

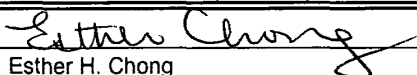
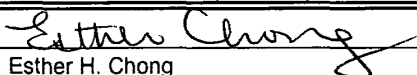
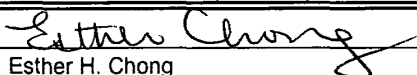
EXHIBIT 1002

17712 U.S. PTO
041807

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11/785524
04/18/2007

PTO/SB/05 (07-06)
Approved for use through 01/31/2007. OMB 0651-0032
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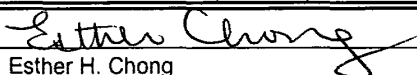
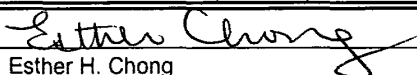
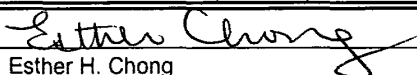
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4. OTHER FEE(S) Non-English Specification, \$130 fee (no small entity discount) Other (e.g., late filing surcharge): _____																																																									
SUBMITTED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Signature</td> <td><i>Esther Chong</i></td> <td>Registration No. (Attorney/Agent)</td> <td>40,953</td> <td>Telephone</td> <td>(703) 205-8000</td> </tr> <tr> <td>Name (Print/Type)</td> <td>Esther H. Chong</td> <td>Date</td> <td colspan="3">APR 18 2007</td> </tr> </table>				Signature	<i>Esther Chong</i>	Registration No. (Attorney/Agent)	40,953	Telephone	(703) 205-8000	Name (Print/Type)	Esther H. Chong	Date	APR 18 2007																																												
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Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461

IMAGE DISPLAY DEVICE IN DIGITAL TV

BACKGROUND OF THE INVENTION

Field of the Invention

[01] The present invention relates to an image display device, and more particularly, to an image display device in a digital TV that is capable of converting into various kinds of resolution by using single bit map data in the digital TV.

Background of the Related Art

[02] Due to a rapid development of information communication, many people believe that a digital revolution is taking place. As the technologies on electricity, electron, computer and communication are being rapidly developed, the pattern in storing the information on image, audio and multimedia made by the collection of information of various shapes has been changed from an analog pattern to a digital pattern.

[03] Particularly, with the development of an MPEG (Moving Picture Experts Group) technology as a compression standard for moving picture data requiring a relatively large amount of data, the digital image data is gradually being decreased in size.

[04] The MPEG technology is applied in the fields such as computers, broadcasting, electric appliances, communication and the like, thereby providing digital video and audio service. So

as to provide such the digital video and audio service, digital equipment is proposed.

[05] Among the digital equipments, a TV is one of the important media for easily and effectively providing information in everyday life.

[06] Based upon such the digital technology, a digital TV compresses video data and audio data with the MPEG technology and transmits the resulting data, such that a great amount of information data can be provided in faster and stable manners. Thereby, the digital TV can have a large number of broadcasting channels that provide an improved quality of image and sound to a user.

[07] Therefore, the digital TV can increase data capacity by 4 to 8 times when compared with the existing analogy TV, thereby allowing more services covering various fields such as sports, movie, home shopping, music and so on.

[08] At present, the digital TV has provided the image service covering cable broadcasting, video on demand (VOD) and the like, in addition to public waves.

[09] Also, a TV viewer selects a desired service in accordance with his own preference, thereby enjoying a free channel selection. Moreover, the viewer can select his desired broadcasting from numerous channels provided on the digital TV.

[10] As noted above, the digital TV has various additional functions for the purpose of fulfilling various preferences of the viewers and thus providing much convenience to them.

[11] In case of an output device of a setop box for a digital TV, generally, when predetermined information is provided to a user or when set contents and functions of the TV are changed, that is, when the set contents such as input set, display set, audio set, etc. are changed, the output device adopts a changing method using an on-screen display (OSD) where the set contents to be changed are displayed on the screen of TV.

[12] Moreover, the image display device is applicable to data broadcasting in the digital TV.

[13] The data broadcasting is carried out with texts that are contained in broadcasting data and thus transmitted, for the purpose of embodying various kinds of additional images.

[14] For example, the data broadcasting outputs daily program order with the image during broadcasting or outputs an additional explanation on the image being broadcast.

[15] FIG. 1 illustrates a conventional image display device in a digital TV.

[16] As shown, the image display device is comprised of a memory 101 in which image data and text data are stored, an image outputting part 102 for reading the image data from the memory

101, and a display processing part 103 for reading the text data from the memory 101 and mixing the image data and the text data.

[17] The image display device further includes an analog/digital converter 104 for converting analog image data into digital image data.

[18] In operation, the conventionally developed image display device in the digital TV receives each of the text data and image data of an arbitrary digital broadcasting such as public wave broadcasting, cable broadcasting and video on demand at the digital TV, decodes the text data and the image data, respectively and stores the decoded data in the memory 101.

[19] Before storing in the memory 101, at this time, each of the text data and the image data may be converted into bit map data.

[20] Thereby, the image outputting part 102 reads the image data from the memory 101.

[21] The display processing part 103 mixes the text data read from the memory 101 and the image data and outputs the mixed result on a predetermined display screen.

[22] When predetermined information is provided to a user, when set contents and functions of the TV are changed or when various images are provided with the text data, of course, the display processing part 103 mixes the text data (i.e., bit map data) read from the memory 101 and the image data (i.e., bit map

data) and outputs the mixed result on the predetermined display screen. On the other hand, when the text data is not provided, the display processing part 103 outputs only the image data on the screen.

[23] Also, the digital TV may receive analog broadcasting, in addition to the digital broadcasting.

[24] That is to say, the digital TV receives analog image data of the analog broadcasting, converts the analog image data into digital image data through the analog/digital converter 104, and decodes the converted digital image data. Then, it stores the decoded result to the memory 101 and after that, executes the same process as the digital broadcasting.

[25] On the other hand, the digital TV can handle the image having various frame rates in interlace and progressive scanning of 24Hz, 30Hz, 60Hz and so on and display various images having resolution of 720 x 480, 854 x 480, 1280 x 720 and 1920 x 1080.

[26] To provide the various resolution as mentioned above, the image data and the text data should be convertible according to variation of the resolution.

[27] However, the above-mentioned conventional image display device can convert the image data into display format according to the variation of resolution and display it, but it does not have any function of converting the text data into the display format according to the variation of resolution. So, the

conventional device should store the text data for each resolution in bit map data format and read the bit map data stored according to each resolution, thereby displaying the resulting data on the screen.

[28] An example of various resolution in the digital TV is given by the following Table.

Display Resolution	Bit Map Type
1920 x 1080	1600 x 960
1280 x 720	1280 x 720
854 x 480	800 x 480
720 x 480	720 x 480

[29] In other words, in order to output the text data for the above-listed four resolution, for example, 720 x 480, 854 x 480, 1280 x 720 and 1920 x 1080, the above-listed four bit map data, for example, 1600 x 960, 1280 x 720, 800 x 480, and 720 x 480, corresponding to the four resolution must be stored in the memory 101, such that the image display device displays a predetermined image.

[30] At this time, the bit map data has the data size corresponding to the value obtained by multiplying the number of dots according to the resolution by the number of colors supported.

[31] In other words, if the resolution of 720 x 480 and the color of 16 bits are provided, the bit map data has the data size of 5,529,6 Kbits (720 x 480 x 16 = 5,529,6)

[32] Therefore, the conventional image display device has to store the bit map data corresponding to the kinds of the resolution, in order to display the image according to each resolution, and the bit map data has a substantially large data size as the resolution is high.

[33] Additionally, the bit map data in the conventional image display device is not compressed, thereby resulting in the occupation of a large memory space.

SUMMARY OF THE INVENTION

[34] Accordingly, the present invention is directed to an image display device in a digital TV that substantially obviates one or more problems due to limitations and disadvantages of the related art.

[35] An object of the present invention is to provide an image display device in a digital TV can convert text data according to variation of resolution and compress bit map data.

[36] Another object of the present invention is to provide an image display device in a digital TV can be applied to text data of an HTML format.

[37] Additional advantages, objects, and features of the invention will be set forth in part in the description which follows and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objectives and other advantages of the invention may be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[38] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, there is provided an image display device in a digital TV including: a data processing part for executing bit map conversion, compression, restoration and format-conversion for text data, the text data being at least one among HTML data, DHTML data, XML data, SGML data and bit map data; a memory for storing the bit map data obtained according to the bit map conversion and compression in the data processing part and image data inputted from an arbitrary receiving part, the receiving part receiving one of digital image data and analog image data; an image outputting part for reading the image data from the memory; and a display processing part for mixing the image data read from the image outputting part and the bit map data converted in format from the data processing part.

[39] According to the image display device of the present invention, the data processing part is comprised of: a bit map converter for determining whether the text data is the bit map data and converting the text data into the bit map data, based upon the determined result; a bit map compressor for compressing the bit map data by using a run-length compression coding; a bit map decompressor for reading the compressed bit map data from the memory to thereby restore the read data to its original bit map data; and a format converter for converting the format of the decompressed bit map data to correspond with display resolution. The bit map converter converts the text data into the bit map data, if it is determined that the text data is not the bit map data and bypasses the text data, if it is determined that the text is the bit map data. The format converter can adjust the resolution by integrating real number times to one of horizontal and vertical directions of the decompressed bit map data.

[40] In another aspect of the present invention, there is provided a data processing device in a digital TV which includes: a bit map converter for determining whether text data is bit map data and converting the text data into the bit map data, based upon the determined result; a bit map compressor for compressing the bit map data by using a predetermined compression coding; a bit map decompressor for reading the compressed bit map data from a memory to thereby restore the read data to its original bit map

data; and a format converter for converting the format of the decompressed bit map data to correspond with display resolution.

[41] In still another aspect of the present invention, there is provided a data processing device in a digital TV which includes: a bit map converter for determining whether text data is bit map data and converting the text data into the bit map data, based upon the determined result; a format converter for converting the bit map data to correspond with display resolution; a bit map compressor for compressing the bit map data by using a predetermined compression coding; and a bit map decompressor for reading the compressed bit map data from a memory to thereby restore the read data to its original bit map data.

[42] With the image display device of the present invention, the text data is converted such that it can correspond with various resolution, the text data is compressed such that a memory space can be substantially decreased, and the support for the text data of document formats such as HTML, DHTML, XML and SGML is provided such that various image shapes can be displayed.

[43] It is to be understood that both the foregoing general description and the following detailed description of the present invention are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[44] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiment(s) of the invention and together with the description serve to explain the principle of the invention. In the drawings:

[45] FIG.1 is a block diagram illustrating a conventional image display device in a digital TV;

[46] FIG.2 is a block diagram illustrating an image display device in a digital TV according to an embodiment of the present invention;

[47] FIG.3 is a block diagram illustrating an image display device in a digital TV according to another embodiment of the present invention; and

[48] FIG.4 is an exemplary view illustrating the display screen embodied by the image display device of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[49] Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings.

[50] FIG.2 is a block diagram illustrating an image display device in a digital TV according to an embodiment of the present invention.

[51] As shown, the image display device of the present invention includes a data processing part 210, a memory 207, an image outputting part 201 and a display processing part 206.

[52] Generally, the image display device receives audio data, video data (that is, image data) and various kinds of text data through a receiving part (which is not shown) and converts each of the received data into bit map data to store in the memory 207.

[53] Under an assumption that after the image data is converted into the bit map data it is stored in the memory 207, an explanation of the processing for the text data will be in detail described.

[54] The image data is converted into the bit map data by means of a bit map converter for image data conversion (which is omitted) and is then stored in the memory 207.

[55] The data processing part 210 is provided for executing bit map conversion, compression, restoration and format-conversion for the text data and includes a bit map converter 202, a bit map compressor 203, a bit map decompressor 204 and a format converter 205.

[56] The bit map converter 202 determines whether the text data is the bit map data and converts the text data into the bit map data, based upon the determined result.

[57] The text data includes at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

[58] In this case, the conversion of the text data can be made by using one of first bit map data and second bit map data.

[59] At this time, the first bit map data and the second bit map data are previously stored in a predetermined space of the memory, and an explanation of them will be in detail disclosed hereinafter.

[60] The bit map data converter 202 bypasses the text data, if the text data is the bit map data.

[61] In this case, since the text data exists as the bit map data, there is no need for an additional process of converting the text data into the bit map data.

[62] Therefore, in case where electronic program guide (EGP) or data broadcasting service becomes commercialized in the future, there is no need for the determination for the text data inputted to the bit map converter 202, such that development for various kinds of softwares will be easily achieved, thereby providing a substantially wide range of image.

[63] The bit map compressor 203 executes the compression for the bit map data outputted from the bit map converter 202 by using a predetermined compression coding.

[64] Preferably, in this case, the compression coding adopts run-length coding.

[65] The run-length coding indicates the block of pixels run as single data and the number of run times of the data, which can compress original data at its maximum, thereby substantially reducing the space where the data is stored.

[66] For example, the data to be compressed exists as follows: 730000000

[67] In this case, the above data is compressed as follows:
. 730n7

[68] Therefore, data of 9 bytes can be compressed to data of 5 bytes, and the larger the data to be compressed is in size, the higher the effect of the compression is.

[69] On the other hand, the bit map data compressed from the bit map compressor 203 is inputted to the memory 207 and then stored therein.

[70] The bit map decompressor 204 reads the compressed bit map data from the memory 207 and restores the read data to its original bit map data.

[71] In this case, the compressed data is decompressed to the original bit map data by inversion-converting the run-length

compression coding that is used when the bit map data is compressed.

[72] The format converter 205 executes the format conversion for the bit map data decompressed from the bit map decompressor 204, such that the bit map data corresponds to the display resolution.

[73] The format conversion can be adjusted by integrating real number times to one of horizontal and vertical directions of the decompressed bit map data.

[74] Since the format converter 205 does not exist in the conventional device, a plurality of bit map data corresponding to the various resolution should be stored and set in the memory 207. This causes the memory space occupied by the bit map data to be excessively increased.

[75] According to the present invention, therefore, the format conversion of the format converter 205 can display various resolution with a few number of bit map data, and the memory space occupied by the bit map data can be considerably reduced.

[76] On the other hand, the memory 207 stores the bit map data outputted from the bit map converter 202 and the bit map compressor 203 and the image data inputted from the arbitrary receiving part (which is not shown).

[77] As described above, the image data has been converted into the bit map data.

[78] In this case, the receiving part can receive one of digital image data and analog image data.

[79] The analog image data can be converted into the digital image data by means of an analog/digital converter 104.

[80] The memory 207 stores the bit map data used in the bit map converter 202.

[81] In this case, the bit map data includes first bit map data of 720 x 480 and second bit map data of 960 x 540.

[82] The image outputting part 201 reads the image data stored in the memory 207, for the purpose of displaying the image data.

[83] At this time, the image data may take the shape of the bit map data.

[84] The display processing part 206 mixes the image data outputted from the image outputting part 201 and the bit map data outputted from the format converter 205.

[85] The positions and colors of the image data and the text data to be displayed on the screen are adjusted by means of the display processing part 206.

