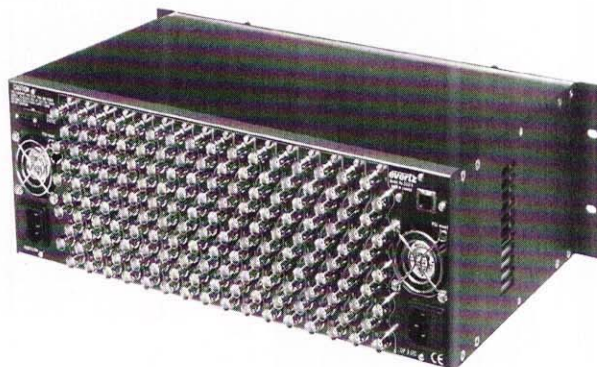
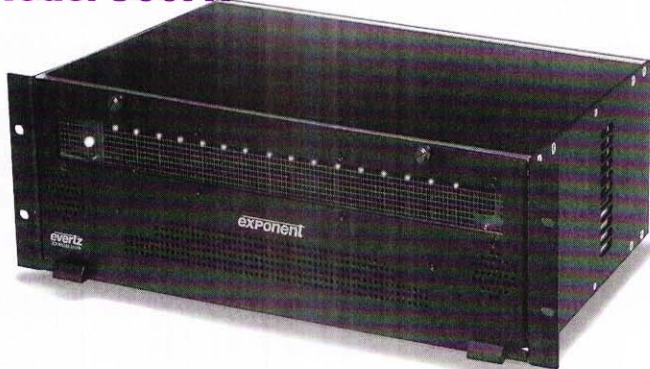


Model 500FR



Specifications

Electrical :

AC Mains Input: Auto ranging, 100 to 240 VAC, 50/60 Hz

Maximum Power

160 W

Dissipation:

Fuses: 3 amp, 250 Volt time delay
5x20mm - 2 per power supply

Power Supply

Configuration: External power supply adapter

Physical:

Dimensions: 19"W x 5.25"H x 9.25"D

Module Capacity: 16 single slot modules

Weight: 32 lbs. (14.5 Kg) (Full)

Certification:

Safety: ETL Listed

Complies with CE Safety Directive

EMC:

Complies with FCC part 15, Class A

EU EMC Directive

Status Indicators:

PSU status LED,
Local Error/Failure LED

Tally Output Connector:

4 pin terminal, relay N/O,
N/C for status/fault alarm

Temperature:

0 - 40° C optimal performance
0 - 50° C operating

Ordering Information:

500FR

Compact High Density Distribution Frame

Ordering Options:

500PS

exponent

Redundant power supply

Model S501FR



3 - S501FR & S501FR-RP

Electrical :

Voltage: 12VDC Nominal
Auto ranging, 100 to 240VAC power adapter

Power: 10 W

Fuse: Internal self resetting fuse

Connector: 2.5 mm DC power jack

Certification:

Safety: ETL Listed

Complies with EU Safety Directive

EMC:

Complies with FCC part 15, Class A

Complies with EU EMC Directives

Physical:

Dimensions: 4.9"W x 1.2"H x 10.5"D
(124mm W x 30mm H x 267mm D)

Module Capacity:

1 single slot

Weight:

1 lb

Ordering Information:

S501FR

exponent

Standalone Compact High Density Distribution Frame

Accessories:

S501FR-RP

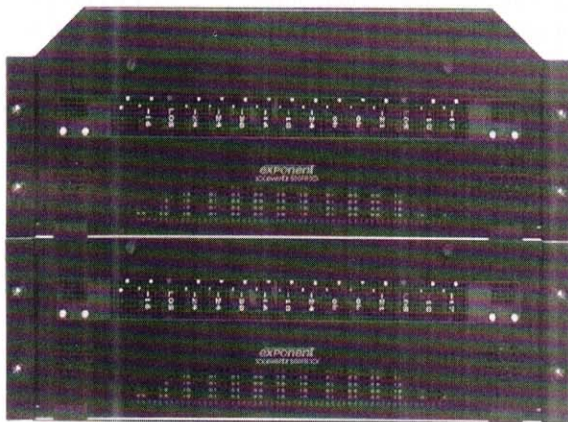
in

Rackmount panel mounts 3, S501FR enclosure
1RU rack space

An Industry Comparison

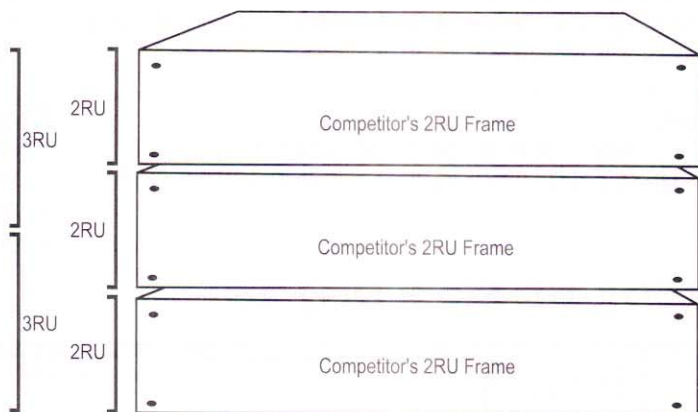
(based on 6RU of Rack Space)

Evertz *exponent* DA Frame



VS

Competitor's DA Frame



Total Number of Output BNC'S per 6RU= 288

Total Power Supplies per 6RU= 4 (with redundancy)

Total Number of Output BNC'S per 6RU= 240-270
(Depending on manufacturer)

Total Power Supplies per 6RU= 6 (with redundancy)

Notes:

- 1) Evertz achieves the highest density with 288 BNC outputs (per 6RU)
- 2) Evertz uses less power supplies thus less points of failure
- 3) Evertz is a very competitive solution for high volume DA installations

Combo HD/SD SDI Reclocking Distribution Amplifier

Model 500DA-HD

The Evertz 500DA-HD Reclocking Distribution Amplifier provides reliable distribution of your HDTV and SDTV SDI video signal at rates of 1.5 Gb/s and 143 Mb/s to 540 Mb/s. The DA features an auto-equalized input with eight serial outputs.

The 500DA-HD has been designed for use as a SMPTE 292M (1.5 Gb/s), DVB-ASI, SMPTE 259M, or SMPTE 310M distribution product.

The 500DA-HD DA's are housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

Features

- Fully hot-swappable from front of frame with no BNC disconnect required
- Tally output on Frame Status bus upon loss of input signal for quality monitoring

Inputs:

- Auto detects SMPTE 259M (143 to 540 Mb/s), SMPTE 292M (1.5 Gb/s) signals or DVB-ASI signals

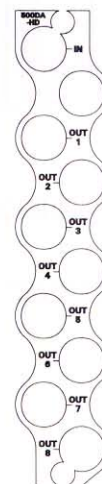
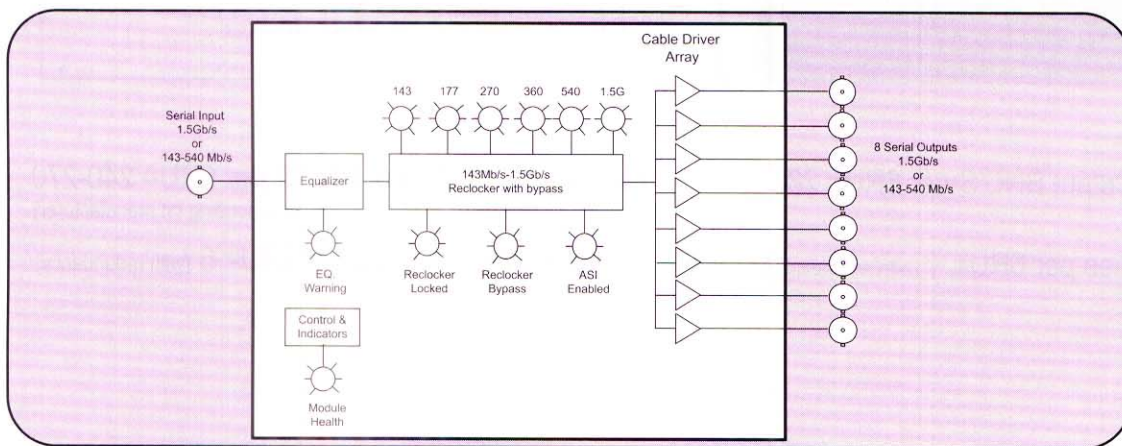
Outputs:

- Independent isolated output drivers to ensure no cross channel loading effects (i.e. no need to terminate unused outputs)

Card Edge LEDs:

- Module Health Status
- Max. Equalization Warning
- Reclocker Locked
- Bitrate Indication

500DA-HD Block Diagram



Specifications

Serial Video Input:

Standard: SMPTE 292M, SMPTE 259M-A, B, C, D (143 to 540Mb/s), SMPTE 310M or DVB-ASI

Connector: BNC input per IEC 169-8

Equalization: Automatic to 350m @ 270Mb/s, 100m @ 1.5Gb/s with Belden 1694 (or equivalent)

Return Loss: > 15dB up to 1.0 Gb/s
> 10dB up to 1.5 Gb/s

Serial Video Outputs:

