
| S153 | 359096 | (memory or store or stored or storage or RAM or ROM) near5 (content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:43 |
| S154 | 2001095 | (memory or store or stored or storage or RAM or ROM) near5 (content near (command or information)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:45 |
| S155 | 23 | (memory or store or stored or storage or RAM or ROM) near5 (content near (command or information)) near5 (identification or ID) near (code) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:45 |
| S156 | 27 | (memory or store or stored or storage or RAM or ROM) near5 (content near (command or information)) near5 (identification or ID) near3 (code) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:46 |
| S157 | 0 | (memory or store or stored or storage | US-PGPUB; | OR | OFF | 2015/12/15 |

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| | | or RAM or ROM) near5 (content near (command or information)) near5 (identification or ID) near3 (code) near5 (cell-phone or PDA or computer or (portable near device)) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 14:46 |
| S158 | 1430 | (memory or store or stored or storage or RAM or ROM) near5 (identification or ID) near3 (code) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:46 |
| S159 | 8 | (memory or store or stored or storage or RAM or ROM) near3 (content) near5 (identification or ID) near3 (code) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:49 |
| S160 | 16 | (memory or store or stored or storage or RAM or ROM) near5 (content) near5 (identification or ID) near3 (code) near5 (cell-phone or PDA or computer or (portable near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:50 |
| S161 | 1 | (memory or store or stored or storage or RAM or ROM) near5 (content) near5 (identification or ID) near3 (code) near5 (cell-phone or PDA or computer or (portable near device)) near5 (transmit or transmitted or transmitting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 14:51 |
| S162 | 362 | (memory or store or stored or storage or RAM or ROM) near5 (record) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:06 |
| S163 | 1 | (memory near unit) near5 (memory or store or stored or storage or RAM or ROM) near5 (record) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:07 |
| S164 | 2 | (memory near unit) near5 (memory or store or stored or storage or RAM or ROM) near5 (record or recording or recorded) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:08 |
| S165 | 6 | (memory near unit) near5 (record or recording or recorded) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/15 15:08 |

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| | | | IBM_TDB | | | |
| S166 | 1 | (((identification or ID) near code) near5 (differs or different or unlike or dissimilar) near5 ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) near5 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:32 |
| S167 | 1 | (((identification or ID) near code) near5 (differs or different or unlike or dissimilar) near5 ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:33 |
| S168 | 24 | (((identification or ID) near code) same (differs or different or unlike or dissimilar) same ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:34 |
| S169 | 1 | (((identification or ID) near code) same (differs or different or unlike or dissimilar) same ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) same (video near content) same (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:34 |
| S170 | 1 | (((identification or ID) near code) same (differs or different or unlike or dissimilar) same ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) same (video near content) same (decode or decoding or decoded) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:36 |
| S171 | 24 | (((identification or ID) near code) same (differs or different or unlike or dissimilar) same ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:37 |
| S172 | 752 | (((identification or ID) near code) near10 (differs or different or unlike or dissimilar) near10 ((memory or store or stored or storage or RAM or ROM))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:39 |
| S173 | 1 | (((identification or ID) near code) near10 (differs or different or unlike or dissimilar) near10 ((memory or store or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) near10 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:39 |
| S174 | 10 | (((identification or ID) near code) near10 (differs or different or unlike or dissimilar) near10 ((memory or store | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 15:40 |

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| | | or stored or storage or RAM or ROM))) same (memory or store or stored or storage or RAM or ROM) near10 (channel) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S175 | 752 | (((identification or ID) near code) near10 (differs or different or unlike or dissimilar) near10 ((memory or store or stored or storage or RAM or ROM))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:42 |
| S176 | 148 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:46 |
| S177 | 3 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:46 |
| S178 | 110 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:48 |
| S179 | 1 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) same (television)and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:49 |
| S180 | 11 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) and (video near2 content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:50 |
| S181 | 0 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) same (meory) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:53 |
| S182 | 0 | (((identification or ID) near code) near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) same (meory) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:53 |
| S183 | 12 | (((identification or ID) near code) | US-PGPUB; | OR | OFF | 2015/12/15 |

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| | | near2 (differs or different or unlike or dissimilar) near2 ((memory or store or stored or storage or RAM or ROM))) same (content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 15:54 |
| S184 | 2796 | (video near content) near5 (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:57 |
| S185 | 134 | (video near content) near5 (channel) near5 ((memory or store or stored or storage or RAM or ROM)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:57 |
| S186 | 13 | (video near content) near5 (channel) near5 ((memory or store or stored or storage or RAM or ROM)) same (decode or decoding or decoded) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 15:58 |
| S187 | 16759 | (video near content) near5 (display or displayed or displaying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 16:12 |
| S188 | 1558 | ((video near content) near5 (display or displayed or displaying)) same (video near content) near5 (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 16:15 |
| S189 | 11 | ((video near content) near5 (display or displayed or displaying)) same (video near content) near5 (memory or store or stored or storage or RAM or ROM) near5 (reproduced or duplicate or replicate or repeated) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 16:17 |
| S190 | 181 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((memory or store or stored or storage or RAM or ROM))) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:36 |
| S191 | 123 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((identification or ID) near code) near3((memory or store or stored or storage or RAM or ROM))) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/15 17:38 |

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| | | | IBM_TDB | | | |
| S192 | 123 | ((identification or ID) near code) near3 (differs or different or unlike or dissimilar) near3 ((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:40 |
| S193 | 440 | ((identification or ID) near code) near3 (differs or different or unlike or dissimilar) same ((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:40 |
| S194 | 440 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar)) same (((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:41 |
| S195 | 343 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar)) same (((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM)) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:41 |
| S196 | 16 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar)) same (((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM)) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:42 |
| S197 | 8 | (((identification or ID) near code) near3 (differs or different or unlike or dissimilar)) near20(((identification or ID) near code) near3 (memory or store or stored or storage or RAM or ROM)) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 17:45 |
| S198 | 4 | ("5752202" \| "5774065" \| "5798693" \| "5999799").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2015/12/15 17:46 |
| S199 | 326760 | (display near unit) near4 (display or displayed or displying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:02 |
| S200 | 300299 | (display near unit) near3 (display or displayed or displying) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:03 |

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| S201 | 217 | (display near unit) near3 (display or displayed or displying) near2 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:03 |
| S202 | 59 | (display near unit) near3 (display or displayed or displying) near2 (video near content) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:04 |
| S203 | 5 | (display near unit) near3 (display or displayed or displying) near2 (video near content) same (channel) and 348/$.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:08 |
| S204 | 79 | (television near signal near receiving near unit) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:26 |
| S205 | 38 | (television near signal near receiving near unit) near3 (receive or receives or received or receiving) near2 (television near signal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:27 |
| S206 | 39 | (television near signal near receiving near unit) near5 (receive or receives or received or receiving) near2 (television near signal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:28 |
| S207 | 42 | (television near signal near receiving near unit) near15 (receive or receives or received or receiving) near2 (television near signal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:31 |
| S208 | 37 | (television near signal near receiving near unit) near15 ((receive or receives or received or receiving) near (television near signal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:31 |
| S209 | 2762 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2015/12/15 18:37 |

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| | | | DERWENT; IBM_TDB | | | |
| S210 | 2 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 ("without") near5 (switch or switched or switching) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:38 |
| S211 | 0 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 ("not") near5 (switch or switched or switching) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:39 |
| S212 | 60 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:40 |
| S213 | 1 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) near5 (predetermined near2 period near2 time) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:41 |
| S214 | 1 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) near5 (predetermine or predetermined or preset) near3 (period near2 time) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:42 |
| S215 | 1 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) near5 (predetermine or predetermined or preset or se or fixed) near3 (period near2 time) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:43 |
| S216 | 4 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) near5 (predetermine or predetermined or preset or se or fixed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:44 |
| S217 | 5 | (memory or store or stored or storage or RAM or ROM) near5 (channel) near5 (view or viewing or viewed) near5 (switch or switched or switching) same (predetermine or predetermined or preset or se or fixed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:45 |
| S218 | 16397 | (television) near5 (detect or detecting or detected) | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/15 18:52 |

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| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S219 | 8 | (television) near5 (detect or detecting or detected) near3 (start near time) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:52 |
| S220 | 16 | (television) near5 (detect or detecting or detected) near3 (start near3 end) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:53 |
| S221 | 0 | (television) near5 (detect or detecting or detected) near3 (start near3 end) same (advertisement) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:54 |
| S222 | 0 | (television) near5 (detect or detecting or detected) near3 (start near3 end) same (video near serving ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:55 |
| S223 | 0 | (television) same (detect or detecting or detected) same (start near3 end) same (video near serving ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:55 |
| S224 | 1 | (television) same (start near3 end) same (video near serving ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:56 |
| S225 | 950 | (television) same (start near3 end) same (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:57 |
| S226 | 48 | (television) same (start near3 end) same (video) same (comercial or advertisement) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 18:57 |
| S227 | 26 | (television) same (start near3 end) | US-PGPUB; | OR | OFF | 2015/12/15 |

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| | | same (video) same (comercial or advertisement) same (time or timing) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 18:59 |
| S228 | 173 | (channel) near3 (select or selection) near3 (button) near3 (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:05 |
| S229 | 0 | (channel) near3 (select or selection) near3 (button) near3 (remote near (control or controller)) near4 (start near3 end) near3 (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:07 |
| S230 | 21 | (channel) same (select or selection) same (button) same (remote near (control or controller)) same (start near3 end) same (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:07 |
| S231 | 153 | (transmit or transmitting or Communicate) near5 (setting or location or place) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:15 |
| S232 | 0 | (transmit or transmitting or Communicate) near5 (setting or location or place) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or ending) near2 (time or timening) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:16 |
| S233 | 0 | (transmit or transmitting or Communicate) near5 (setting or location or place) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) same (end or ending) near2 (time or timening) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:17 |
| S234 | 94 | (transmit or transmitting or Communicate) same (setting or location or place) same (channel) same (memory or store or stored or storage or RAM or ROM) same (end or ending) near2 (time or timening) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:17 |
| S235 | 1243 | (transmit or transmitting or Communicate) same (setting or location or place) same (channel) same (memory or store or stored or storage or RAM or ROM) same (end or ending) same (time or timening) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/15 19:17 |

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| | | | IBM_TDB | | | |
| S236 | 49 | (transmit or transmitting or Communicate) same (setting or location or place) same (channel) same (memory or store or stored or storage or RAM or ROM) same ((end or ending) near (time or timening)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:18 |
| S237 | 0 | (transmit or transmitting or Communicate) near5 (setting or location or place) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:21 |
| S238 | 0 | (transmit or transmitting or Communicate) near5 (setting or location or place) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) same (end or finish or finale or close) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:21 |
| S239 | 6786 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:22 |
| S240 | 98 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:23 |
| S241 | 3 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) near3 (time or timining) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:23 |
| S242 | 3 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) near5 (time or timining) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:24 |
| S243 | 4 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) near10 (time or timining) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:24 |
| S244 | 5 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2015/12/15 19:24 |

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| | | or finale or close) near10 (time or timing) | EPO; JPO; DERWENT; IBM_TDB | | | |
| S245 | 5 | (transmit or transmitting or Communicate) near5 (channel) near5 (memory or store or stored or storage or RAM or ROM) near5 (end or finish or finale or close) with (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/15 19:25 |
| S246 | 47 | (channel) near5 (display or displayed or displaying) near3 ((two or dual) near screen) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:33 |
| | | (select or selection) near3 (channel) near5 (display or displayed or displaying) near3 ((two or dual) near screen) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | | 11:36 |
| S248 | 89 | ((two or dual) near screen) near5 (display or displayed or displaying) near3 (end or close or finale) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:42 |
| S249 | 2 | ((two or dual) near screen) near5 (display or displayed or displaying) near3 (end or close or finale) near3 (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:42 |
| S250 | 164 | ((two or dual) near screen) near5 (display or displayed or displaying) near3 (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:43 |
| S251 | 3 | ((two or dual) near screen) near5 (display or displayed or displaying) near3 (time or timing) near5 (end or finish) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:43 |
| S252 | 104 | ((two or dual) near screen) near5 (display or displayed or displaying) near3 (time or timing) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:44 |
| S253 | 88 | ((two or dual) near screen) near3 (display or displayed or displaying) | US-PGPUB; USPAT; | OR | OFF | 2015/12/16 11:45 |

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| | | near3 (time or timing) and @py<"2012" | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S254 | 5 | ((two or dual) near screen) near3 (display or displayed or displaying) near3 (time or timing) same (end or ending or ended or done or over or finish) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:47 |
| S255 | 53 | ((two or dual) near screen) near3 (display or displayed or displaying) near3 (time or timing) and (end or ending or ended or done or over or finish) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:51 |
| S256 | 125 | ((two or dual) near screen) near3 (display or displayed or displaying) near3 (end or ending or ended or done or over or finish) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:54 |
| S257 | 70 | ((two or dual) near screen) near3 (display or displayed or displaying) near3 (end or ending or ended or done or over or finish) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:54 |
| S258 | 0 | ((two or dual) near screen) near3 (display or displayed or displaying) near3 (channel) near3 (end or ending or ended or done or over or finish) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 11:57 |
| S259 | 16967 | (switch or switching or switched or switches) near3 (television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:02 |
| S260 | 2035 | (switch or switching or switched or switches) near3 (channel) near3 (television) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:04 |
| S261 | 30 | (switch or switching or switched or switches) near3 (channel) near3 (television) near5 (memory or store or stroage or RAM or ROM) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:05 |

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| S262 | 1263 | (channel) near5 (memory or store or stroage or RAM or ROM) near3 (end or ended or ending) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:11 |
| S263 | 103 | (channel) near5 (memory or store or stroage or RAM or ROM) near3 (end or ended or ending) near3 (time or timing) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:11 |
| S264 | 93 | (channel) near5 (memory or store or stroage or RAM or ROM) near3 (end or ended or ending) near3 (time or timing) and @py<"2012" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:12 |
| S265 | 4508 | (television near broadcast near program) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:15 |
| S266 | 37 | (television near broadcast near program) near3 (end or ended or ending) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:16 |
| S267 | 1 | (television near broadcast near program) near3 (end or ended or ending) near3 (exclude or excluded or remove or eliminate or omitted or omitte or disqualified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:19 |
| S268 | 1 | (television or tv) near3 (broadcast or broadcasting or broadcasted) near3 (program) near3 (end or ended or ending) near3 (exclude or excluded or remove or eliminate or omitted or omitte or disqualified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:21 |
| S269 | 3 | (television or tv) near3 (broadcast or broadcasting or broadcasted) near3 (end or ended or ending) near3 (exclude or excluded or remove or eliminate or omitted or omitte or disqualified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:21 |
| S270 | 3 | (television or tv) near5 (broadcast or broadcasting or broadcasted) near5 (end or ended or ending) near5 (exclude or excluded or remove or eliminate or omitted or omitte or | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2015/12/16 12:21 |

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| | | disqualified) | DERWENT; IBM_TDB | | | |
| S271 | 11 | (television or tv) near15 (broadcast or broadcasting or broadcasted) near15 (end or ended or ending) near15 (exclude or excluded or remove or eliminate or omitted or omitte or disqualified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:22 |
| S272 | 2 | "20090220209" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:55 |
| S274 | 6 | "20110085088" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:56 |
| S275 | 7 | "20100058414" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:58 |
| S276 | 2 | "20080201736" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:58 |
| S277 | 5 | "20100031288" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 12:59 |
| S278 | 2 | "20120223819" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 13:00 |
| S279 | 2 | "20060234677" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 13:55 |
| S280 | 3 | "20120281141" | US-PGPUB; USPAT; USOCR; | OR | OFF | 2015/12/16 13:56 |

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| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S281 | 4 | "20070127408" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 13:58 |
| S282 | 3 | "20080165906" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 14:00 |
| S283 | 6 | "20090129689" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 14:01 |
| S284 | 4 | "20090058597" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 14:03 |
| S285 | 8 | "20100023975" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 14:57 |
| S286 | 3 | "20060204229" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 15:47 |
| S287 | 3 | "20060245734" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 15:49 |
| S288 | 3 | "20080238755" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 16:52 |
| S289 | 5 | "20090055540" | US-PGPUB; | OR | OFF | 2015/12/16 |

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| | | | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 16:52 |
| S290 | 2 | "20110314510" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 16:53 |
| S291 | 2 | "6317168".pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 16:55 |
| S292 | 2 | "20120159536" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 16:56 |
| S293 | 3 | "20100235862" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 17:33 |
| S294 | 6 | "20050030427" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 17:34 |
| S295 | 3 | "20050235331" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 17:35 |
| S296 | 5 | "20110072459" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/12/16 17:49 |
| S297 | 5 | "20120026299" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2015/12/16 17:50 |

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| | | | IBM_TDB | | | |
| S298 | 1 | ("14649895").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:09 |
| S299 | 2 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:10 |
| S300 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:10 |
| S301 | 2 | "20150304591" and (display near apparatus) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:12 |
| | | "20150304591" and (display near apparatus) and television | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | | 09:15 |
| S303 | 2 | (video near content near delivery near source) | USPAT | OR | OFF | 2016/08/24 09:17 |
| S304 | 5 | (video near content near delivery near source) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:19 |
| S305 | 7325694 | (display or displaying or displayed or displayes) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:20 |
| S306 | 15566 | (display or displaying or displayed or displayes) near3 (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:21 |
| S307 | 373 | (display or displaying or displayed or | US-PGPUB; | OR | OFF | 2016/08/24 |

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| | | displayes) near3 (video near content) near4 (broadcast or broadcasting or broadcasted) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 09:22 |
| S308 | 5 | (display or displaying or displayed or displayes) near3 (video near content) near4 (broadcast or broadcasting or broadcasted) near4 (station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:22 |
| S309 | 12 | (display or displaying or displayed or displays) near5 (video near content) near5 (broadcast or broadcasting or broadcasted) near4 (station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 09:26 |
| S310 | 9687612 | (executes or execute or executed or executing or achieve or complete or accomplish) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 10:32 |
| S311 | 2775 | (executes or execute or executed or executing or achieve or complete or accomplish) near5 (bi-directional) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 10:42 |
| S312 | 584 | (executes or execute or executed or executing or achieve or complete or accomplish) near5 (bi-directional) near5 (communication or communicating or communicate) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 10:44 |
| S313 | 1 | "20150304591" and (terminal near device) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 10:45 |
| S314 | 0 | (executes or execute or executed or executing or achieve or complete or accomplish) near5 (bi-directional) near5 (communication or communicating or communicate) near5 (first or primary) near3 (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 10:58 |
| S315 | 0 | (executes or execute or executed or executing or achieve or complete or accomplish) near5 (bi-directional) near5 (communication or communicating or communicate) same (first or primary) near3 (wireless or | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2016/08/24 10:59 |

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| | | wirelessly) | IBM_TDB | | | |
| S316 | 2 | "20150304591" and (terminal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:00 |
| S317 | 2 | "20150304591" and (terminal) and television | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:00 |
| S318 | 1 | "20150304591" and (terminal near device) and television | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:01 |
| S319 | 0 | "20150304591" and (terminal near device) and television and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:03 |
| S320 | 1 | "20150304591" and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:03 |
| S321 | 560 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:11 |
| S322 | 25 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) same without | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:12 |
| S323 | 0 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) same without near5 router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:12 |
| S324 | 0 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) same without near5 router | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2016/08/24 11:12 |

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| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
| S325 | 0 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) same (without or absence) with router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:14 |
| S326 | 2 | (first or primary) near3 (wireless or wirelessly) near3 (terminal near device) and without near5 router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:15 |
| S328 | 8 | (first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) and (without or absence) with router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:19 |
| S329 | 0 | (router) near5 (second or secondary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) near5 (different) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:31 |
| S330 | 0 | (router) with (second or secondary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) near5 (different) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:32 |
| S331 | 8 | (second or secondary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) near5 (different) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:32 |
| S333 | 1 | (second or secondary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) near5 (different) near5 (first or primary) near3 (wireless or wirelessly) and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:35 |
| S334 | 1 | (second or secondary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver)) near5 (different) near5 (first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver)) and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:37 |
| S335 | 4 | (second or secondary) near3 (wireless or wirelessly) with ((terminal near | US-PGPUB; USPAT; | OR | OFF | 2016/08/24 11:37 |

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| | | device) or (television near receiver)) near5 (different) near5 (first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver)) | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S336 | 50 | ((second or secondary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same (different) same ((first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:40 |
| S337 | 0 | ((second or secondary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same (different) same ((first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:41 |
| S338 | 40 | ((second or secondary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same (different) same ((first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:44 |
| S339 | 0 | ((second or secondary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same (different) same ((first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same communication same (bi-directional or bidirectional) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 11:46 |
| S340 | 97 | ((first or primary) near3 (wireless or wirelessly) with ((terminal near device) or (television near receiver))) same (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:01 |
| S341 | 65 | ((first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver))) same (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:01 |
| S342 | 5 | ((first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver))) near3 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:02 |
| S343 | 2 | (first near3 second) near4 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) | US-PGPUB; USPAT; USOCR; | OR | OFF | 2016/08/24 12:05 |

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| | | near3 (different or dissimilar or unalike or unlike) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S344 | 2 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal near device) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:07 |
| S345 | 3 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal near device) or (television near receiver)) near5 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:07 |
| S346 | 195 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near5 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:09 |
| S347 | 156 | (first near3 second) near4 (wireless or wirelessly) near4 (terminal) near3 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:10 |
| S348 | 195 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near5 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:10 |
| S349 | 111 | (first near3 second) near3 (wireless or wirelessly) near3 ((terminal) or (television near receiver)) near3 (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:11 |
| S350 | 57 | (first near3 second) near3 (wireless or wirelessly) near3 ((terminal) or (television near receiver)) near3 (different or dissimilar or unalike or unlike) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:11 |
| S351 | 24 | (first near3 second) near3 (wireless or wirelessly) near3 ((terminal) or (television near receiver)) near3 (different or dissimilar or unalike or unlike) same communication same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:11 |
| S352 | 28 | (first near3 second) near4 (wireless or | US-PGPUB; | OR | OFF | 2016/08/24 |

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| | | wirelessly) near3 ((terminal) or (television near receiver)) near3 (different or dissimilar or unalike or unlike) same communication same network | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 12:15 |
| S353 | 32 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:15 |
| S354 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:22 |
| S355 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router same wireless | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:24 |
| S356 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router same wireless same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:28 |
| S357 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router same wireless same communication same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:28 |
| S358 | 284654 | (network near3 communication) | USPAT | OR | OFF | 2016/08/24 12:31 |
| S359 | 3539 | (network near3 communication) near3 (executes or execute or executed or executing or achieve or complete or accomplish) | USPAT | OR | OFF | 2016/08/24 12:32 |
| S360 | 172105 | (network near3 communication) near3 (executes or execute or executed or executing or achieve or complete or accomplish) nea4 (bi-directional or bidirectional) | USPAT | OR | OFF | 2016/08/24 12:33 |
| S361 | 11 | (network near3 communication) near3 (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) | USPAT | OR | OFF | 2016/08/24 12:33 |
| S362 | 435 | (network near3 communication) and (executes or execute or executed or executing or achieve or complete or | USPAT | OR | OFF | 2016/08/24 12:33 |

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| | | accomplish) near4 (bi-directional or bidirectional) | | | | |
| S363 | 155 | (network near3 communication) and (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) near4 (communication) | USPAT | OR | OFF | 2016/08/24 12:33 |
| S364 | 4 | (network near3 communication) and (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) near4 (communication) near4 (router) | USPAT | OR | OFF | 2016/08/24 12:34 |
| S365 | 6 | (network near3 communication) and (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) near4 (communication) near4 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:35 |
| S366 | 1 | (network near3 communication) same (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) near4 (communication) near4 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:39 |
| S367 | 81452 | (infrared near rays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:48 |
| S368 | 1233 | (infrared near rays) near2 (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:48 |
| S369 | 8 | (infrared near receiver) near2 (infrared near rays) near2 (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:49 |
| S370 | 132 | (control or controller) near3 (display or displaying or displayed or displayes) same (direct near communication) | USPAT | OR | OFF | 2016/08/24 12:54 |
| S371 | 0 | (control or controller) near3 (display or displaying or displayed or displayes) same (direct near communication) same (network near communication) | USPAT | OR | OFF | 2016/08/24 12:55 |
| S372 | 7 | (control or controller) same (display or displaying or displayed or displayes) same (direct near communication) same (network near communication) | USPAT | OR | OFF | 2016/08/24 12:55 |
| S373 | 2 | (control or controller) same (display or | USPAT | OR | OFF | 2016/08/24 |

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| | | displaying or displayed or displayes) same (direct near communication) same (network near communication) same (remote) | | | | 12:56 |
| S374 | 6 | (control or controller) same (display or displaying or displayed or displayes) same (direct near communication) same (network near communication) same (remote) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 12:57 |
| S375 | 1 | (control or controller) same (display or displaying or displayed or displayes) same (direct near communication) same (network near communication) same (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:15 |
| S376 | 240 | (display or displaying or displayed or displayes) near3 (first near video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:20 |
| S377 | 16 | (display or displaying or displayed or displayes) near3 (first near video near content) near3 (select or selected or selecting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:21 |
| S378 | 0 | (display or displaying or displayed or displayes) near3 (first near video near content) near3 (select or selected or selecting) same (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:22 |
| S379 | 2 | (display or displaying or displayed or displayes) near3 (first or primary) near3 (video near2 content) same (select or selected or selecting) same (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:23 |
| S380 | 13 | (display or displaying or displayed or displayes) same (first or primary) near3 (video near2 content) same (select or selected or selecting) same (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:23 |
| S381 | 0 | (display or displaying or displayed or displayes) same (first or primary) near3 (video near2 content) same (select or selected or selecting) same (first near3 wireless) near terminal | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:25 |
| S382 | 0 | (display or displaying or displayed or | US-PGPUB; | OR | OFF | 2016/08/24 |

