





# The AV Presentation


SourceBook

## Section 12C

### Power Amps

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### RA SERIES

## 150/300/500 Watt Studio Reference Amplifiers

With their rugged construction, striking good looks, and a long list of features, the RA series will quickly find a home in project and commercial recording studios, broadcast and post-production control rooms around the world. Whether used for studio reference monitoring, live sound reinforcement, or instrument amplification, the RA-Series will provide clean, quiet, reliable power with the high quality found in all Alesis products.

They are designed to provide more power and better performance at a lower overall cost per watt than any other competing amp. As a result, they can better match the power needs of virtually any passive speaker or studio monitor, offering a significantly better fit for an exceptionally wide range of budgets, applications and customers.

They also provide a crisp, clean signal for outstanding performance and extended speaker life.

Designed for studio use, each RA series amp incorporates advanced convection cooling for heat dissipation. The result is long, stable operation unaffected by heat-related complications and without the added distraction and annoyance of fan cooling. Also helps eliminate the danger of losing hard-to-hear details due to noisy amp performance.



#### FEATURES

- ◆ DC coupled, fully complementary discrete amplifier topology.
- ◆ Actively biased, dual differential inputs.
- ◆ Wide bandwidth, low distortion design.
- ◆ Fully protected from all fault conditions.
- ◆ Front panel level controls.
- ◆ LED output level metering (RA300 and 500 only).
- ◆ Overload/fault indicators.
- ◆ Bridged mono operation.
- ◆ Relay-controlled turn on/off.
- ◆ Silent convection-cooled design.
- ◆ Heavy-duty steel chassis.
- ◆ RCA inputs (-10dB unbalanced).
- ◆ 1/4" TRS inputs (+4dB balanced).
- ◆ XLR input connectors (RA 300, RA 500).
- ◆ Heavy-duty, dual binding post output connectors.

#### RA SERIES SPECIFICATIONS

			
	RA150	RA300	RA500
Height	2 RU	2RU	3U
Rated Output, 4Ω	75w RMS per channel	150w RMS per channel	250w RMS per channel
Rated Output, 8Ω	45w RMS per channel	90w RMS per channel	150 RMS per channel
Rated Output, 8Ω Bridged Mode	150w RMS	300w RMS	500 RMS
S/N Ratio	>105dB	>105dB	>105dB
Frequency Response	10Hz - 70kHz +0, -3dB	10Hz - 70kHz +0, -3dB	10Hz - 70kHz +0, -3dB
Distortion	< 0.02% @ 4Ω, 20Hz - 20kHz	< 0.02% @ 4Ω, 20Hz - 20kHz	< 0.02% @ 4Ω, 20Hz - 20kHz
Input Sensitivity	+4dB for rated output	+4dB for rated output	+4dB for rated output
Crosstalk	-85dB, 1kHz	-85dB, 1kHz	-85dB, 1kHz
Output Offset	±50 mV, Servo controlled	±50 mV, Servo controlled	±50 mV, Servo controlled

## POWERFLEX SERIES

### Four- and Six-Channel Power Amplifiers

Using a state of the art, high-speed MosFet switching design with spread spectrum switching technology, the Powerflex 4400 and 6250 provide uncompromised power with exceptional efficiency greatly reducing wasted power (heat). The 4400 delivers 275w RMS @ 8Ω or 400W RMS @ 4Ω of superior audio fidelity through four independent channels, while the Powerflex 6250—five times as efficient as conventional Class A or AB linear power amplifiers—delivers 150W RMS @ 8Ω or 250W RMS @ 4Ω through six independent channels.

- ◆ Their four or six channels may be used as individual, independent power amps with more than enough power to satisfy nominal audio applications. Additionally, three and two channel configurations of the Powerflex 4400 are possible for even greater flexibility. Channels may be bridged in pairs delivering 800W RMS @ 8 ohms.
- ◆ On the Powerflex 6250, five, four and three channel configurations are possible. Channels may be bridged in pairs providing for up to three higher power (500W/Ch @ 8 ohms) or 70-volt applications. The Powerflex 6250 can drive as many as six independent 25v or three independent 70v amps without the need of external transformers.
- ◆ The 4400 features bridgeable channels and switchable high pass filter on each pair of inputs. The 6250 offers a switchable high pass filter on each input. Both feature level controls located on the rear panel, XLR-1/4" and euroblock input connections, 5-way binding post output connections and a quiet three-speed fan for on-demand cooling.
- ◆ Applications include any multichannel power amp application, monitor amp, paging systems, cinema systems, boardroom audio applications, multiple zone restaurant, bar, theme park or auditorium. The Powerflex 6250 can also be used for any 25 and 70v system, surround sound, recording studios, PA and DJ applications.



Powerflex 4400, top; Powerflex 6250, bottom

## FTX SERIES III Stereo Amplifiers



The FTX-1501 and FTX-2001 utilize Ashly's proven output stage design, consisting of the latest generation of paralleled power MOS-FETs for current gain. These devices have smooth transconductance curves and run at a relatively high idle current, thus preventing crossover notch distortion. FTX Series III amplifiers require no dissipation limiting protective circuitry and provide virtually infinite power gain. This keeps load reflections from the driver stage, promoting stability and extremely low distortion.

- ◆ The FTX-1501 outputs 185w at 8Ω, 275w at 4Ω and 275w at 2Ω.
- ◆ The FTX-2001 delivers a full 300w per channel at 8Ω, 475w into four, and 550w when confronted with a true two ohm load.
- ◆ Both can be mono-bridged at a power rating twice their 4Ω per channel capability.
- ◆ Superior sonic performance with MOSFET outputs and class-A driver. Fan cooled for continuous high-power operation.
- ◆ They are UL approved to ensure compliance with the specifications of commercial installations, and are THX approved for use in cinema and home theater applications.
- ◆ Both amps are Ashly PowerCard compatible
- ◆ Modular construction for reliability and serviceability. They include Ashly's exclusive 5-year worry-free warranty.
- ◆ The FTX-2001(only) can be used to drive 70v systems when configured in bridged mono mode without external transformers.

### PE SERIES

## High Performance, Remote-Controlled Power Amplifiers

Ashly has long believed that the secret to great sound and reliability is intelligent design and meticulous execution. Optimized for cool operation, modularity, ultimate compatibility and maximum performance, the PE (Protea Enabled) Series takes that philosophy and multiplies it ten-fold. Featuring superior audio quality and reliability, the PE Series incorporates everything you need to interface with virtually any analog or digital equipment. They even include future-proof expansion ports. No add-ons. No awkward fixes. Truly modern amplifiers that address the needs of today's professionals.



Six models in the series, each are high-power, high-efficiency, 2RU high, lightweight amps incorporating the latest in power and control technologies. Each can drive 2, 4 or 8 ohm loads, and they utilize a 2-stage high-efficiency switched mode power supply, which provides a high-power-to-weight ratio. They can be controlled and monitored via the built-in ethernet port using Protea Software. The software gives you access to many features, including: input attenuation, channel mute, channel polarity, input level, output voltage, output current, clipping, temperature, and power on/off.

#### FEATURES

- ◆ Each PE Series amplifier provides on-board analog processing, including a selectable subsonic filter, a selectable clip-limiter and an input-sensitivity selector, which can optimize the amplifier for load and the many devices that can drive it.
- ◆ Each includes an array of output current and temp indicators to monitor various operating parameters. It's easy to tell at a glance, for example, the status of the load being driven (i.e. "are my drivers working?").
- ◆ Standard input connections are via XLR-1/4" Neutrik combo connectors and 6-pin Euroblock. XLR male connectors are also provided for looping to additional amplifiers. Output connectors are locking Neutrik Speakon (NL-4) on all models and 4 position screw terminal strip with safety cover on models 800 and 1200.
- ◆ The PE-2400, PE-3000 and PE-3800 are capable of driving 70-volt systems. Power specifications are: PE-2400 - 1200W per channel; PE-3000 - 1500W per channel; and PE-3800 - 1700W per channel.
- ◆ They provide DC voltage control of the calibrated Input attenuators, which makes it a snap to control volume from remote locations, and Remote Power Turn-on/-off with sequential power in/off circuitry built right into the amplifier.
- ◆ Two optional Protea DSP Cards are available. Their SHARC 32-bit/96kHz processor enables 24-bit AD/DA, analog and digital (AES3) inputs. Each offers two additional processed output channels to drive additional amplifier channels. (See next page to view the current DSP library).
- ◆ By adding Protea DSP technology and control to an amplifier, Ashly has designed a comprehensive and easy to use audio system. Protea Software allows you to setup, control and monitor PE Series amps using standard, inexpensive, readily-available Ethernet hardware. Control anywhere from one to hundreds of amps, as well as your Protea Series processors, on- or off-site with the intuitive and friendly Protea software.



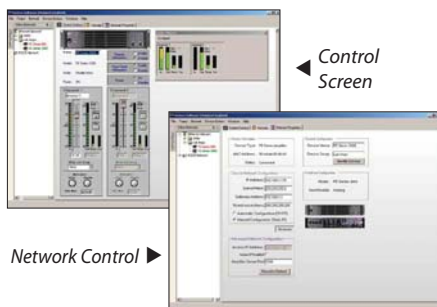
Power Model	8 ohms	Stereo 4 ohms	2 ohms	Mono Bridge 8 ohms	4 ohms	Parallel Mono 2 ohms
3800	1100W	1900W	1500W	3800W	3000W	3800W
3000	900W	1500W	1500W	3000W	3000W	3000W
2400	700W	1200W	1500W	2400W	3000W	2400W
1800	500W	900W	1400W	1800W	2800W	1800W
1200	300W	600W	1100W	1200W	2200W	1200W
800	200W	400W	700W	800W	1400W	800W

## PE SERIES

### Protea Software

Control from one to hundreds of amps, as well as your Protea Series processors, on- or off-site with intuitive and friendly Protea Software.

