

**EV TAPCO**

**6000 R**  
**MIXER/REVERB**

# **OWNER'S MANUAL**

a **gulton** company



Figure 1. The TAPCO 6000R Mixer with AutoPad<sup>®</sup>.

The TAPCO 6000R 6-Channel Mixer with reverb features AutoPad<sup>®</sup>, the unique input circuitry that delivers high performance under the most demanding conditions. In fact, when properly used, you do not have to worry about preamp distortion at all. It just doesn't happen.

The reverb tank drive system utilizes a Constant Current Bridging amplifier for the best reverb sound available. The high level line driver amplifier built into your 6000R will provide more than five times the necessary voltage to drive any power amp to its full rated output. In a way, this is extreme headroom, but it just about guarantees clean performance, and it gives you the capability to easily drive any amplifier.

Please read the following instructions carefully. To get the best sound under all conditions, it is important that you fully understand the functions of all controls and connections on your TAPCO mixer.

**WARNING:**

To prevent electrical shock, do not disassemble. No user-serviceable parts inside; refer servicing to qualified service personnel. Serviceman must disconnect line cord before disassembling.

## SETTING UP YOUR MIXER FOR THE FIRST TIME

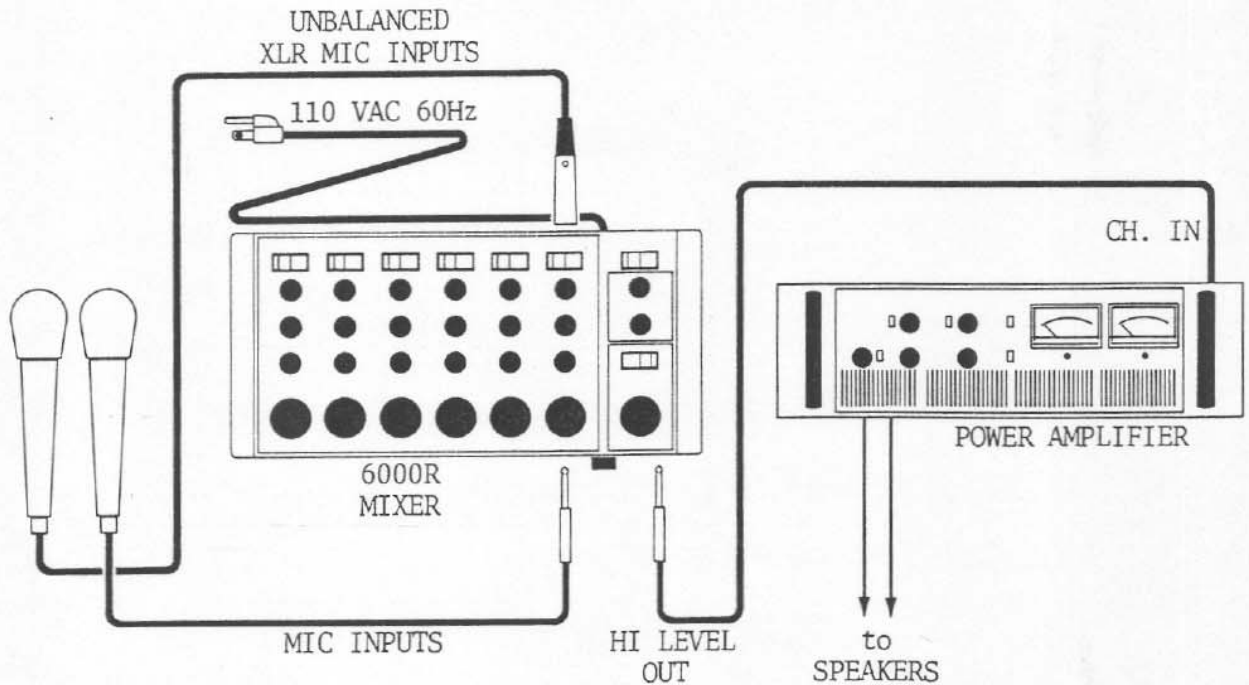


Figure 2. First Time Set-Up.