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| | | displayes) same (first or primary) near3 (video near2 content) same (select or selected or selecting) same (first near3 wireless) same terminal | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 13:25 |
| S383 | 5 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) same (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:27 |
| S384 | 12 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:28 |
| S385 | 16 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and (first or primary) near3 (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:29 |
| S386 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and (first or primary) near3 (wireless or wirelessly) near5 (terminal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:29 |
| S387 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near3 (wireless or wirelessly) near5 (terminal near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:31 |
| S388 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near3 (wireless or wirelessly) near15 (terminal near device)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:31 |
| S389 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near3 (wireless or wirelessly) near15 (terminal )) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:31 |
| S390 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near3 (wireless or wirelessly) near15 (terminal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2016/08/24 13:32 |

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| | | | IBM_TDB | | | |
| S391 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near5 (wireless or wirelessly) near20 (terminal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:32 |
| S392 | 0 | (display or displaying or displayed or displayes) and ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near5 (wireless or wirelessly) with (terminal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:33 |
| S393 | 2 | "20150304591" and (video content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:34 |
| S394 | 2 | "20150304591" and (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:35 |
| S395 | 2 | "20150304591" and (content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:37 |
| S396 | 2 | "20150304591" and (content) same channel | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:39 |
| S397 | 0 | ((first or primary) near3 (video near2 content) near3 (select or selected or selecting)) and ((first or primary) near5 (wireless or wirelessly) with (terminal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:41 |
| S398 | 3 | (display or displaying or displayed or displayes) and ((video near2 content) near3 (select or selected or selecting)) and ((first or primary) near5 (wireless or wirelessly) with (terminal)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:44 |
| S399 | 789 | (first or primary) with (video near2 content) near3 (select or selected or selecting) | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2016/08/24 13:47 |

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| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
| S400 | 1827 | (first or primary) with (video near2 content) with (select or selected or selecting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:48 |
| S401 | 15407 | (video near2 content) with (select or selected or selecting) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:49 |
| S402 | 3048 | (video near2 content) with (select or selected or selecting) same (first wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:50 |
| S403 | 67 | (video near2 content) with (select or selected or selecting) same (first wireless) near3 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:51 |
| S404 | 36 | (video near2 content) with (select or selected or selecting) same (first wireless) near3 (terminal or station) same (display or displaying or displayed or displayes) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:51 |
| S405 | 0 | (video near2 content) with (select or selected or selecting) same (first near2 wireless) near3 (terminal or station) same (display or displaying or displayed or displayes) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:52 |
| S406 | 0 | (video near2 content) with (select or selected or selecting) same (first near3 wireless) near3 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:53 |
| S407 | 16513 | (first near3 wireless) near3 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:53 |
| S408 | 8 | (video near2 content) with (select or selected or selecting) and (first near3 | US-PGPUB; USPAT; | OR | OFF | 2016/08/24 13:54 |

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| | | wireless) near3 (terminal or station) | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S409 | 0 | (video near2 content) with (select or selected or selecting) same (first near3 wireless) near3 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 13:57 |
| S410 | 0 | "20150304591" and (camera) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:01 |
| S411 | 9 | (change or changing) near (video near content) near3 (second near video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:13 |
| S41 | | (change or changing) near (video near content) near3 (second near video near content) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:15 |
| S413 | 0 | (change or changing) near5 (video near content) near10 (second near video near content) same communication same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:16 |
| S414 | 2 | (change or changing) near5 (video near content) near10 (second near video near content) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:18 |
| S415 | 1 | (change or changing) with (video near content) with (second near video near content) same communication same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:20 |
| S416 | 8782 | (network near3 communication near3 router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:23 |

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| S417 | 8 | (network near3 communication near3 router) and (first near video near2 content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:25 |
| S418 | 0 | (video near2 (channel or content)) near5 (change or changing) near5 (second or secondary) near3 (vide near2 (contern or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:29 |
| S419 | 0 | (change or changing or switch or swltching ) near5 (video near2 (channel or content)) near5 (second or secondary) near3 (vide near2 (contern or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:30 |
| S420 | 282 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:34 |
| S421 | 49 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) near3 (display or displaying or displayed or displays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:35 |
| S422 | 3 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) near3 (display or displaying or displayed or displays) and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:36 |
| S423 | 11 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:39 |
| S424 | 5 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:42 |
| S425 | 10 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2016/08/24 14:43 |

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| | | or displayed or displays) and router and communication and (video near content) | DERWENT; IBM_TDB | | | |
| S426 | 10 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router and communication and (video near content) and (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:43 |
| S427 | 10 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router and communication and (video near content) and (channel) and wireless | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:47 |
| S428 | 10 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router and communication and (video near content) and (channel) and wireless and network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:49 |
| S429 | 3 | (change or changing or switch or switching or shift) near5 (first or primary) near5 (video) near3 (channel or content) near5 (second or secondary) same (display or displaying or displayed or displays) and router and communication and (video near content) and (channel) and wireless same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 14:50 |
| S430 | 5482 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) | USPAT | OR | OFF | 2016/08/24 15:08 |
| S431 | 3269 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:08 |
| S432 | 0 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (without or absence) near10 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:11 |
| S433 | 392823 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (without or absence) samr (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:12 |

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| S434 | 0 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (without or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:12 |
| S435 | 24 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) and (without or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:13 |
| S436 | 4 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (display or displaying or displayed or displays) and (without or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:19 |
| S437 | 3 | "20130332956" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:22 |
| S438 | 0 | "20130332956" and (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:22 |
| S439 | 997 | (display or displaying or displayed or displays) near5 (first or primary) near5 (video near2 (content or channel)) same (second or secondary) near5 (video near2 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:28 |
| S440 | 18 | (display or displaying or displayed or displays) same (first or primary) near5 (video near2 (content or channel)) same (starts or start) near5 (second or secondary) near5 (video near2 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:29 |
| S441 | 18 | (display or displaying or displayed or displays) same ((first or primary) near5 (video near2 (content or channel))) same ((starts or start) near5 (second or secondary) near5 (video near2 (content or channel))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:42 |
| S442 | 16 | (display or displaying or displayed or displays) with ((first or primary) near5 (video near2 (content or channel))) same ((starts or start) near5 (second or secondary) near5 (video near2 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2016/08/24 15:46 |

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| | | (content or channel))) | DERWENT; IBM_TDB | | | |
| S443 | 9 | (display or displaying or displayed or displays) with ((first or primary) near5 (video near2 (content or channel))) same ((starts or start) near5 (second or secondary) near5 (video near2 (content or channel))) with (display or displaying or displayed or displays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:47 |
| S444 | 11 | (video near2 content) with (select or selected or selecting) and (second near3 wireless) near3 (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:56 |
| S445 | 1 | (video near2 content) with (select or selected or selecting) and (second near3 wireless) near3 (terminal or station) same (display or displaying or displayed or displays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 15:57 |
| S446 | 0 | "20140229994" | USPAT | OR | OFF | 2016/08/24 16:13 |
| S447 | 2 | "20140229994" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:13 |
| S448 | 1 | "20140229994" and (second) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:14 |
| S449 | 0 | "20140229994" and (frrst) same (video near content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:16 |
| S450 | 0 | (change or changing or switch or switching or shift) near5 (second or secondary) near5 (video) near3 (channel or content) near5 (another or alternative) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:22 |
| S451 | 0 | (change or changing or switch or switching or shift) near5 (second or secondary) near5 (video) near3 (channel or content) near5 (another or alternative) same (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:25 |

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| S452 | 485 | (change or changing or switch or switching or shift) near5 (second or secondary) near5 (video) near3 (channel or content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:25 |
| S453 | 523 | (change or changing or switch or switching or shift) near5 (second or secondary) near5 (video) near5 (channel or content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:26 |
| S454 | 304 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:28 |
| S455 | 0 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (another) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:29 |
| S456 | 0 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (another near video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:31 |
| S457 | 0 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (another or other) near5 (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:31 |
| S458 | 4 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (different or unlike or unalike or additional or extra or alternative ) near5 (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:34 |
| S459 | 0 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (different or unlike or unalike or additional or extra or alternative ) near5 (video) same (remote near (control or controller)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:36 |
| S460 | 0 | (change or changing or switch or switching or shift) near3 (second or secondary) near5 (video) near5 (channel or content) near3 (different | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2016/08/24 16:37 |

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| | | or unlike or unalike or additional or extra or alternative ) and (remote near (control or controller)) | EPO; JPO; DERWENT; IBM_TDB | | | |
| S461 | 136730 | (remote near (control or controller)) same (change or changing or switch or switching or shift) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:38 |
| S462 | 35 | (remote near (control or controller)) same (change or changing or switch or switching or shift) near15 (second or secondary) near5 (video) near5 (channel or content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:39 |
| S463 | 1 | (remote near (control or controller)) same (change or changing or switch or switching or shift) near15 (second or secondary) near5 (video) near5 (channel or content) near3 (different or unlike or unalike or additional or extra or alternative ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:39 |
| S464 | 1 | (remote near (control or controller)) same (change or changing or switch or switching or shift) near15 (second or secondary) near5 (video) near5 (channel or content) near5 (different or unlike or unalike or additional or extra or alternative ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:40 |
| S465 | 32 | (display or displaying or displayed or displays) near15 (second or secondary) near5 (content or channel) near5 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:49 |
| S466 | 0 | (display or displaying or displayed or displays) near15 (second or secondary) near5 (content or channel) near5 (router) same network same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:49 |
| S467 | 28 | ((display or displaying or displayed or displays) near15 (second or secondary) near3 (content or channel) near5 (router)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:51 |
| S468 | 78 | ((display or displaying or displayed or displays) near15 ((second or secondary) near3 (content or channel))) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 16:52 |
| S469 | 5 | ((display or displaying or displayed or displays) near15 ((second or | US-PGPUB; USPAT; | OR | OFF | 2016/08/24 16:54 |

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| | | secondary) near3 (content or channel))) same (router) same ((wireless or wirelessly) near5 (terminal or station)) | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S470 | 0 | ((display or displaying or displayed or displays) near15 ((second or secondary) near3 (content or channel))) same (start or start) near3 (display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative ) near5 (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:13 |
| S471 | 25204 | ((display or displaying or displayed or displays) near15 ((second or secondary) near3 (content or channel))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:14 |
| S472 | 0 | ((start or start) near3 (display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near3 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:16 |
| S473 | 17 | ((start or start) with (display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near3 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:16 |
| S474 | 2728 | ((display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near3 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:16 |
| S475 | 3000 | ((display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near5 (content or channel)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:16 |
| S476 | 757 | ((display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near5 (content or channel)) and ((display or displaying or displayed or displays) near15 ((second or secondary) near3 (content or channel))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:17 |
| S477 | 2 | ((starts or start) with (display or displaying or displayed or displays) near10 (different or unlike or unalike or additional or extra or alternative) near5 (video) near5 (content or | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2016/08/24 17:18 |

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| | | channel)) and ((display or displaying or displayed or displays) near15 ((second or secondary) near3 (content or channel))) | DERWENT; IBM_TDB | | | |
| S478 | 147 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (display or displaying or displayed or displays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:30 |
| S479 | 4 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) near5 (terminal or station) same (display or displaying or displayed or displays) and (without or with-out or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:31 |
| S480 | 5 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) same (terminal or station) same (display or displaying or displayed or displays) and (without or with-out or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:32 |
| S481 | 5 | (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) same (terminal or station) same (display or displaying or displayed or displays) and (without or with-out or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:32 |
| S482 | 213 | (display or displaying or displayed or displays) same (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) same (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:39 |
| S483 | 0 | (display or displaying or displayed or displays) same (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) same (terminal or station) same (without or with-out or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:40 |
| S484 | 5 | (display or displaying or displayed or displays) same (first or primary) near5 (content or channel) same (first or primary) near5 (wireless or wirelessly) same (terminal or station) and (without or with-out or absence) same (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:40 |
| S485 | 427 | (display or displaying or displayed or displays) same (first or primary) near15 (content or channel) same (first or primary) near15 (wireless or wirelessly) same (terminal or station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 17:53 |
| S486 | 7 | (display or displaying or displayed or | US-PGPUB; | OR | OFF | 2016/08/24 |

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| | | displays) same (first or primary) near15 (content or channel) same (first or primary) near15 (wireless or wirelessly) same (terminal or station) and (without or with-out or absence) near15 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 17:54 |
| S487 | 424 | (first or primary) near15 (wireless or wirelessly) same (terminal or station) and (without or with-out or absence) near15 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:04 |
| S488 | 325 | (first or primary) near15 (wireless or wirelessly) near20 (terminal or station) and (without or with-out or absence) near15 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:04 |
| S489 | 130 | (first or primary) near15 (wireless or wirelessly) near20 (terminal or station) and (without or with-out or absence) near15 (router) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:04 |
| S490 | 55 | communication with (first or primary) near15 (wireless or wirelessly) near20 (terminal or station) and (without or with-out or absence) near15 (router) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:05 |
| S491 | 12 | communication with (first or primary) near15 (wireless or wirelessly) near20 (terminal or station) and (without or with-out or absence) near3 (router) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:06 |
| S492 | 0 | (bi-directional or bi-directional) and communication with (first or primary) near15 (wireless or wirelessly) near20 (terminal or station) and (without or with-out or absence) near3 (router) same communication | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:10 |
| S493 | 1 | "20150304591" and audio | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:12 |
| S494 | 0 | "20150304591" and image | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2016/08/24 18:14 |

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| | | | IBM_TDB | | | |
| S495 | 1 | "20150304591" and mobile | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 18:14 |
| S496 | 2 | "20100053441" | US-PGPUB; USPAT | OR | OFF | 2016/08/24 23:22 |
| S497 | 5 | "20100053441" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:22 |
| S498 | 3 | "20130312040" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:24 |
| S499 | 3 | "20140033900" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:25 |
| S500 | 2 | "20140229994" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:26 |
| S501 | 3 | "20120173753" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:28 |
| S502 | 4 | "20130031162" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:29 |
| S503 | 7 | "20120054790" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:30 |
| S504 | 2 | "20140229994" | US-PGPUB; | OR | OFF | 2016/08/24 |

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| | | | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 23:31 |
| S505 | 2 | "8749426".pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:33 |
| S506 | 4 | "20130031594" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/24 23:34 |
| S507 | 2 | "20080218148" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/25 12:13 |
| S508 | 3 | "20100329247" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/25 12:15 |
| S509 | 2 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:42 |
| S510 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:43 |
| S511 | 0 | ("2015/0304591").URPN. | USPAT | OR | OFF | 2017/01/17 18:43 |
| S512 | 0 | ("direct communication unit executes bi-directional communication directly first wireless terminal device without going via router").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:44 |
| S513 | 0 | ("network communication unit executes bi-directional communication router second wireless terminal device different from first wireless | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2017/01/17 18:54 |

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|---|---|---|---|---|---|---|
| | | terminal").clm. | EPO; JPO; DERWENT; IBM_TDB | | | |
| S514 | 0 | ("infrared receiver unit receives infrared rays from remote controller").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:55 |
| S515 | 0 | ("controller controls the display unit, direct communication unit, network communication unit, infrared receiver").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:55 |
| S516 | 0 | ("during display on the display unit first video content selected first wireless terminal device ").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:56 |
| S517 | 0 | ("if first command changing video content display unit from first video content second video content").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:57 |
| S518 | 0 | ("transmitted from first second wireless terminal device network communication unit via router").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 18:58 |
| S519 | 0 | ("display unit terminates displaying first content and starts display the second ").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 19:54 |
| S520 | 0 | ("content and the direct communication unit sends first information for informing termination of the displaying first content directly first wireless terminal device going via router").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 19:57 |
| S521 | 0 | ("during display display unit second video content selected second wireless terminal device").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 19:58 |
| S522 | 0 | ("if second command changing video content display unit from second video | US-PGPUB; USPAT; | OR | OFF | 2017/01/17 19:59 |

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| | | content another video content").clm. | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S523 | 0 | ("transmitted from remote controller infrared receiver unit by infrared rays").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 19:59 |
| S524 | 0 | ("display unit terminates displaying second content ").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:00 |
| S525 | 0 | ("starts display video content and network communication unit sends second information informing termination the displaying second content via router to second wireless terminal ").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:01 |
| S526 | 0 | ("displaying step display video content broadcast station or video content delivery source display unit video display apparatus ").clm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:02 |
| S527 | 0 | "20100158109" | USPAT | OR | OFF | 2017/01/17 20:09 |
| S528 | 1 | "20100031288" | USPAT | OR | OFF | 2017/01/17 20:10 |
| S529 | 12 | ("2010/0031288").URPN. | USPAT | OR | OFF | 2017/01/17 20:10 |
| S530 | 3 | "20100157978" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:10 |
| S531 | 9 | ("20040177378" \| "20060210050" \| "20070274486" \| "20100031288" \| "5623537" \| "6292210" \| "6741684" \| "6842622" \| "7515698").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/01/17 20:11 |
| S532 | 128 | ("5623537").URPN. | USPAT | OR | OFF | 2017/01/17 20:12 |
| S533 | 10 | ("20040177378" \| "20060210050" \| "20070274486" \| "20100031288" \| "5623537" \| "6292210" \| "6741684" \| "6842622" \| "7515698").PN. OR ("8369249").URPN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/01/17 20:12 |
| S534 | 17 | ("2007/0101370").URPN. | USPAT | OR | OFF | 2017/01/17 20:13 |

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| S535 | 0 | ("2008/0186411").URPN. | USPAT | OR | OFF | 2017/01/17 20:15 |
| S536 | 0 | "20080186411" | USPAT | OR | OFF | 2017/01/17 20:16 |
| S537 | 34 | ("2008/0201736").URPN. | USPAT | OR | OFF | 2017/01/17 20:17 |
| S538 | 3 | "20130227622" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:17 |
| S539 | 22 | ("20020129364" \| "20030145338" \| "20030149983" \| "20030229900" \| "20040261130" \| "20070094352" \| "20070250901" \| "20080152305" \| "20080201736" \| "20090132349" \| "20090327894" \| "20100058397" \| "20100312596" \| "20110131602" \| "20110224992" \| "20110292992" \| "20110320627" \| "20130031587" \| "20150271572" \| "7536706" \| "8424037" \| "9009339").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/01/17 20:17 |
| S540 | 3 | "20110320627" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:18 |
| S541 | 5 | "20030229900" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/01/17 20:19 |
| S542 | 9 | ("5532748" \| "5898463" \| "5900915" \| "5969767" \| "5982411" \| "6014178" \| "6128352" \| "6137537" \| "6208388").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/01/17 20:20 |
| S543 | 1 | "6208388".pn. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/01/17 20:20 |
| S560 | 3 | "20100157978" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 10:42 |
| S561 | 2 | "20100157978" and (display or displaying or displayed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 10:52 |
| S562 | 0 | "20100157978" and (display or | US-PGPUB; | OR | OFF | 2017/03/15 |

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| | | displaying or displayed) same (video near content) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 10:53 |
| S563 | 2 | "20100157978" and (display or displaying or displayed) same (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 10:54 |
| S564 | 0 | "20100157978" and (display or displaying or displayed) same (video) same (broadcast or broadcasting or broadcasted) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 10:55 |
| S565 | 2 | "20100157978" and (display or displaying or displayed) same (video) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 11:24 |
| S566 | 0 | "20100157978" and bi-directional | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 11:27 |
| S567 | 3 | "20100157978" and wireless | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 11:35 |
| S568 | 0 | "20100157978" and wireless same router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 11:36 |
| S569 | 2 | "20100157978" and wireless and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/03/15 11:36 |
| S570 | 2 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2017/05/08 13:06 |

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| | | | IBM_TDB | | | |
| S571 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 13:06 |
| S572 | 1 | "20150304591" and (hardware) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 13:24 |
| S573 | 1 | "20150304591" and (hardware) and (software) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 13:24 |
| S574 | 7 | (display or displaying or displayed or displayes) near3 (video near content) near4 (broadcast or broadcasting or broadcasted) near4 (station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 13:45 |
| S575 | 15 | (display or displaying or displayed or displays) near5 (video near content) near5 (broadcast or broadcasting or broadcasted) near4 (station) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 13:45 |
| S576 | 8 | (first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) and (without or absence) with router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 14:01 |
| S577 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router same wireless same communication same network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 14:23 |
| S578 | | (network near3 communication) same (executes or execute or executed or executing or achieve or complete or accomplish) near4 (bi-directional or bidirectional) near4 (communication) near4 (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | | 14:25 |
| S579 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; | OR | OFF | 2017/05/08 14:45 |

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| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
| S580 | 0 | "20150304591" and ("wireless terminal device") | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 14:48 |
| S581 | 1 | "20150304591" and ("terminal device") | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 14:49 |
| S582 | 2 | "20150304591" and (terminal) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 14:50 |
| S583 | 1 | "20150304591" and (mobile) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:33 |
| S584 | 2 | "20150304591" and (channel) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:34 |
| S585 | 0 | "20150304591" and (first near wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:45 |
| S586 | 0 | "20150304591" and (first near3 wireless) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:46 |
| S587 | 1 | "20150304591" and (first) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:46 |
| S588 | 1 | "20150304591" and (first) and (second) | US-PGPUB; USPAT; | OR | OFF | 2017/05/08 15:48 |

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| | | | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S589 | 1 | "20150304591" and without | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 15:58 |
| S590 | 2 | "20100157978" and (remote) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 17:23 |
| S591 | 2 | "20100157978" and (display or displaying or displayed or displays) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/08 17:28 |
| S592 | 3 | "20100157978" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 10:41 |
| S593 | 0 | "20100157978" and channel | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 10:41 |
| S594 | 2 | "20100157978" and channels | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 10:42 |
| S595 | 2 | "20100157978" and (display or displaying or displayed) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:13 |
| S596 | 2 | "20100157978" and (display or displaying or displayed) and (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:21 |

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| S597 | 1 | "20150304591" and mobile | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:24 |
| S598 | 0 | "20150304591" and mobile and smart | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:25 |
| S599 | 0 | "20150304591" and mobile and phone | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:25 |
| S600 | 1 | "20150304591" and (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:36 |
| S601 | 116 | (first or primary) near3 (wireless or wirelessly) near3 (mobile) and (without or absence) with router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:43 |
| S602 | 518 | (bi-directional) near5 (communication or communicating or communicate) near5 (first or primary) near3 (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:46 |
| S603 | 0 | (bi-directional) near5 (communication or communicating or communicate) near5 (first or primary) near3 (wireless or wirelessly) with (mobile) same (without or absence) with router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:47 |
| S604 | 14 | (bi-directional) near5 (communication or communicating or communicate) near5 (first or primary) near3 (wireless or wirelessly) with (mobile) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:47 |
| S605 | 3 | (first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) and without near5 router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2017/05/09 11:48 |

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| | | | DERWENT; IBM_TDB | | | |
| S606 | 12 | (first or primary) near3 (wireless or wirelessly) near3 ((terminal near device) or (television near receiver)) and ((without) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:52 |
| S607 | 55 | (first or primary) near3 (wireless or wirelessly) near3 (mobile) and ((without) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:53 |
| S608 | 2 | (first or primary) near3 (wireless or wirelessly) near3 (mobile) same ((without) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:54 |
| S609 | 2 | (first or primary) near3 (wireless or wirelessly) near3 (mobile) same ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:59 |
| S610 | 5 | (first or primary) near3 (mobile) same ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 11:59 |
| S611 | 28 | (first or primary) near3 (mobile) same ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near3 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:02 |
| S612 | 5 | (first or primary) near3 (mobile) near15 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near3 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:03 |
| S613 | 8 | (first or primary) near3 (mobile) with ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near3 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:05 |
| S614 | 1 | (first or primary) near3 (mobile) same ((absence or absent or minus or nonattendance or nonappearance or | US-PGPUB; USPAT; USOCR; | OR | OFF | 2017/05/09 12:09 |

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| | | absenteeism) near3 ((router) or (Wi-Fi) or ("wireless LAN"))) | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S615 | 21 | (first or primary) near3 (mobile) same ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near2 ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:12 |
| S616 | 11 | (first or primary) near3 (mobile) same ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) near ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:12 |
| S617 | 45 | (first or primary) near3 (mobile) with ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:17 |
| S618 | 94 | (first or primary) near3 (mobile) with ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism or "off") with ((router) or (Wi-Fi) or ("wireless LAN"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:18 |
| S619 | 2 | "20100157978" and ((router) or (Wi-Fi) or ("wireless LAN")) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:21 |
| S620 | 1432 | (first or primary) near3 (mobile) with ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism or "off") with ((router) or (Wi-Fi) or ("wireless LAN") or (network nea router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:33 |
| S621 | 94 | (first or primary) near3 (mobile) with ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism or "off") with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:34 |
| S622 | 40 | (first or primary) near3 (mobile) near10 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism or "off") with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 12:35 |
| S623 | 403029 | ((second or secondary) neae3 (first or | US-PGPUB; | OR | OFF | 2017/05/09 |

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| | | primary)) with (wireless or wirelessly) wtth (terminal) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)) near10 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 13:17 |
| S624 | 402852 | (((second or secondary) neae3 (first or primary)) with (wireless or wirelessly) wtth (terminal) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)) near5 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:18 |
| S625 | 131627 | (((second or secondary) near3 (first or primary)) with (wireless or wirelessly) wtth (terminal) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)) near5 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:19 |
| S626 | 0 | (((second or secondary) near3 (first or primary)) near3 (wireless or wirelessly) with (terminal) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)) near5 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:19 |
| S627 | 0 | (((second or secondary) near3 (first or primary)) with (wireless or wirelessly) with (terminal) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)) near5 ((without or absence or absent or minus or nonattendance or nonappearance or absenteeism) with ((router) or (Wi-Fi) or ("wireless LAN") or (network near router)))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:20 |
| S628 | 1467 | ((without) near3 (wireless or wirelessly) near5 ((router) or (Wi-Fi) or ("wireless LAN") or ("network router"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:35 |
| S629 | 1194 | ((without) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or ("network router"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | OFF | 2017/05/09 13:35 |

