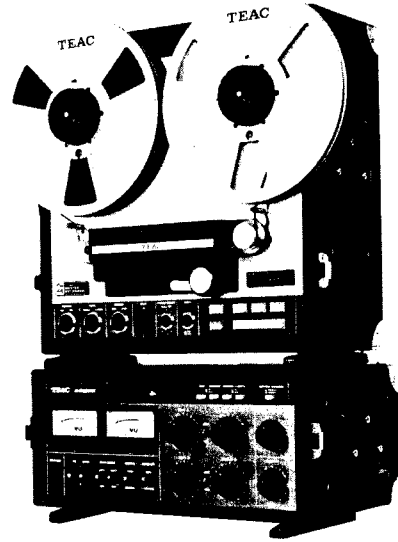


# SERVICE MANUAL

**2** 2 track  
MASTER  
RECORDER

# A-7300RX

Stereo Tape Deck with dbx System



# 1. GENERAL DESCRIPTION

TEAC'S A-7300RX is a high quality stereo tape deck representing a new Generation in the design and construction of recording equipment. It contains all of the features which made the earlier A-7300 a highly rated open reel tape deck. In addition the A-7300RX has built-in dbx\* noise reduction circuitry for superior live recording capability. This deck includes dbx type I Noise reduction system, MPX filter, CUE system, PITCH CONT, EDIT function system, etc. We have produced the new A-7300RX, to provide complete flexibility in selection of recording tapes and to provide state of the art quality in your deck. The basic design of the A-7300RX is highly similar to that of the A-7300. Therefore much of the information in this Service manual may be applied to the A-7300 also.

\* dbx noise reduction system made under license from dbx, Incorporated. The word dbx and the dbx symbol are trademarks of dbx, Incorporated.

## NOTE

1. When placing an order for parts, please refer to the PARTS LIST which is printed separately from this manual.
2. File the PARTS LIST manual together with this SERVICE MANUAL, Future TECHNICAL INFORMATION sheets should also be kept with these.
3. Section numbers and Fig. reference numbers are not directly related.

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## 2. SPECIFICATIONS AND SERVICE DATA

### 2-1 SPECIFICATIONS

Track System	1/2-Track, Two-channel Stereo or mono
Reel Size	10-1/2" and 7"
Tape Speed	15 ips (38 cm/sec) and 7-1/2 ips (19 cm/sec), $\pm 0.5\%$
Inputs (Level and Impedance)	Line: Specified Input Level: -8 dB (308 mV) /50k ohms Min. Input Level: -18 dB ( 97 mV) MIC: Specified Input Level: -60 dB (0.774 mV) 30k ohms Min. Input Level: -70 dB (0.244 mV)
Outputs (Level and Impedance)	Output (SOURCE/TAPE): Specified: -8 dB (308mV) /10k ohms Maximum: -2 dB (615 mV) Output (ENCODER); Specified: 8 dB (308mV) /50k ohms Headphones: -24 dB (49 mV) /8 ohms
Playback Equalization	15 ips (38 cm/sec): NAB (50 $\mu$ sec, 3180 $\mu$ sec) 7-1/2 ips (19 cm/sec): NAB (50 $\mu$ sec, 3180 $\mu$ sec)
Heads	Three: Erase, Record and Playback
Noise Reduction System	dbx System type 1
Motors	One direct Drive DC Servo Capstan Motor; Two Eddy Current Induction Reel Motors
Bias Frequency	100 kHz ( $\pm 5$ kHz, Push-Pull oscillator)
Power Requirement	100/117/220/240 VAC, 50/60 Hz, 83W
Dimensions (WHD)	Transport: 470 x 455 x 300 mm (18-1/2" x 17-15/16" x 11-13/16") Amplifier: 470 x 205 x 310 mm (18-1/2" x 8-11/16" x 12-1/4")
Weight	Transport: 28 kg (61-3/5 lbs) net Amplifier: 13 kg (28-3/5 lbs) net

### 2-2 SERVICE DATA –MECHANICAL–

Tape Speed Deviation and Drift	3,000 Hz $\pm 30$ Hz, within 20 Hz
Wow and Flutter	Playback: 0.05% (WRMS) at 15 ips 0.06% (WRMS) at 7-1/2 ips Overall: 0.12% (RMS) at 15 ips 0.15% (RMS) at 7-1/2 ips
Pinch Roller Pressure	1.8 kg to 2.2 kg (4.0 to 4.8 lbs)
Reel Torques	TAKE UP TORQUE;

REEL SW	TAKE-UP
LARGE	530 to 570 g cm (7.4 to 8.0 oz-inch)
SMALL	330 to 370 g cm (5.0 to 5.1 oz-inch)

#### BACK TENSION;

REEL SW	BACK TENSION
LARGE	430 to 470 g cm (6.0 to 6.6 oz-inch)
SMALL	280 to 320 g cm (3.9 to 4.6 oz-inch)

Con't on next page

Fast Forward Torque	1,900 g cm $\pm$ 100 g cm (26 oz-inch)
Fast Forward/Rewind Time	150 seconds for 1,800 foot tape
Brake Torque	2,200 g cm $\pm$ 100g cm (31 oz-inch)
Pitch Control	3,000 Hz $\pm$ 5% or more
Counter Accuracy	$\pm$ 1.5% at 15 ips play mode

### 2-3 SERVICE DATA –ELECTRICAL–

Frequency Response	Refer to Frequency Response Limits chart
Signal-To-Noise Ratio	Overall: 60 dB or higher with dbx, 48 dB or higher without dbx
Erase Efficiency	65 dB or more at 1 kHz signal (measured with input 10 dB higher than the specified Input Level)
Crosstalk Rejection	35 dB or more, adjacent track at 125 Hz
Stereo Channel Separation	45 dB or more, channel to channel at 1 kHz
Total Harmonic Distortion	Overall: 0.8% with dbx at 1 kHz normal operating level

**NOTE:** Service Data were determined using TEAC YTT Series Test Tape. Improvements may result in feature or specification and service data changes without notice.

## 3. TOOLS FOR TESTING AND MAINTENANCE

A minimum of the following tools and test instruments are required for measuring and adjusting to obtain optimum performance. Regular maintenance tools will be adequate for those not listed here. If any test instrument listed here is not available, a close equivalent can be used.

WOW AND FLUTTER METER . . . . .	Meguro Denpa Sokki K.K., Model MK-668A or D & R Co., Model FL-4B
AC VTVM . . . . .	Hewlett-Packard Co., Model 400E (0.1 mV – 300 V)
DIGITAL FREQUENCY COUNTER . . . .	Range; 10 Hz – 100 kHz
BAND-PASS FILTER . . . . .	1 kHz narrow band-pass type
OSCILLOSCOPE . . . . .	General Purpose
AF OSCILLATOR . . . . .	10 Hz – 100 kHz
ATTENUATOR . . . . .	General Purpose
DISTORTION ANALYZER . . . . .	Basic Freq. 400 Hz/1 kHz
TOOLS . . . . .	Spring scale; 0–4 kg (0–8 lbs) 0–1 kg (0–2.2 lbs) Hex head Allen Wrench, Plastic alignment tool, Load resistor non-inductive type 8 ohm/1 W
HEAD DEMAGNETIZER . . . . .	TEAC E-3 or equivalent
TEAC TEST TAPE . . . . .	YTT-1003 (7-1/2 ips), YTT-1004 (15 ips) for Playback Alignment test, YTT-8013, YTT-8003 and YTT-8023 for Recording test, YTT-2003 (7-1/2 ips), YTT-2004 (15 ips) for Tape Speed and Wow/ Flutter test
TEAC EMPTY REEL . . . . .	RE-702 (2.5" dia, hub), RE-701 (4" dia, hub)

## 4. PARTIAL DIS-ASSEMBLY

### 4-1 REMOVING TAPE TRANSPORT CASE, AMPLIFIER CASE AND CASE LEGS

#### TAPE TRANSPORT

#### AMPLIFIER

See illustration for complete dis-assembly instructions.

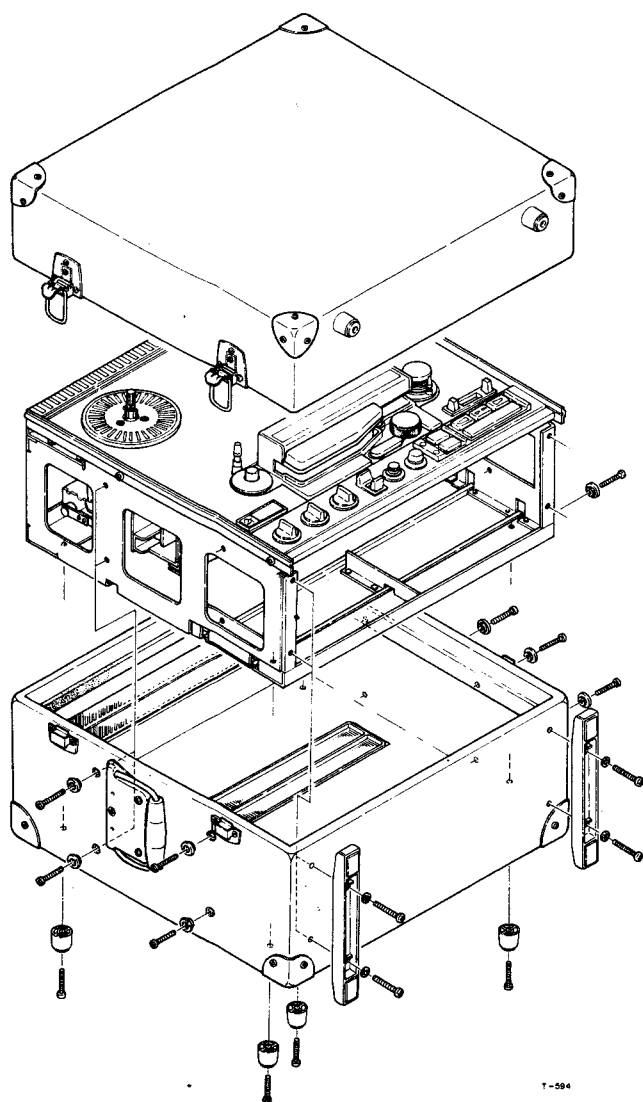


Fig. 4-1 Removing Tape transport and Case legs

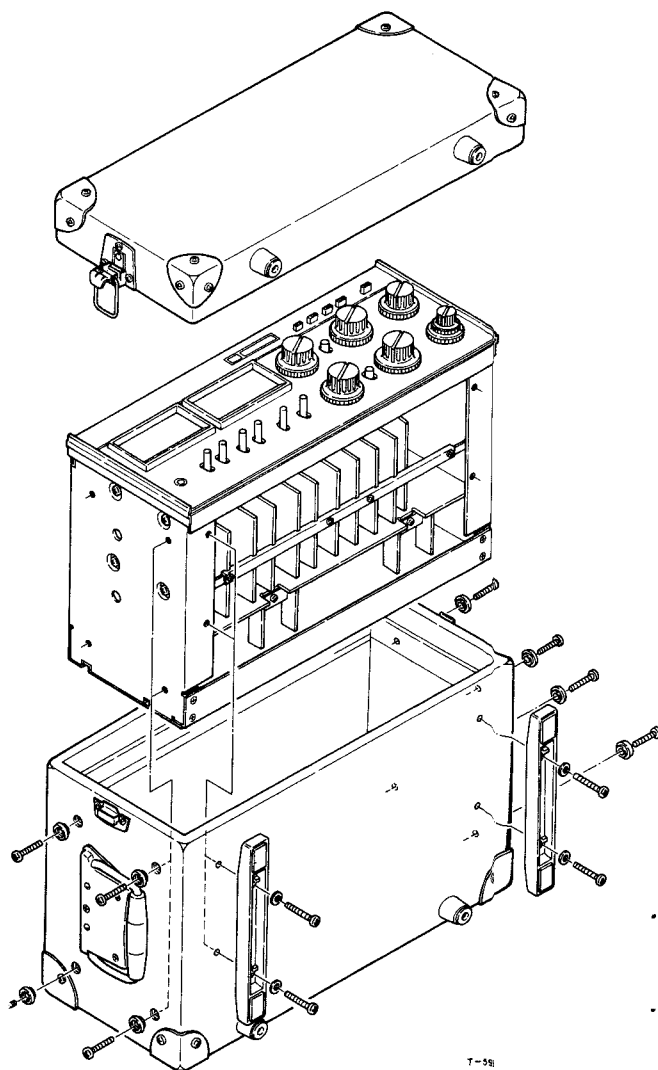


Fig. 4-2 Removing Amplifier and Case legs

## 4-2 HEAD HOUSING BASE AND HEAD ASS'Y REMOVAL

### HEAD HOUSING BASE REMOVAL

1. Remove power from the unit.
2. Open the head housing (A).
3. Remove Name Plate (B).
4. Remove head housing Link ass'y (C) by removing 4 screws (remove with spring (D) and Anti-spoiler (E)).
5. Remove head housing Base (F) by removing 2 mounting screws.
6. Gently move head housing base (F) toward the top of the deck.

### HEAD ASS'Y REMOVAL

7. Remove 4 mounting screws from the head assembly (G) and remove the 2 pin jacks and the 9 pin connector mounted on the rear of the head housing.
8. Lift off head assembly.

**NOTE:** After the head is replaced be sure to replace the shield case and tighten the 2 counter-sunk screws on the rear of the head assembly plate. Also insure that the spring (D) on the head housing is properly set in the slot on the head housing.

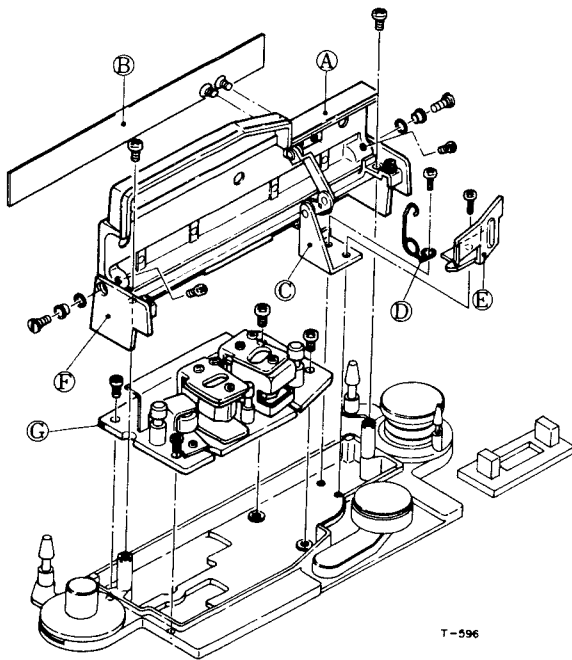


Fig. 4-3 Head Housing Base and Head ass'y Removal

## 4-3 REMOVAL OF REEL MOTORS

1. Loosen 2 set screws (hex head) in Reel Turntable ass'y (A) and 2 in the Brake Drum (C). Lift off these parts.
2. Disconnect the 4 motor wires from terminals and release wire harness straps.
3. Remove 3 screws securing the Brake ass'y (D) to the motor.

**NOTE:** Use care not to bend the brake band or brake shaping retainer during removal.

4. Remove 4 screws securing Reel motor (B) to chassis through the front panel.

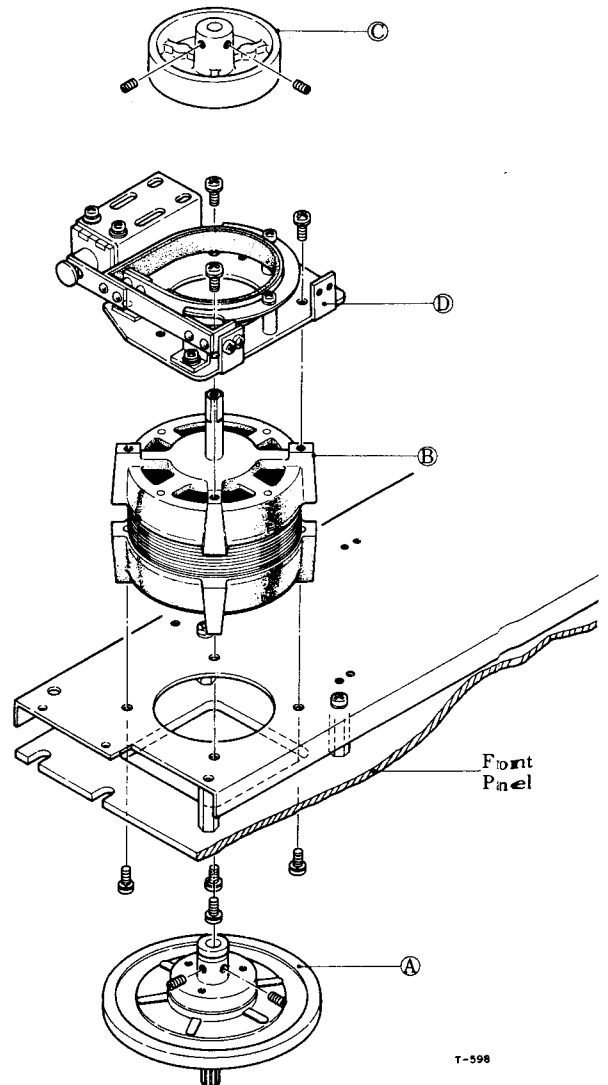


Fig. 4-4 Reel Motor Removal

#### 4-4 REMOVAL OF TENSION ARM (RIGHT) AND DRIVE ROLLER ASS'Y

1. Remove power from the unit.
2. Remove Tape transport Case (See step 4-1 on page 6).
3. Loosen 1 set screw in Drive Roller Pulley (A).
4. Lift off the Drive Roller ass'y (B). Watch for the spacer.
5. Remove 4 screws in Tension Arm Ring (C).
6. Lift off these parts, Tension Arm Ring (C) and Tension Arm (D).

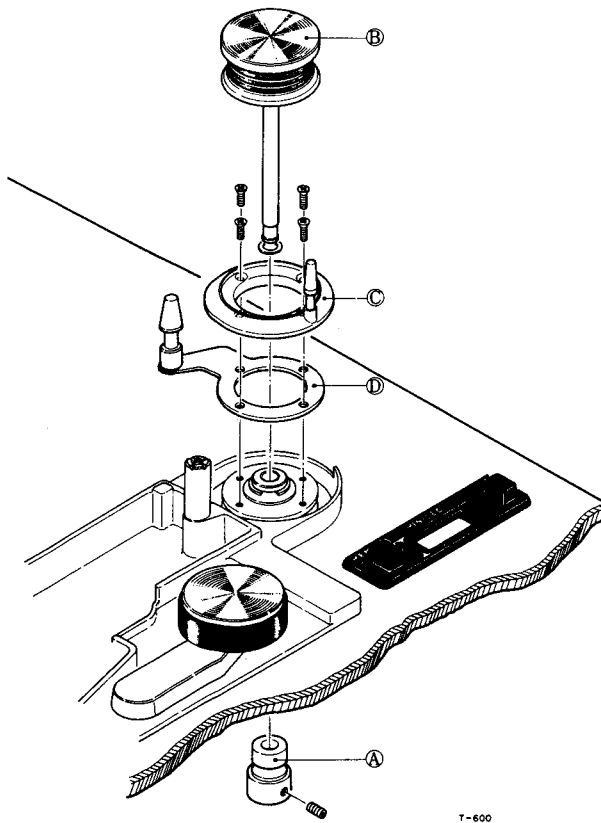


Fig. 4-5 Right Tension Arm and Drive Roller ass'y Removal

#### 4-5 REMOVAL OF TENSION ARM (LEFT)

1. Do steps 1 and 2 of Section 4-4.
2. Unscrew Cap (A) from front panel.
3. Remove 4 screws in Tension Arm ass'y (B). Lift off these parts.

