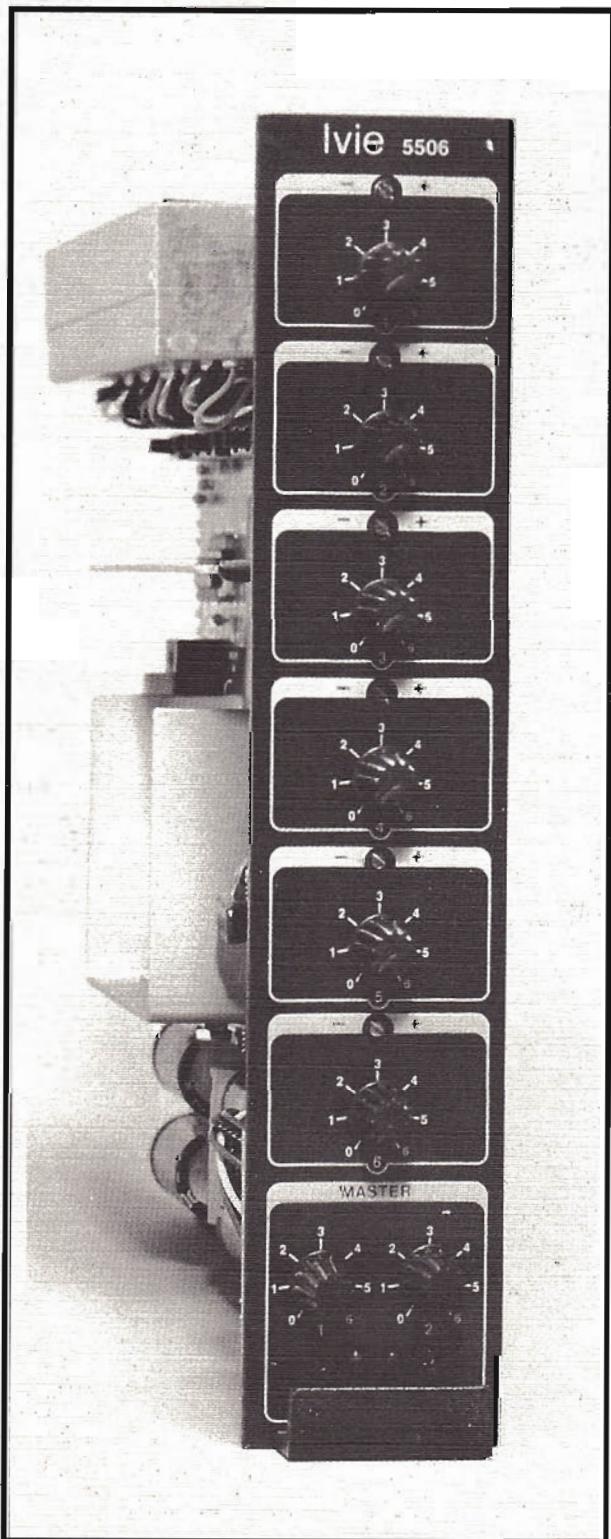




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# 5506 MANUAL



**Operation and  
Owners Manual  
for the  
5506 6X2 Mixer  
5000 Modular Sound System**

Printed in U.S.A.

# INTRODUCTION

The Model 5506 is a 6 input, 2 output microphone mixer designed for use with the Ivie 5000 Modular Sound System. The 5506 has full remote capability on all inputs and outputs. The input/output architecture and remote control features of the 5506 combine to make it one of the most flexible professional mixers available.

Each microphone input has three levels of remote control, a gain trim potentiometer, precedence control, switchable 20dB pad, phantom powering (defeatable), and a 5-pole, switchable high pass filter to reduce proximity effect and "P-popping." Each microphone input may be assigned to either, or both of the outputs, and two of the microphone inputs are switchable to accept line levels. A buffered tape recorder output is available from each of the two mix buses. Access to the mix buses is available for stacking additional mixers, and gain on all inputs and outputs can be remotely controlled. The 5506 controls are shown in Figures 1 and 2 below:

