

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

LIGHTGUIDE, INC.,

Plaintiff,
vs.

AMAZON.COM, INC., AMAZON.COM
SERVICES LLC,

Defendants.

Case No. 2:22-CV-00433-RWS-RSP

**DEFENDANTS AMAZON.COM, INC.'S AND AMAZON.COM SERVICES LLC'S
PRELIMINARY INVALIDITY CONTENTIONS AND ADDITIONAL DISCLOSURES
PURSUANT TO PATENT LOCAL RULES**

Pursuant to the Court's Docket Control Order (Dkt. No. 62) and Local Patent Initial Disclosures 3-3 and 3-4, Defendants Amazon.com, Inc. and Amazon.com Services LLC (collectively, "Defendants" or "Amazon") submit the following Preliminary Invalidity Contentions and additional disclosures to Plaintiff LightGuide, Inc. ("LightGuide").

The Preliminary Invalidity Contentions address the following claims:

- U.S. Patent No. 7,515,981, Claims 1-5, 7-13, and 24-25;
- U.S. Patent No. 9,658,614, Claims 1-14, 17-25; and
- U.S. Patent No. 10,528,036, Claims 1-12.

The patent claims listed above are the only claims alleged by LightGuide to be infringed by Defendants in LightGuide's Infringement Contentions (served April 10, 2023). LightGuide's Infringement Contentions are deemed to be its final contentions pursuant to Patent Local Rule 3-6. Should the Court allow LightGuide to later assert infringement of additional claims not asserted in LightGuide's Infringement Contentions, or to supplement its Infringement Contentions with additional infringement theories with respect to the asserted claims, Defendants reserve the right to supplement their Preliminary Invalidity Contentions to assert invalidity of those additional claims and/or to assert invalidity based on the additional infringement theories. Defendants also reserve the right to supplement their Preliminary Invalidity Contentions in response to information learned in fact or expert discovery, including identification of additional prior art.

I. PRELIMINARY MATTERS

Defendants' Preliminary Invalidity Contentions are based in whole or in part on its present understanding of the asserted claims and LightGuide's Preliminary Infringement Contentions, including the priority dates of each of the patents-in-suit as asserted by LightGuide in its Infringement Contentions. That said, Defendants dispute that the asserted claims of the patents-

in-suit are entitled to the priority dates that LightGuide has asserted in its infringement contentions. Defendants further dispute that the asserted claims of the patents-in-suit are entitled to claim priority to the provisional patent applications to which they purport to claim priority.

Defendants' Invalidity Contentions are responsive at least to the same level of specificity of LightGuide's Infringement Contentions. Defendants' Invalidity Contentions may also take into account LightGuide's apparent claim constructions, to the extent LightGuide's constructions can be gleaned from LightGuide's Infringement Contentions. Such apparent constructions may be inconsistent with the constructions that Defendants ultimately will proffer in this case. By including prior art that would anticipate or render obvious the asserted claims of the patents-in-suit based on LightGuide's disclosed and apparent claim constructions, or based on any other particular claim construction, Defendants are not adopting LightGuide's claim constructions, nor are Defendants admitting to the accuracy of any particular claim construction. The Court has established deadlines for the parties' proposed claim constructions, and Defendants will disclose their proposed constructions according to those deadlines. Solely for the purpose of these Preliminary Invalidity Contentions, Defendants may, if necessary, apply alternative, and even inconsistent, claim construction positions. Defendants reserve all rights to amend these Invalidity Contentions after the Court issues its claim construction ruling, or if the Court permits LightGuide to amend its Infringement Contentions.

Defendants, however, do not concede that LightGuide's Infringement Contentions provide the requisite level of specificity, and Defendants provide these Preliminary Invalidity Contentions without waiving any right to receive from LightGuide full and complete specific infringement contentions. Moreover, nothing herein admits in any way that any of the accused devices or methods, or any of Defendant's other devices or methods, infringe any of the asserted claims.

B. Ongoing Investigation

Defendants' discovery and investigation in connection with this lawsuit is continuing. Thus, these Invalidity Contentions are based on information obtained to date. Among other things, discovery is still underway, witnesses remain to be deposed, and the Court has not yet construed any terms of the patents-in-suit. Accordingly, Defendants' Preliminary Invalidity Contentions are subject to modification, amendment, or supplementation in accordance with the Court's Docket Control Order, the Local and Patent Rules of the Eastern District of Texas, and/or the Federal Rules of Civil Procedure as this action progresses and additional information is obtained.

II. DISCLOSURES PURSUANT TO P.R. 3-3

A. Disclosures Pursuant to P.R. 3-3(a)

Defendants identify the following prior art to the patents-in-suit. Defendants contend that the prior art disclosed below generally all relate to using light to guide an individual performing a process. As such, the below-disclosed prior art, collectively, are all relevant at least as background of the art to each of the patents-in-suit, irrespective of the sub-section in which they are expressly cited. Defendants expressly reserve the right to at least use and rely on any of the prior art cited herein to establish or otherwise support Defendants' contentions as to what was known in the state of the art during the pertinent time frame for the patents-in-suit.

1. Prior Art Patents and Published Patent Applications

The following prior art patents and published patent applications are relevant to the invalidity of the patents-in-suit:

Reference	Number	Origin	Title	Inventor	Date of Issue or Publication
Ahonen '662	5,430,662	U.S.	Laser Projection System for Truss Manufacturing	Seppo Ahonen	Jul. 4, 1995
Behan '796	7,433,796	U.S.	Methods, Systems, and Formats for Data, Such as Data Used in Laser Projection of Fasteners Used in Manufacturing	William M. Behan et al.	Oct. 7, 2008
Bialy '155	10 2008 022 155	DE	Display Device	Jürgen Bialy et al.	Apr. 30, 2009
Bordignon '163	6,170,163	US	Method of Assembling Components of an Assembly Using a Laser Image System	Robert A. Bordignon et al.	Jan. 09, 2001
Bordignon '258	5,381,258	US	Laser Projector for Projecting an Image Onto a Curvilinear Surface	Robert A. Bordignon et al.	Jan. 10, 1995
Carpenter '575	2009/0114 575 A1	U.S.	Method and System for Tracking of Items	Michael D. Carpenter et al.	May 7, 2009
Clause '557	103 20 557	DE	Verfahren und Vorrichtung zur Unterstützung der an einem Werkstattarbeitsplatz auszuführenden Tätigkeiten?	Martin, Clause	Dec. 9, 2004
Palmateer '147	5,450,147	U.S.	Method for Controlling Projection of Optical Layup Template Utilizing Cooperative Targets	John W. Dorsey-Palmateer	Sep. 12, 1995
Elhaus '869	10 2008 014 869	DE	Verfahren zum Betreiben einer Plattenaufteilanlage?	Uwe Elhaus	Sep. 24, 2009
Engelbart '018	9,214,018	US	Method for Remote Rework Imaging for Part Inconsistencies	Roger W. Engelbart	Dec. 15, 2015

Reference	Number	Origin	Title	Inventor	Date of Issue or Publication
Engelbart '313	2007/0034313	US	Systems and Methods for In-Process Vision Inspection for Automated Machines	Roger W. Engelbart et al.	Feb. 15, 2007
Engelbart '696	7,193,696	U.S.	Systems and Methods for Using Light to Indicate Defect Locations or a Composite Structure	Roger W. Engelbart et al.	Mar. 20, 2007
Engelbart '921	8,094,921	US	Method and System for Remote Rework Imaging for Part Inconsistencies	Roger W. Engelbart et al.	Jan. 10, 2012
Fontanot '866	2009/0105866	U.S.	Method of Controlling a Production Process	Paulo Fontanot et al.?	Apr. 23, 2009
Freudelsperger '381	WO 03/033381	DE	Method and Device for Operating a Goods Warehouse,, Preferably a Commissioning Installation	Karl Freudelsperger	Apr. 24, 2003
Freudelsperger '381	03/033381	DE	Method and Device for Operating a Goods Warehouse, Preferably a Commissioning Installation	Karl Freudelsperger	Apr. 24, 2003
Glossop '616	6,317,616	U.S.	Method and System to Facilitate Image Guided Surgery	Neil David Glossop	Nov. 13, 2001
Green '523	7423,523	US	Composite Ply Layup Using Electronically Identifiable Tags	Craig B. Green	Sep. 9, 2008
Haisty '540	8,606,540	US	Hole Measurement Apparatuses	Brett Stanton Haisty et al.	Dec. 10, 2013
Haisty '761	8,610,761	US	Systems and Method for Optically Projecting Three-dimensional Text, Images, and/or Symbols Onto Three-Dimensional Objects.	Brett Stanton Haisty	Dec. 17, 2013

Reference	Number	Origin	Title	Inventor	Date of Issue or Publication
Hannawald '370	DE102006 022370A1	DE	Command generating method for manually assembling through hole technology-component on printed circuit board, involves determining assembling command for board based on printed circuit board and component-related data	Gerald Hannawald	Nov. 15, 2007
Hannawald '370	10 2006 022 370	DE	Instructions for manually populating components	Gerald Hannawald	Nov. 15, 2006
Honda '466	7,200,466	U.S.	Parts Assembly Management System	Hajime Honda	Apr. 3, 2007
Hull '959	2006/0038 959	U.S.	Adaptive and Interactive Scene Illumination	Jerald A. Hull et al.	Feb. 23, 2006
Kaufman '397	6547397	US	Apparatus and method for projecting a 3d image	Steven Kaufman	Apr. 15, 2003
Kaufman '558	7372558	US	Method and system for visualizing surface errors	Steven Kaufman	May 13, 2008
Kline '651	6,045,651	U.S.	Hand Assisted Lamination System	William T. Kline et al.	Apr. 4, 2000
Laser Optoelektronik Z '529	201 20 529	DE	Projektionsvorrichtung		Dec. 19, 2001
Lin '890	2009/0118 890	US	Visual Navigation System and Method Based on Structured Light	Yen-Chun Lin et al.	May 7, 2009
Mizushima '664	2010/0289 664	U.S.	Light Projection Device	Tetsuro Mizushima et al.	Nov. 18, 2010
Morden '368	7463368	US	Laser Projection System, Intelligent Data Correction System and Method	Jarrad v. Morden	Dec. 09, 2008

Reference	Number	Origin	Title	Inventor	Date of Issue or Publication
Okada '409	309409	Japan	Picking Instruction Method and Device	Takashi Okada	Nov. 28, 1995
Palmateer '037	7,480,037	U.S.	System for Projecting Flaws and Inspection Locations and Associated Method	John W. Palmateer et al.	Jan. 20, 2009
Palmateer '183	5,341,183	US	Method for Controlling Projection of Optical Layup Template	John W. Dorsey-Palmateer	Aug. 23, 1994
Palmateer '505	5,444,505	US	Method for Controlling Projection of Optical Layup Template	John W. Dorsey-Palmateer	Aug. 22, 1995
Palmateer '600	5,651,600	US	Method for Controlling Projection of Optical Layup Template Utilizing Cooperative Targets	John W. Dorsey-Palmateer	Jul. 29, 1997
Palmateer '641	5,506,641	US	Apparatus for Controlling Projection of Optical Layup Template	John W. Dorsey-Palmateer	Apr. 9, 1996
Palmateer '893	7,268,893	U.S.	Optical Projection System	John W. Palmateer	Sep. 11 2007
Parmenter '083	7,322,083	U.S.	Manufacturing System Architecture for Tools	Philip Parmenter et al.	Jan. 29, 2008
Petta '723	2 080 723	CA	Method and Apparatus for Defining a Template for Assembling a Structure	Gabriele Petta et al.	Jul. 17, 2001
Poggi '901	0 470 901 A1	Europe		Poggi et al.	Feb. 12, 1992
Ramsager '320	2004/0195 320 A1	U.S.	System for Projecting a Handling Instruction onto a Moving Item or Parcel	Thomas Ramsager	Oct. 7, 2004

Reference	Number	Origin	Title	Inventor	Date of Issue or Publication
Rouaix '431	8,423,431	U.S.	Light Emission Guidance	Fracois M. Rouaix	Apr. 16, 2013
Rueb '517	7,545,517	US	Laser Projection Systems and Methods	Kurt D. Rueb et al.	Jun. 9, 2009
Ryznar '981	7,515,981	U.S.	Light Guided Assembly System	Paul Ryznar et al.	Apr. 7, 2009
Stevens '920	7,826,920	US	Tote-Based Warehousing System and Method	John K. Stevens et al.	Nov. 2, 2010
Venema '318	7,077,318	US	Pick-to-light System For Replenishing Manufacturing Kits	Steven C. Venema	Jul. 18, 2006
Wales '117	2,682,117	US	Apparatus and Method for Instruction Through Optical Projection	George F. Wales	June 29, 1954
Yokota '251	2007-87251	Japan	Assembly Management System and Assembly Management Program	Hiroyuki Yokata	Apr. 5, 2007
Zimmermann '871	102 15 871	DE	Projektionsvorrichtung	Kurt-Michael Zimmermann	Apr. 11, 2002

2. Prior Art Publications

The following prior art non-patent publications are relevant to the invalidity of the asserted claims of the patents-in-suit:

Reference	Title	Author	Publication Date	Publisher
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Bannat	Toward Optimal Worker Assistance: A Framework for Adaptive Selection and Presentation of Assembly Instructions	A. Bannat et al.	Jan. 2008	1st Inter. Cotesys Workshop 2008, Techinsche Universitat Munchen
Baudin	Working with Machines The Nuts and Bolts of Lean Operations with Jidoka	Michael Baudin	Apr. 20, 2007	Productivity Press
Baudin	RFID Applications in Manufacturing	Michael Baudin	Apr. 25, 2005	Manufacturing Management & Technology Institute
Blake	Technologies for Addressing FOD in Hand Laid Composites	Scott Blake	Oct. 2010	SAMPE
Brooks	The Intelligent Room Project	Rodney A. Brooks	Aug. 25, 1997	MIT Artificial Intelligence Lab
Buss	CoTeSys-Cognition for Technical Systems	Martin Buss et al.	Nov. 2010	Institute of Automatic Control Engineering
BVK I	A Demanufacturing Projector-vision System for Combined Manual and Automated Processing of Used Electronics	Michael Bailey et al.	Sep. 7, 2005	Computers in Industry
BVK II	An Intelligent Disassembly Assistant for Man-Machine	Michael Bailey et al.	24-Jul-05	IEEE/ASME
Chen	RFID-Based Manufacturing	X. Chen et al.	21-Oct-09	IEEE
FiberSim 4.2 Manual	FiberSim 4.2 User Manual	Vistagy	2004	Vistagy

Haringer	A Pragmatic Approach to Augmented Reality Authoring	Matthias Haringer et al.	Feb. 2002	IEEE
Hodges	Looking for a Cheaper Robot: Visual Feedback for Automated PCB Manufacture	Stephen Edward Hodges	Jan. 1996	University of Cambridge
Holzinger	HCI and Usability for Education and Work	Andreas Holzinger	Nov. 20, 2008	4th Symposium of the Workgroup Human-Computer Interaction and Usability Engineering of the Austrian Computer Society
Hua	The Design of Manufacturing Execution System Based On RFID	Jiwei Hua et al.	2008	Department of Automation
Ishii	Augmented Urban Planning Workbench: Overlaying Drawings, Physical Models and Digital Simulation	Hiroshi Ishii et al.	Sep. 30, 2002	IEEE & ACM
Ishii	Tangible Bits: Towards Seamless Interfaces between People, Bits and Atoms	Hiroshi Ishii et al.	Mar. 22, 1997	MIT Media Laboratory
Iyoda	LightCollabo: Distant Collaboration Support System for Manufacturers	Tetsou Iyoda et al.	2008	Springer-Verlag Berlin Heidelberg
Kjeldsen I	Interacting with Steerable Projected Displays	Rick Kjeldsen et al.	Aug. 7, 2002	IEEE

Kjeldsen II	Dynamically Reconfigurable Vision-Based User Interfaces	Rick Kjeldsen et al.	June 29, 2003	IBM
Kuzuoka	Agora: Supporting Multi-Participant Telecollaboration	Hideaki Kuzuoka et al.	Jan. 1999	Institute of Engineering Mechanics and Systems
Lepratti	More Reliability in Supply Chain Management	Raffaello Lepratti	2009	Production Strategy
Lai	BlueSpace: Personalizing workspace through awareness and adaptability	Jennifer Lai	2002	J. Human-Computer Studies
Levas	An Architecture and Framework for Steerable Interface Systems	Anthony Levas et al.	2003	IBM
Linder	LuminAR: A Compact and Kinetic Projected Augmented Reality Interface	Natan Linder	Aug. 6, 2011	Program in Media Arts and Sciences, School of Architecture and Planning
Low	Life-Sized Projector-Based Dioramas	Kok-Lim Low et al.	Nov. 15, 2001	Association of Computer Machinery (ACM)
Machino	Remote-Collaboration System Using Mobile Robot with Camera and Projector	Tamotsu Machino et al.	May-06	IEEE
Maher	A Design Workbench with Tangible Interfaces for 3D Design	Mary Lou Maher et al.	Oct. 1, 2014	IEEE
McFarlane	Auto ID Systems and Intelligent Manufacturing Control	Duncan McFarlane et al.	2003	Engineering Applications of

				Artificial Intelligence
Mitsugami	Multiple Steerable Projector System for Geometrically Correct Displays in a Wide Environment	Ikuhisa Mitsugami	Feb. 2007	Nara Institute of Science and Technology
Mitsugami	Multiple Steerable Projector System for Geometrically Correct Displays in a Wide Environment	Ikuhisa Mitsugami et al.	Feb. 20, 2007	Manufacturing execution system – a literature review
Mitsuishi	Manufacturing Systems and Technologies for the New Frontier	Mamoru Mitsuishi et al.	May. 26, 2008	The 41st CIRP Conference on Manufacturing Systems
Molyneaux	Cooperative Augmentation of Smart Objects with Projector-Camera Systems	David Molyneaux et al.	2007	Springer-Verlag Berlin Heidelberg
Noble	Manual, light-guided, semi-automatic and robotic assembly (Chapter 10 of Printed Circuit Board Assembly)	P. J. W. Noble	1989	
Omojola	An Installation of Interactive Furniture	O. Omojola et al.	2000	IBM Systems Journal
Palmer	Annotating with Light for Remote Guidance	Doug Palmer et al.	Nov. 28, 2007	<i>Proceedings of the 19th Australasian conference on Computer-Human Interaction: Entertaining User Interfaces?</i>
Pingali	Augmented Collaborative Spaces	Gopal Pingali et al.	2003	IBM T. J. Watson

				Research Center
Pingali II	Steerable Interfaces for Pervasive Computing Spaces	Gopal Pingali et al.	Mar. 23, 2003	IEEE Conference on Pervasive Computing and Communications
Pingali III	User-Following Displays	Gopal Pingali et al.	Aug. 26, 2002	IEEE
Pinhanez I	Ubiquitous Interactive Graphics	Claudio S. Pinhanez et al.	May 17, 2002	IBM Research Division
Pinhanez II	Applications of Steerable Projector-Camera Systems	Claudio Pinhanez et al.	2003	IBM Research
Pinhanez III	Projector-Camera Systems for Telepresence	Claudio Pinhanez et al.	Aug. 26, 2004	IBM
Pinhanez IV	Using a Steerable Projector and a Camera to Transform Surfaces into Interactive Displays	Claudio Pinhanez	Mar. 31, 2001	IBM
Pinhanez V	The Everywhere Displays Projector:	Claudio Pinhanez	2001	IBM
Pinhanez VI	To Frame or Not to Frame: The Role and Design of Frameless Displays in Ubiquitous Applications	Claudio Pinhanez et al.	2005	IBM
Pinhanez VII	Transforming Surfaces into Touch Screens	Claudio Pinhanez et al.		

