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For Section 12, Studio Equipment
use Quick Dial #: 821
RF transmission in cables is routinely plagued by 50Hz or 60Hz hum or other interference. When a cable is used for video signals, small electrical currents caused by differences in ground potential (ground loops) or induced common-mode noise, can result in considerable hum interference. Cameras, video recorders, monitors and video effects generators... even switchers and computers downstream... are affected. Allen Avionics offers three types of products to eliminate hum caused by ground loops or induced currents. All are broadcast quality. Although they can be inserted anywhere in the transmission system, they are most effective at or near the end of the cable run.

Hum Eliminators

Hum eliminators work best in those circumstances where interference is cause by small differences in ground potential (less than 20v DC) or by induced currents in long cable runs. When there are multiple power panels in a building, or even on a single floor, equipment and lighting loads result in small differences in potential which induce ground loop current flow and 60Hz hum. Electromagnetically-induced currents in long cable runs also create hum. For 50Hz and 60Hz power systems, and where induced currents are high, HEC-2000 and HEC-2000-H increase the attenuation at the power frequency. Should a small amount of hum remain after an HEC has been added to the circuit, a second HEC can be added in series, without significant degradation of the video signal.

- Flat response
- Bandwidths up to 30MHz (100 MHz on the HEC-5000)
- For color and B&W
- No low frequency or high frequency roll-off
- No differential gain distortion
- No differential phase distortion
- Passive device-failure free
- Reversible
- Rugged, waterproof case
- Small, compact package
- Use in the field between remote truck; telco and microwave; for intertruck hookup
- Use in the studio between buildings; on long runs in buildings; between studios and transmitters; incoming/outgoing telco circuits

HEC-500:
50 Ohms unbalanced (impedance), 50dB for 60Hz hum reduction depending on system, 0.2dB maximum insertion loss, 20dB minimum return loss. Made of high-impact ABS plastic, measures 51/2 x 4 x 2" (HxWxD) and weighs 2.5 lbs. (Mfr # HEC500 • B&H # ALHEC500) ........................................ 144.95

HEC-1000:
75 Ohms unbalanced (impedance), 50dB for 60Hz hum reduction depending on system, 0.2dB maximum insertion loss, 20dB minimum return loss. Made of high-impact ABS plastic, measures 51/2 x 4 x 2" (HxWxD) and weighs 3.5 lbs. (Mfr # HEC1000 • B&H # ALHEC1000) ............ 139.95

HEC-2000:
75 Ohms unbalanced (impedance), 60dB for 50Hz or 60Hz hum reduction depending on system, 0.2dB maximum insertion loss, 20dB minimum return loss. Made of die-cast metal, measures 43/4 x 43/4 x 21/16" (HxWxD) and weighs 3.5 lbs. (Mfr # HEC2000 • B&H # ALHEC2000) ......... 149.95

HEC-2000-H:
Same as above, except designed for optional rack mounting installation. A heavy-duty version, 1/4” thick, stainless steel guard rails to protect the connectors when not in use. (Mfr # HEC2000H • B&H # ALHEC2000H) .......... 169.95

HEC-2000-V:
Heavy-duty version, 1/4” thick, stainless steel guard rails protect connectors when not in use. (Mfr # HEC2000V • B&H # ALHEC2000V) .......... 174.95

HEC-3000:
75 Ohms unbalanced (impedance), provides 3 channels of 60dB for 50Hz or 60Hz hum reduction depending on system, 0.2 dB maximum insertion loss, 20dB minimum return loss. Provides 70dB isolation between channels. Made of die-cast metal, measures 73/8 x 43/4 x 39/16” (HxWxD) and weighs 10 lbs. (Mfr # HEC3000 • B&H # ALHEC3000) ................................................ 399.95

HEC-4000:
GBR unbalanced (impedance), Sync balanced, provides 3 channels of 60dB for 50Hz or 60Hz hum reduction when used in RGB or YUV systems, plus one channel of transformer isolation. 0.2dB maximum insertion loss, 20dB minimum return loss. Provides 70dB isolation between channels. Made of die-cast metal, measures 73/8 x 43/4 x 39/16” (HxWxD) and weighs 10 lbs. (Mfr # HEC4000 • B&H # ALHEC4000) ................................................ 519.95

HEC-5000:
75 Ohms unbalanced (impedance), provides 5 channels of 60 dB per channel hum reduction. 0.2dB maximum insertion loss, 20dB minimum return loss. Provides 70dB isolation between channels. The HEC-5000 has a bandwidth of over 100 MHz making it suitable for HDTV applications and many video projection systems with 100 MHz bandwidths. Made of die-cast metal, measures 73/8 x 43/4 x 39/16” (HxWxD) and weighs 10 lbs. (Mfr # HEC5000 • B&H # ALHEC5000) ................................................ 594.95
Video Noise Eliminators

Video noise eliminators are effective for video signals up to 30MHz—encompassing HDTV frequencies with little distortion. For signals below 20MHz they are totally “transparent”. Since hum reduction, using video noise eliminators, is not as great as with HECs, their use is recommended only where higher frequencies are involved.

VNE-50: 50 Ohms unbalanced (impedance), 40dB for 60Hz hum reduction depending on system, 0.2dB maximum insertion loss, 20dB minimum return loss. Made of high-impact ABS plastic, measures 4 ¾ x ¾ x 2” (HxWxD) and weighs 1 lb. (Mfr # VNE50 • B&H # ALVNE50)................................. 149.95

VNE-75: 75 Ohms unbalanced (impedance), 40dB for 60Hz hum reduction depending on system, 0.2dB maximum insertion loss, 20dB minimum return loss. Made of high-impact ABS plastic, measures 4 ½ x ¾ x 2” (HxWxD) and weighs 1 lb. (Mfr # VNE75 • B&H # ALVNE75)................................. 144.95

VNE-75-3 Triple Channel: 75 Ohms unbalanced (impedance), 40dB minimum hum reduction per channel, 0.2dB maximum insertion loss, 20dB minimum return loss. Provides 70dB isolation between channels. Made of die-cast metal, measures 7 ¼ x 4 ¼ x 2 ½” (HxWxD) and weighs 3.5 lbs. (Mfr # VNE753 • B&H # ALVNE753)................................. 379.95

Video Isolation Transformers (VIT)

Breaking the ground connection in video transmission lines will eliminate 60Hz hum caused by ground loops. When there are hum problems caused by large potential differences (20v or more) the video isolation transformer is the product to use. The dielectric withstanding voltage of the VIT is over 500 volts at DC. VITs are true isolation transformers—there is no DC path between the windings. Frequency response is flat over the range 20Hz to 4.5MHz. VITs also remove the hum created by electromagnetically induced currents from power lines or distribution systems.

VIT-50: 50 Ohms unbalanced (impedance), 20Hz to 6MHz video bandwidth, 100 megohms minimum video isolation, 1dB maximum insertion loss, 20 dB minimum return loss. Made of high-impact ABS plastic, measures 3 ¼ x 2 ½ x 1 ½” (HxWxD) and weighs 1 lb. (Mfr # VIT50 • B&H # ALVIT50)................................................................. 159.95

VIT-75: Same as above except with 75 Ohms impedance (Mfr # VIT75 • B&H # ALVIT75)....................................................................................... 124.95

VIT-75-3: Same as above except three channels. Provides 60 dB isolation between channels. Made of die-cast metal, measures 4 ¾ x 3 ½ x 2” (HxWxD) and weighs 2½ lbs. (Mfr # VIT753 • B&H # ALVIT753)................................. 334.95

Infinitely Variable Video Delay Lines

“In line” video delays, they utilize front mounted toggle switches and a fine trimmer to adjust video delay parameters. Usefull in matching video sources with varied cable runs. A video delay will take the place of the mound of coiled coax that some studios use to time equipment. Impedance is 75 Ohms, working voltage is 100-volts. Pulse distortion is less than 3% with an input rise time of 20 nanoseconds. Return loss is 20dB or greater.

<table>
<thead>
<tr>
<th>Method of Variation</th>
<th>Delay Range (Nanoseconds)</th>
<th>VAR005</th>
<th>VAR011</th>
<th>VRM011</th>
<th>VRM0256</th>
<th>VAR256</th>
<th>VRM0320</th>
<th>VAR320</th>
<th>VAR640</th>
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<tbody>
<tr>
<td>Trimmer</td>
<td>3-7</td>
<td>0-11</td>
<td>0-11</td>
<td>0-256</td>
<td>0-256</td>
<td>0-320</td>
<td>0-320</td>
<td>0-640</td>
<td></td>
</tr>
<tr>
<td>Maximum Insertion Loss @ 100KHz (dB)</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.15</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Amplitude Flatness at any delay setting 50KHz to 5.5 MHz (dB)</td>
<td>0.2</td>
<td>0.25</td>
<td>0.3</td>
<td>0.4</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
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</tr>
<tr>
<td>Mfr#</td>
<td>VAR005</td>
<td>VAR011</td>
<td>VRM011</td>
<td>VRM0256</td>
<td>VAR256</td>
<td>VRM0320</td>
<td>VAR320</td>
<td>VAR640</td>
<td></td>
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<tr>
<td>B&amp;H#</td>
<td>ALVAR005</td>
<td>ALVAR011</td>
<td>ALVRM011</td>
<td>ALVRM0256</td>
<td>ALVAR256</td>
<td>ALVRM0320</td>
<td>ALVAR320</td>
<td>ALVAR640</td>
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<tr>
<td>Price</td>
<td>69.95</td>
<td>114.95</td>
<td>184.95</td>
<td>359.95</td>
<td>279.95</td>
<td>394.95</td>
<td>304.95</td>
<td>379.95</td>
<td></td>
</tr>
</tbody>
</table>

**VARM-110:** The VRM-110 is a rack mountable video delay line utilizing trimmers and slide switches to adjust video delay. It has a delay range of 0 to 11 nanoseconds. (Mfr # VRM110 • B&H # ALVRM110)................................................................. 548.95

**VARM-0637:** The VRM-0637 is a rack mountable video delay line utilizing slide switches to adjust video delay. It has a delay range of 0 to 637.5 nanoseconds. (Mfr # VRM0637 • B&H # ALVRM0637)........................................................................ 459.95

**VARM-1275:** The VRM-1275 is a rack mountable video delay line utilizing front mount switches to adjust video delay. It has a delay range of 0 to 1275 nanoseconds. (Mfr # VRM1275 • B&H # ALVRM1275).................................................. 529.95

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**SCAN CONVERTERS**

**Scan 1600**

Easy to use, the Scan 1600 converts PC, Mac or workstation graphic images up to 1600 x 1200 at 60Hz into video. Ready for the new generation of computer graphic cards, it also offers a DVI-D input for digital signals. It is totally Auto-Scan and converts in real time, full screen image, with overscan / underscan and freeze frame functions. Ideal for display network, business presentation, video conferencing, video recording, video projection.

- Simultaneously outputs composite, S-Video (NTSC/PAL), RGB/S or YUV
- RGB and black level adjustments for precise user color setting. Also, loop through out of the RGB input is available for monitoring.
- Horizontal and vertical position and size adjustments for image position.
- User adjustments for up to 16 different input formats can be stored in memory.
- Anti-flicker processing (8 levels) allows users to easily find the right settings to match the application.
- LCD screen enables an easy navigation through the menus.
- Linear pan/zoom up to 500% to display from 4% to 100% of any part of the total image area.
- Scan 1600 can be fully controlled and updated via RS-232 port. Includes remote control software.

**Digi Scan 1600**

A professional scan converter with genlock and digital SDI output to convert PC, Mac or workstation graphic images up to 1600 x 1200 at 60Hz into video. Ready for the new generation of computer graphic cards, Digi Scan 1600 also offers a standard DVI-D input and SDI output for a fully digital signal processing. It is totally Auto-Scan and converts in real time, full screen image, with overscan / underscan and frame freeze functions.

- Simultaneously outputs composite, S-Video (NTSC/PAL), SDI, RGB/S or YUV.
- Can store user adjustments for up to 16 different input formats.
- User friendly menus on a blue illuminated LCD provide clear and simple user controls.
- Pan/zoom up to 500% to display from 4% to 100% of any part of the total image area.
- RGB and black level adjustments for precise user color setting. Also, loop through out of the RGB input is available for monitoring.
- Equipped with high performance genlock to overlay graphics onto incoming video (with external switcher). All of the line and subcarrier phase parameters are adjustable, and meet SMPTE specifications. Genlock uses a black burst or composite video signal.
- Anti-flicker processing (8 levels) allows users to easily find the right settings to match the application.
- Horizontal and vertical position and size adjustments for image position.
- Active loop through to daisy chain other devices.
- Can be controlled/updated via RS-232 port.

<table>
<thead>
<tr>
<th></th>
<th>Scan 1600</th>
<th>Digi Scan 1600</th>
<th>Broad Scan</th>
<th>Broad Scan SDI</th>
<th>Broad Scan HD</th>
</tr>
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<tbody>
<tr>
<td>Output</td>
<td>TV</td>
<td>TV</td>
<td>TV</td>
<td>TV</td>
<td>TV and HDTV</td>
</tr>
<tr>
<td>Digital Output</td>
<td></td>
<td>✓</td>
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<tr>
<td>Genlock</td>
<td>Analog</td>
<td>Analog</td>
<td>Digital or Analog</td>
<td>Digital or Analog</td>
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</tr>
<tr>
<td>Digital Audio</td>
<td></td>
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<tr>
<td>Broadcast SMPTE Specs</td>
<td></td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>RS232 and Optional TCP/IP</td>
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<td>✓</td>
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<td>SDI</td>
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<td>1</td>
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<tr>
<td>Luma Key and Frame Lock</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>Zoom</td>
<td>500%</td>
<td>500%</td>
<td>1000%</td>
<td>1000%</td>
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<tr>
<td>Frame Memory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logo / Animated Logo</td>
<td></td>
<td></td>
<td>4 / 1</td>
<td></td>
<td>4 / 1</td>
</tr>
</tbody>
</table>

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**Broad Scan**

Broad Scan converts workstation, PC or Mac graphic images up to 1600 x 1200 @60Hz (1920x1200 RB) into NTSC or PAL video. Equipped with Digital DVI and analog RGB input, each computer input has its own monitor loop through output for the connection of a control display. It also features a powerful broadcast genlock through an NTSC/PAL black burst signal. Genlock input is fitted with a loop through output allowing additional devices to be daisy chained. Users can adjust phase and subcarrier delay according to installation requirements. All genlock timings meet SMPTE standards.

- Simultaneously outputs composite, S-Video (NTSC or PAL), RGB or YUV.
- Real time conversion with high performance image processing. Adjustments include RGB and Black level, 2D Sharpness and 8 levels of anti-flicker. It converts single wire computer type signal into black and white video image just by setting a menu.
- High speed hardware allows up to 1000% zoom. In addition, highlighted “zoom finder” can preview the actual part of the picture to be zoomed (H, V and H&V simultaneously).
- Broad Scan also outputs Luma Key signal which comes in the same format as the output and perfectly timed. In addition, a Frame Lock output allows synchronizing an external device frame rate such as a graphic card.
- Direct access functions include freeze, Black, under/over scan, 16/9/4:3 aspect ratio (1/1, cropped, full screen), zoom position and size.
- Can store user adjustments for up to 16 different input formats.
- Blue illuminated LCD provides clear and simple user controls. LCD continuously displays input and output status during operation.

**Broad Scan SDI**

Designed for broadcast studio and TV production, the high-resolution Broad Scan SDI steps up with SDI output with audio. Output signal can be both analog and digital, thus Broad Scan SDI can provide a full digital signal processing path from the input to the output. Available in two versions, the BSD830-DG features a Digital SDI genlock, the BSD830-AG features an analog Black Burst genlock.

*Same as the Broad Scan, plus it features—*

- Simultaneously outputs composite, S-Video, RGB or YUV and SDI (x2). Also outputs Luma Key in both digital and analog signals.
- Incorporates a Frame Memory to store a full screen image that can be displayed at any time as well as 1 animated or 4 still logos.
- Allows embedding analog audio stereo input signal into the SDI output signal with matched A/V delay, adjustable level, balance and mute.

**Broad Scan HD**

Broad Scan HD steps up from Broad Scan SDI with HDTV output. It also features a powerful broadcast genlock available in two versions: Digital HD/SD-SDI genlock (BHD930-DG) or analog HD black or black burst genlock BHD930-AG. Genlock input is fitted with a loop through output allowing chaining devices. Users can adjust phase and subcarrier delay according to the installation requirements. HD output formats can also be genlocked with a SD Blackburst signal. Genlock timings meet SMPTE standards.

- HDTV outputs include:
  - 720p @ 60, 59.94 & 50Hz
  - 1080i @ 60, 59.94 & 50Hz
  - 1035i @ 60 Hz & 59.94Hz
  - 1080sf @ 30, 29.97 & 25Hz

- Broad Scan HD outputs different signals at the same time in one selected output format:
  - In HD: Two HD-SDI and one HD-YUV 3 level sync signals are available simultaneously.
  - In SD NTSC/PAL: Two SDI, one YUV or RGB, one S-Video and one composite video signal are available simultaneously.
VIDEO SCALERS

V-Scale • V-Scale C

V-Scale and V-Scale C are half 19” rack compact video scalers offering multiple output resolutions up to 1600 x 1200. They significantly improve the quality of any video signal, providing enhanced brightness and sharpness. They allow NTSC, PAL or SECAM sources to be displayed on high resolution LCD, plasma or video projectors with a computer input. Analog Way’s powerful 3D motion auto-adaptive pixel per pixel basis scaling algorithms provide a perfect high resolution, bright and colorful image. They also eliminate flickering and movement artifacts thanks to its powerful auto 3:2 and 2:2 pull down film detection. In addition, they perform aspect ratio and frame rate conversion. They are ideal for conference room installations, where both video and computer must be displayed on high resolution large screens.

◆ Auto switch–computer or video input
◆ V-Scale accepts composite (NTSC/PAL) and S-Video signals. The V-Scale C adds component (YUV), RGBS or RGsB or signals.
◆ They provide audio/stereo switching following the video input.
◆ Front panel controls include image freeze, H&V, position, size, contrast, brightness, color, hue and sharpness.

◆ Automatic or manual stand-by mode on the front panel or via the RS-232 port.
◆ Full frame memory is automatically displayed in case of loss of input sync. The V-Scale also offers a welcome message.
◆ Provide user friendly menus on a LCD display. Users can easily adjust output format and image parameters through clearly designed and easy to use menus.

◆ They let you switch automatically to a user-defined input (video or computer) when the current input signal is lost.
◆ Aspect ratio preserved
◆ Frame rate converter or follower and ARC
◆ Freeze and frame alert memory (frame alert only on the V-Scale).
◆ Bundled with remote control software

V-Scale PLUS

V-Scale PLUS combines the functions of a high resolution video scaler with an audio video switcher with stereo audio. It is a state-of-the-art Scaler / Line Multiplier / Quadrupler / Doubler which significantly increases video image resolution and brightness. A computer input is also provided for direct display of your presentations or web applications.

◆ Equipped with a composite, RGB and YUV component input and a DVI output providing perfect connection with LCD screen, video projector or plasma. It offers a double analog output on both HD15 and DVI-I connectors. Additionally, V-Scale PLUS can drive up to three displays simultaneously.
◆ Non-volatile frame memory can be used as a “welcome” or an “alert” message. This frame can be acquired from any video input or it can be downloaded from a computer via RS-232 or optional IP connection.

◆ High-quality decoder includes an advanced comb filter, an emphasized “natural” color processing, a highly robust sync detection and enhanced 3D (pixel by pixel basis) auto-adaptive de-interlacing scheme (for motion artifacts). With automatic correction of the “film to video” transfer (3/2 & 2/2 pull down), it provides a “cinema like” image.
◆ Image parameters such as brightness, contrast, color, aspect ratio and sharpness can be easily adjusted by the user. These parameters are stored for each input.

◆ Auto switch–computer or video input.
◆ V-Scale PLUS also features an automatic or manual stand-by mode, activated on the front panel or with the RS-232 control.
◆ The input source aspect ratio 4:3, 16:9 widescreen can be selected as well as the size of the screen (4:3 - 16:9).
◆ Frame conversion and time base correction.
◆ Freeze and frame alert memory.
◆ Bundled with remote control software.

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## Video Scalers

<table>
<thead>
<tr>
<th>Inputs</th>
<th>V-SCALE</th>
<th>V-SCALE C</th>
<th>V-SCALE PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Of Inputs</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Number of Computer Inputs</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Composite (Auto - PAL - NTSC - SECAM)</td>
<td>2*</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>S. Video (Y-C)</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Component (YUV)</td>
<td>–</td>
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<td>1**</td>
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<tr>
<td>RGBs (SOG) - 15 kHz</td>
<td>–</td>
<td>1</td>
<td>1**</td>
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<tr>
<td>RGBS - 15 kHz</td>
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<td>Computer up to 1600 x 1200</td>
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<th>Outputs</th>
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<th>V-SCALE C</th>
<th>V-SCALE PLUS</th>
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<td>1024 x 768 (XGA)</td>
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<td>1280 x 720 (HDTV 720p - 16/9)</td>
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<td>1400 x 1050 (SXGA +)</td>
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<td>1600 x 1200</td>
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<td>Time Base Correction</td>
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<td>Follow Mode</td>
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<th>Image Control</th>
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<th>V-SCALE C</th>
<th>V-SCALE PLUS</th>
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<tr>
<td>Horizontal &amp; Vertical Sizing</td>
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<td>Rack Mountable</td>
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*Second Composite instead of S. Video input  ** One configurable input, either in Component (YUV) or RGBs (SOG) or RGBS
MULTI-FORMAT CONVERTERS

Optimizer HD

Optimizer HD is a state-of-the-art universal up/down scaler, scan converter and standards converter with TBC functions in one box that converts standard definition images into cinema-like or wide screen displays. Its high flexibility combined with its processing quality makes it essential in professional broadcast, digital cinema and high end pro A/V environments.

- Optimizer HD upgrades standard definition image quality to almost true HD quality. Computer Auto clock and phase adjustments ensure true picture up or down scaling with every original pixel of the image. The image adjustments and device setup are recorded in a non-volatile memory.
- Equipped with universal analog or digital input, Optimizer HD converts any SD, HD or PC signal into a digital TV, HDTV or Hi-Res PC format.
- Input signal can be analog S-Video, RGB/YUV, HDYUV, RGBS, RGsB (NTSC/PAL/SECAM), or Digital DVI and SD/HD-SDI.
- Supports SD and HDTV formats including 1080p and 1080sF@24/25Hz and computer formats from VGA to UXGA and 2K@60 Hz.
- Equipped with analog genlock input with an active loop through. It also offers a choice between SD black burst and Black HD-YUV. It allows genlocking of HDTV output signal on an SD Blackburst. User phase adjustments are available for a perfect result.

- Provides an amazing image quality thanks to its powerful geometric bandlet based computing technology. The true 10-bit HD processing path is preserved by state-of-the-art over sampling 12-bit A/D converters.
- Real time Motion Adaptive de-interlacing, correction of compression artefact, noise removal, 3:2 and 2:2 Pull Down correction, and scaling with special edge diagonal compensation are taken to incomparable levels, providing the best picture quality ever seen.
- 500% zoom, user programmable EDID for DVI input.
- Analog XLR balanced audio stereo input for embedding audio into the SD/HD-SDI signal with A/V delay compensation.
- Simultaneous DVI-D and SDI output when the selected format is compatible.
- RS-232 port and GUI allow full remote control of the device and also upgrade capability to maintain the high value of your equipment.
- Large front panel features direct access button to image adjustments. A control menu knob and bright easy to read fluorescent display offers easy configuration.

Optimizer HD outputs digital signals with the following formats:

**HDTV**
- 720p @ 60, 59.94 & 50 Hz
- 1080i @ 60, 59.94 & 50 Hz
- 1035i @ 60 Hz & 59.94 Hz,
- 1080sF @ 24, 23.98 Hz & 25 Hz
- 1080p @ 30, 29.97, 25, 24, 23.98 Hz

**SDTV**
- 525i @ 60 & 59.94 Hz – 15.735 kHz
- 625i @ 50 Hz – 15.625 kHz
- 480p @ 60/59.94 Hz – 31.250 kHz
- 576p @ 50 Hz – 31.250 kHz

**Computer** up to 2048 x 1080RB & 1600 x 1200 @ 60Hz

---

VIO 1600 • VIO 1600-D1 • Ultra-VIO

Multi-purpose scan converter, scaler, standards converter with TBC, switcher and interface, the VIO 1600, VIO 1600-D1 and Ultra VIO accept a large range of formats, from computer to video and HDTV, in analog or digital format. The output provides the same diversity of formats, type of signals and connectors. Each input features an active loop-through (monitoring) for easy control of the sources and accepts composite (NTSC/PAL/SECAM), S-Video, RGB or YUV, HDTV in HD-YUV and computer formats: RGB up to UXGA and DVI (input 1). In addition, the VIO 1600-D1 and Ultra-VIO accept SD/HD-SDI on input 2.
**VIO 1600 • VIO 1600-D1 • Ultra-VIO Features**

- They generate various output formats including: composite (NTSC/PAL) S-Video, YUV, HD-YUV or computer: analog RGB or digital DVI. The Ultra-VIO also outputs SD/HD-SDI.
- Unbalanced stereo audio is passed with each universal input.
- They offer conversion of any of the inputs to any of the outputs including conversion of the television standard and bidirectional analog to digital conversion.
- They feature 3:2 and 2:2 pull down circuitry, auto adaptive per pixel level motion compensation, auto centering, time base correction, frame rate conversion and a multi-level anti-flicker filter. The configurable adjustments are recorded in non-volatile memory.
- Equipped with analog genlock, the Ultra-VIO offers a choice between SDTV Black Burst and Black HD-YUV. It allows genlocking of HDTV output signal on an SDTV Black Burst.

**Tetra-VIO**

Tetra-VIO is a universal device with six functions in one: Scan Converter, Scaler, Standards converter with TBC, Audio De/Embedder, Switcher and Interface. Its high flexibility makes it essential in complex installations. It is extremely useful in solving signal compatibility issues at the last minute. In addition to a powerful multi-format converter (converts virtually any high resolution up to 2K, TV and HDTV signals), Tetra-VIO is also a smooth and fast audio/video switcher offering many useful possibilities such as 500% Zoom, user programmable EDID for DVI input, etc. RS-232 port and GUI allow full remote control of the device and also upgrade capability to maintain the high value of your equipment. Optional ethernet is available for TCP/IP control.

- Tetra-VIO features three universal Inputs and one SD/HD-SDI input. It accepts a large range of formats, from computer to video and HDTV, in analog or digital format via a large range of connectors. Each of the three universal inputs features an active loop through (monitoring) for easy control of the sources.
- Each of the universal inputs accept NTSC/PAL S-Video, RGB or YUV and HDTV in HD-YUV or HD-RGB analog. Computer formats include RGB up to UXGA and 2K. Input 2 also accepts digital DVI signal.
- Tetra-VIO features four analog audio stereo inputs and one output. Also offers one digital S/PDIF audio I/O. It allows embedding Analog and S/PDIF Digital Audio stereo signal into SD/HD-SDI with A/V delay compensation. (Fs: 48kHz – 20/24 bits). It also extracts and outputs SPDIF digital Audio stereo signal from the SD/HD-SDI embedded stream.
- Large front panel features direct access button to image adjustments. A control menu knob and bright easy to read fluorescent display offers easy configuration.
- Tetra-VIO features 3:2 and 2:2 pull down circuitry, auto adaptive per pixel level motion compensation, auto centering, time base correction, frame rate conversion and a multi-level anti-flicker filter. The configurable adjustments are recorded in non-volatile memory.
- Equipped with analog genlock, the Ultra-VIO offers a choice between SDTV Black Burst and Black HD-YUV. It allows genlocking of HDTV output signal on an SDTV Black Burst.

**Tetra-VIO supports numerous input and output formats and signal types.**

These formats are:

**HDTV**
- 720p @ 60, 59.94 & 50 Hz
- 1080i @ 60, 59.94 & 50 Hz
- 1035i @ 60 Hz & 59.94 Hz
- 1080S @ 30, 29.97 & 25 Hz
- 1080p @ 30, 29.97, 25, 24, 23.98 Hz

**SDTV**
- NTSC – 525i @ 60 & 59.94 Hz – 15.735 kHz
- PAL – 625i @ 50 Hz – 15.625 kHz
- Progressive NTSC - 31.471 kHz@60/59.94Hz
- Progressive PAL - 31.250kHz@50Hz

**Computer**
- up to 2048 x 1080RB & 1600 x 1200 @60Hz in both analog RGB & DVI

The same format is available simultaneously on different outputs. For example: computer formats are delivered in RGB and in DVI-D at the same time, SDTV formats are available in composite, S-Video, YUV and SDI, etc.
# Multi-Format Converters

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<thead>
<tr>
<th></th>
<th>VIO 1600</th>
<th>ULTRA VIO</th>
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</table>
The Folsom ImagePRO is a powerful all-in-one signal processor that accepts a wide range of video input signals and process them into a number of different signal formats to meet the video requirements of virtually any application.

Incorporating Folsom's Athena proprietary high performance image processing technology, the ImagePRO is available in three versions—ImagePRO, ImagePRO-SDI and the fully-loaded ImagePRO-HD.

All units are high performance video scalers, scan converters, switchers and transcoders in one. The ImagePRO is the ideal solution for converting RGB, HDTV, component, S-Video, composite (NTSC, PAL and SECAM), DVI, SDI and HD/SDI into a user-selectable video format. ImagePRO supports a wide variety of analog and digital output formats including broadcast and VESA standards along with many native plasma formats. ImagePRO users may also create custom output formats to support unique display requirements. The ImagePRO line has an advantaged feature set that includes: universal inputs, aspect ratio conversion, memory presets, test patterns, vertical lock (Genlock), picture adjustments, motion adaptive de-interlacing, and 3:2 and 2:2 pulldown detection to name a few.

### FEATURES

- **High performance image processing technology** provides the highest possible image quality while minimizing processing delays. The architecture supports 1:1 video sampling and processes video at 10-bits per color channel to maintain image fidelity.
- **Proprietary horizontal and vertical filtering techniques** are used to provide crisp, clean images to support both upconversion and downconversion operations.
- The Athena scaler also supports special functions such as continuous real-time pan and zoom operations, a wide variety of frame locking options (to eliminate motion artifacts) and adjustable filtering modes.
- **Three universal inputs** accept RGBHV, RGBS or RGsB computer video, component video (SD or HDTV), composite or S-Video with loop-through.
- **Four video outputs:** (2) RGB or component video, (1) composite video, and (1) S-Video.
- **User-defined aspect ratio conversion and adjustments**
- **Flexible pan and zoom**
- **Freeze**
- **Motion Adaptive and Field to Frame de-interlacing modes**
- **10-Bit processing** provides improved signal-to-noise ratio and preserves dynamic range to improve image fidelity. This is especially apparent in dark regions and areas of smooth, slightly varying tonal value.
- **3:2 pulldown detection for NTSC and 2:2 film detection for PAL video sources.**
- **Decodes NTSC, PAL, and SECAM.**
- **RS-232 and Ethernet connection** (with TCP/IP) for remote control.
- **Encodes NTSC and PAL.**
- **Genlock, H/V Lock and VLock.**
- **Executive mode:** protects system configuration settings during use.
- **64 independent memory (sizing, centering, detail, contrast, brightness info presets.**

### Image Pro-SDI Step-up Features

- **SDI input and output.**
- **Motion adaptive de-interlacing for HDTV inputs.**
- **Logo image capture and recall feature.**
- **Dissolve to/from stored logo.**

### Image Pro-HD Step-up Features

- **HD/SDI input and output**
- **DVI-D output**

### Pricing

- **Image Pro Multi-Format Processor** (Mfr # R9860410 • B&H # BAIP) ................................................. 4399.95
- **Image Pro SDI Multi-Format Processor** (Mfr # R9860411 • B&H # BAIPSDI) ........................................... 5299.95
- **Image Pro HD Multi-Format Processor** (Mfr # R9860412 • B&H # BAIPHD) ............................................ 6999.95
- **Transport Case for Image Pro** (Mfr # R9860413 • B&H # BACIP) ............................................................. 324.95
**Scan Do SELECT**

Affordable XGA Scan Converter

The Scan Do Select offers the lowest cost/highest quality video in its price class. It accepts input from computers with resolution as high as 1280 x 1024 @ 60 Hz and converts it to high resolution composite and S-Video in both NTSC and PAL formats. Scan Do Select features image zoom, while shrink and positioning controls allow for proper sizing and viewing of the image. Image stability and crispness is achieved through a sophisticated three-line flicker reduction process. An RS-232 remote control provides for easy system integration, while the built-in color bar generator aids in proper set up and testing. An image freeze control “freezes” the image on screen, independent of the computer input. And, despite its compact size, Scan Do Select features a completely internal universal input power supply. Also includes a unique VGA/Mac turnaround input cable for ease of use. Optional rackmount kits are also available.

- Supports up to 1280 x 1024 @ 60 Hz
- Input computer sync range from 31 to 71 kHz
- Selectable zoom range from 0.5x to 2.0x with H & V positioning.
- Adaptive computer sync processing.
- Advanced three-line flicker reduction.
- Input zoom processing for true increase in resolution when zooming.
- Built-in color bar generator.
- Composite, S-Video NTSC and PAL output.
- Image freeze.
- Single cable for VGA and Mac operation.
- Internal, universal input power supply; no external “brick”.
- RS-232 port for remote control capability of all front panel functions.
- Three-year warranty on parts and labor.

---

**Scan Do PRO II**

XGA Scan Converter with Component Output

Scan Do Pro II combines the high resolution support (up to 1280 x 1024 @ 60 Hz) and superior processing offered by the Scan Do Select with professional broadcast-related features such as studio timeable genlock, component output (YUV and RGB formats), a switchable vertical filter and optional SDI (serial digital output). True multi-scanning with support for resolutions up to 1280 x 1024 (at 60 Hz) ensures it will work with virtually any computer. A three-line flicker reduction filter produces sharp, stable images and multi-level input zoom processing actually enhances resolution. Front-panel controls and interface are designed for user-friendliness, but it also offers an internal, universal power supply and standard RS-232 remote, bringing convenience and ease-of-use to a new level.

- Broadcast-quality scan conversion of computer resolutions up to 1280 x 1024 @ 60 Hz to NTSC and PAL video
- Input computer horizontal sync range from 31 to 71 kHz
- Fully timeable genlock with horizontal and subcarrier phasing
- Component (YUV and RGB formats), composite and S-Video output
- Multi-step zoom with H&V positioning: 0.85x, 1.0x, 1.3x, 1.6x, 2.0x
- Switchable vertical filter
- Adaptive computer sync processing
- Built-in color bar generator
- RS-232 port for remote control capability of all front panel functions
- Image freeze
- Switchable NTSC or PAL outputs
- Optional rackmount kits
XGA Scan Converter with Component & SDI Output

The Scan Do Pro II/D incorporates all the features of the Scan Do Pro II, except this SDI equipped model converts high-resolution graphics to NTSC and PAL video in serial digital component as well as composite, Y/C, YUV and RGB formats of their respective counterparts, plus both include an RS-232 port for remote operation of all scan converter functions. Ideal for on-air webcasts, computer generated graphics, weather maps and radar, post-production, presentation staging, multimedia events and videoconferencing.

Scan Do HD

XGA Scan Converter with SD-SDI and HD-SDI Output

The all-digital Scan Do HD converts DVI input, at resolutions up to 1920 x 1080, to SD or HD SDI output, providing broadcast-quality video images. It supports all SMPTE HD-SDI output resolutions up to 1080i, and SD-SDI resolutions (NTSC and PAL), making it the most versatile model in the Scan Do into a professional video production system.

- With resolutions up to 1080i, you’re sure to reveal every detail. Supports SD-SDI resolutions as well.
- Allows you to quickly phase your signal across an entire vertical output period at an impressive resolution of 840 picoseconds!
- Vertical, horizontal and clock phasing ability comes standard. Whether you are using tri-level sync or black burst, Scan Do HD ensures superior genlock ability.
- Advanced scaling algorithms and 10-bit processing provide exceptionally clean and accurate broadcast quality output.
- Ethernet port enables remote control
- Includes two SDI fiber optic output and two coaxial outputs
- Image processing controls for brightness, contrast, saturation, hue and sharpness; variable flicker reduction.
- Zoom and shrink horizontally and vertically while maintaining the aspect ratio or set each independently
- Precisely position your image horizontally and vertically.
- Quickly store and recall your favorite configurations through the remote control ports!
- Internal color bar generator
- 1 RU high; includes mounting kit

<table>
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<tr>
<th>Scan Do SELECT</th>
<th>Scan Do PRO II</th>
<th>Scan Do PRO II/D</th>
<th>Scan Do HD</th>
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<tr>
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<td>RGBHV, RGBS, RGsB</td>
<td>RGBHV, RGBS, RGsB</td>
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<td>Composite, S-Video, YUV Component</td>
<td>Composite, S-Video, YUV Component, RGBS</td>
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<tr>
<td>Configuration Presets</td>
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</tbody>
</table>
DEUCE SDQ
Scaler, Line Doubler and Line Quadrupler

A video scaling solution for the price-conscious, the Deuce SDQ is a versatile scaler, line doubler and line quadrupler that offers state-of-the-art signal processing technology— but with a no-frills design and at an extremely affordable price. Deuce SDQ offers the most sophisticated level of “intelligent” motion compensation processing available. Making use of three different algorithms (adaptive frame using inverse 3:2 pulldown, vertical temporal or static mesh), the scaler automatically selects the most effective motion compensation method or combination of methods based upon the source material being scaled. Deuce SDQ accepts composite, S-Video and Y/CB/CR component inputs in NTSC or PAL standards. Intelligently scales to five output resolutions: 800 x 600, 1024 x 768, 1280 x 1024, line double and line quadruple. The simple front panel has a lockout function and a non-volatile memory remembers all settings. In addition, the compact unit has an RS-232 port and a universal input power supply.

- Intelligent video scaling to three resolutions, plus line doubling and line quadrupling.
- Switchable composite, component and S-Video inputs in NTSC and PAL standards.
- VGA-compatible HD-15 connector provides RGBHV, RGBS or Y/CB/CR progressive scan output formats.
- Output vertical refresh rate locked to input vertical refresh rate (59.95Hz NTSC; 50Hz PAL).
- Output resolutions include: 800 x 600, 1024 x 768, 1280 x 1024, line double and line quadruple.
- Automatically detects and applies the best motion compensation selecting from three algorithms:
  - Static mesh (images with little or no motion).
  - Vertical temporal (standard video).
  - Adaptive frame (inverse 3:2 pulldown, for video originating from a film source).
- Supports 16:9 “letterbox” videotape and DVD sources.
- RS-232 remote port for use with a media controller.
- Non-volatile memory remembers all settings.
- Lockout function on front panel controls.
- Universal input power supply incorporated in chassis.

DEUCE MC
Scaler, Line Doubler and Line Quadrupler

Otherwise identical to the Deuce SDQ, the Deuce MC has a unique user-selectable Motion Compensation feature that can be set based on the specific input source image. The motion compensation feature enables Deuce MC users to select one of three different motion compensation techniques: adaptive frame using inverse 3:2 pulldown, vertical temporal or static mesh, or one of three automatic modes that automatically analyze the video input. Because each technique is set specifically for the type of input image, the result is the clearest, crispest picture quality possible, making Deuce MC ideal for professional A/V applications.

Step features from as Deuce SDQ —
- Six user-selectable motion compensation settings using three different algorithms, applied individually or in combination:
  - Static mesh (images with little or no motion) — Vertical temporal (standard video)
  - Adaptive frame (inverse 3:2 pulldown, for video originating from a film source)
High Definition Scaler

The Deuce HD is designed for applications that use projectors and other display equipment featuring HD output resolutions. Deuce HD enables HDTV-quality images from any standard NTSC or PAL source material. It meets a wide range of HDTV and DTV standard with five scaled outputs, including 480p, 720p, 1080p, 1280 x 1024 and 1366 x 768.

Like the Deuce MC, Deuce HD makes use of three different algorithms (adaptive frame using inverse 3:2 pulldown, vertical temporal or static mesh) and then automatically selects the most effective motion compensation method or combination of methods based upon the source material being scaled. Deuce HD supports 4:3 and 16:9 aspect ratios, and provides conversion from one to another as well. Even projectors and displays with built-in scaling can benefit from the additional level of image processing that Deuce HD can provide. Features composite, S-Video and component inputs and RGB or component outputs, plus an RS-232 port. The slim, black unit has a simple, intuitive user-interface and internal, universal power supply.

- Intelligent video scaling to five DTV and HDTV resolutions
- Output vertical refresh rate locked to input vertical refresh rate (59.95Hz NTSC; 50Hz PAL)
- Three aspect ratio conversions from input to output:
  - 4:3 to Full Screen (4:3 or 16:9)
  - 4:3 to 4:3 in 16:9 screen
  - 16:9 to 16:9 (letterbox to full 16:9 screen)
- Automatically detects and applies the best motion compensation selecting from three algorithms:
  - Static mesh (images with little or no motion)
  - Vertical temporal (standard video)
  - Adaptive frame (inverse 3:2 pulldown, for video originating from a film source)
- Supports 16:9 “letterbox” DVD sources
- Switchable composite, S-Video and component inputs in NTSC and PAL standards
- VGA-compatible HD-15 connector provides RGBHV, RGBS or Y-CB-CR progressive scan output formats
- RS-232 port for use with an external media controller
- Non-volatile memory remembers all settings
- Lockout function on front panel controls
- Universal input power supply incorporated in chassis; no external power supply module

<table>
<thead>
<tr>
<th>Scales to:</th>
<th>Deuce SDQ</th>
<th>Deuce MC</th>
<th>Deuce HD</th>
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</thead>
<tbody>
<tr>
<td>HD (480p, 720p, 1080p)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Line Double</td>
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<td>✓</td>
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<tr>
<td>Line Quadruple</td>
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<tr>
<td>800 x 600 (4:3)</td>
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<td>1024 x 768 (4:3)</td>
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<td>✓</td>
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<td>852 x 480 (16:9)</td>
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<td>✓</td>
</tr>
<tr>
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<tr>
<td>Connector HD-15F</td>
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Deuce SDQ (Mfr # 2240 • B&H # COSHQ) ................................................................................................................................. 549.95
Deuce MC (Mfr # 2220 • B&H # CODMC) ................................................................................................................................. 749.95
Deuce HD (Mfr # 2230 • B&H # CODHD) ................................................................................................................................. 1029.95
DISTRIBUTION AMPLIFIERS

CDA-DVI30 1x3 DVI and Stereo Audio DA Splitter
The CDA-DVI30 allows a single DVI source to be displayed on three monitors simultaneously as well as splitting the audio for each. Provides a fast, flexible solution for broadcasting video information to the public. Applications include Information broadcasting, video conferencing, TV classrooms, high quality multimedia presentations, and demos. Supports DVI-D Single Link video sources. Enhances video signals for long distance broadcasting. Unit also splits the audio source.

(Mfr # CDA-DVI30 • B&H # COCDADVI30) ................................................................. 113.95

CDA-HDMI20 • CDA-HDMI40
1x2 and 1x4 HDMI Distribution Amplifiers
Compact, high performance DAs designed to meet the most demanding requirements for the distribution of HDMI signals with HDCP copy protection. The CDA-HDMI20 and CDA-HDMI40 provide transparent distribution of signals to two or four destinations. They have HDMI connectors for the input and outputs and are powered with an included AC power adapter that provides 9V DC for operation. The units may be cascaded to deliver HDMI with HDCP signals over greater distances from the source using premium grade HDMI cables. Support 480i/576i SDTV and HDTV from 480p to 1080p. Also supports DDWG standard for HDMI monitors.

CDA-HDMI20: (Mfr # CDA-HDMI20 • B&H # COCDAHDMI20) .......................... 289.95
CDA-HDMI40: (Mfr # CDA-HDMI40 • B&H # COCDAHDMI40) .......................... 339.95

CVG-VP2XL 1x2 VGA/XGA Distribution Amplifier
A 340Mhz bandwidth 1x2 DA for demanding presentation applications, the CVG-VP2XL splits a VGA/SVGA/XGA signal into two identical outputs. All outputs are individually amplified and buffered and are equal to the original source input. Stereo audio follows the video signal. Two level controls on the front panel allow for VGA/XGA signal level adjustments, compensating for cable loss over long distances and audio level control. The CVG-VP2XL’s amplifying circuitry automatically adjusts for cable equalization when VGA signal level is controlled. Audio output levels are continuously adjustable as well. The machine is fed from a 12v DC source, and is therefore suitable for fieldwork as well.

(Mfr # CVG-VP2XL • B&H # COCVGVP2XL) ................................................................. CALL

CVG-VP3XL • CVG-VP4XL
1x3 and 1x4 VGA/XGA Distribution Amplifiers
High performance 1x3 and 1x4 distribution amplifiers for VGA/UXGA signals. Each machine includes front panel EQ control, as well as switches for ID Bit control. The machines have a video bandwidth 400MHz, thus making them suitable for the highest resolution graphics signal distribution. Each machine accepts one input, provides necessary buffering and isolation, and distributes the signal to its identical outputs. The machines are mains fed and are housed in a half 19" enclosure.

CVG-VP3XL: (Mfr # CVG-VP3XL • B&H # COCVGVP3XL) .......................................... CALL
CVG-VP4XL: (Mfr # CVG-VP4XL • B&H # COCVGVP4) ........................................... CALL

CVG-VP6XL 1x6 VGA/UXGA Distribution Amplifier
A 400 Mhz bandwidth 1x6 DA designed for VGA-type signals including VGA, SVGA, XGA, UXGA etc. It accepts one input, provides necessary buffering and isolation, and distributes the signal to six identical outputs. Input and outputs are DC coupled and conform to the highest standards. It is housed in a rugged, professional enclosure designed to fit in one vertical space of a standard 19" rack. By combining the CVG-VP6XL with other switchers and DA's, many VGA routing requirements can be solved.

(Mfr # CVG-VP6XL • B&H # COCVGVP6) ................................................................. CALL

CDA-VP200N • CDA-VG31 • CDA-VG41
1x2, 1x3, 1x4 VGA/XGA Distribution Amplifiers
High performance distribution amplifiers for UXGA and higher resolution signals, they accept one input, provides correct buffering and isolation, and then distribute the signal to two, three or four identical outputs on high-density 15-pin HD connectors. Video bandwidth exceeding 400MHz ensures that they remain transparent even at high-resolution graphics modes such as and provide ID bit control. Ideal for multi monitor applications or presentation systems requiring local monitors and large screen display devices such as a projector. They include a 12v power supply.

CDA-VP200N: (Mfr # CDA-VP200N • B&H # COCDAVP200N) ...................................... CALL
CDA-VG31: (Mfr # CVG-VG31 • B&H # COCVGVG31) ........................................... CALL
CDA-VG41: (Mfr # CVG-VG41 • B&H # COCVGVG41) ........................................... CALL

www.bhphotovideo.com
DISTRIBUTION AMPLIFIERS

CDA-CV20 1x2 Component Video Distribution Amplifier

HDTV compatible, the CDA-CV20 is a high performance distribution amplifier for component video (RGB/YUV) signals. It takes one input (RCA), provides correct buffering and isolation and distributes the signal to 2 identical outputs (RCA). Has high bandwidth of 500MHz (-3db).

CVG-CVA2LD • CVG-SVA2LD 1x2 Composite and 1x2 S-Video Line Amps w/Audio

The CVG-CVA2LD and CVG-SVA2LD are high performance video and stereo audio line drivers capable of sending a composite (CVG-CVA2LD) or an S-Video (CVG-SVA2LD) signal with stereo audio up to 500 feet when used with premium cable. Both provide separate cable equalization of ±5dB for each of the 2 video outputs, and compensate for signal level and high frequency losses that occur over long cable runs. Stereo audio may be input on either two RCA jacks or one stereo 3.5mm mini jack, which then outputs two sets (L&R) of balanced or unbalanced stereo audio. They run on a 9v AC/DC source, so they are therefore perfectly suitable for fieldwork.

CVG-CVA2LD (Mfr # CVG-CVA2LD • B&H # COCVGCA2LD) ......................................................... CALL
CVG-SVA2LD (Mfr # CVG-SVA2LD • B&H # COCVGSS2LD) ......................................................... CALL

CVG-DA2CS 1x2 High Resolution Composite and S-Video DA

This high resolution composite/S-Video and stereo audio DA is designed for analog and digital applications. It splits a single composite or S-Video input source into two identical outputs, as well as a single stereo audio input source into two identical outputs. Front panel controls include 3 sets of video equalization and gain controls; one set for composite, one set for S-Video and one set for audio. The gain controls for S-Video allow individual adjustment of both the Y and C signals which is especially helpful for signal delay compensation inherent to S-Video signals over long runs. This allows you to adjust the video and audio signal output to the application for maximum flexibility. Can be rack mounted with an optional rack mount kit.

CVG-3AVB 1x3 Audio and Video Distribution Amp

A high performance 1x3 DA for video (BNC) and stereo audio signals. It is typically used for composite video sources, but video bandwidth exceeding 430MHz allows it to be used for high-resolution data/video signals, SDI video, and other specialized signals. Includes a button control for audio level as well as trimmers for controlling video level and cable EQ accessible via the front panels. Housed in a convenient small enclosure for desktop use, but can also be rack mounted using the RK-50R kit, which holds two units in a 1U rack. Runs on an external 12v DC source, and is therefore suitable for fieldwork as well.

CVG-3SXL 1x3 S-Video Distribution Amplifier

The CVG-3SXL is a high performance distribution amplifier for S-Video signals. It takes one input, provides correct buffering and isolation, and distributes the signal to three identical outputs.

CVG-3VXL 1x3 Composite Video Distribution Amp

A 1x3 composite video distribution amplifier for field, studio and other demanding applications. Splits a single input into three identical outputs with no discernible signal degradation. Video output and input signals are AC coupled for maximal flexibility. Receives external 12v DC feed, and is housed in a compact enclosure, making it ideal for field use. (Mfr # CVG-3VXL • B&H # COCVG3V) ......................................................... CALL

CVG-4A • CVG-SV4A 1x4 Composite and 1x4 S-Video DAs

High resolution composite (CVG-4A) and S-Video (CVG-SV4A) and stereo audio DAs, they split a single composite or S-Video, or serial digital input source into four identical outputs with no discernible signal degradation. They also split a single stereo audio input source into four identical outputs. Front panel controls include video equalization and gain controls which allow the user to adjust the video signal output to the application. Left and right audio gain controls are also featured on the front panel for maximum flexibility. Durable metal enclosure ensures long product life and they can be rack mounted with optional rack mount kit.

