# PRODUCT CATALOG

Closed Caption Encoders, Decoders, Switchers, Routers, Fiber Optics, and More

LINK ELECTRONICS

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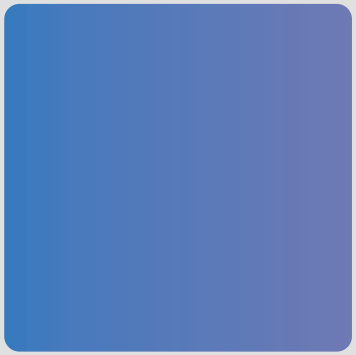


# Captioning Products

# THE ACE SERIES

## AUTOMATIC CLOSED CAPTIONING ENGINES

### FEATURES

- Server Based Solution
- Average of 95 percent accuracy
- Average delay of 3- 6 seconds
- 300,000+ word dictionary
- Speaker Independent
- Regional Vocabulary Models
- Zoom Video Conference Captioning
- Multilanguage Captioning
- Translation Captioning available
- Graphical User Interface (GUI) with remote capability
- Updated regularly via Internet connection
- Speaker Identification available
- Windows 10 embedded operating system

The ACE series consists of four main units that provide a range of options to fit nearly any automatic captioning need. The ACE-2000, ACE-2100, ACE-2200 and ACE-FLEX4 are Automated Captioning Engines that receive audio containing speech and, using a cutting-edge computational linguistics program, convert speech to text and sends that text out with captioning data to be encoded by a closed captioning encoder.

### ACE-2000 Live Captioning

ACE-2000
ACE-2000/492 Bundle
ACE-2000/494 Bundle

The ACE-2000 is the live, real-time automatic captioning system. To use the ACE-2000, simply plug an audio signal into the unit and select an encoder.

### ACE-2100 Post Production Captioning

ACE-2100

The ACE-2100 is the post production unit. Input any accepted media file and the system process it at 3x faster than real time or faster. You can then save, edit, and output an XML transcription for encoding on your finished clip.

### ACE-2200 Live and Post Captioning

ACE-2200
ACE-2200/492 Bundle
ACE-2200/494 Bundle

This unit provides a one stop captioning solution for both live captioning and post production captioning.

### ACE-FLEX4 Four Channels Live Captioning

ACE-FLEX4
ACE-FLEX4/492 Bundle

The ACE-FLEX4 has four inputs and with four outputs for live captioning that can be used simultaneously. The FLEX4/492 bundle comes with 4 SCE-492 closed caption encoders.

# ENCODERS

## SCE-492

### 3G/HD/SD Closed Caption Encoder

The SCE-492 is a 3GB/HD/SD-SDI captioning encoder that is IP captioning ready, with four communications ports allowing four captioners to be connected for live captioning events. It has a GPI remote to activate Weather Lift ("Legalizer") allowing the user to lift the lines of captioned text above inlaid text such as names or school closings. The SCE-492 has a decoded output and data recovery for quality monitoring and is a better re-clocker than most other re-clocking Distribution Amplifiers.

### Features:

- SD/HD/3G SDI
- XDS RAM (V-Ch)
- Re-clocked Output
- GPI Remote "Legalizer"
- 2 CEA-708 Services Converted from 608
- Field Upgradeable
- VANC Line Selection
- Decodes CC1-CC4 or S1-S6
- Caption Data Recovery
- Optional Dual Supplies
- IP Captioning
- Power off Bypass
- 4 Port Communications 2 Serial IP
- IP to Serial Rerouting

## SCE-492/2PS (Two Power Supplies)

## AIP-494

### SDI Closed Caption Encoder with Audio Over IP

The AIP-494 is a 3GB/HD/SD-SDI closed caption encoder with audio and captions over IP. It accepts 3GB/HD/SD-SDI transport streams, and gives three closed caption encoded outputs of the same format as the input, with the option of one of them being decoded. The unit takes the user selected channel pair of AES that is embedded on the SDI input and sends that audio to a Captioner via IP. A free audio over IP player is provided to monitor the audio and requires only a regular Internet connection. The unit will also receive caption data via IP from the Captioner. This device allows true IP captioning.

### Features:

- 3GB/HD/SD-SDI
- XDS RAM (V-Chip)
- Data Recovery
- GPI Remote "Legalizer"
- 2 CEA-708 Services Converted from 608
- Field Upgradeable
- VANC Line Selection
- IP Audio with Channel Pair Selection
- IP Captioning
- Power off Bypass
- VBI and/or VANC for SD
- Decodes CC1-CC4 or S1-S6

## AIP-494/2PS (Two Power Supplies)

# ENCODERS/DECODERS

## CBE-493
## 3G/HD/SD Closed Caption Encoder/Bridge

### Features:

- Bridges Captions From One Stream to Another
- Re-clocked Output
- GPI Remote "Legalizer"
- 2 CEA-708 Services Converted from 608

The CBE-493 is a 3GB/HD/SD-SDI closed caption bridge and encoder that reads caption data from the bridge input and converts the data into a Caption Data Packet and inserts it on the encoder input. The CBE-493 is IP captioning ready, with four communications ports allowing four captioners to be connected for long live captioning events. It has a GPI remote to activate Weather Lift ("Legalizer") allowing the user to lift the lines of captioned text above inlaid text such as names of school closings. The CBE-493 has a decoded output and data recovery for quality monitoring and is a better re-clocker than most other re-clocking Distribution Amplifiers.

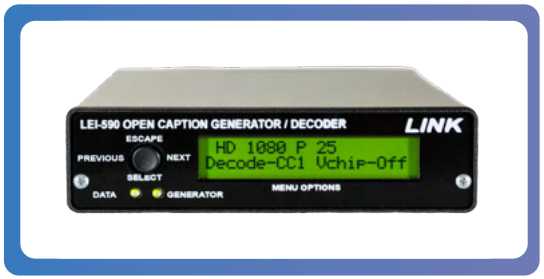
## PCD-88
## Closed Caption Decoder

### Features:

- Two Outputs
- BNC Loop Through
- Switch Select CC1 & CC2
- 12 VDC Regulated
- Remote Caption ON/OFF

The PCD-88 is a high performance closed caption decoder for the NTSC system. It is capable of processing and displaying all standard field one closed captions. The two channels of data that can be displayed are CC1, CC2. The two channels of captions are selectable from a two position switch located on the front panel. Two LED's indicate which of the two channels are selected. This unit can easily be mounted adjacent to a video monitor that does not have a built-in closed caption decoder

## LEI-590
## Open Caption Generator and CC Decoder




### Features:

- Generates Open Captions via an IP Interface
- Decodes CC1-4 or S1-6
- Caption Data Recovery via an IP Interface
- Changeable Open Caption Attributes

The LEI-590 accepts standard 608 caption data or text data via an IP interface. It then embeds the caption data onto a SD/HD SDI video stream and outputs the video with open captions. The LEI-590 would be useful for live events such as sporting events or live video conferencing. The LEI-590 is a more cost effective solution than a closed caption encoder/decoder when only open captions are needed. The LEI-590 can also be used as a HD/SD SDI Closed Caption Decoder.

## LEI-599
## HD/SD Caption Decoder 608 & 708

### Features:

- GPI Remote Decoder on/off
- Caption Deletion
- V-chip Icon Insertion
- Changeable Open Caption Attributes

The LEI-599 accepts HD/SD SDI transport streams with embedded closed captions from either VBI (line21/22) or VANC (SMPTE 334 Caption Data Packet {CDP}) and decodes them. The captions are then "burnt" into the outgoing HD/SD-SDI stream so that the captions now appear during active video. The unit will pass ANC data untouched including audio to the output. The data from the selected decoded captions are sent out the Ethernet port for "data recovery". This data can be used for monitoring, to make a caption file, or to encode another steam.

# IP CAPTIONING

## LEI-592P
## IP Closed Caption System

### Features:

- Audio and Data transmission
- Caption over the Internet
- Audio over the Internet
- Serial input
- Multiple baud rates

The LEI-592P allows for true IP captioning and IP audio in one unit, removing the traditional two phone line setup without requiring the purchase of a new encoder or captioning service. Audio player software is required and is free to download on the Link Electronics website. The audio is sampled at 16 KHz allowing for better quality audio than Voice over Internet to be received by the captioner. Latency is cut down to a minimum, less than 200ms (plus latency of the Internet) and can also be adjusted through the audio player.