[86] As the image data and the bit map data are synthesized by virtue of the display processing part 206, the image and text are simultaneously outputted in accordance with the resolution corresponding to the display screen.

[87] A method of mixing the image data and the bit map data in the display processing part 206 is well known, and an explanation of it will be excluded in this detailed description for the sake of brevity.

[88] First, the digital TV receives the image data and the text data, respectively, decodes them and stores the decoded image data in the memory 207.

[89] By the way, the text data is stored in the memory 207 via the bit map converter 202 and the bit map compressor 203.

[90] In case where the text data is inputted by an operator at the time when the digital TV is produced, however, only the text data is inputted to the bit map converter 202.

[91] Also, the digital TV receives the analog image data through the arbitrary receiving part and converts the received analog image data into the digital image data by means of the analog/digital converter 104.

[92] So, the bit map converter 202 determines whether the text data is the bit map data.

[93] In other words, if it is determined that the text data is not the bit map data, the bit map converter 202 converts the text data into the bit map data, using one of the first bit map data and the second bit map data stored in the memory 207.

[94] If it is determined that the text data is the bit map data, however, the bit map converter 202 bypasses the text data.

[95] If various text data are supported in the digital TV, therefore, the digital broadcasting can support the data broadcasting in the future, and a variety of user interfaces can be provided by the various text data.

[96] The bit map data converted by the bit map converter 202 is inputted to the bit map compressor 203, in which the bit map data is compressed.

[97] Preferably, in this case, the compression of the bit map data is carried out by using the run-length compression coding.

[98] The bit map data compressed from the bit map compressor 203 is inputted to the memory 207 and then stored therein.

[99] The bit map decompressor 204 reads the compressed bit map data from the memory 207 and restores the read data to its original bit map data.

[100] In this case, the decompressed bit map data is converted in format by means of the format converter 205, such that the bit map data corresponds to the predetermined display resolution.

[101] The format conversion of the format converter 205 can be adjusted by integrating real number times to one of horizontal and vertical directions of the decompressed bit map data.

[102] An example of the format conversion of the format converter 205 according to the various resolution is given by the following Table <1>.

[103] Table <1> shows an example of the image obtained in the following four resolution by using two bit map data in the digital TV.

Display Resolution	First Bit Map Data (720 x 480, H x 1 : V x 1)	Second Bit Map Data (960 x 540)
1920 x 1080	1920 x 1080 (H x 2.67 : V x 2.25)	1920 x 1080 (H x 2 : V x 2)
1280 x 720	1280 x 720 (H x 1.78 : V x 1.5)	1280 x 720 (H x 2 : V x 2)
854 x 480	854 x 480 (H x 1.19 : V x 1)	854 x 480 (H x 0.89 : V x 0.89)
720 x 480	720 x 480 (H x 1 : V x 1)	720 x 480 (H x 0.75 : V x 0.89)

Wherein, the 'H x 1 : V x 1' represents the ratio of the horizontal direction to the vertical direction of the bit map data, and for example, 720 x 480 of the first bit map data has the ratio of H : V of 1 : 1.

[104] In order to output the text data corresponding to the four resolution of 720 x 480, 854 x 480, 1280 x 720 and 1920 x 1080 on the screen, the first bit map data of 720 x 480 and the second bit map data of 960 x 540 are stored in the memory 207.

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[105] As apparent from Table <1>, the resolution corresponding to the four resolution, respectively can be obtained by using the single first bit map data.

[106] At this time, in case of the display resolution of 720 x 480, the first bit map data of 720 x 480 (H x 1 : V x 1) is directly used, and in case of the display resolution of 854 x 480, the first bit map data of 854 x 480 (H x 1.19 : V x 1) having the horizontal direction increased by 1.19 times is used.

[107] Also, in case of the display resolution of 1280 x 720, the first bit map data of 1280 x 720 (H x 1.78 : V x 1.5) having the horizontal direction increased by 1.78 times and the vertical direction increased by 1.5 times is used, and in case of the display resolution of 1920 x 1080, the first bit map data of 1920 x 1080 (H x 2.67 : V x 2.25) having the horizontal direction increased by 2.67 times and the vertical direction increased by 2.25 times is used.

[108] It can be, therefore, apparent from Table 1 that in the same manner as the first bit map data, the conversion into the four resolution in the digital TV can be made by using the single second bit map data.

[109] Therefore, the bit map data can be converted by the format converter 205 by using one of the first and second bit map data stored in the memory 207, to thereby correspond with each resolution.

[110] On the other hand, the image outputting part 201 reads the image data from the memory 207.

[111] Then, the display processing part 206 mixes the image data and the bit map data, thereby outputting the mixed data on a predetermined display screen.

[112] If the format converter 207 is disposed between the bit map converter 202 and the bit map compressor 203, the image display device can execute the same operation as in FIG. 2 or execute a more excellent operation than that in FIG. 2. An explanation of it will be described with reference to FIG. 3.

[113] Functions of each part in FIG. 3 are the same as in FIG. 2, and therefore, the operation process thereof will be described.

[114] FIG.3 is a block diagram illustrating an image display device in a digital TV according to another embodiment of the present invention.

[115] Referring to FIG. 3, the text data is converted into the bit map data by virtue of the bit map converter 302, and then, the bit map data is converted in format to correspond with the resolution outputted on the screen, by means of the format converter 305.

[116] In this case, the conversion into the bit map data is carried out by using one of the first bit map data and the second bit map data previously stored in the memory 307, and the

conversion in format is carried out by integrating real number times to one of horizontal and vertical directions of the bit map data selected, such that the bit map data is adjusted in size to correspond with the resolution on the screen.

[117] The bit map data converted in format by the format converter 305 is compressed by means of the bit map compressor 303 and then stored in the memory 307.

[118] At this time, the memory 307 stores set bit map data (i.e., at least one of the first bit map data and the second bit map data) to be converted in the bit map converter 302, in addition to the bit map data.

[119] The image data from the memory 307 is read by the image processing part 301, and the bit map data is decompressed to its original data by the bit map compressor 303.

[120] Then, the image data and the decompressed bit map data are inputted to the display processing part 306 and displayed as a final image output on the screen.

[121] FIG.4 is an exemplary view illustrating the display screen embodied by the image display device of the present invention.

[122] Referring to FIG. 4, the image corresponding to the channel selected by a user is displayed on the one side of the upper portion of the display screen of the digital TV, and texts according to the text data are outputted around the image.

[123] In this case, on the right side of the image the channel now showing and the name of program are outputted, and on the lower portion of the display screen the broadcasting order of the day is outputted.

[124] At this time, if various setting contents of the digital TV are to be changed, a setting list is outputted on the upper portion of the screen by an input means from the user.

[125] Therefore, the image display device of the digital TV can display considerably various kinds of information on the display screen.

[126] As described above, an image display device in a digital TV according to the present invention can convert text data in such a manner as to correspond with various resolution outputted on the screen of the digital TV.

[127] Moreover, the image display device of the present invention can be applied to text data of an HTML format, such that the image is embodied by the text data of various shapes. This will enable an EPG service and data broadcasting to be further developed.

[128] In addition, the image display device of the present invention can carry out the compression for bit map data, thereby reducing the memory space.

[129] Also, the image display device of the present invention can support the HTML format, such that the text data is

developed by the HTML format. Therefore, the text data can be designed independently of CPU and OS.

[130] The forgoing embodiments are merely exemplary and are not to be construed as limiting the present invention. The present teachings can be readily applied to other types of devices. The description of the present invention is intended to be illustrative, and not to limit the scope of the claims. Many alternatives, modifications, and variations will be apparent to those skilled in the art.

What is claimed is:

1. A data processing device in a digital TV having a display that has a plurality of different display resolutions for displaying image data and text data according to a variation of the display resolution, comprising:

a bit map converter for determining whether text data received by the digital is bit map data and converting the text data into the bit map data, based upon the determined result;

a bit map compressor for compressing the bit map data by using a predetermined compression coding;

a bit map restorer for reading the compressed bit map data from a memory to thereby restore the read data to its original bit map data; and

a format converter for converting the format of the restored bit map data to correspond with any of the plurality of different display resolutions.

2. The device as defined in claim 1, wherein the text data being at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

3. The device as defined in claim 1, wherein said bit map converter converts the text data into the bit map data, if it is determined that the text data is not the bit map data.

4. The device as defined in claim 1, wherein said bit map converter bypasses the text data, if it is determined that the text data is the bit map data.

5. The device as defined in claim 1, wherein said predetermined compression coding is a run-length compression coding.

6. The device as defined in claim 1, wherein the conversion of the text data is carried out by using one of first bit map data and second bit map data previously stored in said memory.

7. The device as defined in claim 1, wherein said format converter adjusts the resolution by integrating real number times by one of horizontal and vertical directions of the restored bit map data.

8. A data processing device in a digital TV having a display that has a plurality of different display resolutions for displaying image data and text data according to a variation of the display resolution, comprising:

a bit map converter for determining whether text data to be displayed on the digital TV display is bit map data and converting the text data into the bit map data, based upon the determined result;

a format converter for converting the format of decompressed bit map data to correspond with any of the plurality of different display resolutions;

a bit map compressor for compressing the bit map data by using a predetermined compression coding; and

a bit map restorer for reading the compressed bit map data from a memory for restoring the read data to its original bit map data.

9. The device as defined in claim 8, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data previously stored in said memory.

10. The device as defined in claim 8, wherein said format converter adjusts the resolution by integrating real number times to one of horizontal and vertical directions of the restored bit map data.

11. The device as claimed in claim 1, wherein the plurality of different display resolutions comprise 720 x 480, 854 x 480, 1280 x 720 and 1920 x 1080.

12. The device as claimed in claim 6, wherein the stored first bit map data has a resolution of 720 x 480 and the stored second bit map data has a resolution of 960 x 540.

13. The device as claimed in claim 1, wherein the display resolution to which the format is converted is a predetermined format.

14. The device as claimed in claim 8, wherein the display resolution to which the format is converted is a predetermined format.

ABSTRACT

Disclosed is an image display device in a digital TV that is capable of carrying out the conversion into various kinds of resolution by using single bit map data in the digital TV. The image display device includes: a data processing part for executing bit map conversion, compression, restoration and format-conversion for text data; a memory for storing the bit map data obtained according to the bit map conversion and compression in the data processing part and image data inputted from an arbitrary receiving part, the receiving part receiving one of digital image data and analog image data; an image outputting part for reading the image data from the memory; and a display processing part for mixing the image data read from the image outputting part and the bit map data converted in format from the data processing part. Therefore, the image display device according to the present invention can convert text data in such a manner as to correspond with various resolution, carry out the compression for bit map data, thereby reducing the memory space, and support text data of an HTML format, thereby providing the image with the text data of various shapes.

Fig. 1

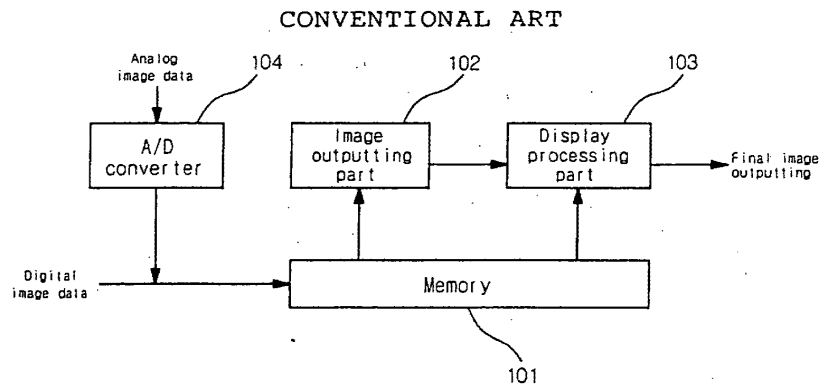


Fig. 2

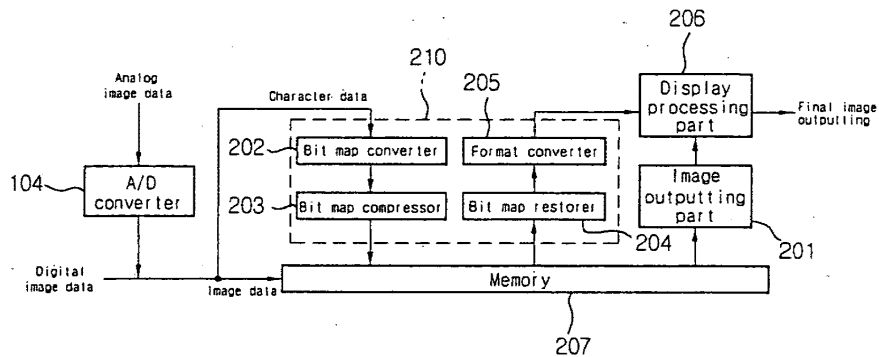


Fig. 3

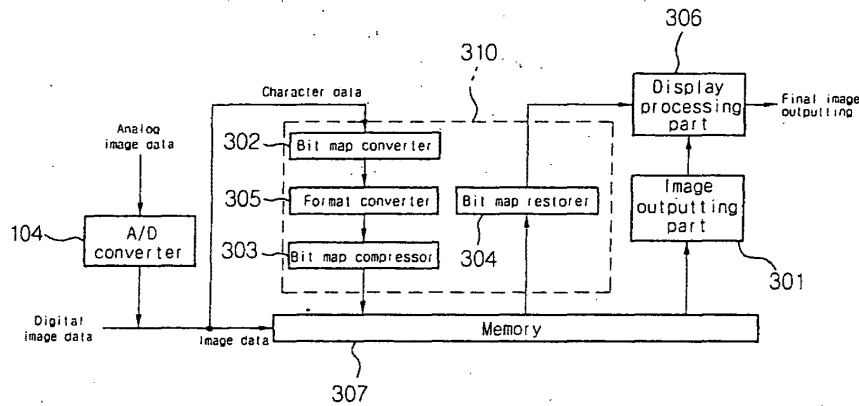


Fig. 4

TV image

ch 11
MBC News

2000. 7. 25. TUE Broadcasting order

Time	MBC	KBS1	KBS2	SBS
10	Love is....	Oh! my g...	Anything ...	Love is....
11	Nikita	News Tod...	N.R	Nikita
12	Peppermint	Run to y...		Run to y...
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.	.	.	.	.
.	.	.	.	.

