

INSTALLATION

2.1 UNPACKING

2.1.1 General

Equipment received from the factory should be examined for any sign of damage incurred in transit. Also, check the shipment against the packing list to determine that all items have been received.

NOTE

Plug-in electronic modules, and the associated equalizer circuits, are shipped mounted in position behind a cover on the front panel of the electronic assemblies. The plug-in power supply and bias oscillator is mounted in the power supply box in back of the tape transport.

If any damage or shortage is noted, immediately report the circumstances to your Ampex distributor and to the transportation company involved.

2.1.2 Console Mounted Equipment

Equipment ordered with the Ampex console is shipped with all assemblies mounted in the console, and connections completed between the assemblies.

Single channel equipment, or reproduce-only equipment, is shipped with the console upright. Open the shipping container completely to remove the machine. Screw the four casters into the threaded holes.

Two, three, and four channel equipment is shipped with the console lying on its back. The tape transport is rotated 90° so that it is in the horizontal position during transit. Open the shipping container completely. Check that the casters are screwed fully in, so that the studs will not be bent when the recorder is tilted to the upright position. Place a board in position to block the casters. Grasp the console at the uprights between the electronic housing and the tape transport and tilt the console up and forward so that it comes to the vertical position, resting on the four casters. Manually support the transport, and loosen the knurled knob on the left inner side of the console base. Position the transport horizontally, and retighten the knob.

2.1.3 Unmounted and Portable Equipment

Equipment which is unmounted, or is mounted in portable cases, is shipped with the tape transport and the electronic assemblies packaged separately. Use special care in unpacking unmounted equipment to prevent damaging critical components, such as the capstan, head assembly, takeup tension arm, etc.

2.2 MOUNTING

When the equipment is ordered with the console, or with portable cases, all assemblies are mounted in position at the factory.

Other equipment can be mounted in standard 19-inch racks, or in custom cabinets. Mounting dimensions are given in Fig. 2-1. The major factor in such mounting is that adequate ventilation must be provided.

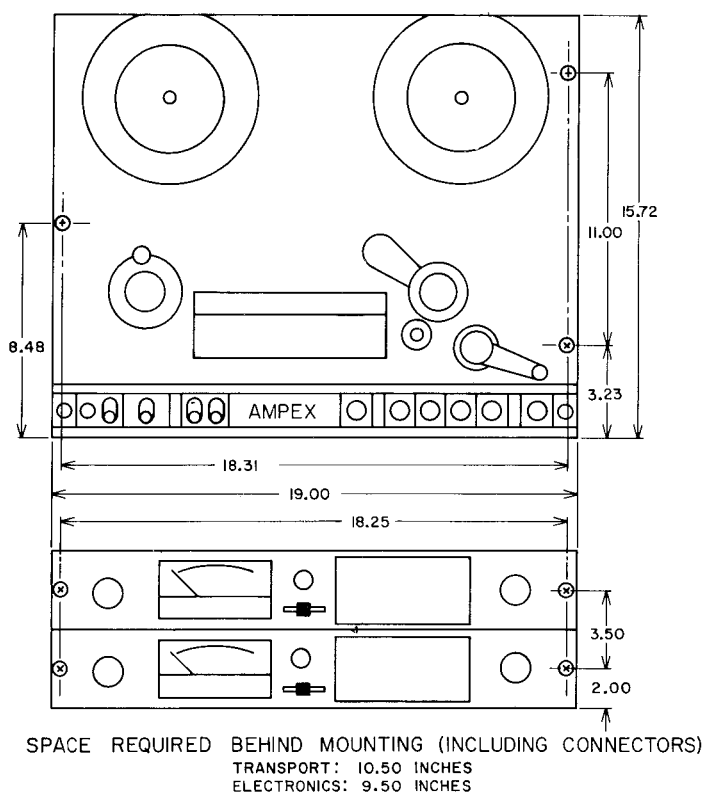


Fig. 2-1. Mounting Dimensions

2.3 REMOVING FRONT PANEL, CONSOLE

Console mounted equipment has a front panel which extends from the front edge of the transport down and around the bottom of the control panel. Its removal will be required to perform some of the installation procedures which are subsequently described.

