

# PA SYSTEMS

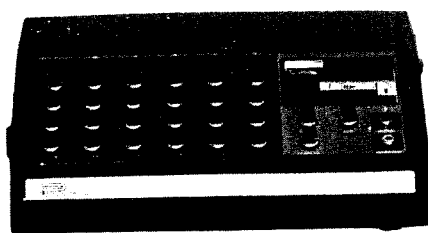
**PA SERIES**

**6 CHANNEL MIXING AMPLIFIER**

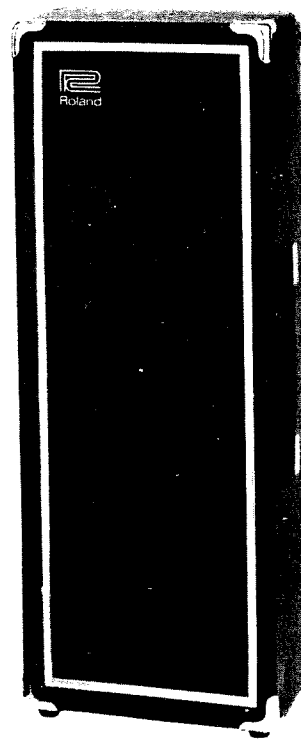
**MODEL PA-60 • PA-60S**



PA-60S



PA-60



PA-60S

 Roland Corporation



## Roland PA SERIES MODEL PA-60

PA-60 is a 6 channel, desk type PA amp combining 60W(R.M.S.) main amp in its mixing unit.

### FEATURES

- \* Mic input and other various input/output terminals are located on the rear panel ensuring easy operation.
- \* Compact and light-weight provide easy transportation.
- \* Reverb and Echo can be independantly controlled for each channel.
- \* Thanks to the headphone jack, monitor can be used.
- \* 5th and 6th channels can be connected with other instrument than microphone via the change-over switch(MIC/LINE).

### PREPARATION

1. Set all knobs to 0 position.
2. Set the stand-by switch to Off (lower side).
3. Connect the speaker PA-60S to the speaker terminal on the rear panel with a connection cord.
4. Plug the power cord into the mains socket after ensuring the power switch is Off.
5. For the echo chamber terminal on the rear panel, connect TO ECHO jack to INPUT of the echo chamber, and FROM ECHO jack to OUTPUT, with connection cord.
6. Connect low impedance(200-600-ohm) microphones to mic terminals (MIC 1 to 6 jacks).