PLEASE NOTE:
YOU MUST
COMPLETE THE
FOLLOWING

Attorney Docket No.
BIRCH, STEWART, KOLASCH & BIRCH, LLP 3449-0170P
P.O. Box 747 Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 Facsimile: (703) 205-8050

**COMBINED DECLARATION AND POWER OF ATTORNEY
FOR PATENT AND DESIGN APPLICATIONS**

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title: IMAGE DISPLAY DEVICE IN DIGITAL TV

Fill in Appropriate
Information -
For Use Without
Specification
Attached:

the specification of which is attached hereto. If not attached hereto,
the specification was filed on _____ as
United States Application Number _____;
and amended on _____ (if applicable) and/or
the specification was filed on _____ as PCT
International Application Number _____; and was
amended under PCT Article 19 on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representative or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows:

I hereby claim foreign priority benefits under Title 35, United States Code, 19(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

Insert Priority
Information:
(if appropriate)

<u>45507/2000</u> (Number)	<u>Korea</u> (Country)	<u>August 8, 2000</u> (Month/Day/Year Filed)	☒ Yes	☐ No
<u> </u> (Number)	<u> </u> (Country)	<u> </u> (Month/Day/Year Filed)	☐ Yes	☐ No
<u> </u> (Number)	<u> </u> (Country)	<u> </u> (Month/Day/Year Filed)	☐ Yes	☐ No
<u> </u> (Number)	<u> </u> (Country)	<u> </u> (Month/Day/Year Filed)	☐ Yes	☐ No

I hereby claim the benefit under Title 35, United States Code, §119(c) of any United States provisional application(s) listed below:

Insert Provisional
Application(s):
(if any)

<u> </u> (Application Number)	<u> </u> (Filing Date)
<u> </u> (Application Number)	<u> </u> (Filing Date)

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:

Country	Application Number	Date of Filing (Month/Day/Year)
---------	--------------------	---------------------------------

Insert Requested
Information:
(if appropriate)

<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

I hereby claim the benefit under Title 35, United States Code, §120 of any United States and/or PCT application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States and/or PCT application in the manner provided by the first paragraph of Title 35, United States Code, 12. I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

Insert Prior U.S.
Application(s):
(if any)

<u> </u> (Application Number)	<u> </u> (Filing Date)	<u> </u> (Status - patented, pending, abandoned)
<u> </u> (Application Number)	<u> </u> (Filing Date)	<u> </u> (Status - patented, pending, abandoned)

3449-0170P

Attorney Docket No.

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

Raymond C. Stewart	(Reg. No. 21,066)	Terrell C. Birch	(Reg. No. 19,362)
Joseph A. Kolasch	(Reg. No. 22,463)	James M. Slattery	(Reg. No. 28,380)
Bernard L. Sweeney	(Reg. No. 24,448)	Michael K. Mutter	(Reg. No. 29,680)
Charles Gornstein	(Reg. No. 29,271)	Gerald M. Murphy, Jr.	(Reg. No. 28,977)
Leonard R. Svensson	(Reg. No. 30,350)	Terry L. Clark	(Reg. No. 32,644)
Andrew D. Meikle	(Reg. No. 32,868)	Marc S. Weiner	(Reg. No. 32,181)
Joe McKinney Muncy	(Reg. No. 32,334)	Donald J. Daley	(Reg. No. 34,313)
John W. Bailey	(Reg. No. 32,581)	John A. Castellano	(Reg. No. 35,094)
Gary D. Yacura	(Reg. No. 35,416)		

Send Correspondence to:

BIRCH, STEWART, KOLASCH & BIRCH, LLP or Customer No. 2292
P.O. Box 747 Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

PLEASE NOTE:
YOU MUST
COMPLETE
THIS
FOLLOWING:
1

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First
or Last Inventor
(Inventor's Name)
Inventor's Signature
Date of Signature

Inventor's Signature
Inventor's Citizenship

Inventor's Full Office
Address

Full Name of Second
Inventor, if any
(Inventor's Name)

Full Name of Third
Inventor, if any
(Inventor's Name)

Full Name of Fourth
Inventor, if any
(Inventor's Name)

Full Name of Fifth
Inventor, if any
(Inventor's Name)

Page 2 of 2
(Rev. 01/05/2000)

GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE		DATE*	
Seung Jong CHOI		<i>Seung Jong Choi</i>		July 26, 2001	
Residence (City, State & Country)				CITIZENSHIP	
Banpo-dong Apt. 305-504, 60-4 Banpo-dong, Seocho-ku, Seoul, Korea					
POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE		DATE*	
Residence (City, State & Country)				CITIZENSHIP	
POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE		DATE*	
Residence (City, State & Country)				CITIZENSHIP	
POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE		DATE*	
Residence (City, State & Country)				CITIZENSHIP	
POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					

*DATE OF SIGNATURE

PATENT APPLICATION SERIAL NO. _____

**U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET**

04/19/2007 YPOLITE1 00000001 11705524
01 FC:1011 300.00 OP
02 FC:1111 500.00 OP
03 FC:1311 200.00 OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002-489-267/69033

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number

11785-624

APPLICATION AS FILED - PART I

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(b), (f), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(a), (d), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	14 minus 20 =	8
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	0
APPLICATION SIZE FEE (37 CFR 1.16(e))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 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).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	150.00
N/A	\$250
N/A	\$100
X\$ 25 =	
X100 =	
+180=	
TOTAL	

OR

RATE (\$)	FEE (\$)
N/A	300.00
N/A	\$500
N/A	\$200
X\$50 =	
X200 =	
+360=	
TOTAL	1000

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(j))	Minus	**	=
Independent (37 CFR 1.16(k))	Minus	***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X\$ 25 =	
X100 =	
+180=	
TOTAL ADD'L FEE	

OR

OR

OR

OR

OR

RATE (\$)	ADDITIONAL FEE (\$)
X\$50 =	
X200 =	
+360=	
TOTAL ADD'L FEE	

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(j))	Minus	**	=
Independent (37 CFR 1.16(k))	Minus	***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X\$ 25 =	
X100 =	
+180=	
TOTAL ADD'L FEE	

OR

OR

OR

OR

OR

RATE (\$)	ADDITIONAL FEE (\$)
X\$50 =	
X200 =	
+360=	
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 number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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 1460, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Docket No.: 3449-0170PUS3
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Seung Jong CHOI

Application No.: New (Cont. of 3449-0170PUS2)

Art Unit: N/A

Filed: April 17, 2007

Examiner: Not Yet Assigned

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

PRELIMINARY AMENDMENT

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

Sir:

INTRODUCTORY COMMENTS

The following preliminary amendments and remarks are respectfully submitted in connection with the above-identified application.

This amendment includes:

Amendments to the Specification begin on page 2 of this paper.

AMENDMENTS TO THE SPECIFICATION

Before line 1 of the specification (after the Title), please insert the following new paragraph:

This application is a Continuation of co-pending Application No. 11,374,112 filed on March 14, 2006 (now allowed), which is a Divisional of co-pending Application No. 09/922,863 filed on August 7, 2001, and for which priority is claimed under 35 U.S.C. § 120; and this application claims priority of Application No. 2000-45807 filed in Korea on August 8, 2000 under 35 U.S.C. § 119; the entire contents of all are hereby incorporated by reference.

CONCLUSION

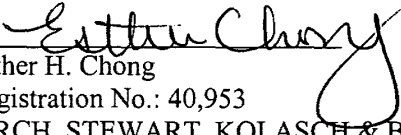
Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Esther H. Chong (Reg. No. 40,953) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.14; particularly, extension of time fees.

Dated: April 18, 2007

Respectfully submitted,

By 
Esther H. Chong
Registration No.: 40,953
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Docket No.: 3449-0170PUS3
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Seung Jong CHOI

Application No.: New (Cont. of 3449-0170PUS2)

Confirmation No.: N/A

Filed: April 17, 2007

Art Unit: N/A

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT
(SUBMISSION WITH CONTINUATION-IN-PART OR RULE 1.53 (B)
CONTINUATION OR DIVISIONAL APPLICATION)

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

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION

The patents, publications, or other information submitted for consideration by the Office are listed on the PTO-SB08(s), attached hereto.

II. COPIES

- ☒ a. Copies of cited U.S. patents and patent application publications are not included.
Copies of foreign patent documents and non-patent literature are included.

Birch, Stewart, Kolasch & Birch, LLP

EHC/RJW/af

Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461

☐ b. Some or all of the documents listed on the PTO-SB08 are not enclosed because they were cited in the International Search Report and copies should already be in the PTO file. If copies are needed, please contact the undersigned.

☒ c. REFERENCES PREVIOUSLY CITED OR SUBMITTED - Pursuant to 37 C.F.R. §1.98(d), consideration of information listed on the PTO-SB08 form(s) is requested since any patents, publications, or other information which are listed on the PTO-SB08 form(s) but for which copies are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Appl. No(s) and U.S. Filing Date

11/374,112 filed March 14, 2006

III. CONCISE EXPLANATION OF THE RELEVANCE

(check at least one box)

☒ a. DOCUMENTS IN THE ENGLISH LANGUAGE - The patents, publications, or other information listed on the attached PTO SB08 are in the English language and therefore, do not require a statement of relevancy.

☐ b. DOCUMENTS NOT IN THE ENGLISH LANGUAGE - A concise explanation of the relevance of all patents, publications, or other information listed that is not in the English language is as follows:

☐ c. ENGLISH LANGUAGE SEARCH REPORT - An English language version of the search report or action that indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(III)(A)(3).

☐ d. OTHER - The following additional information is provided for the Examiner's consideration.

IV. FEES (check one box)

☐ a. This Information Disclosure Statement is being filed concurrently with the filing of a new patent application; therefore, no fee is required.

☒ b. This Information Disclosure Statement is being filed concurrent with the filing of a continuation-in-part, continuation, or divisional patent application; therefore, no fee is required.

☐ c. This Information Disclosure Statement is being filed within three months of the filing date of a national application (37 C.F.R. § 1.97(b)(1)). No fee or statement is required. *(This section is not to be used with RCE's.)*

☐ d. This Information Disclosure Statement is being filed within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or statement is required.

☐ e. This Information Disclosure Statement is being filed concurrently with the filing of a Request for Continued Examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.

☐ f. This Information Disclosure Statement is being filed before the mailing date of a first Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or statement is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the statement under 37 C.F.R. § 1.97(e) below, or, if no statement has been made, charge our deposit account for the fee as required by 37 C.F.R. § 1.17(p).

☐ g. This Information Disclosure Statement is being filed before the mailing date of a Final Office Action under 37 C.F.R. § 1.113 (See 37 C.F.R. § 1.97(c)(1)) or before the mailing date of a Notice of Allowance under 37 C.F.R. § 1.311 (See 37 C.F.R. § 1.97(c)(2)).

☐ No statement; therefore, a fee as required by 37 C.F.R. § 1.17(p) is attached.
or

☐ See the statement below. No fee is required.

V. STATEMENT UNDER 37 C.F.R. § 1.97(e)

(check only one box)

The undersigned hereby states that:

☐ a. **Each item of information contained in the IDS was first cited in any communication from a foreign Patent Office in a counterpart foreign application not more than 30 days prior to the filing of this IDS; or**

☐ b. Each item of information contained in the IDS 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 this IDS; or

☐ c. No item of information contained in the IDS 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 IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the IDS.

☐ d. Some of the items of information were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was first cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application and, to the best of my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this statement.

VI. PAYMENT OF FEES (check one box)

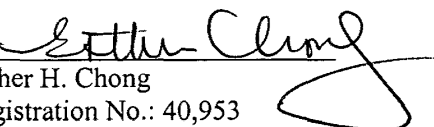
- ☐ The required fee is listed on the attached Fee Transmittal.
- ☒ No fee is required.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule and charge the appropriate fee to Deposit Account No. 02-2448.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: April 18, 2007

Respectfully submitted,

By 
Esther H. Chong
Registration No.: 40,953
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Attachment(s):

- ☒ PTO-SB08
☐ Documents
☐ Foreign Search Report
☐ Fee
☐ Other:

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	New (Cont. of 3449-0170PUS2)
				Filing Date	April 18, 2007
				First Named Inventor	Seung Jong CHOI
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	3449-0170PUS3

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA*	US-5,844,541-A	12-01-1998	Cahill, III	
	AB*	US-5,862,412-A	01-19-1999	Sugiyama	
	AC*	US-6,529,244-B1	03-04-2003	Hrusecky	
	AD*	US-6,256,068-B1	07-03-2001	Takada et al.	
	AE*	US-5,732,202	03-24-1998	Okamoto	
	AF*	US-6,275,267-B1	08-14-2001	Kobayashi	
	AG*	US-6,456,340-B1	09-24-2002	Margulis	
	AH*	US-6,157,396-A	12-05-2000	Margulis et al.	
	AI*	US-5,969,770-A	10-19-1999	Horton	
	AJ*	US-6,373,527-B1	04-16-2002	Lee	
	AK*	US-6,788,347-B1	09-07-2004	Kim et al.	
	AL*	US-5,604,824-A	02-18-1997	Chui et al.	
	AM*	US-5,841,473-A	11-24-1998	Chui et al.	
	AN*	US-6,853,385-B1	02-08-2005	MacInnis et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²

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

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	Date Considered
-----------------------	--------------------

Birch, Stewart, Kolasch & Birch, LLP

EHC/RJW/af

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): CHOI, Seung Jong

Application No.:

Group:

Filed: August 7, 2001

Examiner:

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

L E T T E R

Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

August 7, 2001
3449-0170P

Sir:

Under the provisions of 35 USC 119 and 37 CFR 1.55(a), the applicant hereby claims the right of priority based on the following application(s):

<u>Country</u>	<u>Application No.</u>	<u>Filed</u>
South Korea	2000-45807	08/08/00

A certified copy of the above-noted application(s) is(are) attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: _____

JOSEPH A. KOLASCH

Reg. No. 22,463

P. O. Box 747

Falls Church, Virginia 22040-0747

Attachment
(703) 205-8000
/sll

CHOI, Seung Wung
August 7, 2001
BSKB, LLP
(703) 205-8000
3449-070P
1 of 1

대한민국 특허청
KOREAN INTELLECTUAL
PROPERTY OFFICE

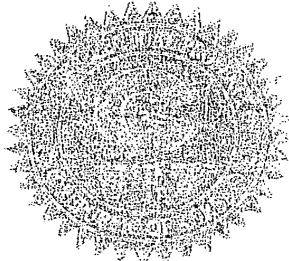
별첨 사본은 아래 출원의 원본과 동일함을 증명함.

This is to certify that the following application annexed hereto
is a true copy from the records of the Korean Intellectual
Property Office.

출원번호 : 특허출원 2000년 제 45807 호
Application Number

출원년월일 : 2000년 08월 08일
Date of Application

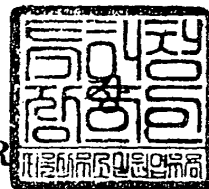
출원인 : 엘지전자 주식회사
Applicant(s)



2001 년 06 월 20 일

특 허 청

COMMISSIONER



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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number

711285524

APPLICATION AS FILED - PART I

(Column 1)		(Column 2)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	150.00		N/A	300.00
SEARCH FEE (37 CFR 1.16(h), (i), or (m))	N/A	N/A	N/A	\$250		N/A	\$500
EXAMINATION FEE (37 CFR 1.16(e), (p), or (q))	N/A	N/A	N/A	\$100		N/A	\$200
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	-	X\$ 25 =		OR	X\$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	-	X100 =			X200 =	
APPLICATION SIZE FEE (37 CFR 1.16(k))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 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).						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			+180=			+360=	
			TOTAL			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))	14	Minus	20	X\$ 25 =		OR	X\$50 =	
Independent (37 CFR 1.16(h))	2	Minus	3	X100 =		OR	X200 =	
Application Size Fee (37 CFR 1.16(s))						OR		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				+180=		OR	+360=	
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))		Minus		X\$ 25 =		OR	X\$50 =	
Independent (37 CFR 1.16(h))		Minus		X100 =		OR	X200 =	
Application Size Fee (37 CFR 1.16(s))						OR		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				+180=		OR	+360=	
				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 number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the IPPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments 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 1460, Alexandria, VA 22313-1460.

