University Sound
A Mark IV Company

MA/MR-Series

Mixer/Amplifiers
MA-355A, MR-355B, MA-605A, MA-1005A

Product Data

- **Three microphone inputs**
- **Two mic inputs switchable between Lo-Z balanced and Hi-Z unbalanced operation**
- **Three stereo inputs, two Aux and one magnetic phono**
- **Priority paging input for telephone system source**
- **Stereo TAPE OUT output**
- **Power output ratings of 35, 60, or 100 Watts**
- **4Ω, 8Ω, 16Ω, 25V, and 70.7V outputs**
- **Automatic muting for voice-over-music announcements**
- **Digital AM/FM tuner (MR-355B)**
- **Rack-mountable with optional RM-3/10 rack mount kit**

Summary Specifications:

Power Output @ 1 kHz	35 Watts (MA-355A) 35 Watts (MR-355B) 60 Watts (MA-605A) 100 Watts (MA-1005A)
THD at rated output	<1% at 1 kHz
Frequency Response	60 Hz - 15 kHz, ± 2 dB
Bass Control	+7/-12 dB at 100 Hz
Treble Control	+7/-12 dB at 10 kHz
Input Sensitivity/Impedance	
Mic 1 and Mic 2	0.3 mV/600Ω (balanced)
Mic 3	3.0 mV/47KΩ (unbal)
Phono	2.5 mV/47KΩ (unbal)
Paging	-20 dBm/600Ω (xfmr iso)
Power Amp In	1V/10KΩ (unbalanced)
Aux 1 and Aux 2	100 mV/47KΩ (unbal)
Line Output Level/Impedance	
Preamp Output	1V/1KΩ (unbalanced)
Tape Output	500 mV/47KΩ (unbal)
Speaker Outputs	4Ω, 8Ω, 16Ω, 25V, 70.7V
Dimensions	
Height	4.25" (10.8 cm)
Width	16.5" (42.0 cm)
Depth	13.6" (34.6 cm)

Description

The University Sound MA-Series of five-input mixer/power amplifiers include many features that enable them to serve well in variety of paging or commercial sound reinforcement applications. The series consists of four models: the MA-335A, MR-355B, MA-605A, and MA-1005A. With the exception of power output ratings and the MR-355B's digital tuner, all of the features of the four models are identical.

Each model has five separate input controls which can be used to adjust the level from any of seven input sources. Input channels 1 and 2 are for microphones, switch selectable on the rear panel for either balanced low-impedance or unbalanced high-impedance operation. A signal appearing at either of these two inputs will automatically mute the other three input channels unless the mute function is defeated (switch on rear panel). A threshold adjustment allows compensation for background noise to avoid false triggering. Input 3 is switch selectable to allow use as either a high-impedance microphone or a magnetic phono input with RIAA equalization. Inputs 4 and 5 are for auxiliary line-level sources such as tape or CD players. Mono or stereo signals may be applied to inputs 3, 4, or 5; the left and right components of a stereo signal can be applied to the dual RCA phono jacks of these inputs and mixed together to drive the built-in monaural power amplifier. A rear panel paging input, with gain control, is provided for the paging output of a telephone system. An audio signal appearing at this input automatically mutes all other inputs.

A preamplifier output jack and power amplifier input jack on each unit permit the mixed output to be fed to an external signal processor (graphic EQ or compressor), and then returned to the built-in amplifier. The pre-amp output may be used to drive an additional power amp with its own set of speakers — without interrupting the function of the built-in amplifier. The internal connection between the preamp output and the power amp input is automatically broken when a connection is established to the power amp input. This prevents "dry" unprocessed signal from interfering with the return from the external signal processor. The TAPE OUT jacks are not affected by the MASTER VOLUME control so that optimum recording levels for the pre-amp mix can be maintained.

The speaker output is available at a barrier strip which includes terminals for driving 4, 8, 16 Ohm loudspeaker voice coil loads, as well as 25 or 70.7 Volt distribution systems.

The MR-355B features a digital AM/FM tuner with sixteen programmable station presets. The tuner has its own input to the mixing buss and its own front panel level control, so that it does not affect the operation of the other inputs. When a mute is triggered, the tuner signal is muted along with input 3 and the two AUX inputs.

Specifications

Power Output @ 1 kHz

MA-355A	35 Watts
MR-355B	35 Watts
MA-605A	60 Watts
MA-1005A	100 Watts

THD at rated output <1% at 1 kHz

Frequency Response 60 Hz-15 kHz, ±2dB

Tone Controls

Bass	+7/-12 dB at 100 Hz
Treble	+7/-12 dB at 10 kHz

Signal-to-Noise Ratio

Mic 1 and Mic 2	> 60 dB
Mic 3 / Phono	> 55 dB
Aux 1 and Aux 2	> 70 dB
Paging	> 70 dB
Power Amp In	> 80 dB

Input Sensitivity/Impedance

Mic 1 and Mic 2	0.3 mV/600Ω (balanced)
Mic 3	3.0 mV/47KΩ (unbalanced)
Phono	2.5 mV/47KΩ (unbalanced)
Paging	-20 dBm/600Ω (xfmr isolated)
Power Amp In	1V/10KΩ (unbalanced)
Aux 1/Aux 2	100 mV/47KΩ (unbalanced)

Output Level/Impedance

Preamp Output	1V/1KΩ (unbalanced)
Tape Output	500 mV/47KΩ (unbalanced)
Speaker Outputs	4Ω, 8Ω, 16Ω, 25V, 70.7V

Muting 40 dB attenuation

Protection 3 independent slo-blo fuse system
Primary AC and DC

Dimensions

Height	4.25" (10.8 cm)
Width	16.5" (42.0 cm)
Depth	13.6" (34.6 cm)

