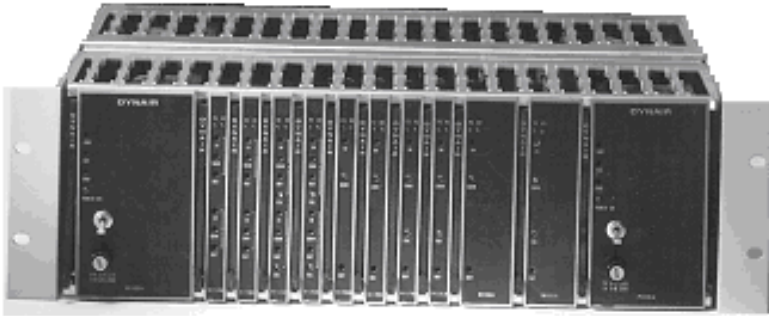




Video, Pulse & Audio Distribution Modular Distribution Systems

Model 5300 Series



The Meret 5300 Series provides high performance video, audio and pulse distribution as well as video equalizing systems for unbalanced and balanced cables.

FR-5300B Module Mounting Frame

The FR-5300B Module Mounting Frame provides spaces for up to seventeen (17) 5300 Series modules. There is an option for single or redundant power supplies in one frame. External alarm contacts are provided for remote monitoring of the power system. The right-hand four spaces are reserved for a PS-5305B Power Supply; the left-hand four spaces can be used for an optional redundant power supply or other 5300 Series modules. Up to 80 video outputs can be equipped in a single module frame.

Each 5300 Series module is designed with on board DC regulators, fuses and front panel blown fuse indicators.

The modular design simplifies module installation; no soldering is required. A printed circuit bus distributes dc power to all module spaces, eliminating soldered wiring. All modules are vertically oriented for optimum ventilation. Cam-action module extractors simplify module insertion and removal, providing positive lock in mobile applications.

Blank modules are available in one, two and four space widths to fill unused module spaces.

PS-5305B Power Supply

The PS-5305B Power Supply provides unregulated -22 Vdc to the FR-5300B power bus. Redundancy diodes are included to permit the use of two power supplies in a frame. Power supply failure is indicated by front panel lights and an isolated contact closure available via a rear panel barrier strip.

APPLICATIONS

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

FEATURES

- Modular configurations
- Up to 80 outputs per frame
- 1 x 4 & dual 1 x 2 video DA's
- 1 x 5 and 1 x 10 video & subcarrier DA's
- Post equalizing amplifiers
- Pulse DA's
- Audio DA's
- Single or redundant power supplies in one frame
- External alarm contacts

BENEFITS

- Versatile
- Easy installation
- Ruggedized
- Highly reliable

DA-5310B Dual 1 x 2 Video Distribution Amplifier

Features

- Precision performance for use in multiple path systems
- Unbalanced differential or balanced input
- Equalization available for up to 1000 ft. (305 m) of unbalanced or balanced cable
- High thermal stability
- Front panel adjustments and test points
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's DA-5310B Dual 1 x 2 Video Distribution Amplifiers provides the high performance required in modern, multiple path, video 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.

Unbalanced differential inputs afford greater than 60 dB rejection of common mode signals over a 50 to 400 Hz range. Balanced input models simplify cable runs through electromagnetic fields or between equipment with ground potential differences.

Each module contains two amplifiers offering high density in large systems. Equalized amplifiers using up to 11 pole networks provide high performance with long cable runs.

DA-5320B 1 x 5 Video and Subcarrier Distribution Amplifier

Features

- Precision performance for use in multiple path systems
- Signal-tip-reference maintains dc level over varying APL
- Unbalanced differential or balanced input
- Equalization available for up to 1000 ft (305 m) of unbalanced or balanced cable
- High thermal stability
- Front panel adjustments and test points
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's DA-5320B 1 x 5 Video Distribution Amplifier provides the high performance required in modern, multiple path video systems.