- ◆ Set up, control and monitor PE Series amplifiers using standard, inexpensive, readily-available Ethernet hardware.
- ◆ Protea mobile software allows wireless control of PE-Series amps and the DSP-1 and DSP-2 Option Cards for the PE-Series amps.



### Control Screen

Simple and easy set up, control and monitoring of your system, either on site or from anywhere in the world. It's browser-based for easy navigation and no need to install custom drivers. Control and monitor your entire sound system network – set levels, enable/disable front panel and remote attenuators, power on/standby, mute, monitor in/out levels, temperature and current.

### Network Control

Allows you to set up your system – automatically! Network Control will assign all your IP addressing – no advanced IT or programming degree needed. Or, if you wish, you can set up your system manually, allowing you to isolate your audio gear from everything else on the network.

### Security Control

Gives you flexibility to determine who has access and to define the limitations of that access.

Functions include:

**View Only:** Lets someone see what's going on but does not allow them to tamper with the settings

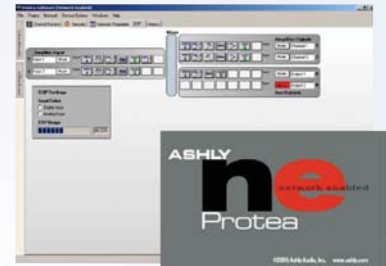
**IP Only:** Lets the network personnel set up the network or subnetwork and inhibits their ability to become an audio engineer

**Full Audio:** Full control of all audio functions only

**Unrestricted (Full):** Full control of all functions

### The PE DSP Card

- ◆ Proteane DSP cards use a SHARC 200MHz, 32-bit floating-point processor and operate from 48 to 96kHz with a 24-bit AD/DA. The Proteane DSP-1 XLR version and DSP-2 Euroblock version offer both analog and digital (AES3) inputs and two additional processed output channels for driving two more amplifier channels.



- Proteane DSP cards have an extensive DSP library including: graphic, parametric, notch and shelving equalization filter types, Bessel, Butterworth and Linkwitz/ Riley high and low pass crossover filters with slopes of up to 48dB/octave and all pass filters for phase correction. Additional processing blocks include: signal delay, compressor/limiter, gate, matrix mixer, signal generators (sinewave, white and pink noise) and metering.
- A "Click and Hot-Plug" user interface allows you to select any processing block and place it wherever required in your signal chain. The process is seamless and in real time, with no need to wait for your system to recalculate or recompile its settings.
- By adding a DSP card to your PE-Series amplifier, you have just simplified system implementation for many applications in live sound, commercial sound reinforcement and installations. Best of all, standard Ethernet protocol, a PC and Ashly's easy to understand and navigate Proteane Software is used to control everything. Several layers of security control allow you to determine who can access system settings and also define the limitations of that access.
- ◆ In addition to the Ethernet control, remote control via hard-wire and contact closure terminals to accommodate requirements for local operation is provided. These include remote level control, power standby/power down and recall of up to three presets.

### PE SERIES SPECIFICATIONS

<b>Voltage Gain:</b>	26dB, 32dB or 1.5V sensitivity (selectable)
<b>Distortion (SMPTE, typical) - 8 ohm load, 10dB below rated power</b>	<0.01%
<b>Distortion (THD+N, typical) - 8 ohm load, 10dB below rated power, 20Hz - 10kHz</b>	<0.01%
<b>Frequency Response</b>	20Hz - 20kHz, ± 0.15 dB
<b>Damping Factor - 8 ohm load, &lt;1kHz</b>	> 400
<b>Input Impedance</b>	20k Ohm, balanced
<b>Maximum Input Level</b>	+21 dBu
<b>Control Network</b>	onboard, compatible with standard 100 MB Ethernet hardware
<b>Front Panel Indicators</b>	
<b>Per channel</b>	Clip, -6 dB, -12 dB, -18 dB, Temp, Output current
<b>Overall</b>	power, standby, protect, bridged mono, parallel mono, communications
<b>Attenuators</b>	1 per channel: front panel, software, offset and remote
<b>Input Connectors, each channel</b>	XLR female/TRS, Euroblock, XLR male (looping)
<b>Output connectors, each channel</b>	Speakon
<b>Load Protection</b>	Adjustable clip limiter
<b>Dimensions (WxHxD)</b>	19" x 3.5" x 15.5"
<b>Net Weight</b>	22 to 24lbs.

### CE 1000 • CE 2000

## Power Amplifiers

Crown's CE 1000 and CE 2000 amplifiers are professional tools designed and built for professional use. They feature front-panel detented level controls, useful function indicators, proportional fan-assisted cooling, short-circuit protection and more.

For superior flexibility, they can work with a range of Crown SST (System Solution Topologies) modules which provide true professional features like fixed-point crossover and summed bass output. With powerful, reliable performance, the amps easily handle real 2-ohm loads and are capable of chest-thumping lows. Backed by a three-year, no-fault warranty that covers everything.



### FEATURES

- ◆ Accurate, uncolored sound with very low distortion for the best in music and voice reproduction
- ◆ Bridge-mono/stereo mode switch allows you to set up your amps/speakers in the configuration that best suits your needs
- ◆ Extremely versatile they can handle a wide range of speaker impedances and outputs
- ◆ Switchable input sensitivity
- ◆ Proportional speed fan optimizes cooling efficiency
- ◆ Removable front-panel level control knobs
- ◆ They can be mounted in 19" or shallow 14" racks or stacked on top of each other
- ◆ Choice of Speakon (comes standard), binding post, or barrier strip outputs
- ◆ Choice of balanced 1/4" (6.35-mm), XLR, or barrier strip inputs
- ◆ Advanced protection circuitry guards against shorted, open or mismatched loads; over-loaded power supplies; excessive temperature; chain destruction phenomena; input overload damage; and high-frequency blow-ups.
- ◆ They also protect loudspeakers from input/output DC, large or dangerous DC offsets and turn-on/turn-off transients.
- ◆ Three-year No-Fault (fully transferable) warranty even covers round-trip ground shipping in the U.S. for all warranty work.

### SST Modules

For superior flexibility, Crown CE-Series amplifiers are compatible with a range of Crown SST (System Solution Topologies) modules to tailor the amp to your application. The modules provide true professional features like fixed-point crossover and summed bass output and install easily into the back of the amplifier to save rack space and simplify system wiring.

The SST-MX module is a fourth-order Linkwitz-Riley type crossover with a fixed crossover point set at 100 Hz. Truly a professional crossover, the SST-MX uses hard-wired precision components that stay at the frequencies you have selected for consistent bandwidth control.



- ◆ Stereo biamp
- ◆ 24-dB/octave Linkwitz-Riley crossover fixed at 100-Hz
- ◆ Stereo sub outputs
- ◆ Neutrik Combo input jacks
- ◆ Barrier block balanced outputs
- ◆ Optional high-pass filter bypass on amplified outputs adapts system for full-range use

The SST-SX module is a fourth-order Linkwitz-Riley type crossover with the crossover point switchable to either 80 or 120 Hz. High-frequency (HF) signals are routed to the internal amplifier channels, and low-frequency (LF) signals are summed and routed the mono output connector. Truly a professional crossover, the SST-SX uses hard-wired precision components that stay at the frequencies you have selected for consistent bandwidth control.

- ◆ Stereo biamp
- ◆ 24-dB/octave Linkwitz-Riley tuned filters
- ◆ Crossover switchable to either 80 or 120 Hz
- ◆ SST modules install into the back of your amp, saving rack space & simplifying system wiring
- ◆ Neutrik Combo (1/4" [6.35mm] phone and 3-pin XLR) input jacks
- ◆ Male 3-pin XLR Sub Output

**SST-MX:** 100-Hz Linkwitz-Riley crossover with stereo sub-bass outputs

**SST-SX:** 80-/120-Hz switchable Linkwitz-Riley crossover with mono summed sub-bass output

**SST-SBSC:** variable Linkwitz-Riley stereo cross-over with mono-summed sub-bass output

## CE 4000

Engineered from the bottom up for top performance and unmatched reliability, the CE 4000 was designed using Crown's award-winning BCA (Balanced Current Amplifier) engineering to provide superior power output, increased efficiency, legendary Crown sound, and extraordinary reliability. With typical output power at 1,200 watts per channel, and Burst Power up to 1,800 watts per channel, the CE 4000 not only handles but excels at handling 2-ohm loads. In repeated stress tests, the CE 4000 continued to perform at levels 12 dB into clip, long after others had shut down.



Flexibility is also unsurpassed with features like selectable on-board high- and low-filter sets, optional signal control modules, and dual output connectors. Whether you're a touring band, A/V rental company or looking for a fixed install amp, the CE 4000's lightweight, modern design and lowest cost per watt of any amp in its class, make it the obvious choice.