CVG-4A (Mfr # CVG-4A • B&H # COCVG4A) ......................................................... CALL
CVG-SV4A (Mfr # CVG-SV4A • B&H # COCVGSV4A) ......................................................... CALL

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
DISTRIBUTION AMPLIFIERS

**CVG-50V 1x5 Composite Video Distribution Amp**
A 480 MHz bandwidth, high resolution 1x5 DA, the CVG-50V uses an external 12v DC power source, and therefore is suitable for field work as well. Dozens of copies of videotapes can be made at the same time using several CVG-50V units chained through the looping inputs. (Mfr # CVG-50V • B&H # COCVG50V) 

**CVG-5ARII 1x5 Composite Video & Audio DA**
Designed for professional and studio applications, the high bandwidth (360MHz) CVG-5ARII utilizes state-of-the-art circuitry for exceptionally clean, noise free signal distribution. An extremely versatile distribution amplifier, it allows AC/DC video input coupling selection and has a video termination switch simplifying looping. It operates in audio-follow-video mode and has fully buffered stereo audio outputs as well as looping inputs for system extension. Users can adjust the video gain and EQ control as well as stereo L and R levels externally for maximum flexibility. Comes in a 19” rackmountable all-metal chassis for maximum durability. (Mfr # CVG-5ARII • B&H # COCVG5AR2) CALL

**CVG-SV5XL 1x5 Composite/S-Video & Audio DA**
An extended bandwidth, state-of-the-art composite, S-Video and stereo audio DA designed for studio and other demanding applications. Splits a single input source into five identical outputs with no discernible signal degradation. Hundreds of copies of video tapes can be made at the same time using several CVG-SV5XL’s looped together. Select AC or DC video coupling for full flexibility. Also allows conversion of a S-Video source to five composite video outputs. (Mfr # CVG-SV5XL • B&H # COCVGSV5XL) CALL

**CVG-10ARII 1x10 Composite Video and Audio DA**
The high resolution, 224 MHz bandwidth CVG-10ARII has looping video and audio stereo inputs, each splitting to 10 outputs. Choose unbalanced stereo or balanced mono audio via front panel switches. The output audio and video levels, as well as video cable EQ, may be adjusted via trimmers accessible from the front panel. The video outputs are in two blocks of five outputs each, where each block may be individually trimmed for level and cable EQ, thereby achieving different compensations for different cable lengths. Several CVG-10ARII units may be chained through the looping inputs. Output video signals are DC or AC coupled (user-selectable) for maximum flexibility. (Mfr # CVG-10ARII • B&H # COCVG10AR2) CALL

**CVG-SV10XL 1x10 Composite/S-Video & Audio DA w/Transcoding**
A truly flexible 370MHz bandwidth DA that can handle both composite and S-Video signals and includes built-in high quality signal format conversion. It can also be a mixed output format 1x20 DA (10 composite and simultaneously 10 S-Video with stereo audio for either the composite or the S-Video input). Dual format - the equivalent of two DAs in one box. Has a 1x10 composite video with stereo audio section and a 1x10 S-Video with stereo audio section. (Mfr # CVG-SV10XL • B&H # COCVGSV10XL) 579.95

**CDA-V31 1x3 Composite Video / Stereo Audio DA**
High performance, 320MHz bandwidth ensures that the CDA-V31 remains transparent even in the most critical applications. Accepts a single input and distributes it to three identical outputs using RCA connectors for video, and 3.5mm phone connectors for audio stereo. Included 12v power supply. (Mfr # CDAV31 • B&H # COCCDAV31) CALL

**CVD-SV20 • CDA-V20 • CDA-V50 1x2 S-Video, 1x2 Composite, 1x5 Composite DAs**
High performance 1x2 DA for S-Video (CVD-SV20), for composite BNC video (CDA-V20) and 1x5 DA for composite BNC video (CDA-V50) signals. Wide video bandwidth ensures they remain transparent even in the most critical applications. They include a 12v power supply. 

- 1x2 S-Video DA: (Mfr # CDA-SV20 • B&H # COCDAVS20) CALL
- 1x2 Composite Video DA: (Mfr # CDA-V20 • B&H # COCCDAV20) 69.95
- 1x5 Composite Video DA: (Mfr # CDA-V50 • B&H # COCDAV50) 109.95

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### STUDIO EQUIPMENT

#### COMPREHENSIVE

## SWITCHERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>CSW-DVI310</td>
<td>3x1 Single Link DVI Switcher</td>
<td>$109.95</td>
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<tr>
<td>CSW-HDMI311</td>
<td>3x1 HDMI and Audio Switcher with Remote</td>
<td>$118.95</td>
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<tr>
<td>CSW-VGA211</td>
<td>2x1 VGA/XGA &amp; Stereo Audio Auto Switcher</td>
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<td>CSW-VGA212</td>
<td>2x1 VGA/XGA Switcher 1x2 DA</td>
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<tr>
<td>CVG-41VGA</td>
<td>4x1 VGA/XGA Mechanical Switcher</td>
<td>CALL</td>
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<tr>
<td>CSW-HDMI210</td>
<td>2x1 and 4x1 HDMI Switchers with Remote and RS-232</td>
<td>$193.95</td>
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<tr>
<td>CSW-HDMI410</td>
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**Additional Information:**

- The CSW-DVI310 allows one of three DVI sources to be displayed on a single DVI monitor, providing a fast, flexible solution for broadcasting video from multiple computers to a single display. Applications include information broadcasting, video conferencing, TV classrooms, high quality multimedia presentations and demos. Supports DVI-D Single Link Video sources and is HDCP compliant. Enhances video signals for long distance broadcasting. (Mfr # CSW-DVI310 • B&H # COCSWDVI310)

- The CSW-VGA211 is a high performance switcher for computer graphics video signals, with resolutions ranging from VGA through UXGA and higher, and unbalanced stereo audio signals. When configured as a standby switcher, it will switch to the secondary input upon loss of the primary input. (Mfr # CSW-VGA211 • B&H # COCSWVGA211)

- The CSW-VGA212 combines the functions of a 2x1 switcher, and a 1x2 distribution amplifier for VGA-type signals. It accepts two inputs and provides a button to switch between the two sources. The selected input is properly buffered and isolated, then distributed to two identical outputs designed to drive monitors, projectors, or other receiving devices. Signal bandwidth of 365MHz ensures that the CSW-VGA212 remains transparent even when operating at the highest resolution VGA modes. (Mfr # CSW-VGA212 • B&H # COCSWVGA212)

- The CVG-41VGA is a high-performance mechanical 4x1 switcher for VGA/XGA signals. It is designed to route one of up to four inputs to one output using 15-pin HD female connectors. Bandwidth exceeding 750MHz ensures transparent performance even at the highest resolution UXGA modes (1600 x 1200). High quality switching components provide excellent isolation between inputs. The CVG-41VGA is extremely rugged and dependable. The passive hard-wire signal path offers very high bandwidth and can also switch other signal formats. It is housed in a desktop enclosure but can be rackmounted with optional rack mount adapter. (Mfr # CVG-41VGA • B&H # COVP41)

---

**Contact Information:**

- (212) 444-6601 • 1-800-947-9901 • Quick Dial 821
SWITCHERS

CVG-21RCA
2x1 High Resolution Audio/Video/Component Switcher

A versatile 2x1 high resolution mechanical switcher that can be used for many types of signals. It switches three identical channels simultaneously, so it may be used for composite video with 2 audio channels; for three independent composite video channels; for one composite and one Y/C channel; for component video (YUV or RGB), SDI, HDTV or for any other combination. The CVG-21RCA uses an ‘RF’ PCB design with three ultra high bandwidth channels, providing bandwidth exceeding 1000 MHz (1 GHz), and is therefore suitable for use with almost any common signal. It is housed in a desktop enclosure and can be used in reverse as well - functioning as a 1x2 switcher (toggling one source between two acceptors).

(Mfr # CVG-21RCA • B&H # COCVG21RCA) .................................................................................. 158.50

CVG-41AV
4x1 Composite Video & Audio Passive Switcher

The CVG-41AV is a mechanical (passive) 4x1 switcher for composite video and stereo audio signals. Audio is always switched together with the corresponding video signal and unselected video inputs are terminated via 75 ohm resistors. High quality switching components provide excellent isolation between inputs. Recommended for all non-critical switching applications.

(Mfr # CVG-41AV • B&H # COCVG41AV) ............................................................................................ CALL

CVG-FW4x4
4x4 Firewire Passive Switcher

Designed for today’s multimedia applications, the CVG-FW4x4 accepts up to four 6-pin firewire inputs and will output to any one of the four 6-pin outputs. It features mechanical break-before-make switching, and is compatible with devices up to 400 MB/s. The CVG-FW4x4 does not allow more than one input or one output to be used at a time and it cannot distribute to multiple outputs simultaneously. Comes in a rugged metal enclosure, and does not require any power source, therefore perfectly suitable for fieldwork.

(Mfr # CVG-FW4X4 • B&H # COCVGF4X4) .......................................................................................... CALL

CVG-81AV • CVG-81AS
8x1 Composite & 8x1 S-Video Passive Switchers w/Audio

The CVG-81AV and CVG-81AS are passive (contain no active electronics) 8x1 composite or S-video and stereo audio mechanical switchers. Housed in a professional 19” rackmountable enclosure, they are recommended for non-critical applications.

8x1 Composite Switcher (Mfr # CVG-81AV • B&H # COCVG81AV) .................................................. CALL
8x1 S-Video Switcher (Mfr # CVG-81AS • B&H # COCVG81AS) ...................................................... CALL

CVG-606XL • CVG-808XL
6x6 and 8x8 Vertical Interval Video & Audio Matrix Switchers

These broadcast quality, high-resolution 6x6 and 8x8 video and stereo audio matrix switchers have vertical interval switching provides glitch free switching between genlocked sources. They can switch stereo audio signals in audio-follow-video mode or separately (breakaway). They have manual, RS-232 and RS-485 controls, and may be simultaneously controlled in all modes. Several pre-sets may also be stored in the machine for quick retrieval. They also have a TAKE control button allowing you to preset and switch all crosspoints at once. There is an external sync/genlock input as well and may be programmed to use this input or source number one. CVG-Windows control software is provided.

6x6 Switcher (Mfr # CVG-606XL • B&H # COCVG606XL) ............................................................... CALL
8x8 Switcher (Mfr # CVG-808XL • B&H # COCVG808XL) .............................................................. CALL

CVG-81AV • CVG-81AS
8x1 Composite & 8x1 S-Video Passive Switchers w/Audio

The CVG-81AV and CVG-81AS are passive (contain no active electronics) 8x1 composite or S-video and stereo audio mechanical switchers. Housed in a professional 19” rackmountable enclosure, they are recommended for non-critical applications.

8x1 Composite Switcher (Mfr # CVG-81AV • B&H # COCVG81AV) .................................................. CALL
8x1 S-Video Switcher (Mfr # CVG-81AS • B&H # COCVG81AS) ...................................................... CALL

CSC-550
Composite, S-Video, Component Scaler with HDTV & XGA

A high performance digital scaler for composite, S-Video and component (480i) video signals. It will scale a video input signal to a selectable computer graphics video or HDTV output signal on an HD-15 connector. It has multiple computer graphic output resolutions of 640x480, 800x600, 1024x768 and 1280x1024. It also has HDTV output resolutions of 480p, 576p, 720p, and 1080i in component format on the HD-15 output connector. Compatible with NTSC and PAL and 4:3/16:9, has a built-in proc-amp for color, hue (NTSC only), sharpness, contrast, and brightness. Also has a 3D comb filter, and 3:2 pull down video processing with auto detection. Has digital noise reduction, with on-off selectability. Has computer graphics/HDTV (15-Pin HD) pass-thru, flexible on-screen menus). (Mfr # CSC-550 • B&H # COCSC550) .......................................................... 359.95
CVG-719XL
7-Input Presentation Switcher/Scaler with Audio With FTB Technology

The CVG-719XL is a 7-input true multi-standard video to RGBHV Digital Scaler/Switcher with FTB (Fade-thru-Black) technology for smooth switching. It converts component, composite, S-Video, VGA-through-UXGA, and DVI signals to a range of user-selectable VESA pixel rates, as well as several special resolutions. Some of the popular scaling resolutions which are supported are VGA-through-UXGA, 1024 x 852i, 1024 x 1024i, 1366 x 768, 1365 x 1024, and 1280 x 720.

The machine has two parallel outputs, on HD15 connectors, that can be used as graphics outputs. It has a built-in power amplifier at 5 watts RMS per channel, ample to fill a presentation room. Volume is controlled via front panel buttons. The CVG-719XL uses K-Storm Scaling technology, digitally reprocessing the signal to correct mastering errors, and regenerate the video at a higher line and pixel rate format, providing native-resolution video for LCD, DLP and Plasma displays. It up and down scales any graphics resolution to any other resolution (for example, a VGA input to an UXGA output, or an SXGA input to an SVGA output). The stereo audio channels switch in AFV mode. Control is via, a remote control, RS-232, and front panel buttons coupled with: a user-friendly on-screen display. Incorporates a full scale ProcAmp for video correction and enhancement, and offers 3:2/2:2 pull down. Housed in a 1U, rack-mountable enclosure, it uses a universal 100-240v AC automatic power supply. (Mfr # CVG-719XL • B&H # COCVG719XL) .................................................. CALL

CVG-720XL
7-Input Presentation Switcher/Scaler with Audio and PIP

Otherwise the same as the CVG-719XL, the CVG-720XL steps up with PIP function. Equipped with K-IIT (Image insertion technology) it gives a Picture-in-Picture function, allowing any video source to be inserted into a graphics background and vice versa, as well as allowing the user to size, and locate the inserted image anywhere on the screen. (Mfr # CVG-720XL • B&H # COCVG720XL) ................................................................................................................. CALL

CVG-724XL
8 Input Presentation Switcher with balanced audio, HDTV, and PIP

The CVG-724XL is a true multi-standard video to RGBHV scalers that convert composite, S-Video, component video (SDTV and HDTV), VGA-through-UXGA, and DVI-D signals to ten user-selectable pixel rates: VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), 1024 x 852, 1024 x 1024, 1366 x 768, 1365 x 1024 and 1280 x 720. The unit has three additional output modes: 480p, 720p and 1080i in component format with tri-level sync. The machine also acts as 8-input Seamless Presentation switcher. The unit digitally reprocess the signal to correct mastering errors, and regenerate the video at a higher line and pixel rate format, providing native-resolution video for LCD, DLP and Plasma displays.

The CVG-724XL allows scaling of any graphics resolution to any other resolution (scaling for example, a VGA input to an UXGA output, or an SXGA input to an SVGA output, etc). It includes a built-in Picture-in-Picture inserter, allowing the insertion of any video source into a graphics background and vice versa, as well as allowing the inserted image to be sized and positioned anywhere on the screen. In addition, the PIP can display a split-screen (2 images side by side). Audio channels are switched in audio-follow-video mode. Can be controlled via front panel touch keys, remote control and RS-232. It features a user-friendly on-screen display for making the adjustments. Also incorporates a full scale ProcAmp for video and audio correction and enhancement, and offers 3:2/2:2 pull down. It is housed in a 19” 1U, rack-mountable metal enclosure and uses a universal 100-240v AC automatic power supply. (Mfr # CVG-724XL • B&H # COCVG724XL) .................................................................................................................. CALL
**BRIGHTEye**

**Video, Audio and Optical Converters & Embedders**

The BrightEye line of compact video converters is a complete conversion solution. These self-contained converters interface to the full range of video formats: high definition and standard definition SDI, analog component, analog composite, and S-Video. Analog audio and AES digital audio converters and embedders round out the BrightEye family. Additionally, with fiber optic I/O choices, BrightEye can take you farther than any ordinary converter.

**FEATURES**

Whether you’re connecting a VCR to a non-linear editor, digitizing a wild camera feed on a remote truck, upconverting analog video to HD, or converting SDI to analog component to drive a video projector, BrightEye is there to help. With their multi-format inputs and outputs, BrightEye converters are the flexible answer to any conversion requirement. With their multi-format inputs and outputs, they are the flexible and cost-effective answer to any conversion requirement. BrightEye’s easy configuration interface and signal status indicators make it simple to install and troubleshoot a system. Their compact size lets you put conversion where it is needed: at a camera, projector, monitor, workstation or VCR. They support NTSC/PAL standard with automatic input sensing and switching.

BrightEye may offer the world’s smallest TBC/Frame Synchronizer, but the features, specifications, and performance are far from tiny. All analog I/O is performed at 12-bits of resolution. Composite decoding incorporates sophisticated comb filters, and all internal processing meets or exceeds ITU-R601 specifications. BrightEye converters provide superb video quality where fine detail and subtle shading are faithfully reproduced.

Going to HD is simple with BrightEye up and downconverters. Feeding HD-Tri-Level Sync to a non-linear editor is easy with one of the BrightEye master sync pulse generators and test signal generators. Reliable and easy to install, these units make the transition to HD simple.

**Fiber Optic Interfaces**

When distances take you beyond the reach of ordinary copper cable, look to BrightEye’s fiber optic interfaces. With both laser diode fiber drivers and photo diode receivers, they can handle both ends of a fiber optic link. Fully compliant with SMPTE 274M, 296M and 297M, BrightEye’s optical interfaces operate at a wavelength of 1310 nm. Integral SC type connectors make it easy to connect into fiber infrastructure. There are no internal fiber pig-tails, so all optical converters support both multi and single mode fiber. BrightEye’s fiber interconnect carries the same digital bitstream that makes up the electrical SDI interface. Data is carried by pulses of light rather than pulses of electricity. This rugged transmission system can carry serial digital signals with no loss or degradation for 30 miles or more on single mode fiber. With the use of a launch attenuator, multimode fiber is supported. Choose from converters that include analog video I/O or units that interface directly to HD or SD SDI signals. Ideal for outdoor events and remote broadcasts, fiber is also electrically non-conductive, so it provides complete electrical isolation between the two connection points. Fiber connectivity completely eliminates concern for AC ground loops and hum. Optical transmission over fiber is also immune to radio frequency interference (RFI) and electromagnetic interference. Even nearby lightning strikes will not compromise the signal.

**Bundled Mac and PC Software**

Adjusting video levels, output timing and mixing audio channels is easy with BrightEye control software. No dip switches or button hold downs are needed. Use of the supplied Bright Eye Mac or PC software provides control and adjustment of a single unit or multiple Bright Eye converters connected to a USB hub. BrightEye Mac and PC software is included free with each BrightEye unit.
### BrightEye 1 Analog/SDI to SDI/Optical Converter with TBC & Frame Sync

With component, composite and S-Video and SDI video inputs, the BrightEye 1 can take on any video source. Built-in TBC/Frame Synchronizer provides a rock steady output - even with marginal inputs. The reference input is used to genlock the converter output to house reference such as color black. Front panel controls select input source and format and adjust video gain. Video levels can be adjusted via the included BrightEye Mac or PC software. Simultaneous SDI (electrical) and optical outputs are provided, so you can deliver the signal just about anywhere. Both color bars and the SDI checkfield (Pathological) test patterns are included to facilitate transmission path testing. *(Mfr # BE1 • B&H # ENBE1) ........................................ 1999.00*

### BrightEye 5 Analog Composite TBC and Frame Sync

BrightEye 5 time base corrects signals from analog sources such as consumer VCRs, cameras and noisy microwave receivers. Composite input (with auto PAL/NTSC detection) is converted at 12-bits for digital processing. The signal is time base corrected and frame synchronized to the reference input and converted back to analog for output. Basic controls are provided on the front panel. With BrightEye Mac or PC software, you can control video pro functions: Gain, Chroma, Pedestal, and Hue. The vertical interval can be passed or blanked. *(Mfr # BE5 • B&H # ENBE5) ................................................. 879.95*

### BrightEye 2 Analog to SDI Converter

BrightEye 2 provides uncompromised analog-to-digital video conversion of composite and S-Video (with auto PAL/NTSC detection) and component video. Analog inputs are digitized at 12-bits with 4x oversampling. Composite video is processed through an adaptive comb filter decoder. Input selection and gain adjustment is made from the front panel. A status display provides an input presence indication. Video levels can be adjusted via the supplied BrightEye Mac or PC software. *(Mfr # BE2 • B&H # ENBE2) ........................................ 699.95*

### BrightEye 10 Optical/SDI to Analog/SDI Converter

Digital to analog video converter with both SDI (electrical) and fiber optic inputs. Outputs include Beta and SMPTE component, RGB, and composite (with simultaneous S-Video). Select between optical and SDI input, analog output format, and adjust gain via front panel controls. Video levels are adjusted via bundled software. The reclocked SDI output follows the input selector, providing optical to electrical conversion when the optical input is selected. BrightEye 10 combines fiber to SDI conversion and QC monitoring in one compact unit. *(Mfr # BE10 • B&H # ENBE10) .......................... 1264.95*

### BrightEye 3 Analog to SDI Converter with TBC and Frame Sync

An agile TBC/Frame Synchronizer with composite, component and S-Video inputs and SDI out. Inputs are digitized at 12-bits and time base corrected by a noise tolerant tracking circuit. An external reference input allows genlock to a timing reference such as color black. Input selection, gain control, and TBC enable is provided via the front panel interface with input and reference presence LEDs. Video levels can be adjusted via BrightEye Mac or PC software. *(Mfr # BE3 • B&H # ENBE3) ............................................ 1299.95*

### BrightEye 11 SDI to Analog Converter

Provides digital to analog video conversion with the full range of analog output formats available: Beta, SMPTE, RGB, and composite (with simultaneous S-Video). Use to feed monitors or video projectors. 12-bit processing and 8x oversampling means the best looking images possible. Output format and gain are controlled from the front panel. A status display indicates input presence. Video levels can be adjusted through BrightEye Mac or PC software. *(Mfr # BE11 • B&H # ENBE11) ........................................ 699.95*
**BrightEye**

**BrightEye 11-HD** HD/SD SDI to Analog Converter

BrightEye 11-D provides HD or SD digital to analog video conversion with the full range of analog output formats available for HD and SD. When an HD input is present HD RGB or YPPrPb are output. When an SD input is present Beta, SMPTE, RGB or composite with simultaneous Y/C is output. 12-bit processing at 8x oversampling mean the best looking images possible. Output format and gain are controlled from the front panel. Status display indicates input presence. Video levels can be adjusted via BrightEye Mac or PC software. *(Mfr # BE11-HD • B&H # ENBE11HD) .....1295.00*

**BrightEye 15**

SDI to Analog Converter with Frame Sync/Genlock

Digital to analog video converter with a timeable output, BrightEye 15 is perfect for feeding analog switchers and routers, where signal timing is required. BrightEye 15 has an SDI video input and a reference input. The input signal is converted to analog composite and synchronized (genlocked) to the reference signal. The analog composite output is fully timed with respect to the reference, including Sync phase. Basic controls are provided on the front panel. With BrightEye Mac or PC software, you can control video proc functions; Gain, Chroma, Pedestal, and Hue. The vertical interval can be passed or blanked. *(Mfr # BE15 • B&H # ENBE15) ..............................................................1299.95*

**BrightEye 16**

SDI to Analog Video Converter with Frame Sync/Genlock and Audio Disembedder

The same as the BrightEye 15, except the BrightEye 16 is also an audio disembedder with 24-bit precision and provides four analog audio outputs. With timing controls, proc adjustments, and a built-in audio mixer, it is a complete solution for digital to analog conversion. BrightEye Mac or PC software provide access to video proc functions and the audio mixer. The vertical interval can be passed or blanked. VU indication is provided on the front panel and through BrightEye Mac or PC. *(Mfr # BE16 • B&H # ENBE16) .....................................................1739.95*

**BrightEye 20**

Analog and Digital Audio Embedder or Disembedder

A versatile audio Mux/Demux. With SDI video and both analog and AES I/O, it is field configurable for embedding or disembedding. When configured as a multiplexer, BrightEye 20 has one SDI video input and two AES digital audio inputs. Alternately, the 4-channel analog audio input can be used. The audio is embedded into the 601 video stream. The output is a serial digital video stream that contains the original video plus the 2 AES streams or 4 analog audio channels. When configured as a demultiplexer, audio signals present in the incoming serial digital video signal are extracted and delivered simultaneously as two AES digital audio streams and as four analog audio channels. Audio mixing, level adjustments, channel shuffling can be applied to both the multiplexer and demultiplexer modes, and are accessed through BrightEye Mac or PC software. *(Mfr # BE20 • B&H # ENBE20) .....1499.95*

**BrightEye 21 • BrightEye 22**

AES to SDI Embedder and SDI to AES Disembedder

BrightEye 21 is an embedder, or multiplexer, with one serial digital video input and two AES digital audio inputs. The two AES audio streams are embedded into the 601 video stream. The output is a serial digital video stream that contains the original video plus the two AES pairs. Audio mixing, level adjustments, audio group selection, and channel shuffling are accessed through BrightEye Mac or PC software. BrightEye 22 is a disembedder, or demultiplexer, for use in desktop and broadcast applications. Audio signals present in the incoming serial digital video signal are extracted and delivered as two AES digital audio streams. Audio mixing, level adjustments, audio group selection, and channel shuffling are accessed through BrightEye Mac or PC software.

BrightEye 21 *(Mfr # BE21 • B&H # ENBE21) ........................................1218.95*

BrightEye 22 *(Mfr # BE22 • B&H # ENBE22) ........................................1218.95*
<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BrightEye 23</strong></td>
<td>Analog to SDI Embedder</td>
<td>$1218.95</td>
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<tr>
<td></td>
<td>BrightEye 23 is an embedder, or multiplexer with one SDI input and a 4-channel analog audio input. The four analog audio channels are digitized and embedded into the 601 video stream. The output is a serial digital video stream that contains the original video plus the four analog audio channels. Audio mixing, level adjustments, audio group selection, and channel shuffling are accessed through BrightEye Mac or PC software. (Mfr # BE23 - B&amp;H # ENBE23)</td>
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<tr>
<td><strong>BrightEye 24</strong></td>
<td>SDI to Analog Converter and Disembedder</td>
<td>$1218.95</td>
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<td></td>
<td>BrightEye 24 is both a disembedder (demultiplexer) and a digital to analog video converter. SDI input is converted to an analog composite output. Audio signals present in the incoming digital video signal are extracted and delivered as four channels of analog audio. Audio mixing, level adjustments, audio group selection, and channel shuffling are accessed through BrightEye Mac or PC software. (Mfr # BE24 - B&amp;H # ENBE24)</td>
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<tr>
<td><strong>BrightEye 25</strong></td>
<td>Analog Video / Audio to SDI Converter with TBC and Embedder</td>
<td>$1999.95</td>
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<td></td>
<td>BrightEye 25 is the same as the BrightEye 25, except it exchanges an optical output instead of the second SDI output. (Mfr # BE25 - B&amp;H # ENBE25)</td>
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<tr>
<td><strong>BrightEye 26</strong></td>
<td>Analog Video/Audio to SDI/Optical Converter with TBC &amp; Embedder</td>
<td>$1999.95</td>
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<td></td>
<td>BrightEye 26 is the same as the BrightEye 25, except it exchanges an optical output instead of the second SDI output. (Mfr # BE26 - B&amp;H # ENBE26)</td>
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<td><strong>BrightEye 30 • BrightEye 30-D</strong></td>
<td>Audio A/D and D/A Bi-Directional Converter</td>
<td>$984.50</td>
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<td>The flexible BrightEye 30 is perfect for desktop, post and broadcast applications. As a bi-directional converter, 2 channels of analog audio are converted to AES digital audio and at the same time an AFS stream is converted to two channels of analog. Or it can be configured as a 4-channel AES to analog or a 4-channel analog to AES converter. BrightEye 30 also serves as a sample rate converter. For example, a digital 44.1 KHz signal from a CD player can be fed to the input and a digital AES3id, 48 KHz signal synchronous to the reference input will be output. Audio mixing, level adjustments, and channel shuffling are accessed through BrightEye Mac or PC software. A reference input is provided which allows digital outputs to be synchronized to either a PAL or NTSC video signal or AES reference. Otherwise the same, the BrightEye 30-D features audio delay adjustments to simplify signal integration. (Mfr # BE30 - B&amp;H # ENBE30)</td>
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<td>BrightEye 30-D (Mfr # BE30-D - B&amp;H # ENBE30D)</td>
<td>$1452.95</td>
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<tr>
<td><strong>BrightEye 40</strong></td>
<td>SDI Reclocking Distribution Amp</td>
<td>$279.95</td>
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<td></td>
<td>A reclocking SDI DA with four outputs. The SDI input will automatically equalize up to 1000' of digital cable. Following equalization, the SDI input is reclocked before being delivered to four simultaneous SDI outputs. When using an A/D converter and multiple outputs are needed, BrightEye 40 can be used to distribute and provide additional output signals. Works well with the BrightEye 3 and 25 converters. Can also be used in conjunction with the BrightEye 54 sync pulse generator and test signal generator for distributing digital test signals. (Mfr # BE40 - B&amp;H # ENBE40)</td>
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<tr>
<td></td>
<td>BrightEye 40 (Mfr # BE40 - B&amp;H # ENBE40)</td>
<td>$279.95</td>
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</tbody>
</table>
BrightEye

**BrightEye 41**
Video/AES/Tri-Level Sync Distribution Amplifier

Accepts analog video, AES digital audio, or HD Tri-Level Sync signal. It provides unity gain fan out over a frequency range of DC to 10Mhz, and handles composite and component analog video, coaxial AES digital audio, or High Definition Tri-Level Sync signal. When using a D/A converter and more outputs are needed, BrightEye 41 works well with the BrightEye 10 and 16 video converters to distribute and provide additional output signals. Use in conjunction with the BrightEye 54 for distributing Tri-Level Sync, AES and composite signals.

(Mfr # BE41 • B&H # ENBE41) .................................................................184.95

**BrightEye 45**
HD/SD/ASI Electrical to Optical Converter

BrightEye 45 is an electrical to optical converter and distribution amplifier that can be used with high definition, standard definition or ASI signals. The video input is reclocked and presented on four BNCs and is also converted to an optical signal and presented on an optical SC connector. This optical output can drive single mode fiber to a distance of 15 miles. With an optical launch power attenuator, multi-mode fiber can also be used for longer cable runs. (Mfr # BE45 • B&H # ENBE45) .................................................................1077.95

BrightEye 42
HD/SD/ASI Distribution Amplifier

BrightEye 42 is a reclocking DA that can be used with standard and high definition or ASI signals. When used with SD or ASI input signals, the serial input automatically equalizes up to 1000’ of digital cable. When used with an HD input signal, the serial input automatically equalizes up to 330’ of digital cable. The equalized signal is reclocked and delivered to 4 simultaneous outputs. The reclocker is ASI compliant and all four outputs have the correct ASI polarity. (Mfr # BE42 • B&H # ENBE42) .................................................................609.50

**BrightEye 47**
HD/SD/ASI Optical to Electrical Converter

BrightEye 47 is an optical to electrical converter that supports HD, SD, and ASI data rates. The optical input is converted to electrical form and the resulting serial digital signal is reclocked and delivered to BNC outputs. Providing four electrical outputs, the BrightEye 47 also serves as a DA. An input status indicator shows whether a proper optical signal is detected at the converter input. Combine with a BrightEye 45 for a complete transmission chain. (Mfr # BE47 • B&H # ENBE47) .................................................................1077.95

**BrightEye 54 • BrightEye 55** Sync Generator and Test Signal Generators

BrightEye 54 is a master sync and test signal generator that is perfect as a master reference generator for remote trucks, desktop and fly packs. It is a stable timing source, operating from an internal precision standard that meets full broadcast specifications. Otherwise the same, BrightEye 55 adds genlock capability, allowing it to be used as either a slave or master reference generator. It can lock to house reference or it can lock to its own internal precision standard. Color Black, Bars, Crosshatch, Multiburst, and SDI Checkfield (Pathological) are just some of the signals simultaneously available on their SDI and analog composite outputs. An ID slate with user programmable text can overlay the test pattern. The cyclops feature adds a motion element to the video test signal, handy for live applications.

The HD Tri-Level Sync output provides reference to high definition equipment, such as VCRs, disc recorders and workstations. There are a wide variety of user selectable formats including: 720p, 1080i, 1080sF, and 1080p. Format selections and other controls are accessed through BrightEye Mac or PC software. AES3id digital audio, analog audio and embedded audio reference outputs are provided.

BrightEye 54 (Mfr # BE54 • B&H # ENBE54) ....................................................2299.95
BrightEye 55 (Mfr # BE55 • B&H # ENBE55) ....................................................2669.95

www.bhphotovideo.com
BrightEye 70  
**HD/SD AES Embedder/Disembedder**

The BrightEye 70 is a dual rate 8-channel audio embedder or disembedder for 1.5Gb/s HD or for 270Mb/s SD video signals. Four AES ports automatically configure as inputs or outputs depending if the module is configured as mux or demux. When configured as a multiplexer, the BrightEye 70 has one SDI input and four AES audio inputs. These four AES streams are embedded into the video stream. AES inputs are sample rate converted, allowing the use of asynchronous audio. The output of the module is a digital stream that contains the original video signal and four AES pairs. When configured as a demultiplexer, audio signals present in the incoming video signal are extracted and delivered as standard AES digital audio streams. The BrightEye 70 includes an 8-channel audio mixer with channel swap and shuffle capability that lets you completely rearrange and remix audio channels. It provides precise control over audio level, with up to 12dB of gain to compensate for low level sources. All audio processing is performed at full 24-bit resolution by a digital signal processor (DSP). Delay is adjustable up to one second. Data mode operation allows embedding or disembedding of Dolby E or AC3 signals.

**BrightEye 70** (Mfr # BE70 • B&H # ENBE70) ...................................................... 1687.50

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BrightEye 74  
**Optical Disembedder with HD/SD Electrical Out**

The BrightEye 74 is an eight channel audio disembedder for 1.5Gb/s high definition video signals or for 270Mb/s standard definition signals. It accepts either an HD or SD optical signal. The digital video output is present on a BNC and is either HD or SD SDI, following the input standard. Audio signals present in the incoming video signal are extracted and delivered as standard AES digital audio streams. The BrightEye 74 includes an eight channel audio mixer with channel swap and shuffle capability that allows you to completely re-arrange and re-mix audio channels. It provides precise control over audio level, with up to 12dB of gain to compensate for low level sources. All audio processing is performed at full 24-bit resolution by a digital signal processor (DSP). Delay is adjustable up to one second. The data mode allows disembedding of Dolby E or AC3 signals.

**BrightEye 74** (Mfr # BE74 • B&H # ENBE74) ...................................................... 2296.95

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BrightEye 71  
**HD/SD 8 Channel Analog Audio**

The BrightEye 71 is a dual rate 8-channel analog audio embedder or disembedder for 1.5Gb/s HD or for 270Mb/s SD signals. The analog audio ports automatically configure as inputs or outputs depending if the module is configured as mux or demux. When configured as a multiplexer, BrightEye 71 has one SDI video input and eight analog audio inputs. The audio streams are embedded into the video stream. The output of the module is a digital stream that contains the original video signal and four analog audio pairs. When configured as a demultiplexer, audio signals present in the incoming video signal are extracted and delivered as analog audio. BrightEye 71 includes an eight-channel audio mixer with channel swap and shuffle capability that lets you completely re-arrange and re-mix audio channels. It provides precise control over audio level, with up to 12 dB of gain to compensate for low level sources. All audio processing is performed at full 24-bit resolution by a digital signal processor (DSP). Delay is adjustable up to one second.

**BrightEye 71** (Mfr # BE71 • B&H # ENBE71) ...................................................... 1687.50

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BrightEye 73  
**HD/SD AES Embedder with Optical Out**

The BrightEye 73 is a dual rate eight channel audio embedder for 1.5Gb/s high definition video signals or for 270Mb/s standard definition signals. There is one SDI video input and four AES audio inputs. These four AES streams are embedded into the video stream. AES inputs are sample rate converted, allowing the use of asynchronous audio. The output of the module is an optical signal that contains the original video signal and four AES pairs. The BrightEye 73 includes an eight channel audio mixer with channel swap and shuffle capability that allows you to completely rearrange and mix audio channels. It provides precise control over audio level, with up to 12 dB of gain to compensate for low level sources. All audio processing is performed at full 24-bit resolution by a digital signal processor (DSP). Delay is adjustable up to one second. The data mode operation allows Dolby E or AC3 inputs.

**BrightEye 73** (Mfr # BE73 • B&H # ENBE73) ...................................................... 2296.95
**BrightEye 75 HD/SD A/D Video Converter and Analog Audio Embedder**

An analog video to digital converter and audio embedder. Standard definition component or composite, or high definition analog component video is accepted on the input BNCs. Two channels of analog audio are input on a plugable Phoenix connector. Perfect for use with HD cameras or other devices with analog I/O. The digital output will carry the full, un-compressed input, synchronous to a genlock reference. You can turn a hand-held HD camera into a digital source. A three camera, live studio suddenly becomes affordable. The built-in TBC / Frame Synchronizer allows you to feed asynchronous or noisy signals to the BrightEye 75. The input is digitized to 12-bits of resolution and time base corrected by a noise tolerant tracking circuit. An external reference input allows genlock to a house reference. Input selection, gain control, and TBC enable is provided through the front panel interface. Video levels can be adjusted through BrightEye Mac or PC software. The video and audio signals are embedded and presented on a BNC. The output follows the SD or HD input standard.

*BrightEye 75 (Mfr # BE75 • B&H # ENBE75) ............................... 1699.95*

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**BrightEye 90 HD Up/Down Cross Converter and ARC with AES Audio**

Automatically converts analog composite, standard or high definition SDI inputs to your facility’s preferred HD or SD standard. It will upconvert, downconvert, cross convert, or act as an ARC, as needed. Built-in Frame Synchronizer allows you to feed asynchronous signals to the BrightEye 90. External reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed.

**Upconvert to High Definition**: Feed the analog composite or standard definition SDI output of a camera to a BrightEye 90 and upconvert to HD. You can then take the HD signal into a switcher or projection system. Video output and upconverting before distribution is preferable to IEEE1394 output, since longer cable runs can be achieved and quality is superior. Additionally, the BrightEye 90’s reference input allows you to time the upconverted video output for use with a production switcher.

**Downconverting to Standard Definition**: BrightEye 90 will downconvert any type of HD signal and provides both an SD SDI and an analog composite output suitable for broadcast or monitoring.

**Cross Conversion**: It’s easy to convert between various HD standards, whether 720p or 1080i. Simply select the output standard you need and connect the input, that’s all there is to it.

**Aspect Ratio Conversion**: For converting between SD 4:3 and HD 16:9, just select the output standard you need and connect the input.

**Audio Processing**: BrightEye 90 handles both embedded audio and discreet AES digital audio streams. It supports 16-channels of embedded audio. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and lip sync will be preserved. Audio mixing is available for two of the four embedded groups of audio. The AES I/O ports can be configured for 8-channels of audio input or output. The audio mixer can be used for AES channels as well. Mixer controls are accessed through BrightEye Mac or PC software.

**Monitoring for Video and Audio**: Plug in a headset and select the audio channels you want to monitor from the front panel. In addition, an HDMI output on the rear of the unit, allows you to plug into most LCD monitors for confidence monitoring of your feed.

**Front Panel and Software Control**: Input selection, gain control, and少许 pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. Controls for crop, letterbox and pillarbox are accessed from the front panel or BrightEye Mac or PC software. Video and audio levels and the audio mixer can be accessed through BrightEye Mac or PC software.

*BrightEye 90 (Mfr # BE90 • B&H # ENBE90) ............................... 4649.95*
BrightEye 90-A HD Up/Down Cross Converter and ARC with Analog Audio

Otherwise identical to the BrightEye 90, the BrightEye 90-A handles both embedded audio and eight channels of analog audio. Sixteen channels of embedded audio are supported in BrightEye 90-A. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and lipsync will be preserved. Audio mixing is available for two of the four embedded groups of audio. The analog audio I/O ports can be configured for 8-channels of audio input or output. (Mfr # BE90-A - B&H # ENBE90A) ..............................4649.95

BrightEye 90-F HD Up/Down Cross Converter and ARC with AES Audio & Optical Output

The BrightEye 90-F Cross Converter is identical to the BrightEye 90, but adds an optical output. Optical connectivity allows for long cable runs between buildings or in mobile applications. (Mfr # BE90-F - B&H # ENBE90F) ..............................5099.95

BrightEye 90-FA HD Up/Down Cross Converter and ARC with Analog Audio & Optical Output

Otherwise identical to the BrightEye 90-A, the BrightEye 90-FA adds an optical output. Optical connectivity allows for long cable runs between buildings or in mobile applications. (Mfr # BE90-FA - B&H # ENBE90FA) ..............................5099.95

BrightEye 91 HD Upconverter with AES Audio

The BrightEye 91 is an upconverter with analog composite and standard definition SDI inputs. Feed the analog composite or SDI output of a camera to a BrightEye 91 and upconvert to HD. Then take the HD signal into a switcher or projection system. Upconverting existing SD equipment lets you leverage the equipment you already have and operate in the HD domain. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed.

While some cameras may have IEEE1394 (DV) output, using the video output and upconverting before distribution is preferable since longer cable runs can be achieved and quality is superior. Additionally, the BrightEye 91’s reference input allows you to time the upconverted video output for use with a production switcher.

BrightEye 91 handles both embedded audio and discreet AES digital audio inputs. It supports 16-channels of embedded audio. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and lipsync will be preserved. Audio mixing is available for two of the four embedded groups of audio.

Plug in a headset and select the audio channels you want to monitor from the front panel. In addition, an HDMI output on the rear of the unit, allows you to plug into most LCD monitors for confidence monitoring of your feed.

Input selection, gain control, and test pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. Controls for crop, letterbox and pillarbox are accessed from the front panel or BrightEye Mac or PC software. Video and audio levels and the audio mixer can be adjusted through BrightEye Mac or PC software. (Mfr # BE91 - B&H # ENBE91) ..............................3279.95

BrightEye 91-A HD Upconverter with Analog Audio

Same as the BrightEye 91, except the BrightEye 91-A handles both embedded audio and eight analog audio inputs. Supports 16 channels of embedded audio. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and lipsync will be preserved. Audio mixing is available for two of the four embedded groups of audio. (Mfr # BE91-A - B&H # ENBE91A) ..............................3279.95
**BrightEye**

**BrightEye 92-A**
HD Downconverter with Analog Audio

BrightEye 92-A will downconvert any type of HD signal and output both a standard definition SDI and an analog composite signal suitable for broadcast or monitoring. The built-in Frame Synchronizer allows you to feed asynchronous signals to the BrightEye 92-A. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed. Handles both embedded audio (16 channels) and analog audio. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and Lipsync will be preserved. Audio mixing is available for two of the four embedded groups of audio. Video and audio levels and the audio mixer can be adjusted through BrightEye Mac or PC software. *(Mfr # BE92-A • B&H # ENBE92A)....................................................2744.95*

The BrightEye 92-A and 92-M both feature a convenient mini jack for audio monitoring. Plug in a headset and select the audio channels you want to monitor from the front panel. In addition, they both feature an HDMI output allowing connection to most LCD monitors for confidence monitoring of the feed.

**BrightEye 92-M**
HD Downconverter

BrightEye 92-M will downconvert any HD signal and provides standard definition SDI output and analog composite output suitable for broadcast or monitoring. Built-in Frame Synchronizer allows you to feed asynchronous signals to the BrightEye 92-M. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed. 16 channels of embedded audio are supported. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and Lipsync will be preserved. Input selection, gain control, and test pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. Controls for crop, letterbox and pillarbox are accessed from the front panel or BrightEye Mac or PC software. *(Mfr # BE92-M • B&H # ENBE92M)....................................................2062.50*

**BrightEye 93**
HD Cross Converter

BrightEye 93 converts between various HD standards, whether 720p or 1080i. Simply select the output standard you need and connect the input, that’s all there is to it. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed. Sixteen channels of embedded audio are supported. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and Lipsync will be preserved. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed. Input selection, gain control, and test pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. *(Mfr # BE93 • B&H # ENBE93)....................................................2489.95*

**BrightEye 94**
SD Aspect Ratio Converter

BrightEye 94 is a standard definition aspect ratio converter. You can easily convert signals from 4:3 to SD 16:9, and vice versa. All vertical interval data and closed captioning is faithfully passed. 16 channels of embedded audio are supported. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and Lipsync will be preserved. An external reference input allows genlock to a house reference. Input selection, gain control, and test pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. Controls for crop, letterbox and pillarbox are accessed from the front panel or BrightEye Mac or PC software. *(Mfr # BE94 • B&H # ENBE94)....................................................2156.50*
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DVI SWITCHERS

EXT-DVI-241 2x1 DVI Video + USB + Audio Switcher
A versatile switcher that allows you to switch between any combination of two DVI or USB equipped computers using just one display and USB keyboard and mouse. Save time, space, and resources. Simply plug your peripherals directly into the back of the switch, connect the cables to the computers you want to control, push to select the computer you want to work on, and you’re switching. When you select either of the two computers connected to the switcher, it provides your display with the signals for audio, video, and controls on that specific machine. The DVI switch allows you to choose between Mac or PC keyboard/video/mouse combination. Switching between computers is done from a key switch or remotely using contact closure remote control. (Mfr # EXT-DVI-241 • B&H # GE2X1HDDS) ................................................................. 439.95

EXT-HDTV-241N 2x1 HDTV Switcher
Enables effortless HDTV source switching using a single high definition display. Simple and reliable, it links any two HDTV sources (DVD players and satellite set tops) to one HDTV display, eliminating the need to disconnect and reconnect multiple HDTV sources. When all three devices (the display plus the two sources) are connected to the switcher and powered on, you simply select which source you want to view on the display using the Switcher, the supplied IR remote, or any universal remote that can be programmed to work with the switcher. (Mfr # EXT-HDTV-241N • B&H # GE2X1HDDS) ................................................................. 225.95

EXT-MINIDVI-241N 2x1 DVI Switcher
A simple, economical solution, this switcher links any two DVI sources to one DVI display, eliminating the need to disconnect and reconnect multiple DVI sources. When all three devices (the display plus the two sources) are connected to the switcher and powered on, you simply select which source you want to view on the display using the switcher, supplied IR remote, or any universal remote that can be programmed to work with the switcher. (Mfr # EXT-MINIDVI-241N • B&H # GE2X1HDDS) ................................................................. 248.95

EXT-DIGAUD-241 2x1 Digital Audio Switcher with IR Remote Control
This simple-to-use switcher allows you to connect two digital audio sources to a digital audio receiver or amplifier with one input, making it ideal for home theater systems with multiple audio sources. Supports two formats, S/PDIF and optical. Both digital audio sources remain live all the time and you can switch between the two at will. Access is controlled with the units IR remote control or the manual selection button on the front panel. (Mfr # EXT-DIGAUD-241 • B&H # GE2X1DASIR) ........................................................................................................ 178.50

EXT-DVI-422N 2x2 DVI Video + USB + Audio Switcher
With 4 DVI inputs and 2 DVI outputs, the EXT-DVI-422 enables easy and reliable switching between two cross-platform digital video computers using dual DVI displays controlled by a USB keyboard/mouse combination. High-resolution digital video, keyboard/mouse controls and audio are “switched” for each computer instantly, providing an effortless way to access two computers from the same workstation without complex networking. Switching between computers is done from a key switch or remotely using contact closure remote control.

Note: The term dual displays usually describes two monitors that run an extended desktop setup, so that the same image extends over two displays. This Switcher will not mirror the same desktop but provides support for dual displays. (Mfr # EXT-DVI-422N • B&H # GE2X2DS) ................................................................. 469.95

EXT-DVI-441 4x1 DVI Switcher
Provides great flexibility in integrating cross platform computer equipment without networking. Lets you to switch easily and reliably between any combination of four DVI computers using one DVI display. The switcher also supports USB 2.0 for USB keyboard/mouse and other high speed peripherals. Audio is switched for each computer as well, allowing for the creation of multimedia desktop environments. You can even choose between a Mac or PC keyboard/video/mouse combination. Switching can be controlled through either the included IR remote, front panel push buttons, or the optional contact closure port. (Mfr # EXT-DVI-441 • B&H # GE4X1DS) ................................................................................................. 589.95

EXT-DVIKVM-441 4x1 DVI KVM Switcher
This switcher offers unparalleled flexibility in the setup of HD and electronics systems. Connects four DVI source devices and links them to one DVI display. Switching between computers is done remotely using the RMT-4IR, IR remote control or the RMT-4 wired remote. Maintains highest resolution single link video to the operational display. Supports a variety of VESA standard and HDTV resolutions. (Mfr # EXT-DVIKVM-441 • B&H # GE4X1DKS) ................................................................................................. 339.95

www.bhphotovideo.com
EXT-HDTV-444N 4x4 HDTV Matrix Switcher

The 4x4 Matrix switcher has four DVI inputs and four DVI outputs. Matrix input #1 and the graphics port of Computer #1 connects using a male to male DVI cable. Computer #2 connects to DVI input #2. Computer #3 connects to DVI input #3. Computer #4 connects to DVI input #4. There are 4 DVI outputs connecting to four different displays. The USB plugs into USB input 1-4 and typically follows the DVI switched input. The switching is done by using either the RMT-4 remote control or the RMT-4-IR remote control. The 4x4 Matrix is rack mountable.

EXT-USB-2X1 2x1 VGA & USB & Audio Switcher

Switch easily and reliably between any combination of two computers using only one monitor, USB keyboard and mouse. The EXT-USB-2X1 USB Switcher saves time, space, and money by switching computers at will instead of managing double your infrastructure with two full computer setups in your workspace. And, it switches the audio too. Accommodates either PC or Macintosh, and supports resolutions up to 1080p, 2K, and 1920 x 1200. It can be controlled directly through its front panel or with an optional remote control (not included). This unit is also rack-mountable (1RU high).

EXT-VGA-4X1 4x1 VGA Video & USB & Audio Switcher

The EXT-VGA-4x1 switches between four computers (PC or Mac) using one monitor, keyboard & mouse. It allows you to connect and access up to four cross-platform computers from the same workstation easily and reliably. No need for networking—everything is connected and routed through the small metallic Switcher. It switches analog video (VGA), USB keyboard/mouse controls and audio capability for each computer. Switching between computers is done from a key switch or remotely using contact closure remote control. Accommodates either PC or Macintosh computers and supports resolutions up to 1080p, 2K, and 1920 x 1200. Includes rack ears and is rack mountable (1RU high).

