Series | 5000
Terminal Equipment

Catalog Rev 2.4

LYNXTechnik AG

◆ SDTV / HDTV / 3G / 4K / 8K ◆ CWDM fiber interfacing ◆ up / down / cross conversion ◆ audio processing and sync ◆
◆ aspect ratio conversion ◆ frame synchronization ◆ audio and video distribution ◆ audio and video conversion ◆
◆ audio embedding ◆ audio de-embedding ◆ noise reduction ◆ test generators ◆ control system ◆ automation ◆

Product Locator

Series 5000

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Product Compatibility

To help locate specific products quickly, both the product locator table and the module listings are coded to provide a quick reference to video format and fiber compatibility. Icons are found at the top of each module page.

Compatibility Key		
SDTV	Analog and SDI Video 270Mbit - SDTV	SDTV
1.5G	HD-SDI Video 1.5 Gbit	HD 1.5G
HDTV	HDTV Analog Component Video and Sync	HDTV
3G	HD-SDI Video 3 Gbit	HD 3G
12G	UHD SDI Video	4K/UHD
FIber	Fiber Optic I/O	FIBER

www.lynx-technik.com

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Fiber Products

APPolo | Control™

Introduction

LYNX Technik offers a broad portfolio of modular solutions for conversion, distribution, embedding / de-embedding, frame synchronization, video processing and fiber optic transport. What differentiates LYNX Technik from other manufacturers' solutions is the APPolo Control System. APPolo offers real power behind the hardware and has moved far beyond the traditional functions of simple monitoring and changing module settings. APPolo is a fully integrated, intelligent, and programmable automation system for LYNX Technik Series | 5000 signal processing solutions.

APPolo is alive! It can see and hear everything in the system in real time. APPolo monitors and detects every subtle change to all the inputs and outputs on every module in the entire system. It also listens to external GPI triggers from other systems. APPolo can be programmed to perform an automated "action" in response to the system changes, it can change module settings, re-route signals, and reconfigure the system automatically in the blink of an eye. APPolo now brings automation to infrastructure, turning static terminal equipment into intelligent and reactive components within an integrated system design.

In addition to its intelligent brain, APPolo provides other vital functions, such as backup and restore. All the settings for a module can be stored in a backup file, which can be configured for a single module or the complete system. APPolo also provides full SNMP support and can be easily integrated into external SMNP monitoring and control systems. For more advanced integration, we also offer the full APPolo control protocol for development and integration with third party control systems.

The APPolo Control System supports the Series | 5000 product line. All LYNX modules include fully integrated support for APPolo, and can either be used with the APPolo Control System or as standalone modules. Adding the APPolo control system to an existing installation is as simple as plugging in the rack controller, connecting it to your network, installing the APPolo software application and you're ready to go!

The APPolo System

The APPolo Control System includes both software and hardware elements. Each Series | 5000 rack frame is "APPolo ready" and has a slot reserved for the APPolo rack controller. A system can be as small as a single rack or as large as hundreds of racks located in multiple locations. APPolo provides visualization and control of the entire system from within a single, centralized application.

Smaller system designs can use the PC as the APPolo host. Larger and more complex designs can use a dedicated internal server to host the application making APPolo a fully integrated part of the system. We provide the dedicated APPolo server, as well as a redundant backup APPolo server if required. Connected PC's act as network clients to the APPolo server. Although described as a "server," this piece of hardware is an inexpensive and compact PCB, about the size of a playing card. You simply plug it into a socket on the existing APPolo rack controller, which means you are not using additional rack slots or rack space.
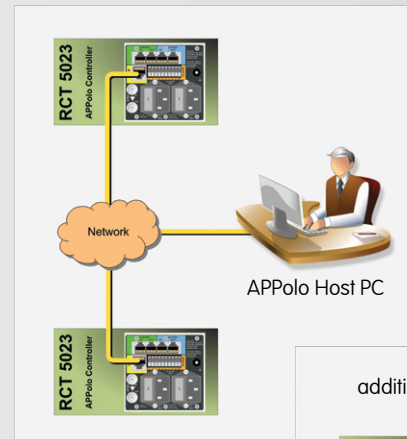
For basic installations, the APPolo software can be hosted on a standard PC.

For more complex larger installations, the APPolo software is hosted on a dedicated server in the system and APPolo clients connect to the server. A redundant backup server can be added to the system if required.
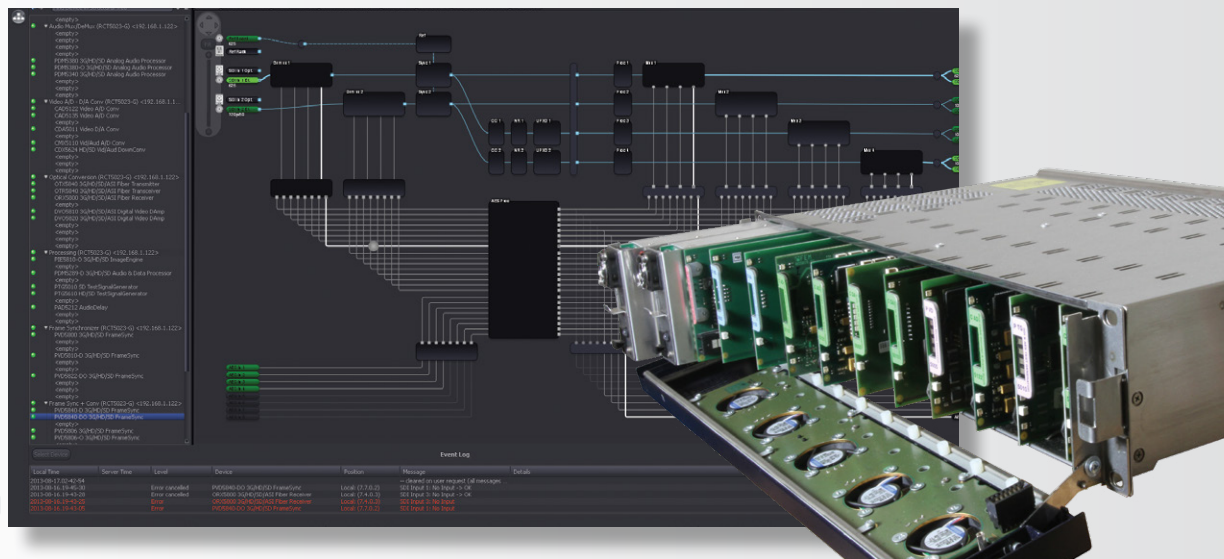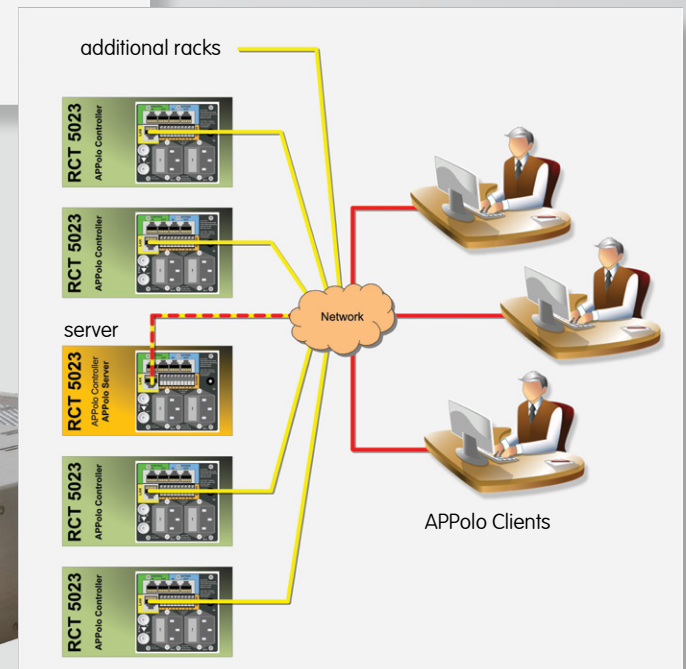
User Experience - Introducing **flexGUI**™

flexGUI - a new graphic user interface for APPolo Control Software. It offers a feature-rich, simple, and intuitive user-experience. We have achieved this through the careful design and implementation of the APPolo Graphical User Interface flexGUI™. Once APPolo is installed, the software automatically discovers all connected LYNX hardware and configures itself to display a full hierarchy of the connected racks and modules. Clicking on a device brings up its dedicated GUI display. The graphical representation of the modules shows internal connections and signal flow in the form of an easy to read block diagram. This greatly simplifies the understanding of a module's function and shows the signal flow from input to output. All inputs and outputs are monitored in real time with the status and format of each signal clearly displayed on the system diagram. Users can drill down into the module for more information by zooming in or with a simple click on the area you need to examine in more detail. For "path finding," simply move your cursor over a signal line to highlight the complete signal path through the module. Reconfiguring modules is easy. Simply drag and drop connections to change the module's internal connections and signal routing.

APPolo - powerful, simple, and intuitive visualization and control.

A unique navigation tool for each flow diagram allows you to re-position and zoom your view
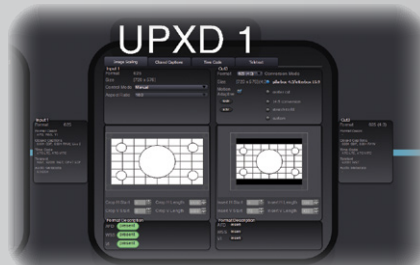
The interactive display automatically fills in more detail when you zoom into a specific area
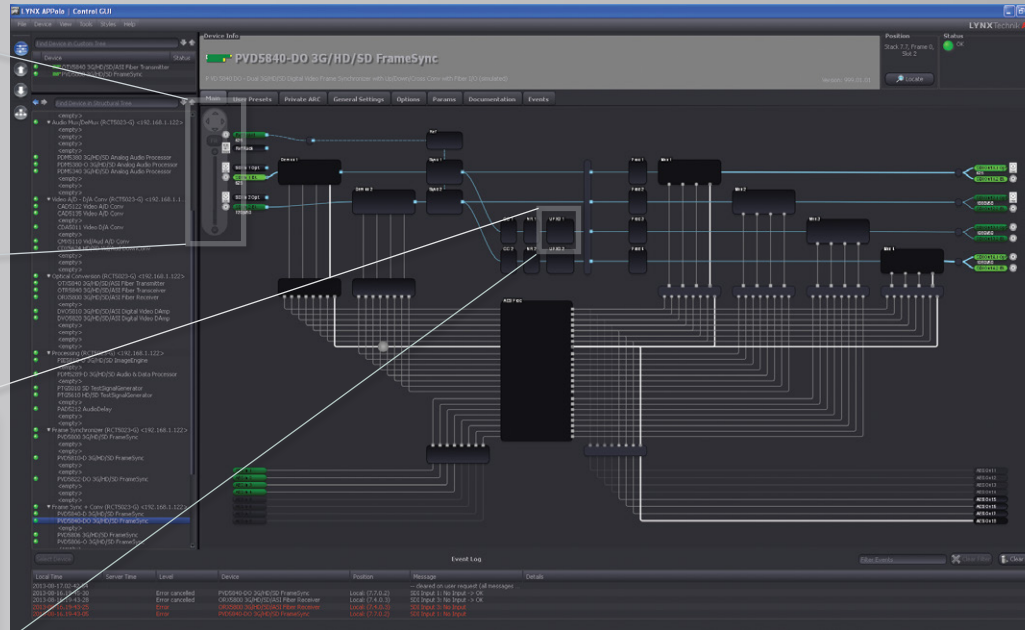
Each module has a customized flexGUI with an interactive display in the form of a flow diagram. flexGUI offers interactive zoom, path finding, drag and drop for connections and is easy to use for module setup and configuration.
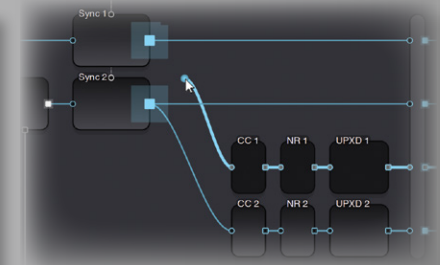
For changing a module's internal connection and signal routing, simply drag and drop the module's connection to a new location
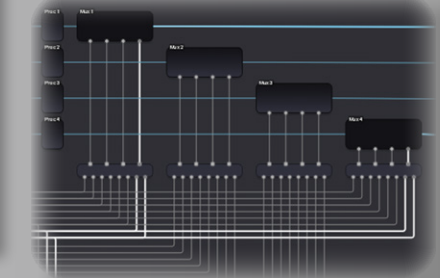
Move your mouse over any connection in the diagram and the entire signal path is highlighted

AutoControl – System Automation

AutoControl for APPolo is a radical advancement for infrastructure control and automation. Most facilities use automation yet generally do not have the ability to automate static terminal equipment. AutoControl adds automation and programmable intelligence inside the terminal equipment, which enables automatic reconfiguration of the modules functions, signal routing and internal signal processing, This opens up an entirely new layer of power and flexibility to automated facility control.

APPolo monitors every module's internal status and configuration, every input and output in terms of presence and video format, plus multiple external GPI inputs in the system. Based on these input parameters, the user can program an automatic conditional "action" using logical functions.

A simple example: *The video input to a module has embedded audio present, however the embedded audio from AES1 could be dropped or go missing depending on the input signal received. The user would like to automatically embed an external audio input if the SDI input is missing audio.*

With APPolo Auto Control, the solution is simple. Program APPolo to monitor the embedded AES 1 input stream on the selected video input. If audio is present, the system will do nothing and transparently pass the audio to the output. If the AES1 audio is missing, the system will automatically reconfigure the module and route an external audio input to the AES1 channel on the embedder and embed new audio.

There is virtually no limit to the automation that APPolo offers! From a very simple action to an incredibly complex series of events that span multiple modules in multiple rack frames in several locations.

APPolo automation is only limited by your imagination.

CustomControl - Build Your Own Interface

With The CustomControl option you can now design and deploy your own custom control interface.

This greatly simplifies system operation and visualization. This is accomplished with a simple, intuitive graphic editing tool, no programming required.
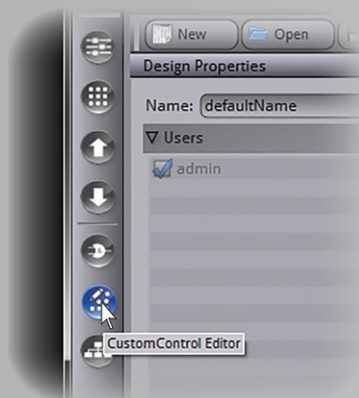
1. Design

Designing a custom control interface could not be easier, LYNX provides you with an intuitive PC editor. Simply drag and drop the desired control into your workspace and assign the control to a specific module function. A custom control interface can be as simple as a solitary button or slider, or a complex multi-level control surface with many integrated controls. There is virtually no limit to the design possibilities.

Design and deploy as many custom control designs as you like within your APPolo network.

PC Editor

❶ WORKSPACE TO DESIGN AND BUILD YOUR CUSTOM CONTROL PANEL. Simply drag and drop controls, containers and add notes where needed. The example design shown above uses sliders, buttons, drop down selections and a check-box.

❷ TOOLBOX OF AVAILABLE CONTROLS. Simply select the desired control and drag and drop it into the workspacy.

❸ SHAPES PALLETTE. For a dense design use a container to house a set of controls. The contents of the container are revealed when the operator zooms into the control panel. You can even put a container within a container. This enables the use of very dense single layer designs. Notes can be added to explain and describe the controls to operators.

④ SYSTEM NAVIGATOR. This is a graphical representation of all the racks and modules in a system. You can navigate to a specific module and drag and drop controls into the workspace from here also

⑤ LAYERS NAVIGATOR. Using layers lets you build complex multilevel designs with nested controls.

2. Deploy.

Once a control surface has been designed it can be deployed in the system for anyone to use. A user simply logs into the APPolo system and selects the control surface. Now the operator has a custom control surface which only presents the information and access to the system functions they need


PC Control

System Backup

The System Backup function is often overlooked for terminal equipment settings yet is vital to a well functioning solution. We offer two layers of backup. One is fully automatic and designed for maintenance use, and the other is designed for storing and recalling complete system configurations.

Complex signal processing modules may have more than 700 user-configurable settings. Once a module is set up, configuration is easily forgotten. Should the module develop a problem and need to be replaced, re-configuring the new module can be rather time consuming, resulting in increased downtime. LYNX Technik APPolo includes HotSync Backup, which is an automated process that runs in the background. Each APPolo rack controller automatically takes an inventory of the installed modules and stores all the module settings inside the controller RAM. If the module configuration changes, the backup is automatically updated. No user interaction is required, and the backup is always 100% up to date. If the module fails and a new module is inserted, the system detects the new module and automatically restores all the settings from the last backup. This only takes seconds.


All you have to do is switch it on and forget it. APPolo takes care of the rest.

APPolo also includes Backup and Restore. This utility lets users manually backup the system to a file. The backup can be as simple as a single module backup or a complete global system backup including all connected modules and racks. This is particularly useful for systems that are multi-use and need to be configured differently for certain productions or events. Simply store the system configuration inside APPolo as a backup, and restore at a later time to re-apply the system configuration.
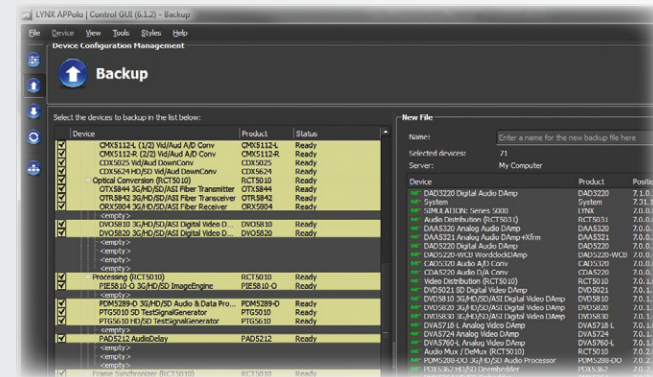
Error Logging and Maintenance

A comprehensive error log is maintained within APPolo, which can be fully user-configured for each individual module. Each time an event occurs (e.g. input is missing or something changed), the event is time stamped and recorded in the event log.
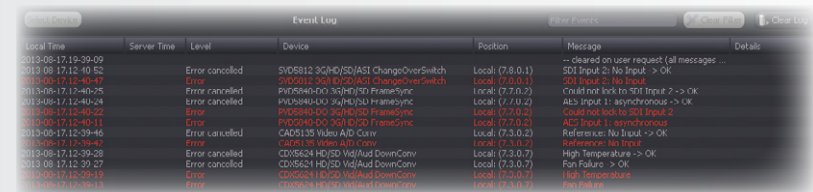
The APPolo system can be configured to communicate with LYNX Technik engineering servers. When a firmware update is available, the user is notified within APPolo, and the module can be updated with the click of a mouse. If a specific module or the APPolo system ever exhibits a problem, the user can invoke a function to gather all pertinent technical information and internal log files from the system and automatically email the information to LYNX support for investigation and resolution.

Try it for yourself!

APPolo is the heart and brains of the LYNX Technik Series | 5000 product line. It is simple to install, easy to operate, and inexpensive. In fact, the basic APPolo software package is included free with the purchase of a rack controller. Test it out for yourself! Download APPolo from the LYNX Technik website www.lynx-technik.com. The software includes a simulation mode and will reproduce a Series | 5000 system with all the LYNX modules. The modules will react and function in the control system as if they were real, so you can experience the power and ease of use of the APPolo application for yourself.

Go to www.lynx-technik.com and select Support > Download Area > APPolo Software

Series | 5000®

The Series | **5000** hardware is unique in terms of features, reliability, and dependability. Series | **5000** is a tried and tested solution for mission critical applications where dependability and quality counts, trusted by broadcasters worldwide for over 13 years.

We provide a broad spectrum of modules spanning all applications, from simple analog video and audio solutions to multiplexed fiber transport systems capable of moving over 54Gbit of real time bi-directional video data over a single fiber link.

All of the LYNX Technik products are designed and manufactured in Germany to the highest quality standards. Through extensive use of programmable FPGA technology, modules can be easily upgraded with the latest new features, future proofing your investment.

Our rack frames are solid, high quality, and use only the highest rated materials. We use non-magnetic stainless steel construction for strength and full safety and emissions compliance.
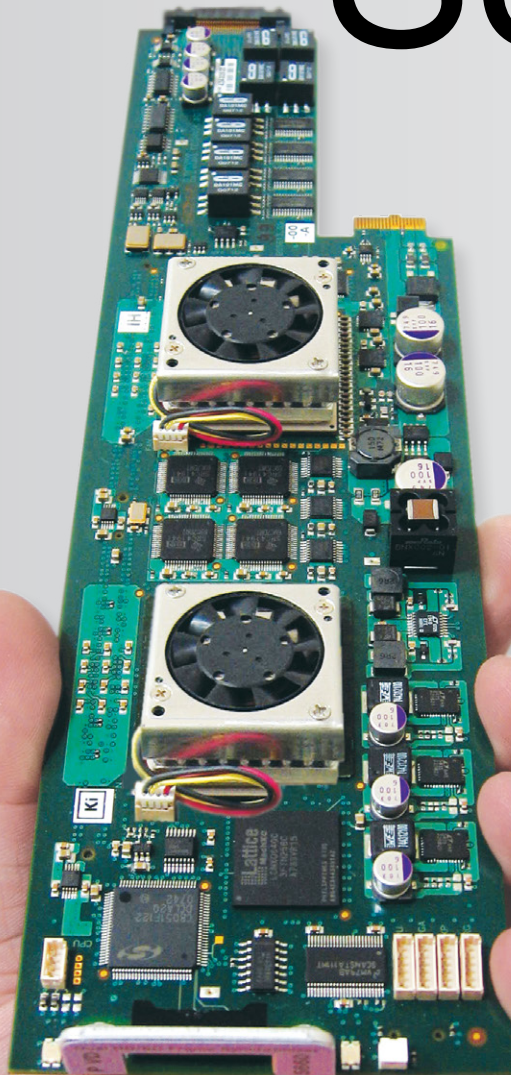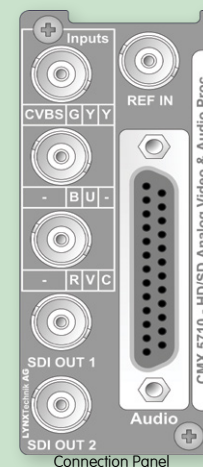
VIDEO A/D CONVERSION

HD/SD Video / Audio A/D Converter and Embedder

CMX 5710
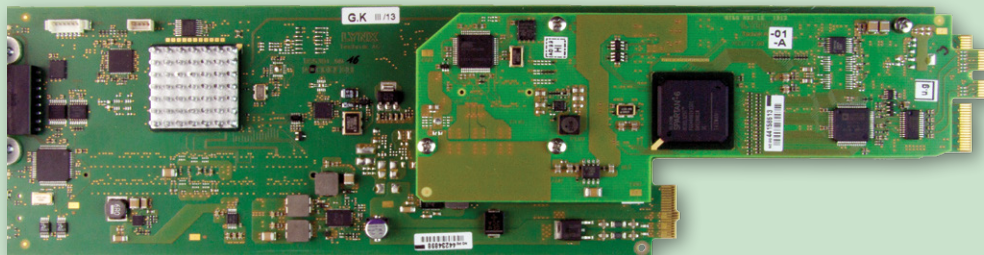
Features

- Selectable SDTV analog video inputs (CVBS / RGB / YUV / YC)
- Selectable HD analog video inputs (RGB / YUV)
- Supports 525 / 625 / 1080i / 720P SDI formats
- 59.94Hz/50Hz/60Hz operation (auto detect)
- Frame Synchronizer
- 2 x 270Mbit / 1.5Gbit SDI outputs with embedded audio
- 12 bit, 4 x (54MHz) video over sampling
- 5-line comb filter decoder
- Selectable Luma / Chroma Filters.
- Video test pattern generator with selectable patterns.
- 2 x balanced analog stereo pair inputs
- 2 x AES Ports configurable as inputs or outputs
- 24 bit audio A/D conversion
- Audio processor with adjustable gain, phase, invert and sum function plus audio shuffle
- Automatic audio timing compensation with user adjustable delay offset
- Fully featured audio embedder with 8 x 16 audio crossbar
- 62 Frame programmable video delay in frame / line / pixel increments
- Remote control, status monitoring and error reporting possible when used with the APPolo control system
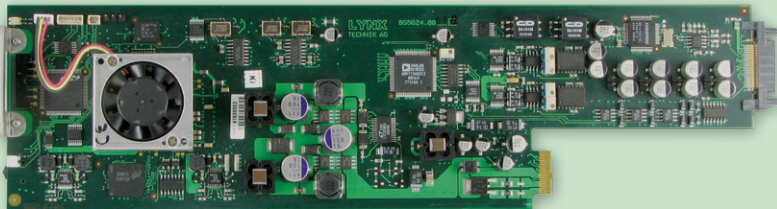- Hot Swappable