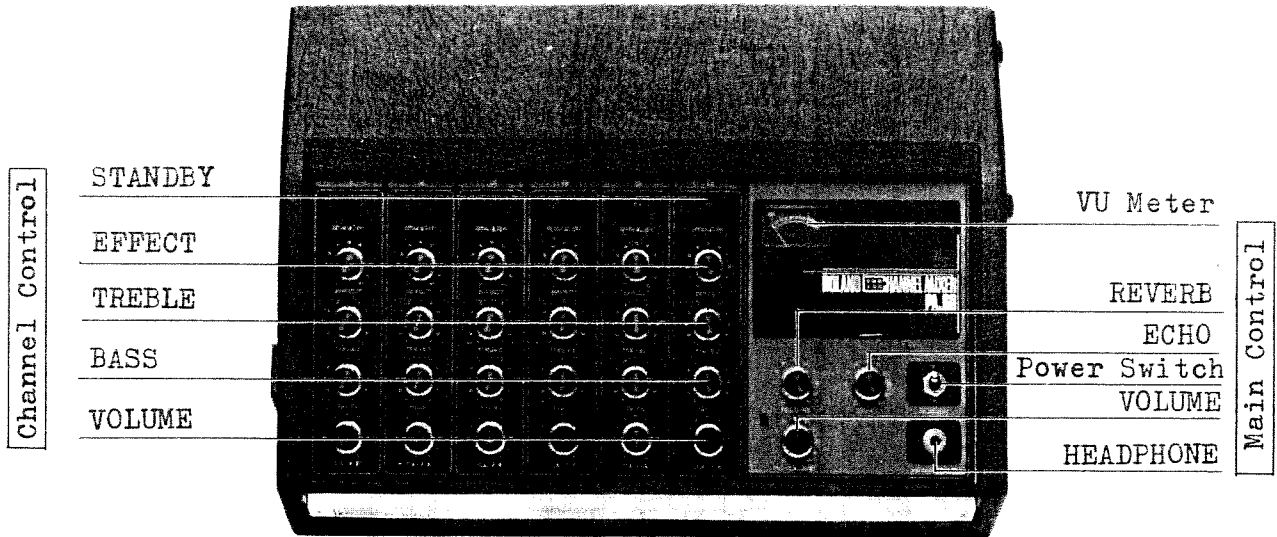
### ADJUSTMENT

1. When the power switch is set to ON, the VU meter lamp lights.
2. Set the main volume to 5-grade position.
3. Set the stand-by switch to ON on the same channel as the jack connected with microphone, then, the channel is operative.
4. Set the volume on each channel to appropriate position. In case many mics are used, adjust the total volume by the main volume, after adjusting volume of each channel.
5. Set the Treble and Bass knobs to appropriate tone.
6. If noise and power supply hum generate, change-over the power switch position up or down to choose better one.
7. It is designed to be no-deviation maximum output(60W R.M.S. - 12 ohm load) when the pointer in the VU meter is in the 0 position. If the pointer deflects to plus (red zone), lower the volume of each channel or main volume.
8. Set the reverb volume to 5-grade position and turn the effect volume of each channel clockwise to deepen the reverberation effect. Adjust the total reverberation effect with the reverb volume.
9. Set the echo volume to 5-grade position and turn the effect volume of each channel clockwise, then echo effect can be obtained.
10. Use the AC OUTLET for the echo chamber, tape recorder, etc. Its electricity can be used upto 300W. Note that this socket is operative even when the power switch on the front panel is Off.