EXT-VGA-422 2x2 VGA Video & USB & Audio Switcher

The EXT-VGA-422 VGA switcher that enables you to connect and access two computers using one workstation equipped with dual VGA monitors and one USB keyboard/mouse. Analog video, keyboard/mouse control and audio are switched for each computer, providing you with an easy and effective way to alternate access to greater amounts of data at the touch of a button. You simply connect both computer’s VGA video, USB and audio ports to the switcher’s inputs using the supplied cables. Then you connect both VGA displays, the USB keyboard/mouse and an optional audio device to the switcher’s outputs. Once powered and connected, you switch between computers by key switch or remotely using contact closure remote. Accommodates either PC or Macintosh computers and supports resolutions up to 1080p, 2K, and 1920 x 1200. Includes rack ears and is rack mountable (1RU high).
EXT-HDMI-241N
2x1 HDMI Switcher with Discrete IR Remote Control

Switch between two HDMI sources using a single high-definition display. Can be controlled manually via intuitive front-panel control or with supplied remote control. It is also fully HDCP compliant, meaning that the video signal is encoded to prevent it from being pirated. Any device used with this unit must be HDCP compliant to work correctly. It maintains high-resolution HDTV video resolutions up to 1080p and computer resolutions up to 1920 x 1200. (Mfr # EXT-HDMI-241N • B&H # GEEXTHDMI241) ........................................... 224.95

EXT-HDMI-442
4x2 HDMI HDTV Switcher with Digital Audio

Very similar to the EXT-HDMI-242, the EXT-HDMI-442 steps up with the ability to route HD video in multiple resolutions up to 1080p plus multi-channel digital audio from any of four sources to two HD displays. A digital audio output port is available if you need to direct the audio to an audio receiver. Switching is done via the IR remote that is provided with the unit. Available in light gray (Mfr # EXT-HDMI-442 • B&H # GE4X2HDMS) or black (Mfr # EXT-HDMI-442-BLK • B&H # GE4X2HDMSB) ....................................... 499.50/539.95

EXT-HDMIL3-341 / 441 / 841
3x1, 4x1 and 8x1 HDMI 1.3 Switchers with Discrete IR Remote Control

Route high definition video in multiple resolutions up to 1080p plus multi-channel digital audio from any of three, four or eight sources. Three, four or eight inputs accommodate the simultaneous connection of up to three, four or eight HD video sources. The output sends the high definition audio/video signals to a high definition display. Switching is done via their supplied IR remotes. Fully HDCP compliant.

EXT-HDMI-341: Available in light gray (Mfr # EXT-HDMI-341 • B&H # GE3X1HDMI) or black (Mfr # EXT-HDMI-341-BLK • B&H # GE3X1HDMS) .................. 289.95
EXT-HDMI-441: Available in light gray (Mfr # EXT-HDMI-441 • B&H # GE4X1HDMI) or black (Mfr # EXT-HDMI-441-BLK • B&H # GE4X1HDMS) ............... 389.95
EXT-HDMI-841: Light gray (Mfr # EXT-HDMI-841 • B&H # GE8X1HDMI) .................. 819.95

EXT-HDMI-242
2x2 HDMI HDTV Switcher with Audio

Route HD video in multiple resolutions up to 1080p plus multi-channel digital audio from any one of two sources to two HD displays. With two HDMI inputs and two outputs, it lets you send HD audio and video signals to a display and an audio receiver independently, or to two displays at the same time. Extends the range of HDMI compliant devices by equalizing and reclocking the HDMI signal. Resolutions up to 1080p, 2k, and 1920 x 1200 are supported. The switcher can be controlled by the supplied remote control or RS-232 remote port. Available in light gray (Mfr # EXT-HDMI-242-BLK • B&H # GE2X2HDMS) or black (Mfr # EXT-HDMI-242-BLK • B&H # GE2X2HDMSB) .................. 317.50

EXT-HDMI-444
4x4 HDMI Matrix Switcher

The EXT-HDMI-444 features four inputs and four outputs. It handle both video and audio signals. Use it to connect signal source devices such as DVD players, satellite set-top boxes, etc. up to four displays. Eliminate the need to repeatedly connect and disconnect your equipment with this practical and versatile switcher.

HDMI compliant, it supports HDTV resolutions up to 1080p & 2k and computer resolutions up to 1920 x 1200. Changing the routing configuration between sources and displays is a simple task that can be managed with the included IR remote control or via the unit’s serial RS-232 connection. Rack ears are also included, making the switcher equally well suited in desktop or rackmount installations.

The switcher is also HDCP-compliant, meaning that it includes a mechanism to ensure that video embedded with high-bandwidth digital content protection will be decoded and properly displayed. Devices without this feature often display HDCP content as “snow” or will reduce the resolution of the output. (Mfr # EXT-HDMI-444 • B&H # GE4X4MHDSM) ........................................... 1958.95

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Distribution Amplifiers

EXT-HDMI-122 1x2 HDMI Splitter

Distribution hub that sends the same video output to two HD digital displays. Features 1 HDMI input and 2 HDMI outputs. Allows simultaneous display. Maintains high resolution video - beautiful, sharp HDTV resolutions up to 1080p, 2k, and computer resolutions up to 1920 x 1200 are easily achieved.

EXT-HDMI-143/144/148
1x3, 1x4, 1x8 HDMI Splitters

These HDMI splitters are distribution hubs that send the same video output to three, four or eight HDTV digital displays. They are a flexible solution that accommodates multiple displays. When two or more HDMI splitters are connected together, they can be used to create a larger distribution. The HDMI splitter is connected using a HDMI cable from the HDMI source to the HDMI splitter input. HDMI output 1 is the primary connection and is used for the main display.

1x3 HDMI Splitter: (Mfr # EXT-HDMI-143 • B&H # GE1X3HDSDA) ..................317.50
1x4 HDMI Splitter: Available in light gray (Mfr # EXT-HDMI-144 • B&H # GE1X4HDSDA) or black (Mfr # EXT-HDMI-144-BLK • B&H # GE1X4HDSDAB) 457.50/488.95
1x8 HDMI Splitter: In light gray (Mfr # EXT-HDMI-148 • B&H # GE1X8HDSDA) or black (Mfr # EXT-HDMI-148-BLK • B&H # GE1X8HDSDAB) .................819.95/879.95

EXT-HDMI-1.3-1410
1x10 HDMI Distribution Amplifier

The 1x10 HDMI DA is the perfect solution for anyone who needs to send one source of digital HD video to multiple displays at the same time. It supports all HDMI equipment. Ten HDMI outputs are available to be used in part or in full. Once the unit is connected and powered, your source is routed to up to ten digital displays at the same time. Available in light gray (Mfr # EXT-HDMI-248 • B&H # GE2X8HDMDA) or black (Mfr # EXT-HDMI-248-BLK • B&H # GE2X8HDMDAB) ..................1272.95

HDMI to HD-SDI and HD-SDI to HDMI Scaler Boxes

Convert HDMI signals to HD/SDI signals or HD/SDI to HDMI in either single- or dual-link mode.

They support resolutions of up to 1080p for true HD viewing. Support for embedded audio is also included. 10-bit resolution offers greater precision and dynamic range, as does proprietary 10-bit motion adaptive video deinterlacing with edge interpolation for HD/SD formats. Frame rate conversion is available to and from any refresh rate. A pattern mode with color bars and cross-hatch patterns is also available. Moreover, they include a fully integrated sprite-based multi-plane OSD controller. Performance is bolstered by its onboard Gennum VXP scaling engine. It offers such features as genlock, color & gamma correction, noise reduction, detail enhancement, aspect-ratio selection, custom-timing mode, pattern generator mode, and multi-language support menu. RS-232 connectivity allows the use of a remote control.

HDMI to HD-SDI: (Mfr # EXT-HDMI-2-HDSDIS • B&H # GEHHSSCS) ...............1374.95
HD-SDI to HDMI: (Mfr # EXT-HDSDI-2-HDMIS • B&H # GEHHSICS) ................1179.95

HDMI Line Extender Kits

Extend high definition HDMI compliant devices up to 1000’. These kits consist of a sender and receiver unit, and all the necessary LC-LC fiber optic and CAT-5 cables to achieve the designated extension.

60’ Extender Kit (Mfr # EXT-HDMI-1000HD60B • B&H # GEHDM660F) ...............684.95
100’ Ext. Kit (Mfr # EXT-HDMI-1000HD100B • B&H # GEHDM100F) ...............763.50
150’ Ext. Kit (Mfr # EXT-HDMI-1000HD4150B • B&H # GEHDM150F) .........879.95
300’ Ext. Kit (Mfr # EXT-HDMI-1000HD300B • B&H # GEHDM300F) ..........978.95

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ADVC700
Broadcast-Quality Bi-Directional Analog/Digital Video Converter

Engineered to meet the high standards of professional broadcast and post production environments, ADVC700 provides unmatched quality and reliability in bidirectional analog/DV conversion, supporting both Windows and Mac OS. An excellent component input/output solution for any DV interface, the ADVC700 boasts a 19” rack-mountable design with component, composite, S-Video, and balanced and unbalanced audio I/O, RS-422A control, as well as support for LTC timecode and external synchronization. At the heart of ADVC700 is the acclaimed Canopus DV codec chip, providing unparalleled picture quality preservation during analog-to-DV conversion, plus locked audio support for perfect audio and video synchronization. It also features patented PerfectSync technology (see box) to ensure impeccable conversion of every frame. The ADVC700 is easily and quickly configurable using the LCD front panel display and jog dial.

PerfectSync Technology
The ADVC700, ADVC1000 and ADVC3000 all include patented PerfectSync technology to ensure perfect output synchronization. PerfectSync controls and synchronizes the transfer rate of IEEE 1394 communication with an external reference signal. This prevents skipped and duplicate frames and produces perfect conversion of all frames during analog/DV conversion. Many of the current analog/DV converters adjust the output by skipping and duplicating frames in order to synchronize the DV signal to an external sync signal’s frame frequency. In these converters, there is no guarantee that all input frames will output to DV accurately without frame repetition and frame drops. Since the DVC700/1000/3000 are primarily designed for studio environments, frame accuracy is essential for accurate offline and online editing. With PerfectSync, this is assured.

ADVC1000
Broadcast-Quality Bi-Directional SDI/DV Converter

The ADVC1000 is a professional, high quality bi-directional SDI/DV video converter designed for broadcast studio equipment. Featuring front-side controls and LCD display, analog video and unbalanced audio outputs for monitor preview, and a solid half-1U 19” rackmount design, it is an ideal SDI I/O solution for any DV interface in a studio environment.

◆ Connects broadcast video equipment to FireWire-equipped computers for editing
◆ Converts DV device control signals to RS422, to control an external VTR
◆ Has the ability to work with SDI signals with embedded audio; it can convert up to four channels of embedded audio.
◆ Compatible with Windows and Mac-based DV editing systems
◆ NTSC and PAL compatible
◆ Half 19-inch rackmount design
◆ LTC BNC I/O, VITC in (decoded from SDI input), VITC out (decoded from SDI output, line selection available.

ADVC1000
(Mfr # 602104 • B&H # GRADVC1000) .................1849.95
Broadcast-Quality A/D Converter

The ADVC3000 is designed to meet the conversion requirements of broadcasters, cable operators, video professionals and post-production operations. Housed in a 2RU design, it combines and enhanced the features of the ADVC700 and ADVC1000 converters—and can convert between analog and DV, DV and SD-SDI and analog and SD-SDI. Whether you need to convert YUV component video to uncompressed SDI, DV to S-Video, or simply to de-embed and re-embed audio from a digital video stream, the ADVC3000 gives you what you need. (Mfr # 602159 • B&H # GRADV3000) .................................................................$3149.95

ADVCHDSC1
HD/SD-SDI-to-Component Conversion

The ADVCHDSC1 unit converts HD-SDI signals to HD component output or SD-SDI signals to SD component output. It provides instant output of HD content to affordable HD component displays, such as TVs and RGB monitors—and standard-definition (SD) content to component, S-Video, and composite displays. It has a sync generator for HD (tri-level sync) and SD (black burst), making it ideal for video editing studios—as well as audio-level-adjustment options. The ADVCHDSC1 also features embedded audio support, SD-SDI to composite and S-Video conversion, HD-SDI conversion to RGB for PC monitors with BNC inputs, and front-panel displays for video-format and audio-level outputs. As well, it automatically detects your current video output format, and supports SDI signal pass-through. (Mfr # 604061 • B&H # GRADVCHDSC1) .................................................................$1349.95

ADVCHDM1
Real-Time HD-SDI/HDV Conversion

Provides high-quality, bi-directional conversion between HD-SDI and HDV signals, complete with embedded audio. It’s perfect for recording from HD-SDI sources to the Turbo iDDR—or for use as a standalone converter without a computer. Compatible with Mac and Windows-based nonlinear editors that support HDV or HD-SDI, the ADVCHDM1 lets you instantly convert HD-SDI output to HDV and ingest HDV material into HD-SDI systems for archiving. It can also encode HD MPEG-2 transport streams up to 1920 x 1080 resolution using one of 8 different bit-rate settings that best suits your workflow. It lets you input external timecode information when encoding in HDV; control HD-SDI decks via HDV and vice versa with AV/C-RS-422 device control conversion; and use simple, two-button control for its encoding/decoding and time-code mode via the front panel. (Mfr # 652154 • B&H # GRADVCHDM1) .................................................................$4889.95

ADV-HD50
Realtime HDMI-to-HDV Conversion

The ADV-HD50 instantly converts uncompressed HD video and audio from HDMI devices to the HDV format then outputs a FireWire connection for use in the non-linera editing system of your choice. Featuring a sleek, portable design it requires no drivers or software to set up, and is compatible with PC and Mac-based editors. Perfect for anyone who needs HDMI ingest without internal hardware. (Mfr # 602227 • B&H # GRADVCHD50) ...........................$949.00

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
SMPTE TIME CODE EQUIPMENT

For Desktop, Rack Mount or Field Use

Horita offers a full line of SMPTE LTC and VITC time code readers, generators, inserters and translators. The LTC line offers choice and flexibility, from the basic WG-50 Play Speed Reader/Inserter to the complete TRG-50 PC Generator/Search Speed Reader/Window Inserter with RS-232 interface and TC-TOOL KIT tape logging software. VITC products provide generator, reader/window inserter and translator functions, enabling translation between LTC and VITC, as well as having a full-function VITC system. LED units, like the TCD-100 and VLR-100, provide visual displays, as well as reader/generator functions. The TCI-50 and RLT-50 allow time code to be inserted into, or extracted from, an RS4-22 data stream. The GPI-50 is a time code based dual general purpose interface.

A complete studio clock and time code system is available with the Horita GPS-MTG. The system uses the accuracy of the atomic clocks in the Global Positioning System and generates time of day, zone, and date SMPTE time code. Compatible LED and video overlay display units show time of day and date for any time zone. When the studio time code is needed in the field, the palm-sized battery operated, PTG mini-time code generator can be set to the GPS-MTG, providing multiple field cameras with precise time/date time code, in step with each other and with the studio master.

Horita also offers color bar, test signal, blackburst and sync generators; matte and safe area generators; serial control titler and keyboard controlled titler; counters; timers and stopwatches. All products are available in desk top, rackmount and field packages. They are all versatile, affordable and easy to use.

What is SMPTE Time Code?

Adopted in the late 1960s by the Society of Motion Picture and Television Engineers, SMPTE Time Code is an industry standard frame numbering system that assigns a specific number to each frame of video in hours, minutes, seconds and frames format. There are two SMPTE formats for Time Code: Longitudinal Time Code (LTC) and Vertical Interval Time Code (VITC).

LTC is an audible electronic digital signal recorded on an audio or time code channel of a VCR or audio recorder. VITC is a visual frame identification code recorded in the vertical blanking interval of each video field. VITC time code must be recorded at the same time as the video, and it can be read in VCR pause mode. LTC time code offers more flexibility than VITC in that it may be recorded prior to recording the video (prestriped), during production, or added to the tape at a later time (post striped). However, it does use up an audio channel, and the tape must be moving in order to read it.

Why is SMPTE time code so important? The answer can be stated in two words: Accuracy and repeatability. With time code, every frame of video is given its own unique identifying number. Once recorded, that time code/video frame relationship will be the same every time the tape is played.

Types of Time Code Equipment

SMPTE time code equipment generally falls into one of three categories: generators, readers, and character inserters (or window dub inserters). The generator creates the time code signal. Time code readers “read” the electronic time code signal, decode it and display it. The display may be an LED readout, or it may be superimposed over the video. Window dub inserters are generally used to produce work copies of the master tape, with the time code display “burned” into the video picture. Other time code based equipment fill a variety of needs. Translators allow interchange between LTC and VITC, or into RS-422/RS-232 protocols to communicate time code information to VCRs, edit controllers and computers. A GPI (General Purpose Interface) uses time code to electronically trigger events in production, playback, scientific experiments, etc.

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Horita’s VITC (Vertical Interval Time Code) products generate and read VITC, as well as interface into LTC systems. The VG-50 also includes the Time Code Analyzer display for showing the exact timing relationship between time code and video.

**VWG-50 VITC Reader/Window Dub Inserter**

Compatible with all VCR formats, the VWG-50 reads VITC time code from pause to 20x play speed, and makes burned-in VITC window dub copies.

- Adjustments for H and V size and position
- On-Screen Video/VITC Field 1/2 indicator

**VG-50 VITC Generator/LTC-VITC Translator with “On-Screen” Time Code Display**

In addition to generating industry-standard VITC time code in Drop/Non-Drop-Frame format, the VG-50 Translates LTC (Audio) time code into VITC time code.

- “Jamsync” mode presets VITC time code to LTC input
- Simple “On Screen” preset of time code or User Bits
- Front panel switch selection of line pairs for VITC placement
- Run/Stop operation using front panel momentary switch
- Regenerates VITC for editing VCR when used with VLT-50
- “Time Code Analyzer” in on-screen display when translating LTC-to-VITC

**VLT-50 VITC-to-LTC Translator**

The VLT-50 translates VITC into LTC at play speed and search speeds from ±20x play speed down to still frame for duplication to another tape format or to be read by Horita LTC time code reader/window burners.

- Auto Select mode automatically routes externally applied LTC directly to the LTC output if VITC is unreadable or not present.
- Switch selectable forward only or bi-directional forward/reverse LTC output insures compatibility with a variety of LTC readers, edit controllers and synchronizers.
- Regenerates VITC for edit system record deck when used with VG-50.
- Switch selectable -1 frame “Search Offset” compensates for downstream +1 frame when translating slow or still frame.

**AVG-50 “Active Video” VITC Time Code Generator**

The AVG-50 generates and inserts VITC time code into the first few lines of active video rather than into the vertical interval. Ideal for use with digital video recorders that don’t record or give access to the vertical interval.

- Active VITC isn’t removed by TBCs, frame stores and other processing equipment.
- Select from 6 video line pairs that include vertical interval as well as active video lines.
- Front panel controls for line selection, time code/user bit preset, and window display on/off.

**VWG-50PC & VLT-50PC**

The VWG-50PC and VLT-50PC offer all the features of their respective cousins (the VGW-50 and VLT-50), and add communication with a PC using an RS-232 serial port. No plug-in cards are required – you can log in the field using a laptop. They include TC-TOOLKIT tape logging software and an RS-232 cable.

**AVG-50RM**

A rackmounted version of the AVG-50. Supplied 19” RM-50 rack (1RU high) holds three units.

**Contact Information**

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
STUDIO EQUIPMENT
HORITA

LTC TIME CODE

Horita’s LTC (Longitudinal Time Code) products add functions and features with each step up of the line. Available in desktop or rackmount versions, they operate from +9v to +13.5v DC and include a 9v AC adapter. The desktop units are small, versatile and easy to use. Front panel toggle switches select function. Rear connectors are BNC for video and RCA for LTC.

WG-50 Window Dub Inserter

Compatible with all tape formats, the WG-50 makes burned-in SMPTE TC window dub copies. It displays time code or user bits, and indicates drop frame or non-drop frame time code, field 1/field 2.

◆ Provides reshaped time code output for copying timecode.
◆ Also functions as basic play speed SMPTE time code reader.
◆ Adjustments for horizontal and vertical size and position.

WG-50 (Mfr # WG50 • B&H # HOWG50) ........................................... $324.95
WG-50RM (Mfr # RMWG50 • B&H # HOWG50RM) Rackmounted version of the WG-50. Supplied 19” RM-50 rack (1RU high) holds three units........ $339.95

TR-50 Search Speed Reader/Inserter

Combination timecode reader and window dub inserter. It has all the features of the WG-50 plus it reads and displays LTC time code from 1/30 of a second to over 10x play speed in forward and reverse.

TR-50  (Mfr # TR50 • B&H # HOTR50) On-Screen Time Code Reader......................................................... $359.95
TR-50RM  (Mfr # TR50RM • B&H # HOTR50RM) Rackmounted version of the TR-50. Supplied 19” RM-50 rack (1RU high) holds three units........ $429.95

TG-50 Generator/Inserter

This combination timecode reader/window dub inserter has all the features of the WG-50, plus it generates time code in drop/non-drop-frame format.

◆ Jamsync mode jams to time code input/output’s new TC.
◆ Simple “On Screen” preset of time code and User Bits.
◆ Run/Stop operation using front panel Momentary switch.

TG-50  (Mfr # TG50 • B&H # HOTG50) Time Code Reader........................................... $374.95
TG-50RM  (Mfr # TG50RM • B&H # HOTG50RM) Rackmounted version of the TG-50. Supplied 19” RM-50 rack (1RU high) holds three units........ $459.95

TRG-50 Generator/Inserter/Search Speed Readers

TRG-50  (Mfr # TRG50 • B&H # HOTR50) All the features of TG-50, plus it reads and displays LTC time code from 1/30 of a second to over 10x play speed in forward and reverse ......................... $419.95
TRG-50PC  (Mfr # TRG50PC • B&H # HOTR50PC) All the features of TRG-50, plus it offers communication with PC using RS-232 serial port. No plug-in cards required – you can log in the field using a laptop computer. Includes TC-TOOLKIT Tape Logging Software ......................................................... $499.95

FW-50 Film Foot/Frame Window

The FW-50 reads SMPTE LTC and translates it into equivalent film foot and frame counts. It then keys this information into a video overlay display of both the SMPTE time code and the film foot/frame values.

◆ Works with 35MM film stock and drop/non-drop frame time codes.
◆ Enter 4 digit reel number or ID.
◆ Drop/non-drop frame and video field-1/2 display indicators.

FW-50  (Mfr # FW50 • B&H # HOFW50) ........................................... $399.95
MWG-50  Multiple Window Generator

An economical solution when you need to make up to four independent time code window burns from a single LTC input source. The MWG-50 reads time code at play speed and keys the resultant video display into four independent composite video signals. The MWG-50 displays time code or user-bits; displays drop-frame or non-drop-frame time-code.

- Select from eight preset horizontal and vertical display positions and sizes; select black mask on or off.

GPI-50  TC-Based Dual General Purpose Interface

A time code “coincidence detector”, the GPI-50 features two separately programmable GPI “trigger” outputs which occur when the input time code matches that of previously set GPI IN and OUT times.

- Use in video production and playback systems to operate switches, mixers, initiate VCR recording or playback, operate strobe lights, trigger scientific experiments, etc.
- Pushbutton switches to “MARK”, “TRIM”, or “SET” IN and OUT times, plus a search speed SMPTE time code reader.
- “TRIM +/-” and “SET IN/OUT” functions allow times to be adjusted by +/- 1-frame, 1-second, or 1-minute, or set to any arbitrary value.
- “On Screen” display readout shows GPI selected, enabled/disabled, event duration, IN/OUT times marked, and relationship of times to present (tape) time.
- Separate ENABLE and DISABLE for each GPI event. GPI-1 repeats every hour, GPI-2 repeats every 24 hours.
- Output signals can be either a pulldown to ground for the duration of the event, or a pulse at the IN and OUT times.
- All times and selections stored in non-volatile memory.

TCW-50  Keyboard Time Code “Wedge”

The TCW-50 reads LTC time code and sends the information to the PC as though it were typed in at the keyboard. It connects between the PC and keyboard, and is intended for applications requiring direct input of time code values into user programs. Because there is no “wedge” PC software involved, the TCW-50 is compatible with any computer, operating system, or software program. The only requirement is a PC-compatible keyboard.

- Separate push button switches for sending Time-Code or User Bit values to the PC and for clearing previous entries.
- Switch selectable delimiters for: field separator, drop-frame indicator and end of line terminator
- Learn mode lets you define keyboard “hot keys” that make the TCW-50 send Time-Code or User Bit values to the PC.
- Outputs 2V P-P reshaped Time-Code for passing to other units
- Bypass switch places TCW-50 into Active or Bypass mode
- Powered through keyboard cable. Includes 1’ and 5’ cables for connecting between PC and keyboard.

RLT-50  RS-422 to LTC Time Code Translator

The RLT-50 translates RS-422 time code from any machine with 9-pin remote control connector into standard SMPTE LTC time code. Use when LTC isn’t directly available from machine for operating audio synchronizers, making LTC copies or use with other Horita LTC products to make window dubs, log source tapes, etc.

- Operates “stand alone” or inline with edit controller - includes DB-9 cable.
- LTC output genlocked to video from VCR.
- Switch selectable front panel preset of user bits.
- Provides LTC time code at all tape speeds. Selectable forward direction only or forward/reverse direction LTC output format.
- Switch selectable –1 frame “search offset” when translating at search speeds or at still frame compensates for the +1 frame “on-time” updating done by many downstream LTC readers, edit controllers and other LTC product.
LTC TIME CODE

TCI-50 VITC/LTC Reader/RS-422 Inserter

The TCI-50 reads VITC or LTC time code, translates and inserts the time code numbers into an RS-422 data stream going back to an edit controller or PC.

- LTC input source can be from an audio channel or a time code address track.
- Reads VITC and LTC at various search/rewind speeds, depending on channel bandwidth and tape formats.
- Responds to controller commands for VCR time code location, as well as cue, preroll, and other time code related commands.
- Select between VITC or LTC, or "auto" mode which automatically switches to VITC as a backup when reading LTC.
- "Bypass" mode removes TCI-50 from the RS-422 data path
- Local mode (no VCR) translates SMPTE-to-RS-422 by emulating a VCR

TCI-50 (Mfr # TCI50 • B&H # HOTCI50) ................................................................. 439.95

TCP-50 LTC Time Code Processor

The TCP-50 is a universal SMPTE/EBU LTC processor that provides a variety of needed time code functions to keep up with the changes and requirements of dealing with multi-format longitudinal time code.

- Translates between 23.976/24/25/29.97 and 30fps frame rates. For example, SMPTE time code in at 29.97 fps, EBU time code out at 25 fps.
- Substitute/replace input time code user bit data with manually entered user bit data on a "nibble-by-nibble" basis.
- Introduce any amount of positive or negative time offset, from frames to hours, between the input time code and output time code.
- Adjust phase relationship of the output time code with respect to the input time code or video.
- "Repair" bad time code due to noise, dropouts, damaged or missing bits, etc. Bad LTC in, good LTC out.
- Read and display time code and user bits.
- TC analyzer measures and keeps track of common timecode errors.
- Multiple "on-screen" menus provide quick and easy user setup
- Multiple "on-screen" menus provide quick and easy user setup
- Add up to nine lines of twenty characters each of source ID information to the on-screen time code/user bit display.

TCP-50 (Mfr # TCP50 • B&H # HOTCP50) ................................................................. 469.95

TVC-50 Time Code Video Clock

The TVC-50 reads SMPTE LTC time code and provides a video display of time and date, based on the time and user bit value and date from an internal clock/calendar. The TVC-50 provides numerous time and date display formats and is an ideal video time/date display device for use with the Horita GPS-MTG master SMPTE timecode generator.

- Make window dub copies with various time/date formats.
- Time displays range from Hrs/Min to Hrs/Min/Sec/1/10 Seconds, as well as direct display of the input SMPTE timecode and User Bit values.
- Date displays range from simple Month/Year formats, to Day-of-Week/Month/Day/Century-Year.
- Various characters, such as Space, Hyphen, Slash, etc., can be inserted as field delimiters (digit separators).
- Internal independent Clock/Calendar can be "Jam Set" to the input SMPTE time and date values, if desired.
- Character attributes for White/ Black, Contrast, Background On/Off, Flashing On/Off and Horizontal and Vertical size and position control.
- Can be used as a source ID generator to display up to 9 lines of 20 characters each. The source ID info, as well as all setup data, is retained in memory and can be displayed along with the time and date.
- Video "downcounter" mode provides automatic display of 30 or 60 minute downcount to zero.
- Outputs reshaped SMPTE timecode for passing on to other units.
- Operates from +9v to +13v DC for use in the field (includes AC adapter).

TVC-50 (Mfr # TVC50 • B&H # HOTVC50) ................................................................. 419.95

UTG-50 Universal Time Code Generator

The UTG-50 generates LTC time code at 24, 25, 29.97 or 30fps. Time value can be derived from external time code input (jammed), from an external time code source, an internal real-time clock/calendar chip, or GPS receiver RS-232 serial data input—which can also be used to preset the UTG-50’s internal clock/calendar chip. Date information can be embedded in the user bits of the time code. Time code output can also be genlocked to an externally applied video input signal if desired.

- Multiple “On-screen” menus provide quick and easy user setup of UTG-50 operation.
- Various time and date display formats are provided for video overlay of time and date.
- Add up to nine lines of twenty characters each of source ID to the time/date display.
- Internal clock/calendar provides an accurate means of generating “time/date” SMPTE/EBU time code.
- Video genlock feature allows accurate recording of time code on a video recorder.

UTG-50 (Mfr # UTG50 • B&H # HOUTG50) ................................................................. 559.00
**LED DISPLAY LTC & VITC READERS/GENERATORS**

**TCD-100 VITC/LTC Reader/LED Display**

The TCD-100 is a combination high speed LTC and VITC time code reader with 0.8” high LED character display suitable for viewing across a room. Reads LTC from 1/30 to 100x play speed (forward/reverse), and VITC from pause to over 30x (depending on tape format).

- “Auto” select mode permits unattended operation by automatically switching to VITC when LTC is not available
- Displays hours, minutes, seconds, and frames, plus indicators for VITC or LTC, and drop/non-drop frame format.
- Switch select time code/user bit display, display run/hold
- Brightness control adjusts display intensity for indoor use in a darkened room, or for outdoor use in bright light
- Outputs 2v P-P reshaped LTC when reading LTC

TCD-100 (Mfr # TCD100 - B&H # HOTCD100) ..........................................................469.95

**TR-100 LTC Time Code Reader**

The TR-100 is a search speed LTC reader featuring an adjustable brightness 0.8” high LED character display, making it suitable for use in bright light or in a dimly lit studio. The large characters also allows for up close or across the room viewing. The TR-100 also translates LTC time code into MIDI Time Code (MTC) for use in A/V applications.

- Reads at speeds from 1/30 to 10x play speed, forward and reverse
- Auto selects between 24 fps (film), 25 fps (PAL), 29.97 (NTSC drop frame) and 30 fps (audio) time codes
- Outputs MIDI time code (MTC) for A/V sync tasks
- Outputs 2-volt p-p reshaped LTC for downstream equipment

TR-100 (Mfr # TR100 - B&H # HOTR100) ..........................................................429.95

**VLR-100 • VLR-100PC VITC/LTC Reader, LTC Generator**

Same combination high-speed VITC and LTC time code reader as the TCD-100, the VLR-100 also generates LTC time code. It has a .56” high 8-digit LED display readout with brightness control. Otherwise the same, the VLR-100PC communicates with a PC via RS-232 and includes TC-TOOLKIT tape logging software.

Same features as the TCD-100, PLUS—

- Front panel switches for selecting time code or user bit data display, display run-hold operation, RDR/GEN/SET, and VITC/LTC, or “auto” mode which uses VITC as backup when reading LTC
- Outputs DF/NDF TC time code and/or translates VITC into LTC

VLR-100 (Mfr # VLR100 - B&H # HOVLR100) ..........................................................649.95
VLR-100PC (Mfr # VLR100PC - B&H # HOVLR100PC) ...........................................749.95

**TCC-100 Dual Input Time Code Comparator**

The TCC-100 reads and compares two LTC inputs and displays their difference on an LED display. Use to monitor or verify proper operation of various time code equipment, or to display the time offset between two time code sources.

- Compare Hrs/Min/Sec/Frame ‘coarse’ or .1/.01 Frame fine resolution.
- Green LED “Match” indicator and GPI out with selectable 0, 1/2, or 1 frame tolerance.
- Display time code or user bits for two separate time code inputs

TCC-100 (Mfr # TCC100 - B&H # HOTCC100) ..........................................................419.95

**TIME CODE TOOLKIT TAPE LOGGING SOFTWARE**

The field proven TC-TOOLKIT tape logging software included with the TRG-50PC, VWG-50PC, VLT-50PC, VLR-100PC and PR232, operates with Windows 98, 2000, NT and XP. Toolkit programs are easy to understand and operate. Includes serial cable.

**PC-LOG:** captures time code or user bits and calculates durations with a single keystroke. Log tapes while reading or generating time code, add comments, print, disk I/O, search for keywords or phrases using wildcard characters, print “search” report”. Ten “Macro Keys” permit single keystroke to capture time; insert any pre-typed message of up to 34 characters. Scene/Take/Counter macro key operates with special IN/OUT macro keys to tag entries and auto increment take counter. Converts PC-LOG files into standard CMX-340 EDL format, or into comma delimited files for import into a database.

**TC-CALC:** time code calculator with separate tape timer does all drop/non-drop-frame and film foot-frame math, imports and exports timecode, user bits and other calculator values directly into and out of word processor documents, database or spreadsheet fields, etc.

**TG-SET:** Use with TRG-50PC and VLR-100PC (only) to quickly preset generator time code and user bits from keyboard; single key to set time code to PC’s real-time clock time, user bits to date; start/stop generator; turn display On/Off.

**MTG-TIME:** Synchronizes a PC’s time and date (optional) to UTC or any local time via a SMPTE time code input from the GPS-MTG GPS-based master time code generator or other “time of day” code source.

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
TIMERS • SAFE AREA & MATTE GENERATORS

ETD-100 Elapsed Time Display

The ETD-100 is a 0.8” H LED display timer that can be used to time various situations and events such as talent, speakers, presentations, experiments, etc. It can count up or down and outputs a “GPI” signal when the count reaches zero. The LED display has a brightness control and is large enough to be read across a room. Display of tenths and hundredths of a second can be turned on or off. The ETD-100 is activated via simple local or remote switch closure inputs to initiate timing sequences of reset/count-up/stop and preset/count-down/stop. Local and remote setup of the preset time is also available and all counter setup information is retained in non-volatile memory.

ETD-100 (Mfr # ETD100 • B&H # HOETD100) ................................................................. 419.95

VS-50 Video Stopwatch with GPI Output

The VS-50 “Video Stopwatch” overlays your video with an “on-screen” timer display to help you time lectures, speakers, events, talent, rehearsals, indicate time remaining, etc. Plus, with the GPI output, you can trigger and time sound or other effects, lab experiments, etc., relative to the action in your video. Four operating modes provide you with a simple downcounter to zero, a combination down/up counter that counts up after it counts down to zero, or a simple up counter.

VS-50 (Mfr # VS50 • B&H # HOVS50) ................................................................. 399.95

VS-50RM (Mfr # VS50RM • B&H # HOVS50RM); Rackmounted version of the VS-50. Supplied 19” RM-50 rack (1RU high) holds three units. ................. 499.95

VS-REM Remote control (start, stop, preset and reset to zero) of the VS-50 via 25’ cable with DB-9 connector. (Mfr # VSRM • B&H # HOVSRM). ....... 74.95

SAG-50 Safe Area Generator

The SAG-50 overlays one of eight safe action and safe title borders, with optional center cross over incoming video, enabling graphics and other information to be positioned within the picture. The SAG-50 can also overlay video images with Dot and Crosshatch test patterns (with image center indicators) for lining up camera graphics or performing convergence and centering adjustments on single monitors, or for setting up video walls. Can also output an oscilloscope “Line Trigger” signal and display an intensified line with a digital readout showing its actual line and field number on the video monitor.

◆ Safe action and safe title overlays are fixed at 80% and 90% of the image area and include individual 25% and 30% horizontal markers.
◆ Intensified Line and Trigger can quickly be changed from line -10 to line 262, and the field can be selected as Field-1/2, or both. This provides a very accurate method of identifying the exact location of and/or placing graphics in the picture, measuring text height in line numbers, etc.
◆ Line trigger output changes an ordinary oscilloscope into a precise piece of test equipment capable of observation and identification of individual video lines of either or both fields for viewing VITS test signals, VITC time code, head switching points, etc.

SAG-50 (Mfr # SAG50 • B&H # HOSAG50) ................................................................. 324.95

MG-50 Matte Generator with “On-Screen” Readout

The MG-50 can overlay one of 20 programmable matte patterns or rectangular “border” outlines over a video image. Use is to precisely locate, define, or measure areas in video image where information is to be placed, insert “Curtains” during film/video transfers, outline a particular area of interest, etc.

◆ Ten formats with preset aspect ratios ranging from 1.37:1 to 2.74:1. Ten with user-definable position, size and aspect ratio.
◆ Selectable matte types for each of the formats include matte black or white; matte/video reverse; full matte or rectangular border outline.
◆ On-screen readout displays the current format number, type, aspect ratio, and vertical and horizontal position.
◆ Select matte and/or on-screen readout displays On/Off.
◆ Direct video bypass when power is switched off.
◆ All user-defined formats and types stored in non-volatile memory.

MG-50 (Mfr # MG50 • B&H # HOMG50) ................................................................. 324.95
RMT-50 Remote Message Titler

The RMT-50 instantly overlays up to sixteen “canned” text messages onto a composite video signal in response to remote inputs on the rear of the unit. Each alpha-numeric message is displayed on a single line of text of up to twenty characters in length. An optional mode provides for eight messages consisting of two lines of twenty characters each. Messages can be prioritized to allow multiple selected messages to be assigned to the same line number, with only the highest priority message displayed at any one time. The message text can be input manually using the controls on the unit or via a standard PS2 keyboard. Additional features include the ability to output the individual messages one after the other in a looping sequence with user defined start/stop times, a programmable onscreen up/down “talent timer”, and multiple format time and date displays.

KCT-50 Keyboard Controlled Titler

A stand alone CG, the KC-T50 works with a standard PC keyboard to add titles and captions to your video. Add up to nine lines of 20 characters each without any PC or PC software needed. In addition, the KCT-50 also includes a battery backed up clock/calendar which can overlay your video with a variety of formats of time and date displays. Because the KCT-50 has its own built-in text editor that performs the common typing operations of insert, delete, backspace, home, end, etc., you can quickly add source ID information, title or caption experiments, identify security locations, and perform similar titling/captioning tasks.

Up to 25 KCT-50s can be connected together and addressed and controlled from a single PC keyboard. The KCT-50 can also be controlled from front panel switches. Each KCT-50 maintains 2 separate setup and display screens which can be selected via the keyboard.

◆ Built-in text editor commands include insert, delete, backspace, page up, page down, home, end, etc.
◆ Adjustable character attributes for horizontal and vertical size and position, black/white, mask on/off, contrast, etc.
◆ Separate setup screens for Display, System, Time, and Date.
◆ “Line numbers” on/off numbers the display lines for quick visual reference in locating text position.
◆ 36 time display formats, 60 date display formats, including day-of-week displays.
◆ “Split-Screen” vertical mode places the first 5 lines at the top and the last 4 lines at the bottom of the display. Quickly and easily user adjustable to move titles out of the way of the action.

SCT-50 Serial Control Titler

The SCT-50 operates either stand-alone or with a computer to title, caption or time-date stamp video from cameras, VCRs, computers, etc. Insert up to 9 lines of 20 characters each into a video image to add source ID, to show camera number and location for security, video data collection, or other video monitoring systems. Use internal clock calendar to add real time/date stamp to video images.

◆ Front panel switch control for stand-alone operation, or simple two letter commands from your computer for character selection, location, size, background, flashing, black or white, horizontal and vertical position, text HEX data monitor.
◆ Operates with Horita PC timecode products and the PC-LOG software to automatically caption Video images with comments from PC-LOG files according to their timecode match.
◆ Includes SCT.EXE “pop-up” TSR text editor and control program for PC; controls the SCT-50 from within other programs. Use the supplied SCT.EXE Text Editor and control program to automate stand-alone operation, operate video information displays, add instructional information or subtitling, log and document experiments, etc.
◆ SCT.EXE program controls from 1 to 99 SCT-50s using only a single RS-232 port on your PC. Automatically stores 99 individual SCT-50 screens, any of which can quickly be selected and sent to an individual SCT-50 or multiple SCT-50s.
◆ RS-232 loop thru operation allows daish chaining of up to 99 units. They can be addressed individually or as a group.

Group Project Management Software

The Windows-based “GMAN” software permits quick, simple, versatile management of individual or groups of SCT-50’s. “GMAN” identifies each unit by number and name, sends project text files to setup a group of SCT-50’s, and performs tasks such as timed on/off, random text movement (for security purposes), text output repeat/loop, etc.

◆ Easily control 1 to 99 SCT-50 units to add titles, caption overlays, time/date, etc. according to client, project, etc.
◆ Built in text editor with load/save functions.
◆ Up to 100 pages of text can be individually assigned for sending to specific Horita SCT-50Titlers.
◆ Sequence and/or loop text output, introduce random “motion” displays for security purposes when making copies.

SCT-50GMAN (Mfr # SCT50GMAN - B&H # HOSCT50GMAN) .................................................. 74.95
BLACKBURST & COLOR BAR GENERATORS

**BG-50**

Multiple Output Black Generator

The BG-50 provides multiple outputs of blackburst and composite sync for genlocking larger video systems. All outputs are derived from the composite video input which can be any source, including “Off Tape”.

- Two outputs can be configured as composite sync
- 6 BNC blackburst outputs
- Black level can be set to 7.5 or 0 IRE
- Looping video input with terminator ON/OFF switch.

**BSG-50**

Blackburst/Sync / Tone Generator

The BSG-50 is the easiest and most economical way to generate the common RS-170A Video timing signals used to operate Video Switchers, Effects Generators, TBCs, VCRs, Cameras, Edit Controllers, and other professional video equipment. The BSG-50 is an unusually versatile Blackburst, Sync Pulse, and Audio Tone Generator.

- 6 BNC Video/Pulse outputs easily configured to meet specific user and equipment needs.
- Choose any output mix from 6 Blackburst, 4 Sync, 2 Subcarrier.
- Rackmount and short rack models have 8 outputs.
- Each sync output is individually settable for composite Sync, composite blanking, H- or V-Drive. (Burst Flag output is also available).
- Separate buffer for each output provides Maximum Signal Isolation.
- 1k Hz, 0 dB Sine Wave Audio Tone output, locked to video.

**CSG-50**

Color Bar / Sync / Tone Generator

Generates full/SMPTE color bars, blackburst and composite sync signals, as well as a 15 Hz reference frame timing signal. Precision digitally synthesized video signals are fully RS-170A SC/H phased and always correct. No SC/H adjustment ever required.

- Front panel selection of full-field or SMPTE color bar patterns or blackburst video output.
- Crystal-controlled, 1k Hz, 0dB audio tone output.
- Built-in timer can automatically switch video output from color bars to black and audio tone to silence after 30 or 60 seconds. Easy and convenient for producing tape leaders and striping tapes with color bars and tone followed by black and silence.

**CSG-50B**

All the features of the CSG-50, plus —

- Five additional outputs which can be configured for all Blackburst or in combinations with Sync and Subcarrier
- Rackmount and short rack versions have up to seven Blackburst/Subcarrier outputs.

**PT3**

Mini Portable Audio Tone Generator

The palm-sized PT3 is just what you need in the field and around the studio, to quickly check and adjust audio levels and trace cables. It features two tones, balanced or unbalanced output and has selectable line levels.

- Crystal controlled 1KHz/10KHZ tones.
- Runs over 24 hours on a 9v battery
- Seven calibrated, stable output levels.
- Switch selectable 0dBu, +4dBu, or +8dBu balanced line level.
- Switch selectable -20dBV, -10dBV, or 5dBV unbalanced line level.
- Switch selectable -50dBu/V unbalanced/balanced microphone level.
- Comes with ¼” phone and M/F XLR adapters for balanced output.
- 4.2” x 2.4” x 1” (LWH), weighs less than 5 oz. including battery.
**TSG-50 • TSG-50B NTSC Test Signal Generators**

The TSG-50 generates 12 video test signals suitable for setting up, aligning, and evaluating the performance of various video equipment found in a typical video editing system. These include video monitors, distribution amplifiers, VCRs, switchers, effects generators, TBCs, etc. In addition to the video signals, the TSG-50 also generates composite sync. And with a Video DA, such as the Horita VDA-50, the TSG-50 becomes a high quality, multiple output, house sync generator. Otherwise the same, the TSG-50B has five additional outputs which may be configured for all blackburst or in various combinations with sync and subcarrier.

- Fully RS-170A SC/H phased and always correct. No adjustments ever required.
- Built-in timer can automatically switch video output from video pattern to black and audio tone to silence after 30 to 60 seconds. Makes it easy and convenient to produce tape leaders of color bars and tone followed by back and silence.
- Video signals are in accordance with EIA RS-170A video timing specifications.

**TSG-50B Step-up Features**

- Five additional outputs which may be configured for all Blackburst or in various combinations with Sync and Subcarrier.
- Rackmount and short rack versions have up to 7 Black/Subcarrier outputs.

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**TSG-50/TSG-50B Video Test Signals:**

- Blackburst with 7.5 IRE Setup Level.
- Full Field RS-189A Color Bars.
- SMPTE Color Bars with Pluge Pattern.
- Multiburst of .5, 1.0, 2.0, 3.0, 3.58, and 4.2 MHz and Ref Bars.
- NTC-7 Composite.

- Outputs: video, composite sync, 15 Hz ref frame, 0dB audio tone (unbalanced)
- Generates precise oscilloscope trigger output signal one H line before start of color field 1.
- Convenient pattern selection by 12 position front panel rotary switch.
- Includes crystal controlled, 1kHz/400KHz, 0dB audio tone output.

**TSG-51 • TSG-51B NTSC Test Signal Generators**

The TSG-51 adds a second set of 12 digitally synthesized video test signals and patterns to the 12 already present on the TSG-50, bringing the total up to 24. The second set of 12 includes various chroma/luma and FCC/Transmitter test patterns and signals, as well as a safe area retical. This wide range of signals is ideal for setting up, aligning, and evaluating the performance of video monitors, distribution amplifiers, VCRs, switchers, effects generators, TBCs, etc. In addition to the video signals, the TSG-51 also generates composite sync and, with a video DA such as the VDA-50, becomes a high quality, multiple output, house sync generator. Otherwise the same, the TSG-51B adds 5 additional outputs.

- Fully RS-170A SC/H phased and always correct. No adjustments ever required.
- Built-in timer can automatically switch video output from video pattern to black and audio tone to silence after 30 or 60 seconds. Makes it easy and convenient to produce tape leaders of color bars and tone followed by black and silence.
- Video signals are in accordance with EIA RS-170A video timing specifications.

**TSG-51B Step-up Features**

- Has 5 additional outputs which may be configured for all blackburst or in various combinations with sync and subcarrier.
- Up to 7 Black/Subcarrier outputs provided on Rackmount and Short Rack models.

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(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
MINIATURE PORTABLE TIME CODE EQUIPMENT

**PTG** Mini Portable Time Code Generator with LCD

Designed for use in the field (runs 24 hours on a single 9V battery), the palm-sized PTG features a large 2-line LCD readout for time code, user bits, and setup information. Easy to setup, it is ideal for use in multi-camera shoots for games, concerts, weddings, etc.—where each tape has to have the same time code for precise time and image matching during post production. For these applications the PTGs are jammed (automatically preset) to the same time code source. User bits are set to the date and also include a unique ID number for each individual PTG. Each tape will then have the same time/date but a different ID number so there will never be a mixup.

- Operates synchronized to video or free runs at frame rates of 23.976, 24 (film), 25 (PAL), 29.97 (drop or non-drop frame) or 30 FPS.
- Can also jam to an RS-232 serial data input from a GPS receiver for generation of precise time of day and date time code.
- Programmable “ID” in user bits to positively identify camera, location, operator, etc.

**PTR** Mini Portable Time Code Reader with LCD

The PTR reads SMPTE/EBU time code and displays the time code and/or user bit data on a 2-line LCD display. “Store” and “Recall” functions allow quick, easy capture and review of up to 50 time code events. Stored time codes can be sent as RS-232 serial data to a PC running the supplied PTR-LOG program.

- Reads and displays time and user bit data at 23.976, 24 (film), 25 (PAL), 29.97 (drop or non-drop frame) or 30 fps
- Reads at speeds from 1/10th play speed up to 3x play speed, in forward or reverse directions
- Displays frame rate and drop/ non-drop frame status
- Auto shutdown to extend battery life
- Includes “PTR-LOG” software program to download stored time codes from PTR, add comments, and then save as text or comma delimited files.

**PG-2100** Mini Portable Time Code Generator

A palm-sized time code generator, the PG-2100 runs over 24 hours from a single 9v battery. Intended for field use in multi-camera situations when each tape has to have the exact same time code for precise image matching during post production, the PG-2100 can be operated manually or jammed (automatically preset) from any SMPTE time code source. Ideal field companion to the GPS-MTG GPS-based time/date time code generator. When jammed from a GPS-MTG, all tapes recorded using PG-2100s have identically matching frame-by-frame time of day and date time code. However, each tape has its own individual PG-2100 generator ID number contained in the “user bits” making it a breeze to keep track of tapes and shots during post production.

- Operates genlocked to video or free runs at 24, 25, 29.97 or 30 fps.
- Time, Date, Frame Rate, and ID number can be monitored and manually changed
- Jam to time code, or to an RS-232 time and date input from a GPS Receiver (NMEA GPS data formats)
- LED indicator for monitoring status
- Settings are stored in non-volatile memory

**PR-232** Field Logging Mini Time Code Reader with Software

The PR-232 is a palm-sized time code reader that can be powered from the serial port of a laptop computer (no batteries ), and includes TC-Toolkit software.

- Reads LTC time code at search speeds and outputs RS-232 data to PC RS-232 serial port. Includes serial cable.
- Ideal for portable logging in the field using a laptop, the PR-232 can also run off a 9v battery.
The GPS1, GPS2, and GPS3 provide exact time and position in SMPTE LTC format for recording on tape. The code is synchronized to standard time through an interface to a GPS receiver. Time synchronization provides direct correlation of GPS position data with the video recording. GPS1 is used when only time synchronization is required during video acquisition. Because each logged position has a GPS time-tag, the GPS position data can later be matched to the associated videotape images by the GPS1-synchronized time code. Improved position accuracy can be obtained by applying differential correction when post-processing the raw GPS data logged in the GPS receiver or computer. GPS2 and GPS3 products add the real-time position data to the “user bits” of the SMPTE time code once per second. The position data is subject to the accuracy limitation as imposed by GPS selective availability, unless real-time differential correction is provided in the GPS receiver.

