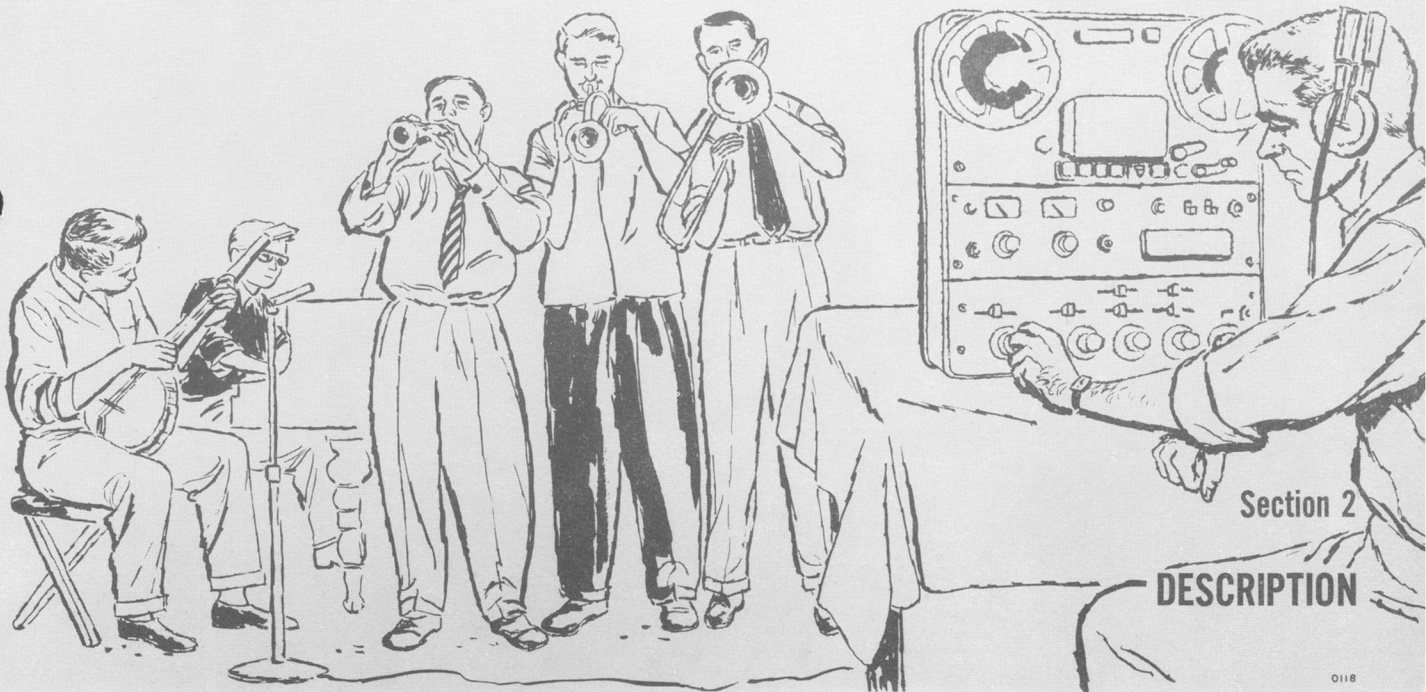


Section 2 DESCRIPTION

Section 2 DESCRIPTION



GENERAL

The Ampex MX-10 and MX-35 Mixer Assemblies provide complete mixing facilities. Six inputs and two outputs are provided. The inputs consist of four microphone inputs and two line inputs. Switching allows any combination of up to four inputs to be connected to either or both outputs. Provisions are also made for coupling up to four mixer assemblies together.

The mixer assembly consists of a single chassis on which is mounted four separate and completely independent microphone preamplifiers and two separate output amplifiers.

Switching allows any microphone preamplifier to be connected to either or both of the output amplifiers. Additional switching is provided to bypass two of the microphone preamplifiers (separately) so that two line inputs can be connected to either or both outputs. Individual gain controls are provided as is a master gain control.

On the back panel of the mixer assembly are all connecting and interconnecting provisions for line and microphone inputs, line outputs, power and mixer coupling. A screw-type fuse post is also provided on the chassis back panel.

PERFORMANCE CHARACTERISTICS

Inputs:

Four low level microphone inputs and two high level line inputs, any combination of four being available at any one time; incorporating high level mixing.

Input Impedance:

Microphone: 200 ohm non-terminating; Line: 100K ohms unbalanced bridging (20K ohm balanced bridging with optional plug-in transformer).

Outputs:

Two 1 volt normal output level; 30 volts maximum output level when fed to a bridging input with an input impedance of at least 100K ohms. Cable capacity should not exceed 0.001 microfarad to preserve high frequency response.

PERFORMANCE CHARACTERISTICS (CONTD.)

