



Video, Pulse & Audio Distribution Stand-alone Coax Distribution System

Model 1500 Series



The Meret 1500 Series distribution system is a modular, versatile and low cost solution to real world system distribution problems. With equalization available in both video and pulse systems, and the same electrical length for both, the system engineer now has the total distribution solution. The 1500 Series offers utility video, equalizing video, utility pulse, and equalizing pulse distribution amplifiers in either desktop or rackmount frame packages.

DA-1510B Video Distribution Amplifier

Features

- High quality, wideband distribution amplifier.
- High thermal stability.
- Front panel adjustments and test points.
- Self-contained module with internal power supply.
- Stand alone and rack mounting.

Meret's DA-1510B Video Distribution Amplifier provides high quality performance in color and high resolution monochrome systems.

Precision hybrid video operational amplifiers feature wide bandwidth with low passband ripple, low differential gain and phase and exceptional transient response. DC servo controlled amplifiers with components located on a common substrate assure high thermal stability. Laser trimmed components guarantee closely matched performance between units.

The amplifier is completely self contained with an internal power supply. It can be mounted on user shelves or panels, in the optional FR-1500A rackmount or in the optional MB-1504A desk mount as dictated by system requirements.

APPLICATIONS

- CAD/CAM
- Large Screen
- Video Wall
- Command & Control (C³I)
- Air Traffic Control
- Medical Imaging
- HDTV Production

FEATURES

- Modular configurations
- 1 x 4 Video distribution amp
- 1 x 4 Pulse distribution amp
- 1 x 5 Audio distribution amp
- Pre-equalization amplifiers
- Post-equalization amplifiers
- 6 x 1 Passive video switcher

BENEFITS

- Versatile & compact
- Desktop or rackmount
- Stable, low noise
- Easy installation
- Go anywhere, fit anywhere

PD-1515B Pulse Distribution Amplifier

Features

- Can be driven by up to 1 000 ft. (305 m) of Belden 8281 input cable.
- Edge-triggered, regenerative input.
- Linear output with pulse shaping filter.
- Output level adjustment and test points.
- High thermal stability.
- Stand along and rack mounting.
- Ideal for portable, mobile van and ENG applications.

Meret's PD-1515B Pulse Distribution Amplifier provides the premium performance required in today's video systems. Compact, modular construction and low power consumption make the PD-1515B ideal for small studio, remote, mobile van and ENG applications.

The high impedance differential input accepts -2 to -4V p-p pulses and has excellent common mode and hum rejection. Edge-triggered pulse regeneration produces exceptional timing and pulse width accuracy, minimizing overshoot, ringing and tilt. Input and output signal test points are located on the front panel.

Output level is front panel adjustable from -2 to -4 V p-p. The source terminated outputs are maintained at a zero volt dc level by an output-offset servo. Output rise time is controlled by a precision active filter.

Each amplifier is completely self-contained with an internal power supply. The units can be mounted on user shelves or panels, in the optional FR-1500A rack mount or MB-1504A desk mount as dictated by system requirements.

EQ-1530C, EQ-1531C, EQ-1532C Equalizing Amplifiers

Features

- High performance 24 dB post-equalization for cable runs to 3000 ft. (914.4 m).
- Unbalanced differential and balanced input models available.
- High thermal stability.
- Front panel adjustments and test points.
- Terminated inputs, two outputs.
- Self-contained modules with internal power supplies.
- Stand alone and rack mounting.

Meret's Series 1500 Equalizing Amplifiers provide high quality video transmission through long cable runs. Unbalanced and balanced models allow selection of a cable type appropriate to the operational environment. Equalization and gain are adjustable from the front panel.

The EQ-1530C unbalanced input amplifier will equalize 3000 feet (914.4 m) of Belden type 8281 cable. A differential input circuit provides high rejection of common mode signals.

The EQ-1531C balanced input amplifier will equalize 3000 feet of 16 PEVL balanced cable; when used with the EQ-1532C pre-equalizer, runs up to 7500 feet (2286 m) can be equalized.

