

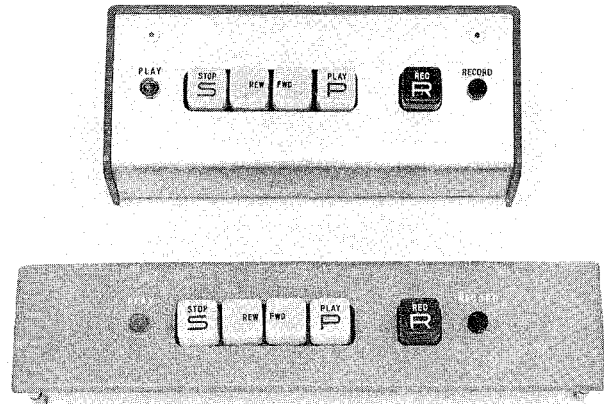
**ACCESSORIES**

**GENERAL**

The accessories described on the following pages are designed to add to the versatility of the basic unit or to aid in keeping the unit in the best possible operating condition.

## REMOTE CONTROL UNIT

The operation of the tape transport mechanism can be remotely controlled by a Remote Control Unit. The Catalog No. 01-96510-01 unit is supplied in a metal case, completely wired (includes a 30 foot interconnecting cable) and ready to plug into the remote control connector, J116S, on the transport. The Catalog No. 01-96520-01 unit is mounted on a flat plate for installation in studio consoles. The unit is completely wired but does not include the interconnecting cable.



0101

*Remote Control Unit*

## HEAD DEMAGNETIZER AND HEAD CLEANER

The AMPEX head demagnetizer, Model No. 820, quickly demagnetizes the record, reproduce and erase heads to achieve reduced noise and distortion. The demagnetizer neutralizes the residual magnetizing induced in the heads by transients from speech, music and noise thus preventing partial high frequency erasure of the tape. The demagnetizer consists of an a-c magnet with pole pieces shaped to fit the contour of the heads. Operation of the demagnetizer is described in the HEAD ASSEMBLY section.

The AMPEX head cleaner, Model No. 823, is specially formulated for use with AMPEX heads. Do not use any other solvent on the head assembly as some will damage the material which binds the head laminations together. The head cleaner should not be used on plastic parts such as the head cover. Cleaning of the heads is described in the HEAD ASSEMBLY section.



*Head Demagnetizer*

## TEST TAPES

The AMPEX test tape mentioned in the "Checkout and Adjustment" section is specifically designed for use with machines operating at 7½ inches per second using NAB equalization. Under certain circumstances, particularly for "Master Recording", it may be desirable to calibrate the machine with the test tape designed for the specific speed and equalization

concerned. The following table lists the various ¼-inch test tapes.

<i>Equalization</i>	<i>Catalog No.</i>
15 ips NAB	01-31311-01
7½ ips NAB	01-31321-01
3¾ ips 120 μsec	01-31331-01
3¾ ips 200 μsec	01-31334-01

The 15 ips test tapes contain the following information in the sequence indicated.

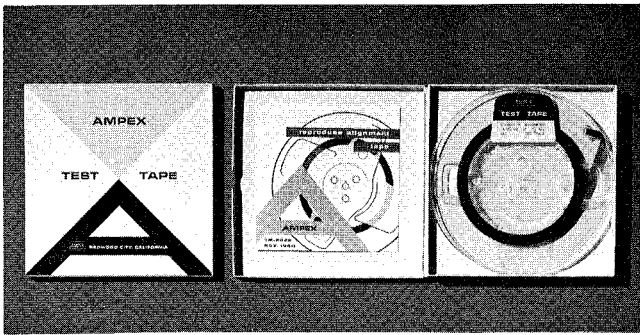
1. A 700 cps tone at operating level for reduce gain calibration and reference.
2. A 15,000 cps tone at operating level for reproduce head alignment.
3. A series of tones (12kc, 10kc, 7.5kc, 5kc, 1kc, 500c, 250c, 100c, 50c, and 30c) at operating level for reproduce frequency response measurements.

The 7½ ips test tapes contain the following information in the sequence indicated.

1. A 700 cps tone at 10 db below operating level for reference.
2. A 15,000 cps tone at 10 db below operating level for reproduce head alignment.
3. A series of tones (12kc, 10kc, 7.5kc, 5kc, 2.5kc, 1kc, 250c, 100c, and 50c) at 10 db below operating level for reproduce frequency response measurements.
4. A 700 cps tone at operating level for reproduce gain calibration.

