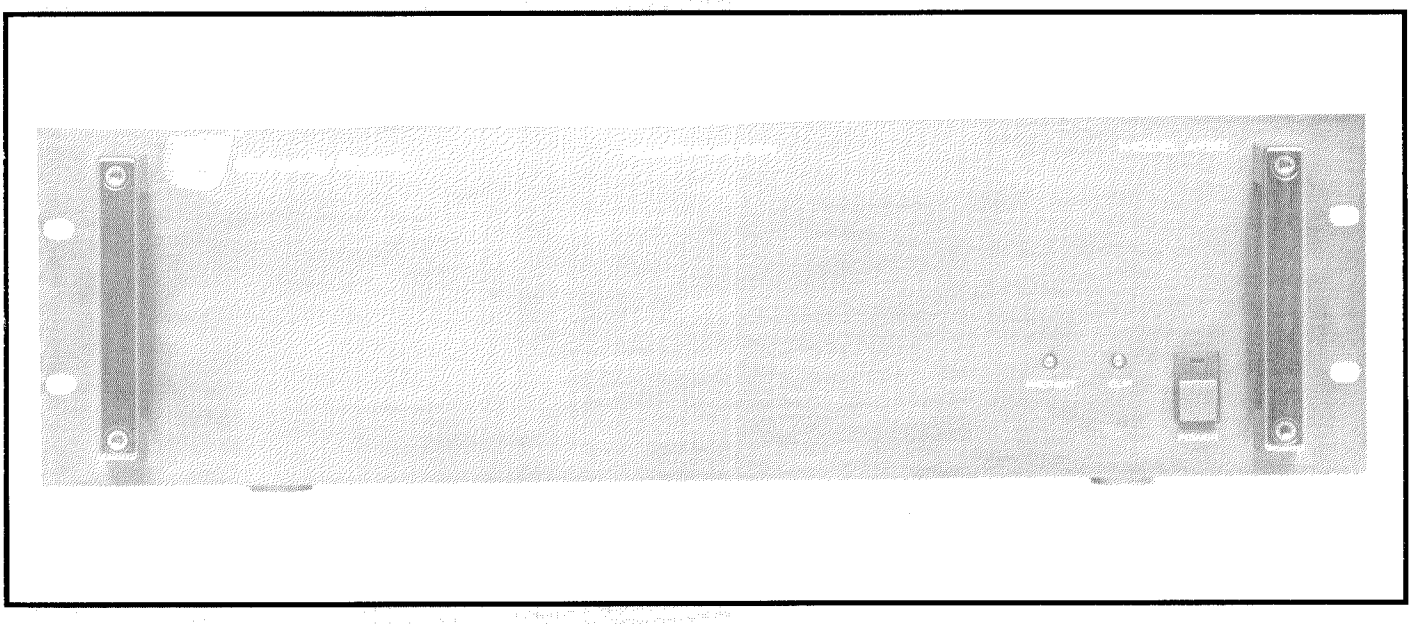
University Sound a MARK IV company

A75/A150

Power Amplifiers



Product Data

- **75 Watts (Model A75) and 150 Watts (Model A150) continuous output**
- **Independent power and output fuse and relay circuit protection**
- **15 KΩ input bridging transformer**
- **300 Hz high-pass filter, -12 dB/oct**
- **Switchable 15 dB input pad**
- **XLR, RCA phono, and screw terminal input connectors**
- **Pre- and post-fader auxiliary outputs**
- **Balanced 4Ω, 8Ω, 25V, and 70.7V power outputs**
- **100/120/200/220/240 VAC 50/60 Hz operation**

Summary Specifications:

Continuous Average Output Power:

Direct / Transformer Output	75 Watts (A75)
	150 Watts (A150)

Frequency Response (Ref 1kHz @ 1 Watt output):

Direct Output	20 Hz - 20 kHz, ± 1 dB
Transformer Output	20 Hz - 16 kHz, ± 1 dB

THD (Ref 1kHz @ rated output):

Direct Output	<0.01%
Transformer Output	<0.02%

Signal-to-Noise Ratio:	>100 dB

Power Bandwidth (+0 / -3 dB Ref 1kHz @ rated output):

Direct Output	20 Hz - 20 kHz
Transformer Output	50 Hz - 15 kHz
Dimensions:	5¼" H x 19" W x 12½" D
	(13.3 cm x 48.2 cm x 31.7 cm)
Weight:	30.8 lbs/ 14 kg (A75)
	24.2 lbs/11kg (A150)

Description

The University Sound A75 and A150 power amplifiers are high quality, low cost monaural power amplifiers for use in clubs, paging systems, houses of worship, monitoring installations, and other general purpose applications. Both amplifier models are identical in size and features and differ only in their output power ratings. The A75 is rated at 75 Watts, while the A150 is rated at 150 Watts continuous power output.