Precision hybrid video operational amplifiers feature wide bandwidth with low passband ripple, low differential gain and phase and exceptional transient response. Laser trimmed components guarantee closely matched performance between units.

Composite or non-composite video outputs are maintained at a selected dc reference over 10-90% APL

by a unique "Signal-tip-reference" (STR) circuit. STR can be turned off for ac coupled operation.

Unbalanced differential inputs afford greater than 60 dB rejection of common mode signals over a 50 to 400 Hz range. Balanced inputs simplify cable runs through electromagnetic fields or between equipment with ground potential differences.

Equalized amplifiers using up to 11 pole networks provide high performance with long cable runs.

DA-5330B 1 x 10 Video and Subcarrier Distribution Amplifier

Features

- Precision performance for use in multiple path systems
- Signal-tip-reference maintains dc level over varying APL
- Unbalanced differential or balanced input
- Equalization available for up to 1000 ft. (305 m) of unbalanced or balanced cable
- High thermal stability
- Front panel adjustments and test points
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's DA-5330B 1 x 10 Video Distribution Amplifier provides the high performance required in modern, multiple path, video systems.

Precision hybrid video operational amplifiers feature wide bandwidth with low passband ripple, low differential gain and phase and exceptional transient response. Laser trimmed components guarantee closely matched performance between units.

Composite or non-composite video outputs are maintained at a selected dc reference over 10-90% APL by a unique "Signal-Tip-Reference" (STR) circuit. STR can be turned off for ac coupled operation.

Unbalanced differential inputs afford greater than 60 dB rejection of common mode signals over a 50 to 400 Hz range. Balanced inputs simplify cable runs through electromagnetic fields or between equipment with ground potential differences.

Equalized amplifiers using up to 11 pole networks provide high performance with long cable runs.

DA-5340B 1 x 4 Video Distribution Amplifier

Features

- High quality, wideband distribution amplifier
- High thermal stability
- Front panel adjustments and test points
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's DA-5340B 1 x 4 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.

EQ-5350B Post Equalizing Amplifier

Features

- High performance 24 dB post equalizing for cable runs to 3000 ft. (915 m)
- Unbalanced differential or balanced input
- Input transient protection
- High thermal stability
- Front panel adjustments and test points
- Terminated input, two outputs
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's EQ-5350B Equalizing Amplifier provides high quality video transmission through long cable runs. Unbalanced and balanced inputs allow selection of a cable type appropriate to the operational environment. Equalization and gain are adjustable from the front panel.

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 common substrate assure high thermal stability. Laser trimmed components guarantee closely matched performance between units.

The unbalanced input amplifier will equalize 3000 feet (915 m) of Belden type 8281 cable. A differential input circuit provides high rejection of common mode signals.

The balanced input amplifier will equalize 5000 feet (1524 m) of 16 PEVL balanced cable; when used with the EQ-1532A or LA-5353B/41A pre-equalizer, runs up to 7500 feet (2286 m) can be equalized.

PD-5360B 1 x 5 Pulse Distribution Amplifier

Features

- Can be driven by up to 1000 ft. (305 m) of Belden 8281 input cable
- Edge-triggered, regenerative input
- Linear output with pulse shaping filter
- Input pulse presence indicator
- Output level adjustment and test points
- High thermal stability
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's PD-5360B 1 x 5 Pulse Distribution Amplifier provides the premium performance required in today's video systems. The high impedance differential input accepts -2 to -4 Vp-p pulses and has excellent common mode hum and noise rejection. Edge-triggered pulse regeneration produces exceptional timing and pulse width accuracy, minimizing overshoot, ringing and tilt. Input signal presence is indicated by a front panel LED.

Input to output delay can be set to 225 ns to allow uniform timing within a group of amplifiers. Output level is front panel adjustable from -2 to -4 Vp-p. The source terminated outputs are maintained at zero volt dc level by an output-offset servo. Output rise time is controlled by a precision active filter.

