

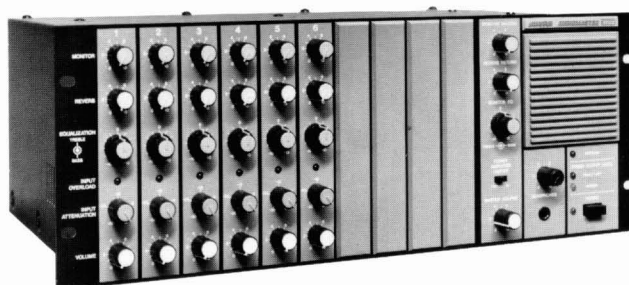
SHURE[®] **AUDIOMASTER[®]**



***Compact Modular
Sound Reinforcement System***

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PRESENTING

THE SHURE AUDIOMASTER® SYSTEM:

Model 1200 Powermixer

Model 3200 Loudspeaker

Model A1200MX Expansion Module

Model A1200C Portable Case

CONGRATULATIONS! You have purchased the Shure Model 1200 Powermixer, the finest compact mixer-amplifier available today.

The Model 1200 Powermixer includes a flexible microphone mixer with six inputs for high- or low-impedance sources and a 200-watt power amplifier. The 1200 is human engineered for ease of setup and operation. Connection of microphones and other equipment (tape recorder, equalizer, effects device, remote amp) is fast and convenient.

The AUDIOMASTER System, consisting of the Model 1200 Powermixer and Model 3200 Loudspeaker(s), works equally well for sound reinforcement or recording of music, vocals, or speech.

The Model 1200 Powermixer is rack-mountable or portable; a high-power, 6-input mixer-amplifier, expandable to 8 or 10 inputs, with famous Shure versatility and ruggedness. Inputs to the Powermixer accept both high- and low-impedance microphones as well as amplified instruments or other high-level sources. Individual Input Attenuation controls, with overload indicators, are continuously adjustable to prevent input overload. The Powermixer has built-in reverberation with individual channel and overall level adjustments. Other effects devices or an equalizer are easily connected via a post-Master control program loop. An integral power amp Limiter prevents overload distortion over a wide input signal range. Pre-Volume Monitor send controls and a pre-Master Volume Tape Output provide maximum usefulness in performance or recording applications. The control panel is human-engineered with color-coded knobs for error-free adjustments while LED readouts give instant visual notice of overload and operating status.

The Model 3200 two-way, time-corrected loudspeaker is a high-power unit designed to be compatible with the Model 1200 Powermixer. A wide-range frequency response and excellent sound quality suit it for a great variety of performance and public-address situations.

The AUDIOMASTER System gives you outstanding sound capability; it's maximally versatile and portable, and it's backed by Shure's traditional quality and reliability.

Outstanding features of AUDIOMASTER:

1200 POWERMIXER

- Works equally well for sound reinforcement or recording of speech, vocals, and music
- Designed for churches, schools, clubs, civic and business organizations, and small performing groups
- Operates as a mixer-amplifier for a wide variety of input sources
- Supplied with six input channels (A1200MX Expansion Modules are available for increase to a total of eight or ten inputs)
- HI and LO Z inputs may be used simultaneously
- Switchable input attenuators on channels 1 and 2 accommodate high-input-level sources
- Phantom power for condenser microphones is available at any low-impedance input
- Built-in spring-type reverb, with independent level controls for each input
- Provides external device loop for effects device or equalizer between PROGRAM MIX OUTPUT and POWER AMPLIFIER INPUT
- Pre-Volume MONITOR mix and pre-Master Volume TAPE Outputs
- Integral switchable power amplifier Limiter prevents overload distortion
- High speaker-power output—200 watts into a 4-ohm load
- An accessory speaker cable (A50SC) is available: 15 m (50 ft) with standard phone plugs, for quick speaker hookup
- Rack mountable or portable with accessory A1200C Carrying Case
- Compact and lightweight: only 178 mm (7 in.) high, weighs only 12.3 kg (27 lb)
- Listed by Underwriters Laboratories and by Canadian Standards Association as certified

3200 LOUDSPEAKER

- Big-system sound quality in a compact enclosure
- 12-inch high-temperature woofer critically tuned to a sturdy, vented enclosure
- Constant-directivity type high-frequency horn with high-frequency compression driver (tweeter)
- Special TIME SYNC™ time-corrected crossover network with tweeter protection circuit
- Metal grille and resilient corner protectors for maximum durability

FRONT PANEL CONTROLS, INDICATORS . . . INDIVIDUAL INPUT CHANNEL CONTROLS

MONITOR

Controls channel monitor send independently of channel volume control. Adjust for desired level when using a monitor system, or for auxiliary or tape recording mix.

REVERB

Controls amount of reverberation on channel (use low settings for vocals, high settings for instruments.)

EQUALIZATION

TREBLE

Inner concentric control sets channel treble boost or cut for desired tone shaping.

BASS

Outer concentric control sets channel bass boost or cut for desired tone shaping.

INPUT OVERLOAD INDICATOR

Lights when the input signal is too high. Adjust INPUT ATTENUATION control until only **occasional** flashes are noted on signal peaks.

INPUT ATTENUATION

Adjusts input attenuation for each channel. Suggested initial settings: condenser microphones or amplified instruments -12 to -30; normal vocals or speech -6 to -12; loud vocals -12 to -24; distant miking 0.

VOLUME

Allows individual setting of channel input for desired signal mix. If setting is consistently low (1 or 2) or high (8 to 10), check INPUT ATTENUATION adjustment.

IMPORTANT: Set this Control fully counterclockwise (off) when channel is unused.



Additional information

MONITOR

Control precedes VOLUME ("prefader") and other channel controls allowing independent monitor mix affected only by INPUT ATTENUATION.

REVERB

Control follows INPUT ATTENUATION, EQ and VOLUME controls.

TREBLE

Adjusts channel ± 10 dB at 10 kHz; does not affect MONITOR output.

BASS

Adjusts channel ± 10 dB at 100 Hz; does not affect MONITOR output.

INPUT OVERLOAD INDICATOR

Lights approximately 3 dB prior to clipping of preamp or input channel equalizer. For optimum signal-to-noise ratio, adjust INPUT ATTENUATION for occasional flashes (no light may mean noisy operation; constant light means distortion.)