ADQ-50 Audio / Video Cue “Streamer”

The ADQ-50 is a low cost, small, desktop sized unit that generates both video and audio cue prompts for use during ADR, Foley, or other post production audio tasks that require precise and repeatable timing or syncing of audio responses to specific video action.

The ADQ-50 overlays a thin white vertical line which sweeps across the screen from left to right. When the line reaches the rightmost side of the screen it meets a vertical white bar, and a square box is flashed for a few frames in the center of the screen. The combination of the disappearing line and the flashing square visually signals the start of the audio event.

In addition, as the line moves across the screen, the ADQ-50 outputs an audio cue pattern consisting of three evenly spaced audio tones, which a fourth tone missing in sync with the flashing square video prompt. The audio prompts also interact with the video display by turning off the sweeping line when the tones sound, permitting use on sound stages or other environments where low or zero volume levels are required.

The ADQ-50 reads SMPTE time code from 1/30th play speed up to 10x play speed, allowing the user to quickly and easily locate the video cue point on the video monitor. A simple actuation of the pushbutton MARK switch captures the time code time associated with the cue point. The marked time can then be trimmed frame-by-frame to help zero in on the exact point at which the ADR, Foley, or other audio event is to occur.

In OPERATE mode the ADQ-50 automatically “backtimes” or subtracts from this marked time and starts the sweep display and audio tone cuing sequences when the incoming time code matches the calculated backtime value. The cueing sequence ends with the square video prompt flashed in the center of the screen when the incoming time code coincides with the marked time.

The ADQ-50 can also be triggered manually for rehearsal purposes or by RS232 serial data input from a PC. Event times can be entered manually from a list by using the MARK switches or input from the included QMe event list/control software.

AM-50 “On-Screen” Audio VU Meter

The AM-50 provides a visual indication of audio signal amplitude. Dual channel “bridging” type audio inputs accept balanced or unbalanced (single ended) stereo audio inputs. Balanced input range is selectable from 0dBu, +4dBu, or +8dBu, single ended input range from -20dBV, -10dBV, or -5dBV. Various formats are provided for displaying the audio levels, including those designed to take up a minimum amount of on-screen video space, those with a “see thru” mode, black mask on/off, audio level markers on/off, etc.

Display format, size, and position selections are saved in non-volatile memory.

◆ Channels can be individually identified as 0-9 A-F or as a group from 00-to-99 or 0-9 A-Z.
◆ Familiar “VU” meter response ballistics.
◆ Normal, peak, alarm, and phase check modes are provided.
◆ Alarm mode leaves flashing “peak” reading until display is manually reset.
◆ Phase check mode displays “In” or “Out” phase condition.

AM-50 (Mfr # AM50 • B&H # HOAM50) .......................................................... 309.95
GPS-MTG GPS Based Master SMPTE Time Code Generator

The GPS-MTG uses the accuracy of the atomic clocks in the Global Positioning System to generate SMPTE longitudinal time code matched to UTC, offset to local time or time and date, day-after-day, month-after-month, year-after-year, unattended, anywhere in the world. When generated by the GPS-MTG, SMPTE time code becomes an accurate global real-time clock/calendar, allowing video images separated across the city, state, continent, or globe, to be simultaneously recorded with the same time and date stamp.

**FEATURES**

- Generates drop frame time code locked to an external color video (RS-170A) reference. Continuously monitors satellite time and date and maintains correct generator time.
- Use as precision stand alone SMPTE studio clock reference to time and control events or studio automation systems. Operate SMPTE display devices for accurate time-of-day readouts, or time/date stamp video images.
- RS-232 output with HSIP (Horita Standard Interface Protocol) data for input to a PC. MTG Time software is included to preset and maintain the PC clock/calendar at UTC or local time using the HSIP data input.
- Automatic daylight savings time mode
- Front panel LED and video “time code window” display show a flashing 1-PPS “GPS locked” indicator for positive visual indication of active lockup to the GPS system.
- “Fail-safe” alarm logic output provides remote indication of power or video loss or GPS antenna disconnection.
- Manual mode operation with or without GPS receiver allows manual preset of time and user bit data.
- Extra front panel RCA connector provides quick and convenient access to time code output. Rear panel DB-9 connector provides additional 1-PPS and 1-PPM pulse outputs for operating studio clock systems.
- Optional cable lengths allow up to 300’ of separation between antenna/receiver and Master Time Code generator.

GPS-MTG: Includes rugged GPS antenna/receiver, 50’ GPS-to-MTG cable, 6’ MTG-to-computer cable, Windows clock software.

**GPT-50 Real-Time GPS Video Titler/Captioner**

The GPT-50 adds real-time GPS data to video for recording or viewing. The video output from the GPT-50 is the same as the video input plus a caption of GPS position and other data, depending on input code format. Works with NTSC and PAL video and RS-232 or RS-422 serial inputs, in several selectable formats. You can select from a total of 12 GPS input code formats.

- Front panel switches for manual setup of format, display options, and entry of titles to provide other captions in addition to the GPS data. Two setup screens maintain two independent GPS setups; 14 line and 7 line (half-size) display sizes; ASCII and HEX display formats for diagnostics.
- Independent real-time clock/calendar display for stand-alone time and date stamping.
- Dual DB-9 input connectors provide serial input data “loop thru” to additional GPT-50 units for titling other video sources with the same time and position information.
- Operates from an external power source of +9 to +14 v DC. Includes wall mount 9V DC supply.
- Desktop size: 1.9” x 5.3” x 3.8” (HxLxW).
- Provides selection of the following serial formats: NMEA 0183 sentence $GPGGA (industry standard) or $GPGLL or $GPRMC.
- Trimble ASCII formats: TAIP (Trimble ASCII Interface Protocol); Pathfinder Basic+; TNL 2100/3100 formats RO, R1, KO, K1, XO, X1.
- Navstar ASCII Formats: –GPS2D/3D; UTM (Universal Transverse Mercator).

GPT-50 (Mfr # GPT50 • B&H # HOGPT50) .......................................................... 364.50

**GPS and UTC Time**

The Global Positioning System (GPS) is a navigation and position-locating system based on reception from NAVSTAR satellites. GPS receivers provide highly accurate time fixes anywhere worldwide. GPS system time is a worldwide standard atomic time that is exactly related to Coordinated Universal Time (UTC or “Greenwich time”). Local time is Greenwich time offset by hours corresponding to local time zone. The GPS satellite antenna/receiver provided with Horita GPS/SMPTE time code and video is a small dome about 4” high by 6” in diameter. It is rugged, sealed against the environment, and mounts with a standard 3/4” threaded pipe fitting. It comes with a 50’ cable and is usually installed outdoors on a roof or indoors under a skylight. It does not have to be oriented in any special manner other than to have a broad view of the sky.
GPS-BASED VIDEO & TIME CODE EQUIPMENT

GPS-MSG
GPS-Based Master Video Sync Generator
The GPS-MSG is a multiple output RS-170A “blackburst” and video sync signal generator that is genlocked to the atomic clocks in the Global Positioning System. The GPS-MSG quartz crystal master clock is continuously phase controlled to accurately track the time from the GPS satellites. GPS-MSG synchronized video is synchronous with all other Horita GPS-MSG generated video signals anywhere worldwide, typically within ±10μs, independent of their location on the globe.

◆ When used with the GPS-MTG SMPTE Master Time Code Generator, the exact relationship established between the SMPTE time code and Coordinated Universal Time (UTC) allows the SMPTE time code to function as an instrumentation time code. All GPS-MSG synchronized cameras will record the same time for an event, with the exact UTC time of any television frame and line number known and the time code hours, minutes, seconds, and frames identical at any moment, anywhere, worldwide.

◆ Video frames from widely separated GPS-MSG cameras or other video sources start simultaneously and are scanned synchronously to within less than 1H time. The long-term accuracy of the GPS-MSG is derived from and equal to the world’s best atomic clocks.

◆ 5 BNC outputs can include any mix of up to 5 black, 4 composite sync, blanking, horizontal or vertical drive, 1 subcarrier, and 1KHz, 0dB audio tone.

◆ Complete system includes ruggedized GPS Antenna/Receiver, 50’ GPS-to-MSG cable, power adapter, instruction manual.

◆ Occupies 1/3 of a standard Horita 1¼” x 19” rack panel which can also hold two additional Horita products, such as a GPS-MTG SMPTE Master Time Code Generator and a VG-50 VITC Generator/LTC-VITC translator.

GPS-MSG (Mfr # GPSMSG • B&H # HOGPSMSG) .........................................................1694.95

MDD-100 Time Code
Alphanumeric Date LED Display
The MDD-100 is a studio date display which reads SMPTE LTC and provides either a month/day/year, or day-of-week/month/day alphanumeric date readout. Ideal date display device for use with the GPS-MTG master SMPTE time code generator. The date (and time zone) comes from the time code “user bit” data of the SMPTE time code input.

◆ Displays day-of-week/month/day (WED JAN 01), or month/day/year (JAN 01 94).

◆ Eight digit alphanumeric LED display readout with .8” high red characters provides good visibility and legibility from across a room.

MDD-100 (Mfr # MDD100 • B&H # HOMDD100) ...............................................................329.95

MTD-100 Time Code
Time / Date LED Display
The MTD-100 is a studio time/date display which reads SMPTE LTC and provides either hours, minutes, and seconds time readout, or month, day, and year date readout. The MTD-100 is an ideal display device for use with the GPS-MTG master SMPTE time code generator. The time comes from the time code “time” value, while the date and time zone come from the time code “user bit” data of the SMPTE time code.

◆ Time display format can be 12 hour AM/PM with four (10:15 P), or six (10:15:06 P) digits, or 24 hour military style with six digits (22:15:26).

◆ Date display can be set to month/day/year (10-29-93), or day/month/year (29-10-93).

◆ Display can also be set to alternate between time and date once per second.

◆ Six digit 7-segment LED display with .8” high red characters provides good visibility and legibility from across a room.

◆ Brightness control permits adjusting display intensity for indoor use in a darkened room or outdoor use in bright light.

MTD-100 (Mfr # MTD100 • B&H # HOMTD100) .................................................................324.95

GR-8 Rackmount GPS Receiver
The GR-8 is a rackmount GPS receiver that works with all Horita GPS products. The GR-8 has special input filtering for use in “dirty” power situations, such as encountered in aircraft and automobile power systems. The GR-8 simultaneously tracks eight satellites and provides time, date, and position data outputs in both NMEA and TSIP formats, and a 1-PPS output.

GR-8 (Mfr # GR8 • B&H # HOGR8) ..................................................................................489.95
## TIME BASE CORRECTORS

### AR31
A full-featured TBC/Frame Synchronizer with professional performance, the AR-31 is ideal for video duplication, editing and multimedia applications. It offers full bandwidth in both composite and S-Video. Adjustment controls are available on the optional remote.

- Composite and S-Video input/output, transcodes between composite and S-Video, composite or S-Video Select
- Handles high speed search
- Digital comb filter
- Frame synchronization with full frame memory; Genlock capability
- Optional remote with proc-amp control
- Full Pro-amp control with no interruption Presets
- Freeze Frame or Field; 8-speed Strobe

**AR-31** TBC/Frame Sync (No Remote) *(Mfr# AR31 • B&H# HOAR31)* ............ 779.95

**AR-31R** TBC/Frame Sync with Remote *(Mfr# AR31R • B&H# HOAR31R)* ............ 799.95

### AP41 Series
A line of popular industrial and broadcast TBC/Frame Synchronizers, the rackmountable AP41 series is equipped with a host of efficiencies, and all adjustments are on the front panel. Proc amp control is preset and adjustable with an indicator line.

- Composite or S-Video input with push button video input selector
- Frame synchronization with full frame memory; Genlock capability
- Constant SC/H Phase; Constant H Phase for matched frame editing
- Handles high speed search
- Full proc-amp control with no interruption presets
- Adjustable horizontal and vertical blanking

**AP41**: TBC/Frame Synchronizer, includes all above features *(Mfr# AP41 • B&H# HOAP41)* ................................................................. 974.95

**AP41-SW**: Same as AP41 plus Digital Comb Filter. *(Mfr# AP41-SW • B&H# HOAP41SW)* ................................................................. 1086.50

**AP41-SF**: Same as AP41 plus S-VHS output, Freeze Frame/Field, Y/C Delay Adjustment and Strobe (16 speeds). *(Mfr# AP41-SF • B&H# HOAP41SF)* ................................................................. 1174.95

**AP41-SP**: Same as AP41-SF plus Comb Filter (full bandwidth in all modes). *(Mfr# AP41-SP • B&H# HOAP41SP)* ................................................................. 1229.95

**AP41-SP-D**: Same as AP41-SP plus SDI output *(Mfr # AP41-SPD • B&H# HOAP41SPD)* ................................................................. 1888.50

### ATS51 Series
A great-value single or dual channel TBC/Frame Synchronizer, the ATS51 is a smart solution for many applications. Built-in digital comb filter provides full bandwidth output signals to VCRs, camera or satellite feed. Has cut or dissolve switching for simple editing. Genlock capability allows A/B roll switching with a single channel TBC (provided that at least one of the input sources is a stable signal, such as camera output).

- Frame synchronization with full frame memory
- Digital comb filter
- Genlock capability
- Handle high speed search
- Full proc-amp control with no interruption presets
- Constant H phase for matched frame edit
- Constant SC/H
- Cut/dissolve switching

**ATS51**: Single Channel TBC in 1/2 rack chassis *(Mfr# ATS51 • B&H# HOATS51)* ................................................................. 859.95

**ATS51-RM**: Same as above in 1U rackmount chassis *(Mfr# ATS51-RM • B&H# HOATS51RM)* ................................................................. 943.95

**ATS51-2**: Dual Channel TBC in 1U rackmount chassis CALL

**ATS51-2S**: Dual Channel TBC/Frame Synchronizer plus Cut/Dissolve switching in 1U rackmount chassis *(Mfr# ATS51-2S • B&H# HOATS512S)* .......... 2074.95

### AR71
**AR71**: Dual Channel TBC/Frame Synchronizer

The AR-71 is rackmountable (1 RU high). All controls and adjustments including full Proc Amp Control, presets, Freeze Frame or Field, 8 Strobe Speeds, Input Select, Horizontal Phase and Sub Carrier Phase are done on the wired remote control.

- Dual channel composite, S-Video input/output
- Transcodes between composite and S-Video
- Digital Comb Filter
- Frame synchronization with full frame memory
- Freeze frame or field
- Handles high speed search
- Genlock capability

**AR71-1**: With one remote control *(Mfr # AR71-1 • B&H # HOAR71)* ................. 1749.95

**AR71-2**: With 2 remote controls *(Mfr # AR71-2 • B&H # HOAR71)* ................. 1849.95

### Additional Information

- www.bhphotovideo.com
10-bit Video Frame Synchronizers

The significant advantage of the AT61 series is its analog-to-digital transcode capability. 10-bit processing eliminates visual quantizing noise, and the matching audio delay can handle lip sync perfectly. The AT61 series more than meets the requirements of today's digital world.

- Composite video input and output
- Pass VIR/VIT
- 10-bit Digital Comb Filter
- 4x subcarrier sampling, 10-bit resolution
- Frame sync with full frame memory
- Digital video output (SMPTE 244M)
- Digital audio outputs (AES/EBU)
- Analog audio input +8, +4, 0 dbu XLR
- AES/EBU digital audio outputs
- 20-bit/48kHz digital audio synchronized to video with 20dB head room
- Audio Off-Set/ Audio Delay in increment of one field
- Constant SC/H phase and genlock capability
- Adjustable horizontal and vertical banking
- Full proc-amp control with no interruption presets
- Adjustable horizontal and vertical banking
- Remote proc-amp controls

**AT61: Analog video inpt/output (Mfr # AT61 • B&H # HOAT61) .......................................................... 1919.95**
**AT61-F: Adds frame or field freeze (Mfr # AT61-F • B&H # HOAT61F) ...................................................... 2129.95**
**AT61-AU: Adds analog audio I/O with audio delay (Mfr # AT61-AU • B&H # HOAT61AU) ....................... 3099.95**

**PROC AMPS Video Processors**

The SDI Proc Amp provides excellent video correction in non-ideal camera environments such as filed news event recording. Its fully compatible with digital cameras, ensuring correct video levels, color saturation, and hue when editing. The SDI Proc Amp uses an advanced digital processing technique to provide high quality broadcast signals for television broadcast. The easy to use digital video adjustment and LCD display, for monitoring video setting status, makes it deal for efficient and cost effective operation. It automatically recognizes and accepts both NTSC and PAL serial video. The standard Proc-Amp uses analog approaches to process the video signal while using advanced digital approaches to generate new sync and color burst. The Proc-Amp is absolutely transparent and no question of quantizing noise.

**SDI Proc Amp**

- SDI I/O input/output with automatic cable equalization
- Direct access control buttons for easy access
- Precision preset capable proc amp controls
- Adjustable white, black, and chroma clipping within legal limits
- Proc amp status LCD display for easy monitoring
- Reset function for quick video reference
- Flexible 8-bit or 10-bit compatibility
- Digital potentiometer precision adjustments
- Ancillary data and digital audio are left intact

**Proc Amp**

- Full Bandwidth
- Compatible with composite or S-Video
- Adjustment on Chroma, Hue, Video and Brightness
- Preset and adjustable
- Indicator to show adjustment level
- Built-in with Black Clipper
- Perpetual Sync and Burst
- Two units can be rackmountable side by side in one rack space
- Front Panel Sync and Burst adjustment
- Signal is true NTSC blackburst when input signal is absent
- Dual channel rackmountable chassis

**PROC AMP Processing Amplifier for SDI (Mfr # PROC AMP • B&H # HOPROCAMP) .......................... 587.50**
**SDI PROC AMP Processing Amplifier for SDI (Mfr # SDI PROC AMP • B&H # HOSDIPROCAMP) ............. 1454.95**

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
8x2 Synchronized Video Router
The AX81 handles inputs from non-genlocked cameras, satellite feed and VCRs without a glitch in transition. It does not need external TBCs or Frame Sync. All proc amp controls are presettable and can be controlled via RS-232. Audio follower is equipped with XLR or RCA connectors. Ideal for use in the studio or in video teleconferencing applications.

- Each channel is equipped with individual proc-amp controls
- No external TBC or synchronizer is required
- User-friendly preview output displays all 8-channel proc amp setups
- Genlock capability
- RS-232 external control
- Full Bandwidth
- Use as two separate TBC/Frame syncs
- 1RU stand-alone operation

AX81 (Mfr # AX81 • B&H # HOAX81) ...................2839.50
Unbalanced Audio Follow Switcher (Mfr # AUDIO • B&H # HOAUDIO) ........................................699.95

4 x 1 Switcher with Live Quad
The AX83Q provides the stability of the TBC/Frame Synchronizer and the flexibility of displaying real time in both quad and switcher mode. Easy to operate, the unit will accept up to 4 video sources, and display either a synchronized 2 x 2 frame at the quad video output or any of the 4 channels in full screen at the switcher output. With advance digital processing and switching technology, video images are more stable and better in picture quality, and help eliminate any vertical jump between switching. The built-in TBC/Frame Synchronizer further helps synchronize 4 non-sync video sources and eliminate marginal, noisy recording tape.

- Fast refresh rate
- Real time Quad and Switcher Outputs
- Built-in TBC/Frame Synchronizer
- Frame sync with full frame memory
- No vertical jump switching between non-sync sources
- Rack-mountable with 2 units

AX83Q (Mfr # AX83Q • B&H # HOAX83Q) ........1029.50

SDI Video Switchers
The AS-800 series provide state-of-the-art SDI switching with adjustment-free operation and an easy-to-read display. The optional AS-800 (RS485) remote works as a dedicated output channel remote allowing the operator to gain routing control of a particular output channel from another location. These dedicated remote controls are used for each of the output channels, and up to eight of these remote controls can be connected with the main unit, depending on the configuration of the router.

- Advance digital video matrix router in 1 RU
- Automatically recognizes and accepts both PAL or NTSC serial digital video
- Direct access buttons for easy operation
- Automatic cable equalization
- SMPTE 259M compliant
- Direct access buttons for easy operation

AS-800 4X1: 4x1 SDI Video Switcher (Mfr # AS800-4X1 • B&H # HOAS8004X1) ........................................1304.95
AS-800 4X4: 4x4 SDI Video Switcher (Mfr # AS800-4X4 • B&H # HOAS8004X4) ....................................1664.95
AS-800 8X1: 8x1 SDI Video Switcher (Mfr # AS800-8X1 • B&H # HOAS8008X1) ....................................1348.95
AS-800 8X2: 8x1 SDI Video Switcher (Mfr # AS800-8X2 • B&H # HOAS8008X2) ....................................1664.95
AS-800 8X4: 8x1 SDI Video Switcher (Mfr # AS800-8X4 • B&H # HOAS8008X4) ....................................1829.95
AS-800 8X8: 8x1 SDI Video Switcher (Mfr # AS800-8X8 • B&H # HOAS8008X8) ....................................2249.95
AS-800 Remote: Remote for AS-800 (Mfr # REMOTE • B&H # HORAS800) ........................................347.50
Broadcast Audio Delay

A natural choice to any studio’s audio requirements, the AU51 is a 20-bit, broadcast quality stereo Audio Delay with an adjustable range of up to 10.0 seconds. The delay can be adjusted in 0.01, 0.1, and 1.0 second increments to accurately correct Lip Sync problems. It is very easy and simple to use. You just look at the video while listening to the audio and turn the delay adjust knobs until the video and audio are correctly in sync. In applications where the audio delay is a known fixed value, the delay can be preset at the factory.

The AU51D accepts either analog or digital audio signals and simultaneously output the delay audio in both analog and digital forms. (In essence, it is also a digital to analog audio converter or vice versa). Accepting sampling frequency of 33.1KHz, 44.1KHz, or 48KHz gives AU51D the flexibility to deal with the increasing varieties of digital audio formats exist today. The AU51D-EM steps up with ability to extract the audio signals from the embedded SDI signal.

**AU51:** Balanced Stereo Audio (Mfr # AU51 • B&H # HOAU51) .......................................................... 1199.95

**AU51D:** AES/EBU Balanced Stereo (Mfr # AU51D • B&H # HOAU51D) .................................................. 1748.95

**AU51D-EM:** Same as above, plus audio extraction (Mfr # AU51D-EM • B&H # HOAU51DEM) .................. 1989.95

**DE41** Variable Video Delay

The DE41 series is a great-valued video frame or field delay. It provides full bandwidth output signals to your VCRs, camera or satellite feeds. They utilize front mounted controls to adjust video delay. They are useful in matching video sources with varied cable runs, and will take the place of the mound of coiled coax that some studios use to time equipment.

**DE41-4:** 4 Frames variable video delay, rackmountable (Mfr # DE41-4-RM • B&H # HODE414RM) ............ 1112.95

**DE41-16:** 16 Frames variable, desktop (Mfr # DE41-16 • B&H # HODE4116) ........................................... 1443.95

**DE41-16:** 16 Frames variable, rackmountable (Mfr # DE41-16-RM • B&H # HODE4116RM) .................... 1611.95

**DE41-4 Dual:** 2-channels, 4 Frames, rackmount (Mfr # DE41-4-DUAL • B&H # HODE414DUAL) ............ 1983.50

**DE41-16 Dual:** 2-channels, 16 Frames, rackmount (Mfr # DE41-16-DUAL • B&H # HODE4116DUAL) .......... 2889.95

**AV61** Uncompressed Embedded SDI Recorder

The high performance AV61 provides professional results for graphic and animated video. You can record and playback simultaneously, using 20 minute, 80 minute, 5 hour or 10 hour media. The AV61 is also versatile and customizable - you choose which option suit your specific needs. More importantly, professional results can be achieved since there is no compression quality loss and no audio distortion introduced.

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
BVPIP2

Single-Channel Picture-in-Picture Inserter

The BV (Big VooDoo) PIP2 is a high-quality, low cost, superior function picture-in-picture video inserter that offers the flexible program presets that A/V system integrators need to do the job right. The BVPIP2 has the features most applicable to today’s “pullback” applications. Put the background and foreground video in and set the size/position of the video insert, and you’re ready to go. It allows you to crop the picture insert for that perfect look, then save it to one of ten presets that can be recalled through the front panel, RS-232/422 or GPI (contact closure). The BVPIP2 genlocks to the background input automatically. It has a full TBC/synchronizer video processor that controls brightness, contrast, saturation, hue, SC/H phase, freeze-frame and freeze field for the video insert channel. Packaged in a mini ¼ rack chassis, is powered by an external 5VDC wall transformer (included). The triple eight-segment LED indicator, high-quality center-lit function buttons, and the auto-save feature make it a breeze to operate.

- Programmable presets for video – size and position
- Scaleable foreground input with TBC stability
- Composite and S-Video (PAL/NTSC) inputs (2) and one output
- Crestron- and AMX-compatible for control
- Background video input with combiner/mixer function.

QS-440 Quad Channel PiP

The QS-440 Quad Split is ideal for anyone needing to view 4 independent channels of video on the same monitor. Thanks to a powerful scaling engine and digital comb filter, the QS-440 Quad Split can scale each channel separately, as well as control aspect ratio, enhance edges, and insert source ID with independent channel OSD. Engineered to maintain image content quality during image resizing and positioning so users can be assured of a smooth, clean picture output every time. The QS-440 supports multi-standard signal operation and transcodes between composite and S-Video formats automatically. Allows each input to be frozen independently while moving other inputs and image transitions can be done manually or recalled from memory.

- Composite and S-Video (NTSC/PAL) inputs and outputs
- Independently controlled size and position on each input
- Any source mapped to any layer
- Multiple presets
- Priority mode for instant access

- Crestron- and AMX-controllable
- Onscreen display
- Proc amp control for each input
- Adaptive comb filter (NTSC)
- Four full-frame TBCs
- RS-232 serial control

- Channel freeze
- Input OSD for source ID
- Processor amp controls for each channel
- Image enhancement
- Four front-panel programmable memory addresses
- 12 memory addresses via RS-232 interface

BVPIP2 Picture-in-Picture Inserter (Mfr # BVPIP2 - B&H # KEBVPIP2) ................................................................. 899.95

QS-440 Four-Channel PiP (Mfr # QS4401 - B&H # KEQS4401) .......................................................................................... 3099.95
Frame Synchronizer

Offering CCIR 656 4:2:2 component digital video processing with 10-bit accuracy at an 8-bit TBC price, the BVTBC10 has changed the price-performance equation for time base corrector/frame synchronizers. Ideal for any television station, cable head-end or post facility, the unit delivers outstanding features like Keywest Technology’s exclusive SURELOCK digital comb decoder, color bars (analog bars only), vertical interval that is passed from line 10 and adjustable pedestal. The BVTBC10 even offers optional legacy support for Serial Digital Video (SMPTE259M-C) input or output. Top-notch quality, intuitive design, untouchably low cost and space- and power-saving size, make the BVTBC10 the hands-down best TBC/Synchronizer value on the market.

- Handy and affordable
- Full frame synchronizer plus TBC
- Full 10-bit processing
- Optional A-D and/or D-A converter built-in
- Y/C and Composite I/Os
- Serial Digital Video Option
- Convenient ¼-rack size
- NTSC and PAL-B selectable
- Full Proc-Amp controls
- Freeze-frame/field functions
- RS- 232/422 interface
- Color bar output
- Auto-save function
- “SURELOCK” Digital Decoder
- Low power consumption (Power supply included)

BVTBC10 Frame Synchronizer (Mfr # BVTBC10 • B&H # KEBVTBC10) .................................................................................................................. 1249.95

STAR-8

Multi-Channel Crawl, Economy Crawl and Text Generator

When budget is the overriding concern, look to the monochrome STAR-8 multi-channel crawl system. It is the most economical means of displaying basic crawls messages for large CATV and CCTV operations. A 1RU standalone, eight-channel analog crawl inserter, the STAR-8, can display a single fixed page of text information or crawl a single message for each of its eight channels. In the event of a power failure, the STAR-8 automatically connects its video input directly to the video output, bypassing the unit. When power is restored, the device will reset itself without displaying any out of sync characters.

When used with the powerful STARMU processor and Keywest Technology’s exclusive XCP software, STAR-8 is the ideal system for cable headends. In that configuration, the STAR-8 supports up to 320 channels, making it the most cost-effective multi-channel system on the market today. The STARMU processor can be controlled locally or remotely via modem or over the web. Non-volatile battery backup of each channel ensures that messages will be displayed automatically after a power outage. With the latest version XCP software, which is supplied with or without the STARMU system, entry data and setting up crawls are easy. The software also provides off-line editing, real-time scheduling and remote communications.

- Built-in genlock (downstream keyer)
- Smooth crawl
- Various Crawl Positions (STARMU Processor)
- Font color: white with black border
- Font Size: 12 x 18 dot matrix (36 lines)
- Font Style: Any single true-type font
- Stereo audio I/O
- External data input connector
- XCP control software

STAR 8 Multi-Channel CG Crawl System (Mfr # STAR8 • B&H # KESTAR8) .................................................................................................................. 2299.95
RS SERIES

4x4/8x8/16x8/8x16 and 16x16 Audio/Video Matrix Routing Switchers

The RS Series are high performance, 200 MHz highband (HB) routing switchers that are extremely versatile, easy to use and very affordable. Housed in an ultra-thin rackmount chassis, they accept and route virtually any video signal on the vertical interval, including off-the-air and non-time base corrected video. They also route balanced or unbalanced stereo audio. The audio follows the video, or you can route the audio separately (breakaway audio).

Each of the switchers offers easy manual control via front panel operation. They can also be controlled remotely by a computer, a Knox RS Remote Controller, or by a Knox Remote Keypad, via their RS-232 port. Front panel LEDs indicate the current routed pattern at all times, and an internal battery holds and restores current patterns in case of power interruption. Ideal for applications such as distance learning, teleconferencing, duplication, post production, home theater, broadcast, and remote trucks, they include Routemaster Software and Routemaster with Scheduler Software.

**All RS Series Routing Switchers Feature:**

- Available in composite (NTSC/PAL), Y/C and component versions.
- Vertical interval switching for glitch-free routing.
- Full matrix switching — route any source to any or all destinations simultaneously without degrading the signal.
- Each source may be routed to multiple destinations via easy-to-use front panel push buttons or via RS-232 interface using a computer or optional Knox controller.
- Buffered crosspoints — affect multiple routes simultaneously without crosstalk.
- Breakaway audio — audio can be routed separately from the video.
- Balanced or unbalanced stereo audio. +18 dB balanced audio headroom, plug-in “Phoenix” connector.
- Battery backed-up memory stores up to four preset patterns for instant recall.
- Timer allows timed sequence of patterns.
- Each router comes with Routemaster software which controls up to three RS Series switchers, and Routemaster with Scheduler which allows routes to occur at specific time, day or series of dates.
- Front panel LED display showing current pattern at all times.
- Housed in a thin (1.25”) profile rackmount chassis each comes with a 5-year warranty.
- Maximum 200 MHz bandwidth.

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**RS Series 4x4 Vertical Interval Matrix Switchers**

<table>
<thead>
<tr>
<th>Unbalanced (RCA) stereo audio only</th>
<th>Mfr # RS4X4HB A/O - B&amp;H # KNRS44AU</th>
<th>$649.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite video only (no audio)</td>
<td>Mfr # RS4X4HB VO - B&amp;H # KNRS44VO</td>
<td>$649.95</td>
</tr>
<tr>
<td>Composite video with unbalanced (RCA) stereo audio</td>
<td>Mfr # RS4X4HB - B&amp;H # KNRS44CU</td>
<td>$664.95</td>
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<tr>
<td>Composite video with balanced audio (Mfr # RS4X4HB BAL - B&amp;H # KNRS44CB)</td>
<td>$704.95</td>
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</tr>
<tr>
<td>S-Video with unbalanced (RCA) stereo audio (Mfr # RS4X4HB Y/C - B&amp;H # KNRS44YC)</td>
<td>$884.95</td>
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<tr>
<td>S-Video with balanced audio (Mfr # RS4X4HB Y/C/BAL - B&amp;H # KNRS44YCB)</td>
<td>$939.95</td>
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<td>Balanced video audio only (Mfr # RS4X4HB B/A/O - B&amp;H # KNRS44B)</td>
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<td>Component video only (no audio) (Mfr # RS4X4HB RGBV/O - B&amp;H # KNRS44RV)</td>
<td>$1304.95</td>
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<td>Component video with unbalanced (RCA) stereo (dual chassis) (Mfr # RS4X4HB RGB/BAL - B&amp;H # KNRS44RB)</td>
<td>$1984.95</td>
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<tr>
<td>Component video with balanced stereo (dual chassis) (Mfr # RS4X4HB RGB/VO - B&amp;H # KNRS44RV)</td>
<td>$2979.95</td>
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<tr>
<td>4-Channel Component video only (no audio) dual chassis (Mfr # RS4X4HB RGV/VO - B&amp;H # KNRS44CCV)</td>
<td>$1959.95</td>
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<tr>
<td>4-Channel Component video with unbalanced stereo (dual chassis) (Mfr # RS4X4HB RGB/VO - B&amp;H # KNRS44CVU)</td>
<td>$2993.95</td>
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</table>
RS Series 8x16 Vertical Interval Matrix Switchers

S-Video only (no audio) .......................... 969.95
Composite video only (no audio)  ................. 1049.95
Composite video with unbalanced (RCA) stereo audio
(Mfr # RS8X8HB Y/CO - B&H # KNRS88YCU) .............. 1099.95
Unbalanced (RCA) stereo audio only
(Mfr # RS8X8HB BO - B&H # KNRS88BU) .............. 1169.95
S-Video with unbalanced (RCA) stereo audio
(Mfr # RS8X8HB Y/C - B&H # KNRS88YCU) .............. 1209.95
Composite video with balanced audio
(Mfr # RS8X8HB BAL - B&H # KNRS88CB) .............. 1829.95
S-Video with balanced audio
(Mfr # RS8X8HB Y/C BAL - B&H # KNRS88YCB) ........ 1854.95
Component video only
(Mfr # RS8X8HB RGB/Y - B&H # KNRS88R) ........... 2119.95
Component video with unbalanced (RCA) stereo audio
(Mfr # RS8X8HB RGB - B&H # KNRS88RU) ........... 3114.95
Balanced stereo audio only
(Mfr # RS8X8HB B/ACO - B&H # KNRS88B) ............. 3134.95
Component video with balanced stereo (dual chassis)
(Mfr # RS8X8HB RGB/BAL - B&H # KNRS88CB) ........... 3269.95

RS Series 16x8 Vertical Interval Matrix Switchers

S-Video with unbalanced (RCA) stereo audio
(Mfr # RS16X8HB Y/C - B&H # KNRS168YCU) ............ 2239.95
Composite video with unbalanced (RCA) stereo audio
(Mfr # RS16X8HB Y/C - B&H # KNRS168YCU) ............ 2609.95
S-Video with balanced audio
(Mfr # RS16X8HB BAL - B&H # KNRS168CU) ............ 3379.95
Component video with balanced audio
(Mfr # RS16X8HB BAL - B&H # KNRS168CU) ............ 3379.95
Component video with unbalanced (RCA) stereo (dual chassis)
(Mfr # RS16X8HB RGB/Y - B&H # KNRS168RU) ........ 5949.95
Component video with balanced stereo (dual chassis)
(Mfr # RS16X8HB RGB/BAL - B&H # KNRS168CB) .......... 7449.95

RS Series 16x16 Vertical Interval Matrix Switchers

Composite video only (no audio)  ................. 2349.95
Unbalanced (RCA) stereo audio only
(Mfr # RS16X16HB Y/C - B&H # KNRS1616CU) .......... 2689.95
Composite video with unbalanced (RCA) stereo audio
(Mfr # RS16X16HB Y/C - B&H # KNRS1616CU) .......... 2999.95
Balanced stereo audio only
(Mfr # RS16X16HB BAL - B&H # KNRS1616C) .......... 3609.95
S-Video only (no audio)  ...................... 3729.95
Composite video with balanced audio
(Mfr # RS16X16HB B/ACO - B&H # KNRS1616B) ......... 3939.95
S-Video with unbalanced (RCA) stereo audio
(Mfr # RS16X16HB Y/C - B&H # KNRS1616CU) .......... 5224.95
Component video only (no audio)  .......... 5439.95
S-Video with balanced audio
(Mfr # RS16X16HB Y/C - B&H # KNRS1616CB) ........... 5629.95
Component video with unbalanced (RCA) stereo (dual chassis)
(Mfr # RS16X16HB BAL - B&H # KNRS1616CU) ............ 5949.95
Component video with balanced stereo (dual chassis)
(Mfr # RS16X16HB RGB/BAL - B&H # KNRS1616CB) .......... 7449.95

SDI8x8 Matrix Routing Switcher

The SDI8x8 accepts and reclocks up to 8 sources to 8 destinations of 8 or 10-bit serial digital video with or without embedded audio. Housed in a 3RU ultra-thin profile chassis, it is compatible with various SDI standards including ITU601, SMPTE 259M, D1, D2 and D3 at data rates of 143, 177, 270 and 360 Mbps with input equalization in excess of 600’. The switcher is controlled from the front panel pushbuttons or via the RS-232 port. Front panel LED confirm valid data locking at all times. Each valid SDI input signal is indicated by an “Input Carrier Detect” LED. For each output with a valid input signal, another LED indicates one of four data rates. Crosspoint patterns may be stored for later recall. All current and stored patterns are backed up in non-volatile memory. (Mfr #: SDI88 - B&H # KNSDI883R) 2619.95

Remote Push-Button Rackmounted Controller

This controller is a serial communication device for the RS series switchers. Single rackspace high and ultra-thin, the controller features a single row of front panel buttons with LED indicators for quick and easy rerouting. Control configurations can be easily programmed from the front panel to provide full-matrix or button-per-source switching.

The Remote Keypad Controller is an RS-232 terminal device that controls the RS series switchers from remote locations via 3-wire hook-up or modem. Handheld or rackmounted, the keypad controls all switcher features including breakaway audio, store/recall patterns, and SALVO commands. A two-line LCD offers full function display. The keypad is cascadable and allows for pass-through RS-232 control.

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
RS II SERIES

16x16 Audio/Video Matrix Routing Switchers

RS II Series switchers accept up to sixteen composite, S-Video, high definition analog component, or SDI video sources, sixteen balanced or unbalanced stereo audio sources, and connect any one of the input sources to one or more sixteen outputs with optional volume and tone control. Composite routers include a second BNC connector for looping through to another device, such as a preview monitor.

These crosspoint routers provide full-matrix switching of composite, S-Video, high definition analog component, or SDI SDI digital video. Active, fully buffered, high bandwidth crosspoint modules allow video to be switched simultaneously without crosstalk. A dedicated reference sync input is provided with the composite video version, allowing a source of blackburst to be connected for glitch-free switching. The RSII series is available with low noise 3-wire balanced stereo audio or RCA-style unbalanced stereo audio. With the optional volume and tone package, sound adjustments control volume, bass, treble, balance, input trim and mute. Adjust each output individually for optimal audio quality in any environment. Built-in salvo commands allow adjusting all zones at once.

In addition to the standard RS-232/422 serial control port, keep the system safe and secure with the standard faceplate or order the RSII with the optional Detachable Front Panel Controller (DFPC). Additional control options include a built-in IP (ethernet) control for operation over a LAN or Internet. The RSII is fully compatible with third party control systems.

FEATURES

◆ 16x16 matrix is housed in a single three rack unit chassis, and can be ordered with or without front panel control.

◆ The RSII series switchers accept up to sixteen composite, Y/C, HD component, or SDI video sources, sixteen balanced or unbalanced stereo audio sources, and connect any one of the input sources to one or more sixteen outputs with optional volume and tone control (VT). Composite routers include a second BNC connector for looping through to another device, such as a preview monitor.

◆ Cross-point information is collected by the microprocessor from the optional front panel controller (DFPC), from the RS232/422 inputs on the front or rear panel, and from the optional ethernet I/O and distributed to the crosspoint decoders. Audio and video may be routed together or separately.

◆ All RSII series switchers include a switchable RS232/422 control port and separate reference sync input. Composite video versions come standard with paired input connectors for true loop-thru capability allowing input signals to pass-thru to a downstream device. 75ohm terminators are required if loop-thru is not used.

◆ The audio volume, tone, and balance may be adjusted if the VT option is installed.

◆ Optional audio control gives more versatility with input trim, volume control, bass, treble, loudness and balance control for each input and output. Adjust each output individually for optimal audio quality in any environment. Salvo commands allow adjusting all zones at once.

◆ Control from a wide range of third party controllers is quick and easy with Knox's SAS serial control (Simple ASCII Strings) through the RS-232 or RS-422 port. SAS serial commands are easy to learn and pre-programmed control modules are available from a variety of companies including Crestron, AMX, and Control 4.

◆ RSII routers come in a wide variety of configurations and are backed by Knox Video Technologies’ five-year parts and labor warranty.

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CHAMELEON SERIES ROUTING SWITCHERS

Chameleon series switchers are custom-configured, modular products that can be configured in sizes from 16x16, up to 256x256. Smaller configurations can often be expanded by simply adding input or output cards to the chassis via the hinged front panel. Analog video signals from composite up to RGBHV are supported by the various configurations within the series. Systems can be specified with balanced or unbalanced broadcast quality audio that can be routed independently from the video or as audio-follows-video. The crosspoint matrix is controlled via RS-232, IP or from the intuitive and familiar keypad front panel controller. An optional external keypad controller is also available for remote operation. All switchers are available with an optional industry-exclusive, integrated front panel preview monitor.

CHAMELEON 256 HB:
The Chameleon 256 HB is capable of accommodating the high resolution video signals required by computers and HD video sources. Housed in a 12 RU chassis, the Chameleon 256 HB can be configured in matrix sizes up to 256 x 256.

CHAMELEON 256 MB:
Built around Knox’s 30MHz chip set, the Chameleon 256 MB is indicated for large routing requirements of lower resolution video signals such as composite video, S-Video or SD component video. Housed in a 12RU chassis and can be configured in matrix sizes up to 256 x 256.

CHAMELEON MB:
The Chameleon MB is indicated for large routing requirements of lower resolution video signals such as composite video, S-video or SD component video. Like the Chameleon HB, it is housed in a 9RU chassis and can be configured in matrix sizes up to 256 x 128.

### Optional Detachable Front Panel Controller

The optional detachable front panel controller displays the RSII’s crosspoint information and allows changes to the crosspoint map. The display section consists of three numerical readouts and a rotary switch to select which output to display. The output readout and rotary switch have a range of 0-16 corresponding to the total number of outputs. The two input readouts, with a range of 0-16 (0 meaning the output is OFF), show which video input is connected to the selected output and which audio input is connected to the selected output.

**Detachable Front Panel Control**

Mfr #: FPC & B&H #: KNFPCRS2

**Detachable Front Panel Control with Volume and Tone Commands**

Mfr #: FRONT PANEL CTRL WITH VT & B&H #: KNFPCC

**Detachable Front Panel Control with Volume and Tone Commands**

Mfr #: FRONT PANEL CTRL WITH VT & B&H #: KNFPCC

### RS II SERIES

- **RSII VO** (Mfr #: RSIIVO & B&H #: KNRS21616C)
  16x16 composite video only .................. 1974.95

- **RSII** (Mfr #: RSI - B&H #: KNRS21616)
  16x16 composite video with unbalanced stereo audio ............................................ CALL

- **RSII BAL** (Mfr #: RSIIBAL - B&H #: KNRS21616CB)
  16x16 composite video with balanced stereo audio .................................................. 2604.95

- **RSII AO** (Mfr #: RSIIAO - B&H #: KNRS21616AU)
  16x16 unbalanced stereo audio only ....... 1974.95

- **RSII B/AO** (Mfr #: RSIIBAO - B&H #: KNRS21616AB)
  16x16 balanced stereo audio only ........... 2244.95

- **RSII Y/CVO** (Mfr #: RSIIYCVOC & B&H #: KNRS21616YCVC)
  16x16 s-video (4-pin din) only .............. 2519.95

- **RSII Y/C** (Mfr #: RSIIYC & B&H #: KNRS21616YC)
  16x16 s-video (4-pin din) with unbalanced stereo audio ........................................... 2879.95

- **RSII Y/CBAL** (Mfr #: RSIIYCYCBAL & B&H #: KNRS21616YCB)
  16x16 s-video (4-pin din) with balanced stereo audio ............................................. 3144.95

- **RSII RGB/BAL** (Mfr #: RSIIRGBBAL & B&H #: KNRS21616RGB)
  16x16 RGB video with balanced stereo audio .............................................................. CALL

- **RSII RGB/V0** (Mfr #: RSIIRGBVO & B&H #: KNRS21616RGBC)
  16x16 RGB video only ................................ CALL

- **RSII SDI/AES** (Mfr #: RSIISDIAES & B&H #: KNRS21616SDIAES)
  16x16 SDI video with reclocking, equalization and AES/EBU audio ......................... CALL

- **RSII SDI/V0** (Mfr #: RSIISDIVO & B&H #: KNRS21616SDIC)
  16x16 SDI video with reclocking and equalization only .............................................. CALL

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(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
MediaFlex Series presentation switchers accept up to 8 or 16 composite, Y/C, component or analog HDTV video sources, 8 or 16 balanced or unbalanced audio sources, and connects any one of the input sources to one or more of the 8 or 16 outputs with volume and tone control. An independent 8x8 VGA matrix (DB15HD) is available in the same chassis to route high-resolution sources such as graphics generators or laptop PC’s to several downstream devices such as data monitors and LCD projectors without loss of resolution. They provide full-matrix switching of multiple levels of video. Fully buffered, ultra-high bandwidth crosspoint modules allow a variety of signals including composite video, S-video, component and VGA to be switched simultaneously without crosstalk. Audio controls include volume, bass, treble, balance, input trim and mute. Outputs adjust individually for optimal audio quality in any environment. Salvo commands allow adjusting all zones at once. The front panel control offers dual LCD displays, hand-held IR remote, IP, RS-232 and contact closures. Fully compatible with Crestron, AMX and Vity third party touch screen controllers.
The RSIII RGBHV Series matrix switchers are designed to route RGBHV video signals and balanced or unbalanced stereo audio signals. Available in matrix sizes from 4 x 8 to 12 x 8, the series features 300 MHz bandwidth and can be used to route RGBS, RGsB, HDTV, component, composite and S-Video signals. The series also feature Knox’s exclusive volume and tone attenuation on the matrix outputs.

In addition to traditional RGBHV analog video and audio outputs, the series offers integrated CAT5 transmitters to distribute signals long distances without the potential for faulty BNC terminations. The RSIII RGBHV is housed a 3RU chassis and can be connected through RS-232, RS-422/485 or Ethernet. Routing and other functions can also be controlled by the intuitive front panel controller. Ideal for boardrooms, houses of worship, classroom systems, digital signage, hospitality and VTC systems.
VP-200N • VP-300N • VP-400N
High Resolution XGA Distribution Amps
The VP-200N (1x2), VP-300N (1x3) and VP-400N (1x4) are high performance distribution amplifiers for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. They feature ID bit control (except VP-200N), advanced sync processing ensuring compatibility with a wide range of computers, and selectable sync input impedance (75Ω video and 510Ω graphics/TTL). They are ideal for dual monitor or presentation systems requiring a local monitor and a projector operating simultaneously. HDTV compatible with high bandwidth of 420MHz, also features ID Bit, Level (Gain) and EQ (Peaking) controls, and cable equalization in presentation systems.

VP-200N (Mfr # VP-200N • B&H # COVP200N) …………… CALL
VP-300N (Mfr # VP-300N • B&H # COVP300N) …………… 156.00
VP-400N (Mfr # VP-400N • B&H # COVP400N) …………… CALL

VP-200NA
1:2 High Resolution XGA/Audio Distribution Amplifier
A high performance distribution amp for computer graphics video signals, with resolutions ranging from VGA through UXGA and higher, and stereo audio signals. It takes a computer graphics video and an unbalanced stereo audio input and will output simultaneously two computer graphics video, two balanced, and two unbalanced stereo audio signals.

VP-200NA (Mfr # VP-200NA • B&H # COVP200NA) …………… CALL

VP-250 • VP-350 • VP-450
High Resolution UXGA Distribution Amps
The VP-250 (1x2), VP-350 (1x3) and VP-450 (1x4) are high performance distribution amps for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. They feature AC/DC coupling selection – individually for RGB signals, ID bit control, advanced sync processing ensuring compatibility with a wide range of computers, and selectable sync input impedance (75Ω video and 510Ω TTL). They are ideal for multi-monitor applications, presentation or staging systems in schools, churches and corporations. HDTV compatible with high bandwidth of 400MHz, they take one input, provides correct buffering and isolation, and distribute the signal to two, three, or four identical outputs.

VP-250 (Mfr # VP-250 • B&H # COVP250) …………… CALL
VP-350 (Mfr # VP-350 • B&H # COVP350) …………… CALL
VP-450 (Mfr # VP-450 • B&H # COVP450) …………… CALL

VP-200D 1:2 XGA Differential Amp/DA
A 1x2 differential distribution amplifier for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. It includes differential amplifying circuitry to eliminate noise and hum often found in long cable runs. HDTV compatible with high bandwidth of 420MHz, also features ID Bit control, and Level (Gain) and EQ (Peaking) controls.

VP-200D (Mfr # VP-200D • B&H # COVP200D) …………… CALL

VP-200XLN 1:2 XGA Line Amp/DA
1x2 line and distribution amp for computer graphics video signals with resolutions from VGA to UXGA and higher. Has controls to compensate for signal losses inherent in long cable runs. HDTV compatible with high bandwidth of 400MHz, also features ID Bit, Level (Gain) and EQ (Peak) controls, looping input, and selectable input signal termination.

VP-200XL (Mfr # VP-200XL • B&H # COVP200XL) …………… CALL

VP-210XL XGA Line Amplifier
A line amplifier for computer graphics video signals with resolutions from VGA to UXGA and higher. It provides controls to compensate for signal losses inherent in long cable runs. HDTV compatible with high bandwidth of 380MHz, also features ID Bit control, Level (Gain) and EQ (Peak) controls, looping input, and selectable input signal termination.