Raphael	Enterprise-Control System Integration Part 3: Activity Models of Manufacturing Operations Management	D. Raphael	Jun. 6, 2005	American National Standards Institute (ANSI)?
Raskar I	The Office of the Future: A unified Approach to Image-Based Modeling and Spatially Immersive Displays	Ramesh Raskar et al.	19-Jul-98	ACM
Raskar II	RFIG Lamps: Interacting with a Self-Describing World via Photosensing Wireless Tags and Projectors	Ramesh Raskar et al.	2004	ACM
RayTracer Adminsitrator Manual	RayTracer System Adminsitrator Software Operations Manual	Laser Protection Technology	2003	Laser Projections Technologies, Inc.
Reiners	Augmented Reality for Construction Tasks: Doorlock Assembly	Dirk Reiners et al.	Nov. 1999	Department Visualization and Virtual Reality
Rodney/Brooks	The Intelligent Room Project	Rodney A. Brooks et al.	Aug. 25, 1997	IEEE
Sergeant	Functional Specification of a Manufacturing Execution System	Ronald B. Sergeant	Aug. 4, 2003	MIT
SIMATIC	2005 SIMATIC VS 72X Spectation manual		Apr-05	Siemens
Sukaviriya	Embeding Interactions in a Retail Store Environment: The Design and Lessons Learned	Noi Sukaviriya et al.	2003	IOS Press (INTERACT'03)

Stork	Optimizing Human-Machine Interaction in Manual Assembly	Sonja Stork et al.	Aug. 1, 2008	17th IEEE International Symposium on Robot and Human Interactive Communication
Tang	An Integrated Approach to Disassembly Planning and Demanufacturing Operation	Ying Tang et al.	Dec. 2001	IEEE Transactions on Robotics and Automation
Tang	Comparative Effectiveness of Augmented Reality in Object Assembly	Arthur Tang et al.	Apr. 5, 2003	Michigan State University
Tominaga	Work Order Optimization Supporting System and Method	Yukihiro Tominaga et al.	Oct. 30, 2008	
Ugarte	Production Planning and Control: Manufacturing execution system – a literature review	B. Saenz de Ugarte et al.	Sep. 28, 2009	Taylor and Francis
Ullmer	The metaDESK: Models and Prototypes for Tangible User Interfaces	Brygg Ullmer et al.	Oct. 1, 1997	MIT Media Lab
Underkoffler	Emancipated Pixels:Real-World Graphics in the Luminous Room	John Underkoffler et al.	Aug. 8, 1999	SIGGRAPH
Underkoffler	Illuminating Light: An Optical Design Tool with a Luminous-Tangible Interface	John Underkoffler et al.	Apr. 18, 1998	MIT Media Laboratory
Wallhoff I	Adaptive Human-Machine Interfaces in Cognitive Production Environments	Frank Wallhoff et al.	Aug. 2007	IEEE

Wallhoff II	Event Analysis and Interpretation of Human Activity for Augmented Reality-based Assistant Systems	Frank Wallhoff	Sep. 2008	IEEE
Wallhoff III	Static and Dynamic Hand-Gesture Recognition for Augmented Reality Applications	Frank Wallhoff et al.	Aug. 2007	Institute for Man Machine Communication
Wilson	Combining Multiple Depth Cameras and Projectors for Interactions On, Above, and Between Surfaces	Andrew D. Wilson	Oct. 3, 2010	Microsoft Research
Yuan	Assembly Guidance in Augmented Reality Environments Using a Virtual Interactive Tool	M.L. Yuan	2005	Springer International
Zäh	Cognitive assistance systems in manual assembly	M.F. Zäh et al.	Dec. 23, 2022	Springer Vieweg Berlin

3. Items Offered for Sale or Publicly Used or Known

Numerous systems are prior art to the patents in suit under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and anticipate and/or render obvious all asserted claims of the patents-in-suit. These systems include physical implementations of prior art patents, patent applications, and publications identified herein that were known, made, used, sold, offered for sale, or imported into this country prior to the effective filing dates of the patents-in-suit, including those described by the prior art patents, patent applications, and publications listed in the previous section.

Defendants further identify the following products that were sold, offered for sale, publicly used, or known that incorporate the claimed elements of the patents-in-suit.

No.	System or Product	Date of First Offer or Public Disclosure	Circumstances
1	Laser Projection Technology System	2001 or sooner	A series of LPT projectors were made available to the public starting in 1999 and continuing until the .
2	IBM Everywhere Display Projector	No later than Aug. 12, 2001	The IBM Everywhere Display Projector was publicly used at the SIGGRAPH'01 conference in Los Angeles, CA. This system was used by over 650 participants. Pinhanez I at 7. The Everywhere Display Projector was further developed and displayed between 2001 and at least 2007.
3	Kiva ISIL System	No later than July 14, 2005	Kiva Systems developed a system that projected a laser pointer onto locations where an associate should pick an item from a robotic shelf. This system was demonstrated to a customer no later than July 14, 2005. People with knowledge of this display include Peter Wurman, former CTO of Kiva Systems, Peter Mansfield, one of the original developers of the pick laser, and Ian Hueton, who developed the laser itself. Kiva first developed this laser in 2003 and continued to use and develop it through 2011.
4	Assembly Guidance LASERGUIDE System	March 27, 2005	Versions of this system were first sold in the 1980s by Assembly Guidance; however the version addressed in these contentions was available for purchase by Mar. 27, 2005. Assembly Guidance continued to develop this system further through the priority dates of the patents-in-suit.
5	Virtek Vision System	Various between 2003 and January 2011	Virtek Vision used its vision system across various industries including windows, trusses, aircraft, and steel. Virtek continued to develop this system further through the priority dates of the patents-in-suit.
6	Z-Laser System	No later than 2003	Z-Laser Systems was another company that built laser-guided assembly systems

			before the priority of any of LightGuide's patent applications.
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Defendants continue to investigate the identifies of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that incorporate the claimed elements of the patents-in-suit, and Defendants will continue to produce additional documents relating to the invalidity of the asserted claims by those products as they become available. Defendants also note that several companies not listed here may have prior art systems, such as ProjectionWorks (i.e., the company that owns the Haisty '761 patent) and Lightspeed Design, Inc. Defendants reserve the right to provide additional invalidity contention information as additional information becomes available. Defendants also reserve the right to rely on any of the documents associated with these systems to the extent those documents qualify as printed publications.

4. Prior Inventions under 35 U.S.C. § 102(a)/ 102(g).

Amazon identifies the following additional prior art systems under 35 U.S.C. § 102(a)/(g) (pre-AIA).

No.	System or Product	Persons involved / Circumstances
1.	Kiva Systems Pick Laser and Robotic Warehouse System	Starting in 2003, Kiva Systems (then Distrobot) developed a laser that would point at bin locations where an associate should retrieve items. This system was refined in 2004 and used in Kiva warehouses from 2005-2011 and beyond. Persons with knowledge of this system include Peter Mansfield and Pete Wurman.
2.	Laser Projection Technologies	On information and belief, Laser Projection Technologies developed additional systems (beyond those charted in these contentions) that may invalidate one or more claims of the patents in suit. Persons with knowledge of these systems include Steve Kaufman.

B. Disclosures Pursuant to P.R. 3-3(b)

The prior art at issue in these contentions anticipates and/or renders obvious the claims as follows:

'981 Patent

Reference	Claims Anticipated	Claims Rendered Obvious
Ahonen '662		Claims 1-5, 7-13, and 24-25
Assembly Guidance System		Claims 1-5, 7-13, and 24-25
Behan '796		Claims 1-5, 7-13, and 24-25
Bordignon '163		Claims 1-5, 7-13, and 24-25
Bordignon '258		Claims 1-5, 7-13, and 24-25
BVK I	1, 7, 9, 11, 13, 24-25	Claims 1-5, 7-13, and 24-25
BVK II	1, 11-12	Claims 1-5, 7-13, and 24-25
Clause '557	1-5, 7-8, 11, 13, 24-25	Claims 1-5, 7-13, and 24-25
Dorsey-Palmateer '147	1-2, 8, 11	Claims 1-5, 7-13, and 24-25
Engelbart '696		Claims 1-5, 7-13, and 24-25
Glossop '616	1, 8, 11-13	Claims 1-5, 7-13, and 24-25
Hannawald '370		Claims 1-5, 7-13, and 24-25
Honda '466		Claims 1-5, 7-13, and 24-25
Hull '959		Claims 1-5, 7-13, and 24-25
IBM Everywhere Display	1-3, 7-8, 11	Claims 1-5, 7-13, and 24-25
Kaufman '397	1-2, 7-13, 24-25	Claims 1-5, 7-13, and 24-25
Kaufman '558		Claims 1-5, 7-13, and 24-25
Kiva ISIL System	1-5, 7(at least to the same extent as the accused Nike system is argued to be covered by the patents-in-suit).	Claims 1-5, 7-13, and 24-25 (at least to the same extent as the accused Nike system is argued to be covered by the patents-in-suit).
Kjeldsen I		Claims 1-5, 7-13, and 24-25
Kline '651		Claims 1-5, 7-13, and 24-25
Laserguide		Claims 1-5, 7-13, and 24-25
Levas		Claims 1-5, 7-13, and 24-25

LPT system	1-2, 5, 7-13, 24-25	Claims 1-5, 7-13, and 24-25
Machino		Claims 1-5, 7-13, and 24-25
Morden '368		Claims 1-5, 7-13, and 24-25
Palmateer '037		Claims 1-5, 7-13, and 24-25
Palmateer '893		Claims 1-5, 7-13, and 24-25
Parmenter '083		Claims 1-5, 7-13, and 24-25
Pinhanez I	1-3, 7-8, 11	Claims 1-5, 7-13, and 24-25
Pinhanez II	1-2, 7, 11	Claims 1-5, 7-13, and 24-25
Pinhanez III		Claims 1-5, 7-13, and 24-25
Poggi '901	1-2, 4, 7-9, 11-13, 24-25.	Claims 1-5, 7-13, and 24-25
Ramsager '320		Claims 1-5, 7-13, and 24-25
RayTracer Administrator		Claims 1-5, 7-13, and 24-25
Simatic		Claims 1-5, 7-13, and 24-25
Stevens '920		Claims 1-5, 7-13, and 24-25
Venema '318		Claims 1-5, 7-13, and 24-25
Virtek LaserEdge System		Claims 1-5, 7-13, and 24-25
Wales '117		Claims 1-5, 7-13, and 24-25
Yokota '251		Claims 1-5, 7-13, and 24-25
Z-Laser System		Claims 1-5, 7-13, and 24-25

The obviousness rationales for the '981 patent are similar to that of the '614 patent and '036 patents, which are hereby incorporated by reference. In addition, the following obviousness rationales also apply to the '981 patent (some of which may be identical to the obviousness rationales for the '614 patent or '036 patent).

A POSITA would have been motivated to combine Poggi '901 with the teachings of a vision system in SIMATIC. Specifically, a POSITA would have understood that Poggi requires image processing programs to “[recognize] the shape of the layer that has just been placed,” or “the location where the layer is placed in the intended location.” Poggi at 3:53-59; *see also id.* at

2:9-10. To the extent a POSITA does not view Poggi as disclosing such image processing programs, SIMATIC discloses it. Thus, the combination of Poggi and SIMATIC produces predictable results, both in terms of reducing the complexity and level of efforts required to implement Poggi's system.

A POSITA would also have been motivated to substitute the projection camera system across any of the projector-camera (Pro-Cam) systems. For example, the Pro-Cam system of the IBM Everywhere Display references (authored by Pinhanez and Kjeldson, for example) could be substituted in place of the Pro-Cam system of another reference, such as Poggi. The same is true of the Machino Pro-Cam system. This substitution would have been obvious because of the similarity of the Pro-Cam systems to each other, and the fact that they were all attempting to achieve the same goals with similar technology.

As another example, it would have been obvious to combine all of the IBM Everywhere Display references together, such that the combined teachings of the references render the asserted claims obvious. The references all concern the same authors and subject matter and thus there is an implied suggestion to read the references together as a unified whole. Additionally, any improvement described in one of the Everywhere Display papers would have been obvious to apply to another of the Everywhere Display papers.

Similarly, it would have been obvious to combine all references from the same source with other references from the same source. Similarly, it would have been obvious to combine the Boeing references (including the Palmateer references) with other Boeing references. It would have been further obvious to combine any of the LPT systems with other LPT systems together or with one or more Kaufman patents. The same is true for Z-Laser, Assembly Guidance, Virtek, Kiva, or the IBM Everywhere Display or any of the other systems described in these contentions..

Such combinations would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference—and these cases, a related reference—in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations for the creation of composite products (*e.g.*, the Boeing references, Bordignon '258, Bordignon '163, Poggi '901, Kaufman '397, LASERGUIDE, LPT, etc.), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques taught in any of the references that use laser or video projection to direct operations at a workbench or workstation (*e.g.*, Ryzner '981, LASEREDGE, Kaufman '397, Bordignon '258, Bordignon '163, Wales '117, Yokota '251, the Everywhere Display references, etc.), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques taught in any of the references that use laser or video projection to direct operations on an assembly line or in an assembly process (*e.g.*, Ramsager '320, Wales '117, Kaufman '397, Yokota '251, the Everywhere Display references, etc.), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way. It would also have been obvious to combine techniques taught in references about assembly processes without projected light (*e.g.*, Honda '466, Venema '308, etc.) with the techniques taught in references about assembly processes *with* projected light, because the systems, goals, and problems-to-be-solved are similar.

Similarly, it would have been obvious to use or combine bin illumination techniques from the KIVA ISIL system, Rouaix '431, any of the Pinhanez references, or Ramsager '320 with any reference that includes retrieving components from a storage bin, such as Stevens '920, Venema '318, or Okoda '409, etc., as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

It further would have been obvious to combine the teachings of the Stevens '920 reference, the Honda '466 reference, and/or the Venema '308 reference with any system having a laser pointer or other projected illumination technique, as there is an express suggestion in Stevens '920 that alternative signaling techniques may be used to identify locations from which an item should be picked. Stevens '920 at 7:55–63. Similarly, these three references both discuss known “pick-to-light” solutions, which Ramsager '320 also discusses before the priority dates of the patents-in-suit, and expressly proposes using directed light in such an application.

It further would have been obvious to combine the teachings of references discussing known “pick-to-light” solutions (*e.g.*, Stevens '920, Venema '308, Honda '466, and Ramsager '320, etc.) with references discussing manufacturing and assembly processes (*e.g.*, Yokota, Poggi, Kaufman, the Everywhere Display references, etc.). This is because known “pick-to-light” solutions were already used in manufacturing and assembly tasks, at least to assist with the location of component parts. *See, e.g.*, Honda '466 at Fig. 10. It would have been obvious to a person of skill designing a projected-light-guided system in a manufacturing/assembly process to make use of known techniques from “pick-to-light” solutions that would have been in use in that field.

It would have been obvious to combine references with their corresponding implementations or source code (which Amazon expects to further develop during discovery).

It also would have been obvious to add a display to any reference that does not disclose one, as that would be an obvious way to provide additional information to a person doing an operation such as an assembly action.

It also would have been obvious to combine the Stevens '920 reference (which describes the use of RFID tags, with another reference that describes the use of an RFID reader, for example to sense the type or presence of a product. One such reference is Honda '466. Such a combination would be nothing more than combining the techniques of two references in the standard way (i.e., an RFID reader with an RFID.

It further would have been obvious to take any of the references that have local displays and make those into remote displays, as the position of the display is arbitrary and it would be obvious to try having a remote display, for example, so that management could monitor what was happening in a given workstation.

It further would have been obvious to substitute the projector, sensor, or controller elements of any of the prior art references for any of the other corresponding elements from another prior art reference, as that would be nothing more than a simple substitution. For example, a computer vision system could be replaced by another type of sensor, such as a bar code or RFID, or vice versa. Similarly, a laser projector could be replaced with a video projector. And the controller elements are largely interchangeable.

It further would have been obvious to modify any system that uses non-projection pick-to-light techniques, such as Honda '466 or Stephenson '920 to use a projection-based pick-to-light technique, for example, as taught in the Pinhanez M&M example, Clause '557, or Ramsager.

It would further have been obvious to substitute the display elements of any of the prior references for any of the other corresponding elements from another prior art reference, as that

would be nothing more than a simple substitution. For example, to the extent certain references describe displays, and other references describe displays having particular screens and functionality, it would have been obvious to incorporate those screens and functionality to the displays of the other references. It would be obvious to incorporate additional display functionality across all of the types of systems discussed in the prior art, including assembly systems, pick-to-light systems, Pro-Cam systems, etc., because all these systems are directed to instructing a human in performing a process, and a display is an easy and obvious way to provide such instructions. For the same reason, it would have been obvious to add a display to any of the references that do not recite one.

Additionally, to the extent the preamble is limiting, for any of the references in Appendices A-C that do not disclose an *operational guide system adapted to provide visual indicators to an individual to guide sequential actions* (i.e., “Preamble” functionality), it would have been obvious to use or combine them for that purpose. For example, to the extent any of Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Honda ’466, Kaufman ’558, Morden ’368, Palmateer ’037, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Hannawald ’370, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Okada ’409, Palmateer ’037, Palmateer ’893, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Virtek LaserEdge System, Wales ’117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination

would be nothing more than using a known device from List A in an arrangement allowing them to implement the Preamble functionality (to the extent limiting) as set forth in List B. The same applies to any other references that are found or argued to not disclose the Preamble functionality, to the extent it is limiting.

For any of the references in Appendices A-C that do not disclose a *sensor apparatus operable to detect operation information and generate an output indicative of said operation information* (i.e., “Sensor Apparatus” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan ’796, Bordignon ’163, Engelbart ’696, Kline ’651, Laserguide, LPT system, Machino, Okada ’409, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Hannawald ’370, Honda ’466, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Laserguide, Morden ’368, Palmateer ’037, Palmateer ’893, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Simatic, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Sensor Apparatus from any of the references in List B) according to known methods (i.e., adding Sensor Apparatus functionality as disclosed in the prior art) to achieve a predictable result (i.e., the claimed Sensor Apparatus functionality). Such a combination would be mere use of a known technique (using the claimed Sensor Apparatus functionality from List B) to improve devices from List A. In addition, it would have been obvious

to do a simple substitution of any of the Sensor Apparatus elements from any of the references in List B with any of the other Sensor Apparatus elements in List B.

For any of the references in Appendices A-C that do not disclose a *controller receiving at least a first input signal indicative of said operation information* (i.e., “Controller/Input Signal” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan ’796, Bordignon ’163, Dorsey-Palmateer ’147, Laserguide, Machino, Pinhanez II, Pinhanez III, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Bordignon ’258, BVK II, BVK I, Clause ’557, Engelbart ’696, Glossop ’616, Honda ’466, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Controller/Input Signal functionality from any of the references in List B) according to known methods (i.e., adding Controller/Input Signal functionality as disclosed in the prior art) to achieve a predictable result (i.e., the claimed Controller/Input Signal functionality). Such a combination would be a mere use of known technique to improve similar devices (methods, or products) from List A in the same way as the Controller/Input Signal technique is used in List B. Such a combination would further be mere use of a known technique (using the claimed Controller/Input Signal functionality from List B) to improve devices from List B.