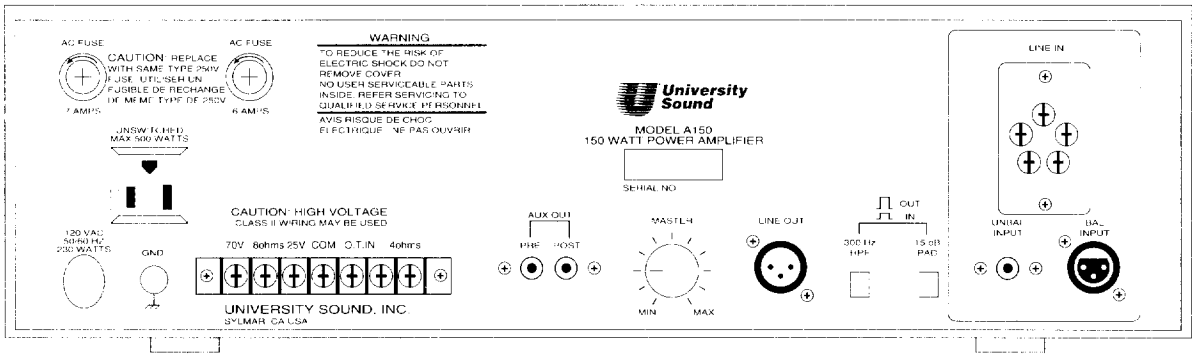
These amplifiers include many features, not normally found on amplifiers of this type, that lend themselves to faster and more versatile installation of the units. There is a 15 KΩ bridging transformer, a switchable 300 Hz high pass filter, a switchable 15 dB input pad, and a choice of four input connector types: 5-lug screw terminal, female XLR, and RCA phono jack. The male XLR input connector can also be used as a convenient patch output point for routing the input signal to another amplifier.

Two auxiliary unbalanced outputs are provided on RCA phono jacks. One is before (pre-fader), and the other after (post-fader), the MASTER output level control. Among other applications, these outputs can be used to link multiple power amplifiers to the same pre-amplified input signal, or to monitor the output of the system. A balanced LINE OUT provides the pre-amplifier signal on a male XLR connector. Power outputs consist of transformer balanced constant-voltage 25 Volt and 70.7 Volt outputs, and 4 Ohm and 8 Ohm outputs for speaker coil connections. Direct, unbalanced outputs consist of a 4Ω output on the A150 and a 8Ω output on the A75.

The amplifiers are fully protected from short circuited loads, high temperature, and excessive load reactance, and the loads from turn-on/turn-off transients, subsonics, and DC offsets. When a problem is detected, the output relay automatically disconnects the load and illuminates the front panel PROTECT indicator. In addition, a front panel clipping indicator lights when the amplifier's output circuitry is being overdriven.

Both units are enclosed in a rack-mountable steel enclosure, and operate off a standard 120 VAC 50/60 Hz line source. Included with the unit is a rack mount hardware kit.

Back-Panel View



Full Specification

Continuous Average Output Power (Direct or transformer output):

75 Watts (A75)
150 Watts (A150)

Max Midband Output Power (Ref. 1kHz, 1%Total Harmonic Distortion):

Direct Output	100 Watts (A75)
	200 Watts (A150)
Transformer Output	95 Watts (A75)
	190 Watts (A150)

Power Bandwidth (+0/-3 dB Ref 1kHz at rated output power):

Direct Output	20 Hz - 20 kHz
Transformer Output	50 Hz - 15 kHz

Frequency Response (Ref 1kHz at 1 Watt output power):

Direct Output	20 Hz - 20 kHz, ± 1 dB
	10 Hz - 30 kHz, ± 3 dB
Transformer Output	20 Hz - 16 kHz, ± 1 dB
	10 Hz - 30 kHz, ± 3 dB

Total Harmonic Distortion (Ref 1 kHz @ rated output, 30 kHz low pass filter):

Direct Output	
20 Hz	<0.1%
1 kHz	<0.01%
20 kHz	<0.1%
Transformer Output	
50 Hz	<1.0%
1 kHz	<0.02%
15 kHz	<0.1%

