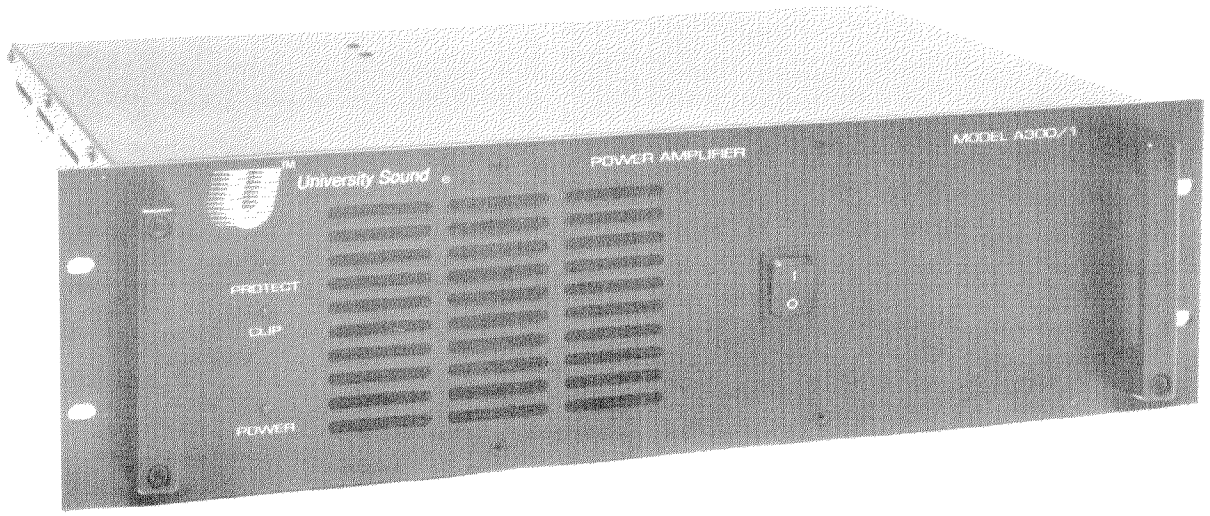
University Sound
a MARK IV company

A300/1

300 Watt Single-Channel Power Amplifier



Product Data

- **300 Watts continuous average output power on a single channel**
- **Low noise design for reduced hum and RF susceptibility**
- **Four input connector types: screw-terminal, male XLR, female XLR, and RCA phono jack.**
- **Balanced bridging input**
- **Pre-fader and post-fader auxiliary outputs**
- **4 Ohm, 8 Ohm, 25V, and 70.7V speaker outputs**
- **Rack-mountable 3-space enclosure**

Summary Specifications:

Power Output	300 Watts continuous
Frequency Response	20 Hz - 20 kHz, +0 -1 dB
Signal-to-Noise Ratio	> 100 dB
Distortion	< 0.1%THD
Input Sensitivity/Impedance	
Balanced Line In	0 dBu / 15 kΩ
Unbalanced Line In	0 dBu / 47 kΩ
Power Requirements	120/220/240VAC, 50/60Hz
Dimensions	
Height	5.25" (13.3 cm)
Length	19.0" (48.2 cm)
Width	13.0" (33.0 cm)
Net Weight	42 lbs. (19 kg)
Shipping Weight	51 lbs. (23 kg)