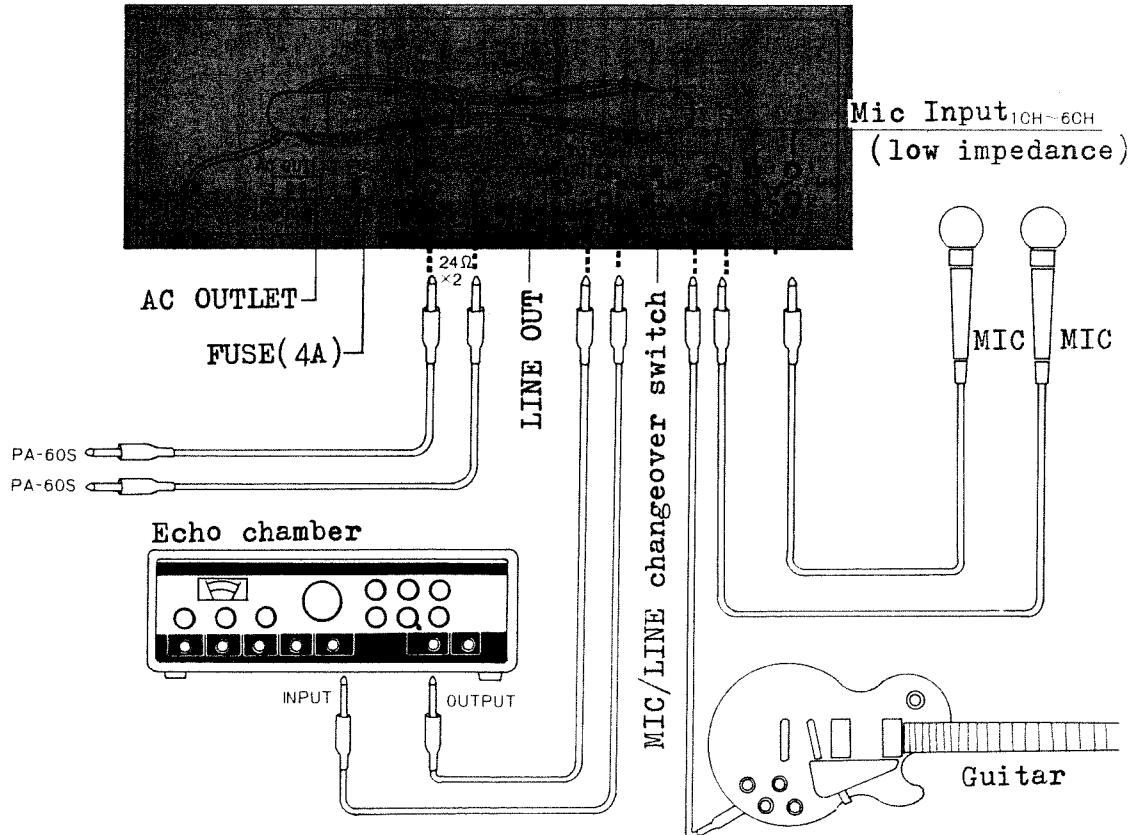
### CAUTION

Set the amp volume to Off when connecting/disconnecting the power plug, microphone and echo chamber plugs, otherwise, speaker may be damaged.

