

AB SYSTEMS 1200

The 1200 Series from AB Systems — the first **totally** independent, dual-channel professional power amplifiers. The 1200A & 1200B models feature separate power supply sections for each channel, as you'd expect in high-end professional amplifiers. But what really sets 1200 Series amps apart are their complete interchangeable output sections.

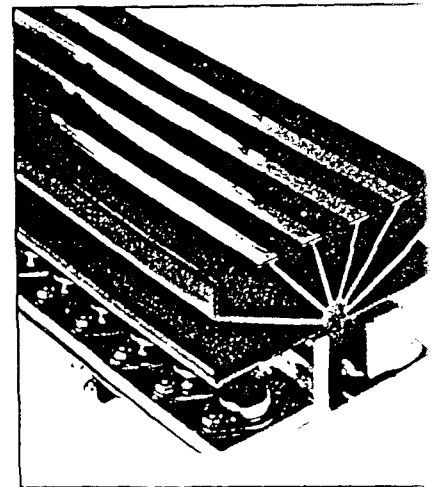
WHAT'S SO GREAT

One look at the front-panel will tell you that this is by far, the **cleanest** amplifier ever designed. We were determined, however, that the **real** beauty of the 1200 Series should be on the inside.

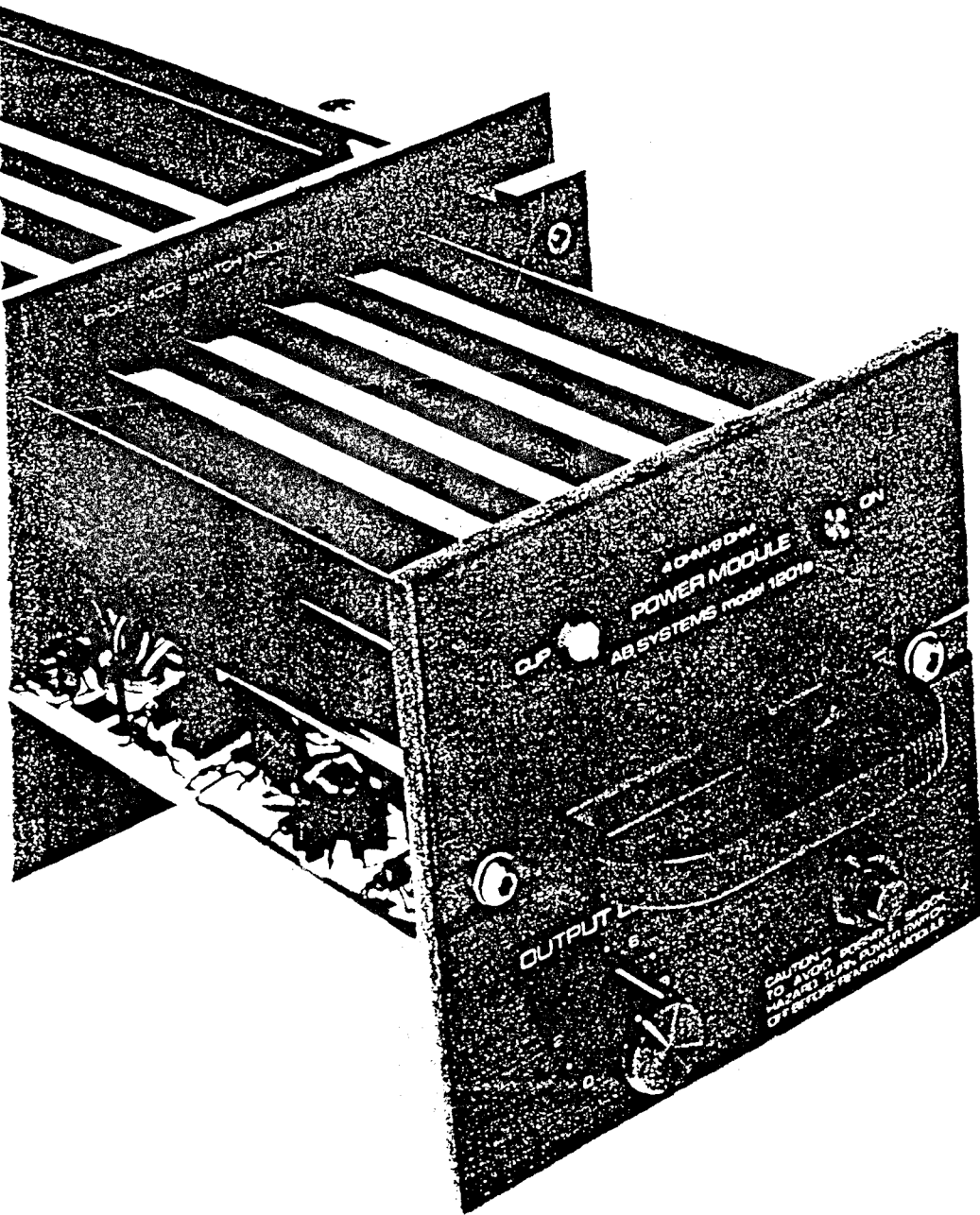
Everything is exactly where it should be. Don't bother looking a spider-web of internal wiring a over the inside. Even the power transformers contribute to the overall logic and balance. We've mounted them forward, between the two output-tunnels for a perfect center of gravity, so installing and removing 1200's from racks is a lot easier on you. You find heavy aluminum support-bars on the back panel to allow stand 1200's on their backs without risk of damaging the connectors.

