

## Section 3

**OPERATING INSTRUCTIONS****3.1 OPERATING CONTROLS AND INDICATORS****3.1.1 Tape Transport (see Fig. 3-1)**

POWER toggle switch	Controls application of power to entire equipment.
POWER indicator lamp (amber)	Lights when power is applied.
SPEED toggle switch	Selects slow (▼) or fast (▲) speed. (Equalization is automatically switched in accordance with speed selection.)
REEL toggle switches (2)	Used to select correct tension for large (O) or small (o) reel hubs. (One switch for each turntable.)
RECORD pushbutton	Sets the equipment in the record mode. (Tape motion must first be started by pushing the PLAY pushbutton with the RECORD SELECTOR at READY.)
EDIT pushbutton	Changes equipment to stop/edit or play/edit mode from, respectively, stop or reproduce (play) mode. Also overrides automatic tape lifter in the fast-winding modes, to provide fast-winding/edit mode.

REWIND pushbutton	Sets tape supply reel to the fast-winding mode. (Can be initiated from any mode except the record or play/edit modes.)
FAST FWD pushbutton	Sets tape takeup reel to the fast-winding mode. (Can be initiated from any mode except the record or play/edit mode.)
STOP pushbutton	Stops the equipment from any mode.
PLAY pushbutton	Sets equipment for the reproduce mode. (Must be pressed before the record mode can be initiated.)

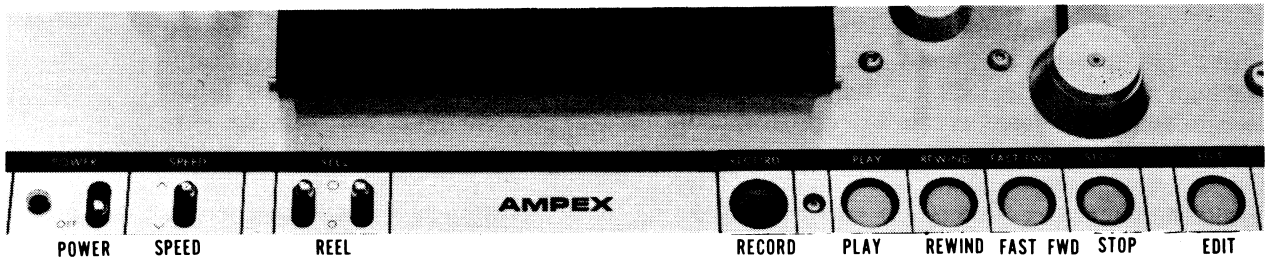
### 3.1.2 Record/Reproduce Electronic Unit (see Fig. 3-1)

REPRODUCE LEVEL rotary control	Used to adjust reproduce level.
Meter	VU meter indicates reproduce, record or bias level, as selected at the OUTPUT SELECTOR switch. Meter lights when power is applied.
RECORD SELECTOR rotary switch	Selects one of three conditions: SAFE (Channel cannot be placed in the record mode.) READY (Channel can be placed in the record mode). SEL SYNC*(Channel will operate in the Sel Sync* condition, refer to paragraph 3.3.2).
PHONES	Output signal for headphone monitoring
Ready indicator light (amber)	Lights when RECORD SELECTOR is at READY; and remains lit while the channel is in the record mode.
Record indicator light (red)	Lights when the channel is in the record mode.
OUTPUT SELECTOR slider switch	Connects one of three signals as follows: REPRO: Signal reproduced from the tape is connected to monitor and output lines, and to the VU meter. INPUT: Signal to be recorded is connected to monitor and output lines, and to the VU meter. BIAS: Bias signal (record mode) is connected to VU meter.
RECORD LEVEL rotary control	Adjusts record level.

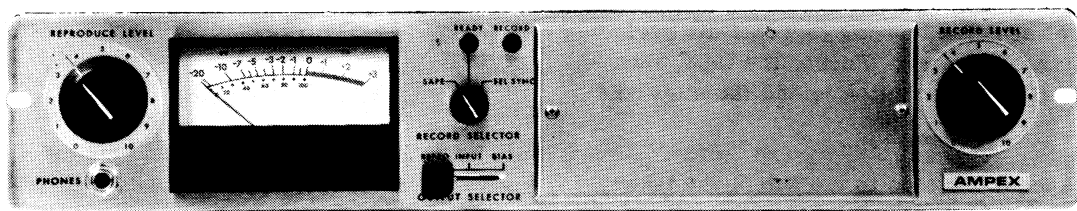
### 3.1.3 Reproduce Electronic Module

LEVEL screwdriver control	Adjusts reproduce level.
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\*TM Ampex Corp.