# PA-60 PANEL DISTRIBUTION

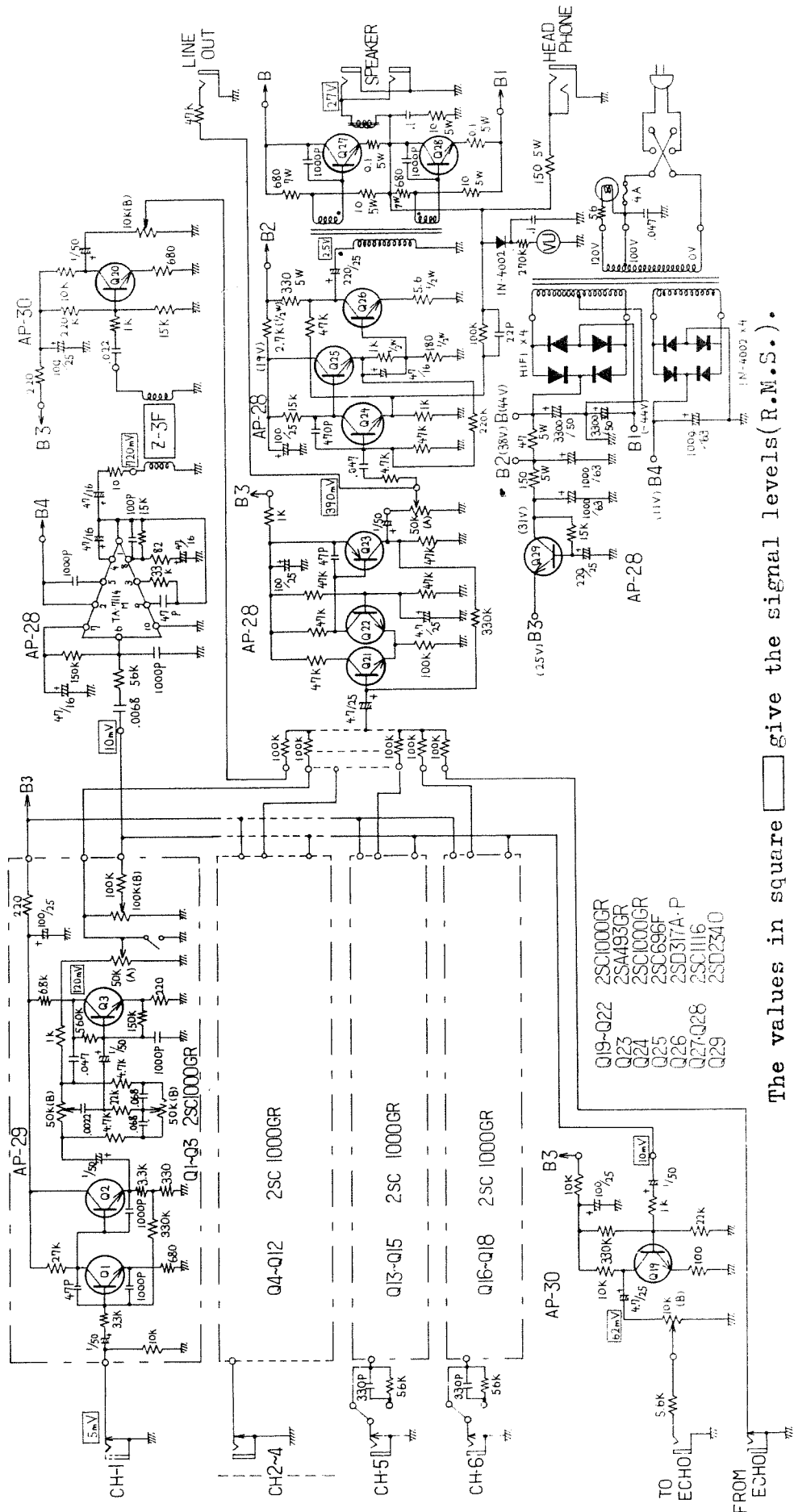


\* Connection of Mic, Guitar and Echo Chamber.



\* 5CH and 6CH are used for Guitar or Mic by using changeover switch(LINE/NIC).

**PA-60 GENERAL SCHEMATIC DIAGRAM**



- Q19-Q22 2SC1000GR
- Q23 2SA493GR
- Q24 2SC1000GR
- Q25 2SC696F
- Q26 2SD317A-P
- Q27-Q28 2SC1116
- Q29 2SD234D

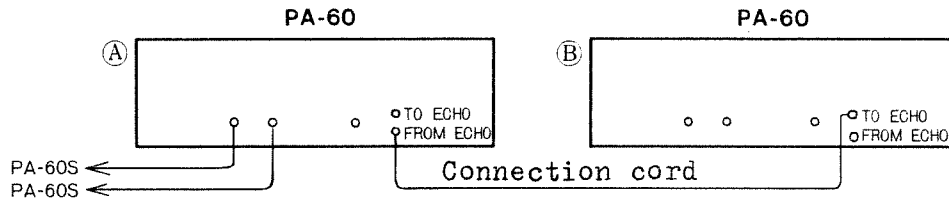
The values in square   give the signal levels(R.M.S.).

These circuits are subject to change without notice.

Be sure to use a stereo type headphone for the PA-60. When using a monaural one, be sure not to insert the plug fully into the jack, as the plug may stop when inserted about 2/3 into the jack, use it at this position.

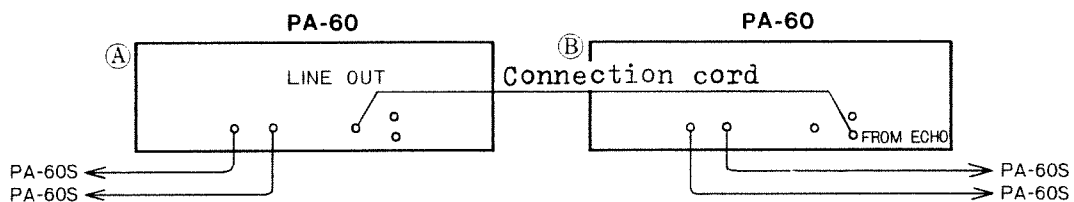
### PA-60 APPLICATION

\* Combination of 2 sets for 12 channel use



Each volume of 12 channel can be adjusted by the volume knob, however, the effect and echo of the set (B) should be adjusted to maximum and the main volume to minimum. The balance between the sets (A) and (B) can be adjusted by the echo of the set(B), and the total volume of (A) and (B) can be adjusted by the main volume of the(A). (In this case, the echo chamber cannot be used. Reverb cannot be obtained on any channel for set(B).)