For any of the references in Appendices A-C that do not disclose a *controller . . . selectively providing at least one command signal in response to said first input signal* (i.e., “Controller/Command Signal”), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Engelbart ’696, Kaufman ’397, Kjeldsen I, Laserguide, LPT system, Pinhanez I, Pinhanez II, Pinhanez III, Stevens ’920, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Honda ’466, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Controller/Command Signal functionality from any of the references in List B) according to known methods (i.e., adding Controller/Command Signal functionality as disclosed in the references from List B) to achieve a predictable result (i.e., the claimed Controller/Command Signal functionality) in the references from List A. Such a combination would be mere use of a known technique (using the claimed Controller/Command Signal functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Controller/Command Signal functionality from any of the references in List B with any of the other Controller/Command Signal elements in List B.

For any of the references in Appendices A-C that do not disclose *one directional light device selectively operable to project and target at least one indicating light in response to said at least one command signal from said controller* (i.e., “Directional Light Device” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Honda ’466, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Hannawald ’370, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Virtek LaserEdge System, Wales ’117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Directional Light Device from any of the references in List B) according to known methods (i.e., adding a Directional Light Device as disclosed in List B) to achieve a predictable result (i.e., the claimed Directional Light Device functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Directional Light Device functionality from List B) to improve devices from List A. In particular, it would have been obvious to modify references that use a non-projection pick-to-light functionality to use a projection-based pick-to-light functionality as that would be nothing more than a simple substitution or a combination of elements according to their known uses to achieve predictable results. In addition, it would have been obvious to do a simple substitution of any of

the Directional Light Device from any of the references in List B with any of the other Directional Light Device elements in List B.

For any of the references in Appendices A-C that do not disclose *one indicating light is provided to an operator performing an assembly action at a work station* (i.e., “Light Provided to Assembly Operator” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of BVK II, BVK I, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Honda ’466, Kaufman ’558, Machino, Pinhanez III, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, Clause ’557, Dorsey-Palmateer ’147, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, RayTracer Administrator, Virtek LaserEdge System, Wales ’117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Light Provided to Assembly Operator functionality from any of the references in List B) according to known methods (i.e., adding Light Provided to Assembly Operator functionality as disclosed in the references from List B) to achieve a predictable result (i.e., the claimed Light Provided to Assembly Operator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Light Provided to Assembly Operator functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Light Provided to Assembly Operator elements from any of the

references in List B with any of the other Light Provided to Assembly Operator elements in List B.

For any of the references in Appendices A-C that do not disclose *one indicating light is projected at a component location, said component location retaining a part required for assembly at said work station* (i.e., “Light at Component Location” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Glossop ’616, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Laserguide, LPT system, Machino, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez III, Poggi ’901, RayTracer Administrator, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Assembly Guidance System, Behan ’796, BVK II, BVK I, Clause ’557, Engelbart ’696, IBM Everywhere Display, Kiva ISIL System, Kjeldsen I, Kline ’651, Okada ’409, Pinhanez I, Pinhanez II, Ramsager ’320, or Wales ’117 (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Light at Component Location element from any of the references in List B) according to known methods (i.e., adding a Light at Component Location element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Light at Component Location functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Light at Component Location element functionality from List B) to improve devices from List A. As one specific example, it would have been obvious to combine Yokota's ’251's illumination functionality with the pick-to-light functionality of Honda ’466, with

the result being that light illumination functionality would be used for both *picking* and *placing* a component. Such a combination would be nothing more than using prior art features according to their established functionalities to achieve a predictable result and/or a simple substitution of the pick-to-light functionality in Honda '466 for the illumination functionality in Yokota '251. In addition, it would have been obvious to do a simple substitution of any of the Light at Component Location elements from any of the references in List B with any of the other Light at Component Location elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said operation information comprises identification of a presence of a work piece at said work station*, (i.e., “Identification of Work Piece Presence”) it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, Dorsey-Palmateer '147, Engelbart '696, Kaufman '397, Kaufman '558, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, RayTracer Administrator, Virtek LaserEdge System, Wales '117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, BVK II, BVK I, Clause '557, Engelbart '696, Glossop '616, Hannawald '370, Honda '466, IBM Everywhere Display, Kiva ISIL System, Parmenter '083, Poggi '901, Ramsager '320, Simatic, Stevens '920, Venema '318, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Identification of Work Piece Presence element from any of the references in List B) according to known methods (i.e., adding a Identification of Work Piece

Presence element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Identification of Work Piece Presence functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Identification of Work Piece Presence functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Identification of Work Piece Presence elements from any of the references in List B with any of the other identification of work piece presence elements in List B.

For any of the references in Appendices A-C that do not disclose *operation information comprises identification of a type of the work piece at said work station, and wherein said at least one command signal is selectively provided depending on the type of the work piece identified* (i.e., “Identification of Work Piece Type” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, RayTracer Administrator, Stevens ’920, Virtek LaserEdge System, Wales ’117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Behan ’796, BVK II, BVK I, Clause ’557, Engelbart ’696, Hannawald ’370, Honda ’466, IBM Everywhere Display, Kiva ISIL System, Morden ’368, Parmenter ’083, Ramsager ’320, Simatic, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Identification of Work Piece

Type element from any of the references in List B) according to known methods (i.e., adding an Identification of Work Piece Type element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Identification of Work Piece Type functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed identification of Identification of Work Piece Type from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Identification of Work Piece Type elements from any of the references in List B with any of the other Identification of Work Piece Type elements in List B.

For any of the references in Appendices A-C that do not disclose that *said controller is adapted to receive at least one confirmation signal indicative of a completion of an assembly action, said at least one confirmation signal comprising at least one signal selected from the group consisting of a manually input signal and an automated input signal* (i.e., “Confirmation Signal” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Kaufman ’397, Kaufman ’558, Kjeldsen I, Laserguide, LPT system, Machino, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, RayTracer Administrator, Stevens ’920, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with BVK II, Clause ’557, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Okada ’409, Parmenter ’083, Pinhanez I, Pinhanez II, Poggi ’901, Simatic, Stevens ’920, Venema ’318, or Z-Laser System (collectively, and for purposes of

this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Confirmation Signal element from any of the references in List B) according to known methods (i.e., adding a Confirmation Signal element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Confirmation Signal functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Confirmation Signal functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Confirmation Signal elements from any of the references in List B with any of the other Confirmation Signal elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said at least one indicating light is produced by at least one high intensity light emitting device selected from the group consisting of a laser projector, a digital light projector, and a liquid-crystal display* (i.e., “High Intensity Light Emitting Device”), it would have been obvious to combine them with other references that do. For example, to the extent any of BVK II, BVK I, Honda ’466, Kline ’651, Machino, Okada ’409, Pinhanez III, Poggi ’901, Stevens ’920, Venema ’318, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, RayTracer Administrator, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a

combination would be nothing more than combining prior art elements (i.e., the claimed High Intensity Light Emitting Device element from any of the references in List B) according to known methods (i.e., adding a High Intensity Light Emitting Device element using teachings from references in List B) to achieve a predictable result (i.e., the claimed High Intensity Light Emitting Device functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed High Intensity Light Emitting Device functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the High Intensity Light Emitting Device elements from any of the references in List B with any of the other High Intensity Light Emitting Device elements in List B. It further would have been obvious to try a High Intensity Light Emitting Device with any reference (as disclosed in List B) in any reference from List A that is argued not to have a High Intensity Light Emitting Device, as there are only a limited number of ways to project light, and using a High Intensity Light Emitting Device such as a *laser projector*, a *digital light projector*, and a *liquid-crystal display* would lead to expected success with light projecting in the context of the other aspects of the references in List A. This is especially so for the references in List A, such as Wales '117, that disclose directional light.

For any of the references in Appendices A-C that do not disclose a *display device* (i.e., “Display Device” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Behan '796, BVK II, BVK I, Dorsey-Palmateer '147, Engelbart '696, Honda '466, Kjeldsen I, Machino, Palmateer '037, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager '320, or Wales '117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662,

Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, Clause '557, Glossop '616, Hull '959, IBM Everywhere Display, Kaufman '397, Kaufman '558, Kiva ISIL System, Kline '651, Laserguide, LPT system, Morden '368, Okada '409, Palmateer '893, Parmenter '083, Pinhanez III, Poggi '901, RayTracer Administrator, Stevens '920, Venema '318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Display Device element from any of the references in List B) according to known methods (i.e., adding a Display Device element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Display Device functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Display Device functionality from List B) to improve devices from List A. More specifically, adding a display to a workstation or other similar location that uses a projector would have been obvious. Many references including 'Yokota '251, Honda '466, and all the commercial systems (i.e., LPT, Z-Laser, LASERGUIDE, etc.) use a display to aid in operations that also have a projection component. Having a separate display allows the operator to stay focused on the light-guided operation while still having access to the more detailed information that can be provided on a separate display. In addition, it would have been obvious to do a simple substitution of any of the Display Device elements from any of the references in List B with any of the other Display Device elements in List B.

For any of the references in Appendices A-C that do not disclose that the *controller is programmable via at least one program screen displayable on said display device, said at least one program screen configured to include at least one input field for entering and/or selecting indicia regarding sequential actions* (i.e., "Program Screen/Input Field" functionality), it would

have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Behan '796, Bordignon '163, Bordignon '258, BVK II, BVK I, Clause '557, Dorsey-Palmateer '147, Engelbart '696, Glossop '616, Honda '466, Kaufman '558, Kjeldsen I, Kline '651, Laserguide, Machino, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, Stevens '920, Venema '318, Virtek LaserEdge System, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, Assembly Guidance System, Behan '796, Bordignon '258, Glossop '616, Hull '959, IBM Everywhere Display, Kaufman '397, Kiva ISIL System, Kline '651, Levas, LPT system, RayTracer Administrator, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Program Screen/Input Field element from any of the references in List B) according to known methods (i.e., adding a Program Screen/Input Field element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Program Screen/Input Field functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Program Screen/Input Field functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Program Screen/Input Field elements from any of the references in List B with any of the other Program Screen/Input Field elements in List B.

For any of the references in Appendices A-C that do not disclose *controller being further configured to display at least one display Screen on said display device during operation of said operational guide system, said display screen being adapted to display indicia regarding*

sequential actions to be performed (i.e., For any of the references in Appendices A-C that do not disclose *controller being further configured to display at least one display Screen on said display device during operation of said operational guide system, said display screen being adapted to display indicia regarding sequential actions to be performed* (i.e., “Sequential Actions Display Indicia” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Behan ’796, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Honda ’466, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’258, Glossop ’616, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kiva ISIL System, Kline ’651, LPT system, RayTracer Administrator, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Sequential Actions Display Indicia element from any of the references in List B) according to known methods (i.e., adding a Sequential Actions Display Indicia element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Sequential Actions Display Indicia functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Sequential Actions Display Indicia functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Sequential Actions Display

Indicia elements from any of the references in List B with any of the other Sequential Actions Display Indicia elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said at least one input field comprises at least one selected from the group consisting of a description field, a graphic field, and a location field, and wherein said description field is configured to enable programming of descriptive text associated with sequential actions, said graphic selection field is configured to enable programming of an image formed by said at least one indicating light, and said location field is configured to enable programming of the location at which said at least one directional light device projects said at least one indicating light.* (i.e., “Description Field/Graphic Field/Location Field” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Behan ’796, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Honda ’466, IBM Everywhere Display, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bordignon ’258, Kaufman ’397, Kiva ISIL System, Kline ’651, Levas, LPT system, RayTracer Administrator, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Description Field/Graphic Field/Location Field element from any of the references in List B) according to known methods (i.e., adding a Description Field/Graphic

Field/Location Field element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Description Field/Graphic Field/Location Field functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Description Field/Graphic Field/Location Field functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Description Field/Graphic Field/Location Field elements from any of the references in List B with any of the other Description Field/Graphic Field/Location Field elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said controller is configured to monitor operational information associated with sequential actions* (i.e., “Operational Information/Sequential Actions” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK I, Dorsey-Palmateer ’147, Engelbart ’696, Kaufman ’397, Kaufman ’558, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez III, Ramsager ’320, RayTracer Administrator, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, BVK II, Clause ’557, Glossop ’616, Hannawald ’370, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Okada ’409, Parmenter ’083, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, Simatic, Stevens ’920, Venema ’318, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed

Operational Information/Sequential Actions element from any of the references in List B) according to known methods (i.e., adding an Operational Information/Sequential Actions element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Operational Information/Sequential Actions functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Operational Information/Sequential Actions functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Operational Information/Sequential Actions elements from any of the references in List B with any of the other Operational Information/Sequential Actions elements in List B.

For any of the references in Appendices A-C that do not disclose *operational information including at least one selected from the group consisting of a cycle time, an incorrectly performed action, a time between sequential actions, and an operator identification*. (i.e., “Operational Information Group” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, IBM Everywhere Display, Kaufman ’397, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Machino, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, Stevens ’920, Virtek LaserEdge System, Wales ’117, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Glossop ’616, Hannawald ’370, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kline ’651, LPT system, Okada ’409, Parmenter ’083, Poggi ’901, RayTracer Administrator, Stevens ’920, or Venema ’318 (collectively, and for

purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Operational Information Group element from any of the references in List B) according to known methods (i.e., adding an Operational Information Group element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Operational Information Group functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Operational Information Group functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Operational Information Group elements from any of the references in List B with any of the other Operational Information Group elements in List B.

For any of the references in Appendices A-C that do not disclose a *display device being operable to display information regarding sequential actions*. (i.e., “Display Device/Sequential Actions” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Behan ’796, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Dorsey-Palmateer ’147, Engelbart ’696, Glossop ’616, Honda ’466, IBM Everywhere Display, Kjeldsen I, Laserguide, Machino, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Assembly Guidance System, Bordignon ’258, Clause ’557, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kline ’651, LPT system, Okada ’409, Parmenter ’083, Poggi ’901, RayTracer Administrator, Stevens ’920, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such

a combination would be nothing more than combining prior art elements (i.e., the claimed Display Device/Sequential Actions element from any of the references in List B) according to known methods (i.e., adding a Display Device/Sequential Actions element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Display Device/Sequential Actions functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Display Device/Sequential Actions functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Display Device/Sequential Actions elements from any of the references in List B with any of the other Display Device/Sequential Actions elements in List B. This is particularly so in the context of pieces of prior art that already provide some form of display regarding sequential actions. For example, Stevens '920 and Venema '318 are both systems that incorporate some functionality—including colored lights and numbers—to display information regarding sequential actions. It would have been obvious to improve that display functionality by incorporating a display screen.

'614 Patent

The following references invalidate the claims of the '614 patent as follows:

Reference	Claims Anticipated	Claims Rendered Obvious
Ahonen '662		Claims 1-14, 17-25
Assembly Guidance System		Claims 1-14, 17-25
Bannat		Claims 1-14, 17-25
Behan '796		Claims 1-14, 17-25
Bialy '155		Claims 1-14, 17-25
Bordignon '163		Claims 1-14, 17-25
Bordignon '258		Claims 1-14, 17-25
BVK II		Claims 1-14, 17-25

BVK I		Claims 1-14, 17-25
Carpenter '575		Claims 1-14, 17-25
Chen		Claims 1-14, 17-25
Clause '557		Claims 1-14, 17-25
Dorsey-Palmateer '147		Claims 1-14, 17-25
Elhaus '869		Claims 1-14, 17-25
Engelbart '696		Claims 1-14, 17-25
FiberSIM 4.2 Manual		Claims 1-14, 17-25
Fontanot '866		Claims 1-14, 17-25
Glossop '616		Claims 1-14, 17-25
Haisty '761		Claims 1-14, 17-25
Hannawald '370		Claims 1-14, 17-25
Honda '466		Claims 1-14, 17-25
Hull '959		Claims 1-14, 17-25
IBM Everywhere Display	1, 5-7, 10-12, 17, 19-21, 23-25.	Claims 1-14, 17-25
Iyoda		Claims 1-14, 17-25
Kaufman '397		Claims 1-14, 17-25
Kaufman '558		Claims 1-14, 17-25
Kiva ISIL System	1-2, 5-7, 10-11, 17, 19, 21 (at least to the same extent as the accused Nike system is argued to be covered by the patents-in-suit).	Claims 1-14, 17-25 (at least to the same extent as the accused Nike system is argued to be covered by the patents-in-suit).
Kjeldsen I		Claims 1-14, 17-25
Kline '651		Claims 1-14, 17-25
Levas		Claims 1-14, 17-25
Laserguide		Claims 1-14, 17-25
LPT system		Claims 1-14, 17-25
Machino		Claims 1-14, 17-25
Mizushima '664		Claims 1-14, 17-25
Morden '368		Claims 1-14, 17-25

Okada '409		Claims 1-14, 17-25
Palmateer '037		Claims 1-14, 17-25
Palmateer '893		Claims 1-14, 17-25
Palmer		Claims 1-14, 17-25
Parmenter '083		Claims 1-14, 17-25
Pinhanez I		Claims 1-14, 17-25
Pinhanez II		Claims 1-14, 17-25
Pinhanez III		Claims 1-14, 17-25
Poggi '901		Claims 1-14, 17-25
Ramsager '320		Claims 1-14, 17-25
RayTracer Administrator		Claims 1-14, 17-25
Rouaix '431		Claims 1-14, 17-25
Ryznar '981		Claims 1-14, 17-25
Sargeant		Claims 1-14, 17-25
Simatic		Claims 1-14, 17-25
Stevens '920		Claims 1-14, 17-25
Tominaga '391		Claims 1-14, 17-25
Venema '318		Claims 1-14, 17-25
Virtek LaserEdge System		Claims 1-14, 17-25
Wales '117		Claims 1-14, 17-25
Yokota '251	1-2, 4-6, 9-11, 13-14, 17, 20, 24-25	Claims 1-14, 17-25
Z-Laser System		Claims 1-14, 17-25

The obviousness rationales for the '614 patent are similar to that of the '981 patent and '036 patents, which are hereby incorporated by reference. In addition, the following obviousness rationales also apply to the '614 patent (some of which may be identical to the obviousness rationales for the '981 patent or '036 patent).

A POSITA would also have been motivated to use a basic database technique to store and retrieve visual indicators. Such a technique would typically involve using unique addresses to store and retrieve each visual indicator. For example the LPT references, Yokota '251, Bordignon '163, Bordignon '258, and the IBM Everywhere Display references all use a database or similar technique to store and retrieve visual indicators or shapes for display in a way that permits . The use of such database technology allows for dynamic, highly interactive projection displays as disclosed in these references. The simplistic table lookup disclosed in the '614 patent is an obvious oversimplification of the database technology used to store image information in these references. A POSITA would have recognized the value in storing visual indicators in a database so that they could be retrieved in any order.

A POSITA would also have been motivated to substitute the projection camera system across any of the projector-camera (Pro-Cam) systems. For example, the Pro-Cam system of the IBM Everywhere Display references (e.g., Pinhanez) could be substituted in place of the Pro-Cam system of another reference, for example, Poggi. The same is true of the Machino Pro-Cam system.

As another example, it would have been obvious to combine all of the IBM Everywhere Display references together, such that the combined teachings of the references render the asserted claims obvious. The references all concern the same subject matter and thus there is an implied suggestion to read the references together as a unified whole. Additionally, any improvement described in one of the Everywhere Display papers would have been obvious to apply to another of the Everywhere Display papers.