Tape Transport



Record/Reproduce Unit

Fig. 3-1. Controls and Indicators

### 3.2 PRE-OPERATING PROCEDURES

#### 3.2.1 Applying Power

Set tape transport POWER (toggle switch) to ON (on record/reproduce unit, POWER and VU meter lamps light).

#### 3.2.2 Selecting Tape Speed

The two available tape transport speeds are 3-3/4 or 7-1/2 ips, and 7-1/2 or 15 ips. Low or high speed is selected by setting the SPEED toggle switch to  $\nabla$  (low speed) or  $\wedge$  (high speed).

Electronic equalization is automatically switched to conform to the tape speed selected.

#### 3.2.3 Selecting Reel Hub Size

A REEL toggle switch for the supply reel, and one for the takeup reel are set to conform with the size of the hubs on the reels in use. For NAB hubs (4-1/2-inch diameter) the switch is set at O (large hub). For EIA hubs (2-1/4-inch diameter) the switch is set at o (small hub). A large hub may be used on one turntable and a small one on the other.

#### 3.2.4 Threading Tape (see Figure 3-2)

To facilitate tape threading, apply power, turn tension arm until safety switch clicks, press EDIT pushbutton, then release the arm; this reduces the turntable braking force, so the reels can be easily hand-turned. Thread the tape, then press the STOP pushbutton to end the stop/edit mode.

Anchor the tape to the hub of the takeup reel, then hand-turn the takeup reel until the supply reel moves. This should remove all tape slack, and hold the takeup tension arm out of contact with the safety switch.

#### 3.2.5 Monitoring Facilities

For audio monitoring, plug headsets (or an amplifier/speaker) into the record/reproduce unit PHONES jack (on the front panels).

### 3.3 RECORDING

#### 3.3.1 Without Sel-Sync

Step 1: Switch POWER to ON.

Step 2: Thread blank tape on transport, then close head gate.

#### NOTE

Always bulk-erase any tape that was recorded on equipment with a different head configuration, to make sure that it is completely erased.

Step 3: At tape transport, set tape speed, and set REEL toggle switches for the size of reel hubs in use.

Step 4: Set record/reproduce unit RECORD SELECTOR to READY (READY indicator will light). For channels not to be recorded, set the RECORD SELECTOR at SAFE.

Step 5: Set OUTPUT SELECTOR to INPUT. Using a rehearsal-run or test signal, adjust RECORD LEVEL so the VU meter indicates "O" for most audio peaks (extreme peaks can indicate +2 or +3).

Step 6: Press PLAY pushbutton to start tape in motion, then press RECORD (channels set at READY then record, and the RECORD lamps light).

#### NOTE

During the record run, the input signal may be compared with the recorded signal by setting OUTPUT SELECTOR switch(es) alternately to INPUT and REPRO.

Step 7: Press STOP pushbutton (tape motion stops and record mode ends).

#### 3.3.2 With Sel-Sync

The Sel-Sync circuitry of each record/reproduce unit allows initial recording, and then additional recording in synchronization with the recorded material on other channels.

Step 1: Make recording according to paragraph 3.3.1.

Step 2: Rewind tape to align heads with the tape location to start re-recording.

Step 3: On record/reproduce unit(s) which recorded the previous run(s), set RECORD SELECTOR switch(es) to SEL-SYNC.

Step 4: Set RECORD SELECTOR switch(es) on the recording record/reproduce units at READY and OUTPUT SELECTOR switch(es) at INPUT. Use a rehearsal-run or test signal to adjust RECORD LEVEL so the VU meter indicates "0" for most audio peaks (extreme peaks can indicate +2 or +3).

Step 5: Set OUTPUT SELECTOR on recording channels to REPRO.

Step 6: Place monitor headset on performer.