With the power switch "OFF", plug in the mixer's power cord and make your input and output connections as follows:

1. Connect a microphone, any impedance, to one of the mic inputs. Set the volume control to three, the bass and treble controls to zero, the effects control to zero, the channel in/out switch to "in". In the output section, set the master effects to zero, reverb contour to three, and the mic e.q. flat.
2. Connect the "Hi Level" output to any power amp input. If the mixer is to be operated into a guitar amp, use the "Lo Level" output.

Now turn on the mixer and slowly advance the master volume control until you can hear yourself talking through the microphone. (Assuming, of course, that the power amp is connected to speakers.) Advance the master control slowly, beware of feedback.

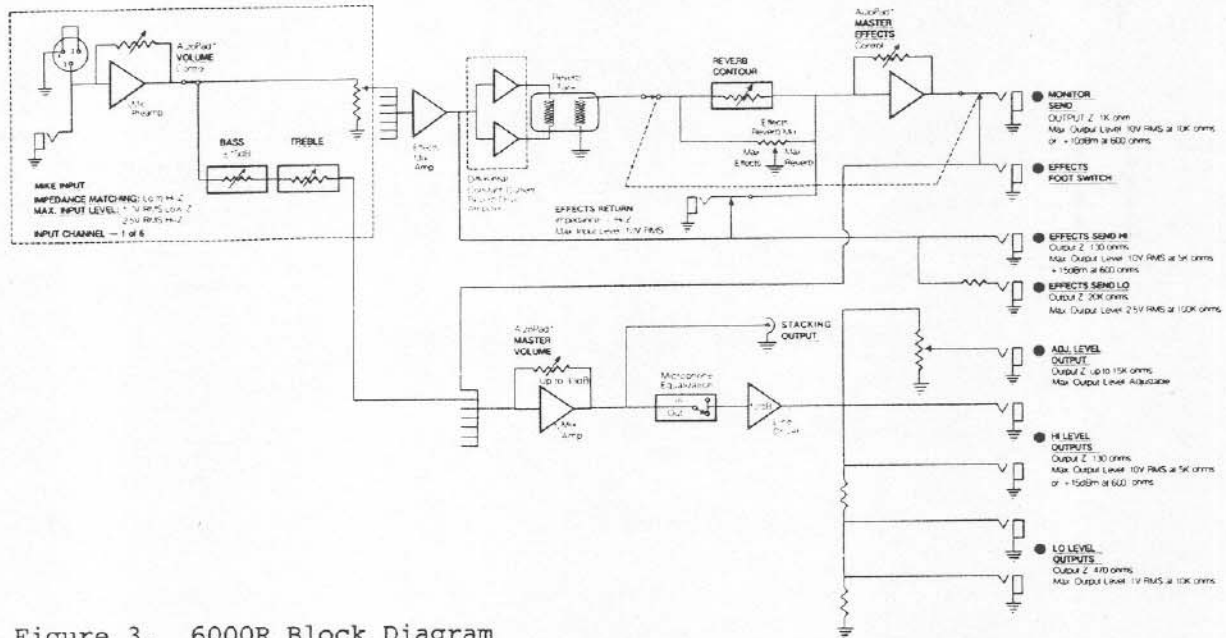


Figure 3. 6000R Block Diagram

## CONTROL FUNCTIONS

**CHANNEL VOLUME:** Each of the controls marked VOLUME varies the actual gain of the channel's input preamp. All TAPCO input preamps incorporate AutoPad®, which means they are self padding. The control governs the complete preamp circuit, acting as a shield against overload. If you hear distortion when miking loud vocals or drums, for instance, turn the preamp volume down until the distortion goes away. If necessary, increase the master volume a little to compensate for the lower input level. With the amount of headroom you have available, you should have absolutely no problem.