Connection Panel

Ordering Information

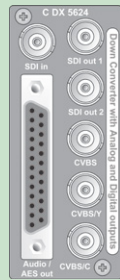| Model #	Description
C MX 5710	-HD/SD Video / Audio AD Converter and Embedder
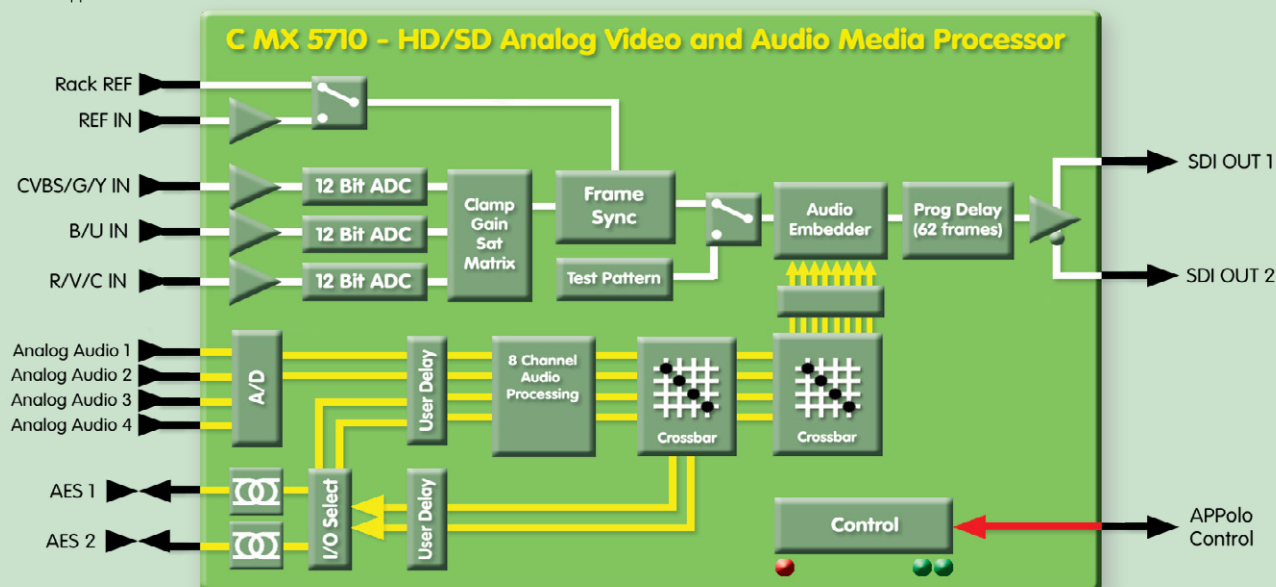
D/A AND DOWN CONVERSION

CDX 5624

### Down Converter with Analog Video and Audio Outputs

Features

- HD-SDI inputs up to 1.5Gbit
- Automatic HD input standard detection
- 10 bit signal processing throughout
- 10 bit video D/A conversion with 54MHz sampling
- Video processing amp with adjustable Gain, Saturation, Hue and Lift controls
- Composite and YC or YUV or RGB analog video outputs
- 2 x SDTV SDI outputs (or additional HD-SDI outputs)
- 709 to 601 color space conversion
- Selectable 4:3 output modes: Letterbox, Center cut, Stretch to fill
- Integrated de-embedder and embedder (16 channel)
- Audio delayed to match processing delay
- 2 x stereo pair balanced analog audio outputs
- Selectable analog Full Scale level and adjustable gain
- 2 x digital AES3 balanced outputs
- Built in matrix display with menu system for local control
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

C DX 5624

Connection Panel

Ordering Information

Model #	Description
CDX 5624	Down Converter with Analog and Digital Outputs
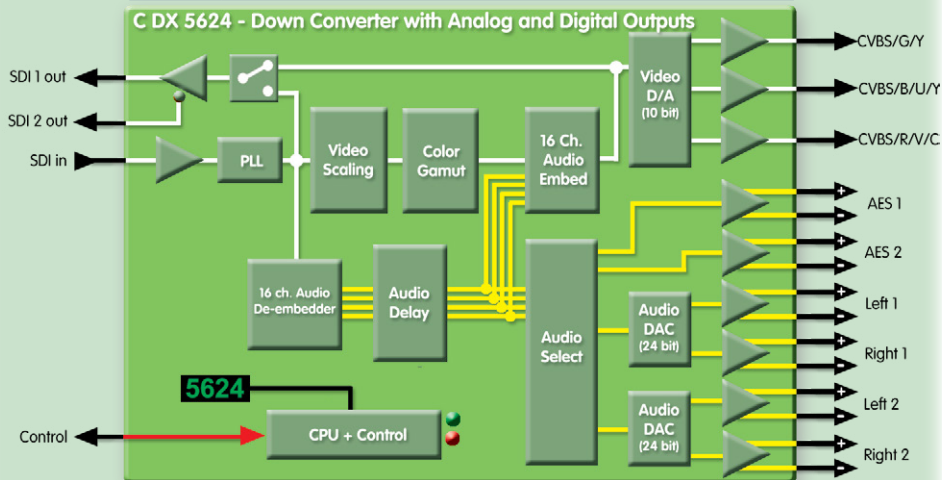
C DX 5624 - Down Converter with Analog and Digital Outputs

ANALOG VIDEO DISTRIBUTION

DVA 5718 L

SD/HD 1>8 Analog Video / Sync Distribution Amplifier

Features

- High quality 1>8 video distribution
- Wide band amplifier for both SD and HD analog video
- Also use as sync DA, for tri-level and Bi-level sync
- Passive loop through input
- Signal presence detection
- Adjustable video gain
- Adjustable Cable equalization
- Selectable input clamp. (via control system)
- Selectable AC or DC coupled inputs (via control system)
- Microprocessor controlled with internal flash ram for storing configuration.
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
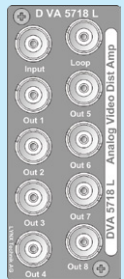
D VA 5718 L

Connection Panel

Ordering Information

Model #	Description
DVA 5718 L	SD/HD 1>8 Analog Video / Sync Distribution Amplifier

D VA 5718 L – SD/HD Analog Video Distribution Amplifier

DVA 5724

SD/HD Dual 1>4 Analog Video / Sync Distribution Amplifier
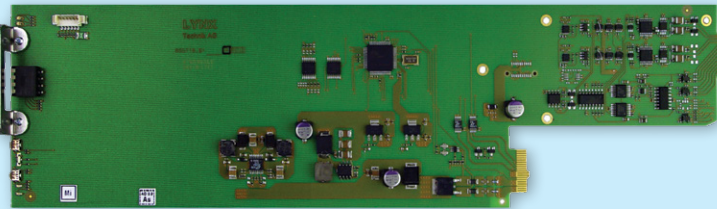
Features

- Dual channel 1 > 4 operation
- Wide band amplifier for both SD and HD analog video
- Also use as sync DA, for tri-level and Bi-level sync
- Signal presence detection
- Adjustable video gain
- Adjustable cable equalization
- Selectable input clamp (via control system)
- Selectable AC or DC coupled inputs (via control system)
- Microprocessor controlled with internal flash ram for storing configuration.
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
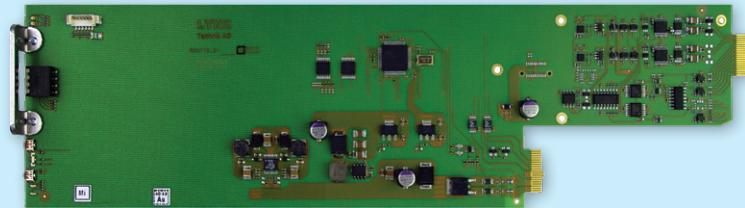- Hot swappable

Connection Panel

Ordering Information
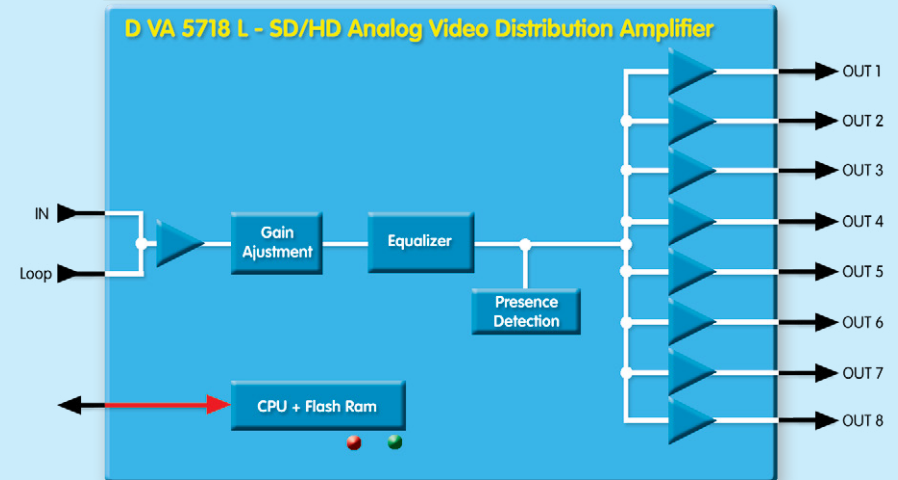
Model #	Description
DVA 5724	SD/HD Dual 1>4 Analog Video / Sync Distribution Amplifier
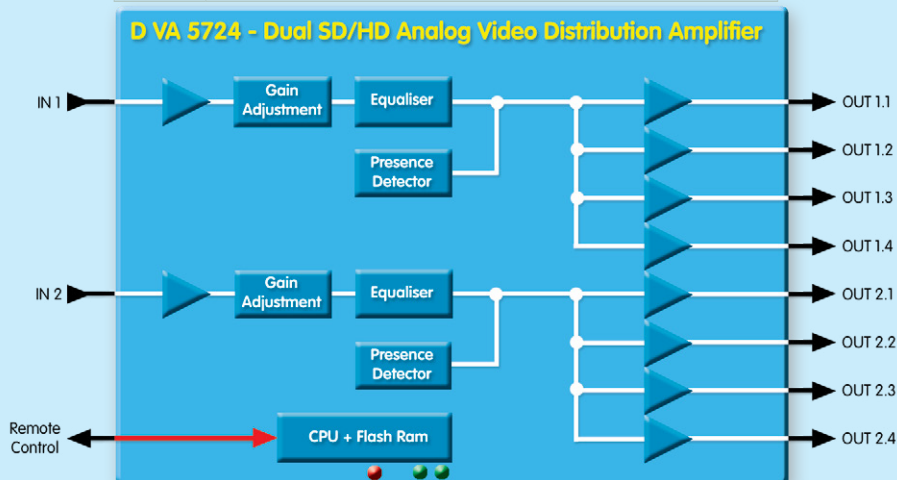
D VA 5724 - Dual SD/HD Analog Video Distribution Amplifier

DVA 5760

SD/HD 1>16 Analog Video / Sync Distribution Amplifier
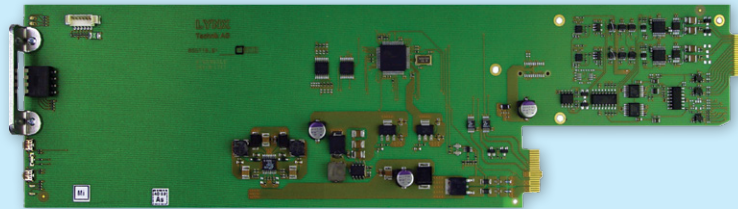
Features

- High quality 1>16 distribution amplifier
- 30MHz wide band distribution amplifier for both SD and HD analog video
- Supports SD bi-level and HD tri-level analog sync
- Passive input loop through
- Signal presence detection
- Adjustable video gain
- Adjustable cable equalization
- Selectable input clamp (via control system)
- Selectable AC or DC coupled differential inputs (via control system)
- Microprocessor controlled with internal flash ram for storing settings
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
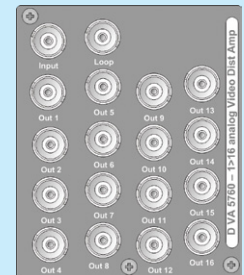
Connection Panel

Note: This module has a dual width panel
and will occupy two rack card slots.

Ordering Information

Model #	Description
DVA 5760	SD/HD 1>16 Analog Video / Sync Distribution Amplifier

D VA 5760 L - 1>16 SD/HD Analog Video / Sync Distribution Amplifier

DIGITAL VIDEO DISTRIBUTION

DVD 5810

3G/HD/SD - SDI / ASI Distribution Amplifier

Features

- Supports all SDI/ASI/DVB video formats
- Fixed 1>8 configuration
- Reclocking or non-reclocking mode (selectable)
- Auto-detect input video standard
- Transparently pass data between 15Mbit/s and 3Gbit/s in non re-clocked mode
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication
- Optional power fail relay connecting input to output
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

Connection Panel

Ordering Information

Model #	Description
DVD 5810	3G/HD/SD - SDI/ASI Distribution Amplifier
DVD 5810 R	OPTION: OH-DVD-RL2 - Mechanical Bypass Relay Option
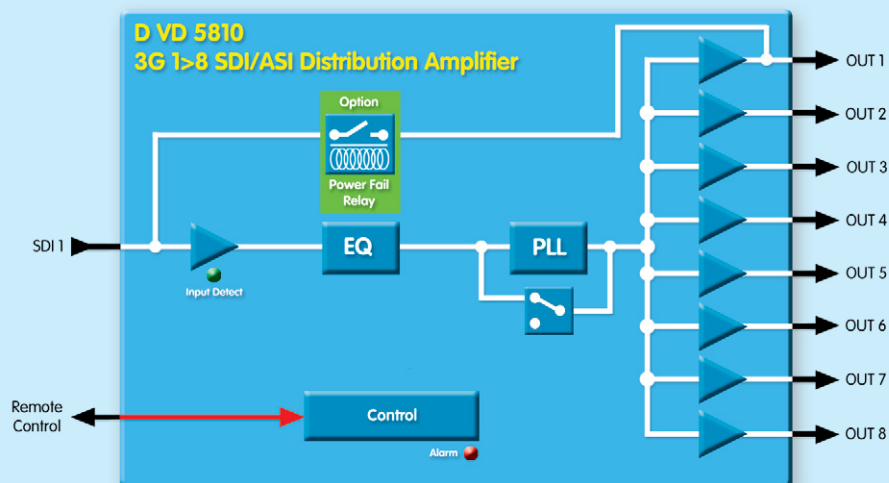
D VD 5810
3G 1>8 SDI/ASI Distribution Amplifier

DIGITAL VIDEO DISTRIBUTION

DVD 5820

3G/HD/SD - Dual SDI /ASI Distribution Amplifier
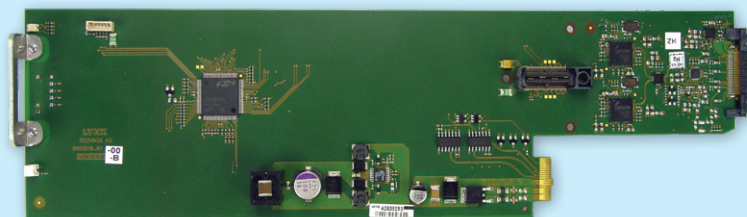
Features

- Supports all SDI/ASI/DVB video formats
- Dual channel 1>4 or flexible 1>8 mapping
- Reclocking or non-reclocking mode (selectable)
- Auto-detect input video standard
- Transparently pass data between 15Mbit/s and 3Gbit/s in non re-clocked mode
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication
- Optional power fail relay connecting input to output
- Remote control and error reporting when using APPolo control system
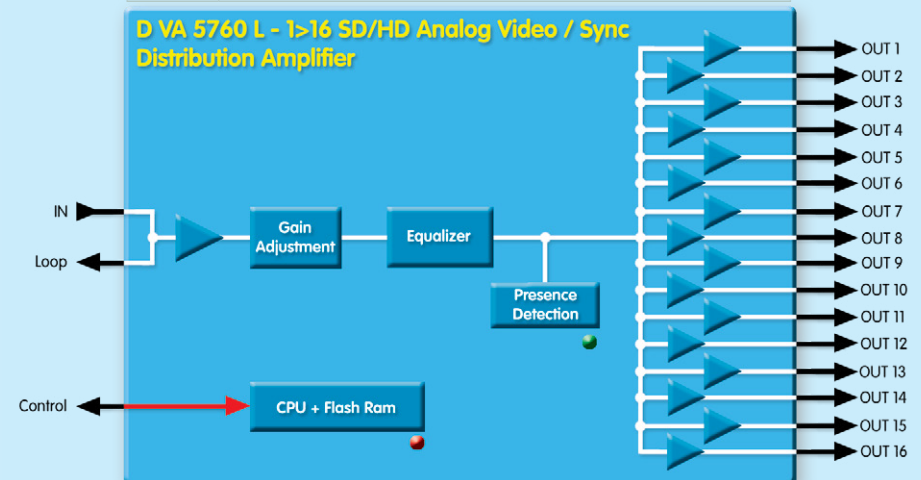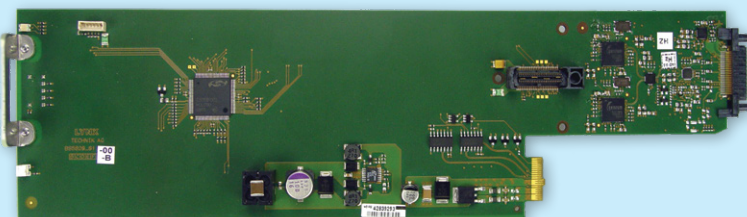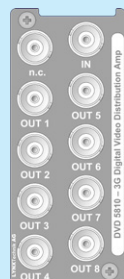- Full SNMP support when used with server option
- Hot swappable
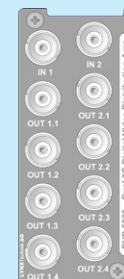
Connection Panel

Ordering Information

Model #	Description
DVD 5820	DVD 5820 3G/HD/SD - Dual SDI/ASI Distribution Amplifier
DVD 5820 R	OPTION: OH-DVD-RL2 - Mechanical Bypass Relay Option
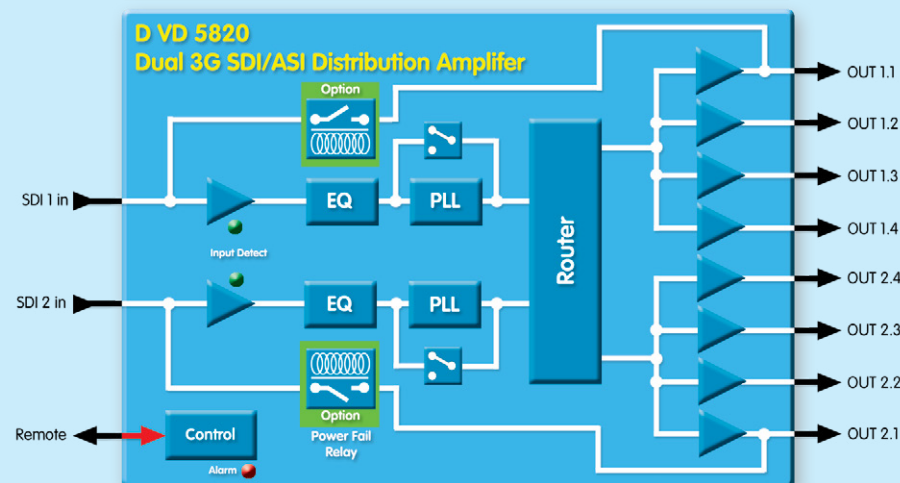
D VD 5820
Dual 3G SDI/ASI Distribution Amplifer

DIGITAL VIDEO DISTRIBUTION

DVD 5830

3G/HD/SD - Triple SDI Distribution Amplifier
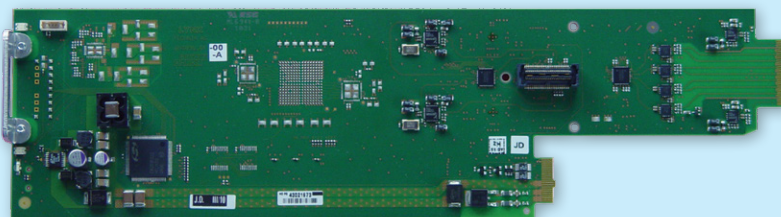
Features

- Supports all SDI video formats
- 3 x SDI inputs and 3 sets of 2 outputs (user mapped)
- Reclocking or non-reclocking mode for each channel
- Auto-detect input video standard.
- Transparently pass data between 143 Mbit/s and 3Gbit/s in non re-clocked mode
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication for each input
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
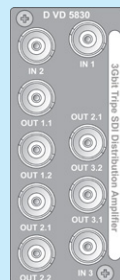
Connection Panel

Ordering Information

Model #	Description
DVD 5830	3G/HD/SD - Triple SDI Distribution Amplifier

D VD 5830 - Triple 3G SDI Distribution Amplifer
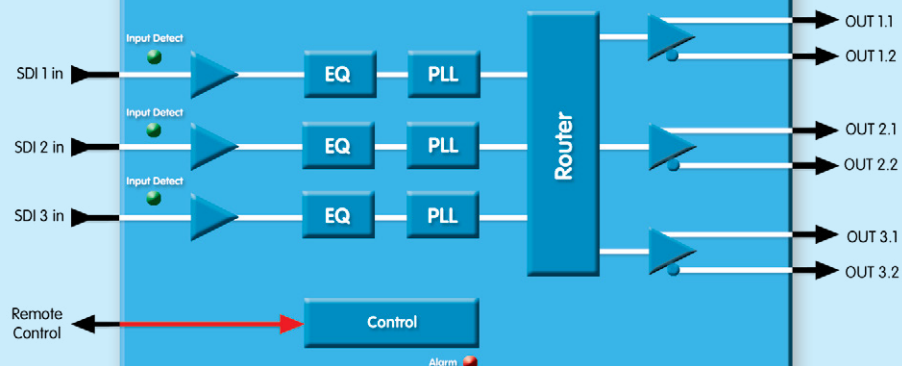
DIGITAL VIDEO DISTRIBUTION

DVD 5480 TO

Dual Channel 12G SDI Distribution Amplifier
with Single Link to Quad Link (2SI) Conversion and Optical Interfaces
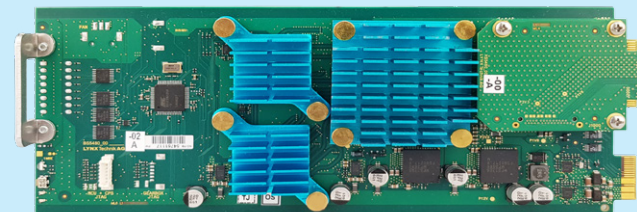
Features

- Supports 12Gbit/s on Optical inputs and outputs
- Auto-detect input video standard
- Dual Channel (2 x 1>4) or Single Channel (1>8) distribution amplifier
- 12G SDI input signals can be demultiplexed to quad link (2SI, 4x3G SDI)
- Input presence detection with LED indication
- Microprocessor controlled with internal flash ram for storing configuration
- Remote control, status monitoring and error reporting when used with Lynx APPolo control system
- Hot Swappable

Connection Panel

Ordering Information

Model #	Description
DVD 5480 TO	Dual Channel 12G SDI Distribution Amplifier with Single Link to Quad Link (2SI) Conversion And Optical Interfaces

DVD 5480 TO - Dual Channel 12G SDI Distribution Amplifier with Single Link to Quad Link (2SI) Conversion And Optical Interfaces

LYNXTechnik AG

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DIGITAL VIDEO DISTRIBUTION

DVD 5480 HO

12G SDI Distribution Amplifier
with 12G Single Link <> Quad Link (2SI) and Optical/Electrical Interfaces

Features

- Supports four 12Gbit/s SDI Optical inputs and outputs each.
- Provides four bidirectional, electrical inputs/outputs on the high density MicroBNCs
- Different operation modes:
  o 12G SDI single Link Input signal can be demultiplexed to quad link (2SI; 4x3G SDI)
  o Quad Link (2SI) signal can be multiplexed to 12G SDI Single Link
  o 12G SDI optical signal can be distributed to four optical outputs and four electrical outputs
  o Mixtures between the different operation modes
- Input presence detection with LED indication
- Microprocessor controlled with internal flash RAM for storing configuration
- Remote control, status monitoring and error reporting when used with Lynx APPolo Control system
- Hot swappable

Connection Panel

Ordering Information

Model #	Description
DVD 5480 HO	12G SDI Distribution Amplifier with 12G Single Link <> Quad Link (2SI) and optical/electrical Interfaces

DVD 5480 HO - 12G SDI Distribution Amplifier with 12G Single Link <> Quad Link (2SI) and Optical/Electrical Interfaces

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DIGITAL VIDEO DISTRIBUTION

DVD 5480 H

12G SDI Distribution Amplifier
with 12G Single Link <> Quad Link (2SI) Conversion - High Density BNC connectors

Features

- Supports six bidirectional electrical inputs/outputs with additional two input and four output electrical interfaces.
- Several applications:
  o Dual 12G SDI single link input signal can be demultiplexed to quad link (2SI) independently
  o Dual Quad link 3G SDI (2SI) signals can be multiplexed to 12G SDI Single link independently
  o One 12G SDI signal can be distributed to ten electrical outputs
  o Mixtures between the different operation modes
- Incoming and outgoing 12G SDI signals are reclocked.
- Input presence detection with LED indication
- Microprocessor controlled with internal flash RAM for storing configuration
- Remote control, status monitoring and error reporting when used with LYNX Appolo Control System
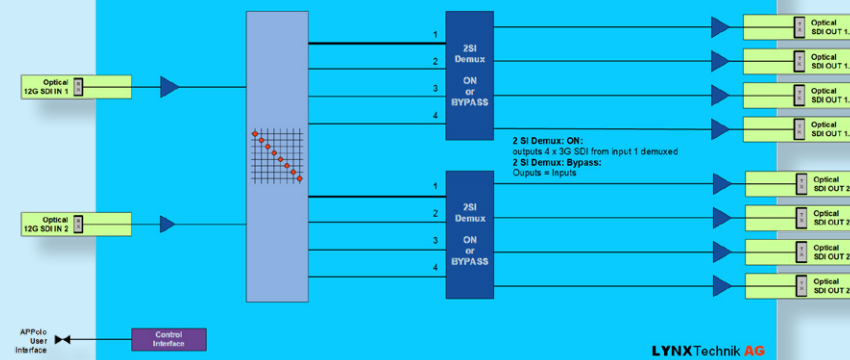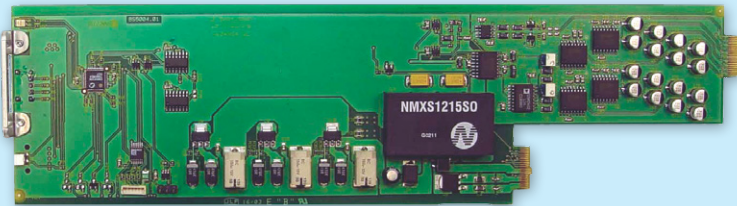- Hot swappable

Connection Panel

Ordering Information

Model #	Description
DVD 5480 H	12G SDI Distribution Amplifier with 12G Single Link <> Quad Link (2SI) Conversion - High Density BNC connectors