### FEATURES

- ◆ Patented BCA (Balanced Current Amp) technology delivers high efficiency and superb sound. Generates more power and less heat than traditional linear amplifiers
- ◆ Delivers 1800 watts per channel (both driven) into 2 ohms, 1200 watts into 4 ohms, and 600 watts into 8 ohms
- ◆ Compatible with SST (System Solution Topologies) input modules for additional signal control. SST modules offer a variety of active crossover configurations
- ◆ 31-step detented rotary level control for each channel
- ◆ 3-way sensitivity switch is switchable among 0.775, 1.4 or 3.46 volts for full output into 8-ohm load
- ◆ Protection from shorted, open or mismatched loads, input and high-frequency overloads. Loudspeakers protected from in/out DC, and power on/off transients
- ◆ Amplifier is automatically muted during power up to avoid turn-on transients
- ◆ Designed for the utmost in flexibility, the CE 4000 features sub-bass output via integral 4-position high-pass and 3-position low-pass filter sets for each channel:
  - 4-position, selectable High-Pass filter switch provides settings for Flat, 30, 40 and 50Hz. Filter rolloff is 18 dB per octave
  - 3-position, selectable Low-Pass filter switch provides settings for Flat, 80 and 100 Hz. Filter roll-off is 24 dB per octave

- ◆ Clip LED indicators for each channel
- ◆ 5-Way Fault Indicator:
  - 1) blinks during power-up;
  - 2) excessive heatsink temperature;
  - 3) transformer thermal protection;
  - 4) short at amplifier output;
  - 5) output stage non-operational
- ◆ Twice as energy efficient as conventional switching amps, the CE 4000 requires much less energy to deliver its massive power into virtually any load. This efficiency means major savings over the life of the amp. It also allows more CE 4000's to be plugged into a single AC circuit, reducing installation costs.

- ◆ Choice of dual output connectors:
  - 5-way binding post plus Neutrik Speakon
  - 5-way binding post plus barrier strip
  - Dual Neutrik Speakon
- ◆ Enhanced switch-mode power supply with PFC (Power Factor Correction) allows you to plug the amp in anywhere in the world with any line voltage.
- ◆ Easy to transport and set up (only 34 lbs.)
- ◆ Extremely reliable keeps running under the harshest of conditions. However, just in case, it includes a 3-Year "No-Fault" full warranty (even covers round-trip ground shipping in the U.S. for all warranty work).

	CE1000	CE2000	CE4000
2 ohms Dual*	560w	975w	1800w
Rated Output, 4Ω	75w RMS per channel	150w RMS per channel	250w RMS per channel
Rated Output, 8Ω	45w RMS per channel	90w RMS per channel	150 RMS per channel
Rated Output, 8Ω	150w RMS Bridged Mode	300w RMS Bridged Mode	500 RMS Bridged Mode
S/N Ratio	>105dB	>105dB	>105dB
Frequency	10Hz - 70kHz	10Hz - 70kHz	10Hz - 70kHz
Response	+0, -3dB	+0, -3dB	+0, -3dB
Distortion	< 0.02% @ 4Ω, 20Hz - 20kHz	< 0.02% @ 4Ω, 20Hz - 20kHz	< 0.02% @ 4Ω, 20Hz - 20kHz
Input Sensitivity	+4dB for rated output	+4dB for rated output	+4dB for rated output
Crosstalk	-85dB, 1kHz	-85dB, 1kHz	-85dB, 1kHz
Output Offset	±50 mV, Servo controlled	±50 mV, Servo controlled	±50 mV, Servo controlled

\* with stand and speakers

### CTs SERIES

## 2-Channel and Multi-Channel Power Amps for Installed Sound

For flexibility and value for installed sound applications, the CTs Series offers power levels and features carefully chosen to perfectly integrate into fixed install design requirements. They feature independent selection of high and low-impedance operation for a specific channel, and for added flexibility, include both dual-channel and multi-channel models. All models feature Crown's new Switching Power Supply for lighter weight and are compatible with the IQ System. Two-channel models accept PIP2 modules, and also feature selectable high-pass filters and input sensitivity for each channel. Multi-channel models accept MC accessory modules that provide enhanced control, monitoring, and system integration. The CTs multi-channel amps also feature

FIT (Fault Isolation Topology), which isolates channel-specific faults and prevents them from affecting remaining channels. If a CTs multi-channel amp is powering multiple zones, and a channel fails, the other zones continue to operate.



### FEATURES

- ◆ Switching power supply for reduced weight
- ◆ High power-density, with all two-channel models in a 2U chassis.
- ◆ Direct constant-voltage (70/100/140/200v) or low-impedance (2/4/8 ohm) operation.
- ◆ Input sensitivity independently selectable for each channel.
- ◆ TLC protection circuitry protects the amp from long-term excessive heat by subtly and dynamically reducing the gain only when necessary to reduce heat levels.
- ◆ PIP2 (Programmable Input Processor) connector accepts accessory modules that tailor the amplifier to suit specific applications.
- ◆ Removable terminal block input connectors, with "Y" input switch in the standard PIP2-BBY module.
- ◆ A soft-start circuit in the power supply minimizes amp's current draw when power-on.
- ◆ Continuously variable fans optimize cooling efficiency.
- ◆ Comprehensive array of indicators to provide accurate diagnostics. These include: Data and Bridge, along with Ready, Signal, Clip, Thermal and Fault for each channel.
- ◆ Advanced protection circuitry guards against: shorted outputs, DC, mismatched loads, general overheating, under/over voltage, high-frequency overloads and internal faults.
- ◆ Legendary Crown AB+B (Multi-Mode) output topology in the CTs 600/1200 and Class I (BCA) output topology in the CTs 2000/3000 offer the best in amplifier reliability.
- ◆ Switchable high-pass filter for each channel provides low-frequency roll off to eliminate step down transformer saturation when used in distributed systems.
- ◆ Blue power indicator flashes if the AC mains is under/ over voltage.
- ◆ JTS circuitry (CTs 600/1200 only) quickly protects output transistors from unsafe operating conditions without shutting the channel down.
- ◆ 3-year No-Fault, fully-transferable warranty protects your investment. Crown's advance-replacement Profit Protection Plan provides no-questions-asked replacement of covered amps should they fail at any time up to 6 months following date of installation.

	CTs600	CTs1200	CTs2000	CTs3000
2-ohm Dual (per ch.)	150	250	1000	1500
4-ohm Dual (per ch.)	300	600	1000	1500
8-ohm Dual (per ch.)	300	600	1000	1250
16-ohm Dual (per ch.)	300	300	625	625
70 Volt Dual (per ch.)	300	600	1500	1500
100 Volt Dual (per ch.)	NR	NR	1500	1500
4-ohm Bridged	300	500	3000	3000
8-ohm Bridged	600	1200	3000	3000
16-ohm Bridged	600	1200	2500	2500
140 Volt Bridged	600	1200	3000	3000
200 Volt Bridged	NR	NR	3000	3000

## CTs SERIES

### Multi-Channel (CTs4200/8200) Step-up Features

- ◆ High power-density, with four channels (CTs 4200) or eight channels (CTs 8200) in a 3U chassis
- ◆ Selectable constant-voltage (70v/100v) or low impedance (4/8 ohm) operation for each channel pair (channel pair must be operated in Bridge mode for 100v output)
- ◆ FIT (Fault Isolation Topology) circuitry isolates faults within affected channels
- ◆ A fixed 35-Hz (70-Hz in CTs 4200) high-pass filter per channel pair is automatically inserted when the mode switch is set to either of the constant-voltage settings. The high-pass filter corner frequency in the CTs 8200 can be set to 70 Hz, or bypassed, with a service option
- ◆ Accepts MC accessory modules for remote VCA level control or IQ System control to tailor the amp to suit specific applications:

**IQ-MC4A and IQ-MC8:** A single IQ-MC module provides IQ control and monitoring capability to all channels of the amplifier. Features include basic IQ amplifier control and monitoring, including attenuation, mute, polarity, input level, output level, power supply temperature, and thermal level meters. Advanced features include IOC, Thermal and Fault error reporting, Load Supervision, output limiting, Listen Bus, AUX control port, 32 presets, and real-time “read-only” software indication of amplifier hardware indicator, level control, and mode switch status.

**VCA-MC4A and VCA-MC8:** Provides independent remote level control for each channel. 4-pin removable Phoenix-style barrier connectors provide the +10VDC control voltage, ground, and control lines for two amplifier channels. Thus, 4-channel amplifiers use two connectors; 8-channel amplifiers use four connectors.

Used in conjunction with a VCA-MC module, the 1-VCAP and 4-VCAP are wall-mounted panels that provide remote volume control for one or more CTs amplifier channels. The 1-VCAP is a 1-gang panel with one potentiometer, and the 4-VCAP is a 2-gang panel with four potentiometers. The potentiometer(s) on the panel are wired directly to one of the VCA connectors on the VCA-MC.

Mode	Channels Driven	CTS4200	CTS8200
4 Ω Dual	4 ch.	215 W	175 W
8 Ω Dual	4 ch.	190 W	155 W
70 Volt Dual	4 ch.	220 W*	185 W*
4 Ω Dual	1 ch.	225 W	230 W
8 Ω Dual	1 ch.	210 W	220 W
70 Volt Dual	1 ch.	245 W*	230 W*
8 Ω Bridged	2 ch-pairs	430 W	350 W
16 Ω Bridged	2 ch-pairs	380 W	310 W
100 Volt Bridged	2 ch-pairs	220 W*	185 W*
8 Ω Bridged	2 ch-pairs	450 W	460 W
16 Ω Bridged	2 ch-pairs	420 W	440 W
100 Volt Bridged	2 ch-pairs	245 W*	230 W*

All ratings measured @ 20Hz - 20kHz except \* which are constant Voltage full bandwidth power ratings at 100Hz - 20kHz due to automatic High-Pass Filters

## CTs SERIES

- CTs 4200 4-Channel Power Amp (CRCTS4200)**.....CALL
- CTS-4200IQ (CRCTS4200IQ):** With IQ-MC4 .....CALL
- CTS-4200VCA (CRCTS4200VCA):** With VCA-MC4A .....CALL
- CTs 8200 8-Channel Power Amp (CRCTS8200)**.....CALL
- CTS-8200IQ (CRCTS8200IQ):** With IQ-MC4 .....CALL
- CTS-8200VCA (CRCTS8200VCA):** With VCA-MC4A .....CALL

## COMMERCIAL AUDIO SERIES

Commercial Audio Series amps deliver legendary Crown quality to the commercial audio industry. Consisting of the 80A, 280A and 1160A, these high-value amplifiers provide both 4-ohm and constant-voltage outputs (70v and 100v) for use in a wide range of commercial applications including schools, hospitals, factories, restaurant/retail, houses of worship, fitness facilities and A/V boardrooms.