Power Disipation:

MA-355A	155 Watts
MR-355B	170 Watts
MA-605A	180 Watts
MA-1005A	370 Watts

Power Supply 108-132 VAC, 50/60 Hz

Net Weight

MA-355A	16.0 lbs. (7.3 kg)
MR-355B	17.5 lbs. (7.9 kg)
MA-605A	22.5 lbs. (10.2 kg)
MA-1005A	27.5 lbs. (12.5 kg)

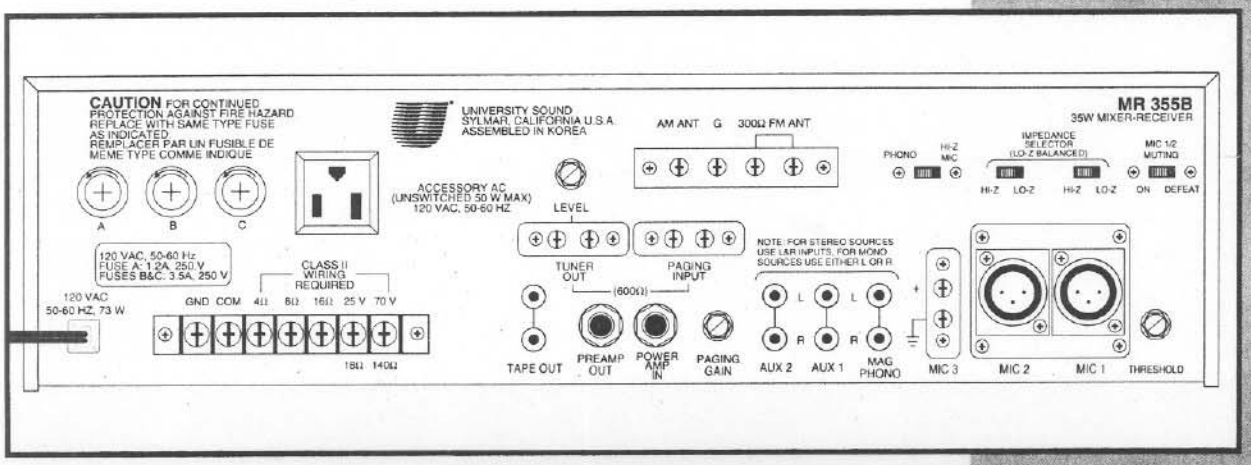
Shipping Weight

MA-355A	17.0 lbs. (7.7 kg)
MR-355B	19.0 lbs. (8.6 kg)
MA-605A	24.0 lbs. (10.9 kg)
MA-1005A	28.0 lbs. (12.7 kg)

Optional Accessory

RM-3/10 Rack Mount Kit

Rear-panel View



Architect's and Engineer's Specifications

The mixer/amplifier (or mixer/receiver) shall have five input channels, with individual mix gain controls. Input channels 1 and 2 shall have switch-selectable configurations for Hi-Z unbalanced or Lo-Z balanced operation. A signal present on either of these two channels shall trigger the muting of channels 3, 4, and 5. The mute circuit shall be defeatable using a switch on the rear-panel, and there shall be a threshold adjustment so that background noise in the Mic 1 or Mic 2 inputs can be prevented from falsely triggering the mute circuit. Input 3 shall be switch-selectable between Hi-Z unbalanced microphone or magnetic phono operation. Inputs 4 and 5 shall be for line-level auxiliary input sources. Inputs 3, 4, and 5 shall accept either monaural or stereo sources. If a stereo source is connected, it shall be properly mixed to mono via a resistor network mounted on the input plate. There shall be a paging input that accepts a 600 Ohm line level feed from a phone system; when a signal is present at the paging input, it shall automatically mute other input sources. The paging input shall be equipped with its own gain control.

There shall be a master level control, with LED bargraph output level indication. Separate bass and treble equalization controls shall be provided.

The mixer/amplifier shall meet the following performance criteria: output power shall be 35 Watts (MA-355A, MR-355B), 60 Watts (MA-605A), or 100 Watts (MA-1005A); total harmonic distortion shall be less than 1% at 1 kHz; frequency response shall be within ±2 dB from 60 Hz to 15 kHz; input impedance shall be 600 Ohms (balanced inputs) or 47KΩ (unbalanced inputs); nominal load impedance shall be 4, 8, or 16 Ohms for voice-coil connected loudspeakers, or 25 or 70.7 Volt nominal transformer windings for the constant voltage output.

In addition to a preamplifier output/power amplifier input link, there shall also be a line level tape output which shall not be affected by the master volume control.

The mixer/amplifier shall operate from a standard 120 VAC 50/60 Hz power source, and measure 4.25" (10.8 cm) high x 16.5" (42.0 cm) wide x 13.6" (34.6 cm) deep.

The mixer/amplifier shall be the University Sound Model MA-355A, MA-605A, or MA-1005A.

[Text below applies to MR-355B only]
The mixer/amplifier shall include a digital AM/FM tuner, having 16 programmable station presets. Connections for external AM and FM antennas shall be provided on the rear of the unit. The front panel shall have a level control specifically for the tuner signal, which shall be muted whenever the unit's mute circuit is activated. There shall also be a rear panel tuner output with a rear panel level control. This rear panel output shall be unaffected by the front panel level controls or the muting circuitry. The University Sound Model MR-355B has been specified.

University Sound Inc.

a MARK IV company
13278 Ralston Avenue
Sylmar, CA 91342-7607
FAX (818) 362-3463
PHONE (818) 362-9516

Mark IV Audio Canada
345 Herbert Street
Gananoque, Ontario K7G 2V1
FAX (613) 382-7466
PHONE (613) 382-2141

Part #307-9053-00