D VD 5480 H – 12G SDI Distribution Amplifier with High Density BNC connectors

DAA 5320

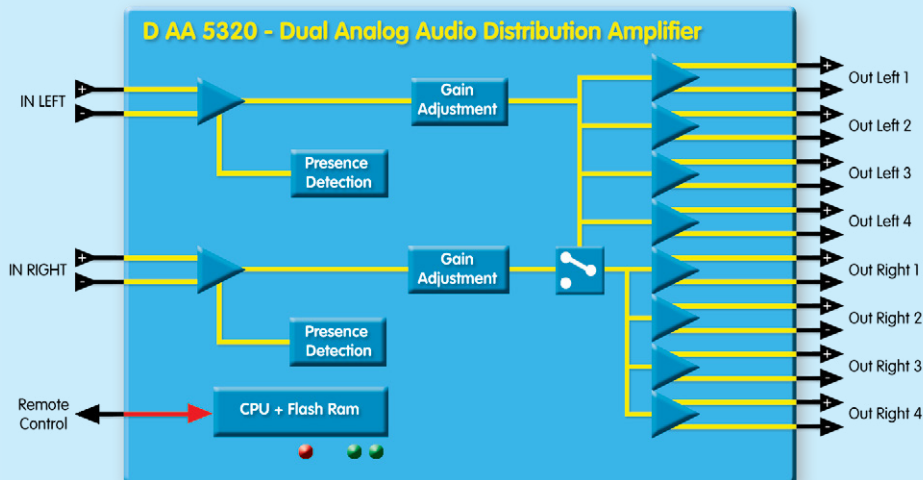## Dual Analog Audio Distribution Amplifier

Features

- Dual 1>4 (stereo) or single 1>8 (mono) modes
- Balanced analog audio inputs and outputs
- Input presence detection
- Independently adjustable gain for each input channel
- Two backplane options - screw terminal (Weco) or Sub D
- Microprocessor controlled with internal flash RAM for storing configurations
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
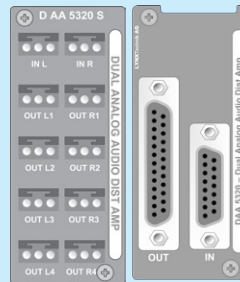
DAA 5320 S   DAA 5320 D

Connection Panel Options

Ordering Information

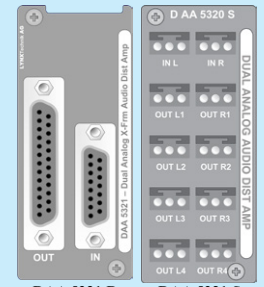| Model #	Description
DAA 5320 D	Dual Analog Audio Distribution Amplifier (Sub D Connectors)
DAA 5320 S	Dual Analog Audio Distribution Amplifier (Weco Single Jack Connectors)

DAA 5321

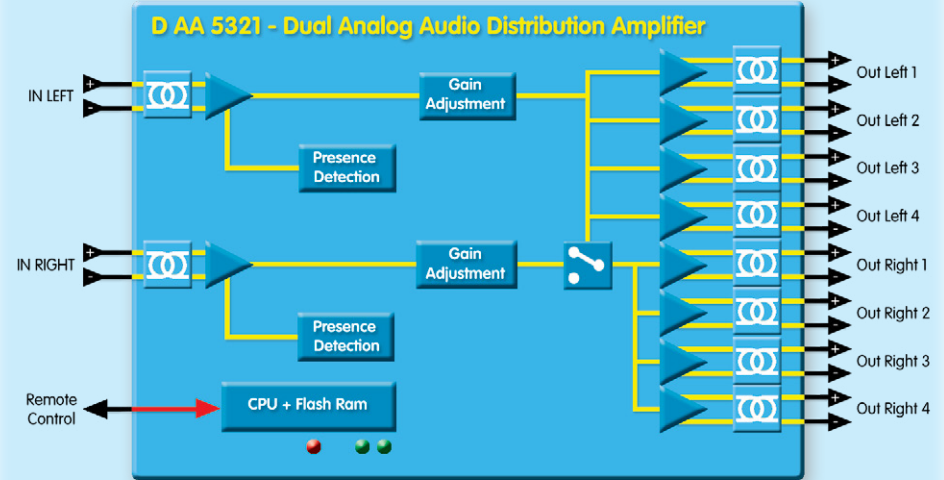## Dual Analog Audio Distribution Amplifier - Fully isolated

Features

- Dual 1>4 (stereo) or single 1>8 (mono) modes
- Balanced analog audio inputs and outputs
- All audio inputs and outputs isolated using high quality audio transformers
- Input presence detection
- Independently adjustable gain for each input channel
- Two backplane options - screw terminal (Weco) or SubD
- Microprocessor controlled with internal flash RAM for storing configurations
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

DAA 5321 D   DAA 5321 S

Connection Panel Options
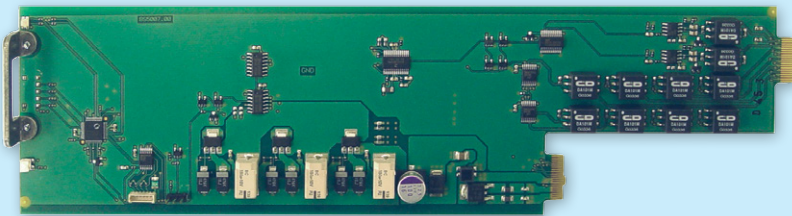
Ordering Information

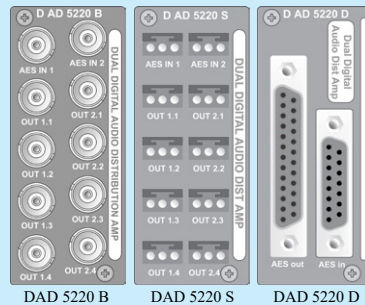| Model #	Description
DAA 5321 D	Dual Analog Audio Distribution Amplifier (SubD connections)
DAA 5321 S	Dual Analog Audio Distribution Amplifier (Single Jack Weco Connectors)

DAD 5220

### Dual AES Digital Audio Distribution Amplifier

Features

- Dual 1>4 or single 1>8 modes
- AES digital audio distribution amplifier
- Non-reclocking
- Signal presence detection
- Supports sample rates between 32KHz and 108KHz (Independent for each input channel)
- Fully isolated transformer coupled inputs and outputs.
- Three choices of back panel (balanced or unbalanced AES)
- Internal flash RAM for storing configurations
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

DAD 5220 B   DAD 5220 S   DAD 5220 D

Connection Panel Options

Ordering Information

Model #	Description
DAD 5220 B	Dual AES Audio Distribution Amplifier (BNC Connections for unbalanced AES3id)
DAD 5220 D	Dual AES Audio Distribution Amplifier (SubD Connections for balanced AES3)
DAD 5220 S	Dual AES Audio Distribution Amplifier (Weco Single Jack Connections for balanced AES3)

D AD 5220 - Dual Digital Audio Distribution Amplifier

DAD 5220 WCB
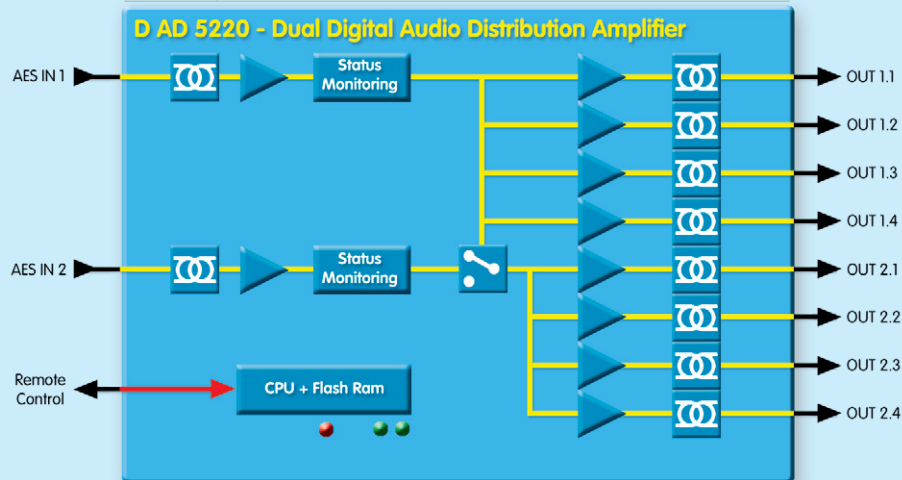
Dual Word Clock Distribution Amplifier

Features

- Word Clock (48KHz) distribution amplifier
- Dual 1>4 or Single 1>8 modes
- Signal presence detection
- Supports clock signals between 32KHz and 108KHz (Independent for each input channel)
- 5v TTL level outputs
- Fully isolated transformer coupled inputs
- Microprocessor controlled with internal flash RAM for storing configuration
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
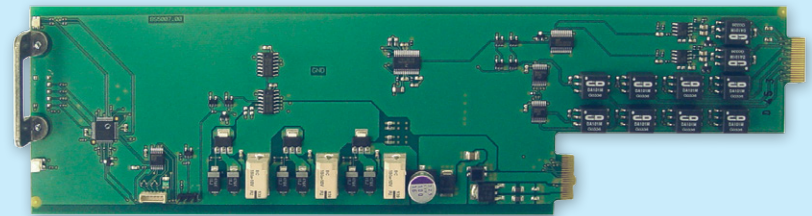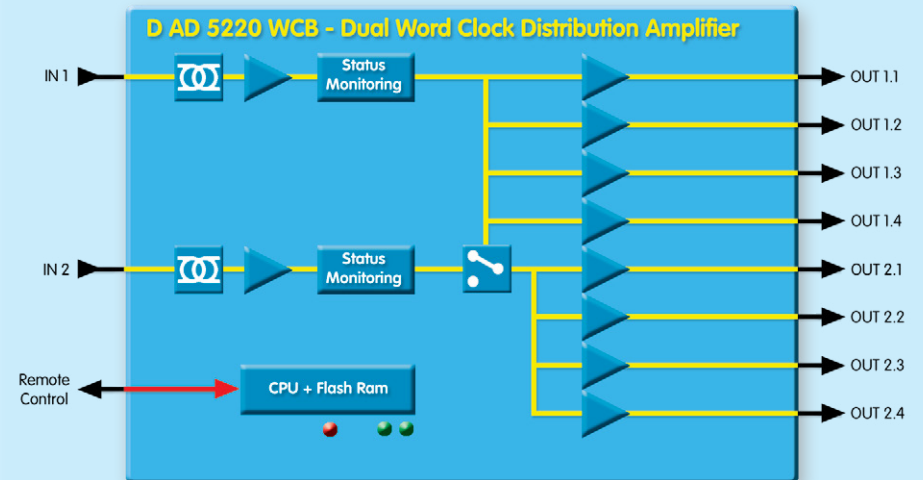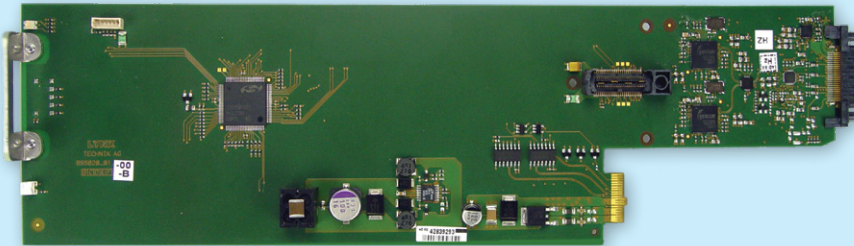- Hot swappable

Connection Panel

Ordering Information

Model #	Description
DAD 5220	WCB Dual Word Clock Distribution Amplifier

D AD 5220 WCB - Dual Word Clock Distribution Amplifier

DIGITAL VIDEO SWITCHING

SVD 5812

3G/HD/SD - SDI/ASI 2 Channel Changeover Switch

The S VD 5812 is a 2 channel changeover switch which can be automatically triggered when an input fails or manually triggered. Fully compatible with SDI / DVB-ASI and SMPTE 310 signals up to 3Gbits/s. This module is ideally suited for demanding multiformat broadcast and professional video applications.

In re-clocked mode the module will auto-detect the connected video standard. When set to non re-clocked mode the module will transparently pass data from 15Mbit/s to 3Gbit/s.

The switch can be configured to switch manually from a external GPI input trigger or from the control system GUI. When configured for emergency switching the module will automatically
switch when a designated input fails. This can be set to latch permanently or switch back automatically when main input returns. A GPO output trigger is provided when the emergency switch operates.

Optional mechanical relay will connect inputs to outputs in the event of a power failure.

Local control capability is provided via the integrated dip switch. Remote control, status monitoring and error reporting is possible when using the LYNX Technik control system.

Features

- Supports SDI/ASI/DVB inputs up to 3Gbit/s
- 2 x Inputs and 2 sets of switched outputs
- Inputs can be reclocked or non-reclocked
- Auto-detect input video standard
- Manual switching from external GPI trigger or from control system GUI
- Automatic emergency switching when designated input fails
- Select latch or automatic return when main input returns
- GPO output trigger provided when switch operates
- Pass data between 15Mbit/s and 3Gbit/s in non- reclocked mode.
- Input presence detection with LED indicators
- Optional power fail relay connecting inputs to outputs
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
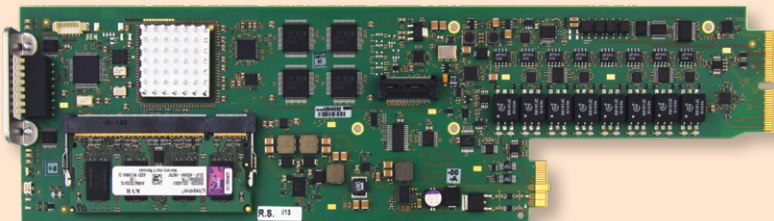- Hot swappable

Ordering Information

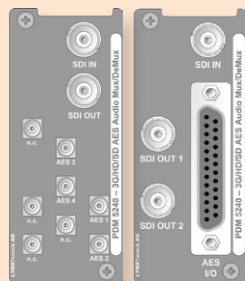| Model #	Description
SVD 5812	3G/HD/SD - SDI/ASI 2 Channel Changeover Switch
SVD 5812 R	OPTION: OH-DVD-RL2 - Mechanical Bypass Relay Option
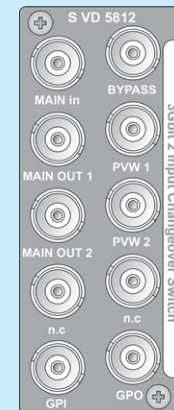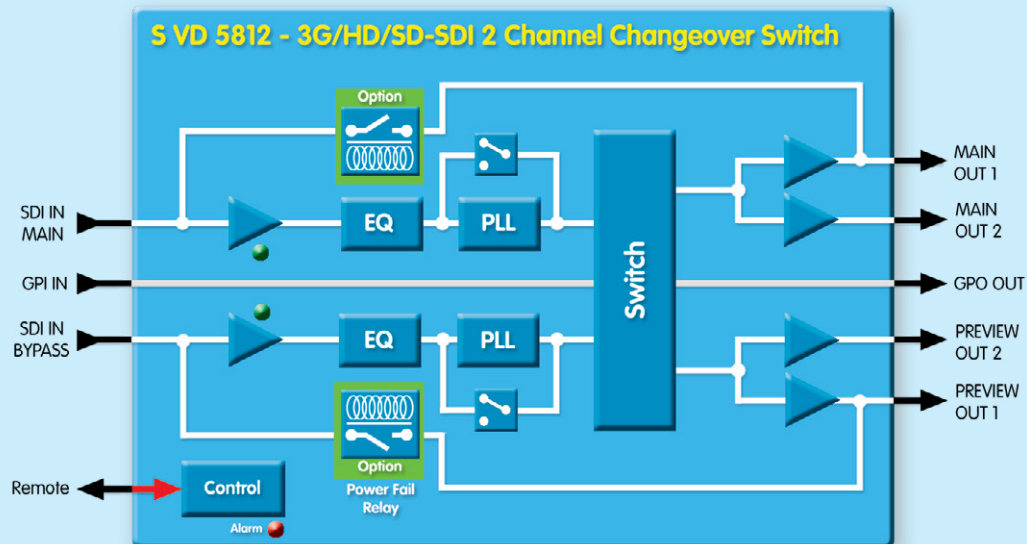
Connection Panel

AUDIO EMBEDDING / DE-EMBEDDING

PDM 5240

3G/HD/SD - 8 Channel AES Embedder / De-embedder

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Switch between 8 channel embedder or de-embedder or combination of both
- 24 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown plus overload and silence detection
- 24 x 16 mono crossbar for embedder assignment
- 24 x 8 mono crossbar for external outputs
- Two versions available for balanced and unbalanced AES
- All external audio inputs / outputs are transformer coupled
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

PDM 5240 U   PDM 5240 D
Connection Panel Options

Ordering Information

Model #	Description
PDM 5240 U	3G/HD/SD - 8 Channel Audio Embedder / De-embedder (MiniDIN unbalanced AES)
PDM 5240 D	3G/HD/SD - 8 Channel Audio Embedder / De-embedder (SubD - balanced AES)

P DM 5240 U/D – 3G/HD/SD - 8 Channel AES Audio Embedder / De-embedder

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AUDIO EMBEDDING / DE-EMBEDDING

PDM 5280

3G/HD/SD - 16 Channel AES Embedder / De-embedder
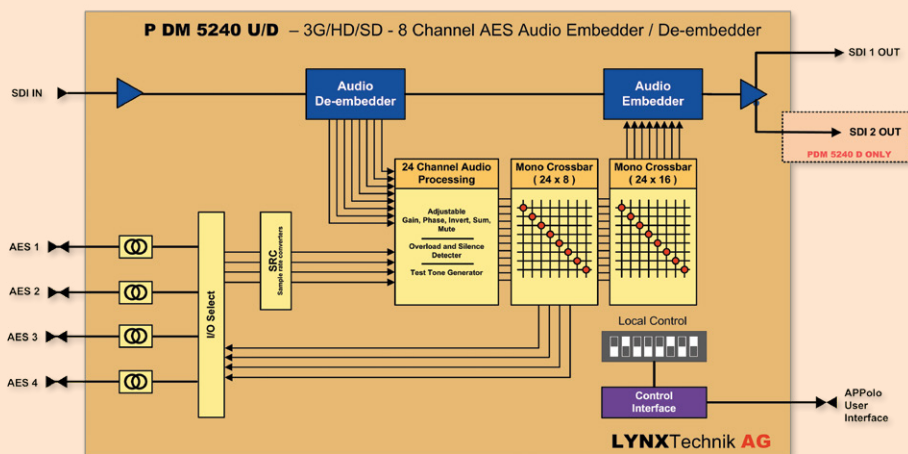
Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Switch between 16 channel embedder or de-embedder or combination of both
- 32 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown plus overload and silence detection
- 32 x 32 mono output crossbar for embedder and external audio channel assignment
- Selectable "Auto Pattern Function" with no input video the module will embed audio in a selectable test pattern
- DolbyE Synchronizer to maintain Guard Band
- Up to 62 frames of programmable delay
- Up to 10 seconds audio delay (total)
- Two versions available for balanced and unbalanced AES
- All external audio inputs / outputs are transformer coupled
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

PDM 5280 U   PDM 5280 D
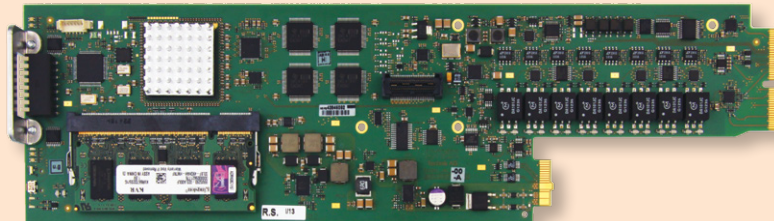Connection Panel Options

Ordering Information

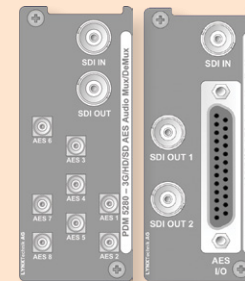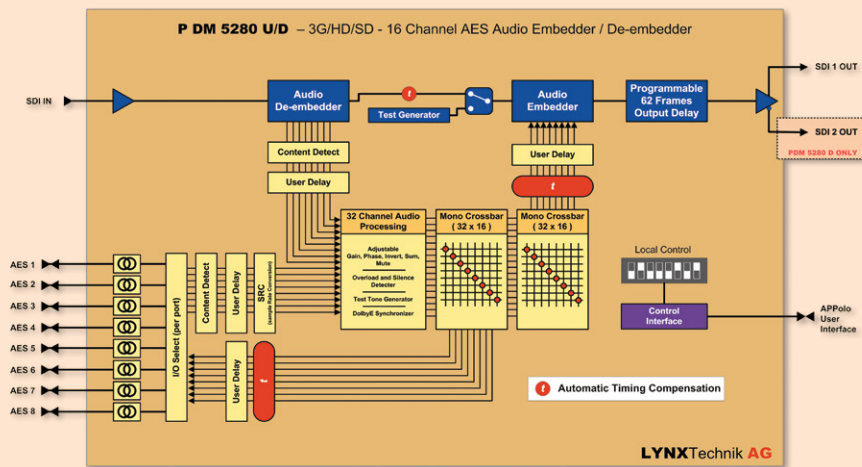| Model #	Description
PDM 5280 U	3G/HD/SD - 16 Channel Audio Embedder / De-embedder (MiniDIN unbalanced AES)
PDM 5280 D	3G/HD/SD - 16 Channel Audio Embedder / De-embedder (SubD - balanced AES)

P DM 5280 U/D – 3G/HD/SD - 16 Channel AES Audio Embedder / De-embedder

AUDIO EMBEDDING / DE-EMBEDDING

PDM 5340

3G/HD/SD - 4 Ch. Analog Audio Embedder / De-embedder
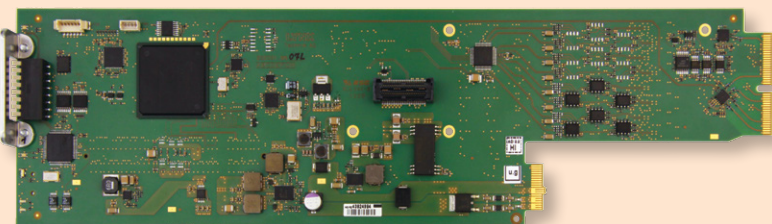
Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Switch between 4 channel analog audio embedder or de-embedder
- 20 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown. Also provides overload and silence detection
- 20 x 4 mono output crossbar for external audio channel assignment
- 20 x 16 mono crossbar for embedder audio assignments
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

Connection Panel

Ordering Information

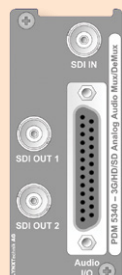| Model #	Description
PDM 5340	3G/HD/SD - 4 Channel Analog Audio Embedder / De-embedder

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AUDIO EMBEDDING / DE-EMBEDDING

PDM 5380

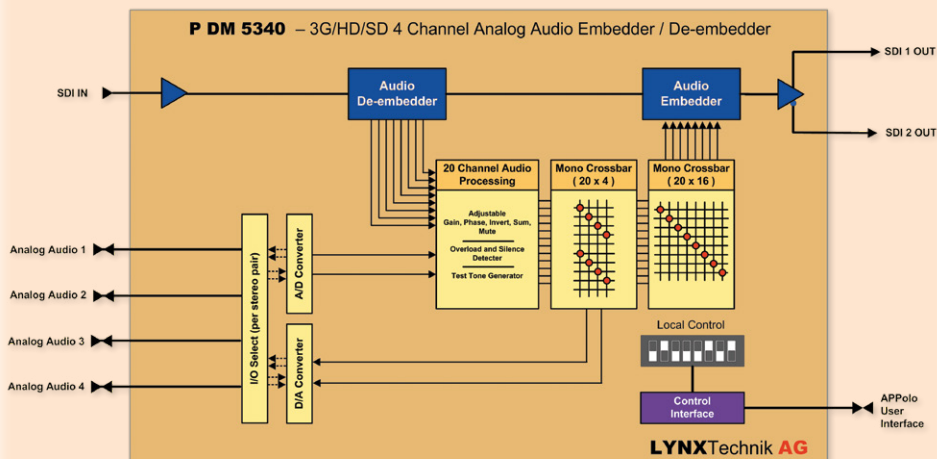### 3G/HD/SD - 8 Ch. Analog Audio Embedder / De-embedder

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Switch between 8 channel analog audio embedder or de-embedder
- 24 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown. Also provides overload and silence detection.
- 24 x 24 mono output crossbar for embedder and external audio channel assignment.
- Selectable "Auto Pattern Function" with no input video - the module will embed audio in a selectable test pattern.
- Up to 62 frames of programmable delay.
- Up to 10 seconds of audio delay (total).
- Embed or de-embed Timecode using two of the audio inputs if needed.
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
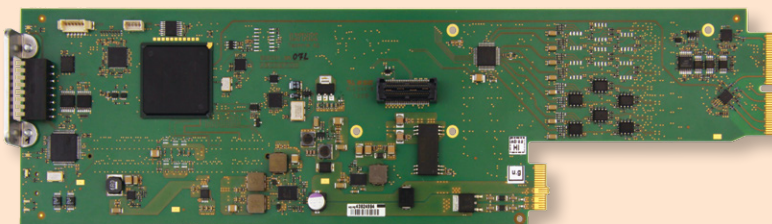- Hot swappable

Connection Panel

Ordering Information

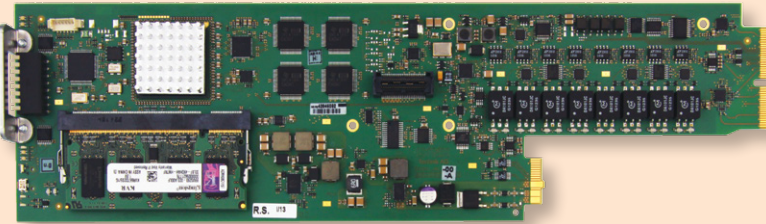| Model #	Description
PDM 5380	3G/HD/SD - 8 Channel Analog Audio Embedder / De-embedder
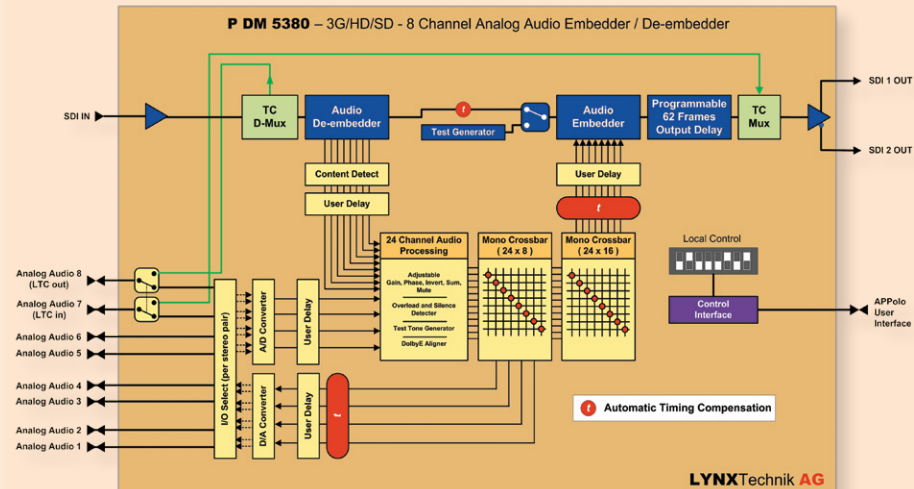
AUDIO / METADATA EMBEDDING / DE-EMBEDDING - SHUFFLEMAX II

PDM 5290

3G/HD/SD - AES Audio and Metadata Embedder and De-Embedder

SHUFFLEMAX II

Managing multi-channel audio, metadata as well as audio / video delays in a modern digital multi-format video infrastructure can be an overwhelming and complex task.