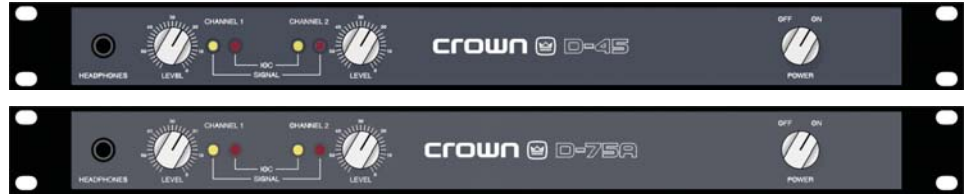
- ◆ 1 or 2 inputs, 1 or 2 amplifier output channels
- ◆ Ideal for commercial and industrial use
- ◆ Balanced Phoenix-type line inputs; touchproofed screw-terminal speaker outputs
- ◆ Advanced protection system includes output current limiting, DC protection, circuit breaker/fuse, and thermal protection.
- ◆ Three-Year, No-Fault, Fully Transferable Warranty completely protects your investment and guarantees amp specifications.

The amps vary in their number of inputs/outputs, and power range:

- 180A has 1 input and one 80W power amp for single-zone systems.
- 280A has 2 inputs and dual 80W power amps for two-zone systems.
- 1160A has 1 input and one 160W power amp for single-zone systems.

### D-45 • D-75

With their long history of reliability, D-45 and D-75A amps are the ideal choice for use on the road, in recording studios, labs and in public facilities. Very compact (1RU), the convection cooled D-45 and D-75A provide ultra-low distortion for medium power applications making them perfect for moderate power applications such as broadcast studio near-field monitoring, a recording/broadcast headphone amp or a small paging system. Designed, built and carefully checked to ensure reliable operation with a wide variety of loads, Crown's AB+B circuitry ensures efficient use of output transistors while incorporating protection against shorted, open, mismatched or low-impedance loads. Both include the industry's only 3-year, no-fault, fully transferable warranty.



- ◆ Powerful AB+B class circuitry yields maximum efficiency with minimum crossover "notch" distortion
- ◆ IOC (Input/Output Comparator) alerts of any distortion that exceeds 0.05% to provide proof of distortion-free performance
- ◆ Detented level controls for precise repeatability
- ◆ Ultra-low harmonic and intermodulation distortion result in the best dynamic transfer function in the industry
- ◆ Very low noise and wide dynamic range
- ◆ High damping factor provides exceptional loudspeaker motion control
- ◆ Signal presence indicators verify the presence of amplifier output
- ◆ Convection cooling dissipates heat through the heat sinks and chassis for optimal cooling and maintenance-free operation
- ◆ Mounts in a standard 19" rack
- ◆ 3-Year, no-fault, transferable warranty

#### POWER OUTPUT @ 1 kHz with 0.5% THD

	D-45	D-75A
4 ohm Dual*	35w	55w
8 ohm Dual*	25w	40w
16 ohm Dual*	20w	25w
8 ohm Bridge-Mono	70w	110w
16 ohm Bridge-Mono	50w	80w

\* maximum power @ 1 kHz with 0.5% THD



## XLS SERIES

### XLS-202, XLS-402, XLS-602, XLS-802

The XLS Series of power amplifiers from Crown represents a new era in affordable, quality power amplification. Identical except for output power and weight, the line consists of four models in a uniform, rugged 2U chassis. They offer a Bridge/Mono Switch that allow users to quickly and easily set the amp for Bridge Mono mode. Also, the signal indicators greatly increase monitoring capabilities.

#### POWER OUTPUT @ 1 kHz with 0.5% THD

	XLS202	XLS402	XLS602
2 ohm Stereo*	250w	570w	240w
4 ohm Stereo*	200w	400w	600w
8 ohm Stereo*	145w	260w	370w
8 ohm Bridge-Mono	—	800w	1200w

\* per channel

- ◆ Housed in a rugged, all-steel 2U chassis.
- ◆ Clip limiters protects loudspeakers from being overdriven.
- ◆ Efficient forced-air fans prevent excessive thermal buildup.
- ◆ Electronically balanced XLR inputs; touchproof binding post and Speakon outputs.
- ◆ Selectable high-pass filter on each channel enables them to work more efficiently when full band-width isn't required.
- ◆ Precision detented level controls, power LED, and six LEDs which indicate signal, clip and fault for each channel.
- ◆ 3-Year, no-Fault, fully transferable warranty.

## CP-660

### 6-Channel Amplifier

Crown's CP660 six-channel power amplifier gives you super flexibility and the best watts-to-dollar ratio around. With six independent channels, the CP660 takes the place of three, two-channel amplifiers, yet still fits in a standard two-rack space.

Its 75-watt average power output per channel is ideal for a variety of surround-sound uses, as well as many paging, zoning and background music applications. Plus, when you need it, you can easily bridge any pair of channels for double the power.



Rear-mounted controls and connectors on the CP660 minimize the chance of unauthorized changes, and provide a clean look for the front panel. A super-quiet, variable speed fan provides just the right amount of cooling, only when it's needed.

Like all Crown amplifiers, the CP660 has been carefully constructed using graded, high-current metal transistors and other quality components, ensuring years of reliable operation. Plus, it's backed by Crown's unmatched, industry-leading, three-year, no-fault warranty, which guarantees the amp is covered no matter what, even if it's damaged by accident.

#### FEATURES

- ◆ Designed for a wide range of demanding applications, including multi-channel, distributed sound, surround and stereo systems.
- ◆ Perfect for applications with multi-zone needs, such as cafeterias, restaurants, schools and theaters, the CP660's efficient design allows convenient, cost-effective, reliable operation in a compact, 2RU space format.
- ◆ This highly efficient amplifier includes a power sharing design that provides extra power to channels where it's needed most.
- ◆ A discrete component power design employs rugged, high-current metal output transistors for maximum reliability.
- ◆ The super-quiet, variable speed fan operates according to thermal demand, while the front-panel air intakes provide the most efficient cooling in any rack.
- ◆ The CP660 brings you maximum flexibility for configuration, with six independent amplifier channels. Each pair of output channels can be bridged, using convenient switches on the back panel, to provide three, four or five channels with higher output power. In addition, each channel includes its own back-panel gain control for convenient system balancing.
- ◆ Barrier strip connectors are provided for the inputs, and heavy-duty 5-way binding posts allow secure output connections.
- ◆ Six independent level controls on the back panel allow convenient level balancing of all channels.
- ◆ Three Dual/Mono switches on the back panel give a broad range of flexibility in configuring your system.
- ◆ Super-quiet, variable-speed fan with auto trigger for silent, effective cooling.
- ◆ High-quality, standard-spaced double banana-jack/binding-post output connections facilitate any type of speaker connection, including heavy-gauge wire.
- ◆ The CP660 amplifier is protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature; chain destruction phenomena; input overload damage; and high-frequency blowups. It also protects loudspeakers from input/output DC, large or dangerous DC offsets and turn-on/turn-off transients.

#### Crown's Three-Year, No-Fault, Fully Transferable Warranty

Crown offers a Three-Year, No-Fault, Fully Transferable Warranty for every new Crown amplifier—an unsurpassed industry standard. With this unprecedented No-Fault protection, your new Crown amplifier is warranted to meet or exceed original specifications for the first three years of ownership. During this time, if your amplifier fails, or does not perform to original specifications, it will be repaired or replaced at our expense. About the only things not covered by this warranty are those losses normally covered by insurance and those caused by intentional abuse. And the coverage is transferable, should you sell your amplifier.

Six-Channel Mode		
	4-ohm	8-ohm
1 Channel/ 1 Load	130W	90W
4 Channels/ 4 Loads	100W	70W
6 Channels/ 6 Loads	75W	60W
Bridge Mode		
	8-ohm	
2 Channels/ 1 Load	250W	
4 Channels/ 2 Loads	200W	
6 Channel/ 3 Loads	150W	

## CXA120 • CXA240

### 120W and 240W Power Amplifiers

Although the CXA 120 (120w) and CXA 240 (240w) are single channel power amplifiers mainly designed for low voltage applications (25V, 70V, 100V), they can also be used with a 4 ohm load. This makes the CXA series amplifiers adaptable to most installations. Their ability to be run from a 24v DC backup power supply, seamlessly switching to DC when the AC power is lost, means that you can have a working system even if there is in an emergency situation. Applications for the CXA Series include paging systems, houses of worship, hotel and ballrooms, meeting rooms, schools, offices, foreground/background music systems.



