

| Specification   | Fire-i board color  | Fire-i board monochrome  | Fire-i board color RAW  |   |            |        |         |          |        |        |         |          |
|---|---|--|---|---|------------|--------|---------|----------|--------|--------|---------|----------|
| <i>Device type: IIDC 1394-based Digital Camera</i>                                      |   |  |   |   |            |        |         |          |        |        |         |          |
| Compliance  | v 1.04  | v 1.04   | v 1.04  |   |            |        |         |          |        |        |         |          |
| Reported Manufacturer Name  | Unibrain  | Unibrain   | Unibrain  |   |            |        |         |          |        |        |         |          |
| Reported Model Name   | Fire-i BCL 1.2 (before Apr 04: Fire-i 1.2)  | Fire-i BW 1.3  | Fire-i BCR 1.2  |   |            |        |         |          |        |        |         |          |
| Interface   | IEEE-1394a, 2 ports ( 6 pins ), 1 remov.  | IEEE-1394a, 2 ports ( 6 pins ), 1 remov.   | IEEE-1394a, 2 ports ( 6 pins ), 1 remov.  |   |            |        |         |          |        |        |         |          |
| Speed   | 400 Mbps  | 400 Mbps   | 400 Mbps  |   |            |        |         |          |        |        |         |          |
| Photo   |    |  |  |   |            |        |         |          |        |        |         |          |
| <i>Sensor: Sony Wfine* 1/4" CCD      * Wfine CCD is a trademark of Sony Corporation</i> |   |  |   |   |            |        |         |          |        |        |         |          |
| Sensor name   | ICX-098BQ   | ICX-098BL  | ICX-098BQ   |   |            |        |         |          |        |        |         |          |
| Scanning  | progressive   | progressive  | progressive   |   |            |        |         |          |        |        |         |          |
| Effective pixels ( H x V )  | 659 x 494   | 659 x 494  | 659 x 494   |   |            |        |         |          |        |        |         |          |
| Pixel shape ( H x V )   | square, 5.6 x 5.6 µm  | square, 5.6 x 5.6 µm   | square, 5.6 x 5.6 µm  |   |            |        |         |          |        |        |         |          |
| Color   | yes, RGB filtering, Bayer   | no color filtering   | yes, RGB filtering, Bayer   |   |            |        |         |          |        |        |         |          |
| Resolution TV-lines ( H x V )   | 400 x 400   | 480 x 480  | 480 x 480   |   |            |        |         |          |        |        |         |          |
| <i>Optics: provided separately</i>  |   |  |   |   |            |        |         |          |        |        |         |          |
| Mounting base standard  | M12x0.5   | M12x0.5  | M12x0.5   |   |            |        |         |          |        |        |         |          |
| <i>Recommended lenses from Unibrain ( many models also from other manufacturers )</i>   |   |  |   |   |            |        |         |          |        |        |         |          |
| IR filter coated 2.1 mm   | all lighting conditions   | visible light only   | all lighting conditions   |   |            |        |         |          |        |        |         |          |
| IR filter coated 4.3 mm   | all lighting conditions   | visible light only   | all lighting conditions   |   |            |        |         |          |        |        |         |          |
| IR filter coated 8.0 mm   | all lighting conditions   | visible light only   | all lighting conditions   |   |            |        |         |          |        |        |         |          |
| not IR filter coated 12 mm  | avoid halogen and sunlight  | visible light and close IR vision  | avoid halogen and sunlight  |   |            |        |         |          |        |        |         |          |
| <i>Picture modes: progressive VGA uncompressed, modes selection by 1394 link</i>        |   |  |   |   |            |        |         |          |        |        |         |          |
| Resolutions   | 640x480, 320x240, 160x120   |  |   | 640x480                                 | 640x480    |        |         |          |        |        |         |          |
| Codings   | YUV, RGB, Monochrome  |  |   | Monochrome                              | Monochrome |        |         |          |        |        |         |          |
| Video Modes / Frame rates   | 30 fps  | 15 fps   | 7.5 fps   | 3.75 fps                                | 30 fps     | 15 fps | 7.5 fps | 3.75 fps | 30 fps | 15 fps | 7.5 fps | 3.75 fps |
| 640x480 RGB-24 (24 bits)  |   | X  | X   | X                                       |            |        |         |          |        |        |         |          |
| 640x480 YUV 4:2:2 (16 bits)   |   | X  | X   | X                                       |            |        |         |          |        |        |         |          |
| 640x480 YUV 4:1:1 (12 bits)   | X   | X  | X   | X                                       |            |        |         |          |        |        |         |          |
| 640x480 Y-Mono8 (8 bits)  | X   | X  | X   | X                                       | X          | X      | X       | X        | X      | X      | X       | X        |
| 320x240 YUV 4:2:2 (16bits)  | X   | X  | X   | X                                       |            |        |         |          |        |        |         |          |
| 160x120 YUV 4:4:4 (24 bits)   | X   | X  | X   |   |            |        |         |          |        |        |         |          |