To address these issues, LYNX Technik has developed *SHUFFLEMAX II*, a single, affordable card module for the Series 5000 product line.

SHUFFLEMAX II is primarily an audio and metadata embedder plus de-embedder with powerful internal shuffling functionality. Additional functions include: audio processing, DolbyE synchronization and programmable AV delays. Making it ideal for many applications.

Ordering Information

| Model #	Description
PDM 5290 U	3G/HD/SD - SHUFFLEMAX II Audio and Metadata Embedder / De-embedder (MiniDIN unbalanced AES)
PDM 5290 D	3G/HD/SD - SHUFFLEMAX II Audio and Metadata Embedder / De-embedder (SubD - balanced AES)

Features

- Auto detecting multi-format SDI support for SD/HD/3G
- 8 external AES inputs or outputs – individually assigned
- Transformer coupled audio I/O
- Balanced AES3 or unbalanced AES3id versions available
- 16 channel AES audio embedder / de-embedder
- Delete, overwrite, extract, re-map, process or pass audio transparently
- "Auto Test" uses a selectable internal test pattern if the SDI input is not present
- 2 internal mono crossbars for complete audio mapping control
- Auto detect audio format, PCM or encoded (DolbyE)
- 8 selectable sample rate converters for external AES inputs
- Automatic timing compensation to maintain audio I/O timing accuracy
- User adjustable timing offsets for each AES channel – four sets provided
- DolbyE synchronizer – SMPTE 2020 Metadata sub-frames alignment to rack reference
- 32 channel audio processing stage with individual adjustments for:
  - > Gain
  - > Phase (0-180°)
  - > Invert
  - > Mute
  - > Sum (left + right)

- 32 channels of overload and silence detection
- External Metadata I/O port
- Embed and de-embed Metadata
- Visualize all ANC packets for both HANC and VANC, includes;
  - > Timecode ATC-LTC, ATC-VITC and D-VITC
  - > SMPTE 2020 audio Metadata
  - > GPI/GPO signaling in Metadata
  - > Any other ANC data present
- Support for AFD / WSS / VI and Closed Caption Metadata via APPolo control system
- Metadata can be extracted, replaced or passed transparently
- Extract or insert LTC timecode from external I/O connection
- Extract or insert SMPTE 2020 Audio Metadata using external RS 422 port
- Extract or insert up to 2 GPI / GPO (relay) triggers in Metadata
- Programmable 62 frame video delay, in frames / lines / pixels or milliseconds
- Powerful, intuitive user interface using APPolo control system
- All settings automatically stored in module's flash RAM
- Selectable timecode burn in on SDI output
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

PDM 5290 U   PDM 5290 D

Connection Panel Options

P DM 5290 U/D – SHUFFLEMAX II Audio and Metadata Embedder / De- Embedder

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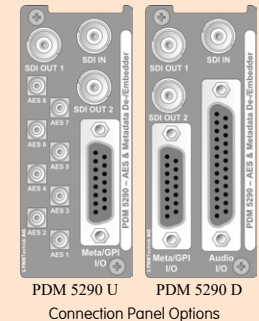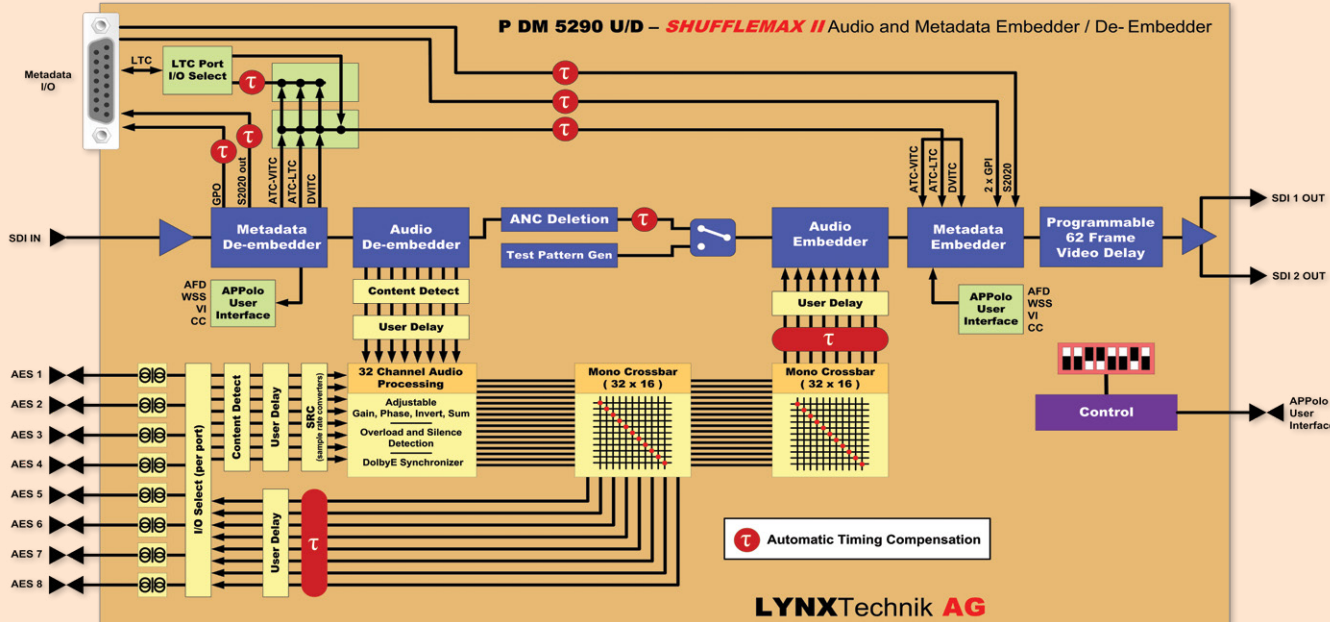
Selectable Timecode Burn In
Display up to 4 timecode values
Position anywhere on screen

AUDIO PROCESSING

PDA 5280

3G/HD/SD - Digital Audio Processor and Dolby Transcoder

Features

- Dolby Digital and Dolby Digital Plus encoding of 2.0 PCM or DolbyE input signals
- Supports SD/HD and 3GBit/s standards (auto-detect)
- Video Frame Synchronizer
- Individually configured ports as inputs or outputs
- Existing embedded audio can be de-embedded
- Delete, replace or shuffle existing embedded audio
- Mono audio crossbar
- 32 Channel audio processing (mono gain, test tone, mute, phase invert, mix, overload and silence detection)
- Up to 62 frames of programmable video delay in frame, line and pixel increments
- Up to 10 seconds of programmable audio delay in individual audio sample increments
- Embedded audio group selection
- Audio embedded into test pattern if no SDI input present
- Selectable Horizontal and Vertical Video Blanking
- Remote control and error reporting when using APPolo control system
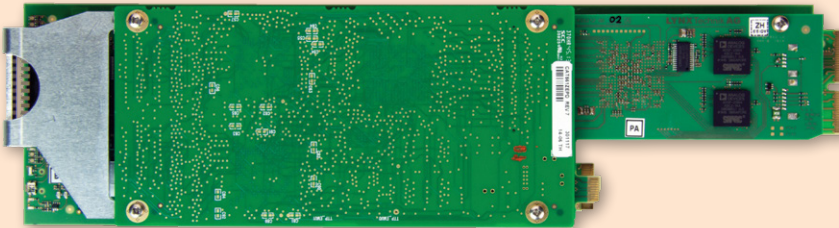- Full SNMP support when used with server option
- Hot swappable

The P DA 5280 is a fully featured DolbyE to DolbyD Transcoder with an integrated SDI frame synchronizer. The module is suitable for use with SD/HD and 3G video formats.

A DolbyE encoded audio stream can be trans-coded into a Dolby Digital or Dolby Digital Plus stream. Alternatively, a standard 2.0 PCM audio stream can be encoded into a Dolby Digital or Dolby Digital Plus stream.

32 channels of internal audio processing are provided which includes adjustable gain, phase, invert, sum and mute. Each channel also has overload and silence detection.

Ordering Information

Model #	Description
PDA 5280 U	3G/HD/SD - Digital Audio Processor and Dolby Trans-coder (MiniDIN - unbalanced AES)
PDA 5280 D	3G/HD/SD - Digital Audio Processor and Dolby Trans-coder (SubD - balanced AES)

P DA 5280 – 3G/HD/SD Dolby E to Dolby D Transcoder
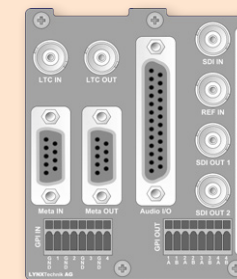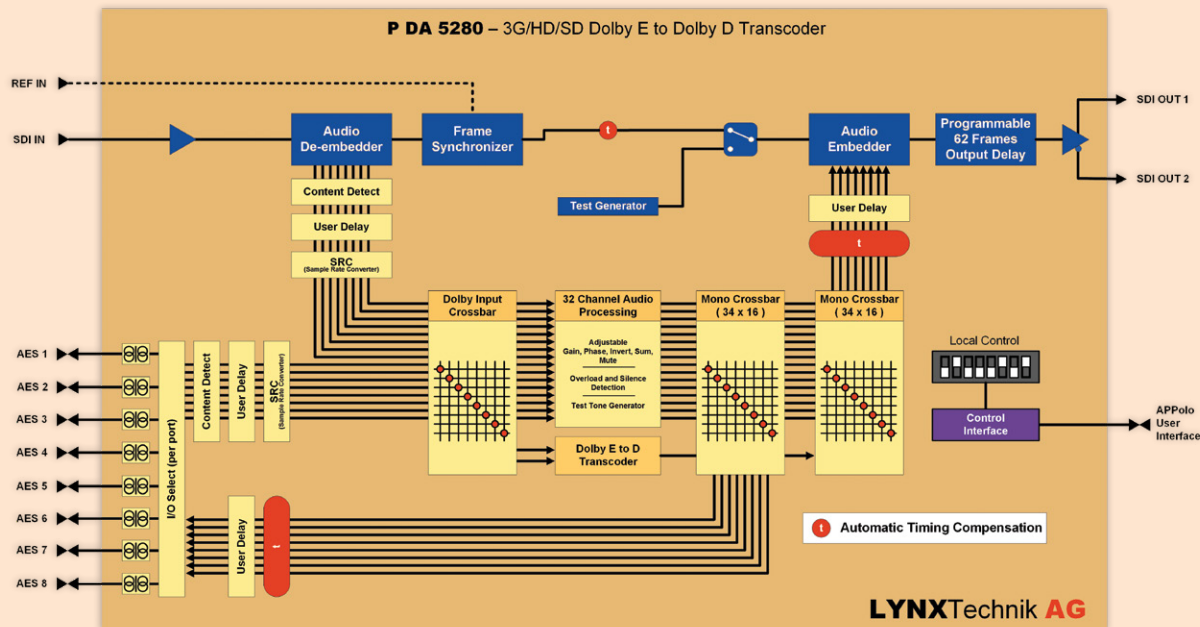
PDA 5280 D
Balanced AES3 Audio
25 pin SubD Connector
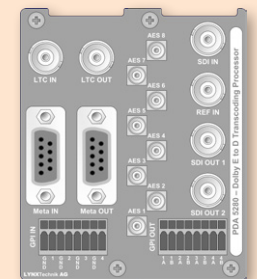
PDA 5280 U
Unbalanced AES3id Audio
MiniDin 75Ω Connectors

Connection Panel Options

LYNXTechnik **AG**

FRAME SYNCHRONIZATION

3G/HD/SD SDI Frame Synchronizer

PVD 5800

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- All 16 channels of audio de-embedded from SDI input, delayed to match video processing delay and re-embedded
- 4 x SDI outputs provided
- Integrated test pattern generator
- Auto-tracking audio delay with no "pops" or "clicks" in audio even when dropping and adding frames
- Up to 62 frames of programmable delay
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

Connection Panel

Ordering Information

Model #	Description
PVD 5800	3G/HD/SD SDI Frame Synchronizer

P VD 5800 – 3G/HD/SD Frame Synchronizer

FRAME SYNCHRONIZATION

PVD 5802

3G/HD/SD Dual Input SDI Frame Synchronizer

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Two SDI inputs (switchable)
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- All 16 channels of audio de-embedded from SDI input, delayed to match video processing delay and re-embedded
- 5 x SDI outputs provided
- Integrated test pattern generator
- Auto-tracking audio delay with no "pops" or "clicks" in audio even when dropping and adding frames
- Up to 62 frames of programmable delay
- 2 external GPI inputs, with choice of connector
- Remote control, status monitoring and error reporting possible with LYNX APPolo control system
- Full SNMP support when used with APPolo control system
- Hot swappable

PVD 5802   PVD 5802 S

Connection Panel Options

Ordering Information

Model #	Description
PVD 5802	3G/HD/SD SDI Frame Synchronizer (GPI on Terminal Strip)
PVD 5802 S	3G/HD/SD Frame Synchronizer (GPI on Weco connectors)

FRAME SYNCHRONIZATION

PVD 5810

3G/HD/SD SDI Frame Sync + Audio Processing
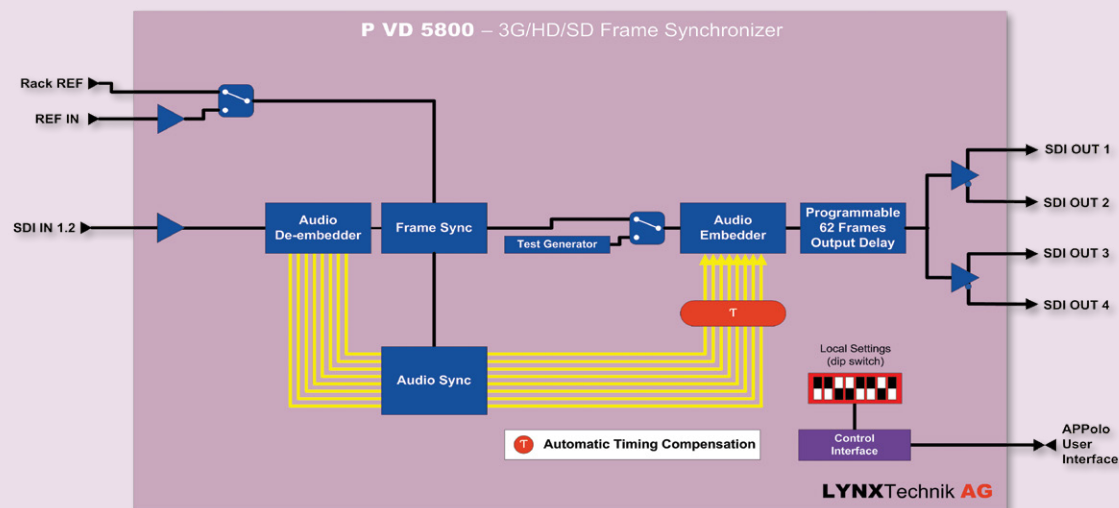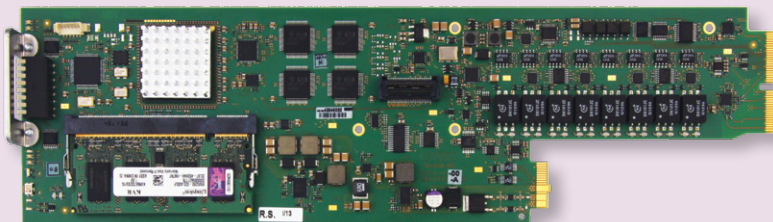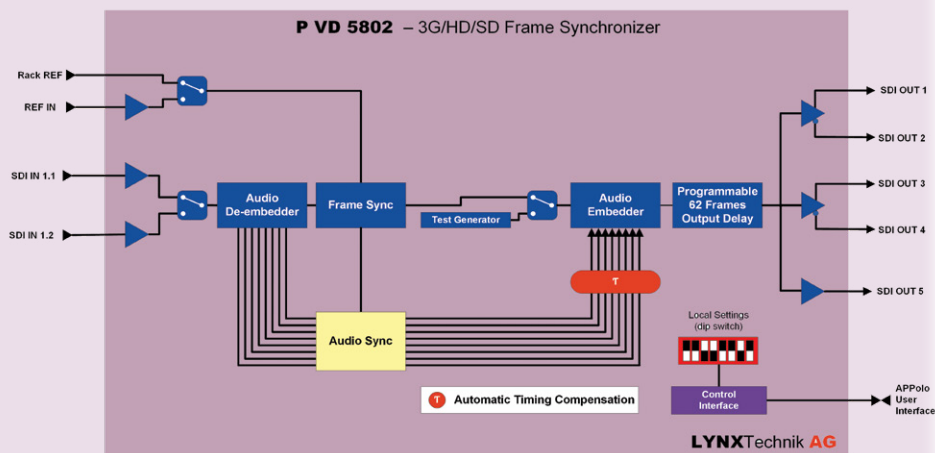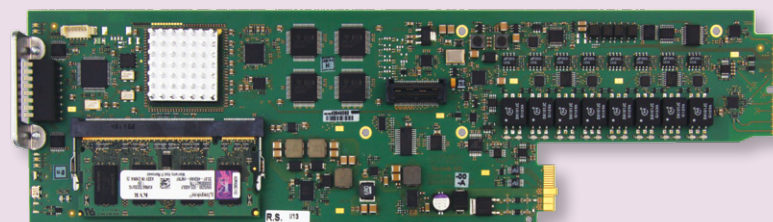

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- All 16 channels of audio de-embedded from SDI input
- 32 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown plus overload and silence detection
- 32 x 32 mono output crossbar for embedder and external audio channel assignment
- Integrated test pattern generator
- Auto-tracking audio delay with no "pops" or "clicks" in audio even when dropping and adding frames
- DolbyE Synchronizer to maintain guard band
- Up to 62 frames of programmable delay
- Two versions available for balanced and unbalanced AES
- All external audio inputs / outputs are transformer coupled
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
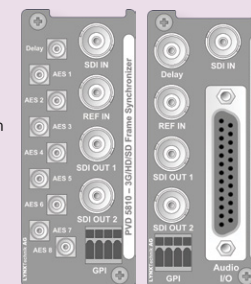
PVD 5810 U   PVD 5810 D

Connection Panel Options

Ordering Information

Model #	Description
PVD 5810 U	3G/HD/SD SDI Frame Synchronizer + Audio Processing (unbalanced AES3id on MiniDin)
PVD 5810 D	3G/HD/SD SDI Frame Synchronizer + Audio Processing (balanced AES3 on SubD)
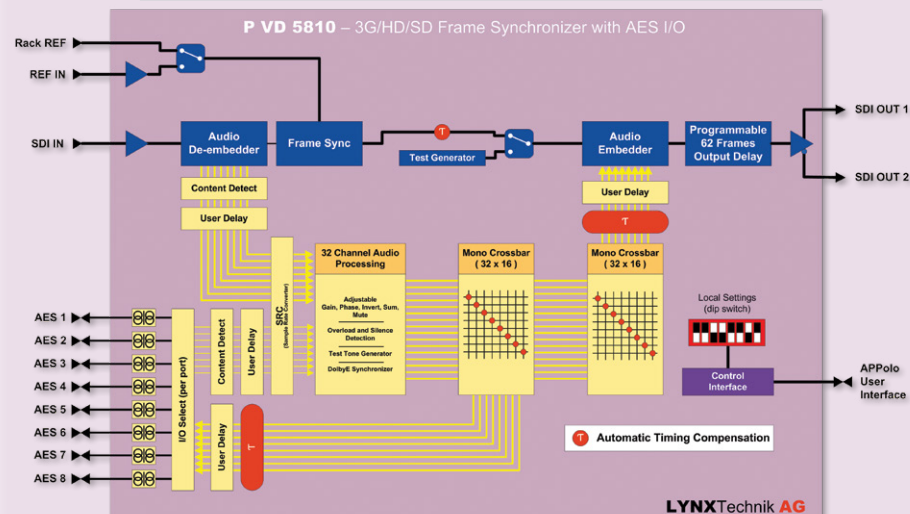
FRAME SYNCHRONIZATION

3G/HD/SD Dual Channel SDI Frame Synchronizer + Image and Audio Processing

PVD 5840 DO/UO (side title)

Note. These panels are for use in the R FR 5012 2RU Rack frame and occupy 2 rack slots

PVD 5840 DO — Balanced AES3 Audio 25 pin SubD Connector

PVD 5840 UO — Unbalanced AES3id Audio MiniDin 75Ω Connectors

Connection Panel Options

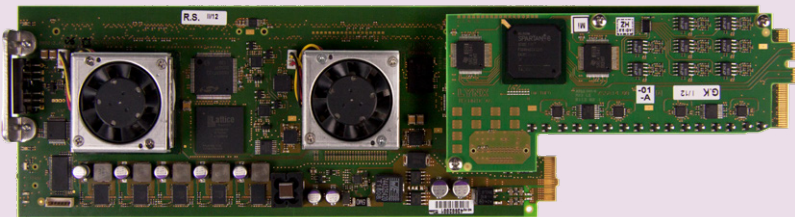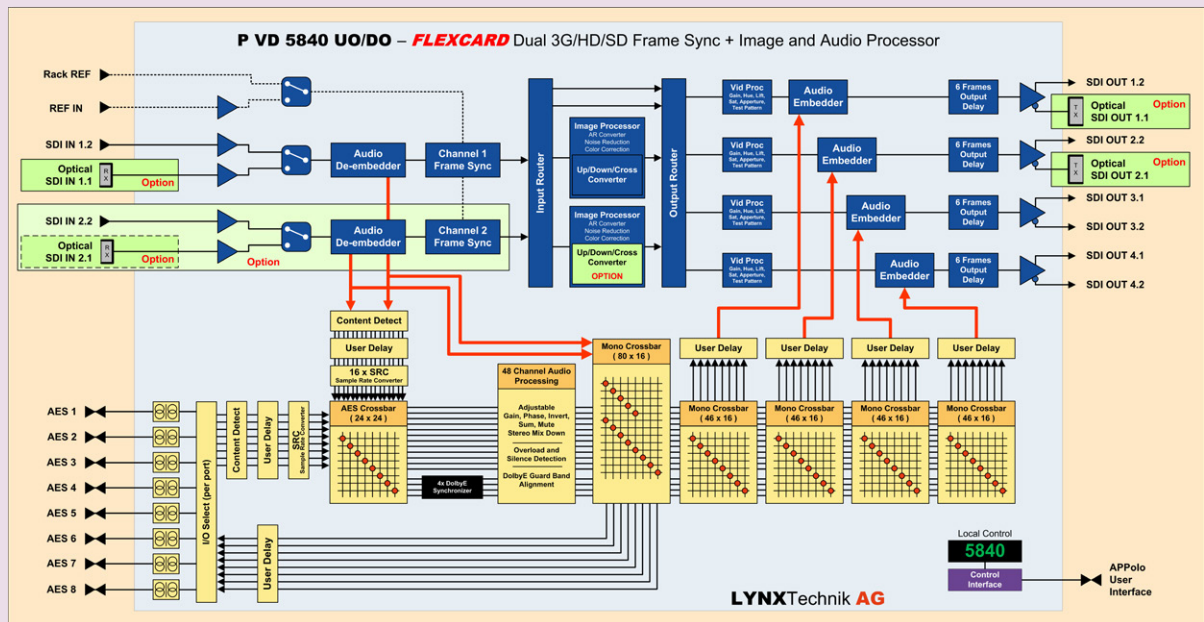**PVD 5840 DOW** - Balanced AES3 Audio 25 pin SubD Connector

Note. These panels are for use in the R FR 5041 1RU Rack frame and occupy 2 rack slots

Features

- Compact dual channel frame synchronizer
- Optional fiber I/O
- Support for SDI video formats up to 3Gbit
- Bi-level or tri-level reference input, auto detect, cross lock compatible
- Robust "flywheel" frame synchronizer functionality
- Seamless switching between input sources (with second input option)
- Integrated Image processing includes:
  - 2 channel aspect ratio converter
  - 2 channel noise reduction
  - 2 channel RGB gain and lift color correction
  - 1 channel UP/DOWN/CROSS conversion
- Firmware plug in options:
  - **OC-5840-SCND** - Second Input Option
  - **OC-5840-UPXD2** - UP/DOWN/CROSS conversion channel 2
  - **OC-5840-3G-LEVELB-DL** - Level B (DL) support and A<>B conversions
- 4 independent SDI outputs, user mapped to any internal resource
- Each output (4) has independent 10 bit digital video processing providing:
  - Adjustable gain, saturation, black level and hue
  - Adjustable aperture correction
  - Color space conversion (601 > 709 or 709 > 601)
  - Integral test pattern generator with multiple patterns
  - Adjustable output timing delay (3 frame)
- Automatically detect audio content PCM / DolbyE / compressed bitstream
- De-embed complete audio payload from each SDI input (16 channels)
- 8 x external AES inputs and / or outputs (transformer coupled)
- 24 x 24 AES audio input crossbar
- Individually selectable sample rate converters (on/off) for de-embedded audio and external audio inputs
- Selectable audio pathways through synchronizer
  - 20 x AES - Internal
  - 4 x AES - Through 4 x DolbyE synchronizers
  - 8 x AES bypass channel synchronized to SDI input 1
  - 8 x AES bypass channels synchronized to SDI input 2
- 48 channel audio processing with adjustable gain / phase / mute / sum
- 48 channel overload and silence detection
- Audio is delayed to track video synchronizer automatically
- User adjustable audio delays in multiple zones
- DolbyE synchronizers automatically maintain guard band timing
- No "pops and clicks" in audio even when frames are dropped / added
- 4 Independent output embedders (16 channel) for each output
- 4 independent 48 x 16 mono output crossbars
- 80 x 16 mono crossbar for external AES outputs
- Store 7 module user presets, and switch between four with GPI
- Two external GPI inputs, user configurable:
  - Seamless switch between inputs (with second input option)
  - Freeze input 1 (or 2 with second input option)
- AFD / WSS / VI / Closed Caption and Timecode metadata transcoding
- Remote control and error reporting when using APPolo control system
- Hot swappable

Ordering Information

Part #	Description
5155045840	PVD 5840 UO - 3G/HD/SD Dual SDI Frame Synchronizer + Audio Processing (unbalanced AES3id on MiniDin)
5155055840	PVD 5840 DO - 3G/HD/SD SDI Dual Frame Synchronizer + Audio Processing (balanced AES3 on SubD)
5155125840	PVD 5840 DOW - 3G/HD/SD SDI Dual Frame Synchronizer + Audio Processing (balanced AES3 on SubD) - For 1RU rack frame
1300000018	OC-5840-SCND - Second SDI input option for PVD 5840
1300000020	OC-5840-UPXD - Second channel high quality UP/DOWN/CROSS conversion
1300000088	OC-5840-3G-LEVELB-DL - Level B (DL) support and Leve A to Level B conversions
Fiber SFP Options	For single channel Fiber I/O chose SFP's from Tables A and C, for dual channel fiber I/O chose SFP's from Tables B and D

P VD 5840 UO/DO – **FLEXCARD** Dual 3G/HD/SD Frame Sync + Image and Audio Processor
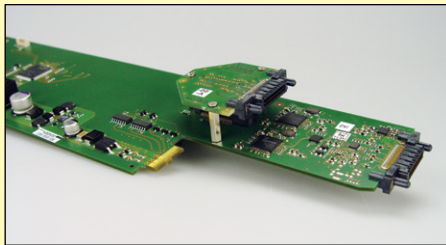
LYNXTechnik AG

FIBER SOLUTIONS

With the introduction of HDTV, 1.5Gbit, 3Gbit and now 4K bandwidth signals, the need to adopt fiber interfaces is a requirement. Fiber offers many benefits compared to copper interfaces, with the greatest advantage being distance with no degradation of signal quality. The other benefits of fiber include: sending and receiving multiple bi-directional signals over a single fiber link, zero noise or interference, and significantly less bulk. LYNX Technik has fully embraced fiber technology and offers a wide range of solutions to address fiber infrastructure design.