Number of Outputs: 8 Reclocked

Connector: BNC per IEC 169-8

Signal Level: 800mV nominal

DC Offset: 0V $\pm$ 0.5V

Rise and Fall Time: 200ps nominal

Overshoot: < 10% of amplitude

Return Loss: > 15dB to 1.0 Gb/s
> 10db up to 1.5 Gb/s

Wideband Jitter: < 0.2 UI

Physical:

Number of Slots: 1

Electrical:

Voltage: + 12V DC

Power: 5 Watts

EMI/RFI: Complies with FCC Part 15 Class A
EU EMC Directive

Ordering Information:

500DA-HD

Combo HD/SD SDI Reclocking
Distribution Amplifier (1 x 8)

Enclosure:

500FR

S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

Combo HD/SD SDI Dual Reclocking Distribution Amplifier (32 1x4 DA's in 3RU Rack Space)

Model 500DA2Q-HD

The Evertz 500DA2Q-HD Dual HD Reclocking Distribution Amplifier provides the highest density DA in the industry allowing up to 32 HD or SDI Distribution amplifiers in a 3RU rack space. It provides inexpensive distribution of your SMPTE 292M (1.5 Gb/s), SMPTE 259M (143 to 360 Mb/s), SMPTE 344M (540 Mb/s), DVB-ASI or SMPTE 310M (19.4 Mb/s) or any other SDI signal within the 143 Mb/s to 1.5 Gb/s range. The 500DA2Q-HD features two auto-equalized inputs and can be configured either as a single DA with eight reclocked outputs or as two separate DAs with four outputs each. In the case of dual operation, each DA can be individually set via jumpers for either reclocking or non-reclocking.

The 500DA2Q-HD is housed in the 500FR *exponent* frame that will hold up to 16 modules.

Features

- Normal mode for SMPTE 292M (1.5 Gb/s) SMPTE 259M (143 - 360 Mb/s) or SMPTE 344M (540 Mb/s) signals - autodetects correct bit rate
- Jumper selectable mode for DVB-ASI
- Jumper selectable non-reclock mode for SMPTE 310M(19.4Mb/s) signals or any other SDI signal within the 143 Mb/s to 1.5 Gb/s range
- Configurable as 1 DA with 8 outputs or 2 DAs with 4 outputs each
- Fully hot-swappable from front of frame with no BNC disconnect required
- Independent isolated output drivers to ensure no cross channel loading effects (i.e. no need to terminate unused outputs)
- Module health and 2 x 4 Mode Status LEDs
- Reclocker(s) Locked, Carrier Present and Video Standard LEDs for each DA channel
- Tally output on Frame Status bus upon loss of input signal

Card Edge LEDs:

- Module Health Status
- 2x4 mode operation
- Reclocker rate detection
- Reclocker Locked
- Carrier Present

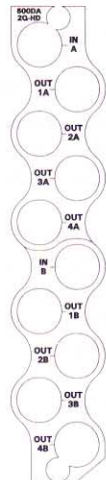
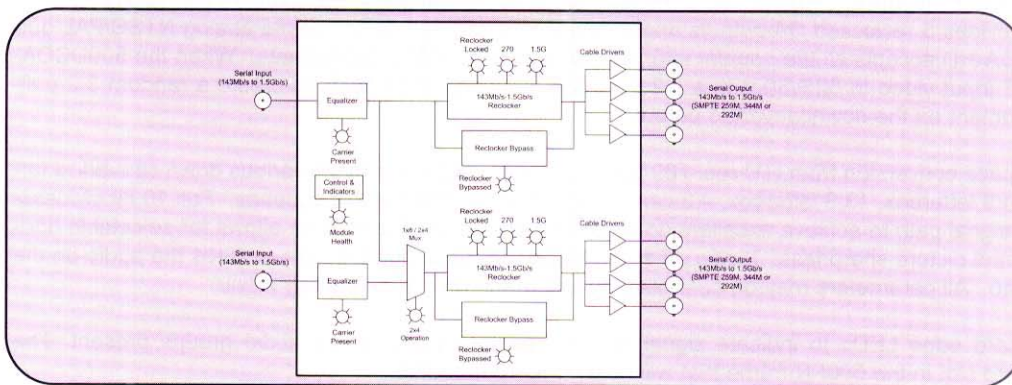
Inputs:

- 2 inputs
- SMPTE 292M (1.5 Gb/s), SMPTE 259M (143 to 360Mb/s), SMPTE 344M (540Mb/s), DVB-ASI or SMPTE 310M(19.4Mb/s)
- Auto equalization to 100m Input A, 90m Input B(Belden 1694) @1.5Gb/s

Outputs:

- 4 reclocked outputs per input
- Jitter < 0.2UI

500DA2Q-HD Block Diagram



Specifications

Serial Video Input:

Standards

Reclocked:

SMPTE 292M (1.5 Gb/s). SMPTE 259M (143 to 360 Mb/s), SMPTE 344M (540 Mb/s), DVB-ASI SMPTE 310M (19.4 Mb/s)

Non-reclocked:

Any SDI signal in the 143Mb/s to 1.5 Gb/s range

Connectors:

Equalization:

Input A:

Automatic to 100m @1.5Gb/s with Belden 1694A or equivalent cable

Input B:

Automatic to 90m @1.5Gb/s with Belden 1694A or equivalent cable

Return Loss:

>10 dB up to 1.5 Gb/s

Serial Video Outputs:

Number of Outputs:

2 x 4 Mode:

(mode set by jumper)
4 reclocked from each input
Reclockers can be bypassed separately for each input

1 x 8 Mode:

8 reclocked from Input A (1)
Reclockers can be bypassed

Connector:

BNC per IEC 169-8

Signal Level:

800mV nominal

DC Offset:

0V ±0.5V

Rise and Fall Time:

200ps nominal

Overshoot:

<10% of amplitude

Return Loss:

>10 dB up to 1.5 Gb/s

Jitter:

< 0.2 UI

Electrical:

Voltage:

+ 12VDC

Power:

6 Watts

EMI/RFI:

Complies with FCC Part 15 Class A
EU EMC Directive

Physical:

Number of slots:

1

Ordering Information:

500DA2Q-HD

Combo HD/SD SDI Dual Reclocking Distribution Amplifier (2 - 1 x 4)

Enclosure:

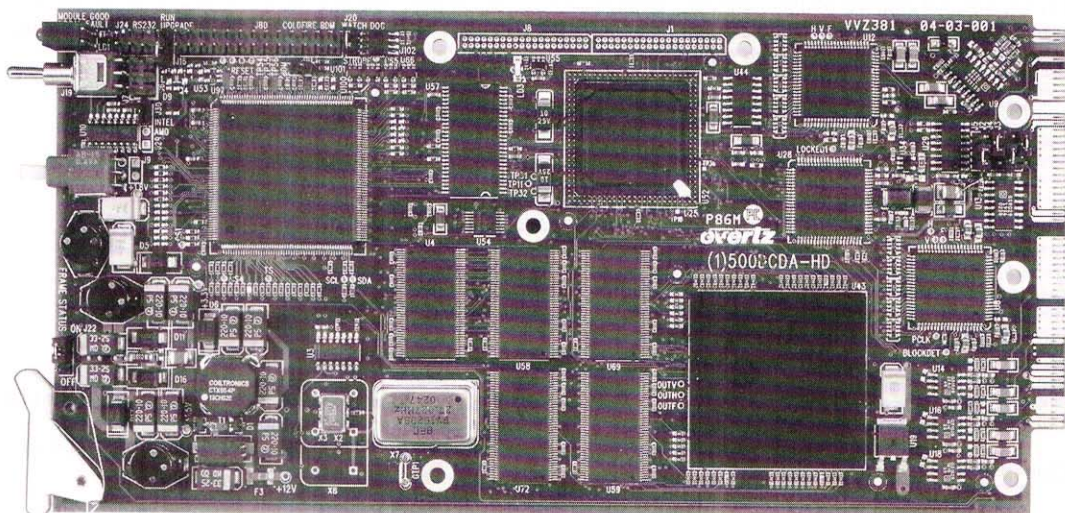
500FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

S501FR

Model 500DCDA-HD



The 500DCDA-HD *exponent* is a reclocking high definition serial digital video distribution amplifier and a high quality down-converter for 1.5 Gb/s HDTV signals. It can also function as a monitoring distribution amplifier for standard definition 270 Mb/s signals. The 500DCDA-HD provides 5 reclocked DA outputs and 4 downconverted SDI or composite analog NTSC/PAL outputs (selectable). The 500DCDA-HD accepts all the popular international SMPTE 292M video formats. When the 500DCDA-HD down converts 1080p/24sF input video to 525i/60 with a 3:2 pulldown, it inserts extra fields to create a random 3:2 pulldown cadence of the picture content on the downconverted output.