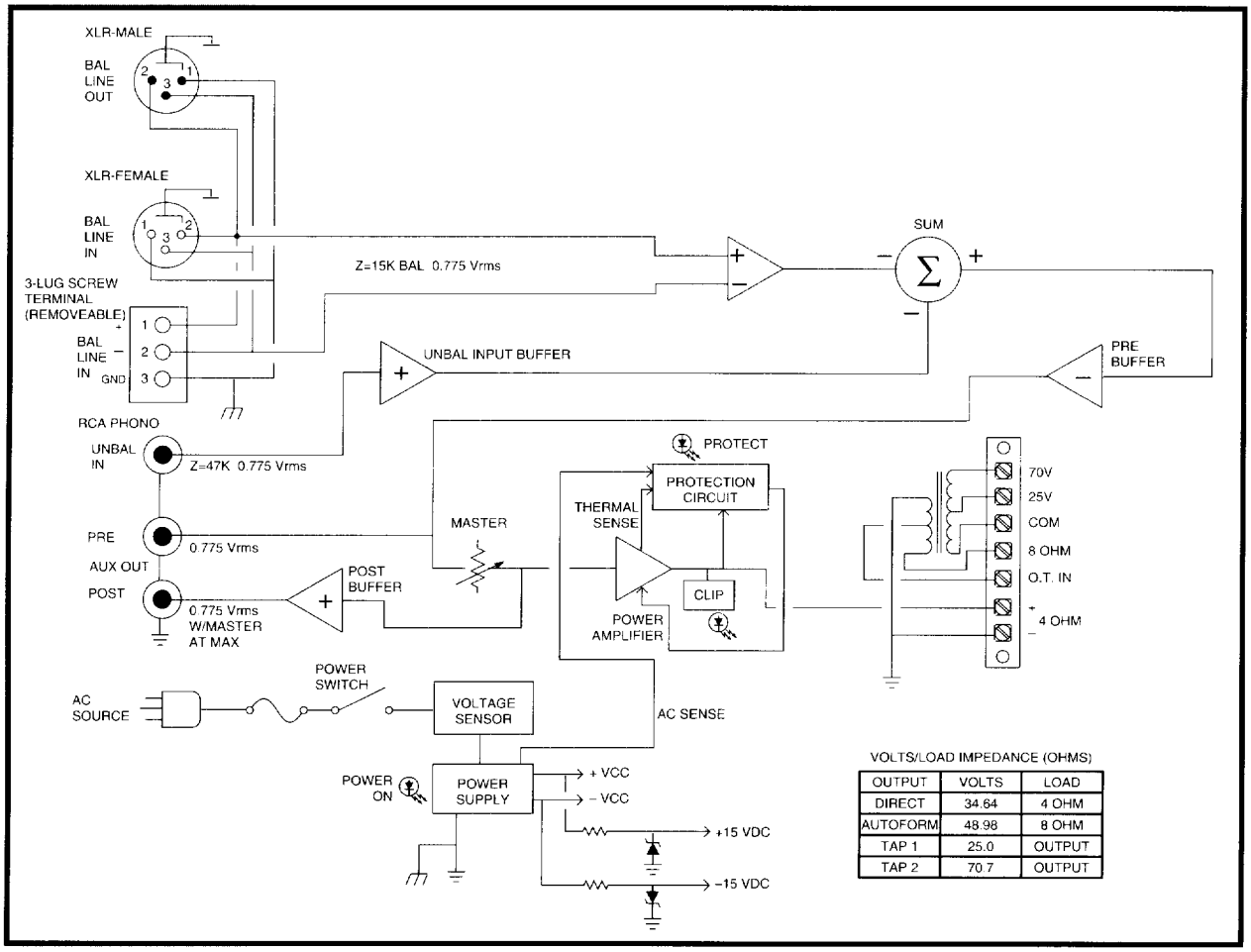
Description

The University Sound A300/1 power amplifier is a high quality low cost monaural amplifier for general purpose applications. It produces 300 watts of continuous average output power. Included are many built-in features that far exceed what is normally found in amplifiers of this type. For example, the amplifier includes a 15 kΩ electronically balanced bridging input, and choice of four input connector types: a three-screw terminal removable plug, female XLR, male XLR, and phono connector. The male XLR is also usable as a convenient patch output point for routing the input signal to another amplifier.

Two auxiliary unbalanced outputs are also provided. One is before (pre-fader), and the other after (post-fader), the MASTER output level control. These outputs greatly simplify many complex system designs. In addition to a direct output capable of driving 4 Ohm or 8 Ohm loads, the A300/1 also provides an 8 Ohm autoformer output and 25 Volt and 70.7 Volt outputs for distributed speaker systems.

The amplifier is fully protected from short circuited loads, overheating, and excessive load reactance, and the loads from turn-on/turn-off transients, subsonic signals, and DC offsets. When a problem is detected, the amplifier automatically shuts down and illuminates the front panel PROTECT indicator. In addition, a front panel clipping indicator warns of excessive output levels. The MASTER level control is rear mounted for extra protection against "accidental" changes made by non-qualified personnel.

Block Diagram



Full Specifications

Continuous average power (direct or transformer output)
300 Watts

Maximum midband output power (Ref. 1 kHz, 1% THD)
400 Watts

Transformer output (any output tap)
300 Watts

Power Bandwidth (ref. 1 kHz @ rated output power)
Direct Output 20 Hz - 20 kHz, +0/-1 dB

Transformer Output (any output tap)
50 Hz - 15 kHz, +0/-1.5 dB

Frequency Response (ref. 1 kHz at 1 Watt output power)
Direct output 20 Hz - 15 kHz, ± 1 dB
10 Hz - 30 kHz, ± 1.5 dB

Transformer output (any output tap)
20 Hz - 15 kHz, ±1.5 dB
10 Hz - 30 kHz, ± 3 dB

Total Harmonic Distortion (THD) (ref. 1 kHz at rated output power, 30 kHz low pass filter)

Direct output	20 Hz	<0.1%
	1 kHz	<0.05%
	20 kHz	<0.05%
Transformer output (any output tap)		
	50 Hz	<0.1%
	1 kHz	<0.1%
	15 kHz	<0.05%

Intermodulation Distortion (SMPTE, 4:1, at rated output power, direct output)
<0.05% (typ. <0.01%)

Input Sensitivity/Input Impedance (ref. 1kHz, 0 dBu=0.775 Vrms)