CXA240

#### CXA 120/240

- ◆ Single channel
- ◆ 4 Ohm - 25v - 70v - 100v outputs
- ◆ Adjustable input levels
- ◆ Automatic 24v DC backup power input
- ◆ 115v or 230v AC mains determined by a voltage select switch

#### CXA 120 Only

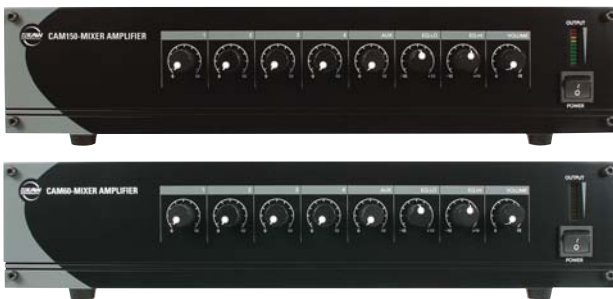
- ◆ Discrete component 120w power amplifier
- ◆ Convection cooled for quiet operation
- ◆ Two actively balanced screw terminal inputs
- ◆ Voice activated priority override
- ◆ Hi and Lo EQ on the front panel
- ◆ Rack mounting kit included

#### CXA 240 Only

- ◆ Discrete component 240w power amplifier
- ◆ Dual speed fan cooling for quiet operation
- ◆ Actively balanced XLR inputs, unbalanced RCA jacks — dual channel inputs are summed to mono
- ◆ Thermal protection circuitry

## CAM60 • CAM150

### 60W and 150W Integrated Mixer/Amplifiers



The CAM60 (60w RMS) and CAM150 (150w RMS) are designed for continuous use in installations that may require the mixing of several input sources before being fed throughout a venue. By integrating the mixer and amplifier together they save precious real estate and money. The powered outputs include use for 25v, 70v, 100v, and 4 ohm connections. Applications for the CAM60/150 include multi-input paging systems, house of worship, hotel and ballrooms, meeting rooms, schools, offices, foreground/background music systems.

- ◆ 60W RMS (CAM 60), 150W RMS (CAM 150).
- ◆ Four, actively balanced, XLR, 1/4" mic/line combi inputs with a sensitivity switch for line level, mic level.
- ◆ Front panel Mic/Line input, Aux, and master level controls, as well as bass and treble.
- ◆ 25v, 50v, 70v, 100v and 4 Ohm outputs.
- ◆ Switched 24v phantom power.

- ◆ RCA aux stereo and screw terminal telephone paging inputs.
- ◆ A signal processing loop for adding outboard dynamics and/or EQ.
- ◆ An LED meter indicates signal strength and output overload.
- ◆ An internal 1 watt amplifier with level control allows monitoring of the Aux input.

- ◆ Automatic 24v DC backup power input.
- ◆ The CAM 150 adds fan cooling.

#### Voice Priority Function

- ◆ Input 1 has voice-activated priority over Inputs 2 to 4 and the Aux Input. Inputs 1 to 4 have switch-activated priority over the Aux input. The Telephone Paging input has voice-activated priority over all inputs.

### CAZ SERIES

## 800w, 1400w and 2500w Stereo Power Amplifiers

The CAZ Series of stereo power amplifiers are designed for continuous use in sound reinforcement applications that demand high performance and rugged dependability. The CAZ800 offers 800 watts continuous at 4 ohms bridged; the CAZ1400 provides 1400 watts continuous at 4 ohms bridged; and the CAZ2500 delivers a walloping 2500 watts continuous at 4 ohms bridged.

The CAZ series are all easily switchable for mono, stereo and bridged mono



operating modes and they are ideal for use in paging systems, houses of worship, hotel and ballrooms, meeting rooms, schools, offices and foreground/background music systems.

- ◆ Discrete component power amplifiers.
- ◆ Ultra low-noise/low-distortion design.
- ◆ Switchable limiter and low-cut filter @ 30 Hz on both channels.
- ◆ Balanced/unbalanced 1/4" TRS and XLR line input jacks.
- ◆ Balanced screw terminal input connectors.
- ◆ Screw terminal output connectors (Ch. A, B, and Bridged Mono).
- ◆ Detented, dB calibrated, rotary gain controls.
- ◆ Signal present and OL (overload) LEDs.
- ◆ Robust chassis, proven design.
- ◆ Double-sided, quality circuit boards.
- ◆ Power LED indicator.
- ◆ 2.5 second turn on delay.
- ◆ Variable speed fans and large-finned heatsinks for superior cooling.

	CXA120	CXA240	CAM60	CAM150
<b>Output</b>				
<b>Low Z</b>	120 W, 4 ohm	240 W, 4 ohm	60 W, 4 ohm	150 W, 4 ohm
<b>High Z</b>	25 V, 15 ohm	-	25 V, 10 ohm	25 V, 4 ohm
<b>High Z</b>	70 V, 42 ohm	70 V, 21 ohm	70 V, 83 ohm	70 V, 33 ohm
<b>High Z</b>	100 V, 83 ohm	100 V, 42 ohm	100 V, 170 ohm	100 V, 67 ohm
<b>Dimension (HWD)</b>	3.9 x 17.1 x 13.2"	5.25 x 18.9 x 14.5"	3.9 x 17.1 x 13.2"	3.9 x 17.1 x 13.2"
<b>Weight</b>	19.4 lbs	31.1 lbs	22.3 lbs	25.6 lbs

	CAZ800	CAZ1400	CAZ2500
<b>Topology</b>	Class AB	Class AB	Class H
<b>Output: (Continuous sine wave average output power per channel with both channels driven; 120 VAC)</b>			
<b>8 ohms (20 Hz to 20 kHz)</b>	205 watts/channel	310 watts/channel	575 watts/channel
<b>4 ohms (20 Hz to 20 kHz)</b>	300 watts/channel	450 watts/channel	750 watts/channel
<b>2 ohms (20 Hz to 20 kHz)</b>	480 watts/channel	800 watts/channel	1400 watts/channel
<b>Output: (Bridged Mono operation; 120 VAC)</b>			
<b>8 ohms (20 Hz to 20 kHz)</b>	560 watts	900 watts	1500 watts
<b>4 ohms (20 Hz to 20 kHz)</b>	800 watts	1400 watts	2500 watts
<b>Dimensions (HWD)</b>	3.5" x 19 x 15.7"	3.5" x 19 x 15.7"	3.5" x 19 x 15.7"
<b>Weight</b>	43.6 lbs	48.5 lbs	56.2 lbs

### M-SERIES

## Class-H Power Amplifiers

There are three models available in Mackie's M-Series stereo power amplifiers: the M-2000, M-3000 and M-4000, with 2000W, 3000W and 4000W, respectively.

M-Series power amplifiers utilize the highly efficient Class-H circuit topology, which modulates the amplifier's

voltage as determined by the input signal. This technology maximizes power while

allowing the amps to run cool, thus adding to their long term reliability. The M-Series also feature Mackie's own Baker Clamp-based Fast Recovery circuitry, which prevents harmonic distortion, while preserving the integrity transients.

Inputs include Neutrik XLR, 1/4" TRS combi connectors, as well as balanced screw terminal connectors. A switchable filter, with settings for full, high-pass and low-pass, is available for each channel. This circuitry acts as a built-in crossover that allows you to, for example, use one channel for a woofer or subwoofer and the other channel for mid and high frequencies.

Speaker outputs include industry standard Speakon connectors and binding posts. Independently switchable output limiters are provided for each channel, on the rear panel. Their front panels feature channel one and two level controls, as well as 6-segment LED metering and internal status LEDs for each channel.



For reliability, they use of advanced protection circuitry, including thermal protection, output DC offset protection, input slew protection and extensive output stage protection. The M-Series are housed in robust, 3RU steel chassis and include a 5-year limited warranty.

- ◆ High efficiency Class-H stereo power amps deliver more clean power and less destructive heat from a 120/240V power outlet.
- ◆ Adaptive Slewing Technology for incredibly fast transient response with minimal distortion.
- ◆ Fast Recovery circuitry reduces distortion at the edge of clipping and beyond.
- ◆ Switchable 150Hz LPF/HPF for instant 2-way loudspeaker systems.
- ◆ Low feedback / Low distortion design with triple Darlington output stages.
- ◆ Extensive Protection Circuits for power supply over-temperature protection, low voltage / brownout protection, and fusible resistors throughout.
- ◆ True 2-Ohm power drive capability means the amps can sustain real-world 2-Ohm loads.

	M-2000	M-3000	M-4000
<b>Continuous Average Output Power in watts, both channels driven</b>			
20 Hz-20 kHz into 8 ohms per channel	325	475	650
20 Hz-20 kHz into 4 ohms per channel	525	800	1050
40 Hz-20 kHz into 2 ohms per channel	800	1200	1600
Bridge Mono: 20 Hz-20 kHz into 8 ohms	1050	1600	2100
Bridge Mono: 40 Hz-20 kHz into 4 ohms	1600	2400	3200
<b>Maximum Output Power in watts, both channels driven</b>			
1 kHz @ 1% THD into 8 ohms per channel	400	600	800
1 kHz @ 1% THD into 4 ohms per channel	650	1000	1300
1 kHz @ 1% THD into 2 ohms per channel	1000	1500	2000
Bridge Mono: 1 kHz @ 1% THD into 8 ohms	1300	2000	2600
Bridge Mono: 1 kHz @ 1% THD into 4 ohms	2000	3000	4000

### JUICE SERIES

## Two Channel Power Amplifiers

The Juice Series deliver big performance at an affordable price for almost any live sound reinforcement situation.

Whether it's the 800 Watt/CH (4Ω) J-800, 1400 Watt/CH (4Ω) J-1400 or the 2500 Watt/CH (4Ω) J-2500 each amp

offers serious power and professional features with rugged build quality — both inside and out. Connectors include balanced XLR and 1/4" TRS inputs as well as robust Neutrik Speakon connectors and binding post speaker outputs.