## IPC-92
## IP Captioning Ethernet to Serial Converter

### Features:

- Ethernet to serial
- No software
- No Caption Data Phone Line
- No Caption Server Fees
- Web Interface

The IPC-92 is an Ethernet to serial converter that can be used for IP captioning. The unit is pre-setup at the factory to work with Link encoders. All setup is controlled through a web page that is stored in the device so no software installation is required. Using the IPC-92 means that a data phone line is no longer needed for captioning. Program audio will still have to be sent to the captioner via phone line, Skype, voice over IP, web streaming, or another method.

# AFD INSERTION

## LEI-564

### Features:

- 3Gb/s Level A & B
- AFD Insertion
- AFD Delete
- AFD Monitor
- Auto Insert (only if not detected)

The LEI-564 allows AFD data to be inserted into an HD/SD video signal, ensuring that the video is properly displayed, despite aspect ratio changes. The compact LEI-564 accepts either SD-SDI or HD-SDI input and transmits a re-clocked signal out through dual SDI outputs, providing a simple and reliable solution for adding AFD for the implementation of the up/down conversion process, eliminating manual adjustment of picture size. This technology eases workflow and preserves image quality, especially for video productions stored in a HD only format, with conversion to SD as needed for final transmission.

# CAPTION ANALYZER

## SCA-436

### Features:

- CDP Line Location Displayed
- CEA-608/708 Presence Displayed
- CDP Rate/Errors Displayed
- Timing Displayed
- VANC Packet Number Displayed

The SCA-436 is a caption analyzer that displays the line location of the CDP as well as any CDP error(s) that may be present. It indicates which CEA-608 (CC1-CC4) and which CEA-708 (S1-S6) captions are present. If the descriptor is present, it indicates which services are in the CDP descriptor. This unit can be put into a system stream for full time monitoring of the caption and timing information. The output has the information overlaid onto the video, allowing you to see everything on one screen. A GPI remote can be used to turn both displays off. The SCA-436 reference input format can be NTSC, PAL, 720P, 1080I, and 1080P.

# PROCESSING AMPLIFIERS

## SPA-470

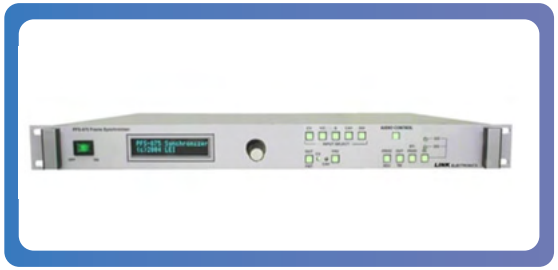
### Features:

- Color Killer
- Defocusing (Linear Blur)
- 50% Gray Scaler
- GPI Controlled
- Field Upgradeable
- Multi Unit Control

The SPA-470 is a high definition serial digital interface processing amplifier (Proc Amp). It will accept HD-SDI transport streams and give three processed outputs of the same format as the input. The proc amp has defocusing feature (linear blur) that can be used to make words in video unreadable or can be used to censor the video. A color kill feature to instantly make the video black and white. Video gain, brightness, saturation, and black level are just some of the other features of this proc amp.

# FRAME SYNC

## PFS-875



### Features:

- Input/output Select
- Menu Short-cut Button
- Looping Reference Input
- Color Bar Black Generator
- DAC & ADC 12 Bit Processing

The PFS-875 provides dual standard composite and SDI correction and synchronization to an external analog reference. The synchronizer decodes multiple composite standards (NTSC, PAL). All analog inputs are sampled with 12-bit resolution and decoded using a 5 line adaptive comb filter. It also has a built-in color bar or black burst generator. The PFS-875 can also synchronize non TBC signals from VHS tapes.

# PRESENCE DETECTORS

## LEI-515B

### Features:

- HD/SD SDI, ASI, DARS, & SMPTE 310 Compatible
- Auto Detection of Loss of Signal
- Threshold Adjust
- Manual Override

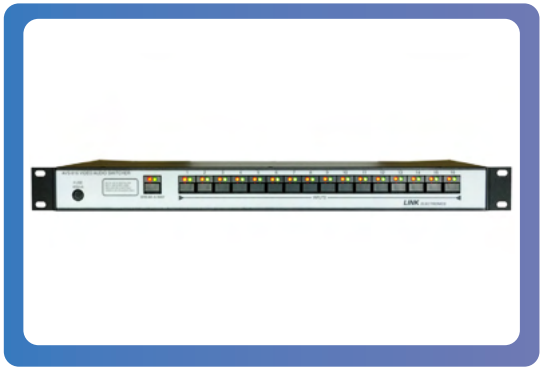
The LEI-515B is designed to monitor its Main input signal and automatically switch to an Alternate signal if the Main signal is lost. A captive-screw terminal sub-module is provided for "audio-follow video" capability or status mode, which is switched internally. A three-terminal dry-contact connector offers normally-closed and normally open contacts to control peripheral gear.

*Also available with GPI for switch between Main & Aux **- LEI-515B/GPI**

# Switchers

## VIDEO / AUDIO VERTICAL INTERVAL SWITCHERS

# AVS-816
## 16x1 Switcher, Choose Options



### Features:

- RS-232/RS-422
- Vertical Interval
- HD SD SDI Video
- Analog Audio
- GPI Control
- Two Video Outputs

### AVS-816 PRODUCT OPTIONS

**HD OPTIONS**

- **816-OP/HD -** HD/SD-SDI Video Switching Matrix
- **AVS-816/VHD -** Switcher with HD/SD-SDI Video Only

**ANALOG OPTIONS**

- **816-OP/A** - Composite Video Switching Matrix
- **816-OP/B** - Analog Audio Switching Matrix
- **AVS-816/SA** - Composite Switcher with Analog Audio Follow
- **AVS-816/VA** - Switcher with Analog Video Only
- **AVS-816/HDA** - HD/SD-SDI with Analog Audio Follow

The AVS-816/HDA is an HD SD SDI video switcher with analog audio follow. **You must choose the specific modules to meet your requirements.** This unit is a wide band-width video/audio vertical interval switcher. The unit has sixteen channels of HD SD 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 HD SD digital applications, an optional analog monitoring output is available for analog audio.

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## LEI-504
## 3G HD/SD-SDI ASI Switcher

The LEI-504 is a four input video switcher that provides a convenient, low cost way to route HD and SD-SDI signals. This switcher is compatible with 270Mb/s, 1.5Gb/s, and 3Gb/s Serial Digital Interface signals. The LEI-504 automatically equalizes the incoming SDI signal, the signal is then re-clocked, with automatic rate detection for all popular data rates. The LEI-504 is a Multi Definition (MD) SDI 4X1 video switcher capable of equalizing and re-clocking all common serial digital signals, since it supports both standard definition and high definition signals, this makes it the ideal SD/HD/3G video switcher for any application.

### Features:

- Vertical Interval Switching with Inputs in Sync
- ASI and SMPTE 310 Compatible
- Passes Embedded Audio
- Input rates from 270 MB/S to 3 GB/S

### Additional Product Options:

LEI-504G - **LEI-504 with GPI Option**
LEI-504G12V - **LEI-504 with GPI and 12 Volt input options**

# Sync Generators

# HDG-821

The HDG-821 is a multi-format generator that provides the user with a high quality, low cost generator to produce HD Test Patterns and may be used where various HD signals are required. The HDG-821 is a self-contained unit for standard 19 inch rack mounting. Tri-level sync is on all analog component outputs, RGB or YUV. Sync output can be selected as Bi-level (black burst) or Tri-level.

There are a total of 30 test signals available, including SMPTE, EIA and Full Field Bars. There are 23 HD formats available plus NTSC or PAL black burst. It also has a unit identification that can be enabled to uniquely identify up to 100 units. The HDG-821 has the ability to flash the unit identification on and off or the ID. This feature can be changed to a frame or second counter making the video active so that one can see if the video has been frozen when going through other equipment. The user may embed internal audio tones on the digital video output if desired. There are two audio groups supported, which will allow for eight channels. The channels can be enabled on an individual basis. The internal tones generated are adjustable from 400Hz to 10 KHz with amplitude adjustment from -30 dBFS to 0 dBFS and silence. The unit will generate one of the two types of audio AES3 or AES11 (DARS). There are also two BNC connectors for AES output, which will allow four channels of audio for testing or audio reference.