The panel has a shroud and duct over the drive motor fan (see Fig. 2-2). To remove the panel, first fully loosen the two captive thumb screws on the lower edge (under the transport). Then press up on the angled portion of the panel,

just below the front edge of the transport, and force the lip of the cover out of the slit between the front edge of the transport and the transport frame of the console. Move the top of the panel out to clear the transport frame, then let the whole panel drop down until the shroud and duct are clear of the fan.

To replace the panel, first position the shroud and duct up over the drive motor fan. Insert the lip on the top surface in the slit between the front edge of the transport and the transport frame of the console, pressing it firmly into position. Then tighten the two captive thumb screws.

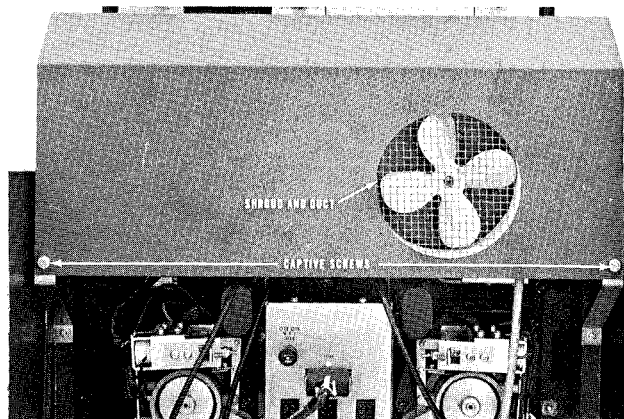


Fig. 2-2. Removing Front Panel, Console

2.4 INTERCONNECTING

When equipment is shipped in a console, all assemblies are interconnected at the factory. It is advisable, however, to check that cables have not vibrated loose in transit.

For portable (record/reproduce) equipment, all connections described must be made each time the recorder is set up in the field. Open the covers on the cases to gain access to cables and receptacles.

Always route power and control cables as far as possible from the input-output cables and the head cables. Receptacles referenced in the following discussion are shown in Figs. 2-3 and 2-4.

a. Connect the power and control cable(s) from the POWER TO ELECTRONICS receptacles (J701 through J704) on the tape transport power supply panel to receptacle J11 on the electronic assemblies. The four receptacles on the tape transport are connected in parallel, so any or all