Similarly, it would have been obvious to combine all references from the same source with other references from the same source. For example, it would have been obvious to combine the

Honda Motor Co. references (Yokota '251 and Honda '466) together, as that is expressly suggested by Yokota '251. Similarly, it would have been obvious to combine the Boeing references (including the Palmateer references) with other Boeing references. It would have been further obvious to combine any of the LPT systems with other LPT systems together or or with one or more Kaufman patents. Such combinations would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference—and these cases, a related reference—in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations for the creation of composite products (e.g., the Boeing references, Bordignon '258, Bordignon '163, Poggi, Kaufman '397, LASERGUIDE, LPT, etc), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations at a workbench or workstation (e.g., Ryzner '981, LASEREDGE, Kaufman '397, Bordignon '258, Bordignon '163, Wales '117, Yokota '251, the Everywhere Display references, etc), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations on an assembly line (e.g., Ramsager '320, Wales '117, Kaufman '397, Yokota '251, the Everywhere Display references, etc), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine bin illumination techniques from the KIVA ISIL system, Rouaix '431, any of the Pinhanez references, or Ramsager '320 with any reference that includes retrieving components from a storage bin, such as Stevens '920, or Okoda '409, etc., as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

It further would have been obvious to combine the Stevens '920 reference, the Honda '466 reference, and/or the Venema '308 reference with any system having a laser pointer or other projected illumination technique, as there is an express suggestion in Stevens '920 that alternative signaling techniques may be used to identify locations from which an item should be picked. Stevens '920 at 7:55–63. Similarly, these three references both discuss known “pick-to-light” solutions, which Ramsager '320 also discusses before the priority dates of the patents-in-suit, and expressly proposes using directed light in such an application.

It further would have been obvious to combine the teachings of references discussing known “pick-to-light” solutions (e.g., Stevens '920, Venema '308, Honda '466, and Ramsager '320, etc.) with references discussing manufacturing and assembly processes (e.g., Yokota, Poggi, Kaufman, the Everywhere Display references, etc.). This is because known “pick-to-light” solutions were already used in manufacturing and assembly tasks, at least to assist with the location of component parts. See, e.g., Honda '466 at Fig. 10. It would have been obvious to a person of skill designing a projected-light-guided system in a manufacturing/assembly process to make use of known techniques from “pick-to-light” solutions that would have been in use in that field.

It would have been obvious to combine references with their corresponding implementations or source code (which Amazon expects to further develop during discovery).

It also would have been obvious to add a display to any reference that does not disclose one, as that would be an obvious way to provide additional information to a person doing an operation such as an assembly action.

It also would have been obvious to combine the Stevens '920 reference (which describes the use of RFID tags, with another reference that describes the use of an RFID reader, for example to sense the type or presence of a product. One such reference is Honda '466. Such a combination would be nothing more than combining the techniques of two references in the standard way (i.e., an RFID reader with an RFID. Similarly, it would have been obvious to combine Yokota '251 with Sargeant, Fontanot '988, Stevens '920, or any other reference that relies on RFID technology.

It further would have been obvious to combine any of the manufacturing references with a Manufacturing Execution System (MES) reference, such as Sargeant, Fontanot '988, Parmenter '083, or Stevens '920. Such a combination would be nothing more than combining prior art elements according to known methods (i.e., using light-guided manufacturing techniques inside of a factor that has an operating MES).

It further would have been obvious to take any of the references that have local displays and make those into remote displays, as the position of the display is arbitrary and it would be obvious to try having a remote display, for example, so that management could monitor what was happening in a given workstation.

It further would have been obvious to substitute the projector, sensor, or controller elements of any of the prior art references for any of the other corresponding elements from another prior art reference, as that would be nothing more than a simple substitution. For example, a computer vision system could be replaced by another type of sensor, such as a bar code or RFID, or vice

versa. Similarly, a laser projector could be replaced with a video projector. And the controller elements are largely interchangeable.

It further would have been obvious to us the FiberSIM technology with Assembly Guidance, LPT, or Virtek, as such combinations are expressly suggested in the FiberSIM 4.2 manual at pp. 124-125.

A POSITA would have been motivated to combine Poggi with the teachings of a vision system in SIMATIC. Specifically, a POSITA would have understood that Poggi requires image processing programs to “[recognize] the shape of the layer that has just been placed,” or “the location where the layer is placed in the intended location.” Poggi at 3:53-59; *see also id.* at 2:9-10. To the extent a POSITA does not view Poggi as disclosing such image processing programs, SIMATIC discloses it. Thus, the combination of Poggi and SIMATIC produces predictable results, both in terms of reducing the complexity and level of efforts required to implement Poggi's system.

It further would have been obvious to modify any system that uses non-projection pick-to-light techniques, such as Honda '466 or Stephenson '920 to use a projection-based pick-to-light technique, for example, as taught in the Pinhanez M&M example, Clause '557, Rouaix '431, or Ramsager '320.

It would further have been obvious to substitute the display elements of any of the prior references for any of the other corresponding elements from another prior art reference, as that would be nothing more than a simple substitution. For example, to the extent certain references describe displays, and other references describe displays having particular screens and functionality, it would have been obvious to incorporate those screens and functionality to the displays of the other references. It would be obvious to incorporate additional display functionality

across all of the types of systems discussed in the prior art, including assembly systems, pick-to-light systems, Pro-Cam systems, etc., because all these systems are directed to instructing a human in performing a process, and a display is an easy and obvious way to provide such instructions. For the same reason, it would have been obvious to add a display to any of the references that do not recite one.

Additionally, to the extent the preamble is limiting, for any of the references in Appendices A-C that do not disclose *projecting visual indicators to guide actions of an individual for a particular guided operation* (i.e., “Preamble” functionality), it would have been obvious to use or combine them for that purpose. For example, to the extent any of Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Honda ’466, Kaufman ’558, Morden ’368, Palmateer ’037, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Hannawald ’370, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Sargeant, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than using a known device from List A in an arrangement allowing them to implement the Preamble functionality (to the

extent limiting) as set forth in List B. The same applies to any other references that are found or argued to not disclose the Preamble functionality, to the extent it is limiting.

For any of the references in Appendices A-C that do not disclose *a guide system controller* (i.e., “Guide System Controller” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Kjeldsen I, Laserguide, Machino, Pinhanez III, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Fontanot ’866, Glossop ’616, Haisty ’761, Honda ’466, Hull ’959, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Sargeant, Stevens ’920, Tominaga ’391, Venema ’318, Virtek LaserEdge System, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Guide System Controller element from any of the references in List B) according to known methods (i.e., adding a Guide System Controller element using teachings from the references in List B) to achieve a predictable result (i.e., the claimed Guide System Controller functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Guide System Controller functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Guide System

Controller elements from any of the references in List B with any of the other Guide System Controller elements in List B.

For any of the references in Appendices A-C that do not disclose a *projector* (i.e., “Projector” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Honda ’466, Kiva ISIL System, Okada ’409, Ryznar ’981, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, Hull ’959, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Projector element from any of the references in List B) according to known methods (i.e., adding a Projector element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Projector functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Projector functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Projector elements from any of the references in List B with any of the other Projector elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller including a plurality of selectable addressed display features with each said addressed display feature having a unique pre-programmed individual address identifier within said guide system controller* (i.e., “Selectable Addressed Display Feature” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Behan ’796, Bordignon ’258, Engelbart ’696, Glossop ’616, Honda ’466, Kline ’651, Mizushima ’664, Morden ’368, Palmer, Ramsager ’320, Rouaix ’431, Ryznar ’981, or Virtek LaserEdge System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Selectable Addressed Display Feature element from any of the references in List B) according to known methods (i.e., adding a Selectable Addressed Display Feature element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Selectable Addressed Display Feature functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Selectable Addressed Display Feature functionality

from List B) to improve devices from List A. More specific examples include Honda '466, which discloses a simple lookup table for component-related user instructions (for a display) that could easily be adapted for looking up component-related instructions for use in a projection system. Similarly, the IBM Everywhere Display system uses "Unique IDs" for storing all of its information, including image information, in a format called EDML. It would have been obvious to use or combine this image storage format with any of the other references that store images for projection. Similarly, the LPT references use file names to store images. Any of these file names that are accessed by a unique file name would fall within the scope of this claim, and using or combining a similar technique with the List A references would have been an obvious use of a trivial naming technique. In addition, it would have been obvious to do a simple substitution of any of the Selectable Addressed Display Feature elements from any of the references in List B with any of the other Selectable Addressed Display Feature elements in List B.

For any of the references in Appendices A-C that do not disclose *receiving a sequence of one or more input signals at said guide system controller* (i.e., "Input Signals" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan '796, Bordignon '163, Chen, Dorsey-Palmateer '147, Laserguide, Machino, Pinhanez II, Pinhanez III, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, Bannat, Bialy '155, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Elhaus '869, Engelbart '696, Fontanot '866, Glossop '616, Haisty '761, Honda '466, Hull '959, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409,

Palmateer '037, Palmateer '893, Palmer, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Sargeant, Stevens '920, Tominaga '391, Venema '318, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals element from any of the references in List B) according to known methods (i.e., adding an Input Signals element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals elements from any of the references in List B with any of the other Input Signals elements in List B.

For any of the references in Appendices A-C that do not disclose *input signals being provided to said guide system controller by a separate computer system or controller* (i.e., "Input Signals/Separate Computer" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, BVK I, Carpenter '575, Chen, Clause '557, Engelbart '696, Haisty '761, Kaufman '397, Kiva ISIL System, Kjeldsen I, Mizushima '664, Pinhanez I, Poggi '901, Rouaix '431, Ryznar '981, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Bialy '155, BVK II, BVK I, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Fontanot '866, Glossop '616, Honda '466, IBM Everywhere Display, Iyoda, Kaufman '558, Kjeldsen I, Kline

'651, Laserguide, LPT system, Machino, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Sargeant, Simatic, Stevens '920, Tominaga '391, Venema '318, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals/Separate Computer element from any of the references in List B) according to known methods (i.e., adding an Input Signals/Separate Computer element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals/Separate Computer functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals/Separate Computer functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals/Separate Computer elements from any of the references in List B with any of the other Input Signals/Separate Computer elements in List B.

For any of the references in Appendices A-C that do not disclose *receiving . . . input signals . . . to cause said guide system to project visual indicators for a particular guided operation* (i.e., "Input Signals/Visual Indicators" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, Chen, Dorsey-Palmateer '147, Engelbart '696, Haisty '761, Kaufman '397, Kjeldsen I, Laserguide, LPT system, Pinhanez I, Pinhanez II, Pinhanez III, Stevens '920, Virtek LaserEdge System, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with

Ahonen '662, Bannat, Bialy '155, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Honda '466, Hull '959, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals/Visual Indicators element from any of the references in List B) according to known methods (i.e., adding a Input Signals/Visual Indicators element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals/Visual Indicators functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals/Visual Indicators functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals/Visual Indicators elements from any of the references in List B with any of the other Input Signals/Visual Indicators elements in List B.

For any of the references in Appendices A-C that do not disclose *selecting one or more particular addressed display features by said guide system controller from the plurality of said addressed display features based on said input signals, wherein said input signals control selection of said addressed display features based on the address identifier for the said addressed display feature* (i.e., "Input Signals/Display Feature Control" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662,

Assembly Guidance System, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Chen, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, IBM Everywhere Display, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Behan '796, Bordignon '258, Glossop '616, Honda '466, Kline '651, Mizushima '664, Morden '368, Palmer, Rouaix '431, Ryznar '981, or Virtek LaserEdge System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals/Display Feature Control element from any of the references in List B) according to known methods (i.e., adding a Input Signals/Display Feature Control element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals/Display Feature Control functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals/Display Feature Control functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals/Display Feature Control elements from any of the references in List B with any of the other Input Signals/Display Feature Control elements in List B.

For any of the references in Appendices A-C that do not disclose a *projecting one or more visual indicators corresponding to said selected particular addressed display features onto one or*

more physical objects associated with the particular guided operation, with said guide system controller configured to control operation of said projector to project said visual indicators based on said input signals (i.e., “Projection Based On Input Signals” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Dorsey-Palmateer ’147, Engelbart ’696, Honda ’466, Kiva ISIL System, Pinhanez III, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Projection Based On Input Signals element from any of the references in List B) according to known methods (i.e., adding a Projection Based On Input Signals element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Projection Based On Input Signals functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Projection Based On Input Signals functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a

simple substitution of any of the Projection Based On Input Signals elements from any of the references in List B with any of the other Projection Based On Input Signals elements in List B.

For any of the references in Appendices A-C that do not disclose *projecting one or more visual indicators corresponding to said selected particular addressed display features onto one or more physical objects associated with the particular guided operation, with said guide system controller configured to control operation of said projector to project said visual indicators based on said input signals* (i.e., “Dynamic Projection From Input Signals” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Dorsey-Palmateer ’147, Engelbart ’696, Honda ’466, Kiva ISIL System, Pinhanez III, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Dynamic Projection From Input Signals element from any of the references in List B) according to known methods (i.e., adding a Dynamic Projection From Input Signals element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Dynamic Projection

From Input Signals functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Dynamic Projection From Input Signals functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Dynamic Projection From Input Signals elements from any of the references in List B with any of the other Dynamic Projection From Input Signals elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller further includes a plurality of positional identifiers and said method further comprises selecting positional identifiers based on said input signals, and wherein said projecting visual indicators further comprises projecting visual indicators corresponding to said selected addressed display features onto a physical object at a location corresponding to said selected positional identifiers*. (i.e., “Positional Identifier” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Behan ’796, Bialy ’155, Haisty ’761, IBM Everywhere Display, Kaufman ’558, Kline ’651, Mizushima ’664, Morden ’368, Ramsager ’320,

Rouaix '431, or Ryznar '981 (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Positional Identifier element from any of the references in List B) according to known methods (i.e., adding a Positional Identifier element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Positional Identifier functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Positional Identifier functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Positional Identifier elements from any of the references in List B with any of the other Positional Identifier elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein the separate computer system or controller comprises a manufacturing execution system, and wherein said guide system controller is interfaced with said manufacturing execution system, and wherein said input signals are provided to said guide system controller from said manufacturing execution system.* (i.e., "Manufacturing Execution System" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, Honda '466, IBM Everywhere Display, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System

(collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Chen, Fontanot ’866, Hannawald ’370, Kline ’651, Parmenter ’083, Sargeant, or Stevens ’920 (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Manufacturing Execution System element from any of the references in List B) according to known methods (i.e., adding a Manufacturing Execution System element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Manufacturing Execution System functionality) within the context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Manufacturing Execution System functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Manufacturing Execution System elements from any of the references in List B with any of the other Manufacturing Execution System elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said manufacturing execution system receives signals from a sensor apparatus, and wherein said input signals are provided to said guide system controller based on said signals received by said manufacturing execution system from said sensor apparatus* (i.e., “Manufacturing Execution System/Sensor Apparatus” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I,

Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Hannawald '370, Kline '651, Parmenter '083, Sargeant, Bialy '155, BVK II, BVK I, Chen, Fontanot '866, Honda '466, IBM Everywhere Display, Kjeldsen I, Parmenter '083, Pinhanez I, Pinhanez II, Ramsager '320, Simatic, Stevens '920, Tominaga '391, or Venema '318 (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Manufacturing Execution System/Sensor Apparatus element from any of the references in List B) according to known methods (i.e., adding a Manufacturing Execution System/Sensor Apparatus element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Manufacturing Execution System/Sensor Apparatus functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Manufacturing Execution System/Sensor Apparatus functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Manufacturing Execution System/Sensor Apparatus elements from any of the references in List B with any of the other Manufacturing Execution System/Sensor Apparatus elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein the separate computer system or controller comprises a system controller that controls the operation of an automated process, and wherein said guide system controller is interfaced with said system*

controller, and wherein said input signals are provided to said guide system controller from said system controller (i.e., “System Controller” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with BVK II, Chen, Fontanot ’866, Haisty ’761, IBM Everywhere Display, Kline ’651, LPT system, Okada ’409, Parmenter ’083, Sargeant, Stevens ’920, Tominaga ’391, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed System Controller element from any of the references in List B) according to known methods (i.e., adding a System Controller element using teachings from references in List B) to achieve a predictable result (i.e., the claimed System Controller functionality) within the context of the references from List A. Such a combination would be mere use of a known technique (using the claimed System Controller functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the System Controller elements from any of the references in List B with any of the other System Controller elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said system controller receives signals from a sensor apparatus, and wherein said input signals are provided to said guide system controller based on said signals received by said system controller from said sensor apparatus* (i.e., “System Controller/Sensor Apparatus” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with BVK II, Chen, Fontanot ’866, Haisty ’761, IBM Everywhere Display, Kline ’651, LPT system, Okada ’409, Parmenter ’083, Sargeant, Stevens ’920, Tominaga ’391, Venema ’318, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed System Controller/Sensor Apparatus element from any of the references in List B) according to known methods (i.e., adding a System Controller/Sensor Apparatus element using teachings from references in List B) to achieve a predictable result (i.e., the claimed System Controller/Sensor Apparatus functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed System Controller/Sensor Apparatus

functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the System Controller/Sensor Apparatus elements from any of the references in List B with any of the other System Controller/Sensor Apparatus elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said system controller comprises a programmable logic controller* (i.e., “System Controller/PLC” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with BVK II, Chen, Fontanot ’866, Haisty ’761, IBM Everywhere Display, Kline ’651, LPT system, Okada ’409, Parmenter ’083, Sargeant, Stevens ’920, Tominaga ’391, Virtek LaserEdge System, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed System Controller/PLC element from any of the references in List B) according to known methods (i.e., adding a System Controller/PLC element using teachings from references in List B) to achieve a predictable result (i.e., the claimed System Controller/PLC functionality) within the context of the

references from List A. Such a combination would be mere use of a known technique (using the claimed System Controller/PLC functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the System Controller/PLC elements from any of the references in List B with any of the other System Controller/PLC elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said system controller is interfaced with a manufacturing execution system* (i.e., “System Controller/MES” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Chen, Fontanot ’866, Hannawald ’370, Kline ’651, Parmenter ’083, Sargeant, or Stevens ’920 (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed System Controller/MES element from any of the references in List B) according to known methods (i.e., adding a System Controller/MES element using teachings from references in List B) to achieve a predictable result (i.e., the claimed System Controller/MES functionality) within

context of the references from List A. Such a combination would be mere use of a known technique (using the claimed System Controller/MES functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the System Controller/MES elements from any of the references in List B with any of the other System Controller/MES elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said visual indicators comprise at least one selected from the group consisting of numbers, words, alphanumeric characters, a drawing image and a video image* (i.e., “Visual Indicators/Numbers, Words, and Characters” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, BVK I, Chen, Clause ’557, Honda ’466, Kiva ISIL System, Laserguide, LPT system, Okada ’409, Stevens ’920, Venema ’318, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, Carpenter ’575, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, LPT system, Machino, Mizushima ’664, Morden ’368, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Visual Indicators/Numbers, Words, and Characters element from any of the references in List B) according to known methods (i.e., adding a Visual Indicators/Numbers, Words, and Characters

element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Visual Indicators/Numbers, Words, and Characters functionality) within the context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Visual Indicators/Numbers, Words, and Characters functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Visual Indicators/Numbers, Words, and Characters elements from any of the references in List B with any of the other Visual Indicators/Numbers, Words, and Characters elements in List B.

For any of the references in Appendices A-C that do not disclose *confirmation signal to said guide system controller in response to completion of an action by an individual based on one or more of said visual indicators* (i.e., “Confirmation Signal” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Kaufman ’397, Kaufman ’558, Kjeldsen I, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, RayTracer Administrator, Stevens ’920, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, BVK II, Clause ’557, Haisty ’761, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Okada ’409, Parmenter ’083, Pinhanez I, Pinhanez II, Poggi ’901, Rouaix ’431, Ryznar ’981, Simatic, Stevens ’920, Tominaga ’391, Venema ’318, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be

nothing more than combining prior art elements (i.e., the claimed Confirmation Signal element from any of the references in List B) according to known methods (i.e., adding a Confirmation Signal element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Confirmation Signal functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Confirmation Signal functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Confirmation Signal elements from any of the references in List B with any of the other Confirmation Signal elements in List B.