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United States Patent and Trademark Office
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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
11/785,524	04/18/2007	2622	1000	3449-0170PUS3	14	2

CONFIRMATION NO. 3873

2292
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA22040-0747

FILING RECEIPT

Date Mailed: 05/09/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. 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 mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. 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 (if appropriate).**

Applicant(s)

Seung Jong Choi, Seoul, KOREA, REPUBLIC OF;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 11/374,112 03/14/2006 PAT 7,215,381
which is a DIV of 09/922,863 08/07/2001 PAT 7,079,193

Foreign Applications

REPUBLIC OF KOREA 2000-45807 08/08/2000

If Required, Foreign Filing License Granted: 05/08/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is
US11/785,524

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

Title

Image display device in digital TV

Preliminary Class

348

Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461

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.

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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 (1-866-999-4158).

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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.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of

Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3

CONFIRMATION NO. 3873

FORMALITIES
 LETTER

2292
 BIRCH STEWART KOLASCH & BIRCH
 PO BOX 747
 FALLS CHURCH, VA 22040-0747

Date Mailed: 05/09/2007

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:
 - Numbers, letters, and reference characters on the drawings must measure at least 0.32 cm (1/8 inch) in height. See Figure(s) 1-4.

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.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.



Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199
PART 3 - OFFICE COPY



1FW

Docket No.: 3449-0170PUS3
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Seung CHOI

Application No.: 11/785,524

Confirmation No.: 3873

Filed: April 18, 2007

Art Unit: N/A

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

Examiner: Not Yet Assigned

REPLY TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

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

Sir:

In response to the Notice to File Corrected Application Papers dated May 9, 2007,
Applicant respectfully submits:

- ☒ Attached is a copy of the Notice to File Corrected Application Papers.
- ☒ Attached are 4 sheets of drawings. Please substitute these replacement drawings for the corresponding 2 sheets of drawings on file in the above-identified application.
- ☐ Attached is a preliminary amendment.
- ☐ Attached is a Claim for Priority document.
- ☐ Attached are substitute claims commencing on a separate sheet in accordance with 37 C.F.R. § 1.75(h).

Birch, Stewart, Kolasch & Birch, LLP

EHC/RJW/tm

Application No.: 11/785,524

Docket No.: 3449-0170PUS3

☐ Attached is a substitute abstract commencing on a separate sheet in accordance with 37 C.F.R. § 1.72(b).

☐ Attached is a substitute specification which complies with 37 C.F.R. § 1.52. Also attached is a marked-up version, showing the changes made. The substitute specification does not contain new matter.

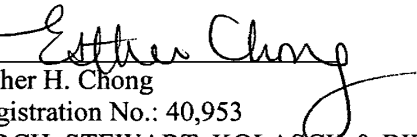
☐ Attached is a Petition for Extension of Time.

☐ Attached hereto is the fee transmittal listing the required fees.

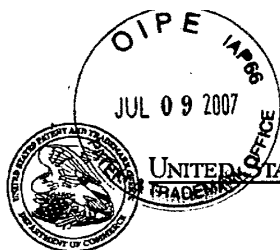
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: July 9, 2007

Respectfully submitted,

By 
Esther H. Chong
Registration No.: 40,953
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Attachment: Four (4) Sheets of Replacement Drawings



UNITED STATES PATENT AND TRADEMARK OFFICE

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	ATTORNEY DOCKET NUMBER
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3

CONFIRMATION NO. 3873

FORMALITIES
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 PO BOX 747
 FALLS CHURCH, VA 22040-0747

Date Mailed: 05/09/2007

NOTICE TO FILE CORRECTED APPLICATION PAPERS

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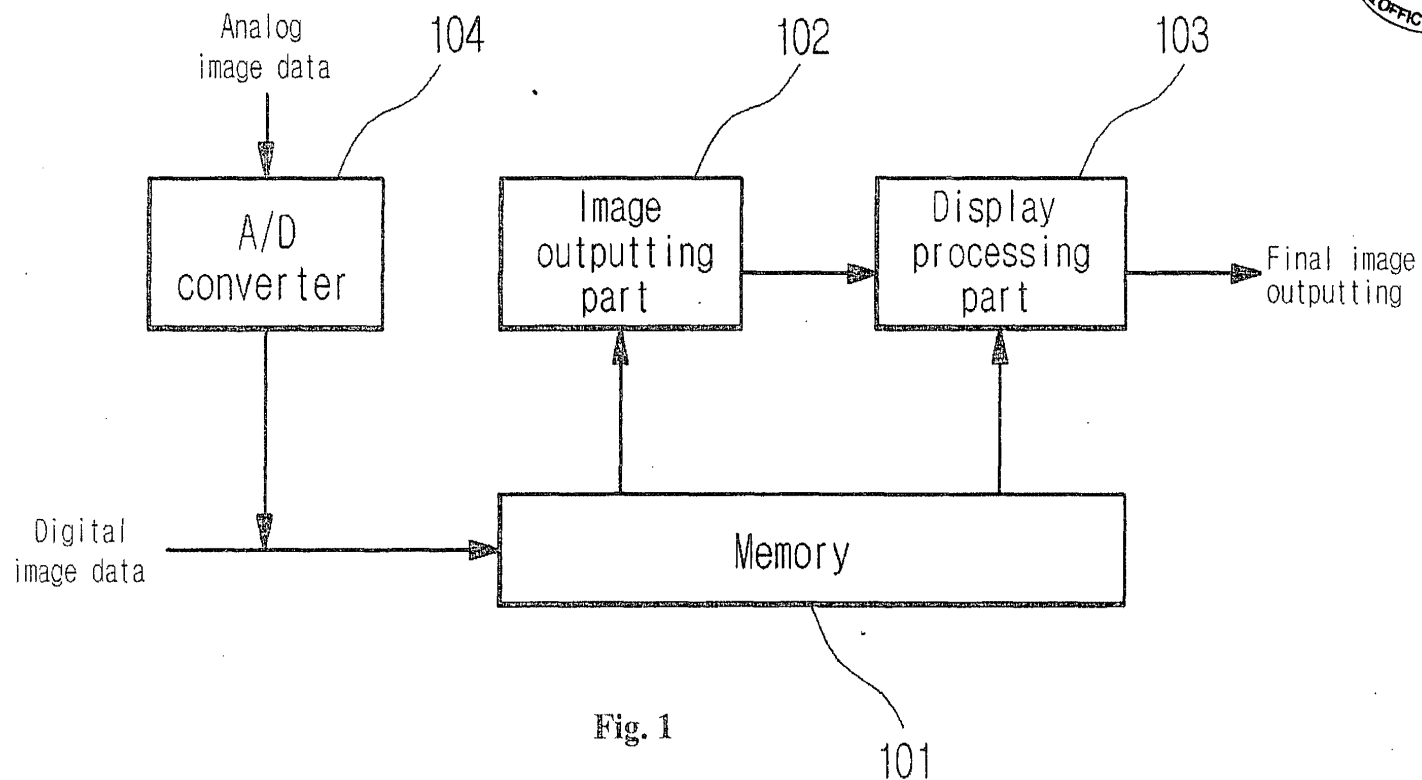
A handwritten signature in black ink, appearing to be the letters 'pm' in a cursive style.

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199

PART 2 - COPY TO BE RETURNED WITH RESPONSE

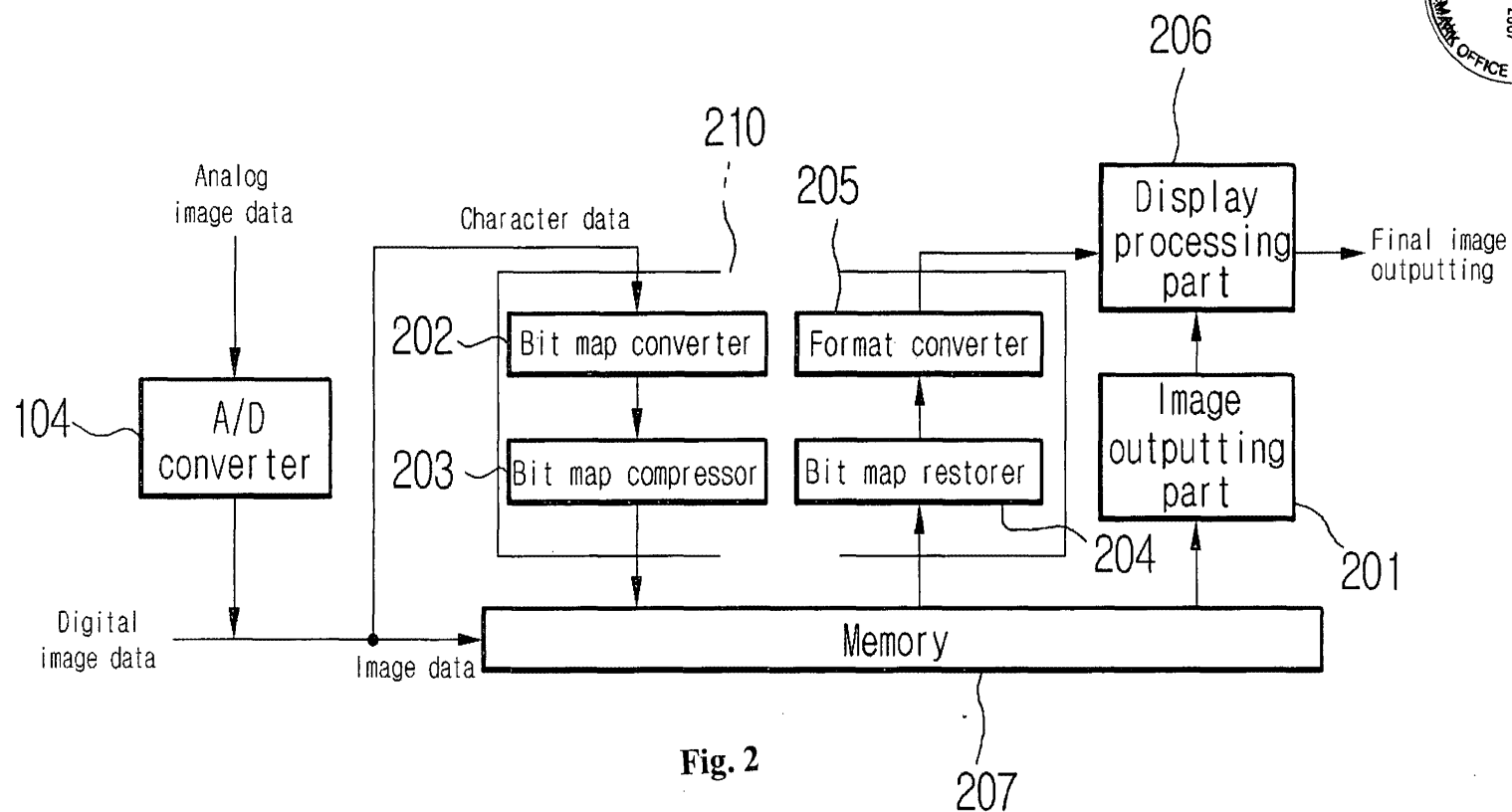


(Prior Art)



App No.: 11/785,524
Inventor: Seung CHOI
Title: IMAGE DISPLAY DEVICE IN DIGITAL TV
REPLACEMENT SHEET

Docket No.: 3449-0170PUS3



App No.: 11/785,524
 Inventor: Seung CHOI
 Title: IMAGE DISPLAY DEVICE IN DIGITAL TV
 REPLACEMENT SHEET

Docket No.: 3449-0170PUS3

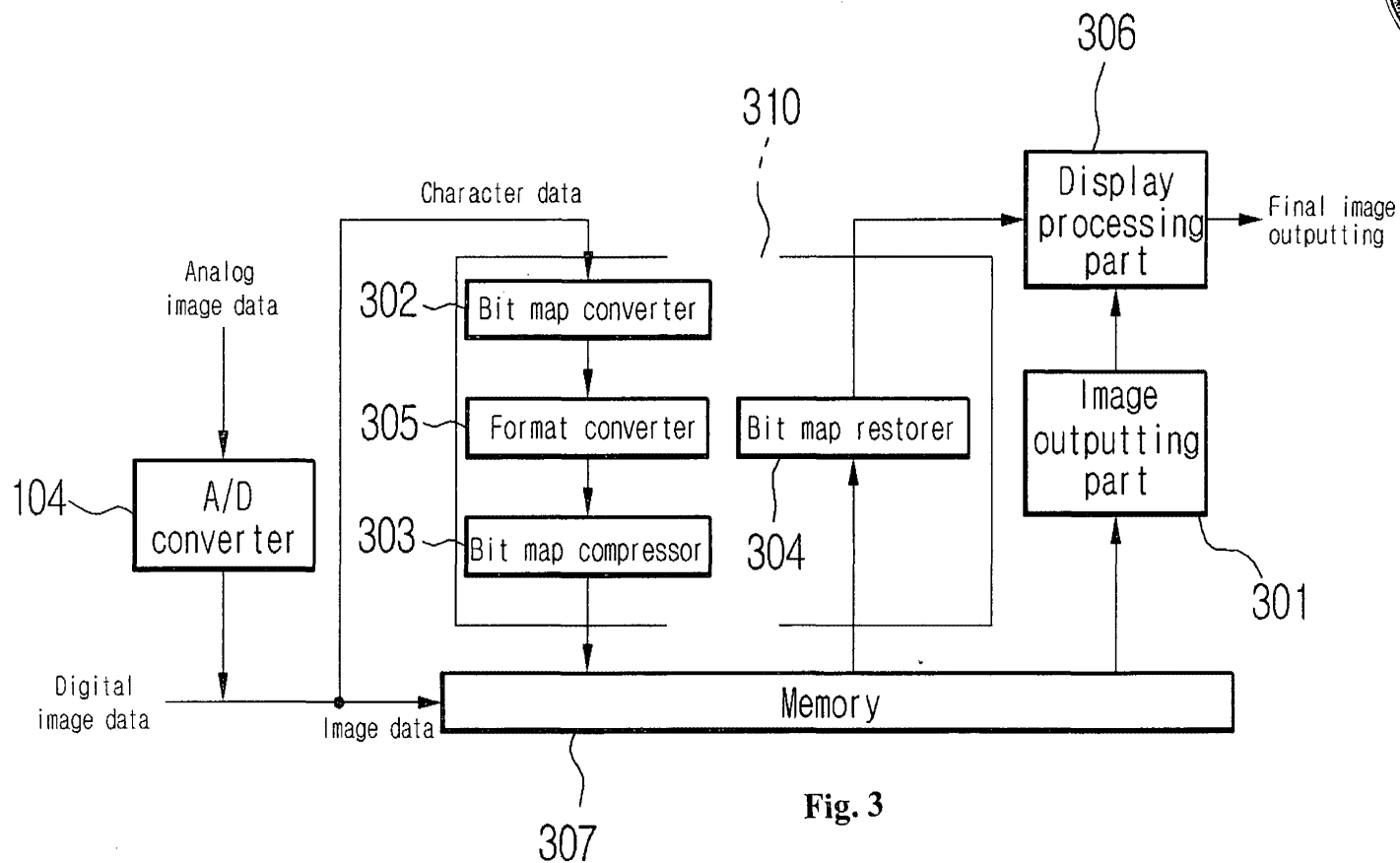


Fig. 3

App No.: 11/785,524
Inventor: Seung CHOI
Title: IMAGE DISPLAY DEVICE IN DIGITAL TV
REPLACEMENT SHEET
Docket No.: 3449-0170PUS3