INPUT ATTENUATION

Attenuates input preamplifier gain up to 30 dB to permit channel to accept any signal level from microphones to direct instrument pickups, or high level (aux) signals from amplified instruments or tape recorders; almost any input device can be accommodated. (See rear panel Channel 1 & 2 AUX/MIC switches.)

VOLUME

Follows INPUT ATTENUATION and EQUALIZATION controls; does not affect channel MONITOR level.

MASTER CONTROLS

MONITOR MASTER

Controls overall monitor mix level to MONITOR OUTPUT jack.

REVERB RETURN

Controls reverb mix level to program mix.

MONITOR EQ TREBLE

Inner concentric control sets MONITOR mix signal treble boost or cut for desired tone shaping.

BASS

Outer concentric control sets MONITOR mix signal bass boost or cut for desired tone shaping.

POWER AMPLIFIER LIMITER

With switch "IN", prevents overload distortion at speaker and headphone outputs by not allowing the power amplifier to be overdriven (with switch "OUT", Limiter is disabled.)

MASTER VOLUME

Adjusts overall level of mixed signals at Program Mix Output, Speaker Output, and Headphones Output.

HEADPHONES CONTROL

Adjusts level of mixed signal at Headphones Output.

HEADPHONES JACK

Standard quarter-inch stereo phone jack accepts 4- to 4000-ohm mono or stereo headphones.



Additional information

MONITOR MASTER

Independent of other master controls except for MONITOR EQ.

REVERB RETURN

Not affected by MONITOR controls. (To defeat REVERB, see rear panel REVERB DEFEAT SWITCH.)

TREBLE

Adjusts mixed MONITOR signal ± 10 dB at 10 kHz.

BASS

Adjusts mixed MONITOR signal ± 10 dB at 100 Hz.

POWER AMPLIFIER LIMITER

Threshold: 1.5 dB below the onset of clipping at speaker output. Prevents overload distortion up to 15 dB beyond onset of Limiter action.

MASTER VOLUME

Control does not affect level at Tape Output or Monitor Output.

HEADPHONES CONTROL

Follows MASTER VOLUME and LIMITER.

HEADPHONES JACK

Output is mono only; two pairs of mono headphones can be wired to this jack. (Connect the conductor of one set of headphones to the tip of a stereo phone plug; connect the conductor of the second set to the ring of the plug; connect both shields to the sleeve.) Stereo phones will also function in mono when plugged into this jack.

INDICATORS

OVERLOAD

Red LED flashes to warn of unsafe operating conditions; lights continuously if power amp shuts down because of overheating or because of an abnormal speaker load (i.e., a short circuit).

POWER OUTPUT LEVEL PEAK/LIMIT (RED) LED

Limiter Out: Lights just before power amp clips to warn of overload distortion.

Limiter In: Lights at approximate onset of Limiter action.

POWER OUTPUT LEVEL NORMAL (YELLOW) LED

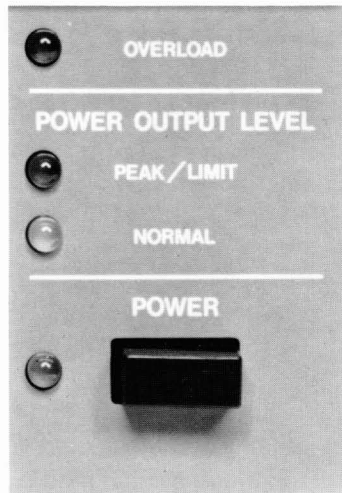
Lights to indicate a typical minimum level signal present at amplifier output.

POWER GREEN LED

Lights when Power switch is On.

POWER SWITCH

Pushbutton switch turns power on and off.



NOTE:

In case of sustained overheating, internal thermal overload switch automatically turns power off to entire unit. Unit should return to normal operation after sufficient cooldown time. (Allow at least 1 hour.)

Additional information

OVERLOAD

If OVERLOAD LED continually flashes or stays on, disconnect or correct any abnormal load or obstructed airflow. All low level circuitry remains operative (e.g., TAPE output will not be affected during power amp shutdown.) Power amp and LED operation return to normal when unsafe condition is removed.

POWER OUTPUT LEVEL PEAK/LIMIT (RED) LED

Limiter Out: Lights 2 dB below the onset of amplifier clipping.

Limiter In: Lights 0.5 dB before onset of Limiter action, indicating that the Limiter is functioning normally.

POWER OUTPUT LEVEL NORMAL (YELLOW) LED

Lights when signal level at speaker jacks is above 1.4 V RMS (0.5 watt).

POWER GREEN LED

Remains illuminated when power amplifier temporarily shuts down due to overload.

REAR PANEL INPUTS, OUTPUTS, SWITCHES . . .

AUDIO INPUTS

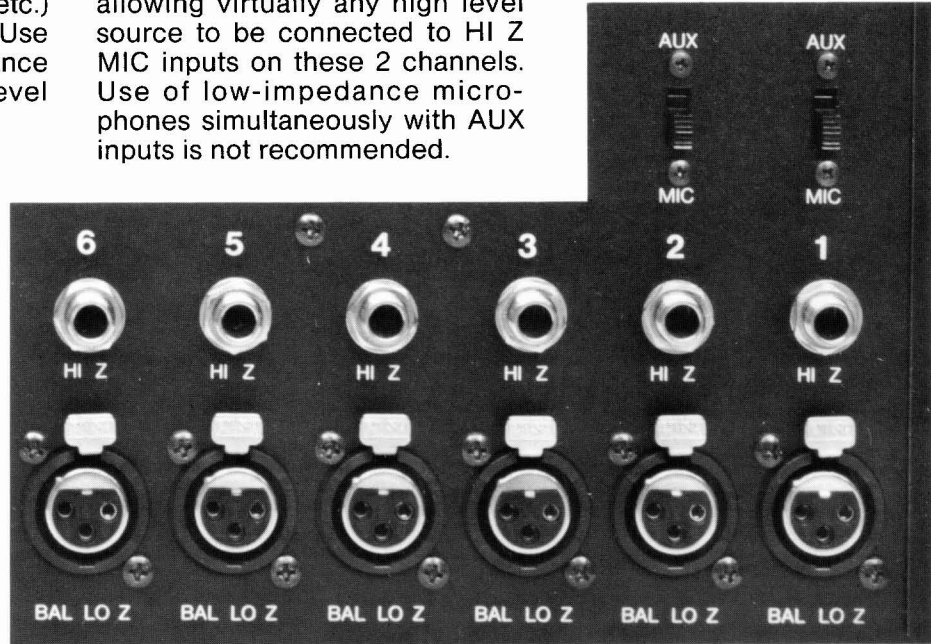
CHANNEL 1 & 2

AUX/MIC switch in **AUX** position allows high level aux source (tape recorder, FM tuner, CD player, etc.) to be connected to HI Z input. Use **MIC** position for high-impedance microphones or other low-level high-impedance sources.