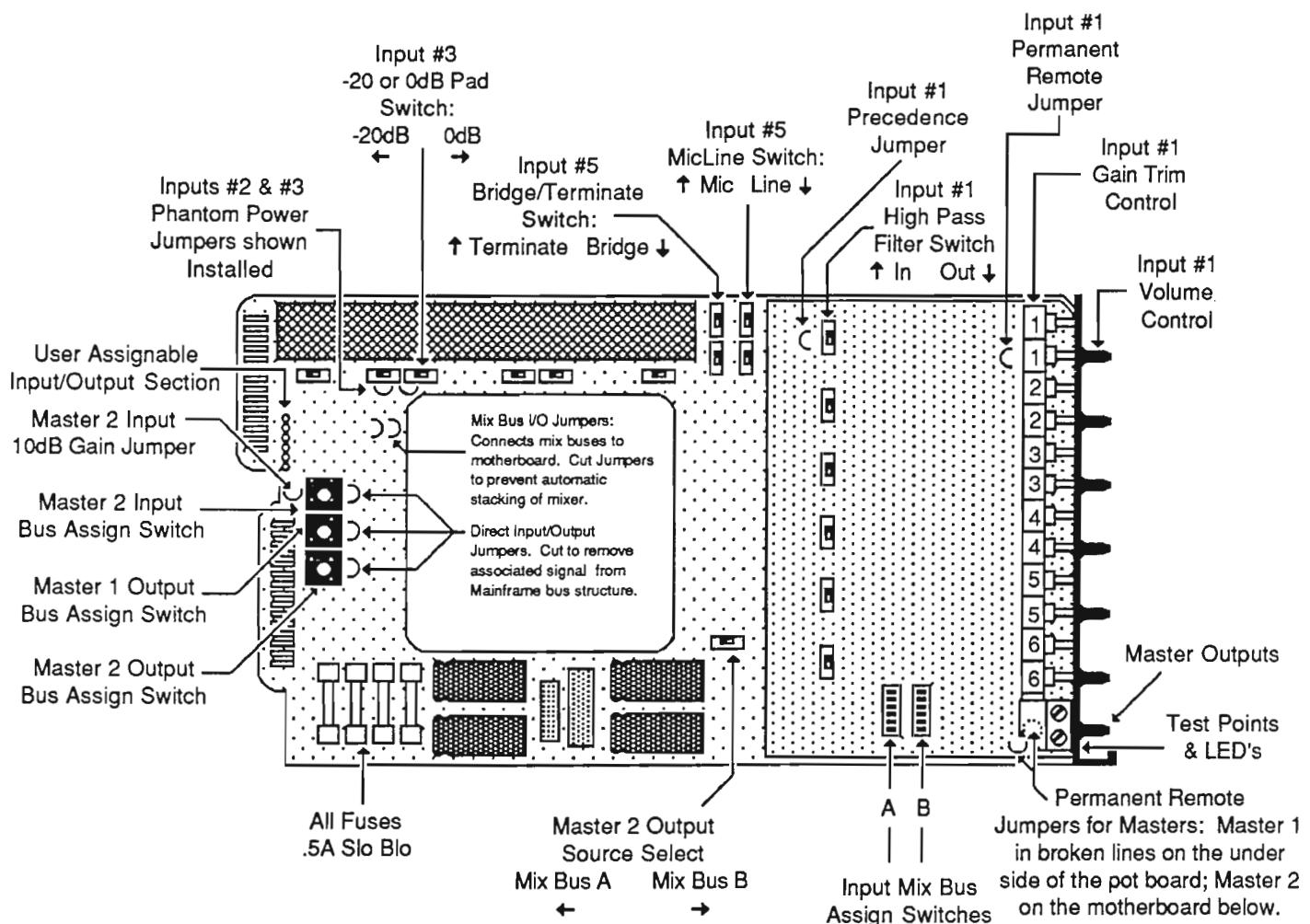
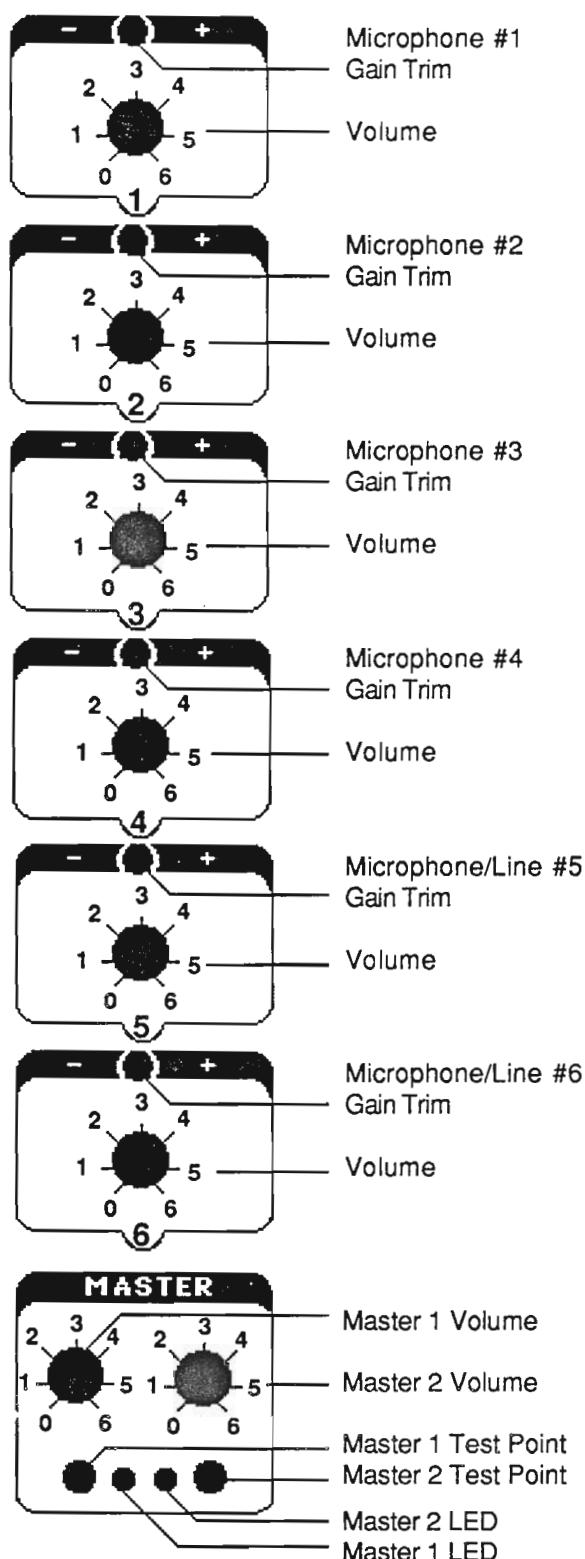


Figure 1

### 5506 Front Panel Controls



### Remote Control Resistance Versus Output Attenuation

Output Atten. in dB	Control Resistance
0dB	10k $\Omega$
-3dB	3.8k $\Omega$
-6dB	2.4k $\Omega$
-9dB	1.65k $\Omega$
-12dB	1.2k $\Omega$
-15dB	890 $\Omega$
-18dB	680 $\Omega$
-21dB	520 $\Omega$
-24dB	390 $\Omega$
-27dB	295 $\Omega$
-30dB	220 $\Omega$

Figure 2

## 5506 CONTROLS

All 5506 controls are shown in Figures 1 and 2 on the preceding pages. Throughout the rest of this manual, references will be made to these two figures.

### 20dB INPUT PAD

There is 20dB, switchable pad on each of the six mixer inputs. This "pad" is, in fact, a 20dB gain block that can be switched into and out of the circuit. This allows the sensitivity of each input to be changed by 20dB, thus allowing compensation between dynamic and condenser microphones. In the "0" dB position, the mic input has maximum sensitivity. In the -20dB position, the input sensitivity is reduced by 20dB. *This pad should be used only when the front panel gain trim control does not have sufficient range to provide enough attenuation.*

### MICROPHONE DIRECT OUTPUTS

All six inputs of the 5506 have a direct output. *These direct outputs are prefader, so volume controls on the 5506 will not affect the output level of the direct output.* The impedance of each direct output is  $600 \Omega$ . The direct output has nominal gain of 32dB when the pad switch is in the 0dB position. With the pad set for -20dB, the direct output nominal gain is 12dB. The direct output may be accessed via the TB-40.