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|---|---|---|---|---|---|---|
| | | | IBM_TDB | | | |
| S630 | 0 | ((first or primary) near terminal) near2 ((without) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or ("network router"))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:37 |
| S631 | 0 | ((first or primary) near terminal) near5 ((without) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:37 |
| S632 | 0 | ((first or primary) near terminal) near5 ((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:38 |
| S633 | 0 | ((first or second) near terminal) near5 ((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:40 |
| S634 | 41 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:43 |
| S635 | 41 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:44 |
| S636 | 0 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (bi-directional) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:44 |
| S637 | 18 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:45 |
| S638 | 31 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without | US-PGPUB; USPAT; | OR | OFF | 2017/05/09 13:47 |

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|---|---|---|---|---|---|---|
| | | or absence or absent) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S639 | 31 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) and (wireless or wirelessly) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:48 |
| S640 | 31 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) and (wireless or wirelessly) and (without or absence or absent) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:49 |
| S641 | 18 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) and (without or absence or absent) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:54 |
| S642 | 18 | ((first or primary) near terminal) near5 (wireless or wirelessly)) and((without or absence or absent) near3 (wireless or wirelessly) near3 ((router) or (Wi-Fi) or ("wireless LAN") or (network near3 router)) and (communication or communicating or communicate) and (router) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 13:55 |
| S643 | 3 | "20100157978" and network | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:11 |
| S644 | 0 | "20100157978" and network and (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:16 |
| S645 | 0 | "20100157978" and (different or dissimilar or unalike or unlike) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:16 |
| S646 | 5 | (second or secondary) near3 (wireless | US-PGPUB; | OR | OFF | 2017/05/09 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | or wirelessly) near3 ((terminal near device) or (television near receiver)) near5 (different) near5 (first or primary) near3 (wireless or wirelessly) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 14:27 |
| S647 | 5 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:32 |
| S648 | 11 | (first near3 second) near4 (wireless or wirelessly) near4 ((terminal) or (television near receiver)) near4 (different or dissimilar or unalike or unlike) same communication same network and ((router) or (Wi-Fi) or ("wireless LAN") or ("network router")) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:33 |
| S649 | 2 | "20100157978" and (call or calling) and (caller) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 14:44 |
| S650 | 3 | "20130330053" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 15:14 |
| S651 | 1 | ("2013/0330053").URPN. | USPAT | OR | OFF | 2017/05/09 15:30 |
| S652 | 5 | ("20030021254" \| "20060098174" \| "20120166388" \| "20130330053" \| "20150222843").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2017/05/09 15:30 |
| S653 | 2 | "20130330053" and channel | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 15:35 |
| S654 | 3 | "20130330053" and router | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 15:36 |
| S655 | 2 | "20100157978" and remote same television | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:23 |

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|---|---|---|---|---|---|---|
| S656 | 2 | "20100157978" and remote same television same infrared | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:23 |
| S657 | 0 | "20100157978" and remote same television same infrared same channel | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:32 |
| S658 | 2 | "20100157978" and remote same television same infrared same channels | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:32 |
| S659 | 0 | "20100157978" and anotherchannels | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:37 |
| S660 | 0 | "20100157978" and another | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:37 |
| S661 | 3 | "20100157978" and user | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/05/09 16:41 |
| S662 | 2 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 14:45 |
| S663 | 2 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 14:45 |
| S664 | 11117 | (H04N5/4403).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2017/07/18 15:02 |

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|---|---|---|---|---|---|---|
| | | | DERWENT; IBM_TDB | | | |
| S665 | 10946 | (H04N5/44).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:02 |
| S666 | 11271 | (H04N5/50).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:02 |
| S667 | 3697 | (H04N21/433).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:02 |
| S668 | 459 | (H04N2005/4442).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:03 |
| S669 | 468 | (H04N2005/4444).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:03 |
| S670 | 1659 | (H04N2005/443).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:03 |
| S671 | 423 | (H04N2005/4433).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:03 |
| S672 | 6 | (S664 AND S665 AND S666 AND S667 AND S668 AND S670 AND S671) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:04 |
| S673 | 35152 | (S664 OR S665 OR S666 OR S667 OR S668 OR S670 OR S671) | US-PGPUB; USPAT; USOCR; | OR | OFF | 2017/07/18 15:05 |

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|---|---|---|---|---|---|---|
| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
| S674 | 6547 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:06 |
| S675 | 4220 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:06 |
| S676 | 2 | "20150304591" AND CONTENT | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:08 |
| S677 | 2358 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:09 |
| S678 | 1601 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:09 |
| S679 | 454 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) SAME (USER NEAR INTERFACE) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:10 |
| S680 | 65 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) SAME (USER NEAR INTERFACE) SAME (WIRELESS OR WIRELESSLY) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:11 |
| S681 | 4 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) SAME (USER NEAR INTERFACE) SAME (WIRELESS OR WIRELESSLY) SAME (VIDEO NEAR (CONTENT OR CHANNEL)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:12 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S682 | 22 | S673 AND (REMOTE NEAR (CONTROL OR CONTROLLER)) SAME (TV OR TELEVISION) SAME (DISPLAY$3) SAME (CONTENT OR CHANNEL) SAME (USER) SAME (USER NEAR INTERFACE) SAME (WIRELESS OR WIRELESSLY) SAME (VIDEO) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/07/18 15:14 |
| S686 | 2 | "15889735" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/14 09:27 |
| S687 | 2 | "20180227532" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/14 09:27 |
| S688 | 4 | "14649895" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/14 09:28 |
| S689 | 3 | "20150304591" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/14 09:28 |
| S690 | 6 | "9924124".pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2019/01/14 09:29 |

**EAST Search History (Interference)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| S544 | 0 | ("direct communication unit executes bi-directional communication directly first wireless terminal device without going via router").clm. | USPAT | OR | OFF | 2017/01/17 20:02 |
| S545 | 0 | ("network communication unit executes bi-directional communication router second wireless terminal device different from first wireless terminal").clm. | USPAT | OR | OFF | 2017/01/17 20:03 |
| S546 | 0 | ("infrared receiver unit receives infrared rays from remote controller").clm. | USPAT | OR | OFF | 2017/01/17 20:03 |
| S547 | 0 | ("controller controls the display unit, direct communication unit, network communication unit, infrared receiver").clm. | USPAT | OR | OFF | 2017/01/17 20:03 |

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|---|---|---|---|---|---|---|
| S548 | 0 | ("controller controls the display unit, direct communication unit, network communication unit, infrared receiver").clm. | USPAT | OR | OFF | 2017/01/17 20:03 |
| S549 | 0 | ("during display on the display unit first video content selected first wireless terminal device ").clm. | USPAT | OR | OFF | 2017/01/17 20:03 |
| S550 | 0 | ("if first command changing video content display unit from first video content second video content").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S551 | 0 | ("transmitted from first second wireless terminal device network communication unit via router").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S552 | 0 | ("display unit terminates displaying first content and starts display the second ").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S553 | 0 | ("content and the direct communication unit sends first information for informing termination of the displaying first content directly first wireless terminal device going via router").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S554 | 0 | ("during display display unit second video content selected second wireless terminal device").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S555 | 0 | ("if second command changing video content display unit from second video content another video content").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S556 | 0 | ("transmitted from remote controller infrared receiver unit by infrared rays").clm. | USPAT | OR | OFF | 2017/01/17 20:04 |
| S557 | 0 | ("display unit terminates displaying second content ").clm. | USPAT | OR | OFF | 2017/01/17 20:05 |
| S558 | 0 | ("starts display video content and network communication unit sends second information informing termination the displaying second content via router to second wireless terminal ").clm. | USPAT | OR | OFF | 2017/01/17 20:05 |
| S559 | 0 | ("displaying step display video content broadcast station or video content delivery source display unit video display apparatus ").clm. | USPAT | OR | OFF | 2017/01/17 20:05 |
| S583 | 0 | ("display displays video content broadcast station or video content delivery source").clm. | USPAT | OR | OFF | 2017/07/18 15:18 |

**1/15/2019 10:02:43 AM**
**C:\Users\mrahman1\Documents\EAST\Workspaces\14649895.wsp**

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

**U.S.PATENTS** Remove

| Examiner Initial* | Cite No | Patent Number | Kind Code[1] | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
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| | 2 | 8223662 | B2 | 2012-07-17 | Deshpande et al. | |
| | 3 | 8749426 | B1 | 2014-06-10 | Hastings et al. | |
| | 4 | 6317168 | B1 | 2001-11-13 | Seo | |

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| | 2 | 20030043789 | A1 | 2003-03-06 | Okajima et al. | |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 3 | 20140118625 | A1 | 2014-05-01 | Cho | |
| | 4 | 20110164188 | A1 | 2011-07-07 | Karaoguz et al. | |
| | 5 | 20110032424 | A1 | 2011-02-10 | VanDuyn et al. | |
| | 6 | 20120084653 | A1 | 2012-04-05 | Kota et al. | |
| | 7 | 20100254670 | A1 | 2010-10-07 | Amsterdam et al. | |
| | 8 | 20080240283 | A1 | 2008-10-02 | Iwamura | |
| | 9 | 20100157978 | A1 | 2010-06-24 | Robbins et al. | |
| | 10 | 20030064709 | A1 | 2003-04-03 | Gailey et al. | |
| | 11 | 20130031162 | A1 | 2013-01-31 | Willis et al. | |
| | 12 | 20090201855 | A1 | 2009-08-13 | Weniger et al. | |
| | 13 | 20030091030 | A1 | 2003-05-15 | Yegin et al. | |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 14 | 20130330053 | A1 | 2013-12-12 | Lee et al. | |
| | 15 | 20100053441 | A1 | 2010-03-04 | Tokashiki et al. | |
| | 16 | 20130312040 | A1 | 2013-11-21 | Kim et al. | |
| | 17 | 20140033900 | A1 | 2014-02-06 | Chapman et al. | |
| | 18 | 20140229994 | A1 | 2014-08-14 | Fell et al. | |
| | 19 | 20120173753 | A1 | 2012-07-05 | Moorthy | |
| | 20 | 20120054790 | A1 | 2012-03-01 | Kim | |
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| | 22 | 20090220209 | A1 | 2009-09-03 | Mori | |
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| | 24 | 20100058414 | A1 | 2010-03-04 | Ryals et al. | |

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

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|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 25 | 20080201736 | A1 | 2008-08-21 | Gordon et al. | |
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| | 30 | 20070127408 | A1 | 2007-06-07 | Sakamoto | |
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 36 | 20060245734 | A1 | 2006-11-02 | Amano et al. | |
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| | 43 | 20050235331 | A1 | 2005-10-20 | Lynch | |
| | 44 | 20110072459 | A1 | 2011-03-24 | Hiraoka | |
| | 45 | 20120026299 | A1 | 2012-02-02 | Arai | |

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

**FOREIGN PATENT DOCUMENTS** Remove



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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| Examiner Initial* | Cite No | Foreign Document Number[3] | Country Code[2] | Kind Code[4] | Publication Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear | T[5] |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2009-65305 | JP | A | 2009-03-26 | Hitachi Ltd. | | |
| | 2 | 2001-275090 | JP | A | 2001-10-05 | Matsushita Electric Ind. Co., Ltd. | | |
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| | 6 | 08-008668 | JP | A | 1996-01-12 | Fujitsu Ltd. | | |
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| | 8 | 101510965 | CN | A | 2009-08-19 | Shenzhen Temobi Technology Development Co., Ltd. | (With English Abstract and Translation) | |
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**NON-PATENT LITERATURE DOCUMENTS** Remove

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

| Examiner Initials* | Cite No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | T[5] |
|---|---|---|---|
| | 1 | Office Action issued in corresponding Chinese Patent Application No. 201380063530.4, dated July 4, 2017 with English Translation. | |
| | 2 | International Search Report issued in corresponding International Application No. PCT/JP2013/079953, dated February 18, 2014, with English Translation. | |
| | 3 | Non-Final Office Action issued in corresponding parent Application No. 14/649,895, mailed on May 26, 2017. | |
| | 4 | Non-Final Office Action issued in corresponding parent Application No. 14/649,895, mailed on January 4, 2016. | |
| | 5 | Final Office Action issued in corresponding parent Application No. 14/649,895, mailed on September 9, 2016. | |
| | 6 | Notice of Allowance issued in corresponding U.S. Patent Application No. 14/649,895, mailed on November 29, 2017. | |

If you wish to add additional non-patent literature document citation information please click the Add button Add

**EXAMINER SIGNATURE**

| | | | |
|---|---|---|---|
| Examiner Signature | /MUSTAFIZUR RAHMAN/ | Date Considered | 01/15/2019 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**( Not for submission under 37 CFR 1.99)**

| | |
|---|---|
| Application Number | |
| Filing Date | 2018-02-06 |
| First Named Inventor | Masayuki HIRABAYASHI |
| Art Unit | N/A |
| Examiner Name | Not Yet Assigned |
| Attorney Docket Number | 075425-0061 |

## CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

## SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| | | | |
|---|---|---|---|
| Signature | /Tomoki Tanida/ | Date (YYYY-MM-DD) | 2018-02-06 |
| Name/Print | Tomoki Tanida | Registration Number | 60,453 |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

# Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.R/

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15889735 | HIRABAYASHI, MASAYUKI |
| | Examiner | Art Unit |
| | MUSTAFIZUR RAHMAN | 2422 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 01/15/2019 | | | | | | | | |
| | 1 | ✓ | | | | | | | | |
| | 2 | ✓ | | | | | | | | |
| | 3 | ✓ | | | | | | | | |
| | 4 | ✓ | | | | | | | | |

Docket No.: 075425-0061
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | |
|---|---|---|
| In re Patent Application of:<br>Masayuki HIRABAYASHI | : | Customer Number: 20277 |
| Application No.: 15/889,735 | : | Confirmation No.: 3694 |
| Filed: February 6, 2018 | : | Art Unit: 2484 |
| For: VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS | : | Examiner: H. Shibru |

## RESPONSE TO RESTRICTION REQUIREMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In response to the restriction requirement set forth in the Office Action mailed September 26, 2018, Applicant hereby provisionally elects Group III, claim 3, for prosecution in the above-identified application, with traverse. Examination on the merits in due course is respectfully requested.

Applicant respectfully traverses the restriction requirement in relation to its separate grouping of claims 3 and 4 in Groups III and IV. Claim 4 is a method claim that substantially corresponds to the apparatus of claim 3. Furthermore, the restriction requirement defines Group III based on claim 3's two "wherein" elements, but claim 4 has almost verbatim duplicates of those same "wherein" elements—the sole differences are that the claim 4 "wherein" elements reference a "video display apparatus" whereas the claim 3 "wherein" elements reference specific components of its video display apparatus, e.g., a "communication unit," "display unit," and "infrared receiver unit." Claims 3 and 4 thus do not present two independent and distinct inventions for examination and, even if they do, no serious burden exists in relation to examining claims 3 and 4 together. Accordingly, Applicant respectfully requests that the restriction requirement be withdrawn to the



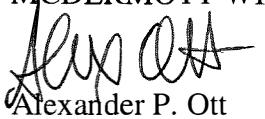
Exhibit 1002
TCL v. Maxell - IPR2025-00120
Page 366 of 621

extent it treats claims 3 and 4 as separate groups, so that examination can proceed for claims 3 and 4 together.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0417, under Order No. 075425-0061 from which the undersigned is authorized to draw.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



Alexander P. Ott
Registration No. 63110

500 North Capitol Street, N.W
Washington, DC 20001
Phone: (202) 756-8196 APO:llg
Facsimile: (202) 756-8087
Date: November 26, 2018

**Please recognize our Customer No. 20277 as our correspondence address.**

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 34390964 |
| **Application Number:** | 15889735 |
| **International Application Number:** | |
| **Confirmation Number:** | 3694 |
| **Title of Invention:** | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS |
| **First Named Inventor/Applicant Name:** | Masayuki HIRABAYASHI |
| **Customer Number:** | 20277 |
| **Filer:** | Tomoki Tanida/Lisa Grant |
| **Filer Authorized By:** | Tomoki Tanida |
| **Attorney Docket Number:** | 075425-0061 |
| **Receipt Date:** | 26-NOV-2018 |
| **Filing Date:** | 06-FEB-2018 |
| **Time Stamp:** | 14:24:39 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Response to Election / Restriction Filed | 735Response.pdf | 55828<br>1763c4253f3fdd74adf215e93904d8d86b8d7930 | no | 2 |

**Warnings:**

| Information: | |
|---|---|
| Total Files Size (in bytes): | 55828 |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
**United States Patent and Trademark Office**
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/889,735 | 02/06/2018 | Masayuki HIRABAYASHI | 075425-0061 | 3694 |

20277 7590 09/26/2018

MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

| EXAMINER |
|---|
| SHIBRU, HELEN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2484 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 09/26/2018 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketmwe@mwe.com

| Office Action Summary | Application No. 15/889,735 | Applicant(s) HIRABAYASHI, Masayuki | |
|---|---|---|---|
| | Examiner HELEN SHIBRU | Art Unit 2484 | AIA Status No |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☑ Responsive to communication(s) filed on 02/06/2018.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5) ☑ Claim(s) 1-4 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☐ Claim(s) _____ is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☑ Claim(s) 1-4 are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

## DETAILED ACTION

### *Notice of Pre-AIA or AIA Status*

1. The present application is being examined under the pre-AIA first to invent provisions.

### *Election/Restriction*

2. REQUIREMENT FOR UNITY OF INVENTION

As provided in 37 CFR 1.475(a), a national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ("requirement of unity of invention"). Where a group of inventions is claimed in a national stage application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

The determination whether a group of inventions is so linked as to form a single general inventive concept shall be made without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim. See 37 CFR 1.475(e).

When Claims Are Directed to Multiple Categories of Inventions:

As provided in 37 CFR 1.475 (b), a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:

(1) A product and a process specially adapted for the manufacture of said product;

or

(2) A product and a process of use of said product; or

(3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or

(4) A process and an apparatus or means specifically designed for carrying out the said process; or

(5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

Otherwise, unity of invention might not be present. See 37 CFR 1.475 (c).

3. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim 1, drawn to a video display apparatus comprising “a controller that controls the display unit, the communication unit and the infrared receiver, wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device **to a second video content** is transmitted from the second wireless control device **to the communication unit** via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and

wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the infrared receiver unit** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and **starts to display another video content and the communication unit** sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device."

Group II, claim 2, drawn to a method for changing content on a video display apparatus comprising "wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device **to a second video content** is transmitted from the second wireless control **device to the video display apparatus** via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content and **starts to display the second video content** and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the video display apparatus** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and **starts to display another video content** and **the video display apparatus sends** second information for informing termination of the

displaying of the second video content via the router to the second wireless control device."

Group III, claim 3, drawn to another video display apparatus comprising "wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device **to another video content** is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content **for changing a content to be displayed from the first video content to another video content** and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the infrared receiver unit** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content **for changing a content to be displayed from the second video content to another video content** and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device."

Group IV, claim 4, drawn to a method for changing a content on the video display apparatus comprising "wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control **device to another video content is transmitted from the second wireless control device to the**

**video display apparatus** via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content **for changing a content to be displayed from the first video content to another video content** and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the video display apparatus** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content **for changing a content to be displayed from the second video content to another video content** and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device."

4. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I-IV lack unity of invention because the groups do not share the same or corresponding technical feature. Group I-IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)).

In the instant case the apparatus of group I does not require the features of “a first command for changing a video content on the display unit from a first video content selected by the first wireless control device **to a second video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit** and a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is **transmitted from the third wireless control device to the video display apparatus by infrared rays** during the second video content is displayed on the display unit” as claimed in group II claim; the feature of “a first command for changing a video content on the display unit from a first video content selected by the first wireless control device **to another video content** is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content **for changing a content to be displayed from the first video content to another video content**” as clamed in group III claim, and the feature of “a first command for changing a video content on the display unit from a first video content selected by the first wireless control **device to another video content is transmitted from the second wireless control device to the video display apparatus** via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content **for changing a content to be displayed from the first video content to another video content** and a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is

transmitted from the third wireless control device **to the video display apparatus** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content **for changing a content to be displayed from the second video content to another video content"** as claimed in group IV claim.

Similarly the method of group II does not require the feature of "controll[ing] the display unit , the communication unit and the infrared receiver; a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from **the second wireless control device to the communication unit via the router** during the first video content is displayed on the display unit, and a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the infrared receiver unit** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and **the communication unit sends second information"** as claimed in group I claim, the feature of "a first command for changing a video content on the display unit from **a first video content selected by the first wireless control device to another video content is transmitted** from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first

wireless control device without going via a router, and wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is **transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit**, the display unit terminates displaying the second video content **for changing a content to be displayed from the second video content to another video content**" as claimed in group III claim, and the feature of "a first command for changing a video content on the display unit from a first video content selected by the first wireless control **device to another video content is transmitted from the second wireless control device to the video display apparatus** via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content **for changing a content to be displayed from the first video content to another video content** and a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device **to the video display apparatus** by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content **for changing a content to be displayed from the second video content to another video content** and the video display apparatus sends second information for informing" as claimed in group IV claim.

For similar reason group III does not require all the features of group I, Group II and group IV. See the highlighted features above.

Finally, the method of group IV does not require all the features of group I-Group III claims. See the highlighted features above.

Because these inventions are distinct for the reasons given above, the search required for one group is not required for the other, the prior art applicable to one group would not likely be applicable for another group, and have acquired separate status in the art and because of their recognized divergent subject matter restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN SHIBRU whose telephone number is (571)272-7329. The examiner can normally be reached on M-F 8:00AM-5:30PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI TRAN can be reached on 571 272 7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HELEN SHIBRU/
Primary Examiner, Art Unit 2484
September 20, 2018

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 15/889,735 | 02/06/2018 | Masayuki HIRABAYASHI | 075425-0061 |

**CONFIRMATION NO. 3694**

20277
MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

**PUBLICATION NOTICE**




**Title:**VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

**Publication No.**US-2018-0227532-A1
**Publication Date:**08/09/2018

## NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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Page 382 of 621

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/889,735 | 02/06/2018 | Masayuki HIRABAYASHI | 075425-0061 | 3694 |

20277 7590 05/10/2018

MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

| EXAMINER | |
|---|---|

| ART UNIT | PAPER NUMBER |
|---|---|
| 2422 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 05/10/2018 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketmwe@mwe.com

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Commissioner for Patents
United States Patent and Trademark Office
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Alexandria, VA 22313-1450
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Doc Code:
TRACK1.GRANT

| ***Decision Granting Request for Prioritized Examination (Track I or After RCE)*** | Application No.:15/889,735 |
|---|---|

1. THE REQUEST FILED February 6, 2018 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination
- A. ☒ for an original nonprovisional application (Track I).
- B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

- A. filing a **petition for extension of time** to extend the time period for filing a reply;
- B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
- C. filing a **request for continued examination**;
- D. filing a notice of appeal;
- E. filing a request for suspension of action;
- F. mailing of a notice of allowance;
- G. mailing of a final Office action;
- H. completion of examination as defined in 37 CFR 41.102; or
- I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Kimberly Inabinet at 571-272-4618.

*/Kimberly Inabinet/* Paralegal Specialist, Office of Petitions

# Office of Petitions: Decision Count Sheet

Mailing Month: 5

Application No.: 15889735

*15889735*

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456
For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official: Kimberly Inabinet

**Count (1) - Palm Credit** 15889735

Decision: GRANT

FINANCE WORK NEEDED
☐ Select Check Box for YES

*GRANT*

Decision Type: 643 - Track One request

*643*

Notes:

**Count (2)**

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

**Count (3)**

Decision: n/a

FINANCE WORK NEEDED
☐ Select Check Box for YES

Decision Type: NONE

Notes:

Initials of Approving Official (if required)

If more than 3 decisions, attach 2nd count sheet & mark this box ☐

Printed on: 5/6/2018

Office of Petitions Internal Document - Ver. 5.0

# Office of Petitions: Routing Sheet




**Application No.** 15889735

**This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application, as indicated below. For details of this decision, please see the document PET.OP.DEC filed on the same date as this document.**

- [X] **GRANTED**
- [ ] **DISMISSED**
- [ ] **DENIED**

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| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 15/889,735 | 02/06/2018 | 2425 | 2180 | 075425-0061 | 4 | 4 |

**CONFIRMATION NO. 3694**

**UPDATED FILING RECEIPT**

20277
MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

OC000000099124513

Date Mailed: 05/03/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Masayuki HIRABAYASHI, Ibaraki, JAPAN;

**Applicant(s)**

Hitachi Maxell, Ltd., Osaka, JAPAN;

**Power of Attorney:** The patent practitioners associated with Customer Number 20277

**Domestic Priority data as claimed by applicant**

This application is a CON of 14/649,895 06/04/2015 PAT 9924124
which is a 371 of PCT/JP2013/079953 11/06/2013

**Foreign Applications** (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
JAPAN 2012-267765 12/07/2012 No Access Code Provided

**Permission to Access Application via Priority Document Exchange:** Yes

**Permission to Access Search Results:** Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 03/05/2018
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/889,735**
**Projected Publication Date:** 08/09/2018

**Non-Publication Request:** No

**Early Publication Request:** No

**Title**

VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

**Preliminary Class**

725

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



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## Title 37, Code of Federal Regulations, 5.11 & 5.15

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Exhibit 1002
TCL v. Maxell - IPR2025-00120
Page 389 of 621

## PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/889,735

### APPLICATION AS FILED - PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY FEE($) |
|---|---|---|---|---|---|---|---|
| BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | | | N/A | 300 |
| SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | | | N/A | 660 |
| EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | | | N/A | 760 |
| TOTAL CLAIMS (37 CFR 1.16(i)) | 4 minus 20 = | * | | | OR | x 100 = | 0.00 |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | 4 minus 3 = | * 1 | | | | x 460 = | 460 |
| APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | | | | 0.00 |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | | | | 0.00 |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | | | TOTAL | 2180 |

### APPLICATION AS AMENDED - PART II

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT A | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT B | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

Atty. Docket No.: 075425-0061
(PATENT)

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| | | |
|---|---|---|
| In re Patent Application of:<br>Masayuki Hirabayashi | : | Customer Number: 20277 |
| Application No.: 15/889,735 | : | Confirmation No.: 3694 |
| Filed: February 6, 2018 | : | Art Unit: 2425 |
| For: VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS | : | Examiner: TBD |

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Alexandria, VA 22313-1450

Sir:

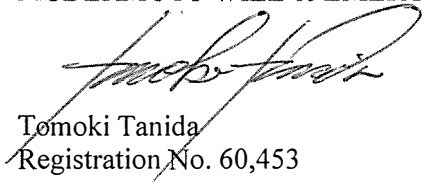
In response to the Notice to File Corrected Application Papers dated March 7, 2018, Applicant submits herewith replacement drawings for Figs. 5A-5D and 13A-13D in compliance with 37 CFR 1.84 and 37 CFR 1.121(d). Also attached are marked-up and clean copies of a substitute specification in the above-identified application.