For any of the references in Appendices A-C that do not disclose a *sensor apparatus is operable to detect completion of the action and wherein said sensor apparatus generates said confirmation signal*. (i.e., “Sensor Detects Completion” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Stevens ’920, Virtek LaserEdge System, Wales ’117, or Yokota ’251 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, BVK I, Clause ’557, Haisty ’761, Honda ’466, IBM Everywhere Display, Kjeldsen I, Laserguide, Parmenter ’083, Pinhanez I, Pinhanez II, Poggi ’901, Rouaix ’431, Ryznar ’981, Simatic, Stevens ’920, Venema ’318, or Z-Laser System (collectively, and for purposes of

this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Sensor Detects Completion element from any of the references in List B) according to known methods (i.e., adding a Sensor Detects Completion element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Sensor Detects Completion functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Sensor Detects Completion functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Sensor Detects Completion elements from any of the references in List B with any of the other Sensor Detects Completion elements in List B.

For any of the references in Appendices A-C that do not disclose *a camera operable to image at least one of actions of an individual guided by said visual indicators and said visual indicators, and wherein said method comprises recording images while an operator is guided by said guide system* (i.e., “Recording Images” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Clause ’557, IBM Everywhere Display, Iyoda, Kjeldsen I, Machino,

Pinhanez I, Pinhanez II, or Pinhanez III (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Recording Images element from any of the references in List B) according to known methods (i.e., adding a Recording Images element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Recording Images functionality) within the context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Recording Images functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Recording Images elements from any of the references in List B with any of the other Recording Images elements in List B.

For any of the references in Appendices A-C that do not disclose *recording the time duration while an operator is guided by said guide system* (i.e., “Recording Duration” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with LPT system, Ryznar ’981, or Stevens ’920

(collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Recording Duration element from any of the references in List B) according to known methods (i.e., adding a Recording Duration element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Recording Duration functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Recording Duration functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Recording Duration elements from any of the references in List B with any of the other Recording Duration elements in List B.

For any of the references in Appendices A-C that do not disclose *displaying a recorded image and recorded time duration on a display device* (i.e., “Display Recording” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Stevens ’920, Venema ’318, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Clause ’557, Glossop ’616, LPT system, Palmer, Poggi ’901, Ryznar ’981, Virtek LaserEdge System, Kaufman ’397, LPT system, or RayTracer Administrator (collectively, and for purposes of this paragraph only, “List B”). Such a

combination would be nothing more than combining prior art elements (i.e., the claimed Display Recording element from any of the references in List B) according to known methods (i.e., adding a Display Recording element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Display Recording functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Display Recording functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Display Recording elements from any of the references in List B with any of the other Display Recording elements in List B.

For any of the references in Appendices A-C that do not disclose *at least one directional light device, said at least one directional light device being selectively operable to project and target at least one indicating light* (i.e., “Directional Light Device” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Honda ’466, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, Hannawald ’370, Hull ’959, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”).

Such a combination would be nothing more than combining prior art elements (i.e., the claimed Directional Light Device element from any of the references in List B) according to known methods (i.e., adding a Directional Light Device element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Directional Light Device functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Directional Light Device functionality from List B) to improve devices from List A. More specifically, it would have been obvious to replace the non-projection pick-to-light functionality in the references of List A with the projective-based pick-to-light functionality in the references of List B, for example, the Rouaix '431 reference, as that combination would be nothing more than a simple substitution.. In addition, it would have been obvious to do a simple substitution of any of the Directional Light Device elements from any of the references in List B with any of the other Directional Light Device elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller including a plurality of programmed selectable addressed display features and a plurality of programmed positional identifiers with each said addressed display feature having a unique pre-programmed individual address identifier within said guide system controller* (i.e., “Display Feature/Positional Identifier” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Chen, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, IBM Everywhere Display, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320,

RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Behan, Bialy '155 '796, Bordignon '258, Carpenter '575, Engelbart '696, Glossop '616, Haisty '761, Honda '466, IBM Everywhere Display, Kaufman '558, Kline '651, Mizushima '664, Morden '368, Palmer, Ramsager '320, Rouaix '431, Ryznar '981, or Virtek LaserEdge System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Display Feature/Positional Identifier element from any of the references in List B) according to known methods (i.e., adding a Display Feature/Positional Identifier element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Display Feature/Positional Identifier functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Display Feature/Positional Identifier functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Display Feature/Positional Identifier elements from any of the references in List B with any of the other Display Feature/Positional Identifier elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller configured to receive a sequence of one or more input signals from a separate computer system or controller to cause said guide system to project visual indicators for a particular guided operation* (i.e., "Input Signals from Separate Computer" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, Chen, Dorsey-Palmateer '147, Engelbart

'696, Haisty '761, Kaufman '397, Kjeldsen I, Laserguide, LPT system, Pinhanez I, Pinhanez II, Pinhanez III, Stevens '920, Virtek LaserEdge System, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, Bannat, Bialy '155, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Honda '466, Hull '959, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals from Separate Computer element from any of the references in List B) according to known methods (i.e., adding a Input Signals from Separate Computer element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals from Separate Computer functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals from Separate Computer functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals from Separate Computer elements from any of the references in List B with any of the other Input Signals from Separate Computer elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller is configured to select one or more particular addressed display features from the plurality of*

addressed display features based on the input signals, and wherein the input signals control selection of said addressed display features based on the address identifier for the said addressed display feature (i.e., “Input Signals Control Display Features” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Bannat, Behan ’796, Bialy ’155, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Honda ’466, Hull ’959, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals Control Display Features element from any of the references in List B) according to known methods (i.e., adding a Input Signals Control Display

Features element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals Control Display Features functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals Control Display Features functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals Control Display Features elements from any of the references in List B with any of the other Input Signals Control Display Features elements in List B.

For any of the references in Appendices A-C that do not disclose *guide system controller causing said directional light device to project visual indicators corresponding to an addressed display feature onto one or more physical objects at a location corresponding to a positional identifier based on said input signals, wherein said guide system controller is operative to receive any sequence of input signals from the separate computer system or controller to dynamically project any sequence of visual indicators corresponding to respective said addressed display features based on said input signals corresponding to desired visual indicators with a combination of the sequence of input signals resulting in a creation of a dynamic, real time projection of visual indicators* (i.e., “Dynamic Real Time Projection” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Behan ’796, Chen, Engelbart ’696, Honda ’466, Laserguide, Pinhanez II, Stevens ’920, Venema ’318, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Hull ’959, IBM Everywhere Display, Iyoda,

Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Dynamic Real Time Projection element from any of the references in List B) according to known methods (i.e., adding a Dynamic Real Time Projection element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Dynamic Real Time Projection functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Dynamic Real Time Projection functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Dynamic Real Time Projection elements from any of the references in List B with any of the other Dynamic Real Time Projection elements in List B.

'036 Patent

Reference	Claims Anticipated	Claims Rendered Obvious
Ahonen '662		Claims 1-12
Assembly Guidance System		Claims 1-12
Bannat		Claims 1-12
Behan '796		Claims 1-12
Bialy '155		Claims 1-12
Bordignon '163		Claims 1-12
Bordignon '258		Claims 1-12
BVK II		Claims 1-12
BVK I		Claims 1-12

Carpenter '575		Claims 1-12
Chen		Claims 1-12
Clause '557	1-12	Claims 1-12
Dorsey-Palmateer '147		Claims 1-12
Elhaus '869		Claims 1-12
Engelbart '696		Claims 1-12
FiberSIM 4.2 Manual		Claims 1-12
Fontanot '866		Claims 1-12
Glossop '616		Claims 1-12
Haisty '761		Claims 1-12
Hannawald '370		Claims 1-12
Honda '466		Claims 1-12
Hull '959		Claims 1-12
IBM Everywhere Display	1-12	Claims 1-12
Iyoda	1-4, 6-12	Claims 1-12
Kaufman '397		Claims 1-12
Kaufman '558		Claims 1-12
Kiva ISIL System		Claims 1-12 (at least to the same extent as the accused Nike system is argued to be covered by the patents-in-suit).
Kjeldsen I		Claims 1-12
Kline '651		Claims 1-12
Levas		Claims 1-12
Laserguide		Claims 1-12
LPT system		Claims 1-12
Machino	1-3	Claims 1-12
Mizushima '664		Claims 1-12
Morden '368		Claims 1-12
Okada '409		Claims 1-12
Palmateer '037		Claims 1-12

Palmateer '893		Claims 1-12
Palmer		Claims 1-12
Parmenter '083		Claims 1-12
Pinhanez I		Claims 1-12
Pinhanez II		Claims 1-12
Pinhanez III	1-12	Claims 1-12
Poggi '901		Claims 1-12
Ramsager '320		Claims 1-12
RayTracer Administrator		Claims 1-12
Rouaix '431		Claims 1-12
Ryznar '981		Claims 1-12
Sargeant		Claims 1-12
Simatic		Claims 1-12
Stevens '920		Claims 1-12
Tominaga '391		Claims 1-12
Venema '318		Claims 1-12
Virtek LaserEdge System		Claims 1-12
Wales '117		Claims 1-12
Yokota '251		Claims 1-12
Z-Laser System		Claims 1-12

The obviousness rationales for the '036 patent are similar to that of the '614 patent and '981 patents, which are hereby incorporated by reference. In addition, the following obviousness rationales also apply to the '036 patent (some of which may be identical to the obviousness rationales for the '614 patent or '981 patent).

A POSITA would have been motivated to combine Poggi with the teachings of a vision system in SIMATIC. Specifically, a POSITA would have understood that Poggi requires image processing programs to “[recognize] the shape of the layer that has just been placed,” or “the

location where the layer is placed in the intended location.” Poggi at 3:53-59; *see also id.* at 2:9-10. To the extent a POSITA does not view Poggi as disclosing such image processing programs, SIMATIC discloses it. Thus, the combination of Poggi and SIMATIC produces predictable results, both in terms of reducing the complexity and level of efforts required to implement Poggi's system.

A POSITA would also have been motivated to substitute the projection camera system across any of the projector-camera (Pro-Cam) systems. For example, the Pro-Cam system of the IBM Everywhere Display references (e.g., Pinhanez) could be substituted in place of the Pro-Cam system of another reference, for example, Poggi.

A POSITA would also have been motivated to use a basic database technique to store and retrieve visual indicators. Such a technique would typically involve using unique addresses to store and retrieve each visual indicator. For example the LPT references, Yokota '251, and the IBM Everywhere Display references all use a database or similar technique to store and retrieve visual indicators or shapes for display. The use of such database technology allows for dynamic, highly interactive projection displays. A POSITA would have recognized the value in storing visual indicators in a database so that they could be retrieved in any order.

A POSITA would also have been motivated to substitute the projection camera system across any of the projector-camera (Pro-Cam) systems. For example, the Pro-Cam system of the IBM Everywhere Display references (e.g., Pinhanez) could be substituted in place of the Pro-Cam system of another reference, for example, Poggi. The same is true of the Machino Pro-Cam system.

As another example, it would have been obvious to combine all of the IBM Everywhere Display references together, such that the combined teachings of the references render the asserted

claims obvious. The references all concern the same subject matter and thus there is an implied suggestion to read the references together as a unified whole. Additionally, any improvement described in one of the Everywhere Display papers would have been obvious to apply to another of the Everywhere Display papers.

Similarly, it would have been obvious to combine all references from the same source with other references from the same source. For example, it would have been obvious to combine the Honda Motor Co. references (Yokota '251 and Honda '466) together, as that is expressly suggested by Yokota '251. Similarly, it would have been obvious to combine the Boeing references (including the Palmateer references) with other Boeing references. It would have been further obvious to combine any of the LPT systems with other LPT systems together or with one or more Kaufman patents. Such combinations would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference—and these cases, a related reference—in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations for the creation of composite products (e.g., the Boeing references, Poggi, Bordignon '258, Bordignon '163, Kaufman '397, LASERGUIDE, LPT, etc), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations at a workbench or workstation (e.g., Ryzner '981, LASEREDGE, Kaufman '397, Bordignon '258, Bordignon '163, Wales '117, Yokota '251, the Everywhere Display references, etc), as that would be nothing more

than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine any of the techniques or teachings from any of the references that use laser or video projection to direct operations on an assembly line (e.g., Ramsager '320, Wales '117, Kaufman '397, Yokota '251, the Everywhere Display references, etc.), as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

Similarly, it would have been obvious to use or combine bin illumination techniques from the KIVA ISIL system, Rouaix '431, any of the Pinhanez references, or Ramsager '320 with any reference that includes retrieving components from a storage bin, such as Stevens '920, or Okoda '409, etc., as that would be nothing more than taking a teaching from one reference and improving the teachings of a similar reference in the same way.

It further would have been obvious to combine the Stevens '920 reference with any system having a laser pointer or other projected illumination technique, as there is an express suggestion in Stevens '920 the Honda '466 reference, and/or the Venema '308 reference that alternative signaling techniques may be used to identify locations from which an item should be picked. Stevens '920 at 7:55–63. Similarly, these three references both discuss known “pick-to-light” solutions, which Ramsager '320 also discusses before the priority dates of the patents-in-suit, and expressly proposes using directed light in such an application.

It further would have been obvious to combine the teachings of references discussing known “pick-to-light” solutions (e.g., Stevens '920, Venema '308, Honda '466, and Ramsager '320, etc.) with references discussing manufacturing and assembly processes (e.g., Yokota, Poggi, Kaufman, the Everywhere Display references, etc.). This is because known “pick-to-light”

solutions were already used in manufacturing and assembly tasks, at least to assist with the location of component parts. See, e.g., Honda '466 at Fig. 10. It would have been obvious to a person of skill designing a projected-light-guided system in a manufacturing/assembly process to make use of known techniques from “pick-to-light” solutions that would have been in use in that field.

It would have been obvious to combine references with their corresponding implementations or source code (which Amazon expects to further develop during discovery).

It also would have been obvious to add a display to any reference that does not disclose one, as that would be an obvious way to provide additional information to a person doing an operation such as an assembly action.

It also would have been obvious to combine the Stevens '920 reference (which describes the use of RFID tags, with another reference that describes the use of an RFID reader, for example to sense the type or presence of a product. One such reference is Honda '466. Such a combination would be nothing more than combining the techniques of two references in the standard way (i.e., an RFID reader with an RFID. Similarly, it would have been obvious to combine Yokota '251 with Sargeant, Fontanot '988, Stevens '920, or any other reference that relies on RFID technology.

It further would have been obvious to combine any of the manufacturing references with a Manufacturing Execution System (MES) reference, such as Sargeant, Fontanot '988, Parmenter '083, or Stevens '920. Such a combination would be nothing more than combining prior art elements according to known methods (i.e., using light-guided manufacturing techniques inside of a factor that has an operating MES).

It further would have been obvious to take any of the references that have local displays and make those into remote displays, as the position of the display is arbitrary and it would be

obvious to try having a remote display, for example, so that management could monitor what was happening in a given workstation.

It further would have been obvious to substitute the projector, sensor, or controller elements of any of the prior art references for any of the other corresponding elements from another prior art reference, as that would be nothing more than a simple substitution. For example, a computer vision system could be replaced by another type of sensor, such as a bar code or RFID, or vice versa. Similarly, a laser projector could be replaced with a video projector. And the controller elements are largely interchangeable.

It further would have been obvious to use the FiberSIM technology with Assembly Guidance, LPT, or Virtek, as such combinations are expressly suggested in the FiberSIM 4.2 manual at pp. 124-125.

It further would have been obvious to modify any system that uses non-projection pick-to-light techniques, such as Honda '466 or Stephenson '920 to use a projection-based pick-to-light technique, for example, as taught in the Pinhanez M&M example, Clause '557, Rouaix '431, or Ramsager '320.

It would further have been obvious to substitute the display elements of any of the prior references for any of the other corresponding elements from another prior art reference, as that would be nothing more than a simple substitution. For example, to the extent certain references describe displays, and other references describe displays having particular screens and functionality, it would have been obvious to incorporate those screens and functionality to the displays of the other references. It would be obvious to incorporate additional display functionality across all of the types of systems discussed in the prior art, including assembly systems, pick-to-light systems, Pro-Cam systems, etc., because all these systems are directed to instructing a human

in performing a process, and a display is an easy and obvious way to provide such instructions. For the same reason, it would have been obvious to add a display to any of the references that do not recite one.

To the extent the preamble is limiting, for any of the references in Appendices A-C that do not disclose *projecting visual indicators to guide actions of an individual for a particular guided operation* (i.e., “Preamble” functionality), it would have been obvious to use or combine them for that purpose. For example, to the extent any of Bordignon ’163, Bordignon ’258, Dorsey-Palmateer ’147, Honda ’466, Kaufman ’558, Morden ’368, Palmateer ’037, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Hannawald ’370, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Sargeant, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than using a known device from List A in an arrangement allowing them to implement the Preamble functionality (to the extent limiting) as set forth in List B. The same applies to any other references that are found or argued to not disclose the Preamble functionality, to the extent it is limiting.

For any of the references in Appendices A-C that do not disclose *projecting a visual indicator using a directional light device onto a physical object associated with the particular guided operation*; (i.e., “Projecting Visual Indicator” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Dorsey-Palmateer ’147, Engelbart ’696, Honda ’466, Kiva ISIL System, Pinhanez III, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, Hannawald ’370, Hull ’959, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Projecting Visual Indicator element from any of the references in List B) according to known methods (i.e., adding a Projecting Visual Indicator element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Projecting Visual Indicator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Projecting Visual Indicator functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Projecting Visual Indicator elements from

any of the references in List B with any of the other Projecting Visual Indicator elements in List B.

For any of the references in Appendices A-C that do not disclose *imaging the projected visual indicator with a camera located proximate to the directional light device*; (i.e., “Imaging Visual Indicator” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kline ’651, Laserguide, LPT system, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Bialy ’155, BVK II, BVK I, Carpenter ’575, Clause ’557, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Hull ’959, IBM Everywhere Display, Iyoda, Kjeldsen I, LPT system, Machino, Mizushima ’664, Morden ’368, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, Rouaix ’431, or Simatic (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Imaging Visual Indicator element from any of the references in List B) according to known methods (i.e., adding an Imaging Visual Indicator element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Imaging Visual Indicator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Imaging Visual Indicator functionality

from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Imaging Visual Indicator elements from any of the references in List B with any of the other Imaging Visual Indicator elements in List B.

For any of the references in Appendices A-C that do not disclose *transmitting images from the camera to a monitor located remotely from the directional light device* (i.e., “Transmitting Images to Remote Monitor” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Clause ’557, Haisty ’761, IBM Everywhere Display, Iyoda, Machino, Palmer, Pinhanez II, Pinhanez III, or Simatic (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Transmitting Images to Remote Monitor element from any of the references in List B) according to known methods (i.e., adding a Transmitting Images to Remote Monitor element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Transmitting Images to Remote Monitor functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed

Transmitting Images to Remote Monitor functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Transmitting Images to Remote Monitor elements from any of the references in List B with any of the other Transmitting Images to Remote Monitor elements in List B.