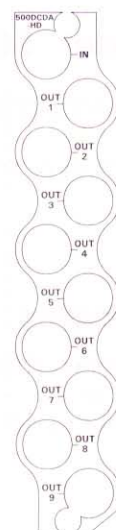
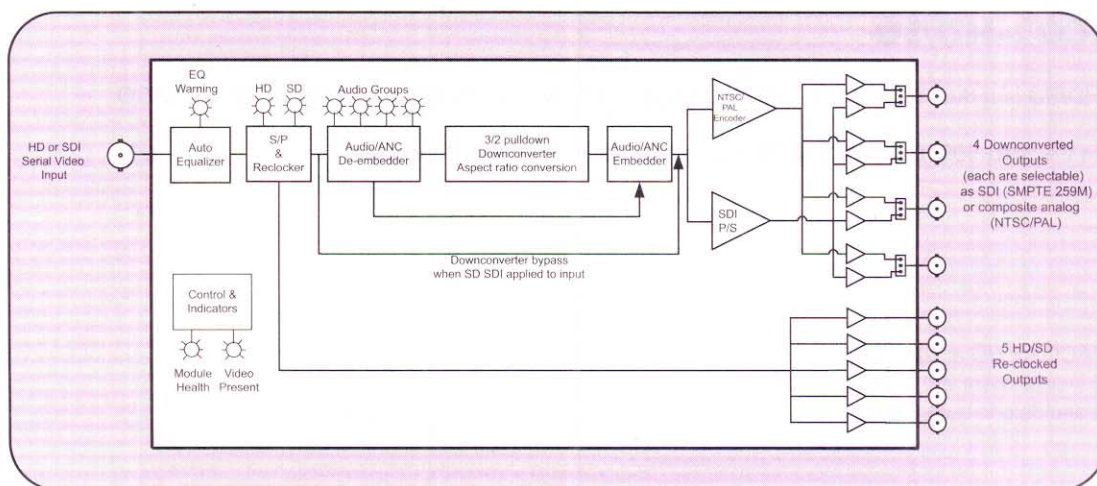
The 500DCDA-HD has color space conversion from ITU rec. 709 to ITU rec. 601, and will provide various down converted formats such as 16:9 letterbox, 14:9 letterbox, 13:9 letterbox, 4:3 center crop, and 4:3 anamorphic squeeze. Full 10 bit processing is provided throughout the signal path to achieve excellent downconversion quality. The module allows for selectable horizontal and vertical filters to control picture sharpness. It also de-embeds two groups of audio and re-embeds the audio on the SDI output in time with the video. All parameters may be controlled by use of the on screen display menu.

The 500DCDA-HD provides card edge LEDs to indicate signal present, genlock present and audio groups present. The 500DCDA-HD occupies one card slot in the 500FR frame that will hold up to 16 modules.

Features

- Serial digital 1.5 Gb/s HD input per SMPTE 292M
- Supports most international standards including 1080i/60, 1080i/59.94, 1080i/50, 480p/59.94, 480p/60, 720p/60 & 720p/59.94, 1080p/24sF and 1080i/23.98sF
- Will also accept 270 Mb/s SD input SDI per SMPTE 259M in a pass through mode - auto senses HD or SD inputs (feature not implement at the time of writing)
- 5 Reclocked DA outputs (HD if HD inputs applied, SD if SD inputs applied)
- 4 Selectable SDI or Composite Outputs (downconverted from HD if HD input applied), (from reclocked SD if SD input applied)
- High quality HD -> SD down conversion
- Supports 16:9 letterbox, 14:9 letterbox, 13:9 letterbox, 4:3 center crop, and 4:3 anamorphic squeeze aspect ratio conversions
- 1080p/23.98sF conversion to 525i/59.94 with 3:2 pulldown sequence (random cadence)
- HD to SD colour space conversion (ITU rec. 709 to ITU rec. 601)
- On screen display used to configure the operating modes
- De-embeds Audio from HD video and embeds into standard definition SDI video (2 groups)
- Card Edge LEDs for signal presence, equalization warning, audio groups present, module status
- Tally output on Frame Status bus upon loss of input signal

500DCDA-HD Block Diagram



Specifications

Serial Video Input:

Standard:	SMPTE 259M 270 Mb/s - pass through mode SMPTE 292M - auto-detects standard, SMPTE 274M, SMPTE 296M, (1080i/60, 1080i/59.94, 1080i/50, 480p/59.94, 480p/60, 720p/60 & 720p/59.94, 1080p/24sF and 1080i/23.98sF)
Connector:	BNC per IEC 169-8
Input Equalization:	Automatic to 100m @ 1.5Gb/s with Belden 1694 or equivalent cable.
Return Loss:	>15 dB up to 1.5GHz

Reclocked Serial Video DA Outputs:

Standard:	Same as input (SMPTE 259M or SMPTE 292M)
Number of Outputs:	4 Per Card relocked
Connector:	BNC per IEC 169-8
Signal Level:	800mV nominal
DC Offset:	0V $\pm$ 0.5V
Rise and Fall Time:	200ps nominal for HD 750ps nominal for SD
Overshoot:	<10% of amplitude
Return Loss:	> 15 dB at 1.5 Gb/s
Jitter:	< 0.2 UI

Downconverted Composite Analog Video Outputs:

Standards:	Analog composite NTSC (SMPTE 170M) if input is 59.94Hz or Analog composite PAL (ITU-R BT.470) if input is 50Hz
Number of Outputs:	up to 3 Per Card (jumper selectable)
Connectors:	BNC per IEC 169-8
Signal Level:	1 V p-p nominal
DC Offset:	0V $\pm$ 0.1V
Return Loss:	>35dB up to 5 MHz
Frequency Response:	0.1dB to 4 MHz, 01.5dB to 5.5 MHz
Differential Phase:	<0.5°(<0.3° typical)
Differential Gain:	<0.5% (<0.3 % typical)
SNR:	>78dB to 5 MHz (shallow ramp)
Impedance:	75 Ω

Downconverted Serial Video Outputs:

Standard:	SMPTE 259M-C (270 Mb/s)
Number of Outputs:	up to 3 Per Card (jumper selectable)
Connector:	BNC per IEC 169-8
Signal Level:	800mV nominal
DC Offset:	0V $\pm$ 0.5V
Rise and Fall Time:	750ps nominal
Overshoot:	<10% of amplitude
Return Loss:	> 15 dB at 270 Mb/s
Jitter:	< 0.2 UI

Input to Output Processing Delay:

Video Delay:	2 to 4 frames depending on input video format and processing mode.
Audio Delay:	Audio is delayed and re-embedded in time with the output picture

Electrical:

Voltage:	+12VDC
Power:	10 Watts
EMI/RFI:	Complies with FCC Part 15 Class A EU EMC Directive

Physical:

Number of slots:	1
-------------------------	---

Ordering Information:

500DCDA-HD	HD Downconverter and Distribution Amplifier
-------------------	---

Enclosures:

500FR	exponent Compact High Density Distribution Frame
S501FR	Standalone enclosure

Combo HD & SD Digital Auto Signal 2x1 Change Over

Model 500ACO2-HD/SD

The Evertz 500ACO2-HD/SD is a dual HD/SD SDI autochangeover. It serves as an SDI extension to our 5600ACO.

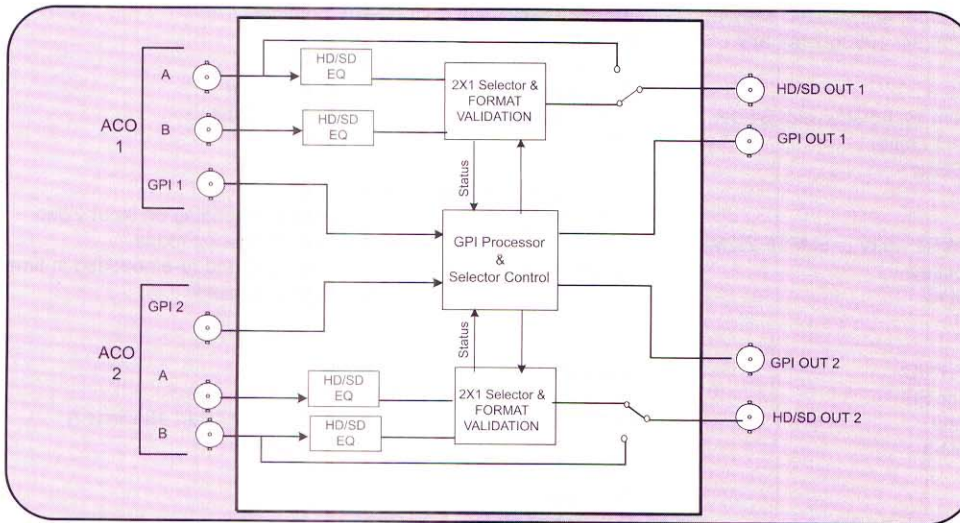
This device is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

3

Features

- Extension of the 5600ACO for HD or SD SDI
- Can be operated as 2 independent 2x1 via GPI control
- Can be operated as 2 standalone autochangeover's

500ACO2-HD/SD Block Diagram



Specifications

Serial Video Input:

Standard: SMPTE 259-C (270Mb/s)
Connector: BNC input per IEC 169-8
Equalization: Automatic to 200m @ 270Mb/s, 75m @ 1.5Gbp/s
Belden 1694A
Return Loss: > 15dB up to 270Mb/s

Serial Video Output:

Standard: SMPTE 259-C (270Mb/s)
Number of Outputs: 1
Connector: BNC per IEC 169-8
Signal Level: 800mV nominal
DC Offset: 0V ± 0.5V
Overshoot: <10% of amplitude
Wideband Jitter: <0.2 UI

Physical:

Number of Slots: 1

Electrical:

Voltage: +12VDC
Power: 6 Watts
EMI/RFI: Complies with FCC Part 15 Class A
EU EMC Directive

Ordering Information:

500ACO2-HD/SD Combo HD & SD Digital Auto Signal Change Over

Enclosures:

500FR *exponent*
S501FR Compact High Density Distribution Frame
Standalone enclosure

SDI Reclocking Distribution Amplifier

Model 500DA

The Evertz 500 DA Reclocking Distribution Amplifier provides inexpensive distribution of your SMPTE 310M and SMPTE 259M serial digital video signal at rates of 19.4 Mb/s and 143 Mb/s to 540 Mb/s. Ideal in applications where a large quantity of outputs are required, the DA features an auto-equalized input with nine isolated reclocked outputs.

