

Randall

RPA 602, RPA 802, RPA 1202 PA System Owner's Manual



INTRODUCTION

The Randall RPA 602, RPA 802, and the RPA 1202 are dual powered P.A. Systems. The six, eight, and twelve channel models are identical except for size and number of channels.

These new P.A. systems include practically every feature found on systems costing a great deal more plus each unit contains two separate power amplifiers each rated at 120 watts RMS. A truly stereo system. The enclosed specification sheet shows the many features of these versatile units.

The mechanical construction of these P.A.s is extremely rugged and both front and back panels are made of heavy gauge aluminum. Each individual channel and all master and monitor sections are on separate printed circuit boards. These are all interconnected by a daisy chain and plug assembly and any individual board can be removed and replaced or repaired in a matter of a few minutes should this ever become necessary. All components are selected to give long life and satisfactory service.

Incidentally, these units are extremely quiet with

the noise level being on the order -90 db. Frequency response is essentially flat from 20 to 20KHz when by passing the low frequency filter. High input signal level without front end overloading is a feature that solves many set up problems. A stereo headphone jack is provided which provides stereo output monitoring plus it may be switched to monitor either power amplifier separately.

Other features not usually found on systems in this price category are — three effects loops — two, ten LED lights bar graphs plus two seven band equalizers as well as three E.Q. Controls for each channel. These new systems are extremely versatile and highly portable. They carry the Randall guarantee of long trouble free service and dependability.

Sizes

RPA 602	12 $\frac{1}{4}$ H x 10D x 19 $\frac{1}{2}$ W
RPA 802	12 $\frac{1}{4}$ H x 10D x 22 $\frac{1}{2}$ W
RPA 1202	12 $\frac{1}{4}$ H x 10D x 28 $\frac{1}{2}$ W

SOME NOTES ON MIXING

Establishing a quality mix . . .

A quality audio mix is an artful balance of an infinite number of variables. Careful control of all of the gain and equalization stages can create a pleasing, high quality audio mix, whereas, a slight imbalance can be irritating and frustrating to the entire audience.

The following notes will help you to understand the trade-offs that occur in controlling an audio mix.

Equalizers and Tone Controls: The most important point to keep in mind when using the tone controls and EQ controls is that they should be used to adjust the *relative* mix of Lows, Mids and Highs. This can be illustrated by the fact that if more Highs are needed, you can turn up the Highs. Often, though, it is best to turn down the Lows and Mids *then* raise the Gain. In gen-

eral, cut and boost-type EQ controls used in most mixers will produce a better sound when used near their center position.

Sometimes a certain channel's EQ controls end up with Lows, Mids and Highs all boosted say, + 3 dB. A better quality signal would be produced by setting the EQ controls at 0 dB, then raising the channel Gain by 3 dB.

To further illustrate this, let's assume that a good sound was achieved by setting Lows at + 12 dB, Mids at + 9 dB and Highs at + 6 dB. A better setting would be Lows + 3 dB, Mids 0 dB and Highs - 3 dB. (Note that in both cases, there is a 3 dB difference between Lows, Mids and Highs.) When the EQ settings are balanced around the 0 dB center, the phase response is smoother and the Gain stages more predictable.