Each amplifier is completely self contained with an internal power supply. The units can be mounted on user shelves or panels, in the optional FR-1500 rack mount or in the optional MB-1504A deskmount as dictated by system requirements.

Model SW-1540B 6x1 Passive Video Switcher

Features

- Reliable operation
- Auxiliary switch contacts for audio or control switching
- Lighted push button option
- Legendable buttons
- Stand-alone and rack mounting

The Meret Model SW-1540B 6 x 1 Passive Video Switcher provides a simple and economical means of manually switching one of six sources to one output.

A long life interlocked push button switch assembly is used with printed circuit board wiring for reliable performance. Legends can be added to each push button for operator identification of sources.

Auxiliary switching contacts and wiring access are included for user wiring of additional switching functions. Balanced audio, unbalanced audio, or control circuits may be switched with the video signals.

Illumination of the depressed push button can be accomplished by including the Model LK-1541A Lighting Kit. This kit includes a calculator-style transformer and 6 foot (1.82 meter) cable assembly to supply power to the lamps provided with the switcher. Spare lamps and lamp extractor are included.

The switcher can be mounted on user shelves or panels, in the optional FR-1500A rack mount, or in the optional MB-1504A desk mount as indicated by system requirements.

AD-1570A 1 x 5 Audio Distribution Amplifier

Features

- Precision performance for use in multiple path systems.
- Transformerless, high impedance inputs, source terminated outputs.
- JFET operational amplifier input provides high transient protection.
- Output short circuit protection.
- Self-contained module with internal power supply.
- Stand-alone and rack mount.

Model 1500 Series

Meret's AD-1570A 1 x 5 Audio Distribution Amplifier provides the high performance required in modern audio systems. Extremely flat frequency response, exceptionally low total harmonic distortion and hum and noise assure transparent performance for professional use.

The balanced 100K ohm bridging input accepts levels up to +24 dBm. A differential JFET input amplifier provides greater than 75 dB of common mode rejection and protection from input transients. Gain is adjustable over a 20 dB range by a continuously variable front panel control and three switched ranges.

The amplifier is completely self contained with an internal power supply. It can be mounted on user shelves or panels, in the optional FR-1500A rack mount frame or in the optional MB-1504A desk mount as indicated by system requirements.

DA-1580A - Wideband Signal Distribution

Features

- Up to 1600 x 1280, 60 Hz, NI
- Horizontal Scan Rates 15 - 94 kHz
- Vertical Scan Rate 30 - 120 Hz
- Pre or post equalization
- 140 MHz bandwidth for high resolution, fast rise time video
- 250 Volts per microsecond slew rate
- Superior transient response
- Precision equalization to 120 MHz
- Transparent to HDTV, NTSC, PAL

The DA-1580A distribution amplifier provides signal distribution and equalization for high resolution fast rise time signals. Utilizing high slew rate circuitry with excellent transient response, these amplifiers will provide equalization and distribution of signals with bandwidth in excess of 140 MHz.

The DA-1580A can be used in a rack mount with three units to a standard single rack unit package or can be used with a mounting cover as a single desk top unit. It is available as a four output distribution amplifier with or without post equalization. A pre-equalizing amplifier with a single output is also available. Equalized version is optimized for Belden type 8281 or equal cable.

Typical Configurations

AD-1570A	1 in 5 out Audio Distribution Amplifier
DA-1510B	1 in 4 out Video Distribution Amplifier
DA-1580	Wideband Signal Distribution Amplifier
FR-1500A	Rack Mounting Frame, 3 modules, 1.75"H x 9.25"D x 19"W (44 x 235 x 483 mm)
BP-1502B	Blank Module
CN-9860A	Balanced input mating connector, WECO 760 cable
CN-9861A	Balanced input mating connector, WECO 16 PEVL cable