The 500DA has been designed for use as a SMPTE 310M (19.4 Mb/s), DVB-ASI or SMPTE 259M distribution product. SMPTE 310M support is selected by setting a rate select jumper.

The 500DA is housed in the 3RU 500FR **exponent** frame that will hold up to 16 modules.

Features

- Normal mode for SMPTE 259M (143 to 540 Mb/s) or DVB-ASI signals - autodetects correct bitrate
- Jumper Selectable mode for SMPTE 310M (19.4 Mb/s)
- Fully hot-swappable from front of frame with no BNC disconnect required
- Independent isolated output drivers to ensure no cross channel loading effects (i.e. no need to terminate unused outputs)
- Outputs maintain polarity from input to output for DVB-ASI applications
- Tally output on Frame Status bus upon loss of input signal for quality monitoring

Input:

- SMPTE 259M A, B, C, D (143 Mb/s to 540Mb/s), DVB-ASI, SMPTE 310M (19.4 Mb/s) (jumper selectable)
- Return loss > 15dB up to 540Mb/s

- 440m auto eq. at 270Mb/s (Belden 1694A)
- 380m auto eq. at 270Mb/s (Belden 1694A) with HDSDI modules within 500FR

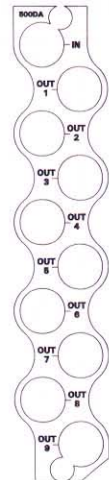
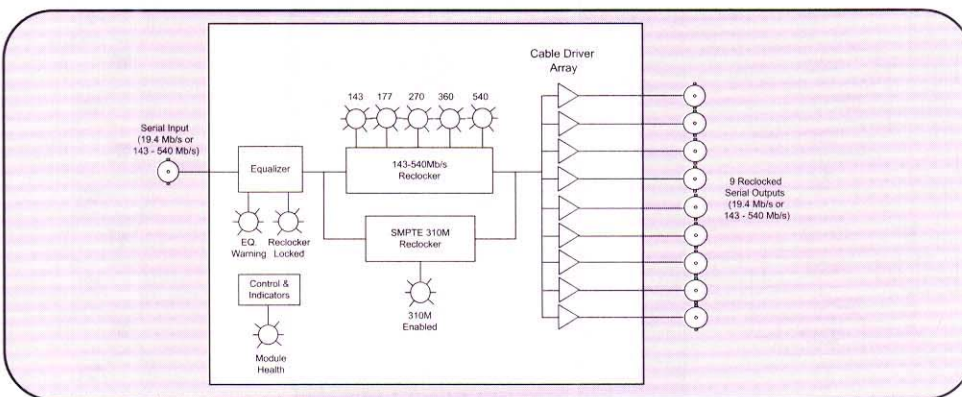
Outputs:

- 9 reclocked outputs
- Return loss > 15dB up to 540Mb/s
- Wideband jitter <0.2 UI

Card Edge LEDs:

- Reclocker rate (6 LEDs)
- Reclocker Locked
- Max. Equalization Warning
- 310M Reclocker Enable

500DA Block Diagram



Specifications

Serial Video Input:

Standard:

259 Mode

SMPTE 259M A, B, C, D (143 to 540Mb/s) or DVB-ASI

310 Mode

SMPTE 310M (19.4Mb/s)

Connector:

BNC input per IEC 169-8

Equalization:

Automatic to 440m @ 270Mb/s with Belden 1694A

Automatic to 380m @ 270Mb/s

Belden 1694A with HDSDI modules within 500FR

> 15dB up to 540Mb/s

Return Loss:

Serial Video Output:

Number of Outputs:

9 Reclocked

Connector:

BNC per IEC 169-8

Signal Level:

800mV nominal

DC Offset:

0V $\pm$ 0.5V

Rise and Fall Time:

470ps nominal

Overshoot:

<10% of amplitude

Return Loss:

>15 dB up to 540Mb/s

Wideband Jitter:

<0.2 UI

Physical:

Number of Slots:

1

Electrical:

Voltage:

+12VDC

Power:

6 Watts

EMI/RFI:

Complies with FCC Part 15 Class A
EU EMC Directive

Ordering Information:

500DA

SDI Reclocking DA - (1 x 9)

Enclosures:

500FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

S501FR

SDI Dual Reclocking Distribution Amplifier (2 1x4 SDI DA's in 3RU Rack Space)

Model 500DA2Q

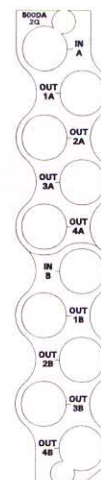
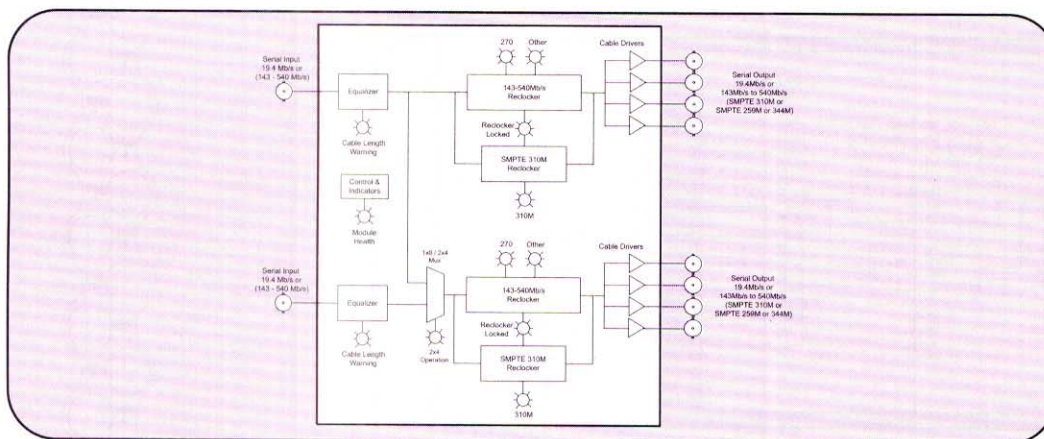
The Evertz 500DA2Q Reclocking Distribution Amplifier provides the highest density DA in the industry allowing up to 32 SDI distribution amplifiers in a 3RU rack space. It provides inexpensive distribution of your SMPTE 259M (143 to 360 Mb/s), SMPTE 344M (540Mb/s), or SMPTE 310M (19.4 Mb/s) signals. The 500DA2Q features two auto-equalized inputs and can be configured either as a single DA with eight reclocked outputs or as two separate DAs with four outputs each. In the case of dual operation, each DA can be individually set via jumpers for either SMPTE 259M/344M or SMPTE 310M reclocking.

The 500DA2Q is housed in the 500FR *exponent* frame that will hold up to 16 modules.

Features

- Normal mode for SMPTE 259M (143-360 Mb/s), SMPTE 344M (540Mb/s) or DVB-ASI signals - autodetects correct bit rate
 - Jumper selectable mode for SMPTE 310M (19.4 Mb/s) signals
 - Configurable as 1 DA with 8 outputs or 2 DAs with 4 outputs each
 - Fully hot-swappable from front of frame with no BNC disconnect required
 - Independent isolated output drivers to ensure no cross channel loading effects (i.e. no need to terminate unused outputs)
 - Module health and 2 x 4 Mode status LEDs
 - Reclocker(s) Locked, Cable Length Warning and Video Standard LEDs for each DA channel
 - Tally output on Frame Status bus upon loss of input signal
 - Reclocker Locked
 - Max. Equalization Warning
- Inputs:**
- 2 inputs
 - SMPTE 259M (143 to 360Mb/s), SMPTE 344M (540Mb/s), DVB-ASI or SMPTE 310M (19.4Mb/s)
 - Return loss > 15dB up to 540Mb/s
 - 300m auto eq. at 270Mb/s (Belden 8281)
 - 210m auto eq. at 540Mb/s (Belden 8281)
- Outputs:**
- 4 reclocked outputs per input
 - Return loss > 15dB up to 540Mb/s
 - Jitter < 0.2UI
- Card Edge LEDs:**
- Module Health Status
 - 2x4 mode operation
 - Reclocker rate (detection)

500DA2Q Block Diagram



Specifications

Serial Video Input:

- Standards**
- Reclocked:** SMPTE 259M (143 to 360 Mb/s)
SMPTE 344M (540 Mb/s), SMPTE 310M (19.4 Mb/s)
DVB-ASI
- Non-reclocked:** Any SDI signal in the 143Mb/s to 540 Mb/s range
- Connectors:** 2 BNC per IEC 169-8
- Equalization:** Automatic to 400m @ 270 Mb/s with Belden 1694A or equivalent cable (325m in mixed HD-SDI/SD-SDI frame applications)
- Return Loss:** > 15 dB up to 270 Mb/s

Serial Video Output:

- Number of Outputs** (mode set by jumper)
- 2 x 4 Mode:** 4 reclocked from each input
- 1 x 8 Mode:** 8 reclocked from Input A (1)
- Connector:** BNC per IEC 169-8
- Signal Level:** 800mV nominal
- DC Offset:** 0V ±0.5V
- Rise and Fall Time:** 740ps nominal
- Overshoot:** < 10% of amplitude
- Return Loss:** > 15 dB up to 270 Mb/s
- Jitter:** < 0.2 UI

Physical:

Number of slots: 1

Electrical:

- Voltage:** + 12V DC
- Power:** 6 Watts
- EMI/RFI:** Complies with FCC Part 15 Class A
EU EMC Directive

Ordering Information:

500DA2Q SDI Dual Reclocking Distribution

Amplifier (2 - 1 x 4)

Enclosure:

500FR
S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

SDI Monitoring Reclocking Distribution Amplifier

Model 500VMDA

The Evertz 500VMDA Reclocking Distribution Amplifier provides inexpensive distribution and monitoring of your SMPTE 259M (270MB/s) serial digital video signal. The DA features an auto-equalized input with nine outputs that can be selected as either SDI or composite analog. The 500VMDA in conjunction with the 500DCDA-HD gives an upgrade path to monitoring future HD SDI signals without having to re-wire y

The 500VMDA is housed in the 500FR *exponent* frame that will hold up to 16 modules.