For any of the references in Appendices A-C that do not disclose *displaying images from the camera on the monitor* (i.e., “Display Images” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Clause ’557, Haisty ’761, IBM Everywhere Display, Iyoda, Machino, Palmer, Pinhanez III, or Simatic (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Display Images element from any of the references in List B) according to known methods (i.e., adding a Display Images element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Display Images functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Display Images functionality from List B) to improve

devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Display Images elements from any of the references in List B with any of the other Display Images elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said imaging, by the camera, captures images of at least the individual being guided, the physical object and the projected visual indicator* (i.e., “Captures Individual, Object, and Indicator” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Haisty ’761, Honda ’466, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Clause ’557, IBM Everywhere Display, Iyoda, Kjeldsen I, Machino, Pinhanez I, Pinhanez II, or Pinhanez III (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Captures Individual, Object, and Indicator element from any of the references in List B) according to known methods (i.e., adding a Captures Individual, Object, and Indicator element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Captures Individual, Object, and Indicator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the

claimed Captures Individual, Object, and Indicator functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Captures Individual, Object, and Indicator elements from any of the references in List B with any of the other Captures Individual, Object, and Indicator elements in List B.

For any of the references in Appendices A-C that do not disclose *receiving, by the guide system controller, a sequence of one or more input signals and prompting the directional light device to project the visual indicator for the particular guided operation*, or similar functionality in '036 claim 8 (i.e., “Input Signal/Visual Indicator” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Behan '796, Chen, Engelbart '696, Honda '466, Laserguide, Pinhanez I, Pinhanez II, Pinhanez III, Stevens '920, Venema '318, or Wales '117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, Assembly Guidance System, Bannat, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, Hull '959, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signal/Visual Indicator element from any of the references in List B) according to known methods (i.e., adding a Input Signal/Visual Indicator element using teachings from references in List B) to

achieve a predictable result (i.e., the claimed Input Signal/Visual Indicator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signal/Visual Indicator functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signal/Visual Indicator elements from any of the references in List B with any of the other Input Signal/Visual Indicator elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein the sequence of one or more input signals are provided by a separate computer system or controller to the guide system controller* or the corresponding language of claim 9 (i.e., “Separate Computer System” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK I, Carpenter ’575, Chen, Clause ’557, Engelbart ’696, Haisty ’761, Kaufman ’397, Kiva ISIL System, Kjeldsen I, Mizushima ’664, Pinhanez I, Poggi ’901, Rouaix ’431, Ryznar ’981, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Bialy ’155, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Fontanot ’866, Glossop ’616, Honda ’466, IBM Everywhere Display, Iyoda, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Sargeant, Simatic, Stevens ’920, Tominaga ’391, Venema ’318, Virtek LaserEdge System, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Separate

Computer System element from any of the references in List B) according to known methods (i.e., adding a Separate Computer System element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Separate Computer System functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Separate Computer System functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Separate Computer System elements from any of the references in List B with any of the other Separate Computer System elements in List B.

For any of the references in Appendices A-C that do not disclose *receiving, by the guide system controller, a sequence of input signals and prompting the directional light device to dynamically project a sequence of visual indicators onto the physical object for the particular guided operation based on the sequence of the input signals* or the corresponding language of claim 5 (i.e., “Input Signals Prompt Dynamic Projection” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, Carpenter ’575, Dorsey-Palmateer ’147, Engelbart ’696, Haisty ’761, Kaufman ’558, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez III, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, BVK II, BVK I, Chen, Clause ’557, Elhaus ’869, Glossop ’616, Hannawald ’370, Honda ’466, Hull ’959, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Morden ’368, Parmenter ’083, Pinhanez I, Pinhanez

II, Pinhanez III, Poggi '901, Ramsager '320, Sargeant, Simatic, Stevens '920, Venema '318, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Input Signals Prompt Dynamic Projection element from any of the references in List B) according to known methods (i.e., adding a Input Signals Prompt Dynamic Projection element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Input Signals Prompt Dynamic Projection functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Input Signals Prompt Dynamic Projection functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Input Signals Prompt Dynamic Projection elements from any of the references in List B with any of the other Input Signals Prompt Dynamic Projection elements in List B.

For any of the references in Appendices A-C that do not disclose *receiving, by the guide system controller, a combination of the sequence of the input signals and generation of a dynamic, real-time projection, via the directional light device, of the sequence of said visual indicators* (i.e., "Combination of the Sequence" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, Carpenter '575, Dorsey-Palmateer '147, Engelbart '696, Haisty '761, Kaufman '558, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Okada '409, Palmateer '037, Palmateer '893, Pinhanez III, RayTracer Administrator, Rouaix '431, Ryznar '981, Virtek LaserEdge System, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references

with Ahonen '662, BVK II, BVK I, Chen, Clause '557, Elhaus '869, Glossop '616, Hannawald '370, Honda '466, Hull '959, IBM Everywhere Display, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Morden '368, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, Sargeant, Simatic, Stevens '920, Venema '318, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Combination of the Sequence element from any of the references in List B) according to known methods (i.e., adding a Combination of the Sequence element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Combination of the Sequence functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Combination of the Sequence functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Combination of the Sequence elements from any of the references in List B with any of the other Combination of the Sequence elements in List B.

For any of the references in Appendices A-C that do not disclose *sequence of input signals are provided by a separate computer system or controller to the guide system controller* (i.e., "Separate Computer" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bordignon '163, Bordignon '258, BVK I, Carpenter '575, Chen, Clause '557, Engelbart '696, Haisty '761, Kaufman '397, Kiva ISIL System, Kjeldsen I, Mizushima '664, Pinhanez I, Poggi '901, Rouaix '431, Ryznar '981, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat,

Bialy '155, BVK II, BVK I, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Fontanot '866, Glossop '616, Honda '466, IBM Everywhere Display, Iyoda, Kaufman '558, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Parmenter '083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Sargeant, Simatic, Stevens '920, Tominaga '391, Venema '318, Virtek LaserEdge System, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Separate Computer element from any of the references in List B) according to known methods (i.e., adding a Separate Computer element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Separate Computer functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Separate Computer functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Separate Computer elements from any of the references in List B with any of the other Separate Computer elements in List B.

For any of the references in Appendices A-C that do not disclose *a directional light device, said directional light device being selectively operable to project and target at least one indicating light* (i.e., "Directional Light Device" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Honda '466, Stevens '920, or Venema '318 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen '662, Assembly Guidance System, Bannat, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557,

Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, FiberSIM 4.2 Manual, Glossop '616, Haisty '761, Hannawald '370, Hull '959, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kiva ISIL System, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Directional Light Device element from any of the references in List B) according to known methods (i.e., adding a Directional Light Device element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Directional Light Device functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Directional Light Device functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Directional Light Device elements from any of the references in List B with any of the other Directional Light Device elements in List B.

For any of the references in Appendices A-C that do not disclose *a guide system controller, said guide system controller being operable to control said directional light device to project a visual indicator with said indicating light onto a physical object associated with the particular guided operation* (i.e., "Guide System Controller" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Behan '796, Chen, Engelbart '696, Honda '466, Laserguide, Pinhanez II, Stevens '920, Venema '318, or Wales '117 (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these

references with Ahonen '662, Assembly Guidance System, Bannat, Behan '796, Bialy '155, Bordignon '163, Bordignon '258, BVK II, BVK I, Carpenter '575, Clause '557, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, FiberSIM 4.2 Manual, Glossop '616, Haisty '761, IBM Everywhere Display, Iyoda, Kaufman '397, Kaufman '558, Kjeldsen I, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Guide System Controller element from any of the references in List B) according to known methods (i.e., adding a Guide System Controller element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Guide System Controller functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Guide System Controller functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Guide System Controller elements from any of the references in List B with any of the other Guide System Controller elements in List B.

For any of the references in Appendices A-C that do not disclose *a camera located proximate to said directional light device and configured to capture an image of at least the individual, the physical object and said visual indicator when said visual indicator is projected onto the physical object* (i.e., "Individual/Object/Indicator" functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen '662, Assembly Guidance System, Behan '796, Bialy '155, Bordignon '163, Bordignon '258,

BVK II, BVK I, Carpenter '575, Chen, Dorsey-Palmateer '147, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, Honda '466, Kaufman '397, Kaufman '558, Kiva ISIL System, Kline '651, Laserguide, LPT system, Machino, Mizushima '664, Morden '368, Okada '409, Palmateer '037, Palmateer '893, Poggi '901, Ramsager '320, RayTracer Administrator, Rouaix '431, Ryznar '981, Stevens '920, Venema '318, Virtek LaserEdge System, Wales '117, Yokota '251, or Z-Laser System (collectively, and for purposes of this paragraph only, "List A") disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Bialy '155, BVK II, BVK I, Carpenter '575, Clause '557, Elhaus '869, Engelbart '696, Glossop '616, Haisty '761, Hull '959, IBM Everywhere Display, Iyoda, Kjeldsen I, LPT system, Machino, Mizushima '664, Morden '368, Palmateer '893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi '901, Ramsager '320, Rouaix '431, or Simatic (collectively, and for purposes of this paragraph only, "List B"). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Individual/Object/Indicator element from any of the references in List B) according to known methods (i.e., adding a Individual/Object/Indicator element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Individual/Object/Indicator functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Individual/Object/Indicator functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Individual/Object/Indicator elements from any of the references in List B with any of the other Individual/Object/Indicator elements in List B.

For any of the references in Appendices A-C that do not disclose *a monitor, said monitor being remote from said directional light device and said guide system controller, with said monitor*

being operably interfaced with said camera to display the image captured by said camera (i.e., “Remote Monitor” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Chen, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, Glossop ’616, Honda ’466, IBM Everywhere Display, Kaufman ’397, Kaufman ’558, Kiva ISIL System, Kjeldsen I, Kline ’651, Laserguide, LPT system, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Pinhanez I, Pinhanez II, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Stevens ’920, Venema ’318, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Clause ’557, Haisty ’761, IBM Everywhere Display, Iyoda, Machino, Palmer, Pinhanez II, Pinhanez III, or Simatic (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Remote Monitor element from any of the references in List B) according to known methods (i.e., adding a Remote Monitor element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Remote Monitor functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Remote Monitor functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Remote Monitor elements from any of the references in List B with any of the other Remote Monitor elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein a combination of the sequence of the input signals results in a generation of a dynamic, real-time projection of the sequence of said visual indicators* (i.e., “Dynamic Visual Indicators” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Chen, Dorsey-Palmateer ’147, Engelbart ’696, Honda ’466, Kiva ISIL System, Pinhanez III, Stevens ’920, or Venema ’318 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Ahonen ’662, Assembly Guidance System, Bannat, Behan ’796, Bialy ’155, Bordignon ’163, Bordignon ’258, BVK II, BVK I, Carpenter ’575, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Engelbart ’696, FiberSIM 4.2 Manual, Glossop ’616, Haisty ’761, IBM Everywhere Display, Iyoda, Kaufman ’397, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Mizushima ’664, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Virtek LaserEdge System, Wales ’117, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Dynamic Visual Indicators element from any of the references in List B) according to known methods (i.e., adding a Dynamic Visual Indicators element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Dynamic Visual Indicators functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed Dynamic Visual Indicators functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of

the Dynamic Visual Indicators elements from any of the references in List B with any of the other Dynamic Visual Indicators elements in List B.

For any of the references in Appendices A-C that do not disclose *wherein said separate computer system or controller is configured to provide the sequence of input signals to said guide system controller* (i.e., “Separate Computer System” functionality), it would have been obvious to combine them with other references that do. For example, to the extent any of Ahonen ’662, Assembly Guidance System, Behan ’796, Bordignon ’163, Bordignon ’258, BVK I, Carpenter ’575, Chen, Clause ’557, Engelbart ’696, Haisty ’761, Kaufman ’397, Kiva ISIL System, Kjeldsen I, Mizushima ’664, Pinhanez I, Poggi ’901, Rouaix ’431, Ryznar ’981, or Wales ’117 (collectively, and for purposes of this paragraph only, “List A”) disclose a system that otherwise satisfies the claim elements except for this one, then it would have been obvious to combine these references with Bannat, Bialy ’155, BVK II, BVK I, Clause ’557, Dorsey-Palmateer ’147, Elhaus ’869, Fontanot ’866, Glossop ’616, Honda ’466, IBM Everywhere Display, Iyoda, Kaufman ’558, Kjeldsen I, Kline ’651, Laserguide, LPT system, Machino, Morden ’368, Okada ’409, Palmateer ’037, Palmateer ’893, Palmer, Parmenter ’083, Pinhanez I, Pinhanez II, Pinhanez III, Poggi ’901, Ramsager ’320, RayTracer Administrator, Rouaix ’431, Ryznar ’981, Sargeant, Simatic, Stevens ’920, Tominaga ’391, Venema ’318, Virtek LaserEdge System, Yokota ’251, or Z-Laser System (collectively, and for purposes of this paragraph only, “List B”). Such a combination would be nothing more than combining prior art elements (i.e., the claimed Separate Computer System element from any of the references in List B) according to known methods (i.e., adding a Separate Computer System element using teachings from references in List B) to achieve a predictable result (i.e., the claimed Separate Computer System functionality) within context of the references from List A. Such a combination would be mere use of a known technique (using the claimed

Separate Computer System functionality from List B) to improve devices from List A. In addition, it would have been obvious to do a simple substitution of any of the Separate Computer System elements from any of the references in List B with any of the other Separate Computer System elements in List B.

C. Disclosures Pursuant to P.R. 3-3(c)

The claim charts in the Appendices identify where in each of the charted prior art references the limitations of the asserted claims of the patents-in-suit are found.

Amazon has endeavored to cite to the most relevant portions of the identified prior art. However, other portions of the identified prior art may additionally disclose, either expressly or inherently, one or more elements or limitations of the asserted claims. In an effort to focus the issues, Amazon identifies only exemplary portions of the identified prior art. To the extent it is found a charted reference does not expressly disclose certain claim limitations, such limitations are inherent. Amazon reserves the right to rely on uncited portions of the identified prior art to establish the invalidity of the asserted claims. Moreover, Amazon reserves the right to rely on uncited portions of the identified prior art, rely on other references (irrespective of whether such references themselves qualify as prior art) to show the state of the art, and/or to rely on expert testimony to provide context to, or aid in, understanding the cited portions of the identified prior art. Where Amazon cites to a particular drawing or figure in the attached claim charts, the citation encompasses the description of the drawing or figure, as well as any text associated with the drawing or figure. Similarly, where Amazon cites to particular text concerning a drawing or figure, the citation encompasses that drawing or figure as well.

Relatedly, it is often the case that certain portions of patent disclosures build upon other disclosures – even if they are referred to as a separate or alternative embodiment. Thus, Amazon’s citations to structures or functions incorporate by reference all disclosures to related structures or

functions, including any additional detail provided as to the operation or design of those structures or functions. Further, citations in each dependent claim include citations to each claim from which it directly or indirectly depends. And citations as to any recited limitation, step, or component in the claims apply wherever each such limitation, step, or component is repeatedly recited elsewhere in the claim.

D. Disclosures Pursuant to P.R. 3-3(d)

Pursuant to Patent Local Rule 3-3(d), Defendants hereby identify grounds of invalidity based on (1) lack of written description and enablement under 35 U.S.C. § 112, ¶ 1; and (2) indefiniteness under 35 U.S.C. § 112, ¶ 2. These Preliminary Invalidity Contentions shall not be construed as an admission that any claim construction advanced by Defendants in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Defendants from advancing claim construction and/or noninfringement positions in lieu of, or in addition to, invalidity positions. Further, these Invalidity Contentions shall not be construed as an admission of or acquiescence to LightGuide's purported construction of the claim language or of other positions advanced by LightGuide during the course of this litigation. Indeed, Defendants' Invalidity Contentions under 35 U.S.C. § 112 may depend on the Court's claim construction, as well as LightGuide's asserted claim scope.

Defendants currently identify the issues under 35 U.S.C. § 112 of which they are presently aware. Pursuant to the applicable provisions of the Docket Control Order and Local Rules, Defendants reserve the right to supplement or amend their contentions after the Court's *Markman* ruling or if LightGuide amends or alters its infringement contentions in any way.

1. Written Description and Enablement

To satisfy the written description requirement of pre-AIA 35 U.S.C. § 112, ¶ 1, the specification of a patent must "clearly allow persons of ordinary skill in the art to recognize that

the inventor invented what is claimed” and “had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). In particular, an adequate written description must “demonstrate that the patentee possessed the full scope of the invention recited in [the] claim.” *LizardTech*, 424 F.3d at 1345. To satisfy the enablement requirement, “the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.” *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quotations omitted); *see also Amgen v. Sanofi*, 598 U.S. ----, 143 S.Ct. 1243 (2023) (“If a patent claims an entire class of processes, machines, manufactures, or compositions of matter, the patent’s specification must enable a person skilled in the art to make and use the entire class. In other words, the specification must enable the full scope of the invention as defined by its claims. The more one claims, the more one must enable.”).

The specifications of the ’981, ’614, and ’036 Patents fail to meet the written description and enablement requirements of 35 U.S.C. § 112 ¶ 1 because they fail to disclose or teach—or fail to disclose or teach the full scope of—the following claim phrases:

“at least one sensor apparatus operable to detect operation information” (’981 Patent, Claim 1). LightGuide’s April 10, 2023 Infringement Contentions (“Infringement Contentions”) as to this claim limitation accuse the following different devices of being a “sensor apparatus operable to detect operation information”: (1) barcode scanners that “detect[] operational [sic] information in the form of an ASIN [Amazon Standard Identification Number] concerning the product to be stowed, Infringement Contentions, Ex. A at 11; and (2) a camera sensor on the bottom of a robotic drive unit that scans QR codes on the floor and updates the location of the robotic drive unit to the cloud, *id.* at 11-12. LightGuide’s Infringement Contentions also state: “This

example should not be considered limiting, including because Amazon’s infringing stow systems for assembling packages include multiple different types of sensor apparatuses that are operable to detect operational information and generate an output indicative of that operational information.” *Id.* at 11, 13. In essence, LightGuide’s Infringement Contentions appear to be directed to *any* sensing that occurs and is processed during Amazon’s sophisticated pick, stow, pick to rebin, delivery station, and package sorting processes. *Id.* at 8-19.

The ’981 Patent does not adequately describe or enable this broad a scope of the term “operation information.” Instead, the ’981 Patent’s description/enablement of “operation information” is limited. For example, the ’981 Patent describes an “an assembly guide system” that provides visual indicators to “an operator 12 performing one or more assembly operations on a work piece.” ’981 Patent at 4:7-11. That “assembly guide system” responds to “operation information or characteristic or identification information associated with work piece 14 detected by sensor apparatus 26.” *Id.* at 4:19-22. The example that the ’981 Patent describes for “operation information or characteristic or identification information associated with work piece 14 is “the presence of and/or the type of work piece 14 present at the work station 16.” *Id.* at 4:37-42; *see also id.* at 5:35-39. The ’981 Patent provides more detail specifically as to the types of sensors for sensing such operation information, but discloses specific sensors and only discloses that the sensors can sense the following types of information: the presence of a work piece, the type of a work piece, the type of components required for a work piece, an identifiable characteristic or identification information associated with a work piece, geometrically distinguishing features of a work piece or the structure upon which it is located, or the relative orientation of a work piece with respect to the work station. *Id.* at 5:35-6:20. Because the above claim language is directed to

“operation information” more generally, not limited to information related to a work piece or information as described in the patent, Claim 1 lacks written description and enablement.

“at least one sensor apparatus operable to detect operation information and generate an output indicative of said operation information” (’981 Patent, Claim 1). LightGuide’s Infringement Contentions as to this claim limitation claim, with respect to the accused stow process, that Amazon uses barcode scanners as the “sensor apparatus” to detect “operational information in the form of an ASIN.” Then, LightGuide alleges that a barcode scanner “generates an output concerning that product and ASIN,” without explanation of what that output is or how that output “concern[s]” the product and ASIN. LightGuide thus takes the position that *any* output released by the sensor apparatus—regardless of form or content—satisfies the “indicative of said operation information” limitation, so long as it “concerns” the operation information. But LightGuide’s patents do not teach or describe every form of output “concerning,” for example, a product identification number. For this reason as well, Claim 1 lacks written description and enablement.

