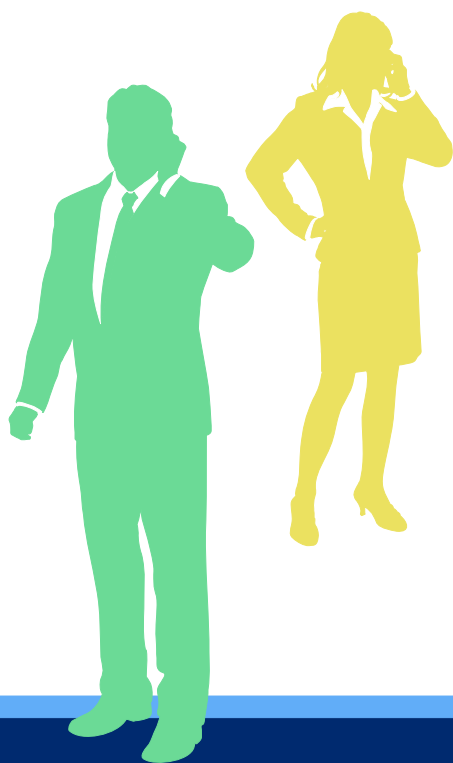


3D Active Shutter Glasses Database




Document: ST4-04





Prepared by: Steering Team 4 – 3D Displays






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3D ACTIVE SHUTTER GLASSES DATABASE




| COMPANY INFORMATION | ILLUSTRATION | MODEL | COMMENTS REGARDING THE LENS | COMMENTS REGARDING THE EMITTER | LIST PRICE | GENERAL COMMENTS | CONTACT INFO | DISTRIBUTOR RESELLER |
|--|---|--------------------------|---|---|--|--|---|--|
| 3DTV Corporation www.3dmagic.com |  | Model 3DW Model E | STN LCDs Contrast 100:1 Rise time 0.5 milliseconds Fall time 2.5 milliseconds 50Hz – 160 Hz | Work automatically with 3 wireless IR standards 3DTV, CrystalEyes, NuVision/Xpand, Nvidia. | In prototype phase at this time. Will initially sell at about \$100. Can sell for less with higher volume. | Weight: ~ 25 grams. DLP link version expected at the end of the summer. | Exchanged e-mails and spoke with Michael Starks mstarks3d@hotmail.com | This product and the upcoming DLP link designed by 3DTV Corp. and manufactured for the company in China. |
| |  | Model IR Pro | 400 hours with lithium batteries. Specific mention that it fits over glasses. | Wireless with IR | Glasses and transmitter \$350 Extra glasses \$250 | Offered for sale on the company web site but actually are no longer available. | | The company offers products that they produce as well as 3rd party items under the original brand name or private labeled under the 3DTV brand name. |
| | | IRMax | | | Transmitter \$500 Glasses \$250 | | | |
| | | Model C | | Wired | \$75 | | | |
| | | Model IR | | Wireless with IR | Glasses and transmitter \$125 Extra glasses \$85 | | | |
| |  | Model X | | Wireless with IR | | | | |



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| i-Art Corporation www.i-art.com.tw |  | GX4000 | | Wireless with IR | \$79 glasses only | Can support only CRT monitor and DLP projector. No longer being made unless a big order received. | Mr. J.G. Wang Sales Department +886-2-82186339 X12 jgwang@i-art.com.tw |
| | | GX4100 | | Wired | \$45 glasses only | Stock is still available and product is being sold from inventory. Will be designing new shutter glass products for LCD monitors and DLP Link. | |
| i-O Display Systems www.i-glassesstore.com 800-339-5287 |  | A103612 | Twisted Nematic LCDs 23% transmission in the clear state. | Wired | \$39.95 | Weight n/a | Spoke to Marty Holloway 05/21/09 |
| | | A103603 | Fall time 4 milliseconds Rise time 350 microseconds | Wireless with IR DLP protocol "Tightly controlled" protocol | \$59.95 | Weight n/a | |
| VRex www.vrex.com 646-539-3400 |  | VR Visualizer | Pi cell LCDs Rise time 200 microseconds | Wireless with IR Crystal Eyes compatible | \$34.95 in minimum lot of 50 | | Exchanged e-mails and spoke with Rayan Farris and later with Sadeg Farris rfaris@reveo.com |
| |  | VR Cordless | Fall time 2 milliseconds | | | | |
| | | | Theatrical 3D Visualizer | | | | |

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| <p>eDimensional www.edimensional.com</p> |  | <p>E-D</p> | <p>Twisted Nematic LCDs Rise time 350 microseconds</p> | <p>Wireless with IR Compatible with i-O Devices</p> | <p>\$49.95</p> | <p>Weight 2.4 oz</p> | <p>Spoke and exchanged e-mails with Nathan Newman Nathan@edimensional.com</p> | |
| <p>561-833-2199</p> |  | <p>E-D</p> | <p>Fall time 6 milliseconds</p> | <p>Wired</p> | <p>\$69.95</p> | | | |
| <p>Micro Star International www.msicomputer.com 626-913-0828</p> |  | <p>MSI Stereo2-Glasses Part No. MS-6956-010</p> | <p>STN Contrast ratio 100:1 Rise time 1.2 milliseconds Fall time 3.7 milliseconds 60-180 Hz 2 nF capacitance +/- 13 volts</p> | <p>Wired</p> | <p>\$26.88 for kit on line one source</p> | <p>Weight 60 g 3D effects will only work on CRT monitors</p> | <p>Product no longer available despite still being featured on the company web site. marketing1@msicomputer.com</p> | |
| <p>RealD/ StereoGraphics www.reald.com</p> |  | <p>CE3</p> | <p>STN LCD 35% transmission in clear state 1000:1 contrast ratio 2.5 millisecond response time</p> | <p>Wireless with IR 12, 20, 70 foot emitters available</p> | <p>\$600</p> | <p>3.3 oz 500 hour battery life</p> | <p>Spoke to and exchanged e-mails with John Matthews.</p> | |
| <p>800-783-2660 Ext 2 pro-sales@reald.com</p> |  | <p>CE5</p> | <p>STN LCD 40% transmission in clear state 5000:1 contrast ratio 1.7 millisecond response time</p> | <p>DLP link No emitter required</p> | <p>\$600</p> | <p>Weight 2.4 oz USB rechargeable battery. Allows 24 hours of use.</p> | | |