Features

- Fully hot-swappable from front of frame with no BNC disconnect required
- Tally output on Frame Status bus upon loss of input signal

Input:

- Supports SMPTE 259 (270Mb/s) video

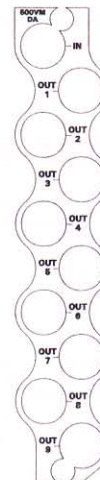
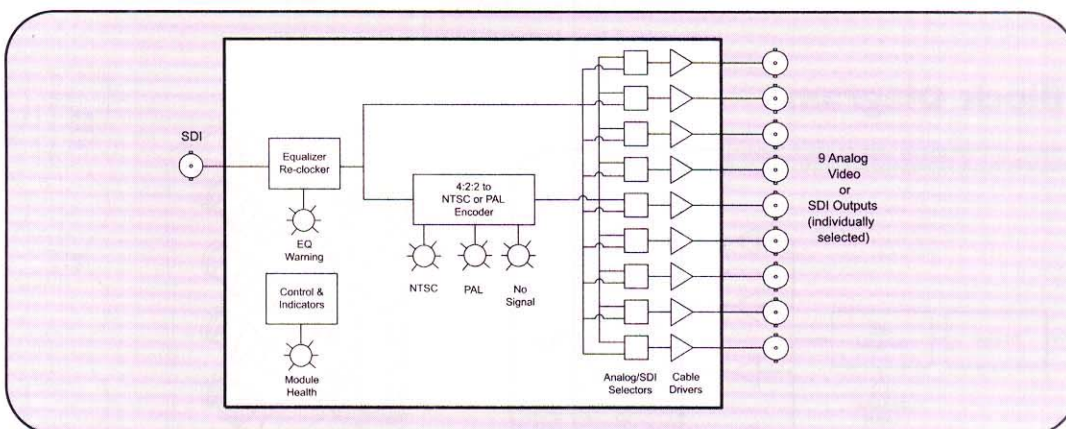
Output:

- 9 outputs selectable as SDI or composite analog (NTSC/PAL)
- Independent isolated output drivers to ensure not cross channel leading effects (i.e. no need to terminate unused outputs)
- Selectable NTSC pedestal on/off

Card Edge LEDs:

- Reclocker Locked
- Max. Equalization Warning
- Module Health Status
- Video present, cable length warning and video standard LEDs

500VMDA Block Diagram



Specifications

Serial Video Input:

Standards:	SMPTE 259M-C (270 Mb/s) 525 or 625 line.
Connector:	1 BNC per IEC 169-8
Equalization:	Automatic to 415m @ 270 Mb/s with Belden 1694A or equivalent cable (340m with HD-SDI modules within 500FR frame)
Return Loss:	> 15 dB up to 270 Mb/s

Serial Video Output:

Number of Outputs:	Up to 9 reclocked outputs (jumper selectable)
Connector:	BNC per IEC 169-8
Signal Level:	800mV nominal
DC Offset:	0V $\pm$ 0.5V
Rise and Fall Time:	470ps nominal
Overshoot:	< 10% of amplitude
Return Loss:	> 15 dB up to 270 Mb/s
Wide Band Jitter:	< 0.2 UI

Analog Video Output:(User selectable as additional SDI Outputs)

Number of Outputs:	Up to 9 (jumper selectable)
Standards:	NTSC, SMPTE 170M if input is 525i/59.94 PAL-B ITY 624-4 if input is 625i/50
Connectors:	BNC per IEC 169-8
Signal Level:	1 V p-p nominal
DC Offset:	0V $\pm$ 0.1V
Return Loss:	> 35 dB up to 5 MHz

Electrical:

Voltage:	+12VDC
Power:	6 Watts
EMI/RFI:	Complies with FCC Part 15 Class A EU EMC Directive

Physical:

Number of Slots:

1

Ordering Information:

500VMDA

SDI Monitoring Reclocking Distribution Amplifier

Enclosure:

500FR
S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

Balanced AES Audio Distribution Amplifier

Model 500DA-AESB

The 500DA-AESB is a four output reclocking and auto equalizing DA for unbalanced 110 Ω AES signals. The DA automatically equalizes up to 300m of Belden 1800B cable and provides reclocked outputs with sampling frequencies of 32kHz, 44.1kHz, 48kHz and 96kHz.

The 500DA-AESB card edge LED indicators provide quick and accurate assessment of the incoming signal integrity.

The 500DA-AESB is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

Features

- Data reclocking provides jitter reduction

Inputs:

- AES3-1992 standard for AES audio on 110 Ω twisted pair cable
- EQ and reclock provide extended cable length compensation (>300m)
- Transformer coupled 110 Ω balanced input

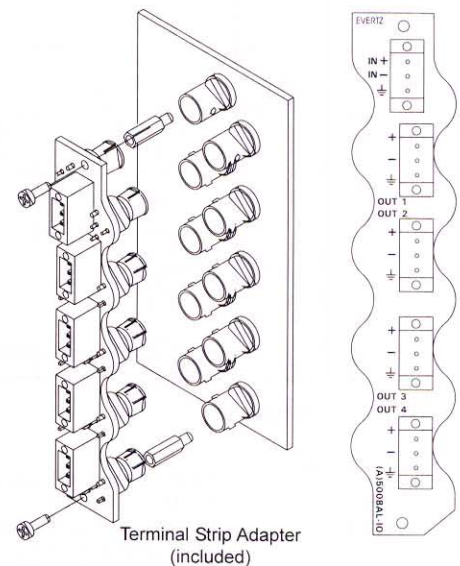
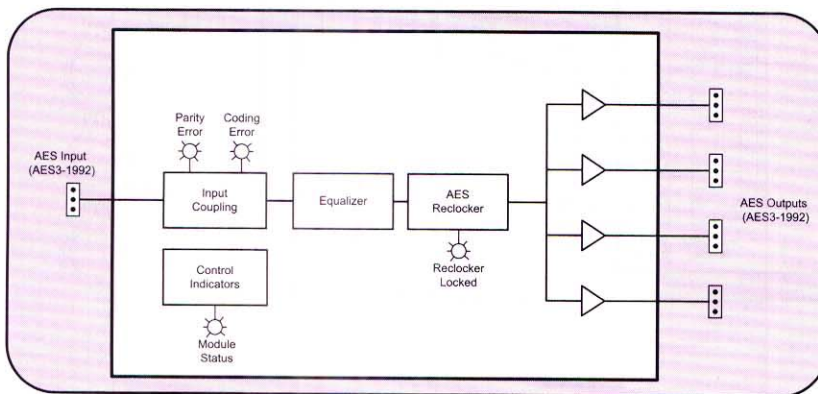
Outputs:

- Four 110 Ω balanced

Card Edge LEDs:

- Module Health Status
- Error LED indication for input PLL out of lock, parity error or biphas coding error
- Reclocked locked

500DA-AESB Block Diagram



Specifications

AES Input:

Standard:	AES3-1992
Number of Inputs:	1
Connector:	3 pin removable terminal strip
Input Level:	2 to 7V p-p
Coupling:	Transformer
Input Impedance:	110 Ω
Return Loss:	>14dB 100kHz to 6MHz
Equalization:	Automatic to 300m with Belden 1800B (or equivalent) @ 48kHz AES signal
Sampling Frequency:	32kHz, 44.1kHz, 48kHz and 96kHz

AES Output:

Number of Outputs:	4 Balanced AES reclocked
Connector:	3 pin removable terminal strip (screwdown adapter module included)
Output Level:	5V p-p
Output Impedance:	110 Ω
Return Loss:	>30dB 100kHz to 6MHz

Physical:

Number of Slots:	1
------------------	---

Electrical:

Voltage:	+12VDC
Power:	5 Watts
EMI/RFI:	Complies with FCC Part 15 Class A EU EMC Directive

Ordering Information:

500DA-AESB

Balanced AES Audio Distribution Amplifier (1x4)

Enclosure:

500FR
S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

Model 500DA-AESU

The 500DA-AESU is a nine output reclocking and auto equalizing DA for unbalanced 75 Ω AES signals. The DA automatically equalizes up to 1500m of Belden 1694A coax and provides reclocked outputs with sampling frequencies of 32kHz, 44.1kHz, 48kHz and 96kHz.

