

**AMPEX**

4890178-01

**Model AM-10 Mixer**  
Operation and Maintenance Manual

401487A

# Model AM-10

## 1. DESCRIPTION

### 1.1 GENERAL

The Ampex AM-10 Mixer (see Fig. 1) provides facilities for mixing up to four microphone inputs and two line inputs, and connecting them in any manner desired to a two channel output. If more input facilities are required, any number of mixers can be coupled together--for example, two mixers will provide eight microphone inputs and four line inputs--which will again be connected to provide a two-channel output.

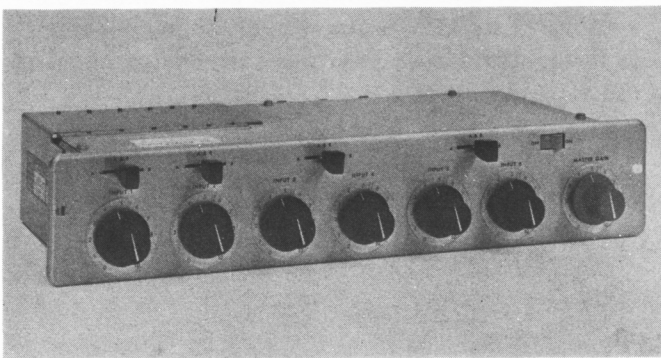


Fig. 1. Ampex Model AM-10 Mixer

Each input incorporates a separate level control, and both output channels are controlled by a master gain control. Inputs 1 and 2, both for microphones, can be switched individually to output A, output B, or both output A and B. Inputs 3 (microphone) and 4 (line), are controlled by one output selector switch for output A, output B, or both. Inputs 5 (microphone) and 6 (line) also are controlled by one selector switch the same as inputs 3 and 4.

Each microphone input is provided with a separate plug-in printed circuit board containing a solid state preamplifier (see Fig. 2). A separate plug-in printed circuit mixer and line amplifier board (see Fig. 3) is supplied for each output. These boards plug into printed circuit connectors from the back panel of the mixer.

Mixers are available in two versions. One, designated as the domestic version, is designed for use with line voltages from 105 to 125 volts, 50 or 60 Hz. The other, designated as the International version, provides a switch which is positioned to select either 115 or 230 volt line voltage, 50 or 60 Hz.

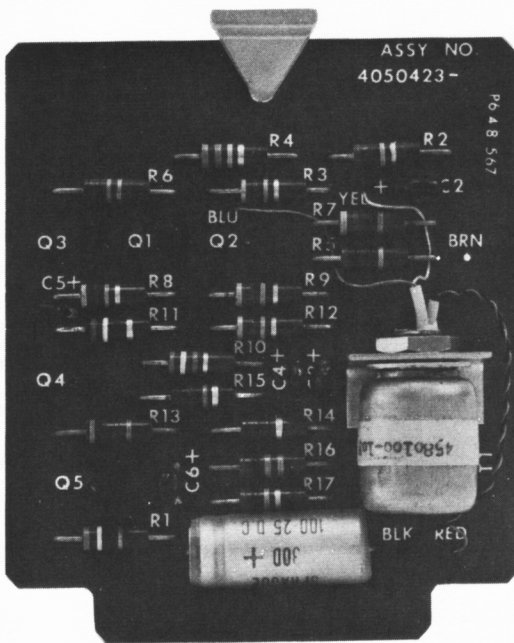


Fig. 2. Plug-in Preamplifier

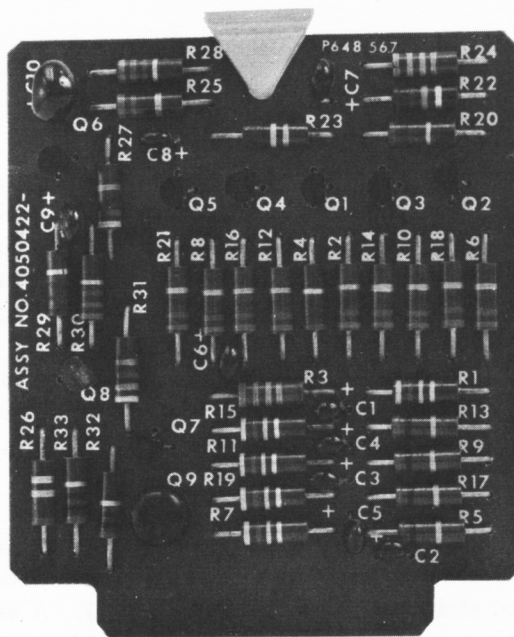


Fig. 3. Plug-in Mixer and Line Amplifier

## 1.2 ACCESSORY UNITS

### 1.2.1 Line Inputs

Dummy plugs are provided with each mixer for the line inputs (inputs 4 and 6). This plug, which is inserted in an octal socket on the back panel of the mixer, allows operation from