**NOTE:** When replacing Tension Arm ass'y be sure to position tape guide section in the original position.

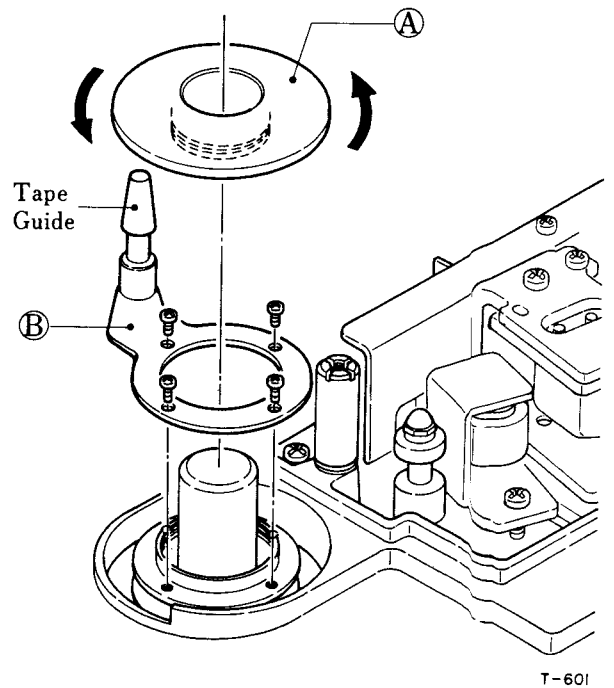


Fig. 4-6 Left Tension Arm Removal

#### 4-6 REMOVAL OF PINCH ROLLER ASS'Y AND PINCH ROLLER ARM

1. Do steps 1 and 2 of Section 4-4.
2. Loosen 3 set screws in Solenoid Arm (A).
3. Lift off Pinch Roller Arm (B) from front panel Watch for the washers.

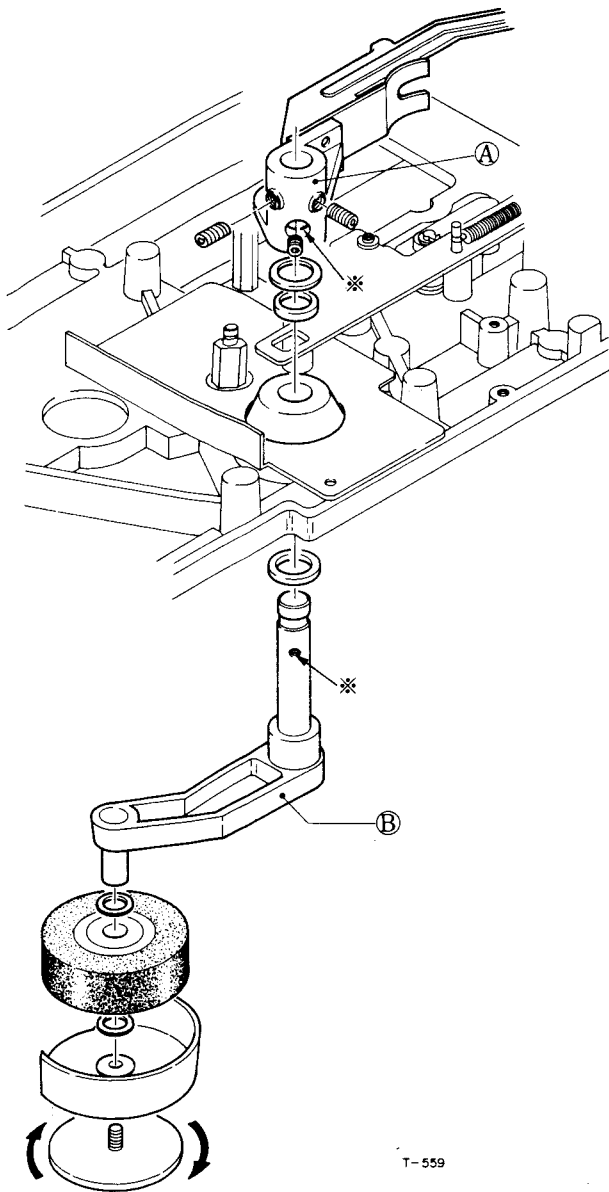


Fig. 4-7 Pinch Roller ass'y Removal

#### 4-7 REMOVAL OF CAPSTAN MOTOR ASS'Y

1. Do steps 1 and 2 of Section 4-4.
2. Dis-connect Multi 11P Socket (B).
3. Remove 3 mounting screws on Motor ass'y.
4. Carefully lift off the Motor ass'y. (A).

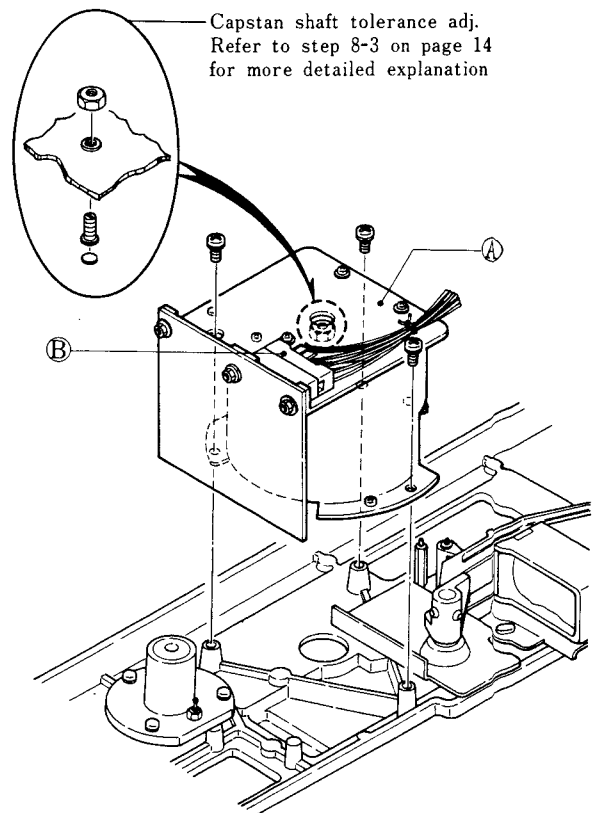


Fig. 4-8 Capstan Motor ass'y Removal



## 5. PARTS LOCATION

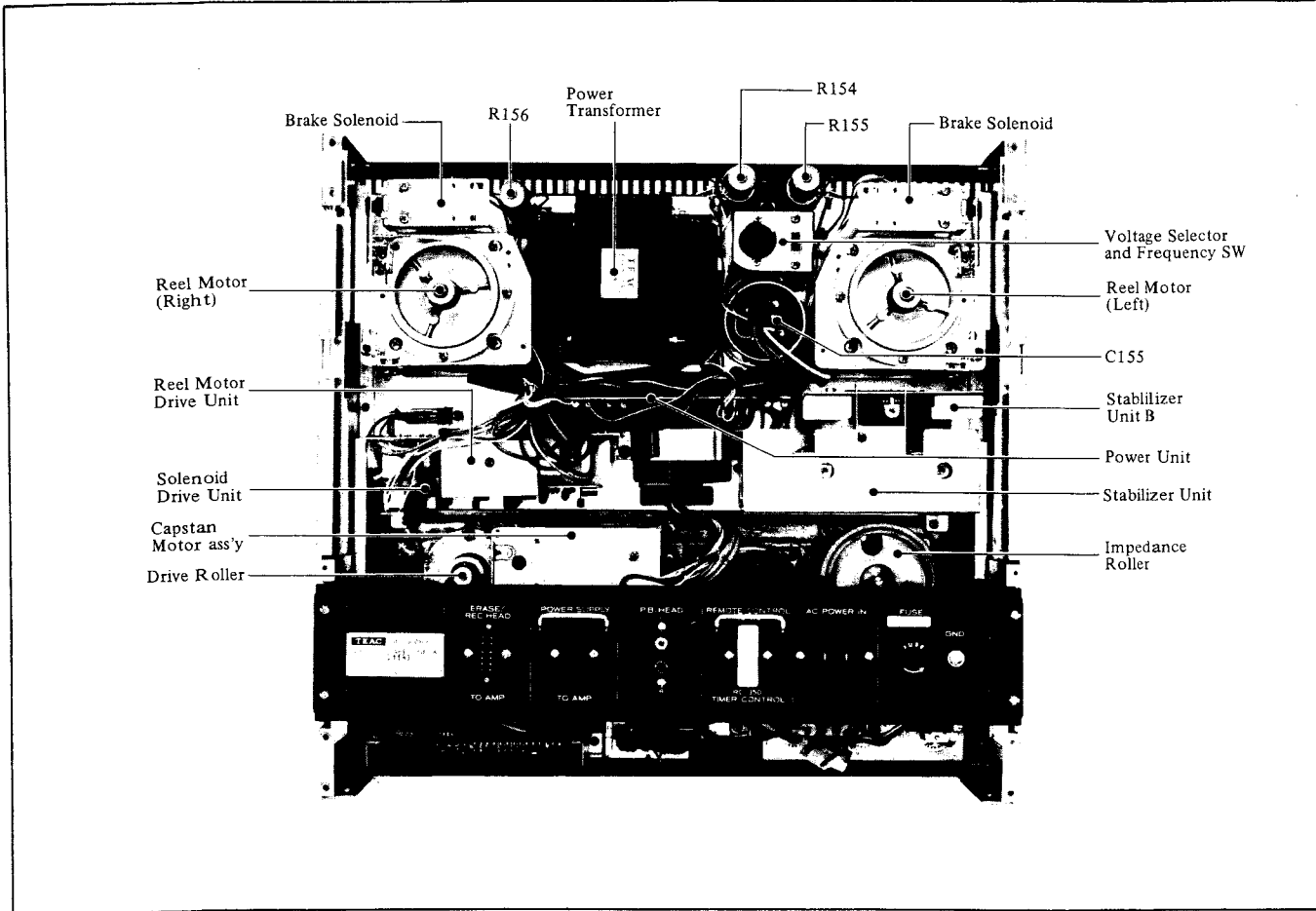


Fig. 5-1 — Mechanical Section —

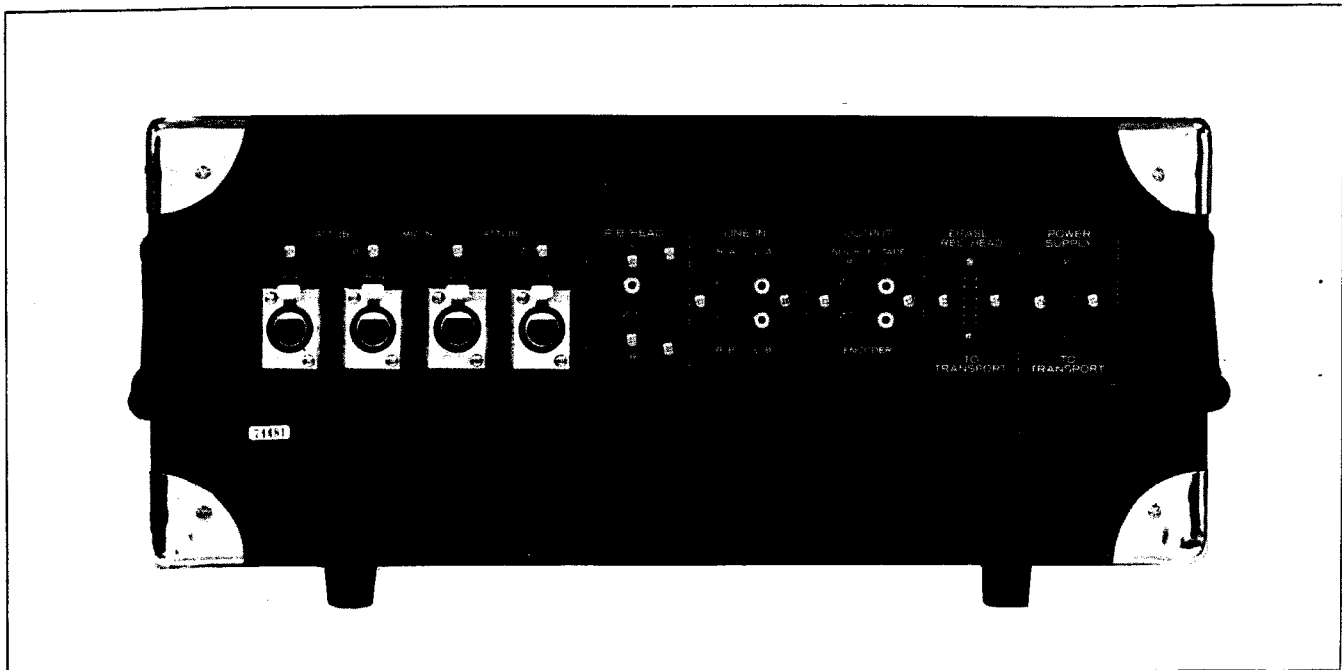


Fig. 5-2 — Amplifier Section —  
Connections Location

## 6. SERVICING AND MAINTENANCE

### 6-1 CLEANING

TEAC TZ-261A and TZ-261B may be used for following places.

TZ-261A	TZ-261B
Pinch roller rubber	Heads
Counter belt	Capstan shaft
Brake drums	Tape run guides

### 6-2 LUBRICATION

Under normal operation, lubrication is required only once each year. Operate the deck for 30 minutes to 1 hour immediately prior to oiling. After oiling, keep the deck in the upright position for 3 to 4 hours to allow thorough penetration of the oil. Approximately once each year or after 2,000 hours of use, apply TEAC TZ-255 Lubricating Oil to the following places only;

- Pinch roller shaft . . . . . 1 drop  
(Remove cap)
- Capstan shaft . . . . . 2 drops  
(Remove the dust cap for access to the oil pit)

**NOTE:** Neither the reel motors, which utilize oilless metal bearings, nor the direct drive DC capstan motor require oiling. Therefore, no oiling access tubes are provided.

Excessive oiling will scatter oil inside the deck. Check for slippage and clean all parts inside the deck before operating after lubrication. Check for oil emission after operation and before returning deck to the customer.

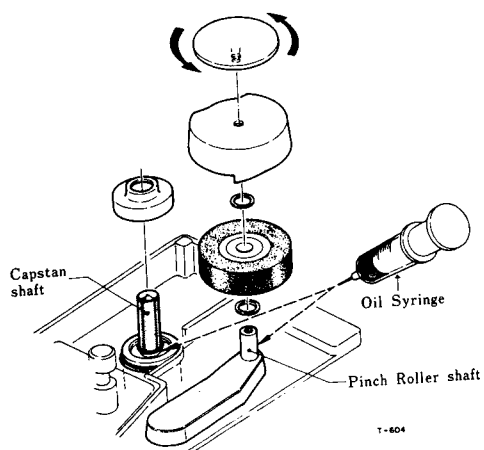


Fig. 6-1 Capstan Shaft and Pinch Roller Shaft Oiling Points

### 6-3 TEAC MAINTENANCE FLUIDS



Fig. 6-2 TZ-261 Tape Recorder kit



Fig. 6-3 TZ-255 Oil kit

### 6-4 DEMAGNETIZATION OF HEADS

If the record or Playback heads becomes magnetized, noise will increase and tonal fidelity will deteriorate. For this reason it is advisable to use non-magnetic tools when working near the heads. If the heads have had any contact with current or magnetized metal parts, demagnetize them with a TEAC E-3 eraser or Equivalent.

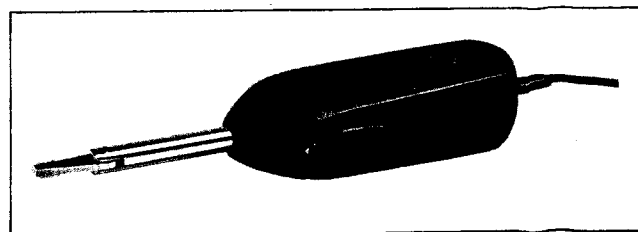


Fig. 6-4 TEAC E-3

# 7. HEAD REPLACEMENT AND ALIGNMENT

## —MECHANICAL—

### 7-1 HEAD REPLACEMENT

1. Remove head housing and head ass'y.  
Refer to section 4-2 on page 7.
2. Loosen 2 counter-sunk screws (A) from the rear plate of the head assembly and remove 2 small screws (B) from the top of the head. Then slide off the shield case (C).
3. To replace a single head, a nut driver is required. Remove the 2 nuts (D) on the defective head through the access hole provided. This releases the head from the mounting plate.

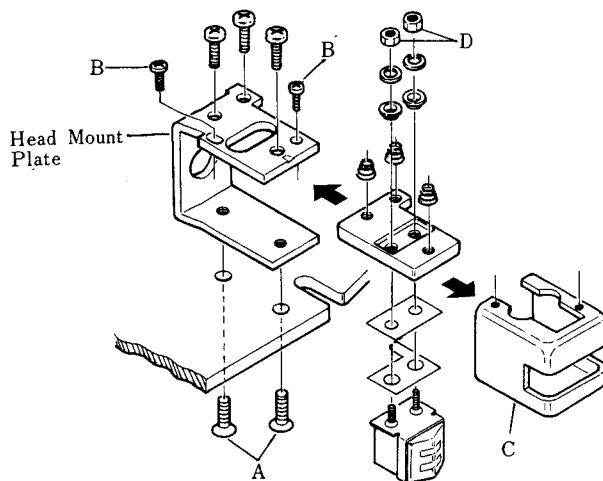


Fig. 7-1 Head Replacement (Playback)

### 7-2 HEAD ADJ. SCREWS AND ALIGNMENT

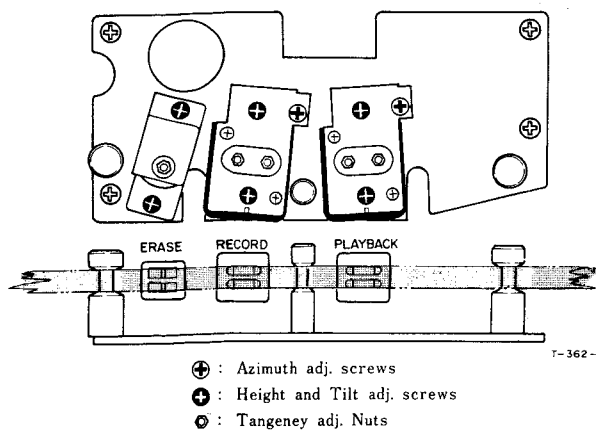


Fig. 7-2 Head Adjustment Screws and Alignment

### 7-3 VISUAL HEAD ALIGNMENT

Since the propriety of head alignment affects the frequency response on both playback and recording, the head alignment should be done carefully. The head can be adjusted in TILT, TANGENCY, HEIGHT and AZIMUTH.

For head alignment, perform the following coarse adjustments first. Then fine alignment should be accomplished electrically while playing back the Test Tape.

#### Coarse Adjustment:

Without Tape

TILT . . . . . By Height and tilt screws

This alignment is performed by viewing from the side without tape threaded.

Check that the head surface is parallel to the tape guide surface.

With Tape

TANGENCY . . . . . By Head mounting Nuts

Loosen the head mounting nuts. Adjust the head so that the vertical alignment of the head gap is perpendicular to the surface of the tape, then tighten the head mounting Nuts.

HEIGHT . . . . . By Height and Tilt screws

This alignment is checked visually by looking at the position of the head.

The head core for track-1 (inner core) should be even with the inner edge of the tape.