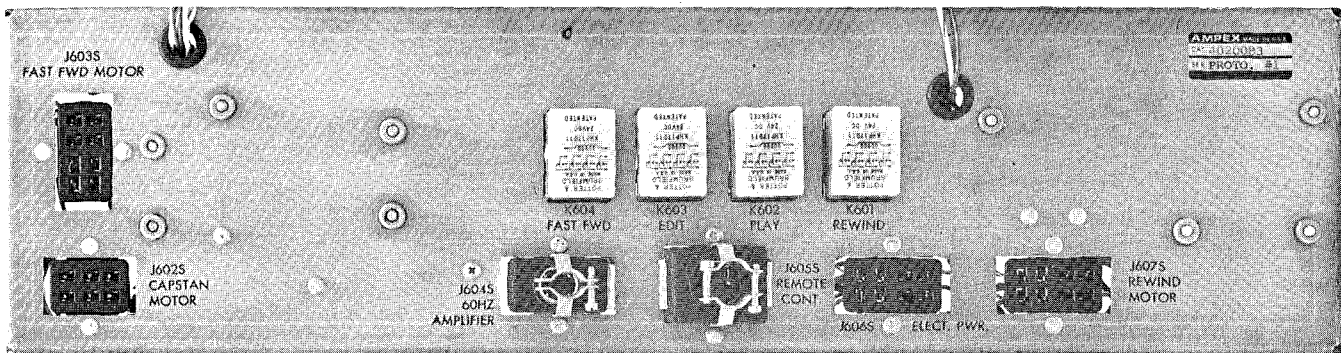


Fig. 2-3. Tape Transport Receptacles

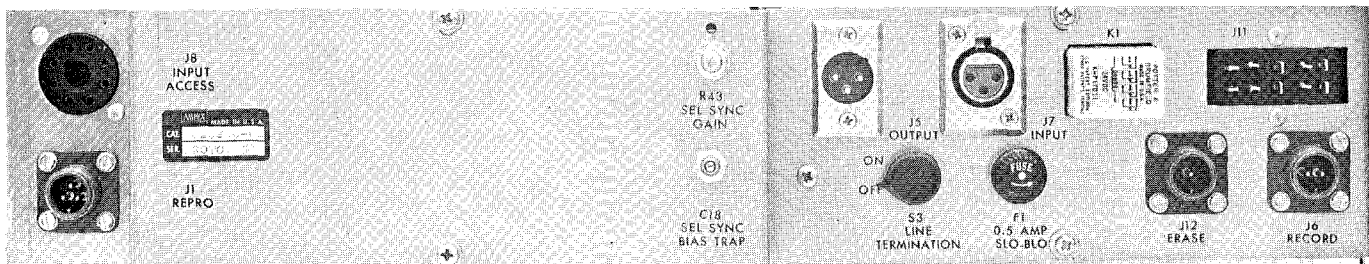


Fig. 2-4. Electronic Assembly Receptacles

of them may be used to connect from one to four electronic assemblies. On reproduce-only equipment, captive power cables are provided on each reproduce module; these cables also are plugged into J701 through J704 on the transport.

b. Connect the head cables, which are captive at the tape transport, to the applicable receptacles on the electronic assemblies. Note that reproduce head cables are terminated in a three pin connector, record head cables in a two pin connector, and erase head cables in a one pin connector. On multi-channel equipment, the head cables are marked with the number of the track to which they correspond; track 1 is that farthest from the top plate.

2.5 CONNECTING SIGNAL LINES

2.5.1 General

Signal INPUT and OUTPUT receptacles are located on the rear panel of the electronic assemblies (see Fig. 2-4). These are standard XL receptacles, and mating connectors for each are provided with the equipment.

2.5.2 Signal Input Connections

To connect a two-conductor, shielded, cable to the line input, wire the signal leads to pin 3 and pin 2 (ground), and the shield to pin 1. With this connection, the dummy plug (which is furnished) will provide an unbalanced line input, either of the accessory plug-in transformers will provide a balanced line input, and the accessory microphone preamplifier will provide a microphone input. These units are inserted in the input accessory receptacle on the back panel of the electronic assembly.

If a single conductor, shielded, line is used, connect the conductor to pin 3 and the shield to pin 2 (this type of connection is applicable only to unbalanced line inputs). Insert the dummy plug in the INPUT ACCESS receptacle.

2.5.3 Signal Output Connections

An unbalanced line output, using two conductor shielded cable, is obtained by wiring the signal leads to pin 3 and pin 2 (ground) and the shield to pin 1, then jumpering pin 1 to pin 2; a balanced line output requires the same connections,

but the jumper is omitted. If a single conductor shielded cable is employed (unbalanced line only) wire the conductor to pin 3, the shield to pin 2, and jumper pins 1 and 2.

In most instances, the LINE TERMINATION switch, on the back panel of the electronic assembly (see Fig. 2-4), is to be left in the OFF position except during test or adjustment procedures. However, if the equipment is to be used to drive a high impedance load (2,000 ohms or more), place that switch in the ON position.