The direct outputs provide access to the individual microphone channels for microphone splitting, or for input to multi-channel logging recorders and various other applications.

### PHANTOM POWER FOR MICROPHONES

Phantom power for condenser microphones is available on each input. The 5506 has an on-board power supply providing 50 VDC at 15 ma to each microphone input. In order to take advantage of the phantom power supply, a wire jumper must be installed at each microphone input where phantom power is needed. There are six locations for phantom jumpers (See Figure 1 on page 1). The jumpers should be permanently soldered to the 5506 printed circuit board at the time of installation. Any, or all microphone inputs may be phantom powered. *Jumpers should be installed only on those inputs which are to be used with condenser microphones. Jumpers should not be installed on inputs 5 and 6 when they are programmed to accept line inputs.*

## **GAIN TRIM CONTROL**

Each of the six inputs of the 5506 mixer has a Gain Trim Control. This control is located on the front panel, directly above each volume control (See Figure 2, page 2). The Gain Trim Control provides several important functions. When properly set, it optimizes the input signal to noise ratio and overload characteristics for the preamp.

The Gain Trim Control may be used to set the maximum gain through its associated channel. In this manner, it may be used to help prevent feedback caused by untrained personnel operating the mixer. It may also be used to normalize the levels of inputs fed from various sources. *The Gain Trim Control affects the gain through that channel for both the front panel and remote level controls.*

## **FRONT PANEL LED**

The 5506 mixer has two yellow LED's mounted on the front panel below the Master Volume Controls (See Figure 2, page 2). These LED's indicate the presence of an audio signal on the two master outputs. The intensity of the LED's varies according to the amplitude of the audio signal.

Every audio module in the 5000 system has signal presence LED's. They visually indicate the flow of the audio signal through the system which provides a valuable aid in system troubleshooting.

## **FRONT PANEL TEST POINT**

There are two audio test points on the front panel for the 5506. They are located below the two Master Output Levels Controls (See Figure 2, page 2). These test points are connected through a  $600 \Omega$  resistor to the Master 1 output and the Master 2 output.

The test points provide a convenient way to monitor the audio signals at the outputs of the mixer. Real-time analyzers, AC voltmeters, or oscilloscopes may be connected to these points in order to evaluate and document system performance.

The test points are designed to accept and retain the IE-30A or PC-40 Real Time Analyzer probe. The spring loaded hook tip of the probe should be unscrewed, exposing the probe tip. This tip will be retained by the test point when firmly inserted.

The ground clip lead of the probe should be clipped to the 5001 Mainframe chassis.

## LINE INPUTS

Inputs 5 and 6 of the 5506 may be switched to accept either microphone or line level inputs. The line level input impedance may be switched between  $600\ \Omega$  (terminate) or  $33k\ \Omega$  (bridged). It is recommended that the higher impedance be used unless a  $600\ \Omega$  termination at the input is required.

When the input is switched to accept a line level input, a balanced "H" pad is inserted in the circuit before the primary of the input transformer. This prevents saturation of the input transformer at line levels. It also maintains the balanced configuration of the input. *When either input 5 or 6 is switched to line level input, the phantom power jumpers should not be installed on the channels used as a line inputs.*

Figure 1 on page 1 shows all internal 5506 controls. To select input 5 or 6 for line level, set the Mic/Line Switch to Line and the Bridge/Terminate Switch to the desired position.

The maximum input level and input sensitivity is determined by the settings of several pads and level controls. Please note that inputs 1 through 4 are capable of accepting very high level mic inputs. In many cases these inputs are close to line levels. The 20dB pad can be switched into the circuit if there is not sufficient range in the Gain Trim Control to attenuate an especially hot input signal. *This pad, however, should be used only when insufficient attenuation is available in the Gain Trim Control.*

## HIGH PASS FILTER

All six inputs on the mixer have a high pass filter that may be switched in or out of the circuit. The six individual switches are located along the edge of the top printed circuit board (See Figure 1, page 1).

The high pass filters in the 5506 are rather unique. Unlike the majority of the mixers that provide a high pass filter with a roll off of 6dB per octave, starting at 250Hz, the 5506 high pass filter is -3dB at approximately 135Hz, and rolls off at 30dB per octave. This provides several advantages. The 3dB-down point at 135Hz does not affect the quality of the human speech. The 30dB per octave slope of the roll off eliminates the most annoying part of "P-Pops," and other plosive sounds generated by speaking into a microphone. The filter also minimizes low frequency sounds generated by

microphone handling noise.

## PRECEDENCE

The 5506 is able to provide microphone precedence switching. Microphone precedence allows an individual microphone to have precedence over other microphones at the push of a button. For example, in a paging system, microphone number one maybe assigned precedence over all other microphones in the system. In case of emergency, the precedence switch is pressed, muting, or overriding all other microphones in the system, thus allowing only microphone number one to make the emergency announcement.

To assign precedence to a microphone, a wire jumper must be cut on the mixer printed circuit board. There is one jumper per microphone input. The jumpers are located to the left of the individual microphone high pass filter switches (See Figure 1, page 1). *Cut the jumper (s) of the microphones (s) required to remain on when the precedence switch is pressed.*

The precedence switch is connected between terminals 19 and 20 of the TB-40 associated with the mixer. A SPST switch is required. Any SPST switch -- toggle, push on - push off, or momentary will work. The installation requirements will determine the kind of switch to use.

When using several mixers ganged together, their precedence lines may be left independent or tied together as desired.

**NOTE:** *Should more complex precedence switching be required, keep in mind that microphones may be muted by grounding their individual remote control lines. This would allow multi-level priority, precedence switching. Information on microphone muting is found in the Remote Control Section of this manual beginning on page 10.*

## INPUT AND OUTPUT MIX BUS ASSIGN

The 5506 mixer is 6 input by 2 output mixer. Any of the six inputs may be assigned to Mix Bus A, and/or Mix Bus B.

The two outputs, Master 1 Out and Master 2 Out, may also be assigned to the two mix buses. The ability to assign both inputs and outputs to the two separate mix buses is a unique and very powerful feature. Let's first examine the assignment of microphones to the two mix buses.