## Features

- 23 HD Video Formats
- 30 Test Patterns
- HD Analog and SDI Outputs
- YUV or RGB Analog Outputs
- SD Black Burst Output
- Embedded Time Code
- Two AES Generated Outputs
- AES, Either AES-3 or AES-11 (DARS)
- Adjustable Horizontal & Vertical Timing

# LEI-522
# SD-SDI Color Bar and Black Gen-Lock & Alternate Signal

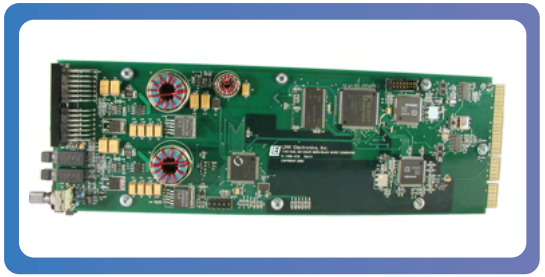
## Features:

- NTSC or PAL
- EIA RS-189A
- Rotary Encoder
- 10 Bit Processing
- SD SDI Black Burst
- Horizontal/Vertical Timing

The LEI-522 automatically selects between NTSC or PAL in the Gen-Lock mode according to what the reference input is. The LEI-522 defaults to the selected standard in the free run mode. The LEI-522 takes advantage of the latest FPGA technology to provide the highest performance for color bar, black burst, or to flip between the two generated patterns.

# 1199
# SD-SDI SMPTE Color Bar, Black & Multiburst Generator with Gen-Lock

* Must Choose 1000 or 7200 Chassis (Pg. 19)



## Features:

- 10 Bit Processing
- SDI SMPTE Color Bars
- Two Black Burst Output
- Two SMPTE Color Bar Output
- Horizontal/Vertical Timing

The DigiFlex 1199 automatically selects between NTSC or PAL in the Gen-lock mode, and defaults to NTSC in the free run mode. For PAL operation, an external PAL black burst signal must be attached to the EXT REF input on the rear I/O.

# SYNC GENERATORS

## PCO-818

### Change Over Chassis, MB & PS, Choose Options

**Features:**

- Automatic or Manual Operation
- Modular Design
- Monitor Only The Pulses Required
- Matched To The Pulse
- 85VAC to 260VAC
- Bi-Color LED's For Status

The PCO-818 is the chassis, power supply and motherboard only. **You must choose the specific modules to meet your requirements.** The PCO-818 is engineered to provide complete sync system reliability in a compact, easy to use, and economical package. It's advanced modular design provides a level of flexibility never before available in an Automatic Changeover unit. The basic function of the PCO-818 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. It's modular design offers several advantages over traditional automatic changeover units.

**PCO-818 PRODUCT OPTIONS**

**HD OPTIONS**

- **818-OP/AES** - AES Digital Audio
- **818-OP/SDI** -SDI Digital Black Burst

**ANALOG OPTIONS**

- **818-OP/BB** - Analog Black Burst
- **818-OP/CFI** - Analog Color Field
- **818-OP/PL** - Analog Sync
- **818-OP/SC** - Analog Subcarrier
- **818-OP/SDI** -SDI Digital Black Burst

The PCO-818, PCO-818/SA, and PCO-818/SD are available with an spare power supply: **812-OP/PS**

## PCO-818/SA

### Analog Change Over with Black Burst, Analog Sync, and Subcarrier

**Features:**

- **818-OP/BB** - Analog Black Burst
- **818-OP/PL** - Analog Sync
- **818-OP/SC** - Analog Subcarrier

The PCO-818/SA is the change-over for an analog system.

## PCO-818/SD

### Digital Change Over with SD-SDI Black Burst and AES Audio

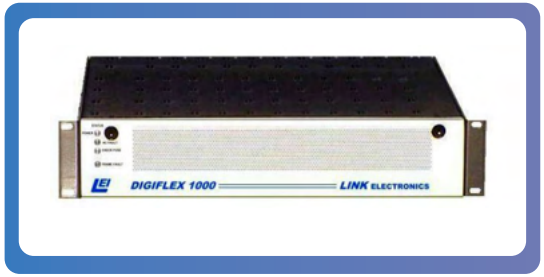
**Features:**

- **818-OP/AES** - AES Digital Audio
- **818-OP/SDI** -SDI Digital Black Burst

The PCO-818/SD is the change-over for SDI digital system.

# DigiFlex Frames

## 1000
## Mounted Frame for 1000 Series




### Features:

- Frame Holds 11 Modules
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Fault Detection
- Two RU

The DigiFlex 1000 frame will accept eleven modules, or ten 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/0 connections. The DigiFlex 1000 frame can easily accommodate a combination of analog & digital DA's, A to D's, D to A's, synchronizers, and transcoder modules. SD SDI & HD SDI modules are available. DigiFlex has a single isolated +12 volt power supply system distributed on the back plane of the frame.

## 7200
## Portable Frame for 1000 Series

### Features:

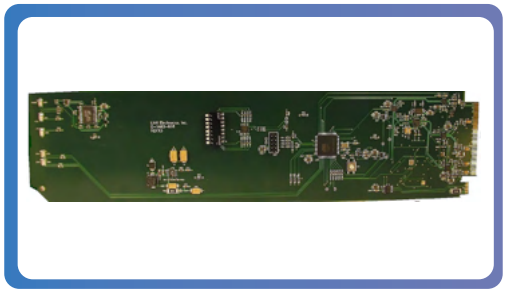
- Accepts Any DigiFlex Module
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Plug In Modules
- Plug In Power Supply
- Two Units fit in 1RU Tray

The DigiFlex 7200 Frame is designed to hold any single 1000 Series "DigiFlex" module, allowing it to serve as a stand-alone unit. Installing a "DigiFlex" module in the DigiFlex 7200 Frame is quick and easy. The module mounts horizontally in slide rails inside the custom chassis. A center "Z-Bracket" provides the 1000 Series locking mechanism, insuring secure installation. Module indicator LED's are visible through the removable screen front cover. Power and signal input/output connections are provided to the module through the mating rear cell for that specific module.

OpenGear

# OPENGEAR

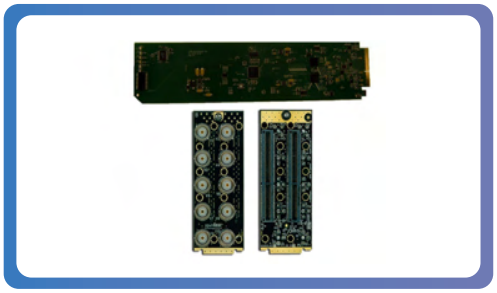
## LOG-1832



### HD/SD-SDI Video Distribution 1x8 or 1x4

The LOG-1832 serial distribution amplifier restores the incoming signal to its proper amplitude. The signal is reshaped with automatic equalization and DC restoration. The unit will also operate as a DVB-ASI distribution amp.

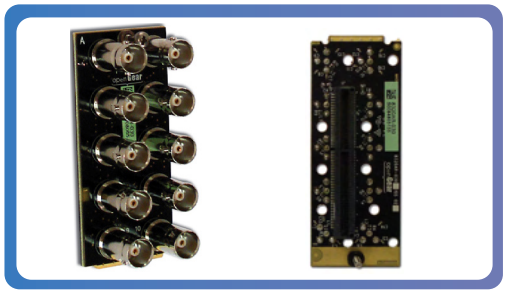
## LOG-1864



### AFD, Insertion, Pass & Delete AFD Signal

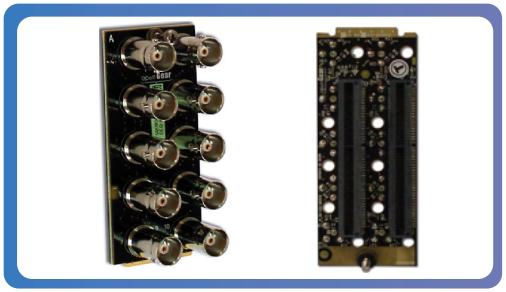
The LOG-1864 is a product for inserting Active Format Description (AFD) data into an HD/SD SDI video signal. The 1864 automatically detects either SD-SDI or HD-SDI input and transmits a re-clocked signal out through two SDI outputs.