2.5.4 Strapping Output

Record/reproduce equipment is shipped from the factory with the output strapped to provide a +8 dbm operating level output into a 600 ohm line. If a +4 dbm operating level output is required, the circuit can easily be restrapped. Remove the top cover from the electronic assembly. On the right panel (viewing the electronic assembly from the front) there are two terminal strips (see Fig. 6-28).

Terminal strip TB3, toward the back of the assembly, has a jumper wire (item 13, Fig. 6-28) connected between terminals 2 and 3. Remove the end of the jumper from terminal 3, and move it to terminal 1 (the jumper is then connected between terminals 1 and 2). This completes the restrapping procedure. If the operating level output is thus changed, recalibrate the record, reproduce, and bias levels as explained in paragraph 4C.3.7.

Reproduce-only equipment has no optional strapping. The output is adjusted to the desired level by means of the LEVEL control.

2.6 CONNECTING POWER

A power cable is furnished with the equipment. Connect this cable from AC POWER receptacle J601S, on the tape transport control box to the power source.

2.7 INSTALLING ACCESSORIES OR DUMMY PLUGS

2.7.1 Input Transformer or Microphone Preamplifier

The equipment is shipped with a dummy plug (Catalog No. 4030034-30) installed in the INPUT ACCESS socket on the back panel of each electronic assembly (see Fig. 2-4). This plug

provides proper input for an unbalanced line; input impedance is 100,000 ohms. Also supplied for each electronic assembly is a bridging input transformer (Catalog No. 4580200-01). If a balanced line input is employed, remove the dummy plug and insert the transformer in the accessory socket; input impedance with the transformer is 20,000 ohms.

Another input transformer is available. This second unit (Catalog No. 4580200-02) is a matching transformer which supplies approximately 14 db gain; input impedance with this optional accessory is 600 ohms.

If the equipment is to record from a microphone, an optional accessory microphone preamplifier, Catalog No. 4010066, must be installed in the accessory socket. When this two-stage preamplifier is used, the RECORD LEVEL control is connected between the two stages, which effectively makes the preamplifier a variable gain device able to accommodate a wide variety of professional-quality microphones.

2.7.2 Remote Control Unit

With the exception of the edit function, which must be operated at the equipment proper, all modes can be controlled from a remote location. Ampex remote control unit, Catalog No. 4010080, can be plugged into REMOTE CONTROL receptacle J605S on the tape transport control box (see Fig. 2-3).

A feature of the remote control unit is that the automatic tape lifting mechanism can be defeated in the fast-winding modes, so that cueing can be quickly accomplished.

If remote control is not employed, the dummy plug (provided with the equipment) must be inserted in J605S or the recorder will not operate.

2.7.3 Motor Drive Amplifier

A precision drive frequency for the capstan motor can be applied by connecting a motor drive amplifier to 60 Hz AMPLIFIER receptacle J604S on the tape transport control box (see Fig. 2-3). The ac power to the amplifier is taken from pins 1 and 5 of J604S and the precision frequency is returned at pins 4 and 8.

If a motor drive amplifier is not used, a dummy plug (provided with each equipment) must be inserted in J604S or the capstan motor will not operate.

2.7.4 Rear Covers, Console

Rear covers for console mounted equipment are available as optional accessories. These consist of a cover for the console base (Catalog No. 4040982) and individual covers for each electronic assembly (Catalog No. 4040984). When ordered as a set for a complete system the Catalog number is 4010076-01, 4010076-02, 4010076-03, or 4010076-04 (dash numbers indicate the number of electronic covers included in the set).

The rear covers are secured to the back uprights of the console and electronics by captive, spring-loaded, thumb screws which mate with threaded holes in the uprights.

2.7.5 Scrape Flutter Idler

Standard equipment is furnished with a single scrape flutter idler, mounted on the tape transport so that it is between head positions 3 and 4. Mounting facilities are provided on the transport for a second scrape flutter idler, which is mounted so that it is between head positions 2 and 3. Catalog number of the second idler assembly kit is 4010069. The optional idler is larger in diameter than the one normally supplied, so the two idlers are not interchangeable.