Additional information

CHANNEL 1 & 2

Switch in **AUX** position provides fixed 22 dB added attenuation allowing virtually any high level source to be connected to HI Z MIC inputs on these 2 channels. Use of low-impedance microphones simultaneously with AUX inputs is not recommended.



Additional information

HI Z

Quarter-inch phone jack for connection of high-impedance microphones, direct instrument pickups, keyboards, amplified instruments, tape recorders or other high-level sources.

BAL LO Z

3-socket professional audio input connector for low-impedance dynamic, ribbon, or condenser microphones. (**Do not use if high-level source is connected to channel's HI Z input and MIC/AUX switch is in AUX position.**)

HI Z

Can be used with line matching transformer (A95UF, A85F) to permit two low-impedance microphones on same channel (the second into the LO Z connector.) Not recommended for condenser microphones unless they are battery powered.

BAL LO Z

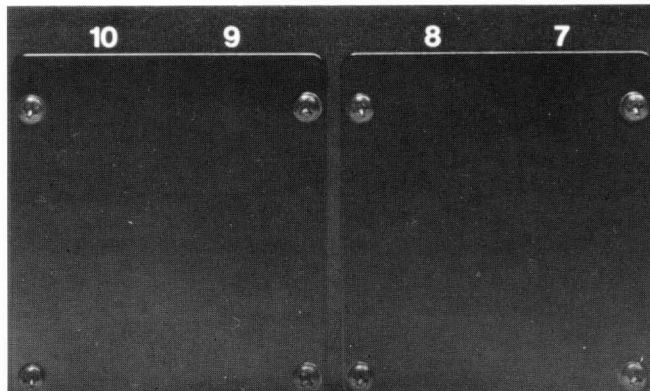
Accepts both balanced and unbalanced low-impedance sources. Built-in switchable +24V phantom power supply permits powering most condenser microphones; see rear-panel 24 VDC switch.

CHANNEL 1-6

HI Z and LO Z inputs can be used at the same time with similar microphones (one high and one low impedance.)

NOTE:

If it is desired to use a magnetic phono cartridge and turntable with the 1200, the use of a Shure M64A Phono Preamp is recommended, operating into the AUX (HI Z) inputs.



CHANNEL 7-10

Blanks in rear panel accept Model A1200MX Input Expansion Modules, each containing two channels. You can add these four channels, identical to channels 3 through 6, for additional mixing capability. Front panel channel nomenclature is under removable front panel channel covers. (Expansion modules should be installed by qualified service personnel only.)

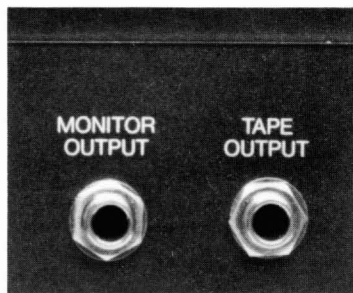
OUTPUTS AND INPUTS (quarter-inch phone jacks)

MONITOR OUTPUT

Unbalanced high-level output unaffected by Input Channel controls except INPUT ATTENUATION and individual MONITOR. For separate monitor amplifier system, or remote amplifier/speaker.

TAPE OUTPUT

Designed for connection to "TAPE IN" on tape recorder or to aux input of similar device.



Additional information

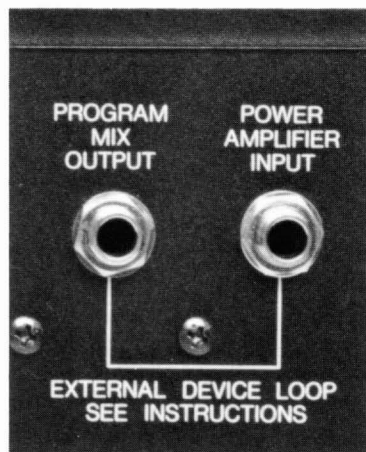
MONITOR OUTPUT

HI Z, unbalanced, aux level, pre-fader output, affected by MONITOR EQ and MONITOR MASTER controls.

TAPE OUTPUT

Unbalanced high-level HI Z output is post-channel Volume controls, and pre-master controls; may be used without speakers connected to the 1200's amplifier.

EXTERNAL DEVICE LOOP



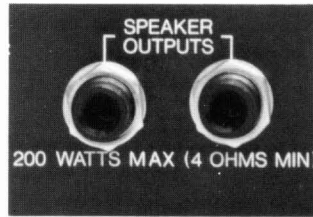
PROGRAM MIX OUTPUT AND POWER AMPLIFIER INPUT

These two ¼-inch phone jacks allow an external equalizer or effects device such as echo, delay, compressor, or noise gate to be connected between the PROGRAM MIX OUTPUT and the POWER AMP INPUT. The PROGRAM MIX OUTPUT can also be used as a post-MASTER VOLUME control send to an external amplifier, recorder, etc., without interrupting the signal to the internal amplifier. The POWER AMPLIFIER INPUT allows the 1200's internal amplifier to be used independently of its mixer section. Using the POWER AMPLIFIER INPUT jack interrupts the program send to the power amp. Post-fader PROGRAM MIX OUTPUT is affected by all program input and output controls except LIMITER; POWER AMPLIFIER INPUT is pre-LIMITER.