## **INPUT MIX BUS ASSIGN**

All of the six inputs may be assigned to either or both of the two mix buses. There are two miniature "DIP" switches on the PC board (See Figure 1, page 1). There is one switch for mix bus A and one for Mix Bus B. Each DIP switch actually contains 6 SPST rocker switches. They are labeled 1 through 6 and ON and OFF.

To assign microphones 1 to bus A, select DIP switch A and turn rocker #1 to On. To assign Mic 1 to A and also B, simply turn rocker #1 to On on DIP switch B as well.

## **OUTPUT MIX BUS ASSIGN**

The two master outputs maybe assigned to either of the two mix buses. This is accomplished in the following manner:

### **MASTER OUTPUT #1**

Of the two 5506 master outputs, Master 1 Output is normally connected to Mix Bus A. Therefore, all microphones assigned to Mix Bus A appear on the Master 1 Output. This output maybe assigned to any of the 10 audio buses on the 5001 Mainframe motherboard. The Master 1 direct output also appears at the User Assignable Output section of the mixer (See the USER ASSIGNABLE OUTPUT section of this manual on page 9). The Master 1 Output can be accessed directly at this section and at the TB-40. The jumper located beside the Master 1 Output Bus Assign Switch can be cut if the direct output is used, and it is desirable to isolate the direct output from the motherboard audio bus system of the 5001 Mainframe.

The Master 1 Output also has some remote control features that make it very versatile. In addition to the its standard remote control capability (See the REMOTE CONTROL section of this manual on page 10), the input source to Master 1 output can be remotely switched between Mix Bus A and Mix Bus B. This is accomplished by shorting pin #17 to pin #20 on the TB-40 connected to the mixer. This activates an FET switch on the board, which is known as FET Switch #1. In the unshorted position, Mix Bus A is selected. In the shorted position, Mix Bus B is selected.

### **MASTER OUTPUT #2**

Master 2 Output is very similar to Master 1 Output in that is has a 10 position Bus Assignment Switch. The Master 2 Output may also be isolated from the 10 audio

buses on the motherboard by clipping the wire jumper next to its Bus Assign Switch. It also has a direct output to the TB-40 via the user definable section.

The input source to the Master 2 Output section has several different options. First of all, the input to the Master 2 Output is determined by an SPST slide switch located on the mixer board (See Figure 1, page 1). This switch selects either Mix Bus A or Mix Bus B as an input source. For normal operation, this switch should be assigned to Mix Bus B. (Master 1 Output normally "looks" at Mix Bus A).

## MASTER #2 INPUT

Master 2 Output has a couple of very useful remote control features. Like the Master 1 Output, it has remote level control, but its second remote control feature deals with remote input switching. There is a switch that can remotely select the input source for the Master 2 Output.

This switch selects input from the Mix Bus A or B as determined by the slide switch described above, or an input from one of the 10 motherboard audio buses, as determined by the Master 2 Input Selector Switch. In normal operation, the input source for Master 2 Output is either Mix Bus A or Mix Bus B. If pin #18 on the mixer's TB-40 is shorted to pin #20, the input source will be one of the 10 audio buses as selected by the Master 2 Input Selector Switch.

This feature allows the remotely controllable VCA in the Master 2 Output to be placed anywhere in the audio signal path of the motherboard audio bus system. For example, if all six inputs were assigned to mix bus A with the output on Master 1 Output, Master 2 out would be available for use somewhere else in the signal path. Master 2 Output would now be free to be used as a line level remote control.

To accomplish this, Pins 18 & 20 on the TB-40 would be shorted together, so the input would be selected by the Master 2 Input Selector Switch, and the output assigned by the Master 2 Output Selector Switch. The gain of the Master 2 input could be increased by 10dB, if necessary, by clipping the "gain" jumper located below the User Assignable section (See Figure 1, page 1). The input impedance of Master 2 is  $10k\ \Omega$ .

## TAPE OUT

The 5506 has two, unbalanced, tape recorder outputs. These outputs are taken off the two mix buses, Mix Bus A and Mix Bus B. The tape out signal is, therefore, a

composite mix of all inputs assigned to that particular mix bus.

The tape output is at line level (nominal, OdBm) and is controlled by the number of microphones that are assigned to the mix bus and their individual mix levels. The tape outputs are not affected by the levels settings of the two master output controls.

The tape outputs appear on the terminal block (TB-40) attached to the Mainframe directly behind the mixer. Tape A out (from Mix Bus A) is on Terminal "T." Tape B out (from Mix Bus B) is on Terminal "X." The audio ground for these two outputs is terminal "S." (See the inside rear cover of this manual for the wiring diagram to the TB-40 terminal block.)

## USER ASSIGNABLE OUTPUT

The 5506 mixer has more input/output options than there are available connections on the TB-40. Most of these inputs/outputs are duplications of the inputs/outputs normally assigned to buses on the motherboard. By bringing these inputs and outputs to the top PC edge connector, they can be accessed externally to the Mainframe.

There are seven inputs and outputs available from the 5506, but only 5 connection pins on the TB-40. The user (installer) must decide what, if any, connections are to be accessed via the TB-40. The PC board of the 5506 is labeled with the connections to the TB-40 pins T, U, V, W, X, and the inputs and outputs from the mixer, Tape A Out, Mix bus A, Master 1 Out, Ground (audio), Master 2 In, Tape B Out, Mix Bus B, and Master 2 Output.

To assign the input or output to a pin on the TB-40, the installer must solder a wire jumper between the two printed circuit board pads. The user assignable section maybe thought of as a miniature patch panel. The inputs/outputs of the 5506 may be patched, via wire jumpers, to the TB-40 for external connections.

The two tape outputs, Tape A and Tape B have already been assigned to pins: T, (Tape A) and X, (Tape B). Of course, these factory assignments may be changed at the point of installation.

Note that pins T, U, V, W, and X may be used to provide access via the TB-40 to the internal circuitry of the 5506. By soldering a wire between one of these pads and any internal part of the mixer, custom modifications may be performed.

## REMOTE CONTROL

The following functions for the 5506 mixer may be remotely controlled.

1. The 6 inputs may be controlled for level and ON/OFF.
2. The 2 outputs may be controlled for level and ON/OFF.
3. The Input source of the two outputs may be remotely selected.
4. Precedence control of the six mic inputs is available.