The 500DA-AESU card edge LED indicators provide quick and accurate assessment of the incoming signal integrity.

The 500DA-AESU is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

Features

- Data reclocking provides jitter reduction

Inputs:

- SMPTE 276M standard for AES audio on 75 Ω coax
- EQ and reclock provide extended cable length compensation (>1500m)
- Transformer coupled 75 Ω unbalanced input

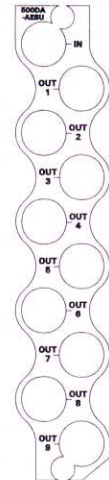
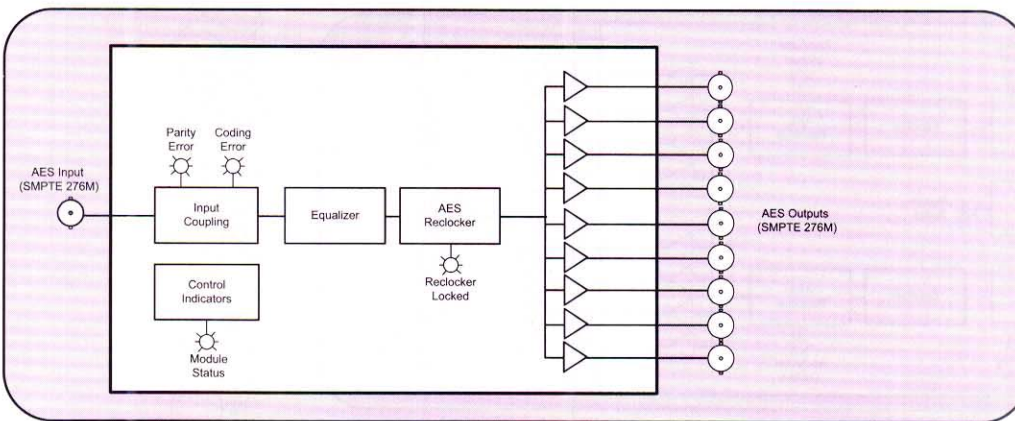
Outputs:

- Nine 75 Ω coax outputs

Card Edge LEDs:

- Module Health Status
- Error LED indication for input PLL out of lock, parity error or biphas coding error
- Reclocker locked

500DA-AESU Block Diagram



Specifications

AES Input:

Standard:	SMPTE 276M
Number of Inputs:	1
Connector:	BNC input per IEC 169-8
Input Level:	1V p-p
Coupling:	Transformer
Input Impedance:	75 Ω
Return Loss:	>25dB 100kHz to 6MHz
Equalization:	Automatic to 1500m with Belden 1694A (or equivalent) @ 48kHz AES signal
Sampling Frequency:	32kHz, 44.1kHz, 48kHz and 96kHz

AES Output:

Number of Outputs:	9 Unbalanced AES
Connector:	BNC per IEC 169-8
Output Level:	1V p-p
Output Impedance:	75 Ω
Return Loss:	>25dB 100kHz to 6MHz

Physical:

Number of Slots:	1
------------------	---

Electrical:

Voltage:	+12VDC
Power:	5 Watts
EMI/RFI:	Complies with FCC Part 15 Class A EU EMC Directive

Ordering Information:

500DA-AESU	Unbalanced AES Audio Distribution Amplifier (1x9)
------------	---

Enclosure:

500FR	<i>exponent</i> Compact High Density Distribution Frame
S501FR	Standalone enclosure

Dual Unbalanced AES Audio Distribution Amplifier

Model 500DA2Q-AESU

The 500DA2Q-AESU provides an economical method of distribution for your AES digital audio signals. The DA's feature two auto-equalized inputs with four re-clocked outputs each. The module can also be configured for one input with eight re-clocked outputs for applications where a larger numbers of outputs is required.

The 500DA2Q-AESU is housed in the 500FR **exponent** frame that will hold up to 16 modules.

Features

- Supports SMPTE 276M standard for AES audio on 75Ω coax
- 2 independent distribution amplifiers with 4 re-clocked outputs provides jitter reduction
- Can be configured as one 8 output distribution amplifier
- Automatic equalization provides extended cable length capabilities
- Card edge indicators for PLL out of lock, parity error or bi-phase coding errors
- Tally output of input error conditions

Inputs:

- 2 inputs
- SMPTE 276M standard for AES audio on 75Ω coax
- EQ and reclock provide extended cable length compensation (>1500m)
- Transformer coupled 75Ω unbalanced input

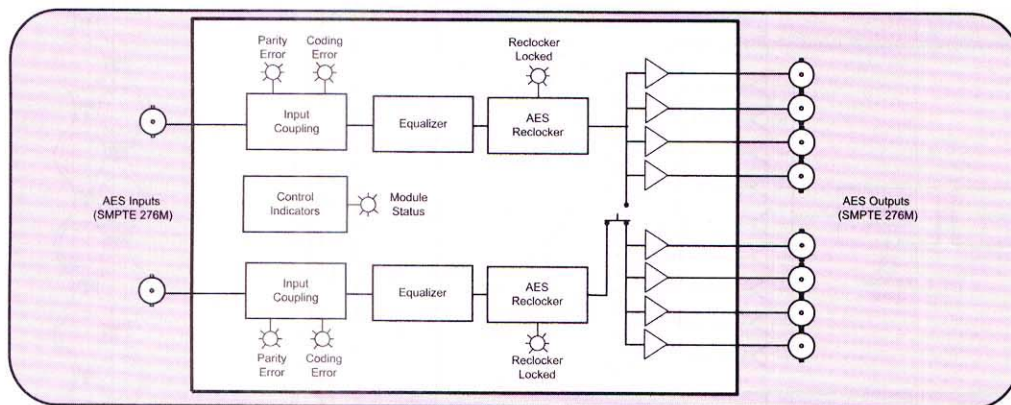
Outputs:

- 4 re-clocked outputs per input

Card Edge LEDs:

- Module Health Status
- Error LED indication for input PLL out of lock, parity error or biphas coding error
- Reclocker locked

500DA2Q-AESU Block Diagram



Specifications

AES Audio Inputs:

Number of Inputs: 2
Standard: SMPTE 276M, single ended AES
Connectors: BNC per IEC 169-8
Coupling: Transformer
Signal Level: 1V p-p ±0.1V
Equalization: Automatic 1500m @48kHz with Belden 1694A or equivalent cable
Impedance: 75Ω
Return Loss: >25 dB 100 kHz to 6 MHz
Sampling Rate: 32 KHz, 44.1 kHz, 48 kHz and 96 kHz

AES Audio Outputs:

Number of Outputs: 4 re-clocked outputs per input (normal)
8 outputs from input 1 (jumper selectable)
Standard: SMPTE 276M, single ended AES
Connectors: BNC per IEC 169-8
Signal Level: 1V p-p ±0.1V
Impedance: 75Ω unbalanced
Return Loss: >25 dB 100 kHz to 6 MHz

Electrical:

Voltage: + 12VDC
Power: 1.2 Watts

Physical:

Number of slots: 1

Ordering Information:

500DA2Q-AESU

SDI Dual Reclocking Distribution Amplifier (2 - 1 x 4)

Enclosure:

500FR
S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

Unbalanced AES Audio Monitoring & Distribution Amplifier

Model 500AMDA-AESU

The 500AMDA-AESU is a five output reclocking and auto equalizing Audio Monitoring & Distribution Amplifier for unbalanced 75 Ω AES signals. It is also a high quality 24-bit audio DAC. The 500AMDA-AESU automatically equalizes up to 1500m of Belden 1694A coax and provides reclocked outputs. The 500AMDA-AESU converts one AES/EBU digital signal to 2 balanced analog audio outputs. The input sample rates supported are 44.1kHz and 48kHz. Analog audio output levels may be set individually from the front panel.

Evertz's SoftSwitch™ technology mitigates audio pops during hot-switching the AES input and maintains consistent audio sequences and formatted output. It ensures that AES devices downstream will receive properly formatted AES signals always. Hence downstream devices are protected from "hot switched" upstream AES routers. SoftSwitch™ is an option on the XXXXX.

Level control is provided via a card edge toggle. The full scale digital signal can be calibrated to product analog peak levels ranging from 12dBu to 24dBu with 0.1dB resolution. The 500AMDA-AESU card edge LED indicators provide quick and accurate assessment of the incoming signal integrity. Balanced analog audio is provided via a terminal strip adapter.

The 500AMDA-AESU is housed in the 3RU 500FR **exponent** frame that will hold up to 16 modules.