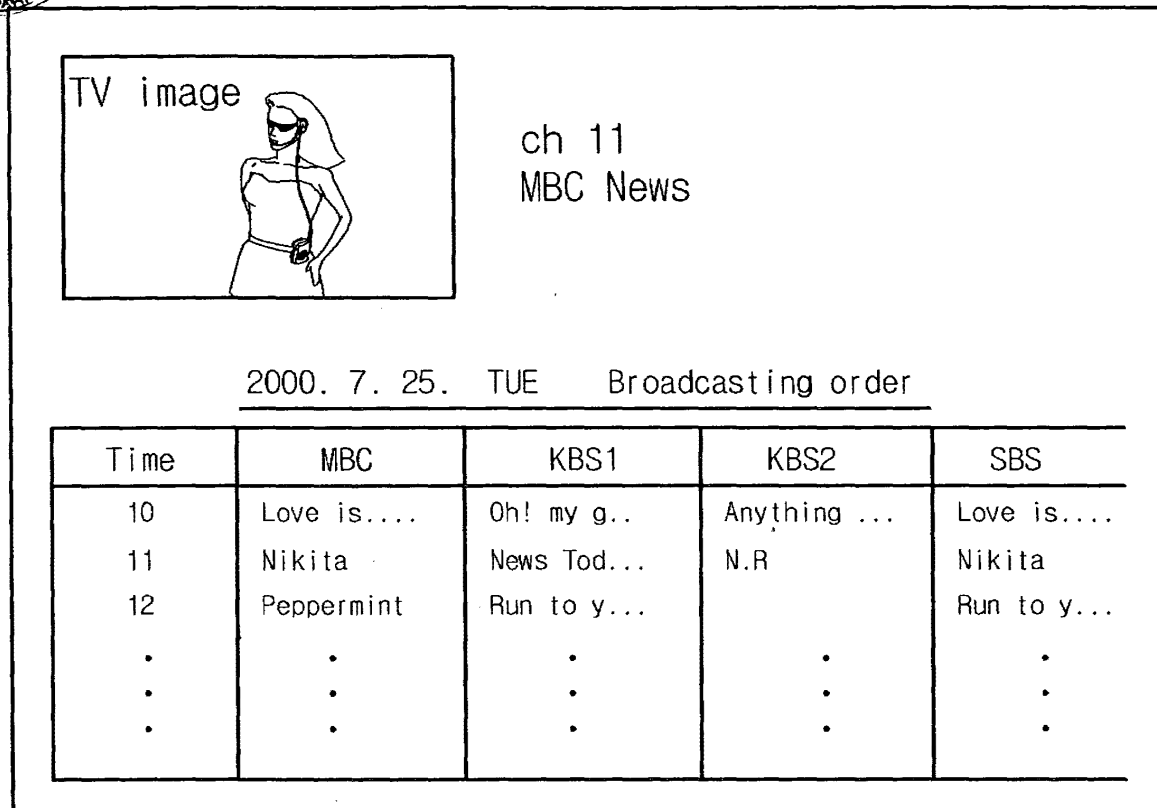


Fig. 4



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO
11/785,524	04/18/2007	2622	1000	3449-0170PUS3

CONFIRMATION NO. 3873

2292
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA22040-0747

UPDATED FILING RECEIPT

Date Mailed: 07/19/2007

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 write to the Office of Initial Patent Examination's Filing Receipt Corrections. 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**

Applicant(s)

Seung Jong Choi, Seoul, KOREA, REPUBLIC OF;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 11/374,112 03/14/2006 PAT 7,215,381
which is a DIV of 09/922,863 08/07/2001 PAT 7,079,193

Foreign Applications

REPUBLIC OF KOREA 2000-45807 08/08/2000

If Required, Foreign Filing License Granted: 05/08/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is
US11/785,524

Projected Publication Date: 10/25/2007

Non-Publication Request: No

Early Publication Request: No

Title

Image display device in digital TV

Preliminary Class

Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461

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.

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APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3

CONFIRMATION NO. 3873

2292
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA22040-0747

Title: Image display device in digital TV

Publication No. US-2007-0247552-A1

Publication Date: 10/25/2007

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 Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, 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 <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Pre-Grant Publication Division, 703-605-4283



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FEE TRANSMITTAL For FY 2008		Complete if Known	
		Application Number	11/785,524-Conf. #3873
		Filing Date	April 18, 2007
		First Named Inventor	Seung CHOI
		Examiner Name	Not Yet Assigned
☐ Applicant claims small entity status. See 37 CFR 1.27		Art Unit	N/A
TOTAL AMOUNT OF PAYMENT		(\$)	150.00
		Attorney Docket No.	3449-0170PUS3

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 02-2448 Deposit Account Name: Birch, Stewart, Kolasch & Birch, 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 underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	310	155	510	255	210	105	
Design	210	105	100	50	130	65	
Plant	210	105	310	155	160	80	
Reissue	310	155	510	255	620	310	
Provisional	210	105	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	210	105
Multiple dependent claims	370	185

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
23	- 20 = 3	x 150	= 150

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
3	- 3 = 0	x	=

HP = highest number of independent claims paid for, if greater than 3.

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 \$260 (\$130 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).

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)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): 1202/2202 claims in excess of twenty 150.00

SUBMITTED BY			
Signature		Registration No. (Attorney/Agent)	40,953
Name (Print/Type)	Esther H. Chong	Telephone	(703) 205-8000
		Date	December 4, 2007

#42,325

Birch, Stewart, Kolasch & Birch, LLP

EHC/RJW/amm



~~DDA~~
~~\$~~

Docket No.: 3449-0170PUS3
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Seung Jong CHOI

Confirmation No. 3873

Application No.: 11/785,524

Art Unit: 2622

Filed: April 18, 2007

Examiner: Not Yet Assigned

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

SECOND PRELIMINARY AMENDMENT

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

Sir:

INTRODUCTORY COMMENTS

The following preliminary amendments and remarks are respectfully submitted in connection with the above-identified application.

This amendment includes:

Amendments to the Claims, and

Remarks.

12/05/2007 SZEWDIE1 00000151 022448 11785524
01 FC:1202 150.00 DA

AMENDMENTS TO THE CLAIMS

1-14. (Canceled)

15. (New) A digital television having a display, comprising:

a receiving part configured to receive at least one of digital image data and analog image data;

a data processing part configured to execute bit map conversion and format-conversion for character data to be displayed on the display;

a memory configured to store the bit map data obtained according to the bit map conversion in the data processing part and image data inputted from an arbitrary receiving part;

an image outputting part configured to read image data from the memory; and

a display processing part configured to mix image data read from the image outputting part and the bit map data converted in format by the data processing part.

16. (New) The digital television as defined in claim 15, wherein the data processing part comprises a bit map converter configured to determine whether the text data is the bit map data and that converts the text data into the bit map data, based upon the determined result, and a bit map compressor configured to compress the bit map data by using compression coding.

17. (New) The digital television as defined in claim 16, wherein the data processing part further comprises a bit map decompressor configured to read the compressed bit map data from the memory to thereby restore the read data to its original bit map data, and a format

converter configured to convert the format of the decompressed bit map data to correspond with display resolution.

18. (New) The digital television as defined in claim 15, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

19. (New) The digital television as defined in claim 16, wherein the bit map converter converts the text data into the bit map data, if it is determined that the text data is not the bit map data.

20. (New) The digital television as defined in claim 16, wherein the bit map converter bypasses the text data, if it is determined that the text data is the bit map data.

21. (New) The digital television as defined in claim 16, wherein the predetermined compression coding is a run-length compression coding.

22. (New) The digital television as defined in claim 15, wherein the memory stores first bit map data or second bit map data.

23. (New) The digital television as defined in claim 15, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

24. (New) The digital television as defined in claim 17, wherein the format converter adjusts the resolution by integrating real number times to either a horizontal direction or a vertical direction of decompressed bit map data.

25. (New) A digital television having a data processing device and a display, comprising:
a bit map converter configured to determine whether text data to be displayed on the display is bit map data and to convert the text data into bit map data;
a bit map compressor configured to compress the bit map data by using compression coding;
a bit map decompressor configured to read the compressed bit map data from a memory for restoring read data to its original bit map data; and
a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution.

26. (New) The digital television as defined in claim 25, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

27. (New) The digital television as defined in claim 25, wherein the bit map converter converts the text data into bit map data if it is determined that the text data is not bit map data.

28. (New) The digital television as defined in claim 25, wherein the bit map converter bypasses the text data if it is determined that the text data is bit map data.

29. (New) The digital television as defined in claim 25, wherein the predetermined compression coding is a run-length compression coding.

30. (New) The digital television as defined in claim 25, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data previously stored in the memory.

31. (New) The digital television as defined in claim 25, wherein the format converter adjusts the resolution by integrating real number times by either the horizontal direction or the vertical directions of the decompressed bit map data.

32. (New) A digital television having a data processing device and a display, comprising:
a bit map converter configured to determine whether text data to be displayed on the display is bit map data and configured to convert the text data into bit map data;
a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution;
a bit map compressor configured to compress the bit map data by using compression coding; and
a bit map decompressor configured to read the compressed bit map data from a memory for restoring the read data back to its original bit map data.

33. (New) The digital television as defined in claim 32, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data previously stored in the memory.

34. (New) The digital television as defined in claim 32, wherein the format converter adjusts the resolution by integrating real number times to either the horizontal direction or the vertical direction of the decompressed bit map data.

35. (New) The digital television as defined in claim 15, wherein the display displays different resolution images.

36. (New) The digital television as defined in claim 25, wherein the display displays different resolution images.

37. (New) The digital television as defined in claim 32, wherein the display displays different resolution images.

REMARKS

By this Preliminary Amendment, original claims 1-14 are cancelled and claims 15-37 are added. No new matter is involved. Support for claims 15-37 is found, for example, see Figs. 2-3 and the corresponding discussion in the specification.

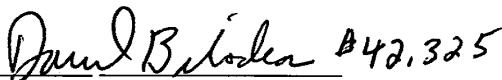
Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert J. Webster (Reg. No. 46,472) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.14; particularly, extension of time fees.

Dated: December 4, 2007

Respectfully submitted,

By  #42,325
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3	3873
2292 7590 01/07/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER NATNAEL, PAULO S M	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 01/07/2010	DELIVERY MODE 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):

mailroom@bskb.com

Office Action Summary	Application No. 11/785,524	Applicant(s) CHOI, SEUNG JONG	
	Examiner PAULOS M. NATNAEL	Art Unit 2622	
	-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 04 December 2007.

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

3) ☐ 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

4) ☒ Claim(s) 15-37 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 15-37 is/are rejected.

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

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

Application Papers

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

10) ☒ The drawing(s) filed on 09 July 2007 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).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).

a) ☒ All b) ☐ Some * c) ☐ None of:

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) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. 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).

2. Claims **25-29,32-37** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-5,8-11** of U.S. Pat. No.

7,215,381. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are fully disclosed/covered in claims **1-5,8-11** of Pat. No. **7,215,381** (hereinafter, “Pat. ‘381”).

Considering claim **25**, a digital television having a data processing device and a display, comprising:

a) a bit map converter configured to determine whether text data to be displayed on the display is bit map data and to convert the text data into bit map data, is met by “a bit map converter for determining whether text data received by the digital TV is bit map data and converting the text data into the bit map data, based upon the determined result”... claim 1, Pat. ‘381.

b) a bit map compressor configured to compress the bit map data by using compression coding, is met by “a bit map compressor for compressing the bit map data by using a predetermined compression coding”... claim 1, Pat. ‘381.

c) a bit map decompressor configured to read the compressed bit map data from a memory for restoring read data to its original bit map data, is met by “a bit map restorer for reading the compressed bit map data from a memory to thereby restore the read data to its original bit map data”... claim 1, Pat. ‘381.

d) a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution, is met by “a format converter for converting the format of the restored bit map data to correspond with any of the plurality of different display resolutions”... claim 1, Pat. ‘381.

Regarding claims **26-29**, see claims **2-5**, Pat. '381, respectively.

Regarding claim **32**,

- a) a bit map converter configured to determine whether text data to be displayed on the display is bit map data and configured to convert the text data into bit map data, is met by “a bit map converter for determining whether text data to be displayed on the digital TV display is bit map data and converting the text data into the bit map data, based upon the determined result”, claim 8, Pat. '381.
- b) a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution, is met by “a format converter for converting the format of decompressed bit map data to correspond with any of the plurality of different display resolutions”, claim 8, Pat. '381.
- c) a bit map compressor configured to compress the bit map data by using compression coding, is met by a bit map compressor for compressing the bit map data by using a predetermined compression coding, claim 8, Pat. '381.
- d) a bit map decompressor configured to read the compressed bit map data from a memory for restoring the read data back to its original bit map data, is met by “ a bit map restorer for reading the compressed bit map data from a memory for restoring the read data to its original bit map data”, claim 8, Pat. '381.

As to claim **33-37**, see claims **9-11** (respectively), Pat. '381.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **15-20, 22, 24-26** are rejected under 35 U.S.C. 102(b) as being anticipated by **Chui et al**, U.S. Pat. No. **5,600,373**.

Regarding claim **15**, Chui et al. (hereinafter, 'Chui') disclose all claimed subject matter, note;

a) a receiving part configured to receive at least one of digital image data and analog image data, **is met by** format converter 14 which receives an image from the image source 12, Fig.4a;

b) a data processing part configured to execute bit map conversion and format-conversion for character data to be displayed on the display, is met by format converter 14 (Fig.4a).

c) a memory configured to store the bit map data obtained according to the bit map conversion in the data processing part and image data inputted from an arbitrary receiving part, **is met by** memory 22 and devices 35 and 37 in image compressor 40, Fig.5;

d) an image outputting part configured to read image data from the memory, **is met by** data flow I/F 80, Fig.15a;

e) a display processing part configured to mix image data read from the image outputting part and the bit map data converted in format by the data processing part, **is met by** Decompressor 18 (Fig.4a) which mixes data 15 and data from memory 22.

As to claim **16**, wherein the data processing part comprises a bit map converter configured to determine whether the text data is the bit map data and that converts the text data into the bit map data, based upon the determined result, and a bit map compressor configured to compress the bit map data by using compression coding, **is met by** processor 10, which comprises format converter 14 and compressor 16 (see also, col. 37, lines 22-37).

Regarding claim **17**, the digital television as defined in claim 16, wherein the data processing part further comprises a bit map decompressor configured to read the compressed bit map data from the memory to thereby restore the read data to its original bit map data, and a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution, **is met by** the processor 20 which comprises decompressor 18 and format converter 24, Fig.4a.

Considering claim **18**, the digital television as defined in claim 15, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data, **is met by** the disclosure on col. 37, lines 22-37 which teaches at least bit map data.

Regarding claims **19** and **20**, see rejection of claim 15.