AD-5370B 1 x 5 Audio Distribution Amplifier

Features

- Precision performance for multiple path systems
- Transformerless, high impedance inputs, source terminated outputs
- JFET operational amplifier input provides high transient protection
- Indefinite output short circuit protection
- Will mix with other 5300 Series in the same frame
- Front panel gain adjustment and test points
- On-board dc regulators and fuses - front panel blown fuse indicators

Meret's AD-5370B 1 x 5 Audio Distribution Amplifiers provide 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 60 dB of common mode rejection and protection from input transients. Gain is adjustable over a 20 dB range by a continuously variable 6 dB front panel control and four switched 5 dB steps. The five source terminated, 600 ohm balanced outputs feature indefinite output short circuit protection and provide greater than 60 dB of output to output isolation. Precision resistors assure consistent levels between outputs.

Typical Configurations

AD-5370B	1 in-5 out Audio Distribution Amplifier
BP-5390A	1 Unit. Blank Module
BP-5391A	2 Unit. Blank Module
BP-5392A	4 Unit. Blank Module
CC-5398A	Power Supply Service Cable
CE-5396A	Module Extender
CN-9860A	Balanced input mating connectors for WECO 760 or equivalent cable.
CN-9861A	Balanced input mating connectors for WECO 16 PEVL or equivalent cable.
DA-5310B/10A	Dual 1 x 2 Video Distribution Amplifier, Non-equalized
DA-5310B/11A	Dual 1 x 2 Video Distribution Amplifier, Equalized, Belden 8281 (unbalanced)
DA-5310B/21A	Dual 1 x 2 Video Distribution Amplifier, Equalized, WECO 16 PEVL (balanced)
DA-5310B/22A	Dual 1 x 2 Video Distribution Amplifier, Equalized, WECO 760 (balanced)
DA-5320B/10A	1 x 5 Video and Subcarrier Distribution Amplifier, Non-equalized
DA-5320B/11A	1 x 5 Video and Subcarrier Distribution Amplifier, Equalized for Belden 8281 (unbalanced at 8 MHz, 100-1000ft.)
DA-5320B/12A	1 x 5 Video and Subcarrier Distribution Amplifier, Equalized for Belden 8281 at 30 MHz, 250 ft. (use FA-5355A frame adapter only)
DA-5320B/21A	1 x 5 Video and Subcarrier Distribution Amplifier, Equalized for WECO 16 PEVL (balanced at 8 MHz, 100-1000ft)
DA-5320B/22A	1 x 5 Video and Subcarrier Distribution Amplifier, Equalized for WECO 760 balanced at 8 MHz, 100-1000ft.)
DA-5330B/10A	1 x 10 Video and Subcarrier Distribution Amplifier, Non-equalized
DA-5330B/11A	1 x 10 Video and Subcarrier Distribution Amplifier, Equalized for Belden 8281 (unbalanced)
DA-5330B/21A	1 x 10 Video and Subcarrier Distribution Amplifier, Equalized for WECO 16 PEVL (balanced)
DA-5330B/22A	1 x 10 Video and Subcarrier Distribution Amplifier, Equalized for WECO 760 (balanced)
DA-5340B	1 in-4 out Video Distribution Amplifier, unbalanced
EQ-5350B/51A	Post Equalizing Amplifier for equalizing Belden 8281 (unbalanced)
EQ-5350B/61A	Post Equalizing Amplifier for equalizing WECO 16 PEVL (balanced)
FA-5308A	Power Supply Frame Adapter. 18" Power Cord
FA-5309A	Power Supply Frame Adapter, 72" Power Cord
FA-5315A	Frame Adapter, Unbalanced Input
FA-5316A	Frame Adapter, Balanced Input
FA-5325A	Frame Adapter, Unbalanced Input, except 30 MHz equalized
FA-5326A	Frame Adapter, Balanced Input
FA-5335A	Frame Adapter, Unbalanced Input
FA-5336A	Frame Adapter, Balanced Input
FA-5345A	Frame Adapter
FA-5355A	Frame Adapter, Unbalanced Input, 2 output, 30 MHz equalized
FA-5356A	Frame Adapter, Balanced Input
FA-5375A	Frame Adapter, Screw Terminal Connectors
FR-5300B	Module Mounting Frame
PD-5360B	1 x 5 Pulse Distribution Amplifier
PS-5305B	Power Supply (Note: order required frame adapter)
SP-5359A	Input Transient Protection