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| | | CE WS | | Wireless with IR | Glasses only \$600 Glasses + emitter \$750 | | | |
| Samsung |  | SSG-1000 | 30% transmission Contrast ratio 500:1 | Wireless with IR Up to maximum of about 5 meters | Current on-line price for kits drawn from inventory is \$129.99. When new, reportedly \$45 for the glasses alone and \$24 for the emitter alone. 80 hours battery life | Weight 87 g Movable nose piece. | | No longer available from Samsung. It is available on-line from third parties. Compatible with DLP and plasma. |
| Nvidia www.nvidia.com 408-486-2000 |  | GeForce 3D Vision | At this time the company considers all details confidential | Wireless IR link works only with Nvidia product. Range up to about 15 feet Battery life about 40 hours | \$199 | Compatible with certain 120 Hz LCDs, DLP TVs and a DLP projector. Weight 50g | Spoke with Andrew Fear | Nvidia showed engineering prototype glasses with a RF link at the 2009 NAB show. |
| | | Pro | | Wireless with IR | \$500 | Product due in August Includes accelerometer | Andrew Page | |

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| <p>Xpand</p> <p>www.xpandcinema.com</p> <p>626-405-1114</p> |  | XpanD X101 | <p>Pi cell</p> <p>15% transmission in clear state.</p> <p>Rise and fall time <1 millisecond</p> <p>Color neutral does not require color correction.</p> | <p>Wireless with IR.</p> <p>Two emitter types available models 210 and 225.</p> <p>Works only with the company's IR emitter.</p> | \$109 | <p>250 – 300 hours battery life.</p> <p>Replacement battery is \$0.95</p> <p>Told fits over prescription glasses.</p> | <p>Spoke with Laura Peralta Jones</p> <p>Also spoke with Mohamed Ahmadi at 310-725-8500.</p> | <p>B Media is a joint venture with Xpand. Acquired the assets of MacNaughton NuVision. Manufacture in Portland at the former NuVision facility. One Xpand office is at this facility.</p> |
| | <p>Looks the same.</p> | | | | <p>DLP Link</p> | | <p>Weight 2.1 oz.</p> | <p>Spoke to Ami Dror 818-319-0381 ami@xpand.tv</p> |

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| <p>MacNaughton, Inc.</p> <p>www.nuvision3d.com</p> <p>503-614-9000</p> |  | 60GX | <p>Pi cell</p> <p>Transmission in the clear state about 36%</p> <p>Extinction ratio 200:1</p> <p>Rise time 0.3 milliseconds</p> <p>Fall time 3 milliseconds</p> | <p>Wireless compatible with IR emitters from StereoGraphics</p> <p>Standard desk top emitter has a range of 16 feet.</p> <p>Mid range emitter has a range of 100 feet.</p> | \$299 | <p>Compatible with 120 Hz LCDs.</p> <p>200 hours of battery life.</p> <p>Specifically claim "fit over prescription glasses"</p> <p>Weight 3.3 oz</p> | <p>Spoke with Boyd MacNaughton.</p> | <p>MacNaughton products are, at this time distinct from those of Xpand – especially the lenses.</p> |
| <p>DDD</p> <p>www.ddd.com</p> <p>310-566-3340</p> |  | GLD2V2W | | <p>Wireless with IR</p> | \$59.99 | <p>Compatible with LCD and DLP</p> | <p>Spoke with Jessica Aubuchon</p> | <p>DDD glasses are purchased from i-O Display.</p> <p>See above.</p> |
| <p>Berezin Stereo Photography Products</p> |  | 106W 106WX | | <p>Wired</p> | \$69.95 Kit \$21.95 Glasses only | | <p>Spoke with Mr. Berezin. Could not and</p> | <p>All shutter glass products are resold or private labeled.</p> |

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| <p>www.berezin.com 949-215-1554</p> | | <p>106WL 106X</p> | | <p>Wireless with IR</p> | <p>\$99.95 Kit \$24.95 glasses only</p> | | <p>would not provide any specification information on active glasses.</p> | |
| <p>Panasonic www.panasonic.com</p> |  | <p>3D FHD BD</p> | | <p>Wireless with IR</p> | | <p>Part of 103" plasma HDTV system</p> | <p>Spoke with Chris De Maria 201-348-7182 demariac@us.panasonic.com</p> | <p>Product is not yet available. Schedule is not available. At this time, technical details of the shutter glasses are not available.</p> |
| <p>Olympus Visual Communications Corp. www.ep-s.jp/3dkit</p> |  | <p>PC 3D Kit</p> | | <p>Wireless with IR</p> | <p>Entire kit \$425</p> | <p>Sold only in Japan as part of a kit that includes a BenQ monitor</p> | <p>Web site entirely in Japanese but included e-mail address. otoiawase@olio-staff.jp No response to multiple contacts</p> | |