<i>Gain:</i>	Sufficient to produce a 1 volt output with an input signal of -65 dbm on any microphone channel and -20 dbm on any line channel for maximum control settings.
<i>Frequency Response:</i>	\pm 1db 40 to 15,000 cycles per second.
<i>Noise:</i>	65 db below signal for inputs of -55 dbm. This represents a noise equivalent to an input signal of -120 dbm.
<i>Distortion:</i>	Microphone Preamplifier: (distortion characteristics as a function of input level) 30 cycles— Less than 0.2% at -52 dbm input level Less than 0.4% at -42 dbm input level Less than 1.0% at -32 dbm input level 500 to 15,000 cycles— Less than 0.1% at -53 dbm input level Less than 0.3% at -43 dbm input level Less than 1.0% at -29 dbm input level Line Output: (distortion characteristics—at nominal gain—as a function of output level) 30 cycles— Less than 0.2% at 1 volt output level Less than 0.4% at 10 volt output level Less than 1.0% at 25 volt output level 500 to 15,000 cycles— Less than 0.3% at 25 volt output level
<i>Crosstalk Rejection:</i>	65 db at 500 cycles, 50 db at 10KC.
<i>Controls:</i>	Four Allen-Bradley potentiometers (calibrated step type available on special order); master gain (two gang) potentiometer; key switches for selection of microphone or line on two input positions; key switches for channel A, both or channel B on each mixer position; ac line switch; mixer coupling switch (located on the back of the chassis) two screwdriver adjust level set controls (located on the chassis).
<i>Connectors:</i>	Cannon "XL" type on all input and outputs except for a terminal strip used for mixer coupling.
<i>Power Input:</i>	105-125 volts, 50-60 cycles, 30 watts.
<i>Tubes:</i>	Six EF86/6267's and one 12AU7.
<i>Dimensions:</i>	5 - 7/32" H, 19" L, and 5 - 3/16" D (for 5 - 1/4" rack space or portable case).
<i>Accessories:</i>	Plug-in balanced bridging line input transformer (Cat. No. 58-0116-01), and plug-in balanced matching line input transformer (Cat. No. 58-0116-02).

EQUIPMENT APPLICATIONS

The MX-10 and MX-35 Mixer Assemblies are compact, flexible speech input systems that have numerous applications in the tape recording and

sound reinforcing fields. In the tape recording field, when used with a professional quality recorder such as the Ampex PR Series, applications include: the recording of live pro-

gram material, both stereophonic and monophonic; and the dubbing of live program material over previously recorded material, both stereophonic and monophonic. In the sound reinforcing field, the mixer assembly can be used to advantage in plant paging systems and in public address or sound reinforcing installations because it permits great flexibility of switching and channel combinations. The following paragraphs and illustrations are intended to show some of the basic applications.

For the stereo recording of a live program, one basic set-up is to connect four microphones to the mixer and, using the channel selector switches, feed the "left" microphone to Ch. A, the "center" and "solo" microphones to both channels, and the "right" microphone to Ch. B.

For dubbing live stereo program material over a previously recorded stereo program, one basic set-up is to connect two microphones to microphone inputs 1 and 2 of the mixer and the outputs of a stereo tape reproducer to line inputs 3 and 4. Using the channel selector switches, feed the "left" microphone and the "left" line to Ch. A and feed the "right" microphone and the "right" line to Ch. B.

The basic set-up for monophonic recording of a live program is similar to the set-up

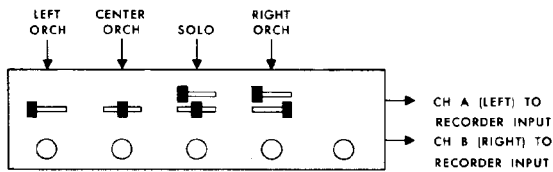
described for stereo, the basic difference being that all microphones are fed to Ch. A only (or to both channels when making a second simultaneous "protection" recording).

All of the above applications have considered only one mixer assembly and only one or two channel operation. Still considering one or two channel operation, two or more mixer assemblies (up to four) can be "coupled" together to provide additional inputs. Further, two or more mixer assemblies can be "stacked" together (without coupling) to provide additional channels (up to four channels can be provided with only two mixer assemblies). Finally, mixer assemblies can be both "coupled" and "stacked" in almost any combination desired. All of these applications are, of course, only basic and many variations are possible, limited only by the user's imagination and skill.

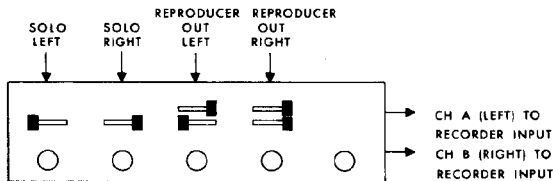
NOTE

The coupling switch transfers the output of Ch. A and the output of Ch. B from the SINGLE MIXER NORMAL to the MIXER COUPLE condition simultaneously, therefore the channels of one mixer cannot be coupled to the channels of another mixer separately.

STEREO RECORDING (LIVE)



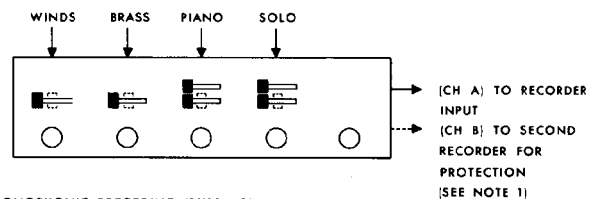
STEREO RECORDING (DUBBING)



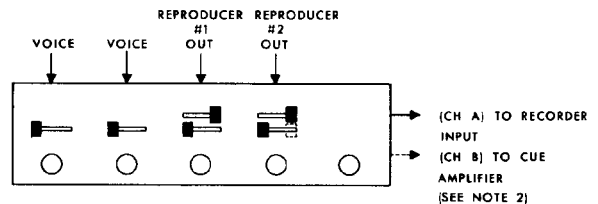
NOTES:

1. IF A SECOND "PROTECTION" RECORDING IS DESIRED, THE "CH A-BOTH-CH B" SWITCHES SHOULD BE IN THE "BOTH" POSITION.

MONOPHONIC RECORDING (LIVE)



MONOPHONIC RECORDING (DUBBING)



2. REPRODUCER #2 CAN BE "CUE'D" WHILE RECORDING FROM OTHER INPUTS BY SWITCHING "CH A-BOTH-CH B" SWITCH TO "CH B".

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Typical uses of the MX-10 mixer