Specifications

FR-5300B Module Mounting Frame

Size	5.25"H x 19"W x 14.25"D (13.34x48.26 x 36.20 cm)
Weight	9 pounds (4.08 kg)
Module Spaces	20 total (including power supply)

PS-5305B Power Supply

Power Required	115/230 VAC ±10%, 50/60 Hz, 85 watts maximum
Output Power	22 VDC, 4A maximum
Temperature Range	0° to +50°C
Size	Requires 4 module spaces in FR-5300B
Weight	12 pounds (5.44 kg)

DA-5310B Dual 1 x 2 Video DA

Input:	
Unbalanced	75 ohm terminating, differential/grounded, BNC connector
Balanced	124 ohm terminating twinax connector, Trompeter BJ-77
Input Return Loss	40 dB at 5 MHz
Input Level	1.0 Vp-p, nominal
Common Mode-Rejection	Greater than 60 dB, 50-400 MHz
Outputs	2, 75 ohm source terminated each section, BNC connectors
Output Return Loss	Greater than 35 dB at 5 MHz
Output Level	1.0 Vp-p, nominal
Output Isolation	Greater than 40 dB at 5 MHz
Size	1 module space in FR-5300B

NON-EQUALIZED

Frequency Response (ref. 1 MHz):	
Unbalanced	100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz: ±0.5 dB; 30 MHz: +0.5, -2 dB
Balanced	100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz: ±1.0 dB; 30 MHz: +1, -3 dB
Tilt	Less than 0.5% line or field
Gain	±3 dB continuously variable
Electrical Length	22 ±2 ns
Differential Gain	0,1% at 5 MHz, 10-90% APL, 1 Vp-p output
Differential Phase	0.1° at 5 MHz, 10-90% APL, 1Vp-p output
Hum and Noise	65 dB RMS below 1 Vp-p, 10 MHz bandwidth

EQUALIZED (performance at maximum cable length)

Equalization (7 dB at 8 MHz continuously variable) :	
Unbalanced	100-1000ft Belden 8281
Balanced	100-1000ft WEC0 16 PEVL
Frequency Response	100 KHz-5 MHz: ±0.2 dB; 8 MHz: ±0.3 dB
Bandwidth	15 MHz
Gain	Adjustable to unity with 1000ft. cable

Differential Gain	0.15% at 5 MHz, 10-90% APL, 1 Vp-p output
Differential Phase	0.15° at 5 MHz, 10-90% APL, 1 Vp-p output
Hum and Noise	60 dB RMS below 1 Vp-p, 10 MHz bandwidth

Balanced systems measured using LA-5353B unbalanced-to-balanced line amplifier.

DA-5320B 1 x 5 Video and Subcarrier DA

Input:	
Unbalanced	75 ohm, high impedance bridging, differential/grounded, BNC connector
Balanced	124 ohm terminating twinax connector, Trompeter BJ-77
Input Return Loss	40 dB at 5 MHz
Input Level	1.0 Vp-p nominal video, 2.0 Vp-p subcarrier
Common Mode-Rejection	Greater than 60 dB, 50-400 Hz
Outputs	5, 75 ohm source terminated, BNC connectors
Output Return Loss	Greater than 35 dB at 5 MHz
Output Level	1.0 Vp-p nominal video, 2.0 Vp-p subcarrier
Output Isolation	Greater than 40 dB at 5 MHz
Size	1 module space in FR-5300B
<u>NON-EQUALIZED</u>	
Frequency Response (ref. 1 MHz):	
Unbalanced	100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz : ±0.5 dB ; 30 MHz : +0.5, -2 dB
Balanced	100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz: ±1.0 dB; 30 MHz: +1.0, -3 dB
Tilt	Less than 0.5% line or field
Gain	±3 dB continuously variable
Electrical Length	20 ±2 ns
Differential Gain	± 0.05% at 5 MHz, 10-90% APL, 1 Vp-p output
Differential Phase	± 0.05° at 5 MHz, 10-90% APL, 1 Vp-p output
Hum and Noise	65 dB RMS below 1 Vp-p, 10 MHz bandwidth
DC Reference (composite signal)	Adjustable -0.2 V to +0.2 V; maintained ±0.02 V, 10-90% APL
<u>EQUALIZED</u> (performance at maximum cable length)	
Equalization (7 dB at 8 MHz continuously variable):	
Unbalanced	100-1000ft. Belden 8281
Balanced	100-1000ft. WEC0 16 PEVL
Frequency Response	100 KHz-5 MHz: ±0.2 dB; 8 MHz: ±0.3 dB
Bandwidth	15 MHz
Gain	Adjustable to unity with 1000ft. cable
Differential Gain	0.1% at 5 MHz, 10-90% APL, 1 Vp-p output