All remote controls are activated by safe, low-level, DC control voltages. The remote controls have been designed with simplicity in mind. Custom remote controls can easily be designed and constructed by the installer. All volume controls, front panel or remote, have a "40dB, plus Off," control range. The volume control works over a 40dB range, and when the control is turned all the way down, an FET switch is activated which completely mutes the signal on that control.

Another feature that greatly enhances the versatility of the 5506 is the automatic switching between local (front panel controls) and remote controls. When a remote control is connected to the mixer, the corresponding front panel control is disabled and relinquishes control to the remote. When the remote control is unplugged or disconnected, control reverts back to the front panel. The maximum level of either the remote or local control is determined by the Gain Trim Control associated with that channel.

This feature provides some interesting possibilities. Front panel controls, for example, may be preset for normal operation. These settings may then be overridden from a remote location, simply by connecting a remote control to the mixer. This allows manual control for special events. When the remote is disconnected, the levels preset by the front panel controls are resumed.

Figure 3A on the following page shows a simple ON/OFF remote control circuit. When pin 9 on the TB-40 is connected to pin 20 through the switch, mic #1 is turned off, or muted. This is accomplished via a noiseless, FET switch.

Figure 3B on the following page shows a remote volume control for mic #1. Note that only two components are required for this control - a 10k  $\Omega$ , audio taper potentiometer, and a 10 $\mu$ fd, 35 VDC capacitor. The capacitor provides a current pulse to switch the mixer from local to remote control.

Figure 3C below shows the combination of several remote features in one control. The addition of another switch allows election between remote or local control. Also, a mic On/Off control has been incorporated with the remote level control. With one DC control line, remote/local, On/Off and level can all be controlled remotely.

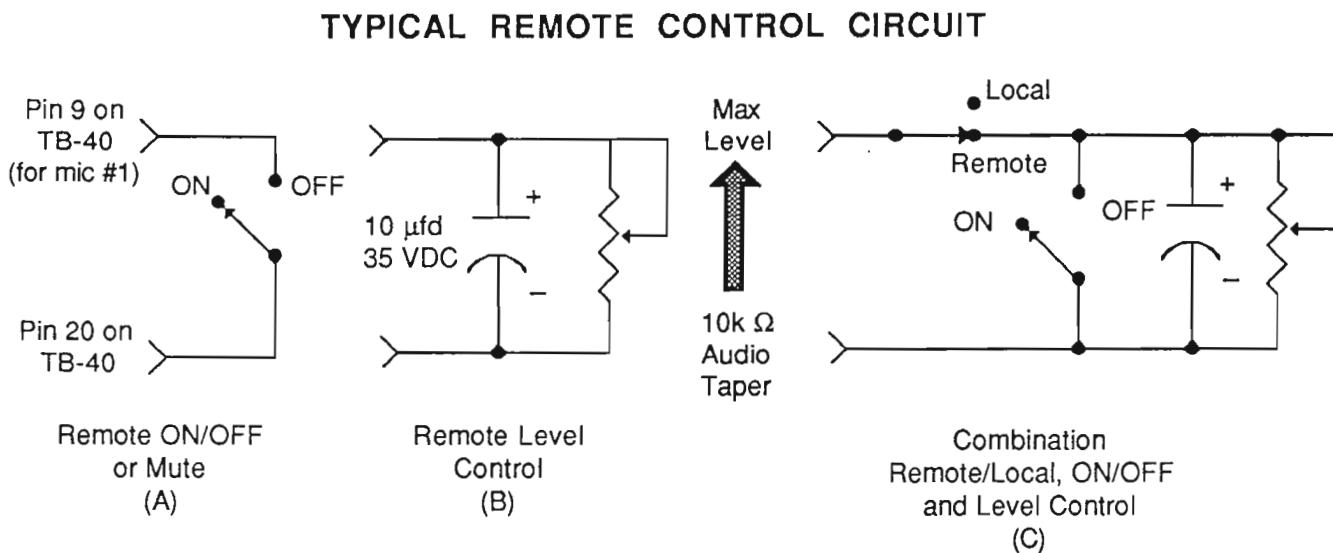


Figure 3

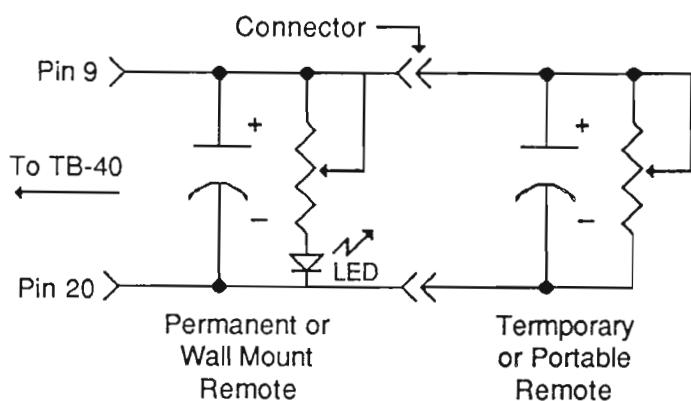
The length of the control line may be as long as required, provided the total resistance of the two control lines (control and common ground) does not exceed  $50 \Omega$ . For example, a 1000 ft. pair of number 22 gauge wire has a total resistance of only  $32 \Omega$ . A separate wire pair may be used for each control. *If using a common ground return with multiple control lines, make certain that the resistance of the common is low enough to handle the combined currents of all controls sharing that common line.*

One level of remote control has just been discussed. There is another level which allows the front panel controls of 5506 to be permanently disabled and remoted to another location. The first level of control discussed (Figure 3) can be used to override this second level. For example, let's say that we want to have the level controls for a meeting room mounted on the wall of that meeting room, but for special occasions we would like to use a portable mixer. This is easily accomplished by installing the second level remote control on the wall and then providing a plug in socket for a remote mixer as described in Figure 3.

In this type of operation, the wall-mounted mixer has control until the portable mixer is plugged into the system. The automatic switching occurs between two sets of controls

whenever the portable remote mixer is plugged in, or unplugged. Just as before, when switching occurred between the front panel controls and the remote mixer, the automatic switching now takes place between the permanent remote controls and the portable remote mixer.