AZIMUTH . . . . . By Azimuth adj. Screw

Adjust the azimuth adj. screw so that the gap of the head is perpendicular to the tape travel.

**NOTE:** After this coarse adjustment is made, the adj. screws and the Head mounting nuts should be realigned according to electrical head alignment paragraph which follows in this Service Manual.

### 7-4 MIS-ALIGNMENT OF THE HEADS

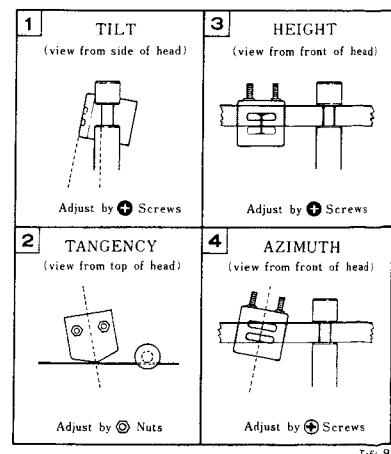


Fig. 7-3 Head Mis-Alignment -Examples-

## 8. MEASUREMENT AND ADJUSTMENT

### —MECHANICAL—

These adjustments should be performed by experienced technicians, and then only when going through the complete test and check procedures on the unit which is being tested. The TEAC A-7300RX uses highly reliable AC Motors for both reel motors, and a DC direct-drive capstan system. It should require a minimum of mechanical maintenance or adjustment. These adjustments are made at the factory. Readjustments should only be required after long periods of operation or component replacement. The following procedures are primarily performance checks. Before performing these checks a complete cleaning, demagnetization and lubrication should be accomplished as outlined in the preventive maintenance section of this manual. See page 11.

#### 8-1 CHANGING THE POWER LINE SETTING

Disconnect the deck from ELECTRICAL Power.

##### Voltage Selection:

1. Remove the outer case of the Transport Unit.
2. Locate the voltage selector plug shown in Fig. 8-1.
3. Pull out the plug and reinsert it so that the desired voltage appears in the cut-out window of the plug.
4. Only the voltages indicated on the selector plug socket can be selected with the selector plug. If you desire to use your deck connected to a voltage that is not indicated on the plug socket, please contact your TEAC authorized service center or TEAC dealer.

##### Frequency Conversion:

To change the selected power line frequency, just set the slide switch pictured in Fig. 8-1 to the 50 or 60 Hz position as desired. Remove the outer case of the transport Unit for access to the slide switch.

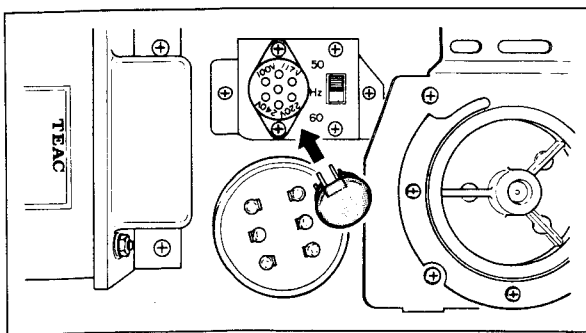


Fig. 8-1 Power Line Setting Location

##### Adjustment procedure:

1. Place the Power switch to ON.
2. Connect a Voltmeter or VTVM across the 24 V Test Point.
3. Adjust VR-21 if needed to obtain  $24\text{ V} \pm 0.5\text{ V DC}$ .
4. Adjust VR-22 for  $5\text{ V} \pm 0.25\text{ V}$  at output Test Point (Pink Lead Socket).

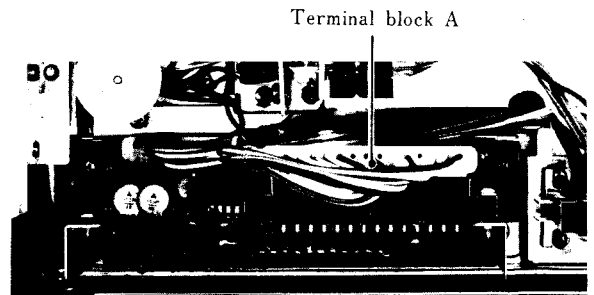


Fig. 8-2 Terminal Block A Location

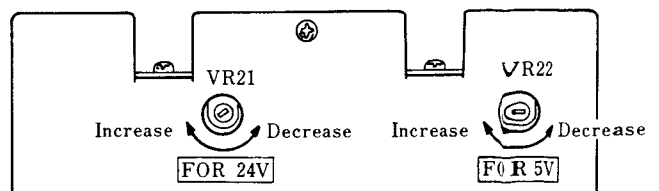


Fig. 8-3 Adjustment Location

#### 8-2 ADJUSTMENT OF D.C. (on STABILIZER UNIT)

**NOTE:** To prevent damage to the motor and control circuitry:

1. Remove terminal Block A from the Control PC board. See Fig. 8-2.
2. Disconnect the 11 pin connector from the motor. See Fig. 8-4.

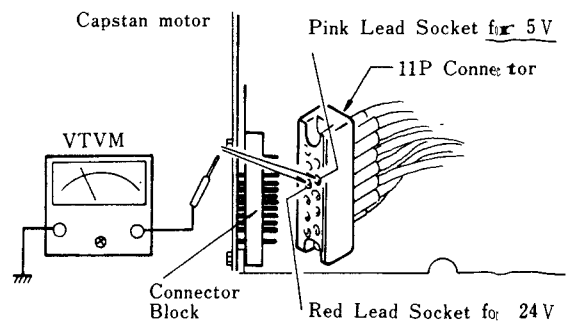


Fig. 8-4 Test Points

### 8-3 CAPSTAN SHAFT TOLERANCE ADJUSTMENT

1. Check that the capstan motor moves freely without binding on the Thrustplate.
2. Check that the clearance between the motor shaft tip and the Thrustplate is between 0.1 and 0.3 millimeter.
3. To adjust, first loosen the locking nut; then set with a common screwdriver for **approx. 0.2mm clearance**. Check by observing the capstan movement.
4. Tighten the Lock Nut and secure with locking paint.

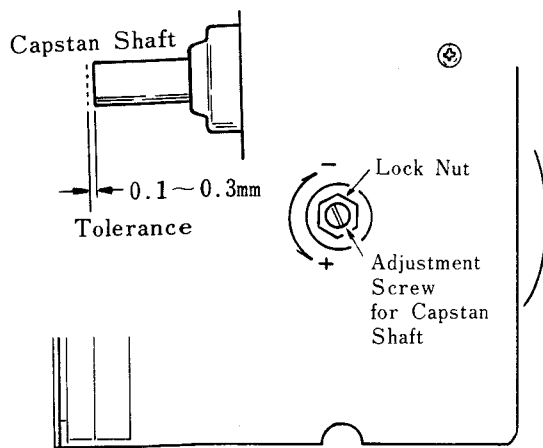


Fig. 8-5 Shaft Tolerance Adj. Location

### 8-4 TAPE SPEED ADJUSTMENT

Place the PITCH CONT to the OFF position. The tape speed should be measured using TEAC flutter free tape, Model YTT-2004 (15 ips), YTT-2003 (7-1/2 ips).

These tapes contain a highly accurate 3,000 Hz tone. Connect a digital frequency counter to either line OUTPUT jack. See Fig. 8-7. The indicated frequency should be 3,000 Hz ( $\pm 10$  Hz or less) for both speeds. If necessary, adjust Tape Speed adjusters on the CAPSTAN MOTOR. See Fig. 8-6.

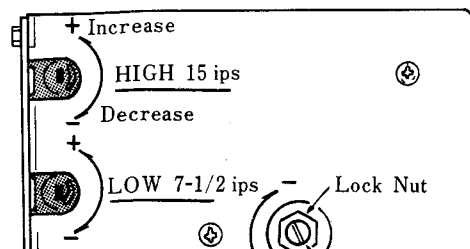


Fig. 8-6 Tape Speed Adjustments

### 8-6 WOW AND FLUTTER CHECK

**NOTE:** Before performing this measurement, clean the head and Tape run guides, also check pinch roller pressure, etc.

Use new Test Tape if possible for following adjustments.

Values obtained with different standards of equipment cannot be compared.

#### PLAYBACK

1. Connect Test equipment to the unit as shown Fig. 8-7. (Except oscillator).
2. Load TEAC YTT-2004 (for HIGH, 15 ips) or YTT-2003 for LOW, 7-1/2 ips) and playback tape.
3. Read the indication on the Wow and Flutter meter.
4. The Wow and Flutter should be  
**0.05% or less for 15 ips (WRMS)**  
**0.06% or less for 7-1/2 ips (WRMS)**

#### OVERALL

1. Connect Test equipment to the unit as shown in Fig. 8-7.
2. Load TEAC YTT-8003 (blank tape) Test Tape on the unit and Record a 3000 Hz input signal.
3. Rewind and playback the recorded signal.
4. The reading on the Meter should be  
**0.12% or less for 15 ips (RMS)**  
**0.15% or less for 7-1/2 ips (RMS)**

**NOTE:** These figures apply to any tape position (such as full take-up reel, full supply reel or about mid-point). Also examine the tape counter ass'y for evenness of operation.

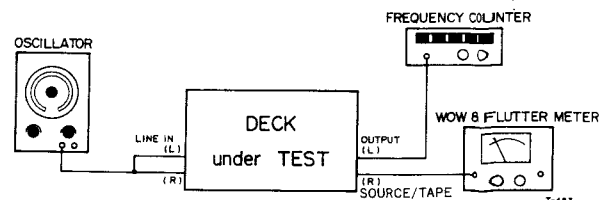


Fig. 8-7 Test Connections for Wow/Flutter and Tape Speed Test

## 8-7 PINCH ROLLER PRESSURE

**NOTE:** Pinch roller pressure is supplied by the pinch roller solenoid arm and it is most important that the solenoid plungers be fully bottomed before taking pressure measurement.

1. Load tape or block the shut-off arm in the "ON" position. Remove the Pinch Roller Cap.
2. Attach a suitable spring scale to a screw inserted in the pinch roller shaft.
3. Place the unit in the PLAY mode, and holding the spring scale as illustrated, slowly draw it away from the pinch roller.  
(Do not allow the string to rub against the pinch roller.)
4. Note the reading on the spring scale at the instant the pinch roller stops rotating.
5. The scale should indicate  $2 \text{ kg} \pm 0.2 \text{ kg}$  ( $4.4 \text{ lbs} \pm 0.4 \text{ lbs}$ )
6. If adjustment is necessary, loosen the 3 mounting screws on the capstan solenoid and position the solenoid for optimum pressure.

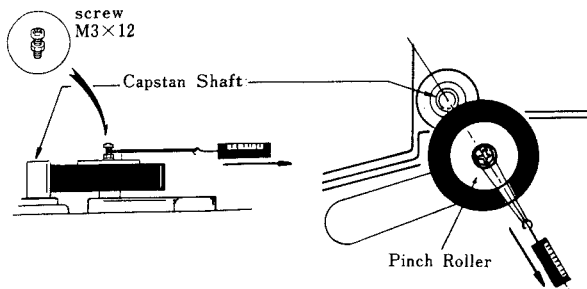


Fig. 8-8 Pressure Measurement

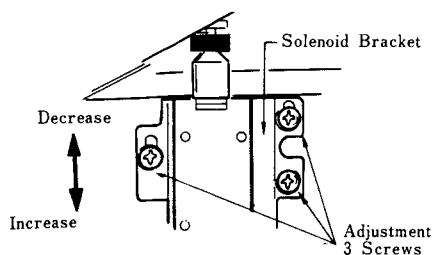


Fig. 8-9 Adjustment Location

## 8-8 BRAKE TORQUE

The brake torque is actuated mechanically. Pressure is set by the Leaf spring force. While making these measurements and adjustments, be careful not to bend the brake bands. As brake torque will change with cleaning, brake drums and brake shoes should be cleaned only when absolutely necessary. If cleaning is required, use TEAC cleaner TZ-261B. After cleaning, operate the brakes by depressing the play and STOP buttons several times to completely dry out the brakes before performing the following procedure.

**NOTE:** Brake adjustments are made with NO power connected to the equipment.

1. Place an empty large hub reel on the left reel table, and fasten one end of a 30" length of string to the reel anchor.
2. Wind several turns of string counterclockwise around the hub and attach a suitable spring scale to the free end of the string.
3. Pull on the spring scale until the reel begins rotating.
4. Take a reading only when the reel is in steady motion since the force required to overcome static friction will produce a false, excessively high initial reading.
5. The calculated value should be 2,300 to 2,100 g-cm (29 to 32 oz-inch).
6. If adjustment is required, loosen the 2 screws shown and position the brake for optimum torque.
7. The adjustment of the right brake is the same, with the exception that rotations are clockwise.  
(wind string CLOCKWISE around reel hub)
8. See note at the top of page 16 for explanation of torque measurements.

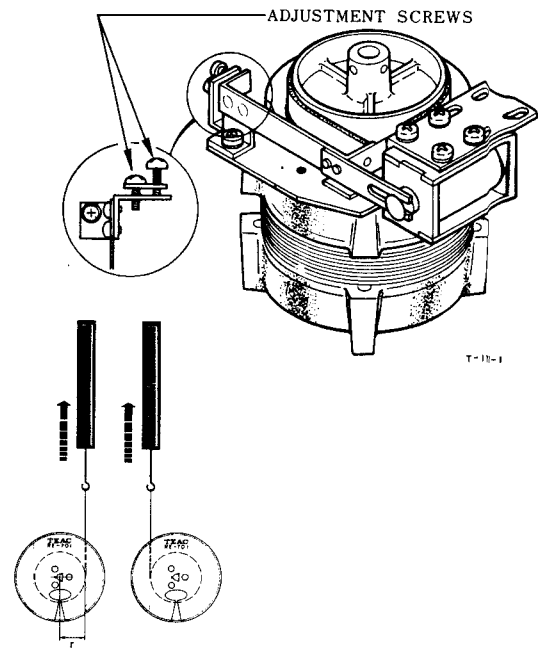


Fig. 8-10 Brake Torque Measurement and Adjustment Location

## TORQUE MEASUREMENT PROCEDURE

**NOTE:** The following torque measurements should be made with a spring scale that is calibrated to read Torque in gram-cm. for a 7" reel with a small reel hub. If the spring scale you are using is calibrated to read Force or Weight in grams the Torque must be calculated using the Formula:

$$\text{Torque (in gm}\cdot\text{cm or oz}\cdot\text{in)} = \text{Weight or Force (in gr. or oz.)} \times \text{radius of hub (in cm or inches)}$$

If you are using a reel with other than the standard 2.5" or 6.0 cm (approx.) diameter hub, the Torque must be calculated using the same formula and substituting the actual radius and Weight or Force reading.

All Torque and Tension measurements must be made with the automatic shut-off switch (right tension arm) held in the ON position.

Brake Torque Measurement should be made using large hub reel with a hub diameter of 4" or 10.2 cm.

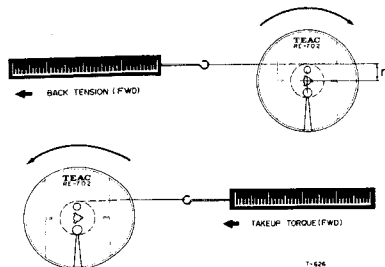


Fig. 8-11 Torque/Tension Measurement and Formula

### 8-9 TAKE-UP TORQUE

1. Place the empty reel and attach spring scale on the right reel table.
2. Place the unit in the Play mode.
3. Allow the rotation of the reel to slowly draw the scale toward the hub.
4. Hold the spring scale with enough force to allow a steady reading.
5. The torque reading should be approx.:

REEL SW	TAKE-UP
LARGE	530 to 570 g cm (7.4 to 8.0 oz-inch)
SMALL	330 to 370 g cm (5.0 to 5.1 oz-inch)

### 8-10 BACK TENSION

1. Place an empty 7" reel with small hub on the left reel table, and fasten one end of a 30" length of string to the reel anchor.
2. Wind several turns string counter-clockwise around the hub. Attach spring scale to string.
3. Place the unit in the Play mode.
4. Pull the scale away from the reel against the motor torque with a steady, smooth motion.
5. Note the scale reading while it is in steady motion. (The string must not rub the reel flanges)
6. The calculated value should be approx.:

REEL SW	BACK TENSION
LARGE	430 to 470 g cm (6.0 to 6.6 oz-inch)
SMALL	280 to 320 g cm (3.9 to 4.6 oz-inch)

#### Adjustment Location

If necessary, adjust slider of the resistors until you have the correct scale reading for optimum torque. Refer to adj. location below.

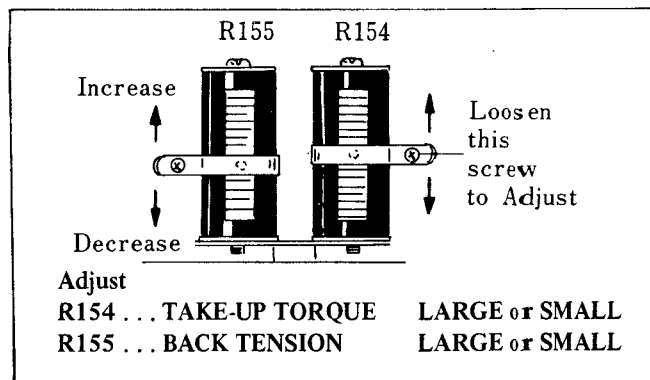


Fig. 8-12 Wire Wound Resistors Adj. Location

### 8-11 FAST FORWARD AND REWIND TORQUE CHECK

Specification;

F.F/ REW (LARGE) 1.9 kg cm (27 oz-inch)

F.F/ REW (SMALL) 1.6 kg cm (22 oz-inch)

No adjustment provided. FIXED Resistor (R155)