The substitute specification includes no new matter.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0417, under Order No. 075425-0061from which the undersigned is authorized to draw.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



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**Date: April 25, 2018**

**Please recognize our Customer No. 20277 as our correspondence address.**

FIG. 5A

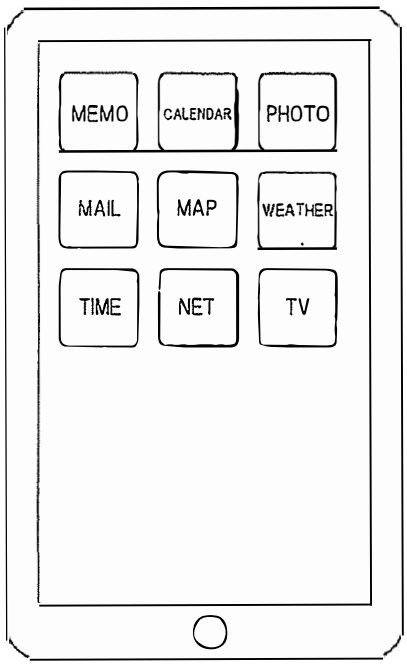

MEMO
CALENDAR
PHOTO
MAIL
MAP
WEATHER
TIME
NET
TV

FIG. 5B

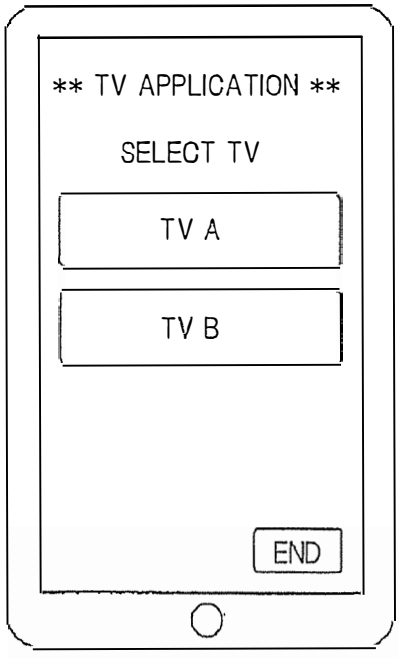

** TV APPLICATION **
SELECT TV
TV A
TV B
END

FIG. 5C

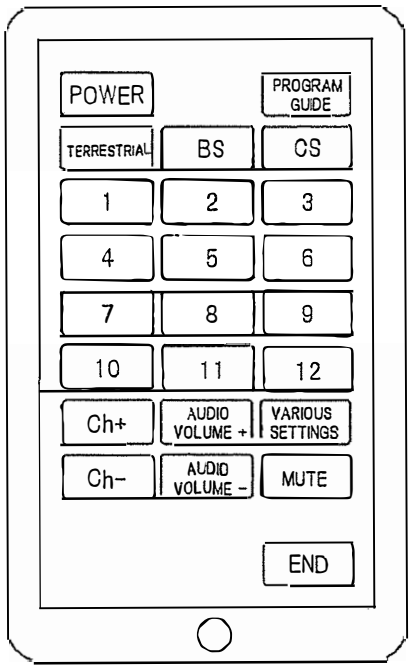

POWER
PROGRAM GUIDE
TERRESTRIAL
BS
CS
1
2
3
4
5
6
7
8
9
10
11
12
Ch+
AUDIO VOLUME +
VARIOUS SETTINGS
Ch-
AUDIO VOLUME -
MUTE
END

FIG. 5D

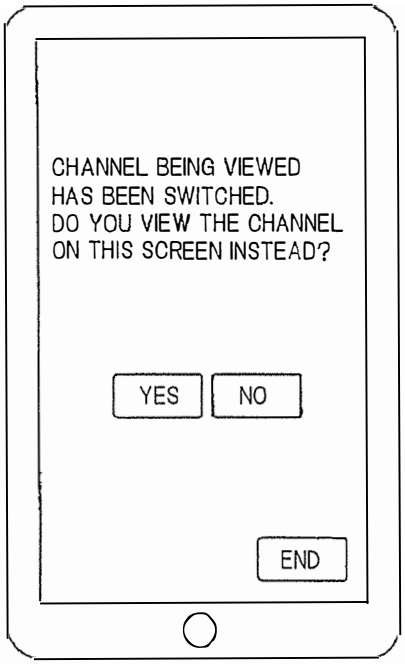

CHANNEL BEING VIEWED
HAS BEEN SWITCHED.
DO YOU VIEW THE CHANNEL
ON THIS SCREEN INSTEAD?
YES
NO
END

FIG. 13A

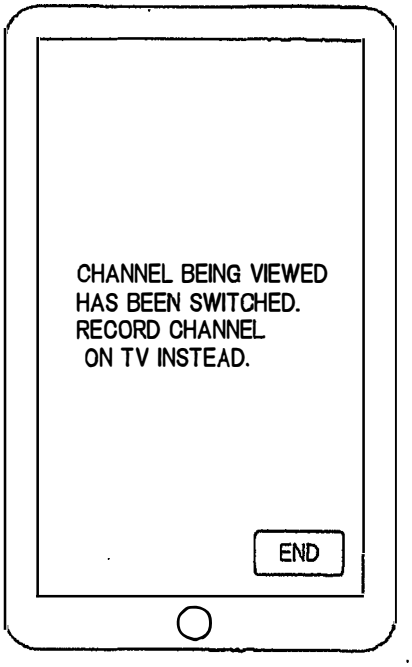



FIG. 13B

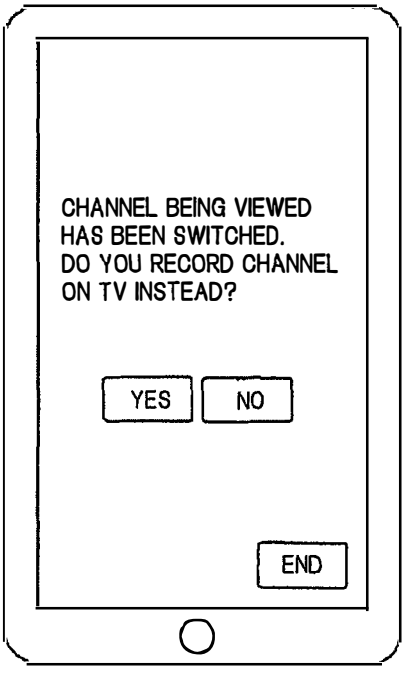


*FIG. 13C*

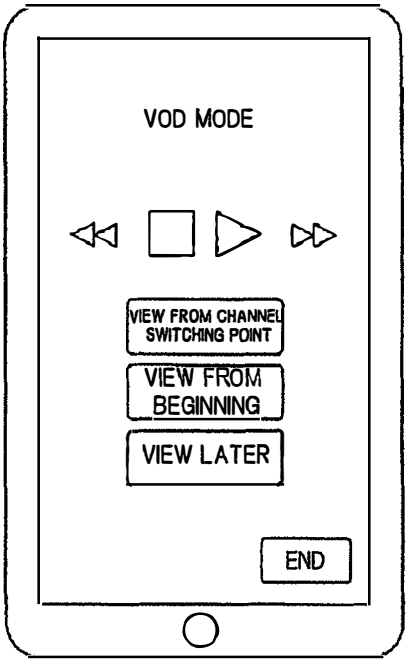
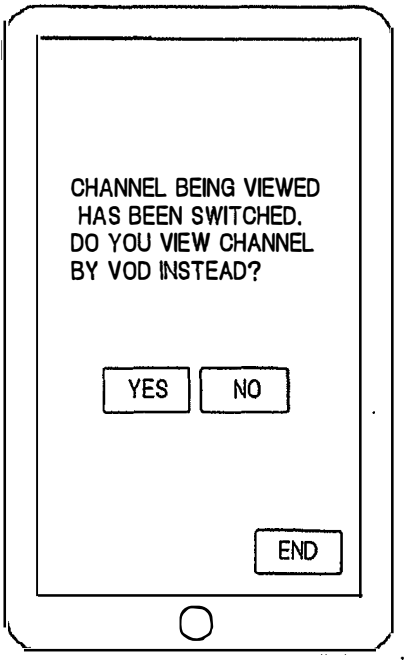



FIG. 13D



# SPECIFICATION

## TITLE OF THE INVENTION

VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Patent Application 14/649,895, filed June 4, 2015, which is a National Phase of PCT/JP2013/079953, filed November 6, 2013, which claims priority to Japanese Patent Application No. 2012-267765, filed December 7, 2012. The subject matter of each is incorporated herein by reference in entirety.

## TECHNICAL FIELD

The present invention relates to a video display apparatus and a terminal apparatus.

## BACKGROUND ART

As a background art in this technical field, there is Japanese Patent Application Laid-Open Publication No. 2009-65305 (Patent Document 1). An object of the invention described in this publication is "To provide a technique for appropriately providing a seamless viewing style without depending on places by a terminal apparatus and a large-screen information receiving terminal apparatus".

As a solution to this issue, the publication describes "An information receiving terminal apparatus includes means for transmitting mobile viewing information to a terminal apparatus, and a video information system controls a viewing environment for satisfying respective requests from two or more users, and is

configured to enable the continuous viewing of a content viewed at the information receiving terminal apparatus by the transmission and reception of the content to and from the terminal apparatus and enable the continuous viewing conversely at the information receiving terminal of the content viewed at the terminal apparatus based on inter-terminal cooperation and center cooperation of time code information for continuing content viewing from the information receiving terminal apparatus to the terminal apparatus.".

Also, as another background art, there is Japanese Patent Application Laid-Open Publication No. 2001-275090 (Patent Document 2). An object described in this publication is "To provide a broadcast receiving apparatus capable of preventing a main story after a CM from being missed".

As a solution to this issue, the publication describes "A broadcast receiving apparatus 10 includes first and second tuners 13a and 13b that receive broadcasting and a RAM 18 that stores a received video, when a program on a channel which is being received by the first tuner 13a is being output, a predetermined amount of video of the program immediately before a most recent CM is stored in the RAM 18, when an instruction to switch the channel to another channel is issued during the CM, the other channel is received by the second tuner 13b and a program on the other channel is output instead of the program on the channel being received by the first tuner 13a, and when the video immediately before the CM stored in the RAM 18 and the video on the channel being received by the first tuner 13a are approximate to each other, the end of the CM is output.".

**RELATED ART DOCUMENTS**

**PATENT DOCUMENTS**

Patent Document 1: Japanese Patent Application Laid-Open Publication No. 2009-65305

Patent Document 2: Japanese Patent Application Laid-Open Publication No. 2001-275090

## SUMMARY OF THE INVENTION

**PROBLEMS TO BE SOLVED BY THE INVENTION**

As an effect of the invention, the above-mentioned Patent Document 1 describes "While viewing a content with a family in a living room by a large-screen receiving terminal apparatus (e.g., a television receiver), each individual can acquire information and data for the convenience of the individual by a terminal apparatus which is held at hand and carried by each individual.", and this is convenient to use when a plurality of users continue to view the same content. However, the Patent Document 1 does not take into consideration the case where the plurality of users respectively view different contents.

For example, Patent Document 1 does not particularly take into consideration the fact that, when a plurality of users view a television broadcasting by one video display apparatus and one of the users switches a channel, the other users cannot continue to view the channel before the switching.

Also, according to Patent Document 2, it is possible to prevent a main story after a CM from being missed.

However, Patent Document 2 describes "Event information including a type, a title, and a start time of an event such as a CM is incorporated into data for digital broadcasting.", and has an issue that the CM cannot be specified without such an operation.

Thus, an object of the present invention is to provide user-friendly video display apparatus and terminal apparatus.

**MEANS FOR SOLVING THE PROBLEMS**

To solve the above-mentioned issue, for example, a configuration described in the scope of the claims is adopted.

The present application includes a plurality of means for solving the issue mentioned above, and one example thereof is a terminal apparatus having a remote control function of a video display apparatus, and the terminal apparatus includes: a communication unit that transmits a command related to setting of the video display apparatus and receives status information; a signal receiving unit that receives a signal output from a broadcast station and decodes a video content; a memory unit that stores a content of a command including a channel of the video content; and a display unit that displays the video content and various types of information. In the terminal apparatus, the communication unit transmits an identification code specific to the terminal apparatus when transmitting the command, and when the status information is received after a channel of the video display apparatus is set by remote control, the video content of the channel stored in the memory unit is decoded by the signal receiving unit and is displayed on the display unit.

Also, another example thereof is a terminal apparatus having a function of remotely controlling a video display apparatus that displays a video of a television program and a video serving as advertisement means accompanying a television program, and the terminal apparatus includes: a transmission unit that transmits a command related to setting of the video display apparatus; a television signal receiving unit that receives a television signal; and a memory unit that stores a channel that has been viewed without being switched for a predetermined period of time. In the terminal apparatus, the television signal receiving unit detects a start

timing and an end timing of the video serving as the advertisement means, and when a channel selection button of a remote control function is pressed in a period of time from the start timing to the end timing, the transmission unit transmits a setting command of the channel, and further transmits a setting command of the channel stored in the memory unit in response to the end timing.

**EFFECTS OF THE INVENTION**

According to the present invention, it is possible to provide user-friendly video display apparatus and terminal apparatus.

Issues, configurations, and effects other than the foregoing will become apparent from the following description of embodiments.

## BRIEF DESCRIPTIONS OF THE DRAWINGS

FIG. 1 is a diagram illustrating a configuration of a video display system according to the first embodiment;

FIG. 2 is a block diagram illustrating a configuration of a terminal apparatus according to the first embodiment;

FIG. 3 is a block diagram illustrating a configuration of a video display apparatus according to the first embodiment;

FIG. 4 is a flowchart illustrating a process of the terminal apparatus according to the first embodiment;

FIG. ~~5(a)~~ 5A illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. ~~5(b)~~ 5B illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. ~~5(c)~~ 5C illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. ~~5(d)~~ 5D illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. 6 is a flowchart illustrating a process of the video

display apparatus according to the first embodiment;

FIG. 7 is a flowchart illustrating a process of a video display apparatus according to the second embodiment;

FIG. 8 is a flowchart illustrating a process of a terminal apparatus according to the third embodiment;

FIG. 9 is a flowchart illustrating a process of a video display apparatus according to the third embodiment;

FIG. 10 is a flowchart illustrating a process of a video display apparatus according to the fourth embodiment;

FIG. 11 is a diagram illustrating a configuration of a video display system according to the fifth embodiment;

FIG. 12 is a flowchart illustrating a process of a terminal apparatus according to the fifth embodiment;

FIG. ~~13(a)~~ 13A illustrates an example of display on a screen of the terminal apparatus according to the third embodiment;

FIG. ~~13(b)~~ 13B illustrates an example of display on a screen of the terminal apparatus according to the third embodiment;

FIG. ~~13(c)~~ 13C illustrates an example of display on a screen of the terminal apparatus according to the fifth embodiment;

FIG. ~~13(d)~~ 13D illustrates an example of display on a screen of the terminal apparatus according to the fifth embodiment;

FIG. 14 is a flowchart illustrating a process of a video display apparatus according to the sixth embodiment;

FIG. 15 is a flowchart illustrating a process of a terminal apparatus according to the seventh embodiment;

FIG. 16 is a flowchart illustrating a missing prevention process of the terminal apparatus according to the seventh embodiment;

FIG. 17 is a flowchart illustrating a process of a video display apparatus according to the seventh embodiment;

FIG. 18 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the eighth embodiment;

FIG. 19 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the ninth embodiment;

FIG. 20 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the tenth embodiment;

FIG. 21 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the eleventh embodiment;

FIG. 22 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the twelfth embodiment;

FIG. 23 illustrates an example of display on a screen of the terminal apparatus according to the seventh embodiment;

FIG. 24 is a flowchart illustrating a process of a terminal apparatus according to the thirteenth embodiment;

FIG. 25 is a flowchart illustrating a process of a video display apparatus according to the thirteenth embodiment;

FIG. 26 is a flowchart illustrating a process of a terminal apparatus according to the fourteenth embodiment; and

FIG. 27 is a flowchart illustrating a missing prevention process of the terminal apparatus according to the fourteenth embodiment.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Hereinafter, embodiments will be described with reference to the drawings.

First Embodiment

FIG. 1 is a diagram illustrating a configuration of a video display system according to the first embodiment of the present invention. The video display system according to the present

embodiment includes a plurality of terminal apparatuses 1 and a video display apparatus 3.

The terminal apparatus 1 has a wireless communication function, and can transmit and receive various types of information to and from an Internet network. Also, the terminal apparatus 1 has a function of performing the control of the video display apparatus 3 in a remote place (hereinafter referred to as "remote control"), and a user can control a channel and an audio volume of the video display apparatus 3 by using the terminal apparatus 1. When the plurality of terminal apparatuses 1 need to be distinguished from one another, the terminal apparatuses 1 are written as terminal apparatuses 1a, 1b, 1c, … and the like.

A remote controller 2 is a control apparatus dedicated to the video display apparatus 3, and can operate the video display apparatus 3 by infrared rays.

The video display apparatus 3 is an apparatus that receives and displays a video content, and can receive, for example, a television signal by wireless or by wire from a broadcast station 5 and display a video content based on the television signal. Also, the video display apparatus 3 can display a video content received from a network 7 via a wireless router 6, for example, an Internet content of a URL (Uniform Resource Locator) specified by the user or the like. Thus, the video display apparatus 3 can receive and display a video content delivered from a delivery source specified by the user or the like, for example, a specific broadcast station 5 and URL. The number of video display apparatuses 3 is not limited to one and a plurality of video display apparatuses 3 may be provided. Further, the terminal apparatus 1 also can receive and display the video content.

The broadcast station 5 is an apparatus that outputs a

television signal.

The wireless router 6 has a wireless LAN (Local Area Network) function such as Wi-Fi (Wireless Fidelity), and can be connected to the network 7 via a communication network. The terminal apparatus 1 and the video display apparatus 3 can acquire and display a video content and various types of information from the internet network by being connected to the wireless router 6. Alternatively, although an example in which the wireless router 6 and the video display apparatus 3 are connected to each other by wireless has been illustrated, they may be connected to each other by wire.

FIG. 2 is a block diagram illustrating a configuration of the terminal apparatus 1 illustrated in FIG. 1.

A control unit 20 controls each of the units in the terminal apparatus 1. The control unit 20 is made up of a CPU (Central Processing Unit) or any control circuit or a dedicated circuit such as an ASIC (Appreciation Specific IC).

A television signal receiving unit 21 is made up of a signal processing circuit including a tuner, a decoding circuit and others in addition to an antenna, and receives a television signal output from the broadcast station 5, decodes a video and an audio, and sends the decoded video and audio to a display unit 22 and an audio output unit 23.

The display unit 22 is, for example, a liquid crystal panel and displays various types of information. The audio output unit 23 is made up of, for example, an amplifier and a speaker, and outputs various types of audios. An operation unit 24 is, for example, a touch pad, and receives an operation by the user and transmits an instruction based on the operation to the control unit 20. An apparatus obtained by integrating and combining the liquid crystal panel and the touch pad is generally referred to as a touch panel,

and an example using the touch panel is described in the present embodiment.

A memory unit 25 is made up of a ROM (Read Only Memory), a RAM (Random Access Memory), a flash ROM, and the like, and stores a program for controlling the terminal apparatus 1, various types of setting values and video contents, and the like.

A LAN communication unit 26 transmits various types of commands to the video display apparatus 3 via the wireless router 6 or the like by using, for example, Wi-Fi. Further, the LAN communication unit 26 receives status information or the like from the video display apparatus 3. The command is information with which the terminal apparatus 1 performs the remote control of the video display apparatus 3, and examples of the command include a power supply command for issuing an instruction to switch ON and OFF of a power supply and a setting command for designating a specific channel and audio volume. The status information includes information capable of specifying whether remote control can be performed. Alternatively, the LAN communication unit 26 may directly transmit and receive the command and the status information to and from the video display apparatus 3 without the wireless router 6 and the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth (registered trademark).

When the command is transmitted, an identification code specific to the terminal apparatus 1 is also transmitted. An ID (identification) individually assigned to the terminal apparatus 1, a telephone number, and the like can be applied as the identification code. Generally, since it is assumed that one user possesses one terminal apparatus 1, for example, a user ID given to each user by a manufacturer of the terminal apparatus 1 may be applied. In this case, the user ID is previously stored in the

terminal apparatus 1 based on an operation by the user or the like.

FIG. 3 is a block diagram illustrating a configuration of the video display apparatus 3 illustrated in FIG. 1.

A control unit 30 controls each of the units in the video display apparatus 3. The control unit 30 is made up of a CPU or any control circuit or a dedicated circuit such as an ASIC.

A television signal receiving unit 31 is made up of, for example, a signal processing circuit including a tuner and a decoding circuit in addition to an antenna, and receives a television signal output from the broadcast station 5, decodes a video and an audio, and sends the decoded video and audio to a display unit 32 and an audio output unit 33. The television signal receiving unit 31 includes a plurality of signal processing circuits described above or the like, and can simultaneously receive a plurality of channels.

The display unit 32 is made up of, for example, a liquid crystal panel, a plasma panel, or an organic EL (ElectroLuminescence) panel, and displays various types of video contents and various types of information.

An audio output unit 33 is made up of, for example, an amplifier and a speaker, and outputs various types of audios.

An infrared communication unit 34 receives a control command transmitted from a terminal apparatus having an infrared communication function or the dedicated remote controller 2 by using, for example, infrared rays, and transmits the instruction to the control unit 30.

A memory unit 35 is made up of a ROM, a RAM, a flash ROM, and the like, and stores an identification code of the terminal apparatus 1, which has transmitted a power supply command, in addition to a program for controlling the video display apparatus 3 and various types of setting and video contents. A storage such as an HDD (Hard

Disc Drive) or a BD (Blu-ray (registered trademark) Disc) drive may be equipped.

A LAN communication unit 36 is connected to the wireless router 6 by wire or by wireless, and can receive a video content or the like from the Internet network or the like. Also, the LAN communication unit 36 receives various types of commands from the terminal apparatus 1 via the wireless router 6 or the like by using, for example, Wi-Fi. Also, the LAN communication unit 36 transmits status information to the terminal apparatus 1. The LAN communication unit 36 may directly transit and receive the command and the status information to and from the terminal apparatus 1 without the wireless router 6 or the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth.

FIG. 4 is a flowchart illustrating a process of the terminal apparatus 1 according to the first embodiment of the present invention. This flowchart illustrates the process in the case where the terminal apparatus 1 performs the remote control of the video display apparatus 3.

In step S401, the terminal apparatus 1 waits until application software for performing the remote control of the video display apparatus 3 (hereinafter referred to as "operation application") is started based on an operation by a user.

FIG<u>S</u>. <u>5A - 5D</u> illustrate~~s~~ an example of various types of display on the touch-panel display unit 22 in the terminal apparatus 1. FIG. ~~5(a)~~ <u>5A</u> illustrates a menu screen on which various types of application software are arranged in the terminal apparatus 1. When the user presses, for example, a "television" button displayed on the touch panel, the operation application is started.

In step S402, the terminal apparatus 1 selects the video display apparatus 3 serving as a target of the remote control based

on the operation by the user. FIG. ~~5(b)~~ 5B illustrates an example of display on a selection screen in the case where there are two video display apparatuses 3 that can be selected as a target of the remote control. Here, it is assumed that a "television A" is selected.

When the video display apparatus 3 serving as a target of the remote control is selected, the terminal apparatus 1 displays various types of instructions that can be transmitted to the video display apparatus 3. FIG. ~~5(c)~~ 5C illustrates an example of display on an operation screen of the video display apparatus 3 in that case.

Next, in step S403, the terminal apparatus 1 confirms whether the user has performed an operation for ending the operation application. When the operation for ending the operation application, for example, the operation of pressing an "end" button displayed on the terminal apparatus 1 has been performed, the terminal apparatus 1 returns to a process of displaying a menu screen.

In step S404, the terminal apparatus 1 confirms whether the user has pressed a "power" button. When the "power" button displayed on the terminal apparatus 1 has been pressed, the terminal apparatus 1 transmits a power supply command and an identification code to the video display apparatus 3 (step S405), and repeats the process from step S403.