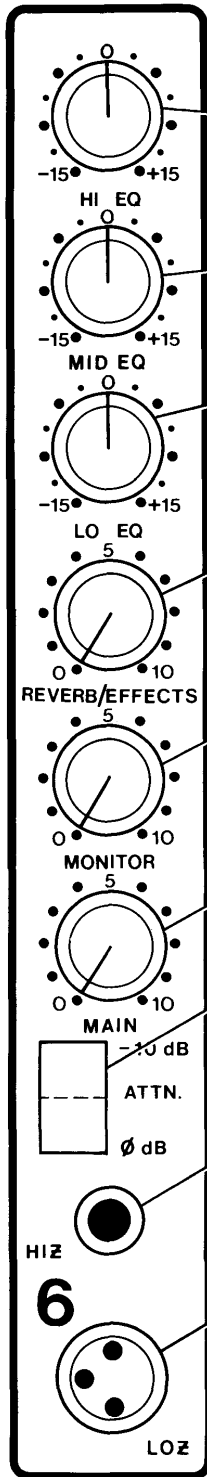
Stereo Reverb Effect

A Stereo Reverb Effect is built into the RPA 602, RPA 802, and RPA 1202. It is best heard when using head phones. The set up is as follows, Channel: EQ where desired*, Monitor. Send equal to Main Send, Reverb/Effects @ 4 typ. Master Section: Main Gain and Monitor Gain equal @ 3 typ. Main Reverb and Monitor Gains equal @ 3 typ. "Amp A" switch on Main "Amp B" switch on Monitor. Main EQ and Monitor EQ equal. Head phone switch on "A & B Stereo."

Listen for a very spacious stereo effect on all signals in channels with Reverb/Effects control up. This sound will be recorded when using external tape deck plugged right & Left into the "Tape Out" Jacks on the Main and Monitor.

*It will be desirable to "Jumper" the channels being used for this effect to post EQ. See Page 11.

CHANNEL CONTROL DESCRIPTIONS



HI EQ

The "HI EQ" control is a shelving type providing plus and minus 15 dB at 20KHZ

MID EQ

The "MID EQ" control is a peaking type providing plus and minus 15 dB at 1 KHZ

LO EQ

The "LO EQ" control is a shelving type providing plus and minus 15 dB at 30 HZ

REVERB/EFFECTS

The "Reverb/Effects" control provides the amount of channel signal fed to the built in reverb and "EFFECTS SEND" jack. The effects send jack is located under the reverb footswitch jack.

MONITOR

The "MONITOR CONTROL" sets the level to the "MONITOR" section. See next page. The monitor control is factory "JUMPED" pre EQ. The jumper can be placed post EQ (after EQ) see page 11.

MAIN

The "MAIN CONTROL" sets the level to the "MAIN" section. See next page. The main control is post EQ.

ATTN

The "ATTN" switch is provided for input attenuation (0 dB to -10 dB). This switch in the -10dB position will let the channel accept higher than normal input signals without distortion.

HI Z

The "HI Z" input (1/4" phone Jack) is provided for hi impedance microphones or line level inputs. The Hi Z input and the "LO Z" XLR connector (below) can be used simultaneously for greater flexibility.