# 9. BLOCK AND LEVEL DIAGRAMS

## 9-1 BLOCK DIAGRAM

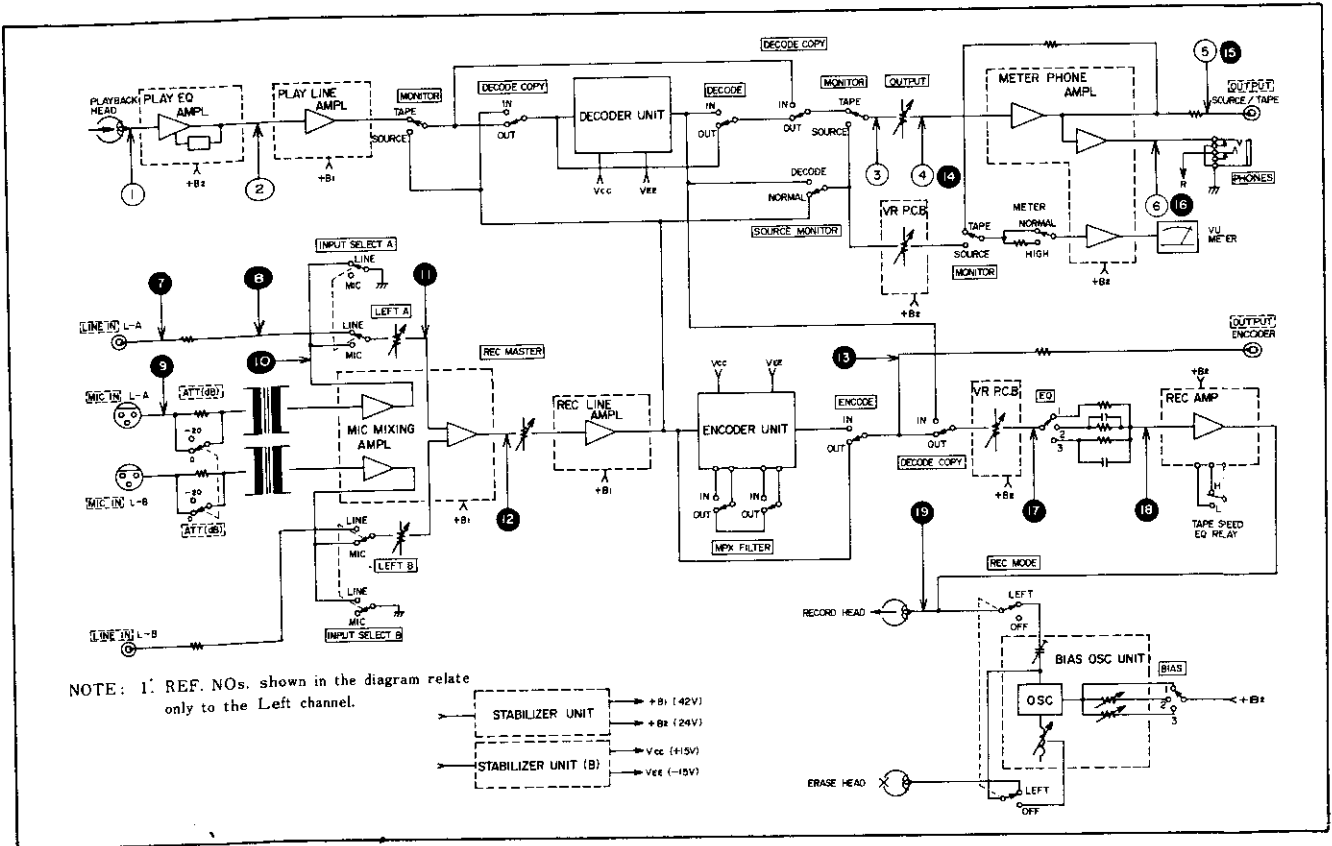


Fig. 9-1 Block Diagram

## 9-2 LEVEL DIAGRAMS

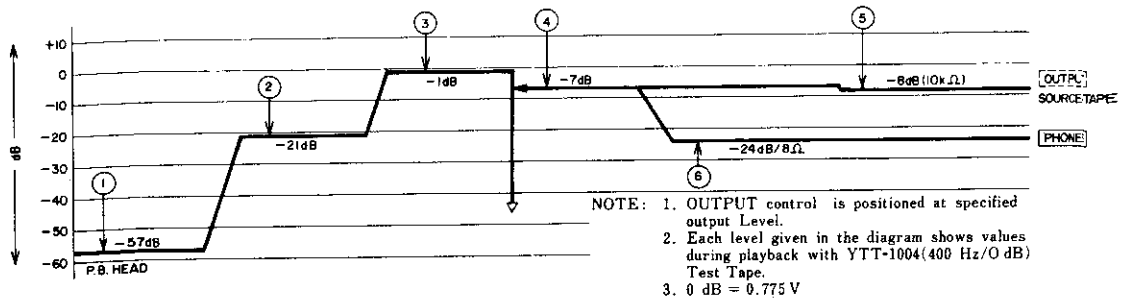


Fig. 9-2 Level Diagram - Playback

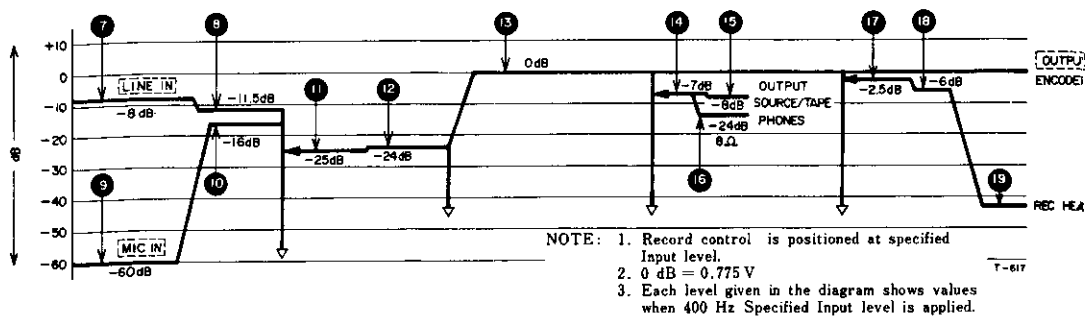


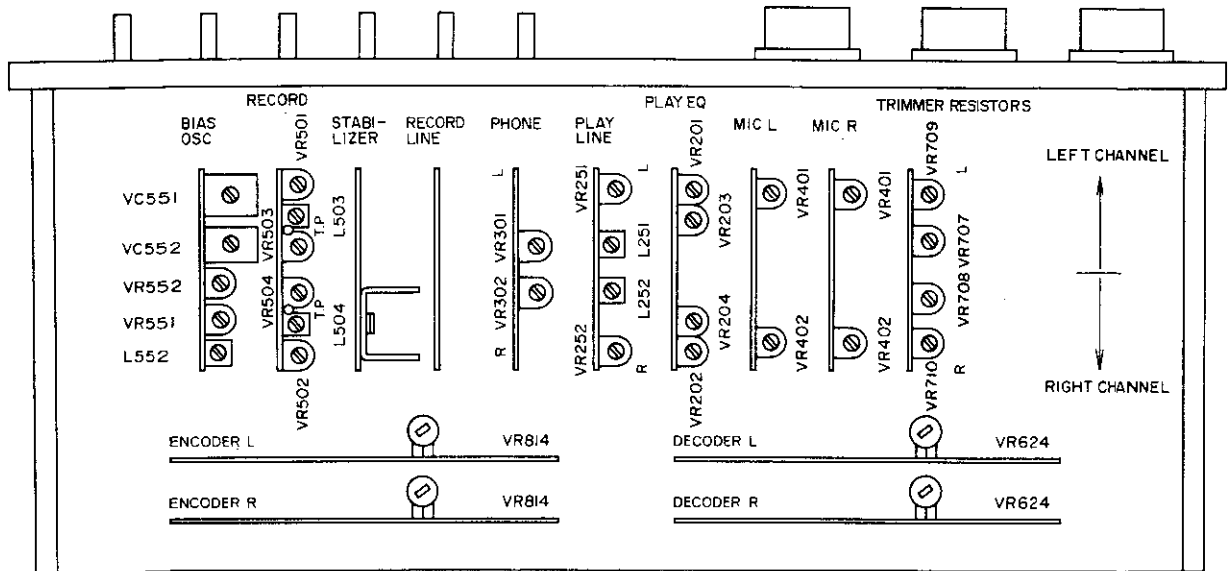
Fig. 9-3 Level Diagram - Record-



# 10. MEASUREMENT AND ADJUSTMENT

## — ELECTRICAL —

### 10-1 ADJUSTMENT LOCATIONS AND ADJUSTMENT POINTS



Adj. Component	Adjustment	Adj. Component	Adjustment	BIAS/EQ SW
VR-251/252	Playback Level	VC-551/552	Bias	
VR-301/302	VU Meter (P. B)	VR-709/710	Record Level	
VR-203/204	Playback EQ (HIGH)	VR-503/504	Rec EQ (HIGH)	# 1
VR-201/202	Playback EQ (LOW)	VR-501 (both ch)	Rec EQ (LOW)	# 2
VR-401/402	Monitor Level	VR-552 (both ch)	Rec EQ (both)	# 3
VR-707/708	VU Meter (monitor)	VR-551 (both ch)	Rec EQ (both)	
L-503/504	Bias Trap	L-552 Dummy Coil	Rec Mono (L or R)	
L-251/252	Bias Leakage	VR-814/814	Encoder Level	
		VR-624/624	Decoder Level	

Fig. 10-1 Ampl PC Board Location and Adjustment Points

### 10-2 ADJUSTMENT SEQUENCE CHART

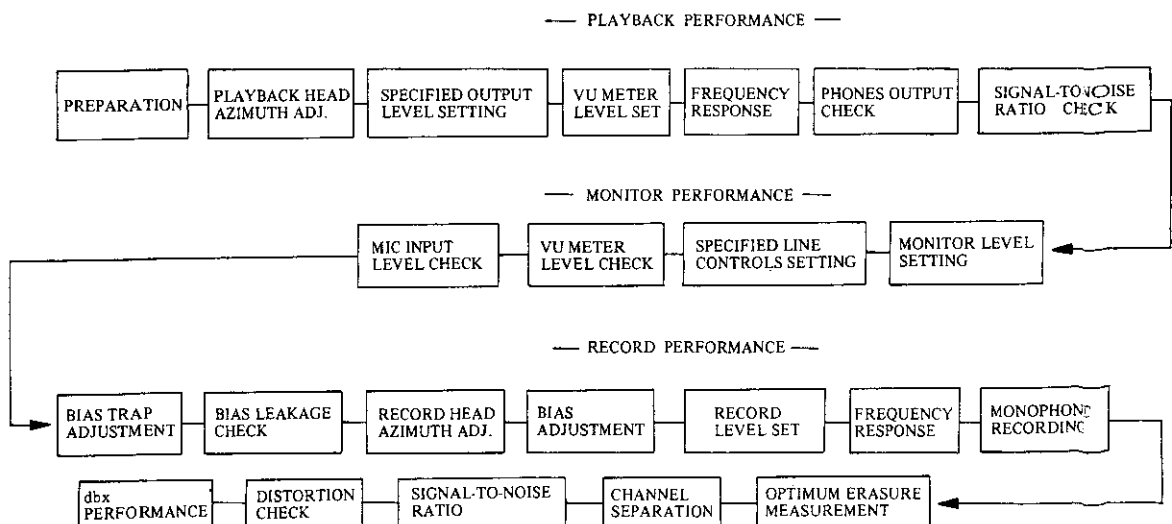


Fig. 10-2 Adjustment Sequence Chart

### 10-3 PREPARATION

All the following (except dbx performance adj.) checks and adjustments must be performed with the switches of the A-7300RX set as outlined below unless otherwise specified in procedure.

- MPX SW ..... OUT
- ENCODE SW ..... OUT
- DECODE-COPY SW ..... OUT
- SOURCE MONITOR SW ... NORMAL
- METER SW ..... NORMAL

Double designated symbol numbers refer to left channel/ right channel.

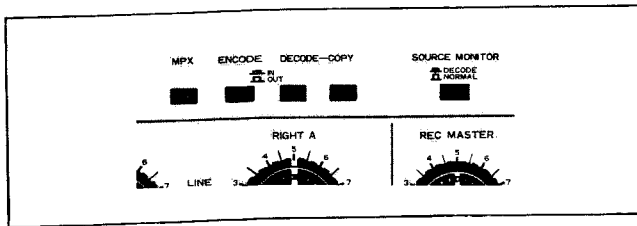


Fig. 10-3 Switches Location-1

### 10-4 PLAYBACK HEAD AZIMUTH ADJ.

**NOTE:** Before proceeding with the following head alignments be sure that heads have been properly mounted as to height, tilt and tangency (review page 12).

#### —FINE ADJUSTMENT—

- Tape SPEED SW . . . . . LOW (7-1/2 ips)
- MONITOR SW ..... TAPE

1. Connect a VTVM to either OUTPUT SOURCE/TAPE jack.
2. Open the head housing.
3. Thread the TEAC YTT-1003 Test Tape on the unit.
4. Play the 16 kHz/-10dB Test Tone in section 2 of the Test Tape.
5. Slowly rotate the azimuth screw (on Playback head) until maximum indication is achieved on VTVM.
6. Connect an oscilloscope to the OUTPUT SOURCE/ TAPE jacks as shown in Fig. 10-5.
7. Play the YTT-1003 tape and adjust the azimuth screw (If necessary) until the oscilloscope shown that the signals are less than 45° out of phase. Check at 40 Hz to 18 kHz signal.
8. Secure this screw with a drop of Locking Paint.

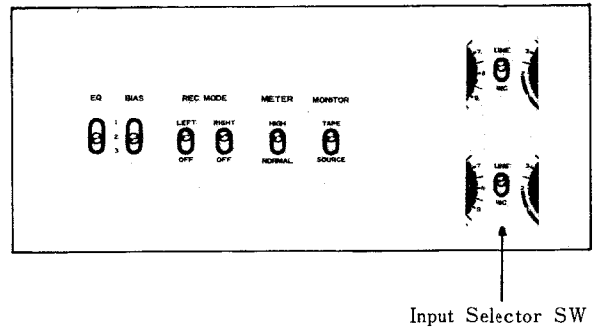


Fig. 10-4 Switches Location-2

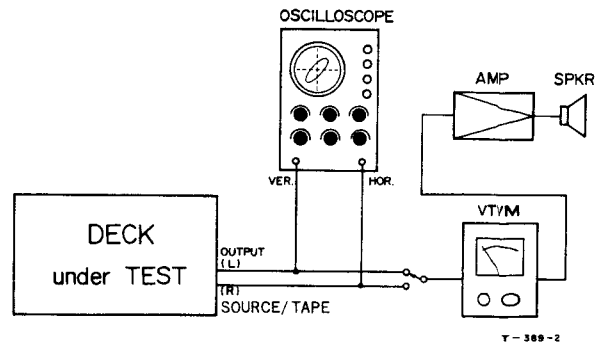


Fig. 10-5 Head Alignment Fine Adjustment Set-up and test connections (PLAYBACK)

## 10-5 SPECIFIED OUTPUT LEVEL AND MAX. OUTPUT LEVEL SETTINGS

### SPECIFIED OUTPUT LEVEL:

9. Play the 400 Hz/0 dB tone in section 1 of test tape.
10. Set the reference marks of the OUTPUT controls to the 8 (0 VU) position.
11. Adjust VR-251/252 (on PLAY LINE AMPL. UNIT) for -8 dB (308 mV) at OUTPUT SOURCE/TAPE jacks.

### MAX. OUTPUT LEVEL:

12. Turn the OUTPUT controls fully clockwise (max.) and check for -2 dB (612 mV) at OUTPUT jacks.
13. Reduce OUTPUT controls until -8 dB (308 mV) is obtained on the output VTVM.

**NOTE:** This is the Specified Output level setting. Do not disturb this setting until the remaining adjustments have been completed.

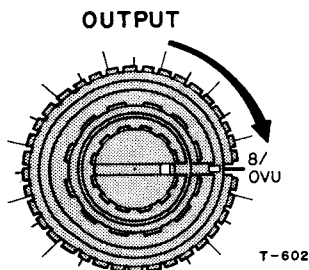


Fig. 10-6 Specified output controls setting

## 10-6 VU METER LEVEL SET

14. Adjust VR-301/302 (on METER PHONE AMPL. UNIT) for 0 VU reading on VU Meters.
15. With **METER SW** in **HIGH**, check for -3 VU  $\pm 0.5$  VU reading at upper scale on the Lower Scale. (0VU  $\pm 0.5$ VU reading at upper scale).

## 10-7 FREQUENCY RESPONSE -PLAYBACK-

Tape **SPEED SW** . . . . . **HIGH (15 ips)**

1. Thread TEAC Test Tape YTT-1004 on the unit.
2. Play Tape and compare readings on VTVM with the response limits given in Fig. 10-7.
3. If adjustment is required, adjust VR-203/204 (on PLAY EQ AMPL. UNIT) for HIGH speed.
4. Change Tape **SPEED SW** to **LOW (7-1/2 ips)** position.
5. Thread a Test Tape YTT-1003 on the unit.
6. Repeat Step 2.
7. If adjustment is required, adjust VR-201/202 (on PLAY EQ AMPL. UNIT) for LOW speed.

**NOTE:** If the frequency response does not meet specified response limits, especially at the high-end of the spectrum, head should be checked for accumulated dirt or oxides. If clean, head azimuth must be re-adjusted.

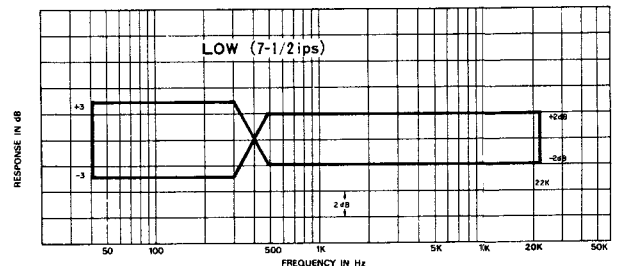
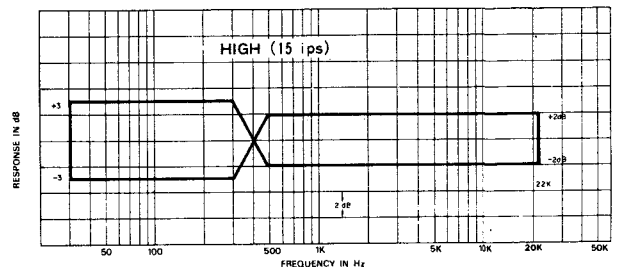


Fig. 10-7 Frequency Response -PLAYBACK-

## 10-8 PHONES OUTPUT CHECK

1. Connect an 8 ohm non-inductive resistor across the head-phone (PHONES) jack.
2. Connect VTVM across the resistor, VTVM should indicate -17 dB  $\pm 1$  dB (122 mV-97 mV).

## 10-9 SIGNAL-TO-NOISE RATIO -PLAYBACK-

1. OUTPUT controls should be at the Specified Output Level settings.
2. Thread a blank YTT-8003 on the unit leaving the tape outside the capstan and pinch roller.
3. Hold the play supply reel stationary and press the play (▶) button.
4. The VTVM connected to the OUTPUT jacks should indicate readings listed below.

**LOW (7-1/2 ips)** . . . . . 52 dB  
**HIGH (15 ips)** . . . . . 53 dB

### 10-10 MONITOR LEVEL SETTING

MONITOR SW . . . . . SOURCE  
 Input selector SW . . . . . LINE

1. Apply a 400 Hz  $-18$  dB (97 mV) signal from AF oscillator to LINE IN (L-A/R-A) jacks.
2. Turn REC MASTER controls and LEFT A, RIGHT A controls fully clockwise.
3. Adjust VR-401 (L-A and R-A both) and VR-402 (L-B and R-B both) for  $-8$  dB (308 mV) at the OUTPUT SOURCE/TAPE jacks.

**NOTE:** Adjuster VR-401/402 is located on MIC MIXING AMPL. UNIT.

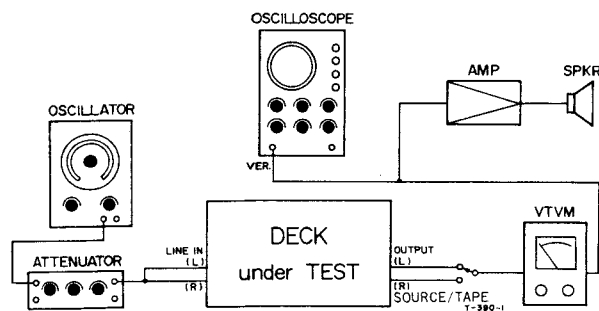


Fig. 10-8 Test Connections for Monitor Check

### 10-11 SPECIFIED LINE CONTROLS SETTING

4. Apply a 400 Hz signal at  $-8$  dB (308 mV) to the LINE IN jacks.
5. Adjust LINE controls (LEFT A/RIGHT A) for  $-8$  dB (308 mV) at OUTPUT SOURCE/TAPE jacks.

**NOTE:** At this point both the Line controls (LEFT A/RIGHT A) and the OUTPUT controls are at the "Specified setting". Do not move these controls unless instructed in this procedure to do so. The accuracy of many of the following adjustments and readings depends on these controls being at the "Specified setting".