Figure 4 below shows this second level of remote control. *In order to take advantage of second level of remote control, the jumper labeled "Permanent Remote" must be cut next to each control that is to be remoted.*



### PERMANENT AND TEMPORARY REMOTE CONTROLS

#### NOTES:

1. Permanent Remote Jumper must be cut for appropriate channels.
2. Temporary Remote will override the Permanent Remote.
3. Front panel volume control is now completely disabled.
4. Capacitors =  $10\mu\text{fd}$ , 35 VDC. Volume Controls =  $10\text{k }\Omega$ , audio taper. LED: See text.

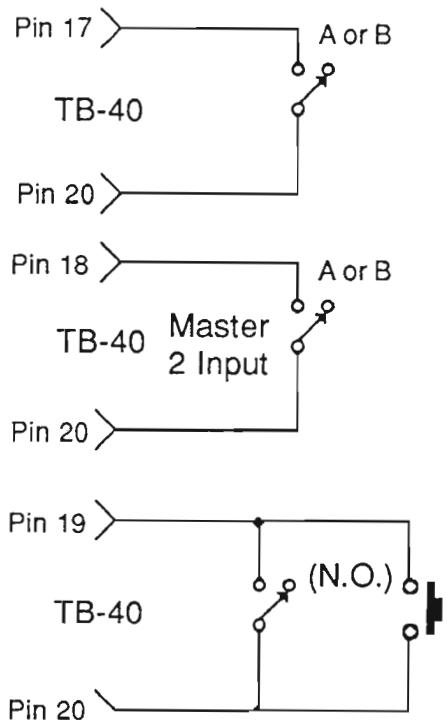
Figure 4

*Note that this remote control has an indicator LED in series with the ground connection. This LED is used as a voltage reference and must be selected for its forward voltage drop. The forward voltage drop should be  $1.6\text{ V} \pm .05\text{ V}$ .*

Other remote control features on the 5506 require only a simple switch.

The final controls which feature remote capability are the FET switches and precedence. As previously discussed, the FET switches provide switching of the Master 1 Output between Mix Bus A and Mix Bus B, and the Master 2 Output between Master 2 Input and Mix Bus A or B. Precedence control, as also discussed previously, requires the cutting of appropriate jumpers on the 5506 PC board.

Figure 5 on the following page shows the remote control circuits for FET Switch #1, FET Switch #2 and Precedence:



FET Switch #1: Switches MASTER 1 output between Mix Bus A (N.O.) and Mix Bus B.

FET Switch #2: Switches MASTER 2 output between MASTER 2 input and Mix Bus A or B (N.O.)

Precedence Control (N.O.): Closing contacts mutes all inputs whose precedence jumpers have not been cut.

Figure 5

## STACKING MIXERS FOR ADDITIONAL INPUTS

5506 Mixers may be stacked, or ganged, with other 5506 mixers to provide more than 6 inputs. For example, three 5506 mixers may be stacked to provide 18 inputs and 6 outputs. *Although there are six outputs with six level controls, there are still only two mix buses. Therefore, there are 3 pairs of program outputs - three of mix bus A and three of mix bus B.*

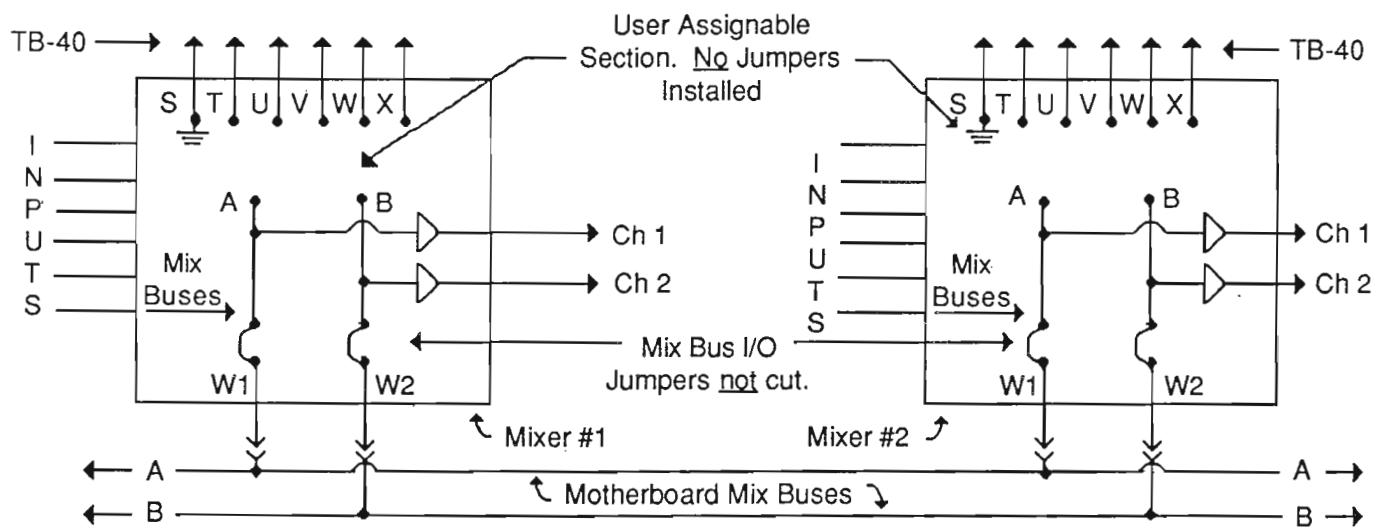
The motherboard in the Mainframe contains two buses designated for mixer stacking. When a mixer is plugged into the Mainframe, its two mix buses are automatically connected to the motherboard (See Figure 6 on the following page). This allows automatic connections for stacking of mixers. *NOTE: If two mixers are to be used in a Mainframe and this automatic stacking feature is not desired, two wire jumpers on the mixer must be cut.* Figure 1 on page 1 shows the two Mix Bus I/O jumpers. Cutting these two jumpers on a 5506 will prevent the automatic connection of mix buses between it and the other 5506's in the Mainframe.

The Mix Bus I/O ports are also brought up to the User Assignable section of the PC board. Cutting the two mix bus I/O jumpers does not disconnect them from the User

## Assignable Section.

This allows mixers to be stacked together by externally wiring the mix buses together (See Figure 7 on page 15). This means that mixers in separate Mainframes may be stacked. It also means that (4) mixers in the same Mainframe may be stacked together in two separate groups of two. Two mixers would use the automatic motherboard connection, and the remaining two mixers would have their mix bus I/O jumpers cut and would be connected via the user assignable section. This provides maximum flexibility in stacking and grouping mixers.