- ◆ Easily switchable mono/stereo/bridged mono operating modes
- ◆ Separate Speakon outputs for Channel A and Channel B plus a third Speakon output for mono bridged applications as well as providing both output channels on a single NL4 connector
- ◆ A switchable 9db @ 30Hz subsonic filter provides low-frequency speaker protection
- ◆ Front mounted handles for easy transport and protection of level controls
- ◆ Defeatable clip limiter; 2.5 second turn on delay
- ◆ Dual variable-speed fans with back to front airflow cooling system
- ◆ Front panel channel A and B signal present, overload and power indicators

	J-800	J-1400	J-2500
Amp Topology	Class AB	Class H	Class H
<b>Average Output Power:</b>			
2 ohms (Stereo)	480 W/ch	800 W/ch	1400 W/ch
4 ohms (Stereo)	300 W	450 W	750 W
8 ohms (Stereo)	205 W	310 W	575 W
4 ohms (Bridged Mono)	800 W	1400 W	2500 W
8 ohm (Bridged Mono)	560 W	900 W	1500 W
Gain	30 dB	32 dB	34 dB
Frequency Response	25Hz - 25kHz	25Hz - 25kHz	25Hz - 25kHz
Weight	43.6 lbs	48.5 lbs	56.2 lbs

## PHONIC ICON 300 / ICON 700

### Contractor Power Amplifiers



The ICON 300 and ICON 700 are cost effective contractor power amplifiers that provide you with standard low impedance outputs via binding post connectors and 25v, 70v and 100v line operation

via barrier strip outputs. A separate toroidal secondary transformer in each amp offers full electrical isolation and ensures maximum audio separation. They also feature power up muting, full short-circuit temperature, DC offset protection and a built-in 45 Hz subsonic filter that prevents speaker transformer saturation with minimal effect on program material.

- ◆ Barrier strip connection determines output mode of 25v, 70v or 100v.
- ◆ XLR and barrier strip inputs plus XLR link outputs for easy pass through for use in multi-amp setups.
- ◆ Automatic, dual-speed, high efficiency fan keeps the amplifiers running cool.
- ◆ 25V, 70V or 100V and low impedance outputs are available simultaneously.
- ◆ Rear panel detented gain controls.
- ◆ Stereo, bridge, or parallel operating modes.
- ◆ Full short-circuit, temperature and DC offset protection.

	ICON 300	ICON 700
Max. Power Rating @ 8 ohms (Stereo)	120W/side	2x 240W/side
Max. Power Rating @ 4 ohms (Stereo)	200W/side	400W/side
Max. Power Rating @ 2 ohms	300W/side	550W/side
Mono Bridge at 8 ohm	420W	850W
Mono Bridge at 4 ohms	540W	1100W
200v or 140v Bridge	300W	700W
100v or 70v	150W/side	350W/side
25v	120W/side	280W/side
Frequency Response	50Hz-50KHz	50Hz-50KHz

## RMX SERIES



### Professional Power Amplifiers

The RMX Series amplifiers offer clean, dynamic power with legendary QSC sound quality and reliability for unmatched performance. Providing professional quality at affordable prices, they range in power from 430 watts to 2000 per channel at 2 ohms, all in a compact chassis only 2 rack spaces high and less than 16" deep.

A powerful high-current toroidal transformer and ample filter capacitance ensure generous energy reserves. This makes a critical difference in sound quality, because it allows the amps to effortlessly punch out high level transients, even when driving abusive 2-ohm speaker loads. A full complementary output circuit using the highest-grade linear output devices delivers ultra-low distortion and a ruler-flat frequency response. RMX output devices are direct-mounted to the heat sink for optimum thermal coupling and cooling. Other features include user-defeatable clip limiters and selectable low-frequency filters to optimize sonic performance. They are equipped with XLR and 1/4" balanced inputs, and Speakon and binding post outputs.

#### FEATURES

##### RMX Series Features

- ◆ High-current toroidal transformers for greater 2-ohm power and low noise
- ◆ Barrier strip, XLR and 1/4" balanced inputs plus Speakon and binding post outputs provide easy connections.
- ◆ Low-noise variable speed fans with rear-to-front air flow keep amps and racks cool
- ◆ Front mounted gain controls for easy access
- ◆ Signal and Clip LED indicators help monitor performance
- ◆ Amplifier protection includes full short circuit, open circuit, thermal, ultrasonic, and RF protection. Stable into reactive or mismatched loads.
- ◆ Independent DC and thermal overload protection on each channel automatically protects amp and speaker
- ◆ 3-year warranty plus optional 3-year extension available

##### RMX "HD" Step-up Feature

- ◆ RMX 1850HD and 4050HD "Heavy Duty" provide improved thermal performance to give you higher continuous power in 2-ohms stereo or 4-ohms bridged applications.

- ◆ Independent defeatable clip limiters reduce distortion without sacrificing peak performance. When an RMX is pushed to extremes, the clip limiter automatically finds the exact point of overload and keeps the amp in its "Peak Zone", preventing severe distortion without reducing performance.
- ◆ Prevent low-frequency muddiness with selectable 30 or 50Hz low-frequency filters and boost your system's response by matching the amp's range to the speakers. Each channel is separately adjustable: 50Hz for compact full-range speakers; 30Hz for subwoofers and large full-range systems (OFF for studio monitoring).
- ◆ The clip limiter and low-frequency filter are independently adjustable for each channel

	RMX 850	RMX 1450	RMX 1850HD	RMX 2450	RMX 4050
2 ohms Dual					
8Ω EIA 1 kHz, 0.1% THD	200W	280W	360W	500W	850W
4Ω EIA 1 kHz, 0.1% THD	300W	450W	600W	750W	1400W
2Ω EIA 1 kHz, 1% THD	430W	700W	900W	1200W	2000W
BRIDGE MONO MODE	Bridge Mono Mode Operation				
8Ω EIA 1 kHz, 0.1% THD	600W	900W	1150W	1500W	2800W
4Ω EIA 1 kHz, 1% THD	830W	1400W	1800W	2400W	4000W

*Thermal Management System provides continuously variable speed fan for quiet operation. Rear-to-front air flow keeps amps and racks cool.*



## PLX II SERIES

## Professional Power Amplifiers

The PLX2 series is a range of premium quality, high-power amplifiers, that combine superlative audio quality, with plenty of clean, undistorted output, and proven QSC reliability in a lightweight package. The range of PLX2 amplifiers are divided into two groups: the 02 models and the 04 models. The 02 models (PLX1802, PLX2502, PLX3102 and PLX3602) are able to drive up to four loudspeakers from each amplifier channel (2 ohm loading), or can deliver extremely high power when bridged mono operation is required.

The 02 models feature built-in subwoofer processing, filter switches, and front panel indications of bridge mono status.

The 04 models (PLX1104, PLX1804) are even more compact and light weight (just 13 pounds) than the 02 models. They offer the same uncompromised performance and technology as the rest of the PLX series, and yet they have been made more affordable for applications that don't require bridged or 2 ohm operation. Instead, the 04 models are designed to power one or two speakers from each amplifier channel (4 ohm minimum loading). The 04 series amplifiers are perfect for portable presentation rigs, as well as reference-quality playback.



## FEATURES

## All PLX II Models Feature

- ◆ Very light weight ("02" models, 21 lbs, "04" models 13 lbs).
- ◆ Cooling design exhausts hot air out the front, keeping the rack cool. Flow-through heat sinks require no filters that could potentially become clogged.
- ◆ Front panel LED power, clip, -10 dB, and signal present indicators for system monitoring and troubleshooting. 02 models also feature bridge and parallel mode LED indicators.
- ◆ Speakon NL-4 output connectors provide a positive-locking speaker connection. Ch 1 output uses all 4 wires for single-cable connection to bi-amplified speakers.
- ◆ 21-position front-panel gain controls for precise, repeatable level adjustment.
- ◆ Balanced (Parallel) XLR and 1/4" TRS inputs with support for loop-through operation.
- ◆ Patented PowerLight power supply technology with other patents pending.

## 04 Models Feature

- ◆ Value combined with uncompromised PLX technology, quality and performance for applications that don't require bridged or 2 ohm stereo operation.
- ◆ Two models with power ratings up to 900 watts per channel @ 4 ohms.
- ◆ Clip limiting protects speakers; thermal limiting maintains operation even during abnormal overloads.

## 02 Models Feature

- ◆ Speakon NL4 and binding post outputs
- ◆ 100Hz high pass and low pass filters for bi-amping subwoofer and satellite systems without the need for an external crossover
- ◆ Defeatable 33Hz infrasonic filters protect woofers from over-excursion damage
- ◆ Defeatable clip limiters
- ◆ Four models with power ratings up to 1800 watts per channel @ 2 ohms, 3600 watts bridged @ 4 ohms

	Stereo watts per Channel			Bridged watts	
	8 ohms*	4 ohms*	2 ohms**	8 ohms*	4 ohms**
PLX1104	325W	550W	-	-	-
PLX1804	600W	900W	-	-	-
PLX1802	330W	575W	900W	1200W	1800W
PLX2502	450W	750W	1250W	1500W	2500W
PLX3102	600W	1000W	1550W	2100W	3100W
PLX3602	775W	1250W	1800W	2600W	3600W

\* 1 kHz, 0.1% THD, both channels driven / \*\* 1 kHz, 1% THD, both channels driven

### MA3

## Multichannel Amplifier

The MA 3 is a three-channel amplifier specifically designed for use in paging, foreground music, and background music distribution. Each channel of the MA 3 delivers 40 watts of continuous

average power into 8 ohms and 60 watts into 4 ohms. Up to three optional 40 watt, 70.7 volt or 100-volt constant-voltage audio transformers may be installed inside the MA 3, eliminating the need for external wiring or transformer mounting. The combination of a solid, conservative power supply and forced air cooling allows the MA 3 to simultaneously deliver 60 watts of continuous-average-power to all three channels.