Specifications (cont'd)

Differential Phase 0.1° at 5 MHz, 10-90% APL, 1 Vp-p output
 Hum and Noise 60 dB RMS below 1 Vp-p, 10 MHz bandwidth
 Balanced amplifiers measured as a system using LA-5353B unbalanced-to-balanced line amplifier.

DA-5330B 1 x 10 Video and Subcarrier DA

Input:
 Unbalanced 75 ohm, high impedance bridging, differential/grounded BNC connector
 Balanced 124 ohm terminating twinax connector, Trompeter BJ-77
 Input Return Loss 40 dB at 5 MHz
 Input Level 1.0 Vp-p nominal video, 2.0 Vp-p subcarrier
 Common Mode-Rejection Greater than 60 dB, 50-400 Hz
 Outputs 10, 75 ohm source terminated, BNC connectors
 Output Return Loss Greater than 35 dB at 5 MHz
 Output Level 1.0 Vp-p nominal video, 2.0 Vp-p subcarrier
 Output Isolation Greater than 40 dB at 5 MHz
 Size 2 module spaces in FR-5300B

NON-EQUALIZED

Frequency Response (ref. 1 MHz):
 Unbalanced 100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz: ±0.5 dB; 30 MHz: +0.5, -2 dB
 Balanced 100 KHz-5 MHz: ±0.1 dB; 8 MHz: ±0.15 dB; 20 MHz: ±1.0 dB ; 30 MHz: +1.0, -3 dB
 Tilt Less than 0.5% line or field
 Gain ±3 dB continuously variable
 Electrical length .20 ±2 ns
 Differential Gain 0.1% at 5 MHz, 10-90% APL, 1 Vp-p output
 Differential Phase 0.1° at 5 MHz, 10-90% APL, 1 Vp-p output
 Hum and Noise 65 dB RMS below 1 Vp-p, 10 MHz bandwidth
 DC Reference Adjustable -0.2 V to +0.2 V; (composite signal) maintained ±0.02 V, 10-90% APL
EQUALIZED (performance at maximum cable length)
 Equalization (7 dB at 8 MHz continuously variable) :
 Unbalanced 100-1000ft. Belden 8281
 Balanced 100-1000ft. WECO 16 PEVL
 Frequency Response 100 KHz-5 MHz: ±0.2 dB; 8 MHz: ±0.3 dB
 Bandwidth 15 MHz
 Gain Adjustable to unity with 1000ft. cable
 Differential Gain 0.2% at 5 MHz, 10-90% APL, 1 Vp-p output
 Differential Phase 0.2° at 5 MHz, 10-90% APL, 1 Vp-p output

Hum and Noise 60 dB RMS below 1Vp-p, 10 MHz bandwidth
 Balanced amplifiers measured as a system using LA-5353B unbalanced-to-balanced line amplifier.