Features

- 24-bit, high-quality D/A conversion
- 44.1 and 48kHz sampling rates supported
- 0dBFS programmable from 12dBu to 25dBu
- Support for 2 channels of balanced analog audio (1 AES/EBU)
- Optional SoftSwitch™ technology for protection against hot-switch formatting errors & provides audio pop mitigation

Inputs:

- SMPTE 276M standard for AES audio on 75 Ω coax
- EQ and reclock provide extended cable length compensation (>1500m)

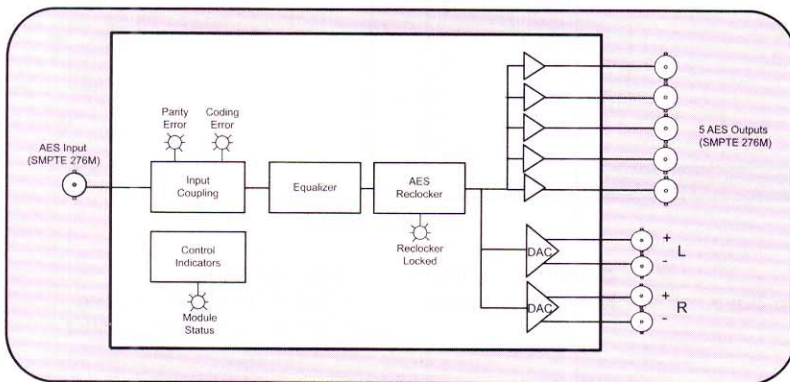
Outputs:

- Five 75 Ω coax outputs
- 2 balanced analog audio outputs

Card Edge LEDs:

- Module Health Status
- Error LED indication for input PLL out of lock, parity error or biphasic coding error
- Reclocker locked

500AMDA Block Diagram



Specifications

AES Input:

Standard:	SMPTE 276M
Number of Inputs:	1
Connector:	BNC input per IEC 169-8
Input Level:	1V p-p
Coupling:	Transformer
Input Impedance:	75 Ω
Return Loss:	>25dB 100kHz to 6MHz
Equalization:	Automatic to 1500m with Belden 1694A (or equivalent) @ 48kHz AES signal
Sampling Frequency:	44.1kHz and 48kHz

AES Output:

Number of Outputs:	5 Unbalanced AES
Connector:	BNC per IEC 169-8
Output Level:	1V p-p
Output Impedance:	75 Ω
Return Loss:	>25dB 100kHz to 6MHz

Analog Audio Outputs:

Number of Outputs:	2
Connector:	Two 3 pin removable terminal strips (screwdown adapter module included)
Output Impedance:	66 Ω
Output Loads:	Hi-Z or 600 Ω
Peak Conversion Level:	0dB FS => 12 to 25dBu (user settable)

Frequency Response:

Dynamic Range:	< ± 0.05 dB (20Hz to 20kHz)
THD+N:	24 bits < 0.001% (>100dB) @ 20Hz to 20kHz, @ -1dB FS, unweighted
Crosstalk:	110dB (20Hz to 20kHz)
DC Offset:	< ± 30 mV
SNR:	> 110dB "A" weighted
Inter-Channel Phase Error:	< $\pm 1^\circ$ (20Hz to 20kHz)
I/O Delay:	0.92m Sec

Ordering Information:

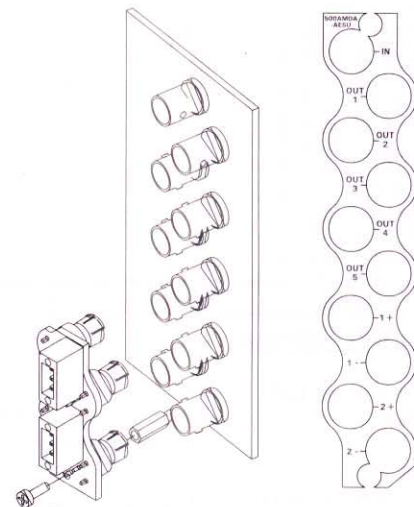
500AMDA-AESU

Ordering Options:

+SS

Enclosure:

500FR
S501FR



Terminal Strip Adapter
(included)

AES Monitoring Distribution Amplifier (5 AES out & 2 balanced analog out)

Optional SoftSwitch™

exponent

Compact High Density Distribution Frame
Standalone enclosure

Analog Video Distribution Amplifier

500ADA

The 500ADA Analog Distribution Amplifier is a general purpose amplifier for distributing analog signals. The 500ADA features one balanced input with nine outputs.

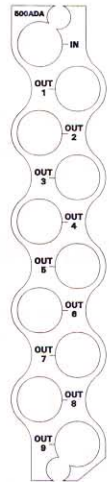
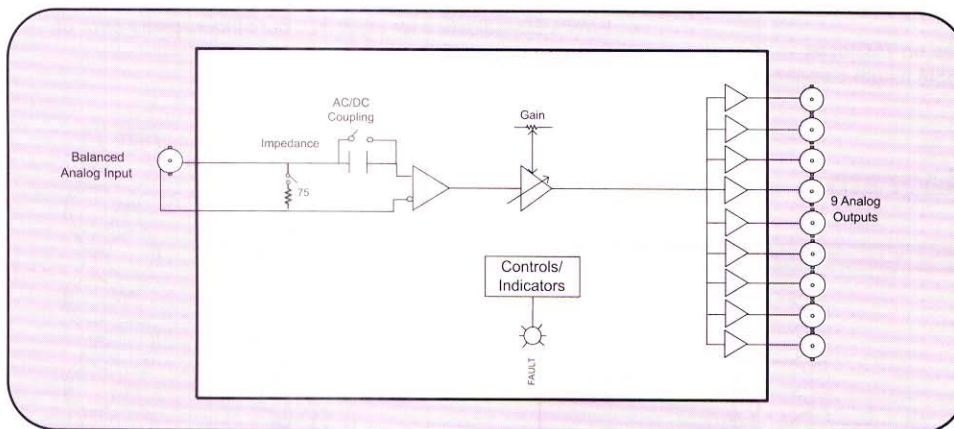
The 500ADA has been designed to distribute a wide range of analog video signals. It can also distribute other pulses and signals that do not exceed 2Vp-p.

The 500ADA is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

Features

- 75Ω or high impedance input (jumper selectable)
 - High common mode range and common mode rejection ratio (CMRR)
 - Gain control
 - Jumper selectable AC or DC coupling
 - Looping feature with external "T" connector
 - Consistent input impedance if card power is lost
- Card Edge LEDs:**
- Module status/Local Fault
 - Power supply status

500ADA Block Diagram



Specifications

Analog Video Input:

Standards:	Any analog video format, up to 2Vp-p and 30MHz bandwidth
Connector:	1 BNC input per IEC 169-8
Common mode range:	>6Vp-p
CMRR:	>70dB to 1kHz
Signal amplitude:	2.5Vp-p max
Impedance:	75Ω terminated, 35kΩ Hi-Z (jumper selectable)
Coupling:	AC or DC (jumper selectable)
Return loss:	>40dB to 10MHz, >30dB to 30MHz

Analog Video Outputs:

Number of Outputs:	9 Per Card
Connector:	BNC per IEC 169-8
Output impedance:	75Ω
Gain control range:	± 5dB
Freq. Response:	<+/-0.05dB (to 5.5MHz)
Differential Gain:	<0.17 %
Differential Phase:	< 0.19 deg
C/L gain inequality:	<+/-0.1%
C/L Delay:	<+/-2nsec
Output isolation:	42dB to 10MHz, 32dB to 30MHz

Output return loss:

Noise performance:	>40dB to 30MHz <-78dB RMS NTC7 weighting <-70dB RMS 15kHz to 5.5MHz
--------------------	---

Electrical:

Voltage:	+12VDC
Power:	1.2 Watts
EMI/RFI:	Complies with FCC Part 15 Class A, EU EMC Directive

Physical:

Number of Slots:	1
------------------	---

Ordering Information:

500ADA	Analog Video Distribution Amplifier (1 x 9)
--------	---

Enclosures:

500FR	<i>exponent</i>
S501FR	Compact High Density Distribution Frame Standalone enclosure

Analog Video Distribution Amplifier with Cable Equalization

500ADA-EQ

The 500ADA-EQ Analog Distribution Amplifier is a general purpose amplifier for distributing analog video signals. The 500ADA-EQ features one balanced equalized input with nine unbalanced outputs. The 500ADA-EQ amplifier has been designed to distribute a wide range of analog video signals. It can also distribute other pulses and signals that are less than 2Vp-p.

The 500ADA-EQ is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

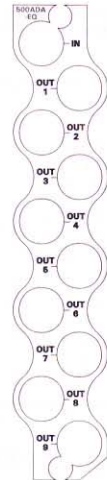
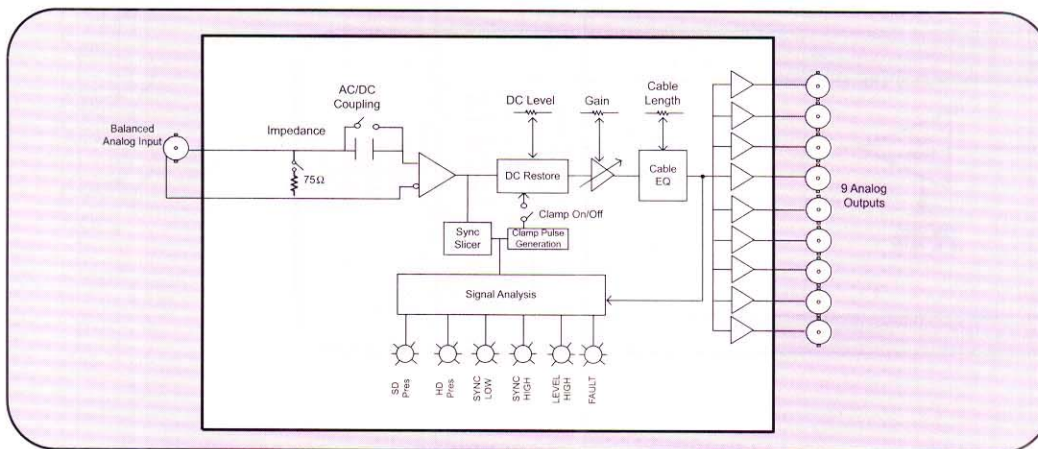
Features