6. Repeat the procedure for the LEFT B/RIGHT B side.

### 10-12 VU METER LEVEL SET

7. Check VU meters for 0 VU indication.
8. Adjust VR-707/708 (on TRIMMER RESISTORS UNIT) for 0 VU, if necessary.

### 10-13 MIC INPUT LEVEL CHECK

This is a check only. No adjustments are to be made.

Input Selector SW . . . . . MIC  
 MIC ATT SW . . 0 dB (on Back panel)

1. Apply a 400 Hz signal at  $-48$  dB (3.08 mV) to the MIC IN Jacks (L-A/R-A).
2. Check for  $-8$  dB  $\pm 1$  dB (345 mV–274 mV) level at OUTPUT SOURCE/TAPE jacks.
3. Place MIC ATT (dB) SW to 20 dB position.
4. Apply a 400 Hz signal at  $-8$  dB (30.8 mV) level to the MIC IN jack.
5. Check for  $-8$  dB  $\pm 2$  dB (388 mV –244 mV) level at OUTPUT SOURCE/TAPE jacks.
6. Repeat the procedure for L-B/R-B side.

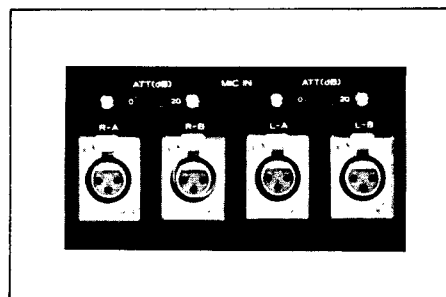


Fig. 10-9 Mic Att switches location – REAR VIEW –

**10-14 BIAS TRAP ADJUSTMENT**

RECORD MODE SW . . . LEFT and RIGHT (Both ON)  
 Select RECORD / PAUSE mode  
 MONITOR SW . . . . . TAPE  
 BIAS and EQ SW . . . . . 1

1. Load TEAC YTT-8013 Test Tape on the unit.
2. Remove all input signals.
3. Connect a VTVM or oscilloscope across the Bias Trap T.P. (on REC AMPL. UNIT) and ground.  
See Fig. 10-10.
4. Adjust L-503/504 (on REC AMPL. UNIT) for minimum reading on scope or VTVM.  
Use Plastic Alignment Tool.

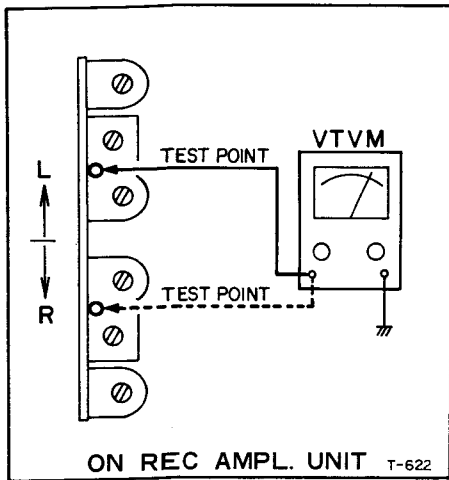


Fig. 10-10 Bias Trap Test Point

**10-15 BIAS LEAKAGE CHECK**

5. Adjust L-251/252 (on PLAY LINE AMPL. UNIT) for minimum bias leakage reading at OUTPUT jack, with VTVM or oscilloscope now connected to said OUTPUT SOURCE/TAPE jacks.
6. Specified Level should be  $-53$  dB (1.73 mV) or less.

**10-16 RECORD HEAD AZIMUTH ADJ.**

Tape SPEED SW . . . . . LOW (7-1/2 ips)

**-FINE ADJUSTMENT-**

**NOTE:** The effect of turning the azimuth screw will not immediately register on the VTVM. A slight delay will be noticed. Therefore, the screw must be rotated slightly with a pause to see the effect.

7. Connect a VTVM to the OUTPUT jack and an AF oscillator to the LINE IN jack. (Fig. 10-11). Set the oscillator to 10 kHz at  $-18$  dB (97 mV).
8. Begin recording (Depress RECORD and play buttons).
9. While recording adjust the azimuth screw (on Record Head) for maximum reading on the VTVM.

**NOTE:** It is absolutely essential to accomplish the coarse adjustment before performing the fine adj. to avoid phase errors greater than  $45^\circ$

Tape SPEED SW . . . . . HIGH (15 ips)

10. Sweep the signal from 40 Hz to 16 kHz and adjust the azimuth so all signals are within  $45^\circ$  between channels.
11. Secure the screw with insulating locking paint.

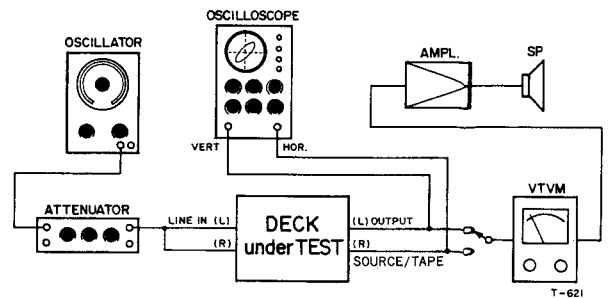


Fig. 10-11 Test Connections for Recording Check

### 10-17 BIAS ADJUSTMENT

Be sure the Bias Trap has been adjusted per section 8-14 and 8-15, before proceeding.

Tape SPEED SW . . . LOW (7-1/2 ips)  
BIAS and EQ SW . . . . . 1

14. Apply 7 kHz signal at -18 dB (97 mV) to the LINE IN jacks.
15. While recording on the YTT-8013 Test Tape, adjust capacitor VC-551/552 (on BIAS OSC UNIT) for peak reading on the VTVM, then turn the capacitor clockwise until a decrease of 2.7 dB from the peak is obtained.

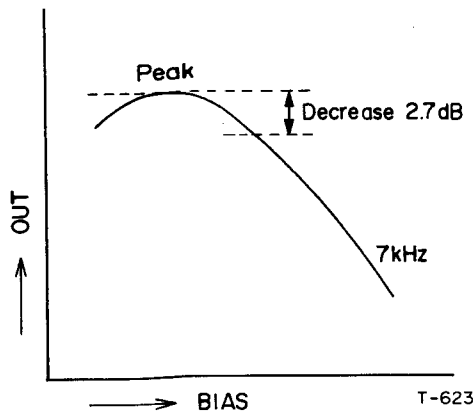


Fig. 10-12 Bias Limits Chart

### 10-18 RECORD LEVEL SET

Tape SPEED SW . . . . . HIGH (15 ips)  
BIAS and EQ SW . . . . . 1

16. Apply a 400 Hz signal at -8 dB (308 mV) to the LINE IN jacks. Be sure the LINE and Output controls are still at their previously set positions.
17. Begin recording.
18. Adjust VR-709/710 (on TRIMMER RESISTORS UNIT) for -8 dB (308 mV) at OUTPUT jacks.

### 10-19 FREQUENCY RESPONSE -OVERALL-

**NOTE:** Any Bias signals feeding into the Test equipment should be filtered out by using an external Bias Trap.

### - RECORD BIAS and EQ SW at position 1 -

Tape SPEED SW . . . . . HIGH (15 ips)

19. Apply signal swept from 30 Hz to 28 kHz, -8 dB (308 mV) to the LINE IN jacks and record on a blank TEAC YTT-8013 Test Tape.
20. During recording, monitor the Tape signal and adjust equalization VR-503/504 (on REC AMPL. UNIT) for readings within the Response Limits chart. See Fig. 10-13.
21. Apply the same signal swept at -28 dB (30.8 mV) level and while monitoring the off-the-Tape signal check also for readings within the Response Limits chart. See Fig. 10-13.

Tape SPEED SW . . . LOW (7-1/2 ips)

22. Apply signal swept from 40 Hz to 24 kHz, -28 dB (30.8 mV).
23. During recording, monitor the Tape signal and adjust equalization VR-501/502 (on REC AMPL. UNIT) for readings within the Response Limits chart. See Fig. 10-13.

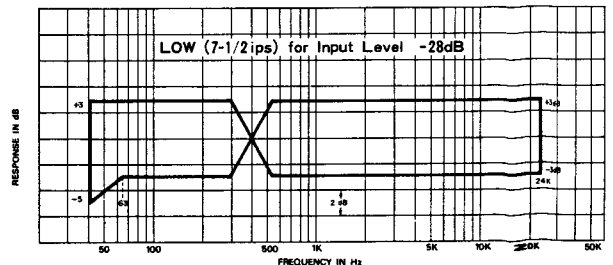
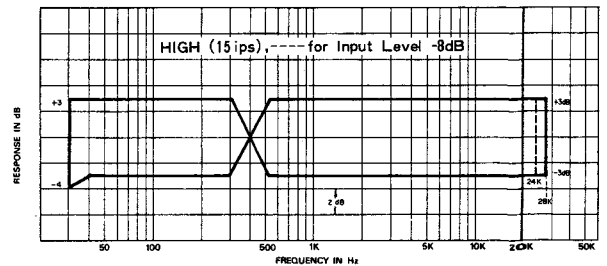


Fig. 10-13 Frequency Response -OVERALL- 1

– RECORD BIAS and EQ SW at position 2 –

Tape SPEED SW . . . . . HIGH (15 ips)

24. Apply signal swept from 30 Hz to 24 kHz,  $-8$  dB (308 mV) and record on a blank TEAC YTT-8003.
25. During recording, monitor the Tape signal and adjust equalization VR-552 (on BIAS OSC UNIT) for both channels, and check for readings within the Response Limits chart. See Fig. 10-14.
26. Apply signal swept from 30 Hz to 28 kHz,  $-28$  dB (30.8 mV) and while monitoring the off-the-Tape signal check for readings within the Response Limits chart. See Fig. 10-14.

Tape SPEED SW . . . . . LOW (7-1/2 ips)

27. Apply signal swept from 40 Hz to 24 kHz,  $-28$  dB (30.8 mV) and while monitoring the off-the-Tape signal check for readings within the Response Limits chart. See Fig. 10-14.

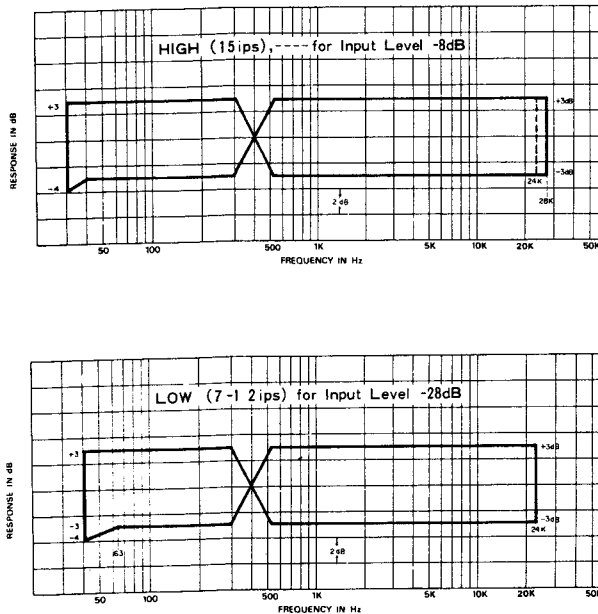


Fig. 10-14 Frequency Response –OVERALL– 2

– RECORD BIAS and EQ SW at position 3 –

Tape SPEED SW . . . . . HIGH (15 ips)

28. Apply signal swept from 30 Hz to 24 kHz,  $-28$  dB (30.8 mV) and record on a blank TEAC YTT-8023.
29. During recording, monitor the Tape signal and adjust equalization VR-551 (On BIAS OSC UNIT) for both channels. Check for reading within the Response Limits chart. See Fig. 10-15.

Tape SPEED . . . . . LOW (7-1/2 ips)

30. Apply signal swept from 40 Hz to 20 kHz,  $-28$  dB (30.8 mV).
31. During recording, monitor the Tape signal and check also for readings within the Response Limits chart. See Fig. 10-15.

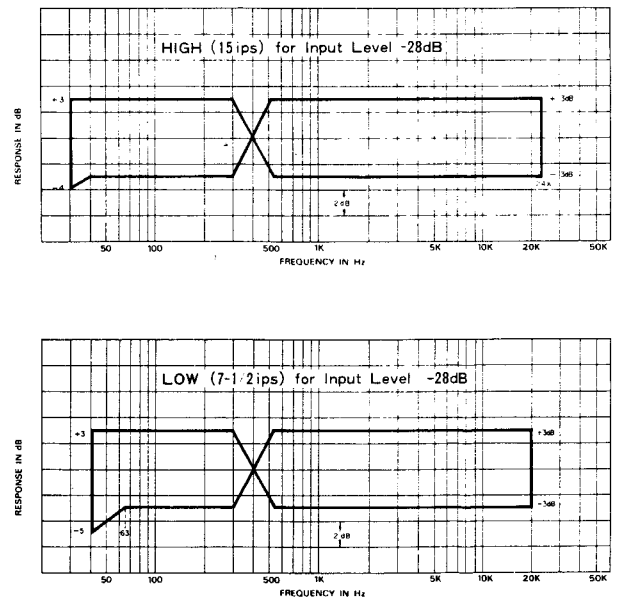


Fig. 10-15 Frequency Response –OVERALL– 3

### 10-20 MONOPHONIC RECORDING CHECK

Set one REC MODE SW ON (LEFT or RIGHT) and the other OFF.

BIAS and EQ SW . . . . . 1

Tape SPEED SW . . . . . HIGH (15 ips)

1. Apply signal swept from 30 Hz to 28 kHz,  $-28$  dB (30.8 mV) to LINE IN jacks and record.  
Use record Test Tape YTT-8003.
2. If adjustment is required, adjust L-552 (on BIAS OSC UNIT).

## 10-21 OPTIMUM ERASURE MEASUREMENT

Tape SPEED SW . . . . . HIGH (15 ips)  
BIAS and EQ SW . . . . . 2

1. Thread the TEAC YTT-8003 Test Tape on the unit.
2. Apply a 1 kHz signal at 10 dB above the operating level of -8 dB (308 mV), to the LINE IN jack.
3. Make a 30 second recording of the above signal while reading and noting the level of output, then rewind to beginning of this recording.
4. Disconnect the 1 kHz signal source (AF oscillator) from the LINE IN jack.
5. Connect a VTVM to the OUTPUT jack, through a 1 kHz Narrow Band-Pass Filter.
6. Put unit in the Record mode and "record" (erase) over this previous recording, then rewind to beginning again.
7. Put unit in PLAY mode and monitor the output on the VTVM.
8. Difference in output level, compared to the above recording level, should be more than 65 dB.

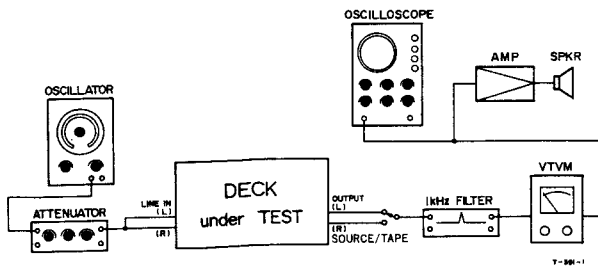


Fig. 10-16 Test Connections for Erase measurement

## 10-22 CHANNEL SEPARATION

**NOTE:** Be sure tape is completely erased prior to doing these checks.

1. Place unit in Record mode.
2. Apply a 1 kHz signal at -8 dB (308 mV) to Left channel.
3. While recording measure the OUTPUT on Right channel with VTVM connected through a 1 kHz band-pass filter. Level shall be -45 dB or less.
4. Repeat the above procedure using a 125 Hz signal and by-passing the 1 kHz band pass filter.
5. Depress the STOP button.

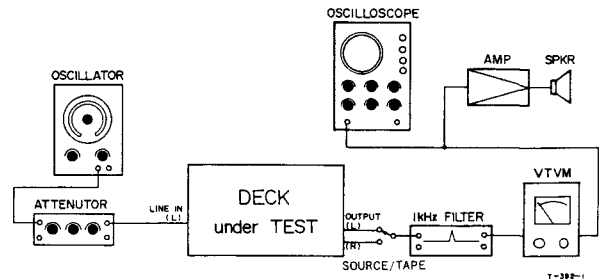


Fig. 10-17 Test Connections for Channel separation check

## 10-21 SIGNAL-TO-NOISE RATIO -RECORD-

1. OUTPUT and Line controls should be at the specified position.
2. Set RECORD BIAS and EQ SW to 1 position.
3. Remove the AF oscillator from the LINE IN jacks.
4. Place the unit in the Record mode with "no signal" applied. Note the point on the index counter where recording begins.
5. Rewind the tape to the beginning point and play it back.
6. The noise level as indicated on the VTVM should be readings listed below.

HIGH (15 ips) . . . . . 48 dB  
LOW (7-1/2 ips) . . . . . 48 dB

## 10-24 DISTORTION CHECK

Tape SPEED SW . . . . . HIGH (15 ips)  
BIAS and EQ SW . . . . . 1

1. Thread the TEAC YTT-8013 Test Tape on the unit.
2. Apply a 1 kHz signal to LINE IN jacks.
3. Place the unit in the record mode for about 10 seconds. Rewind and play this recorded section of the tape.
4. Read the indicated value on the distortion analyzer.
5. The distortion factor should be 0.8 % or less.

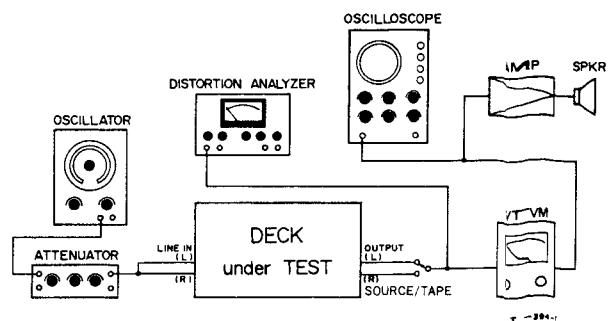


Fig. 10-18 Test Connections for Distortion check



## dbx PERFORMANCE

The A-7300RX dbx performance ENCODER and DECODER adjustments themselves are critical and should only be performed by skilled technicians.

### 10-25 PREPARATION

**NOTE:** Prior to doing the dbx system adjustment procedure the output voltage of the Stabilizer Unit B must be checked and adjusted if necessary. Adjust VR-171 for +15 V at Test Point (terminal) No. 8. Confirm also, that the output of Test Point No. 1 is  $-15 \pm 0.5$  V.

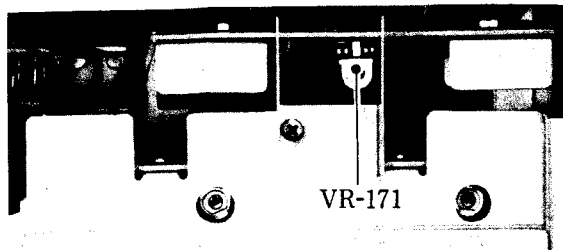


Fig. 10-19 Stabilizer Unit B Adj. Location

MONITOR SW . . . . . SOURCE  
Input Selector SW . . . . . LINE

Apply a 400 Hz signal at  $-8$  dB (308 mV) to the LINE IN jacks.

Adjust LINE controls for  $-8$  dB (308 mV) at SOURCE/TAPE output jacks.

With controls set as described above in MONITOR LEVEL SETTING 10-10 begin following checks and adjustments.

### 10-26 ENCODER LEVEL ADJUSTMENT

1. Apply a 1 kHz signal at  $-8$  dB (308 mV) to the LINE IN jacks. Check for  $-1$  dB (690 mV) approx. at ENCODER output jacks.
2. Depress and release the ENCODER pushbuttons (IN and OUT). Check that change in level is  $\pm 0.5$  dB or less.
3. Adjust VR-814 (LEVEL ADJ. VR) if necessary, to obtain this reading.