## R2-10B



### 20 Slot Full Rear Cell 1x8

## R2S-10B



### 20 Slot 10 BNC Split Rear Cell

## R2-Blank

### Rear Blank Cell for 20 Slot Frame

# Fiber Optic

# PFO-100T/R
# Fiber Optics Transmitter and Receiver

## PFO-100T

## PFO-100R

## PFO-100T/R Combo

The PFO-100-T&R is a compact, and high-quality 3G/HD/SD-SDI or ASI fiber optics transmission system. This unit operates with single-mode fiber optics cable or, multi-mode fiber optics cable can be requested for shorter transmission distances. The module is SDI pathological test compliant and features a built-in equalizer, cable driver, and re-clocker. The Link PFO series has signal jitter elimination circuitry to ensure high-quality signal transmission over long distances, with fiber optic cable on both the transmitter and receiver. The combined PFO-100T (transmitter) and PFO-100R (receiver) are a matched pair for specific wavelengths, either the standard 1310 nm or any requested wavelength between 1270-1610 nm. At only 4 oz., and capable of transmitting up to 24 miles (40 km). The portable and powerful system is ideal for a wide variety of applications, including cross-town fiber links, cross-campus production, remote camera links and pre-installed fiber venues.

### Features:

- Portable, Lightweight, Reliable, Efficient and Quick
- Easy installation
- Class 1 FDA and IEC60825-1 Laser Safety Compliant Pathological test compliance
- LED indicators show you:
- Power on
- HD/SDI data presence 19.4 Mbps to 3 Gbps SMPTE 424M/297M compliant SMPTE 292M/259M/297M compatible
- Supports embedded audio Up to 40 km of fiber cable Low system jitter
- Power from 5 VDC
- Digital diagnostic function
- High durability design

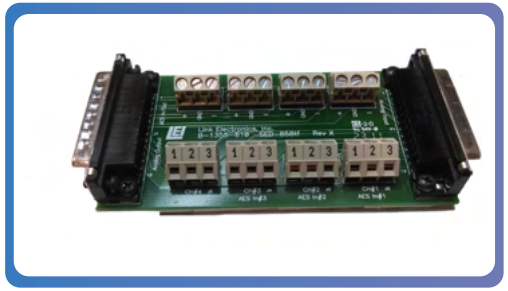
The PFO-100-T&R supports SMPTE ST 424 (3G-SDI 3Gb/s), SMPTE ST 292 (HD-SDI 1.5Gb/s), SMPTE ST 259 (SD-SDI 143/270/360 Mb/s), or SMPTE ST 310 (DVB-ASI). The modules include LED indicators to display Power ON and SDI signal presence from BNC (transmitter) or from fiber optic (receiver), providing critical system diagnostic information at a glance without the need for additional test equipment. The 3G/HD/SD-SDI or ASI fiber optical transmission system uses its own power supply or any 5 volt DC supply, with a standard latching power jack DC input. Due to the advanced digital fiber optic transmission technology, there is no need to make any adjustments with a simple set up and ease of operation.

# Embedding Equipment

## SED-858
## Eight Channel Embed and Deembed with AFD

The SED-858 HD/SD Audio Multiplexer Demultiplexer will embed or de-Embed up to eight audio channels, in either AES balanced, AES unbalanced, or analog formats, into a single 3 Gb/s, 1.485 Gb/s HD or 270 Mb/s SD video stream. This unit meets the SMPTE specifications for embedding and de-Embedding. A key feature, embedding and de-Embedding may be performed simultaneous. As an added bonus, the SED-858 will incorporate AFD Insertion, deletion, and pass-through.

### 858-AB/25

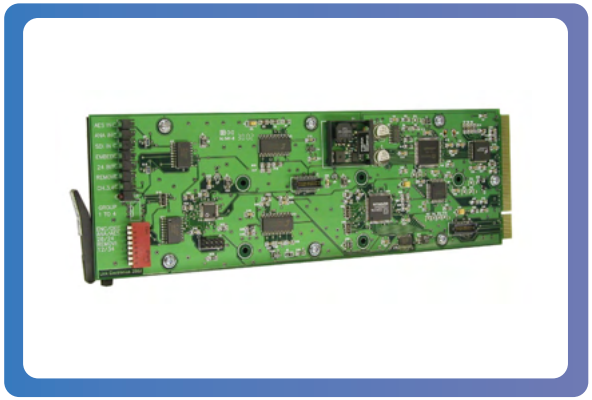


#### 25 Pin Audio Breakout

This adapter can be used with the SED-858 to input or output either analog or digital audio. The opposite sex connectors on each end allows this adapter to be used as a breakout connection.

## 1180
## Audio MUX & DEMUX, Embed AES Audio onto SDI Signal

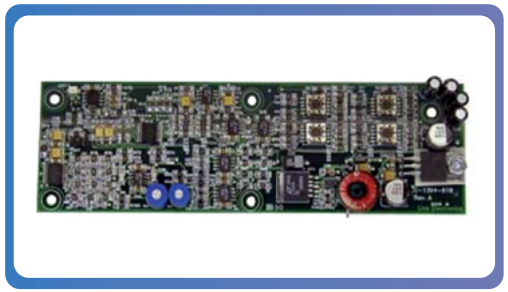
* Must Choose 1000 or 7200 Chassis



The 1180 is a high-quality multiplexer de-multiplexer for embedding and de-embedding analog or AES audio onto the SDI signal. The 1180 is designed to insert analog or digital audio signals onto a single SMPTE 259M serial component digital video signal. Analog embed and de-embed is a plugin option. Should analog embed be a requirement for future use, a simple plug-in module attaches to the primary PC board.(1180-OP/A). In addition, the 1180 module supports full EDH monitoring and insertion.

### 1180-OP/A

* Must Choose 1000 or 7200 Chassis (Pg. 30)



#### Adds Embedded Analog Stereo Audio to 1180

This adapter adds an embedded analog stereo audio option to the 1180.

# Distribution Amplifiers

## LEI-532
## HD/SD-SDI 1x4 Video Distribution Amplifier

### Features:

- AC Powered, Portable
- SMPTE 259M, 344M, 292M compliant
- Lock/Format Indication
- Automatic Equalization and Re-clocking

The LEI-532 serial distribution amplifier restores the incoming signal to its proper amplitude. The signal is reshaped with automatic equalization, and DC restoration. The LEI-532's maximum equalized cable length; for SD up to 350meters at 270Mb/s, and HD up to 140 meters at 1.485Gb/s. Four outputs are provided on the rear panel, as well as a detachable AC power cord.

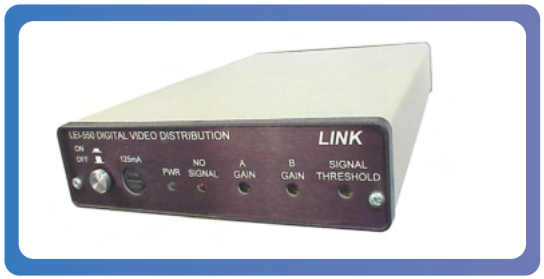
## LEI-540
## AES/EBU Digital Audio Distribution Amplifier

### Features:

- Stand-Alone
- Transformer Coupled
- Front Panel Select BNC/Terminal Input

The LEI-540 accepts either AES3-1992 or AES3-ID inputs and provides a total of eight outputs of digital audio: six to AES3-ID specifications, two to AES3-1992 specifications. 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.

## LEI-550 &
## LEI-550/310
## Serial Digital Video Distribution Amplifier




### Features:

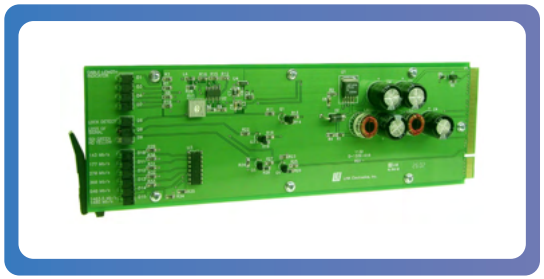
- Adjustable Output Level
- Serial Digital Input
- Fault Indication
- Re-Shaped & Equalized
- ASI compatible
- SMPTE 310 Serial Digital Input (only for LEI-550/310)

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

The LEI-550/310 accepts composite 143 Mb/s, 177Mb/s, component 270Mb/s, 16:9 aspect ratio 360Mb/s standards, SMPTE 310, and ASI.