The 3¾ ips test tapes contain the following information in the sequence indicated.

1. A 500 cps tone at 10 db below operating level for reference.
2. A 7,500 cps tone at 10 db below operating level for reproduce head alignment.
3. A series of tones (5kc, 2.5kc, 1kc, 500c, 250c, 100c and 50c) at 10 db below operating level for reproduce frequency response measurements.
4. A 500 cps tone at operating level for reproduce gain calibration.



*Ampex Test Tapes*

In addition to the alignment tapes, Ampex also produces level set tapes and flutter test tapes. The flutter test tapes are used for checking equipment flutter in accordance with American Standards Association standard number Z57.1-1954. These tapes consist of a 3000 cycle tone (with 0.03% or less flutter) which is reproduced on the machine being checked and the flutter of the machine is measured using a standard flutter bridge. (The flutter introduced by the tape is negligible.) Flutter test tapes are listed in the following table.

<i>Speed</i>	<i>Catalog No.</i>
3¾ ips flutter test . . . . .	01-31336-01
7½ ips flutter test . . . . .	01-31326-01
15 ips flutter test . . . . .	01-31316-01

The level set tapes are used to properly set the reproduce level of a tape machine when calibrating the record portions of the machine or when the machine is to be used in conjunction with other equipment that requires a specific input. These tapes are recorded at "normal" operating level and are listed in the following table.

<i>Speed</i>	<i>Catalog No.</i>
3¾ ips 500 cps level set . . . . .	01-31335-01
7½ ips 700 cps level set . . . . .	01-31325-01
15 ips 700 cps level set . . . . .	01-31315-01

The test tapes are valuable tools for ensuring proper operation of the equipment, *but only if the tapes are cared for properly*. Like any pre-recorded tape, the test tapes are sensitive to magnetic fields, which if sufficient in intensity, will erase or partially reduce the carefully adjusted magnetic orientation of the tape coating, those rendering the tape useless.

The area in which the test tape is to be used or stored should be surveyed for equipment which might set up fields of a nature which might affect the accuracy of the tape.

The high frequency signals of the tape can also be partially erased by a record, reproduce or erase head, or a tape guide which is strongly magnetized. Moreover, accurate reproduction of the signals on the test tape is not possible when used with a magnetized head. To preclude any possibility of this type of damage, the heads *and all metallic objects in the tape path* should be demagnetized before using the test tape.

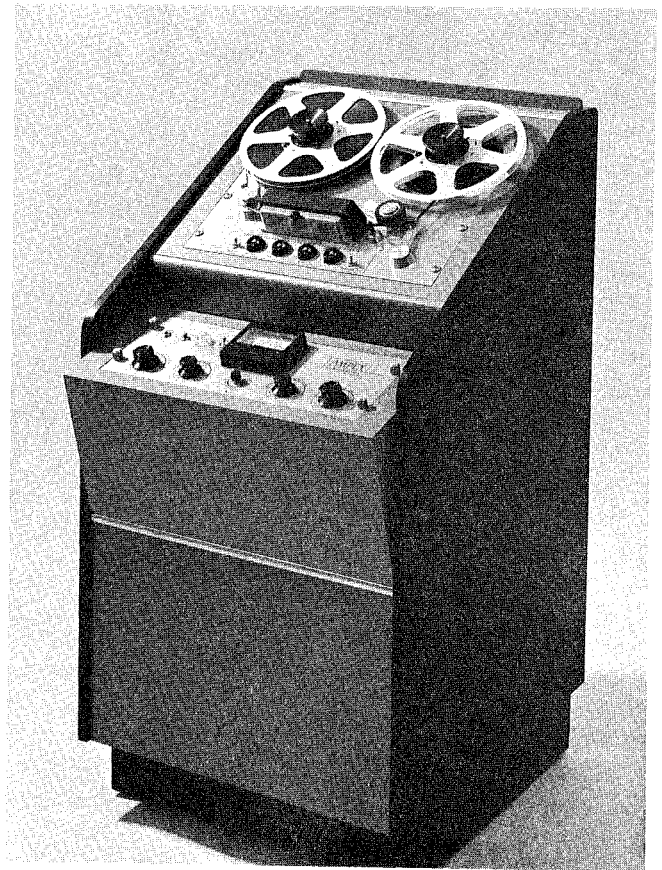
The tape should be stored away from hot radiators, amplifier chassis, or electric lamps which might cause the tape to deform. Wherever possible, the tape should be stored on edge. In hot weather, a tape laid flat will tend to "settle" to the lower side of the reel causing an edge "wrinkle," which is conducive to flutter.