NOTE: The External Device Loop can be used to connect two 1200's together for an expanded capability of 400 watts total speaker output power. Connect the PROGRAM MIX OUTPUT of the first 1200 to the PROGRAM MIX OUTPUT of the second 1200. All of the inputs to both 1200's will then appear at the speaker outputs of each. Set the channel controls normally. Each MASTER VOLUME control determines the level of **all** inputs at **its** speaker outputs. When this procedure is followed, the MASTER VOLUME controls will require higher settings to obtain the same level at the speakers because each PROGRAM MIX OUTPUT loads the other. With appropriate MASTER VOLUME control settings, the full 400 watt total speaker output power is available from the two Model 1200 power amplifiers.

SPEAKER OUTPUTS

Two parallel-wired jacks for minimum 4-ohm load, maximum 200-watt output. Suggested speaker load: two Model 3200 Loudspeakers (8 ohms each, two in parallel equal 4 ohms), or one or two other high-power 8-ohm speakers, or one 4-ohm speaker. Use A50SC Accessory Speaker Cable* to connect speakers. If only one 3200 speaker (or any other 8-ohm speaker) is used, maximum power output will be 120 watts.



Additional information

SPEAKER OUTPUTS

Connecting too many speakers to either or both jacks may result in combined load below 4-ohm minimum; operation may then cause OVERLOAD LED to light and power amp to shut down. Note that no damage will result; Model 1200 is protected against abnormal speaker loads and short circuits. Again, if two 1200's are connected together via the Program Mix jacks, be sure that maximum load on each power amplifier does not fall below 4 ohms.

*15 m (50 ft) with standard ¼ in. phone plug at each end.

SWITCHES

REVERB DEFEAT SWITCH

Quarter-inch phone jack for connection of remote switch to disable reverb.



Additional information

REVERB DEFEAT SWITCH

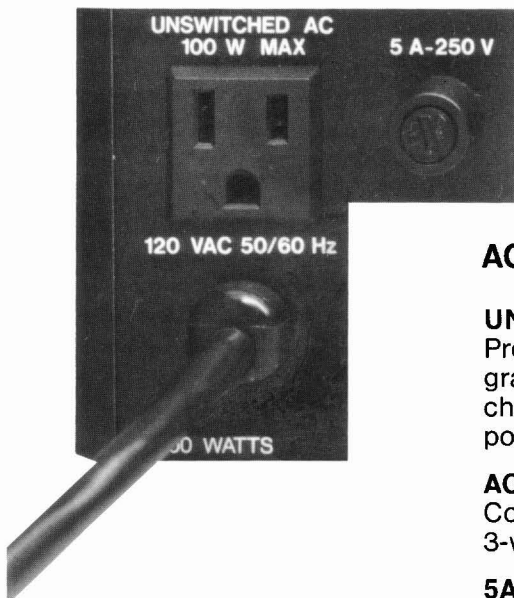
Without changing preset reverb controls, permits temporary output minus reverb. Dc switching allows use of unshielded cable. When switch is closed (circuit shorted), reverb signal is removed from program mix by connecting tip to shell (ground) of plug. A foot switch works well.

PHANTOM POWER SWITCH

Turn On when powering low-impedance condenser microphones; turn Off when not required.

PHANTOM POWER SWITCH

Supplies 24 Vdc to all low-impedance microphone inputs. Balanced low-impedance and unbalanced high-impedance dynamic or ribbon microphones can be used in combination with condenser microphones. **Do NOT use unbalanced low-impedance microphones with 24 VDC switch On.**



AC POWER

UNSWITCHED AC GROUNDED OUTLET

Provides up to 100 watts of ac power to accessory equipment (tape recorder, graphic equalizer, effects device, phono preamp, etc.) Outlet is not switched, use switch on accessory; outlet is not intended for use with high-power equipment such as power amplifiers.

AC LINE CORD

Connect to ac power (120 Vac \pm 10%, 50/60 Hz). Use only 16 AWG or larger 3-wire extension cords. Model 1200 may draw up to 5 amps from ac supply.

5A, 250V FUSE

Protects Model 1200 power supply against overload. Replace only with identical size and type fuse. To remove, press and rotate fuseholder counter-clockwise using finger or screwdriver in slot.

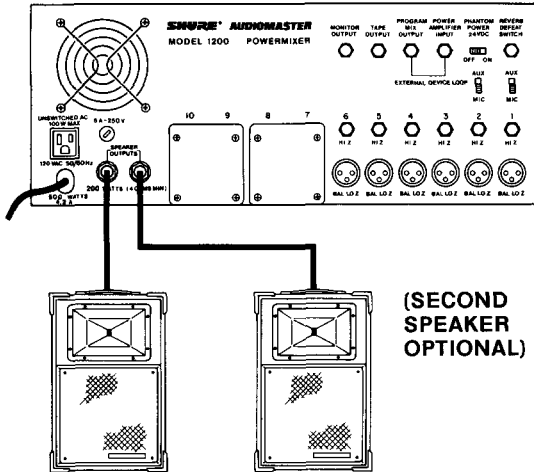
SETUPS

The AUDIOMASTER system is extremely versatile; consequently it can be used in a wide variety of applications. The setups shown in this section briefly illustrate the different combinations that are possible.

NOTE: Use proper cables when interconnecting equipment. Low-level audio connections require shielded (coaxial type) cable. Speaker leads need not be shielded, but should be at least 18-gauge (AWG).

BASIC SOUND REINFORCEMENT

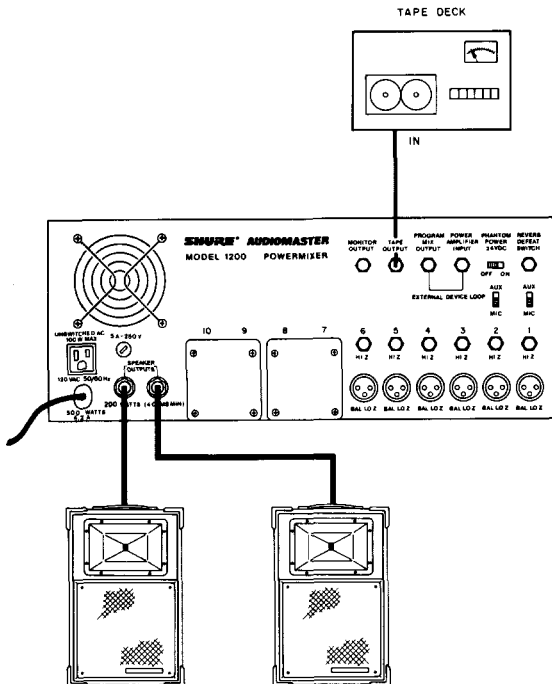
Connect as many microphones as required, and set the operating controls as desired. Attach one Model 3200 Loudspeaker to each speaker output.