## 1132/1032
## 1132/1033
## HD/SD-SDI Reclocking Distribution Amplifier

* Must Choose 1000 or 7200 Chassis (Page 30)



### Features:

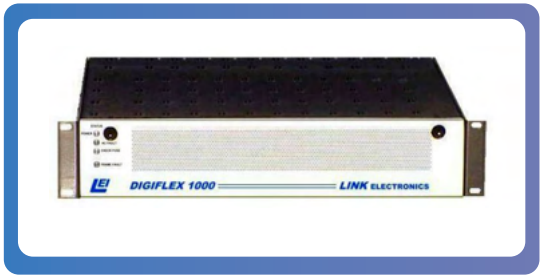
- Composite & Component SDI
- SMPTE 259M, 344M, 292M compliant
- Fault Indication
- Automatic Equalization and Re-clocking

The 1132 DigiFlex serial distribution amplifier restores the incoming signal to its proper amplitude. The signal is reshaped with automatic equalization, and DC restoration. Eight outputs are provided on a removable rear cell 1033, and four outputs are provided on the 1032 rear cell. An LED at the front edge of the front module, and one on the rear module indicate a Loss of Signal.

# DISTRIBUTION AMPLIFIERS

## DigiFlex Frames

### 1000
### Mounted Frame for 1000 Series




**Features:**

- Frame Holds 11 Modules
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Fault Detection
- Two RU

The DigiFlex 1000 frame will accept eleven modules, or ten 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/0 connections. The DigiFlex 1000 frame can easily accommodate a combination of analog & digital DA's, A to D's, D to A's, synchronizers, and transcoder modules. SD SDI & HD SDI modules are available. DigiFlex has a single isolated +12 volt power supply system distributed on the back plane of the frame.

### 7200
### Portable Frame for 1000 Series

**Features:**

- Accepts Any DigiFlex Module
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Plug In Modules
- Plug In Power Supply
- Two Units fit in 1RU Tray

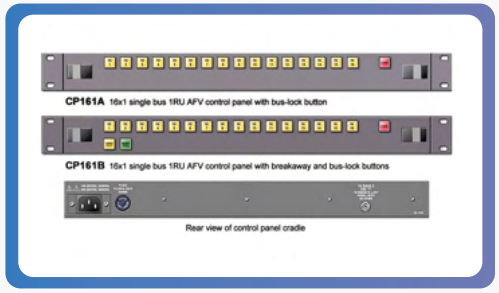
The DigiFlex 7200 Frame is designed to hold any single 1000 Series "DigiFlex" module, allowing it to serve as a stand-alone unit. Installing a "DigiFlex" module in the DigiFlex 7200 Frame is quick and easy. The module mounts horizontally in slide rails inside the custom chassis. A center "Z-Bracket" provides the 1000 Series locking mechanism, insuring secure installation. Module indicator LED's are visible through the removable screen front cover. Power and signal input/output connections are provided to the module through the mating rear cell for that specific module.

# Routers

## ALL ROUTERS MUST BE ORDERED WITH A CONTROL PANEL

When ordering, please selected the desired combination of router and control panel.
If you have questions, contact support@linkelectronics.com

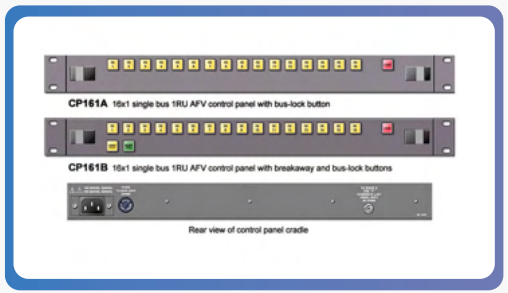
## CP161A




### 16x1 Single Bus AFV Control Panel

The CP161A is a 16 x 1 local or remote control panel with bus-lock button. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

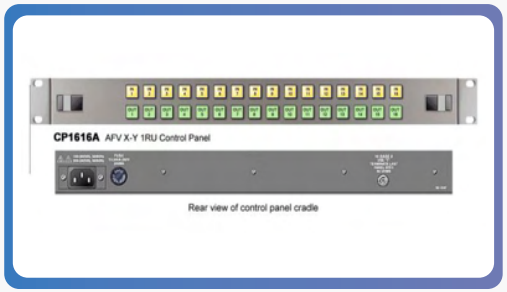
## CP161B




### 16x1 Single Bus AFV Control Panel with Breakaway Buttons

The CP161A is a 16 x 1 local or remote control panel with breakaway and bus-lock buttons. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

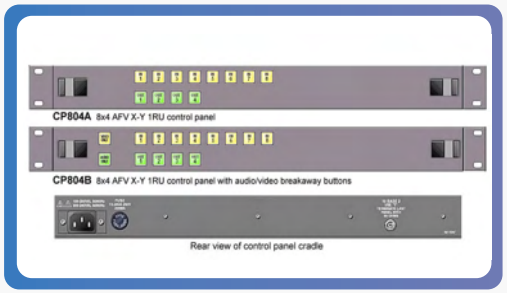
## CP1616A




### 16x16 AFV 1RU Control Panel

The CP1616A is a 16 x 16 local or remote control panel. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

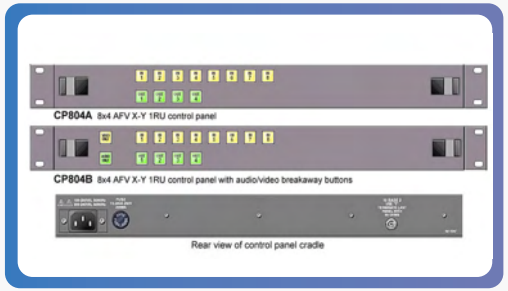
## CP804A




### 8x4 AFV 1RU Control Panel

The CP804A is an 8 x 4 local or remote control panel. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

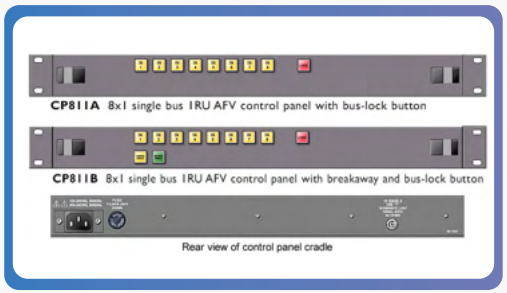
## CP804B




### 8x4 AFV 1RU Control Panel with Audio/Video Breakaway Buttons

The CP804B is an 8 x 4 local or remote control panel with audio/video breakaway buttons. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

## CP811A

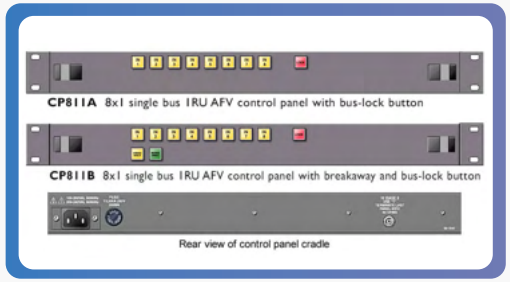



### 8x1 AFV 1RU Single Bus Control Panel

The CP811A is a 8 x 1 local or remote control panel with bus-lock button. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

# ROUTER CONTROL PANELS

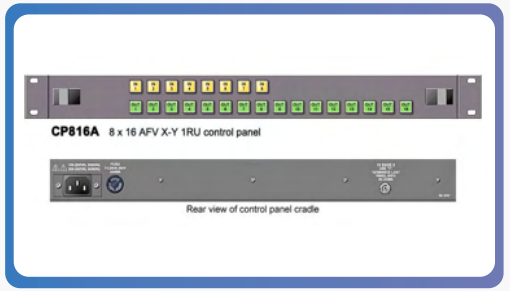
## CP811B




### 8x1 AFV 1RU Single Bus Control Panel with Breakaway Buttons

The CP811B is a 8 x 1 local or remote control panel with breakaway buttons and bus-lock button. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

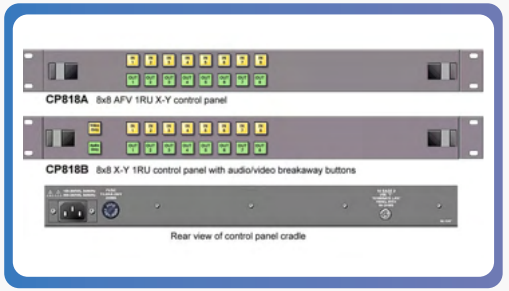
## CP816A




### 8x16 1RU Control Panel

The CP816A is a 8 x 16 local or remote control panel. When used as a remote control panel the optional cradle assembly, CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