Fiber Implementation
A host of Series | 5000 modules now provide fiber optic I/O capability. The LYNX Technik implementation is extremely well engineered. LYNX Technik uses small, modular SFP sub-modules for fiber I/O. Adding fiber capability or changing system configurations (wavelengths) is straightforward and simple.

SFP Fiber Sub Module

Fiber Backplane Sockets on Module
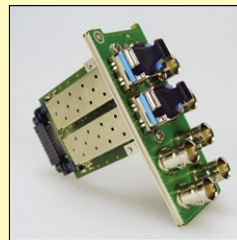
Backplane with Integrated Fiber

LYNX Technik fiber solutions are unique in that the fiber I/O is integrated into the backplane assembly. This means the module can be removed from the rack for ease of service and without disconnecting the fiber cables from the module. Other solutions on the market often have the fiber I/O directly fixed to the module and fed through the rear of the rack. When a module is removed, the delicate fiber cables are pulled, which can result in damage. There is also no requirement for fiber "service loops" on the modules found on other manufacturer's solutions.

LYNX Technik offers a full range of SFP fiber sub-modules, which range from basic non-CWDM fixed wavelength transmitters to a full range of CWDM transmitters with 18 selectable wavelengths. The solutions are ideal for simple point-to-point applications or complex multiplexed applications.

Our basic SFP modules support distances up to 10km, and our CWDM solutions support distances up to 40km or 80km.

CWDM
LYNX Technik offers comprehensive support for CWDM (Coarse Wavelength Division Multiplexing) with 18 selectable laser wavelengths as specified by ITU-T G692.2. CWDM is a process used to optically multiplex signals into a single fiber link. By selecting different wavelength fiber transmitters and using the LYNX OCM passive optical multiplexers, it is easy to configure a bi-directional CWDM fiber transmission system. Our CWDM solutions service distances up to 40km, and our long-haul transmitters and receivers are suitable for applications up to 80km.

Non-CWDM
CWDM Fiber modules use precision narrow-band lasers and therefore cost more. For simple applications that only require single point to point fiber connections, a "non-CWDM" or basic fiber SFP module is a more cost-effective solution.

Passive Fiber System Components
Working with light vs. electricity allows us to use passive optical building blocks for a fiber optic system design. Passive = no power requirements. Our solutions for fiber include optical CWDM multiplexers, splitters, and combiners. We adhere to the highest standards of superior technical performance and all of our passive fiber solutions are designed and manufactured in Germany.
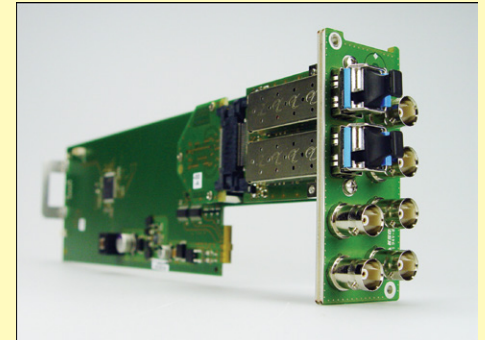
Module and Backplane with Integrated Fiber Connected

Fiber Option Selection Tables
We offer a wide range of SFP fiber options for our modules which include fiber support in this section of the catalog. The module listings will refer to the tables shown on the next page for the selection of the appropriate SFP fiber option.

Table A - Single Channel SDI Fiber Optic SFP Transmitters

Basic Fiber		TX power : -5dBm
OH-TX-1-LC /SC /ST	Single Optical Transmitter (TX) SFP Module - 1310nm - (non CWDM) - LC /SC /ST connectors - 10km	
OH-TX-0-850-MM	Single Optical Transmitter (TX) SFP Module - Multimode - 850nm - LC connectors - 300m	
CWDM Fiber (40km)	CWDM Fiber (80km)	40km TX power : -1dBm 80km TX power : +3dBm
OH-TX-4-1270-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1270nm - LC connectors
OH-TX-4-1290-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1290nm - LC connectors
OH-TX-4-1310-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1310nm - LC connectors
OH-TX-4-1330-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1330nm - LC connectors
OH-TX-4-1350-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1350nm - LC connectors
OH-TX-4-1370-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1370nm - LC connectors
OH-TX-4-1390-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1390nm - LC connectors
OH-TX-4-1410-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1410nm - LC connectors
OH-TX-4-1430-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1430nm - LC connectors
OH-TX-4-1450-LC	n.a.	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1450nm - LC connectors
OH-TX-4-1470-LC	OH-TX-8-1470-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1470nm - LC connectors
OH-TX-4-1490-LC	OH-TX-8-1490-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1490nm - LC connectors
OH-TX-4-1510-LC	OH-TX-8-1510-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1510nm - LC connectors
OH-TX-4-1530-LC	OH-TX-8-1530-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1530nm - LC connectors
OH-TX-4-1550-LC	OH-TX-8-1550-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1550nm - LC connectors
OH-TX-4-1570-LC	OH-TX-8-1570-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1570nm - LC connectors
OH-TX-4-1590-LC	OH-TX-8-1590-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1590nm - LC connectors
OH-TX-4-1610-LC	OH-TX-8-1610-LC	Single Optical Transmitter (TX) SFP Module - CWDM capable - 1610nm - LC connectors

Table B - Dual Channel SDI Fiber Optic SFP Transmitters

Basic Fiber		TX power : -5dBm
OH-TT-1-LC		Dual Optical Transmitter (TT) SFP Module - 2x1310nm - (non CWDM) Fiber LC connectors
OH-TT-0-850-MM		Dual Optical Transmitter (TT) SFP Module - 2x850nm (Multimode) - Fiber LC connectors
CWDM Fiber (40km)	CWDM Fiber (80km)	40km TX power : -1dBm 80km TX power : +3dBm
OH-TT-4-1270-1290-LC	n.a.	Dual Optical Transmitter (TT) SFP Module - CWDM - (1270nm, 1290nm) - LC connectors
OH-TT-4-1310-1330-LC	n.a.	Dual Optical Transmitter (TT) SFP Module - CWDM - (1310nm, 1330nm) - LC connectors
OH-TT-4-1350-1370-LC	n.a.	Dual Optical Transmitter (TT) SFP Module - CWDM - (1350nm, 1370nm) - LC connectors
OH-TT-4-1390-1410-LC	n.a.	Dual Optical Transmitter (TT) SFP Module - CWDM - (1390nm, 1410nm) - LC connectors
OH-TT-4-1430-1450-LC	n.a.	Dual Optical Transmitter (TT) SFP Module - CWDM - (1430nm, 1450nm) - LC connectors
OH-TT-4-1470-1490-LC	OH-TT-8-1470-1490-LC	Dual Optical Transmitter (TT) SFP Module - CWDM - (1470nm, 1490nm) - LC connectors
OH-TT-4-1510-1530-LC	OH-TT-8-1510-1530-LC	Dual Optical Transmitter (TT) SFP Module - CWDM - (1510nm, 1530nm) - LC connectors
OH-TT-4-1550-1570-LC	OH-TT-8-1550-1570-LC	Dual Optical Transmitter (TT) SFP Module - CWDM - (1550nm, 1570nm) - LC connectors
OH-TT-4-1590-1610-LC	OH-TT-8-1590-1610-LC	Dual Optical Transmitter (TT) SFP Module - CWDM - (1590nm, 1610nm) - LC connectors

Table C - Single Channel SDI Fiber Optic SFP Receivers

Basic & CWDM Fiber	
OH-RX-1-LC	Single Optical Receiver (RX) SFP Module - (1260 - 1620nm) - LC connectors RX Sensitivity: -18dBm
OH-RX-1-Y-SC	Single Optical Receiver (RX) SFP Module - (1260 - 1620nm) - SC connectors RX Sensitivity: -16dBm
OH-RX-1-Y-ST	Single Optical Receiver (RX) SFP Module - (1260 - 1620nm) - ST connectors RX Sensitivity: -16dBm
OH-RX-0-MM	Single Optical Receiver (RX) SFP Module - Multimode - 850nm - LC connectors RX Sensitivity: -15dBm
OH-RX-8-LC	Single Optical Receiver (RX) SFP Module - (1260 - 1620nm) - High Sensitivity - LC connectors RX Sensitivity: -26dBm

Table D - Dual Channel SDI Fiber Optic SFP Receivers

Basic & CWDM Fiber	
OH-RR-1-LC	Dual Optical Receiver (RX) SFP Module - (1260 - 1620nm) - Fiber LC connectors RX Sensitivity: -18dBm
OH-RR-8-LC	Dual Optical Receiver (RX) SFP Module - (1260 - 1620nm) - High Sensitivity - LC connectors RX Sensitivity: -26dBm

Table E - SDI Fiber Optic SFP Transceivers

| Basic Fiber	
OH-TR-1-LC	Optical Transceiver (TR) SFP Module - 1310nm (non CWDM) - LC conn. - 10km TX : -5dBm, RX -18dBm
OH-TR-0-850-MM	Optical Transceiver (TR) SFP Module - Multimode - 850nm - LC conn.- 300m TX : -5dBm, RX -15dBm
OH-TR-12G-LC	12G SDI Optical Transceiver (TR) SFP Module - Singlemode - 1310nm - Fiber LC connectors; TX: -5...+2 dBm, RX: -10dBm
CWDM Fiber	TX: -2...+3dBm RX: -10 dBm
OH-TR-12G-1270-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1270nm - LC connectors
OH-TR-12G-1290-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1290nm - LC connectors
OH-TR-12G-1310-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1310nm - LC connectors
OH-TR-12G-1330-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1330nm - LC connectors
OH-TR-12G-1350-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1350nm - LC connectors
OH-TR-12G-1370-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1370nm - LC connectors
OH-TR-12G-1390-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1390nm - LC connectors
OH-TR-12G-1410-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1410nm - LC connectors
OH-TR-12G-1430-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1430nm - LC connectors
OH-TR-12G-1450-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1450nm - LC connectors
OH-TR-12G-1470-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1470nm - LC connectors
OH-TR-12G-1490-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1490nm - LC connectors
OH-TR-12G-1510-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1510nm - LC connectors
OH-TR-12G-1530-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1530nm - LC connectors
OH-TR-12G-1550-LC	12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1550nm - LC connectors

OH-TR-12G-1570-LC		12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1570nm - LC connectors
OH-TR-12G-1590-LC		12G SDI Optical Transceiver (TR) SFP Module - CWDM - 10km - 1590nm - LC connectors
CWDM Fiber (40km)	CWDM Fiber (80km)	40km TX : -1dBm, RX -20dBm 80km TX: +3dBm, RX: -26dBm
OH-TR-4-1270-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1270nm - LC connectors
OH-TR-4-1290-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1290nm - LC connectors
OH-TR-4-1310-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1310nm - LC connectors
OH-TR-4-1330-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1330nm - LC connectors
OH-TR-4-1350-LC	n.a	Optical Transceiver (TR) SFP Module.- CWDM - 1350nm - LC connectors
OH-TR-4-1370-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1370nm - LC connectors
OH-TR-4-1390-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1390nm - LC connectors
OH-TR-4-1410-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1410nm - LC connectors
OH-TR-4-1430-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1430nm - LC connectors
OH-TR-4-1450-LC	OH-TR-8-1450-LC	Optical Transceiver (TR) SFP Module - CWDM - 1450nm - LC connectors
OH-TR-4-1470-LC	OH-TR-8-1470-LC	Optical Transceiver (TR) SFP Module - CWDM - 1470nm - LC connectors
OH-TR-4-1490-LC	OH-TR-8-1490-LC	Optical Transceiver (TR) SFP Module - CWDM - 1490nm - LC connectors
OH-TR-4-1510-LC	OH-TR-8-1510-LC	Optical Transceiver (TR) SFP Module - CWDM - 1510nm - LC connectors
OH-TR-4-1530-LC	OH-TR-8-1530-LC	Optical Transceiver (TR) SFP Module - CWDM - 1530nm - LC connectors
OH-TR-4-1550-LC	OH-TR-8-1550-LC	Optical Transceiver (TR) SFP Module - CWDM - 1550nm - LC connectors
OH-TR-4-1570-LC	OH-TR-8-1570-LC	Optical Transceiver (TR) SFP Module - CWDM - 1570nm - LC connectors
OH-TR-4-1590-LC	OH-TR-8-1590-LC	Optical Transceiver (TR) SFP Module - CWDM - 1590nm - LC connectors
OH-TR-4-1610-LC	OH-TR-8-1610-LC	Optical Transceiver (TR) SFP Module - CWDM - 1610nm - LC connectors

Table F - Fiber Optic Data SFP Transceivers

| Basic Fiber		
OH-TR-51-LC		Optical Transceiver (TR) SFP -1310nm (non CWDM) - LC - 10km TX : -5dBm, RX -18dBm
OH-TR-50-850-MM		Optical Transceiver (TR) SFP - Multimode - 850nm - LC -550m TX : -5dBm, RX -15dBm
CWDM Fiber (40km)	CWDM Fiber (80km)	40km TX : -0dBm, RX -21dBm 80km TX:: +0dBm, RX: -24dBm
OH-TR-54-1270-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1270nm - LC connectors
OH-TR-54-1290-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1290nm - LC connectors
OH-TR-54-1310-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1310nm - LC connectors
OH-TR-54-1330-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1330nm - LC connectors
OH-TR-54-1350-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1350nm - LC connectors
OH-TR-54-1370-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1370nm - LC connectors
OH-TR-54-1390-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1390nm - LC connectors
OH-TR-54-1410-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1410nm - LC connectors
OH-TR-54-1430-LC	n.a	Optical Transceiver (TR) SFP Module - CWDM - 1430nm - LC connectors
OH-TR-54-1450-LC	OH-TR-58-1450-LC	Optical Transceiver (TR) SFP Module - CWDM - 1450nm - LC connectors
OH-TR-54-1470-LC	OH-TR-58-1470-LC	Optical Transceiver (TR) SFP Module - CWDM - 1470nm - LC connectors
OH-TR-54-1490-LC	OH-TR-58-1490-LC	Optical Transceiver (TR) SFP Module - CWDM - 1490nm - LC connectors
OH-TR-54-1510-LC	OH-TR-58-1510-LC	Optical Transceiver (TR) SFP Module - CWDM - 1510nm - LC connectors
OH-TR-54-1530-LC	OH-TR-58-1530-LC	Optical Transceiver (TR) SFP Module - CWDM - 1530nm - LC connectors
OH-TR-54-1550-LC	OH-TR-58-1550-LC	Optical Transceiver (TR) SFP Module - CWDM - 1550nm - LC connectors
OH-TR-54-1570-LC	OH-TR-58-1570-LC	Optical Transceiver (TR) SFP Module - CWDM - 1570nm - LC connectors
OH-TR-54-1590-LC	OH-TR-58-1590-LC	Optical Transceiver (TR) SFP Module - CWDM - 1590nm - LC connectors
OH-TR-54-1610-LC	OH-TR-58-1610-LC	Optical Transceiver (TR) SFP Module - CWDM - 1610nm - LC connectors

FIBER CONVERTERS

OTX 5840

3Gbit 4 Channel SDI Fiber Transmitter

Module shown plugged into backplane
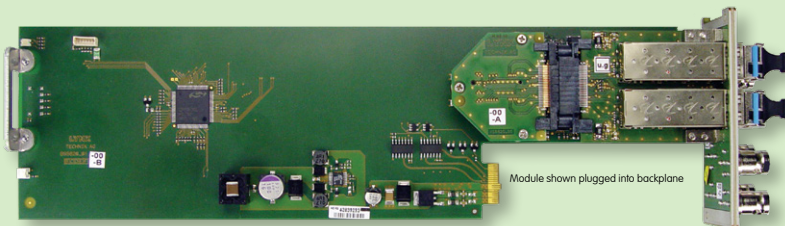
Features

- 4 independent SDI optical transmitter channels and 2 x electrical outputs
- Supports SDI/ASI/DVB up to 3Gbit/s
- Selection of 18 wavelengths available for CWDM applications
- Reclocking or non-reclocking mode for each channel
- Auto-detects input clock rate
- Transparently pass data between 15Mbit/s and 3Gbit/s in non-reclocked mode.
- Input presence detection with LED indication for each channel
- Internal 4x6 signal router for flexible I/O mapping (via APPolo only)
- Singlemode LC fiber optic connections
- Fiber SFP modules secured in backplane
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
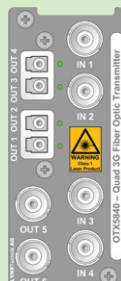
Connection Panel

Ordering Information

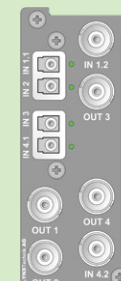| Model #	Description
OTX 5840	3Gbit Quad SDI Fiber Transmitter
Fiber SFP Options	Select two dual channel fiber transmitter options from Table B

OTX 5840 – Quad 3Gbit Optical Transmitter

FIBER CONVERTERS

ORX 5800
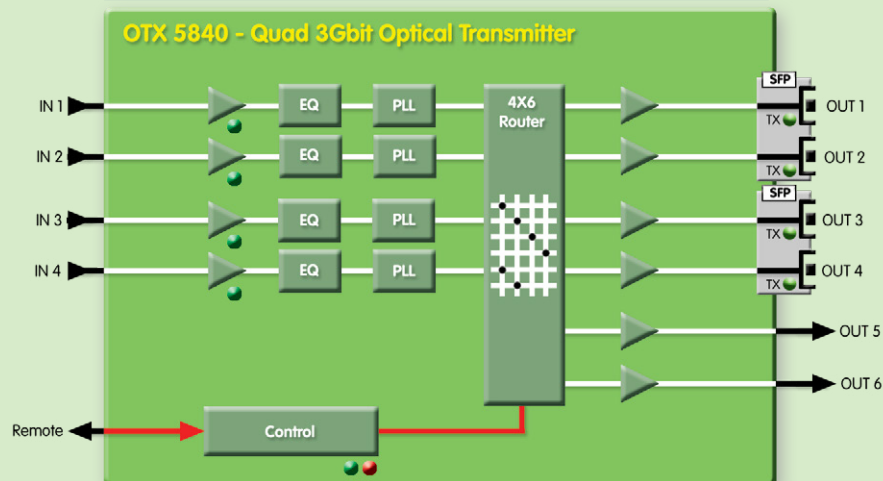
3Gbit 4 Channel SDI Fiber Receiver

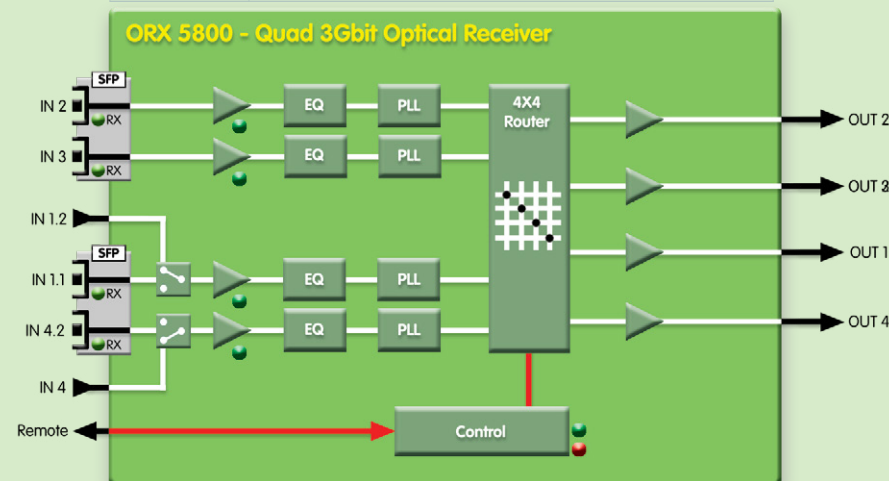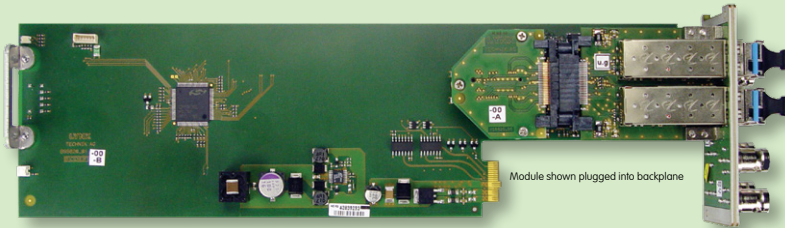

Module shown plugged into backplane
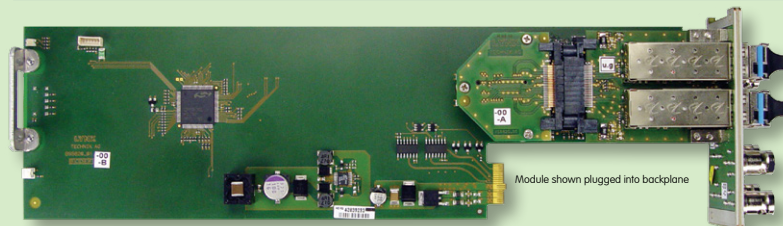
Features

- 4 independent SDI optical receiver channels with 4 x electrical SDI outputs
- Supports SDI/ASI/DVB up to 3Gbit/s
- 1260nm to 1620nm wavelength operational range
- Selectable electrical / optical inputs for 2 channels
- Reclocking or non-reclocking mode for each channel
- Auto-detects input clock rate
- Transparently pass data between 15Mbit/s and 3Gbit/s in non-reclocked mode.
- Input presence detection with LED indication for each channel
- Internal 4x4 signal router for flexible I/O mapping (via APPolo only)
- Singlemode LC fiber optic connections
- Fiber SFP modules secured in backplane.
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

Connection Panel

Ordering Information

Model #	Description
ORX 5804	3Gbit Quad SDI Fiber Receiver

ORX 5800 – Quad 3Gbit Optical Receiver

FIBER CONVERTERS

OTR 5840

3Gbit Dual SDI / Fiber Transceiver

Module shown plugged into backplane
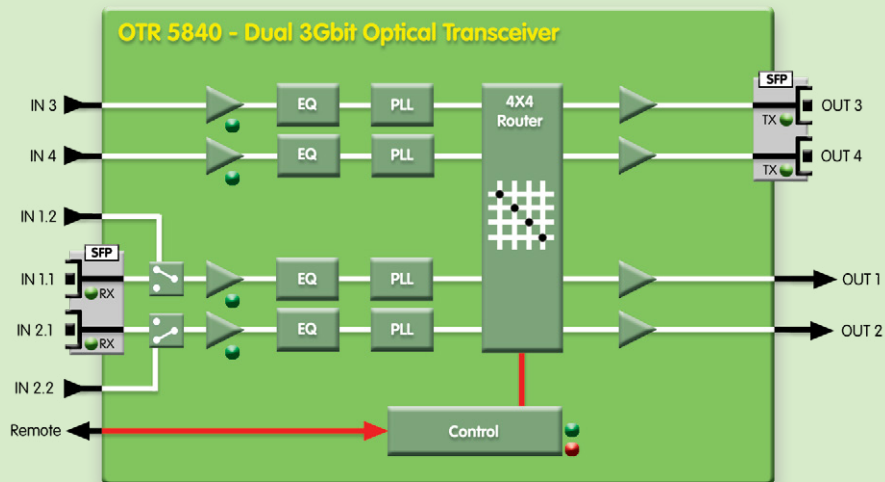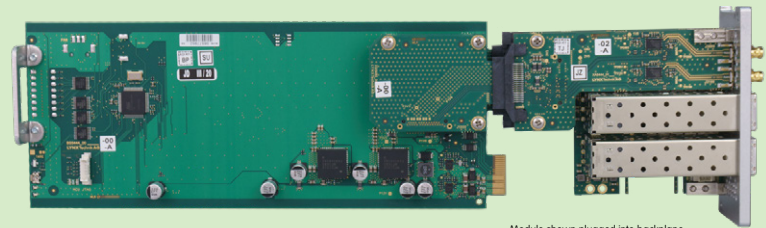
Features