**NOTE:** Input impedance of the VTVM used in this Test must be 1 M ohm or more.

### 10-27 ENCODER OPERATION CHECK

With controls set as described above in Section 10-25, 10-26 step 1 and set ENCODER SW to IN.

1. Change the Input frequency to 100 Hz, The ENCODER output level should read  $-3.5$  dB  $\pm 0.5$  dB (548 mV–488 mV).
2. Change the Input signal frequency to 10 kHz, The ENCODER output level should read  $-5.7$  dB  $\pm 0.5$  dB (435 mV–388 mV).
3. Decrease input level to  $-58$  (975 mV) dB and check that ENCODER output level reads  $-26$  dB  $\pm 0.5$  dB (36.6 mV–41.1 mV).
4. Increase input level to +12 dB (3.08 V) and check that ENCODER output level reads +9 dB  $\pm 0.5$  dB (2.06 V–2.30 V).
5. With these condition distortions should be less than 0.5%.
6. Change the Input signal frequency to 19 kHz ( $\pm 5\%$ ) and set the MPX SW to IN position.
7. The ENCODER output level should read  $-26$  dB (38.8 mV) or less.
8. Change the Input signal frequency to 38 kHz to LINE IN jack. The ENCODER output level should read  $-9$  dB (274 mV).
9. Remove input signal and check that ENCODER output noise level is  $-40$  dB or less.

### 10-28 DECODER LEVEL SET

1. Change the Input signal frequency to 1 kHz to LINE IN jacks.
2. The SOURCE/TAPE output should read  $-8$  dB (308 mV).
3. Depress and release the SOURCE MONITOR SW pushbutton (NORMAL and DECODER).
4. Check that change in level is  $\pm 1$  dB or less.
5. Adjust VR-624 (LEVEL ADJ. VR) if necessary, to obtain this reading.

### 10-29 DECODER OPERATION CHECK

Depress DECODER SW to IN.

1. Change the Input signal frequency to 100 Hz,  
The SOURCE/TAPE output level should read  $-3 \text{ dB} \pm 1 \text{ dB}$  (615 mV–488 mV).
2. Change the Input signal frequency to 10 kHz,  
The SOURCE/TAPE output level should read  $+1.4 \text{ dB} \pm 1 \text{ dB}$  (730 V–580 V).
3. Decrease Input level to  $-38 \text{ dB}$  (9.75 mV) and check that SOURCE/TAPE output level reads  $-68 \text{ dB}$  (345 mV–274 mV).
4. Increase Input level to  $+2 \text{ dB}$  (975 V) and check that SOURCE/TAPE output level reads  $+12 \text{ dB} \pm 1 \text{ dB}$  (12.6 V–19.9 V).
5. With these condition distortion should be less than 0.5%.  
Set ENCODER SW to IN.
6. Remove Input signal and check that SOURCE/TAPE output noise level is  $-85 \text{ dB}$  or less.

### 10-30 dbx SINGLE SINEWAVE RESPONSE CHARACTERISTICS

1. Depress the ENCODE and DECODE pushbuttons and then run OVERALL FREQUENCY RESPONSE Section 10-19.
2. Check also for reading within the Response Limits chart. See Fig. 10-20.

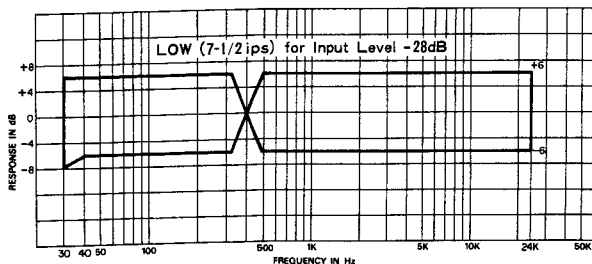
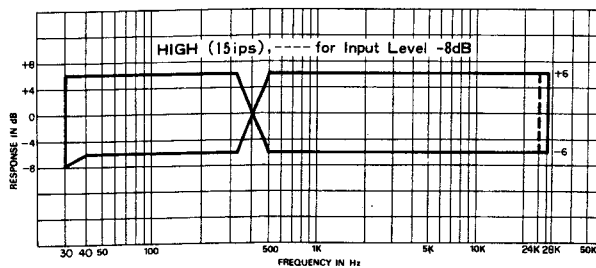


Fig. 10-20 dbx Single Sinewave Response Limits Chart

### 10-31 dbx CHANNEL SEPARATION

1. Repeat Section 10-22 with ENCODE and DECODE push-buttons depressed.
2. Separation should be 65 dB or more at 1 kHz.

### 10-32 dbx SYSTEM OVERALL DISTORTION CHECK

1. Repeat Section 10-24 with ENCODE and DECODE push-buttons depressed.
2. Distortion should be 0.8% or less at 1 kHz  
(Specified level)  
3% or less at 1 kHz (+20 dB level)

### 10-33 dbx OVERALL SIGNAL-TO-NOISE RATIO CHECK

1. Repeat Section 10-23 with ENCODE and DECODE push-buttons depressed.
2. The noise level as indicated on the VTVM should be reading 60 dB or more (both HIGH and LOW speeds).

### 10-34 dbx IN/OUT LEVEL DIFFERENCE CHECK

1. Apply specified Input signal 400 Hz,  $-8 \text{ dB}$  (308 mV).
2. During recording and playback depress and release ENCODE and DECODE pushbuttons.
3. Difference in output level should be 2 dB or less.

# 11. TROUBLE-SHOOTING-1

MALFUNCTION	POSSIBLE SOURCE OF TROUBLE
- Pilot Lamps (in VU Meters) do not illuminate when power is applied . . . . .	Fuse F701 (2A) burned out
- Fuse burns out (blows) when power is applied . . . . .	Defective Power transformer (T151)
- Capstan will not rotate . . . . .	Specified 24V DC present on the CAPSTAN MOTOR ASS'Y J152 Pins #1~7 Defective CAPSTAN MOTOR ASS'Y Specified 24V DC not present on the STABILIZER UNIT J21 Pins #11, #12 Defective STABILIZER UNIT ASS'Y or Connector loose Specified 37V DC not present on the STABILIZER UNIT J21 Pins #13, #14 Defective D10~D13 or Power transformer (T151)
- Transport inoperative in Forward Playback . . . . .	Faulty Safety switch (SW156)
- Pinch roller fails to engage completely . . . . .	Voltage present on the CAP SOL. 1 terminals CAP SOL. 1 Disconnected High-Level voltage (approx. 3V) present on the SOLENOID DRIVE UNIT J121 Pin #3 Defective Q121 or Q122 High-Level output voltage not present on the CONTROL UNIT P41 Pin #1 Defective CONTROL UNIT
- Right Reel Motor does not rotate . . . . .	Fast Forward OK . . . . . Defective Q71 or K12 High-Level output voltage not present on the CONTROL UNIT P41 Pins #1 or #2 Defective CONTROL UNIT High-Level output voltage present on the REEL MOTOR DRIVE UNIT at H terminal Defective Reel Motor
- Neither Reel Motor rotates . . . . .	Brakes not dis-engaged Disconnected brake Solenoid R or L, Defective Q125 or Q126 High-Level output voltage present on the SOLENOID DRIVE UNIT J121 Pin #8 Defective SOLENOID DRIVE UNIT High-Level output voltage not present on the CONTROL UNIT P41 Pin #2 Defective CONTROL UNIT
- Fast Forward or Rewind modes inoperative (Playback is OK) . . . . .	High-Level output voltage not present on the CONTROL UNIT P41 Pins #4, #7 Defective CONTROL UNIT High-Level output voltage present on the CONTROL UNIT P41 Pin #2 Defective SOLENOID DRIVE UNIT (Q125, Q126)

**NOTE:** Explanation of abbreviations and circuit component designations. F . . . Fuse D . . . Diode SW . . . Switch K . . . Relay T . . . Transformer J . . . Pin jack (Female) Connector P . . . Pin plug (male) connector. High-Level output voltage- Logic true level approx. +3V. Refer to the circuit diagram for further assistance in locating possible defective circuit components.

## 11. TROUBLE-SHOOTING-2

MALFUNCTION	POSSIBLE SOURCE OF TROUBLE
– Transport inoperative (Capstan only rotates)	Specified 8V DC present on the STABILIZER UNIT J21 Pins #5, #6 Defective STABILIZER UNIT Specified 8V DC not present on the STABILIZER UNIT J21 Pins #5, #6 Faulty D14~D17 or fuse F2 (2A)
– Cannot select PAUSE	Defective CONTROL UNIT
– Amplifier inoperative	Voltage not present on P151 at Pin #10 or #11 (To ampl. connector) Fuse F1 (2A), F4 (0.5A) burned out Voltage present on P151 at Pins #10 or #11 Defective Q601, Q602, Q603 (on AMPL. STABILIZER UNIT)
– Playback audio intermittent or absent a) Both channels inoperative (SOURCE OK) b) R-Ch or L-Ch inoperative	Defective Q207, Q208, Q209 (on PLAY EQ AMPL. UNIT) or associated parts SOURCE also inoperative Defective Q301 (on METER PHONE AMPL. UNIT) or associated parts SOURCE Monitor function normal Defective Q201, Q203, Q205, Q207 (on PLAY EQ AMPL. UNIT) Q251, Q253 (on PLAY LINE AMPL. UNIT) or associated parts
– Playback sound is not clear	High Freq. weak . . . . Dirty head, incorrect Adj. of VR201/ 203 (on PLAY EQ AMPL. UNIT) Sound distorted . . . . Defective Q201, Q203, Q205 (on (PLAY EQ AMPL. UNIT)
– VU Meter inoperative in TAPE Monitor mode (sound is normal)	Defective Q306 (on METER PHONE AMPL. UNIT) or as- sociated parts, Faulty VU Meter ass'y
– Hum in playback signal	Defective Playback head
– Intermittent or absence of audio at PHONES jack	Defective Q303, Q305, Q307 (on METER PHONE AMPL. UNIT) or associated parts
– LINE IN signal is not applied to SOURCE (Playback normal)	Defective Q405, Q406 (on MIC MIXING AMPL. UNIT) Q451, Q453 (on REC LINE AMPL. UNIT), etc.
– Will not Record	No Erase . . . . Defective K551, Q551~554, T551 (on BIAS OSC UNIT) Erase normal . . . . Sound normal at SOURCE Defective Q507, Q509 (on REC AMPL. UNIT) Dirty or defective record head
– Recorded sound not clear	Dirty record head, incorrect Bias Adj. or Defective Q505 (on REC AMPL. UNIT)
– Inoperative MIC Recording (LINE IN signal normal)	Defective Q401~Q404 (on MIC MIXING AMPL. UNIT), etc.
– Hum in Recording signal	Defective Record head or P702 connector loose or heads magnetized

# 12. DB CONVERSION TABLE AND TENSION/TORQUE FORMULA

1		.775	0 db	1		.775	0 db	1		.775	0 db	1		.775	0 db	1		.775	0 db	1		.775	0 db	1		.775	0 db	1		POWER RATIO
.944	.730	120.5	9.44	7.30	100.5	94.4	73.0	80.5	944	730	60.5	9.44	7.30	40.5	94.4	73.0	20.5	944	.730	0.5	.891									
.891	.690	121	8.91	6.90	101	89.1	69.0	81	891	690	61	8.91	6.90	41	89.1	69.0	21	891	.690	1	.794									
.841	.651	121.5	8.41	6.51	101.5	84.1	65.1	81.5	841	651	61.5	8.41	6.51	41.5	84.1	65.1	21.5	841	.651	1.5	.708									
.794	.615	122	7.94	6.15	102	79.4	61.5	82	794	615	62	7.94	6.15	42	79.4	61.5	22	794	.615	2	.631									
.750	.580	122.5	7.50	5.80	102.5	75.0	58.0	82.5	750	580	62.5	7.50	5.80	42.5	75.0	58.0	22.5	750	.580	2.5	.562									
.707	.548	123	7.07	5.48	103	70.7	54.8	83	707	548	63	7.07	5.48	43	70.7	54.8	23	707	.548	3	.501									
.668	.517	123.5	6.68	5.17	103.5	66.8	51.7	83.5	668	517	63.5	6.68	5.17	43.5	66.8	51.7	23.5	668	.517	3.5	.447									
.630	.488	124	6.30	4.88	104	63.0	48.8	84	630	488	64	6.30	4.88	44	63.0	48.8	24	630	.488	4	.398									
.596	.461	124.5	5.96	4.61	104.5	59.6	46.1	84.5	596	461	64.5	5.96	4.61	44.5	59.6	46.1	24.5	596	.461	4.5	.355									
.562	.435	125	5.62	4.35	105	56.2	43.5	85	562	435	65	5.62	4.35	45	56.2	43.5	25	562	.435	5	.316									

mV	mV	mV	mV	V	POWER RATIO (mW)	+db	VOLTAGE RATIO	+db	VOLTAGE RATIO
633	895	1,270	1,780	7.74	100.0	20	10.00	40	100.0
598	844	1,190	1,680	7.30	89.1	19.5	9.44	39.5	94.4
564	797	1,130	1,590	6.90	79.4	19	8.91	39	89.1
533	753	1,070	1,500	6.50	70.8	18.5	8.41	38.5	84.1
504	711	1,005	1,420	6.15	63.1	18	7.94	38	79.4
485	671	949	1,340	5.81	56.2	17.5	7.50	37.5	75.0
448	633	896	1,270	5.48	50.1	17	7.08	37	70.8
423	598	848	1,190	5.13	44.7	16.5	6.63	36.5	66.3
400	564	800	1,130	4.88	39.8	16	6.31	36	63.1
378	533	756	1,070	4.62	35.5	15.5	5.96	35.5	59.6

**TENSION/TORQUE CONVERSION FORMULA**  
 Grams/Cm. to Oz./In. = Grams x 0.014 = Oz./In.  
 Oz./In. to Grams/Cm. = Oz./0.014 = Grams/Cm.

4Ω		8Ω		16Ω		32Ω		600Ω	
63.2	89.4	126	179	774	1	0db	1	0db	1

# TEAC®

**2** 2 track  
MASTER  
RECORDER

## A-7300RX

Stereo Tape Deck with dbx\* System

### PARTS LIST



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#### PARTS ORDERING INFORMATION

Spare parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office, the address of which is written on the back cover. When ordering parts, always include the following information:

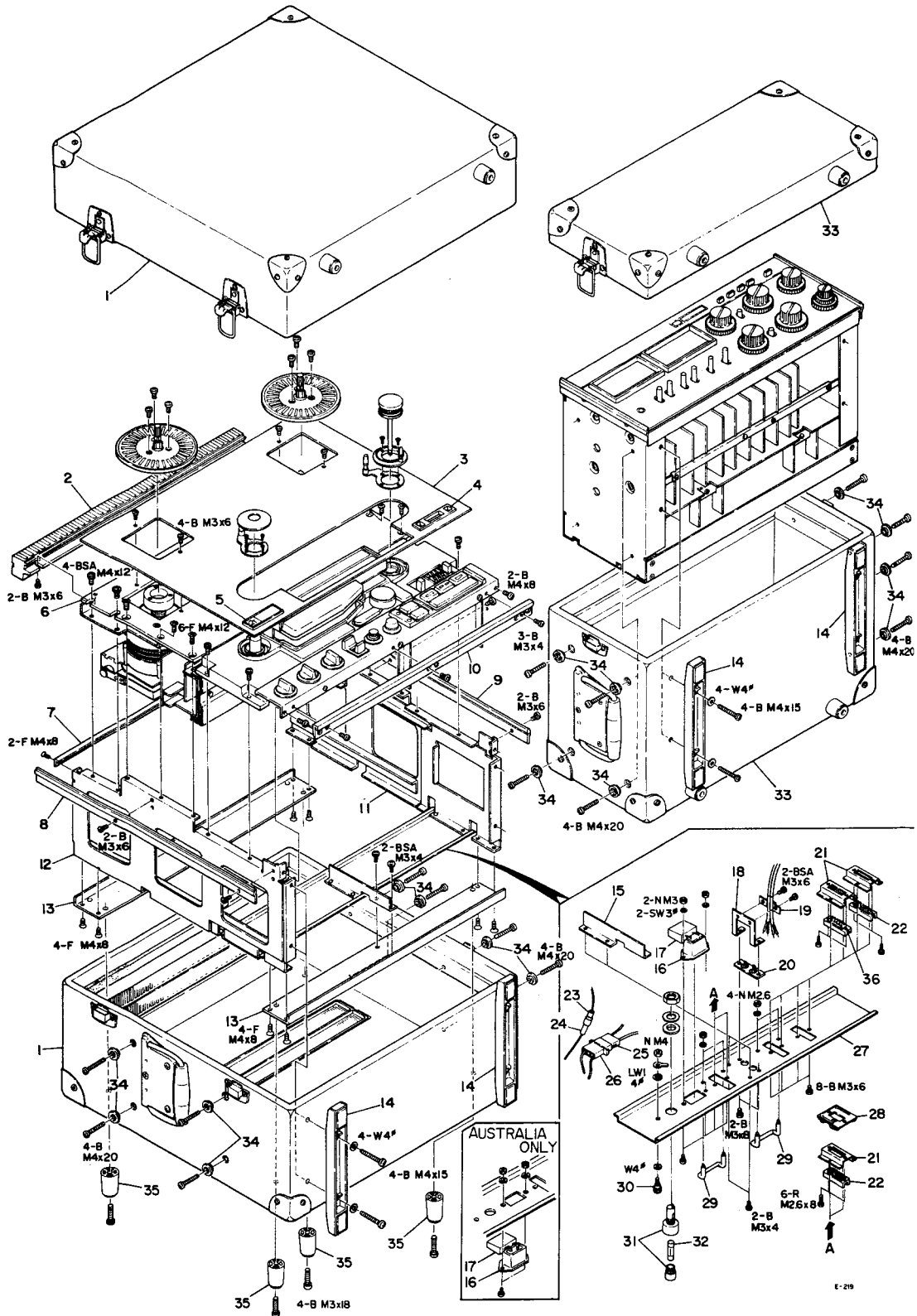
- |              |                    |
|--------------|--------------------|
| 1. MODEL     | 4. DESCRIPTION     |
| 2. REF. NO.  | 5. UNIT SERIAL NO. |
| 3. PARTS NO. | 6. MANUAL CODE NO. |

#### NOTICE REGARDING PARTS ORDERS

1. Do not order by only REF. NO.
2. In some instances, individual minor parts are not available. In such a case, the entire assembly including the part requested will be sent to you.
3. Parts are identical between the different models with the exceptions as coded by the designations in the REMARKS column.
4. PC Boards shown viewed from foil side.
5. Parts marked with \* require longer delivery time than regular parts.