OUTPUT MODULES

Here's the part that's making the competition scurry home to their drawing boards! The 1200 Series completely interchangeable output modules are what the world of professional sound has been waiting for. Each module is a complete power amplifier — less, of course, the power supply.



Need a 2 ohm amplifier? On a 1200A, just slide out the "A" module (standard 8 ohm/4 ohm module), and plug in the "B" module (optional 4 ohm/2 ohm



1200 SERIES POWER AMPLIFIERS

Each of the two "output tunnels" is independent of the other and each output module packs its own whisper fan to make sure a 1200 Series amp keeps its cool — even when the music's hot.

The model 1210A utilizes a single fan and power supply for both tunnels.

This breakthrough in power amp design results in increased opera-

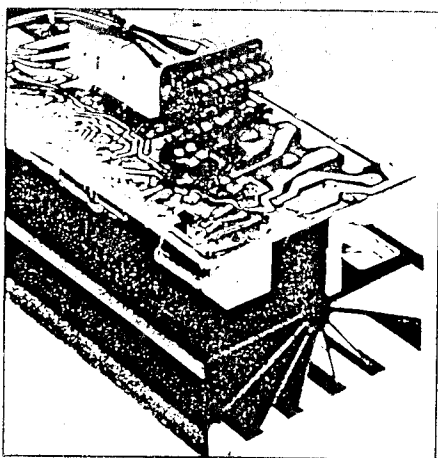
tional flexibility, superior dependability and outstanding tonal quality.

The sliding output modules can be interchanged in seconds, according to your requirements. This feature eliminates costly down-time if one channel should ever malfunction during a sound-check or performance. The 1200 marks the end of shipping an entire amp just to service one output section.

OUT THE 1200 SERIES?

module). Flick a switch and the 1200 will FTC Precondition at 2 ohms. Try that with any other amplifier!

You'll find **12** high power transistors per channel. Each side can handle huge amounts of current safely with an excellent heat dissipation rate. This large number of transistors also greatly increases the 1200's long-term reliability, through proper consideration of transistor safe-operating tolerances.



The space-age extruded-aluminum heat-sinking on each module, combined with our exclusive forward air-flow pattern, make one of the most efficient heat-dissipating systems ever. Now you can throw a Woodstock Festival in Death Valley. Independent thermal cut-offs sense the temperature of each module and will, however shut a module down if a shorted output or malfunction allows its operating temperature to exceed 85°C. (185°F).

Turn the module over. You'll find a high quality glass epoxy oriented-circuit board. A mil-spec connector that's been thoroughly shock and vibration-tested assures positive connection between the output modules and the mainframe. The P.C. board may be removed quickly for ease of servicing.