- 2 independent SDI fiber receiver channels (1260nm - 1620nm)
- 2 Independent SDI fiber transmitter channels
- 2 channels selectable between optical or electrical inputs
- CWDM support, select from 18 wavelengths
- Supports SDI/ASI/DVB to 3Gbit/s
- Reclocking or non-reclocking mode for each channel
- Auto-detects input clock rate
- Transparently pass data between 15Mbit/s and 3Gbit/s in non-reclocked mode.
- Input presence detection with LED indication for each channel
- Internal 4x4 router for flexible I/O mapping (via APPolo only)
- Singlemode LC fiber optic connections
- Fiber SFP modules secured in backplane
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable
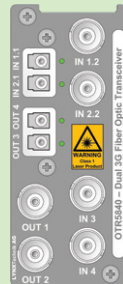
Connection Panel

Ordering Information

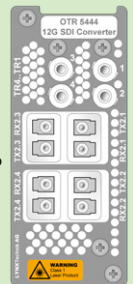| Model #	Description
OTR 5842	3Gbit Dual SDI / Fiber Transceiver
Fiber SFP Option	Select dual channel fiber transmitter option from Table B (receiver SFP included)

OTR 5840 - Dual 3Gbit Optical Transceiver

IN 3 — EQ — PLL — 4X4 Router — OUT 3 (SFP TX)
IN 4 — EQ — PLL — OUT 4 (TX)
IN 1.2
IN 1.1 (SFP RX) — EQ — PLL — OUT 1
IN 2.1 (RX) — EQ — PLL — OUT 2
IN 2.2
Remote — Control

FIBER CONVERTERS

OTR 5444

12Gbit Bi-directional Quad SDI/Fiber Transceiver

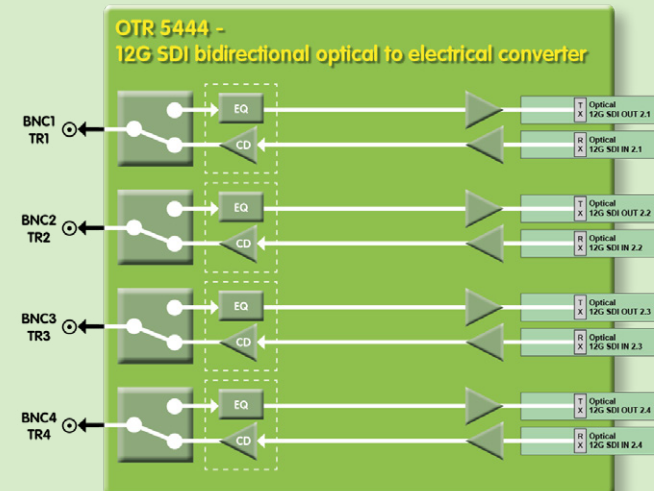Module shown plugged into backplane

Features

- Bi-directional electrical to optical and optical to electrical conversion up to 12GSDI
- Four independent 12G SDI Channels (8K quad-channel optical <> electrical conversion)
- 4 x Optical Transceivers (TR)
- 4 x High-density BNCs (TR)
- Incoming and outgoing 12G SDI signals are reclocked.
- Input presence detection with LED indication
- Microprocessor controlled with internal flash RAM for storing configuration
- Remote control, status monitoring and error reporting when used with LYNX Appolo Control System
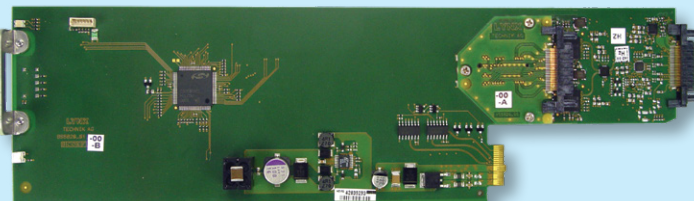- Hot swappable

Connection Panel

Ordering Information

Model #	Description
OTR 5444	12Gbt Bi-directional Quad SDI/Fiber Transceiver
Fiber SFP Option	Select fiber transceiver options from Table E

OTR 5444 -
12G SDI bidirectional optical to electrical converter

BNC1 TR1 — EQ / CD — T X Optical 12G SDI OUT 2.1 / R X Optical 12G SDI IN 2.1
BNC2 TR2 — EQ / CD — T X Optical 12G SDI OUT 2.2 / R X Optical 12G SDI IN 2.2
BNC3 TR3 — EQ / CD — T X Optical 12G SDI OUT 2.3 / R X Optical 12G SDI IN 2.3
BNC4 TR4 — EQ / CD — T X Optical 12G SDI OUT 2.4 / R X Optical 12G SDI IN 2.4

DIGITAL VIDEO DISTRIBUTION

DVO 5810

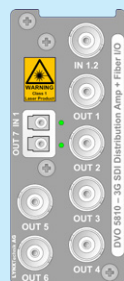## 3G/HD/SD - SDI/ASI Distribution Amplifier (With fiber I/O)
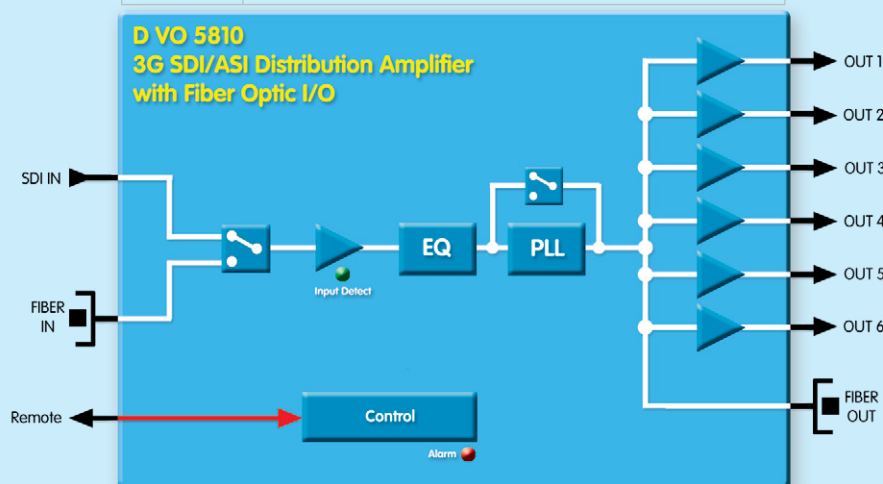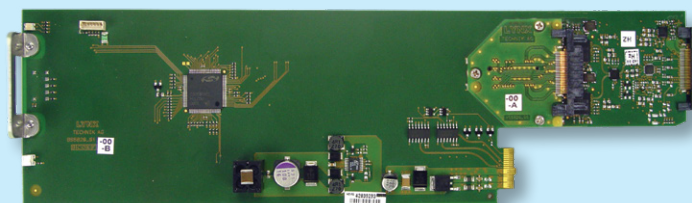
Features

- Supports SDI / ASI / DVB up to 3Gbit/s
- Electrical or optical SDI inputs (selectable)
- 6 x electrical and 1 x optical SDI outputs
- Reclocking or non-reclocking of input (selectable)
- Auto-detect input video standard.
- CWDM support with 18 selectable optical wavelengths (non CWDM option available)
- Transparently pass data between 15Mbit/s and 3Gbit/s in non re-clocked mode
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication
- Singlemode LC fiber connections
- Fiber SFP in backplane
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

Connection Panel

Ordering Information

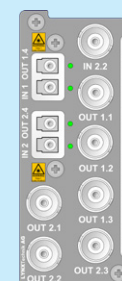| Model #	Description
DVO 5810	3G/HD/SD - SDI/ASI Distribution Amplifier with Optical I/O
Fiber SFP Option	Select fiber transceiver option from Table E

D VO 5810
3G SDI/ASI Distribution Amplifier
with Fiber Optic I/O

DIGITAL VIDEO DISTRIBUTION

DVO 5820

3G/HD/SD - Dual SDI/ASI Distribution Amplifier (With fiber I/O)
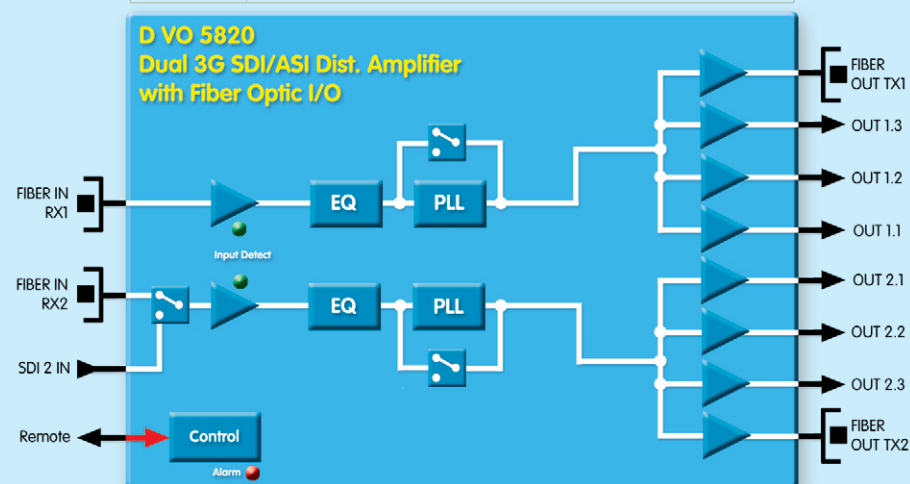
Features

- Supports SDI / ASI / DVB up to 3Gbit/s
- Dual channel 1>4
- 2 optical inputs, with selectable electrical input on channel 2
- 3 x electrical and 1 x optical outputs per channel
- CWDM support with 18 selectable optical wavelengths
- Reclocking or non-reclocking mode for each channel
- Auto-detect input video standard
- Transparently pass data between 15Mbit/s and 3Gbit/s in non re-clocked mode.
- Microprocessor controlled with internal flash ram for storing configuration
- Input presence detection with LED indication for each channel
- Singlemode LC fiber connections
- Fiber SFP in backplane
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
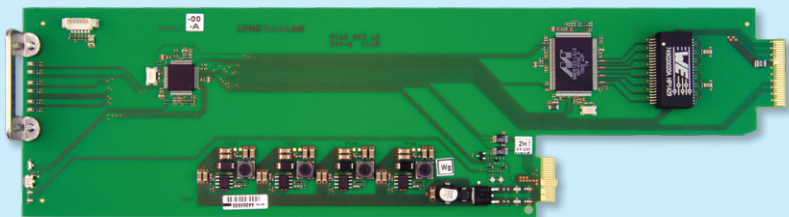- Hot swappable

Connection Panel

Ordering Information

Model #	Description
DVO 5820	3G/HD/SD - Dual SDI/ASI Distribution Amplifier with Fiber I/O
Fiber SFP Option	Select two fiber transceiver SFP options from Table E

D VO 5820
Dual 3G SDI/ASI Dist. Amplifier
with Fiber Optic I/O

ETHERNET OVER FIBER

OET 5501

1 Gbit Ethernet to Fiber Optic Transceiver

Features

- Support for standard Ethernet inputs up to 1 Gbit
- 3 port Ethernet switch (1 fiber, 2 electrical)
- Support for Jumbo Frames
- Auto (10/100/1000) electrical port speed detection
- Manually force 10 Mbit electrical speed (if needed)
- Fiber transceiver speed always 1 Gbit
- Auto or manual electrical crossover selection
- Remote control, status monitoring and error reporting possible when used with APPolo control system.
- Hot Swappable
- Variety of fiber SFP Transceiver options
  - Standard singlemode up to 10km (1310nm)
  - Standard multimode up to 550m (850nm)
  - CWDM 40km with 18 wavelength selections
  - CWDM 80km with 8 wavelength selections
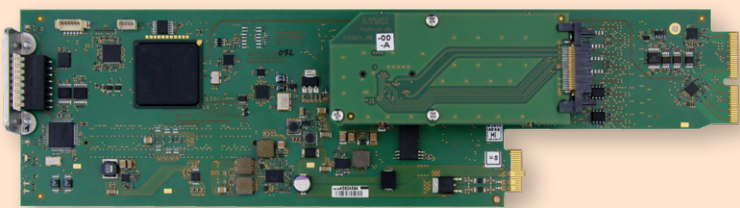

Connection Panel

Ordering Information

Model #	Description
OET 5501	1Gbit Ethernet to Fiber Optic Transceiver
Fiber SFP Option	Select fiber transceiver SFP option from Table F

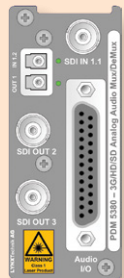**O ET 5501 – 1Gbit Ethernet to Fiber Optic Transceiver**

AUDIO EMBEDDING / DE-EMBEDDING

PDM 5380 O

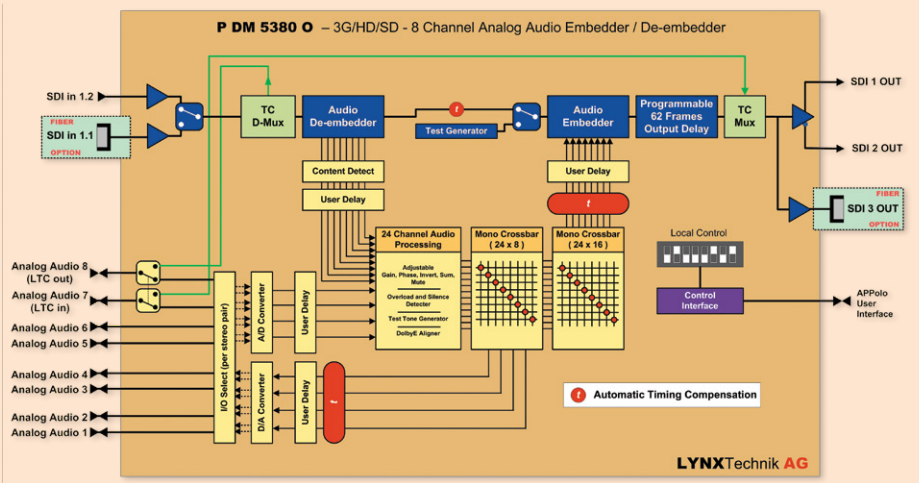## 3G/HD/SD - 8 Ch. Analog Audio Embedder / De-embedder

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Optional fiber I/O
- Switch between 8 channel analog audio embedder or de-embedder
- 24 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown. Also provides overload and silence detection.
- 24 x 24 mono output crossbar for embedder and external audio channel assignment.
- Selectable "Auto Pattern Function" with no input video - the module will embed audio in a selectable test pattern.
- Up to 62 frames of programmable delay.
- Up to 10 seconds of audio delay (total).
- Embed or de-embed Timecode using two of the audio inputs if needed.
- Remote control and error reporting when using APPolo control system.
- Full SNMP support when used with server option
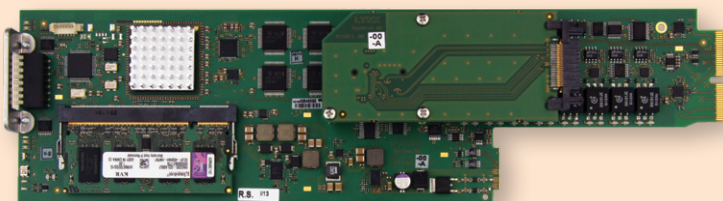- Hot swappable

Connection Panel

Ordering Information

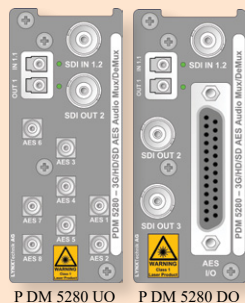| Model #	Description
PDM 5380 O	3G/HD/SD - 8 Channel Analog Audio Embedder / De-embedder
Fiber SFP Option	Select transmitter (Table A) or receiver (Table B) or transceiver (Table E) SFP option

P DM 5380 O – 3G/HD/SD - 8 Channel Analog Audio Embedder / De-embedder

AUDIO EMBEDDING / DE-EMBEDDING

PDM 5280 O

3G/HD/SD - 16 Channel AES Embedder / De-embedder
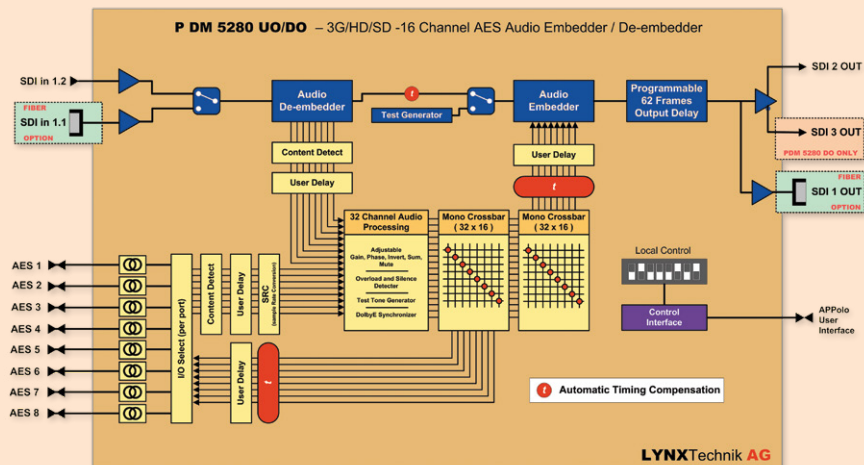

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Optional fiber I/O
- Switch between 16 channel embedder or de-embedder or combination of both
- 32 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown plus overload and silence detection
- 32 x 32 mono output crossbar for embedder and external audio channel assignment
- Selectable "Auto Pattern Function" with no input video the module will embed audio in a selectable test pattern
- DolbyE Synchronizer to maintain Guard Band
- Up to 62 frames of programmable delay
- Up to 10 seconds audio delay (total)
- Two versions available for balanced and unbalanced AES
- All external audio inputs / outputs are transformer coupled
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
- Hot swappable

P DM 5280 UO   P DM 5280 DO

Connection Panel Options

Ordering Information

Model #	Description
PDM 5280 UO	3G/HD/SD - 16 Ch. Audio Embedder / De-embedder (MiniDIN unbalanced AES)
PDM 5280 DO	3G/HD/SD - 16 Ch. Audio Embedder / De-embedder (SubD - balanced AES)
Fiber SFP Option	Select transmitter (Table A) or receiver (Table B) or transceiver (Table E) SFP option

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FRAME SYNCHRONIZATION

PVD 5800 O

3G/HD/SD SDI Frame Synchronizer
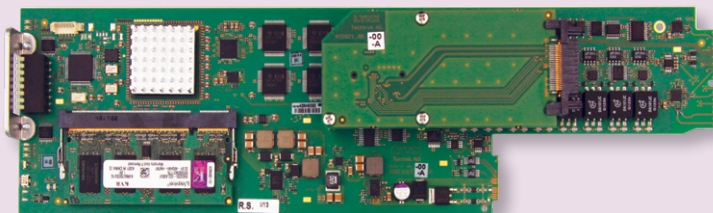
Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Optional fiber I/O
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- All 16 channels of audio de-embedded from SDI input, delayed to match video processing delay and re-embedded
- 4 x SDI outputs provided
- Integrated test pattern generator
- Auto-tracking audio delay with no "pops" or "clicks" in audio even when dropping and adding frames
- Up to 62 frames of programmable delay
- Remote control and error reporting when using APPolo control system
- Full SNMP support when used with server option
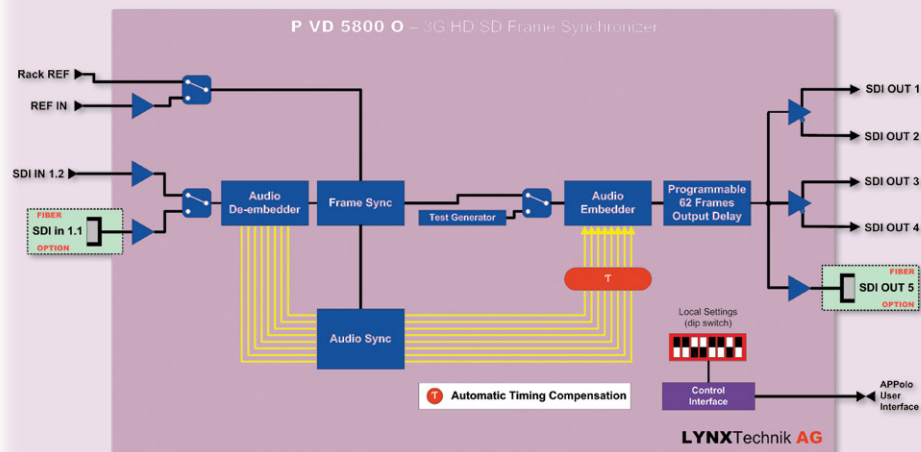- Hot swappable

Connection Panel

Ordering Information

Model #	Description
PVD 5800 O	3G/HD/SD SDI Frame Synchronizer with optonal fiber I/O
Fiber SFP Option	Select transmitter (Table A) or receiver (Table B) or transceiver (Table E) SFP option

OPTICAL CWDM MULTIPLEXERS
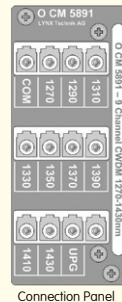
OCM 5891

9 Channel Optical Multiplexer / De-multiplexer

Features

- 9 channel CWDM optical multiplexer / de-multiplexer
- Wavelengths according to ITU-T G.694.2
- Send and / or receive up to 9 channels over a single fiber connection
- Passive operation (no power needed)
- Designed to fit in R FR 5012, R FR 5013, R FR 5014 and R FR 5041 Frames
- Installs from rear of rack (uses one rack slot)
- LC fiber connections, singlemode
- UPG port for expansion (connect to O CM 5892 to add 9 more channels)
- Use with LYNX modules configured with CWDM fiber SFP options

OCM 5891

Optical I/O	9 x Fiber Optic I/O channels
	Channel 1 = 1270nm
	Channel 2 = 1290nm
	Channel 3 = 1310nm
	Channel 4 = 1330nm
	Channel 5 = 1350nm
	Channel 6 = 1370nm
	Channel 7 = 1390nm
	Channel 8 = 1410nm
	Channel 9 = 1430nm

Connection Panel

Ordering Information

Model #	Description
OCM 5891	9 Channel Optical Multiplexer / De-multiplexer 1270 - 1430nm

OCM 5891 - 9 Channel CWDM Optical Mutliplexer

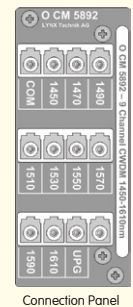# OPTICAL CWDM MULTIPLEXERS

OCM 5892

9 Channel Optical Multiplexer / De-multiplexer

Features

- 9 channel CWDM optical multiplexer / de-multiplexer
- Wavelengths according to ITU-T G.694.2
- Send and / or receive up to 9 channels over a single fiber connection
- Passive operation (no power needed)
- Designed to fit in R FR 5012, R FR 5013, R FR 5014 and R FR 5041 Frames
- Installs from rear of rack (uses one rack slot)
- LC fiber connections, singlemode
- UPG port for expansion (connect to O CM 5891 to add 9 more channels)
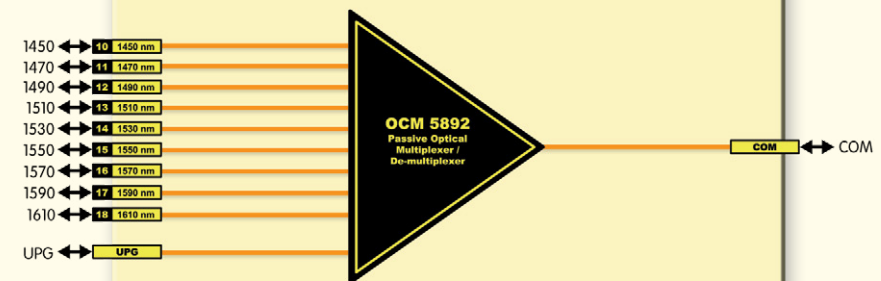- Use with LYNX modules configured with CWDM fiber SFP options

OCM 5892

Optical I/O	9 x Fiber Optic I/O channels
	Channel 10 = 1450nm
	Channel 11 = 1470nm
	Channel 12 = 1490nm
	Channel 13 = 1510nm
	Channel 14 = 1530nm
	Channel 15 = 1550nm
	Channel 16 = 1570nm
	Channel 17 = 1590nm
	Channel 18 = 1610nm

Connection Panel

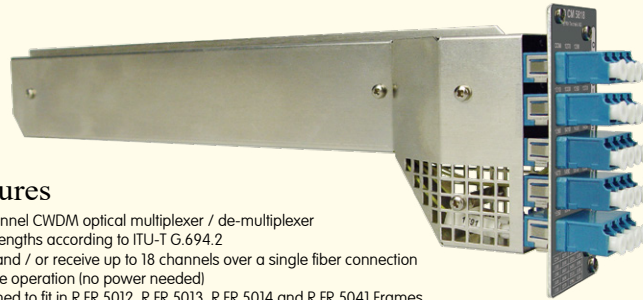### Ordering Information

Model #	Description
OCM 5892	9 Channel Optical Multiplexer / De-multiplexer 1450 - 1610nm