**BASS:** This control provides individual low-end equalization to each input channel. The bass boost point has been carefully selected for use in sound-reinforcement systems.

**TREBLE:** The high-end response of each channel is tailored by this control. Proper high-end equalization puts that clean, definite edge in your sound.

**EFFECTS:** The effects output is taken from each preamp ahead of the bass and treble controls. This provides an entirely separate, unaltered send buss from each input. The built-in reverb system receives it's signal from this buss. This control also determines how much of the signal from the channel will appear at the EFFECTS SEND and MONITOR outputs on the rear panel.

**CHANNEL IN/OUT SWITCH:** This Switch must be "in" to connect the channel to the rest of the system. This allows instant connect/disconnect capability for each channel, an important feature for broadcast use.

**MASTER VOLUME:** This control governs the overall output level of the mixer. The MASTER VOLUME has no control over the EFFECTS and MONITOR outputs on the rear panel. However, it does govern all front panel outputs, and the level at the stacking connector.

**MASTER EFFECTS:** All functions of the reverb and effects buss that appear in the front panel output, as well as the monitor output on the rear panel, are governed by this knob. (See "Connections" section for more information on this circuit.)

**REVERB CONTOUR:** This function allows tailoring of the tonal qualities of the reverb signal. Its "normal" setting is around three. However, its wide ranging variation provides for complete shading of the reverb sound.

**MICROPHONE EQUALIZATION:** Most microphones and speakers used for P.A. are designed more for ruggedness than superior sound quality. The mic e.q. switch will overcome these deficiencies by providing 9dB more output level in the extreme high end of the audio spectrum, 20k Hz. This special e.q. can help get you that clean, crisp high frequency response.

**EFFECTS/REVERB MIX:** This quiet, unassuming little knob on the rear panel greatly expands the capabilities of the effects buss. It lets you use any signal processing system (phase shifters, tape echo, etc.) along with the internal reverb system. As an example, say you want to use a tape echo on your vocals. The effects out (Hi or Lo) would feed the echo machine, the echo machine output would be connected to the mixer through the **EFFECTS RETURN** connector. The balance between reverb and tape echo would be controlled by the **EFFECTS/REVERB MIX** knob. For echo only, the control would be in the "Max Effects" position. For reverb only, the control would be in the "Max Reverb" position.

When using the effects system for monitoring, this control must be set all the way to "Max Effects".

When using the effects system for reverb only, this control must be set all the way to "Max Reverb".

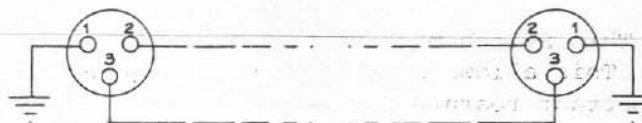
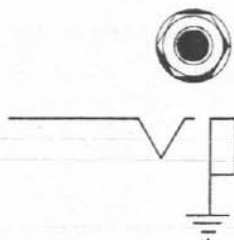


Figure 4. Input Jack Connections and Equivalent Schematics.

## CONNECTIONS

INPUTS: Connectors are located on both the front and rear panels of the 6000R. The exclusive TAPCO preamp design allows the input characteristics to be changed by the microphone used. This means that any impedance microphone that is properly wired may be plugged into the 6000R. With three-pin XLR connector jacks on the rear panel, your mixer will accept any properly wired high or low impedance microphone.

HI OUT: The signal that appears at this connector will drive any power amplifier to its full rated output. As shown in the block diagram, the signal comes straight from the line driver and should be connected directly to the input of the power amp or whatever device follows the mixer in your system. This is a Lo-Z output, so it will drive long lengths of shielded cable without high-frequency loss. It will also match the input impedance of any power amp.

LO OUT: This output is a mic level duplicate of the Hi Out. It is especially useful if you are feeding a guitar amplifier or the mic input of another mixer. Output impedance is approximately 5k Ohms.

ADJ. LEVEL OUTPUT: The signal level at this output is continuously adjustable from zero to full output.