VP-210XL (Mfr # VP-210XL • B&H # COVP210XL) …………… CALL

VP-111 XGA Line Driver
A high performance line amplifier for computer graphics video signals with resolutions ranging from VGA to UXGA and higher. It provides controls to compensate for signal losses inherent in long cable runs, making it ideal for remote transmission and cable equalization in presentation systems. HDTV compatible with high bandwidth of 470MHz, also features ID Bit control, Level (Gain) and EQ (Peaking) control and selectable input signal termination.

VP-111L (Mfr # VP-111L • B&H # COVP111L) …………… 69.95

VP-242 2x1 XGA Switcher / 1:4 Distribution Amp
A switcher for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. It switches one of two inputs simultaneously to four identical outputs. HDTV compatible with high bandwidth of 420MHz, also features ID Bit control, Level (Gain) and EQ (Peaking) control.

VP-242 (Mfr # VP-242 • B&H # COVP242) …………… 180.00

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**COMPONENT DISTRIBUTION AMPS**

**VM-2C**  
1:2 Component Video DA  
HDTV compatible with 500MHz high bandwidth, the VM-2C is a distribution amplifier for component video (RGB/YUV) signals. It takes one input, provides correct buffering and isolation and distributes the signal to two identical outputs.  
*VM-2C (Mfr # VM-2C-B&B # COVM2C) CALL*

**VM-100C • VM-100CB**  
1:10 Component Video DA  
HDTV compatible with 450MHz high bandwidth, the VM-100C and VM-100CB are distribution amps for component video (RGB/YUV) signals. They take one input, provide correct buffering and isolation, and distribute the signal to ten identical outputs on RCA (VM-100C) or BNC (VM-100CB) connectors. They also feature Level (Gain) and EQ (Peaking) controls, looping inputs, selectable input signal termination, worldwide 110-220v AC power supply and are rackmountable (1RU high).  
*VM-100C (Mfr # VM-100C-B&B # COVM100C) Call*  
*VM-100CB (Mfr # VM-100CB-B&B # COVM100CB) Call*

**VM-100CA**  
1:10 Component and Stereo or S/PDIF Audio DA  
The same as the VM-100C, except it adds an audio section. It accepts one unbalanced stereo and/or S/PDIF audio input and distributes it to 10 identical S/PDIF or unbalanced stereo outputs on RCA connectors. The VM-100C also offers audio level gain controls for unbalanced stereo. Rackmountable (2RU high), *(Mfr # VM-100CA-B&B # COVM100CA) Call*

**VP-15 • VP-18**  
1:15 and 1:18 RGBHV or Composite Video DA  
The VP-15 and VP-18 are high performance distribution amplifiers for RGBHV video signals. They provide correct buffering and isolation and distribute the signal to 15 or 18 identical outputs. HDTV compatible, they feature high bandwidth of 350MHz, looping inputs, grouped Level (Gain) and EQ (Peaking) controls, and AC/DC input coupling selection switches. Rackmountable (3RU high).  
*VP-15 (Mfr # VP-15-B&B # COVP15) Call*  
*VP-18 (Mfr # VP-18-B&B # COVP18) Call*

**VM-1055**  
1:5 Video Component/RGBHV Distribution Amplifier  
The VM-1055 is a high performance distribution amplifier for RGBHV video signals. It provides correct buffering and isolation and distributes the signal to all five identical outputs. HDTV compatible, it features high bandwidth of 450MHz and selectable sync input termination - 75 Ohms (video), 510 Ohms (Graphics/TTL). Rackmountable (1RU high).  
*VM-1055 (Mfr # VM-1055-B&B # COVM1055) Call*

**VM-2HDMI • VM-4HDMI**  
1:2 and 1:4 HDMI Distribution Amplifiers  
Distribution amplifier for HDMI signals, the VM-2HDMI and VM-4HDMI reclock and equalize the signal and distribute it to two or four identical outputs. HDCP compliant, they feature active input and output LED indicators, as well as Enhanced EDID (Extended Display Identification Data). This allows them to store and recall a default EDID setting in non-volatile memory from the output allowing convenient and reliable connection to the source.  
*VM-2HDMI (Mfr # VM-2HDMI-B&B # COVM2HDMI) CALL*  
*VM-4HDMI (Mfr # VM-4HDMI-B&B # COVM4HDMI) CALL*

**VM-28HDMI • VM-216HDMI**  
2x1:8 HDMI and 2x1:16 HDMI Distribution Amplifiers  
The VM-28HDMI and VM-216HDMI are distribution amplifiers for HDMI signals. They reclock and equalize one of 2 selectable input signals and distribute it to 8 or 16 identical outputs. HDCP compliant, they feature active output LED indicators, as well as Enhanced EDID (Extended Display Identification Data). This allows them to store and recall a default EDID setting in non-volatile memory from the output allowing convenient and reliable connection to the source. Rackmountable (1RU high).  
*VM-28HDMI (Mfr # VM-28HDMI-B&B # COVM28HDMI) CALL*  
*VM-216HDMI (Mfr # VM-216HDMI-B&B # COVM216HDMI) CALL*
COMPOSITE & S-VIDEO DAs

103YC • 103YCB
1:3 S-Video Line Amplifiers
The 103YC and 103YCB are high performance (420MHz bandwidth) line amplifiers for S-Video signals. They are ideal for use in systems where the main display device is located a relatively long distance from the signal sources. The 103YC has three 4-pin outputs, the 103YCB has two 4-pin outputs and one 2-BNC output. Both feature Y/C Level (Gain) and Y EQ (Peaking) controls.

103YC (Mfr # 103YC • B&H # CO103YC) ......................Call
103YCB (Mfr # 103YCB • B&H # CO103YCB) ...............Call

103AV
Composite Video & Stereo Audio Distribution Amplifier
A compact DA for composite video and unbalanced stereo audio signals. It will take one input, provide correct buffering and isolation and distribute the signal to three identical outputs.

103AV (Mfr # 103AV • B&H # CO103AV) ......................Call

123VXL
1:3 Differential Video Line Amps
The 123VXL is a high performance line amplifier for composite or SDI video signals. It includes controls and circuitry to compensate for signal losses and noise inherent in long cable runs. Features high bandwidth of 425MHz, looping inputs, Level (Gain) and EQ (Peaking) controls, and selectable input signal termination.

123VXL (Mfr # 123VXL • B&H # CO123VXL) ...............Call

PT102S • PT102VN
1:2 Composite and S-Video Distribution Amplifiers
High performance distribution amplifiers for composite or SDI video (PT102VN) or S-Video (PT102S) signals, they take one input, provide correct buffering and isolation, and distribute the signal to two identical outputs. The PT102VN has Level (Gain) and EQ (Peaking) controls, the PT102S has Y/C Level (Gain) controls.

PT102S (Mfr # PT102S • B&H # COPT102S) ..............Call
PT102VN (Mfr # PT102VN • B&H # COPT102VN) .......Call

104LN
1:4 Differential Video Line Amplifier
The 104LN is a high performance line amplifier for composite and SDI video signals. It includes differential circuitry to help eliminate noise often found on the input cable in a long run. Features high bandwidth of 423MHz and Level (Gain) and EQ (Peaking) controls.

102LN (Mfr # 102LN • B&H # CO104LN) ......................Call

105S • 105V • 105VB
1:5 S-Video and Composite Video Distribution Amplifiers
The 105S (S-Video), 105V (composite video-RCA) and 105VB (composite video-BNC) are high performance distribution amplifiers. They take one input, provide correct buffering and isolation, and distribute the signal to five identical outputs. The 105V and 105VB offer Level (Gain) control.

105S (Mfr # 105S • B&H # COCVG105S) .....................Call
105V (Mfr # 105V • B&H # COCVG105V) .....................Call
105VB (Mfr # 105VB • B&H # COCVG105V) ...............Call

VM-50AN
1:5 Audio Distribution Amplifier
A distribution amplifier for balanced and unbalanced stereo audio signals. It takes one balanced or unbalanced stereo input and distributes the signal simultaneously to 10 stereo outputs (5 balanced and 5 unbalanced). Features balanced/unbalanced input selection and Level (Gain) controls. Very compact, two units can be rack mounted side-by-side in a 1U rack space with the optional RK-50RN adapter.

VM-3A
1:3 Mini Audio Distributor
The VM-3A is a Distribution Amplifier for balanced stereo audio signals. It accepts one balanced stereo audio signal on a terminal block and distributes the signal to three identical stereo outputs. The compact VM-3A is equipped with Level (Gain) controls. Each channel allows level adjustment from -0.4 to +7.8 dB. Three units can be rack mounted side-by-side in a 2U rack space with the optional RK-SM adapter.

VM-3A (Mfr # VM-3A • B&H # COVM3A) .....................Call
COMPOSITE & S-VIDEO DAs

VM-50H
1:5 Headphone Distribution Amplifier
The VM-50H is a distribution amplifier for headphone signals. It takes one stereo headphone input and distributes the signal to five identical stereo headphone outputs. Features mono/stereo input selection and Level (Gain) controls for each output. Compact, two units can be rack mounted side-by-side in a 1U rack space with the optional RK-50RN adapter.

VM-50H (Mfr # VM-50H • B&H # COVM50H) ................................................................. Call

VM-5AD
1:5 Balanced Audio Distribution Amplifier
The VM-5AD is a high performance DA for balanced mono or unbalanced stereo audio signals on XLR connectors. It takes a mono or stereo input and distributes the signal to five identical outputs. Features Level (Gain) controls, mic or line input level selection, and balanced/unbalanced input selection. Can be rack mounted (1RU high) with the optional RK-MEDN adapter.

VM-5AD (Mfr # VM-5AD • B&H # COVM5AD) ................................................................. Call

VM-1110XL
1:10 Balanced Audio Distribution Amplifier
The VM-1110XL is a high performance DA for balanced mono audio signals on XLR connectors. It can also be configured as a 1:5 distribution amplifier for stereo balanced audio signals. Features Level (Gain) controls. Rackmountable (1RU high).

VM-1110XL (Mfr # VM-1110XL • B&H # COVM1110XL) ......................................................... Call

VM-1120
1:10 Balanced Stereo Audio Distributor
A high performance DA for balanced mono audio signals on XLR connectors. It can also be configured as a 1:10 DA for stereo balanced audio signals. Features grouped audio level controls. Configurable as 1:20 (mono) or 1:10 (stereo) DA. Rackmountable (2RU high).

VM-1120 (Mfr # VM-1120 • B&H # COVM1120) ................................................................. Call

VGA DISTRIBUTION AMPLIFIERS

VP-6A
1:6 Computer Graphics A/V DA with Twisted Pair Transmitter
The VP-6A is a high performance video DA for computer graphics video signals with resolutions ranging from VGA through UXGA and higher with balanced or unbalanced stereo audio signals. It takes one input, provides correct buffering and isolation, and distributes the signal to 6 computer graphics video outputs on 15-pin HD connectors and one AV twisted pair output on an RJ-45 connector. HDTV compatible with high bandwidth of 500 MHz, it features balanced or unbalanced stereo input with 12 live outputs (6 balanced and 6 unbalanced), and left and right audio level controls. Also features ID Bit and EQ (Peaking) control, and horizontal and vertical polarity selection. System range is up to 300’. Rackmountable (1RU high).

VP-6A (Mfr # VP-6A • B&H # COVP6A) .............................................................................. CALL

VP-108
1:8 VGA/XGA Audio Distribution Amplifier with Output Disable
The VP-108 is a high performance computer graphics video amplifier with resolutions ranging from VGA through UXGA and higher, and balanced stereo audio signals. It takes one computer and a balanced stereo audio input and will output to eight computer and balanced stereo audio signals. HDTV compatible with high bandwidth of 400 MHz, it features RS-232 control, looping input, audio level (Gain) controls and selectable input signal termination. Rackmountable (1RU high).

VP-108 (Mfr # VP-108 • B&H # COVP108) .............................................................................. Call
COMPOSITE & S-VIDEO SWITCHERS

VS-401XLM • VS-601XLM • VS-801XLM • VS-1001XLM • VS-1201XL

4x1, 6x1, 8x1, 10x1, and 12x1

Vertical Interval Video and Unbalanced Audio Switchers with RS-232

The VS-401XLM, VS-601XLM, VS-801XLM, VS-1001XLM, and VS-1201XL Vertical Interval Switchers provide truly effortless switching between four, six, eight, ten or twelve video and unbalanced audio inputs to one output (video and audio). Switching is done during vertical interval, either of source no. 1 or of the video connected to the external sync socket. The switchers can be controlled by touch buttons on the front panel; by a PC via their built-in RS-232 and/or RS-485/422 communication ports; or by contact closure via a remote socket on the back panel. Each of the switchers can be interconnected and cascaded, (two VS-1201XL’s become a 24x1 switcher, etc.) They can also be operated in parallel (three VS-1201XL’s become a 12x3 video component switcher). All except the VS-1201XL (250MHz) feature high bandwidth of 400MHz allowing them to be used in the most demanding applications.

- Switching during the vertical interval ensures glitch-free switching with genlocked sources.
- They offer front panel control, RS-232 control (includes K-Router Windows - based software), RS- 485, & contact closure.

**VS-401XLM** (Mfr # VS-401XLM • B&H # COVS401XLM)
With 4 unbalanced audio inputs ................................................................. CALL

**VS-601XLM** (Mfr # VS-601XLM • B&H # COVS601XLM)
With 6 unbalanced audio inputs ................................................................. CALL

**VS-801XLM** (Mfr # VS-801XLM • B&H # COVS801XLM)
With 8 unbalanced audio inputs ................................................................. CALL

**VS-1001XLM** (Mfr # VS-1001XLM • B&H # COVS1001XLM)
With 10 unbalanced audio inputs .............................................................. CALL

**VS-1201XL** (Mfr # VS-1201XL • B&H # COVS1201XL)
With 12 unbalanced audio inputs .............................................................. CALL

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**VS-411 • VS-611 • VS-1011 • VS-1211**

The main difference is that the “11” group has snap fit terminal block connectors for balanced audio.

The VS-411, VS-611, VS-1011, VS-1211 are high performance switchers for composite video and Balanced Audio signals.

Switching during the vertical interval ensures glitch-free switching with genlocked sources.

- Bandwidth - 250MHz (-3dB).
- Vertical Interval Switching.
- Switching Synchronization - Synchronize either to external reference or the incoming video.
- Control - Front panel RS-232 (included KRouter Windows - based software), RS-485, and contact closure.
- Standard 19” Rack Mount Size - 1U.

**VS-411** (Mfr # VS-411 • B&H # COVS411)
With 4 balanced audio inputs ................................................................. CALL

**VS-611** (Mfr # VS-611 • B&H # COVS611)
With 6 balanced audio inputs ................................................................. CALL

**VS-1011** (Mfr # VS-1011 • B&H # COVS1011)
With 10 balanced audio inputs ............................................................... CALL

**VS-1211** (Mfr # VS-1211 • B&H # COVS1211)
With 12 balanced audio inputs ............................................................... CALL
**VS-33V 3x1 Vertical Interval Video Switcher**
The VS-33V is a high performance switcher for composite video (BNC) signals. Switching during the vertical interval ensures glitch-free switching with genlocked sources. Very compact, three units can be rack mounted side-by-side in a 2RU high rack space with the optional RK-SM adapter.

**VS-421 4x1 Video/Audio Switcher**
A high performance switcher for composite video (BNC) and unbalanced (RCA) audio signals. It switches any one of four audio and video signals to a single audio and video output. Select from vertical interval or immediate switching, front panel or contact closure control. The VS-33V can be rack mounted (1RU high) with the optional RK-MEDN adapter.

**VS-402XL • VS-602XL • VS-802XL**
4x2, 6x2, 8x2 Vertical Interval Video/Audio Switchers
The VS-402XL, VS-602XL and VS-802XL are expandable, looping vertical interval switchers for composite video and balanced stereo audio with genlock input, and front panel, RS-232 and RS-485 controls. They are true matrix switchers - enabling you to route any input to any or all outputs simultaneously. Switching during the vertical interval ensures glitch-free switching with genlocked sources.
- High bandwidth of 300MHz ensures that they remain transparent even in the most critical applications
- Level (Gain) and EQ (Peaking) controls for each output.
- Selectable input signal termination.
- "Lock" button to prevent tampering with the front panel
- Take' button lets you execute multiple switches all at once.
- Store multiple switches as presets, to be recalled when needed.
- Synchronize either to external reference or the incoming video.
- Include audio-follow-video or audio breakaway option
- Controllable via the front panel buttons, RS-232 (includes K-Router, Windows-based software, RS-485. VS-802XL also includes IR remote.
- Rackmountable (1RU high)

**VS-402XL (Mfr # VS-402XL • B&H # COVS402XL) .................................................. Call**
**VS-602XL (Mfr # VS-602XL • B&H # COVS602XL) .................................................. Call**
**VS-802XL (Mfr # VS-802XL • B&H # COCVG802XL) .................................................. Call**

**VS-4x4YCXL**
4x4 Vertical Interval Video/Audio Switcher
The VS-4x4YCXL is a high performance matrix switcher for S-Video and balanced stereo audio signals. Switching during the vertical interval ensures glitch-free switching with genlocated sources.

**VS-4x4YCXL (Mfr # VS-4x4YCXL • B&H # COVS4X4YCXL) .................................................. Call**

**VS-6YC**
4x4 Composite/S-Video and Audio Matrix Switcher
The VS-6YC is a high performance matrix switcher for composite or S-Video and unbalanced stereo audio signals. It can route any or all of the four inputs to any or all of the four outputs simultaneously, but it does not perform any format conversion between composite and S-Video.

**VS-6YC (Mfr # VS-6YC • B&H # COCVG6E) ............................................................... Call**
**COMPOSITE & S-VIDEO SWITCHERS**

### VS-5x5

**5x5 Composite Video/Audio Matrix Switcher**
The VS-5x5 is a high performance matrix switcher for composite video and unbalanced stereo audio signals. Switching during the vertical interval ensures glitch-free switching with genlocked sources.

- **Bandwidth**: 70MHz (-3dB) fully loaded.
- **Control**: Front panel, RS-232 (included K-Router Windows-based software is included), & RS-485, IR Remote (included).
- **Front panel control lockout.**
- **Take Button**: Execute multiple switches all at once.
- **Memory Locations**: store multiple switches as presets to be recalled and executed when needed.
- **Audio Gain Level controls**: Input and output via RS-232.
- **Audio breakaway switching.**
- **Vertical interval switching.**
- **Switching Synchronization**: synchronize either to external reference or the incoming video.
- **Looping Sync input.**
- **Worldwide power supply**: 100-240V AC.
- **Standard 19" rack mount size**: 1U.

**VS-5x5** (Mfr # VS-5xS • B&H # COVS5x5) ................................................................. 636.00

### VS-646

**6x6 Composite Video/Balanced Audio Matrix Switcher**
The VS-646 is a high performance matrix switcher for composite video and balanced stereo audio signals. Switching during the vertical interval ensures glitch-free switching with genlocked sources.

- **Bandwidth**: 200MHz (-3dB) fully loaded.
- **Control**: Front panel, RS-232 (included K-Router Windows-based software is included), & RS-485.
- **Take Button**: Execute multiple switches all at once.
- **Memory Locations**: store multiple switches as presets to be recalled and executed when needed.
- **Audio breakaway switching.**
- **Vertical interval switching.**
- **Switching Synchronization**: Synchronize either to external reference or the incoming video.
- **Selectable sync signal termination.**
- **19" rack mount size**: 2U.

**VS-646** (Mfr # VS-646 • B&H # COVS646) ................................................................. 1000.00

### VS-804XL

**8x4 Vertical Interval Video and Audio Matrix Switcher**
The VS-804XL is a high performance matrix switcher for composite video and unbalanced stereo audio signals. Switching during the vertical interval ensures glitch-free switching with genlocked sources.

**VS-804XL** (Mfr # VS-804XL • B&H # COCVG804XL) .................................................... 716.00

### VS-808YC

**8x8 S-Video/Balanced Audio Matrix Switcher**
The VS-808YC is a high performance matrix switcher for S-Video and balanced stereo audio signals. Switching during the vertical interval ensures glitch-free switching with genlocked sources.

**VS-808YC** (Mfr # VS-808YC • B&H # COVS808YC) .................................................... 1276.00
COMPOSITE & S-VIDEO SWITCHERS

VS-101AV 10x1 Passive Audio/Video Switcher
Operating as a passive unit with mechanical switches, the 1RU VS-101AV selects signals without the use of AC power. Ideal for location operations or situations where power regulation must be complied with. Switches any one of 10 composite video and unbalanced stereo audio signals to a single composite output.

VS-162AV 16x16 Balanced A/V Matrix Switcher
Designed for use with composite video and balanced audio signals, the rackmountable (2RU high) VS-162AV features 16 video and balanced audio inputs (on detachable terminal blocks) and outputs. By switching during the vertical interval, glitch-free switching with genlocked sources is ensured. Also offers audio breakaway switching.

VS-41HD 4x1:2 HD-SDI & SDI Digital Video Switcher
Designed for broadcasting and production studios, the VS-41HD switches SD/HD-SDI digital video signals enabling the distribution of the four inputs to two identical outputs. It features vertical interval switching, looping analog sync input, selectable sync signal termination, BNC connectors, output disconnect, and front panel control lockout. Can be rackmounted (1RU high) with the supplied rack ears, and it runs on 100-240v AC, so it can be used worldwide.

- Each input button on the front panel automatically lights up when the unit detects a video signal on that input (Active Input Indication Reporting). Green indicates a standard definition (SDI) input signal and blue indicates a high definition (HD-SDI) input signal.
- Control via front panel, RS-485, Ethernet, contract closure, supplied remote, or included K-Router (Windows-based software via RS-232.)

B&H Photo Video Pro Audio

VS-1604 16x4 Balanced A/V Matrix Switcher
Ideal for those seeking an economical solution for production, duplication or staging work. It features 16 video and balanced audio inputs (on detachable terminal blocks), as well as 4 video and audio outputs. By switching during the vertical interval, glitch-free switching with genlocked sources is ensured. Also offers audio breakaway switching.

VS-848 8x8 Balanced A/V Matrix Switcher
Same as above, except with 8 video and balanced audio inputs (on detachable terminal blocks) and outputs.

VS-162V 16x16 Video Matrix Switcher
The 2RU VS-162V is a high performance matrix switcher for composite video signals. It can also be configured as an 8x8 S-Video, 5x5 component (YUV) or 4x4 RGBS switcher. HDTV ready, it features looping Inputs and sync, and selectable input and sync signal termination.

VS-41V 4x1 Passive Composite and S-Video Switcher
High performance passive (no power required) switchers for composite (4x1V, 4x1VB) and S-Video signals (4x1S), they switch any one of four signals to a single output. Part of the Kramer TOOLS family of compact, high quality and cost effective solutions, they measure just 4.7” wide and can be carried in a pocket.

- VS-41V Composite with RCA connectors (Mfr # 4X1V & B&H # CO4X1V) .....
- VS-41VB Composite w/BNC connectors (Mfr # 4X1VB & B&H # CO4X1VB).......
- VS-41S S-Video Switcher (Mfr # 4X1S & B&H # CO4X1S).............................

4x1V • 4x1VB • 4x1S

The VS-1604, VS-848, VS-162V and VS-162AV all feature a take button that allows the execution of multiple switches at once, and memory locations that can store multiple switch presets for recall and execution as needed. Control of the systems is managed via their front panel, RS-485 or the included K-Router (Windows-based) control software via RS-232.
VGA SWITCHERS

VP-201XL
2x1 VGA/XGA Passive Switcher
High performance, high bandwidth (1300 MHz) passive switcher (no power required) for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. It switches either of two signals to a single output. Measures just 4.7” wide and can be carried in a pocket.

VP-201XL (Mfr # VP-201XL • B&H # COVP201XL) ................... 132.00

VP-211DS
2x1 Automatic VGA/Audio Switcher
A high performance switcher for computer graphics video signals, with resolutions ranging from VGA through UXGA and higher, and unbalanced stereo audio signals. When configured as a standby switcher, it will switch from secondary input to primary input when a signal is detected, and switch to the secondary input upon loss of the primary input. It features looping input (Input 1), selectable input signal termination, ID Bit control, and automatic or contact closure.

VP-211DS (Mfr # VP-211DS • B&H # COVP211DS) .................. 156.00

VP-222
2x1 VGA/XGA Switcher and 1x2 VGA/XGA DA
The VP-222 is a high performance switcher for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. It switches one of two inputs to two identical outputs.

VP-222 (Mfr # VP-222 • B&H # COVP222) ........... 140.00

VP-31
3x1 VGA/XGA Switcher
Ideal for multimedia and presentation source selection, the VP-31 is a high performance switcher for computer graphics video signals with resolutions ranging from VGA through UXGA and higher. It switches any one of three inputs to a single output. Compact, desktop size, the VP-31 can be rackmounted in a 1U rack space with the optional RK-MEDN adapter.

VP-31 (Mfr # VP-31 • B&H # COCVGVP31) .............. Call

COMPONENT & RGB SWITCHERS

VP-64ETH/66ETH/82ETH/84ETH/88ETH

6x4, 6x6, 8x2, 8x4 and 8x8 RGBHV & Balanced Stereo Audio Matrix Switchers
The VP-64ETH, VP-66ETH, VP-82ETH, VP-84ETH, and VP-88ETH are high performance rackmountable (3RU high) matrix switches for RGBHV and balanced stereo audio signals. They can route any or all inputs to any or all outputs simultaneously. HDTV compatible, they feature high bandwidth of 300MHz and audio breakaway switching. A take button allows for the execution of multiple switches at once, and memory locations store multiple switch presets to be recalled and executed as needed. Control of the system is managed via the front panel, RS-485, contact closure, supplied IR remote control, or the included K-Router (Windows-based) control software via RS-232.

VP-64ETH (Mfr # VP-64ETH • B&H # COVP64ETH) .................. Call
VP-66ETH (Mfr # VP-66ETH • B&H # COVP66) ..................... Call
VP-82ETH (Mfr # VP-82ETH • B&H # COVP82ETH) .................. Call
VP-84ETH (Mfr # VP-84ETH • B&H # COVP84ETH) .................. Call
VP-88ETH (Mfr # VP-88ETH • B&H # COVP88ETH) .................. Call

www.bhphotovideo.com
VP-32XLN
3x1 VGA/XGA and Audio Switcher and 1x2 DA
The VP-32XLN is a high performance switcher for computer graphics video signals with resolutions ranging from VGA through UXGA and higher, and balanced stereo audio (5 pin terminal block connectors). It switches any one of three inputs simultaneously to two identical outputs. Features front panel and contact closure control. Compact, desktop size, two units can be rack mounted side-by-side in a 1U rack space with the optional RK-80 adapter.

VP-23N
Multi-Format 4x1 Switcher with Balanced Stereo Audio
Designed for a wide variety of presentation and multimedia applications, the VP-23N is a 4x1 composite video, a 4x1 S-Video and 4x1 computer graphics video switcher, each with balanced stereo audio. HDTV compatible, it features mic input level control, audio level (Gain) controls for each output and input selectable master audio output. Built-in 5-watt RMS per channel audio amplifier with speaker output connectors. Talk Over Button Microphone input signal mutes the line audio output when a mic detects sound. Outputs computer graphic signals on HD-15 and ethernet (up to 300') connections. Control options include front panel, RS-485, RS-232 (included K-Router Windows-based software), Ethernet, and supplied IR remote. Standard 19” rackmount size (2RU high), it runs on 100-240v AC and has a front panel lockout.

VP-81A 8x1 Stereo Audio Passive Switcher
The VS-81A is a mechanical (passive) switcher—no power required—for unbalanced audio signals. It switches any one of eight signals to a single output. Desktop, compact size, two units can be mounted side-by-side in a 1U rack space with the optional RK-81 adapter.

VP-4X4 4x4 VGA/XGA and Balanced Audio Matrix Switcher
The VP-4x4 switches computer graphics video signals, with resolutions ranging from VGA through UXGA and higher, and balanced stereo audio signals. It can route any or all inputs to any or all outputs simultaneously. HDTV compatible, it features high bandwidth of 440MHz, audio breakaway switching, and front panel control lockout. A take button allows for the execution of multiple switches at once, and multiple switch presets can be memorized, recalled and executed as needed. Control is managed via front panel, RS-485, or included K-Router (Windows-based) control software via RS-232.

VP-81XL • VP-161XL • VP-321XL
8x1, 16x1 and 32x1 VGA/XGA and Audio Switchers
The VP-81XL (1RU high), VP-161XL (2RU high), and VP-321XL (3RU high), switch computer graphics video signals from VGA through UXGA and higher, and balanced stereo audio signals. They will switch any one of 8, 16, and 32 inputs to a single output. They feature high bandwidth, IDBit control for each input, audio breakaway switching. Control is managed via the front panel, RS-485, contact closure, supplied remote I, or the included K-Router (Windows-based) control software via RS-232.

VP-61XL • VP-61N
6x1 VGA/XGA Switchers
The VP-61XL is a high performance switcher for computer graphics video signals, with resolutions ranging from VGA through UXGA and higher, and balanced stereo audio signals. The VP-61N has all the same features of the VP-61XL but without audio. Standard 19” rackmount size (1RU high), they are controlled via the front panel or the included K-Router (Windows-based) control software via RS-232.
VP-701XL  VGA/SVGA/XGA Scan Converter with IR Remote, Auto Size & Shift

The VP-701XL is a real-time, computer-video scan converter designed to take the VGA (640 x 480), SVGA (800 x 600) and XGA (1024 x 768) resolution output of a computer and convert it to NTSC or PAL video. It features a 15-pin HD input with a loop-through for the computer's local monitor, composite (RCA) and S-Video outputs, two-level four-line flicker reduction, H/V shift and sizing controls, and compatibility with any VGA or SVGA computer signal, from 24-100 KHz horizontal up to 150 Hz vertical refresh rate. Its 24-bit color sampling features true-color and real-time image reproduction. The VP-701XL also features auto-scanning input signal detection and AutoTrak — Kramer's unique auto-set-up button that automatically sizes, shifts and centers to output signal on the video monitor or projector. The VP-701XL is the perfect combination of features, performance and compatibility in a unique, aesthetic vertical or horizontal desktop mount metal enclosure with front panel LED, on-screen menu adjustment capability and IR remote control.

- AutoTrak Auto Set Up; one button setup automatically sizes, shifts, and centers any input image on the display device.
- H/V shift and sizing to adjust output to display.
- 2 or 4-line flicker reduction (selectable).
- 24-100KHz (H) and 40-150Hz (V) input compatibility.
- Looping input.
- Selectable input signal termination or auto sensing termination.
- PAL or NTSC output (selectable).
- Simultaneous composite & S-Video outputs.
- Front panel and IR remote control (included) with on-screen menus.
- Selectable Over/Under Scan
- Freeze Frame
- Front panel lock out
- 2x Zoom and Pan
- Compact, desktop size, two units can be rack mounted side-by-side in a 1U rack space with the optional RK-701DBL adapter.

VP-703XL VGA to SXGA Scan Converter (Mfr # VP-703XL - B&H # COVP703XL) ................................................................. CALL
VP-704XL VGA/UXGA Scan Converter (Mfr # VP-704XL - B&H # COVP704XL) ................................................................. CALL

VP-703XL • VP-704XL
VGA/SXGA and VGA/UXGA Scan Converters with IR Remote, RS-232 and Auto Size & Shift

The VP-703XL steps-up from the VP-701XL (above) with SXGA (1280 x 1024) resolution capability, is rack-mountable (1U high), includes RS-232 control, and has RGBHV outputs. It also offers three-level six-line flicker reduction. The VP-703XL is the perfect combination of features, performance and compatibility in a rack-mountable, metal enclosure with front panel LED, on-screen menu adjustment capability, RS-232 control and IR remote control. The VP-704XL steps up with UXGA (1600 x 1200) resolution capability.
810 **Color Bar/Audio Generator** *(Mfr # 810 • B&H # CO810)*
The 810 is a unique, high quality color bar/audio generator for testing and aligning video equipment, such as monitors, recorders, projectors etc. The 810 generates a color bar in composite and S-Video. It provides two composite outputs (BNCs) and one S-Video output. In addition, it provides a 1 kHz balanced audio output (that can also be used as unbalanced) for audio equipment alignment. A front panel selector switch programs the device to output a standard NTSC or PAL output. The 810 uses digital signal synthesis to create a stable, standard reference signal. Housed in the small Kramer Tools enclosure, the 810 is powered by 12v DC from the included AC power supply, making it suitable for field operation as well.

820 **SDI Color Bar Generator** *(Mfr # 820 • B&H # CO820)*
The 820 is a unique, high quality color bar generator for testing and aligning SDI equipment, such as monitors and recorders. The 820 generates a color bar in the two most common SDI formats: 525 line (60Hz frame rate), and 625 line (50Hz frame rate). The 820 provides four identical equalized, low-jitter SDI signals for any professional use, and due to its digital signal synthesis, the stability of the machines output is suitable for the most professional demanding applications. The 820 is housed in the KRAMER TOOLS enclosure and is DC fed, making it suitable for field operation as well.

830 **Digital/Analog Audio Test Generator** *(Mfr # 830 • B&H # CO830)*
A high-performance tone generator that offers both digital and audio signal outputs, the 830 provides a number of unique functions that allow you to test signal integrity with extreme precision. It is ideally suited for testing and alignment of digital and analog audio monitors and other studio equipment, as well as work with audio reference generation in broadcast studios. It outputs audio sine wave in most formats, including AES/EBU, AES-3/ID3, S/PDIF, and Toslink optical. It also provides sampling rates at 32k, 44.1k, 48k, and 96k for testing and alignment. Available tone frequencies include 40Hz, 100Hz, 1kHz, and 10kHz. Independent control of the left and right channels is available, allowing you to turn each one on or off at will. A rack kit is also available.

840 **DVI Pattern Generator** *(Mfr # 840 • B&H # CO840)*
A DVI-D pattern generator with 32 preset patterns including motion patterns. Supports 12 output resolutions, four of which are VESA compatible (SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), 1400 x 1050 and seven widescreen and HDTV - 720 x 480, 852 x 480, 960 x 540, 1280 x 720, 1366 x 768, 1920 x 540, and 1920 x 1080 including 480p, 720p, 1080i and 1080p) all @60Hz. An on board EEPROM saves the last setting used. The 840 includes one DVI-D output, 7 control buttons, and 7-segment display indicating the pattern number. It is housed in a compact Kramer DigiTools size metal case and powered by an included standard 12VDC power supply.

SG-6005 **Black Burst, Bar, Sync & Audio Tone Generator** *(Mfr # SG-6005 • B&H # COSG6005)*
The rackmountable SG-6005 is a digitally synthesized, multi-standard black burst, color bar and audio tone generator with SCH, sync delay and RS-232 controls. Features six black burst outputs for referencing an equal number of devices, 13 selectable test patterns including color bars, and a 1 kHz crystal controlled oscillator providing an audio signal through balanced or unbalanced ports. It also offers color matte, horizontal and vertical sync. The SG-6005 can operate as the main studio reference or can be timed to another device via a looping reference input, it can also be operated from a remote PC via RS-232.
PORTABLE SERIES

PCN-40 S-Video to Composite Converter
Small and lightweight (5 oz.) in a high-impact plastic case, the PCN-40 encodes an S-Video signal, and outputs two composite video signals via BNCs. The signal is fully buffered and capable of driving long cable runs. An onboard voltage regulator allows it to be powered from an external AC or DC supply.
◆ Output level trim on the front panel.
◆ Y/C inputs are single-ended and AC coupled.
◆ Internal jumpers allow the input grounds to be AC coupled to the circuit ground as well, eliminating the possibility of ground loops.
PCN-40 Composite Converter (Mfr # PCN40 • B&H # LIPCN40) ..................89.95

PCD-88 Portable Closed Caption Decoder
Capable of processing and displaying all standard line 21 closed-captions and text on field one. Operating modes are selectable from a four-position rotary switch. Four LEDs indicate which channel is selected. An automatic caption “Time-Out” function erases displayed captions after 15 seconds if no new data is received. Can easily be mounted adjacent to a video monitor (without a built-in closed caption decoder). The required input signal is composite video with caption data on line 21 of field one. There are two BNC composite video outputs. The input is high impedance looping configured as single ended, AC coupled, to work in all environments. A regulated 12v DC power supply is required. Three internal controls provide for adjustment of composite video level, background level and character intensity. Housed in a high impact plastic case for durable operation in the field or in the studio.
PCD-88 Closed Caption Decoder (Mfr # PCD88 • B&H # LIPCD88) ..................219.95

PVA-50 1x4 Video Distribution Amplifier
Designed for field use, the PVA-50 is a portable video distribution amplifier housed in a durable high-impact plastic case. On-board voltage regulator allows it to be powered from an external AC or DC supply. Can be powered by the same source, that powers your cameras.
◆ A front panel control adjusts for ±3dB gain
◆ Weighs only 5 oz., making it ideal for field operations.
PVA-50 Distribution Amplifier (Mfr # PVA50 • B&H # LIPVA50) ..................124.95

PVA-152 Video Distribution Amp
The PVA-152 offers transparent transmission with a frequency response of greater than 40MHz. A differential amplifier on the input is standard and provides more than 70dB of common mode rejection. Internal jumpers select AC or DC coupling. A master gain control on the front panel adjusts the video level from -2dB to +6dB.
PVA-152 Video Distribution Amp (Mfr # PVA152 • B&H # LIPVA152) 1x8 Video DA Module ..................117.95

1RU Audio & Video Distribution Systems
The 200 Series consists of the the PFM-210 video frame accommodating up to 4 PVA-152 video DA modules, and the PFM-220 audio frame accommodating up to 4 PAA-652 audio DA modules. Each module has 8 outputs when operating in their respective frame allowing a video or audio input to be looped for 32 video or mono audio outputs when the frames are loaded with 4 modules. By using two modules for right signal and two modules for left, the PFM-220 will provide sixteen stereo outputs. The PFM-210 rear panel connectors are BNC and the PFM-220 are captive screw clamp terminals. The 200 Series is ultra stable and extremely reliable for all applications.

PVA-652 Mono Audio Distribution Amp
The input is balanced bridging, but can be terminated into 150 or 600 ohms. An unbalanced input is converted to balanced outputs. The transmission path is virtually transparent. 100dB S/N ratio and .05 dB frequency response from 20Hz - 20kHz. Isolation between modules is greater than 100dB. A gain control allows for gain adjustment of ±16dB.
PVA-652 Mono Audio Distribution Amp (Mfr # PAA652 • B&H # LIPAA652) 1x8 Audio DA Module ..........169.95

PAA-60 2x4 Stereo or 1x8 Mono Audio DA
◆ Used as a 1x8 Mono DA or a 1x4 Stereo DA via DIP switch.
◆ Use it as a two channel mixer with simple LED metering; as a visual audio presence monitor (produces sufficient output to drive headsets or ear pieces); as an adjustable Intercom IFB amp with local (talent) control and talent alert (clip indication). Also compatible with most intercom systems for power and level requirements.
◆ The PAA-60 can interface unbalanced sources to balanced feeds. Both channels have gain-up switches to accommodate -10 dBm inputs. Can also interface +4 dBm balanced to -10 dBm unbalanced.
◆ Each channel has signal metering LED.
◆ Powered via AC or +25-35v DC
◆ Gain controls for each channel may be adjusted from - to +9dB (+24dBm with gain).
PAA-60 Analog Audio DA (Mfr # PAA60 • B&H # LIPAA60) ..................189.95

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**LEI-515**

**SDI Presence Detector**

Designed to monitor two SDI signals and automatically switch to a backup digital source. In the event of a failure of the number one digital signal it will switch to an auxiliary signal. A captive-screw terminal sub-module is provided for “audio-follow video” capability or status mode. A 3-terminal dry-contact connector offers normally-closed and normally open contacts to control peripheral gear. Component (270MB/s) and composite (143MB/s) digital video formats are supported. The input receiver device monitors the incoming signal level & produces a DC voltage proportional to the amount of gain and equalization necessary to recover and re-shape the signal. If the automatic gain/EQ voltage exceeds a user set threshold, it will switch to auxiliary input before data errors are visible in the primary input. Front panel switches allow you to override the automatic change-over function and choose either video source. Dual front panel “status” LEDs indicate the presence or absence of Primary and Auxiliary video inputs. Primary/auxiliary switching lets you take advantage of the automatic gain and equalization capabilities of the input receiver. A 75 ohm matched-impedance relay allows the input signal to pass through if power is lost.

**LEI-515 Presence Detector (Mfr # LEI515 • B&H # LILEI515).......................... $599.95**

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**LEI-550 • LEI-555**

**Serial Digital Distribution Amplifiers**

The **LEI-550** serial digital video distribution amplifier restores the incoming signal to its proper amplitude. The signal is reshaped with automatic equalization, re-slicing and DC restored. Has six outputs on the rear panel.

A front panel module fault LED indicates that the input signal level is below a preset threshold. The LEI-550 accepts composite 143Mb/s and 177Mb/s, component 270Mb/s, and 16:9 aspect ratio 360Mb/s standards. The signal is transparent to the incoming signal data rate. The output level is adjustable from the front panel.

The **LEI-555** restores the incoming signal to its proper amplitude. The signal is reshaped with automatic equalization, re-slicing and DC restoration. It re-clocks the input signal for distribution over long distance cables up to 500’. Six outputs on the rear panel. A front panel fault LED indicates a weak signal or no input signal present. The sensitivity of the **LEI-555** input signal may be composite or component. Two LEDs show power supply and signal status.

**LEI-550 1x6 SDI Distribution Amplifier (Mfr # LEI550 • B&H # LILEI550)**

Composite Video, Gain Control, Desktop.......................................................$504.95

**LEI-555 1x6 SDI Distribution Amplifier (Mfr # LEI555 • B&H # LILEI555)**

Dual Gain Control, Desktop.................................................................$548.95

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**LEI-540**

**AES/EBU Digital Audio DA**

Accepts either AES3-1992 or AES3-1992 ID inputs and provides a total of eight outputs of digital audio: six to AES3-1ID and two to AES3-2ID. Transformer-coupled inputs and outputs are standard to eliminate the possibility of ground loops. Captive screw terminal blocks are used for the AES3-1992 input/outputs while BNC’s are used for the AES3-ID connections. A front panel switch selects between BNC and screw terminal, (AES3-ID, AES3-1992). Sample rate LED’s show three rates, 48KHz, 44.1KHz and 32KHz. An error detection LED indicates any errors on the incoming signal. An AC power switch on the front panel allows the user to turn the unit on or off at will. No need to go behind the rack to check the fuse; the fuse is on the front panel.

Many features are found in the LEI-540 for professional use. The digital signal path uses state-of-the-art integrated circuits. The data is re-sliced and re-clocked for jitter attenuation. Sample rates are automatically detected and indicated by front panel LEDs. Data errors are also detected and reported by a red LED on the front panel.

**LEI-540 1x8 Digital Audio DA (Mfr # LEI540 • B&H # LILEI540).........................$504.95**

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**LEI-547**

**AES/EBU Digital Audio to Analog**

Accepts either AES3-1992 or AES3-1992 ID inputs and provides a total of four outputs of digital audio to AES3-1ID specifications. In addition, it provides two sets of balanced low impedance analog outputs. Transformer coupled digital inputs and outputs are standard to eliminate the possibility of ground loops. Captive screw terminal blocks are used for the AES3-1992 while AES3-ID use BNC connectors.

A front panel switch selects between BNC or screw terminal, (AES3-ID, AES3-1992). Sample rate LEDs show three rates, 48KHz, 44.1KHz and 32KHz. An error detection LED indicates any errors on the incoming signal. Front panel AC power switch allows users to turn the unit on or off at will. The fuse is on the front panel for easy access. The output cells employ a unique cross-coupled design for precise amplitude and phase matching. The digital signal path uses state-of-the-art integrated circuits. The data is re-sliced and re-clocked for jitter attenuation. Sample rate is automatically detected and indicated by front panel LEDs. Data errors are also detected and reported by a front panel red LED.

**LEI-547 Digital Audio Monitor DA (Mfr # LEI547 • B&H # LILEI547)..............$559.95**
**STUDIO EQUIPMENT**

**LINK ELECTRONICS**

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### 700 SERIES

**IEC-708**

**8-Input Vertical Interval Video Switcher**

A wide bandwidth vertical interval switcher, with 8 BNC terminating inputs and dual outputs allowing users to efficiently and economically route or delegate multiple video signals. The stand-alone IEC-708 features eight lighted momentary push-button switches for video selection. Switching is accomplished during the vertical interval by the vertical sync derived from the video at the output stage of the IEC-708 video switcher.

IEC-708 8x1 Video Switcher (Mfr # IEC708 • B&H # LIEC708) ........................................ 404.95

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### IEC-712

**NTSC/PAL Master Blackburst Generator with Audio Tone**

Ideal for studio, remote locations, or production facilities where an economical yet accurate multiple blackburst source is needed, the IEC-712 provides six precision blackburst outputs for system distribution. An AC line voltage switch is also provided to select the proper AC line supply. Comes standard with a 5ppm crystal oscillator. Two optional crystals are available for 1ppm and 0.5ppm operation.

In addition, a high quality dual sine wave tone generator is provided for audio system testing. The balanced, low impedance output conforms to AES standards for audio distribution. A front panel switch selects between 400 Hz or 1KHz. Additional controls on the front panel provide modulated ramp on and off, and black set-up on and off.

IEC-712 Master Blackburst Generator (Mfr # IEC712 • B&H # LIEC712) ........................................ 504.95

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### IEC-720

**Blackburst and Color Bar Generator**

Provides two precision blackburst outputs for system timing and two color bar or flat field outputs. Factory adjusted to RS-170A standards, the IEC-720 is perfect for the studio, remote locations, or production facilities where an economical and accurate blackburst source generator is needed. In addition, a high quality digitally produced 1KHz tone generator is provided for audio system testing. A rear panel terminal block allows for easy connection to the system.

IEC-720 Mfr # IEC720 • B&H # LIEC720) .......................................................... 589.95

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### IEC-715

**Video Presence Detector**

Designed to monitor its primary video input signal and automatically switch to an auxiliary video input with the loss of the primary video signal. A captive screw terminal sub-module is provided for “audio-follow-video” capability for mono or stereo audio switching. A 3-terminal screw block provides dry contacts for normally open (N.O.) and normally closed (N.C.) to control peripheral gear. Incorporates a unique noise immunity circuit that prevents the video detector from being fooled by high level noise on its input. A relay provides a hard by-pass of the primary video signal in the event AC power is lost to the unit. Front panel “By-Pass” and “AUX Select” switches allow you to override the automatic change-over function and choose either video source. A front panel “Status” LED indicates the condition of the primary video input.

IEC-715 Video Presence Detector (Mfr # IEC715 • B&H # LIEC715) ....................................... 652.95

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### IEC-740

**1:8 Mono or 2:4 Stereo Audio DA**

Extremely versatile, the IEC-740 can be configured for balanced or unbalanced operation, mono or stereo. The input is high impedance bridging. All inputs and outputs use multi level screw clamp terminals. A front panel switch allows operation as a mono 1x8 DA or 2x4 mode for stereo operation. A gain trim control for each channel allows for independent level matching to approximately 16dB. The IEC-740 is a self-contained audio DA with an on-board power supply that draws only 4 watts. A fuse accessible from the front panel provides easy replacement.

IEC-740 Distribution Amplifier (Mfr # IEC740 • B&H # LIEC740) ............................................. 325.95

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### IEC-750

**1x8 or Dual 1x4 Video DA**

The IEC-750 is a versatile 1x8 composite video DA with the ability to operate as a dual 1x4 amplifier with the push of a button. In 1x8 mode input is high impedance loop through, in the dual 1x4 mode, the input is terminated internally. The dual mode of operation provides four outputs of each of the two inputs. Two gain controls on the front panel adjust the video level to ±3dB for each set of four outputs. A switch on the rear panel allows for differential or single-ended inputs. On-board power supply draws only 4 watts.

IEC-750 1x8, Dual 1x4 Video DA (Mfr # IEC750 • B&H # LIEC750) ............................................. 325.95

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**www.bhphotovideo.com**
IEC-751 1x4 S-Video DA

Two gain controls on the front panel adjust the video level to ±3dB for each the “Y” signal and the “C” signal. The IEC-751 Y/C Video DA has a video bandwidth of 20 MHz, making it a very useful device for any S-Video application. A fuse on the front panel provides easy replacement. Self-contained with an on board power supply, it draws only 4 watts.

IEC-751 S-Video DA (Mfr # IEC751 • B&H # LIIEC751) ........................................... 333.95

IEC-752 1x6 Video DA with 2000 feet Equalization

The most versatile video DA in the broadcast industry, the IEC-752 offers transparent transmission, with a bandwidth equal to 35MHz. A differential amplifier on the input is standard, and provides more than 80 dB of common mode rejection. The versatility of the IEC-752 is illustrated by its choice of built-in features. A switch on the front panel selects feedback clamp on and off. Gain control is ±3dB.

Cable equalization is a slider control located on the front panel that adjust up to 1000’ of coax cable loss. When EQ switch is activated, 1000’ are added. A delay trim on the front panel allows matching of signal propagation delays. Delay adjustment range is 6°.

IEC-752 1x6 Composite Video DA (Mfr # IEC752 • B&H # LIIEC752) ..................... 399.95

IEC-754 Video Delay DA

The IEC-754 Video Delay DA features continuously variable delay from 30ns to 475ns. It offers transparent transmission, with -3dB frequency response to 32MHz, and -3dB to 16MHZ with maximum delay. A differential input is standard and provides more than 80 dB of common mode rejection. An internal spare 32 pin IC socket provides for additional optional delay that increases the delay by 200, 300, 400, or 500ns. Cable equalization is adjustable from the front panel with a calibrated control that compensates for loss in coax cable for up to 1000’ of Belden 8281. A delay trim on the front panel allows matching of signal propagation delays with a range of ±5ns.

IEC-754 Video Delay (Mfr # IEC754 • B&H # LIIEC754) ........................................... 679.95

IEC-787 Vertical Interval Inserter

Provides an economical way to recover signals in the vertical blanking interval that may be lost during video processing such as video compression or overlay and comb filtering. This would include Closed Caption data on line 21, Ghost Cancellation Reference signal on line 19 and other signals in the vertical interval. Using front panel switches, any of lines 10 through 21 may be selected for insertion. The keyer employs a high-performance phase linear circuit to provide clean insertion, completely free of artifacts. Differential input configuration is standard on both video inputs, but single-ended configuration can be selected by an internal jumper. A switchable Monitor output allows you to view either of the video inputs ahead of the keyer. For system timing, a front panel calibrate switch will cause the unit to alternate between inputs at a field rate. If no input is connected to the VBI Source Input BNC, the IEC-787 may be used to simply pass or delete selected lines in the VBI of the program video.