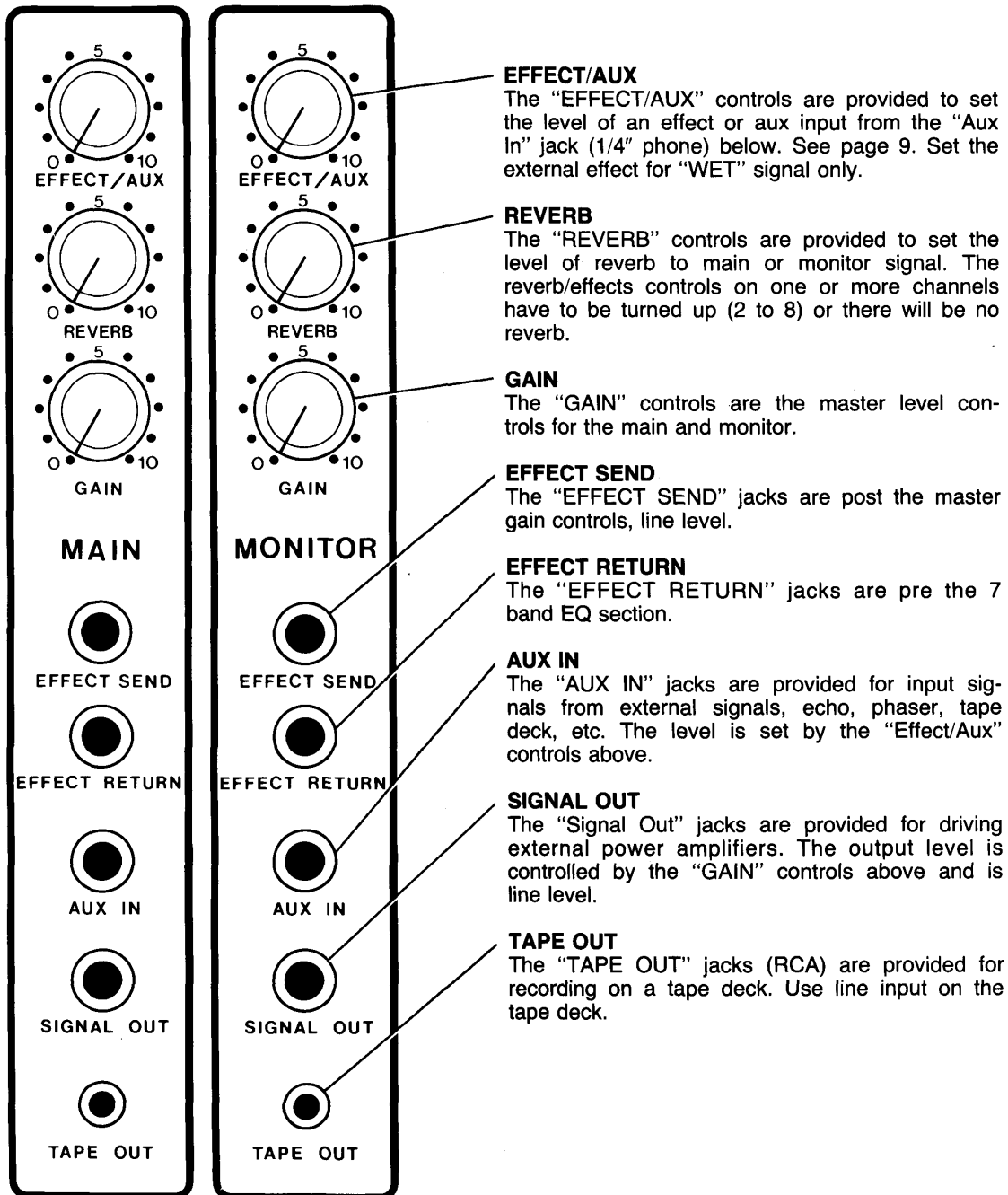
LO Z

The "LO Z" input (XLR connector) is provided for low impedance microphones either balanced or unbalanced.

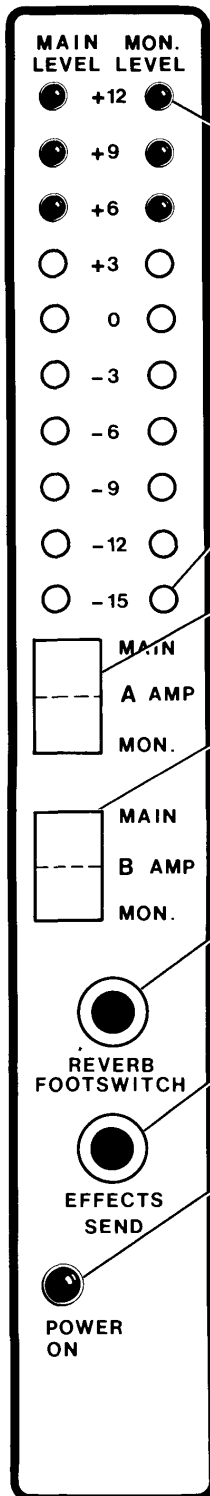
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MAIN AND MONITOR CONTROL DESCRIPTION



LED LEVEL AND AMPLIFIER SWITCHING



MAIN LEVEL — MON. LEVEL

The "MAIN LEVEL" and the "MON. LEVEL" LED's (10) show the level of signal driving the power amplifiers (A and B). A +3 level will drive the internal power amplifiers to full output. This level (+3) will drive most external power amplifiers to full output. The LED bar graphs have a 30 dB range.