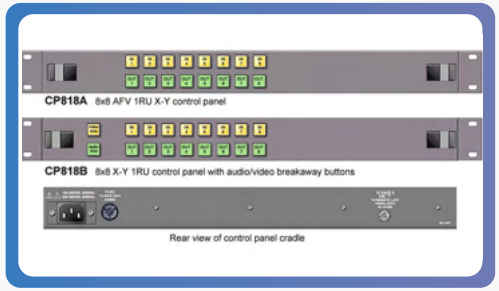
## CP818A




### 8x8 AFV 1RU Control Panel

The CP818A is an 8 x 8 local or remote control panel. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

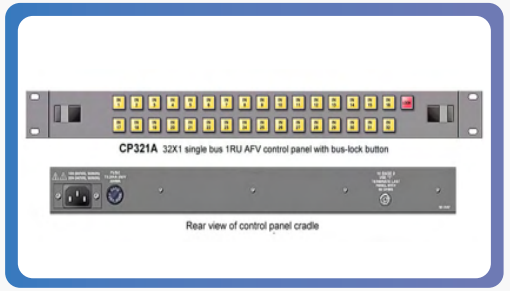
## CP818B




### 8x8 AFV 1RU Control Panel with Video and Audio Breakaway Buttons

The CP818B is an 8 x 8 local or remote control panel with or without audio/video breakaway buttons. If using as a remote control panel the optional cradle assembly, model CR100, with built in 115V/230V input power supply and Ethernet interface should be ordered.

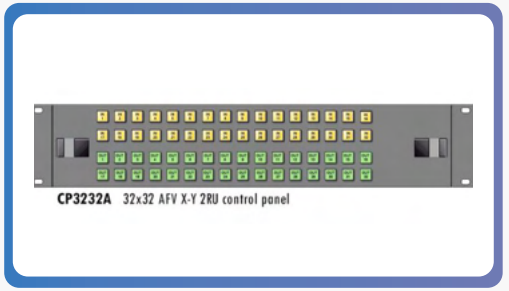
## CP321A




### 32x1 1RU Single Bus Control Panel

The CP321A is a 32x1 local or remote control panel. When used as a remote panel a DIP switch in the remote panel cradle selects the output which is controlled by that single bus panel.

## CP3232A




### 32x32 2RU Control Panel

The CP3232A is a 32x32 X-Y control panel that can be used as either a local or remote control panels. When used as a remote control panel the optional 2RU cradle assembly, CR200, with built in 115V/230V input power supply and Ethernet interface should be ordered.

## XL161A

### Analog Video Router

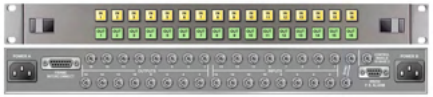
The XL161A is a 16 x 1 analog video router with a modular design and a flexible Ethernet and RS232 based control system

## XL161C

### Analog Video and Stereo Audio

The XL161C is a 16 x 1 analog video and stereo audio router with a modular design and a flexible Ethernet and RS232 based control system.

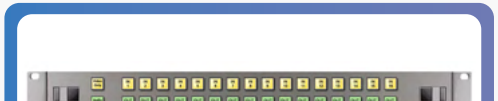
## XL1616A



### Analog Video Routing Switcher

The XL1616A is a 16 x 16 analog video routing switcher with a modular design and a flexible Ethernet and RS232 based control system

## XL1616C



### Analog Video Routing Switcher with Stereo Audio

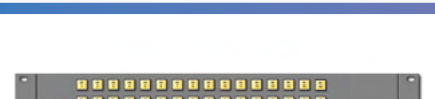
The XL1616C is a 16 x 16 analog video and stereo audio broadcast router that consists of two separate 1RU frames. One frame contains the 16x16 video router. The second frame houses one or two 16x16 audio cross-point modules.

## XL1616HD-1

### HD/SDI Video Routing Switcher

The XL1616HD-1 is a 16 x 16 video routing switcher that is capable of routing all SMPTE and ITU serial digital video signals including HD-SDI serial digital signals and high-resolution signals from computer graphics cards equipped with HD/SDI outputs.

## XL3232A



### Analog Video Routing Switcher

The XL3232A is a 32 x 32 analog video routing switcher with a modular design and flexible Ethernet and RS232 based control system

# ROUTERS - MUST CHOOSE CONTROL PANEL

## XL804HD-1A

### HD/SDI Video and Analog Routing Switcher

The XL804HD-1A is an 8 x 4 video routing switcher that will auto -sense HD or SDI video signals and provide the correct format on each output.

## XL804HD-3A

### HD/SDI Video Routing Switcher with Analog Stereo Audio

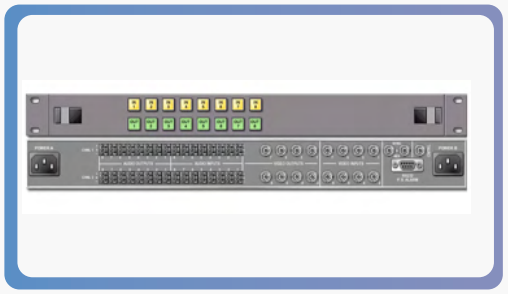
The XL804HD-3A is an 8 x 4 video routing switcher with analog stereo audio that will auto -sense HD or SDI video signals and provide the correct format on each output.

## XL816A

### Analog Video Routing Switcher

The XL816A is an 8 x 16 analog video router with a modular design and a flexible Ethernet and RS232 based control system.

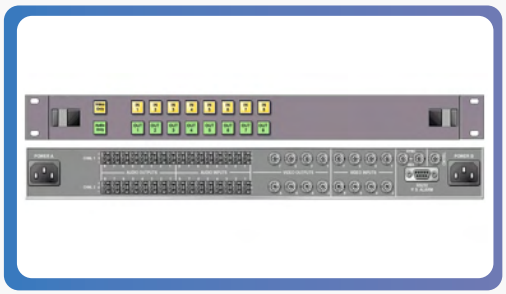
## XL818A



### Analog Video Routing Switcher

The XL818A is an 8 x 8 analog video router with a modular design and a flexible Ethernet and RS232 based control system.

## XL818C



### Analog Video Routing Switcher with Stereo Audio

The XL818C is an 8 x 8 analog video plus stereo audio router with a modular design and a flexible Ethernet and RS232 based control system.

## XL818HD-1A

### HD/SDI Video Routing Switcher with Analog Audio

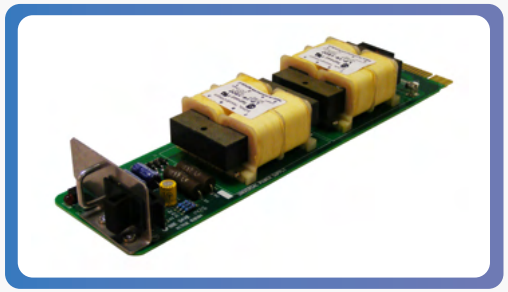
The XL818HD-1A is an 8 x 8 HD/SDI routing switcher that will auto-sense HD or SDI video signals and provide the correct format on each output.

## XL818HD-3A

### HD/SDI Video Routing Switcher with Analog Stereo Audio

The XL818HD-3A is an 8 x 8 HD/SDI routing switcher with analog stereo audio that will auto-sense HD or SDI video signals and provide the correct format on each output.