When the "power" button displayed on the terminal apparatus 1 has not been pressed, in step S406, the terminal apparatus 1 confirms whether the user has pressed a channel setting button of a remote control function. When a channel setting button such as a "1" button or a "2" button displayed on the terminal apparatus 1 has been pressed, the process proceeds to step S407, and the corresponding channel is stored in the memory unit 25.

When the "1" button has been pressed, for example, "1" is stored in the memory unit 25. However, when "Ch+" has been then pressed, "2" is stored in the memory unit 25. When a setting command is specified by a relative value such as "Ch+" or "Ch-" like this, an absolute value such as "2" is substituted and stored.

Next, in step S408, the terminal apparatus 1 transmits a selection command and an identification code of the corresponding channel to the video display apparatus 3, and repeats the process from step S403.

When the channel setting button displayed on the terminal apparatus 1 has not been pressed, in step S409, the terminal apparatus 1 confirms whether the other button has been pressed. Examples of the other button include an audio volume setting button.

When the user has issued an instruction to change setting of the video display apparatus 3, the terminal apparatus 1 transmits a corresponding setting command and identification code to the video display apparatus 3 (step S410), and repeats the process from step S403.

When the other button displayed on the terminal apparatus 1 has not been pressed, in step S411, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 sets the channel stored in the memory unit 25 to the television signal receiving unit 31, and displays a received video on the display unit 22 and outputs an audio from the audio output unit 23 (step S412), and repeats the process from step S403.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by

the terminal apparatus 1b other than the terminal apparatus 1a, which has powered on the video display apparatus 3, has occurred, the video display apparatus 3 transmits the channel switching notification as status information to the terminal apparatus 1a.

When the terminal apparatus 1 has not received the channel switching notification, the terminal apparatus 1 repeats the process from step S403.

FIG. 6 is a flowchart illustrating a process of the video display apparatus according to the first embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by the terminal apparatus 1.

In step S601, the video display apparatus 3 waits for receiving of a power supply command. When the power supply command has been received, the process proceeds to step S602, and the video display apparatus 3 is powered on. Then, in step S603, an identification code when the power supply command has been received is stored in the memory unit 35. Here, it is assumed that an identification code of the terminal apparatus 1a has been received.

Next, in step S604, the video display apparatus 3 confirms whether the power supply command has been received again. When the power supply command has been received, the process proceeds to step S605, and the video display apparatus 3 is powered off, and the process ends.

While toggle control to repeat power on/off every time the video display apparatus 3 receives the power supply command is illustrated as an example in the present embodiment, a power-on command and a power-off command may be separated from each other.

When the video display apparatus 3 has not received the power supply command in step S604, the process proceeds to step S606, and

the video display apparatus 3 confirms whether a channel setting command has been received. When the channel setting command has been received, the process proceeds to step S607, and the command is executed as instructed.

Next, in step S608, the video display apparatus 3 confirms whether an identification code when the channel setting command has been received matches the identification code stored in the memory unit 35. When the identification codes match each other, the process from step S604 is repeated.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S609), and repeats the process from step S604.

Also, when the video display apparatus 3 has not received the channel setting command in step S606, the process proceeds to step S610, and the video display apparatus 3 confirms whether the other command has been received. When the other command has been received, the video display apparatus 3 executes the command as instructed (step S611), and repeats the process from step S604. Examples of the other command include an audio volume setting command.

When the other command has not been received, the process from step S604 is repeated.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in the above-described manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of

the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the terminal apparatus 1a has received the channel switching notification, the terminal apparatus 1a displays the video of the channel prior to the switching by the terminal apparatus 1b on the display unit 22, and outputs the audio thereof from the audio output unit 23.

Note that it is also possible to ask the user whether the start of the display of the video and the output of the audio is permitted before the display of the video and the output of the audio are started. FIG. ~~5(d)~~ 5D illustrates an example of display on a screen of the terminal apparatus 1 at this time. Alternatively, it is also possible to ask the user whether the display and output may be continued after they are started.

By the foregoing configuration, in the first embodiment of the present invention, when the channel of the video display apparatus set by the remote control from a terminal apparatus is switched by another terminal apparatus, a content displayed on the video display apparatus prior to the switching is displayed on the terminal apparatus. Even if a channel set by a user is switched by another user, the user can view the channel by using the terminal apparatus at hand without any particular operation. Thus, it is possible to prevent the content from being missed.

Second Embodiment

FIG. 7 is a flowchart illustrating a process of a video display apparatus according to the second embodiment of the present invention.

Since steps S701 to S707 are similar to steps S601 to S607

illustrated in FIG. 6, the description thereof is omitted.

In step S708, the video display apparatus 3 confirms whether an identification code when a channel setting command has been received matches an identification code stored in the memory unit 35. When the identification codes match each other, the video display apparatus 3 repeats the process from step S704.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S709). Next, the video display apparatus 3 stores the identification code when the channel setting command has been received in the memory unit 35 (step S712), and repeats the process from step S704. Here, it is assumed that an identification code of the terminal apparatus 1b has been received.

Since steps S710 to S711 are similar to steps S610 to S611 illustrated in FIG. 6, description thereof is omitted.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the terminal apparatus 1a receives the channel switching notification, the terminal apparatus 1a displays the video of the

channel prior to the switching by the terminal apparatus 1b on the display unit 22, and outputs an audio thereof from the audio output unit 23.

When a terminal apparatus 1c further switches the channel of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1b.

When the terminal apparatus 1b receives the channel switching notification, the terminal apparatus 1b displays the video of the channel prior to the switching by the terminal apparatus 1c on the display unit 22, and outputs an audio thereof from the audio output unit 23.

By the foregoing configuration, in the second embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Thus, when the channel of the video display apparatus set by the remote control from a terminal apparatus is switched by another terminal apparatus and the channel is further switched by still another terminal apparatus, a content displayed on the video display apparatus prior to the switching is displayed on each of the terminal apparatuses. Even if a channel set by a user is switched by another user, the user can view the channel by using the terminal apparatus at hand without any particular operation. Thus, it is possible to prevent the content from being missed.

Third Embodiment

FIG. 8 is a flowchart illustrating a process of a terminal apparatus 1 according to the third embodiment of the present invention. This flowchart illustrates the process performed when the terminal apparatus 1 performs the remote control of a video

display apparatus 3.

Since steps S801 to S810 are similar to steps S401 to S410 illustrated in FIG. 4, description thereof is omitted.

In step S811, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 displays, on a display unit 22, the start of recording of the video on the channel, which the user has viewed on the video display apparatus 3 so far, into the memory unit 35 of the video display apparatus 3 (step S812), and repeats the process from step S803. FIG. ~~13(a)~~ 13A illustrates an example of display on a screen of the terminal apparatus 1.

The channel switching notification is transmitted from the video display apparatus 3. When channel switching by a terminal apparatus 1 other than the terminal apparatus 1, which has powered on the video display apparatus 3, has occurred, for example, the video display apparatus 3 transmits the channel switching notification as status information.

When the terminal apparatus 1 has not received the channel switching notification, it repeats the process from step S803.

FIG. 9 is a flowchart illustrating a process of the video display apparatus according to the third embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by the terminal apparatus 1.

Since steps S901 to S907 are similar to steps S601 to S607 illustrated in FIG. 6, description thereof is omitted.

In step S908, the video display apparatus 3 confirms whether an identification code when a channel setting command has been

received matches an identification code stored in the memory unit 35. When the identification codes match each other, the video display apparatus 3 repeats the process from step S904.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S909). Next, in step S912, the video display apparatus 3 stores, in the memory unit 35, the identification code and channel when the channel setting command has been received. Here, it is assumed that an identification code of the terminal apparatus 1b has been received. Next, the video display apparatus 3 sets the channel prior to the switching to a television signal receiving unit 31, records the received video and audio to the memory unit 35 (step S913), and repeats the process from step S904.

The television signal receiving unit 31 can simultaneously receive a plurality of channels by setting the plurality of channels. When the channel stored in the memory unit 35 is set in the television signal receiving unit 31, the channel setting displayed on the display unit 32 is left as it is.

Since steps S910 to S911 are similar to steps S610 to S611 illustrated in FIG. 6, description thereof is omitted.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, a channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the

video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

Furthermore, the video display apparatus 3 records the content of the channel prior to the switching by the terminal apparatus 1b in the recording unit 35.

Note that it is also possible to ask the user whether the start of the recording of the content is permitted before the recording of the content is started. FIG. ~~13(b)~~ 13B illustrates an example of display on a screen of the terminal apparatus 1 at this time. Alternatively, it is also possible to ask the user whether the recording may be continued after it is started.

By the foregoing configuration, in the third embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, a content displayed on the video display apparatus prior to the switching is recorded in the video display apparatus. Even if the channel set by a user is switched by another user, the content can be recorded in the video display apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Fourth Embodiment

FIG. 10 is a flowchart illustrating an operation of a terminal apparatus according to the fourth embodiment of the present invention. This flowchart illustrates a process performed when the terminal apparatus 1 remotely controls a video display apparatus 3.

Since steps S1001 to S1010 are similar to steps S401 to S410

illustrated in FIG. 4, description thereof is omitted.

In step S1011, the terminal apparatus 1 confirms whether a channel switching notification has been received.

When the channel switching notification has been received, the terminal apparatus 1 sets the channel stored in the memory unit 25 to the television signal receiving unit 21, and records a received content in the memory unit 25 (step S1012), and repeats the process from step S1003.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by a terminal apparatus 1 other than the terminal apparatus 1, which has powered on the video display apparatus 3, has occurred, the video display apparatus 3 transmits the channel switching notification as status information.

When the channel switching notification has not been received, the terminal apparatus 1 repeats the process from step S1003.

When a terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and the channel switching notification is transmitted as status information to the terminal apparatus 1a.

The terminal apparatus 1a records a content of the channel prior to the switching by the terminal apparatus 1b in the memory unit 25.

Note that it is also possible to ask the user whether the start of the recording of the content is permitted before the recording is started. Alternatively, it is also possible to ask the user whether the recording may be continued after the recording is started.

By the foregoing configuration, in the fourth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, the content displayed on the video display apparatus prior to the switching is recorded in the terminal apparatus. Even if the channel set by a user is switched by another user, the content can be recorded in the terminal apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Fifth Embodiment

FIG. 11 is a diagram illustrating a configuration of a video display system according to the fifth embodiment of the present invention. The video display system according to the present embodiment includes a plurality of terminal apparatuses 1 and a video display apparatus 3.

Since the terminal apparatuses 1, a remote controller 2, the video display apparatus 3, a broadcast station 5, a wireless router 6, and a network 7 are similar to those illustrated in FIG. 1, description thereof is omitted.

A VOD (Video On Demand) server 8 stores the same content as the content broadcasted from the broadcast station 5, and delivers the stored content to the terminal apparatus 1 and the video display apparatus 3 through the network 7.

FIG. 12 is a flowchart illustrating an operation of the terminal apparatus according to the fifth embodiment of the present invention. This flowchart illustrates the process performed when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S1201 to S1206 are similar to steps S401 to S406 illustrated in FIG. 4, description thereof is omitted.

In step S1207, the terminal apparatus 1 stores content information of a corresponding channel in the memory unit 25.

Since steps S1208 to S1210 are similar to steps S408 to S410 illustrated in FIG. 4, description thereof is omitted.

In step S1211, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 retrieves the VOD server 8 for a content based on content information stored in the memory unit 25 (step S1212).

Next, in step S1213, the terminal apparatus 1 enters a VOD playback mode, and repeats the process from step S1203 when the VOD playback mode ends. FIG. ~~13(c)~~ 13C illustrates an example of display on an operation screen of the terminal apparatus 1 in the VOD playback mode. In addition to playback, fast-forward and rewind, a user can view the content from the point where the channel has been switched if the time when the channel has been switched is stored. Alternatively, the content can be viewed from the beginning or can also be viewed later.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by a terminal apparatus 1 other than the terminal apparatus 1 which

has switched the channel of the video display apparatus 3 has occurred, the video display apparatus 3 transmits the channel switching notification as status information.

When the channel switching notification has not been received, the terminal apparatus 1 repeats the process from step S1203.

When a terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b then performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and the channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the channel switching notification is received, the terminal apparatus 1a retrieves the VOD for a content of the channel prior to the switching by the terminal apparatus 1b.

Note that it is also possible to ask the user whether the start of the retrieval for the content is permitted before the retrieval is started. FIG. ~~13(d)~~ 13D illustrates an example of display on a screen of the terminal apparatus 1 at this time. For example, only when a "YES" button displayed on the screen is pressed, the terminal apparatus 1 may enter the VOD playback mode.

By the foregoing configuration, in the fourth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by

another terminal apparatus, a content displayed on the video display apparatus prior to the switching can be retrieved from the VOD and displayed on the terminal apparatus. Even if the channel set by a user is switched by another user, the user can retrieve the VOD without any particular operation and can view the channel by using the terminal apparatus at hand. Thus, it is possible to prevent the content from being missed.

Sixth Embodiment

FIG. 14 is a flowchart illustrating a process of a video display apparatus according to the sixth embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by a terminal apparatus 1.

Since steps S1401 to S1407 are similar to steps S601 to S607 lustrated in FIG. 6, description thereof is omitted.

Since steps S1408 to S1409 are similar to steps S908 to S909 illustrated in FIG. 9, description thereof is omitted. Since steps S1412 to S1413 are similar to steps S912 to S913 illustrated in FIG. 9, description thereof is omitted.

In step S1410, it is confirmed whether another command has been received. When the other command has been received, the process proceeds to step S1411. When the other command has not been received, the process proceeds to step S1414. Since step S1411 is similar to step S611 illustrated in FIG. 6, description thereof is omitted.

In step S1414, it is confirmed whether a content after channel switching has ended. When the content after the channel switching has ended, the process proceeds to step S1415, and the video display apparatus 3 reproduces a recorded content. When the content after the channel switching has not ended, the video display apparatus 3 repeats the process from step S1404.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

Furthermore, the video display apparatus 3 records a content of the channel prior to the switching by the terminal apparatus 1b in the memory unit 35, and reproduces the content when the content of the channel after the switching ends.

By the foregoing configuration, in the sixth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, the content displayed on the video display apparatus prior to the switching is recorded in the video display apparatus, and the content is reproduced when the content of the channel after the switching ends. Even if a channel set by a user is switched by another user, the content is recorded and reproduced by the video display apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Seventh Embodiment

FIG. 15 is a flowchart illustrating an operation of a terminal

apparatus 1 when the terminal apparatus 1 remotely controls a video display apparatus 3.

In step S1501, the terminal apparatus 1 waits until application software for performing the remote control of the video display apparatus 3 (hereinafter referred to as "operation application") is started based on an operation by the user.

FIGS. 5A - 5D and FIG. 23 illustrate an example of various types of display on the touch-panel display unit 22 in the terminal apparatus 1. FIG. ~~5(a)~~ 5A illustrates a menu screen on which various types of application software are arranged in the terminal apparatus 1. When the user presses, for example, a "television" button displayed on the touch panel, the operation application is started.

In step S1502, the terminal apparatus 1 selects the video display apparatus 3 serving as a target of the remote control based on the operation by the user. FIG. ~~5(b)~~ 5B illustrates an example of display on a selection screen in the case where there are two video display apparatuses 3 that can be selected as a target of the remote control. Here, it is assumed that a "television A" is selected.

When the video display apparatus 3 serving as a target of the remote control is selected, the terminal apparatus 1 displays various types of instructions that can be transmitted to the video display apparatus 3. FIG. 23 illustrates an example of display on an operation screen of the video display apparatus 3 in that case.

Next, in step S1503, the terminal apparatus 1 confirms whether the user has performed an operation for ending the operation application. When the user has performed the operation for ending the operation application, for example, the operation of pressing an "end" button displayed on the terminal apparatus 1, the terminal apparatus 1 returns to a process for displaying a menu screen.

In step S1504, the terminal apparatus 1 confirms whether the user has pressed a "power" button. When the user has pressed the "power" button displayed on the terminal apparatus 1, the terminal apparatus 1 transmits a power supply command to the video display apparatus 3 (step S1505), and repeats the process from step S1503.

When the user has not pressed the "power" button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed a "missing prevention" mode button in step S1506. When the user has pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the terminal apparatus 1 switches ON and OFF of a missing prevention mode (step S1507). When the missing prevention mode is ON, the terminal apparatus 1 turns off the missing prevention mode in step S1508, and when the missing prevention mode is OFF, the terminal apparatus 1 turns on the missing prevention mode in step S1509. Then, the process from step S1503 is repeated.

The missing prevention mode is for preventing a television program on an original channel from being missed after the end of a video of advertisement means accompanying the television program such as CM (Commercial Message, hereinafter referred to as "commercial") or announcement means such as an announcement of a program. More specifically, even if the user switches the channel after the start of the video of the advertisement means or the announcement means, the channel is switched to the original channel at the timing of the end of the video. Thus, for example, even if the user is viewing a television program on a channel A and switches the channel A to a channel B or a channel C after the television program is switched to a commercial, the display on the video display apparatus 3 is switched to the channel A at the timing at which the commercial on the channel A ends and is switched to the television

program.

When the user has not pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed a channel selection button of a remote control function in step S1510. When the user has pressed a channel selection button such as a "1" button or a "2" button displayed on the terminal apparatus 1, the process proceeds to step S1511, and a selection command of a corresponding channel is transmitted to the video display apparatus 3 and the process from step S1503 is repeated.

When the user has not pressed the channel selection button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed the other button in step S1512. Examples of other setting changes include switching of an audio volume.

When the user has issued an instruction to change setting of the video display apparatus 3, the terminal apparatus 1 transmits a corresponding setting command to the video display apparatus 3 (step S1513), and the process from step S1503 is repeated.

FIG. 16 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When the missing prevention mode of the terminal apparatus 1 is ON in step S1600, the process proceeds to step S1601, and when the missing prevention mode is OFF, the process ends.

In step S1601, the terminal apparatus 1 waits for an elapse of a predetermined period of time, e.g., five minutes during which the user does not change a channel and there is no commercial switching, and the terminal apparatus 1 stores the channel in the memory unit 25 in step S1602. The commercial switching mentioned here means switching from a television program to a commercial and

switching from a commercial to a television program. Generally, there is a point in which an audio is silent between a television program and a commercial, and the timing at which the commercial switching occurs can be detected when a television signal is received by a television signal receiving unit 21 and a scene change where an audio is silent is detected.

Next, in step S1603, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by using the television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while waiting for the occurrence of the commercial switching (step S1604), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1605), and repeats the process from step S1601.

Through steps S1601 to S1605, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S1606).

Next, in step S1607, the terminal apparatus 1 receives the television signal of the channel stored in the memory unit 25 by the television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed the channel selection button of a remote control function while waiting for the occurrence of the commercial switching (step S1608), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1609).

Also when the channel of the video display apparatus 3 is switched in step S1609, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the

memory unit 25 in step S1607.

Through steps S1607 to S1609, the terminal apparatus 1 detects the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S1610).

Next, in step S1611, the terminal apparatus 1 transmits the selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S1600. When the channel selection button of a remote control function has not been pressed in step S1608, the terminal apparatus 1 does not have to transmit the selection command of the channel stored in the memory unit 25 to the video display apparatus 3.

FIG. 17 is a flowchart illustrating an operation of the video display apparatus 3.

In step S1701, the video display apparatus 3 waits for receiving of a power supply command. When the power supply command has been received, the video display apparatus 3 is powered on (step S1702).

Next, in step S1703, it is confirmed whether the video display apparatus 3 has received the power supply command again. When the power supply command has been received, the video display apparatus 3 is powered off (step S1704). When the power supply command has not been received, the video display apparatus 3 confirms whether a channel selection command has been received in step S1705. When the channel selection command has been received, the video display apparatus 3 executes the channel selection command as instructed (step S1706), and repeats the process from step S1703.

When the channel selection command has not been received, the video display apparatus 3 confirms whether another command has been received in step S1707. When the other command has been received, the video display apparatus 3 executes the command as instructed

(step S1708), and repeats the process from step S1703.

By the foregoing configuration, in the seventh embodiment of the present invention, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, and transmits a selection command of the channel to the video display apparatus 3 in response to a commercial end timing.

Even if the user switches a channel during a commercial, the channel returns to the channel prior to the switching when the commercial ends. Thus, it is possible to prevent a television program on the channel, which has been being viewed by the user, from being missed.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect a commercial end timing and switch the channel to a corresponding channel.

Alternatively, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Eighth Embodiment

Next, the eighth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below, and description of common points is omitted as much as possible in order to avoid an overlap of the description.

FIG. 18 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S1800, the process proceeds to step S1801, and when the missing prevention mode is OFF, the process ends.

When a user has not changed a channel for a predetermined period of time, e.g., five minutes in step S1801, the terminal apparatus 1 stores the channel in the memory unit 25 in step S1802.

Next, in step S1803, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S1804), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1805), and repeats the process from step S1801.

Through steps S1801 to S1805, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start or end timing has come (step S1806).

Next, in step S1807, the terminal apparatus 1 transmits the selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S1800.

By the foregoing configuration, in the eighth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, since the terminal apparatus 1 stores the channel when the user does not change the channel for a predetermined period

of time, and transmits a selection command of the channel to the video display apparatus 3 at the timing of start and end of the commercial, it is not necessary to distinguish the start and the end of the commercial, and the missing prevention process can be simplified.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may switch the channel to the corresponding channel at the timing of start or end of the commercial.

Alternatively, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel at the timing of start or end of the commercial, the user may be notified of the start or end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Ninth Embodiment

Next, the ninth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are also similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 19 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S1900, the process proceeds to step S1901, and when the missing prevention mode is OFF, the process ends.

Since steps S1901 to S1905 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through

steps S1901 to S1905, the terminal apparatus 1 detects commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S1906).

Next, in step S1907, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S1908), the terminal apparatus 1 transmits a two-screen display start command to the video display apparatus 3 (step S1909), and transmits a selection command of a corresponding channel for an added screen to the video display apparatus 3 (step S1910). When the user has pressed the channel selection button of a remote control function again while the terminal apparatus 1 waits for the occurrence of the commercial switching, the terminal apparatus 1 does not have to transmit the two-screen display start command in step S1909.

Also when a channel of the video display apparatus 3 has been switched in step S1909, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the memory unit 25 in step S1907.

Through steps S1907 to S1910, the terminal apparatus 1 detects the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S1911).

Next, in step S1912, the terminal apparatus 1 transmits a two-screen display end command to the video display apparatus 3, and repeats the process from step S1900. The screen added later is erased when the two-screen display ends. The two-screen display

end command does not have to be transmitted when the screen has not been switched to the two-screen display.

By the foregoing configuration, in the ninth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, and when the channel selection button is pressed during the commercial, the terminal apparatus 1 switches the video display apparatus 3 to the two-screen display and displays the channel on the added screen. Then, the terminal apparatus 1 ends the two-screen display in response to the timing of the end of the commercial.

Since the video on the original channel can be confirmed by the two-screen display even when the channel is switched, the user can switch the channel without worrying about missing a television program.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may start and end the two-screen display.

Also, since the user can confirm both of the video on the original channel and the video on the channel after the switching by the two-screen display, the user himself/herself may operate the terminal apparatus 1 to end the two-screen display instead of the configuration in which the terminal apparatus 1 ends the two-screen display in response to the timing of the end of the commercial.

Tenth Embodiment

Next, the tenth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment

unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 20 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2000, the process proceeds to step S2001, and when the missing prevention mode is OFF, the process ends.

Since steps S2001 to S2005 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2001 to S2005, the terminal apparatus 1 detects commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2006).

Next, in step S2007, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S2008), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S2009), and displays a video on the channel stored in the memory unit 25 in the terminal apparatus 1 on the display unit 22 (step S2010).

Also when a channel of the video display apparatus 3 has been switched in step S2009, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the memory unit 25 in step S2007.

Through steps S2007 to S2010, the terminal apparatus 1 detects

the commercial switching after determining the commercial start timing, and determines that a commercial end timing has come (step S2011).

Next, in step S2012, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S2000.

By the foregoing configuration, in the tenth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, switches the channel of the video display apparatus 3 when a channel selection button is pressed during a commercial, and displays a video on the original channel on the screen of the terminal apparatus 1. Then, the terminal apparatus 1 returns the channel of the video display apparatus 3 to the original channel in response to the commercial end timing.

Since the video on the original channel can be confirmed by the terminal apparatus 1 even when the channel has been switched, the user can switch the channel without worrying about missing a television program.

The video display apparatus 3 as well as the terminal apparatus 1 may also store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing to switch the channel to a corresponding channel.

Also, since the user can confirm the video on the original channel by the terminal apparatus 1, the user himself/herself may operate the terminal apparatus 1 to end the two-screen display

instead of the configuration in which the terminal apparatus 1 ends the two-screen display in response to the commercial end timing.

Eleventh Embodiment

Next, the eleventh embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 21 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2100, the process proceeds to step S2101, and when the missing prevention mode is OFF, the process ends.

Since steps S2101 to S2105 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2101 to S2105, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2106).

Since steps S2107 to S2109 are similar to steps S1607 to S1609 illustrated in FIG. 16, description thereof is omitted.

Through steps S2107 to S2109, the terminal apparatus 1 detects the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S2110).

Next, in step S2112, the process is changed depending on whether a program on an original channel has ended. When the program has not ended, the process proceeds to step S2111, and the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3 and repeats the

process from step S2100. When the program has ended, the process does not proceed to step S2111, and the process from step S2100 is repeated.

By the foregoing configuration, in the eleventh embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, since the terminal apparatus 1 does not return the channel to the original channel when the program has ended, the terminal apparatus 1 does not erroneously switch the channel which the user wishes to view next.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel to a corresponding channel.

Twelfth Embodiment

Next, the twelfth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 22 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2200, the process proceeds to step S2201, and when the missing prevention mode is OFF, the process ends.