Regarding claim **22**, see rejection of claim 15.

Regarding claim **24**, wherein the format converter adjusts the resolution by integrating real number times to either a horizontal direction or a vertical direction of decompressed bit map data... is met by format converter 14, Fig.4a.

Regarding claim **25**, Chui discloses all claimed subject matter, note;

- a) a bit map converter configured to determine whether text data to be displayed on the display is bit map data and to convert the text data into bit map data, is met by image format converter 14, Fig.4a;
- b) a bit map compressor configured to compress the bit map data by using compression coding, is met by compressor 16, Fig.4a;
- c) a bit map decompressor configured to read the compressed bit map data from a memory for restoring read data to its original bit map data, is met by decompressor 18, Fig.4a;

d) a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution, is met by image converter 24, Fig.4a;

Regarding claim **26**, the digital television as defined in claim 25, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data, **is met by** the disclosure on col. 37, lines 22-37 which teaches at least bit map data.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **21,23, and 27-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chui et al**, U.S. Pat. No. **5,600,373**.

Regarding claim **21**, Chui discloses several different compression coding (col. 1, line 55 to col. 2, line 12; col. 16-18 and throughout the document). Chui does not specifically disclose “a run-length compression coding”. However, the examiner takes Official Notice in that **run-length compression coding** is a notoriously well known coding method in the art of image compression and, therefore, it would have been obvious to

the skilled in the art at the time the invention was made to modify the reference of Chui accordingly by providing the claimed method of coding.

Regarding claim **23**, Chui does not specifically disclose the conversion of the text data as being carried out by using either “the first bit map data” or “the second bit map data”. However, given a reasonably broad interpretation, the examiner submits that the processing of the bit map data using one or the other, or one bit map data after another consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Chui by providing a consecutive bit map conversion processing so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

As to claim **27**, Chui discloses bit determination device as part of the format converter 12 (see also Chui, 5,604,824).

Considering claim **28**, the digital television as defined in claim 25, wherein the bit map converter bypasses the text data if it is determined that the text data is bit map data, **is met by**

Considering claim **29**, see rejection of claim 21.

Considering claim **30**, see rejection of claim 23.

Regarding claim **31**, Chui discloses symbolic substitution and byte packing methods (see on Fig.3c; columns 11-12).

Considering claim **32**, see rejection of claim 25.

Considering claim 33, see rejection of claim 21.

Considering claim 34, see rejection of claim 31.

As to claims **35-37**, Chui discloses converting/compressing/decompressing images for display on medium or high resolution displays, such as units 16 and 18.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chui et al. 5,604,824 discloses compression and decompression of documents.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAULO M. NATNAEL whose telephone number is (571)272-7354. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. 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.

/PAULOS M. NATNAEL/
Primary Examiner, Art Unit 2622

PMN

Notice of References Cited	Application/Control No. 11/785,524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG	
	Examiner PAULOS M. NATNAEL	Art Unit 2622	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,604,824	02-1997	Chui et al.	382/248
*	B	US-5,600,373	02-1997	Chui et al.	375/240.1
*	C	US-5,745,119	04-1998	Parchem et al.	345/603
*	D	US-5,862,412	01-1999	Sugiyama, Mikio	710/68
*	E	US-6,275,267	08-2001	Kobayashi, Satoshi	348/555
*	F	US-5,844,541	12-1998	Cahill, III, Benjamin M.	345/667
*	G	US-5,841,473	11-1998	Chui et al.	348/390.1
*	H	US-7,215,381	05-2007	Choi, Seung Jong	348/569
*	I	US-7,079,193	07-2006	Choi, Seung Jong	348/564
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 11785524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG
	Examiner PAULOS M NATNAEL	Art Unit 2622

SEARCHED			
Class	Subclass	Date	Examiner
348	569,555,565,667,	12/29/09	pmn
710	70,68,	12/29/09	pmn
375	240.1,240.12,	12/29/09	pmn
382	248,218	12/29/09	pmn
	(Key-word search)		

SEARCH NOTES		
Search Notes	Date	Examiner
EAST, Inventor search on PALM, eDAN	12/29/09	pmn

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	2	"7215381"	US-PGPUB; USPAT	OR	ON	2009/12/28 18:12
S2	14	("5604824" "5732202" "5841473" "5844541" "5862412" "5969770" "6157396" "6256068" "6275267" "6373527" "6456340" "6529244" "6788347" "6853385").PN. OR ("7215381").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2009/12/29 09:21
S3	18	("6175388").PN. OR ("6275267"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2009/12/29 09:25
S4	353026	(receiv\$3 generat \$3 produc\$3) near2 (analog digital)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:29
S5	4868	("bit map" bitmap \$4 bit-map\$3) near2 conver\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:30
S6	83368	format\$4 near2 conver\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:30
S7	10308547	(mix\$3 add\$3 sum \$4 multiplex\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:31

S8	414	S4 and S5 and S6 and S7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:32
S9	408	S8 and (memory stor\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:32
S10	46	S9 and (display near process\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:33
S11	20	S10 and @ay< "2001"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:34
S12	421	S5 same S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:36
S13	12	S12 same S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 09:36
S14	23	("3781816" "4125873" "4668995" "4682190" "4807182" "5293313" "5325126" "5353388" "5394534" "5539842" "5566001" "5621459" "5635982" "5638498" "5664029" "5664070" "5666211"	US-PGPUB; USPAT; USOCR	OR	ON	2009/12/29 09:49

		"5777617" "H001589").PN. OR ("5862412").URPN.				
S15	10923	("bit map" bitmap \$4 bit-map\$3 graphic) near2 conver\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 10:20
S16	940	S15 same S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 10:20
S17	16	S16 same S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 10:21
S18	10	S17 not choi	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 10:21
S19	53	"5604824"	US-PGPUB; USPAT	OR	ON	2009/12/29 10:38
S20	68720	(de-compress\$3 decompress\$3 restor\$3) and compress\$3 and (bit map bitmap bitmap\$4 graphic)	US-PGPUB; USPAT	OR	ON	2009/12/29 11:20
S21	7740	S20 and (format\$4 near2 conver\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 11:20
S22	13102	(de-compress\$3 decompress\$3 restor\$3) same compress\$3 same (bit map bitmap bitmap\$4 graphic)	US-PGPUB; USPAT	OR	ON	2009/12/29 11:21

S23	1928	S22 and (format\$4 near2 conver\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 11:21
S24	197	S22 same (format \$4 near2 conver\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 11:21
S25	71	S24 and @ay< "2001"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/12/29 11:22
S26	0	"5604824.pn"	US-PGPUB; USPAT	OR	ON	2009/12/29 15:55
S27	0	"5604824.pn."	US-PGPUB; USPAT	OR	ON	2009/12/29 15:55
S28	53	"5604824"	US-PGPUB; USPAT	OR	ON	2009/12/29 15:56

EAST Search History (I nterference)

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	New (Cont. of 3449-0170PUS2)
				Filing Date	April 18, 2007
				First Named Inventor	Seung Jong CHOI
				Art Unit	N/A 2622
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	3449-0170PUS3

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
/P.N./	AA*	US-5,844,541-A	12-01-1998	Cahill, III	
	AB*	US-5,862,412-A	01-19-1999	Sugiyama	
	AC*	US-6,529,244-B1	03-04-2003	Hrusecky	
	AD*	US-6,256,068-B1	07-03-2001	Takada et al.	
	AE*	US-5,732,202	03-24-1998	Okamoto	
	AF*	US-6,275,267-B1	08-14-2001	Kobayashi	
	AG*	US-6,456,340-B1	09-24-2002	Margulis	
	AH*	US-6,157,396-A	12-05-2000	Margulis et al.	
	AI*	US-5,969,770-A	10-19-1999	Horton	
	AJ*	US-6,373,527-B1	04-16-2002	Lee	
	AK*	US-6,788,347-B1	09-07-2004	Kim et al.	
	AL*	US-5,604,824-A	02-18-1997	Chui et al.	
	AM*	US-5,841,473-A	11-24-1998	Chui et al.	
	AN*	US-6,853,385-B1	02-08-2005	MacInnis et al.	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²

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

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	/Paulos Natnael/	Date Considered	12/29/2009
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Birch, Stewart, Kolasch & Birch, LLP

EHC/RJW/af

Docket No.: 3449-0170PUS3
(Patent)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application of: Seung Jong CHOI

Application No.: 11/785,524

Confirmation No.: 3873

Filed: April 18, 2007

Art Unit: 2622

For: IMAGE DISPLAY DEVICE IN DIGITAL TV

Examiner: P. NATNAEL

AMENDMENT UNDER § 1.111

MS AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In reply to the Office Action dated January 7, 2010, the following amendments and remarks are respectfully submitted in connection with the above-identified application:

Amendments to the Claims begin on page 2.

Remarks begin on page 7.

AMENDMENTS TO THE CLAIMS

1-14. (Canceled)

15. **(Currently Amended)** A digital television having a display, comprising:

a receiving part configured to receive at least one of digital image data and analog image data;

a data processing part configured to execute bit map conversion and format-conversion for ~~character~~ text data to be displayed on the display;

a memory configured to store the bit map data obtained according to the bit map conversion in the data processing part and image data inputted from an arbitrary receiving part;

an image outputting part configured to read image data from the memory; and

a display processing part configured to mix image data read from the image outputting part and the bit map data converted in format by the data processing part.

16. (Previously Presented) The digital television as defined in claim 15, wherein the data processing part comprises a bit map converter configured to determine whether the text data is the bit map data and that converts the text data into the bit map data, based upon the determined result, and a bit map compressor configured to compress the bit map data by using compression coding.

17. (Previously Presented) The digital television as defined in claim 16, wherein the data processing part further comprises a bit map decompressor configured to read the compressed bit map data from the memory to thereby restore the read data to its original bit map

data, and a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution.

18. (Previously Presented) The digital television as defined in claim 15, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

19. (Previously Presented) The digital television as defined in claim 16, wherein the bit map converter converts the text data into the bit map data, if it is determined that the text data is not the bit map data.

20. (Previously Presented) The digital television as defined in claim 16, wherein the bit map converter bypasses the text data, if it is determined that the text data is the bit map data.

21. (Previously Presented) The digital television as defined in claim 16, wherein the predetermined compression coding is a run-length compression coding.

22. (Previously Presented) The digital television as defined in claim 15, wherein the memory stores first bit map data or second bit map data.

23. (Previously Presented) The digital television as defined in claim 15, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

24. (Previously Presented) The digital television as defined in claim 17, wherein the format converter adjusts the resolution by integrating real number times to either a horizontal direction or a vertical direction of decompressed bit map data.

25. (Previously Presented) A digital television having a data processing device and a display, comprising:

a bit map converter configured to determine whether text data to be displayed on the display is bit map data and to convert the text data into bit map data;

a bit map compressor configured to compress the bit map data by using compression coding;

a bit map decompressor configured to read the compressed bit map data from a memory for restoring read data to its original bit map data; and

a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution.

26. (Previously Presented) The digital television as defined in claim 25, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data.

27. (Previously Presented) The digital television as defined in claim 25, wherein the bit map converter converts the text data into bit map data if it is determined that the text data is not bit map data.

28. (Previously Presented) The digital television as defined in claim 25, wherein the bit map converter bypasses the text data if it is determined that the text data is bit map data.

29. (Previously Presented) The digital television as defined in claim 25, wherein the predetermined compression coding is a run-length compression coding.

30. (Previously Presented) The digital television as defined in claim 25, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data previously stored in the memory.

31. (Previously Presented) The digital television as defined in claim 25, wherein the format converter adjusts the resolution by integrating real number times by either the horizontal direction or the vertical directions of the decompressed bit map data.

32. (Previously Presented) A digital television having a data processing device and a display, comprising:

a bit map converter configured to determine whether text data to be displayed on the display is bit map data and configured to convert the text data into bit map data;

a format converter configured to convert the format of the decompressed bit map data to correspond with display resolution;

a bit map compressor configured to compress the bit map data by using compression coding; and

a bit map decompressor configured to read the compressed bit map data from a memory for restoring the read data back to its original bit map data.

33. (Previously Presented) The digital television as defined in claim 32, wherein the conversion of the text data is carried out by using either first bit map data or second bit map data previously stored in the memory.

34. (Previously Presented) The digital television as defined in claim 32, wherein the format converter adjusts the resolution by integrating real number times to either the horizontal direction or the vertical direction of the decompressed bit map data.

35. (Previously Presented) The digital television as defined in claim 15, wherein the display displays different resolution images.

36. (Previously Presented) The digital television as defined in claim 25, wherein the display displays different resolution images.

37. (Previously Presented) The digital television as defined in claim 32, wherein the display displays different resolution images.

REMARKS

Status of the Claims

Claims 15-37 are now present in this application. Claims 15, 25 and 32 are independent.

Claim 15 has been amended. No new matter is involved. Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. § 119

Applicant thanks the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

Information Disclosure Citation

Applicant thanks the Examiner for considering the references supplied with the Information Disclosure Statement filed on April 18, 2007, and for providing Applicant with an initialed copy of the PTO-SB08 form filed therewith.

Drawings

Applicant thanks the Examiner for indicating that the drawings are accepted.

Nonstatutory Obviousness-type Double Patenting Rejection

Claims 25-29 and 32-37 stand rejected on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 1-5 and 8-11 of U.S. Patent 7,215,381 to Choi. This rejection is respectfully traversed based on Applicant's intention to file a Terminal Disclaimer with respect to the Choi patent on which this rejection is based.

Subject to the filing of the aforementioned Terminal Disclaimer, reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 15-20, 22 and 24-26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chui et al., U.S. Patent 5,600,373 (“Chui”). This rejection is respectfully traversed.

A prior art reference anticipates the subject matter of a claim when that reference discloses every feature of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and *Hazani v. Int'l Trade Comm'n*, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed Cir. 1997). While, of course, it is possible that it is inherent in the operation of the prior art device that a particular element operates as theorized by the Examiner, inherency may not be established by probabilities or possibilities. What is *inherent*, must necessarily be disclosed. *See In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicant is entitled to the patent. However, when a *prima facie* case is made, the burden shifts to the Applicant to come forward with evidence and/or argument supporting patentability. Patentability *vel non* is then determined on the entirety of the record, by a preponderance of evidence and weight of argument, *In re Gulag*, 62 USPQ2d 1151 (Fed. Cir. 2002).

Moreover, as stated in MPEP §707.07(d), where a claim is refused for any reason relating to the merits thereof it should be "rejected" and the ground of rejection fully and clearly stated.

Additionally, findings of fact and conclusions of law by the USPTO must be made in accordance with the Administrative Procedure Act, 5 U.S.C. §706(A), (E) (1994). *See Zurko v. Dickinson*, 527 U.S. 150, 158, 119 S.Ct. 1816, 1821, 50 USPQ2d 1930, 1934 (1999).

A claim limitation is inherent in the prior art if it is necessarily present in the prior art, not merely probably or possibly present. *See Rosco v. Mirro Lite*, 304 F.3d 1373, 1380, 64 USPQ2d 1676 (Fed. Cir. 2002). The dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior reference's teaching that every claim feature or limitation was disclosed in that single reference, *Dayco Products, Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368, 66 USPQ2d 1801 (Fed. Cir. 2003).