A AMP

The "A AMP" switch switches the input of the built in "AMP" from main or monitor. Speaker outputs are located on the rear panel.

B AMP

The "B AMP" switch switches the input of the built in "B AMP" from main or monitor. Speaker outputs are located on the rear panel. Both amplifiers "A" and "B" can be used on the main or the monitor.

REVERB FOOTSWITCH

The "REVERB FOOTSWITCH" jack is provided for on/off control of the reverb. Use a Randall Model FS-1 Footswitch.

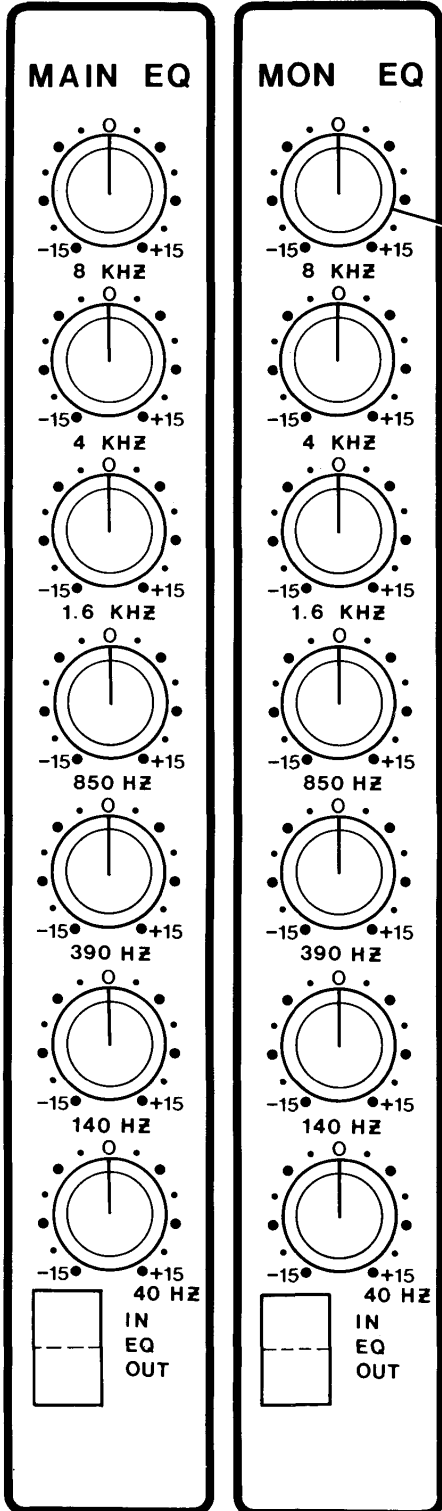
EFFECTS SEND

The "EFFECTS SEND" jack is used to drive an external effect, echo, phase, etc. The signal at this jack is sent from the "Reverb/Effects" control on each channel.

POWER ON

The "POWER ON" LED is activated when the amplifier is turned on from the on/off switch on rear panel.

MAIN EQ MON. EQ DESCRIPTIONS



MAIN EQ MON. EQ

These equalizers are peaking type with the frequency listed below each knob. Be careful when using these, or any, equalizers. Extreme boost or cut can alter the tone very drastically. The "EQ in/out" switch at the bottom is provided to take the EQ out of the system without having to turn all the controls to 0. Each control is capable of boosting or cutting the frequency in its range by up to 15 dB. The frequency range of these equalizers is from 40 HZ to 8 KHZ.