Since steps S2201 to S2202 are similar to steps S1601 to S1602 illustrated in FIG. 16, description thereof is omitted.

Next, in step S2212, the process is changed depending on

whether the channel has a commercial. When the channel has a commercial, the process proceeds to step S2203, and when the channel has no commercial, the process does not proceed to step S2203 and the process from step S2200 is repeated. For example, whether or not the channel has a commercial can be determined by storing a list of channels having no commercial in the memory unit 25 in advance and comparing the list of channels with the channel stored in step S2202.

Since steps S2203 to S2205 are similar to steps S1603 to S1605 illustrated in FIG. 16, description thereof is omitted.

Through steps S2201 to S2205 and step S2212, the terminal apparatus 1 detects the commercial switching in the channel having a commercial after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2206).

Since steps S2201 to S2205 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2201 to S2205, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2206).

Since steps S2207 to S2209 are similar to steps S1607 to S1609 illustrated in FIG. 16, description thereof is omitted.

Through steps S2207 to S2209, the terminal apparatus 1 detects the commercial switching after the start of a commercial, and determines that a commercial end timing has come (step S2210).

Next, in step S2211, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S2200.

By the foregoing configuration, in the twelfth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, since the terminal apparatus 1 does not perform the missing prevention process for the channel having no commercial, the missing prevention process is not erroneously performed when the channel is switched to the channel having no commercial. Since there is a scene change where an audio is silent even on the channel having no commercial, there is the possibility that the terminal apparatus 1 determines that the commercial switching has occurred, but it is possible to prevent this.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel to a corresponding channel.

Also, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Thirteenth Embodiment

Next, the thirteenth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 24 is a flowchart illustrating an operation of the

terminal apparatus 1 when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S2401 to S2409 are similar to steps S1501 to S1509 illustrated in FIG. 15, description thereof is omitted.

In step S2410, the terminal apparatus 1 confirms whether a user has pressed a channel selection button of a remote control function. When the user has pressed a channel selection button such as a "1" button or a "2" button displayed on the terminal apparatus 1, the process proceeds to step S2411. Since step S2411 is similar to step S1511 illustrated in FIG. 15, description thereof is omitted.

Next, in step S2414, the process is changed depending on whether the terminal apparatus 1 has received a status indicating that there is no channel selection authority. Only when the status has been received, the process proceeds to step S2415, and a video on a corresponding channel is displayed on the display unit 22 in the terminal apparatus 1. Then, the process from step S2403 is repeated. The status indicating that there is no channel selection authority is sent from the video display apparatus 3 when there is no channel selection authority.

When the user has not pressed the channel selection button of a remote control function displayed on the terminal apparatus 1 in step S2410, the process proceeds to step S2412. Since steps S2412 to S2413 are similar to steps S1512 to S1513 illustrated in FIG. 15, description thereof is omitted.

Thus, when there is no channel selection authority of the video display apparatus 3, the video on the corresponding channel is displayed on the terminal apparatus 1.

FIG. 25 is a flowchart illustrating an operation of the video display apparatus 3.

In step S2501, the video display apparatus 3 waits for

receiving of a power supply command. When the power supply command has been received, the video display apparatus 3 is powered on (step S2502), and stores, in the memory unit 35, information indicating which of terminal apparatuses 1 has transmitted the power supply command, namely, an identification code which has been transmitted together with the power supply command (step S2509). Here, it is assumed that the terminal apparatus 1a has transmitted the power supply command.

An IP (Internet Protocol) address, an ID (Identification) individually assigned to the terminal apparatus 1, a telephone number and the like are applicable to the identification code. Generally, since it is assumed that one user possesses one terminal apparatus 1, a user ID given to each user by a manufacturer of the terminal apparatus 1 may be applied. In this case, the user ID is previously stored in the terminal apparatus 1 based on an operation by the user or the like.

Since steps S2503 to S2504 are similar to steps S1703 to S1704 illustrated in FIG. 17, description thereof is omitted.

Next, in step S2505, the video display apparatus 3 confirms whether a channel selection command has been received. When the channel selection command has been received, the video display apparatus 3 confirms whether the channel selection command is a setting command from a specific terminal apparatus 1, namely, the terminal apparatus 1 that has issued an instruction to turn on power (step S2510). When the channel selection command is the setting command from the terminal apparatus 1 that has issued the instruction to turn on power, the video display apparatus 3 executes the channel selection command as instructed (step S2506), and repeats the process from step S2503.

When the channel selection command is not the setting command

from the terminal apparatus 1 that has issued the instruction to turn on power in step S2510, the video display apparatus 3 confirms whether a channel being displayed is during a commercial (step S2511). When the channel is during the commercial, the video display apparatus 3 executes the command as instructed (step S2506), and repeats the process from step S2503. When the channel is not during the commercial, the video display apparatus 3 sends status information indicating that there is no channel selection authority to the corresponding terminal apparatus 1 (step S2512), and then repeats the process from step S2503. Whether the channel is during the commercial may be transmitted from the terminal apparatus 1 in addition to being determined by the video display apparatus 3.

Since steps S2507 to S2508 are similar to steps S1707 to S1708 illustrated in FIG. 17, description thereof is omitted.

Thus, selection of the channel of the video display apparatus 3 can be performed only when it is instructed from the terminal apparatus 1a that has powered on the video display apparatus 3 during a television program, and can be performed also when it is instructed from the terminal apparatus 1b in addition to the terminal apparatus 1a during a commercial. Also, an operation other than the selection of the channel can be performed from both of the terminal apparatus 1a and the terminal apparatus 1b.

By the foregoing configuration, in the thirteenth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the selection of the channel of the video display apparatus 3 can be performed only when it is instructed from the terminal apparatus 1a that has powered on the video display apparatus 3 during a television program, and a video is displayed on the terminal apparatus 1b when it is instructed from the terminal

apparatus 1b. In addition, during the commercial, the channel selection can be performed also when it is instructed from the terminal apparatus 1b in addition to the terminal apparatus 1a.

Fourteenth Embodiment

FIG. 26 is a flowchart illustrating an operation of the terminal apparatus 1 when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S2601 to S2605 are similar to steps S1501 to S1505 illustrated in FIG. 15, description thereof is omitted.

In step S2606, the terminal apparatus 1 confirms whether a user has pressed a "missing prevention" mode button. When the user has pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the terminal apparatus 1 turns on a missing prevention mode, and repeats the process from step S2603.

When the user has not pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the process proceeds to step S2610. Since steps S2610 to S2613 are similar to steps S1510 to S1513 illustrated in FIG. 15, description thereof is omitted.

FIG. 27 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When the missing prevention mode of the terminal apparatus 1 is ON in step S2700, the process proceeds to step S2701, and when the missing prevention mode is OFF, the process ends.

In step S2701, the terminal apparatus 1 stores a channel previously set by the user.

Since steps S2707 to S2710 are similar to steps S1507 to S1510 illustrated in FIG. 15, description thereof is omitted. Through steps S2707 to S2709, the terminal apparatus 1 detects commercial switching after the start of a commercial, and determines that a commercial end timing has come (step S2710).

Next, in step S2711, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and turns off the missing prevention mode in step S2712. When the channel selection button of a remote control function has not been pressed in step S2708, the selection command of the channel stored in the memory unit 25 does not have to be transmitted to the video display apparatus 3.

By the foregoing configuration, in the fourteenth embodiment of the present invention, the terminal apparatus 1 stores the channel which is being viewed when the user has pressed the "missing prevention" mode button, and transmits the selection command of the channel to the video display apparatus 3 in response to the timing of the end of the commercial.

If the user has pressed the "channel" button after pressing the "missing prevention" mode button during the commercial, the channel returns to the channel prior to the switching at the end of the commercial even when the user switches the channel during the commercial. Thus, it is possible to prevent the television program on the channel which has been being viewed by the user from being missed.

Furthermore, when the "missing prevention" mode button is pressed during the commercial, a missing prevention mode is entered, and the missing prevention mode is canceled when the commercial ends. Therefore, the power consumption of the terminal apparatus 1 can be suppressed.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel.

Also, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel

in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Note that the embodiments above have been described in detail so as to make the present invention easily understood, and the present invention is not limited to the embodiment having all of the described constituent elements. Also, a part of the configuration of one embodiment may be replaced with the configuration of another embodiment, and the configuration of one embodiment may be added to the configuration of another embodiment. Furthermore, another configuration may be added to a part of the configuration of each embodiment, and a part of the configuration of each embodiment may be eliminated or replaced with another configuration.

Some or all of the above-mentioned configurations, functions, processing units, and processing means may be implemented by hardware by designing them with integrated circuits or the like. Also, the above-mentioned configurations and functions may be implemented by software by interpreting and executing programs for implementing the respective functions by processors. Information such as a program, a table, a file, and the like for implementing each of the functions can be placed in a recording device such as a memory, a hard disk, or an SSD (Solid State Drive) or a recording medium such as an IC card or an SD card.

Control lines and information lines, which are considered to be necessary in description, are illustrated, and all control lines and information lines in products are not necessarily illustrated. In practice, it is right to think that almost all configurations are connected to one another.

**REFERENCE SIGNS LIST**

1… TERMINAL APPARATUS, 2… REMOTE CONTROLLER, 3… VIDEO DISPLAY APPARATUS, 5… BROADCAST STATION, 6… WIRELESS ROUTER, 7… NETWORK, 20… CONTROL UNIT, 21… TELEVISION SIGNAL RECEIVING UNIT, 22… DISPLAY UNIT, 23… AUDIO OUTPUT UNIT, 24… OPERATION UNIT, 25… MEMORY UNIT, 26… LAN COMMUNICATION UNIT, 30… CONTROL UNIT, 31… TELEVISION SIGNAL RECEIVING UNIT, 32… DISPLAY UNIT, 33… AUDIO OUTPUT UNIT, 34… INFRARED COMMUNICATION UNIT, 35… MEMORY UNIT, 36… LAN COMMUNICATION UNIT

# SPECIFICATION

## TITLE OF THE INVENTION

VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Patent Application 14/649,895, filed June 4, 2015, which is a National Phase of PCT/JP2013/079953, filed November 6, 2013, which claims priority to Japanese Patent Application No. 2012-267765, filed December 7, 2012. The subject matter of each is incorporated herein by reference in entirety.

## TECHNICAL FIELD

The present invention relates to a video display apparatus and a terminal apparatus.

## BACKGROUND ART

As a background art in this technical field, there is Japanese Patent Application Laid-Open Publication No. 2009-65305 (Patent Document 1). An object of the invention described in this publication is "To provide a technique for appropriately providing a seamless viewing style without depending on places by a terminal apparatus and a large-screen information receiving terminal apparatus".

As a solution to this issue, the publication describes "An information receiving terminal apparatus includes means for transmitting mobile viewing information to a terminal apparatus, and a video information system controls a viewing environment for satisfying respective requests from two or more users, and is

configured to enable the continuous viewing of a content viewed at the information receiving terminal apparatus by the transmission and reception of the content to and from the terminal apparatus and enable the continuous viewing conversely at the information receiving terminal of the content viewed at the terminal apparatus based on inter-terminal cooperation and center cooperation of time code information for continuing content viewing from the information receiving terminal apparatus to the terminal apparatus.".

Also, as another background art, there is Japanese Patent Application Laid-Open Publication No. 2001-275090 (Patent Document 2). An object described in this publication is "To provide a broadcast receiving apparatus capable of preventing a main story after a CM from being missed".

As a solution to this issue, the publication describes "A broadcast receiving apparatus 10 includes first and second tuners 13a and 13b that receive broadcasting and a RAM 18 that stores a received video, when a program on a channel which is being received by the first tuner 13a is being output, a predetermined amount of video of the program immediately before a most recent CM is stored in the RAM 18, when an instruction to switch the channel to another channel is issued during the CM, the other channel is received by the second tuner 13b and a program on the other channel is output instead of the program on the channel being received by the first tuner 13a, and when the video immediately before the CM stored in the RAM 18 and the video on the channel being received by the first tuner 13a are approximate to each other, the end of the CM is output.".

**RELATED ART DOCUMENTS**

**PATENT DOCUMENTS**

Patent Document 1: Japanese Patent Application Laid-Open Publication No. 2009-65305

Patent Document 2: Japanese Patent Application Laid-Open Publication No. 2001-275090

## SUMMARY OF THE INVENTION

**PROBLEMS TO BE SOLVED BY THE INVENTION**

As an effect of the invention, the above-mentioned Patent Document 1 describes "While viewing a content with a family in a living room by a large-screen receiving terminal apparatus (e.g., a television receiver), each individual can acquire information and data for the convenience of the individual by a terminal apparatus which is held at hand and carried by each individual.", and this is convenient to use when a plurality of users continue to view the same content. However, the Patent Document 1 does not take into consideration the case where the plurality of users respectively view different contents.

For example, Patent Document 1 does not particularly take into consideration the fact that, when a plurality of users view a television broadcasting by one video display apparatus and one of the users switches a channel, the other users cannot continue to view the channel before the switching.

Also, according to Patent Document 2, it is possible to prevent a main story after a CM from being missed.

However, Patent Document 2 describes "Event information including a type, a title, and a start time of an event such as a CM is incorporated into data for digital broadcasting.", and has an issue that the CM cannot be specified without such an operation.

Thus, an object of the present invention is to provide user-friendly video display apparatus and terminal apparatus.

**MEANS FOR SOLVING THE PROBLEMS**

To solve the above-mentioned issue, for example, a configuration described in the scope of the claims is adopted.

The present application includes a plurality of means for solving the issue mentioned above, and one example thereof is a terminal apparatus having a remote control function of a video display apparatus, and the terminal apparatus includes: a communication unit that transmits a command related to setting of the video display apparatus and receives status information; a signal receiving unit that receives a signal output from a broadcast station and decodes a video content; a memory unit that stores a content of a command including a channel of the video content; and a display unit that displays the video content and various types of information. In the terminal apparatus, the communication unit transmits an identification code specific to the terminal apparatus when transmitting the command, and when the status information is received after a channel of the video display apparatus is set by remote control, the video content of the channel stored in the memory unit is decoded by the signal receiving unit and is displayed on the display unit.

Also, another example thereof is a terminal apparatus having a function of remotely controlling a video display apparatus that displays a video of a television program and a video serving as advertisement means accompanying a television program, and the terminal apparatus includes: a transmission unit that transmits a command related to setting of the video display apparatus; a television signal receiving unit that receives a television signal; and a memory unit that stores a channel that has been viewed without being switched for a predetermined period of time. In the terminal apparatus, the television signal receiving unit detects a start

timing and an end timing of the video serving as the advertisement means, and when a channel selection button of a remote control function is pressed in a period of time from the start timing to the end timing, the transmission unit transmits a setting command of the channel, and further transmits a setting command of the channel stored in the memory unit in response to the end timing.

**EFFECTS OF THE INVENTION**

According to the present invention, it is possible to provide user-friendly video display apparatus and terminal apparatus.

Issues, configurations, and effects other than the foregoing will become apparent from the following description of embodiments.

## BRIEF DESCRIPTIONS OF THE DRAWINGS

FIG. 1 is a diagram illustrating a configuration of a video display system according to the first embodiment;

FIG. 2 is a block diagram illustrating a configuration of a terminal apparatus according to the first embodiment;

FIG. 3 is a block diagram illustrating a configuration of a video display apparatus according to the first embodiment;

FIG. 4 is a flowchart illustrating a process of the terminal apparatus according to the first embodiment;

FIG. 5A illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. 5B illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. 5C illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. 5D illustrates an example of display on a screen of the terminal apparatus according to the first embodiment;

FIG. 6 is a flowchart illustrating a process of the video

display apparatus according to the first embodiment;

FIG. 7 is a flowchart illustrating a process of a video display apparatus according to the second embodiment;

FIG. 8 is a flowchart illustrating a process of a terminal apparatus according to the third embodiment;

FIG. 9 is a flowchart illustrating a process of a video display apparatus according to the third embodiment;

FIG. 10 is a flowchart illustrating a process of a video display apparatus according to the fourth embodiment;

FIG. 11 is a diagram illustrating a configuration of a video display system according to the fifth embodiment;

FIG. 12 is a flowchart illustrating a process of a terminal apparatus according to the fifth embodiment;

FIG. 13A illustrates an example of display on a screen of the terminal apparatus according to the third embodiment;

FIG. 13B illustrates an example of display on a screen of the terminal apparatus according to the third embodiment;

FIG. 13C illustrates an example of display on a screen of the terminal apparatus according to the fifth embodiment;

FIG. 13D illustrates an example of display on a screen of the terminal apparatus according to the fifth embodiment;

FIG. 14 is a flowchart illustrating a process of a video display apparatus according to the sixth embodiment;

FIG. 15 is a flowchart illustrating a process of a terminal apparatus according to the seventh embodiment;

FIG. 16 is a flowchart illustrating a missing prevention process of the terminal apparatus according to the seventh embodiment;

FIG. 17 is a flowchart illustrating a process of a video display apparatus according to the seventh embodiment;

FIG. 18 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the eighth embodiment;

FIG. 19 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the ninth embodiment;

FIG. 20 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the tenth embodiment;

FIG. 21 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the eleventh embodiment;

FIG. 22 is a flowchart illustrating a missing prevention process of a terminal apparatus according to the twelfth embodiment;

FIG. 23 illustrates an example of display on a screen of the terminal apparatus according to the seventh embodiment;

FIG. 24 is a flowchart illustrating a process of a terminal apparatus according to the thirteenth embodiment;

FIG. 25 is a flowchart illustrating a process of a video display apparatus according to the thirteenth embodiment;

FIG. 26 is a flowchart illustrating a process of a terminal apparatus according to the fourteenth embodiment; and

FIG. 27 is a flowchart illustrating a missing prevention process of the terminal apparatus according to the fourteenth embodiment.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Hereinafter, embodiments will be described with reference to the drawings.

First Embodiment

FIG. 1 is a diagram illustrating a configuration of a video display system according to the first embodiment of the present invention. The video display system according to the present

embodiment includes a plurality of terminal apparatuses 1 and a video display apparatus 3.

The terminal apparatus 1 has a wireless communication function, and can transmit and receive various types of information to and from an Internet network. Also, the terminal apparatus 1 has a function of performing the control of the video display apparatus 3 in a remote place (hereinafter referred to as "remote control"), and a user can control a channel and an audio volume of the video display apparatus 3 by using the terminal apparatus 1. When the plurality of terminal apparatuses 1 need to be distinguished from one another, the terminal apparatuses 1 are written as terminal apparatuses 1a, 1b, 1c, … and the like.

A remote controller 2 is a control apparatus dedicated to the video display apparatus 3, and can operate the video display apparatus 3 by infrared rays.

The video display apparatus 3 is an apparatus that receives and displays a video content, and can receive, for example, a television signal by wireless or by wire from a broadcast station 5 and display a video content based on the television signal. Also, the video display apparatus 3 can display a video content received from a network 7 via a wireless router 6, for example, an Internet content of a URL (Uniform Resource Locator) specified by the user or the like. Thus, the video display apparatus 3 can receive and display a video content delivered from a delivery source specified by the user or the like, for example, a specific broadcast station 5 and URL. The number of video display apparatuses 3 is not limited to one and a plurality of video display apparatuses 3 may be provided. Further, the terminal apparatus 1 also can receive and display the video content.

The broadcast station 5 is an apparatus that outputs a

television signal.

The wireless router 6 has a wireless LAN (Local Area Network) function such as Wi-Fi (Wireless Fidelity), and can be connected to the network 7 via a communication network. The terminal apparatus 1 and the video display apparatus 3 can acquire and display a video content and various types of information from the internet network by being connected to the wireless router 6. Alternatively, although an example in which the wireless router 6 and the video display apparatus 3 are connected to each other by wireless has been illustrated, they may be connected to each other by wire.

FIG. 2 is a block diagram illustrating a configuration of the terminal apparatus 1 illustrated in FIG. 1.

A control unit 20 controls each of the units in the terminal apparatus 1. The control unit 20 is made up of a CPU (Central Processing Unit) or any control circuit or a dedicated circuit such as an ASIC (Appreciation Specific IC).

A television signal receiving unit 21 is made up of a signal processing circuit including a tuner, a decoding circuit and others in addition to an antenna, and receives a television signal output from the broadcast station 5, decodes a video and an audio, and sends the decoded video and audio to a display unit 22 and an audio output unit 23.

The display unit 22 is, for example, a liquid crystal panel and displays various types of information. The audio output unit 23 is made up of, for example, an amplifier and a speaker, and outputs various types of audios. An operation unit 24 is, for example, a touch pad, and receives an operation by the user and transmits an instruction based on the operation to the control unit 20. An apparatus obtained by integrating and combining the liquid crystal panel and the touch pad is generally referred to as a touch panel,

and an example using the touch panel is described in the present embodiment.

A memory unit 25 is made up of a ROM (Read Only Memory), a RAM (Random Access Memory), a flash ROM, and the like, and stores a program for controlling the terminal apparatus 1, various types of setting values and video contents, and the like.

A LAN communication unit 26 transmits various types of commands to the video display apparatus 3 via the wireless router 6 or the like by using, for example, Wi-Fi. Further, the LAN communication unit 26 receives status information or the like from the video display apparatus 3. The command is information with which the terminal apparatus 1 performs the remote control of the video display apparatus 3, and examples of the command include a power supply command for issuing an instruction to switch ON and OFF of a power supply and a setting command for designating a specific channel and audio volume. The status information includes information capable of specifying whether remote control can be performed. Alternatively, the LAN communication unit 26 may directly transmit and receive the command and the status information to and from the video display apparatus 3 without the wireless router 6 and the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth (registered trademark).

When the command is transmitted, an identification code specific to the terminal apparatus 1 is also transmitted. An ID (identification) individually assigned to the terminal apparatus 1, a telephone number, and the like can be applied as the identification code. Generally, since it is assumed that one user possesses one terminal apparatus 1, for example, a user ID given to each user by a manufacturer of the terminal apparatus 1 may be applied. In this case, the user ID is previously stored in the

terminal apparatus 1 based on an operation by the user or the like.

FIG. 3 is a block diagram illustrating a configuration of the video display apparatus 3 illustrated in FIG. 1.

A control unit 30 controls each of the units in the video display apparatus 3. The control unit 30 is made up of a CPU or any control circuit or a dedicated circuit such as an ASIC.

A television signal receiving unit 31 is made up of, for example, a signal processing circuit including a tuner and a decoding circuit in addition to an antenna, and receives a television signal output from the broadcast station 5, decodes a video and an audio, and sends the decoded video and audio to a display unit 32 and an audio output unit 33. The television signal receiving unit 31 includes a plurality of signal processing circuits described above or the like, and can simultaneously receive a plurality of channels.

The display unit 32 is made up of, for example, a liquid crystal panel, a plasma panel, or an organic EL (ElectroLuminescence) panel, and displays various types of video contents and various types of information.

An audio output unit 33 is made up of, for example, an amplifier and a speaker, and outputs various types of audios.

An infrared communication unit 34 receives a control command transmitted from a terminal apparatus having an infrared communication function or the dedicated remote controller 2 by using, for example, infrared rays, and transmits the instruction to the control unit 30.

A memory unit 35 is made up of a ROM, a RAM, a flash ROM, and the like, and stores an identification code of the terminal apparatus 1, which has transmitted a power supply command, in addition to a program for controlling the video display apparatus 3 and various types of setting and video contents. A storage such as an HDD (Hard

Disc Drive) or a BD (Blu-ray (registered trademark) Disc) drive may be equipped.

A LAN communication unit 36 is connected to the wireless router 6 by wire or by wireless, and can receive a video content or the like from the Internet network or the like. Also, the LAN communication unit 36 receives various types of commands from the terminal apparatus 1 via the wireless router 6 or the like by using, for example, Wi-Fi. Also, the LAN communication unit 36 transmits status information to the terminal apparatus 1. The LAN communication unit 36 may directly transit and receive the command and the status information to and from the terminal apparatus 1 without the wireless router 6 or the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth.

FIG. 4 is a flowchart illustrating a process of the terminal apparatus 1 according to the first embodiment of the present invention. This flowchart illustrates the process in the case where the terminal apparatus 1 performs the remote control of the video display apparatus 3.

In step S401, the terminal apparatus 1 waits until application software for performing the remote control of the video display apparatus 3 (hereinafter referred to as "operation application") is started based on an operation by a user.

FIGS. 5A - 5D illustrate an example of various types of display on the touch-panel display unit 22 in the terminal apparatus 1. FIG. 5A illustrates a menu screen on which various types of application software are arranged in the terminal apparatus 1. When the user presses, for example, a "television" button displayed on the touch panel, the operation application is started.

In step S402, the terminal apparatus 1 selects the video display apparatus 3 serving as a target of the remote control based

on the operation by the user. FIG. 5B illustrates an example of display on a selection screen in the case where there are two video display apparatuses 3 that can be selected as a target of the remote control. Here, it is assumed that a "television A" is selected.

When the video display apparatus 3 serving as a target of the remote control is selected, the terminal apparatus 1 displays various types of instructions that can be transmitted to the video display apparatus 3. FIG. 5C illustrates an example of display on an operation screen of the video display apparatus 3 in that case.

Next, in step S403, the terminal apparatus 1 confirms whether the user has performed an operation for ending the operation application. When the operation for ending the operation application, for example, the operation of pressing an "end" button displayed on the terminal apparatus 1 has been performed, the terminal apparatus 1 returns to a process of displaying a menu screen.

In step S404, the terminal apparatus 1 confirms whether the user has pressed a "power" button. When the "power" button displayed on the terminal apparatus 1 has been pressed, the terminal apparatus 1 transmits a power supply command and an identification code to the video display apparatus 3 (step S405), and repeats the process from step S403.