Intermodulation Distortion (SMPTE 4:1, @ rated power, direct output): <0.01%

Input High Pass Filter

Frequency	300 Hz, switchable in/out
Slope	-12 dB/oct (-40 dB/decade)

Input Sensitivity/Impedance (Ref 1kHz, 0 dBu = 0.775 vrms):

Balanced Line Input (Input pad switched "out")	0 dBu/15 KΩ
Balanced Line Input (Input pad switched "in")	-15 dBu/15 KΩ
Unbalanced Line Input (RCA phono connector)	0 dBu/47 KΩ

Input Pad (Ref 1 kHz):

Type	Balanced "H", switchable in/out
Attenuation	15 dB, ±1 dB

Maximum Input Level (Ref 1 kHz, pad in, signal applied to XLR female, Master off):

+35 dBu (43.5 vrms)

Signal-to-Noise Ratio (A-weighted, Master at full clockwise position, input shorted, pad and high-pass filter switched out): >100 dB

Damping Factor (20 Hz - 1 kHz, direct output): >50

Output Regulation (Ref 1 kHz, no load to full load):

Direct Output	<0.5 dB
Transformer Output	<1.0 dB

Connectors:

Input	1 - XLR Female
	1 - 5-lug screw terminal
	1- RCA Phono
Output	1 - XLR Male
	2 - RCA Phono
	1 - 7-terminal barrier strip
AC	1 - Aux AC grounding outlet (500 Watts maximum)

Amplifier/Load Protection:

Short circuited loads
Excessive load reactance
RF
Excessive Temperature

Power Supply Requirements:

100, 120, 200, 220, or 240 VAC, 50/60 Hz

Power Consumption/Heat Generation:

A150 (max output)	365 Watts/580 BTU/hr
(1/3 output)	230 Watts/560 BTU/hr
A75 (max output)	175 Watts/255 BTU/hr
(1/3 output)	130 Watts/330 BTU/hr

Operating Temperature Range:

Up to 140° F (60° C)

Dimensions: 5 1/4" H x 19" W x 12 1/2" D (13.3 cm x 48.2 cm x 31.7 cm)

Weight: 30.8 lbs/ 14 kg (A75)
24.2 lbs/11kg (A150)

Color: Black

Architect's, Engineer's, and Consultant's Specifications

The power amplifiers shall be the Models A75 and A150, and shall be monaural amplifiers of solid state design employing true complementary symmetry output circuitry and capable of operating from a 100, 120, 200, 220, or 240 VAC 50/60 Hz line power source. The Model A75 shall have an output rating of 75 Watts continuous power, while the Model A150 shall have an output rating of 150 Watts continuous power. Other than output power, the two amplifiers shall be virtually identical. Any differences in the specifications between the two Models shall be noted below.

The amplifier shall provide a plurality of balanced transformer output taps as well as an unbalanced direct output, and a bridging input transformer for input isolation. The amplifier shall contain sensing circuitry to provide protection for the output transistors against excessive temperature, excessive output voltage, radio frequency interference, excessive output current, and excessive output phase shift. The load shall be similarly protected against subsonic signals, start-up/shut-down transients, low AC line voltage, and DC voltage offsets.

Rear mounted panel controls and switches shall include an input level control, a 300 Hz high pass filter in/out switch, and an input pad attenuator in/out switch. The attenuator, when engaged, shall attenuate the signal by 15 dB. Input connectors shall include a 5-lug screw terminal connector, a 3-pin XLR female connector for balanced inputs, and an RCA phono connector for unbalanced inputs. Output connectors shall include a 3-pin XLR male connector, two RCA 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 an input bridging transformer with a nominal input impedance of 15 KΩ. A power output isolation transformer shall provide the Model A150 with balanced outputs of 25 Volts (4.2Ω load), 8Ω (34.6 Volts), and 70 Volts (33.3Ω load), while the 4Ω output on the A150 shall be unbalanced. The Model A75 shall have balanced outputs on the 4Ω (17.3 Volts), 25 Volts (8.3Ω load), and 70 Volts (66.7Ω load), while the 8Ω output shall be unbalanced.

The units shall be enclosed in a steel enclosure painted black measuring 5.25" (13.3 cm) height x 19" (48.3 cm) width x 12.5" (31.8 cm) depth. The power amplifier Models A75 and A150 have been specified.

University Sound a MARK IV company
P.O. Box 24031
Oklahoma City, OK 73124-4031
Phone (405) 324-5311
Fax (405) 324-8981

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