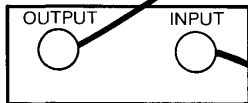
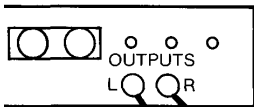
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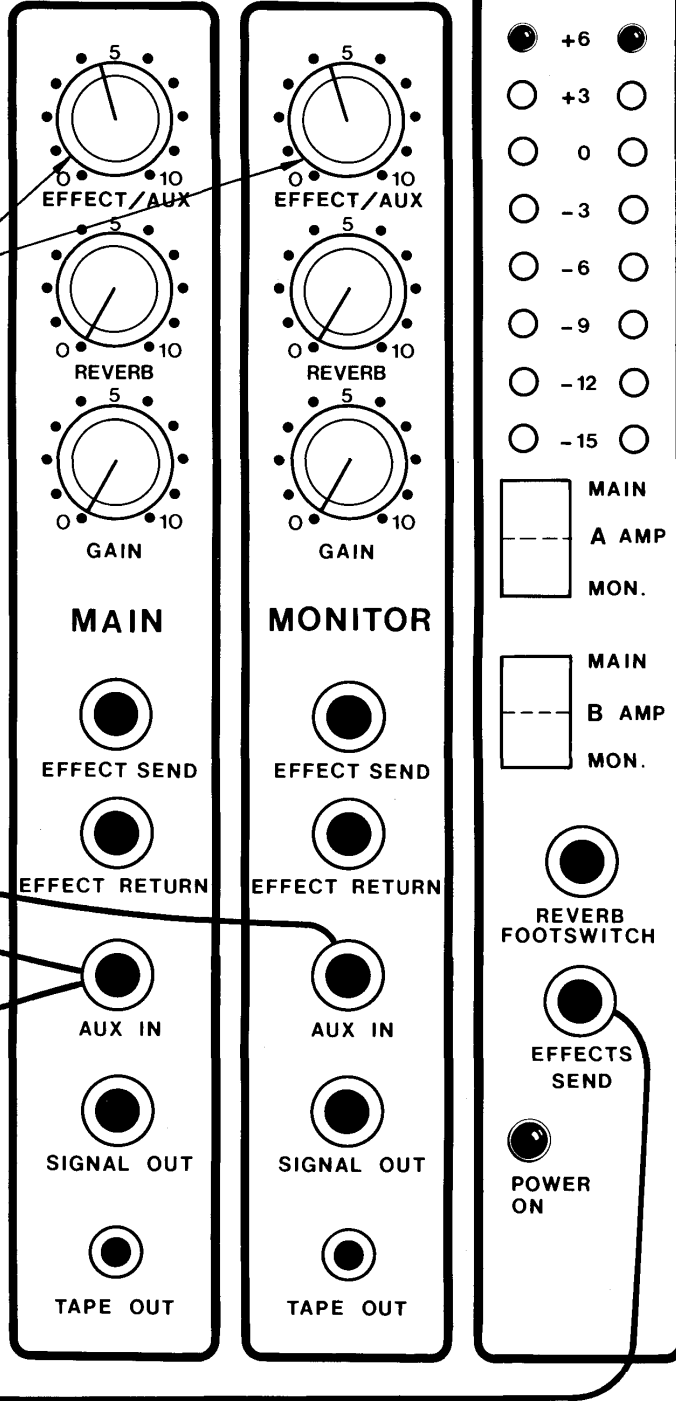
FOR EFFECTS AND
AUX INPUT PATCHING
USE SHIELDED CABLES

SET LEVEL TO
MAIN AND MONITOR

TAPE DECK
PLAY BACK OR
OTHER MIXER



EXTERNAL EFFECT
ECHO PHASER ETC.



MAIN MON.
LEVEL LEVEL

+12

+9

+6

+3

0

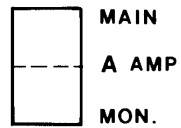
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-6

-9

-12

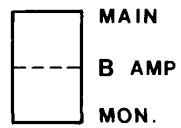
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MAIN

A AMP

MON.



MAIN

B AMP

MON.