When the "power" button displayed on the terminal apparatus 1 has not been pressed, in step S406, the terminal apparatus 1 confirms whether the user has pressed a channel setting button of a remote control function. When a channel setting button such as a "1" button or a "2" button displayed on the terminal apparatus 1 has been pressed, the process proceeds to step S407, and the corresponding channel is stored in the memory unit 25.

When the "1" button has been pressed, for example, "1" is

stored in the memory unit 25. However, when "Ch+" has been then pressed, "2" is stored in the memory unit 25. When a setting command is specified by a relative value such as "Ch+" or "Ch-" like this, an absolute value such as "2" is substituted and stored.

Next, in step S408, the terminal apparatus 1 transmits a selection command and an identification code of the corresponding channel to the video display apparatus 3, and repeats the process from step S403.

When the channel setting button displayed on the terminal apparatus 1 has not been pressed, in step S409, the terminal apparatus 1 confirms whether the other button has been pressed. Examples of the other button include an audio volume setting button.

When the user has issued an instruction to change setting of the video display apparatus 3, the terminal apparatus 1 transmits a corresponding setting command and identification code to the video display apparatus 3 (step S410), and repeats the process from step S403.

When the other button displayed on the terminal apparatus 1 has not been pressed, in step S411, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 sets the channel stored in the memory unit 25 to the television signal receiving unit 31, and displays a received video on the display unit 22 and outputs an audio from the audio output unit 23 (step S412), and repeats the process from step S403.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by the terminal apparatus 1b other than the terminal apparatus 1a, which

has powered on the video display apparatus 3, has occurred, the video display apparatus 3 transmits the channel switching notification as status information to the terminal apparatus 1a.

When the terminal apparatus 1 has not received the channel switching notification, the terminal apparatus 1 repeats the process from step S403.

FIG. 6 is a flowchart illustrating a process of the video display apparatus according to the first embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by the terminal apparatus 1.

In step S601, the video display apparatus 3 waits for receiving of a power supply command. When the power supply command has been received, the process proceeds to step S602, and the video display apparatus 3 is powered on. Then, in step S603, an identification code when the power supply command has been received is stored in the memory unit 35. Here, it is assumed that an identification code of the terminal apparatus 1a has been received.

Next, in step S604, the video display apparatus 3 confirms whether the power supply command has been received again. When the power supply command has been received, the process proceeds to step S605, and the video display apparatus 3 is powered off, and the process ends.

While toggle control to repeat power on/off every time the video display apparatus 3 receives the power supply command is illustrated as an example in the present embodiment, a power-on command and a power-off command may be separated from each other.

When the video display apparatus 3 has not received the power supply command in step S604, the process proceeds to step S606, and the video display apparatus 3 confirms whether a channel setting

command has been received. When the channel setting command has been received, the process proceeds to step S607, and the command is executed as instructed.

Next, in step S608, the video display apparatus 3 confirms whether an identification code when the channel setting command has been received matches the identification code stored in the memory unit 35. When the identification codes match each other, the process from step S604 is repeated.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S609), and repeats the process from step S604.

Also, when the video display apparatus 3 has not received the channel setting command in step S606, the process proceeds to step S610, and the video display apparatus 3 confirms whether the other command has been received. When the other command has been received, the video display apparatus 3 executes the command as instructed (step S611), and repeats the process from step S604. Examples of the other command include an audio volume setting command.

When the other command has not been received, the process from step S604 is repeated.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in the above-described manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the

video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the terminal apparatus 1a has received the channel switching notification, the terminal apparatus 1a displays the video of the channel prior to the switching by the terminal apparatus 1b on the display unit 22, and outputs the audio thereof from the audio output unit 23.

Note that it is also possible to ask the user whether the start of the display of the video and the output of the audio is permitted before the display of the video and the output of the audio are started. FIG. 5D illustrates an example of display on a screen of the terminal apparatus 1 at this time. Alternatively, it is also possible to ask the user whether the display and output may be continued after they are started.

By the foregoing configuration, in the first embodiment of the present invention, when the channel of the video display apparatus set by the remote control from a terminal apparatus is switched by another terminal apparatus, a content displayed on the video display apparatus prior to the switching is displayed on the terminal apparatus. Even if a channel set by a user is switched by another user, the user can view the channel by using the terminal apparatus at hand without any particular operation. Thus, it is possible to prevent the content from being missed.

Second Embodiment

FIG. 7 is a flowchart illustrating a process of a video display apparatus according to the second embodiment of the present invention.

Since steps S701 to S707 are similar to steps S601 to S607 illustrated in FIG. 6, the description thereof is omitted.

In step S708, the video display apparatus 3 confirms whether an identification code when a channel setting command has been received matches an identification code stored in the memory unit 35. When the identification codes match each other, the video display apparatus 3 repeats the process from step S704.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S709). Next, the video display apparatus 3 stores the identification code when the channel setting command has been received in the memory unit 35 (step S712), and repeats the process from step S704. Here, it is assumed that an identification code of the terminal apparatus 1b has been received.

Since steps S710 to S711 are similar to steps S610 to S611 illustrated in FIG. 6, description thereof is omitted.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the terminal apparatus 1a receives the channel switching notification, the terminal apparatus 1a displays the video of the channel prior to the switching by the terminal apparatus 1b on the

display unit 22, and outputs an audio thereof from the audio output unit 23.

When a terminal apparatus 1c further switches the channel of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1b.

When the terminal apparatus 1b receives the channel switching notification, the terminal apparatus 1b displays the video of the channel prior to the switching by the terminal apparatus 1c on the display unit 22, and outputs an audio thereof from the audio output unit 23.

By the foregoing configuration, in the second embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Thus, when the channel of the video display apparatus set by the remote control from a terminal apparatus is switched by another terminal apparatus and the channel is further switched by still another terminal apparatus, a content displayed on the video display apparatus prior to the switching is displayed on each of the terminal apparatuses. Even if a channel set by a user is switched by another user, the user can view the channel by using the terminal apparatus at hand without any particular operation. Thus, it is possible to prevent the content from being missed.

Third Embodiment

FIG. 8 is a flowchart illustrating a process of a terminal apparatus 1 according to the third embodiment of the present invention. This flowchart illustrates the process performed when the terminal apparatus 1 performs the remote control of a video display apparatus 3.

Since steps S801 to S810 are similar to steps S401 to S410 illustrated in FIG. 4, description thereof is omitted.

In step S811, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 displays, on a display unit 22, the start of recording of the video on the channel, which the user has viewed on the video display apparatus 3 so far, into the memory unit 35 of the video display apparatus 3 (step S812), and repeats the process from step S803. FIG. 13A illustrates an example of display on a screen of the terminal apparatus 1.

The channel switching notification is transmitted from the video display apparatus 3. When channel switching by a terminal apparatus 1 other than the terminal apparatus 1, which has powered on the video display apparatus 3, has occurred, for example, the video display apparatus 3 transmits the channel switching notification as status information.

When the terminal apparatus 1 has not received the channel switching notification, it repeats the process from step S803.

FIG. 9 is a flowchart illustrating a process of the video display apparatus according to the third embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by the terminal apparatus 1.

Since steps S901 to S907 are similar to steps S601 to S607 illustrated in FIG. 6, description thereof is omitted.

In step S908, the video display apparatus 3 confirms whether an identification code when a channel setting command has been received matches an identification code stored in the memory unit

35. When the identification codes match each other, the video display apparatus 3 repeats the process from step S904.

When the identification codes do not match each other, the video display apparatus 3 transmits a channel switching notification as status information to the terminal apparatus 1a corresponding to the identification code stored in the memory unit 35 (step S909). Next, in step S912, the video display apparatus 3 stores, in the memory unit 35, the identification code and channel when the channel setting command has been received. Here, it is assumed that an identification code of the terminal apparatus 1b has been received. Next, the video display apparatus 3 sets the channel prior to the switching to a television signal receiving unit 31, records the received video and audio to the memory unit 35 (step S913), and repeats the process from step S904.

The television signal receiving unit 31 can simultaneously receive a plurality of channels by setting the plurality of channels. When the channel stored in the memory unit 35 is set in the television signal receiving unit 31, the channel setting displayed on the display unit 32 is left as it is.

Since steps S910 to S911 are similar to steps S610 to S611 illustrated in FIG. 6, description thereof is omitted.

When the terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, a channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel

switching notification is transmitted as status information to the terminal apparatus 1a.

Furthermore, the video display apparatus 3 records the content of the channel prior to the switching by the terminal apparatus 1b in the recording unit 35.

Note that it is also possible to ask the user whether the start of the recording of the content is permitted before the recording of the content is started. FIG. 13B illustrates an example of display on a screen of the terminal apparatus 1 at this time. Alternatively, it is also possible to ask the user whether the recording may be continued after it is started.

By the foregoing configuration, in the third embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, a content displayed on the video display apparatus prior to the switching is recorded in the video display apparatus. Even if the channel set by a user is switched by another user, the content can be recorded in the video display apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Fourth Embodiment

FIG. 10 is a flowchart illustrating an operation of a terminal apparatus according to the fourth embodiment of the present invention. This flowchart illustrates a process performed when the terminal apparatus 1 remotely controls a video display apparatus 3.

Since steps S1001 to S1010 are similar to steps S401 to S410 illustrated in FIG. 4, description thereof is omitted.

In step S1011, the terminal apparatus 1 confirms whether a channel switching notification has been received.

When the channel switching notification has been received, the terminal apparatus 1 sets the channel stored in the memory unit 25 to the television signal receiving unit 21, and records a received content in the memory unit 25 (step S1012), and repeats the process from step S1003.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by a terminal apparatus 1 other than the terminal apparatus 1, which has powered on the video display apparatus 3, has occurred, the video display apparatus 3 transmits the channel switching notification as status information.

When the channel switching notification has not been received, the terminal apparatus 1 repeats the process from step S1003.

When a terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and the channel switching notification is transmitted as status information to the terminal apparatus 1a.

The terminal apparatus 1a records a content of the channel prior to the switching by the terminal apparatus 1b in the memory unit 25.

Note that it is also possible to ask the user whether the start

of the recording of the content is permitted before the recording is started. Alternatively, it is also possible to ask the user whether the recording may be continued after the recording is started.

By the foregoing configuration, in the fourth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, the content displayed on the video display apparatus prior to the switching is recorded in the terminal apparatus. Even if the channel set by a user is switched by another user, the content can be recorded in the terminal apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Fifth Embodiment

FIG. 11 is a diagram illustrating a configuration of a video display system according to the fifth embodiment of the present invention. The video display system according to the present embodiment includes a plurality of terminal apparatuses 1 and a video display apparatus 3.

Since the terminal apparatuses 1, a remote controller 2, the video display apparatus 3, a broadcast station 5, a wireless router 6, and a network 7 are similar to those illustrated in FIG. 1, description thereof is omitted.

A VOD (Video On Demand) server 8 stores the same content as the content broadcasted from the broadcast station 5, and delivers the stored content to the terminal apparatus 1 and the video display apparatus 3 through the network 7.

FIG. 12 is a flowchart illustrating an operation of the

terminal apparatus according to the fifth embodiment of the present invention. This flowchart illustrates the process performed when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S1201 to S1206 are similar to steps S401 to S406 illustrated in FIG. 4, description thereof is omitted.

In step S1207, the terminal apparatus 1 stores content information of a corresponding channel in the memory unit 25.

Since steps S1208 to S1210 are similar to steps S408 to S410 illustrated in FIG. 4, description thereof is omitted.

In step S1211, the terminal apparatus 1 confirms whether a channel switching notification has been received as status information.

When the channel switching notification has been received, the terminal apparatus 1 retrieves the VOD server 8 for a content based on content information stored in the memory unit 25 (step S1212).

Next, in step S1213, the terminal apparatus 1 enters a VOD playback mode, and repeats the process from step S1203 when the VOD playback mode ends. FIG. 13C illustrates an example of display on an operation screen of the terminal apparatus 1 in the VOD playback mode. In addition to playback, fast-forward and rewind, a user can view the content from the point where the channel has been switched if the time when the channel has been switched is stored. Alternatively, the content can be viewed from the beginning or can also be viewed later.

The channel switching notification is transmitted from the video display apparatus 3. For example, when channel switching by a terminal apparatus 1 other than the terminal apparatus 1 which has switched the channel of the video display apparatus 3 has

occurred, the video display apparatus 3 transmits the channel switching notification as status information.

When the channel switching notification has not been received, the terminal apparatus 1 repeats the process from step S1203.

When a terminal apparatus 1a powers on the video display apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b then performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and the channel switching notification is transmitted as status information to the terminal apparatus 1a.

When the channel switching notification is received, the terminal apparatus 1a retrieves the VOD for a content of the channel prior to the switching by the terminal apparatus 1b.

Note that it is also possible to ask the user whether the start of the retrieval for the content is permitted before the retrieval is started. FIG. 13D illustrates an example of display on a screen of the terminal apparatus 1 at this time. For example, only when a "YES" button displayed on the screen is pressed, the terminal apparatus 1 may enter the VOD playback mode.

By the foregoing configuration, in the fourth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, a content displayed on the video display

apparatus prior to the switching can be retrieved from the VOD and displayed on the terminal apparatus. Even if the channel set by a user is switched by another user, the user can retrieve the VOD without any particular operation and can view the channel by using the terminal apparatus at hand. Thus, it is possible to prevent the content from being missed.

Sixth Embodiment

FIG. 14 is a flowchart illustrating a process of a video display apparatus according to the sixth embodiment of the present invention. This flowchart illustrates the process performed when the video display apparatus 3 is remotely controlled by a terminal apparatus 1.

Since steps S1401 to S1407 are similar to steps S601 to S607 lustrated in FIG. 6, description thereof is omitted.

Since steps S1408 to S1409 are similar to steps S908 to S909 illustrated in FIG. 9, description thereof is omitted. Since steps S1412 to S1413 are similar to steps S912 to S913 illustrated in FIG. 9, description thereof is omitted.

In step S1410, it is confirmed whether another command has been received. When the other command has been received, the process proceeds to step S1411. When the other command has not been received, the process proceeds to step S1414. Since step S1411 is similar to step S611 illustrated in FIG. 6, description thereof is omitted.

In step S1414, it is confirmed whether a content after channel switching has ended. When the content after the channel switching has ended, the process proceeds to step S1415, and the video display apparatus 3 reproduces a recorded content. When the content after the channel switching has not ended, the video display apparatus 3 repeats the process from step S1404.

When the terminal apparatus 1a powers on the video display

apparatus 3 by remote control in this manner, the video display apparatus 3 is powered on.

Next, when the terminal apparatus 1a performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed. When another terminal apparatus 1b performs channel switching of the video display apparatus 3 by remote control, the channel of the video display apparatus 3 is switched as instructed, and a channel switching notification is transmitted as status information to the terminal apparatus 1a.

Furthermore, the video display apparatus 3 records a content of the channel prior to the switching by the terminal apparatus 1b in the memory unit 35, and reproduces the content when the content of the channel after the switching ends.

By the foregoing configuration, in the sixth embodiment of the present invention, a similar effect to that in the first embodiment can be obtained.

Furthermore, when the channel of the video display apparatus set by remote control from a terminal apparatus is switched by another terminal apparatus, the content displayed on the video display apparatus prior to the switching is recorded in the video display apparatus, and the content is reproduced when the content of the channel after the switching ends. Even if a channel set by a user is switched by another user, the content is recorded and reproduced by the video display apparatus without any particular operation by the user. Thus, it is possible to prevent the content from being missed.

Seventh Embodiment

FIG. 15 is a flowchart illustrating an operation of a terminal apparatus 1 when the terminal apparatus 1 remotely controls a video

display apparatus 3.

In step S1501, the terminal apparatus 1 waits until application software for performing the remote control of the video display apparatus 3 (hereinafter referred to as "operation application") is started based on an operation by the user.

FIGS. 5A – 5D and FIG. 23 illustrate an example of various types of display on the touch-panel display unit 22 in the terminal apparatus 1. FIG. 5A illustrates a menu screen on which various types of application software are arranged in the terminal apparatus 1. When the user presses, for example, a "television" button displayed on the touch panel, the operation application is started.

In step S1502, the terminal apparatus 1 selects the video display apparatus 3 serving as a target of the remote control based on the operation by the user. FIG. 5B illustrates an example of display on a selection screen in the case where there are two video display apparatuses 3 that can be selected as a target of the remote control. Here, it is assumed that a "television A" is selected.

When the video display apparatus 3 serving as a target of the remote control is selected, the terminal apparatus 1 displays various types of instructions that can be transmitted to the video display apparatus 3. FIG. 23 illustrates an example of display on an operation screen of the video display apparatus 3 in that case.

Next, in step S1503, the terminal apparatus 1 confirms whether the user has performed an operation for ending the operation application. When the user has performed the operation for ending the operation application, for example, the operation of pressing an "end" button displayed on the terminal apparatus 1, the terminal apparatus 1 returns to a process for displaying a menu screen.

In step S1504, the terminal apparatus 1 confirms whether the user has pressed a "power" button. When the user has pressed the

"power" button displayed on the terminal apparatus 1, the terminal apparatus 1 transmits a power supply command to the video display apparatus 3 (step S1505), and repeats the process from step S1503.

When the user has not pressed the "power" button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed a "missing prevention" mode button in step S1506. When the user has pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the terminal apparatus 1 switches ON and OFF of a missing prevention mode (step S1507). When the missing prevention mode is ON, the terminal apparatus 1 turns off the missing prevention mode in step S1508, and when the missing prevention mode is OFF, the terminal apparatus 1 turns on the missing prevention mode in step S1509. Then, the process from step S1503 is repeated.

The missing prevention mode is for preventing a television program on an original channel from being missed after the end of a video of advertisement means accompanying the television program such as CM (Commercial Message, hereinafter referred to as "commercial") or announcement means such as an announcement of a program. More specifically, even if the user switches the channel after the start of the video of the advertisement means or the announcement means, the channel is switched to the original channel at the timing of the end of the video. Thus, for example, even if the user is viewing a television program on a channel A and switches the channel A to a channel B or a channel C after the television program is switched to a commercial, the display on the video display apparatus 3 is switched to the channel A at the timing at which the commercial on the channel A ends and is switched to the television program.

When the user has not pressed the "missing prevention" mode

button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed a channel selection button of a remote control function in step S1510. When the user has pressed a channel selection button such as a "1" button or a "2" button displayed on the terminal apparatus 1, the process proceeds to step S1511, and a selection command of a corresponding channel is transmitted to the video display apparatus 3 and the process from step S1503 is repeated.

When the user has not pressed the channel selection button displayed on the terminal apparatus 1, the terminal apparatus 1 confirms whether the user has pressed the other button in step S1512. Examples of other setting changes include switching of an audio volume.

When the user has issued an instruction to change setting of the video display apparatus 3, the terminal apparatus 1 transmits a corresponding setting command to the video display apparatus 3 (step S1513), and the process from step S1503 is repeated.

FIG. 16 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When the missing prevention mode of the terminal apparatus 1 is ON in step S1600, the process proceeds to step S1601, and when the missing prevention mode is OFF, the process ends.

In step S1601, the terminal apparatus 1 waits for an elapse of a predetermined period of time, e.g., five minutes during which the user does not change a channel and there is no commercial switching, and the terminal apparatus 1 stores the channel in the memory unit 25 in step S1602. The commercial switching mentioned here means switching from a television program to a commercial and switching from a commercial to a television program. Generally, there is a point in which an audio is silent between a television

program and a commercial, and the timing at which the commercial switching occurs can be detected when a television signal is received by a television signal receiving unit 21 and a scene change where an audio is silent is detected.

Next, in step S1603, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by using the television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while waiting for the occurrence of the commercial switching (step S1604), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1605), and repeats the process from step S1601.

Through steps S1601 to S1605, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S1606).

Next, in step S1607, the terminal apparatus 1 receives the television signal of the channel stored in the memory unit 25 by the television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed the channel selection button of a remote control function while waiting for the occurrence of the commercial switching (step S1608), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1609).

Also when the channel of the video display apparatus 3 is switched in step S1609, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the memory unit 25 in step S1607.

Through steps S1607 to S1609, the terminal apparatus 1 detects

the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S1610).

Next, in step S1611, the terminal apparatus 1 transmits the selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S1600. When the channel selection button of a remote control function has not been pressed in step S1608, the terminal apparatus 1 does not have to transmit the selection command of the channel stored in the memory unit 25 to the video display apparatus 3.

FIG. 17 is a flowchart illustrating an operation of the video display apparatus 3.

In step S1701, the video display apparatus 3 waits for receiving of a power supply command. When the power supply command has been received, the video display apparatus 3 is powered on (step S1702).

Next, in step S1703, it is confirmed whether the video display apparatus 3 has received the power supply command again. When the power supply command has been received, the video display apparatus 3 is powered off (step S1704). When the power supply command has not been received, the video display apparatus 3 confirms whether a channel selection command has been received in step S1705. When the channel selection command has been received, the video display apparatus 3 executes the channel selection command as instructed (step S1706), and repeats the process from step S1703.

When the channel selection command has not been received, the video display apparatus 3 confirms whether another command has been received in step S1707. When the other command has been received, the video display apparatus 3 executes the command as instructed (step S1708), and repeats the process from step S1703.

By the foregoing configuration, in the seventh embodiment of

the present invention, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, and transmits a selection command of the channel to the video display apparatus 3 in response to a commercial end timing.

Even if the user switches a channel during a commercial, the channel returns to the channel prior to the switching when the commercial ends. Thus, it is possible to prevent a television program on the channel, which has been being viewed by the user, from being missed.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect a commercial end timing and switch the channel to a corresponding channel.

Alternatively, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Eighth Embodiment

Next, the eighth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below, and description of common points is omitted as much as possible in order to avoid an overlap of the description.

FIG. 18 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S1800, the process proceeds to step S1801, and when the missing prevention mode is OFF, the process ends.

When a user has not changed a channel for a predetermined period of time, e.g., five minutes in step S1801, the terminal apparatus 1 stores the channel in the memory unit 25 in step S1802.

Next, in step S1803, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S1804), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S1805), and repeats the process from step S1801.

Through steps S1801 to S1805, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start or end timing has come (step S1806).

Next, in step S1807, the terminal apparatus 1 transmits the selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S1800.

By the foregoing configuration, in the eighth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, since the terminal apparatus 1 stores the channel when the user does not change the channel for a predetermined period of time, and transmits a selection command of the channel to the video display apparatus 3 at the timing of start and end of the

commercial, it is not necessary to distinguish the start and the end of the commercial, and the missing prevention process can be simplified.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may switch the channel to the corresponding channel at the timing of start or end of the commercial.

Alternatively, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel at the timing of start or end of the commercial, the user may be notified of the start or end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Ninth Embodiment

Next, the ninth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are also similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 19 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S1900, the process proceeds to step S1901, and when the missing prevention mode is OFF, the process ends.

Since steps S1901 to S1905 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S1901 to S1905, the terminal apparatus 1 detects commercial switching after an elapse of a predetermined period of time without

the channel change by the user, and determines that a commercial start timing has come (step S1906).

Next, in step S1907, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S1908), the terminal apparatus 1 transmits a two-screen display start command to the video display apparatus 3 (step S1909), and transmits a selection command of a corresponding channel for an added screen to the video display apparatus 3 (step S1910). When the user has pressed the channel selection button of a remote control function again while the terminal apparatus 1 waits for the occurrence of the commercial switching, the terminal apparatus 1 does not have to transmit the two-screen display start command in step S1909.

Also when a channel of the video display apparatus 3 has been switched in step S1909, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the memory unit 25 in step S1907.

Through steps S1907 to S1910, the terminal apparatus 1 detects the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S1911).

Next, in step S1912, the terminal apparatus 1 transmits a two-screen display end command to the video display apparatus 3, and repeats the process from step S1900. The screen added later is erased when the two-screen display ends. The two-screen display end command does not have to be transmitted when the screen has not been switched to the two-screen display.

By the foregoing configuration, in the ninth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, and when the channel selection button is pressed during the commercial, the terminal apparatus 1 switches the video display apparatus 3 to the two-screen display and displays the channel on the added screen. Then, the terminal apparatus 1 ends the two-screen display in response to the timing of the end of the commercial.

Since the video on the original channel can be confirmed by the two-screen display even when the channel is switched, the user can switch the channel without worrying about missing a television program.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may start and end the two-screen display.

Also, since the user can confirm both of the video on the original channel and the video on the channel after the switching by the two-screen display, the user himself/herself may operate the terminal apparatus 1 to end the two-screen display instead of the configuration in which the terminal apparatus 1 ends the two-screen display in response to the timing of the end of the commercial.

Tenth Embodiment

Next, the tenth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described

below.

FIG. 20 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2000, the process proceeds to step S2001, and when the missing prevention mode is OFF, the process ends.

Since steps S2001 to S2005 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2001 to S2005, the terminal apparatus 1 detects commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2006).

Next, in step S2007, the terminal apparatus 1 receives a television signal of the channel stored in the memory unit 25 by a television signal receiving unit 21, and waits for the occurrence of the commercial switching. When the user has pressed a channel selection button of a remote control function while the terminal apparatus 1 waits for the occurrence of the commercial switching (step S2008), the terminal apparatus 1 transmits a selection command of a corresponding channel to the video display apparatus 3 (step S2009), and displays a video on the channel stored in the memory unit 25 in the terminal apparatus 1 on the display unit 22 (step S2010).

Also when a channel of the video display apparatus 3 has been switched in step S2009, the terminal apparatus 1 waits for the occurrence of the commercial switching of the channel stored in the memory unit 25 in step S2007.

Through steps S2007 to S2010, the terminal apparatus 1 detects the commercial switching after determining the commercial start timing, and determines that a commercial end timing has come (step

S2011).

Next, in step S2012, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S2000.