# 1. EXPLODED VIEWS AND PARTS LIST SECTION

## EXPLODED VIEW - 1

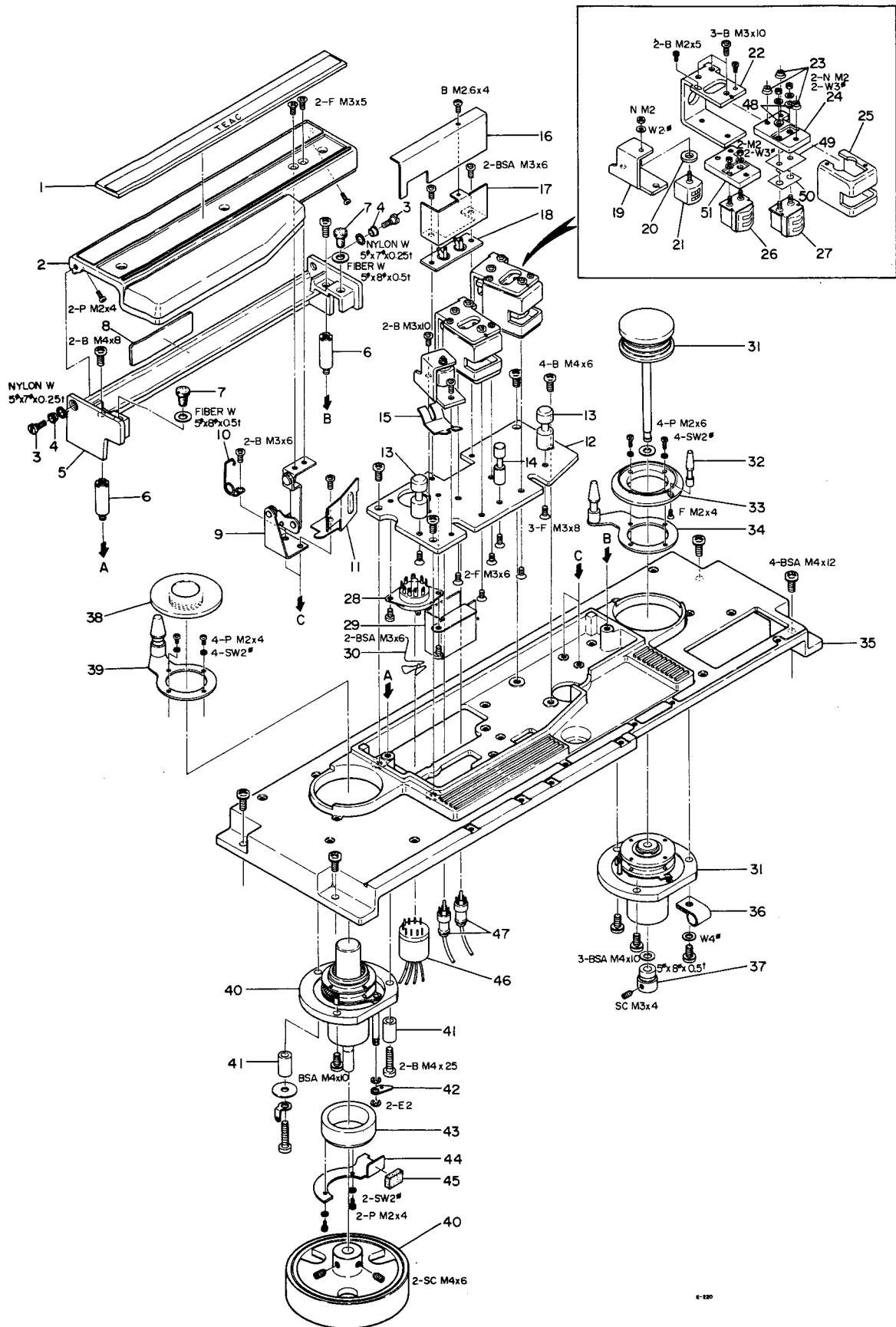


## PARTS LIST—1

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	* 55001351	Case Assy, Portable	
1 - 2	* 55320051	Air Vent.	
1 - 3	* 55507000	Panel, Trim	
1 - 4	* 55340190	Cover, Counter	
1 - 5	* 55540530	Name Plate, 2 Track Master Recorder	
1 - 6	* 55520260	Panel, Chassis	
1 - 7	* 55530210	Angle, Front	
1 - 8	* 55530780	Sash, Side; L	
1 - 9	* 55530790	Sash, Side; R	
1 - 10	* 55530860	Sash, Bottom	
1 - 11	* 55020810	Panel Assy, Side; R	
1 - 12	* 55020800	Panel Assy, Side; L	
1 - 13	* 50235312	Angle, Rear Cover	
1 - 14	* 55002310	Mounting Foot Assy	
1 - 15	* 55545810	Bracket, Connection Panel	
1 - 16	* 50432950	Socket, AC Power	
	* 51240140	Socket, AC Power; 3P	
1 - 17	50541150	Capacitor, Polyst, 0.0047 mfd 250V	
1 - 18	* 55546720	Holder, Cord	
1 - 19	* 50279490	Clamp, B	
1 - 20	* 50435070	Jack, Pin; 2P	
1 - 21	* 55540990	Plate, Connector Mounting	
1 - 22	* 50438411	Connector Socket, 12P	
1 - 23	* 50430360	Socket, 1P	
1 - 24	* 50430350	Plug, 1P	
1 - 25	* 50436650	Plug, 3P	
1 - 26	* 50438420	Socket, 3P	
1 - 27	* 55520820	Panel, Connection	
1 - 28	* 51680690	PC Board Assy, Capacitor Mounting	
	50542040	Ceramic Capacitor, 0.01 mfd 50V	Part of 1 - 28
1 - 29	* 55443890	Guide, Plug	
1 - 30	* 50454071	Terminal, Ground	
1 - 31	* 50924500	Fuse Holder	
1 - 32	50411140	Fuse, 2A	
	50411010	Fuse, 1A (220V/240V area)	AUSTRALIA
1 - 33	* 55001361	Case Assy, Portable; Amplifier	
1 - 34	50276931	Washer, Trim	
1 - 35	55342670	Mounting Foot	
1 - 36	* 50436631	Connector Plug, 12P	



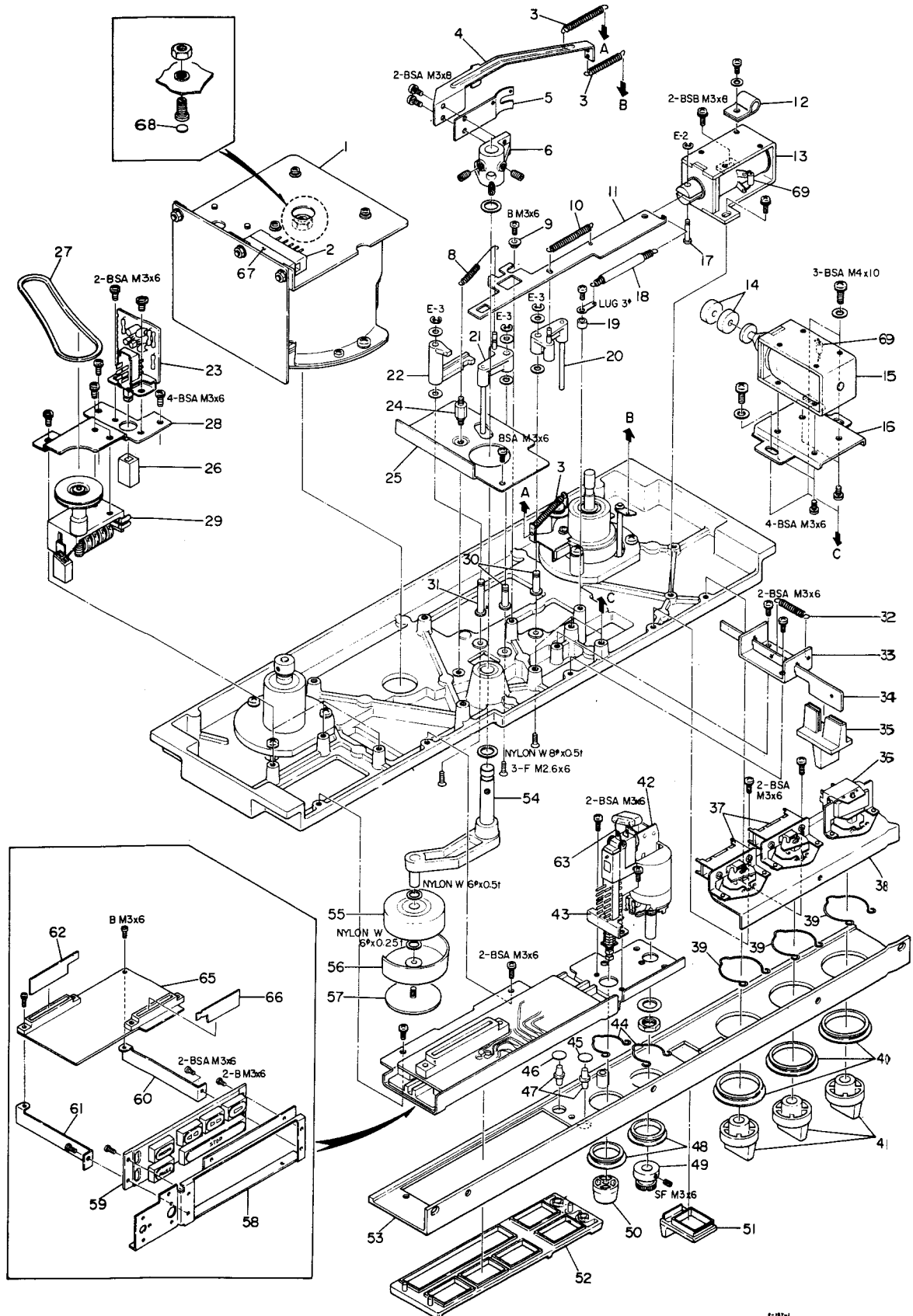
# EXPLODED VIEW—2



## PARTS LIST-2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	* 55530920	Name Plate, Housing	
2 - 2	* 55305111	Head Housing	
2 - 3	* 55405150	Screw, Hinge	
2 - 4	* 55405160	Collar, Hinge	
2 - 5	* 55305121	Base, Head Housing	
2 - 6	* 55405011	Stud, Head Housing Mounting	
2 - 7	* 55305390	Cushion, Rubber	
2 - 8	* 55507480	Plate, Cover	
2 - 9	* 55002271	Link Assy, Head Housing	
2 - 10	* 55202050	Spring, Head Housing	
2 - 11	* 55540780	Anti-Spoiler	
2 - 12	* 55507531	Plate, Head Base	
2 - 13	55440341	Tape Guide, B	
2 - 14	55440731	Tape Guide, C	
2 - 15	* 55202020	Spring, Head Adjusting	
2 - 16	* 55507630	Shield, Pin Jack	
2 - 17	* 55540470	Shield, A	
2 - 18	* 50435070	Jack, Pin; 2P	
2 - 19	* 55507160	Plate, Erase Head	
2 - 20	50136540	Spacer, Erase Head	
2 - 21	50662090	Head, Erase (2T-2CH)	
2 - 22	* 55507170	Bracket, Head Plate	
2 - 23	* 55240840	Spring, Head; E	
2 - 24	* 55341990	Plate, Head; P	
2 - 25	* 55507180	Head Shield	
2 - 26	50664520	Head, Record (2T-2CH)	
2 - 27	50664530	Head, Playback (2T-2CH)	
2 - 28	* 50435040	Socket, 9P (w/Clamp)	
2 - 29	* 55546740	Shield, Socket; C	
2 - 30	* 50429060	Clip, Socket Retaining; Small	
2 - 31	55040154	Drive Roller Assy	
2 - 32	* 55440490	Pin, Tape Guide	
2 - 33	* 55441241	Ring, Tension Arm; A	
2 - 34	55040170	Tension Arm, R	
2 - 35	* 55305031	Base, Center Mounting	
2 - 36	* 55340420	Clamp, Wire; B	
2 - 37	* 55440500	Pulley, Drive Roller	
2 - 38	* 55405100	Cap, A	
2 - 39	55040554	Tension Arm Assy, L	
2 - 40	55002052	Impedance Roller Assy	
2 - 41	* 55440830	Spacer, Impedance Roller	
2 - 42	* 55541550	Hook, Spring; T	
2 - 43	* 55440820	Ring, Damper	
2 - 44	* 55541890	Arm, Damper	
2 - 45	* 55541900	Cushion, Damper Arm	
2 - 46	* 50432740	Connector, 9P (Plug)	
2 - 47	* 51280250	Cord, Head Connection	
2 - 48	* 50322950	Spacer, Insulator	
2 - 49	* 55544350	Plate, Insulator	
2 - 50	* 55546820	Plate, Ground; Head	
2 - 51	* 55305100	Plate; Head	

# EXPLODED VIEW-3



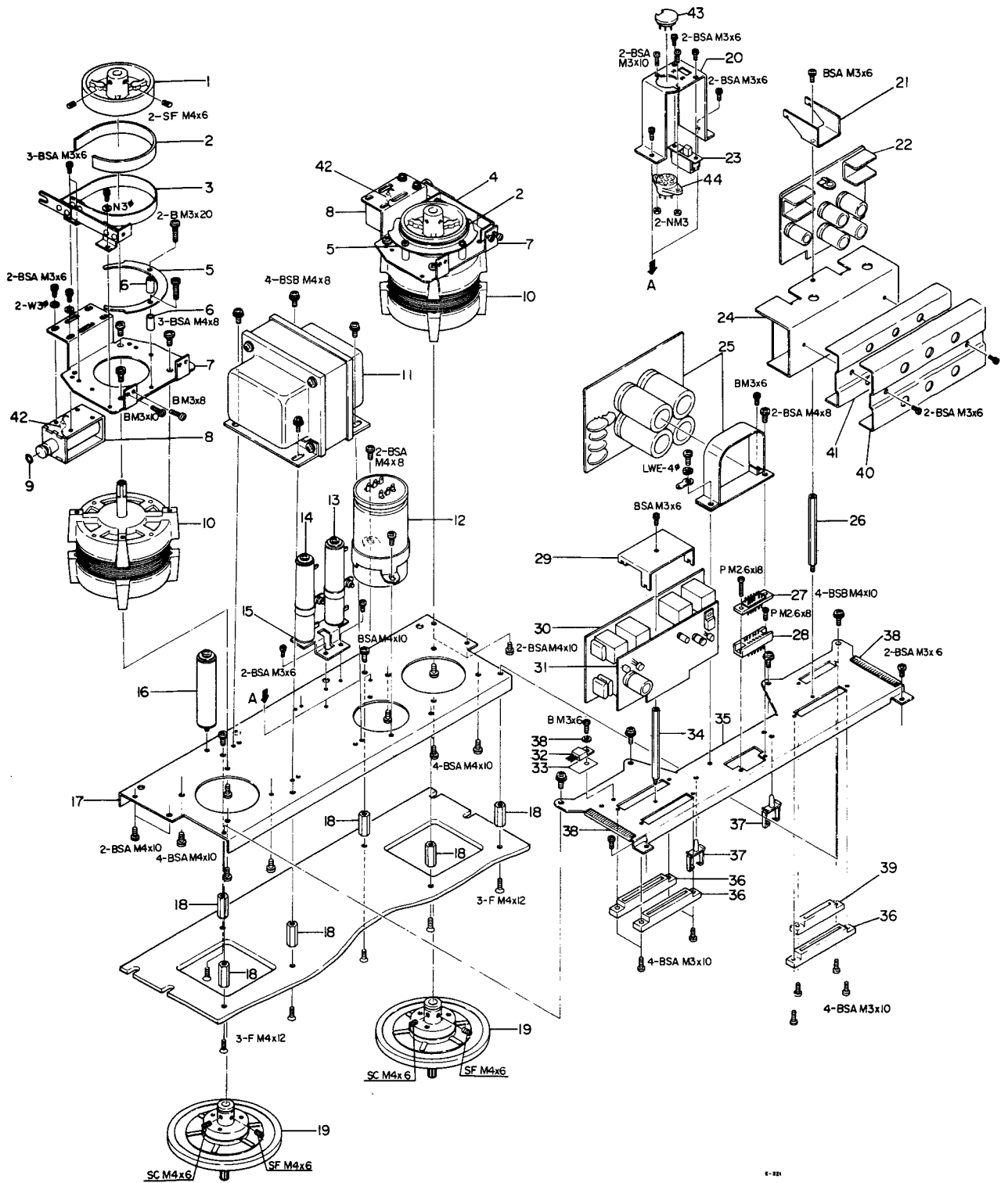
8-187-1

## PARTS LIST—3

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	71060070	Direct Drive Capstan Motor Assy	
3 - 2	* 50436190	Socket, Multi-; 11P	
3 - 3	55202170	Spring, Tension	
3 - 4	* 55541210	Arm, Actuating	
3 - 5	50221152	Spring, Pressure	
3 - 6	* 55305190	Arm, Solenoid	
3 - 7		(not used)	
3 - 8	* 55202090	Spring, Lifter	
3 - 9	* 55405380	Washer, Shoulder; 3 x 7	
3 - 10	55202070	Spring, Pinch Roller	
3 - 11	* 55507200	Link, Plunger	
3 - 12	* 55340420	Clamp, Wire; B	
3 - 13	51630010	Solenoid, Plunger; B	
3 - 14	* 55541070	Damper, Solenoid	
3 - 15	51630000	Solenoid, Plunger; A	
3 - 16	* 55507211	Bracket, Solenoid Mounting	
3 - 17	* 55405170	Pin, Plunger	
3 - 18	55202080	Spring, Link	
3 - 19	* 55405340	Spacer, 3 x 3	
3 - 20	55305200	Arm, Tape Lifter; A	
3 - 21	55305210	Arm, Tape Lifter; B	
3 - 22	* 55305160	Arm, Cue	
3 - 23	* 51680670	PC Bd. Assy, REWIND STOP UNIT	
3 - 24	* 55405361	Stud, Hook; A	
3 - 25	* 55540460	Shield, Motor	
3 - 26	55305250	Button, Counter Switch	
3 - 27	55340320	Belt, Counter; 14 x 61.5	
3 - 28	* 55507231	Bracket, Counter	
3 - 29	55005000	Counter, Index	
3 - 30	* 55405020	Stud, A	
3 - 31	* 55405030	Stud, B	
3 - 32	55202100	Spring, Cue Return	
3 - 33	* 55507190	Journal, Cue Link	
3 - 34	* 55507220	Link, Cue	
3 - 35	* 55305150	Lever, Cue	
3 - 36	51330010	Switch, Rotary Toggle	
3 - 37	51330020	Switch, Rotary Slide	
3 - 38	* 55507300	Bracket, Switch; A	
3 - 39	* 55202031	Retaining Ring, Escutcheon; A	
3 - 40	* 55405331	Escutcheon, A	
3 - 41	* 55305280	Knob, Rotary Switch	
3 - 42	51500071	Var. Res. (w/Switch) 500 ohm-B	
3 - 43	* 50444740	Switch, Mini Double-push	
3 - 44	* 55202041	Retaining Ring, Escutcheon; B	
3 - 45	* 55507280	Insert, Green	
3 - 46	* 55507270	Insert, Red	
3 - 47	* 55305260	Light Cover	
3 - 48	* 55405320	Escutcheon, B	
3 - 49	* 55440380	Knob, Pitch Control	
3 - 50	* 55305290	Pushbutton	
3 - 51	* 55305300	Hook, Cue Lever	
3 - 52	* 55305310	Escutcheon, Transport Pushbutton	
3 - 53	* 55002260	Panel, Control Mounting; D	
3 - 54	* 55305170	Arm, Pinch Roller	
3 - 55	55002100	Pinch Roller	
3 - 56	55340160	Cover, Pinch Roller	
3 - 57	55405180	Cap, Pinch Roller	
3 - 58	* 55540311	Bracket, Pushbutton; C	
3 - 59	* 50448611	Pushbutton Assy, Transport; B	
3 - 60	* 55507320	Retainer, PB Panel	
3 - 61	* 55541230	Retainer, PB Panel; B	
3 - 62	* 51670200	Board, Terminal; A	
3 - 63	* 50529050	Spark Killer 0.1 mfd + 120 ohm	
3 - 64		(not used)	