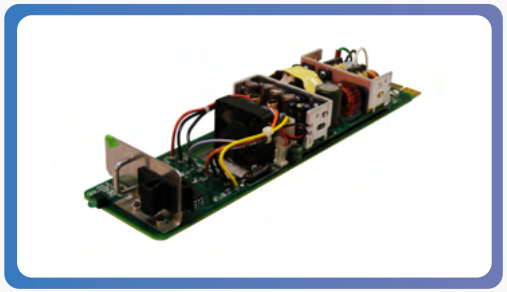
## XL100PS



### Redundant Power Supply

Redundant power supply for 16 x 1 frames

## XL200PS



### Redundant Power Supply

Redundant Power Supply for 8 x 4 and 8 x 8 HD frames

## CR100

### Remote Mounting Cradle

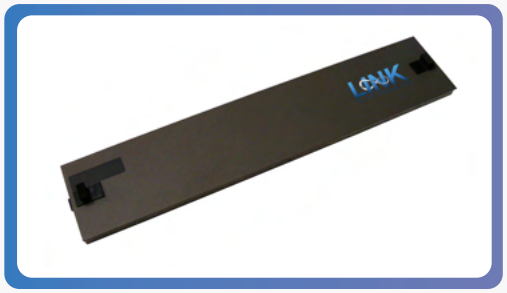
Remote mounting cradle for 1 RU control panel

## FR100

### Blank Cover

Blank cover for 1 RU frame without local control panel

## FR200



### Blank Cover

Blank cover for 2 RU frame without local control panel

# Analog Products

## IEC-708
## Vertical Interval Composite Video Switcher

### Features:

- 8 Inputs
- Vertical Interval
- Wide Bandwidth
- Digital Switching
- Rack Mountable
- Self Powered

The IEC-708 Is a wide band-width vertical interval switcher with eight end terminating inputs and dual outputs allowing the user to efficiently and economically route or delegate multiple video signals. Packaged in a stand-alone case, the IEC-708 features eight high-quality, lighted momentary push-button switches for video selection.

## IEC-721
## Analog Black Burst Generator

### Features:

- Gen-Lock
- TCXO Oscillator
- Two Blackburst Output
- Two Color Bar Outputs
- H & V Timing
- SC Phase

The IEC-721 Black burst Generator provides the user with two precision Black burst and two SMPTE Color Bar outputs. A loop-through black burst input is provided for gen-locking to an external reference or it can be used as a stand-alone generator.

## IEC-715 & IEC-715/R
## Analog Video Presence Detector

### Features:

- Aux Preview
- Hard Bypass
- Wide Bandwidth
- Status Indication
- Immune To Noise
- Switches Audio & Video

The IEC-715 is 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 three-terminal screw block provides dry contacts for normally open (N.O.) and normally closed (N.C.) to control peripheral gear. Available as the IEC0715/R with Remote Pri/Aux.

## IEC-740
## Audio Distribution Amplifier

### Features:

- 1 input, 8 outputs
- Select Dual 1 x 4
- Balanced Input
- Stereo Operation
- Mount 3 in 1RU Frame

The Link IEC-740 audio distribution amplifiers input is high impedance bridging. All inputs and outputs use multi level screw clamp terminals located on the rear panel. The IEC-740 can be configured for balanced or unbalance operation. The versatility of the IEC-740 is illustrated by its choice of operation, mono or stereo. The IEC-740 is a rugged device, intended for all applications where performance and reliability are required.

# ANALOG PRODUCTS

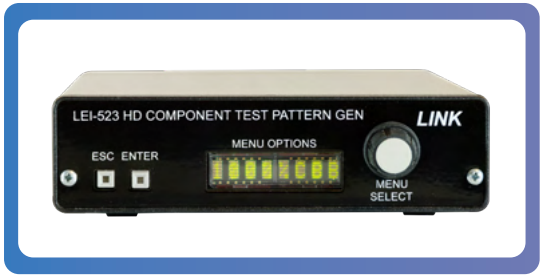
## IEC-750
## Video Distribution Amplifier

### Features:

- 1 input, 8 outputs
- Selectable Dual 1 X 4
- Differential or Single Ended Input
- Stereo 1 x 4
- Mount 3 in 1RU Frame

The IEC-750 video distribution amplifiers input is high impedance loop through in the 1 x 8 mode of operation. In the dual 1 x 4 mode, the input is terminated internally. The dual mode of operation provides four outputs of each of the two inputs. A switch on the rear panel allows the unit to operate as a dual DA with two terminated inputs with four outputs each.

## LEI-523
## HD Component Test Pattern Generator




### Features:

- Looping Reference Input
- Bi-level or Tri-level Reference
- HD YUV or RGB Outputs
- 30 Test Patterns
- Master Sync Generator

The LEI-523 is a series of broadcast High Definition and Standard Definition sync generator with HD component test patterns. The LEI-523 can be use to gen-lock to other syncs or as a stand alone unit (Master Sync Generator). This unit is a multi-format generator that can be used where various HD signals are required.

## PTC-892
## Closed Caption Encoder SD-SDI/ Analog

### Features:

- V-Chip compatible
- TSID ready
- Dual RS-232 com ports
- LTC input & "B" Type USB port
- Data Recovery
- Weather Lift up to 4 lines

The PTC-892 is capable of inserting, decoding, and recovering data of captions and text for NTSC/PAL for the following signals: composite, Y/C, S-video, RGB, YUV, and SDI. Captioning and text may be inserted in either field of the VBI. That inserted data may be displayed as open captions through the decoder output(s). In addition, caption data on the incoming or outgoing video may be recovered from either field of the VBI.

## LEI-560
## Analog to SDI Conversion

### Features:

- SD Analog Composite Input
- SD SDI Outputs
- Freeze to Last Good Frame or Field
- SD Analog Composite Input
- Proc Amp Controls

The LEI-560 is an analog video to serial digital interface (SDI) conversion module with an integral frame synchronizer. The unit is 10 BIT processing that meets broadcast standards for professional use. Composite analog video is converted to 10-bit parallel data and decoded to 4:2:2 digital component video, using the state of the art design.

## IEC-788
## Closed Caption Decoder, NTSC/PAL

### Features:

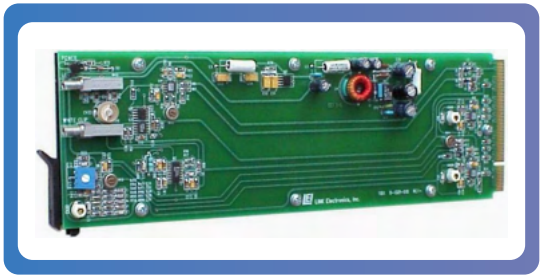
- Field 1 & Field 2
- S-Video Input & Output
- Baseband Video Input & Output
- Differential Input

The IEC-788 is a high performance Closed Caption Decoder for the NTSC/PAL system. It is capable of processing and displaying all standard closed caption format transmissions. 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.

## IEC-788/CG - with Copy Gaurd Mod
## IEC-788/R - with Remote
## IEC-788/R/SE - with Remote and Single Ended Input
## IEC-788/SE - with Single Ended Input

## 1151/1011
## Composite Video Distribution Amplifier

* Must Choose 1000 or 7200 Chassis (Pg. 45)



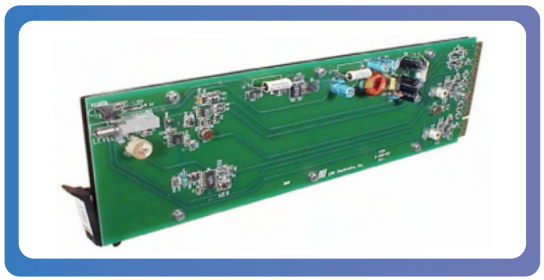
### Features:

- White Clip
- Op Amp. Technology
- DC Coupled
- +/-3dB Gain
- 100 MHZ Bandwidth

The DigiFlex 1151 is an analog video distribution amplifier with cable equalization and white clip. The 1151 provides high-performance analog video distribution. Utilizing the latest CMF Op-Amp technology, the 1151 combines wide bandwidth, low noise and low power consumption. The video path is truly transparent, with differential phase and gain errors of <0.1deg. and <0.1%, respectively.