IEC-787 Vertical Interval Inserter (Mfr # IEC787 • B&H # LIIEC787) .................. 569.95

IEC-788 Closed Caption Decoder

Decoder for the NTSC/PAL system. It is capable of processing and displaying all standard closed caption format transmissions. This includes the codes specified by the FCC Report and Order on General Docket No. 91-1 and EIA-608 recommended practices for Captions, Text and XDS. Nine standard data channels are supported by the IEC-788: Caption channels 1 through 4 (CC1- CC4), Text modes 1 through 4 (T1 through T4), and Extended Data Services (XDS). The various operating modes are selectable from four front panel switches.

A switch on the rear panel selects PAL or NTSC and a switch on the front panel selects between 115 or 230VAC. Designed with the professional user in mind, the IEC-788 processes composite baseband video or S-Video. The composite video input is high impedance looping and the S-Video is standard levels. A complementary differential input amplifier assures high common mode rejection while its phase-linear keyer cleanly inserts decoded characters into the video image. Differential gain and phase are well within 0.1% and 0.1° respectively. In addition, the IEC-788 is backed by a standard 10-year warranty. High performance, flexibility, and economy are equally represented in the IEC-788.

IEC-788 Closed Caption Decoder (Mfr # IEC788 • B&H # LIIEC788) .................. 519.95

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
**800 SERIES**

**HDG-820 • HDG-821**
HD Test Signal Generators

Housed in a 1RU high chassis, the HDG-820 and HDG-821 (with genlock) have two SDI/HD outputs and YUV/RGB analog outputs. The digital and analog outputs are simultaneous on the rear panel, and contain the same test pattern. A separate tri-level sync output is also provided (same data rate as the test pattern being generated). Internal audio tones can be embedded on the digital video output if desired. Supports two audio groups allowing for eight channels. The channels can be enabled on an individual basis. The internal tones generated are 400Hz and 1KHz. There are also two BNC connectors for AES output, which will allow for four channels of audio for monitoring. RS-232 input allows changes to be made via a PC. Thirty test signals are available, including SMPTE, EIA and full field bars. AES audio amplitude is adjustable from 0 to -30dBFS and frequency of 400Hz to 10KHz.

A 20x2 green transmissive LCD displays data for operational functions. All user controls are made from the front panel. All internal adjustments use digital potentiometer for precise and accurate settings.

**IEC-835 Phasealcon Timing Instrument**

The IEC-835 is a timing instrument for subcarrier and horizontal sync. It provides phase monitoring for two composite video signals allowing timing into a broadcast or reference application. It measures the subcarrier to horizontal condition of any composite NTSC video signal and displays the results on any standard monitor. The visual display is keyed over the selected input. The Phasealcon displays the graphics for SC/H in the lower 1/2 of the video display. In the certify mode of operation, a sine wave is displayed that represents one cycle of subcarrier. A vertical line represents the leading edge of sync relative to subcarrier phase. In the compare mode of operation, the certify and compare signals are displayed. An additional vertical mark is displayed on the left side of the display that shows relative differences in horizontal timing between the two composite signals. When H phasing reaches 200ns the vertical line appears on the right for accurate timing. Does system timing and burst amplitude as well.

**IEC-833 Sync Generator**

Highly reliable, flexible and economical, the high performance IEC-833 features one Color Bar, one Black Burst, two outputs of Sync and Subcarrier, one output of H Drive, V Drive, Blanking and Burst Flag. Genlocks to a stable video source, blackburst or a PC with unstable sync. The unique “PC Lock” feature allows the IEC-833 to produce a synchronous color burst and subcarrier output while referenced to a monochrome input.

An optional audio tone generator (IEC-833OP1) turns the IEC-833 into a well integrated audio and video signal generator. Outputs a 1KHz tone for test or reference.

**PVG-842 VGA to Composite & S-Video Encoder**

A VGA to composite or S-Video signal converter, that features the ability to sync to an external source. Use for converting from sources such as a PC to an NTSC monitor or recording device. Can be referenced to an external source for syncing to other studio equipment.

**IEC-843 RGB to Composite or S-Video Encoder**

The IEC-843 is a RGB to NTSC encoder with RS-170A sync generator. An external composite video or black burst input is required to genlock to an external source. The internal sync generator provides blanking and burst to the encoder section. An internal set of jumpers provide “Y” and “C” outputs for S-Video output.
PDV-844 IEEE1394 DV Converter

The bi-directional PDV-844 converts component, composite and S-Video to IEEE1394 DV and vice versa (converts DV to component, composite and S-Video). Delivers perfect audio video synchronization without time delay or dropped frames. It also decodes composite or S-Video to component YUV, or component YUV to composite or S-Video along with its companion stereo audio signal. Audio input and output levels have controls for adjusting left and right channels to the required levels. VU bar graphs are provided for easy adjustment. Featuring XLR audio and BNC video connectors, and DV connector for Firewire I/O, it is compatible with most DV capture cards. It will encode analog audio to DV with sampling rates of 32KHz, and 48KHz.

PDV-844 DV Converter (Mfr # PDV844 • B&H # LIPDV844) ......................$1,839.95

PVA-851 1x16 S-Video DA

Ideal for duplication in an S-Video environment, the PVA-851 has one looping input and 16 outputs. Input is normally high impedance, looping, but may be terminated using a rear panel push button switch. Front panel independent gain controls allow for precise adjustment.

PVA-851 1x16 S-Video DA (Mfr # PVA851 • B&H # LIPVA851) ......................$589.95

PCE-845 Closed Caption Converter

Inserts caption and text data on line 21 of the NTSC signal. It will insert four channels of data that are multiplexed into the vertical interval on line 21 of field one. Also capable of inserting data on lines 10 - 25. A single internal jumper selects correct line placement. Also compatible with PAL closed caption (caption data is usually inserted on Line 22 of field one). Accepts composite, component and S-Video signals. There are two composite video outputs. If a component format is used, the delay of each signal path is carefully matched, providing transparent thru-put. RS-232 and external modem port allow a modem and a computer to be connected to the PCE-845, to simultaneously receive local and remote caption data. A "TEST" signal confirms proper operation. Two front panel LEDs indicate the operation in field one or field two. Other status indicators confirm the presence of input video and RS-232. By-pass mode may be selected from the front panel, by software commands or via remote control. By-pass is transparent, and will not glitch the video signal when selected.

PCE-845 Closed Caption Encoder (Mfr # PCE845 • B&H # LIPCE845) .......... $779.95

PDR-870 Closed Caption Decoder

A high performance NTSC/PAL closed caption decoder, the PDR-870 is capable of processing and displaying all standard closed caption format transmissions — including the EIA-608 Extended Character Set — in the manner of a typical closed caption decoder. Nine standard data channels are supported by the PDR-870: Captions channels 1 thru 4 (CC1-CC4), Text channels 1 thru 4 (T1-T4) and Extended Data Services (XDS). Decoding channels are selectable by four front-panel toggle switches. Additional switches provide NTSC or PAL selection, drop-shadow or box character keying, and internal/external video. An internal video function allows the PDR-870 to generate its own video as a medium for producing open captions. In addition, the PDR-870 can accept an RS-232 data stream and directly produce open captions, serving as a “character generator decoder.” Along with it’s powerful decoder functions, the PDR-870 can serve as an accurate "V-Chip" ratings monitor.

The PDR-870 can recover incoming Line 21 data and send it to a computer terminal via the RS-232 port. The data may be recovered with or without the embedded closed caption control codes. The PDR-870 can also perform a unique data conversion to reveal the “non-printing” characters that are part of the closed caption control codes. Accepts composite video using a single high impedance, looping input with two outputs. For S-Video, uses standard 4-pin mini-DIN connectors or BNCs for its input/output.

PDR-870 Closed Caption Decoder (Mfr # PDR870 • B&H # LIPDR870) .......... $992.95

PCD-873 Composite/S-Video to RGB or YUV Decoder

The PCD-873 inputs either composite BNC or S-Video (selectable), and then configures them as high-impedance, differential, for common mode hum and noise rejection. It outputs two each of the decoded RGB and sync signals, and is internally selectable to provide Beta Y, R-Y, B-Y outputs. There is also a front panel switch for the selection of either two-line comb filter or notch filter operation for video processing. Front panel controls provide for video gain, chroma gain, hue and input selection. The green output, or Y output in Beta format, may be composite or non-composite via an internal adjustment.

PCD-873 Signal Converter (Mfr # PCD873 • B&H # LIPCD873) ......................$1684.95

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
**800 SERIES**

**PFS-875 Genlock Frame Synchronizer**

The PFS-875 features composite, component (YUV), S-Video and SDI inputs and outputs, making it the preferred choice among professional users. A front panel display allows convenient selection between multiple inputs, which may be connected simultaneously. The PFS-875 passes four channels of embedded stereo AES audio. AES delay adjustments will allow for matching output audio to video. A companion unit allows XLR analog input and output that requires balanced line audio. The PFS-875 provides dual standard composite and SDI correction and synchronization to an external analog reference. When input video is lost, the synchronizer freezes the last good frame of video, or black burst. The synchronizer decodes multiple composite standards (NTSC, PAL).

All analog inputs are sampled with 10-bit resolution and decoded using a 5-line adaptive comb filter. It also has a built-in color bar generator. The PFS-875 can also synchronize non-TBC signals from VHS tapes.

**PFS-875 Frame Synchronizer** (Mfr # PFS875 • B&H # LIPFS875) ............... 3079.95

**PAV-880 Blackburst Generator, DA**

The PAV-880 features six precision RS-170A black burst BNC outputs as well as a high quality 1 Khz tone generator for audio system testing. The video DA section has high impedance loop through in the 1x8 mode. In the dual 1x4 mode, the input is terminated internally. Dual mode provides four outputs of each of the two inputs. A switch on the rear panel allows the unit to operate as a dual 1x4 DA with two terminated inputs with four outputs each amplifier section. Two gain controls on the front panel adjust the video level to ±3dB for each set of four outputs. The audio DA section has high impedance loop through. All input and output connections use positive captive screw clamp terminals blocks located on the rear panel. A switch on the front panel allows the unit to operate as a mono or stereo DA with one input and eight outputs mono or 2x4 stereo. Selecting the dual 1x4 mode is required for stereo operation with four outputs for each of the Left and Right channels. A Master Gain Control on the front panel adjust the audio gain to ±16dB. A gain trim control for each channel allows for independent level adjustment. A balanced match of each channel is easily obtained.

**PAV-880 AV DA & Signal Generator** (Mfr # PAV880 • B&H # LIPAV880) ........ 824.95

**PDR-885 CC Encoder/Decoder**

In addition to inserting caption and text data on Line 21 of the NTSC signal, the PDR-885 can also insert it in either field of the Vertical Blanking Interval (VBI). Data on the incoming video signal can also be recovered from either field of the VBI. The data may be displayed as Open Captions, using the built-in CC decoder, and captured by a computer utilizing it’s serial data port. Each of these functions, encoding, decoding, and data recovery can be done simultaneously. Closed caption decoder functions may be controlled from the front panel (encoder and data recovery functions are controlled via the serial data port). Front panel LEDs show the unit status and the presence of data on the incoming video. Inputs and outputs are provided for composite video as well as component (RY/B-Y/Y) and S-Video. For remote captioning applications, a second serial port is available as a modem input. Both serial ports may be configured for RS-232 or RS-422 I/O, with optional plug-in PCB. Internal jumper allows baud rate selections of 1200 to 9600 bps. Modem and computer may be connected simultaneously to process local and remote caption data, only one active at a time.

V-Chip technology is also incorporated in the firmware of the PDR-885. The PDR-885 handles the automatic repetition of the “V-Chip” data and can interleave it with existing Line 21 CC data. An optional plug-in modem is available that operates at 1200 or 2400 baud. A built-in EDH (Error Detection and Handling) processor can monitor the incoming signal for impairments and insert new EDH data. An optional internal telephone modem is available for each processor. Three LEDs on the front panel indicate RI, OH, and CD. When the PDP-886 is used with closed caption software, the unit inserts CC data into a component serial digital datastream. There are two encoded serial digital outputs plus four analog NTSC/PAL outputs. One set of analog outputs are open caption, the second set are closed caption. Serial control is handled via two (selectable) RS-232/422 ports. LCD indicates Encode, Standard, Decode and baud rate. There are two microprocessors incorporated, two ports for each microprocessor (RS-232/422 and modem). The SDI signal will bypass in case of AC failure on one output. A total of nine data channels for video line 21 may be selected: CC1, CC2, T1, and T2 in Field 1 along with CC3, CC4, T3, T4, and XDS in Field 2.

A built-in EDH (Error Detection and Handling) processor can monitor the incoming signal for impairments and insert new EDH data. An optional internal telephone modem is available for each processor. Three LEDs on the front panel indicate RI, OH, and CD.

**PDP-886 Dual Processor CC Encoder/Decoder**

(Mfr # PDR885 • B&H # LIPDR885) ............... 1837.95

**PDP-886 CC Encoder/Decoder**

(Mfr # PDP886 • B&H # LIPDP886) ............... 1909.50

www.bhphotovideo.com
PDC-888 Closed Caption Decoder

High performance closed caption decoder (NTSC or PAL with automatic detection), the PDC-888 can display captions for composite, component and S-Video. Supports nine standard data channels: Caption channels 1 through 4 (CC1-CC4), Text modes 1 through 4 (T1 through T4), and Extended Data Services (XDS). Operational modes are selectable from four front panel switches. The component inputs accept RGB or YUV. The caption data is keyed into all component channels. All video inputs have AC power by-pass in case of a power failure. Component video is internally terminated. A complementary differential input amplifier assures high common mode rejection while its phase-linear keyer cleanly inserts decoded characters into the video image. Differential gain and phase are well within 0.1% and 0.1E respectively.

ENC-896 Portable CC Encoder/Decoder

Capable of inserting and decoding caption and text data on NTSC, PAL, Analog Y/C, RGB, YUV, and SDI. Caption and Text data may be inserted in either field of the Vertical Blanking Interval. In addition, data on the incoming video signal may be recovered from either field of the VBI. This incoming data may be displayed as Open Captions, using the built-in Closed Caption Decoder, and captured by a computer utilizing its serial data port. Encoding, Decoding, and Data Recovery may be done simultaneously. The Closed Caption Decoder’s functions may be controlled from the front panel while the Encoder and Data Recovery functions are controlled via the serial data port, on the SDI and analog composite and the open caption outputs. Inputs and outputs include composite (NTSC/PAL) analog Y/C, RGB, YUV, and SDI.

PDA-895, ENC-896 and PTC-892 All Feature

A weather-lift feature moves the captioning up 1 to 3 lines whenever a contact-closure is detected on its GPI input. For remote captioning applications, a second serial port is available as a modem input. Both serial ports may be configured for RS-232 or RS-422 I/O. DIP switches are provided to select the baud rates (1200, 2400, 4800, and 9600 bps). Modem speeds are 1200 or 2400 baud. The modem takes priority over the serial port, and when the modem hangs up, the PDA-895, ENC-896 and PTC-892 are restored to the last mode left by the modem. Front panel LEDs show the unit status and the presence of serial data. A pair of front panel push-buttons allow the user to run an encoded test message or to place the unit in by-pass mode. They all Incorporate V-Chip technology. The PDA-895, ENC-896 and PTC-892 handle the automatic repetition of the “V-Chip” data and can interleave it with existing Line 21 Closed Caption data.

PDA-895 Closed Caption Encoder/Decoder

A CC Encoder/Decoder capable of inserting and decoding caption and text data on NTSC, PAL, analog Y/C, RGB, YUV and SDI. Caption and Text data may be inserted in either field of the Vertical Blanking Interval. Data on the incoming video signal can be recovered from either field of the VBI. The data may be displayed as Open Captions, using the built-in CC decoder, and captured by a computer’s serial data port. Encoding, Decoding, and Data Recovery may be done simultaneously. CC decoder’s functions may be controlled from the front panel while the Encoder and Data Recovery functions are controlled via the serial data port, on the SDI and analog composite and the open caption outputs. Inputs and outputs are provided for, not only NTSC and PAL, but also analog Y/C, RGB, YUV, and SDI. Power-loss feature bypasses the analog and SDI when AC power to the PDA-895 fails.

PTC-892 Closed Caption Encoder/Decoder

Like the PDA-895 and ENC-896, the PTC-892 is capable of inserting and decoding caption and text data for NTSC, PAL Composite, Y/C, RGB, YUV, and SDI. Caption and Text data may be inserted in either field of the VBI. In addition, data on the incoming video signal may be recovered from either field of the VBI. This incoming data may be displayed as Open Captions and captured by a computer. Encoding, Decoding, and Data Recovery may be done simultaneously. Inputs and outputs are provided for, not only NTSC and PAL, but also Analog Y/C, RGB, YUV, and SDI. The power-loss feature by-passes the analog and SDI when AC power fails. The PTC-892 has SMPTE LTC input for precise caption timing with the video. A front panel Vacuum Fluorescent Display, VFD, shows various functions. A rotary optical encoder provides an easy selection of the various operating set-up functions.
**GenFlex SYNC GENERATOR SYSTEM**

Link’s GenFlex system provides accurate analog and digital timing reference signals. Modular construction offers unmatched flexibility, and provides an easy way to upgrade from analog to digital. The system consists of a 1RU chassis and power supply with six slots to accommodate various modules. One module slot is dedicated as a dual analog/digital audio reference tone generator. A second slot is designed as the master genlock module (can be either analog or digital). The genlock module provides the timebase for all chassis modules. Any of the output modules may be installed in the remaining slots. The output modules are: analog blackburst, component digital black, analog test patterns, component digital test patterns, pulses (SY, SC & BL) and digital audio (AES3-1D). There are three outputs per module and each module has its own independent infinite timing adjustments. A dual audio generator is available to provide 1KHz & 400 Hz reference tones and digital reference silence.

**SPG-812 Generator Chassis** *(Mfr # SPGB12 • B&H # LISPG812)*

The SPG-812’s flexibility is unmatched. Each module is accessible from the front of the unit and may be easily installed or removed. All timing adjustments are located on the front card edge. It is possible to begin with an all-analog unit and gradually upgrade to an all-digital unit simply by combining the appropriate modules. If genlock capability isn’t required, an output module may be installed in the “genlock” slot to serve as the unit’s master timebase. The digital and analog test generators may be plugged into the SPG-812 as a stand-alone test signal generator without any other optional module. Includes power supply and motherboard...................................................................................................................819.95

**812-OP/A • 812-OP/B**

Analog and Digital Blackburst Modules

The 812-OP/A uses three 2-bit mechanical encoders that give infinite phasing on both the vertical, horizontal, and subcarrier timing. The 812-OP/B digital burst module uses two 2-bit mechanical encoders that give infinite phasing on both the vertical and horizontal timing. This makes them ideal reference generators, compensating for any timing offset within the timing chain. Timing information is stored in RAM and can be held there if chassis power is interrupted, or if you move the module from chassis to chassis. They go in any slot. When placed in genlock slot #1 they become the master and all other modules slave to it. They can’t genlock to external video in the genlock slot. They can only run on its internal time base or free-run mode. When in free-run mode, a front panel control adjusts the frequency of the Voltage Controlled Crystal Oscillator (VCXO).

812-OP/A Analog Blackburst Module *(Mfr # 812OPA • B&H # L812OPA)* .599.95
812-OP/B Digital Blackburst Module *(Mfr # 812OPB • B&H # L812OPB)* .587.50

**812-OP/C • 812-OP/D**

Analog and Digital Genlock Modules

The 812-OP/C accepts analog black burst to genlock to an external source. The 812-OP/D accepts digital blackburst to genlock to an external source. The genlock cell is slot number two. Whether module 812-OP/C or 812-OP/D, all other modules lock to whatever is in cell number two. The slot two module will produce the necessary lock pulses for all of the other modules in the chassis. The remaining four cells will accept a digital or analog test of black module. The 812-OP/C or 812-OP/D take in a stable analog or digital black burst signal and genlock to it.

A video presence detector controls if the module is in genlock or free-run. A bi-color LED is used for a video presence indicator. If there is no video, they automatically switch over to a free-run frequency condition and a front panel control is used to adjust the DC voltage of the VCXO.

812-OP/C Analog Genlock Module *(Mfr # 812OPC • B&H # L812OPC)* .414.95
812-OP/D Digital Genlock Module *(Mfr # 812OPD • B&H # L812OPD)* .578.95

**812-OP/E**

Analog and Digital Audio Generator *(Mfr # 812OPE • B&H # L812OPE)*

The 812-OP/E produces a single AES/EBU digital audio signal for use as a digital audio reference or digital tone source. It also produces a balanced stereo analog audio signal of up to +28dBu for use as a test tone. It offers genlocking of the audio to digital or analog video within the frame. Or can be selected to free run with its high stability oscillator. Amplitude and frequency of the audio tone can be set from a fixed set of B combinations, including three frequencies (1KHz, 400Hz, 60Hz) and three levels (0dBFS, -10dBFS, -20dBFS). With this, it can produce “digital silence” while producing one of the eight combinational tones on the output. There are two digital outputs and one analog output. Analog audio tone levels can be adjusted in 2dB increments. LEDs are used to indicate tone frequency and level, digital silence, lock status, and power indication..........................514.95

B&H

www.bhphotovideo.com
GenFlex Sync Generator System

812-OP/F Digital (SDI) Test Signal Generator
A digital test set module with 16 digital video test patterns selectable by a front panel switch or via the optional 812TRC remote control. The 812-OP/F can go in any slot except the digital/analog audio test set and power supply slot. When placed in the genlock slot #1, it becomes the master and all other modules slave to it. It can't genlock to external video, it can only run on its internal time base or free run mode. In free run mode a front panel control adjusts the frequency of the VCXO.

812-OP/F (Mfr # 812OPF - B&H # LI812OPF) .......................................................867.95

Test signals for the 812-OP/F and 812-OP/G
◆ 100% color bars ◆ 75% color bars ◆ SMPTE color bars
◆ Field square wave ◆ Modulated/un-modulated ramp
◆ 2T/12.5T pulse & bars ◆ SDI pathological pattern ◆ Red field
◆ 5-step modulated & un-modulated stairsteps ◆ 50% multiburst
◆ 100% line sweep ◆ Shallow ramp ◆ Gray ◆ Black

812-OP/G Analog Test Signal Generator
An analog test set module with 16 different video test patterns selectable by front panel switch or optional remote control. The patterns are produced in any one of four possible NTSC and PAL formats: Composite video plus a Y/C pair, component video (Y/Pr/Pb), RGB, Green + Sync, Blue, and Red. All patterns are produced at 10-bit resolution and use high-performance filters with integral output amplifiers. A single 2-bit mechanical encoder controls all module functions including system timing and pattern selection. An 8-character alpha-numeric display provides a menu of options for each module parameter.

812-OP/G (Mfr # 812OPG - B&H # LI812OPG) .......................................................949.95
812-TRC Remote Control (Mfr # 812TRC - B&H # LI812TRC)
For the 812-OP/F and/or 812-OP/G test modules .....................................................604.95

812-OP/H Analog Pulse Generator
Provides composite sync, composite blanking, and color subcarrier for system applications which require 4V p-p drive pulses and 2V p-p subcarrier. Each of the output pulses is rise-time controlled to EIA standards and will drive a 75 ohm load at its specified voltage. The subcarrier output is filtered for low harmonic distortion and is driven by a discrete amplifier.

812-OP/H (Mfr # 812OPH - B&H # LI812OPH) .......................................................589.95

812-OP/J Closed Caption Decoder +
The 812-OP/J is a Closed Caption Decoder, Source ID and XDS Ratings Monitor. It can decode all standard line 21 closed-caption format transmissions, and supports Captions 1 to 4 (CC1-CC4), Text modes 1 to 4 (T1-T4), and Extended Data Services (XDS). Operating modes are selectable from the monitor screen menu. Message selection with a rotary encoded switch, and a miniature toggle switch for message on/off. As a Source ID, it can add up to 13 lines of alphanumeric characters (at 16 characters/line) to its video input signal. Characters are added using an RS-232 interface or a simple two-button front panel menu. Also features EEPROM storage for up to 16 messages with a 10-year data retention. As a program ratings monitor, it can extract the Line 21 XDS data which carries the “content advisory” (V-Chip) information and display an appropriate ratings “icon.” All alphanumeric displays are inserted into the composite analog video using a discrete phase linear keyer. Three input/output BNCs may be configured as a looping input pair with one output or as a single terminating input with two outputs.

812-OP/D (Mfr # 812OPJ - B&H # LI812OPJ) .......................................................509.95

812-OP/K • 812-OPL Analog Pulse Generators
For systems which require 4V p-p drive pulses and 2V p-p subcarrier, the 812-OP/K provides H/V Drive and color subcarrier, the 812-OP/L provide composite sync and blanking, and color subcarrier. Each of the output pulses is rise-time controlled to EIA standards and will drive a 75 ohm load at its specified voltage. The subcarrier output is filtered for low harmonic distortion and is driven by a discrete amplifier.

812-OP/K Analog Pulse Generator (Mfr # 812OPK - B&H # LI812OPK) ........666.95
812-OP/L Analog Pulse Generator (Mfr # 812OPL - B&H # LI812OPL) ....599.95

812-OP/M Digital Tone Generator
A high performance 24-bit digital audio generator, the 812-OP/M produces a single AES/EBU digital audio signal for use as a digital tone source or as a digital audio timing reference. Designed to fit into a wide variety of applications, it features genlocking of the audio to digital or analog video within the Genflex frame. Also, the user may select to have this module free run with its high stability oscillator.

Select the amplitude and frequency of the audio tone from a fixed set of 8 combinations. Within this set of eight there are three frequencies (1KHz, 400Hz, 60Hz) and three levels (0dBFS, -10dBFS, -20dBFS). The module has the ability to produce “digital silence” or one of the eight combinational tones on the output. LEDs are used to indicate tone frequency and level, digital silence, lock status, and power indication. There are three digital outputs.

812-OP/M (Mfr # 812OPM - B&H # LI812OPM) .....................................................449.95

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
**GenFlex SYNC GENERATOR SYSTEM**

**PCO-818 Automatic Changeover Unit**

As your GenFlex system grows, the PCO-818 stands ready to grow with you. Engineered to provide complete sync system reliability in a compact, economical package, its advanced modular design provides flexibility never before available in an Automatic Changeover unit. Combined with the SPG-812, the PCO-818 offers the best performance and reliability available today. Its basic function is to monitor an installation’s primary sync generator and automatically switch to a backup generator in the event of a failure to the primary.

Modular design offers several advantages over traditional automatic changeover units: Monitor only the signals used by the system: no need to pay for monitoring capability that isn’t required by the system. Install only the modules you need now—add more later. Each module is matched to it’s signal: this allows them to accurately monitor pulses of various amplitudes and widths. It also allows analog and digital signal monitoring in the same chassis. Since the PCO-818 and the SPG-812 Sync Generator share a common chassis, modules may be interchanged between units. For example, a TV station may use a single SPG-812 generator with a backup blackburst generator installed in the changeover chassis. In addition, the PCO-818 is designed such that AC mains failure will not erase the memory of it’s last generator selection. Dual-coil latching relays provide a reliable signal path even if power is lost to the PCO-818. Meanwhile, its power supply features a “universal” voltage input range of 85v to 260v AC. In extreme conditions, the PCO-818 would be the last unit to shut down in the event of an AC mains failure. Bi-color LEDs provide instant status indication for each signal in your system. If a particular signal isn’t in use, the LED can be easily de-selected (dark) rather than produce a false failure (red) indication. A “Manual/Automatic” switch allows you to override the automatic changeover function and select either generator in the system. The PCO-818 is a chassis, power supply and motherboard only. You choose the modules to meet your requirements.

**PCA-819 Remote Changeover Alarm**

An add-on to the PCO-818 changeover system, the PCA-819 Remote Changeover Alarm is engineered to provide a convenient way to monitor changeover, due to loss of signal, at a remote location. Bi-color LED’s provide a visual indication of the Changeover Frame status. Additionally, an audible alarm sounds to indicate an alarm condition. And to provide even more flexibility, isolated relay contacts are provided so the user can control other equipment or alarms in the event of a loss of signal at the Changeover Frame.

Front panel switches allow the user to disable the alarm signal from either, or both, generator banks, and also mute the audible alarm. Whenever a loss of signal occurs on any of the various changeover modules in the PCO-818, an alarm signal is generated and the PCA-819 shows the alarm condition on the front panel. The PCA-819 is housed in a rugged 1RU rackmount enclosure, and can be powered from 120 or 240v AC.
818 SERIES MODULAR CARDS

The cards are engineered to provide backup reliability in a compact, easy-to-use, and economical package. When inserted in the PCO-818 frame, their advanced modular design provides a level of flexibility never before available in an Automatic Changeover unit. When combined with its sync generator companion (the SPG-812), the PCO-818 frame offers the best performance and reliability available today. Their modular design offers several advantages over traditional automatic changeover units. Monitor only the signals used by the system: no need to pay for monitoring capability that is not required by the system. Install only the modules you need now, and add more later.

Since the PCO-818 frame and the SPG-812 frame share a common chassis, modules may be interchanged between units. It also allows us to mix analog and digital signal monitoring in the same chassis. For example, a television station may use a SPG-812 primary module, backup module, and changeover module, all installed in either chassis. In addition, they are designed such that AC mains failure will not erase the memory of their last generator selection. A dual-coil latching relay provides a reliable signal path even if power is lost to the 818-OP/PL. Meanwhile, its power supply features a “universal” voltage input range of 85VAC to 260VAC. In extreme conditions, the modules would be the last unit to shut down in the event of an AC mains failure. Bi-color LEDs provide instant status indication for each signal in your system. If a particular signal is not in use, the LED can be easily de-selected (dark) rather than produce a false failure (red) indication. A “Manual/Automatic” switch allows the user to over-ride the automatic changeover function and select either generator in the system. As your system grows and new technology arrives, the PCO-818 series of modules stands ready to grow with you.

### 818-OP/PL
#### Pulse Auto Change-Over Unit
The basic function of the 818-OP/PL is to monitor an installation’s analog pulse and automatically switch to a backup analog pulse in the event of a failure.

(Mfr # 818OPPL • B&H # LI818OPPL)..........................334.95

### 818-OP/BB
#### Blackburst Auto Change-Over Unit
The basic function of the 818-OP/BB is to monitor an installation’s analog black burst signal and automatically switch to a backup black signal in the event of a failure.

(Mfr # 818OPBB • B&H # LI818OPBB) .....................329.95

### 818-OP/SC
#### Subcarrier Auto Change-Over Unit
The basic function of the 818-OP/SC is to monitor an installation’s analog subcarrier signal and automatically switch to a backup analog subcarrier signal in the event of a failure.

(Mfr # 818OPSC • B&H # LI818OPSC) ......................33495

### 818-OP/CFI
#### Color Field ID Auto Change-Over Unit
The basic function of the 818-OP/CFI is to monitor an installation’s analog Color Field ID signal and automatically switch to a backup analog Color Field ID signal in the event of a failure.

(Mfr # 818OPCFI • B&H # LI818OPCFI) .....................334.95

### 818-OP/AES
#### Digital Audio Auto Change-Over Unit
The basic function of the 818-OP/AES is to monitor an installation’s digital audio signal and automatically switch to a backup audio signal in the event of a failure.

(Mfr # 818OPAES • B&H # LI818OPAES) .....................49795

### 818-OP/SDI
#### SDI Auto Change-Over Unit
The basic function of the 818-OP/SDI is to monitor an installation’s SDI signal and automatically switch to a backup SDI signal in the event of a failure.

(Mfr # 818OPSDI • B&H # LI818OPSDI) .....................489.95

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(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
800 SERIES DIGITAL or ANALOG A/V SWITCHER

AVS-816 16x1 Modular Vertical Interval Video Switcher with Audio Follow

The AVS-816 is a wideband video/audio vertical interval switcher designed for the video professional. It features compact modular design which allows it to handle video and audio in both the digital and analog domain. The unit has sixteen channels of video and stereo audio. Digital and analog switching modules for both video and audio may be mixed in any combination for complete system flexibility. The inputs are non-looping and offer outstanding return loss performance. For component digital applications, an analog monitoring output is available. Audio and video break-away are selected by a single switch on the front panel. Dual LEDs on the source selection and follow switch indicate follow or break-away. The AVS-816 allows you to efficiently and economically route or delegate multiple video and audio signals. The audio inputs use high-density terminal blocks which detach individually, allowing the user to prewire them before connecting to the switcher. The digital audio I/O features full transformer isolation to eliminate the possibility of ground loop interference. Switching is accomplished during the vertical interval by using the vertical sync derived from the video at the output stage. In a similar fashion, digital audio switching takes place during the audio sample preamble. Up to 32 switchers can be controlled by the computer software.

The AVS-816 may be controlled by a serial data feed of either RS-232 or RS-422/485 interface standards, selectable by a simple internal DIP switch. A remote control panel is also available which utilizes the common RJ-11 modular connector along with the RS-485 interface standard. For automated system applications, an optional GPI interface is available. The serial communication protocol is compatible with existing Link video and audio switchers and remote control panels. For integration into existing systems, the AVS-816 can be preset to respond to that instruction set as well.

816-OP/A Analog Video Matrix

The AVS-816 has seven options to configure the unit to be Analog Video or SDI video. The audio can be configured for AES or Analog. The 816-OP/A is the analog video plug-in board. The AVS-816 chassis and the 816-OP/A board make up a video-only switcher. You must select the video matrix and audio matrix to make up the desired switcher format. You have the choice of analog or digital for both video and audio. In the case of AES audio, you have the option of BNC unbalanced or Plug-in 3-pin Weco balanced connectors. You can choose the 816-OP/A Analog Video or the 816-OP/C SDI for an analog or SDI switching only. The unit can be configured for analog audio or AES only switching. Software is supplied with all AVS series to control up to 32 switchers from a single computer. A remote control is also available.

816-OP/B Audio Switch Matrix

The AVS-816 has seven options to configure the unit to be Analog Video or SDI video. The audio can be configured for AES or Analog. The AVS-816 chassis and the 816-OP/B analog audio plug-in make up an audio-only switcher. Combining the 816-OP/A and 816-OP/B, configures a 16x1 analog video with audio follow switcher. You must select the video matrix and audio matrix to make up the desired switcher format. You have the choice of analog or SDI video or analog or AES audio. The SDI video has one SDI output and one analog video output for monitoring. One AES output and one analog audio output for monitoring purpose. Software is supplied to control up to 32 switchers from a single computer. A remote control is also available.
816-OP/C SDI Video Switch Matrix
The AVS-816 has seven options to configure the unit to be Analog or Digital for Video and Audio. The video can be configured for SDI or Analog. The 816-OP/C is the SDI video plug-in board. The AVS-816 chassis and the 816-OP/C board make up an SDI video only switcher. You must select the video and audio matrix to make up the desired switcher format. You have the choice of analog or digital for video and audio to configure a video with audio follow switcher. Software is supplied with all AVS series to control up to 32 switches from a single computer. A remote control is also available.

816-OP/D • 816-OP/E • 816-OP/F SDI AES Audio Switch Matrix
The 816-OP/D is the AES/EBU audio plug-in board. The AVS-816 chassis and the 816-OP/D board make up an AES/EBU audio only switcher. NOTICE, you must choose the rear connector option for BNC or Balanced. Options 816-OP/F is the BNC unbalanced input. Option 816-OP/E is the balanced 3-pin connector. You must select the AES audio matrix and video matrix to make up the desired switcher format. You have the choice of analog or AES audio. In the case of AES audio, you have the option of BNC unbalanced or plug-in 3-pin Weco balanced connectors. You can choose the 816-OP/D, AES plus the connector board for an audio switcher only. The AES matrix has one AES output and one analog output for monitoring. Software is supplied with all AVS series to control up to 32 switches from a single computer.

816-OP/G GPI Control Module
The AVS-816 has seven options to configure the unit to be Analog Video or SDI video. The 816-OP/G allows the AVS-816 to be controlled by an external GPI momentary closure. The 816-OP/G connects to the AVS-816 via a 15-pin D-Sub connector. Another feature of the AVS-816 is MODEM controlled. The software that is supplied with the AVS-816 allows the switcher to be controlled from a distant location via a modem. Software is supplied with all AVS series to control up to 32 switches from a single computer. A remote control is also available.

816-OP/HD HD/SDI Video Plug-in Board
The AVS-816 has eight options to configure the unit to be Analog, SDI or HD/SDI for video and audio. The video can be configured for SDI, HD/SDI or analog. The 816-OP/HD is the HD/SDI video plug-in board. The AVS-816 chassis and the 816-OP/HD board make up an HD/SDI video-only switcher. You must select the video and audio matrix to make up the desired switcher format to include audio follow. You have the choice of analog or AES audio. In the case of AES audio, you have the option of BNC unbalanced or plug-in 3-pin Weco balanced connectors. You can choose the 816-OP/D, AES plus the connector board for an audio switcher only. Software is supplied with all AVS series to control up to 32 switches from a single computer. A remote control is also available.

AVS-816 16x1 Video Routing Switcher with Audio Follow (Mfr # AVS816 • B&H # LIAVS816): Dimensions are 1 1/2 x 19 x 8 1/8”; it weighs 6.8 lbs ........................................724.95
816-OP/A Analog Video Matrix for AVS-816 (Mfr # 816OPA • B&H # LI816OPA): Dimensions are 1 1/2 x 6 1/4 x 7”; it weighs 8.5 oz ...........................................232.50
816-OP/B Audio Switch Matrix for AVS-816 (Mfr # 816OPB • B&H # LI816OPB): Dimensions are 1 1/2 x 6 1/4 x 7”; it weighs 8.5 oz ...........................................325.95
816-OP/C SDI Video Switch Matrix for AVS-816 (Mfr # 816OPC • B&H # LI816OPC): Dimensions are 1 1/2 x 6 1/4 x 7”; it weighs 8.5 oz ...........................................1139.95
816-OP/D SDI AES Audio Switch Matrix for AVS-816 (Mfr # 816OPD • B&H # LI816OPD): Dimensions are 1 1/2 x 6 1/4 x 7”; it weighs 8.5 oz ...........................................449.95
816-OP/E AES for Weco Module for AVS-816 (Mfr # 816OPE • B&H # LI816OPE) .................................................................189.95
816-OP/F AES for BNC Module for AVS-816 (Mfr # 816OPF • B&H # LI816OPF) .................................................................104.95
816-OP/G GPI Control Module for AVS-816 (Mfr # 816OPG • B&H # LI816OPG) .................................................................79.95
816-OP/HD HD/SDI Video Plug-in Board for AVS-816 (Mfr # 816OPHD • B&H # LI816OPHD) .................................................................CALL

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
800 SERIES

Video Switchers, Audio Switchers, Audio Follow and Remote Controls

The VSW models are wideband vertical interval switchers. High impedance looping inputs and dual outputs allow the user to efficiently and economically route video signals. The PAF series are the audio followers and the PSR series are the remote control. The ASW series are the audio only switchers for stand-alone or remote operation. There are approximately 30 combinations of switchers, audio followers and remote controls in the 800 series. A flexible and expandable line of switchers for any facility.

VSW Series Vertical Interval Video Switchers

Packaged in a 19” rack mountable cabinet, the VSW switches feature a specific input for the individual switcher selected, high-quality push buttons, and LED digital readout of audio and video channels to show the selected input. Audio breakaway is selectable from the front panel. Serial control is provided via a D-Sub connector. Remote control through a RJ-11 connector. Serial control characteristics are RS-232, RS-422 and RS-485. Switching is accomplished during the vertical interval by using the vertical sync derived from the video at the output stage of the VSW video switcher. The VSW Series are video-only switches with both sets of LED digital readouts for the audio and video selected. When connected with a PAF audio follow unit, the VSW selects the video and companion audio. A three position switch selects audio follow, audio break-away, and video break-away.

VSW-824 8x1 Analog S-Video Switcher
Eight terminated S-Video inputs and one output efficiently route multiple S-Video signals. When connected with the PAF-823 audio follow unit, the VSW-824 selects the video and companion audio. One output of the selected video on the rear panel. (Mfr # VSW824 • B&H # LIVSW824).................829.95

VSW-826 16x1 Analog Video Switcher
The VSW-826 features 16 inputs and high-quality push button switches for source selection. When connected with the PAF-827 audio follow unit, the VSW-826 selects the video and its companion audio. There are two outputs of the selected video on the rear panel. (Mfr # VSW826 • B&H # LIVSW826).........................839.95

VSW-828 16x2 Analog Video Switcher
16 high-impedance looping composite inputs and two outputs. The VSW-828 is a video-only switcher with a 7-segment LED showing the source video. There is no audio follow unit for the VSW-828. (Mfr # VSW828 • B&H # LIVSW828)..........................924.95

ASW Series Analog Audio Switchers

ASW Series switchers feature digital switching logic and high impedance balanced input circuits that reduce loading effects and noise on the incoming signals. The low output impedance of 66Ω provides a maximum level of +24dBu. The input and output connections are printed circuit spring terminal blocks. High performance circuitry is used throughout for long term performance and reliability. The 8 or 16 push buttons on the front panel are high quality key switches for vibration free operation. A 7-segment LED readout on the front panel shows the source audio number selected. The terminal blocks provide reliable clamping action for secure and reliable operation due to a force amplifying hinge motion. A 9-pin female D connector provides serial interface to computers or modems for RS-232, RS-422 and RS-485 control which is standard in all units. Each switcher can operate as a stand-alone unit or interfaced with additional switchers as multiple source routers. Multiple switchers can be controlled by a single remote control panel. Remote control is provided via an RJ-11 telephone connector.

ASW-822 8x2 Stereo Audio Switcher
(Mfr # ASW822 • B&H # LIASW822).........................669.95

ASW-824 8x1 4-Channel Audio Switcher
(Mfr # ASW824 • B&H # LIASW824).........................749.95

ASW-826 16x1 Stereo Audio Switcher
(Mfr # ASW826 • B&H # LIASW826).........................749.95
PAF Series Audio Follow for the VSW Series Switchers

The PAF Series are professional stereo audio follow switchers for the video companion. High impedance balanced input circuits reduce loading effects and noise on the incoming signals. The low output impedance of 66Ω provides a maximum level of +24dBu. The input and output connections are spring terminal blocks for reliable clamping action for secure and reliable operation. 9-pin connector provides serial interface to computer or modem for RS-232 control which is standard in all units. The switchers are available in models for stereo, mono or four channel operation. With digital switching logic combined with high performance audio circuitry they form the foundation for the next generation of audio routing switchers. All VSW, ASW, PAF and PSR Series units occupies on rack space. Each unit includes a power supply for reliable operation.

PAF-820 8x1 Stereo Audio Follow with Buttons

Multiple switchers can be controlled by a single remote control panel, PAF Series. The PAF-820 is RS-232 controlled and remote is RS-422 or RS-485 via an RJ-11 telephone connector and cable assembly. The PAF-820 will operate with the PAF-824 remote control and the VSW-821 video switcher. Several PSR-824 remotes may be attached to PAF-820 for controlling from many locations. All remote locations may select the audio source signal. (Mfr # PAF820 • B&H #LIPAF820).....................662.95

PAF-821 8x2 Stereo Audio Follow (no buttons)

There are no push buttons on the front panel as the PAF-821 gets its control functions from the VSW Series switchers or RS-232 from a computer. Multiple switchers can be controlled by a single remote control panel, PAF series. The PAF-821 is RS-232 controlled and remote is RS-422 or RS-485 via an RJ-11 telephone connector and cable assembly. The PAF-821 is the stereo audio follow companion switcher for the VSW-822 video switcher. (Mfr # PAF821 • B&H #LIPAF821) .....................659.95

PAF-822 8x2 Stereo Audio Follow with Buttons

The PAF-822 gets its control commands from the VSW Series video switcher. This unit can control the video from either location, video or audio follow. This unit may also be controlled by RS-232 from a computer. Multiple switchers can be controlled by a single or multiple remote control panels. An RJ-11 connector is provide for remote control. (Mfr # PAF822 • B&H #LIPAF822) ..........................................................739.95

PSR Series Remote Controls for ASW and VSW Switchers

The PSR-800 Series allows you to control and monitor 800 Series video and audio switches. Each remote has an RS-232 port. Communications to and from the switchers themselves is handled via RS-485 compatible serial link, using an RJ-11 modular jack. This unique combination provides a reliable link over long distances (>1000') with inexpensive, readily available cable. Active video and audio channels are indicated by a pair of seven-segment displays. A front panel toggle switch provides audio and video “break-away”. Serial commands are easy to use and remember. If audio-follow-video switching is required, use the PAF-800 family of stereo audio switchers to accompany the PSR/VSW-800 series. Each 800 Series switcher features “audio break-away” capability, allowing the audio to be switched independently of the video. Packaged in a tough 1RU high chassis.

PSR-821 (Mfr # PSR821 • B&H # LI PSR821); 8x2 remote control with audio and video readout for the VSW-822 video switcher........................642.50
PSR-824 (Mfr # PSR824 • B&H # LI PSR824); 8x1 remote control with audio and video readout for the VSW-821 or VSW-824 ..................574.50
PSR-826 (Mfr # PSR826 • B&H # LI PSR826) 16x1 remote control with audio and video readout..........................642.95
MAJESTIC ROUTER 800 SERIES

The 800 Series Routing Switchers are compact wide bandwidth vertical interval switches designed for professional video production facilities. Packaged in a 19” rack mountable chassis, the switchers are supplied with a single front-loaded power supply. An optional redundant power supply is available. High quality front panel push buttons are used for selection of inputs and outputs. Remote control panels are interconnected with standard Ethernet 10Base2 single coax connections. They also incorporate an RS-232 port. Panels can be set to control a single output bus or the entire matrix.

The Majestic 800 series flexibility is unmatched in the industry. Modular construction offers unique flexibility to the user, and provides an easy means of adding additional features or upgrading to digital modules. Power supplies are accessible from the front of the unit and may be easily installed or removed. Analog switchers can easily be upgraded to digital by adding field installable modules. (SDI switching may easily be converted to analog by adding field installable modules.) BNC connectors are used for video inputs and removable 3-pin connectors are used for stereo audio inputs and outputs. Routers are available for video inputs and removable 3-pin connectors are used for stereo audio inputs and outputs. The supplied control panel for all switchers is shipped installed into the front of the main electronics chassis. The control panel can be removed from the electronics chassis in the field and installed into a remote mounting kit. The optional mounting kit hardware includes rack-mounting hardware for the control panel, a blank panel(s) that is installed onto the front of the electronics chassis, and a power supply.

◆ Modular design – plug-in modules for video and audio. No active components on the frame.
◆ Two power supply slots are accessible from the front panel. One power supply is standard.
◆ A redundant power supply is available as an option.
◆ Detachable X-Y front panel control with Ethernet 10-Base2 coax connection.
◆ Analog video only models and models with audio follow video. Digital video only models with analog audio follow.
◆ RS-232 control standard.

Analog Audio/Video Routers
8 x 8 Video Only (Mfr # 860-XL818A - B&H # LI860XL818A) ........................................... 2174.95
8 x 8 w/Stereo Audio Follow (Mfr # 860-XL818C - B&H # LI860XL818C) .................... 3224.95
8 x 16 Video Only Router (Mfr # 860-XL816A - B&H # LI860XL816A) ..................... 2534.95
8 x 16 w/Stereo Audio Follow (Mfr # 860-XL816C - B&H # LI860XL816C) .......... 5434.95
16 x 1 Video Only Router (Mfr # 860-XL161A - B&H # LI860XL161A) ............. 1874.95
16 x 1 w/Stereo Audio Follow (Mfr # 860-XL161C - B&H # LI860XL161C) ........ 2274.95
16 x 2 Video Only Router (Mfr # 860-XL162A - B&H # LI860XL162A) .......... 2674.95
16 x 2 w/Stereo Audio Follow (Mfr # 860-XL162C - B&H # LI860XL162C) .......... 3204.95
16 x 16 Video Only Router (Mfr # 860-XL1616A - B&H # LI860XL1616A) ........... 3234.95
16 x 16 with Stereo Audio Follow (Mfr # 860-XL1616C - B&H # LI860XL1616C) .... 6174.95
16 x 16 w/AES Audio Follow (Mfr # 860-XL1616H - B&H # LI860XL1616H) ...... 5644.95
32 x 32 Video Only Router (Mfr # 860-XL3232A - B&H # LI860XL3232A) .......... 6284.95
32 x 32 with Stereo Audio Follow (Mfr # 860-XL3232C - B&H # LI860XL3232C) ...... 12,984.95

SDI Audio/Video Routers
8 x 8 SDI Video Only Router (Mfr # 861-XL818D - B&H # LI861XL818D) ........... 2724.95
8 x 8 SDI Video Router with Stereo Audio Follow (Mfr # 861-XL818G - B&H # LI861XL818G) ............ 4069.95
8 x 8 SDI Video Router with AES Audio Follow (Mfr # 861-XL818F - B&H # LI861XL818F) ......... 4382.50
16 x 1 SDI Video Only Router (Mfr # 861-XL161D - B&H # LI861XL161D) ...... 2119.95
16 x 1 SDI Video Router with Stereo Audio Follow (Mfr # 861-XL161L - B&H # LI861XL161L) ........ 3192.95
16 x 1 SDI Video Router with AES Audio Follow (Mfr # 861-XL161J - B&H # LI861XL161J) ........ 3582.95
16 x 16 SDI Video Only Router (Mfr # 861-XL1616D - B&H # LI861XL1616D) .... 5103.95
16 x 16 SDI Video Router with Stereo Audio Follow (Mfr # 861-XL1616G - B&H # LI861XL1616G) .... 7882.95
16 x 16 SDI Video Router with AES Audio Follow (Mfr # 861-XL1616F - B&H # LI861XL1616F) .... 7149.95

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**MAJESTIC Router 800 Series**

**HD/SDI Audio/Video Routers**

8 x 4 HD/SDI Video Only Router (Mfr # 862-XL804HD/1A • B&H # LI862XL804HD) .......................................................... 5142.95
8 x 4 HD/SDI with Stereo Audio Follow (Mfr # 862-XL804HD/3A • B&H # LI862XL804HD3) .................................................. 6741.95
8 x 4 HD/SDI Video Router with AES Audio Follow (Mfr # 862-XL804HD/2A • B&H # LI862XL804HA) .................................. 6936.95
8 x 8 HD/SDI Video Only Router (Mfr # 862-XL818HD/1A • B&H # LI862XL818HD) .......................................................... 5976.95
8 x 8 HD/SDI Video Router with Stereo Audio Follow (Mfr # 862-XL818HD/3A • B&H # LI862XL818HD3) .............................. 8399.95
8 x 8 HD/SDI Video Router with AES Audio Follow (Mfr # 862-XL818HD/2A • B&H # LI862XL818HD2) .............................. 7439.50
16 x 16 HD/SDI Video Only Router (Mfr # 862-XL1616HD/1 • B&H # LI862XL1616HD) .......................................................... 7824.50
16 x 16 HD/SDI Video Router with Stereo Audio Follow (Mfr # 862-XL1616HD/3 • B&H # LI862XL1616HD3) ......................... 9774.50
16 x 16 HD/SDI Video Router with AES Audio Follow (Mfr # 862-XL1616HD/2 • B&H # LI862XL1616HD2) .......................... 10,247.50

**Multi-Layer Audio/Video Routers**

Link’s multimedia switchers are not repackaged single channel switchers. They are specifically designed, from ground-up, to handle the demands of multimedia high resolution signals. Featuring a compact design (1RU or 2RU high), they deliver VGA to QXGA performance. Competing 8x8 multimedia switchers are typically 3RU high. All the electronics are on front removable ‘hot shapable’ plug-in modules. The H and V sync channels are based on the same 300MHz analog switching cross-point used for the red, green, and blue channels. This allows them to handle ANY computer sync rate, polarity, or amplitude without the risk of introducing distortions or jitter to these signals.