Claim 15, as amended, recites a combination of features, including a data processing part configured to execute bit map conversion and format conversion for text data to be displayed on the display.

Chui has no disclosure of bit-map and format converting anything other than image data. There is no disclosure whatsoever in Chui of a processing part configured to execute bit map conversion and format conversion for text data to be displayed on the display. In this regard, Applicant notes that Chui's format converter 14, relied on in the rejection, is used to convert the format of the video image data from video source 12 into the format suitable for conversion by compressor 16 (which is disclosed in col. 14, lines 18+, as eight-bit format) and has nothing to do with conversion of text data.

With respect to claim 25, this claim positively recites a combination of features, including a bit map converter configured to determine whether text data to be displayed on the display is bit map data and to convert the text data into bit map data. However, as discussed above, Chui has no disclosure of bit-map and format converting anything other than image data. In this regard, Applicant notes that Chui's format converter 14, relied on in the rejection, is used to convert the format of the video image data from video source 12 into the format suitable for conversion by compressor 16 (which is disclosed in col. 14, lines 18+, as eight-bit format) and has nothing to do with conversion of text data.

Accordingly, claims 15-20, 22 and 24-26 are not anticipated by Chui.

Thus, reconsideration and withdrawal of this rejection of claims 15-20, 22 and 24-26 are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 21, 23 and 27-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chui et al., U.S. Patent 5,600,373 ("Chui"). This rejection is respectfully traversed.

Initially, Applicants note that claim 15, from which claims 21 and 23 depend, and claim 25, from which claims 27-31 depend, patentably define over Chui for reasons presented above. Moreover, even if one of ordinary skill in the art were properly motivated to employ run-length encoding in Chui, the so-modified version of Chui would still not render obvious the inventions recited in claims 15 and 25, for reasons stated above.

Furthermore, with respect to independent claim 32, this claim positively recites a combination of features including a bit map converter configured to determine whether text data to be displayed on the display is bit map data and configured to convert the text data into bit map

data, as discussed above, Chui has no disclosure of bit-map and format converting anything other than image data. In this regard, Applicant notes that Chui's format converter 14, relied on in the rejection, is used to convert the format of the video image data from video source 12 into the format suitable for conversion by compressor 16 (which is disclosed in col. 14, lines 18+, as eight-bit format) and has nothing to do with conversion of text data. Accordingly, Chui does not disclose, suggest, or otherwise render obvious, the inventions recited in claims 32-37, regardless of whether run-length encoding is used in Chui.

Accordingly, claims 21, 23 and 27-37 are not obvious over Chui.

Thus, reconsideration and withdrawal of this rejection of claims 21, 23 and 27-37 are respectfully requested.

Additional Cited References

Because the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

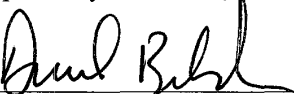
In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert J. Webster, Registration No. 46,472 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: April 7, 2010

Respectfully submitted,

By 
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DAVID A. BILOD
USPTO #42,31

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EHC/RJW/kml 

Electronic Acknowledgement Receipt	
EFS ID:	7370540
Application Number:	11785524
International Application Number:	
Confirmation Number:	3873
Title of Invention:	Image display device in digital TV
First Named Inventor/Applicant Name:	Seung Jong Choi
Customer Number:	02292
Filer:	David Alan Bilodeau/Kimberly Lane
Filer Authorized By:	David Alan Bilodeau
Attorney Docket Number:	3449-0170PUS3
Receipt Date:	07-APR-2010
Filing Date:	18-APR-2007
Time Stamp:	16:38:21
Application Type:	Utility under 35 USC 111(a)

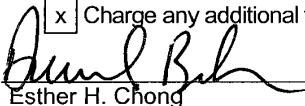
Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2010-04-07Amendmentsfiled.pdf	451088 ae3f13e03e6b8208703d86147024bcdbe4c4b8a8	yes	13

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Miscellaneous Incoming Letter	1	1
	Amendment/Req. Reconsideration-After Non-Final Reject	2	2
	Claims	3	7
	Applicant Arguments/Remarks Made in an Amendment	8	13
Warnings:			
Information:			
Total Files Size (in bytes):		451088	
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. <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.			

AMENDMENT TRANSMITTAL LETTER				Docket No. 3449-0170PUS3	
Application No. 11/785,524 - Conf. #3873		Filing Date April 18, 2007		Examiner P. NATNAEL	
Art Unit 2622					
Applicant(s): Seung Jong CHOI					
Invention: IMAGE DISPLAY DEVICE IN DIGITAL TV					
Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-145 Transmitted herewith is an amendment in the above-identified application. The fee has been calculated and is transmitted as shown below.					
CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	23	- 23 =	0	x 52.00	0.00
Independent Claims	3	- 3 =	0	x 220.00	0.00
Multiple Dependent Claims (check if applicable) ☐					0.00
Other fee (please specify):					0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					0.00
☒ Large Entity ☐ Small Entity ☒ No additional fee is required for this amendment. ☐ Please charge Deposit Account No. <u>02-2448</u> in the amount of \$ _____. A duplicate copy of this sheet is enclosed. ☐ A check in the amount of \$ _____ is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☒ The Director is hereby authorized to charge and credit Deposit Account No. <u>02-2448</u> as described below. ☒ Credit any overpayment. ☒ Charge any additional filing or application processing fees required under 37 CFR 1.16 and 1.17.					
 DAVID A. BILODEAU USPTO #42,325		Dated: <u>April 7, 2010</u>			
Esther H. Chong Attorney Reg. No.: 40953 BIRCH, STEWART, KOLASCH & BIRCH, LLP 8110 Gatehouse Road, Suite 100 East P.O. Box 747 Falls Church, VA 22040-0747 United States 703-205-8000					

BIRCH, STEWART, KOLASCH & BIRCH, LLP

EHC/RJW/kml

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 11/785,524		Filing Date 04/18/2007		☐ To be Mailed		
APPLICATION AS FILED – PART I											
(Column 1)			(Column 2)			SMALL ENTITY ☐		OR		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A		N/A		N/A		
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A		N/A		N/A		
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A		N/A		N/A		
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	OR	X \$	=	X \$	=	X \$	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=	OR	X \$	=	X \$	=	X \$	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 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).										
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.											
APPLICATION AS AMENDED – PART II										TOTAL	TOTAL
(Column 1)			(Column 2)			SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
AMENDMENT	04/07/2010	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X \$	=	OR	X \$52=	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$	=	OR	X \$220=	0	
	☐ Application Size Fee (37 CFR 1.16(s))							OR			
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	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))							OR			
	☐ 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 number found in the appropriate box in column 1.											

Legal Instrument Examiner:
/DOROTHY BELL/

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

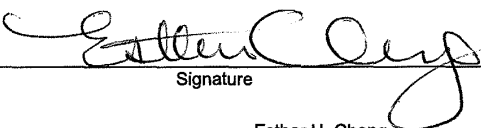
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 11/785,524		Filing Date 04/18/2007		☐ To be Mailed		
APPLICATION AS FILED – PART I							OTHER THAN				
(Column 1)		(Column 2)		SMALL ENTITY ☐		OR		SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OR		RATE (\$)	FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A				N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A		N/A				N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A				N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =		*	X \$	=			X \$	=		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =		*	X \$	=			X \$	=		
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 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).										
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.											
APPLICATION AS AMENDED – PART II							OTHER THAN				
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	04/07/2010	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X \$	=			X \$52=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$	=			X \$220=	0
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR		TOTAL ADD'L FEE	0	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=			X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=			X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					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 number found in the appropriate box in column 1.											

Legal Instrument Examiner:
/DOROTHY BELL/

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

TERMINAL DISCLAIMER TO OBTAIN A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 3449-0170PUS3
In re Application of: Seung Jong CHOI Application No.: 11/785,524 Conf. No.: 3873 Filed: April 18, 2007 For: IMAGE DISPLAY DEVICE IN DIGITAL TV The owner*, LG ELECTRONICS INC., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term prior patent No. 7,215,381 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. Check either box 1 or 2 below, if appropriate. 1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. 2. ☒ The undersigned is an attorney or agent of record. Reg. No. 40953 April 30, 2010  _____ Signature _____ Esther H. Chong Typed or printed name 703-205-8000 _____ Telephone Number ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included. 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. *Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP § 324.	

This collection of information is required by 37 CFR 1.321. 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 1.11 and 1.14. This collection is estimated to take 12 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal				
Application Number:		11785524		
Filing Date:		18-Apr-2007		
Title of Invention:		Image display device in digital TV		
First Named Inventor/Applicant Name:		Seung Jong Choi		
Filer:		Esther Hyeri Chong/Ruth Calendine		
Attorney Docket Number:		3449-0170PUS3		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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:				
Statutory disclaimer	1814	1	140	140
Total in USD (\$)				140

Electronic Acknowledgement Receipt	
EFS ID:	7530284
Application Number:	11785524
International Application Number:	
Confirmation Number:	3873
Title of Invention:	Image display device in digital TV
First Named Inventor/Applicant Name:	Seung Jong Choi
Customer Number:	02292
Filer:	Esther Hyeri Chong/Ruth Calendine
Filer Authorized By:	Esther Hyeri Chong
Attorney Docket Number:	3449-0170PUS3
Receipt Date:	30-APR-2010
Filing Date:	18-APR-2007
Time Stamp:	18:21:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 140
RAM confirmation Number	5678
Deposit Account	022448
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		20100430TERMINALDISCLAIMER.PDF	170470 b36f7d68ef99fab5705ff8337f2182ff433b808b	yes	2
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Miscellaneous Incoming Letter	1	1		
	Terminal Disclaimer Filed	2	2		
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	29671 ca2eb30c6cd37e75acc8bf2cee3db64809b7b522	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			200141		
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. <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.					

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2009

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 140.00

Complete if Known

Application Number	11/785,524	Conf. No.: 3873
Filing Date	April 18, 2007	
First Named Inventor	Seung Jong CHOI	
Examiner Name	P. NATNAEL	
Art Unit	2622	
Attorney Docket No.	3449-0170PUS3	

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 02-2448 Deposit Account Name: _____

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 underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	330	165	540	270	220	110	
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
23	- 20 or HP = 0	x	0.00

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
3	- 3 or HP = 0	x	0.00

HP = highest number of independent claims paid for, if greater than 3.

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 \$270 (\$135 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).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 = 0	/ 50 = 0	(round up to a whole number) x		0.00

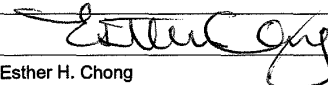
4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Terminal Disclaimer Filing Fee

Fees Paid (\$)
140.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 40953	Telephone 703-205-8000
Name (Print/Type)	Esther H. Chong	Date April 30, 2010	

This collection of information is required by 37 CFR 1.136. 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 30 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

TERMINAL DISCLAIMER INFORMAL CHECKLIST

APPL. S.N.: 11/785,524

DATE:

EXAMINER:

ART UNIT:

PARALEGAL: /FELICIA ROBERTS/

MAIL ROOM DATE:

NUMBER OF TD(s) FILED: 1

INSTRUCTIONS: The paralegal has reviewed the submitted TD with the results as set forth below.

If you agree, please use the appropriate form paragraphs identified by this informal memo in your next Office action to notify applicant about the TD. If you disagree, please contact a QAS.

THIS CHECKLIST IS AN INFORMAL, INTERNAL CHECKLIST ONLY. IT MUST NOT BE MAILED TO APPLICANT. IT WILL BE SOFT SCANNED AND NOT VIEWABLE TO THE PUBLIC.

- ☐ The TD is PROPER and has been accepted and recorded. (See FP 14.23.)
- ☒ The TD is NOT PROPER and has not been accepted for the reason(s) checked below. (See FP 14.24.)
- ☐ The disclaimer fee under 37 CFR 1.20(d) in the amount of \$ has not been submitted, nor is there any pre authorization in the application to charge to a deposit account. (See FP 14.24 and 14.26.07.)
- ☐ The LIE has not processed fee for TD (the Paralegal should ask LIE to process the fee).
- ☐ The TD does not satisfy 37 CFR 1.32(b) (3) in that the person who signed the TD has not stated either: (a) the extent of his/her ownership interest, or (b) the extent of the business/organization entity's ownership interest on whose behalf the person signed. (See FPs 14.26 and 14.26.01.)
- ☐ The TD lacks the – enforceable only during the period of common ownership – clause needed to overcome a double patenting 37 CFR 1.321(c). (See FP 14.27.01.)
- ☐ The TD lacks 37 CFR 1.321(d) statement for joint research agreement under 35 U.S.C. 103(c) (2) & (3). It doesn't include the waiver and enforceability provisions of 37 CFR 1.321(d). (See FP 14.27.011.)
- ☐ TD is directed to a particular claim(s); this is not acceptable, since the disclaimer must be of a terminal portion of the entire patent to be granted, MPEP 1490. (See FPs 14.26 and 14.26.02).
- ☒ The person who signed the terminal disclaimer:
 - ☐ failed to state his/her capacity to sign for the business/organization entity. (See FP 14.28.)
 - ☐ is not recognized as an officer of the assignee. (See FP 14.29.)
 - ☒ does not have power of attorney, and thus, is not of record. (See FP 14.29.01.)

(Note: PoA can be given to a customer number, wherein all practitioners listed under the customer number have PoA. If PoA is established by a list of practitioners, the list may not comprise more than 10 practitioners. A representative of the assignee, who is not of record, cannot sign the TD unless it is established that the representative is a party authorized to act on behalf of the assignee.)

- ☐ The TD is not supported by evidence of chain of title to the assignee signing the TD due to a failure to submit either: (a) documentary evidence of a chain of title from the original inventor(s) to the assignee and a statement affirming that the documentary evidence was, or concurrently is being, submitted for recordation; or (b) the reel and frame number(s) where such documentary evidence is recorded in the Office. 37 CFR 3.73(b). (See FPs 14.30 and 14.34)

NOTE: This documentary evidence or the specifying of the reel and frame number may be found in the TD or in a separate paper submitted by applicant.)

☐ The TD is not supported by adequate evidence of chain of title to the assignee signing the TD, because the person who signed the submission under 37 CFR 3.73(b):

☐ has failed to state his/her capacity to sign for the business entity. (See FPs 14.30.02 and 14.16.02)

☐ is not recognized as an officer of the assignee. (See FP 14.30.02 and 14.16.03)

(Note: On the submission under 37 CFR 3.73(b), the signature of an attorney or agent registered to practice before the Office is not sufficient, unless the attorney or agent is authorized to act on behalf of the assignee.)

☐ The TD is not signed (See FPs 14.26 and 14.26.03)

☐ The serial number of the application (or the number of the patent) which forms the basis for the double patenting is not identified (i.e., missing or incorrect) in the TD. (See FP 14.32)

☐ The serial number of the application being examined (or the number of the patent under reexam or reissue) is not identified or incorrect. (See FPs 14.26 and 14.26.04 or 14.26.05)

☐ The TD is not signed by all owners. See FPs 14.26 and 14.26.06.

☐ The period disclaimed is incorrect or not specified. (See FPs 14.24, 14.27.02 or 14.27.03)

☒ Other The Power of attorney filed 4/18/07 with the Oath is improper under 37 CFR 1.32(c)(3) -more than 10 listed practitioners.