DA-5340B 1 x 4 Video DA

Input 75 ohm unbalanced, high impedance bridging, 1 Vp-p, BNC connector
 Outputs 4, 75 ohm source terminated, 1 Vp-p, BNC connectors
 Output to Output-Isolation Greater than 40 dB at 5 MHz
 Size 1 module space in FR-5300B
 Frequency Response (ref. 1 Mhz) 100 KHz-10 MHz: ±0.5 dB; 30 MHz: +1, -2 dB
 Tilt Less than 1% line or field
 Gain Adjustable ±3 dB
 Differential Gain 0.25% at 5 MHz, 10-90% APL, 1 Vp-p output
 Differential Phase 0.25° at 5 MHz, 10-90% APL, 1 Vp-p output
 Transient Response Less than 1% K, T pulse
 Hum and Noise 65 dB RMS below 1 Vp-p, 10 MHz bandwidth

EQ-5350B Post Equalizing Amplifier

Input:
 Unbalanced 75 ohm terminating, differential/grounded, BNC connector
 Balanced 124 ohm terminating twinax connector, Trompeter BJ-77
 Input Transient-Protection 350 V between each side of line and ground
 Common Mode-Rejection Greater than 60 dB, 50-400 Hz
 Outputs 2, 75 ohm source terminated, 1 Vp-p
 Size 1 module space in FR-5300B
 Equalization (24 dB at 8 MHz, adjustable):
 Unbalanced 300-3000 ft. Belden 8281
 *Balanced 300-5000 ft. WECO 16 PEVL (1750-7500 ft. with EQ-1532A)
 Frequency Response (ref. 1 MHz)
 Unbalanced 100 Khz-5 MHz: ±0.6 dB; 8 Mhz: ±1.0 dB
 *Balanced 100 Khz-5 MHz: ±0.3 dB; 8 Mhz: ±0.6 dB
 Tilt Less than 1% line or field
 Gain Adjustable to unity with maximum cable length
 Differential Gain 0.25% at 5 MHz, 10-90% APL, 1 Vp-p output
 Differential Phase 0.25° at 5 MHz, 10-90% APL, 1 Vp-p output
 Hum and Noise 55 dB RMS below 1 Vp-p, 10 MHz bandwidth

*Measured as a system with LA-5353B unbalanced-to-balanced line amplifier.

Specifications (cont'd)

PD-5360B 1 x 5 Pulse DA

Input	75 ohm unbalanced, differential, high impedance bridging, BNC connector
Input Return Loss	Greater than 40 dB at 5 MHz
Input Level	-2 to -4 Vp-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 chassis ground
Outputs	5, 75 ohm source terminated, BNC connectors
Output Level	Adjustable -2 to -4 Vp-p
Output Isolation	Greater than 40 dB at 5 MHz
Size	1 module space in FR-5300B
Output Rise Time	Adjustable 120-150 ns
Tilt	Less than 1% line or field
Gain	Output adjustable to 2-4 Vp-p with input range of 1.5-6 Vp-p
Electrical Length	Can be set to 225 ns, nominal
Hum and Noise	75 dB RMS below 4 Vp-p
Overshoot and Ringing	Less than 1.0%

AD-5370B 1 x 5 Audio DA

Input	Balanced/differential, 100K ohm bridging, transformerless, screw terminal connectors
Input Level	+22 dBm maximum at 600 ohms
Common Mode Rejection	Greater than 60 dB to 20 KHz
Outputs	5, 600 ohm balanced, source terminated, transformerless, screw terminal connectors
Output Level	+18 dBm maximum
Output Isolation	Greater than 60 dB, 20 Hz-20 KHz
Size	1 module space in FR-5300B
Frequency Response	± 0.2 dB, 20 Hz-20 KHz
Gain	20 dB range, -6 to +14 dB; 6 dB continuously variable, four 5 dB steps
Total Harmonic Distortion	0.05%, 20 Hz-20 KHz, +8 dBm out; 0.1%, 20 Hz-20 KHz, +18 dBm out
Hum and Noise	-80 dBm (98 dB below +18 dBm) at unity gain; -75 dBm (93 dB below +18 dBm) at maximum gain

Specifications are subject to change without notice.