SOUND REINFORCEMENT AND TAPE RECORDING

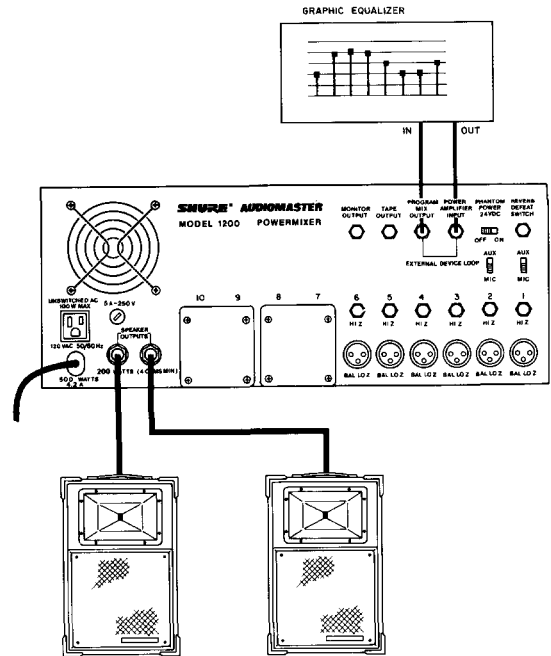
Attach 1 Model 3200 Loudspeaker to each speaker output; connect the TAPE OUTPUT to the tape recorder Aux Input.

NOTE: The TAPE OUTPUT level is independent of the MASTER VOLUME control. Use the tape deck input level controls to set the record level.



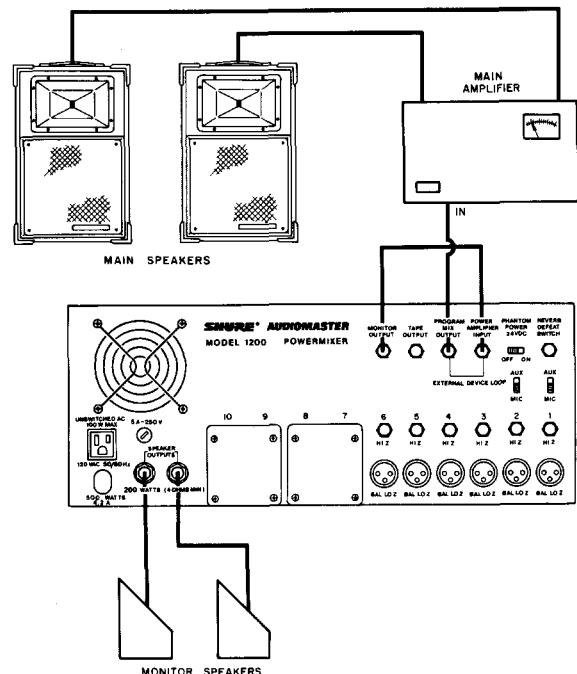
SOUND REINFORCEMENT WITH A GRAPHIC EQUALIZER (OR EFFECTS DEVICE)

Connect a graphic equalizer or effects device to the EXTERNAL DEVICE LOOP: PROGRAM MIX OUTPUT to graphic equalizer input, graphic equalizer output to POWER AMPLIFIER INPUT. Connect the speakers as for Basic Sound Reinforcement.



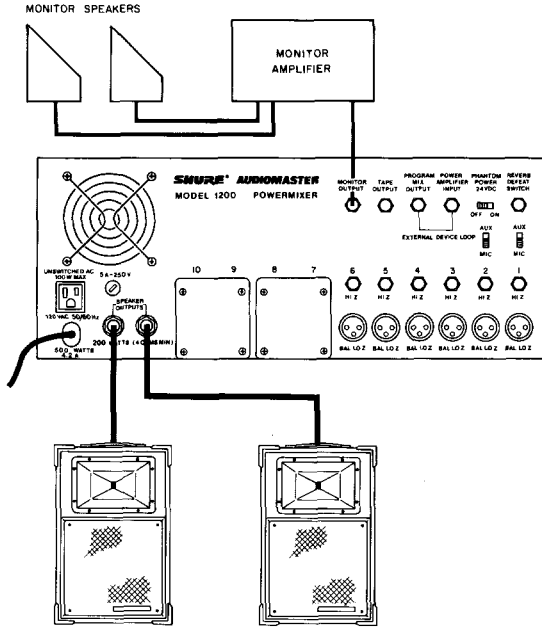
SOUND REINFORCEMENT WITH A SEPARATE MAIN AMP AND SPEAKERS, USING THE INTERNAL AMP FOR MONITOR SPEAKERS

Connect a shielded cable from the MONITOR OUTPUT to the POWER AMPLIFIER INPUT. Connect monitor speakers (with minimum 4-ohm total load) to the SPEAKER OUTPUTS. Connect a shielded cable from the PROGRAM MIX OUTPUT to an external amplifier (or crossover/amplifiers); and connect main speaker(s) to the external amplifier(s). The 1200 MONITOR MASTER controls the output level from the 1200 amplifier to the monitor speakers; the 1200 MASTER VOLUME controls the PROGRAM MIX OUTPUT level to the external main amplifier and speakers.



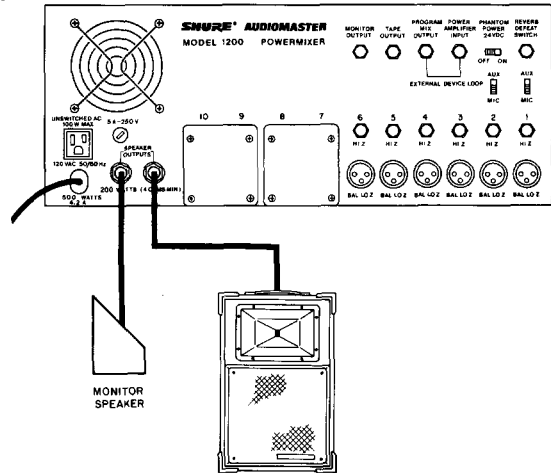
SOUND REINFORCEMENT WITH A SEPARATE MONITOR AMP AND SPEAKERS

Connect two speakers to the two Powermixer SPEAKER OUTPUTS. Connect the MONITOR OUTPUT to the monitor amplifier aux input; connect the monitor speakers to the monitor amp. (Only INPUT ATTENUATION, channel MONITOR, MONITOR EQ and MONITOR MASTER controls affect the MONITOR OUTPUT signal.)