## MIXER ASSEMBLY

The MX-35 mixer assembly (Catalog No. 01-96910-01) is a compact four position, two channel mixer with unique switching facilities found only in expensive custom designed studio consoles. Special coupling connectors are provided to give additional facilities where up to four MX-35's can be coupled together with overall master gain controlled by the last unit in the system. Each mixer position has a reset indicator which permits return to a previous level and is supplied with a key switch which feeds channels "A" or "B" or BOTH. In the latter position, this permits feeding the solo mike (as in the case of stereo recording) equally to both left and right channels while other mikes are feeding either the left or right channels. Above mixer positions No. 3 and No. 4 are two additional keys to select mike or line input from appropriate receptacles located on the back of the unit. All switching regardless of combination maintains proper balance and isolation between channels.

The MX-35 operates from four low impedance microphone inputs and two unbalanced line inputs: (balanced input when using No. 58-0116-01 plug-in transformer), feeding two independent program amplifiers controlled by a two gang master gain control. Advanced design amplifier circuitry permits very high input and output levels without distortion. Power supply is self-contained and all heaters are fed by a dc supply. Conservatively rated components maintain quality and long operating life without need for service or repair.

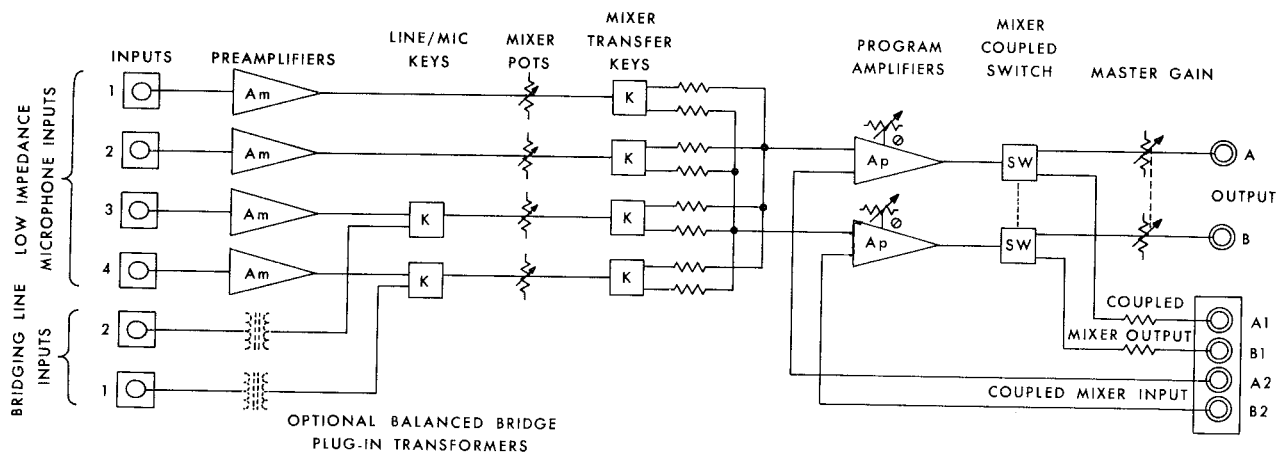
Although designed primarily to feed AMPLEX Professional recorders, this unit can be used with other audio recorders and sound equip-



*Rack layout (shown with Ampex 354 tape recorder)*

ment such as speech input systems, public address or sound systems where unique control facilities of the MX-35 make it a flexible audio tool.

The operating instructions for the MX-35 Mixer Assembly are contained in Ampex instruction manual TM-2010.