POWER-SUPPLY SECTION

What is meant by "completely-independent, dual-channel amplifier"? Precisely that, in fact; the only thing in common between the two channels in a Model 1200A or 1200B is the professional, international style AC cord.

The advantages of independent power-supplies are significant.

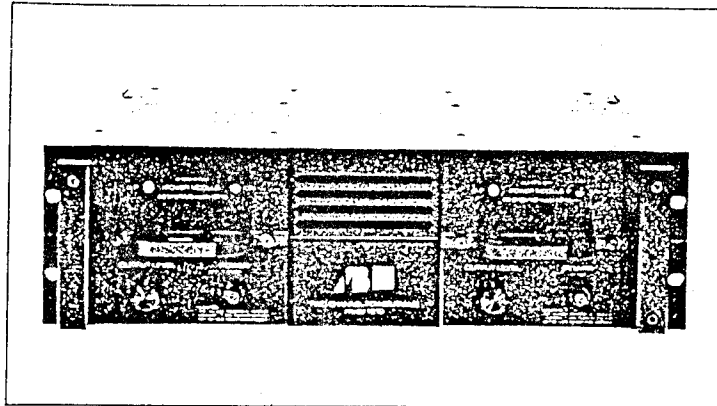
Many single power-supply amps produce audio-bleeding or "cross-talk" through the single power transformer which is shared by both channels. If one channel is reproducing a very low-level passage, and the other is playing very loudly, a substantial amount of contamination between channels can occur. This problem is eliminated with individual power transformers.

Model 1210A amplifiers solve the problem of rapidly changing power demands by incorporating two exclusively designed massive filter capacitors in each unit (4 total in a 1200A or 1200B). These special capacitors store power for immediate delivery when transients in the program material require instantaneous extra power to assure their accurate reproduction.

Dual power-supplies in the 1200A and 1200B contribute to the amp's ability to reproduce rapid changes in transients which may occur in both channels at the same time. In addition, either channel may be independently operated with different module types or an unneeded channel may be shut down entirely to conserve energy.

OTHER NICE THINGS ABOUT THE 1200 SERIES

Each channel is safeguarded against both short-circuit and



thermal-overload with independent protection. Clip indicators engage whenever a substantial difference occurs in the wave-form between the input and output signals.

An integral bridge-mode switch, located on the right wall of the right output tunnel, provides bridge-mode operation of **two of the same type** modules. Its location inside the amp eliminates chances of inadvertent switching between modes while the unit is in operation. For added convenience, each module provides its own on/off switch. A bridged load is automatically converted to single ended operation at normal single channel power if either channel is turned off. In the 1200 mainframe a switch is provided allowing rapid power-supply conversion to "B" modules for 2 ohm operation.

Oh yes! Differentially-balanced inputs are available. This option provides balancing of input signals, eliminating the need for expensive balancing transformers which often adversely affect sonic quality.

WHY AREN'T ALL PROFESSIONAL POWER AMPS BUILT LIKE THE 1200 SERIES?

Soon, they probably **will** be! The 1200 Series is the most logical amplifier line ever designed. We've taken everything we've learned about the realities of music and sound requirements and designed an amp that solves problems which, until now, were beyond the state of the art.

The 1200's give you big power in a surprisingly small package. They measure a lean 5½" x 19" x 15", yet deliver a full 500 watts-per-channel into a 4 ohm load and 300 watts-a-side into an 8 ohm load.

Since a major part of the sound business takes place on the go these days, 1200's must be able to take their lumps on the road and still be ready to cook when you are. We've made them the toughest amps you'll find anywhere.

Looking for real value in a professional amp? The 1200 Series scores again! You'll find performance, reliability and features which can't be found even in amps costing hundreds of dollars more. Don't just take our word for it—

Listen to the AB 1200 Series.

The best thing about them is the way they sound — thanks to a fully discreet front-end with no I.C.'s to adversely affect sound quality. The dual power supplies and output section handle rapid changes in transients without audible distortion or crosstalk.

The 1200's forward approach to cooling.