OCM 5892 - 9 Channel CWDM Optical Mutliplexer

OPTICAL CWDM MULTIPLEXERS

OCM 5818

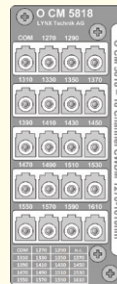## 18 Channel Optical Multiplexer / De-multiplexer

Features

- 18 channel CWDM optical multiplexer / de-multiplexer
- Wavelengths according to ITU-T G.694.2
- Send and / or receive up to 18 channels over a single fiber connection
- Passive operation (no power needed)
- Designed to fit in R FR 5012, R FR 5013, R FR 5014 and R FR 5041 Frames
- Installs from rear of rack (uses one rack slot)
- LC fiber connections, singlemode
- Use with LYNX modules configured with CWDM fiber SFP options
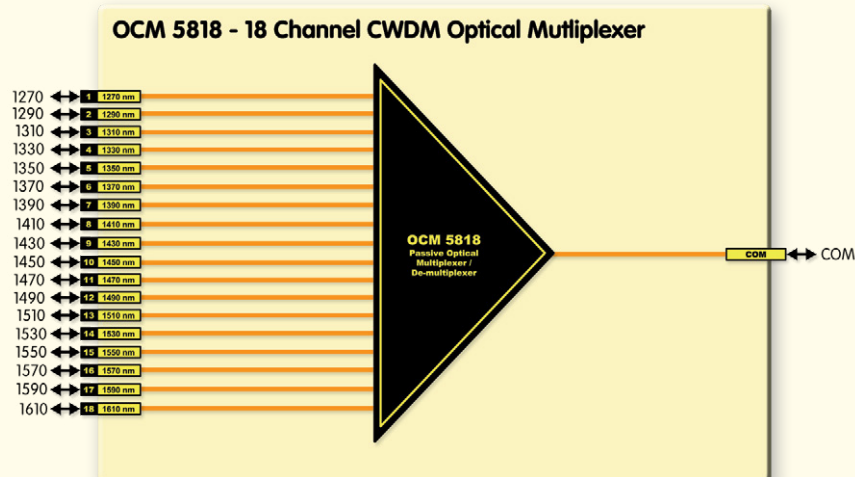
OCM 5818

| Optical I/O	18 x Fiber Optic I/O channels	
	Channel 1 = 1270nm	Channel 10 = 1450nm
	Channel 2 = 1290nm	Channel 11 = 1470nm
	Channel 3 = 1310nm	Channel 12 = 1490nm
	Channel 4 = 1330nm	Channel 13 = 1510nm
	Channel 5 = 1350nm	Channel 14 = 1530nm
	Channel 6 = 1370nm	Channel 15 = 1550nm
	Channel 7 = 1390nm	Channel 16 = 1570nm
	Channel 8 = 1410nm	Channel 17 = 1590nm
	Channel 9 = 1430nm	Channel 18 = 1610nm

Connection Panel

Ordering Information

Model #	Description
OCM 5818	18 Channel Optical Multiplexer / De-multiplexer 1270 - 1610nm

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OPTICAL SPLITTERS
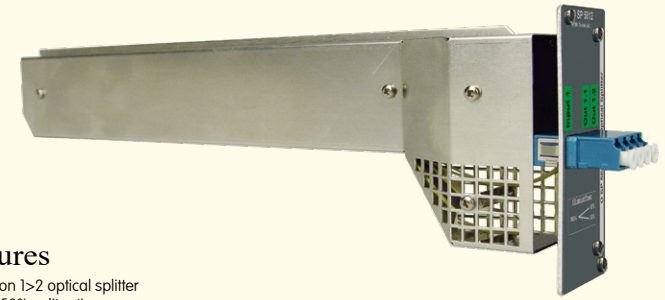
OSP 5812

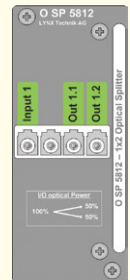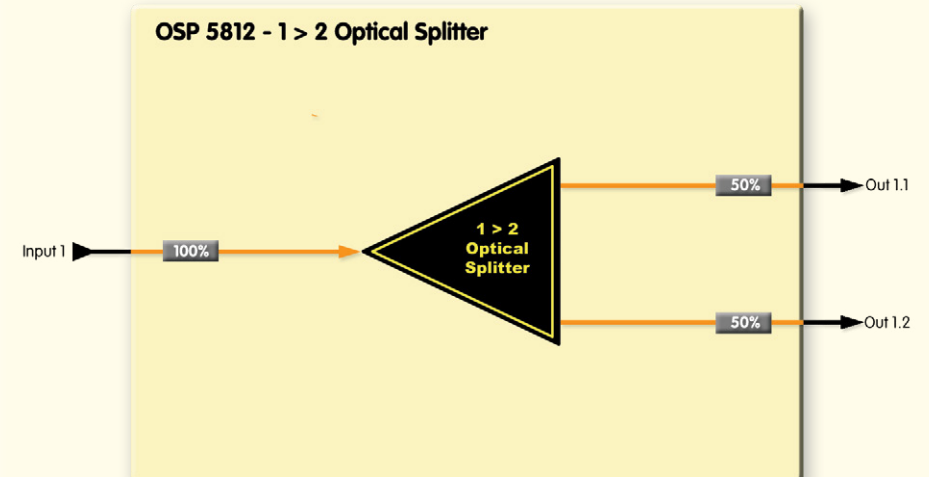## 1>2 Optical Splitter (50/50)

Features

- Precision 1>2 optical splitter
- 50% / 50% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
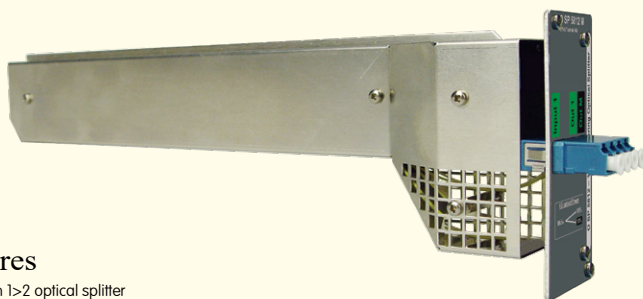- LC fiber connections, singlemode

Connection Panel

Ordering Information

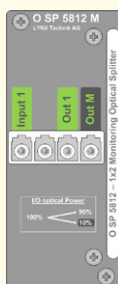| Model #	Description
OSP 5812	1>2 Optical Splitter (50/50)

OPTICAL SPLITTERS

OSP 5812 M

1>2 Monitoring Optical Splitter (90/10)

Features

- Precision 1>2 optical splitter
- 90% / 10% split ratio (for monitoring applications)
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
- LC fiber connections, singlemode

Connection Panel

Ordering Information

Model #	Description
OSP 5812 M	1>2 Monitoring Optical Splitter (90/10)

OSP 5812 M - 1 > 2 (90% - 10%) Optical Splitter

OPTICAL SPLITTERS

OSP 5852

5 Channel 1>2 Optical Splitter (50/50)

Features

- Five 1>2 optical splitters in a single module
- Precision 1>2 optical splitter
- 50% / 50% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
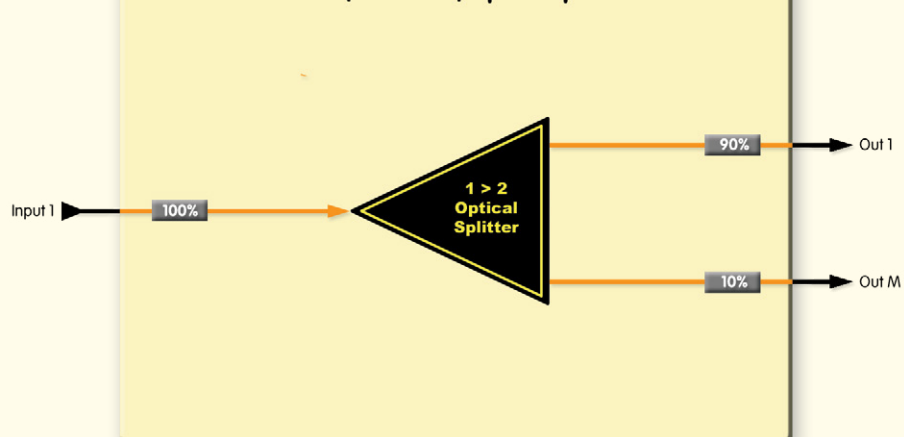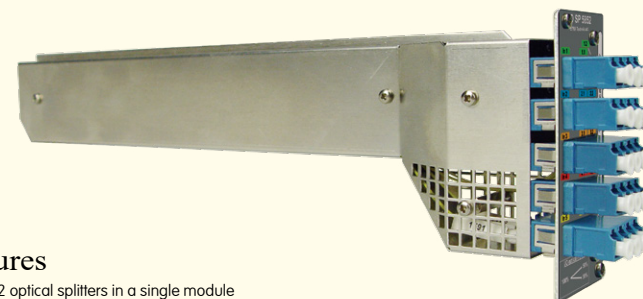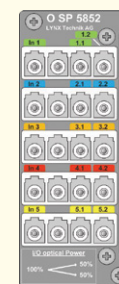- LC fiber connections, singlemode

Connection Panel

Ordering Information

Model #	Description
OSP 5852	5 channel 1>2 Optical Splitter (50/50)

OSP 5852 - 5 Channel 1 > 2 Optical Splitter

OPTICAL SPLITTERS

OSP 5852 M

5 Channel 1>2 Monitoring Optical Splitter (90/10)

Features

- Five 1>2 optical splitters in a single module
- Precision 1>2 optical splitter
- 90% / 10% split ratio (for monitoring applications)
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
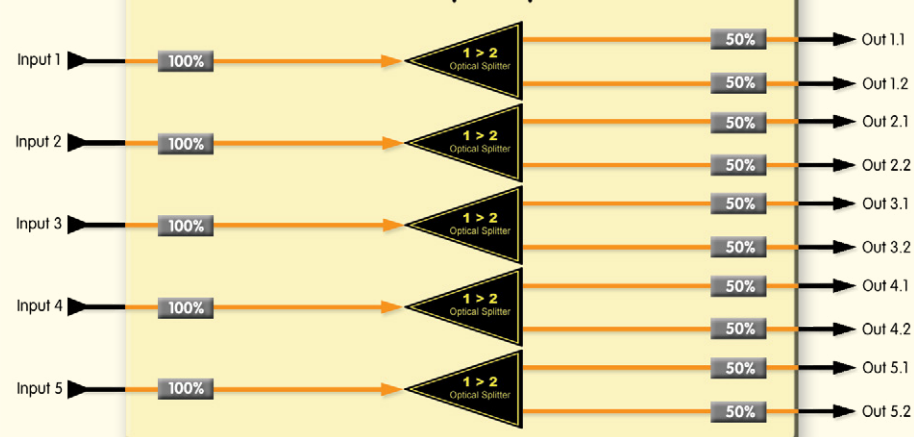- Installs from rear of rack
- LC fiber connections, singlemode

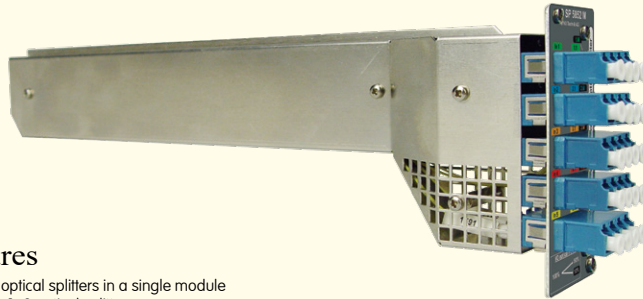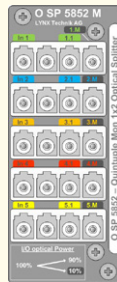Connection Panel

Ordering Information

Model #	Description
O SP 5852 M	5 channel 1>2 Monitoring Optical Splitter (90/10)

OSP 5852 M - 5 Channel 1 > 2 (90% -10%) Optical Splitter

OPTICAL SPLITTERS

OSP 5814

1>4 Optical Splitter (25/25/25/25)

Features

- Precision 1>4 optical splitter
- 25% / 25% / 25% / 25% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
- LC fiber connections, singlemode
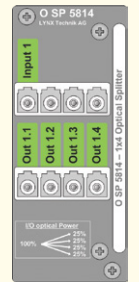
Connection Panel

Ordering Information

Model #	Description
O SP 5814	1>4 Optical Splitter (25/25/25/25)

OSP 5814 - 1 > 4 Optical Splitter

OPTICAL SPLITTERS

OSP 5814 M

1>4 Monitoring Optical Splitter (30/30/30/10)

Features

- Precision 1>4 optical splitter
- 30% / 30% / 30% / 10% split ratio (for monitoring applications)
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
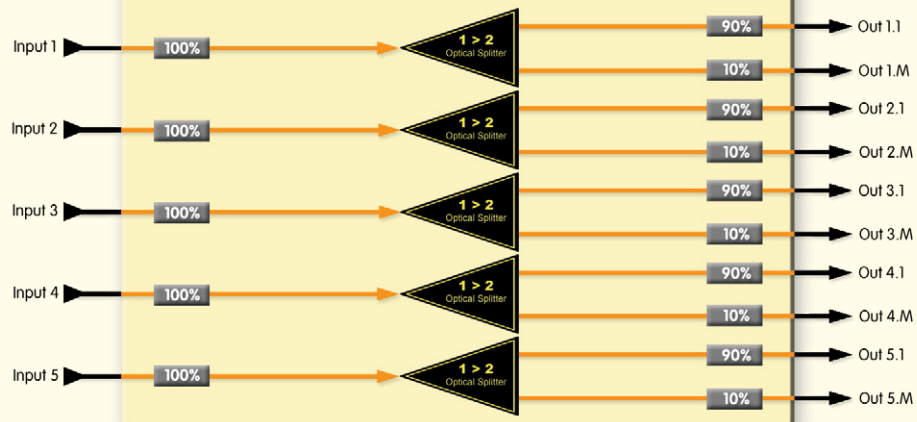- LC fiber connections, singlemode
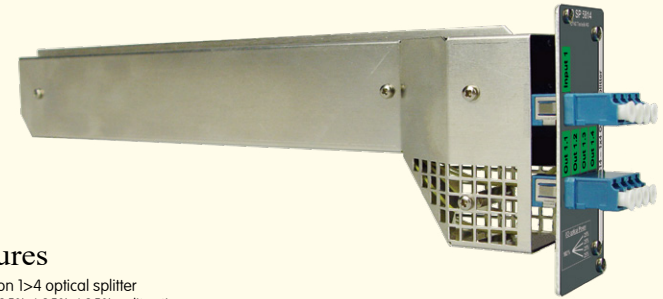
Connection Panel

Ordering Information

Model #	Description
OSP 5814 M	1>4 Monitoring Optical Splitter (30/30/30/10)

OSP 5814 M - 1 > 4 (30%-30%-30%-10%) Optical Splitter

Input 1 → 100% → 1 > 4 Optical Splitter →
- 30% → Out 1.1
- 30% → Out 1.2
- 30% → Out 1.3
- 10% → Out M

OPTICAL SPLITTERS

OSP 5824

Dual Channel 1>4 Optical Splitter (25/25/25/25)

Features

- Two 1>4 splitters in a single module
- Precision 1>4 optical splitter
- 25% / 25% / 25% / 25% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
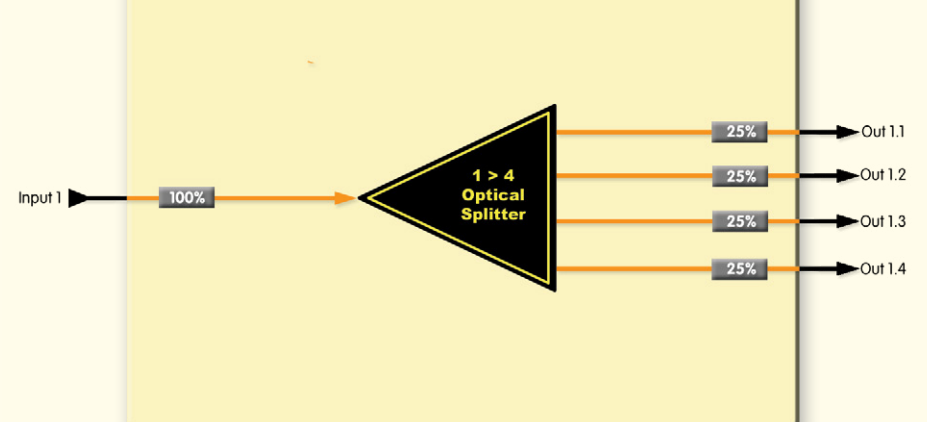- LC fiber connections, singlemode
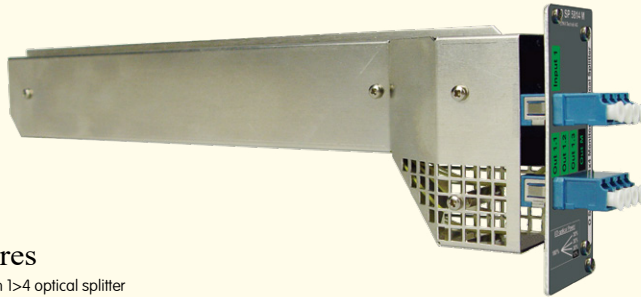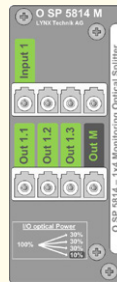
Connection Panel

Ordering Information

Model #	Description
OSP 5824	Dual Channel 1>4 Optical Splitter (25/25/25/25)

OSP 5824 - Dual Channel 1 > 4 Optical Splitter

Input 1 → 100% → 1 > 4 Optical Splitter →
- 25% → Out 1.1
- 25% → Out 1.2
- 25% → Out 1.3
- 25% → Out 1.4

Input 2 → 100% → 1 > 4 Optical Splitter →
- 25% → Out 2.1
- 25% → Out 2.2
- 25% → Out 2.3
- 25% → Out 2.4

OPTICAL SPLITTERS

Dual Channel 1>4 Monitoring Optical Splitter (30/30/30/10)

OSP 5824 M

Features

- Two 1>4 splitters in a single module
- Precision 1>4 optical splitter
- 30% / 30% / 30% / 10% split ratio (for monitoring applications)
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
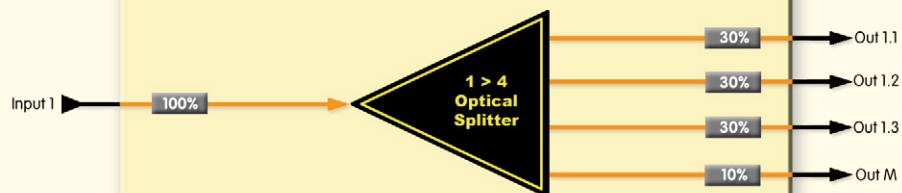- Installs from rear of rack
- LC fiber connections, singlemode

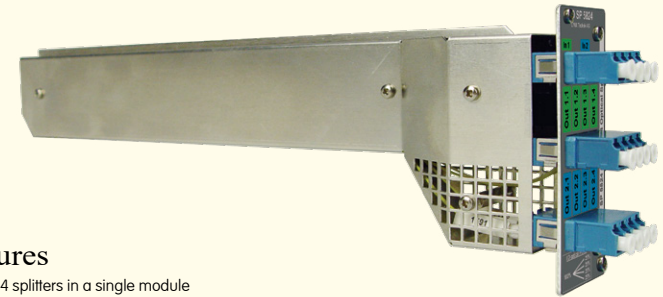
Connection Panel

Ordering Information

Model #	Description
O SP 5824 M	Dual Channel 1>4 Monitoring Optical Splitter (30/30/30/10)

OSP 5824 M - Dual 1 > 4 (30%-30%-30%-10%) Optical Splitter
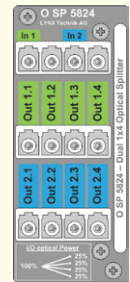

OPTICAL SPLITTERS

4 Channel 1>4 Optical Splitter (25/25/25/25)
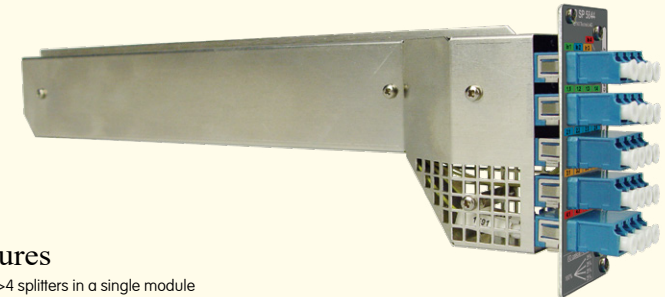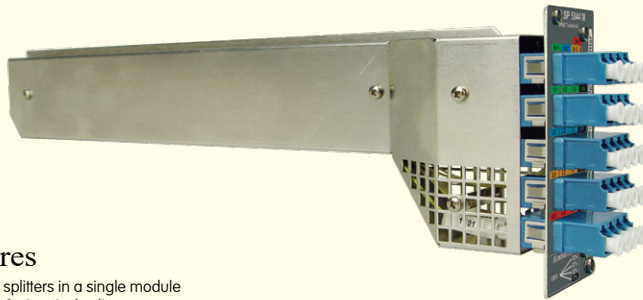
OSP 5844

Features

- Four 1>4 splitters in a single module
- Precision 1>4 optical splitter
- 25% / 25% / 25% / 25% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
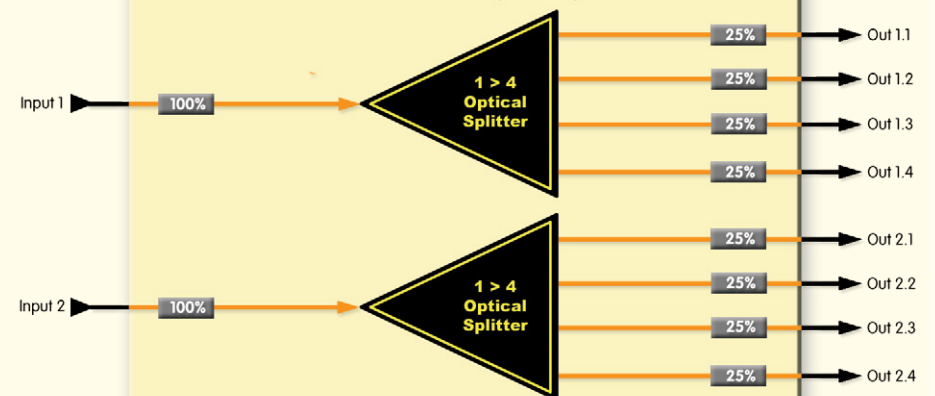- LC fiber connections, singlemode
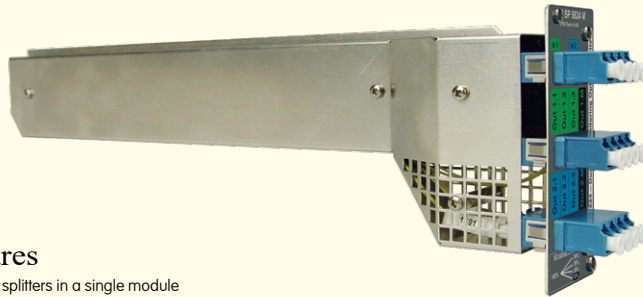

Connection Panel

Ordering Information

Model #	Description
O SP 5844	4 Channel 1>4 Optical Splitter (25/25/25/25)

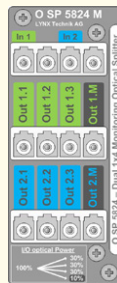OSP 5844 - 4 Channel 1 > 4 Optical Splitter

OPTICAL SPLITTERS

OSP 5844 M

4 Channel 1>4 Monitoring Optical Splitter (30/30/30/10)

Features

- Four 1>4 splitters in a single module
- Precision 1>4 optical splitter
- 30% / 30% / 30% / 10% split ratio (for monitoring applications)
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
- Installs from rear of rack
- LC fiber connections, singlemode
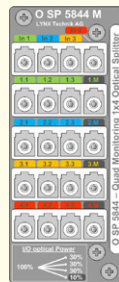
Connection Panel

Ordering Information

Model #	Description
OSP 5844 M	4 Channel 1>4 Monitoring Optical Splitter (30/30/30/10)

OPTICAL SPLITTERS

OSP 5818
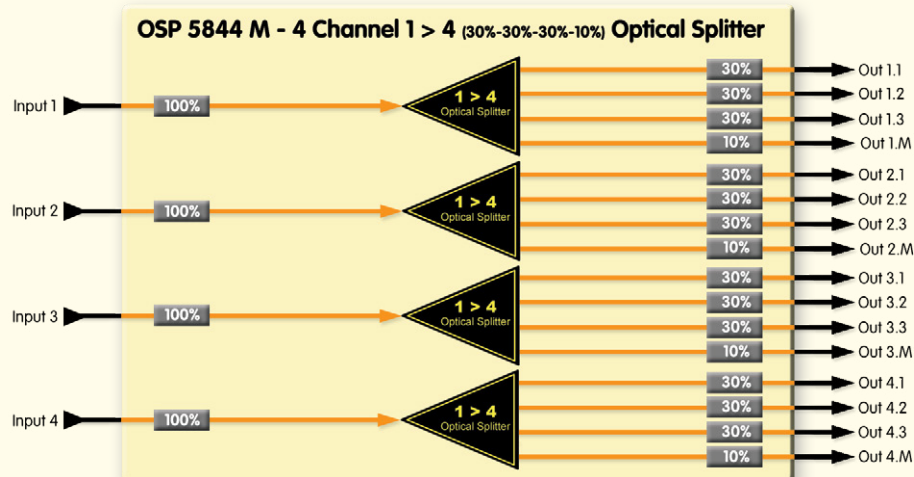
1>8 Optical Splitter (12.5/12.5/12.5/12.5/12.5/12.5/12.5/12.5)
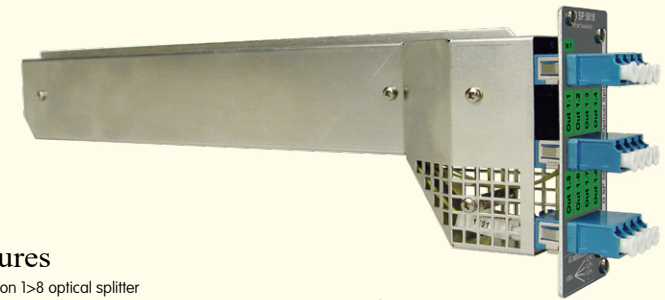
Features

- Precision 1>8 optical splitter
- 12.5% / 12.5% / 12.5% / 12.5% / 2.5% / 12.5% / 12.5% / 12.5% split ratio
- Passive operation (requires no power)
- Compatible will all Series 5000 rack frames (2RU and 1RU)
- Occupies one card slot
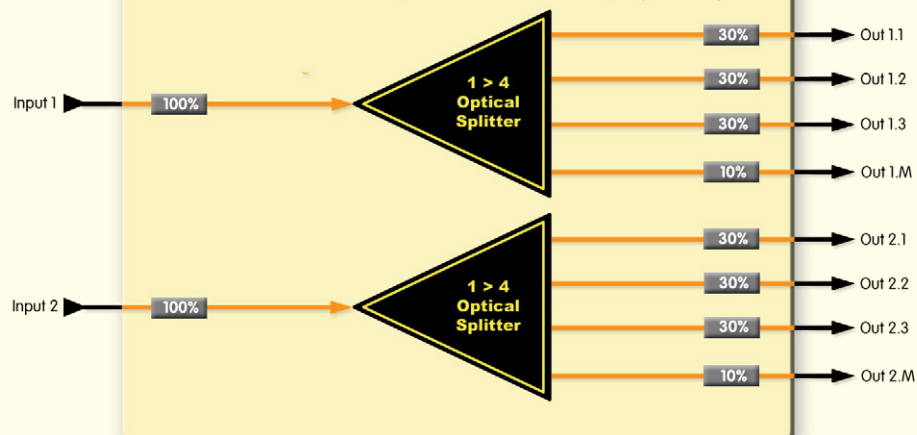- Installs from rear of rack
- LC fiber connections, singlemode
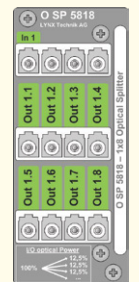
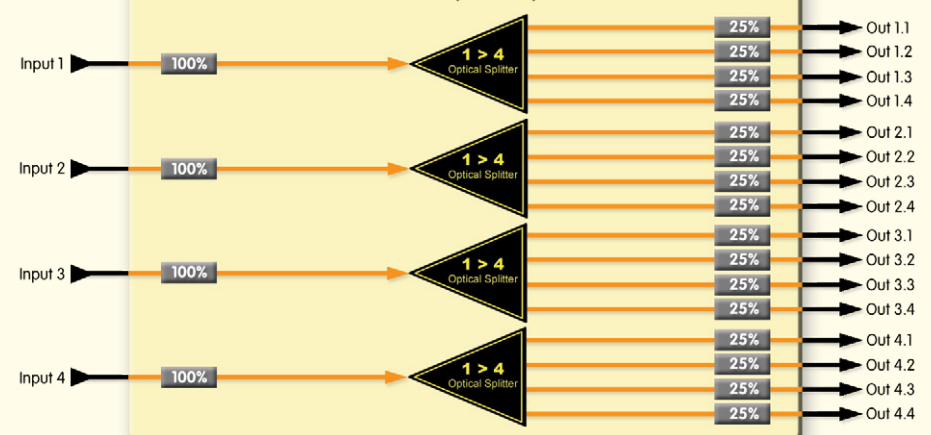Connection Panel

Ordering Information

Model #	Description
OSP 5818	1>8 Optical Splitter

RACK FRAMES

RFR 5018

2 RU Rack Frame for Series 5000 (Fan Cooled)

Features

Compact 19 inch 2 RU rack mount rack frame which can accommodate up to 10 modules, primary and redundant power supplies plus the optional APPolo rack controller. Fan cooling is provided through the front cover. The high quality stainless steel construction is fully EMC/FCC compliant. All racks are pre-wired for the APPolo control system.