REVERB
FOOTSWITCH



EFFECTS
SEND

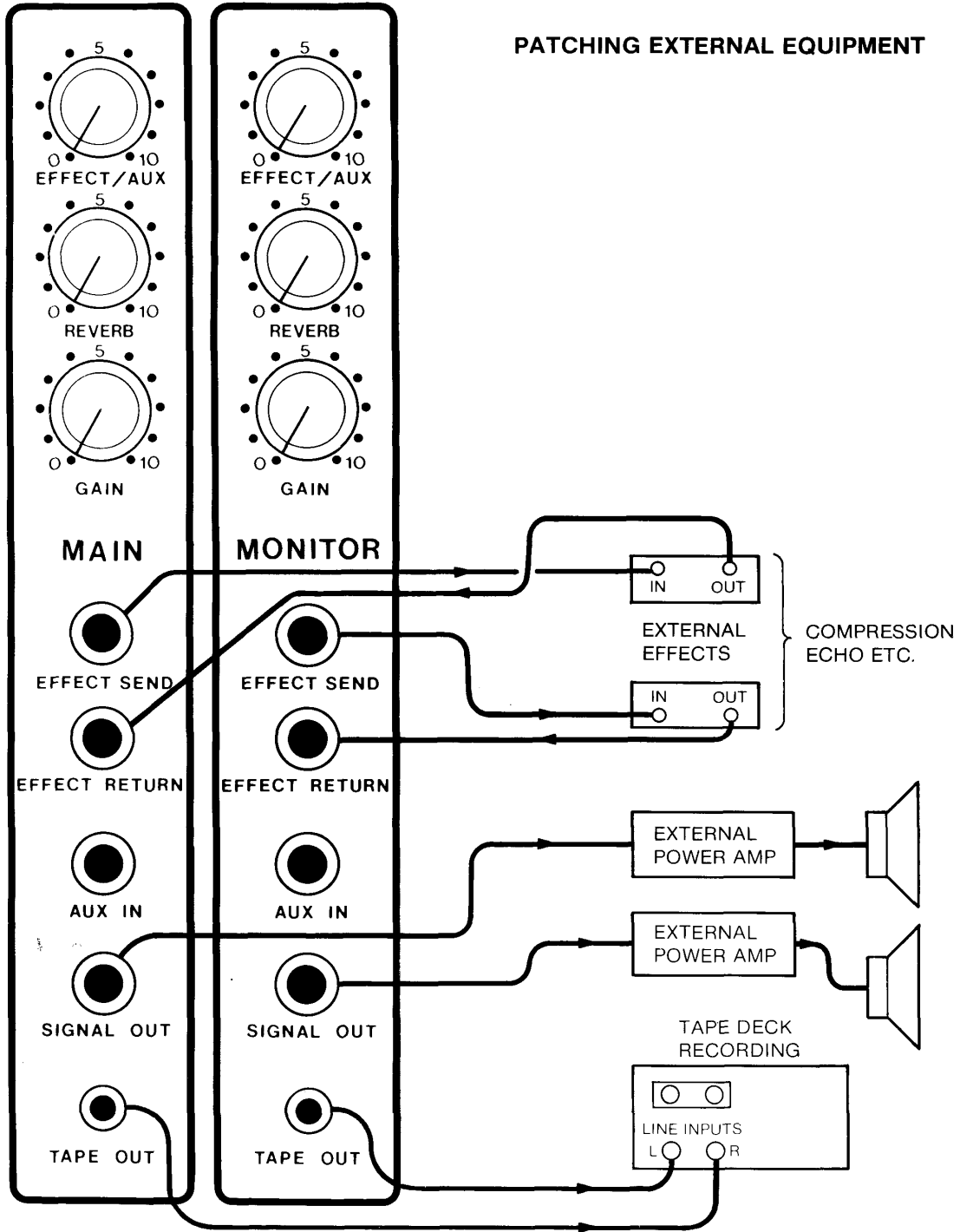


POWER
ON

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PATCHING EXTERNAL EQUIPMENT



PRE AMP CHANNEL BOARD

**MONITOR CONTROL — PRE AND POST
EQ JUMPER CHANGE**