Balanced line input	0 dBu / 15 kΩ
Unbalanced line input	0 dBu / 47 kΩ

Maximum input level (ref. 1 kHz signal, MASTER off)

Balanced input	+18 dBu (6.2 Vrms)
Unbalanced input	+18 dBu (6.2 Vrms)

Output level/Load impedance (ref. 1 kHz, 0 dBu=0.775 Vrms applied to balanced line input, ± 1 dB)

Line output (balanced)	0 dBu / 15 kHz
PRE Auxiliary out (unbal)	0 dBu / 600Ω
POST Auxiliary out (bal)	0 dBu / 600Ω
Power Outputs	
Direct, unbalanced	34.64 Vrms / 4Ω
Direct, unbalanced	34.64 Vrms / 8Ω
Autotransformer, unbal	48.98 Vrms / 8Ω
Transformer, balanced	25 Vrms / 2.08Ω
Transformer, balanced	70.7 Vrms / 16.6Ω

Damping factor (at 1kHz, direct output)
>150

Output regulation (ref. 1 kHz, no load to full load)

Direct output	<0.05 dB
Transformer output	<1.2 dB

Signal-to-Noise ratio (A-weighted, MASTER at full clockwise position)
> 100 dB

Power Requirements 120, 220, or 240 VAC, 50/60 Hz

Power consumption

Max. output power	710 Watts
1/3 max. output power	450 Watts

Minimum operating supply voltage
90 VAC (at reduced output power and performance)

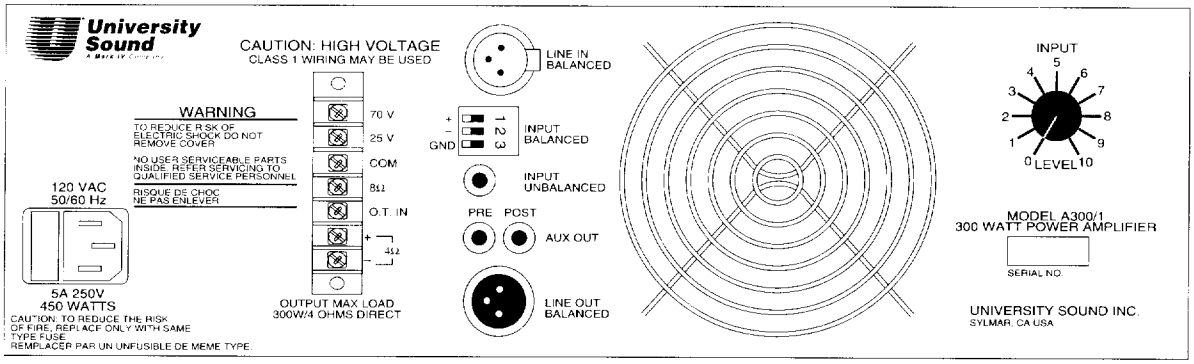
Operating temperature
140°F (60°C) maximum

Dimensions

Height	5.25" (13.3 cm)
Width	19.0" (48.2 cm)
Depth	13.0" (33 cm)

Net Weight 42 lbs. (19 kg)
Shipping Weight 51 lbs. (23 kg)
Color Black

Rear Panel View



Architect's and Engineer's Specifications

The power amplifier shall be a monaural amplifier of solid state design employing true complementary symmetry output circuitry and capable of operating from a 120, 220, or 240 VAC, 50/60 Hz power source. The amplifier shall provide a plurality of balanced transformer output taps as well as an unbalanced direct output, and a 15K Ohm electronically balanced bridging input. The amplifier shall contain sensing circuitry to provide protection for the output transistors against over temperature, excessive output voltage, radio frequency interference, excessive output current, and excessive output phase shift. The load shall be similarly protected against subsonic signals, startup/shutdown transients, low AC line voltage, and DC offsets.

There shall be a rear panel mounted input level control. Input connectors shall include a 3-lug screw terminal connector and a 3-pin XLR female connector for balanced inputs, and a phono connector for unbalanced inputs. Output connectors shall include a 3-pin XLR male connector, two phono connectors as auxiliary unbalanced outputs, and a 7-terminal barrier strip connector.

Front panel illuminated indicators shall include a power on/off indicator, a signal clipping indicator, and a protection circuit activation indicator. The front panel control shall be the power on/off switch.

The amplifier shall include a balanced bridging input with a nominal input impedance of 15K Ohms. A power output isolation transformer shall provide balanced outputs of 25 Volts (2.08Ω load) and 70.7 Volts (16.6Ω load). A direct output of 4Ω (34.64V) and also an unbalanced autoformer output of 8Ω shall be provided.

The power amplifier shall be enclosed in a sturdy steel cabinet measuring 5.25" x 19" x 13". The cabinet shall be rack mountable in a standard 19" equipment rack and occupy three rack spaces.

The University Sound Model A300/1 has been specified.

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