EFFECTS SEND: These outputs, both hi and low level, are derived from the effects buss mixing amplifier. They are designed to drive signal processors, external monitoring systems, or any other system requiring a separately mixed signal. For guitar type effects, use the lo output, and for line level effects use the hi output. This buss can also be used to derive a separate mix.

EFFECTS RETURN: This connector provides a return signal path for the effects device outputs. As an example, if you use the EFFECTS SEND output to drive a tape echo machine, you would feed the output of the tape echo machine back into the mixer through the effects return connector. If you are also using the internal reverb system, the ratio of tape echo to reverb would be determined by the EFFECTS/REVERB MIX control on the rear panel. The overall level of the effects signals fed to the main output is determined by the master effects control on the front panel. The effects return connector can also be used as an auxiliary input if necessary.

EFFECTS FOOT SWITCH: Connect any standard, (i.e. non-powered) on/off foot switch to this connector for remote control of the effects buss. This will enable you to turn the reverb and/or effects on or off while performing.

MONITOR SEND: Inserting a phone plug into this jack interrupts the effects return circuit. The signal from the effects buss is now fed only to the monitor send connector, and is not connected to the main mix buss. The level of the signal appearing at this connector is determined by the MASTER EFFECTS control.

STACKING OUTPUT: The phono jack on the rear panel provides for interconnection between two or more TAPCO mixers. Combining two mixers with this connector provides twelve inputs with absolutely no loss of quality. The master volume control for each mixer remains the master control for that mixer only. This is an important advantage when you are submixing, like using one mixer for instruments and the other for vocals.

## CARE AND MAINTENANCE

TAPCO mixers are essentially maintenance free. When it gets dirty, just wash it with a clean cloth dampened with sudsy ammonia and water.

## WHAT TO WATCH OUT FOR

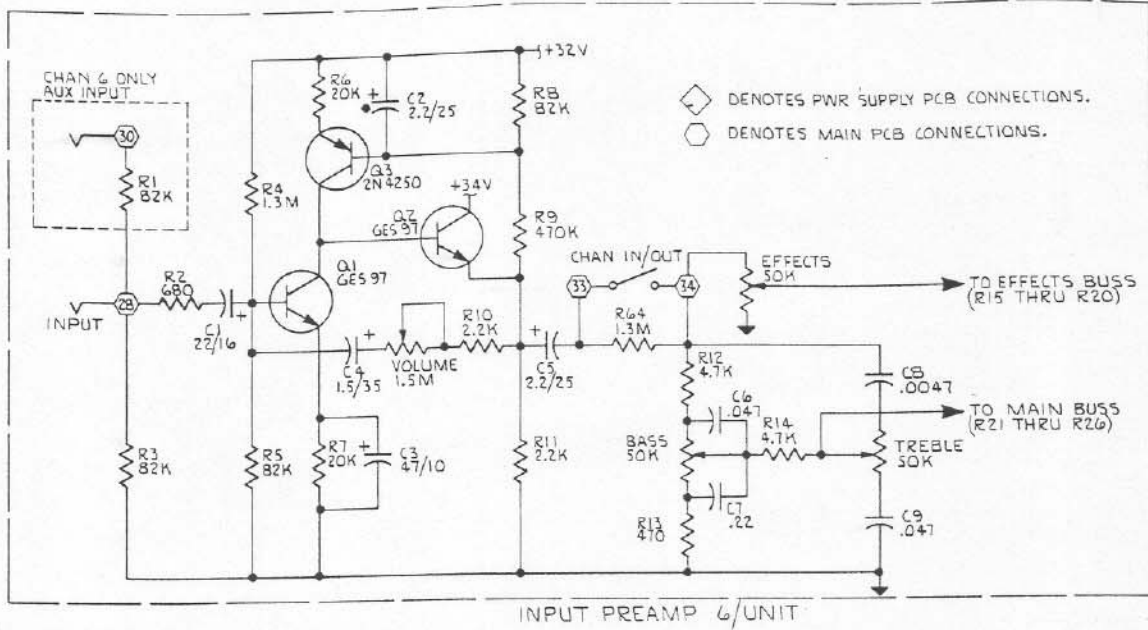
Don't put the mixer on top of a power amp. Unless you like sixty cycle hum, that is. The large power transformers found in high powered amplifiers can induce a great deal of hum in the sensitive high-gain input circuitry.