Inputs and outputs are via HD-15 computer multimedia standard connectors. By eliminating the BNC connectors Link eliminates one of the primary causes of signal degradation. If BNC connectors are required, an optional cable (CAD-9) is needed. Each frame has two front load slots for power supplies. One power supply is standard. The second supply is the redundant power supply option. True load power monitoring is included with remote indicators for both power supplies. The video and audio power supplies are identical in all Majestic series switchers.

8 x 8 Analog Component 5 Layer, RGBHV, use HD15 conn. Video only (Mfr # 860-XL858V • B&H # LI860XL858V) .................. 3294.95
8 x 8 Analog Component 5 Layer, RGBHV, use HD15 conn. with AF & CP (Mfr # 860-XL858AV • B&H # LI860XL858AV) .............. 4324.95
16 x 16 Analog Component 5 Layer, RGBHV, use HD15 conn. Video only (Mfr # 860-XL165V • B&H # LI860XL165V) ............. 8224.95
16 x 16 Analog Component 5 Layer, RGBHV, use HD15 conn. with AF & CP (Mfr # 860-XL165AV • B&H # LI860XL165AV) ........... 11,224.95
32 x 32 Analog Component 5 Layer, RGBHV, use HD15 conn. Video only (Mfr # 860-XL325V • B&H # LI860XL325V) ............... 19,004.95
32 x 32 Analog Component 5 Layer, RGBHV, use HD15 conn. with AF & CP (Mfr # 860-XL325AV • B&H # LI860XL325AV) ........... 23,004.95

**Remote Control for 16 x 1 with AFV** (Mfr # 860-CP161C • B&H # LI860CP161C) .................................................. 662.95
Remote Control for 16 x 2 with AFV (Mfr # 860-CP162A • B&H # LI860CP162A) .................................................. 467.95
Remote Control for 8 x 8 with AFV (Mfr # 860-CP818C • B&H # LI860CP818C) .................................................. 486.95
Remote Control for 8 x 16 with AFV (Mfr # 860-CP1618 • B&H # LI860CP1618) .................................................. 428.95
Remote Control for 8 x 4 with AFV (Mfr # 860-CP804C • B&H # LI860CP804C) .................................................. 408.95
8 x 1 Single Buss AFV Control Panel with Break-away, 1RU (Mfr # 860-CP811C • B&H # LI860CP811C) ......................... 349.95
Remote Control for 16 x 16 Routers with Audio Follow (Mfr # 860-CP1616C • B&H # LI860CP1616C) ......................... 714.95
Remote Control for 32 x 32 Routers with Audio Follow (Mfr # 860-CP3232B • B&H # LI860CP3232B) ......................... 964.95

**MAJESTIC Router 800 Series Remote Controls**

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
DigiFlex 1000 Series

Terminal & Distribution System

DigiFlex provides digital, analog, video, and audio modules for distribution in professional video systems. The model 1000 frame is the foundation of a complete family of digital and analog products. The 1000 Series is the “Professional’s Choice” for long-term system requirements for distribution, timing, and processing needs. The 1000 frame makes it easy to accomplish rigorous jobs in the studio and in the field. The DigiFlex frame will accept 11 modules (10 when the redundant power supply is installed). Any combination of the available modules can be installed into the frame. Each module has a companion rear cell for I/O connections. The DigiFlex frame can easily accommodate a combination of analog & digital DA’s, A to D’s, D to A’s, synchronizers, and transcoder modules. SD1 & HDTV modules are available. The DigiFlex frame has a comprehensive set of diagnostic fault indicators. The power supply has a green LED indicating that it is functioning properly. A red LED indicates the DC fuse is open. If a redundant power supply is installed, the power supply will indicate an input power fault (ie. no AC). A red LED on the frame indicates a frame fault (loss of signal to any of the modules installed into the frame).

Audio Monitoring Feature

The DigiFlex frame system offers a special audio monitoring feature that eliminates the need for external audio monitor switchers. Model 1626 is an 18-watt monitoring amplifier module that can be installed into an DigiFlex frame slot. The 1626 amplifier can monitor any DigiFlex audio card with an analog output. Rear Cell terminals are provided for connection to external speakers (not provided by Link Electronics) for rack monitoring. A front edge card headphone jack is also provided. The 1626 includes a master volume control. Each analog audio monitor has an “output to bus” switch. Setting the module’s switch to the “on” position sends a sample of the audio that the module is processing to the 1626 monitoring amplifier. Using the “output to bus” switch each module can be monitored individually. Only one 1626 monitoring amplifier is required per system. One 1626 can monitor all of the audio modules installed into ten or more frames. LED’s on each module rear cell indicate loss of signal. This allows the user to conveniently troubleshoot connections at the rear of the frame. All module faults are tied together on a common bus. Relay contacts are provided on a rear panel connector for an optional alarm. A +12 VDC power source is also available at the rear panel connector. The alarm circuit of multiple frames can be wired together.

Frame Options

1000 - Frame with power supply, holds 11 modules, 1000/2 Frame with Dual power supply, holds 10 modules 7200 Mounting Frame with power supply will hold any single DigiFlex module. It can be used as a stand-alone Frame-Sync or conversion device, or it will hold any of the 41 DigiFlex modules. DigiFlex has a single isolated +12 volt power supply system distributed on the back plane of the frame.

In the unlikely event a problem should occur with the DIGIFLEX 1000 Frame, it is usually repairable without removing it from service. With the exception of a backplane problem, the DIGIFLEX 1000 Frame can remain fully operational during maintenance or repair. A redundant power supply may be required for un-interrupted operation during repair. The rear cell is to be specified for the appropriate module. The rear I/O cells are capable of a variety of different input and output connections. The cells can handle serial digital audio and video, analog audio and video as well as control signals. The different rear cell I/O connections and the flexibility of the frame places virtually no limits on the diversity of applications that can be accomplished with the 1000 frame.

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### DigiFlex 1000 Series

- **DigiFlex 1000: 2RU Frame with One Power Supply**
  - Mfr # 1000 • B&H # LI10000
  - Price: $499.95

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000/2: DigiFlex 1000 2RU Frame with Dual 100W Power Supplies</td>
<td>$1369.95</td>
</tr>
<tr>
<td>1005: Blank Panel for Rear Cells</td>
<td>$7.95</td>
</tr>
<tr>
<td>1008: Extender Card</td>
<td>$104.95</td>
</tr>
<tr>
<td>1102/1010: 34W Power Supply</td>
<td>$439.95</td>
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<tr>
<td>1103/1010: 100W Switch Mode Power Supply</td>
<td>$609.95</td>
</tr>
<tr>
<td>1132/1032: HD SDI 1x4 Distribution Amplifier</td>
<td>$589.50</td>
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<tr>
<td>1132/1033: HD SDI 1x8 Distribution Amplifier</td>
<td>$613.90</td>
</tr>
<tr>
<td>1143/1011: 1 x 8 Pulse Distribution Amplifier</td>
<td>$209.95</td>
</tr>
<tr>
<td>1151/1011: White Clip plus Equalization Distribution Amp</td>
<td>$252.95</td>
</tr>
<tr>
<td>1152/1011: 1x8 Analog Video DA</td>
<td>$189.95</td>
</tr>
<tr>
<td>1153/1011: 1x8 Analog Video DA with DC clamp and 1000' EQ</td>
<td>$229.95</td>
</tr>
<tr>
<td>1154/1026: 1x8 Component Serial Digital EDH DA</td>
<td>$554.95</td>
</tr>
<tr>
<td>1159/1027: SDI to Composite and Y/C DAC, 10 BIT</td>
<td>$739.95</td>
</tr>
<tr>
<td>1160/1023: Composite to SDI ADC, 10 BIT</td>
<td>$1159.95</td>
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<tr>
<td>1160/1060: NTSC/PAL Composite or SVHS to SDI Component Digital</td>
<td>$1179.95</td>
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<tr>
<td>1162/1027: SDI to YUV+sync and composite DAC, 10 BIT</td>
<td>$739.95</td>
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<tr>
<td>1163/1024: NTSC/PAL to YUV+sync decoder, 10 BIT</td>
<td>$499.95</td>
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<tr>
<td>1163/1025: NTSC/PAL to RGB+sync Converter, 10 BIT</td>
<td>$1372.95</td>
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<tr>
<td>1165/1027: SDI to RGB+sync with optional composite DAC, 10 BIT</td>
<td>$739.95</td>
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<tr>
<td>1166/1066: YPrPb to SDI ADC, 10 BIT</td>
<td>$1539.95</td>
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<tr>
<td>1167/1067: RGB to SDI ADC, 10 BIT</td>
<td>$1624.95</td>
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<tr>
<td>1170/1070: 1x8 Serial Digital Distribution Amplifier</td>
<td>$319.95</td>
</tr>
<tr>
<td>1171/1071: 1x8 Serial Digital Distribution Amp with Adjustable Output Level</td>
<td>$399.95</td>
</tr>
<tr>
<td>1175/1075: 1x8 SDI Reclocking Distribution Amplifier</td>
<td>$359.95</td>
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<tr>
<td>1176/1076: 1x8 SDI Reclocking DA with Adjustable Output Level</td>
<td>$484.95</td>
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<tr>
<td>1178/1078: 1x4 SDI Reclocking DA, 10-bit, with 8-bit Analog Video Monitoring</td>
<td>$569.95</td>
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<tr>
<td>1180/1080: Audio Mux &amp; DeMux</td>
<td>$1159.95</td>
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<tr>
<td>1190/1090: Analog Audio Option</td>
<td>$319.95</td>
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<tr>
<td>1199/1099: SDI SMPTE Color Bar, Black &amp; Multiburst Generator with Gen-Lock</td>
<td>$839.95</td>
</tr>
<tr>
<td>1261/1061: Dual A to D with Frame Sync</td>
<td>$1389.95</td>
</tr>
<tr>
<td>1626/1018: Analog Audio Power Amp. 18 Watts</td>
<td>$404.95</td>
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<tr>
<td>1650/1014: Analog Audio DA, 1x8 Mono or 1x4 Stereo</td>
<td>$209.50</td>
</tr>
<tr>
<td>1650/1021: Analog Audio DA 1x8 Mono or 1x4 Stereo, 3-Pin Connectors</td>
<td>$237.50</td>
</tr>
<tr>
<td>1651/1014: Analog Audio DA, 1x8 Mono/1x4 Stereo, with Level Bar Graph</td>
<td>$229.95</td>
</tr>
<tr>
<td>1651/1021: Analog DA Mono/Stereo/Level Bar Graph, 3 Pin Connector</td>
<td>$249.95</td>
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<tr>
<td>1652/1016: AES3-1992/EBU Digital Audio DA, 1x8</td>
<td>$379.95</td>
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<tr>
<td>1652/1017: AES3-ID/EBU 1x8 Audio DA</td>
<td>$388.50</td>
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<tr>
<td>1652/1054: AES/EBU Digital Audio DA, 1x8, Balanced, Plug-In 3 Pin Conn.</td>
<td>$399.95</td>
</tr>
<tr>
<td>1657/1015: AES3-1992-EBU 1x4 Audio DA with 18-bit stereo monitoring</td>
<td>$399.95</td>
</tr>
<tr>
<td>1657/1013: AES3-ID/EBU 1x4 Audio DA with 18-bit stereo monitoring</td>
<td>$399.95</td>
</tr>
<tr>
<td>1658/1028: AES/EBU to Analog Audio DAC, 24-bit</td>
<td>$569.95</td>
</tr>
<tr>
<td>1660/1020: Analog Audio to AES/EBU ADC, 24-bit</td>
<td>$552.50</td>
</tr>
<tr>
<td>7200: Portable Case with Power Supply, Any Digiflex Module</td>
<td>$499.95</td>
</tr>
<tr>
<td>7202: Rack Tray for up to two 7200 Cases</td>
<td>$79.95</td>
</tr>
<tr>
<td>7203: Spare Power Supply for 7200 Case</td>
<td>$279.95</td>
</tr>
</tbody>
</table>

(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
PICOLINK SERIES

Miniature Video, Audio and Fiber Interfaces

Ideal for video and audio monitoring, Miranda’s picoLink series are the world’s smallest broadcast interfaces. Compact and light enough to carry in your pocket, they are very affordable, easy to install and offer excellent value and performance. There are almost 30 different video and audio interfaces in the range, covering all typical monitoring conversion requirements, including D/As, A/Ds, audio embedders/de-embedders, video to display interfaces, aspect ratio converters, test generator and fiber optic converter. Each converter features a lightweight, compact aluminium body, which is powered by a compact, external power supply. Status LEDs provide indication of signal validity.

<table>
<thead>
<tr>
<th>PICOLINK VIDEO CONVERTERS</th>
</tr>
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<tbody>
<tr>
<td><strong>SDM-271p</strong>&lt;br&gt;SDI to NTSC/PAL Encoder</td>
</tr>
<tr>
<td>This compact encoder converts from SDI to NTSC, PAL, PAL-M or PAL-N. It automatically detects 525 and 625 formats and provides a convenient built-in color bars generator. Ideal for monitoring SDI signals in composite analog.</td>
</tr>
<tr>
<td>SDM-721p (Mfr # SDM271P • B&amp;H # MISOEM271P) .............................................. 314.95</td>
</tr>
<tr>
<td><strong>ASD-271p</strong>&lt;br&gt;NTSC/PAL to SDI Decoder</td>
</tr>
<tr>
<td>The ASD-271p converts analog composite signals to SDI. It offers 2-line luma and chroma filters with an adaptive luma comb filter for NTSC. It also accepts VCR-type sources. The pedestal can be manually selected for 7.5 IRE or 0 IRE.</td>
</tr>
<tr>
<td>ASD-721p (Mfr # ASD271P • B&amp;H # MIOEM271P) .............................................. 579.95</td>
</tr>
<tr>
<td><strong>SDM-171p</strong>&lt;br&gt;SDI to Component Analog Encoder</td>
</tr>
<tr>
<td>The SDM-171p is the smallest GBR/SMPTE/EBU video DAC available. It provides monitoring of a SDI video signal and also provides a built-in color bars generator. The SDM-171p module automatically detects 525 line or 625 line formats from incoming SDI signals (75 ohms, BNC connector) to provide analog component GBR or Y/B-Y/R-Y signals.</td>
</tr>
<tr>
<td>SDM-171p (Mfr # SDM171P • B&amp;H # MISOEM271P) .............................................. 3419.95</td>
</tr>
<tr>
<td><strong>ASD-171p</strong>&lt;br&gt;Component Analog to SDI Converter</td>
</tr>
<tr>
<td>The ASD-171p is the world’s smallest component analog video to SDI converter. It also accepts VCR-type sources. It accepts NTSC/PAL standards and 3 different component signals. Two LED’s are available for input error status. You can select Beta 0: For 0 IRE YUV sources, Beta 7.5: For 7.5 IRE YUV sources, and SMPTE: For SMPTE/EBU sources.</td>
</tr>
<tr>
<td>ASD-171p Decoder (Mfr # ASD171P • B&amp;H # MIOEM271P) .............................................. 599.95</td>
</tr>
</tbody>
</table>
### ADC-191p
**12-bit Component Analog to SDI Converter**

The ADC-191p is a miniature component analog video to SDI converter featuring high-quality 12-bit processing. It automatically detects 525-line and 625-line CAV signals, and provides an SDI output (SMPTE 259M-C). Both SMPTE and Betacam CAV sources are supported. Easy to install and operate, it is an ideal solution for monitoring applications.

- Support for SMPTE and Betacam formats.
- Support for time-based corrected and VTR-type sources.
- Bi-color LED providing error status on CAV input signal.

*ADC-191p Converter (Mfr # ADC191P • B&H # MIDADC191)* ........................................ 699.95

### ENC-291p
**12-bit SDI to Composite Encoder**

The ENC-291p miniature SDI to composite (NTSC/PAL) encoder features automatic 525- and 625-line SDI signal detection conforming to SMPTE-259M-C, and provides a NTSC, PAL, PAL-M, or PAL-N composite output signal. Also has a built-in test pattern generator.

- NTSC or PAL-M composite output for 525-line input, and PAL or PAL-N composite output for 625-line input.
- Y-only (monochrome) output selection.
- Built-in color bar generator.
- Output setup selection: 7.5 or 0 IRE (NTSC).
- Bi-color LED providing error status on input SDI signal.

*ENC-291p Decoder (Mfr # ENC291P • B&H # MIDENC291P) ........................................ 584.95

### DEC-291p
**12-bit Composite to SDI Decoder**

The DEC-291p is a miniature composite (NTSC/PAL) to SDI decoder. It automatically detects NTSC/PAL formats from incoming composite video signals and provides the appropriate serial SDI format. Its simplified design makes it very easy to install and operate, and it is the ideal solution for monitoring applications.

- Automatic detection of NTSC/PAL composite formats.
- Bi-colored LED indicates status on the composite input.
- Selection of source stability and setup level.

*DEC-291p Decoder (Mfr # DEC291P • B&H # MIDDEC291P) ........................................ 629.95

### DAC-191p
**12-bit SDI to Component Analog Converter**

A miniature SDI to component analog video converter that features high-quality 12-bit processing. It automatically detects 525-line and 625-line SDI signals conforming to the SMPTE-259M-C standard, and provides SMPTE or GBR component output signals. An internal test pattern generator provides a color bar test signal for both SMPTE and GBR outputs. Easy to install and operate, it is an ideal solution for monitoring applications.

- Output standard selection: SMPTE or GBR with or without setup.
- Bi-color LED provides error status on SDI input signal.

*DAC-191p Converter (Mfr # DAC191P • B&H # MIDDAC191)* ........................................ CALL

### SDM-272p
**SDI to S-Video Encoder**

The compact SDM-272p encoder converts from SDI to S-Video (NTSC, PAL, PAL-M or PAL-N based S-Video). It automatically detects a 525 line and 625 line input source and adjusts conversion parameters. An internal color bar generator provides reference for image set up and monitoring. Ideal for monitoring or dubbing in mixed SDI/S-Video environments. NTSC or PAL-M is used for the 525 line input and PAL or PAL-N is used for the 625 line input.

*SDM-272p Encoder (Mfr # SDM272P • B&H # MIDSADM272P) ........................................ 499.95

### ASD-272p
**S-Video to SDI Decoder**

The ASD-272p is the industry’s smallest S-Video decoder. It automatically detects NTSC, PAL, PAL-M, PAL-N, and SECAM S-video signals and provides a 4:2:2 serial digital signal conforming to the SMPTE 259M-C standard. The supported inputs range from stable, studio-type sources to satellite and VCR-type sources. This feature-packed unit delivers ease-of-use, a simplified design, easy installation and operation.

*ASD-272p Decoder (Mfr # ASD272P • B&H # MIASD272P) ........................................ 694.95

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**Contact Information:**
(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
**PICOLINK AUDIO CONVERTERS**

**SDM-277p • SDM-277p/U**
SDI to Composite (NTSC/PAL) and Analog Audio Converters

The SDM-277p is an SDI-to-composite (NTSC/PAL or PAL-M) and analog audio converter. It is ideal for standalone video monitoring and de-embedding applications of an SDI signal with embedded audio. It provides a re-clocked SDI output (loop), built-in color bars generator and automatic input format detection (525 or 625). It can extract any AES pair in a SDI stream using a 20-bit quality D/A converter. The SDM-277p/U provides unbalanced audio outputs on RCA plugs for convenient connection to monitor.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDM-277p</td>
<td>1043.50</td>
</tr>
<tr>
<td>SDM-277p/U</td>
<td>1043.50</td>
</tr>
</tbody>
</table>

**SDM-177p**
SDI to CAV and Analog Audio Converters

The SDM-177p is a SDI to RGB or Y/B-Y/R-Y and analog audio converter. It is ideal for standalone video monitoring and de-embedding applications of a SDI signal with embedded audio. The SDM-177p provides a re-clocked SDI output (loop), a built-in color bars generator and automatic input format detection (525 or 625). The SDM-177p can extract any AES pair in a SDI stream using a 20-bit quality D/A converter. The full-scale output level (0 dBFS) can be set from +12 to 24 dBu.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDM-177p</td>
<td>999.50</td>
</tr>
</tbody>
</table>

**SDM-771p • ASD-771p**
AES to Analog and Analog to AES Audio Converters

The SDM-771p is the world's smallest digital to analog audio converter. A choice of 3 full-scale output levels (+20/+22/+24 dBu) is provided. Ideal for audio monitoring and desktop system applications.

The ASD-771p is a 24-bit/48 kHz analog to digital audio converter. An external reference input allows the output to be synchronized to composite video, AES-3id Digital Audio Reference (DARS) or word clock signals. A choice of three full-scale levels (+20/+22/+24 dBu) of input signals is possible. Ideal for audio monitoring and desktop system applications.

**EMBEDDERS & DE-EMBEDDERS**

**AMX-172p**
Dual AES Embedder (75 ohms/110 ohms)

The AMX-172p is a compact standalone AES embedder designed to embed two 24-bit digital audio signals into a single SMPTE 259M serial component digital video signal. The AMX-172p has an automatic 525/625 input detection.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMX-172p</td>
<td>932.95</td>
</tr>
</tbody>
</table>

**ADX-171p**
Analog Audio De-embedder

The ADX-171p is the world’s smallest analog audio de-embedder, packing both audio extraction and 20-bit quality D/A conversion in a very compact unit. The ADX-171p can extract either AES pair from any of the 4 embedded audio groups in a SDI video stream. The full scale output level (0 dBFS) can be set to 20, 22 or 24 dBu. The ADX-171p provides a serial digital output and is ideal for standalone monitoring and de-embedding applications.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADX-171p</td>
<td>782.95</td>
</tr>
</tbody>
</table>

**ADX-172p**
Dual AES Audio De-embedder

The ADX-172p is capable of extracting 2 AES signals (4 audio channels) from a SDI video signal. The ADX-172p is available in both 75 unbalanced and 110 balanced AES output versions. It can extract any of the 4 embedded audio groups in a SDI video stream and provides an SDI video loop output. Low cost and compact packaging makes it ideal for standalone de-embedding applications.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADX-172p 110 ohms</td>
<td>989.95</td>
</tr>
<tr>
<td>ADX-172p 75 ohms</td>
<td>1043.50</td>
</tr>
</tbody>
</table>
**SDA-172p Reclocked Digital Video DA**

The SDA-172p is a miniature, 3-output, reclocked, serial digital video distribution amplifier providing automatic equalization for up to 800' of cable and full regeneration of the signal. The SDA-172p supports all serial digital video formats at 143, 177, 270, 360 and 540 Mbps. It also supports DVB-ASI compressed bit streams at 270 Mbps. Ideal for applications where the cost and complexity of a frame-based DA are not justified. (Mfr # SDA172P • B&H # MISDA172P) .................................................................................................................. 589.95

**ARC-371p Aspect Ratio Converter**

The ARC-371p is a miniature composite aspect ratio converter which automatically detects NTSC, PAL and SECAM standards and provides a composite output signal. Also offers 2-line luma and chroma filters with an adaptive luma comb filter for NTSC and a color bars generator. Users can choose 16:9 or 4:3 to 16:9 conversions, or convert standards such as NTSC to/from PAL-M, PAL to/from PAL-N, and SECAM to PAL or PAL-N. (Mfr # ARC371P • B&H # MIARC371P) .................................................................................................................. 434.95

**SDM-873p SD/HD Serial Digital Video to CAV Converter**

The SDM-873p is a miniature digital video interface converting SDI/HDSDI video signal to CAV (YPbPr or RGB). It provides automatic input scan rate detection and supports a wide variety of input formats (525i, 625i, 720p, 1080i, 1080p). The primary application is to convert SD/HD SDI signals to CAV for the purposes of feeding a VGA monitor and projector (CRT, LCD, Plasma, DLP, D-ILA etc). In order to support the emerging popularity of 24p equipment and display, the SDM-873p outputs CAV over a DVI-I connector with selectable 3:2 sequence insertion.

- SDI / HD SDI video input with active loop-through.
- CAV output (YPbPr or RGB).
- Supports 525i, 625i, 720p, 1080i with automatic input scan rate detection.
- Built-in test signal and 4:3 markers.

**SDM-874p SD/HD Serial Digital Video to DVI Converter**

The SDM-874p is a miniature digital video interface converting SDI/HDSDI video signals to Digital RGB (DVI-HDTV). It provides automatic input scan rate detection and supports a wide variety of input formats (525i, 625i, 720p, 1080i, 1080p). The primary application is to convert SD/HD serial to digital RGB for the purposes of feeding a DVI-HDTV display or a projector (CRT, LCD, Plasma, DLP, D-ILA etc). In order to support the emerging popularity of 24p equipment and digital display, the SDM-874p outputs DVI-D with selectable 3:2 sequence insertion.

- SDI / HD SDI video input with active loop-through
- Digital RGB DVI-D output compliant to DVI-HDTV
- Supports 525i, 625i, 720p, 1080PsF, 1080i with automatic input scan rate detection
- Supports direct output, p to PsF, PsF to p, 3:2 insert, Panasonic Varicam
- 1920 x 1200 Apple HD Cinema Display compatible
- Built-in test signal and 4:3 markers

**SDM-873P SDI/HSDI to Analog Component Converter**

(Mfr # SDM873P • B&H # MISDM873P) .................................................................................................................. 1286.95

**SDM-874P SDI/HSDI to DVI Converter**

(Mfr # SDM874P • B&H # MISDM874P) .................................................................................................................. 948.95

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(212) 444-6601 • 1-800-947-9901 • Quick Dial 821
PICOLINK FIBER OPTIC CONVERTERS

**FEO-871p • FOE-871p HD/SD to Fiber Optic & Fiber Optic to HD/SD Converters**

Compact stand-alone solutions, the FEO-871p transmits and the FOE-871p receives SD (standard definition) digital video ( SMPTE 259M, SDI 270 Mbps) as well as HD (high definition) signals ( SMPTE 292M up to 1.5 Gbps) through a fiber optic link. The FEO-871p laser transmitter, when interconnected with the FOE-871p receiver, can reach distances up to 15km (depends on the optical link) on single mode fiber optic allowing transparent digital transmission for short haul applications. The FEO-871p and FOE-871p can be used stand-alone or can be mounted in a special rack tray that allows them to become an electrical to optical patch field or optical to electrical patch field. Their flexible packagings make them ideal for both temporary and permanent, intra and inter-facility fiber optic links.

- **FEO-871p**
  - Supports any serial data rate from 5 Mbps to 1.5 Gbps including ATSC, SDI & HD-SDI.
  - Equalized serial digital video from 143 Mbps to 1.5 Gbps.
  - Supports SMPTE 259M, SMPTE 292M, SMPTE 305, SMPTE 310M, DVB-ASI.

- **FOE-871p**
  - Laser transmitter allowing longer distances over single mode fiber optic @ 1310 nm.
  - Status LED indication.
  - Cost effective solution, compact and lightweight.
  - Standalone mounting.
  - Optional rack mount tray turns picoLink into optical patch field.

- **FEO-871p Converter (Mfr # FEO871P • B&H # MIFOE871P) .......................1499.50**

- **FOE-871p**
  - Supports any serial data rate from 5 Mbps to 1.5 Gbps including ATSC, SDI & HD-SDI.
  - Reclocked serial digital video from 143 Mbps to 1.5 Gbps.
  - Supports SMPTE 259M, SMPTE 292M, SMPTE 297M, SMPTE 305, SMPTE 310M, DVB-ASI.

- **FOE-871p Converter (Mfr # FEO871P • B&H # MIFOE871P) .......................1499.50**

**FEO-171p • FOE-171p SDI to Fiber & Fiber Optic to SDI Converters**

The FEO-171p is a stand-alone electrical to optical solution for transmitting digital video (SDI, 270 Mbps) signals over a single mode fiber optic link. The FOE-171p is a compact stand-alone optical to electrical solution for receiving digital video signals over a single mode fiber optic link. Used together, they can be used for short and medium haul applications with distances up to 10km. They can be used stand-alone or mounted in a special rack-mount tray that turns them into an electrical to/from optical patch field, or optical to/from electrical patch field.

- **FEO-171p**
  - Supports SDI 270 Mbps SMPTE 259M-C.
  - Conforms to SMPTE 297M.
  - Laser Transmitter for typical distances up to 10 km.

- **FOE-171p**
  - Single-mode 1310 nm with SC connector.
  - Valid input signal indication.
  - Standalone mounting.
  - Optional rack mount tray turns picoLink into optical patch field.

- **FEO-171p Converter (Mfr # FEO171P • B&H # MIFOE171P) .......................879.95**

- **FOE-171p**
  - Reclocked input.
  - Valid input signal indication.
  - Stand-alone mounting.
  - Optional rack mount tray turns picoLink into optical patch field.

- **FOE-171p Converter (Mfr # FEO171P • B&H # MIFOE171P) .......................879.95**

**PICOLINK ACCESSORIES**

- **Universal Plug-in Power Supply (Mfr # LKWSW • B&H # MILKWSW):**
  - A 110/220v plug-in power supply designed for picoLink. It offers the ability to work with many worldwide power sources ..................69.95

- **Rack-Mounted pL-Fiber Tray (Mfr # PLFIBERTRAY • B&H # MPLFIBERTRAY):**
  - A rack-mount frame that houses and powers up to 10 picoLink fiber optic converters with redundant power supply. This frame turns Fiber Optic picoLink converters into a Fiber Optic Patch Bay ..................838.95

- **pico-PA 12V to 5V Power Adaptor (Mfr # PICOPA • B&H # MIPICOPA):**
  - Allows any picoLink unit to be powered on site with a regular 12v camera power supply and battery belt. It provides mobility and freedom, whether you’re working in the studio or field ..................59.95

www.bhphotovideo.com
### TPG-171p Test Pattern Generator

Provides 10-bit resolution SDI output in 525-line or 625-line formats. An error detection (EDH) signal can be inserted in the ancillary data area and up to 32 test patterns can be generated. An audio tone can also be embedded in the serial digital output. The output can be genlocked to a composite analog reference or left free running. All of the principal controls are accessible on the top of the device. Two AES-3id audio outputs are also provided. A low powered, compact device with the features of a professional signal generator.

- SDI output (270 Mbps) in 525-line (60 Hz) or 625-line (50 Hz) format.
- Reference input (NTSC / PAL) to genlock the digital output.
- Free running mode when the reference is not present (170M SMPTE ± 10 Hz).
- Single and multiple line patterns to allow complex pattern generation.
- Over 32 test patterns with 10-bit precision.
- One complete group with 20-bit or 24-bit (AES-EBU 1+2) embedded audio tone selectable by a dip switch. Continuous tone for right channels and intermittent for left channels.
- EDH insertion: active picture and full field.
- Y, Cb, Cr control.
- Fixed time code insertion.

### SER-810E • SER-800D

**Compact HD Parallel to Serial & Serial to Parallel Converters**

The SER-810E and SER-800D convert high definition video from parallel to SMPTE-292M serial digital and vice versa. The SER-810E Serializer and SER-800D Deserializer automatically detect the image format and support 480p, 720p, 1035i, 1080i and 1080p image formats at 60, 59.94, 50, 30, 29.97, 25, 24 and 23.98 Hz. The compact, in-line package is designed to plug directly into the D-Sub 50 connector eliminating the need for a frame and parallel cabling. Both units can be powered from an individual wall plug-in power supply.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SER-810E Video Serializer (Mfr # SER810E)</td>
<td>Dimensions are 0.8” x 2.33” x 4.14” (WDH)</td>
<td>1869.95</td>
</tr>
<tr>
<td>SER-800D Video Deserializer (Mfr # SER800D)</td>
<td>Dimensions are 0.8” x 2.33” x 4.14” (WDH)</td>
<td>2338.95</td>
</tr>
<tr>
<td>SER-WSU Universal Wall Plug-in Power Supply (Mfr # SERWSU)</td>
<td>For SER-810E or SER-800D</td>
<td>69.95</td>
</tr>
</tbody>
</table>

### LITTLE-RED Linear Time Code to RS-232

Self-powered from the RS-232 port, this micro-sized reader is the ideal LTC input to a PC or Mac. Four opto-isolated GPI outputs which trigger at user selectable times enable the reader to control multi-event sequences. These GPIs may also be directly activated via the serial port. Two GPI inputs may be assigned as triggers for operations such as a time capture.

- Balanced or unbalanced LTC input
- Self-powered from RS-232 port
- 2 GPI trigger inputs
- 4 opto-isolated GPI control outputs
- Time code presence detection
- Time code coincidence detection
- Computer configurable
- Simple ASCII control protocol
- Time address ascendancy detection

**LITTLE-RED Linear Time Code Reader (Mfr # LITTLERED)** | Linear time code reader/interface. Dimensions are 1.3” x 0.63” x 3.3” | 538.95   |
**HD-BRIDGE DEC+**

**HDV to HD/SD Interface with Genlock and ASI Inputs**

A high-quality HDV (MPEG2) decoder interface with multiple output formats for news gathering, recording, monitoring, and on-air playout. HD-Bridge Dec+ features 2 HDV IEEE1394 ports (iLink, Firewire), an ASI input, and a Genlock reference input. Dual digital video outputs provide either HD-SDI or SDI with embedded audio and time code. One output is a clean feed, and the other features Time Code burn-in and aspect ratio markers. The interface also provides composite, SD/HD component video, AES and analog audio, and LTC outputs. A RS422 port is available for VTR control, and a built-in cross converter allows 1080i / 720p HD cross-conversion. The interface can also perform 720p24 HDV to 1080PsF24 HD-SDI conversion for high-end 24p production, and there is also a 1080i/720p HD to SD downconverter. For those who don’t need the ASI and genlock inputs, Miranda offers the HD-Bridge DEC, an otherwise identical, but lower cost version.

**FEATURES**

- High-quality HDV to HD/SD conversion.
- Multiple outputs including: HD/SD with embedded audio and Time Code; Component Analog SD/HD; Composite video; AES; Analog audio and time code.
- Cross conversion with HD-SDI output at 1080i or 720p.
- One clean HD/SD output, and one with time code burn-in and Graticule Markers.
- Desktop design with front (4-pin) and rear (6-pin) IEEE-1394 HD connections.
- VCR control by RS-422.
- Genlock input for broadcast applications.
- Low cost monitoring by constant composite output.
- 720p24 HDV to 1080PsF24 HD-SDI conversion for high-end 24p production (Universal Mastering Format).
- ASI input for cost effective HD news gathering, when used with ASIBridge CAM.
- Downconverter (HDV/HD to SDI) for HD shooting and SD finishing.
- Two HD-Bridge DEC units can be rack mounted with the 19” HD-Bridge Tray.

![HD-Bridge DEC+ Typical applications](image)

**HD-Bridge DEC+ (Mfr # HDBRIDGEDECP, B&H # MIHDBDP)**
HDV to HD/SD interface with Genlock and ASI inputs.................................................................3464.95

**HD-Bridge DEC (Mfr # HDBRIDGEDEC, B&H # MIHDBD)**: HDV to HD/SD interface........................................2399.95

**HD-Bright Tray (Mfr # HDBRIGHTTRAY, B&H # M19T2HDB)**:
19” rack mount tray for two HD-Bridge DEC or DEC+ interfaces..............................................139.95

www.bhphotovideo.com
HDV to ASI Converter

The ASI-Bridge CAM is a camera-mounted HDV to ASI converter, which offers direct transmission of HDV news footage, and more effective HDV recording to an MPEG-2 server. The ASI-Bridge CAM can also be combined with the HD-Bridge DEC+ to create a highly effective long range HDV newsgathering system. This overcomes the short range limits of Firewire cable, and allows more flexibility in the field.

The ASI-Bridge CAM interface accepts HDV via an IEEE1394 connection, and converts it to standard MPEG-2/ASI format. The interface is ideal for HDV news gathering, and can be used to convert HDV directly to ASI without the need for a costly HD MPEG-2 encoder. It also allows direct MPEG-2 recording on a server for cost effective preparation of dailies. The use of ASI cabling from the camera means the dailies recording device can be located further away from the camera. The compact interface mounts discretely between an HDV camcorder and a tripod, and accepts power from the camera battery or from a dedicated in-line power supply.

**FEATURES**

- Input: IEEE-1394 (FireWire) x2, HDV, on 4-pin and 6-pin connectors. Windows XP and Mac OS platforms are supported.
- HDV/IEEE-1394 to MPEG-2/ASI interface on a BNC connector.
- DVB-ASI compliant.
- Compact and neat camera-attached design.
- Flexible 6-17v input power range.
- Very low (2 watts) power consumption.
- Supported Formats:
  - SD 525/625: HD1 @ 19.8Mbps;
  - HD 720p: HD1 @ 19.8Mbps;
  - HD 1080i: HD2 @ 25Mbps;
  - ATSC: 19.4Mbps

**ASI-BRIDGE-CAM**: HDV to ASI Interface - HDV/IEEE-1394 to MPEG2/ASI Server

(Mfr # ASIBRIDGECAM • B&H # MIABRC) .................. 1507.50

**ASI-Bridge CAM Typical applications**

**HDV news gathering**

The ASI-Bridge CAM is ideal for HDV news gathering, and can be used to convert HDV directly to ASI without the need for a costly HD MPEG-2 encoder.

**Recording to an MPEG-2 server**

The ASI-Bridge CAM’s HDV to ASI conversion allows direct recording using an MPEG-2 server, and this is the most effective way of recording HDV material over longer distances.
ADC-800 CAM

HDV Camera HD/SD A/D Converter

The ADC-800 CAM is a compact, camera mounted interface which allows live HD digital monitoring and recording from an HDV camcorder. This is achieved by converting the EE uncompressed component analog output to HD-SDI, with left/right audio and time code embedded. This path overcomes the processing delay inherent with the MPEG2 Long GOP structure, which makes it inappropriate to use the HDV stream for live monitoring. This process also avoids having to use many cables for recording. The ADC-800 CAM also provides separate on-screen display, including markers, time code burn-in, and peak meters.

- Compact, camera mounted design.
- HD/SD 10-bit component analog video to digital converter.
- Digital video output with audio and time code embedded.
- Time code can be extracted from LANC or LTC.
- Detail enhancer.
- Wide power range of 6v to 17v.
- Supports SD and HD (720p, 1080i) formats.
- Convenient on-screen display provides time code burn-in, 4:3 aspect ratio markers, and audio VU peak meters.

AMX-800 CAM

HD/SD 4 Analog Audio and Time Code Embedder for Canon HDV Camera

The compact AMX-800 CAM interface is an HD/SD 4 analog audio and timecode embedder especially designed for the Canon XL H1 HDV camcorder. The interface can also be used as a standalone SD/HD embedder.

- Convenient camera-mounted interface provides embedding into HD/SD of 4 Analog Audio channels and time code
- Mounts discretely on the back of the Canon XL H1 HDV camcorder
- Can be used as a standalone interface
- Two level control for audio input (one per audio pair)
- Timecode / LANC input
- On-screen display (selectable) provides timecode burn-in, aspect ratio markers, camera status
- Compact standalone design with attachment bracket
- 6v to 17v input power range
- Supports SD and HD (720p, 1080i) formats
Digital Video Serializer & DV Encoder for SD Cameras

The award-winning DVC-100 and DVC-120 are SD to DV interfaces that offer easy upgrading of conventional, tape-based Sony and Panasonic cameras to drive-based cameras for faster conventional and on-location news production. The interfaces offer high quality SD to DV conversion. This allows tape-based cameras to record using a DV drive with the DVC-100/DVC-120 interface mounted in between the drive and the camera. By eliminating slow tape transfer, news production can be streamlined significantly. The interfaces can be used for on-location recording, editing, and file transmission, as well as for local news production, with the drive transferred to the newsroom for subsequent editing and playout. The DVC-100 operates with Sony IMX, SX and DigiBeta cameras, and the DVC-120 operates with Panasonic and other SD cameras. The interface converts Digital Parallel video out to DV, composite and SDI at the same time. The DV signal from the DVC-100/DVC-120 includes video, audio, time code and Metadata. The interface provides built-in markers, with a Safety Zone, and Center Mark generator.

- Interface allows upgrading of tape-based standard definition cameras to drive based cameras for improved workflow.
- Operates with Sony and Panasonic SD cameras
- Provides SDI, composite and DV outputs
- DV output allows connection to a laptop or DV recorder/editor for rough cut editing
- DV and SD outputs feature embedded audio and time code
- DV drive is slaved to camera
- DV loopback to allow reviewing and approval
- Ultra-compact, camera mounted design

For Sony Camera

DVC-100/Anton Bauer Battery Adapter
(Mfr # DVC100PAG • B&H # MIDVC100PAG) ........... 4682.95

DVC-100/Sony IDX V-Lock Battery Adapter
(Mfr # DVC100IDX • B&H # MIDVC100IDX) ........... 4682.95

DVC-100/PAG Battery Adapter
(Mfr # DVC100PAG • B&H # MIDVC100PAG) ........... 4682.95

For Panasonic Camera

DVC-120/Anton Bauer Battery Adapter
(Mfr # DVC120ANTON • B&H # MIDVC120ANTO) .... 4682.95

DVC-120/Sony IDX V-Lock Battery Adapter
(Mfr # DVC120IDX • B&H # MIDVC120IDX) ........... 4682.95

DVC-120/PAG Battery Adapter
(Mfr # DVC120PAG • B&H # MIDVC120PAG) ........... 4682.95

DVC-Dock (Mfr # DVCDOCK • B&H # MIDVCDOCK):
Standalone Base for DVC-100/120 with built-in power supply .................................................... 369.95

Digital Video Serializer & DV Encoder for SD Cameras

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- DV loopback to allow reviewing and approval
- Ultra-compact, camera mounted design

For Sony Camera

DVC-100/Anton Bauer Battery Adapter
(Mfr # DVC100PAG • B&H # MIDVC100PAG) ........... 4682.95

DVC-100/Sony IDX V-Lock Battery Adapter
(Mfr # DVC100IDX • B&H # MIDVC100IDX) ........... 4682.95

DVC-100/PAG Battery Adapter
(Mfr # DVC100PAG • B&H # MIDVC100PAG) ........... 4682.95

For Panasonic Camera

DVC-120/Anton Bauer Battery Adapter
(Mfr # DVC120ANTON • B&H # MIDVC120ANTO) .... 4682.95

DVC-120/Sony IDX V-Lock Battery Adapter
(Mfr # DVC120IDX • B&H # MIDVC120IDX) ........... 4682.95

DVC-120/PAG Battery Adapter
(Mfr # DVC120PAG • B&H # MIDVC120PAG) ........... 4682.95

DVC-Dock (Mfr # DVCDOCK • B&H # MIDVCDOCK):
Standalone Base for DVC-100/120 with built-in power supply .................................................... 369.95
DVC-802 • DVC-822

Downconverter and DV Encoder Interfaces for HD Cameras

The DVC-802 and DVC-822 HD offer significant improvements in HD electronic acquisition workflow, with more versatile monitoring and DV drive recording for fast review and rough-cut editing. The DVC-802 and DVC-822 operate with Sony and Panasonic HD cameras, and they can be used for wireless camera monitoring, monitoring over fiber, and remote monitoring from a 'Video Village'. Alternatively, multiple monitoring feeds can be taken from the interface to allow everyone on-set to view the footage simultaneously. Compact, camerramounted interfaces, they provide a full range of outputs including HD-SDI, SDI, Composite and DV/IEEE-1394. The interface's digital outputs all feature embedded audio and time code. The interfaces operate with a full range of HD formats, including 1080i, 1080p and 720p, at all the popular frame rates, including 23.98PsF, 24PsF, 25PsF, 29.97PsF, 50i, and 59.94i.

◆ Can insert safety zone, aspect ratio plus center markers, and it can also burn-in multiple time code tracks
◆ 2:3 and 2:3:3:2 pull down capability
◆ External audio AES2 input with adjustable delay
◆ Convenient selectable HD/SD Timecode output
◆ SD/HD-SDI, Composite, and DV output
◆ Full 10-bit downconversion
◆ Minimal processing delay

Improved On-Set Monitoring, Review and Editing
◆ Descriptive Metadata insertion via PDA, including Scene#, Cam#, and Take#, allows the use of an Electronic Slate. Everyone on-set can see the complete picture at all times.
◆ Fully variable aspect ratio conversion simplifies 16:9 HD monitoring on 4:3 monitors.
◆ DV drive recording and HD-SDI monitoring with Panasonic Varicam. The DVC-822's Varicam mode allows “flagged” frames to be output at 23.98, 24, 25, 29.97 and 50 instead of default 59.94/60fps.
◆ Multiple time code tracks can be burnt-in, including 23.98 HD camera TC, 59.94 derived from HD camera TC (with 3:2 pull down), and an external TC source. The DVC-802/822 can also insert safety zone, aspect ratio, and center markers.

For Sony HDCAM

DVC-802 + Anton Bauer Adapter
(Mfr # DVC802ANTON • B&H # MIDVC802ANTO) .............................................. 9369.95
DVC-802 + Sony Adapter  (Mfr # DVC802IDX • B&H # MIDVC802IDX) ............. 9369.95
DVC-802 + PAG Adapter  (Mfr # DVC802PAG • B&H # MIDVC802PAG) .......... 9369.95

For Panasonic HD Camera

DVC-822 + Anton Bauer Adapter
(Mfr # DVC822ANTON • B&H # MIDVC822ANTO) .............................................. 9369.95
DVC-822 + Sony Adapter  (Mfr # DVC822IDX • B&H # MIDVC822IDX) ............. 9369.95
DVC-822 + PAG Adapter  (Mfr # DVC822PAG • B&H # MIDVC822PAG) .......... 9369.95

MDC-902/922 Downconverter for HD Cameras

The affordable MDC-902/922 provides all of the features and powerful workflow enhancing capabilities of the DVC-802/822 interface except for DV encoding. The interfaces operate with Sony and Panasonic HD cameras, and they can be used for wireless camera monitoring, monitoring over fiber, and remote monitoring from a 'Video Village'. Alternatively, multiple monitoring feeds can be used to monitor the footage.

◆ Improves HD electronic acquisition workflow by offering more versatile camera monitoring and recording configurations
◆ Regular 2:3 and advanced 2:3:3:2 pull down capability
◆ Panasonic Varicam mode allows “flagged” frames to be output at 23.98, 24, 25, 29.97 and 50 instead of default 59.94/60fps

High-Quality Downconverter for Sony HDCAM

MDC-902 + Anton Bauer Bracket
(Mfr # MDC902ANTON • B&H # MIMDC902ANTO) ............................................ 5619.95
MDC-902 + Sony Battery Adapter
(Mfr # MDC902IDX • B&H # MIMDC902IDX) .................................................... 5619.95
MDC-902 + PAG Battery Adapter
(Mfr # MDC902PAG • B&H # MIMDC902PAG) .................................................. 5619.95

High-Quality Downconverter for Panasonic HD Camera

MDC-922 + Anton Bauer Bracket
(Mfr # MDC922ANTON • B&H # MIMDC922ANTO) ............................................ 5619.95
MDC-922 + Sony Battery Adapter
(Mfr # MDC922IDX • B&H # MIMDC922IDX) .................................................... 5619.95
MDC-922 + PAG Battery Adapter
(Mfr # MDC922PAG • B&H # MIMDC922PAG) .................................................. 5619.95

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<tr>
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<tr>
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**DVI-RAMP²**

**Graphic to HD/SD Video Interface**

The DVI-Ramp2 performs live extraction of computer graphics to generate HD/SD video for post-production, broadcast and digital cinema. It operates in four modes including scaled graphic to video output, pixel-to-pixel extraction, and HD/SD fill plus key output. The interface can accept Dual Head or Dual Link DVI, with up to 16-bit per component. It features graphic to video scaling with anti-flicker and detail enhancement. The unit features many synchronization modes, including framesync, genlock, “soft genlock” and free run. The “soft genlock” allows the synchronization of a regular graphics card with no reference input. Configuration and control of the DVI-Ramp2 is via Ethernet, USB or RS-232.

**FEATURES**

- Dual Head or Dual Link DVI with loop through up to 2560 x 1600
- Up to 16-bit per component when using two DVI channels for high resolution color depths
- Can be externally synchronized with an analog reference (SD or HD) or can free run on its internal frequency-accurate time base.
- For convenience and flexibility, configuration and control of the DVI-Ramp2 can be done via USB, RS-232 or Ethernet (check availability). Firmware updates through USB or RS-232 only.
- DVI-Ramp2 is packaged in a free-standing case, suitable for installation on a desk. Two units can be installed side-by-side on a 1RU tray for rack mounting, using the optional TRAY-120.

---

**Graphic to HD/SD video interface with four operating modes:**

**Single Extraction - Pixel-to-Pixel mode:** The DVI-Ramp² can process up to 16 bits per component when Dual Head or Dual Link DVI is used.

**Dual Extraction - Pixel-to-Pixel mode:** The 2 channels are supplied using a Dual Head DVI connection. Pixel-to-pixel extraction enables the highest possible quality by eliminating any perceptible scaling artifacts.

**Single Extraction - Scaling mode:** A sizeable and positionable window is used to specify which section of the original PC graphic image will be scaled up or down to fit the targeted SDI resolution. Built-in anti-flicker circuitry eliminates most of the flickering when the SDI output is interlaced.

**Dual Extraction - Fill & Key mode:** The DVI-Ramp² can process and supply a Fill & Key signal to an external keyer using up to 12-bits per component for professional, high-resolution color depths. Fill and Alpha (key) graphics content are provided by the PC through the 2 DVI inputs of the unit (Dual Head operation).