“said controller . . . selectively providing at least one command signal in response to said first input signal” (’981 Patent, Claim 1). LightGuide’s Infringement Contentions as to this claim limitation claim infringement without making any attempt to characterize or describe the command signal provided from the controller to the directional light device “in response” to a first input signal. LightGuide thus takes the position that any type of signal provided from the controller to the directional light device satisfies this claim element. But LightGuide’s ’981 Patent specification does not describe or support the claimed “command signal” so broadly. For this reason as well, Claim 1 lacks written description and enablement.

“An operational guide system adapted to provide visual indicators to an individual to guide sequential actions”/“project and target at least one indicating light” (***’981 Patent, Claim 1***). LightGuide’s Infringement Contentions appear to accuse two different types of light-projecting functionality of infringing these claim elements: (1) technology that points a light at something a person *should* interact with; and (2) technology that points a light at something a person *should not* interact with. *See, e.g.*, Infringement Contentions, Ex. A at 19-32. Amazon disagrees that Claim 1, including the terms “provide visual indicators” and “indicating light,” should be read to cover the second category. To the extent they are, Claim 1 is invalid for lack of written description and enablement, because LightGuide’s ’981 Patent describes pointing a light at desired locations, not at undesired locations. *See, e.g.*, ’981 Patent at 16:36-40 (“[A]n operational guide system need only utilize a single directional light device for projecting indicating lights at both a component location as well as operational step locations on a work piece.”), 16:40-45 (“project indicating lights at the various tools”), 17:40-41 (“the indicating lights may be projected onto sequentially required ingredients”), 11:66-12:5, 12:41-55, 8:59-64, 6:58-7:24, Fig. 1. LightGuide’s ’981 Patent makes no effort to describe how or why pointing lights at areas a person *should not* interact with would be valuable, what sort of areas such lights should be pointed at or why, or how the guide system described in the specification would make the decision to point lights at such non-desired locations. It is thus clear that the inventors did not have possession of such an invention, and that they did not enable such an invention for others.

“said controller is programmable via at least one program screen displayable on said display device” (***’981 Patent, Claims 9, 24***). The ’981 Patent describes a specific way of programming the claimed controller via a program screen, and then suggests various alternate ways. *See* ’981 Patent at 13:22-15:23. From that disclosure, Claims 9 and 24 purport to claim a

controller that “is programmable via at least one program screen displayable on said display device,” without regard for how the controller is actually programmed. The ways in which a controller can be “programmed” are myriad, and not fully described or enabled in the ’981 Patent. As an example, LightGuide’s Infringement Contentions appear to claim that this “programmable” limitation is satisfied by a user interacting with a display screen without impacting the underlying programming of the controller at all. But such an interaction is not described or enabled in the ’981 Patent, and is certainly not described or enabled as “programming.” *See, e.g.,* ’981 Patent at 13:22-15:23 (describing “programming the location at which an indicating light VDF will be directed via the control module” and “enabl[ing] the operational guide system to be sequentially programmed with progressive operational steps.” For this reason, Claims 9 and 24 are invalid for lack of written description and enablement.

“said at least one program screen configured to include at least one input field for entering and/or selecting indicia regarding sequential actions” (’981 Patent, Claims 9, 24). The ’981 Patent does not describe or define “input field.” This phrase appears only in the claims and in the early words summarizing the claims. As set forth above, the ’981 Patent describes a specific way of programming the claimed controller via a program screen, without reference to an input field. *See* ’981 Patent at 13:22-15:23. It appears from LightGuide’s Infringement Contentions that LightGuide is applying the term “input field” very broadly, as including buttons selectable by operators. The ’981 Patent does not describe or enable such an “input field.” For this reason as well, Claims 9 and 24 are invalid for lack of written description and enablement.

“wherein said at least one input field comprises at least one selected from the group consisting of a description field, a graphic field, and a location field, and wherein said description field is configured to enable programming of descriptive text associated with

sequential actions, said graphic selection field is configured to enable programming of an image formed by said at least one indicating light, and said location field is configured to enable programming of the location at which said at least one directional light device projects said at least one indicating light.” (’981 Patent, Claim 10). LightGuide’s allegations as to this claim element bear no resemblance to the disclosure of the ’981 Patent as to this claim element. Accordingly, to the extent LightGuide’s allegations are considered to convey a correct understanding of this claim element, the full scope of this claim element has not been adequately described or enabled by the ’981 Patent.

“operational information” (’981 Patent, Claims 11-12). There is no disclosure in the ’981 Patent of the scope or meaning of the term “operational information,” which is used in the claims of the ’981 Patent separately and distinctly from the term “operation information.” Because this term is not defined or described, and is of an unknown scope, it both lacks written description and enablement, and is indefinite as set forth below. This is illustrated by the fact that LightGuide’s Infringement Contentions appear to treat this term as having a very broad scope. *See* Infringement Contentions, Ex. A at 167 (“Amazon’s infringing light-guided operational guide systems are configured to monitor myriad information and metrics regarding, for example, station operators; their operational performance; and the presence, type, and location of the items moving through the package assembly process.”).

“projecting visual indicators to guide actions of an individual for a particular guided operation”/“projecting a visual indicator using a directional light device onto a physical object associated with the particular guided operation”/“said directional light device being selectively operable to project and target at least one indicating light”/“provide visual indicators to an individual to guide actions of the individual for a particular guided operation” (’036 Patent,

Claims 1, 7). LightGuide’s Infringement Contentions appear to accuse two different types of light-projecting functionality of infringing this claim element: (1) technology that points a light at something a person *should* interact with; and (2) technology that points a light at something a person *should not* interact with. *See, e.g.*, Infringement Contentions, Ex. C at 1-19. Amazon disagrees that Claims 1 and 7, including the terms “visual indicator” and “indicating light,” should be read to cover the second category. To the extent they are, Claims 1 and 7 are invalid for lack of written description and enablement, because LightGuide’s ’036 Patent describes pointing a light at desired locations, not at undesired locations. *See, e.g.*, ’036 Patent at 6:21-25 (“[T]he control module 20 communicates or transmits a command signal 44 (FIG. 2) to directional light device 22 to project an indicating light 46 at a location on parts bin 34 to guide the operator to a part required for a particular step in the assembly action”); *id.* at 6:27-31 (“[T]he control module 20 then transmits a command signal 50 (FIG. 2) to directional light device 24 to project indicating light 52 to indicate the operational step location 54 on the work piece 14 where the selected component is to be installed.”); *id.* at 8:15-19 (“Directional light device 22 is used to project indicating lights 46 at the component location 32 while the other directional light device 24 is used to project indicating lights 52 at operational step locations 54 on work piece 14.”); *id.* at 9:13-22, 9:49-57, 11:59-65, 12:22-37, 13:46-53, 14:9-12, 15:6-12, 16:17-17:9, 18:54-61, 20:59-63, Fig. 1. LightGuide’s ’036 Patent makes no effort to describe how or why pointing lights at areas a person *should not* interact with would be valuable, what sort of areas such lights should be pointed at or why, or how the guide system described in the specification would make the decision to point lights at such non-desired locations. It is thus clear that the inventors did not have possession of such an invention, and that they did not enable such an invention for others.

“receiving, by the guide system controller, a sequence of one or more input signals and prompting the directional light device to project the visual indicator for the particular guided operation”/“configured to receive a sequence of one or more input signals causing said directional light device to project said visual indicator for the particular guided operation” (’036 Patent, Claims 2, 8). There is no written description or enablement in the specification regarding the “input signals” described in these claims. There is no description or enabling disclosure of what form they take, how they are created, how they are received by the guide system controller, or how they are utilized to cause or prompt a directional light to project a visual indicator.

“wherein the sequence of one or more input signals are provided by a separate computer system or controller to the guide system controller”/“wherein the sequence of input signals are provided by a separate computer system or controller to the guide system controller”/“wherein said separate computer system or controller is configured to provide the sequence of one or more input signals to said guide system controller” (’036 Patent, Claims 3, 6, 9, 12). There is not written description or enablement for the full scope of this claim. The patent specification does not adequately describe the many various types of separate computer systems or controllers that might somehow provide input signals to a guide system controller, or how they would create the input signals to which the guide system controller would be able to properly respond.

“receiving, by the guide system controller, a sequence of input signals and prompting the directional light device to dynamically project a sequence of visual indicators onto the physical object for the particular guided operation based on the sequence of the input signals”/“wherein said guide system controller is configured to receive a sequence of input signals and to cause said directional light device to dynamically project a sequence of visual indicators onto the physical object for the particular guided operation based on the sequence of

the input signals” (’036 Patent, Claims 4, 10). There is not written description or enablement for the full scope of this claim. As set forth above, the patent specification does not adequately describe the many various types of separate computer systems or controllers that might somehow provide input signals to a guide system controller, or how they would create the input signals to which the guide system controller would be able to properly respond. In addition, the patent specification does not adequately describe or enable how a dynamic sequence of such signals would be created or received or processed by the guide system controller.

There are two uses in the patent specification of the word “dynamic”:

- “Thus, operational software system 205 may provide data streams of input signals 207 to guide system 200 to enable desired VDFs to be projected at desired locations. Interfacing guide system 200 with operational software system 205 reduces the amount of separate programming required for guide system 200, as well as enables real time or **dynamic** creation of visual indicators or display images 209 for guiding the activities of an individual. Thus increasing the flexibility of guide system 200 based on changing operational requirements of an assembly, inspection or other process requiring guidance assistance via guide system 200.” ’036 Patent at 18:2-13.
- “Accordingly, guide system 200 may be **dynamically** used to project selected VDFs onto particular locations of an object by selecting a VDA via its associated VDF address identifier 287 and directing a projector 266 to project the selected VDF by a positional identifier 288. This operational approach simplifies the use and employment of guide system 200 by enabling flexible programming to guide system 200, including as may be required due to product and model changes.” ’036 Patent at 17:20-28.

The clearest disclosure of what might give rise to a “real time, dynamic” projection of visual indicators is the disclosure that a guide system might “receive manual inputs from an operator.” *Id.* at 19:8-10. A POSITA would understand the disclosure of an operator standing at the guide system, pressing “A1” to project one type of light image, and “B2” to project another type of light image, with the “dynamic” action being provided by the operator him- or herself. Other than that, no “dynamic” provision of a sequence of input signals is adequately described or

disclosed. Thus, these claims are invalid because there is not written description or enablement supporting their full scope.

“wherein the combination of the sequence of the input signals results in a generation of a dynamic, real-time projection of the sequence of said visual indicators” (’036 Patent, Claim 11). This claim is invalid as lacking written description and enablement for the reasons set forth above with respect to Claims 4 and 10 of the ’036 Patent.

“projecting visual indicators to guide actions of an individual for a particular guided operation”/“project visual indicators for a particular guided operation”/“provide visual indicators to an individual to guide actions”/“project and target at least one indicating light”/“project visual indicators for a particular guided operation” (’614 Patent, Claims 1, 17).

LightGuide’s Infringement Contentions appear to accuse two different types of light-projecting functionality of infringing this claim element: (1) technology that points a light at something a person *should* interact with; and (2) technology that points a light at something a person *should not* interact with. *See, e.g.*, Infringement Contentions, Ex. B at 1-7. Amazon disagrees that Claims 1 and 17, including the terms “visual indicator” and “indicating light,” should be read to cover the second category. To the extent they are, Claims 1 and 17 are invalid for lack of written description and enablement, because the specification common to LightGuide’s ’036 and ’614 Patents describes pointing a light at desired locations, not at undesired locations. *See, e.g.*, ’036 Patent at 6:21-25 (“[T]he control module 20 communicates or transmits a command signal 44 (FIG. 2) to directional light device 22 to project an indicating light 46 at a location on parts bin 34 to guide the operator to a part required for a particular step in the assembly action”); *id.* at 6:27-31 (“[T]he control module 20 then transmits a command signal 50 (FIG. 2) to directional light device 24 to project indicating light 52 to indicate the operational step location 54 on the work piece 14 where

the selected component is to be installed.”); *id.* at 8:15-19 (“Directional light device 22 is used to project indicating lights 46 at the component location 32 while the other directional light device 24 is used to project indicating lights 52 at operational step locations 54 on work piece 14.”); *id.* at 9:13-22, 9:49-57, 11:59-65, 12:22-37, 13:46-53, 14:9-12, 15:6-12, 16:17-17:9, 18:54-61, 20:59-63, Fig. 1. LightGuide’s ’036 and ’614 Patent specification makes no effort to describe how or why pointing lights at areas a person *should not* interact with would be valuable, what sort of areas such lights should be pointed at or why, or how the guide system described in the specification would make the decision to point lights at such non-desired locations. It is thus clear that the inventors did not have possession of such an invention, and that they did not enable such an invention for others.

“plurality of selectable addressed display features”/“unique pre-programmed individual address identifier”/“programmed selectable addressed display features” (’614 Patent, Claims 1, 17). LightGuide’s Infringement Contentions allege infringement of these claim limitations without any reference to how the alleged “display features” are programmed or stored within the alleged “guide system controller.” *See, e.g.*, Infringement Contentions, Ex. B at 7-22. LightGuide thus appears to take the position that *any* storage/programming of more than one accused “display features” satisfies this claim element. The ’036 Patent specification does not support this position. The ’036 Patent specification illustrates “selectable addressed display features” having “unique pre-programmed individual address identifiers” in Figure 3A. It provides exemplary “unique identifiers” as “A1” and “F6,” referencing the rows and columns in the chart shown in Figure 3A. ’036 Patent at 15:24-46. This is a very limited disclosure of “selectable addressed display features” having “unique pre-programmed individual address identifiers,” and does not support or describe or enable the broader scope that LightGuide is now trying to give these claims. To the extent that

LightGuide's infringement contentions are credited, Claims 1 and 17 are invalid for written description and enablement for this reason.

“wherein said input signals control selection of said addressed display features based on the address identifier for the said addressed display feature”/“wherein the input signals control selection of said addressed display features based on the address identifier for the said addressed display feature” (*'614 Patent, Claims 1, 17*). LightGuide's Infringement Contentions allege infringement of these claim limitations without having had access to what form Amazon's input signals take that allegedly “control selection of said addressed display features based on the address identifier for the said addressed display feature.” While LightGuide's Infringement Contentions create a chart for “illustration and explanation purposes” that provides “exemplary address identifiers” in the form of “A1,” “B1,” “C1,” etc., LightGuide has no information supporting that Amazon's accused systems in fact operate in this way. *See* Infringement Contentions, Ex. B at 28. To the extent Amazon's accused system does *not* operate in precisely this way, and LightGuide maintains its allegations nevertheless, these claim limitations would be invalid for lacking written description and enablement. As set forth above, the disclosure in the '036 Patent of “addressed display features” is very specific. Similarly, the disclosure in the '036 Patent of “the input signals control[ling] selection of said addressed display features based on the address identifier” is very specific: the patent discloses the guide system receiving “A1,” and then projecting the display feature stored at “A1.” *See* '614 Patent at 16:34-47, 17:20-17:60. No broader scope for these claim limitations is described or enabled.

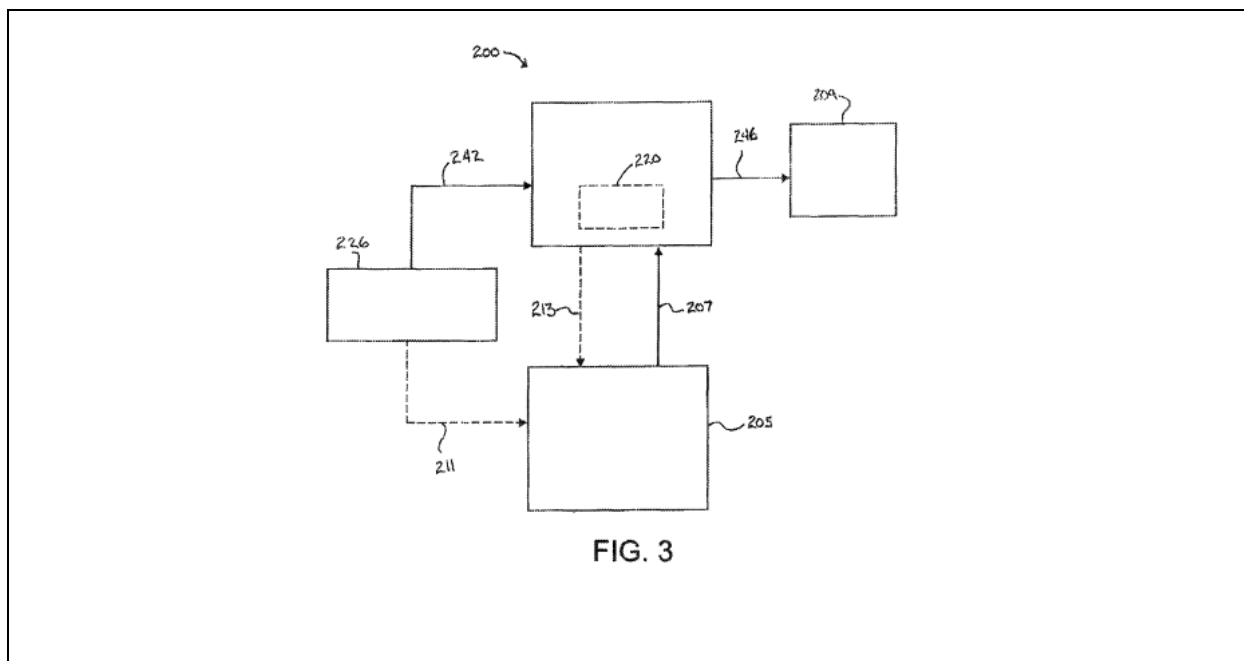
“wherein said guide system controller is operative to receive any sequence of input signals from the separate computer system or controller to dynamically control projection of any sequence of said visual indicators corresponding to respective said addressed display

features based on said input signals corresponding to desired visual indicators for the particular operation with a combination of the sequence of input signals resulting in a creation of a dynamic, real time projection of visual indicators”/“wherein said guide system controller is operative to receive any sequence of input signals from the separate computer system or controller to dynamically project any sequence of visual indicators corresponding to respective said addressed display features based on said input signals corresponding to desired visual indicators with a combination of the sequence of input signals resulting in a creation of a dynamic, real time projection of visual indicators” (’614 Patent, Claims 1, 17). These claim limitations are invalid as lacking written description and enablement for the reasons set forth above with respect to Claims 4 and 10 of the ’036 Patent.