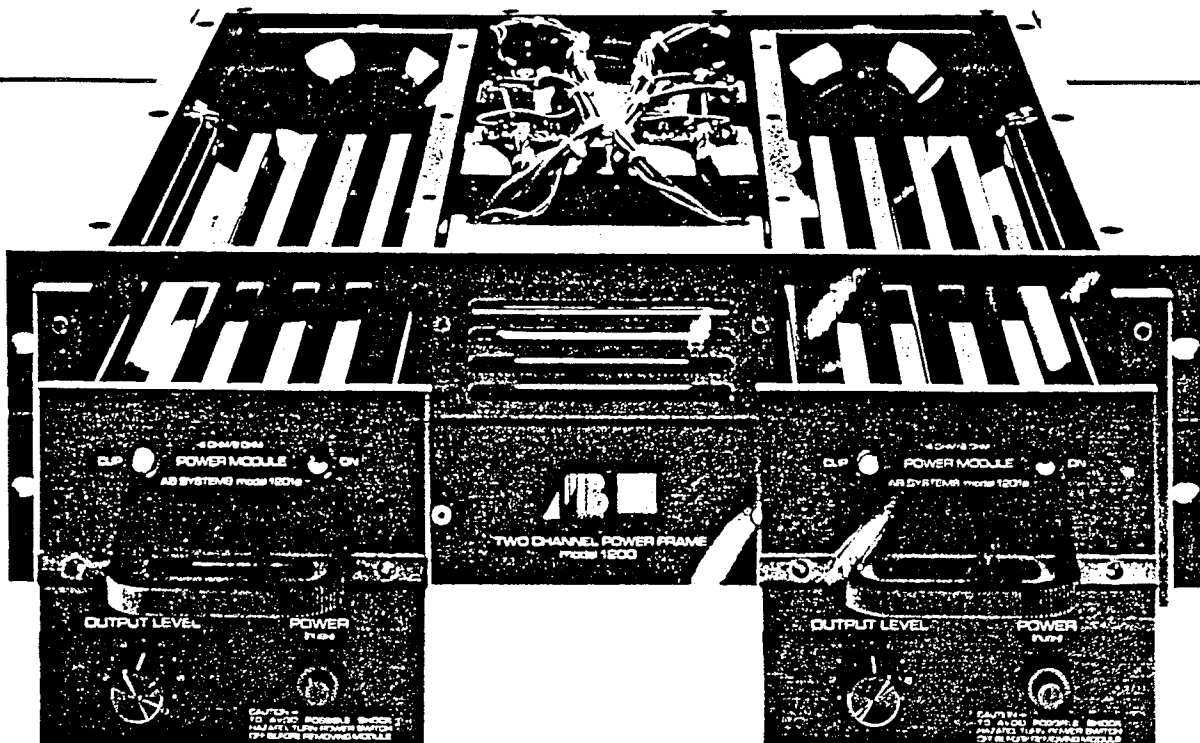
Ever place your hand behind a rack of conventional power amps in operation? It's HOT! Their whisper fans, intended to blow heated air out the back of the rack, must work through the restriction of a maze of wire and cable and are often literally "up against the wall." In a typical rack-mount situation, the heated air is simply trapped in the rack, exactly where it shouldn't be! Add more amps, or even forced rack cooling, and you only increase the heat problem by further

increasing the back pressure on those whisper fans. That's the way most pro amps have always tried to keep their cool — until the 1200 Series by AB Systems.

We decided it didn't make much sense to add to the air restriction in the rack, where it can only contribute to overheating problems, when we could just as easily pull **cool air** through the rack, blow it **forward** over the electronics and vent it out the front, unrestricted.

Our forward approach to airflow has made the 1200 Series amplifiers pretty cool customers. Stacked 1200's can be placed one on another, with no "dead air space" in-between. This saves you space, weight and money, and that's a step in the **right** direction!