## FOR ASSISTANCE

We want you to enjoy your mixer. We know that it can do the job for you. So if you have questions or want additional information, please do not hesitate to call or write to us. We'll do whatever we can to help you.

## 6000R SPECIFICATIONS

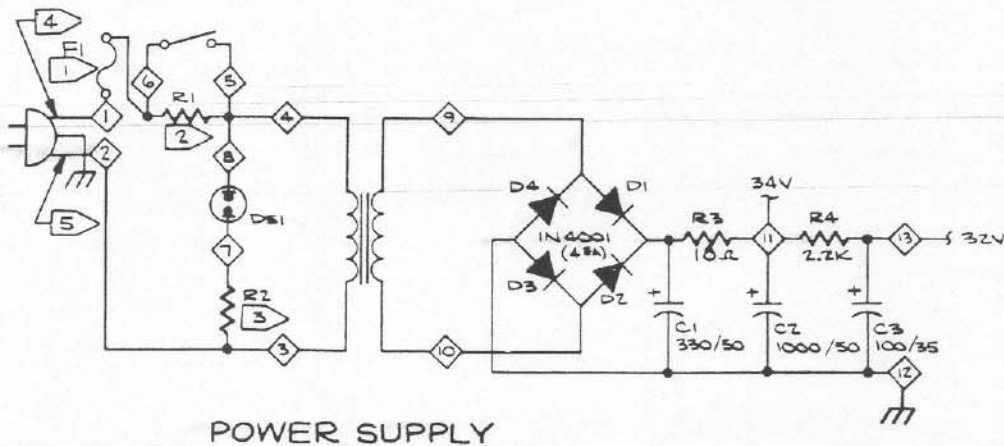
Frequency response	10Hz to 40 KHz $\pm$ 1dB
Distortion	Below .3%, typically .08%
Overall gain	Over 120dB
Bass & Treble	$\pm$ 15 dB
Mic. EQ	+ 9dB at 20KHz
Input impedance match	150 ohms or 50K ohms or higher
Aux./Tape input	82K ohms
Maximum output level into 5K ohm load	9 volts RMS
Maximum output level into 600 ohm load	+ 17 dBm
Low level output	up to 1.5 volts RMS
Adjustable level output	0-9 volts RMS
Equivalent input noise	-122dBm at 150 ohms
Signal to noise ratio	at least 70dB at normal levels (20 Mv input)
Effects outputs	Monitor, up to 10 volts RMS; effects hi level, max. of 10 volts RMS; effects low level, max. of 1.5 volts RMS
Reverb tank	Modified accutronics type 4
Size Chassis	17" w 2.63" h 10.25" d; overall, 17" w 2.63" h 11.25" d
Power	117 volts AC 60Hz
Weight	11 lbs.