## 1152/1011
## Composite Analog Video Distribution Amplifier

* Must Choose 1000 or 7200 Chassis



### Features:

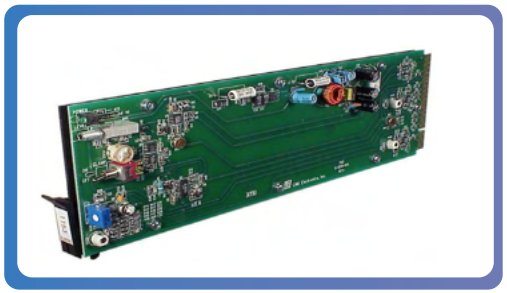
- 8 Outputs
- Differential Input
- DC or AC Coupled
- Op Amp. Technology
- 100 MHZ Bandwidth

The DigiFlex 1152 Video DA allows both analog and digital distribution amplifiers to operate side-by-side in a single frame. Utilizing the latest CMF Op-Amp technology, the 1152 combines wide bandwidth, low noise and low power consumption. The video path is truly transparent, with differential phase and gain errors of 0.1deg. and 0.1%, respectively. Video signal-to noise ratio exceeds 65dB

# ANALOG PRODUCTS

## 1153/1011
## 1x8 Composite DA

* Must Choose 1000 or 7200 Chassis

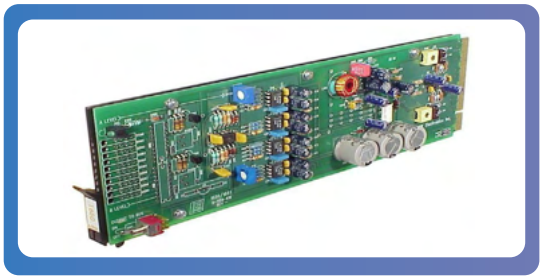


### Composite Video Distribution Amplifier

The DigiFlex 1153 Video DA features equalization and clamp and allows both analog and digital distribution amplifiers to operate side-by-side in a single frame.

## 1650/1014 - with screw terminal
## 1650/1021 - with 3-pin connector
## Analog Audio Distribution Amplifier

* Must Choose 1000 or 7200 Chassis



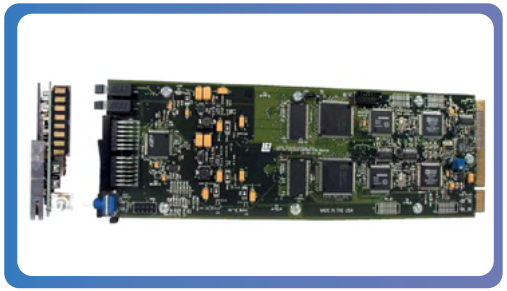
### Features:

- Low Noise
- 8 Mono Outputs or 4 Stereo Outputs
- Signal Presence LED
- >100dB S/N Ratio
- A/B Buss Monitoring

The DigiFlex 1650 Stereo Audio DA is high-impedance, balanced, with high common mode rejection. The output amplifier is capable of driving low impedance (150Ω) loads and is compensated for load capacitance of up to 10,000pF. Its wide bandwidth (>120KHz) will allow for the distribution of SMPTE Time Code or BTSC Baseband Stereo.

## 1261/1061
## Dual Composite Converter

* Must Choose 1000 or 7200 Chassis

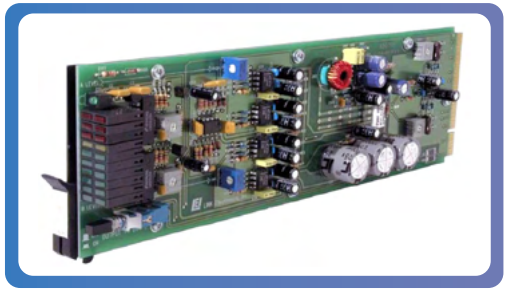


### Analog to SD-SDI conversion

The 1261 is an analog video to SDI conversion module with an integral frame synchronizer.

## 1651/1014 -with screw terminal
## 1651/1021 - with 3-pin connector
## 1x8 Audio DA with Level Graph

* Must Choose 1000 or 7200 Chassis

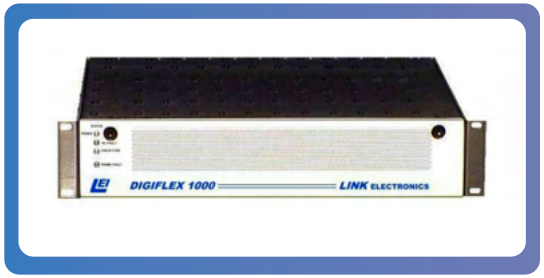


### Analog Audio DA

The 1651 Stereo Audio DA is identical to the 1650, with one exception; the 1651 has logarithmic bar graph level meters for the left and right channel signal indication.

# DigiFlex Frames

## 1000
## Mounted Frame for 1000 Series




### Features:

- Frame Holds 11 Modules
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Fault Detection
- Two RU

The DigiFlex 1000 frame will accept eleven modules, or ten 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/0 connections. The DigiFlex 1000 frame can easily accommodate a combination of analog & digital DA's, A to D's, D to A's, synchronizer, and transcoder modules. SD SDI & HD SDI modules are available. DigiFlex has a single isolated +12 volt power supply system distributed on the back plane of the frame.

## 7200
## Portable Frame for 1000 Series

### Features:

- Accepts Any DigiFlex Module
- Digital Video/Audio Modules
- Analog Video/Audio Modules
- Plug In Modules
- Plug In Power Supply
- Two Units fit in 1RU Tray

The DigiFlex 7200 Frame is designed to hold any single 1000 Series "DigiFlex" module, allowing it to serve as a stand-alone unit. Installing a "DigiFlex" module in the DigiFlex 7200 Frame is quick and easy. The module mounts horizontally in slide rails inside the custom chassis. A center "Z-Bracket" provides the 1000 Series locking mechanism, insuring secure installation. Module indicator LED's are visible through the removable screen front cover. Power and signal input/output connections are provided to the module through the mating rear cell for that specific module.

## 7202 - Rack tray for two 7200 Chassis
## 7203 - Spare Power Supply for 7200
## 7205 - Blank Panel for 7200 Chassis

# Accessories

L7501

## Termination Plug

Enables termination of 75 ohm coaxial lines.

L7502

## BNC Male to RCA Female

Enables interconnection of devices with BNC male and RCA female jack.

L7503

## BNC Feed through

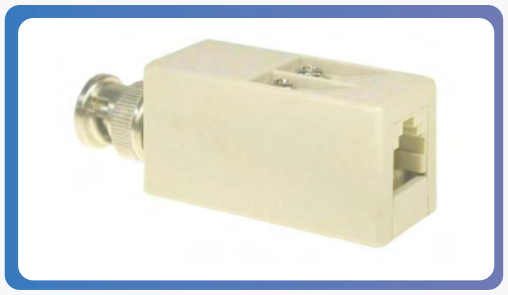
BNC connection adapter featuring a BNC female connector on either sides

L7505

## BNC Female to RCA Male

Enables interconnection of devices with BNC Female and RCA Male jack.

L7506



## BNC Male to RJ-11

A BNC male connector on one end and a RJ-11 connector on the other end with balun capabilities, The balun also offers screw terminal connections for the output.

# ACCESSORIES

## HCC-62

### SDI/HDMI Cross Converter

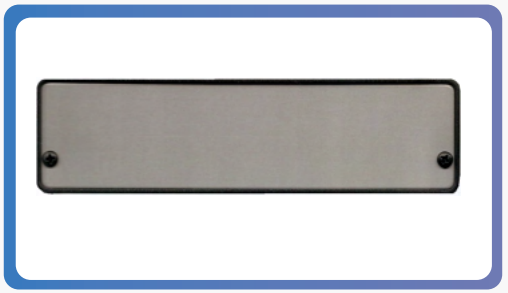
Converts SDI to HDMI and HDMI to SDI simultaneously, HDMI extender /SDI 1 x 2 Distribution Amplifier, HDMI to SDI conversion with looping HDMI output, and SDI to HDMI conversion with two looping SDI outputs

## PRT-700

### Rack Tray for 700 & 500 Series

The PRT-700 is a 19" Rack Tray designed to hold up to 3 of any 500 Series or 700 Series Products.

## PRT-705



### Single Blank Panel for PRT-700

The PRT-705 is a single blank panel for the PRT-700 to fill the open cells.

## CAB0001

### Modem Cable

Moulded DB9 Null Modem Cable

## CAB-10

### Modem Adaptor

DB-9 Male / Male Null Modem Adaptor

## CAB-8

### RS-232 Cable

RS-232 Cable for Remote Serial Control, 9 Pin M to 9 Pin F, D-Sub

# ACCESSORIES

## PWT-300

### Power Supply

The PWT-300 operates on AC power from 90 to 240 VAC.

## PWT-400

### Power Supply

The PWT-400 operates on AC power 100 to 240 VAC. Wall transformer for LEI-522, LEI-523, IEC-721, SCE-492

## Modem-EXT

### Modem

Plug and play with any Link Electronics Caption Encoder using an RS-232 interface

## Modem-886

### Modem

Internal telephone modem for PTC-892

# American Made
# Custom Broadcast Solutions

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