*Block diagram, MX-35 mixer*

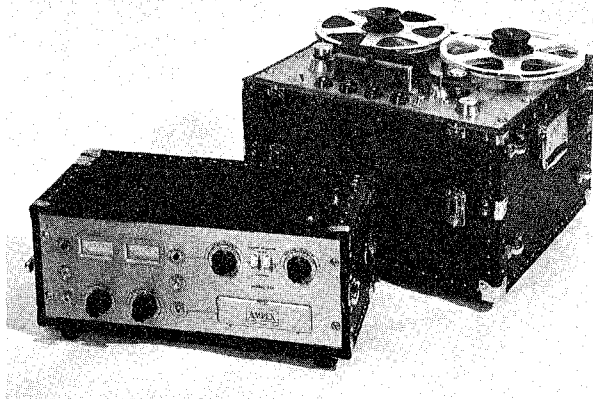
## *Specifications*

<i>Input</i>	Four microphone level inputs and two line high level inputs incorporating high level mixing.
<i>Input Impedance</i>	Microphone; 200 ohm non-terminating; line: 100 k ohms bridging. (With optional plug-in balance line transformer 20,000 ohms.)
<i>Outputs</i>	Two, 1 volt normal; 30 volts maximum unbalanced to feed bridging input of recorder.
<i>Gain</i>	With internal and external control settings at maximum, $-67$ dbm on any mic channel or $-27$ dbm on any line channel will produce 1 volt output. 1 volt input to the PR-10 electronics corresponds to 0 vu.
<i>Frequency Response</i>	$\pm 1$ db 40 to 15,000 cycles
<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>	At 500 cycles, less than 0.3% with $-43$ dbm mic input level, 1v output level; less than 1% with $-29$ dbm mic input level, 25v output level.
<i>Crosstalk Rejection</i>	65 db at 500 cycles, 50 db at 10 kc.
<i>Controls</i>	Four Allen-Bradley pots (calibrated step type available on special order); master gain (two gang) pot; key switches for selection of mic 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).
<i>Connectors</i>	Rugged "XL" type on all inputs and outputs except mixer coupling strip.
<i>Power Input</i>	105-125 volts, 50-60 cycles, 30 watts.
<i>Tubes</i>	Six EF86's and one 12AU7
<i>Dimensions</i>	5-7/32" H, 19" L, 5-3/16" D (for 5 $\frac{1}{4}$ " rack space or portable case).
<i>Finish</i>	Brushed stainless steel with grey knobs.
<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).

## CARRYING CASES AND CONSOLES

### *Tape Transport Carrying Case*

The portable tape transport carrying case, Catalog No. 03-0154-01, is specially designed to house the 354 tape transport. A special door on the side of the case is provided for all necessary interconnections between the tape transport and the electronic assembly and allows the tape transport to be operated in either a horizontal or vertical position. Special ducting in the case is designed to provide adequate ventilation. Air circulation within the case is such that the

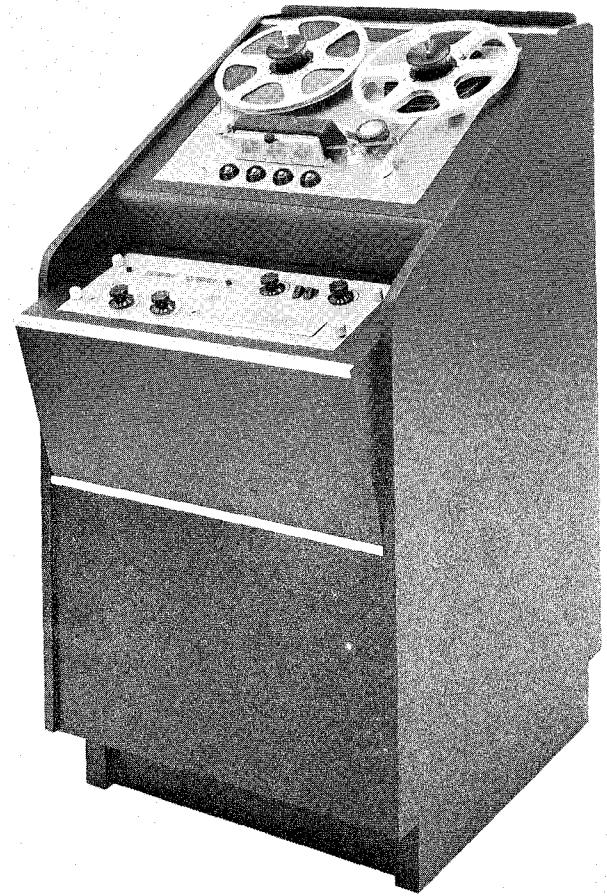


*Carrying Cases*

equipment actually runs cooler in the case than in free air.

### *Electronic Assembly Carrying Case*

The portable electronic assembly carrying case, Catalog No. 15-0211-00, is specially designed to house the 354 electronic assembly. All necessary interconnections are provided for by removing the rear panel from the case.



*Console*

### *Console Assembly*

The console assembly, Catalog No. 15-0214-00, is designed to house the 354 tape transport and electronic assembly as a complete and easy-to-operate unit. Facilities for easy maintenance of the equipment are provided.