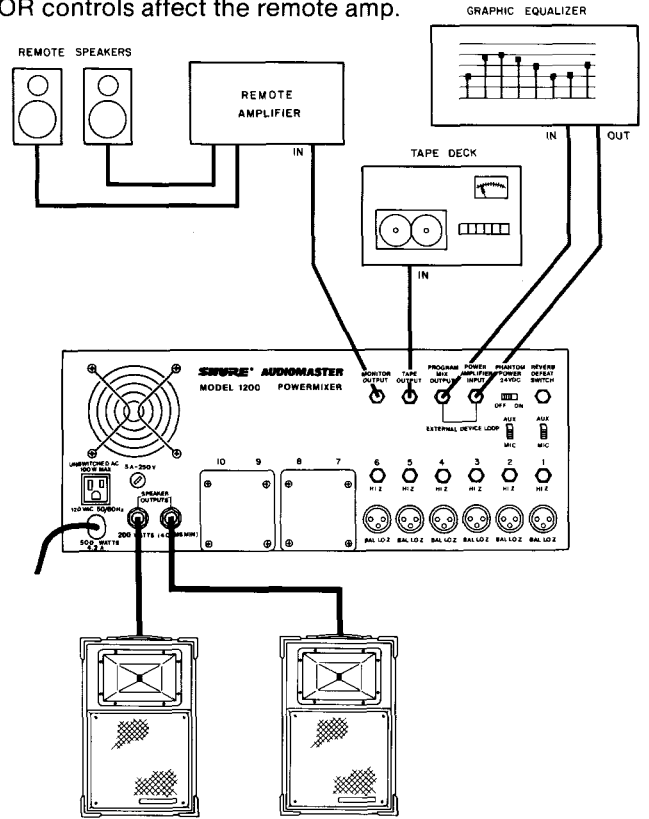
SOUND REINFORCEMENT WITH A STAGE MONITOR SPEAKER

Connect one 3200 Loudspeaker to one of the Powermixer Speaker Outputs. Connect the Stage Monitor Speaker to the other Powermixer Speaker Output. All Powermixer program controls also affect the Monitor Speaker in this setup.



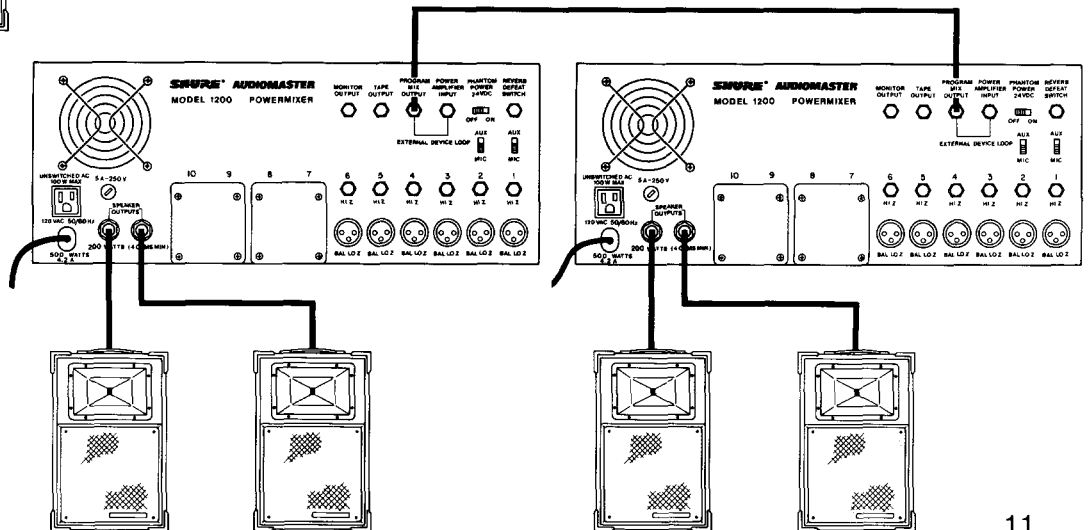
SOUND REINFORCEMENT AND RECORDING WITH A GRAPHIC EQUALIZER, TWO MAIN SPEAKERS, AND A REMOTE (OR STAGE MONITOR) AMP AND SPEAKERS

Connect the main speakers to the 1200 SPEAKER OUTPUTS. Connect the remote amp to the MONITOR OUTPUT; connect the remote speakers to the remote amp. Connect the tape recorder to the TAPE OUTPUT; connect the PROGRAM MIX OUTPUT to the graphic equalizer input; connect the equalizer output to the POWER AMPLIFIER INPUT. All Powermixer program controls affect the Main Speakers; only INPUT ATTENUATION and MONITOR controls affect the remote amp.



CONNECTING TWO 1200'S TOGETHER FOR TOTAL AMPLIFIER OUTPUT OF 400 WATTS TO FOUR 8-OHM SPEAKERS

Connect the PROGRAM MIX OUTPUT of the first 1200 to the PROGRAM MIX INPUT of the second 1200. Connect two 8-ohm speakers to the first 1200; connect two 8-ohm speakers to the second 1200. All inputs to both 1200's appear at all speaker outputs. The Master controls of each 1200 affect only the speakers connected to it. Because each PROGRAM MIX OUTPUT loads the other, set the MASTER VOLUME control on each 1200 to a higher level. The full 400 watt speaker output power will be available from the two 1200's.



OPERATION

1. Position the microphones and connect them to the AUDIOMASTER Powermixer 1200. If more than six microphones are required, add up to two A1200MX Expansion Modules. Each Module adds two low-impedance and two high-impedance microphone inputs. (Modules are for installation by qualified service personnel only.) If necessary, it is possible to use both inputs on each channel. (See Audio Inputs, page 7.) If long microphone cable runs (more than 6.1 m [20 ft.]) are needed, use balanced low-impedance microphones and cables to minimize high-frequency loss and interference.