By the foregoing configuration, in the tenth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the terminal apparatus 1 stores the channel when the user does not change a channel for a predetermined period of time, switches the channel of the video display apparatus 3 when a channel selection button is pressed during a commercial, and displays a video on the original channel on the screen of the terminal apparatus 1. Then, the terminal apparatus 1 returns the channel of the video display apparatus 3 to the original channel in response to the commercial end timing.

Since the video on the original channel can be confirmed by the terminal apparatus 1 even when the channel has been switched, the user can switch the channel without worrying about missing a television program.

The video display apparatus 3 as well as the terminal apparatus 1 may also store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing to switch the channel to a corresponding channel.

Also, since the user can confirm the video on the original channel by the terminal apparatus 1, the user himself/herself may operate the terminal apparatus 1 to end the two-screen display instead of the configuration in which the terminal apparatus 1 ends the two-screen display in response to the commercial end timing.

Eleventh Embodiment

Next, the eleventh embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 21 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2100, the process proceeds to step S2101, and when the missing prevention mode is OFF, the process ends.

Since steps S2101 to S2105 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2101 to S2105, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2106).

Since steps S2107 to S2109 are similar to steps S1607 to S1609 illustrated in FIG. 16, description thereof is omitted.

Through steps S2107 to S2109, the terminal apparatus 1 detects the commercial switching after the start of the commercial, and determines that a commercial end timing has come (step S2110).

Next, in step S2112, the process is changed depending on whether a program on an original channel has ended. When the program has not ended, the process proceeds to step S2111, and the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3 and repeats the process from step S2100. When the program has ended, the process does not proceed to step S2111, and the process from step S2100 is

repeated.

By the foregoing configuration, in the eleventh embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, since the terminal apparatus 1 does not return the channel to the original channel when the program has ended, the terminal apparatus 1 does not erroneously switch the channel which the user wishes to view next.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel to a corresponding channel.

Twelfth Embodiment

Next, the twelfth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 22 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When a missing prevention mode of the terminal apparatus 1 is ON in step S2200, the process proceeds to step S2201, and when the missing prevention mode is OFF, the process ends.

Since steps S2201 to S2202 are similar to steps S1601 to S1602 illustrated in FIG. 16, description thereof is omitted.

Next, in step S2212, the process is changed depending on whether the channel has a commercial. When the channel has a commercial, the process proceeds to step S2203, and when the channel

has no commercial, the process does not proceed to step S2203 and the process from step S2200 is repeated. For example, whether or not the channel has a commercial can be determined by storing a list of channels having no commercial in the memory unit 25 in advance and comparing the list of channels with the channel stored in step S2202.

Since steps S2203 to S2205 are similar to steps S1603 to S1605 illustrated in FIG. 16, description thereof is omitted.

Through steps S2201 to S2205 and step S2212, the terminal apparatus 1 detects the commercial switching in the channel having a commercial after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2206).

Since steps S2201 to S2205 are similar to steps S1601 to S1605 illustrated in FIG. 16, description thereof is omitted. Through steps S2201 to S2205, the terminal apparatus 1 detects the commercial switching after an elapse of a predetermined period of time without the channel change by the user, and determines that a commercial start timing has come (step S2206).

Since steps S2207 to S2209 are similar to steps S1607 to S1609 illustrated in FIG. 16, description thereof is omitted.

Through steps S2207 to S2209, the terminal apparatus 1 detects the commercial switching after the start of a commercial, and determines that a commercial end timing has come (step S2210).

Next, in step S2211, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to the video display apparatus 3, and repeats the process from step S2200.

By the foregoing configuration, in the twelfth embodiment of the present invention, a similar effect to that in the seventh

embodiment can be obtained.

Furthermore, since the terminal apparatus 1 does not perform the missing prevention process for the channel having no commercial, the missing prevention process is not erroneously performed when the channel is switched to the channel having no commercial. Since there is a scene change where an audio is silent even on the channel having no commercial, there is the possibility that the terminal apparatus 1 determines that the commercial switching has occurred, but it is possible to prevent this.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel when the channel is not changed for a predetermined period of time, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel to a corresponding channel.

Also, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user himself/herself may operate the terminal apparatus 1 to switch the channel.

Thirteenth Embodiment

Next, the thirteenth embodiment of the present invention will be described below. A configuration, an effect, and the like in the present embodiment are similar to those in the seventh embodiment unless otherwise noted. Thus, a difference between the present embodiment and the seventh embodiment will be mainly described below.

FIG. 24 is a flowchart illustrating an operation of the terminal apparatus 1 when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S2401 to S2409 are similar to steps S1501 to S1509 illustrated in FIG. 15, description thereof is omitted.

In step S2410, the terminal apparatus 1 confirms whether a user has pressed a channel selection button of a remote control function. When the user has pressed a channel selection button such as a "1" button or a "2" button displayed on the terminal apparatus 1, the process proceeds to step S2411. Since step S2411 is similar to step S1511 illustrated in FIG. 15, description thereof is omitted.

Next, in step S2414, the process is changed depending on whether the terminal apparatus 1 has received a status indicating that there is no channel selection authority. Only when the status has been received, the process proceeds to step S2415, and a video on a corresponding channel is displayed on the display unit 22 in the terminal apparatus 1. Then, the process from step S2403 is repeated. The status indicating that there is no channel selection authority is sent from the video display apparatus 3 when there is no channel selection authority.

When the user has not pressed the channel selection button of a remote control function displayed on the terminal apparatus 1 in step S2410, the process proceeds to step S2412. Since steps S2412 to S2413 are similar to steps S1512 to S1513 illustrated in FIG. 15, description thereof is omitted.

Thus, when there is no channel selection authority of the video display apparatus 3, the video on the corresponding channel is displayed on the terminal apparatus 1.

FIG. 25 is a flowchart illustrating an operation of the video display apparatus 3.

In step S2501, the video display apparatus 3 waits for receiving of a power supply command. When the power supply command has been received, the video display apparatus 3 is powered on (step

S2502), and stores, in the memory unit 35, information indicating which of terminal apparatuses 1 has transmitted the power supply command, namely, an identification code which has been transmitted together with the power supply command (step S2509). Here, it is assumed that the terminal apparatus 1a has transmitted the power supply command.

An IP (Internet Protocol) address, an ID (Identification) individually assigned to the terminal apparatus 1, a telephone number and the like are applicable to the identification code. Generally, since it is assumed that one user possesses one terminal apparatus 1, a user ID given to each user by a manufacturer of the terminal apparatus 1 may be applied. In this case, the user ID is previously stored in the terminal apparatus 1 based on an operation by the user or the like.

Since steps S2503 to S2504 are similar to steps S1703 to S1704 illustrated in FIG. 17, description thereof is omitted.

Next, in step S2505, the video display apparatus 3 confirms whether a channel selection command has been received. When the channel selection command has been received, the video display apparatus 3 confirms whether the channel selection command is a setting command from a specific terminal apparatus 1, namely, the terminal apparatus 1 that has issued an instruction to turn on power (step S2510). When the channel selection command is the setting command from the terminal apparatus 1 that has issued the instruction to turn on power, the video display apparatus 3 executes the channel selection command as instructed (step S2506), and repeats the process from step S2503.

When the channel selection command is not the setting command from the terminal apparatus 1 that has issued the instruction to turn on power in step S2510, the video display apparatus 3 confirms

whether a channel being displayed is during a commercial (step S2511). When the channel is during the commercial, the video display apparatus 3 executes the command as instructed (step S2506), and repeats the process from step S2503. When the channel is not during the commercial, the video display apparatus 3 sends status information indicating that there is no channel selection authority to the corresponding terminal apparatus 1 (step S2512), and then repeats the process from step S2503. Whether the channel is during the commercial may be transmitted from the terminal apparatus 1 in addition to being determined by the video display apparatus 3.

Since steps S2507 to S2508 are similar to steps S1707 to S1708 illustrated in FIG. 17, description thereof is omitted.

Thus, selection of the channel of the video display apparatus 3 can be performed only when it is instructed from the terminal apparatus 1a that has powered on the video display apparatus 3 during a television program, and can be performed also when it is instructed from the terminal apparatus 1b in addition to the terminal apparatus 1a during a commercial. Also, an operation other than the selection of the channel can be performed from both of the terminal apparatus 1a and the terminal apparatus 1b.

By the foregoing configuration, in the thirteenth embodiment of the present invention, a similar effect to that in the seventh embodiment can be obtained.

Furthermore, the selection of the channel of the video display apparatus 3 can be performed only when it is instructed from the terminal apparatus 1a that has powered on the video display apparatus 3 during a television program, and a video is displayed on the terminal apparatus 1b when it is instructed from the terminal apparatus 1b. In addition, during the commercial, the channel selection can be performed also when it is instructed from the

terminal apparatus 1b in addition to the terminal apparatus 1a.

Fourteenth Embodiment

FIG. 26 is a flowchart illustrating an operation of the terminal apparatus 1 when the terminal apparatus 1 remotely controls the video display apparatus 3.

Since steps S2601 to S2605 are similar to steps S1501 to S1505 illustrated in FIG. 15, description thereof is omitted.

In step S2606, the terminal apparatus 1 confirms whether a user has pressed a "missing prevention" mode button. When the user has pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the terminal apparatus 1 turns on a missing prevention mode, and repeats the process from step S2603.

When the user has not pressed the "missing prevention" mode button displayed on the terminal apparatus 1, the process proceeds to step S2610. Since steps S2610 to S2613 are similar to steps S1510 to S1513 illustrated in FIG. 15, description thereof is omitted.

FIG. 27 is a flowchart illustrating a missing prevention process of the terminal apparatus 1.

When the missing prevention mode of the terminal apparatus 1 is ON in step S2700, the process proceeds to step S2701, and when the missing prevention mode is OFF, the process ends.

In step S2701, the terminal apparatus 1 stores a channel previously set by the user.

Since steps S2707 to S2710 are similar to steps S1507 to S1510 illustrated in FIG. 15, description thereof is omitted. Through steps S2707 to S2709, the terminal apparatus 1 detects commercial switching after the start of a commercial, and determines that a commercial end timing has come (step S2710).

Next, in step S2711, the terminal apparatus 1 transmits a selection command of the channel stored in the memory unit 25 to

the video display apparatus 3, and turns off the missing prevention mode in step S2712. When the channel selection button of a remote control function has not been pressed in step S2708, the selection command of the channel stored in the memory unit 25 does not have to be transmitted to the video display apparatus 3.

By the foregoing configuration, in the fourteenth embodiment of the present invention, the terminal apparatus 1 stores the channel which is being viewed when the user has pressed the "missing prevention" mode button, and transmits the selection command of the channel to the video display apparatus 3 in response to the timing of the end of the commercial.

If the user has pressed the "channel" button after pressing the "missing prevention" mode button during the commercial, the channel returns to the channel prior to the switching at the end of the commercial even when the user switches the channel during the commercial. Thus, it is possible to prevent the television program on the channel which has been being viewed by the user from being missed.

Furthermore, when the "missing prevention" mode button is pressed during the commercial, a missing prevention mode is entered, and the missing prevention mode is canceled when the commercial ends. Therefore, the power consumption of the terminal apparatus 1 can be suppressed.

Instead of the terminal apparatus 1, the video display apparatus 3 may store the channel, and the video display apparatus 3 itself may detect the commercial end timing and switch the channel.

Also, instead of the configuration in which the terminal apparatus 1 or the video display apparatus 3 switches the channel in response to the commercial end timing, the user may be notified of the end of the commercial by a video or an audio, and the user

himself/herself may operate the terminal apparatus 1 to switch the channel.

Note that the embodiments above have been described in detail so as to make the present invention easily understood, and the present invention is not limited to the embodiment having all of the described constituent elements. Also, a part of the configuration of one embodiment may be replaced with the configuration of another embodiment, and the configuration of one embodiment may be added to the configuration of another embodiment. Furthermore, another configuration may be added to a part of the configuration of each embodiment, and a part of the configuration of each embodiment may be eliminated or replaced with another configuration.

Some or all of the above-mentioned configurations, functions, processing units, and processing means may be implemented by hardware by designing them with integrated circuits or the like. Also, the above-mentioned configurations and functions may be implemented by software by interpreting and executing programs for implementing the respective functions by processors. Information such as a program, a table, a file, and the like for implementing each of the functions can be placed in a recording device such as a memory, a hard disk, or an SSD (Solid State Drive) or a recording medium such as an IC card or an SD card.

Control lines and information lines, which are considered to be necessary in description, are illustrated, and all control lines and information lines in products are not necessarily illustrated. In practice, it is right to think that almost all configurations are connected to one another.

**REFERENCE SIGNS LIST**

1... TERMINAL APPARATUS, 2... REMOTE CONTROLLER, 3... VIDEO DISPLAY

APPARATUS, 5… BROADCAST STATION, 6… WIRELESS ROUTER, 7… NETWORK, 20… CONTROL UNIT, 21… TELEVISION SIGNAL RECEIVING UNIT, 22… DISPLAY UNIT, 23… AUDIO OUTPUT UNIT, 24… OPERATION UNIT, 25… MEMORY UNIT, 26… LAN COMMUNICATION UNIT, 30… CONTROL UNIT, 31… TELEVISION SIGNAL RECEIVING UNIT, 32… DISPLAY UNIT, 33… AUDIO OUTPUT UNIT, 34… INFRARED COMMUNICATION UNIT, 35… MEMORY UNIT, 36… LAN COMMUNICATION UNIT

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 32442089 |
| **Application Number:** | 15889735 |
| **International Application Number:** | |
| **Confirmation Number:** | 3694 |
| **Title of Invention:** | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS |
| **First Named Inventor/Applicant Name:** | Masayuki HIRABAYASHI |
| **Customer Number:** | 20277 |
| **Filer:** | Tomoki Tanida/Marcus Cunningham |
| **Filer Authorized By:** | Tomoki Tanida |
| **Attorney Docket Number:** | 075425-0061 |
| **Receipt Date:** | 25-APR-2018 |
| **Filing Date:** | 06-FEB-2018 |
| **Time Stamp:** | 14:57:20 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

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| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Applicant Response to Pre-Exam Formalities Notice | Response_to_NTFCAP.pdf | 34214<br>1c9f9a9ccb78d9415be827a5f308faceee6db3d9 | no | 1 |

**Warnings:**

| | | | | | |
|---|---|---|---|---|---|
| **Information:** | | | | | |
| 2 | Drawings-only black and white line drawings | Replacement_Figs.pdf | 44431<br>7a81ed4dd2c3f6b384a20f835372d1392dd1e732 | no | 4 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Specification | Marrked_up_Spec.pdf | 1766501<br>6ba325df1884d6ae69a6505e16a000ea9b33aca1 | no | 51 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Specification | Clean_Spec.pdf | 1758506<br>a52a6c54c8a9e2ec38509949293cce055f58daa8 | no | 51 |
| **Warnings:** | | | | | |
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**<u>New Applications Under 35 U.S.C. 111</u>**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**<u>National Stage of an International Application under 35 U.S.C. 371</u>**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**<u>New International Application Filed with the USPTO as a Receiving Office</u>**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/889,735

### APPLICATION AS FILED - PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY FEE($) |
|---|---|---|---|---|---|---|---|
| BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | | | N/A | 300 |
| SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | | | N/A | 660 |
| EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | | | N/A | 760 |
| TOTAL CLAIMS (37 CFR 1.16(i)) | 4 minus 20 = | * | | | OR | x 100 = | 0.00 |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | 4 minus 3 = | * 1 | | | | x 460 = | 460 |
| APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | | | | 0.00 |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | | | | 0.00 |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | | | TOTAL | 2180 |

### APPLICATION AS AMENDED - PART II

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT A | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT B | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 15/889,735 | 02/06/2018 | Masayuki HIRABAYASHI | 075425-0061 |

**CONFIRMATION NO. 3694**

20277
MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

**FORMALITIES LETTER**

*OC000000097815955*

Date Mailed: 03/07/2018

# NOTICE TO FILE CORRECTED APPLICATION PAPERS

***Filing Date Granted***

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - More than one figure is present and each figure is not labeled "Fig." with a consecutive Arabic numeral (1, 2, etc.) or an Arabic numeral and capital letter in the English alphabet (A, B, etc.)(see 37 CFR 1.84(u)(1)). See Figure(s) 5a, 5b, 5c, 5d, 13a, 13b, 13c,13d. A brief description of the several views of the drawings (see 37 CFR 1.74) should be added or amended to correspond to the corrected numbering of the figures. See also 37 CFR 1.77(b)(9).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.



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Page 501 of 621

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

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/fasrat/



Exhibit 1002
TCL v. Maxell - IPR2025-00120
Page 502 of 621

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| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 15/889,735 | 02/06/2018 | 2425 | 2180 | 075425-0061 | 4 | 4 |

**CONFIRMATION NO. 3694**

20277
MCDERMOTT WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
WASHINGTON, DC 20001

**FILING RECEIPT**

OC000000097815954

Date Mailed: 03/07/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Masayuki HIRABAYASHI, Ibaraki, JAPAN;

**Applicant(s)**

Hitachi Maxell, Ltd., Osaka, JAPAN;

**Assignment For Published Patent Application**

Hitachi Maxell, Ltd., Osaka, JP
Hitachi Maxell, Ltd., Osaka, JP

**Power of Attorney:** The patent practitioners associated with Customer Number 20277

**Domestic Priority data as claimed by applicant**

This application is a CON of 14/649,895 06/04/2015 PAT 9924124
which is a 371 of PCT/JP2013/079953 11/06/2013

**Foreign Applications** (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
JAPAN 2012-267765 12/07/2012 No Access Code Provided

**Permission to Access Application via Priority Document Exchange:** Yes

**Permission to Access Search Results:** Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 03/05/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/889,735**

**Projected Publication Date:** To Be Determined - pending completion of Corrected Papers

**Non-Publication Request:** No

**Early Publication Request:** No

**Title**

VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS

**Preliminary Class**

725

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



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## Title 35, United States Code, Section 184

## Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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PTO/AIA/15 (10-17)
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# UTILITY PATENT APPLICATION TRANSMITTAL

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

| | |
|---|---|
| *Attorney Docket No.* | 075425-0061 |
| *First Named Inventor* | Masayuki HIRABAYASHI |
| *Title* | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS |
| *Priority Mail Express® Label No.* | |

## APPLICATION ELEMENTS

*See MPEP chapter 600 concerning utility patent application contents.*

1. [ ] **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. [ ] **Applicant asserts small entity status.** See 37 CFR 1.27
3. [ ] **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. [X] **Specification** [*Total Pages* 54 ]
   Both the claims and abstract must start on a new page.
   *(See MPEP § 608.01(a) for information on the preferred arrangement)*
5. [X] **Drawing(s)** (35 U.S.C. 113) [*Total Sheets* 29 ]
6. **Inventor's Oath or Declaration** [*Total Pages* 1 ]
   *(including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))*
   a. [ ] Newly executed (original or copy)
   b. [X] A copy from a prior application (37 CFR 1.63(d))
7. [X] **Application Data Sheet** ** See note below.*
   See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R** in duplicate, large table, or Computer Program (*Appendix*)
   [ ] Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission** (*if applicable, items a. – c. are required*)
   a. [ ] Computer Readable Form (CRF)
   b. [ ] Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] Paper
   c. [ ] Statements verifying identity of above copies

*ADDRESS TO:*
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, VA 22313-1450**

## ACCOMPANYING APPLICATION PAPERS

10. [ ] **Assignment Papers** (cover sheet & document(s))
    Name of Assignee: HITACHI MAXELL, LTD.
11. [ ] **37 CFR 3.73(c) Statement** (*when there is an assignee*) [X] **Power of Attorney**
12. [ ] **English Translation Document** (*if applicable*)
13. [X] **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    [ ] Copies of citations attached
14. [ ] **Preliminary Amendment**
15. [ ] **Return Receipt Postcard** (*MPEP § 503*) (*Should be specifically itemized*)
16. [ ] **Certified Copy of Priority Document(s)** (*if foreign priority is claimed*)
17. [ ] **Nonpublication Request** Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
18. [ ] **Other:**

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

## 19. CORRESPONDENCE ADDRESS

[X] The address associated with Customer Number: 20277 **OR** [ ] Correspondence address below

| | | | | | |
|---|---|---|---|---|---|
| Name | | | | | |
| Address | | | | | |
| City | | State | | Zip Code | |
| Country | | Telephone | | Email | |

| | | | |
|---|---|---|---|
| Signature | /Tomoki Tanida/ | Date | February 6, 2018 |
| Name (Print/Type) | Tomoki Tanida | Registration No. (Attorney/Agent) | 60,453 |

PTO/SB/17 (03-13)
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# FEE TRANSMITTAL

| | Complete if known |
|---|---|
| Application Number | Not Yet Assigned |
| Filing Date | Concurrently Herewith |
| First Named Inventor | Masayuki HIRABAYASHI |
| Examiner Name | Not Yet Assigned |
| Art Unit | N/A |
| Practitioner Docket No. | 075425-0061 |

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

TOTAL AMOUNT OF PAYMENT ($) 5860.00

**METHOD OF PAYMENT** (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 50-0417 Deposit Account Name: McDermott Will & Emery LLP

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayment of fee(s)

**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**FEE CALCULATION**

**1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)**

| | FILING FEES | | | SEARCH FEES | | | EXAMINATION FEES | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Application Type** | **U ($)** | **S ($)** | **M ($)** | **U ($)** | **S ($)** | **M ($)** | **U ($)** | **S ($)** | **M ($)** | **Fees Paid ($)** |
| Utility | 300 | 140* | 70 | 660 | 300 | 150 | 760 | 360 | 180 | 1,720.00 |
| Design | 180 | 90 | 45 | 120 | 60 | 30 | 460 | 230 | 115 | |
| Plant | 180 | 90 | 45 | 380 | 190 | 95 | 580 | 290 | 145 | |
| Reissue | 280 | 140 | 70 | 600 | 300 | 150 | 2,160 | 1,080 | 540 | |
| Provisional | 260 | 130 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | |

* The $140 small entity status filing fee for a utility application is further reduced to $70 for a small entity status applicant who files the application via EFS-Web.

**2. EXCESS CLAIM FEES**

| **Fee Description** | **Undiscounted Fee ($)** | **Small Entity Fee ($)** | **Micro Entity Fee ($)** |
|---|---|---|---|
| Each claim over 20 (including Reissues) | 80 | 40 | 20 |
| Each independent claim over 3 (including Reissues) | 420 | 210 | 105 |
| Multiple dependent claims | 780 | 390 | 195 |

| **Total Claims** | | **Extra Claims** | | **Fee ($)** | | **Fee Paid ($)** |
|---|---|---|---|---|---|---|
| 4 | - 20 or HP = | | x | | = | |

HP = highest number of total claims paid for, if greater than 20.

| **Indep. Claims** | | **Extra Claims** | | **Fee ($)** | | **Fee Paid ($)** |
|---|---|---|---|---|---|---|
| 4 | - 4 or HP = | | x | | = | |

HP = highest number of independent claims paid for, if greater than 3.

| **Multiple Dependent Claims** | **Fee ($)** | **Fee Paid ($)** |
|---|---|---|
| | | |

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $400 ($200 for small entity) ($100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

| **Total Sheets** | | **Extra Sheets** | | **Number of each additional 50 or fraction thereof** | | **Fee ($)** | | **Fee Paid ($)** |
|---|---|---|---|---|---|---|---|---|
| | - 100 = | | /50 = | | (round **up** to a whole number) x | | = | |

**4. OTHER FEE(S)**

| | **Fees Paid ($)** |
|---|---|
| Non-English specification, $130 fee (no small or micro entity discount) | |
| **Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, $400 fee ($200 small or micro entity)** | |
| Other (e.g., late filing surcharge): 1817 - Request for prioritized examination | $4000.00 |
| 1830 - Processing Fee | $140.00 |

**SUBMITTED BY**

| | | | | | |
|---|---|---|---|---|---|
| Signature | /Tomoki Tanida/ | Registration No. (Attorney/Agent) | 60,453 | Telephone | (202) 756-8196 |
| Name (Print/Type) | Tomoki Tanida | | | Date | February 6, 2018 |

PTO/AIA/14 (11-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | 075425-0061 |
|---|---|---|
| | Application Number | |
| Title of Invention | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS | |

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

## Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

## Inventor Information:

**Inventor** 1 — Remove

**Legal Name**

| Prefix | Given Name | Middle Name | Family Name | Suffix |
|---|---|---|---|---|
| | Masayuki | | HIRABAYASHI | |

**Residence Information (Select One)** US Residency ● Non US Residency Active US Military Service

| City | Ibaraki | Country of Residence i | JP |
|---|---|---|---|

**Mailing Address of Inventor:**

| | |
|---|---|
| **Address 1** | c/o Hitachi Maxell, Ltd. |
| **Address 2** | 1-88, Ushitora 1-chome, Ibaraki-shi |

| City | Osaka | State/Province | |
|---|---|---|---|
| **Postal Code** | 567-8567 | **Country** i | JP |

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

## Correspondence Information:

**Enter either Customer Number or complete the Correspondence Information section below.**
**For further information see 37 CFR 1.33(a).**

☐ **An Address is being provided for the correspondence Information of this application.**

| | | | |
|---|---|---|---|
| **Customer Number** | 20277 | | |
| **Email Address** | ipdocketmwe@mwe.com | Add Email | Remove Email |

## Application Information:

| | | | |
|---|---|---|---|
| **Title of the Invention** | VIDEO DISPLAY APPARATUS AND TERMINAL APPARATUS | | |
| **Attorney Docket Number** | 075425-0061 | **Small Entity Status Claimed** | ☐ |
| **Application Type** | Nonprovisional | | |
| **Subject Matter** | Utility | | |
| **Total Number of Drawing Sheets (if any)** | 29 | **Suggested Figure for Publication (if any)** | |