Step 7: Press PLAY, then RECORD pushbuttons (performer hears recording, so he can perform in synchronization with it).

Step 8: Press STOP pushbutton (tape motion stops and record mode ends).

Step 9: For each channel the performer is to monitor, set the corresponding RECORD SELECTOR at SEL-SYNC, and set all others at SAFE.

Step 10: Repeat procedure for each additional channel to be recorded.

### 3.4 REPRODUCING

Step 1: Switch POWER to ON.

Step 2: On all record/reproduce units, set RECORD SELECTOR at SAFE.

Step 3: Thread recorded tape on transport then close head gate. On two-channel equipment with the normal two-track head and a 1/4-track head, push the switching knob down-to select the two-track head, or up-to select the 1/4-track head.

Step 4: Select tape speed corresponding to speed at which tape was recorded. Set REEL toggle switch on each turntable for the size of the reel hubs in use.

Step 5: Set OUTPUT SELECTOR to REPRO on record/reproduce units (otherwise there will be no output).

Step 6: Press PLAY pushbutton (tape starts in the reproduce mode). Adjust REPRODUCE LEVEL as necessary (on reproduce modules the control is behind the mounting tray front cover).

Step 7: Press STOP pushbutton (if tape runs completely off the supply reel, operation will automatically stop).

### 3.5 FAST-WINDING

For tape editing or cueing, the tape is rapidly wound by pressing the REWIND or FAST FWD pushbuttons. The pushbuttons can be pressed alternately, without first stopping tape motion. When the desired tape area is reached, press the STOP pushbutton (if tape runs off either reel, operation will automatically stop). Either fast-winding mode can also be entered from the stop or play modes, but is locked-out when in the record, or play/edit mode (in play/edit the takeup tension arm doesn't hold the safety switch closed, thus fast-winding is locked-out).

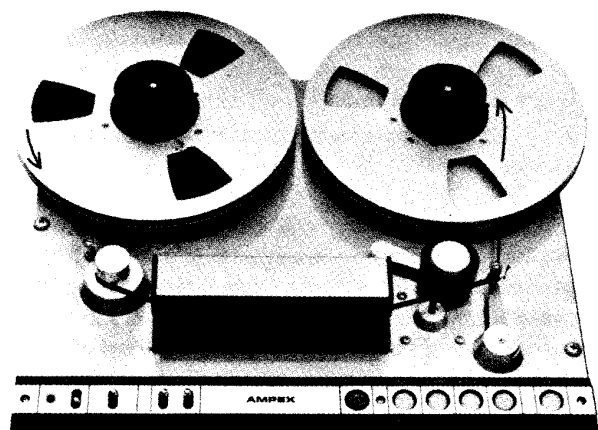


Fig. 3-2. Tape Threading Path

To enter other modes from the fast-winding modes, press the STOP pushbutton, then when tape motion stops, actuate the control for the mode selected.

#### CAUTION

Allow fast-winding tape motion to stop before pressing the PLAY pushbutton to avoid breaking or stretching the tape.

Two automatic tape-lifter arms (removing tape from head contact) are automatically actuated in both fast-winding modes. For fast-winding audio monitoring, the EDIT pushbutton is then pressed (this overrides the tape lifter). When manual override is desired, open the head gate and push the head-lifter post back.

### 3.6 EDITING

The three edit modes available are stop/edit, play/edit, and fast-winding edit.

The stop/edit mode can be initiated, with the tape stationary, by pressing the EDIT pushbutton. If the tape isn't threaded, the takeup-tension arm must be held away from the safety switch to reduce turntable braking force, so the reels can be easily rotated by hand. The stop/edit function facilitates manual cueing and threading of the tape. To end the stop/edit mode, press the STOP pushbutton.

The play/edit mode can be initiated from the reproduce mode by pressing the EDIT pushbutton. The tape continues in motion (speed controlled by the capstan) but the takeup turntable stops and the tape spills off the transport right side. This mode is used mainly to cut out unwanted tape.

Fast-winding/edit is entered by pushing the EDIT pushbutton when in the fast forward or rewind mode. This over-rides the tape lifter so audio monitoring is possible. This mode is primarily for quickly reaching a desired tape area (for rough cueing).