| <i>Picture settings: selection by 1394 link</i>   |   |  |   |   |            |        |         |          |        |        |         |          |
| Gain  | Auto / Manual 0 - 30 dB   | Auto / Manual 0 - 30 dB  | Auto / Manual 0 - 30 dB   | Auto / Manual 0 - 30 dB                 |            |        |         |          |        |        |         |          |
| Shutter   | Auto / Manual 1/3400s - 1/31s   | Auto / Manual 1/3400s - 1/31s  | Auto / Manual 1/3400s - 1/31s   | Auto / Manual 1/3400s - 1/31s           |            |        |         |          |        |        |         |          |
| Black level   | Auto / Manual   | Auto / Manual  | Auto / Manual   | Auto / Manual                           |            |        |         |          |        |        |         |          |
| Gamma   | OFF(linear) = 1 / ON (visual) = 0.45  | OFF(linear) = 1 / ON (visual) = 0.45   | OFF(linear) = 1 / ON (visual) = 0.45  | OFF(linear) = 1 / ON (visual) = 0.45    |            |        |         |          |        |        |         |          |
| Backlight compensation  | 6 modes + OFF   | 6 modes + OFF  | 6 modes + OFF   | 6 modes + OFF                           |            |        |         |          |        |        |         |          |
| Sharpness   | OFF(linear) = 0 / ON (visual) = manual  | OFF(linear) = 0 / ON (visual) = manual   | OFF(linear) = 0 / ON (visual) = manual  | not supported                           |            |        |         |          |        |        |         |          |
| White Balance   | Auto / Manual   | not supported  | not supported   | Manual only                             |            |        |         |          |        |        |         |          |
| Color Saturation  | Manual  | not supported  | not supported   | not supported                           |            |        |         |          |        |        |         |          |
| Reference picture generator   | Bars and ramps, all modes. ON/OFF   | not supported  | not supported   | not supported                           |            |        |         |          |        |        |         |          |
| <i>Power supply: 8 to 30 VDC, software switched by 1394 link</i>                        |   |  |   |   |            |        |         |          |        |        |         |          |
| Source  | by 1394 link / external jack input  | by 1394 link / external jack input   | by 1394 link / external jack input  | by 1394 link / external jack input      |            |        |         |          |        |        |         |          |
| Standby power   | 400 mW typ., 450 mW max.  | 400 mW typ., 450 mW max.   | 400 mW typ., 450 mW max.  | 400 mW typ., 450 mW max.                |            |        |         |          |        |        |         |          |
| Operation power   | 900 mW typ., 1 W max.   | 900 mW typ., 1 W max.  | 900 mW typ., 1 W max.   | 900 mW typ., 1 W max.                   |            |        |         |          |        |        |         |          |
| <i>General</i>  |   |  |   |   |            |        |         |          |        |        |         |          |
| Temperature/ Humidity, oper.  | -10 to 50C / 20 to 80 % rel., non cond.   | -10 to 50C / 20 to 80 % rel., non cond.  | -10 to 50C / 20 to 80 % rel., non cond.   | -10 to 50C / 20 to 80 % rel., non cond. |            |        |         |          |        |        |         |          |
| Temperature/ Humidity, stor.  | -20 to 60C / 20 to 95 % rel., non cond.   | -20 to 60C / 20 to 95 % rel., non cond.  | -20 to 60C / 20 to 95 % rel., non cond.   | -20 to 60C / 20 to 95 % rel., non cond. |            |        |         |          |        |        |         |          |
| Compliance  | CE, FCC (home and office use)   | CE, FCC (home and office use)  | CE, FCC (home and office use)   | CE, FCC (home and office use)           |            |        |         |          |        |        |         |          |
| Dimensions ( W x H x D )  | 59.0 x 53.5 x 19.5 mm   | 59.0 x 53.5 x 19.5 mm  | 59.0 x 53.5 x 19.5 mm   | 59.0 x 53.5 x 19.5 mm                   |            |        |         |          |        |        |         |          |
| Weight  | 35 gr   | 35 gr  | 35 gr   | 35 gr                                   |            |        |         |          |        |        |         |          |
| <i>More information ?</i>   |   |  |   |   |            |        |         |          |        |        |         |          |
| Description   | <a href="http://www.unibrain.com/1394_products/fire-i_board_cam/fire-i_board_camera.htm">http://www.unibrain.com/1394_products/fire-i_board_cam/fire-i_board_camera.htm</a>       |  |   |   |            |        |         |          |        |        |         |          |
| Product history   | <a href="http://www.unibrain.com/support/product_histories/fire-i_board_camera_pro_his.htm">http://www.unibrain.com/support/product_histories/fire-i_board_camera_pro_his.htm</a> |  |   |   |            |        |         |          |        |        |         |          |
| Detailed tech. documents  | <a href="http://www.unibrain.com/support/tech_specs/fire-i_board_camera/tech_specs.htm">http://www.unibrain.com/support/tech_specs/fire-i_board_camera/tech_specs.htm</a>         |  |   |   |            |        |         |          |        |        |         |          |
| Even more ?   | <a href="mailto:support@unibrain.com">support@unibrain.com</a>  |  |   |   |            |        |         |          |        |        |         |          |