- 75Ω or high impedance input (jumper selectable)
- High common mode range and common mode rejection ratio (CMRR)
- Gain control
- Jumper selectable AC or DC coupling
- Jumper selectable fast or slow back porch clamp
- DC level control when clamp is enabled
- Cable equalizer adjustment range: 0 to 300m of 8281 or 1694
- Looping feature with external "T" connector
- Consistent input impedance if card power is lost

Card Edge LEDs:

- Module status/Local Fault
- Power supply status
- EQ Warning

500ADA-EQ Block Diagram



Specifications

Analog Video Input:

Standards:	Any analog video format, up to 2Vp-p and 30MHz bandwidth
Connector:	1 BNC input per IEC 169-8
Common mode range:	>6Vp-p
CMRR:	>70dB to 1kHz
Signal amplitude:	2.5Vp-p max
Cable equalizer:	0 to 300m of Belden 8281 or 1694 cable
Impedance:	75Ω terminated, 35kΩ Hi-Z (jumper selectable)
Coupling:	AC or DC (jumper selectable)
Return loss:	> 40dB to 10MHz, >30dB to 30MHz
Clamp range:	>+/- 600mV
Fast clamp attenuation of 60Hz:	>36dB

Analog Video Outputs:

Number of Outputs:	9 Per Card
Connector:	BNC per IEC 169-8
Output impedance:	75Ω
Gain control range:	± 5dB
DC Level:	< +/- 100mV (with DC Coupling active and back porch clamp disabled) < +/- 200mV (with back porch clamp enabled)
DC Level Control range:	< ±0.05dB no equalization < ±0.09dB for 5 to 100m Belden 8281 or 1694 (to 5.5MHz) < ±0.15dB for 100 to 300m Belden 8281 or 1694 (to 5.5MHz)
Freq. Response:	< 0.17 % 0 to 300m
Differential Gain:	< 0.17 % 0 to 300m

Differential Phase:

C/L gain inequality:	< +/- 0.1% for all cable lengths
C/L Delay:	< +/- 2nsec
Output isolation:	>42dB to 10MHz, >32 dB to 30MHz
Output return loss:	>40dB to 30MHz
Noise performance:	<-78dB RMS NTC7 weighting, <-70dB RMS 15kHz to 5.5MHz

Electrical:

Voltage:	+12VDC
Power:	1.2 Watts
EMI/RFI:	Complies with FCC Part 15 Class A EU EMC Directive

Physical:

Number of Slots:	1
------------------	---

Ordering Information:

500ADA-EQ

Analog Video Distribution Amplifier with Cable Equalization (1 x 9)

Enclosure:

500FR
S501FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

Analog Audio Distribution Amplifier

500ADA-AUD

The 500ADA-AUD Analog Audio Distribution Amplifier is a general purpose 1x4 amplifier for distributing analog audio signals.

The 500ADA-AUD can be operated with either differential or single ended inputs and offers a wide range of gain adjustment to handle a wide variety of input signals.

The 500ADA-AUD is housed in the 500FR **exponent** frame that will hold up to 16 modules.

3

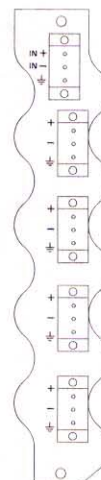
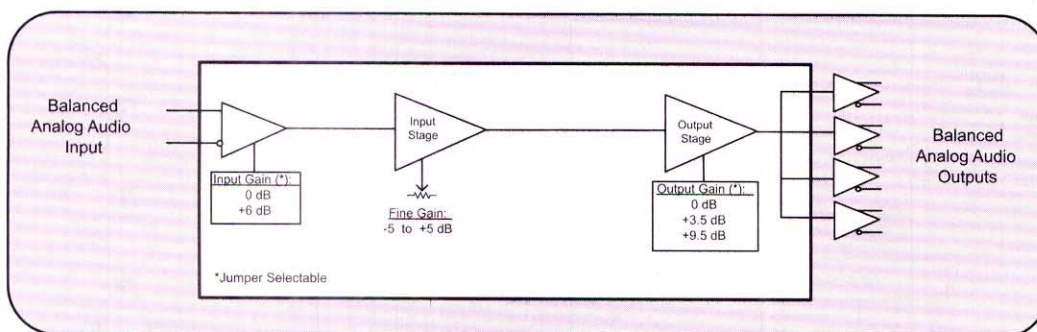
Features

- Differential and single ended input (automatic single ended to differential conversion)
- High impedance inputs
- Low impedance outputs
- Wide gain adjustment range
- High common mode range and common mode rejection ratio
- Very high SNR
- Very low THD+N

Card Edge LEDs:

- Module status/Local Fault
- Power supply status

500ADA-AUD Block Diagram



Specifications

Analog Audio Input:

Standards: Any analog audio signal
Number of inputs: 1 (Balanced or Single ended)
Connectors: 3 pin removable terminal strips
Input step gain: 0 dB or +6 dB (configurable with jumpers)
Fine gain control: -5 to +5 dB (card edge pot adjustable)

Maximum input level:

0 dB input gain: +34 dBu
+6 dB input gain: +28 dBu

Common mode rejection: > 105 dB @ 60 Hz

Common mode range:

0 dB input gain: > ±22 V
+6 dB input gain: > ±7 V

Input impedance:

0 dB input gain: 44 kW
+6 dB input gain: 26 kW

Analog Audio Outputs:

Number of Outputs: 4
Connectors: 3 pin removable terminal strips
Output step gain: 0, 3.5 or 9.5 dB (configurable with jumpers)
Max. output level: +28 dBu across hi-impedance load
+24 dBu into 600 ohm load
Output impedance: 66Ω

Freq. Response:

THD+ Noise: +/-0.03 dB 20 Hz to 20 kHz
0.001% 20 Hz to 20 kHz @ 28 dBu, unweighted RMS
Output Isolation: > 100 dB @ 1 kHz, 100 dB @ 20 kHz

Electrical:

Voltage: + 12VDC
Power: 6 Watts

Physical:

Number of slots: 1

Ordering Information:

500ADA-AUD

Analog Audio Distribution Amplifier (1 x 4)

Enclosures:

500FR
S510FR

exponent

Compact High Density Distribution Frame
Standalone enclosure

500ADA-W

The 500ADA-W is a SDIF-2 Word Clock distribution amplifier. It provides a 1X9 fan out. The input can be configured to be high impedance or terminated to 75Ω. The 500ADA-W provides continuous voltage gain adjust from -6dB to +6dB. The module supports 9 maximum output signal of 5V.

The 500ADA-W is housed in the 3RU 500FR *exponent* frame that will hold up to 16 modules.

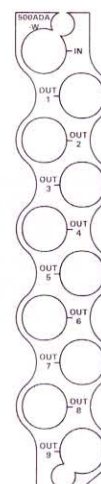
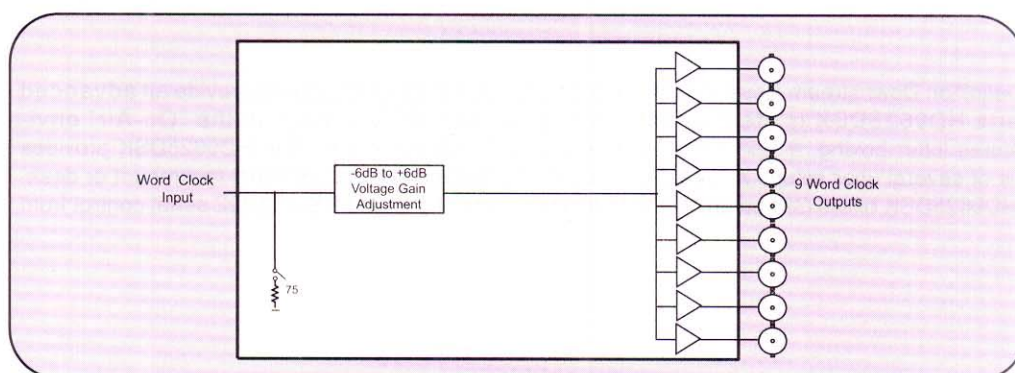
Features

- Jumper selectable 75Ω or high impedance (1kΩ typical) input
- DA has voltage gain adjustment range from -6dB to +6dB
- Outputs can drive into 75Ω loads

Card Edge LEDs:

- Module status/Local Fault
- Power supply status

500ADA-W Block Diagram



Specifications

Word Clock Input:

Standard:	SDIF-2 Word Clock
Level:	0 to 5V (terminated or unterminated)
Connector:	BNC per IEC 169-8
Impedance:	Selectable 75Ω or high impedance (1k typical)

Word Clock Outputs:

Number of outputs:	9
Output impedance:	75Ω
Maximum Output levels:	5V into 75Ω load 10V into high impedance load
Minimum Output Level:	0V
Voltage Gain Range:	-6dB to +6dB
Frequency range:	28 kHz - 50kHz

Electrical:

Voltage:	+12VDC
Power:	1.2 Watts
EMI/RFI:	Complies with FCC Part 15 Class A, EU EMC Directive

Physical:

Number of Slots:	1
------------------	---

Ordering Information:

500ADA-W

Enclosures:

500FR
S510FR

Word Clock Distribution Amplifier (1x9)

exponent

Compact High Density Distribution Frame
Standalone enclosure