Installation of the idler is explained in Section 4, Part A, Conversion and Expansion.

2.8 CHECKING OTHER ITEMS

Check that the following connections and plug-in electronics assemblies have not vibrated loose during shipment.

a. Check that the captive cable from the takeup motor assembly is plugged into receptacle J603S on the tape transport control box.

b. Check that the captive cable from the rewind motor assembly is plugged into receptacle J607S on the tape transport control box.

c. Check that the captive cable from the capstan drive motor assembly is plugged into J602S on the tape transport control box.

d. Check that the captive cable from the electronic power supply box on the tape transport is plugged into J606S on the tape transport control box.

e. The record/reproduce plug-in electronic printed circuit boards are located behind a cover (see Fig. 2-5) which is secured by two screws to the front panel of the electronics assembly. Check that the bias amplifier board, the record board, and the reproduce board are in position.

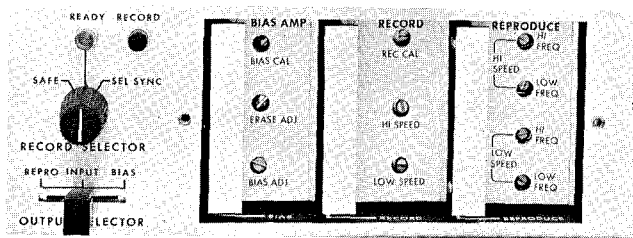


Fig. 2-5. Printed Circuit Boards, in Position

Reproduce-only modules are mounted in one tray behind a solid front cover secured to the tray by captive thumbscrews. Check that a reproduce printed circuit board is plugged into each module.

f. Equalizer circuits are contained on printed circuit boards which plug into connectors at the forward end of the record and reproduce boards (see Fig. 2-6). Check that these boards are in position.

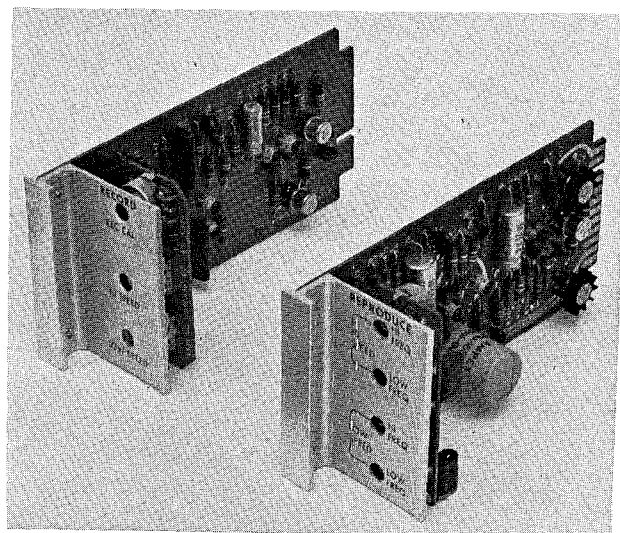


Fig. 2-6. Equalizers, in Position

g. Check that the fuses are intact and are firmly secured in the fuse extractor posts. Two fuses are mounted on the tape transport control box, one is mounted on the power supply box of the tape transport, and one is mounted on the rear panel of each record/reproduce electronic assembly (or each reproduce-only module).

h. Check that the plug-in relays have not vibrated loose. Four of these relays are located on the tape transport control box, and one is located on the back panel of each electronic assembly.

i. Check that the power supply and bias oscillator (power supply only for reproduce-only equipment) printed circuit board is seated in the plug-in receptacle within the power supply box mounted at the back of the tape transport.

2.9 INITIAL LUBRICATION

Before placing the equipment in operation, perform the initial lubrication of the drive motor explained in Section 4B, paragraph 4B.3.2.