\* Use of second set as a slave amp

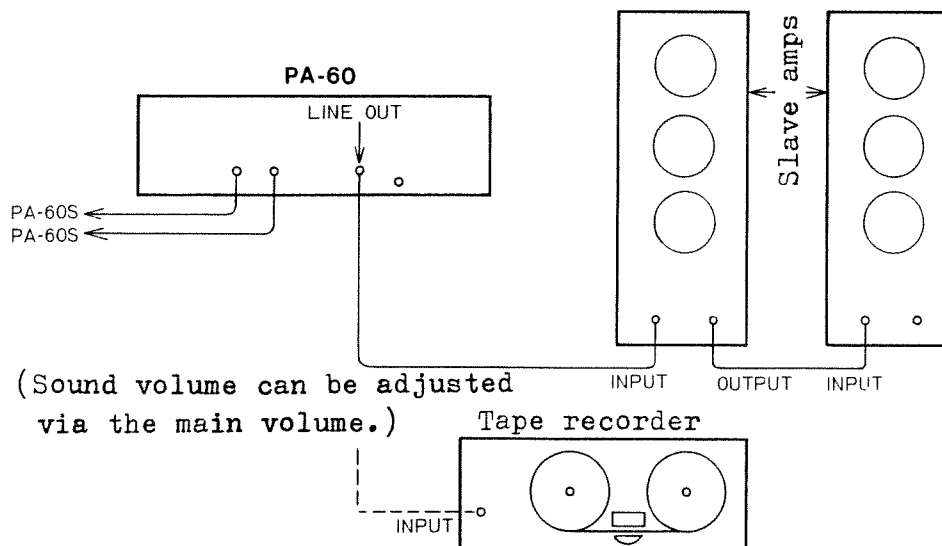


(In this case, suitably adjust the main volume controls of both sets.)

$$\text{Output} = 60\text{W} + 60\text{W} = 120\text{W (R.M.S.)}$$

Connect microphone and other instruments to the set(A). They can be connected to the set(B), however, their signals cannot be emitted from the set(A).

\* How to augment power by connecting slave amps



(Sound volume can be adjusted via the main volume.)

\* When recording, connect to the LINE OUT jack.

SPECIFICATIONS

Inputs (6-Channel system)	Mic Channel(low impedance).....	6
Channel Control	Volume.....	6
	Effect.....	6
	Bass.....	6
	Treble.....	6
	Standby.....	6
Main Control	Main Volume.....	1
	Echo Volume.....	1
	Reverb Volume.....	1
	Power Switch.....	1
Output Jacks	Speakers(24Ω x 2 : parallel).....	2
	Headphone.....	1
	Line out.....	1
R.M.S.	60 W (12Ω load)	
Peak Power	120W (12Ω load)	
Others	AC Outlet.....	1
	Jacks for Echo Chamber.....	2
	VU meter.....	1
	MIC/LINE Changeover Switch.....	1
Semiconductors	Transistors.....	29
	Diodes.....	9
	I.C.....	1
AC Voltage	100V, 117V, 220V, 250V, 50/60Hz	
Power Consumption	200 VA	
Speaker Systems	PA-60S(20cmSP x 3 : impedance 24Ω : Input 40W R.M.S.) x 2	
Dimensions	PA-60 : 451(W) x 300(D) x 149/84(H)mm	
	PA-60S : 300(W) x 200(D) x 810(H)mm	
Weight	PA-60 : 10 Kgs	
	PA-60S : 15 Kgs x 2	
Accessory	Cover.....	1

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 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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