2. Position the speakers and connect them to the Powermixer. Make sure the combined rated speaker load is not lower than 4 ohms.

*NOTE: The 1200 is designed to deliver 200 watts (sine wave undistorted max) into a 4-ohm load. However, to avoid excessive heating of components, sustained operation under these conditions is not recommended. Continuous operation with normal program material at maximum undistorted output is permissible.

3. Connect any external devices (see Setups section) such as a tape deck, graphic equalizer, effects device, monitor or remote amp and speakers.
4. Connect the Model 1200 power cord to an ac source capable of supplying 600 watts. If extension cords are used, make sure they are 16 AWG or larger.
5. Make sure the front and back panel ventilation grilles are not blocked.
6. Set the front panel controls as desired using the following guidelines for initial settings: set the INPUT ATTENUATION control clockwise; for optimum signal-to-noise ratio, set individual channel controls high and masters low. Set unused channel VOLUME and MONITOR controls counterclockwise.
7. Use program material similar to actual performance, listen to the system and make final adjustments for the most pleasing sound.
8. During operation, observe the various LED indicators for possible control adjustments:

A. **INPUT OVERLOAD**—If red LED is on constantly, use the INPUT ATTENUATION to reduce the input signal and eliminate overload distortion. (Adjust control for occasional flashing on program peaks.)

B. **OVERLOAD**—Red LED lights to indicate power amp has shut off due to abnormal speaker load (such as a short circuit) or overheating due to restricted air flow. Correct abnormal speaker load condition or remove any obstruction to front and back panel air vents. Power amplifier will automatically return to normal operation (and LED will turn off) after elimination of shutdown cause.

C. **POWER OUTPUT LEVEL/PEAK**—When Limiter is **out**, red LED flashes just before power amp clipping. (If LED flashes continually, reduce MASTER VOLUME control setting, or switch Limiter **in**.)

D. **POWER OUTPUT LEVEL/LIMIT**—When Limiter is **in**, red LED flashes to indicate onset of Limiting. NOTE: During heavy limiting, this LED may remain on without flashing.

E. **POWER OUTPUT LEVEL/NORMAL**—Yellow LED lights to indicate output power at speaker jacks is in a typical operating range (typical minimum output signal of 0.5 watt with 4-ohm load). In situations requiring low output power, this LED may flash only occasionally or not at all.

NOTE: No damage will be done to the 1200 if it is operated without a speaker load connected. The yellow LED will still function in this condition, indicating a signal is present at the speaker outputs.

F. **POWER**—Green LED lights when power switch is on; remains illuminated even when power amp shuts down due to overload.

NOTE: For portable use, the A1200C Accessory Portable Case is recommended. If the 1200 is to be mounted in an enclosed equipment rack, adequate ventilation should be provided for proper operation. If possible, the rear of the rack cabinet should be open or have adequate ventilation area.

* Le 1200 est conçu pour délivrer 200 watts (onde sinusoïdale à maximum sans distorsion) sur une charge de 4 ohms. Cependant, pour éviter que les éléments ne chauffent, un fonctionnement prolongé dans ces conditions est déconseillé. Avec des programmes normaux, l'appareil peut fonctionner en continu sur un niveau de sortie maximum sans distorsion.

FOR YEARS OF DEPENDABLE SERVICE

The AUDIOMASTER System is exceptionally well designed, with all components of the highest quality, operating well within their respective ratings to assure long life. The following list of Do's and Don'ts describes minimal operating precautions and maintenance to provide years of dependable service.

DO use a 16 AWG or larger heavy-duty 3-conductor extension cord when additional line cord length is needed.

DON'T replace the rear-panel fuse with a different size or type. Use only 5 A, 250 V, Type 3AG.

DON'T operate the Powermixer with its air vents blocked, or placed on a radiator or heat-producing equipment. Avoid operation in direct, hot sunlight.

DO unplug the Powermixer before cleaning. Use only mild detergent and a damp (never wet) cloth to clean the outer surfaces; **DON'T** use strong solvents or cleaning fluids.

DON'T use **unbalanced** low-impedance microphones with the PHANTOM 24V switch on; turn off the switch if not required for powering condenser microphones. If phantom power is in use, connect unbalanced low-impedance microphones through a line matching transformer (Shure A95UF) to a HI Z input. Phantom power will not affect **balanced** low-impedance dynamic microphones.

DON'T risk fire or shock hazard by operating the Model 1200 in the rain.

TROUBLESHOOTING

Should any difficulty be encountered in operation of your AUDIOMASTER System, the trouble can often be traced to some simple source. The following is offered as a basic guide to solving this kind of problem.

SYMPTOM	PROBABLE CAUSE AND CORRECTION
Powermixer is "dead" (no output, POWER LED off)	<ol style="list-style-type: none">1. Check that ac power source is "live" and Model 1200 is plugged in.2. Check that POWER switch is on.3. Check that rear panel fuse (5 A, 250V) is good.4. If the 1200 has turned off due to excessive internal temperatures, allow at least an hour for cooling, and reactivate unit. If difficulty persists have Model 1200 checked by qualified service personnel.
Power amplifier stage not operating (OVERLOAD LED is on)	<ol style="list-style-type: none">1. Check air vents for blockage.2. Check total speaker load (must be no lower than 4 ohms) and for possible shorted speaker cable.3. Check that internal fan is operating (fan is located on rear panel).4. Turn MASTER VOLUME control down for several minutes to allow proper cooling. If difficulty persists, have Model 1200 checked by qualified service personnel.
No signal at speaker (all other functions appear normal)	<ol style="list-style-type: none">1. Check for defective or improperly connected speaker cables.2. Check settings of channel VOLUME and MASTER VOLUME controls.3. Check connections to EXTERNAL DEVICE LOOP.
Fuse blown	<ol style="list-style-type: none">1. Replace with identical fuse (5 A, 250V, 3AG).2. If second fuse blows, have Model 1200 checked by qualified service personnel.
One of two inputs on same channel not working properly (both ¼-inch and 3-pin jacks in use)	<ol style="list-style-type: none">1. Make sure similar microphones are used on both inputs, and microphone impedances match the inputs used.2. Make sure a low-impedance microphone is not used with aux level equipment on other input.3. Make sure microphone switches are on; check microphone cables.
INPUT OVERLOAD LED flashing NOTE: Occasional flashing is ok.	<ol style="list-style-type: none">1. Adjust INPUT ATTENUATION counterclockwise to reduce channel input level.2. Reduce input signal level at source.
Loud clicks when certain microphones or cables are used	<ol style="list-style-type: none">1. Make sure PHANTOM 24V switch is not on (when not needed).2. Make sure unbalanced low-impedance microphone or cable is not used when PHANTOM switch is on.3. Check for defective microphone cables.
No MONITOR output (program output normal)	<ol style="list-style-type: none">1. Make sure channel MONITOR and MONITOR MASTER controls are turned up.2. Make sure external Monitor amp volume control is turned up.3. Check for defective cable to MONITOR output jack.
Sound quality poor (weak or thin)	<ol style="list-style-type: none">1. Check for excessive treble boost or bass cut on equalization controls.2. Check for defective cables.3. Check impedance match at input.