- ◆ SPIke dynamic protection circuitry completely safe-guards each channel against over-voltage, under-voltage, overloads, transients from inductive loads, thermal runaway and instantaneous temperature peaks. Biasing is not allowed to occur when an under-voltage condition exists, reducing turn on and turn off transients.
- ◆ Fast-response limiters allow the MA 3 to tolerate up to 20 dB of overdrive into 8 and 4 ohm loads while holding THD below 1%. This means no loss of speech intelligibility or harsh clipping. Greatly increases the dynamic range of the system without external limiters. Peak-responding, load-adaptive meters accurately indicate the remaining headroom, and are helpful in setting system levels and indicating signal compression.
- ◆ Balanced inputs with Euroblock connectors are provided. Euroblock output connectors accept up to 12 gauge wire. Rear panel level controls allow amplifier sensitivity adjustment.
- ◆ Internally selectable 80 Hz highpass filters offer protection against over excursion of small bookshelf speakers and saturation of distribution transformers at low frequencies.

### MA6S Multichannel Amplifier



The MA6S supplies six completely independent amplifier channels in one 3-space rack-mount unit. Each channel delivers 100 watts RMS into an 8-ohm load, or 150-watts each into a 4-ohm load. Adjacent pairs of Channels (1 & 2, 3 & 4, 5 & 6) operate bridged to provide 300-watts into an 8-ohm load. Each channel

of the MA 6S includes an input Voltage Controlled Attenuator (VCA). This carefully designed VCA prevents clipping at the output of the amplifier for any load for up to 15 dB of input overdrive. This VCA provides additional headroom to each Channel, making the 100 watt ratings effectively much higher, and the results much louder.

- ◆ Unprecedented degree of flexibility:
  - ◆ Use it as a monitor amplifier for six separate Channels of stage monitor mixing;
  - ◆ Drive a pair of two-way speakers bi-amped with two bridged pairs at 300w for the low end and two 100w channels for the high end, each with limiters for driver protection
  - ◆ Run three bi-amped monitors at 100w each
  - ◆ Drive three passive two-way monitors at 300 watts each
- ◆ All channels of the MA 6S are completely independent. Each is contained on its own circuit board making it immune to the actions of any other channel.
- ◆ Power supply is designed so that signal won't back-feed from a heavily loaded channel to any other channel. This makes power supply cross talk between channels inaudible.
- ◆ Euroblock quick disconnects allow fast and inexpensive connection of input and output signals. Up to 12 AWG wire can be used.
- ◆ Individual indicators for each channel indicate the status of the Mute Relay, Clipping Protection, and Safe Operating Area (SOA) Protection circuits.
- ◆ Heavy gauge all-steel construction offers a high level of mechanical integrity, even when the amp is rack-mounted and unsupported in the rear. As an added benefit, mounting holes are provided on the side rails so the amplifier may be supported from the back.

## RA235 • RA200 • RA900

### Stereo Power Amplifiers

RA Series power amps deliver clean and efficient power for use in studios, schools and houses of worship. The **RA235** is a 35-watt stereo power amp built into an industrial-strength single rack space enclosure. The RA235 is also quiet because it uses a front panel heat sink instead of a noisy fan.

The dual rack spaced **RA200** offers 100-watts/channel stereo into 4 ohms and features MOSFET drivers in a voltage and current gain circuit that are fault protected from momentary output shorts. A one second power-up delay prevents audio spikes from damaging your speakers, while LED power output meters provide assurance that your system is running properly. The **RA900** is a two channel amp than can drive 410 watts into 4 ohm outputs. When bridged, the RA900 can be connected to a 4 or 8 ohm load supplying up to 1100 watts or 850 watts respectively. The RA900 is ideal for demanding sound reinforcement applications such as front-of-house speakers or monitors.



## RA170 • RA2100B 70-Volt Install Power Amplifiers



The RA170 is a sturdy, single rack space, mono 70v amp designed for installation applications. It requires no transformer coupling to drive 70v speakers directly. It offers a choice of RCA and 1/4" unbalanced inputs, while outputs are provided via spring-loaded terminals. The simple front layout panel includes a power and clip indicator LEDs and a volume control. The output circuitry is protected from

momentary shorting and excessive load by a specially designed protective circuit.

The RA2100b is a stereo power amp with a flexible architecture that will allow the unit to be used to drive 4 or 8 Ohm speakers, 25V speakers (individual channels) or 70v speakers (in bridged mode). Designed for use in small to medium sized install applications, it is housed in a dual rack space chassis and features high performance transformers and a fused power line.

	RA235	RA200	RA900	RA170	RA2100B
<b>Power Output (Stereo, 8Ω)</b>	35 Watts/ch	70 Watts/ch	260 Watts/ch	–	85 Watts/ch
<b>Power Output (Bridged 8Ω)</b>	N/A	200 Watts	850 Watts	70 Watts	200W
<b>Inputs</b>	1/4" TS and RCA	1/4" TRS and RCA	1/4" TRS and XLR	RCA and 1/4"	
<b>Outputs</b>	Spring-loaded Terminals	1/4" and 5-way Binding Posts	5-way Binding Posts	Spring-loaded Terminals	1/4" and 5-way Binding Posts
<b>Fault Protected Outputs</b>	–	Yes	Yes	Yes	Yes
<b>Cooling</b>	Convection	Convection	2-Speed Fan	Yes	Yes
<b>Output Metering</b>	Clip LEDs	4-segment LEDs	4-segment LEDs	Clip LED	4-segment LEDs
<b>Dimensions (W x H x D)</b>	19 x 1.75 x 5"	19 x 3.5 x 7.5"	19 x 3.5 x 15.9"	19 x 1.75 x 5"	19 x 3.5 x 7.5"
<b>Weight</b>	5.5 lbs	12 lbs	31 lbs	5.5 lbs	12 lbs

### SERVO 200 • 300 • 600

## Power Amplifiers

Samson's Servo amplifiers feature large 10-segment 3-color level LED meters and independent channel volume controls. The rear panels include 1/4" balanced and RCA input connectors, as well as 5-way binding post and 1/4" speaker outputs.

The Servo amp line also feature a 4-stage power protection circuitry that ensures optimal performance and protection of connected components.

Perfect for installation sound, the **Servo 200** is ideal for powering small to medium sized speaker chains, as well as playback and studio monitors.

The **Servo 300** is a great choice for powering a small to medium sized PA, or an integrated conference room audio system. The **Servo 600** is ideal for larger applications where added power is needed to drive multiple speaker chains, or larger format speakers.



	120A	200	300	600
<b>Power Rating 4 Ohms (Stereo)</b>	60 Watts/side	100 Watts/side	150 Watts/side	300 Watts/side
<b>Power Rating 8 Ohms (Bridged)</b>	120 Watts	200 Watts	300 Watts	600 Watts
<b>Damping Factor</b>	>150	280 (400 Hz)	280(400 Hz)	
<b>Total Harmonic Distortion</b>	0.01%*	0.01%**	0.01%**	N/A
<b>Frequency Response (+0, -0.5 dB)</b>	10Hz to 20kHz	20Hz - 20kHz	20Hz - 20kHz	N/A
<b>Cooling System</b>	Convection	Vari-speed fan	Vari-speed fan	Vari-speed fan
<b>Dimensions (WxDxH)</b>	17.5 x 11.5 x 1.75"	19 x 11.7 x 3.5"	19 x 11.7 x 3.5"	N/A
<b>Weight</b>	15.6 lbs	15 lbs.	20 lbs.	N/A

\*80kHz LPF @ 1kHz, rated output power \*\* (20Hz - 20kHz, 10dB below rated output power)



## SERVO 120A

### Power Amplifier

Ideal for powering near field monitors or installation sound, the new Servo 120a provides you with "reference-class" audio

performance and reliability in a compact package. Perfect for studio, live sound and home theater applications, the 120a's bipolar design and toroidal transformer power supply ensure reliability and quiet performance.

- ◆ 1RU high power, convection-cooled amp
- ◆ 60 Watts per side at 4 ohms stereo
- ◆ 120 watts at 8 ohms (bridged mono)
- ◆ 1/4" balanced phone jack and RCA inputs
- ◆ Bi-polar design and toroidal transformer power supply
- ◆ Individual left and right Level controls
- ◆ 5-segment, 3-color LED meters
- ◆ Headphone jack with speaker output mute

**SX1200 • SX1800 • SX2400 • SX2800**

Power Amplifier

The **SX-1200** is an affordable stereo power amp with an efficient class AB architecture that delivers 600w per side at 2 ohms, or 1200w mono at 4 ohms — enough power to effectively drive a moderate sized PA, monitors, or fixed installation system. The SX-1200 is housed in a sturdy, all steel dual rack space chassis and is cooled with a variable speed fan. The combination XLR and 1/4" TRS line inputs along with the 5-way binding post and speakon outputs provide the wide range of secure connectivity required by demanding professional applications. Front panel Signal, Peak and Protection LED indicators ensure that you set the level controls properly.

The **SX-1800** also uses the efficient class AB design, but steps up with a power rating of 1800w (mono), or 900w per side (stereo) at 2 ohms.

The **SX-2400** utilizes a high output rail-switching amplifier design allowing 1200w per side or 2400w bridged mono at 4 ohms. This kind of power is perfect for large multi-format full-range and subwoofer systems. With locking XLR inputs and Speakon speaker outputs your connections are secure, solid, and worry free.

The **SX-2800** is the most powerful amplifier in the lineup, yet it is housed in a similar dual rack space enclosure as the other amps. It also utilizes a high output rail-switching amplifier design allowing 1400w per side or 2800w bridged mono at 4 ohms. This is perfect for driving 18" subwoofers and mains for larger venues such as auditoriums.