Application Number 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/785,524	CHOI, SEUNG JONG	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : 4/30/10	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
Felicia D. Roberts See TD Checklist for explanation

U.S. Patent and Trademark Office

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☒ Practitioners associated with the Customer Number: 02292

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☒ The address associated with Customer Number: 02292

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

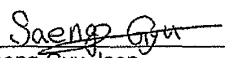
Assignee Name and Address:

LG Electronics Inc.
20, Yoido-dong, Youngdungpo-gu
Seoul
Republic of Korea 150-721

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	Mar. 20, 2009
Name	Saeng-Gyu Jeon	Telephone	+82-2-6912-6700
Title	Vice President		

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: LG ELECTRONICS INC.

Application No./Patent No.: 11/785,524

Filed/Issue Date: April 18, 2007

Titled: IMAGE DISPLAY DEVICE IN DIGITAL TV

LG ELECTRONICS, INC.

, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 012055, Frame 0819, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

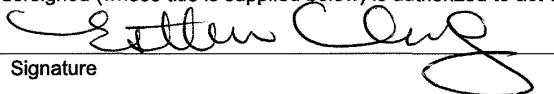
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.


Signature

July 7, 2010

Date

Esther H. Chong (Reg. No. 40,953)

Attorney for Assignee

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). 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 1.11 and 1.14. This collection is estimated to take 12 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461

Electronic Acknowledgement Receipt	
EFS ID:	7970814
Application Number:	11785524
International Application Number:	
Confirmation Number:	3873
Title of Invention:	Image display device in digital TV
First Named Inventor/Applicant Name:	Seung Jong Choi
Customer Number:	02292
Filer:	Esther Hyeri Chong/Ruth Calendine
Filer Authorized By:	Esther Hyeri Chong
Attorney Docket Number:	3449-0170PUS3
Receipt Date:	07-JUL-2010
Filing Date:	18-APR-2007
Time Stamp:	18:26:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		20100707POA.PDF	201449 f3039c4692c666bb9308129263c0d5000761368	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Miscellaneous Incoming Letter	1	1
	Power of Attorney	2	2
	Assignee showing of ownership per 37 CFR 3.73(b).	3	3
Warnings:			
Information:			
Total Files Size (in bytes):		201449	
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. <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.			

Doc Code: TRAN.LET

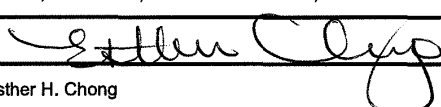
Document Description: Transmittal Letter

PTO/SB/21 (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	11/785,524	Conf. No.: 3873
	Filing Date	April 18, 2007	
	First Named Inventor	Seung Jong CHOI	
	Art Unit	2622	
	Examiner Name	P. NATNAEL	
	Attorney Docket Number	3449-0170PUS3	
Total Number of Pages in This Submission			

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☒ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): Statement Under 37 CFR 3.73(b)
Remarks		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	BIRCH, STEWART, KOLASCH & BIRCH, LLP	
Signature		
Printed name	Esther H. Chong	
Date	July 7, 2010	Reg. No. 40953

CERTIFICATE OF TRANSMISSION/MAILING		
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:		
Signature		
Typed or printed name		Date

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Ex. 1002 - TCL Indus Holdings Co., Ltd.
TCL Indus Holdings Co., Ltd. v. LGE – IPR2023-00461



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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3

CONFIRMATION NO. 3873

POA ACCEPTANCE LETTER

2292
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747



0C000000042559011

Date Mailed: 07/16/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/07/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/atesfai/

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



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

NOTICE OF ALLOWANCE AND FEE(S) DUE

2292 7590 07/26/2010
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
NATNAEL, PAULO S M	
ART UNIT	PAPER NUMBER

2622
DATE MAILED: 07/26/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3	3873
TITLE OF INVENTION: IMAGE DISPLAY DEVICE IN DIGITAL TV				

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	10/26/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

2292 7590 07/26/2010

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3	3873
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TITLE OF INVENTION: IMAGE DISPLAY DEVICE IN DIGITAL TV

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional	NO	\$1510	\$300	\$0	\$1810	10/26/2010
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EXAMINER	ART UNIT	CLASS-SUBCLASS
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NATNAEL, PAULO M	2622	348-441000
------------------	------	------------

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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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.
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3	3873
2292	7590	07/26/2010		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER NATNAEL, PAULO S M	
			ART UNIT	PAPER NUMBER
			2622	
DATE MAILED: 07/26/2010				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 545 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 545 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	11/785,524	CHOI, SEUNG JONG	
	Examiner	Art Unit	
	PAULOS M. NATNAEL	2622	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Terminal disclaimer filed on 4/30/10 and 7/16/10.

2. ☒ The allowed claim(s) is/are 15-17,24,19-21,18,22-23,35,25-31,36,32-34,37, renumbered as 1-23, respectively.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
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)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ . 7. ☐ Examiner's Amendment/Comment 8. ☐ Examiner's Statement of Reasons for Allowance 9. ☐ Other _____.
--	---

/PAULOS M. NATNAEL/ Primary Examiner, Art Unit 2622	July 18, 2010
--	---------------

Notice of References Cited	Application/Control No. 11/785,524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG	
	Examiner PAULOS M. NATNAEL	Art Unit 2622	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,859,236	02-2005	Yui, Hideaki	348/584
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	3	"6658154"	US-PGPUB; USPAT	OR	ON	2010/07/18 09:20
L5	3	4 and format	US-PGPUB; USPAT	OR	ON	2010/07/18 09:36
L6	1	4 and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 09:36
L16	16	(US-20020146176-\$).did. or (US-6275267-\$ or US-5862412-\$ or US-5844541-\$ or US-5841473-\$ or US-6373527-\$ or US-7215381-\$ or US-7079193-\$ or US-5831592-\$ or US-6690828-\$ or US-5745119-\$ or US-4527252-\$ or US-5206734-\$ or US-5600373-\$ or US-5604824-\$ or US-6658154-\$).did.	US-PGPUB; USPAT	OR	ON	2010/07/18 09:39
L17	5	16 and bit adj map \$4	US-PGPUB; USPAT	OR	ON	2010/07/18 09:39
L18	33	16 andgraphic	US-PGPUB; USPAT	OR	ON	2010/07/18 09:39
L19	9	16 and graphic	US-PGPUB; USPAT	OR	ON	2010/07/18 09:39
L20	3	17 and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 09:40
L21	5	19 and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 09:40
L22	93	(mix\$3 add\$3 sum \$4) near ((image video picture) near2 ("bit map" bitmap bit-map\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 09:43

L23	59	(mix\$3 add\$3 sum \$4) near ((image video picture) near ("bit map" bitmap bit-map\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 09:44
L24	19	23 and @ay< "2002"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 09:44
L25	3	24 and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 10:10
L26	4644	conver\$4 adj resolution	US-PGPUB; USPAT	OR	ON	2010/07/18 11:04
L27	9350	conver\$4 near resolution	US-PGPUB; USPAT	OR	ON	2010/07/18 11:05
L28	20970	27and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 11:05
L29	646	27 and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 11:05
L30	64	29 and bit adj map \$4	US-PGPUB; USPAT	OR	ON	2010/07/18 11:05
L31	64	29 and ((bit adj map \$4) "bit map")	US-PGPUB; USPAT	OR	ON	2010/07/18 11:06
L32	32	31 and @ay< "2002"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 11:06
L33	30	32 and (text character)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 11:10
L34	9	natnael\$ and (conver \$4 near resolution)	US-PGPUB; USPAT	OR	ON	2010/07/18 11:52
L35	2969	348/44\$.ccls.	US-PGPUB; USPAT	OR	ON	2010/07/18 11:57
L36	1783	348/45\$.ccls.	US-PGPUB; USPAT	OR	ON	2010/07/18 11:57
L37	661	(35 36) and format adj conver\$4	US-PGPUB; USPAT	OR	ON	2010/07/18 11:58

L38	24	37 and bit adj map \$4	US-PGPUB; USPAT	OR	ON	2010/07/18 11:58
L39	31152	37and ((bit adj map \$4) "bit map")	US-PGPUB; USPAT	OR	ON	2010/07/18 11:58
L40	24	37 and ((bit adj map \$4) "bit map")	US-PGPUB; USPAT	OR	ON	2010/07/18 11:58
L41	14	40 and (text character)	US-PGPUB; USPAT	OR	ON	2010/07/18 11:59
L42	7	41 and @ay< "2002"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/07/18 11:59
L43	0	37 and (((bit adj map\$4) "bit map") near conver\$4)	US-PGPUB; USPAT	OR	ON	2010/07/18 12:01
L44	1	37 and (((bit adj map\$4) "bit map") near2 conver\$4)	US-PGPUB; USPAT	OR	ON	2010/07/18 12:02

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L45	894	348/441.ccls.	USPAT; UPAD	OR	ON	2010/07/18 12:08
L46	213	45 and format adj conver\$4	USPAT; UPAD	OR	ON	2010/07/18 12:09
L47	12	46 and bit adj map \$4	USPAT; UPAD	OR	ON	2010/07/18 12:09
L48	8	47 and (text character)	USPAT; UPAD	OR	ON	2010/07/18 12:09

7/ 18/ 10 12:42:50 PM

C:\ Documents and Settings\ PNatnael\ My Documents\ EAST\ workspaces\ 11785524.wsp

<i>Index of Claims</i> 	Application/Control No. 11785524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG
	Examiner PAULO M NATNAEL	Art Unit 2622

✓	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	07/18/2010										
	1	-										
	2	-										
	3	-										
	4	-										
	5	-										
	6	-										
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21	33	=										
22	34	=										
11	35	=										
19	36	=										

<i>Index of Claims</i> 	Application/Control No. 11785524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG
	Examiner PAULO S M NATNAEL	Art Unit 2622

✓	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	07/18/2010													
23	37	=													

Issue Classification 	Application/Control No. 11785524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG
	Examiner PAULOS M NATNAEL	Art Unit 2622

ORIGINAL						INTERNATIONAL CLASSIFICATION														
CLASS			SUBCLASS			CLAIMED					NON-CLAIMED									
348			441			H	0	4	N	7 / 01 (2006.01.01)										
CROSS REFERENCE(S)																				
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																			

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1	3	17	21	33										
	2	8	18	22	34										
	3	5	19	11	35										
	4	6	20	19	36										
	5	7	21	23	37										
	6	9	22												
	7	10	23												
	8	4	24												
	9	12	25												
	10	13	26												
	11	14	27												
	12	15	28												
	13	16	29												
	14	17	30												
1	15	18	31												
2	16	20	32												

NONE		Total Claims Allowed:	
		23	
(Assistant Examiner)	(Date)		
/PAULOS M NATNAEL/ Primary Examiner.Art Unit 2622	7/18/10	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Search Notes 	Application/Control No. 11785524	Applicant(s)/Patent Under Reexamination CHOI, SEUNG JONG
	Examiner PAULOS M NATNAEL	Art Unit 2622

SEARCHED			
Class	Subclass	Date	Examiner
348	441,458,459,569,555,563-565,667	12/29/09	pmn
710	70,68,	12/29/09	pmn
375	240.1,240.12,	12/29/09	pmn
382	248,218,233	12/29/09	pmn
	(Key-word search)		
Updated search	" "	7/8/10	pmn
""	""	7/18/10	pmn

SEARCH NOTES		
Search Notes	Date	Examiner
EAST, Inventor search on PALM, eDAN	12/29/09	pmn
" "	7/18/10	pmn

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
348	441	7/18/10	pmn

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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

BIB DATA SHEET

CONFIRMATION NO. 3873

SERIAL NUMBER 11/785,524	FILING or 371(c) DATE 04/18/2007 RULE	CLASS 348	GROUP ART UNIT 2622	ATTORNEY DOCKET NO. 3449-0170PUS3		
APPLICANTS Seung Jong Choi, Seoul, KOREA, REPUBLIC OF; ** CONTINUING DATA ***** This application is a CON of 11/374,112 03/14/2006 PAT 7,215,381 Okay! pmn which is a DIV of 09/922,863 08/07/2001 PAT 7,079,193 ** FOREIGN APPLICATIONS ***** REPUBLIC OF KOREA 2000-45807 08/08/2000 Okay! pmn ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 05/08/2007						
Foreign Priority claimed ☒ Yes ☐ No 35 USC 119(a-d) conditions met ☒ Yes ☐ No Verified and /PAULOS M NATNAEL/ Acknowledged Examiner's Signature _____ Initials _____		☐ Met after Allowance STATE OR COUNTRY KOREA, REPUBLIC OF	SHEETS DRAWINGS 4	TOTAL CLAIMS 23	INDEPENDENT CLAIMS 3	
ADDRESS BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 UNITED STATES						
TITLE Image display device in digital TV						
FILING FEE RECEIVED 1150	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

2292 7590 07/26/2010

BIRCH STEWART KOLASCH & BIRCH, LLP
PO BOX 747
FALLS CHURCH, VA 22040-0747

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/785,524	04/18/2007	Seung Jong Choi	3449-0170PUS3	3873

TITLE OF INVENTION: IMAGE DISPLAY DEVICE IN DIGITAL TV

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	10/26/2010
EXAMINER		ART UNIT	CLASS-SUBCLASS			
NATNAEL, PAULO S M		2622	348-441000			

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Birch, Stewart, Kolasch &

2 Birch, LLP

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

LG ELECTRONICS INC.

Seoul, Republic of Korea

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee

☒ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 02-2448 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature Chong H. Chong ASG, 875

Date October 15, 2010

Typed or printed name Esther H. Chong

Registration No. 40,953

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal				
Application Number:		11785524		
Filing Date:		18-Apr-2007		
Title of Invention:		IMAGE DISPLAY DEVICE IN DIGITAL TV		
First Named Inventor/Applicant Name:		Seung Jong Choi		
Filer:		Chad D. Wells/Kimberly Lane		
Attorney Docket Number:		3449-0170PUS3		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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:				
Utility Appl issue fee	1501	1	1510	1510
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1810

Electronic Acknowledgement Receipt	
EFS ID:	8636305
Application Number:	11785524
International Application Number:	
Confirmation Number:	3873
Title of Invention:	IMAGE DISPLAY DEVICE IN DIGITAL TV
First Named Inventor/Applicant Name:	Seung Jong Choi
Customer Number:	02292
Filer:	Chad D. Wells/Kimberly Lane
Filer Authorized By:	Chad D. Wells
Attorney Docket Number:	3449-0170PUS3
Receipt Date:	15-OCT-2010
Filing Date:	18-APR-2007
Time Stamp:	15:14:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1810
RAM confirmation Number	1442
Deposit Account	022448
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	2010-10-15_IssueFeeTransmittal.pdf	89244	no	1
			06c889cb793276b48647f51ae5dcd9f626ba3de		
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	31842	no	2
			a073c102ac7581c08da20a52f53e90697c1e9b1e		
Warnings:					
Information:					
Total Files Size (in bytes):			121086		
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. <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.					



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/785,524	11/23/2010	7839452	3449-0170PUS3	3873

2292 7590 11/03/2010
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 764 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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