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**DVI-RAMP² DVI-to-HD/SD Video Interface**

(Mfr # DVI-RAMP2 • B&H # MIDVIRAMP2): DVI, RGBHV, HD/SDI interface ............................................4699.95

**DVI-RAMP² DSK DVI-to-HDTV/SDTV Video Port**

(Mfr # DVI-RAMP2DSK • B&H # MIDVIRAMP2DS): DVI to HD/SDI video interface with DSK ........................................5619.95

**1RU Support Tray**

(Mfr # TRAY120 • B&H # MITRAY120) Enables two DVI-RAMP² or DVI-RAMP² DSK units to be rack-mounted .............................................149.95

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**DVI-Ramp2 DSK Typical applications**

Low cost, professional quality channel branding using internal keyer

DVI-Ramp2 DSK can be used to create professional quality channel branding and real-time SD production graphics.

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Bi-Directional DV to Analog Converter

The DV-Bridge Pro is a compact, bi-directional DV-analog video/audio (component/composite) converter with integral 4:3/16:9 aspect ratio conversion. The interface operates in three modes: analog to DV, DV to analog, and analog pass through. The DV-Bridge Pro provides easy audio level adjustment, as well as audio level metering with digital VU meters. It also integrates balanced and unbalanced audio inputs. The converter preserves the time code in the conversion process (VITC and LTC). DV-Bridge Pro also provides VCR control, receiving commands over the IEEE1394 DV interface from DV editing software, such as Apple’s Final Cut Pro and Avid’s DV Xpress, and sending these commands to the VCR via RS-422.

DV-Bridge Pro

- Bi-directional DV to analog video and audio conversion (SMPTE / EBU and BETACAM component formats)
- Aspect ratio conversion between 16:9 and 4:3 video
- Balanced/unbalanced stereo audio
- VITC and LTC Time Code conversion
- Bi-directional VCR control via RS-422 and Dual IEEE1394 ports
- Automatic detection of 525/625 line/scan formats
- Audio input level adjustment
- Audio level (input and output) monitoring with a digital VU meter
- Audio reference selection (-20dB, -18dB, -16dB, -12dB)
- Audio sampling rates of 32, 44.1 and 48 kHz

Bi-Directional DV to SDI/AES Converter

The compact DV-Bridge+ converter unit provides bi-directional, DV-SDI/AES interfacing, with time code data conversion (LTC, DVITC) and VCR control via IEEE1394/RS422. VCR controls such as stop, play and rewind are received by the DV-Bridge+ via an IEEE1394 interface, and sent to the VCR over an RS-422 interface. DV-Bridge+ is ideal for transferring DV to SDI plus AES in news environments, and for transferring SDI plus AES to DV in a post-production, DV editing facility. PAL/NTSC (including VITC time code), S-Video and analog audio outputs simplify the monitoring and dubbing of the DV signal. While primarily designed for DV editing, the converter also supports the DVCPRO format.

- Bi-directional DV to SDI/AES converter
- Supports Digital Vertical Interval (DVITC) and Linear (LTC) time code conversion
- Supports interfacing from DVCPRO to SDI/AES
- Convenient NTSC/PAL, S-Video and analog audio outputs for monitoring and dubbing
- Automatic detection of 525/625 line/scan formats
- Dual DV ports, 4 and 6 pins for ease of use
- Supports 32, 44.1 and 48 kHz sample rates
- LED indication of conversion mode and video/audio formats
CHROMATTE

Studio Drapes and Custom Solutions

Chromatte is a flexible chromakey solution that allows you to shoot and key almost anywhere. The results achieved on location are as good as those achieved in a dedicated studio environment. Chromatte is a fabric designed specifically for use as a background for chromakey production. Unlike conventional chromakey fabrics that are usually blue or green in color, in ambient light Chromatte is gray to the eye. The fabric contains millions of tiny glass beads that act as reflectors: when any light — such as the directional light from Reflecmedia’s lens-mounted LiteRing — hits the fabric, it is returned on the same path back into the camera’s lens. This retro-reflective process means the camera ‘sees’ the apparently gray fabric as a perfectly even blue or green background. The nature of the interaction between light and the glass beads means that seams, folds and creases are no problem.

Chromatte is available in a range of standard size or custom produced studio drapes, where the fabric is backed with a black light-proof drape and hemmed with eyelets across the top for easy hanging from studio tacking or rail.

Chromatte offers unrivalled benefits:

**Lighting:** Conventional fabrics require significant lighting to create an even color background, whereas the only light required to light Chromatte comes from the LiteRing. This means that any spill from unwanted light is eradicated and that chromakey can now be used in low-lit scenes and sets.

**Space:** By removing the need for additional lighting, Chromatte takes chromakey out of the studio and into any controlled lighting environment — an office, meeting room or garage can be a chromakey location in minutes. Install anywhere — there is no ‘spill’ in a Chromatte installation. Plus, with only the camera mounted LiteRing required to light the background, you no longer need the space to accommodate heavy studio lighting. With Chromatte you can chromakey in smaller light controlled locations.

**Time:** For even an experienced lighting engineer it can take hours to light a chromakey set. In many instances, the time involved and the difficulties of achieving high quality results have prevented the use of chromakey in lower budget and time-sensitive productions. Installing Chromatte takes very little time, freeing up production time to concentrate on other elements like scene composition.

**Flexibility:** Reflecmedia’s LiteRing color determines whether the production is shot against blue screen or green screen. If circumstances change and the alternative color is required, the LiteRing can simply be exchanged without any need for repainting or relighting.

**LiteRing—the Chromakey Source**

Chromatte fabric is designed to work with the LiteRing. The LiteRing is a circular arrangement of bright blue or green light emitting diodes (LEDs) in a circular casing that is positioned in front of the lens. It provides all the necessary source light required to illuminate the Chromatte fabric for chromakey production.

The LiteRing connects to the camera with a specially designed adapter ring which is attached to the inner thread of the lens. The LiteRing is then placed onto the adapter and locks with a single screw. This enables users to quickly release the LiteRing in between shots, or change from a green to blue ring base upon their chosen keying color.

- The LiteRing takes the blue or green color away from the fabric and completely eliminates the need to separately light the background. The ability to change the keying color in seconds cannot be achieved any faster — no need to hang a different drape or repaint the studio walls.
- Tungsten, HMI and fluorescent lights can be large in size, expensive to power and uncomfortable to work under. Typically you need thousands of watts to light absorbent chromakey fabrics, whereas the LightRing output of around 10 watts provides all the light required by Chromatte.
- By relocating the color and light into one camera-mounted device, setup time is significantly reduced, and many of the difficulties associated with conventional chromakey are overcome.
- The LiteRing is available in both green and blue, and in three sizes to fit different size cameras. Each size of ring has a series of optional adapter rings available to ensure maximum compatibility with camera lens sizes.
- The LiteRing Controller (LRC) allows adjustment of the intensity of light required for optimum keying results. The controller is powered using a 4-pin XLR connector from the supplied 12v power supply or camera battery.
- Ideal shooting distances depend on a number of variables including levels of ambient light, choice of keying applications, camera quality and filming formats. As a rule the subject should be further than 8’ from the camera to avoid a blue or green cast of light. Maximum distance is approximately 60’.
**Chromatte Curtains**

Chromatte Curtains are available in three standard sizes. Ideal for use when filming in a dedicated production environment, they do not need to be fixed or flat but can be pulled back or in to place just like a conventional curtain. Chromatte Curtains are backed with black light-proof wool serge and hemmed with eyelets across the top for easy hanging from studio tracking or a curtain rail.

Each curtain has eyelets that run across the top. The drapes can be hung using a variety of fixing methods ranging from s-hooks to tab hooks and rope ties. At the bottom of each curtain is a 4” pocket where an optional weight can be sewn in. Each curtain comes in a custom bag for easy storage and portability.

**Chromatte Kits — Lens Adapter Ring Required**

*Small LiteRings fit lenses 30-72mm, Medium LiteRings fit lenses 67-112mm*

8x8’ Fabric with Small Blue LiteRing Kit and Bag (Mfr # RM1215B • B&H # REC885BBK) ........................................... 3600.00
8x8’ Fabric with Small Green LiteRing Kit and Bag (Mfr # RM1215S • B&H # REC885GBK) ........................................... 3600.00
8x8’ Fabric with Medium Blue LiteRing Kit and Bag (Mfr # RM1216MB • B&H # REC1695MBBK) .......................... 3600.00
8x8’ Fabric with Medium Green LiteRing Kit and Bag (Mfr # RM1216MG • B&H # REC1695MBBK) .......................... 3600.00
12x10’ Fabric with Small Blue LiteRing Kit and Bag (Mfr # RM12125SB • B&H # REC12105BBK) ...................... 5000.00
12x10’ Fabric with Small Green LiteRing Kit and Bag (Mfr # RM12125SG • B&H # REC12105GBK) ...................... 5000.00
12x10’ Fabric with Medium Blue LiteRing Kit & Bag (Mfr # RM12122MB • B&H # REC1210MBBK) ...................... 5000.00
12x10’ Fabric with Medium Green LiteRing Kit & Bag (Mfr # RM12122MG • B&H # REC1210MBBK) ...................... 5000.00
16x9’ Fabric with Small Blue LiteRing Kit and Bag (Mfr # RM12145SB • B&H # REC1695BBK) ....................... 5800.00
16x9’ Fabric with Small Green LiteRing Kit and Bag (Mfr # RM12145SG • B&H # REC1695GBK) ....................... 5800.00
16x9’ Fabric with Medium Blue LiteRing Kit & Bag (Mfr # RM12124MB • B&H # REC1695MBBK) ....................... 5800.00
16x9’ Fabric with Medium Green LiteRing Kit & Bag (Mfr # RM12124MG • B&H # REC1695MBBK) ....................... 5800.00
16x12’ Fabric with Small Blue LiteRing Kit and Bag (Mfr # RM112125SB • B&H # REC16125BBK) ....................... 7000.00
16x12’ Fabric with Small Green LiteRing Kit and Bag (Mfr # RM112125SG • B&H # REC16125GBK) ....................... 7000.00
16x12’ Fabric with Medium Blue LiteRing Kit & Bag (Mfr # RM112123MB • B&H # REC1612MBBK) ....................... 7000.00
16x12’ Fabric with Medium Green LiteRing Kit & Bag (Mfr # RM112123MG • B&H # REC1612MBBK) ....................... 7000.00

**Chromatte LiteRing Adapters**

**For Small LiteRing**

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<td>RM 3325</td>
<td>RELRA7230S</td>
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<td>72-37mm</td>
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<td>72-52mm</td>
<td>RM 3323</td>
<td>RELRA7252S</td>
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<td>72-58mm</td>
<td>RM 3322</td>
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**For Medium LiteRing**

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**Medium (112mm) Adapter Ring Set**

Includes nine rings—67mm, 77mm, 80mm, 82mm, 86mm, 94mm, 95mm and 105mm (Mfr # RM 3398 • B&H # RELRA65) ........... 250.00

**For Large (147mm) LiteRing**

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**Clamp-On Adapters for Medium LiteRing**

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ChromaFlex

Portable Chromakey

ChromaFlex is a portable chromakey background for use in video, television and film content creation. It provides all the benefits of Reflecmedia’s revolutionary Chromatte fabric in the most portable form, making it easier and more affordable than ever to take chromakey production out of the studio and into any controlled lighting environment. The results are as good as those achieved in a dedicated studio, but this way you can take your chromakey studio wherever you go.

The 7’ square collapsible screen weighs just 8 lbs. and packs into a 36” diameter bag. Without any additional fittings needed, ChromaFlex is opened and ready for use in seconds. The screen’s surface area allows sufficient space to shoot from close-up to a well-proportioned wide shot. Experienced professionals or chromakey amateurs will benefit from the ease, flexibility and versatility of ChromaFlex and the greater time it allows for creativity.

When purchasing ChromaFlex, you choose a LiteRing Kit to suit your application — depending on camera size and preferred keying color. Additional LiteRings can be added at any time for enhanced flexibility.

Chromaflex 7’ Collapsible Screen with case (Mfr # RM 2201 • B&H # REC7CCC) ................................................................. 1175.00
Chromaflex screen with case, Small Green LiteRing and controller, and Kata Carry Bag (Mfr # RM 2121SG • B&H # REC7SGBK) ................................................................. 2700.00
Chromaflex screen with case, Small Blue LiteRing and controller, and Kata Carry Bag (Mfr # RM 2121SB • B&H # REC7SBBK) ................................................................. 2700.00
Chromaflex screen with case, Medium Green LiteRing and controller, and Kata Carry Bag (Mfr # RM 2121MG • B&H # REC7MGBK) ................................................................. 2700.00
Chromaflex screen with case, Medium Blue LiteRing and controller, and Kata Carry Bag (Mfr # RM 2121MB • B&H # REC7MBK) ................................................................. 2700.00

MicroLite Chromakey Systems

MicroLite is a lightweight adjustable cradle which allows a Reflecmedia LiteRing to be attached to almost any DV/HDV camcorder, without the need for further lens adapters. It is available as a light assembly only, or complete with either 8 x 8’ Deskshoot Lite or 4 x 3’ ChromaFlex EL to offer a fully functional chromakey facility in a truly portable way. Deskshoot Lite is a newly-developed curtain, using the same technology as the highly acclaimed Chromatte fabric, but is lighter and easier to pack away. As an entry-level product, the MicroLite bundle is priced to ensure it’s affordable for smaller users and is ideal for schools, students, small businesses, videographers, and home movie makers.

ChromaFlex EL is a 4’x3’ version of ChromaFlex, supplied with LiteRing components all in one bag. A cost-effective entry level solution for mid shots and head and shoulder shots, it is the perfect introduction to Chromatte production. MicroLite bundles come with the LiteRing, ChromaFlex EL or Deskshoot Lite curtain, integrated mini controller to adjust the intensity of the LiteRing and a universal power supply, and are compatible with normal chromakey workflows and software.

Green Microlite Assembly ONLY (Mfr # RM 4521 • B&H # RERM4521) ......................................................................................... 759.95
Green Microlite Assembly with ChromaFlex EL 4 x 3’ Background (Mfr # RM4512 • B&H # RERM4512) ................................................................. 1274.95
Green Microlite Assembly with ChromaFlex EL 8 x 8’ Background (Mfr # RM4511 • B&H # RERM4511) ................................................................. 1274.95
ULTIMATTE DV

Chromakeyer for Live Production

Equipped with composite, S-Video and DV video signals for foreground, background and composited output, Ultimatte DV provides the solution for users searching for a cost-effective tool for live production. Logical and simple to operate, Ultimatte DV offers unrivalled control over the matte parameters. Users can quickly compare the input, the matte and the composite output via a single monitor connection. Internally generated test signals ensure the highest quality output is maintained. An internal frame store allows non-synchronous signals to be combined – a big advantage as many DV cameras do not have genlock – and also allows the user to store a background frame in memory. The unit also functions as a transcoder, enabling the user to convert between video formats. On location, Ultimatte DV can be used as a pre-visualisation tool, enabling the director and crew to evaluate the first composite, rather than only seeing the camera feed on a preview monitor.

◆ Designed to work with many different asynchronous sources
◆ Easy to use, with intuitive controls, interface and connections.
◆ Equipped with composite (RCA), S-Video and DV inputs/outputs
◆ Professional equipment is not needed. Just plug in devices you already have like a DVD player, DV camcorder or computer, and you’ll see results immediately.

ULTIMATTE DV (Mfr # RM 6251 • B&H # REUDV) ................................................ 3000.00

Chromatte Tape Roll
Chromatte Tape has the same surface as the Chromatte fabric background. It has an adhesive backing, and is a 2” wide x 6.6’ long roll. Use in conjunction with the Chromatte system to add "invisibility" to microphone or light stands, or the seam between a Chromatte Curtain background and BaseMatte Tiles.

6.6’ Chromatte Tape Roll
(Mfr # RM 1212 • B&H # RECMT502) ........................................... 49.95

BaseMatte Tile
BaseMatte is specifically designed for use as flooring. It is Chromatte cloth laminated to a close cell, high density, resilient neoprene rubber base to provide a flat, even and non-slip surface. It forms easily to most carpets and solid floors. When used with ChromaFlex or a Chromatte curtain, it enables the cameraman to frame full body shots. And should an accident happen in the studio, it is easy to replace BaseMatte - unlike a studio floor. Use Chromatte Tape to join together as many pieces of BaseMatte as is needed to cover the desired space, allowing you to tile a Chromatte floor.

6.6 x 4.6’ BaseMatte Tile
(Mfr # RM1211 • B&H # REBM214) ................................. ea. 1055.95

MoViSet — Virtual ‘Studio in a Box’ Software
MoViSet is a real-time 3D rendering engine for the creation and playout of broadcast quality virtual sets and backgrounds in studio environments anywhere. Used in conjunction with Reflecmedia’s Chromatte, ChromaFlex and LiteRing, it can provide the highest standard virtual studio virtually anywhere. MoViSet solves the needs of smaller broadcasters, educational and corporate users, yet versatile enough to deliver the creativity needed for the most sophisticated professional use at costs that are a fraction of the price of set building.

◆ MoViSet lets you design and edit virtual sets to use as backgrounds. Since it is software based, it can be used in any location to transform production capabilities Ideal for anyone who wants to produce engaging, stimulating and visually dynamic sets quickly, cost effectively and flexibly.

Matthews Studio Equipment
Blue/Green MATT Chroma Key Screen
Matthews Studio Equipment reduces the amount of screen required for production with their laminated, reversible Chromakey fabric, Blue on one side and Green on the reverse. The unique feature of MATT Blue/Green screens also allows for fast reversing when key background change is required. Manufactured from strictly controlled dye lot polyester fabrics that are then laminated to foam backing the MATT Screens have earned instant popularity with both video and motion picture crews as well as production rental houses.

6 x 6’ Reversible Blue/Green MATT Screen
(Mfr # 319162 • B&H # MACSBG66) .................................... 194.95
8 x 8’ Reversible Blue/Green MATT Screen
(Mfr # 319161 • B&H # MACSBG88) .................................... 273.95
12 x 12’ Reversible Blue/Green MATT Screen
(Mfr # 319160 • B&H # MACSBG1212) .............................. 452.50
20 x 20’ Reversible Blue/Green MATT Screen
(Mfr # 319159 • B&H # MACSBG2020) .............................. 783.95
Materials for Digital Compositing

The DigiComp system of products allow seamless compositing for film and video use. The system of paint, fabric and tape is ideal for a wide variety of uses both in the studio and on location. The paints are carefully developed pigments in a flexible vinyl acrylic binder for adhesion to a wide variety of substrates. The DigiComp tapes are non-reflective gaffers tapes which will not leave a sticky residue when removed. All DigiComp products are available in DigiComp Blue and DigiComp Green. DigiComp color standards are precisely manufactured for clean separation with little or no post production “touch-up” needed.

DigiComp Paint

DigiComp paints are manufactured to the same high standards as Rosco scenic paints. The flexible vinyl acrylic binder results in product with excellent adhesion to a wide variety of substrates and a matte finish. Available in one and five gallon sizes. Clean up with soap and water.

- Blue DigiComp Paint - 1 Gal. (Mfr # 150057050128 • B&H # RO5705G) ..................74.50
- Blue DigiComp Paint - 5 Gal. (Mfr # 150057050640 • B&H # RO57055G) .............339.50
- Green DigiComp Paint - 1 Gal. (Mfr # 150057050128 • B&H # RO5707G) ...........97.95
- Green DigiComp Paint - 5 Gal. (Mfr # 150057050640 • B&H # RO57075G) ...........447.50

DigiComp Fabric

DigiComp fabric is manufactured with a high quality 100% cotton substrate. The fabric is then impregnated with color that is precisely matched to the other DigiComp components. Fabric is durable, abrasion resistant and may be spot cleaned using gentle detergent and water.

- Blue DigiComp Tape - 2” x 165’ (Mfr # 761057055050 • B&H # RDFTBL) ...........22.50
- Blue DigiComp Tape - 2” x 165’ (Mfr # 761057075050 • B&H # RDFTGR) ...........22.50
- Green DigiComp Tape - 2” x 165’ (Mfr # 761057055930 • B&H # RDFTBL) ...........217.50
- Green DigiComp Tape - 2” x 165’ (Mfr # 761057075930 • B&H # RDFTGR) ...........217.50

Video Paint / Ultimatte

Ultimatte Paints have been specifically formulated to provide the correct luminance and RGB Values for optimum operation with the Ultimatte compositing system. The color specifications were designed in conjunction with the Ultimatte Corporation and have their official approval. Rosco Ultimatte Paints are recommended for interior and exterior surfaces including fabrics, wallboard, plastics, plaster, brick, and concrete. Ultimatte Paints have been designed for use with the Ultimatte System. However they can be used with Chroma Key systems as well. They provide optimal luminance and color separation when shot on either film or video.

Rosco Ultimatte Super Blue is a darker, purer blue than Ultimatte Blue. It is designed primarily for use in shooting film for Ultimatte compositing. It permits sufficient separation in the blue and green channels without having to saturate the blue layer of the negative. The result can be less noise in the telecine transfer. In addition, it can be used to reduce glare on horizontal surfaces that might interfere with a clean matte.

- Ultimatte Video Paint - Blue - 1 Gallon (Mfr # 150057200128 • B&H # ROS5720G) ..................63.95
- Ultimatte Video Paint - Blue - 5 Gallon (Mfr # 150057200640 • B&H # ROS57205G) .............266.95
- Ultimatte Video Paint - Super Blue - 1 Gallon (Mfr # 150057220128 • B&H # ROS5722G) ..................69.95
- Ultimatte Video Paint - Super Blue - 5 Gallon (Mfr # 150057220640 • B&H # ROS57225G) .............309.95
- Ultimatte Video Paint - Green - 1 Gallon (Mfr # 150057210128 • B&H # ROS5721G) ..................96.50
- Ultimatte Video Paint - Green - 5 Gallon (Mfr # 150057210640 • B&H # ROS57215G) .............434.95

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“Real Time” Scaling, Noise Reduction and Format Conversion

The Mini brings legendary Teranex image quality to the non-linear editing and production world. If you’re looking to save time and money in the end, the Mini is your best choice for real-time upscaling, noise reduction and frame rate conversion. The Mini is packed with proprietary Teranex technology, like Flexview for smart aspect ratio conversion, PixelMotion De-interlacing and Multi-Directional Diagonal Filtering algorithms, which drastically reduce jaggies on diagonal lines. Teranex’s Per-Pixel Temporal Recursive Noise Reduction algorithm minimizes HD and SD video noise. Correct cadence is assured through Teranex’s Per-Pixel Video/Film detection. Teranex HQV Technology yields unsurpassed image quality for the demanding editor, video cinematographer or producer. Teranex’s mini delivers unparalleled quality, opening up a world of real-time processing possibilities for the production professional.

FEATURES

◆ PixelMotion De-interlacing
◆ Multi-direction Diagonal Filter (MDDF) eliminates “jaggies”
◆ Aspect Ratio Conversion
◆ Per-Pixel Video/Film detection & processing
◆ Scene Change Detection
◆ Proc Amp Controls
◆ Detail Enhancement and Sharpness
◆ Embedded Audio (8-channels)
◆ Per-Pixel Temporal Recursive and Motion Adaptive Noise Reduction

Applications

• NLE real-time SD/HD ingesting
• NLE SD/HD real-time Up/Down scaling
• NLE SD/HD real-time Noise Reduction
• SD standards conversion
• Camera Production Up/Down/Cross conversion
• HD Camera Production Down-conversion
• VTR Conversion and monitoring
• Anywhere you need a high quality low cost format converter

➤ In its most basic form, the Mini enables SD/DV productions to be presented in HD, with resolution and clarity approaching that of native HD/HDV. For the producer that is mixing DV and HDV content into the editing timeline, the Mini enables upconversion of the DV source to HD in real time at high enough quality levels to effectively match the HDV content. The final product may then be delivered in both SD and HD simultaneously by routing the SDI output back through the Mini on playout. This real-time process not only saves time but also provides quality levels much higher than is currently available within the editing applications.

➤ The Mini will convert SD video to and from HD in real time and with exceptional image quality. At the heart of the Mini is Silicon Optix’s Realta image processing engine, reducing overall size while maximizing image processing capability. The result? The best possible picture from the most flexible, powerful, and user-friendly standalone format converter.

➤ Mixing SD and HD content into editing timelines is a breeze, since the Mini enables upconversion of SD sources to HD in real time and mini’s scaled images are comparable to HD. Real-time processing saves unimaginable time, especially when compared to CPU limited, non real-time scaling and frame rate conversion available through non-linear editing and video effects software applications.

➤ The Mini has SD/HD SDI inputs and outputs, analog component, and HDMI outputs. It may be used equally well to feed a VTR, display, or video projector. Control is via front panel, on-screen display or RS-232. Three Minis may be mounted in a 1RU frame. A vertical clamshell mount is also available for desktop applications.

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MINI-UDCSN: Up/Down/Cross Converter with Noise Reduction and Aspect Ratio Conversion, 8-Channels of Embedded Audio (Mfr # MINI-UDCSN - B&H # TEMINIUDCSN) ........................................... 2599.95
FORMAT CONVERTERS (without scaling)

Converting between various analog and digital formats when no scaling of the signal is required can be accomplished by using a Format Converter. The output resolutions will be the same as the input.

1T-C2-511
SD/HD-SDI to DVI-I Converter

The 1T-C2-511 transforms HD-SDI signals to DVI-I, both digital and analog. Designed for broadcast and professional use, it provides a highly reliable conversion with re-clocking and equalization of the input. It also handles 525i or 625i SD-SDI signals, converting them to 480p and 576p respectively. HD-SDI HDTV resolutions from 720p to 1080i 60Hz are accommodated. Embedded audio may be extracted from the SD or HD-SDI input. Any one of the eight available stereo channels may be selected and output in analog and AES3-id digital formats. Controlled via front panel buttons and an on-screen display. Also has an RS-232 port. Housed in a desktop metal case, an optional single/dual rackmount kit is available. (Mfr # 1T-C2-511 • B&H # TV1TC2511) ............................................. 729.95

1T-C2-520
DVI-I to SD/HD-SDI Converter

The 1T-C2-520 transforms DVI-D 720p or 1080i HD signals to HD-SDI for broadcast and professional use. An analog YPbPr or RGBHV signal can also be converted to HD-SDI. It also converts a standard analog YUV signal at 525i or 625i to SD-SDI. Controlled via front panel buttons and an on-screen display. Has an RS-232 port. Housed in a desktop metal case, an optional single/dual rackmount kit is available. (Mfr # 1T-C2-520 • B&H # TV1TC2520) ............................................. 775.95

1T-FC-326
HDMI to Component Converter

The 1T-FC-326 allows selection of either of its two HDMI inputs (standard or locking type HDMI connectors) for conversion to an analog component (YPbPr or YUV) output. Wide video bandwidth insures that the analog output is capable of showing the fine detail present in most HDMI signals. The audio output includes coaxial digital and analog stereo (R/L) that has been de-embedded from the HDMI digital signal stream. Operated from the front panel buttons or the IR remote control. Front panel LEDs indicate which of the two inputs is selected and if HDCP (Content Protection) is present. Has a locking DC connector for added security. (Mfr # 1T-FC-326 • B&H # TV1TFC326) ............................................. 224.95

1T-HDMI-DVI and 1T-DVI-HDMI
HDMI to DVI and DVI to HDMI Format Converters

The 1T-HDMI-DVI converts HDMI compliant signals to Digital DVI format signals enabling display on digital HDTV monitors or input to DVI switcher devices. HDMI inputs are transformed to RGB Digital signals.

1T-DVI-HDMI converts a Digital DVI signal to an HDMI compliant output allowing the viewing or switching of a DVI signal on an HDMI system. For both converters, all standard HDTV and most computer resolutions are supported from 480p through 1080p and VGA through UXGA. Coaxial audio (S/PDIF) audio is available for superior performance and input format auto-detection is used to simplify operation. Operating frequency up to 165MHz ensures output images are sharp and detailed on both.

1T-HDMI-DVI (Mfr # 1T-HDMI-DVI • B&H # TV1THDMIDVI) ............................................. 194.95
1T-DVI-HDMI (Mfr # 1T-DVI-HDMI • B&H # TV1TDVIHDMI) ............................................. 184.95

1T-YPbPr-DVI and 1T-DVI-YPbPr
1T-YPbPr-DVI converts YPbPr component analog inputs to Digital DVI format signals enabling display on digital HDTV monitors or input to DVI switcher devices. Analog component inputs are transformed to RGB Digital signals.

1T-DVI-YPbPr converts a DVI signal to YPbPr component analog format allowing the viewing or switching of a digital signal on an analog system. All standard HDTV resolutions are supported on both products from 480p through 1080p. Frequency up to 165MHz and a bandwidth to 1.65Gbps, ensures output images are sharp and detailed on both converters.

1T-YPbPr-DVI (Mfr # 1T-YPbPr-DVI • B&H # TV1TYPBPRDVI) ............................................. 164.50
1T-DVI-YPbPr ................................................................. CALL

1T-YPbPr-HDMI
1T-YPbPr-HDMI converts an analog component YPbPr or YCbCr signal to an HDMI compliant output allowing the viewing or switching of an analog component video signal on an HDMI display. Toslink input connector allows integration of a digital audio signal into the HDMI digital output stream. Component video inputs are via three RCA connectors. All common NTSC and PAL HDTV resolutions are accepted and automatically detected. The output is fully compliant with the HDMI 1.2 standard assuring proper decoding by an HDMI display. The 165MHz bandwidth means that output images are sharp and detailed and an included switching AC Adapter provides 5VDC@1A of power.

(Mfr # 1T-YPbPr-HDMI • B&H # TV1TYPBP Rhodes) ............................................. 194.95

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FORMAT CONVERTERS (without scaling)

1T-AP-216 Audio Converter
The 1T-AP-216 changes analog stereo audio (R&L) to simultaneously available S/PDIF optical and coaxial digital audio. Sampling is at 48Khz and transmission up to 16’ are possible using the optical output. Coaxial digital output transmission distance is limited by the quality of the cables and sensitivity of the receiving circuitry.

It allows the introduction of a 150ms delay into the Digital Data Stream intended to correct lip sync problems frequently present on HDTV broadcast programming. The unit is immune from electromagnetic noise and is easy to install and operate.

Requires external 5v DC and an AC Adapter is included. It has a locking DC connector for added security.

(Mfr # 1T-AP-216 • B&H # TV1TAP216) ........................................57.95

1T-FC-524 • 1T-FC-425
1T-FC-524 converts analog RGBHV or component YPbPr inputs to DVI signals, enabling their display on DVI or HDTV monitors or other devices. An analog YPbPr input can be converted to either digital YPbPr or RGBHV. An analog RGBHV input can be converted to digital RGBHV only. 1T-FC-425 converts DVI to RGBHV or component YPbPr, enabling viewing on analog displays or other devices.

A DVI input can be converted to either analog RGBHV or YPbPr. These units are format converters only and no video scaling takes place. The output resolution is the same as the input. All standard HDTV resolutions are supported on both products from 480i through 1080p, plus SDTV resolutions of 480i and 576i. PC resolutions up to 1920 x 1200 are supported. Both models are 5v DC powered and power adapters are included. Locking DC connectors are provided for security.

1T-FC-524 (Mfr # 1T-FC-524 • B&H # TV1TFCS524) .........................CALL
1T-FC-425 (Mfr # 1T-FC-425 • B&H # TV1TFCS425) .......................199.95

TV ONE-TASK
TV One-Task products are ultra compact, high performance units that perform a single specific function. When the requirement is for high quality without the usual associated complexity to perform a dedicated job, a TV One-Task product is the solution. All TV One-Task units incorporate an integral processor that provides control over many signal parameters, such as: contrast, brightness, color saturation, R/G/B levels and H-V positioning. All are 5v DC powered and include a small in-plug power adapter.

1T-VGA-DVI • 1T-DVI-VGA
RGB Scalers

TV One-Task Series DVI-VGA converters/ scalers are ultra compact, high performance products designed to meet the most demanding requirements for signal conversion. The 1T-VGA-DVI converts analog to DVI, while the 1T-DVI-VGA converts DVI to analog. A wide variety of PC and HDTV I/O resolutions are supported. The input resolution is automatically detected and can either be RGBHV, YPbPr or YCbCr format. In addition to PC to PC and PC to HDTV conversions, the unit can take a 480i component video signal, from a DVD player for example, and convert it to PC or HDTV resolutions. The output resolution and refresh rate is selected via push buttons and OSD menu.

1T-VGA-DVI (Mfr # 1T-VGA-DVI • B&H # TV1TVGADVI) ........309.95
1T-DVI-VGA (Mfr # 1T-DVI-VGA • B&H # TV1TDVIVGA) ...........324.95

1T-PC1280HD RGB Scaler
Ultra compact, high performance scaler meets the most demanding requirements for signal conversion. The input resolution is automatically detected and can either be RGBHV, YPbPr or YCbCr format. In addition to PC to PC and PC to HDTV conversions, the unit can take a 480i component video signal, from a DVD player for example, and convert it to PC or HDTV resolutions. The output resolution and refresh rate is selected via push buttons and OSD menu.

(Mfr # 1T-PC1280HD • B&H # TV1TPC1280HD) ..........................224.95

1T-V1280DVI Upconverter
Ultra compact and high performance, the input video can be composite, S-Video or component. The output signal is selectable in a wide variety of presets in either RGBHV or YPbPr (component) format. It provides a DVI output.

(Mfr # 1T-V1280DVI • B&H # TV1TPV1280DVI) ..........................229.95

1T-V1280HD Upconverter
An ultra compact video to analog PC/HD up-converter that features inputs for composite, S-Video and Component 480i or 576i YUV Video. The output resolution and refresh rate can be selected from a wide variety of presets up to 1600 x 1200 and 1080p. PC and HD resolutions are available in analog RGBHV and HD resolutions are also available in analog YPbPr format.

(Mfr # 1T-V1280HD • B&H # TV1TPV1280HD) ..........................239.95
TV One’s video scalers are based on their exclusive CORIO2 technology and provide high quality up conversion from standard video formats to computer or HDTV signals in a compact package. Inputs can be composite or S-Video (NTSC or PAL). A computer bypass is also provided. Output is selectable as any computer resolution up to 2048 x 2048 at any vertical refresh rate and all HDTV resolutions up to 1080p. A wide variety of computer signal formats are available to support PC, Mac and workstation formats. All functions can be controlled via the front panel push buttons, remote control or RS-232 connection. A Windows Control Panel is provided and it interfaces directly with most 3rd party control systems. An on-screen display is available to assist in setup. Variable Zoom to 10x allows enlargement of any part of the video image to fill the entire computer screen, and position controls allow you to move around to any area desired. Variable Shrink down to 10% allows fitting the image onto most displays. The full bandwidth chroma sampling insures faithfully reproduced, high resolution colors. Otherwise the same, the 1T-C2-250 Video Scaler PLUS steps up with AutoSet, genlock, chromakey, lumakey and mixing.

**FEATURES**

- Automatic incoming resolution detection
- Composite and S-Video input (NTSC/PAL), RGB/YPbPr output
- Computer resolutions up to 2048 x 2048
- HDTV resolutions to 1080p
- IR Remote Control
- Variable zoom to 10x and shrink to 10%
- Optional single/dual rackmount kit

**1T-C2-250 Step-up Features**

- Key Mode allows computer graphics to be keyed over an external composite or S-Video signal or vice versa. The keyed image may be faded in and out. Due to the 4:4:4 sampling format, precise keying at the pixel level can be achieved.
- Mix Mode permits glitch-free mixing between the computer image and external video.
- PIP Mode allows the computer input to be inset in a window over either of the video inputs.
- Exclusive AutoSet feature takes the hassle out of setup by automatically sizing and positioning the computer image to fit exactly on the video screen. All settings are stored in memory and are retained even when power is switched off.

**TV One’s CORIO2 Technology Offers More Than Meets the Eye**

CORIO refers to TV One’s mission of “choreographing” video. As video formats and standards continue to evolve, the landscape becomes more complex. The heart of CORIO technology is its ability to level the format playing field and allow users to easily move between various computer, video, analog, digital, standard and high definition video formats.

When other manufacturers design a video scaler or conversion device, they look to chip manufacturers to provide a chipset for the actual video conversion and scaling. Once a chipset is chosen, the support circuitry is designed. However, the majority of these chips are designed for a completely different task, primarily for scaling incoming video to the format required for LCD and plasma displays. These same chips are then adapted for use in standalone video scalers, often with a high degree of success, but always with one major limitation. The chip does only what it was originally designed to do and handles a predetermined set of input and output standards, resolutions and formats. Therefore, they will never go beyond the initial capability.

When they determine the design is finished, they freeze the code with a known set of parameters. After that, changes or bug fixes can only be done with external circuitry. The advantage is that the chip can be mass produced at a lower cost if demand is sufficient. The disadvantage is that any existing bugs are permanent and the cost to make a new chip with corrections is prohibitive.

CORIO2 technology is completely different. The firmware is loaded into a FPGA (Field Programmable Gate Array) to perform the task. That FPGA becomes the core of the finished product and can be changed at any time to fix bugs, add input/output resolutions or add new features. Since access to the FPGA is always available via a serial interface port, new firmware can be downloaded and upgraded in minutes. Because the actual inner working of the FPGA is being altered, the hardware is effectively being changed by the firmware upgrade. A user with a model several years old can usually upgrade that unit to the same level as a brand new version of that same model. This means that product features are dynamic and provide “obsolescence insurance” to the end-user.
C2-1200 • C2-1250

Based on TV One’s exclusive CORIO2 technology, the C2-1200 and C2-1250 provide high quality up conversion from standard video formats (NTSC/PAL) to computer or HDTV signals. The output is selectable as any computer resolution up to 2048 x 2048 at any vertical refresh rate and all HDTV resolutions up to 1080p. A wide variety of computer signal formats are available to support PC, Mac and workstation formats. All functions can be controlled via the front panel buttons, remote control or RS-232 connection. A Windows Control Panel is provided and it interfaces directly with most 3rd party control systems. An on-screen display is available to assist in setup. An integrated 4x1 stereo audio routing switcher provides unbalanced inputs and output to follow the video. They are housed in a desktop case and rackmount kits are available as options. The C2-1250 Video Scaler PLUS has all the functions and features of the C2-1200 and adds a wide variety of additional capabilities, including scaling of the RGB or component input, genlock, Picture-In-Picture, chromakey, lumakey and mixing.

◆ They are equipped with two composite, two S-Video and one component (YUV or YPbPr) inputs. A computer bypass is also provided. There are two RGB or component outputs.
◆ Variable Zoom to 10x allows you to enlarge any part of the video image, and position controls allow you to move around to any area desired.
◆ Variable Shrink to as little as 10% allows fitting the image onto most displays. The full bandwidth chroma sampling insures faithfully reproduced, high resolution colors.
◆ Integrated 4x1 audio routing switcher with four impedance-independent unbalanced inputs follow the video input selection. A rear panel terminal block provides access.

C2-1250 Step-up Features

◆ Key mode allows computer graphics to be keyed over an external composite or S-Video signal or visa versa. The keyed image may be faded in and out. Due to the 4:4:4 sampling format, precise keying at the pixel level can be achieved.
◆ Mix mode permits glitch-free mixing between the computer image and external video.
◆ PIP mode allows the video inputs to be inset in a window over a computer or HD input.
◆ TV One’s exclusive AutoSet feature takes the hassle out of setup by automatically sizing and positioning the computer image to fit exactly on the video screen. All settings are stored in non-volatile memory and are retained even when power is switched off.
◆ Features Edge Blending as standard. Because of the ability to ‘feather’ any or all of the edges, multiple images can be aligned vertically, horizontally, or both to create unusual displays. Using multiple units, there is no limit to the number of blended images. Edge Blending is not limited to high resolution RGB images, but can be applied to any input. Gamma correction is employed to compensate for many of the problems faced when blending between projectors. Special preparation of the video in advance is not necessary, since all processing is done within the unit.

C2-1350

Stepping up, the C2-1350 Universal Video Scaler provides high quality up, down and cross conversion between standard video, computer and HDTV signals. Inputs can be composite, S-Video, YUV component, YPbPr (Progressive Scan) component or RGB. Signal parameters of the incoming video may be adjusted. All settings are stored in memory and retained even when shut off. The high resolution RGB/YPbPr outputs are selectable as any computer resolution up to 2048 x 2048 at any vertical refresh rate or any HDTV resolution up to 1080p.

Step-up Features from the C2-1250

◆ In standard resolution mode, simultaneous outputs are available for composite, S-Video and YUV component.
◆ 3:2 Pulldown and motion compensation greatly improves image quality.
◆ Video signal parameter adjustments.
◆ Genlock feature ensures precise synchronization of the incoming signals by providing a wide Subcarrier lock range with Subcarrier phase adjustment.
The C2-2200 series focuses on ease of use while providing features common to more expensive devices. Automatic incoming resolution detection and support of multiple worldwide television standards are standard. They can handle maximum input PC resolution of 2048 x 2048 and all HDTV resolutions up to 1080p. Variable Zoom up to 10x allows enlargement of any part of the computer screen while Variable Shrink can go down to 10%. Position controls allow movement around any desired area. They feature Motion compensation and a 3:2 Pulldown to greatly improve NTSC image quality from film sources. 4:4:4 sampling provides full bandwidth chroma for accurate replication of high resolution colors and precise Chromakeying.

All are controlled by front panel buttons, remote control, RS-232 or IP connection. A Windows Control Panel is provided and it interfaces directly with most 3rd party control systems. All units offer seamless switching of the input signals. All models are housed in a compact desktop case and a single/dual rackmount kit is available as an option.

The C2-2200 provides Up and Cross Conversion. It has seven inputs (two composite, two S-Video, YUV/YPbPr component (BNCx3), analog RGB/YPbPr via HD-15 and DVI-D RGB/YPbPr. The C2-2205 is identical to the C2-2200 except it adds an SDI Input—for a total of eight inputs. All inputs are scalable and incoming signal parameters can be adjusted. An integrated 4x1 stereo audio routing switcher allows audio to follow the video input selection.

The C2-2250 Video Scaler PLUS has all the features of the C2-2200 plus an advanced feature set that includes Genlock, Picture-in-Picture, Chromakey, Lumakey, Mixing and Edge Blending. (see previous page for description). Otherwise the same, the C2-2255 adds an SDI input.

- Automatic incoming resolution detection
- Analog computer input via HD-15 connector
- DVI-D computer input via DVI-I connector
- Two composite, two S-Video (NTSC/PAL), plus one YUV/YPbPr component input
- Scaling of the RGB or YPbPr input signal
- Computer resolutions up to 2048 x 2048
- HDTV resolutions to 1080p
- DVI PC to 1280 x 1024, HDTV to 1080p/30
- Automatic picture sizing (AutoSet)
- Two outputs (RGB or YPbPr)– DVI-D & analog
- IR Remote Control
- Variable image zoom to 10x; shrink to 10%
- Optional input expansion with S2 Switchers
- Optional single/dual rackmount kit

The C2-2350 and C2-2355 step-up from the C2-2250 and C2-2255 (respectively) with high quality scaling in any direction (up, cross and down conversion) between standard video, DVI or analog computer and HDTV signals. Input and outputs can be composite, S-Video, YUV Component, YPbPr (Progressive Scan) component or RGB. (Only one composite and S-Video input). They also feature motion compensation and 3:2 Pulldown to greatly improve image quality. The PIP window may be placed anywhere on the screen. The genlock feature insures precise synchronization of the incoming signals by providing a wide subcarrier lock range with subcarrier phase adjustment.

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## VIDEO SCALER/SWITCHERS

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PRESENTATION SWITCHERS

C2-4100

The C2-4100 is a high performance RGB, PC-HDTV, HDTV-HDTV and PC-PC Scaler. Incorporating TV One’s exclusive CORIO2 technology conversion engine, it handles any resolution from 640 x 480 up to 2048 x 2048, even non-standard resolutions, plus all HDTV resolutions. It also offers seamless switching, a chroma and luma keyer, Picture-in-Picture, and RGB frame sync. Other features include aspect ratio converter, RGB-HDTV genlock, windowing, genlock, logo insertion and aspect ratio conversion. The 3-inputs and 2-outputs will accommodate RGBHV resolutions up to 2048 x 2048, and component in all HDTV formats. Plus, the C2-4100 also has an RGBHV preview output to facilitate live event switching.

- Unparalleled P-I-P performance.
  - Any video input can be squeezed and placed into a window of any size and positioned anywhere on the screen.
  - The window can be placed over any other video input as the background.
  - Amazingly powerful zoom of up to 1000% and Image Shrink down to 10%, plus seamless switching with cuts or fades and any input can be genlocked to any other.
- Multiple C2-4100 units may be cascaded to provide layer upon layer and window upon window of images.
- C2-4100’s output signal format flexibility assures that the native resolution of virtually any display can be matched.
- Adjustment is provided for contrast and each video input has its own non-volatile memory to retain these settings, even when the power to the unit has been turned off.
- Integral test signals are user defined.
- A Logo memory is provided, so the unit can easily be used as a Logo Inserter.
- Windows Control Panel provides complete control of the unit and adds Macros to facilitate long, complex sequence of commands.
- The unit can be controlled from the front panel via a rotary encoder and LCD display, via RS-232, optional infrared remote, or a LAN with the optional Ethernet control.

C2-5100 • C2-5200

The C2-5100 is a multi-function image conversion and scaling product coming very near the ideal of “Anything In – Anything Out”. Not only is it a high performance Video Scaler, Up/Down Converter and seamless multi-format switcher, but also a worldwide standards converter, Chroma/Luma keyer, P-I-P device, HDTV converter, Frame Synchronizer, TBC, aspect ratio converter and a universal image genlock. 9-inputs inputs and 4-outputs accommodate composite, S-Video, YCbCr, YPbPr, all HDTV formats and any RGBHV resolution up to 2048 x 2048 - not just some predefined ones, but ANY resolution, even custom ones. The C2-5100 also has 2-outputs for Preview (RGBHV and composite video) to facilitate live event switching.

The C2-5200 has all the features and functions of the C2-5100 plus adds an SDI input and output. This brings the unit’s I/O total to ten inputs and five outputs. Additionally, a second SDI input is provided exclusively as a genlock source. The SDI I/O is fully integrated into the architecture of the unit, so that any of the other signal formats may be converted to and from SDI and the SDI signal can be used as either the background or insert in the Picture-in-Picture window mode. Of course, it is also possible to seamlessly switch between any of the analog inputs and the SDI input.

- The C2-5100/C2-5200 is ideally suited for use with LCD projectors, projection TV systems, Plasma or HDTV displays to improve picture quality. With its output signal format flexibility, it is assured that the native resolution of virtually any digital display can be matched.
- Because of the integral resolution calculator, even new resolutions can be instantly added to the menu.
- Advanced motion compensation smooths out fast moving images and automatic 3:2 pull-down efficiently de-interlaces video from 24fps film.

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Beyond its versatile capabilities in converting between analog and HD-SDI, the C2-7200 has the power of many other components ranging from a high-def video scaler and multi-format seamless switcher to a twin-window picture-in-a-picture device, chroma/luma keyer, aspect ratio converter, logo inserter, and much more. Behind this level of functionality are two completely independent scaling engines and two video mixers all utilizing TV One’s proprietary CORIO2 technology.

Same features as the C2-5100 and C2-5200 (respectively), PLUS

Outfitted with true 4:4:4 processing providing full-bandwidth color and precise keying (including soft keys), the device has eleven inputs accommodating multiple HD-SDI, SD-SDI, DVI, YPbPr, YCbCr, composite, and S-Video signals, as well as all HDTV formats and any PC resolution up to 2048 x 2048, not just pre-defined ones. A pair of independent output channels each offer SDI (SD or HD), DVI-I, any RGB format, composite and S-Video. Armed with the ability to alter the aspect ratio of any input, the unit also allows different SDTV and HDTV images to be intermixed in any operating mode. The C2-7100 is identical to the C2-7200 except without the SDI inputs/outputs. This results in a total of 9 inputs, along with the two independent output channels.

C2-7100 Dual Channel Video Converter (Mfr # C2-7100 B&H # TVC27100) 
C2-7110 Same as above except with Corio EXP Front Panel (Mfr # C2-7110 B&H # TVC27110)
C2-7200 Dual Channel Video Converter with SDI I/O (Mfr # C2-7200 B&H # TVC27200)
C2-7210 Same as above except with Corio EXP Front Panel (Mfr # C2-7210 B&H # TVC27210)
C2-7210 Dual Channel Video Converter with SDI I/O (Mfr # C2-72210 B&H # TVC27210)
C2-7310 Dual Channel Video Converter with SDI I/O (Mfr # C2-7310 B&H # TVC27310)

C2-7110 • C2-7210 • C2-7310

Same as the C2-7100 and C2-7200 (respectively), except they feature the innovative CORIO EXP Front Panel which gives the user complete functionality with 48 buttons, multi-way navigation control and integrated LCD. It’s all located directly on the front of the unit making on-site control easy. The C2-7310 has all of the switching, video processing and conversion capability of the C2-7210 plus a wide range of audio processing capabilities allowing the user to embed, de-embed, delay, mix, route and sample rate convert digital stereo audio to satisfy even the most challenging requirements.

C2-7310 Step-up Features

The C2-7310 has full audio processing for an astonishing 48 channels of digital stereo audio - 16 in and 16 out via the external connectors, plus a further 16 channels that can be de-embedded from the two SD-HD-SDI inputs and processed right along with the 16 external input channels. Due to the highly flexible internal audio routing, the 16 external stereo input channels can be assigned to any of the video inputs and the 16 stereo output channels can be assigned to any of the video outputs: Composite, YC, DVI, YPbPr, RGB, YUV or SD/HD-SDI. The 16 output channels can be embedded in the two HD-SDI outputs and simultaneously fed to the output connectors.

The superior quality of the C2-7310 means that the full 8 channels of digital stereo audio of any frequency embedded within each of the two SD/HD-SDI inputs can be de-embedded and processed along with a further 16 channels of AES-3id data, frequency between 24 to 96KHz, that can be input via the HD-44 connectors, giving a total of 32 digital stereo audio inputs handled simultaneously. Each audio channel can be delayed by up to 2 seconds using exceptionally fine delay adjustment and the gain can be altered to anywhere between 0 and 800%. A high-quality sample rate conversion enables users to increase or decrease the sample frequency on each audio channel as required while ensuring optimum audio output. Control data, when included in an incoming audio signal can be extracted and displayed to the user. Each stereo audio output can also be produced by down-mixing up to 3 uniquely delayed and scaled stereo audio inputs and routed to any audio output required. The C2-7310 also employs many automatic features including audio follow video and automatic audio delay to match the video processing delay.