Automatic mixer stacking via the internal mix buses is shown in Figure 6 below:

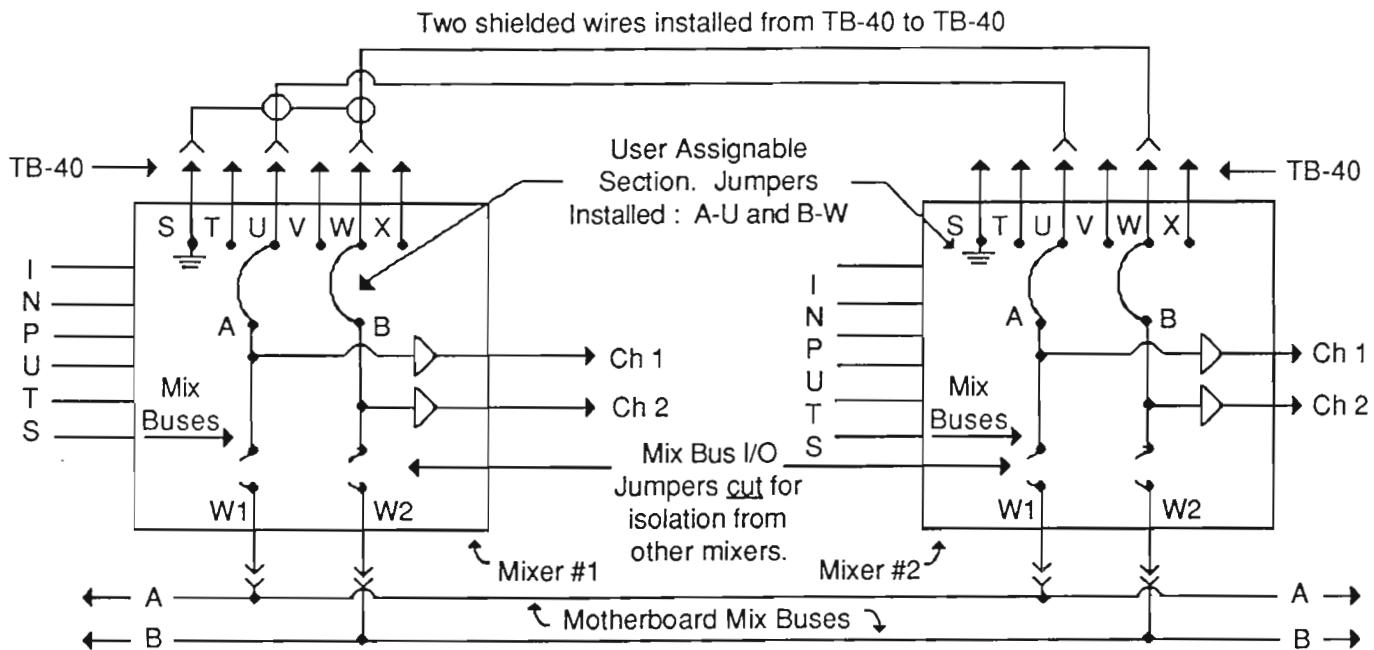


Automatic Mixer Stacking

1. Mixers inserted into Mainframe without the cutting or installing of jumpers.
2. Automatically connected by the two motherboard mix buses.
3. The two stacked mixers have: 12 inputs and 2 program channels with two outputs per channel.

Figure 6

Figure 7 on the following page shows the manual staking of mixers using the User Assignable Section. As previously noted, mixers in the same Mainframe may be stacked either automatically using the Mainframe's internal mix buses, or manually using the User Assignable Section.



### Manual Mixer Stacking

1. Two mixers stacked externally to the Mainframe. Isolated from all other mixers in Mainframe by cutting the Mix Bus I/O Jumpers.
2. Jumpers are installed in the User Assignable Section.
3. Mixers stacked in Figure 6 and Figure 7 may be used in the same Mainframe without interation..

Figure 7

The 5506 mixer may also be stacked with the 5505 6 X 1 mixer which does not feature remote control capability. The 5505 has two slide switches that assign its mix buses to either or both A & B mix buses on the motherboard. The mix buses of the 5505 are also available at the TB-40 for external mix bus connection.

## MIXING OF MASTER #1 AND MASTER #2 OUTPUTS

The two Master Outputs may be mixed together and connected to any of the 10 audio buses on the motherboard, with only a slight modification. This allows the two master outputs to function as submaster. This option, however, does not provide for an overall Master Volume Control.

This would be advantageous in an application such as having four inputs assigned to vocal microphones, and the other two inputs assigned to instrumental microphones. The two submasters, one for "vocals" and the other for "instruments" would allow the two different sources to be blended together quite easily.

To accomplish submastering, (or mixing of two outputs), two things must be done to the mixer.

1. The wire jumpers beside Master 1 Out and Master 2 Out Bus Assign switches must be removed and replaced with 1/4 watt, 600  $\Omega$  resistors.
2. The Master 1 and Master 2 Output Bus Assign Switches must be assigned to the same bus.

Master 1 and Master 2 Outputs will now sum, or mix, on the motherboard audio bus as assigned by the two Master Output Bus Assign Switches.

## **CONTROL SETTINGS FOR OPTIMUM SIGNAL TO NOISE**

In order to optimize the 5506 mixer for best signal to noise ratio and maximum overload capability, the procedure listed below should be followed when setting the mixer controls.

1. Set the -20/0dB Switches to 0dB, and the Mic/Line Switches to their appropriate setting.
2. Turn all Gain Trim Controls fully counter clockwise.
3. Set the Master Output Volume Controls to their 1 o'clock position.
4. Set the individual input controls to either full on or to 1 o'clock (as desire by the installer).
5. Set the individual Gain Trim Controls for maximum gain into the room before feedback, or at the maximum output level desired.
6. If the Gain Trim Control does not provide sufficient attenuation then the -20/0dB Pad Switch may be set to the -20dB position.