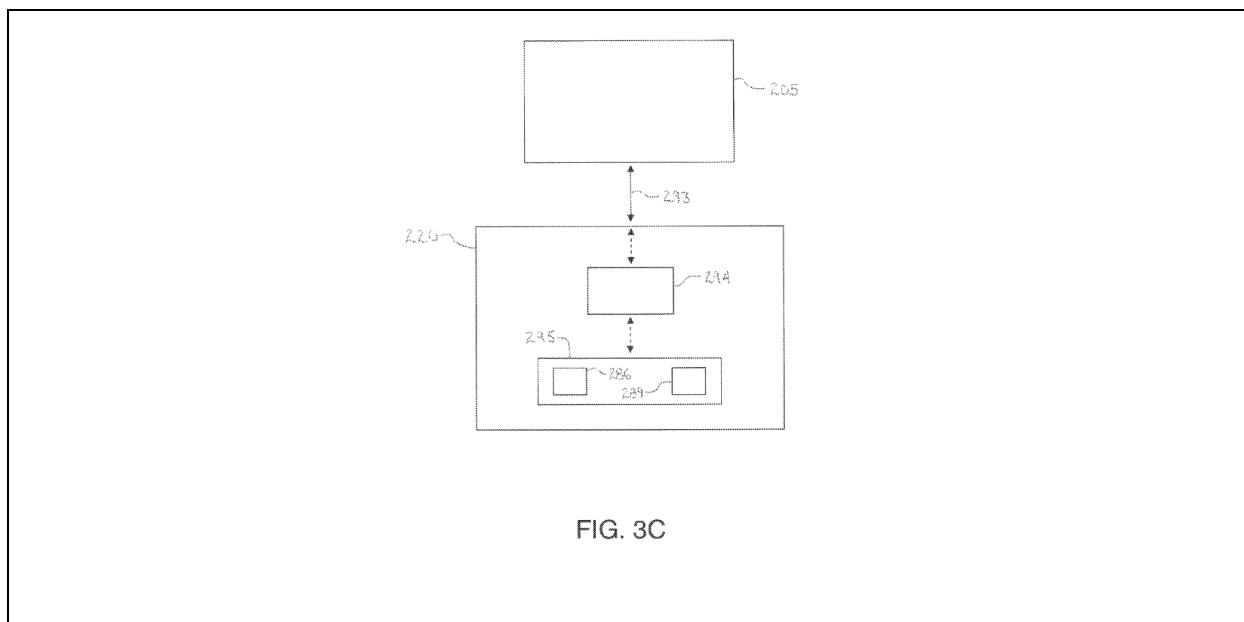
“wherein said guide system controller further includes a plurality of positional identifiers and said method further comprises selecting positional identifiers based on said input signals, and wherein said projecting visual indicators further comprises projecting visual indicators corresponding to said selected addressed display features onto a physical object at a location corresponding to said selected positional identifiers”/“a plurality of programmed positional identifiers ... with said guide system controller causing said directional light device to project visual indicators ... at a location corresponding to a positional identifier based on said input signals” (’614 Patent, Claims 2, 17). The ’614 Patent’s disclosure of “positional identifiers” and “selecting positional identifiers based on ... input signals” is limited and specific. *See* ’614 Patent at Figure 3A, 3B, 15:47-17:35. The “positional identifiers” are stored in rows and columns, and have names like “PA1” and “PB1.” *Id.* The “input signals” that control the selection of the “positional identifiers” are PA1, PB1, etc. *Id.* To the extent this claim language is construed to

cover any broader scope than that disclosed and discussed here, it is invalid for lacking written description and enablement.

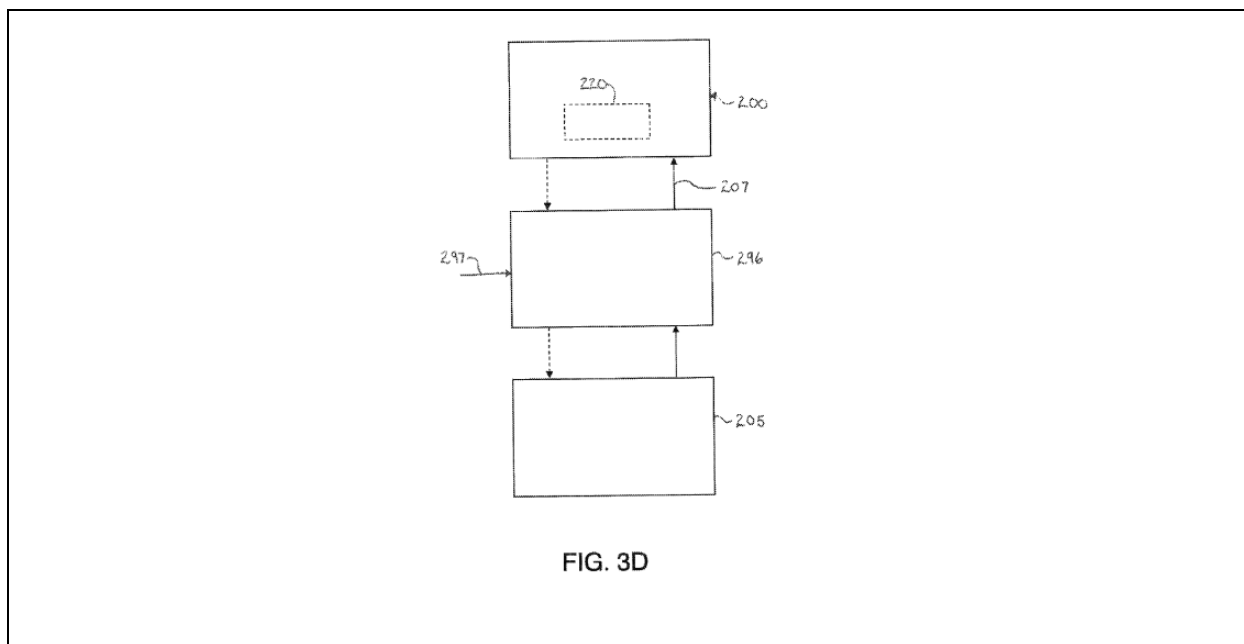
“wherein the separate computer system or controller comprises a manufacturing execution system, and wherein said guide system controller is interfaced with said manufacturing execution system, and wherein said input signals are provided to said guide system controller from said manufacturing execution system.” (*'614 Patent, Claims 3, 18*). As described below, the term “manufacturing execution system” is indefinite in the context of the *'614 Patent*, because it is not defined in any way in the specification. It is invalid for lacking written description and enablement for the same reason. The specification makes no effort to describe, explain, or enable manufacturing execution systems, much less do so for the full scope of whatever that term means. Indeed, the three figures that purport to show how a manufacturing execution system might interface with the claimed guide system controller are largely blank:



'614 Patent, Fig. 3.



Id. at Fig. 3C.



Id. at Fig. 3D.

Aside from the unique pre-programmed individual address identifiers and positional identifiers described above, there is no disclosure in the specification of what sort of “input signals” might be provided from the manufacturing execution system to the guide system

controller to control the operation of the guide system controller. Thus, the specification does not describe or enable the full scope of these claims. For all these reasons, these claim limitations are invalid as lacking written description and enablement.

“system controller that controls the operation of an automated process” (*’614 Patent, Claims 5-8, 19-22*). As set forth below, this claim limitation is invalid as indefinite. In the alternative, for the reasons explained below, it is invalid as lacking written description and enablement. Because the scope of the claim is unclear, and because the specification neither describes nor enables the full scope of the claim—whatever that may be, it lacks written description and enablement.

“wherein said system controller is interfaced with a manufacturing execution system” (*’614 Patent, Claims 8, 22*). The patent specification neither describes a manufacturing execution system nor how any such manufacturing execution system would be interfaced with a system controller. As such, this term is lacking in written description and enablement, including because the full scope of the claim is not described or enabled.

Moreover, to the extent LightGuide disputes the obviousness of any asserted claim to a POSITA and/or disputes that any claim limitation is within the knowledge of a POSITA as asserted in the accompanying appendices to these contentions, the claims are likewise invalid as the specification fails to enable a person skilled in the art to make and use the full scope of the claimed invention without undue experimentation under pre-AIA 35 U.S.C. 112, first paragraph.

2. Indefiniteness

“A patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134

S. Ct. 2120, 2124 (2014). The patent itself must “describe the exact scope of an invention.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996). “The definiteness requirement must take into account the inherent limitations of language,” but at the same time, “a patent must be precise enough to afford clear notice of what is claimed.” *Nautilus, Inc.*, 134 S.Ct. at 2128-29.

The following claim terms are indefinite because they fail to inform a person of ordinary skill the scope of the invention with reasonable certainty:

“sensor apparatus” (’981 Patent, Claim 1). While “sensor apparatus” might have an ordinary and customary meaning in the relevant art, the ’981 Patent appears to go outside any such ordinary and customary meaning when it states the following: “Alternatively, a signal may be supplied, such as from a remote order input or collection computer, to a control module for directing assembly of a component or parts. In such an embodiment, the order input or collection computer may comprise a sensor apparatus” ’981 Patent at 17:31-35. By including that language, the ’981 Patent makes clear that the ordinary and customary meaning does not apply, without explaining what the new meaning of “sensor apparatus” should be. In this way, the ’981 Patent has rendered indefinite the term “sensor apparatus.”

“operation information” (’981 Patent, Claim 1). This phrase is indefinite for two reasons. First, “operation information” is an inherently ambiguous term whose meets and bounds are not apparent to the public. A POSITA considering the ’981 patent would not know what they could, and could not, do to avoid this term of the ’981 patent. Additionally, the beginning of the ’981 Patent appears to describe “operation information” as one of the following types of information: the presence of a work piece, the type of a work piece, the type of components required for a work piece, an identifiable characteristic or identification information associated with a work piece, geometrically distinguishing features of a work piece or the structure upon which it is located, or

the relative orientation of a work piece with respect to the work station. '981 Patent at 5:35-6:20. Later, though, the '981 Patent states that "it should be appreciated that an operation information could be transmitted to the controller 20 from a remote signal. For example, in the case of a part kitting operation, an order request may be transmitted to a work station from a central processing location, such as a computer system or the like, and transmit a signal to the work station regarding, or example, what parts to gather and/or assemble." 10:60-64. With this statement, the '981 Patent significantly changes the scope of the term "operation information," without stating any parameters that would define the scope of that term. In this way, the '981 Patent has rendered indefinite the term "operation information."

"output indicative of said operation information" ('981 Patent, Claim 1). This term is indefinite because it does not state or define how "indicative" an "output" needs to be in order to be "indicative of said operation information." "Indicative" in this context is an impermissible and undefined term of degree, and there is no basis on which a POSITA could determine whether a particular action satisfied or avoided this claim limitation.

"assembly action" ('981 Patent, Claim 1). The beginning of the '981 Patent appears to define and describe an "assembly action" as the assembly of components to a work piece in a manufacturing environment. *See, e.g.,* '981 Patent at 1:23-26. Indeed, the '981 Patent distinguishes such "manufacturing assembly operations" from other potential fields of use for the inventions described in the '981 Patent:

In addition to manufacturing assembly operations, numerous other activities involve human performance of particular tasks that are desired to be performed without omitting any steps. Such activities include, by way of example only, the testing or measuring of various components, packaging products, preparation and production of food and chemical goods, air flight checklist activities, the proper performance of critical safety routines, and multi-person choreographed physical activities.

Id. at 1:55-63. Later, though, the '981 Patent appears to blur the line between “manufacturing assembly” actions, on the one hand, and the other potential fields of use for the inventions claimed in the '981 Patent:

For example, in the case of a part kitting operation, an order request may be transmitted to a work station from a central processing location, such as a computer system or the like, and transmit a signal to the work station regarding, for example, what parts to gather and/or assemble. In which case, the work piece of the operation may comprise a collection of parts assembled into a parts holder. A work piece may also comprise a food or drug item to which ingredients, components, or portions are added.

Id. at 10:60-11:1. To the extent this language is understood to broaden the term “assembly action” to operations outside of the assembly of components to a work piece in a manufacturing embodiment, this language broadens the scope of that term without explaining the bounds of this new scope, and the term “assembly action” would be indefinite.

“work piece” ('981 Patent, Claims 4, 5, 6). This claim term is indefinite for reasons similar to those described above as to “assembly action.”

“programmable via at least one program screen” ('981 Patent, Claims 9, 24). “Programmable” is a term of degree, the scope or extent of which is not defined by the '981 Patent. As such, this term is indefinite.

“input field for entering and/or selecting indicia regarding sequential actions” ('981 Patent, Claims 9, 24). The '981 Patent does not describe or explain the term “input field.” As such, it is indefinite.

“operational information associated with sequential actions”/“operational information” ('981 Patent, Claims 11, 12). The '981 Patent does not describe or explain the term “operational information.” In particular, the '981 patent does not distinguish this term from “operation information.” As such, it is indefinite.

“a camera located proximate to the directional light device”/“a camera located proximate to said directional light device” (*’036 Patent, Claims 1, 7*). “Proximate to” is a term of degree that is given no definition or method of measurement in the specification. The ’036 Patent only even arguably references the position of the camera vis a vis the directional light device three times. *First*, in Figure 4, the camera (313) is pictured as being located in the same guide system (300) as directional light device (322). Also co-located within that system are a display device (336), and an undescribed additional element (320). *Second*, with reference to Figure 4, the specification describes the camera as “an ***integrated camera device*** 313 that may be used to record and/or review activities by an individual being guided by guide system 300, as well as the object that is the subject of activities by the individual.” ’036 Patent at 20:19-27 (emphasis added). *Third*, the specification states that “[c]amera 313 may be a separately mounted camera, such as at a fixed position or mounted for movement, such as by servo motors. Still further, camera 313 may be integrated with the directional light projecting devices.” *Id.* at 21:11-14. Nothing in any of these disclosures gives any indication of how close a camera needs to be to a directional light device to be “proximate to it.” Similarly, nothing in any of these disclosures gives an indication of how far away a camera can be in order to fall outside the scope of the claim. There is no figure depicting a camera that is not “integrated” with the directional light projecting device. Thus, this term is indefinite.

“a monitor located remotely from the directional light device”/“said monitor being remote from said directional light device and said guide system controller” (*’036 Patent, Claims 1, 7*). “Located remotely” and “being remote” are terms of degree that are given no definition or method of measurement in the specification. As such, they are indefinite.

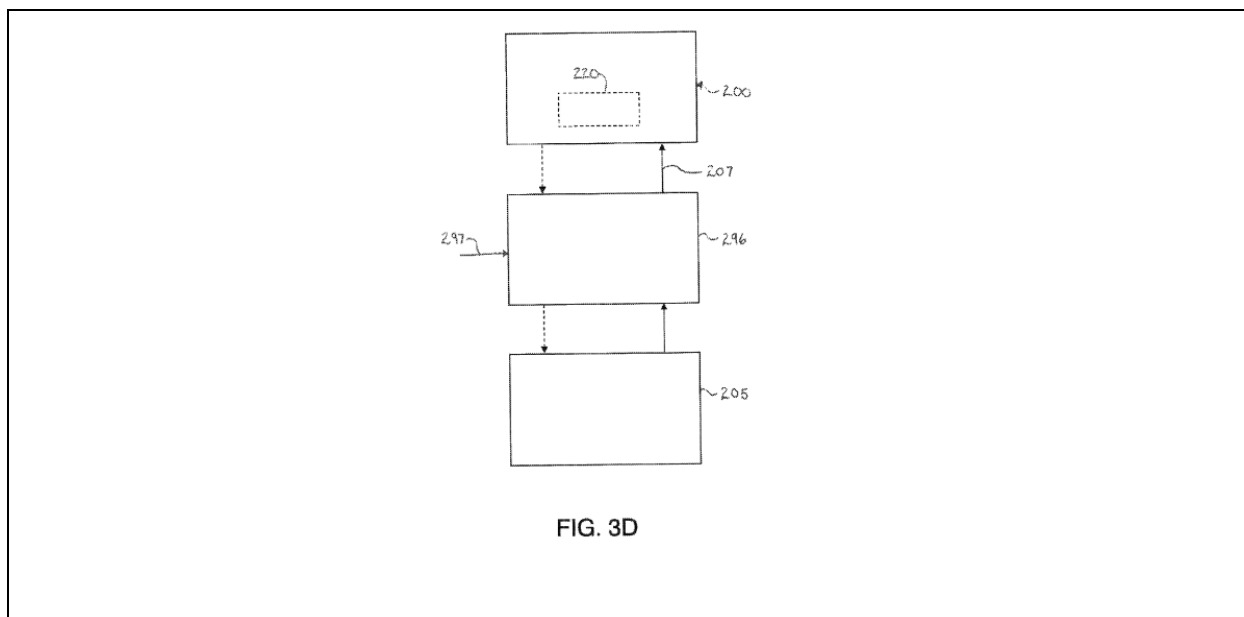
“The method of claim 4, further comprising receiving, by the guide system controller, a combination of the sequence of the input signals and generation of a dynamic, real-time projection, via the directional light device, of the sequence of said visual indicators.” (*’036 Patent, Claim 5*). This claim contains some sort of grammatical error that renders it nonsensical. As such, it is indefinite. Claim 6 is equally indefinite because it depends on Claim 5.

“the guide system controller” (*’036 Patent, Claims 2-6*). This phrase lacks antecedent basis, as claim 1 does not refer to any guide system controller. Claims 2-6 are all indefinite for this reason.

“manufacturing execution system” (*’614 Patent, Claims 3-4, 8, 18, 22*). The *’614 Patent* does not define, describe, or clarify the scope of the term “manufacturing execution system.” It is unclear what sort of system would fall within the scope of this term, and what would fall outside that scope. Additionally, even outside the scope of the *’614 patent*, the term Manufacturing Execution System (MES) does not have a defined meaning as a term of art. For these reasons, all the MES claims are invalid as indefinite.

a sequence of one or more input signals (*’614 Patent Claims 1, 17*). This claim limitation is non-sensical because a sequence, by definition, includes more than one.

“system controller that controls the operation of an automated process” (*’614 Patent, Claims 5-8, 19-22*). The *’614 Patent* does not define, describe, or clarify the scope of the term “system controller that controls the operation of an automated process.” While there are multiple references to a “guide system controller,” the references to a “system controller” are few. The “system controller” is described with reference to Figure 3D, which is largely blank:



'614 Patent at Fig. 3D. Figure 3D is described as follows: "FIG. 3D is a schematic illustration of a guide system interfaced with a system of an automated process, and of a manufacturing execution system interfaced with the system controller." *Id.* at 5:20-23. The "system controller" is described functionally, as follows: "guide system controller 220 may be configured for operations through a system controller 296, such as a PLC device, where the system controller 296 may operate to control an automated process, such as an assembly line 18, and provide input signals 207 to controller 220." *Id.* at 19:11-35. This and the other language regarding the "system controller" does not serve to define the scope of that term. As such, it is indefinite.

"further comprising recording the time duration while an operator is guided by said guide system ('614 Patent, Claims 13-14). This claim element is indefinite as lacking antecedent basis and/or failing to make clear what "the time duration" that is being measured is. To the extent the "time duration" is the time period during which the operator is guided by the guide system, such a time period is vague and indefinite as it fails to make clear whether it is the time period during which the operator interacts with the system, the time period a light is projected at a specific

location, or some other time period. As such, Claim 13 is invalid for indefiniteness, and Claim 14, which depends thereon, is invalid as well.

Nothing in the claim charts attached to these Invalidity Contentions should be construed as an admission that any of the above terms are somehow definite. As noted above, Defendants contend that the claims reciting these terms are indefinite. To the extent that the Court later finds these terms sufficiently definite, the prior art meets these limitations for all the reasons set forth in the attached claim charts.

III. DISCLOSURES PURSUANT TO P.R. 3-4

Defendants' Patent Local Rule 3-4(a) document production can be found at production range LG-AMZN_00002961 - LG-AMZN_00010768 and in source code that Amazon is making available for inspection and which has been designated as RESTRICTED CONFIDENTIAL SOURCE CODE. Pursuant to Patent Local Rule 3-4(b), Defendants also produce the following non-privileged documents: LG-AMZN_00010769-LG-AMZN_00014585. Certain of these documents have been designated under the terms of the Protective Order.

HUESTON HENNIGAN LLP

Date: June 5, 2023

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Amazon.com, Inc. and Amazon.com
Services LLC

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has been served on all counsel of record via email on June 5, 2023.

/s/ Christina V. Rayburn
Christina V. Rayburn