Note: This version is recommended when multiple higher power signal processing modules are used. This is the standard choice for most system installations.
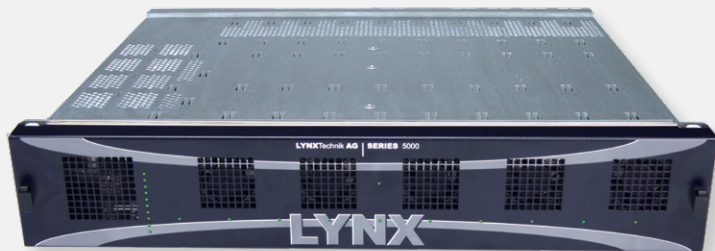
Ordering Information

Model #	Description
R FR 5018	19" Rack Frame with Primary Power Supply (fan cooled)
R PS 5018	Option : Redundant Power Supply

R PS 5018
Redundant Power Supply
(Primary Supply Included

RFR 5014

2 RU Rack Frame for Series 5000 (No Fan Cooling)

Features

Compact 19 inch 2 RU rack mount rack frame which can accommodate up to 10 low power* modules, primary and redundant power supplies plus optio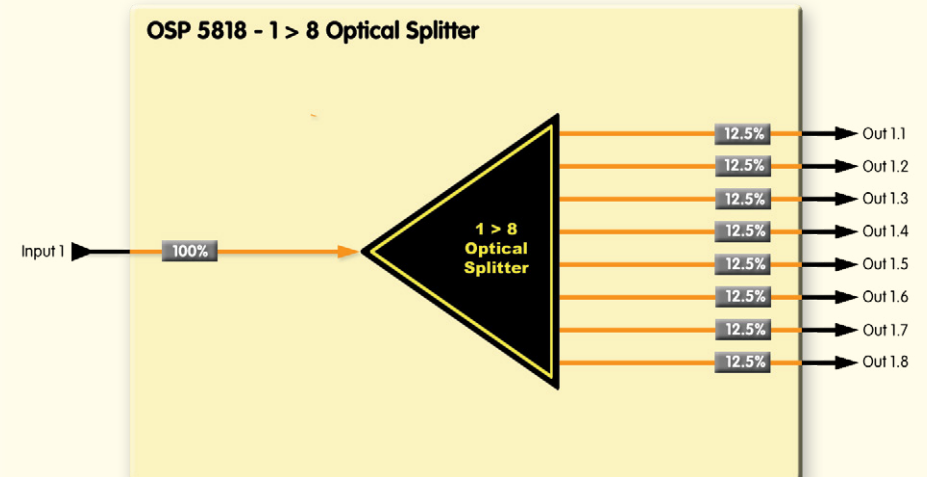nal APPolo rack controller. This rack is convection cooled (no fans). The high quality stainless steel construction is fully EMC/FCC compliant. All racks are pre-wired for the APPolo control system.

*Note: This version is recommended when multiple low power modules are used, e.g. Distribution Amplifiers. Not recommended for high power signal processing modules.
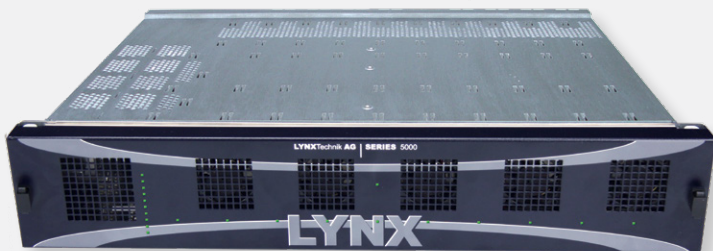
Ordering Information

Model #	Description
6155005014	R FR 5014 19" Rack Frame with Primary Power Supply (no cooling)
6155025012	Option : R PS 5012 Redundant Power Supply

R PS 5012
Redundant Power Supply
(Primary Supply Included

RACK FRAMES

RFR 5013

2 RU Rack Frame for Passive Fiber Modules (No Power)

Features

Compact 19 inch 2 RU rack mount rack frame which can accommodate up to 12 passive fiber optical modules (OCM and OSP modules). This is a passive rack frame and rack requires no power. The OCM and OSP Optical modules mount from the rear of the rack.

Ordering Information

Model #	Description
R FR 5013	19" Rack Frame for Passive Optical Modules

Audio Adapter Cables

Features

For Series | 5000 Modules that utilize SubD connections for balanced audio we provide 6 breakout cables which adapts the SubD connection to standard in line 3 pin XLR connectors.

The table below shows audio adapter cable module compatibility:

RAC M25-8	SubD 25 (male) to 8 x XLR (male)
Audio adapter cable with 1 x male Sub D 25 pin connector to 8 x Standard in line male XLR connectors.	For use with the following modules: C DA 5220-D, D AA 5320-D, DAD 5321-D, D AD 5220-D, P DM 5240-D, P DM 5280-D, P DM 5290-D, P DM 5380, P VD 5810-D, P VD 5840-D, C DX 5624

RAC F25-8	SubD 25 (male) to 8 x XLR (female)
Audio adapter cable with 1 x male Sub D 25 pin connector to 8 x Standard in line female XLR connectors.	For use with the following modules: C AD 5320-D, C MX 5710, P DM 5240-D, P DM 5280-D, P DM 5290-D, P DM 5380, P VD 5810-D, P VD 5840-D

| RAC M15-4	SubD 15 (male) to 4 x XLR (male)
Audio adapter cable with 1 x male Sub D 15 pin connector to 4 x Standard in line male XLR connectors.	For use with the following modules: P TG 5610-D

RAC MF15-2/2	SubD 15 (male) to 2 x XLR (male) and 2 x XLR (female)
Audio adapter cable with 1 x male Sub D 15 pin connector to 2 x Standard in line male XLR connectors and 2 x standard male XLR in line connectors.	For use with the following modules: C AD 5320-D, C DA 5220-D, D AD 5220-D, D AA 5320-D, D AA 5321-D

Ordering Information

Model #	Description
RAC M25-8	Audio Adapter cable SubD 25 (male) to 8 XLR (male)
RAC F25-8	Audio Adapter cable SubD 25 (male) to 8 XLR (female)
RAC M15-4	Audio Adapter cable SubD 15 (male) to 4 XLR (male)
RAC MF15-2/2	Audio Adapter cable SubD 15 (male) to 2 XLR (male) and 2 x XLR (female)

FIBAER CABLES

RBO 5015/25

Fiber Adapter Kits
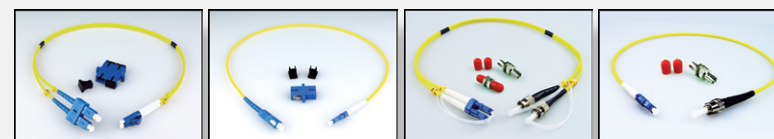
LC/SC DUP
Duplex LC to SC adapter

LC/SC SIM
Simplex LC to SC adapter

LC/ST DUP
Duplex LC to ST adapter

LC/ST SIM
Simplex LC to ST adapter

Almost all of the fiber SFP modules we use have LC fiber connections. We provide a range of adapter cables to facilitate the connection into existing fiber infrastructures. SC and ST adapter kits are provided in Simplex (single) or Duplex (dual) form. Each cable is made from singemode fiber, 0.5m long and the kit includes a sex changer. The adapter cables introduce minimal losses to the system.

Ordering Information

Model #	Description
LC/SC SIM	LC to SC fiber adapter cable (simplex)
LC/SC DUP	LC to SC fiber adapter cable (duplex)
LC/ST SIM	LC to ST fiber adapter cable (simplex)
LC/ST DUP	LC to ST fiber adapter cable (duplex)
LC/LC SIM	LC to LC fiber patch cable

SubD Audio Adapter PCBs

Features

Analog audio and balanced AES connections to the modules are made using SubD connectors on the module backplanes (15 or 25 pin). The RBO 5015 and RBO 5025 PCB adapters can be used to facilitate connections via terminal strips. (As an alternative to using the optional breakout cable assemblies; or soldering custom connectors).

15 Pin Adapter
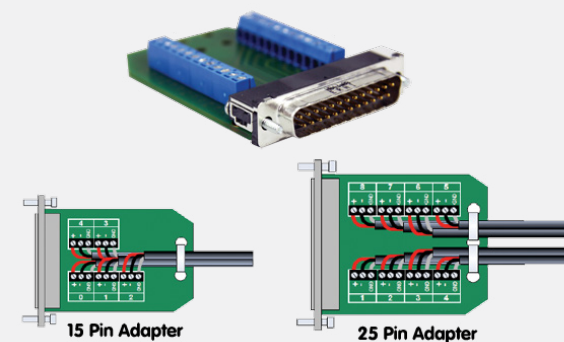
25 Pin Adapter

Ordering Information

Model #	Description
RBO 5015	15 Pin SubD Audio Adapter PCB
RBO 5025	25 Pin SubD Audio Adapter PCB

RCT 5023

APPolo Network Rack Controller + Server Option

The R CT 5023 APPolo Rack Controller is designed for use with the Series | 5000 R FR 5012 and R FR 5014 rack frames. The basic controller module provides network (LAN) access to the rack frame via the APPolo control system hosted in a PC. With the addition of the plug in server option OH-RCT5023-SVR, the APPolo software is hosted on the controller and supports network attached APPolo clients. Multiple server options can be used in a system for redundant backup.

Features
- Remote control and status monitoring for all installed modules
- Network (LAN) access
- R FR 5012 and R FR 5014 compatible
- USB port on module for local access
- Upgrade with server option
- Includes APPolo software
- Hot swappable

OH-RCT5023-SVR
APPolo Server Option

RCT 5023 G - APPolo Rack Controller

Ordering Information

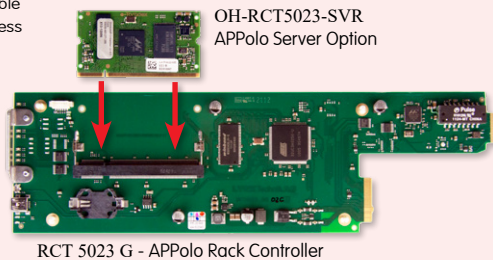| Model #	Description
6150025023	RCT 5023 G - APPolo Network Rack Controller
6155025023	OH-RCT5023-SVR - Plug in APPolo Server Option

APPolo | Control™ with flexGUI™

The APPolo control system is comprised of both software and hardware. Any time a rack controller is installed, APPolo software can be used. The basic APPolo software package is fully featured and free to download from our website. APPolo provides an extremely user friendly and intuitive graphical user interface for the monitoring and control of all connected LYNX hardware. This single, centralized application can be used for a single rack, or literally hundreds of racks located in different locations. Several software plug-in options are available to expand the basic system functionality.

Features
- Single centralized application
- User friendly and intuitive GUI
- Features flexGUI
  - > Interactive diagram zoom
  - > Drag and drop interconnections
  - > Visual path finding
- HotSync backup utility
- Auto discover and configuration
- Error reporting and logging
- Software plug-in options
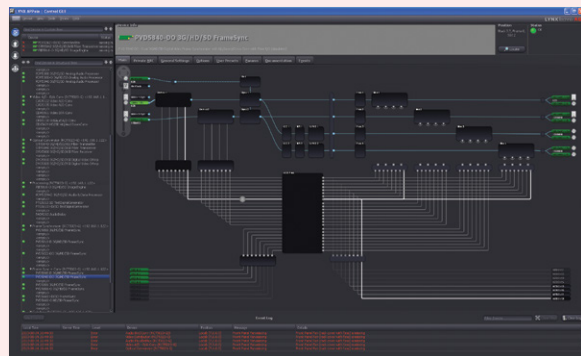
APPolo software plug-in options

The basic APPolo software has several optional software plug-ins to extend its functionality. These can be installed by purchasing a license code. All software plug-ins require that the OH-RCT5023-SVR option be installed.

OC-RSL-FUNC
This package includes the following additional functionality:

Backup and Restore - Backup a complete system, or partial system configuration and the backup file on a PC. A backup can be easily restored in the future. This feature is ideal for systems that are used for a multiple of different applications and require different configurations.

User Access Control - For larger installations with multiple access points, this feature allows the system administrator to control user access rights. In a system with multiple clients, the administrator may want to restrict the ability to change settings and only allow monitoring. This can be set per module function or globally for the entire system.

OC-RSL-CTRL
This package includes the following additional functionality:

SNMP support - This provides full SNMP support for error reporting and control.

IP Remote Protocol Licence - This is a user licence for the APPolo control protocol for advanced users and third parties who wish to control LYNX hardware from their own control system. Simple UDP/IP based ASCII text protocol.

OC-SERVER-AC-BASE
This package includes the following additional functionality:

AutoControl - This powerful option provides user-programmable automation to the system. APPolo monitors all module settings and I/O (in terms of presence and format) as well as multiple external GPI inputs in real-time. Based on these changing conditions, an automatic "action" can be programmed.

OC-SERVER-REDUND
This package includes the following additional functionality:

Redundant Server - This software extension supports full redundant backup server functionalty if a second OH-RCT5023-SVR is installed in the system. Features automatic redundant switching to backup server if primary server fails.

OC-SERVER-CUSTOM-CTR
This package includes the following additional functionality:

CustomContol - This software extension dds the custom control functionality to the system which allows the user to design and deploy custom control surfaces within the APPolo system to all conencted PC clients and wireless iPads

Ordering Information (Note. All software options require the OH-RCT5023-SVR option installed)

Model #	Description
OC-RSL-FUNC	Backup and restore and user access control software option (licence code)
OC-RSL-CTRL	SNMP support and APPolo remote control protocol licence (licence code)
OC-SERVER-AC-BASE	Auto control automation software
OC-SERVER-REDUND	Redundant Server Fucnction
OC-SERVER-CUSTOM-CTR	Custom Control Editor for a single server

Additional Resources

LYNX Technik has additional resources available on our website. This includes some application notes on the APPolo control system and also two Fiber Primers designed to introduce the basic concepts of fiber to the broadcast engineer. These can be found by visiting our website

www.lynx-technik.com - Select Support > Application Notes

APPolo Control System Overview

Abstract

Today's modern digital multi-format installations have resulted in the development of an array of new terminal equipment products designed to address the many needs and demands of such systems. Many devices are complex multi-faceted and multi-functional modules with an array of options and configuration possibilities. A comprehensive control system has become an essential component of any modern terminal equipment installation. LYNX Technik has addressed this with APPolo, a modular and expandable control system. The two primary building blocks of the control system are hardware components in the form of rack controllers (and server option), plus the APPolo software application.

This paper explains the concepts behind the LYNX Technik APPolo control system and shows how to configure and expand the system from a single rack to multiple installations located in different physical locations all under APPolo central control

A Fiber Primer

Abstract

Most of us in the Broadcast industry are familiar with fiber optic transmission systems and the solutions widely used for broadcast applications. These are typically external applications for moving video signals between distant locations, or hauling distant camera feeds into outside broadcast units. Signal distribution within a facility is typically copper coaxial cable, which has been used in one form or another since the inception of television. However, with the transition to HDTV, video bandwidth increased nearly seven fold from 270Mbit to 1.5Gbit. With the further migration to 1080P, video bandwidth has increased even further to 3Gbit. As bandwidth increases, the reach of copper cable reduces and our copper connected world is shrinking rapidly. Cable lengths have been reduced from 350m (1149 feet) at 270Mbit to 140m (460 feet) at 1.5Gbit, and now it's down to approximately 70m (230 feet) at 3Gbit. If you allow some overhead for cable routing and emergency patch panels etc. then 70m (230 feet) maximum cable lengths imposes serious issues for facility design and expansion.

The CWDM Fiber Primer
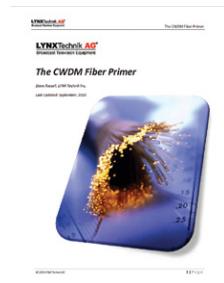
Abstract

Typically, CWDM is a technology used to transport multiple signals between distant locations over single fiber connections. This leverages the utilization and therefore the relative cost of the long-distance fiber cable links. However, with HDTV and the increasing bandwidths required for video production (3Gbit) plus 4K applications are evolving (which makes extensive use of 3Gbit SDI in the production environment) we see fiber connectivity increasingly taking the place of traditional copper (electrical) connections within facilities. As this evolution continues and more and more dedicated unidirectional "point to point" fiber connections are consumed, then an "in house" CWDM solution is the logical next step to better utilize the facilities existing fiber cable assets.

APPolo Redundant Servers

Abstract

Since the APPolo SERVER is a fundamental part of the system, a backup and failover solution may be required for system servicing and functionality. Users may add a second APPolo SERVER to a system, which serves as a backup or secondary server. In the case that the Primary APPolo SERVER is not available on the network, the Secondary APPolo SERVER takes over the active role, with all functionality. Therefore, even in the unlikely event of a failure of the Primary APPolo SERVER, the system's functions are always available.

APPolo Automation

Abstract

AutoControl for APPolo is a radical advancement for infrastructure control and automation. Most facilities use automation yet generally do not have the ability to automate static terminal equipment. AutoControl adds automation and programmable intelligence inside the terminal equipment, which enables automatic reconfiguration of the modules functions, signal routing and internal signal processing. This opens up an entirely new layer of power and flexibility to automated facility control.

APPolo Custom Control

Abstract

The demand for freely definable Control Panels (i.e. which are not pre-defined by LYNX) is satisfied by LYNX APPolo CustomControl. CustomControl provides a powerful, interactive and intuitive way for setup and deployment of one or more Custom Control Designs. Any number of custom-made designs (dedicated GUI pages) can be prepared for all those different applications and operating situations in a system where only a subset of the full power of the LYNX APPolo GUI shall be exposed. Individual Designs can then be loaded and displayed from various workstations and mobile tablet computers.

Vist our You Tube Channel to see some online videos demonstrating the use of the APPolo control GUI and also Custom Control

www.youtube.com/user/lynxtechnikag

LYNXTechnik AG

17 YEARS
Anniversary

2002-2019

Warranty

LYNX Technik AG is an industry leader and technology provider of terminal equipment, or "glue ware" for broadcast and professional audio-video use. LYNX Technik is an independent and privately-owned company with its research, design, and manufacturing located in Weiterstadt, Germany. Sales and support is covered from our regional headquarters in Germany, Singapore, and the USA.

Our engineering team consists of a multi-talented group of engineers that combine decades of experience from the broadcast and post-production industries. We carefully develop our products in close cooperation with leading broadcasters worldwide, who help specify and define features and performance levels that have produced some of the most flexible and powerful solutions available on the market today.

We have designed the **Series | 5000** product line to offer broadcast professionals an affordable, compact and extremely flexible solution for a variety of audio and video processing tasks. All modules have been designed to meet today's most demanding digital Broadcast requirements and have been configured to meet the 12G, 3G, HD, SD, and Fiber Optic demands across a wide spectrum of audio-visual applications.

Our APPolo control system is the primary value-add component to a system that really sets us aside from other providers. It is a powerful and intuitive application that provides a unique graphical signal flow representation of each module function and can be expanded from a single rack to an extensive multi-rack system that supports literally hundreds of racks located in various locations.

The **Series | 5000** product line is designed around size and flexibility. Small and durable 1RU and 2RU rack frames offer a small footprint which accommodates any mixture of modules. Some modules feature add-on option codes, allowing users to add a variety of sophisticated signal processing features merely by entering a license code – no new hardware or re-programming required.

Terminal equipment is all we do, and over the years we have got exceptionally good at it. We offer many unique capabilities and superior performance at affordable prices. We look forward to being your modular equipment supplier of choice.

-Stefan Gnann
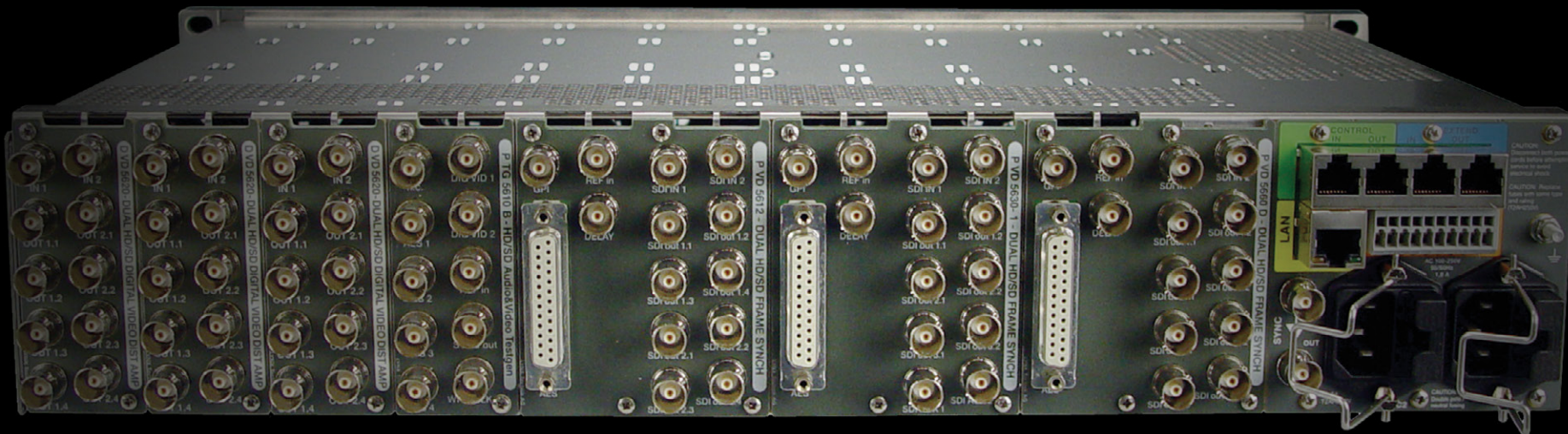Chairman **LYNX**Technik **AG**

LYNX Technik AG warrants that the product will be free from defects in materials and workmanship for a period of three (3) years from the date of shipment. If this product proves defective during the warranty period, LYNX Technik AG at its option will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, customer must notify LYNX Technik of the defect before expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by LYNX Technik, with shipping charges prepaid. LYNX Technik shall pay for the return of the product to the customer if the shipment is within the country which the LYNX Technik service center is located. Customer shall be responsible for payment of all shipping charges, duties, taxes and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance and care. LYNX Technik shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than LYNX Technik representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non LYNX Technik supplies; or d) to service a product which has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty servicing the product.

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Series | 5000