EQ-1530C	Post-Equalizing Amplifier, unbalanced
EQ-1531C	Post-Equalizing Amplifier, balanced
EQ-1532C	Pre-Equalizing Amplifier, unbalanced in, balanced out
FR-1500A	Rack Mounting Frame, 3 modules, 1.75"H x 9.25"D x 19"W (44 x 235 x 483 mm)
LK-1541A	Lighting Kit, 115 VAC, 60 Hz
MB-1504A	Desk Mounting Kit
PD-1515B	1 in 4 out Pulse Distribution Amplifier
SW-1540B	6 in 1 out Passive Video Switcher

Specifications

DA-1510B

Input	75 ohm unbalanced, Hi-Z looping, 1 V p-p, BNC connectors
Outputs	4, 75 ohm source-terminated, 1 V p-p, BNC connectors
Gain	±3 dB, adjustable
Frequency Response	100 kHz-10 MHz; ±0.5 dB, 30 MHz; +1, -2 dB
Tilt	Less than 1% line or field
Differential Gain	0.25% at 5 MHz, 10-90% APL, 1 V p-p output
Differential Phase	0.25° at 5 MHz, 10-90% APL, 1 V p-p output
Hum and Noise	65 dB RMS below 1 V p-p, 10 MHz bandwidth
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A Desk Mount	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Power	115/230 VAC ±10%, 50/60 Hz

PD-1515B

Input	Unbalanced, differential, Hi-Z bridging, BNC connectors
Input Level	-2 to -4 V p-p through maximum 1000 ft. (305 m) Belden 8281 or equivalent input cable
Common Mode Rejection	Greater than 60 dB, 50-400 Hz, ~30 V maximum reference to chassis ground
Outputs	4, 75 ohm source terminated, BNC connectors
Output Return Loss	Greater than 35 dB at 5 MHz
Output Level	Adjustable -2 to -4 V p-p
Output Isolation	Greater than 40 dB at 5 MHz
Output Rise Time	130 ±15 ns
Tilt	Less than 1% line or field
Electrical Length	100 ns, nominal
Hum and Noise	75 dB RMS below 4 V p-p
Overshoot and Ringing	Less than 1.0%
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A Desk Mount	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Power	115/230 VAC ±10%, 50/60 Hz, 5 watts

Specifications (cont'd)

EQ-1530C, EQ-1531C, & EQ-1532C

Input:	
EQ-1530C	75 ohm unbalanced, terminating, differential/grounded BNC connectors
EQ-1531C	124 ohm balanced, terminating, twinax connector, Trompeter BJ-77
EQ-1532C	75 ohm unbalanced, looping, BNC connectors
Outputs	
EQ-1530C	2, 75 ohm source terminated, 1 V p-p, BNC connectors
EQ-1531C	2, 75 ohm source terminated, 1 V p-p, BNC connectors
EQ-1532C	124 ohm balanced, source terminated, twinax connector, Trompeter BJ-77
Gain	Adjustable to unity with 3000 ft. cable
Equalization	
EQ-1530C (unbal.)	(24 dB at 8 MHz, adjustable) 300-3000 ft., Belden 8281 cable
EQ-1531C (bal.)	(24 dB at 8 MHz, adjustable) 300-3000 ft., 16 PEVL cable (1500-7500 ft. with EQ-1532C)
EQ-1532C	(12 dB at 8 Mhz, adjustable, 36 dB total with post-equalizer)1500-7500 ft, 16 PEVL cable
Frequency Response (ref. 1 MHz)	
EQ-1530C	100 kHz-5 MHz: ±0.6 dB; 8 MHz: ±1 dB
EQ-1531C	100 kHz-5 MHz: ±0.6 dB; 8 MHz: ±1 dB
EQ-1532C	100 kHz-5 MHz: ±0.6 dB; 8 MHz: ±1 dB
Tilt	Less than 1% line or field
Differential Gain	0.25% at 5 MHz, 10-90% APL, 1 V p-p output
Differential Phase	0.25° at 5 MHz, 10-90% APL, 1 V p-p output
Hum and Noise	55 dB RMS below 1 V p-p, 10 MHz bandwidth
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Desk Mount	
Power	115/230 VAC ±10%, 50/60 Hz