If you need an amp that is at home in permanent commercial sound installations — or an amp that really knows its way around an international rock tour — there's only one name to remember: **The 1200 Series by AB Systems.**



AB SYSTEMS 1200 SERIES POWER AMPLIFIERS

SPECIFICATIONS

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| POWER OUTPUT: | 1200A 300 Watts into 8 ohms 500 Watts into 4 ohms 1000 Watts Bridged into 8 ohms |
| | 1200B 400 Watts into 4 ohms 600 Watts into 2 ohms 1200 Watts Bridged into 4 ohms |
| | 1210A 250 watts into 8 ohms 350 watts into 4 ohms 700 watts bridged into 8 ohms |
| | Minimum continuous power per channel, both channels driven, with no more than 0.1% T.H.D. or I.M. distortion from ¼-Watt to rated output at any frequency from 20Hz to 20kHz. |
| FREQUENCY RESPONSE: | 20Hz to 20kHz ± 0.25dB |
| T.H.D. or I.M. DISTORTION: | Typical 0.05% with no more than 0.1% from ¼-Watt to full rated power. 20Hz to 20kHz. |
| TRANSIENT INTERMODULATION DISTORTION: | Less than 0.02%. |
| HUM & NOISE: | Better than -105dB referred to rated output. |
| INPUT SENSITIVITY: | 1.0 Volts RMS for rated output. |
| CROSSTALK: | -80dB. |
| DAMPING FACTOR: | 125:1 at 50 Hz. |

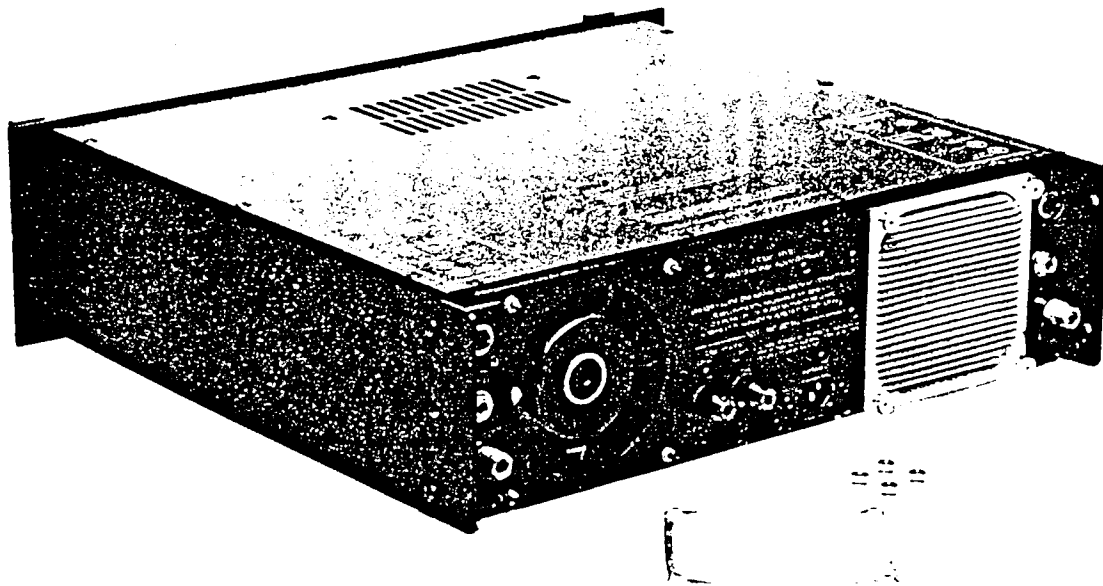
GENERAL SPECIFICATIONS

MAIN FRAME

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| POWER SUPPLY: (x½ for 1210A) | Transformers — 2 independent 1.2 KV Square Stack. |
| | Capacitors — 4 (40,000 MFD). |
| | Primary Fuses — 2 10-Amp each. |

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| | D.C. Rectifiers — 2 35-Amp (300 Amp surge). |
| | A.C. Control — 2 15-Amp, 600 Volt Triacs. |