6000R INPUT SCHEMATIC

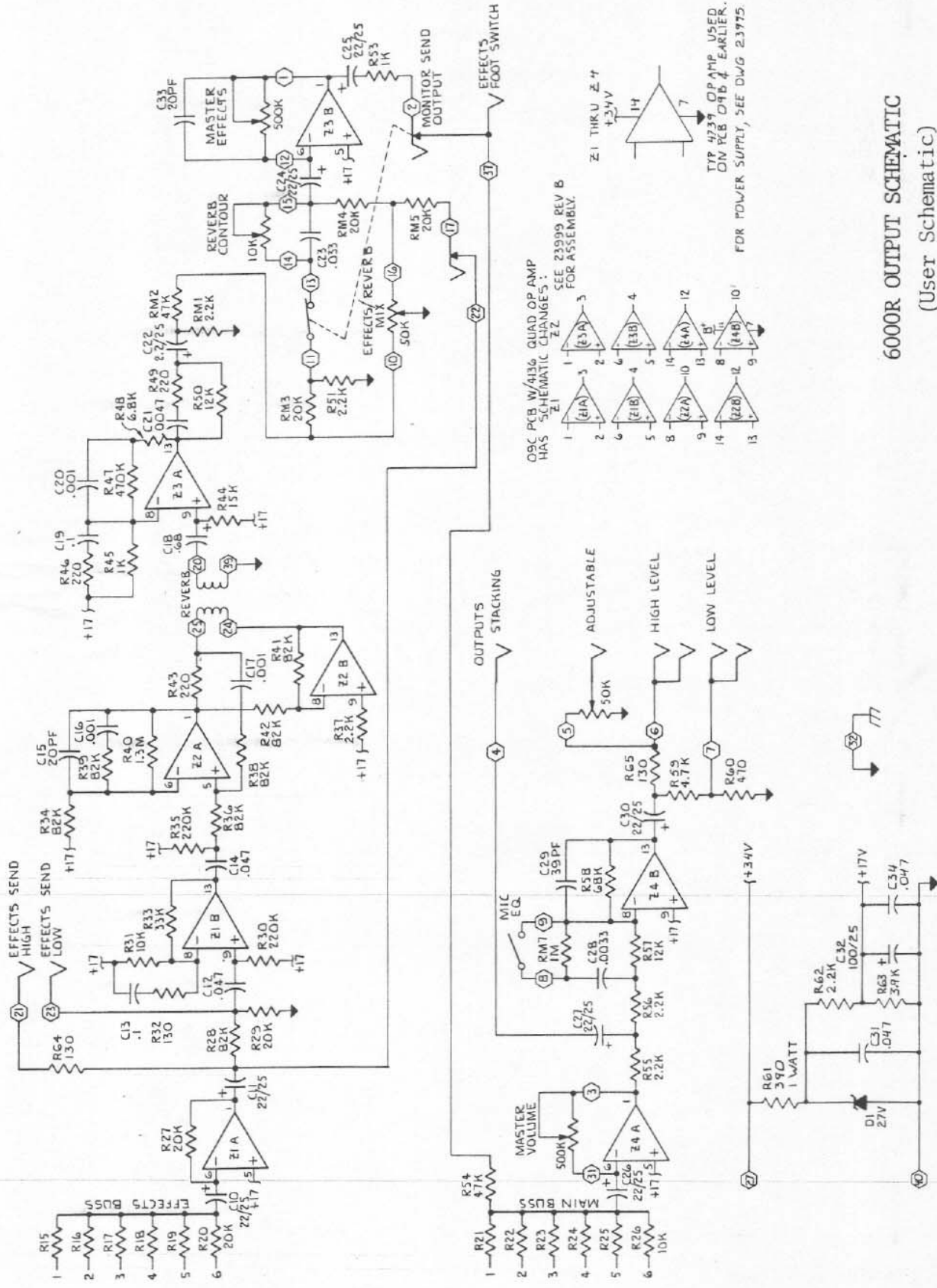
(User Schematic)

**WARNING:**  
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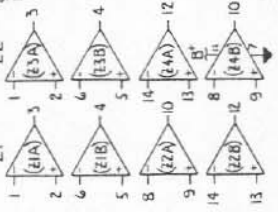


POWER SUPPLY DIAGRAM

(User Schematic)



OSC PCB W/4136 QUAD OP AMP HAS SCHEMATIC CHANGES: SEE 23999 REV B FOR ASSEMBLY.



Z1 THRU Z4  
+34V

TIP 4739 OP AMP USED ON PCB 046 & EARLIER. FOR POWER SUPPLY, SEE DWG 23975

6000R OUTPUT SCHEMATIC  
(User Schematic)