SW-1540B

Inputs	Six, all except input selected terminated in 75 ohms
Output Connectors	One
Video	BNC, isolated from chassis
Lamp Jack	Switchcraft No. 41
Switching	Break-before-make

Lamp Power	6 VDC, 40 mA
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Desk Mount	
Weight	2½ pounds (1.13 kg)
Power	115/230 VAC ±10%, 50/60 Hz

AD-1570A

Input	Balanced/differential, 100K ohm bridging, transformerless, screw terminal connector
Input Level	+24 dBm maximum at 600 ohms
Common Mode Rejection	Greater than 75 dB to 20 kHz
Outputs	5, low impedance, transformerless, screw terminal connector
Output Level	+24 dBm maximum
Output Isolation	Greater than 45 dB, 20 Hz to 20 kHz
Gain	20 dB range, -6 to +14 dB; continuously variable, three ranges
Frequency response	±0.05 dB, 10 Hz - 20 kHz
Bandwidth	500 kHz
THD	0.01%, 20 Hz-20 kHz, +8 dBm out; 0.025%, 20 Hz-20 kHz, +24 dBm out
Hum and Noise	-80 dBm (104 dB below +24 dBm) at unity gain
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Desk Mount	
Power	115/230 VAC ±10%, 50/60 Hz

DA-1580A

Input	One, terminated, 75 ohms, 1.5 V p-p maximum, BNC
Input Return Loss	40 dB minimum to 5 MHz 30 dB minimum to 30 MHz
Outputs	75 ohms, source terminated 1.5 V p-p maximum, BNC
Output Return Loss	40 dB minimum to 5 MHz 30 dB minimum to 30 MHz
Gain Adjust	±2 dB
Slew Rate	250 V/microsecond
Group Delay	3 ns to 100 MHz, maximum
Hum & Noise	70 dB to 10 MHz
Differential Gain	0.1% at 5 MHz
Differential Phase	0.1° at 5 MHz
Size:	
Module Only	1.7"H x 9"D x 5.75"W (43 x 229 x 146 mm)
MB-1504A	2"H x 9.25"D x 6"W (51 x 235 x 152 mm)
Desk Mount	
Power	115/230 VAC ±10%, 50/60 Hz

DA-1580A/xxA* configuration worksheet

Equalization	None	Post	Pre	Post	Pre	Post	Post
Bandwidth	140 MHz	120 MHz	120 MHz	65 MHz	65 MHz	40 MHz	30 MHz
Length/Number	Zero/10A	100 ft/11A 200 ft/12A 300 ft/13A 400 ft/14A 500 ft/15A	100 ft/51A 200 ft/52A	100 ft/21A 200 ft/22A 300 ft/23A 400 ft/24A 500 ft/25A 600 ft/26A	100 ft/61A 200 ft/62A	700 ft/36A 800 ft/37A	900 ft/38A 1000 ft/39A
Outputs	4	4	1	4	1	4	4
Rise and Fall Time	4 ns max	5 ns max	5 ns max	7 ns max	7 ns max	8 ns max	12 ns max
Transient Response							
Overshoot	10%	10%	10%	10%	10%	10%	10%
T_r in	2 ns	2 ns	2 ns	4 ns	4 ns	4 ns	6 ns
Frequency Response	± 0.5 dB to 35 MHz	± 0.5 dB to 35 MHz	± 0.5 dB to 35 MHz	± 0.5 dB to 35 MHz	± 0.5 dB to 35 MHz	± 0.5 dB to 20 MHz	± 0.5 dB to 15 MHz
Electrical Length	7 ns	7 ns	7 ns	15 ns	15 ns	24 ns	30 ns

* Example: Model DA-1580A/13A (120 MHz post equalizer for 300 feet of Belden 8281 or equal cable)