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| TURN-ON DELAY: | 5 sec., output delay relays (Optional) |
| POWER REQUIREMENTS: | 120/240 V.A.C., 50/60Hz. 1500 watts max. |
| CONNECTORS: | XLR and ¼" Phone. Dual 5-way Binding Posts. 16 (or optional 14) gauge international A.C. cord on 1200A and "B." |
| CONSTRUCTION: | 14-gauge cold-rolled steel, compartmentized, with ⅜" heavy aluminum front-panel. |
| DIMENSIONS: | Slimline 5¼" height. 19" standard rack-mount width 15" depth overall (less handles) (11" for 1210A) |
| SHIPPING WEIGHT: | 72 Pounds (including Modules) (48 lbs. for 1210A) |
| PER MODULE | |
| INPUT IMPEDANCE: | 25k ohms unbalanced or optional 15 Kohms differential balanced. |
| THERMAL PROTECTION: | Thermal sensor activates full Module shut-down @ 85°C. |
| D.C. PROTECTION: | D.C. sensor activates full Module shut-down if D.C. condition exists. |
| HEAT-SINK AND COOLING: | High-efficiency, forced-air cooling utilizing massive heat-sink extrusions. |
| SEMICONDUCTORS: | 15 transistor, 16 diode, fully-discreet front-end with 12 150-Watt power transistors per channel-module. (8 per 1211A) |
| CONTROLS AND INDICATORS: | Gain control. Clip LED. Power-on LED |



AB SYSTEMS DESIGN, INC. • Post Office Box 754 • Folsom, California 95630 • (916) 988-8551

INTRODUCTION:

The 1200A from AB Systems, is the first totally modular Power Amp. It features independent power supplies for each channel, as you'd expect in a high-end professional amplifier. But what really sets the 1200A apart is its completely interchangeable output sections. Each of the "output tunnels" is independent of the other. And each output-module packs its own whisper fan to make sure your sound system keeps its cool — even when the music's hot.

INTERCHANGEABLE MODULES:

The concept of completely modular, interchangeable output sections, for a common main frame, has been complemented by a series of different application modules which are available from AB Systems.

MODEL 1201A: 4/8 ohm Module for the 1200 Main Frame. Provides 300 watts into 8 ohms, 500 watts into 4 ohms. 1200 watts bridged into 8 ohms. (150 watts into 8 ohms, 250 watts into 4 ohms when the Main Frame Module switch is in the 2/4 ohm position).

MODEL 1202B: 2/4 ohm Module for the 1200 Main Frame. Provides 320 watts into 4 ohms, 600 watts into 2 ohms. 1200 watts bridged into 4 ohms, with the Main Frame Module switch in the 2/4 ohm position (Note: As a protection, the front panel power switch will not power the unit if the Main Frame Module switch is in the 4/8 ohm position).

MODEL 1201C: Fully complementary output design version of the Model 1201A.

MODEL 1202C: Fully complementary output design version of the Model 1202B.

NOTE

The Models 1201C & 1202C are some what more limited in their reactive load characteristics than the 1201A or 1202B due to inherent limitations in the state of the art of complementary type power transistor technology.

FEATURES:

Bridge Mode Switch the integral bridge mode switch, located on the right wall of the channel two (right) output tunnel, provides bridge mode operation of two of the same type modules when in the bridge position, the output load should be connected between the channel 1 and channel 2 Hi terminals. NOTE: As an additional convenience since each module provides its own power switch, if one module is not turned on, it provides a ground return in lieu of the output Hi, allowing the powered channel to drive the bridge load single ended at normal single channel power. CAUTION: While damage should not normally result, operation in bridge mode with non identical module types is not an allowed procedure. To do so will void all warranties, as mis use, shorted outputs or accidents could cause the higher power module to damage the lower power unit.

CONSTRUCTION:

The 1200 is designed on an all-modular concept permitting rigorous pre-assembly module testing and maximum service accessibility. Each functional module is fully tested before final assembly. Although components of the highest quality are used throughout, the 1200 is burned in prior to shipment at the worst case operating point in conjunction with FTC requirements to eliminate any possibility of component malfunction. All chassis components are precision machined from high quality steel. The entire package concept is directed toward maximum efficiency of space and structure, accounting for the 1200's compact size.