## WIRING CONNECTIONS

All input and output connections are available via the TB-40 supplied with each mixer. The TB-40 is a 40 pin terminal block which must be fastened to the rear of the 5001 Mainframe. A slot in the 5001 Mainframe should be selected for the 5506 Mixer. The adhesive-backed, metal cover plate behind the slot on the Mainframe should then be removed, and the TB-40 fastened to the rear of the Mainframe with the supplied screws.

It is advisable to first insert the 5506 in the Mainframe slot, then place the TB-40 on the rear of the Mainframe over the mixers PC edge connector. Next insert the screws and fasten the TB-40 securely to the Mainframe. This helps provide an accurate alignment between the mixer and the TB-40.

The wire connections for the TB-40 are shown on the inside of the rear cover of this manual. *Note that, unlike other signal processing modules, the ten motherboard audio buses do not appear on the 5506 TB-40.*

## SPECIFICATIONS

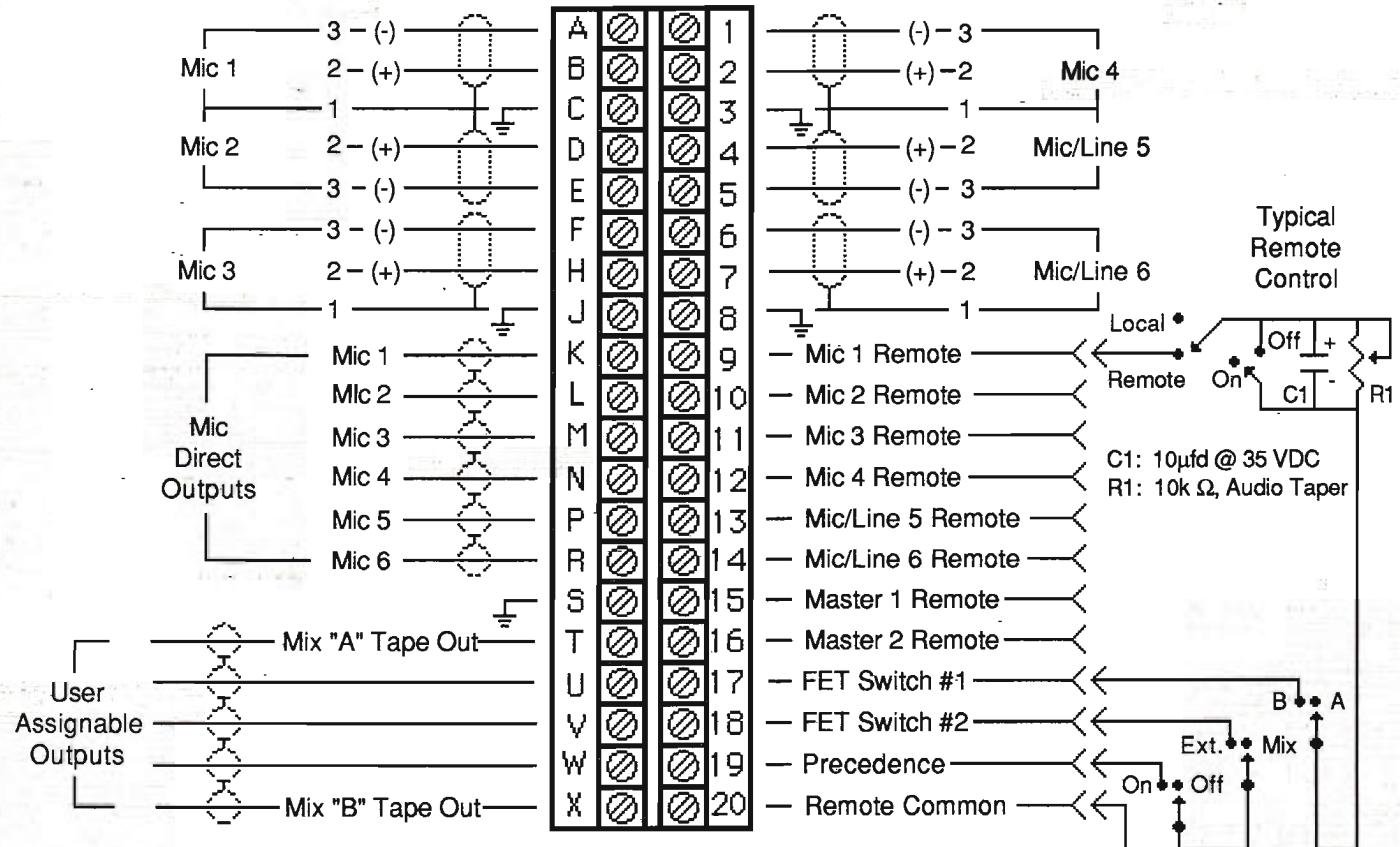
Power Consumption	-----	10 watts
Microphone Input	-----	Transformer Balanced
Impedance	-----	150 - 600 $\Omega$
Line Input Impedance	-----	Terminate: 600 $\Omega$ , Bridge: 33k $\Omega$
Gain Trim Control Range	-----	40dB
Input Pad	-----	0dB or -20dB, Switchable
Maximum Gain	-----	84dB
Tape Output	-----	Load Impedance 600 $\Omega$ or Greater
Direct Microphone Output	-----	Load Impedance 600 $\Omega$ or Greater
Maximum Input Level (Before Clipping)	<u>With Max Gain</u>	<u>With Min Gain</u>
For +18dBm Output	----- Microphone:	.4mV (-66dBm) .25 V (-10dBm)
	Line:	40mV (-26dBm) 24.5V (+30dBm)
High Pass Filter	-----	-3dB @ 135Hz, 30dB/Octave
Output Load Impedance	-----	600 $\Omega$ or Greater
Maximum Output Level	-----	+18dBm

## SPECIFICATIONS CONTINUED

Frequency Response -----	+0, -2dB: 20Hz to 20kHz
Distortion -----	THD .08% Max, .01% Typical
Noise -----	-125dBm, A-weighted
Weight -----	2 Lbs. 14 Oz.
Dimensions -----	8.5 X 14.2 X 1.7 Inches

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20dB INPUT PAD -----	3
USER ASSIGNABLE OUTPUT -----	9
WIRING CONNECTIONS -----	17



## 5506 TB-40 Connections