an unbalanced line. There are four plug-in accessory units available which simply replace the dummy plug in the octal socket.

If it is desired to convert the two line inputs to microphone inputs, microphone preamplifier Catalog No. 4010066 can be used in place of the dummy plug. The mixer can then provide five or six microphone inputs, depending on whether one or two microphone preamplifiers are used.

If operation is to be from a balanced line input, there are two plug-in transformers available. One, Catalog No. 4580200-01, is a balanced bridging transformer with unity gain and an input impedance of 20,000 ohms. The other, Catalog No. 4580200-02, is a balanced matching transformer, which provides 14 db gain and an input impedance of 600 ohms.

The fourth line input accessory is an RIAA phonograph preamplifier, Catalog No. 4010097, which allows the line input signal to be taken directly from a magnetic pick up. Crystal or ceramic pickups may be used if they are loaded with a 1,500 ohm resistor. (Note here that if the phonograph signal has already been amplified, that the dummy plug will be used.)

### 1.2.2 Meter Panel

A two channel meter panel (see Fig. 4) is available to provide vu meter indications of the two outputs from the mixer. A three position switch calibrates the meters for a +4 db, +8 db, or +12 db output. Monitoring facilities are provided by two phone jacks on both the front and back panel.

The meter panel has a line power input receptacle, and an unswitched power output connector. This allows line power to be connected to the meter panel, then from the meter panel to the mixer.

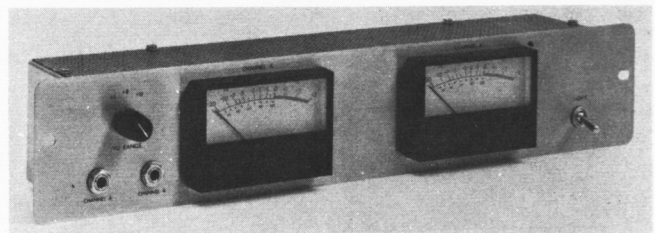


Fig. 4. Accessory Meter Panel

## 1.3 SPECIFICATIONS

### Inputs

Four microphone inputs and two high level line inputs.

### Input Impedance

Microphone: 200 ohms, non-terminating.  
Line: 100,000 ohms unbalanced. With accessory transformers (refer to paragraph 1.2.1) can be 20,000 ohms balanced bridging or 600 ohms balanced matching.

### Outputs

Two, 600 ohm.

### Gain

Microphone: At least 75 db.  
Line: At least 20 db.

### Noise

(Output reference level +4 dbm)

Microphone: Less than -60 dbm.  
Line: Less than -70 dbm.  
Equivalent input noise level: -122 dbm.

### Frequency Response

Microphone:  $\pm 1$  db, 30 to 20,000 Hz.  
Line: +0, -1 db, 30 to 20,000 Hz.

### Distortion

Microphone: With an input level of -30 db (25 millivolts) and the input level control adjusted for a +12 dbm (3 volt) output, the total harmonic distortion is less than 1%.

Line: With an input level of 15 dbm (4.4 volts) and the input level control adjusted for a +12 dbm (3 volt) output, the total harmonic distortion is less than 1%.

### Crosstalk Rejection

65 db at 500 Hz. Better than 40 db from 20 to 20,000 Hz.

### Power Consumption

Domestic: 105-125 volts, 50 or 60 Hz, 0.1 ampere.

International: 115 volts, 50 or 60 Hz, 0.1 ampere.  
230 volts, 50 or 60 Hz, 0.03 ampere

### Output Clipping Level

The line amplifier will provide an output of at least 24 dbm, from 50 to 10,000 Hz, before clipping.