SPECIFICATIONS

Type

Mono Powermixer

Frequency Response

Flat +1, -3 dB, 40 Hz to 20 kHz (any input to any output)

Inputs

Six input channels: six unbalanced high- and/or balanced low-impedance inputs; channels 1 and 2 high-impedance inputs switchable to Aux level; available expansion modules* each contain 2 high- and 2 low-impedance microphone inputs; two modules (4 channels) can be added to each 1200

Power Output (1 kHz, 120 Vac, 1% THD)

200 watts minimum with 4 ohm speaker
120 watts minimum with 8 ohm speaker

Distortion

THD typically less than 0.15% at 1 kHz, 0.35% at 70 Hz and 20 kHz (180 watts to 4 ohms, measured from low-impedance input, Input Attenuation, individual channel and Master Volume controls at typical user settings)

IM distortion typically less than 0.4% (116 watts to 4 ohms, Input Attenuation, individual channel and Master Volume controls at typical user settings)

Low- and High-Frequency Equalization (Individual channel and Monitor)

±10 dB at 100 Hz and 10 kHz

Input OVERLOAD Indicators

Illuminate 3 dB before clipping of input preamplifier or equalizer stage

Power Amp Limiter

Threshold: 1.5 dB below speaker output clipping level
Input signal range: 15 dB beyond limiting threshold

Output PEAK/LIMIT Indicator

With Limiter Out: Lights 2 dB before clipping at speaker outputs
With Limiter In: Lights 0.5 dB before onset of Limiter action

Output NORMAL Indicator

Lights when speaker output level is greater than 1.4 Vrms (0.5 W into 4 ohms)

Input Sensitivity (full power output)

BAL LO Z: -66 dBV (0.5 mV)
HI Z: -44 dBV (6.3 mV)
AUX: -26 dBV (50 mV)
PA INPUT: 0 dBV (1.0 V)

Input Clipping Level

INPUT	CLIPPING LEVEL	ATTENUATION
BAL LO Z	-33 to -3 dBV (22 to 707 mV)	0 to -30
HI Z	-11 to +18 dBV (281 mV to 8.41 V)	0 to -30
AUX	+6 to +36 dBV 2 to 63 V	0 to -30
PA INPUT	-1 dBV (891 mV)	--

Voltage Gain (at 1 kHz)

INPUT	OUTPUT				
	SPEAKER	PGM MIX	MONITOR	PHONES	TAPE
LO Z	95 dB	65 dB	71 dB	82 dB	51 dB
HI Z	73 dB	43 dB	49 dB	60 dB	29 dB
AUX	55 dB	25 dB	31 dB	42 dB	11 dB
PA	29 dB	—	—	16 dB	—

Output Clipping Level

OUTPUT	MINIMUM CLIPPING LEVEL
SPEAKER	+29 dBV (28 V)
MONITOR	+18 dBV (7.9 V)
PROGRAM MIX	+18 dBV (7.9 V)
PHONES	+16 dBV (6.3 V)
TAPE	+18 dBV (7.9 V)

Impedance

INPUTS	ACTUAL	FOR USE WITH
LO Z MIC	1 kΩ	75 to 600 Ω
HI Z MIC	130 kΩ	100 kΩ or less
AUX	50 kΩ	10 kΩ or less
PA	50 kΩ	10 kΩ or less
OUTPUTS		
MONITOR	2.4 kΩ	2 kΩ or more
PROGRAM MIX	2.4 kΩ	2 kΩ or more
TAPE	2.4 kΩ	2 kΩ or more
PHONES	430 Ω	4 Ω or more
SPEAKER	—	4 Ω or more

Hum and Noise

Less than -126 dBV equivalent input hum and noise (20 Hz to 20 kHz, LO Z input to SPEAKER output)

Noise

Less than -127 dBV equivalent input noise (300 Hz to 20 kHz, LO Z input to SPEAKER output)

Signal-to-Noise Ratio

Greater than 80 dB (below full output) at typical control settings

Phantom Power

24 Vdc ± 10% open circuit, 1.8 k series resistance

Power Requirements

120 Vac ± 10%, 50/60 Hz, 420 watts typical with no ac receptacle load

AC Convenience Receptacle

120 Vac, 100 watts maximum

Certifications

Listed by Underwriters Laboratories Inc. and by Canadian Standards Association as certified

Environmental Conditions

Operating Temperature: -7 to 43°C (20 to 110°F)
Storage Temperature: -40 to 74°C (-40 to 165°F)
Relative Humidity (Operating and Storage): 0 to 95%

Overall Dimensions

191 mm H x 483 mm W x 343 mm D (7-½ x 19 x 13-½ in.)

Weight

12.3 kg (27 lb)
18.2 kg (40 lb) in A1200C Carrying Case

RECOMMENDED LOUDSPEAKERS

AUDIOMASTER Model 3200, 100 W, 8 Ω, vented two-way speakers

OPTIONAL ACCESSORIES

Carrying Case A1200C
Input Expansion Module*
(2 channels, 2 each HI Z and LO Z inputs) . . . A1200MX
Speaker Cable, 15 m (50 ft) with phone plugs A50SC
Line Matching Transformer (LO Z to HI Z) A95UF
240-V Conversion Kit* RKC209
Phono Preamp M64A

*For installation by qualified service personnel only.



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