- ◆ Professional Class AB (SX1200/SX1800) and professional high power rail-switching (SX2400/SX2800) power amplifiers
- ◆ Dual variable-speed fan cooling system
- ◆ Signal, Peak, and Protection circuit indicators
- ◆ XLR and 1/4" TRS inputs
- ◆ 5-way binding post and speakon speaker outputs
- ◆ Dual rack space design

	SX1200	SX1800	SX2400	X2800
<b>Rated Output Power</b>				
<b>Stereo both channel driven 8 ohms</b>	300 Watts	400 Watts	550 Watts	700 Watts
<b>4 ohms</b>	450 Watts	600 Watts	750 Watts	900 Watts
<b>Bridged mono</b>				
<b>8 ohms</b>	900 Watts	1200 Watts	1500 Watts	1800 Watts
<b>Signal to Noise Ratio (20Hz-20k)</b>	102dB	102dB	104dB	104dB
<b>Distortion (typical @4 ohms)</b>				
<b>20Hz-20kHz, 10dB below rated power</b>	0.01%	0.01%	0.03%	0.03%
<b>1kHz, rated power</b>	0.1%	0.1%	0.1%	0.1%
<b>Damping Factor (400Hz)</b>	280	280	350	350
<b>Frequency Response @ 8ohms 1Watt</b>	0/-0.5dB:20Hz-20kHz,0/-3dB:5Hz-60kHz			
<b>Dimensions (W x H x D)</b>	19" x 3.5" x 16" rack mounting to rear support			
<b>Net Weight</b>	33 lb.	37 lb.	40 lb.	47 lb.

## 900 SERIES

### Eight Channel Mixer / Amplifiers

The 900 series mixer / amplifiers are designed for paging and music distribution applications. They have a customizable architecture that allows you to choose from a wide array of input modules to suit your specific system. Three models in the 900 Series; the A-903MK2 (30w), A-906MK2 (60w) and A-912MK2 (120w), each offer eight input module slots that can accept any of the many TOA microphone, line or specialty plug-in modules that are available.



◆ The range of plug-in modules not only offer a variety of connectors types (XLR, RCA, etc...), they can also provide a number of smart functions, including mutes (for setting paging priorities), remote volume control, as well as signal processing capabilities such as filtering and gating. Each 900 Series amp includes transformer isolated 25v, 70v outputs as well as standard 8 ohm (906MK2, 912MK2) and 4 ohm (903MK2) outputs. There is even a direct low-impedance mode if non-transformer operation is required. Speaker connections as well as remote mute and volume functions interface via screw terminals.

◆ Onboard protection circuitry from overload, short-circuit, DC offset or overheating. Their front panel feature input level controls, bypassable master bass and treble controls, low cut filter, master volume as well as normal, peak, protect and signal LEDs. Other rear panel I/O connectors include and Aux output for accessing an external mixing or recording unit; preamp out / power amp in for inserting an out-board signal processor; as well as bridging I/O for system expansion. Optional accessories, besides input modules, include rack-mount kit (MB-25B), and pack of 4 volume control security covers (YA-920).

#### Microphone Input Modules

- M-01F:** Balanced, 200  $\Omega$ , Lo/Hi-Cut Filters, Female XLR-F
- M-01M:** Same as M-01F with XLR-M
- M-01P:** Same as M-01F with Phone Jack
- M-01S:** Same as M-01F with Screw Terminals
- M-03P:** HiZ, Unbalanced, 50k  $\Omega$ , Lo/Hi-Cut Filters, Phone Jack
- M-11S:** Balanced, 200  $\Omega$ , Lo/Hi-Cut Filters, Mute-Receive, Screw Terminals
- M-21S:** Balanced, 200  $\Omega$ , Lo/Hi-Cut Filters, Remote Vol. Control, Screw Terminals
- M-41S:** Balanced, 200  $\Omega$ , Lo/Hi-Cut Filters, Mute-Send, Removable Terminal Block
- M-51F:** Balanced, 200  $\Omega$ , Lo-Cut Filter, Voice Gate, Female XLR
- M-51S:** Same as M-51F with Screw Terminals
- M-61F:** Balanced, 200  $\Omega$ , Lo/Hi-Cut Filters, Compressor, Female XLR
- M-61S:** Same as M-61F with Screw Terminals

#### Special Function I/O

- T-01S:** Line Output Module, Balanced, 600  $\Omega$ , Screw Terminals
- T-02S:** Line Input Module for Music-on-Hold, Unbalanced, 220k  $\Omega$  Input, 600  $\Omega$  Balanced Output, Screw Terminals
- T-12S:** Same as T-02S with Input Mute-Receive

#### Line Input Modules

- B-01F:** Balanced, 10k  $\Omega$  transformer, XLR-F
- B-01S:** Same as B-01F with screw terminals
- B-11S:** Balanced, 10k  $\Omega$  transformer, mute-receive, screw terminals
- B-21S:** Balanced, 10k  $\Omega$  transformer, remote Volume Control, screw terminals
- B-41S:** Balanced, 10k  $\Omega$  transformer, Mute-Send, removable terminal block
- L-01F:** Line matching Input module, 600  $\Omega$  transformer, balanced, female XLR
- L-01S:** Same as L-01F with screw terminals
- L-11S:** Line matching input module, 600  $\Omega$  transformer, balanced, mute-receive, screw terminals
- L-41S:** Line matching input module, 600  $\Omega$  transformer, balanced, mute-send, screw terminals
- U-01F:** Line input module, unbalanced, 220k  $\Omega$ , female XLR
- U-01P:** Same as U-01F with phone jack

#### Special Function Processors

- E-03R:** for F-121C/CM speakers, dual RCA
- E-04R:** for H-1 speakers, dual RCA
- E-05R:** for H-2/H-2WP speakers, dual RCA
- E-07S:** Low pass filter output module for FB-100 and HB-1, removable terminal block

- U-01R:** Same as U-01F with RCA jack
- U-01S:** Same as U-01F with screw terminals
- U-03R:** Stereo line input module, Lo/Hi-Cut filters, stereo summing dual RCA jacks
- U-03S:** Line input module, Lo/Hi-Cut filters, screw terminals
- U-11R:** Unbalanced, 220k  $\Omega$ , mute-receive, RCA jack
- U-11S:** Same as U-11R with screw terminals
- U-12S:** Unbalanced, 220k  $\Omega$ , variable mute-receive depth, screw terminals
- U-13R:** Same as U-03R with mute-receive
- U-13S:** Same as U-03S with mute-receive
- U-21S:** Unbalanced, 220k  $\Omega$ , remote volume control, screw terminals
- U-43R:** Same as U-03R with mute-send
- U-43S:** Same as U-03S with mute-send
- U-61S:** Line input module, unbalanced, 220k  $\Omega$ , compressor, screw terminals

## P2500/P3500/P5000/P7000S

### "P" Series II Amps

Yamaha's engineers have designed these P-Series II power amplifiers as perfect mates to their popular Club Series speakers. To achieve this, they provided them with big power output that matches the power handling capabilities of the speakers. Each amp is also equipped with the specially designed YS (Yamaha Speaker) Processing circuit to deliver a signal that is tuned to the specific response of the Club Series speakers for superior audio quality and performance. The amps feature both XLR and 1/4" TRS inputs and Neutrik Speakon, phone plug, and 5-way binding post outputs to make connections quick and easy. Other features include Yamaha's exclusive EEEngine technology which delivers high performance with exceptional efficiency, sweepable high and low pass filters for optimizing output to any loudspeakers, compact and durable 2U chassis, and variable speed cooling fans.



#### FEATURES

- ◆ They deliver a robust amount of professional quality power in a wide range of configurations. In a 4-ohm bridged application, the P7000S delivers 3200 watts, the P5000S delivers 2600 watts, the P3500S 2000 watts, and the P2500S 1300 watts.
- ◆ Each is equipped with independent sweepable high and low pass filters on each channel so you can optimize output for subwoofer or full range systems to provide peak audio quality and performance from any speaker system you may be using.
- ◆ The P2500S and P3500S are respectably light in weight making transport and setup less strenuous. What's amazing though, is the comparison in weight per watt when you look at the P5000S and P7000S. The use of a switching power supply makes these two models very lightweight while maintaining superior audio quality.
- ◆ To provide the most flexible connectivity possible, all four are equipped Neutrik Speakon output jacks, and 1/4" output jacks for each channel in addition to 5-way binding post. Channel inputs consist of both XLR and 1/4" TRS jacks.
- ◆ Continuously variable-speed fans mounted internally on either side of the front panel offer quiet, efficient cooling.
- ◆ Their industrial design delivers a refined and impressive look with deep blue faceplates bordered in silver trim, handles, and mounts. The chassis is specially designed to provide added durability and strength.
- ◆ EEEngine Technology makes more efficient use of AC power by reducing power consumption and heat generation without degrading output power or sound quality. See box on previous page.
- ◆ Comprehensive protection consists of power on/off muting, DC detection, thermal protection, current limiting, and a protective cover for the attenuators.
- ◆ With YS (Yamaha Speaker) Processing, you get direct compatibility with Yamaha's Club Series speaker. This circuit optimizes output from the amps to match the characteristics of Club Series delivering a signal that is precisely what the speaker requires. With the YS Processing system, extra-smooth highs and enhanced low frequency from your Club Series loudspeaker system is assured.

Models	P7000S	P5000S	P3500S	P2500S
1kHz, THD+N=1%				
8Ω/Stereo	750W+750W	525W+525W	390W+390W	275W+275W
4Ω/Stereo	1100W+1100W	750W+750W	590W+590W	390W+390W
8Ω/Bridge	2000W	1500W	1180W	780W
20-20kHz, THD+N=0.1%				
8Ω/Stereo	700W+700W	500W+500W	350W+350W	250W+250W
4Ω/Stereo	950W+950W	700W+700W	450W+450W	310W+310W
8Ω/Bridge	1900W	1400W	900W	620W
1kHz, 20mS nonclip				
2Ω/Stereo	1600W+1600W	1300W+1300W	1000W+1000W	650W+650W
4Ω/Bridge	3200W	2600W	2000W	1300W