INSTALLATION AND VENTILATION:

The 1200 fits a standard 19" rack and requires only 5 $\frac{1}{4}$ " (3 rack heights) of vertical space. The front panel is machined from solid aluminum stock, with a black anodized grained finish and sturdy rack mount handles.

Placement of the amplifier is not critical for normal operating conditions, provided that sufficient air flow is allowed to reach the rear panel area. If the unit is to be placed on a shelf, or a similar enclosed area, allow four inches clearance behind the unit to permit vertical air flow. For installation in a cabinet, allow an additional two inches above and one inch below the amplifier to permit air to be drawn around the back. Should overheating occur because of inadequate ventilation, the temperature protection circuitry will automatically shut down the amplifier. When a safe operating temperature is restored, the amplifier will re-activate automatically.

INPUT/OUTPUT CONNECTIONS:

Input connectors are located at the top of the rear panel of the amplifier and are identified as channel one and channel two input (see fig. 2). Output connections are made through two large dual 5-way binding posts located directly below the input's at the rear of the chassis. Each is color coded and identified (+) or (-) for correct speaker phasing. The preferred connectors are high quality dual "banana" plugs. Heavy Class II wire may be used by unscrewing the large plastic portion of the output terminal and inserting the wire into the hole provided. It is extremely important when making wire connections that no wire strand or end touches the adjacent terminal, shorting the output.

POWER CONNECTIONS:

The 1200 is equipped with a 3-conductor power cord for direct AC connection. The power cord is the only common element in the 1200 Main Frame. All other components including the fuses are duplicated for each channel. The 1200 is normally factory supplied wired for 120VAC 60Hz 1 \emptyset and requires a minimum 15 amp service for proper operation with both channels driven. A 2-conductor remote switching cord for connection to a SWITCHED AC outlet is optional. With the 3-conductor AC cord connected to an appropriate source, either amplifier channel can be activated either manually by the front panel power switch, or both automatically, through the remote switching cord. The remote switching circuit is completely isolated internally; thus when the remote cord is not in use, it is not necessary to insulate the cord's exposed prongs.

INPUT POLARITY

The Model 1200 incorporates a change in input polarity for XLR input connectors, beginning with Serial Number Z-2361.

The polarity of the inputs is now reversed from previous 1200 amplifiers (pre-Z-2361) equipped with balanced/unbalanced inputs with XLR connectors.

The old standard was:

A positive-going signal applied to Pin #3 of the XLR connector will be positive-going on the corresponding red output terminal.

The new standard is:

A positive-going signal applied to Pin #2 of the XLR connector will be positive-going on the corresponding red output terminal.

This is in conformance with recently established IEC/EIA standards.

The ground lift switch (new standard models only) isolates Pin #1 from internal ground connection.

AB SYSTEMS MODEL 1200A

SPECIFICATIONS

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| POWER OUTPUT: | 300 WATTS (INTO 8 OHMS) 500 WATTS (INTO 4 OHMS) 1200 WATTS (BRIDGED INTO 8 OHMS) MINIMUM CONTINUOUS POWER PER CHANNEL, BOTH CHANNELS DRIVEN WITH NO MORE THAN 0.2% T.H.D. OR I.M. DISTORTION FROM 1/4 WATT TO RATED OUTPUT AT ANY FREQUENCY FROM 20Hz TO 20kHz. |
| FREQUENCY RESPONSE: | 20Hz TO 20kHz \pm 0.25dB |
| T.H.D. OR I.M. DISTORTION: | TYPICAL 0.05% WITH NO MORE THAN 0.1% FROM 1/4 WATT TO FULL RATED POWER 20Hz TO 15kHz. NO MORE THAN 0.2% FROM 15kHz TO 20kHz. |
| HUM & NOISE: | BETTER THAN - 106dB REFERRED TO RATED OUTPUT. |
| INPUT SENSITIVITY: | 0.75 VOLTS RMS FOR RATED OUTPUT. |
| CROSSTALK: | 80dB DOWN AT 1kHz. |
| DIMENSIONS: | 5 1/4 H x 19" W x 15" D (13.33cm x 48.26cm x 38.10cm) |
| WEIGHT: | 65 POUNDS (29.5 kg) |