(Continued on page 9)

# EXPLODED VIEW—4

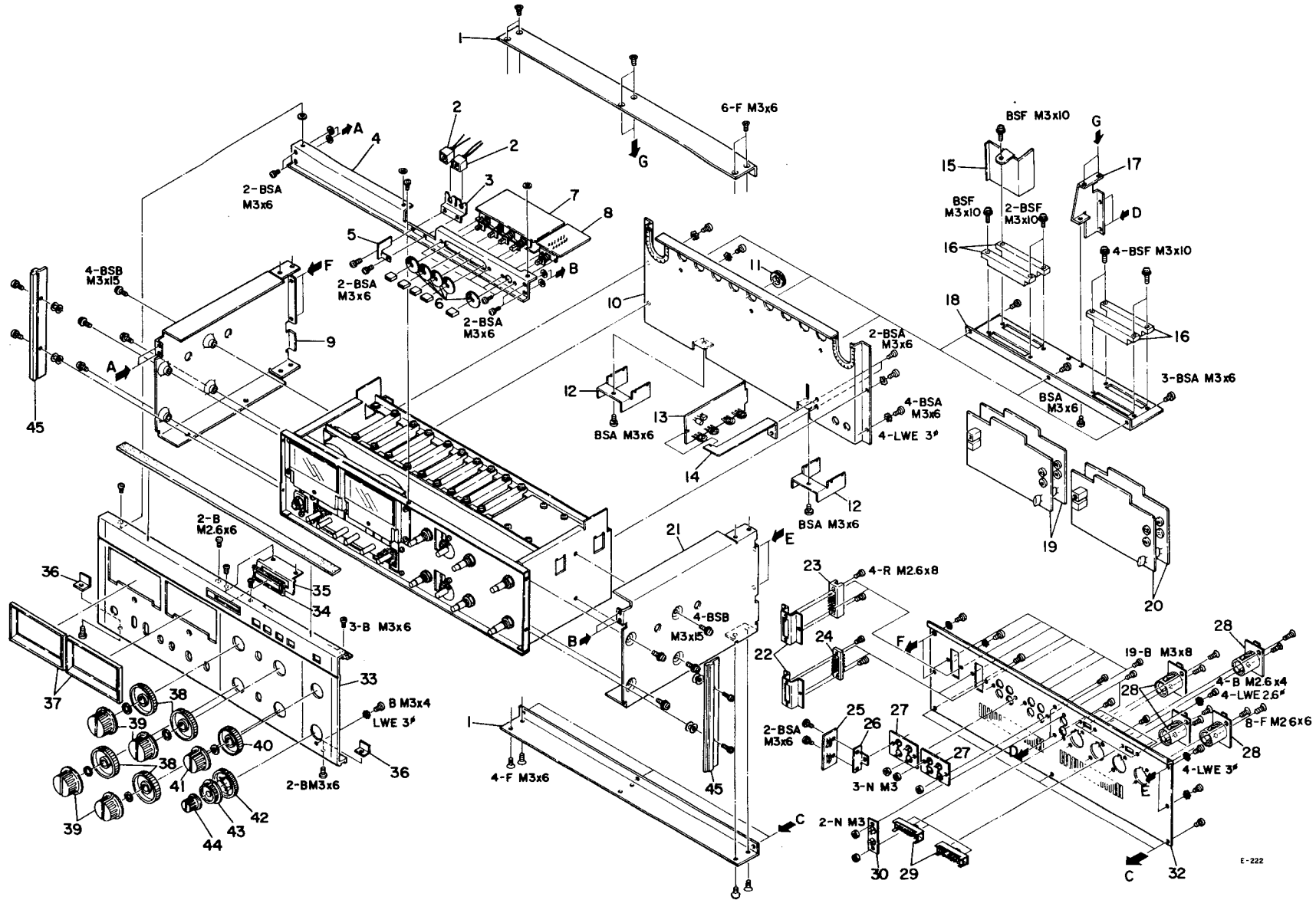


## PARTS LIST-4

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	50173570	Drum, Brake	
4 - 2	55342790	Felt, Brake	
4 - 3	50173392	Brake Band Assy, R	
4 - 4	50173332	Brake Band Assy, L	
4 - 5	* 50173481	Retainer, Brake Shaping	
4 - 6	* 50173490	Spacer, Brake Retainer	
4 - 7	* 50173601	Plate, Reel Motor; P	
4 - 8	51630050	Solenoid, Brake; R	
4 - 9	55302510	"O" Ring, P-4 (Spacer)	
4 - 10	71041081	Motor, Reel	
4 - 11	* 51520220	Transformer, Power	
4 - 12	* 51700050	Cap., MP; (7 + 1.5) mfd x 2 250V	
4 - 13	* 50524412	Resistor, Wire Wound 100 ohm 30H	
4 - 14	* 50522420	Resistor, Wire Wound 30 ohm 30H	
4 - 15	* 55540571	Plate, Resistor	
4 - 16	* 50522410	Resistor, Wire Wound 600 ohm 30 H	
4 - 17	* 55520252	Chassis, Reel Motor	
4 - 18	* 50161950	Standoff, Reel Motor	
4 - 19	* 55040881	Reel Table Assy	
4 - 20	* 55541240	Bracket, Frequency Selector	
4 - 21	* 55545670	Bracket, PC Board; C	
4 - 22	51682311	PC Bd. Assy, STABILIZER UNIT; B	
4 - 23	* 50444560	Switch, Slide; 6P	
4 - 24	51682940	PC Bd. Assy, STABILIZER UNIT	
4 - 25	51682471	PC Bd. Assy, POWER SUPPLY UNIT	
4 - 26	* 55405000	Stud, PC Board; A	
4 - 27	* 50436610	Plug, 16P	
4 - 28	* 50438390	Socket, 16P	
4 - 29	* 55541220	Bracket, PC Board; B	
4 - 30	51681312	PC Bd. Assy, REEL MOTOR DRIVE UNIT	
4 - 31	51681457	PC Bd. Assy, SOL. DRIVE UNIT	
4 - 32	* 50425460	Transistor, 2SA490-Y	
4 - 33	* 50332910	Sheet, Insul; Mylar	
4 - 34	* 55440700	Stud, PC Board; B	
4 - 35	* 55520780	Chassis, Connector Mounting	
4 - 36	* 50438380	Connector, PC; 14P	
4 - 37	* 50332580	Clamp, Wire; E	
4 - 38	* 50332950	Washer, Insulating	
4 - 39	* 50438440	Connector, PC; 10P	
4 - 40	* 55504341	Heat Sink, C	
4 - 41	* 55504331	Heat Sink, B	
4 - 42	51430930	Diode VO6E	
4 - 43	50432990	Plug, Voltage Selector	
4 - 44	50435060	Socket, Voltage Selector	

## PARTS LIST-3 (Continued from page 7)

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 65	* 51681623	PC Bd. Assy, CONTROL UNIT	
3 - 66	* 51670250	PC Board, Terminal; B	
3 - 67	* 50436560	Plug, Multi-; 11P	
3 - 68	* 50125590	Thrust Bearing, Fiber	
3 - 69	51430930	Diode VO6E	



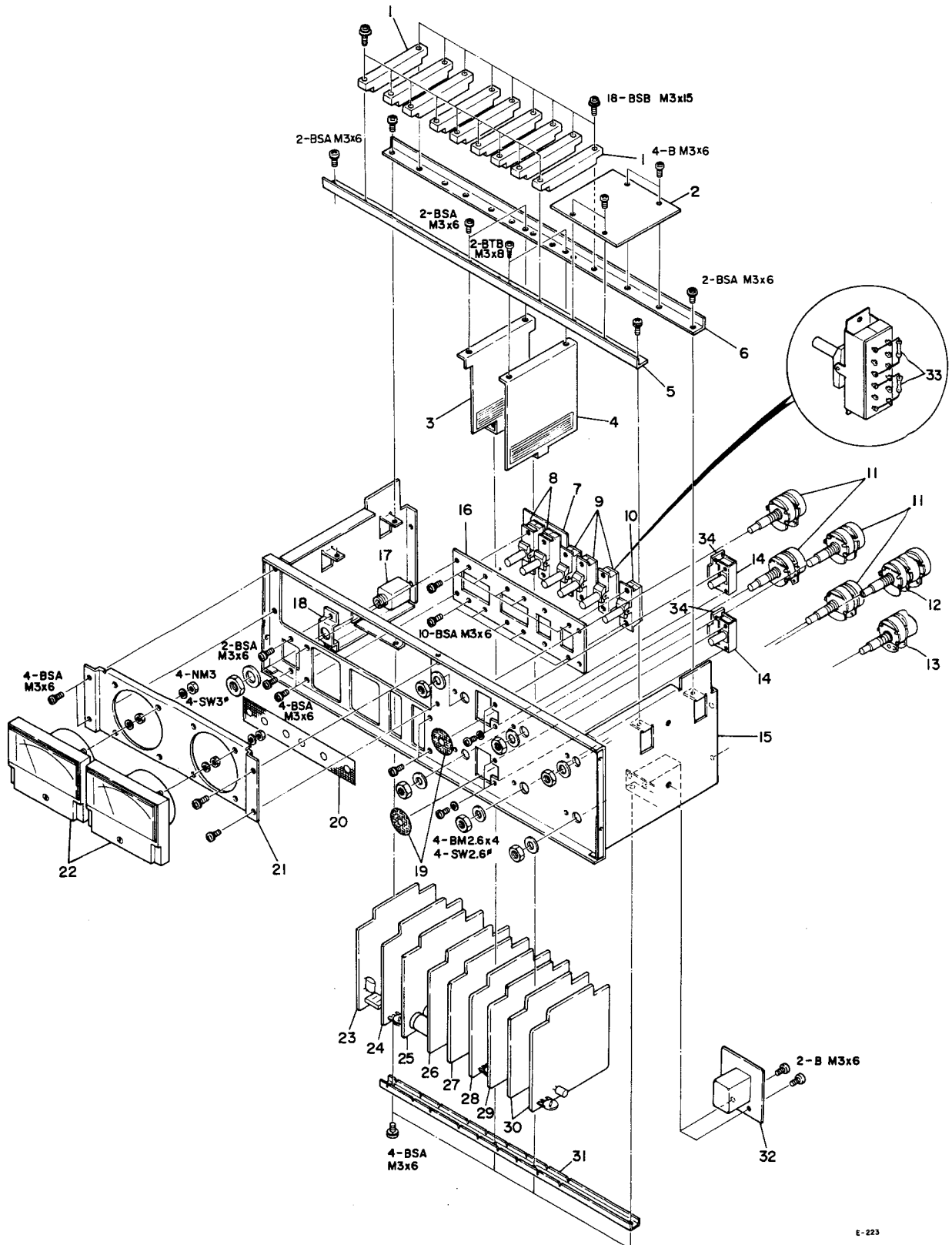
EXPLODED VIEW—5

## PARTS LIST-5

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	* 55530750	Angle, Amplifier	
5 - 2	* 51420920	Lamp, w/Holder	
5 - 3	* 55545690	Bracket, Lamp	
5 - 4	* 55530850	Plate, Push Switch	
5 - 5	* 55545820	Paper, Blind	
5 - 6	* 55545040	Mask, Push Switch	
5 - 7	51682340	PC Board Assy, Switch; A	
	* 51672340	Upper PC Board, Switch; A	Part of 5 - 7
	* 51672350	Lower PC Board, Switch; A	Part of 5 - 7
	* 51340060	Switch, Push; 4-Gang	Part of 5 - 7
5 - 8	* 51682360	PC Board Assy, Switch; B	
	* 51672360	PC Board, Switch; B	Part of 5 - 8
	* 51340070	Switch, Push	Part of 5 - 8
5 - 9	* 55042801	Side Chassis Assy, Ampl; L	
5 - 10	* 55530820	Plate, Shield; Ampl.	
5 - 11	* 55341190	Bushing, Rubber	
5 - 12	* 55545850	Bracket, PC Bd.; D	
5 - 13	* 51682760	PC Board Assy, TRIMMER RESISTOR	
5 - 14	* 50233760	Bracket, PC Bd.	
5 - 15	* 55546730	Plate, Shield	
5 - 16	* 50438380	Connector, PC; 14P	
5 - 17	* 55545660	Retainer, Angle	
5 - 18	* 55530740	Plate, PC Bd.	
5 - 19	* 51683560	PC Board Assy, ENCODER UNIT	
5 - 20	* 51683550	PC Board Assy, DECODER UNIT	
5 - 21	* 55042791	Side Chassis Assy, Ampl.; Right	
5 - 22	* 55540990	Plate, Connector Mounting	
5 - 23	* 50438411	Connector Socket; 12P	
5 - 24	* 50436631	Connector Plug; 12P	
5 - 25	51682750	PC Board Assy, Input-Output	
5 - 26	* 55540820	Angle, PC Bd.	
5 - 27	* 50436580	Jack, Pin; 4P	
5 - 28	* 60520070	Receptacle, Cannon; XLR-3-31 (Female)	
5 - 29	* 50444730	Switch, Slide	
5 - 30	* 50435070	Jack, Pin; 2P	
5 - 31		(not used)	
5 - 32	* 55520990	Panel, Connection; Ampl.	
5 - 33	* 55021030	Panel Assy, Ampl.; Trim	
5 - 34	* 55341800	Lens, Lamp	Part of 5 - 33
5 - 35	* 55545680	Plate, Lamp Lens	Part of 5 - 33
5 - 36	* 55507350	Holder, Ampl. Chassis	
5 - 37	* 55305370	Escutcheon, Meter	
5 - 38	* 55305341	Guide, Memory Marker; Large	
5 - 39	* 50253670	Knob, Medium	
5 - 40	* 55305351	Guide, Memory Marker; Small	
5 - 41	* 50253820	Knob, B-30B	
5 - 42	* 55305361	Guide, Memory Marker; B	
5 - 43	* 55305330	Knob, Large	
5 - 44	* 50253750	Knob, Small	
5 - 45	* 55545840	Sash, Ampl.; Side	



# EXPLODED VIEW-6



## PARTS LIST—6

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
6 - 1	* 50438380	Connector, 14P	
6 - 2	51680840	PC Board Assy, Mic. Transformer	
6 - 3	* 55507341	Plate, Shield; C	
6 - 4	* 55541200	Plate, Shield	
6 - 5	* 55507550	Angle, PC Bd.; A	
6 - 6	* 55507560	Angle, PC Bd.; B	
6 - 7	51680972	PC Board Assy, Switch Mounting; B	
6 - 8	* 50447420	Switch, Lever; 4P3T	Part of 6 - 7
6 - 9	50447440	Switch, Lever; 4PDT	
6 - 10	50447340	Switch, Lever; 6PDT	
6 - 11	* 51500040	Var. Res. (w/"Snap Stop"), 100k ohm - A	
6 - 12	* 51500020	Var. Res. (w/"Snap Stop"), 50k ohm - B x 2	
6 - 13	* 51500030	Var. Res. (w/"Snap Stop"), 50k ohm - A x 2	
6 - 14	50444730	Switch, Slide; 4PDT	
6 - 15	* 55020890	Chassis Assy, Ampl.	
6 - 16	* 55507370	Plate, Lever Switch Mounting	
6 - 17	50433030	Jack, Phone; 3 cond.	
6 - 18	* 55507380	Bracket, Jack Mounting	
6 - 19	* 55500790	Mask Control Switch	
6 - 20	* 55507390	Seal, Switch Masking	
6 - 21	* 55507400	Bracket, Meter	
6 - 22	51650011	Meter, VU	
6 - 23	* 51680823	PC Board Assy, BIAS OSC UNIT	
6 - 24	* 51680893	PC Board Assy, RECORD AMPL. UNIT; B	
6 - 25	* 51680832	PC Board Assy, AMPL. STABILIZER UNIT	
6 - 26	* 51683660	PC Board Assy, RECORD LINE AMPL. UNIT; C	
6 - 27	* 51682971	PC Board Assy, METER PHONE AMPL. UNIT; C	
6 - 28	* 51682171	PC Board Assy, PLAYBACK LINE AMPL. UNIT; B	
6 - 29	* 51683640	PC Board Assy, PLAYBACK EQ AMPL. UNIT; D	
6 - 30	* 51683760	PC Board Assy, MIC MIXING AMPL. UNIT; B	
6 - 31	* 55507610	Holder, PC Board	
6 - 32	51680461	PC Board Assy, EQ RELAY	
6 - 33	51813160	Carbon Res., 27k ohm 1/4W (R703/R704)	
6 - 34	* 51684420	PC Board Assy, Switch Mounting; D	

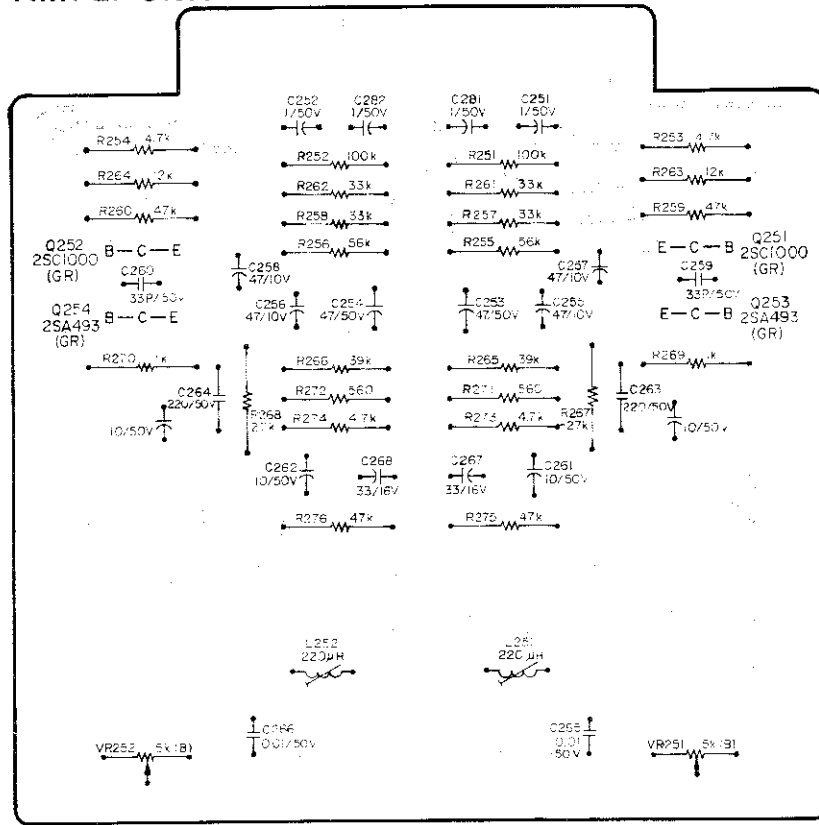
## INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	51280010	Cords, Input-Output Connection, x 2	GENERAL EXPORT AUSTRALIA
	51280240	Cord, Low Stray Capacity	
	51280260	Cord, AC Power	
	51280300	Cord, AC Power	
	51280220	Cord 12P Plug	
	51280230	Cord, 12P Socket	
	57100300	Cleaning Stick (TZ-275)	
	50629620	Splicing Tape	
	50291350	Silicone Cloth	
	50860090	Hex Wrench Kit (M3 & M4)	
	55980250	Reel Adapter Clamp (TZ-612), x 2	
	55143060	Case, Cord	
	50411010	Fuse, 1A or	
	50411140	Fuse, 2A	
	* RE-1002	Empty Reel, 10 inch	
	51013830	A-7300RX Owner's Manual	
	51013371	Open Reel Supplement	

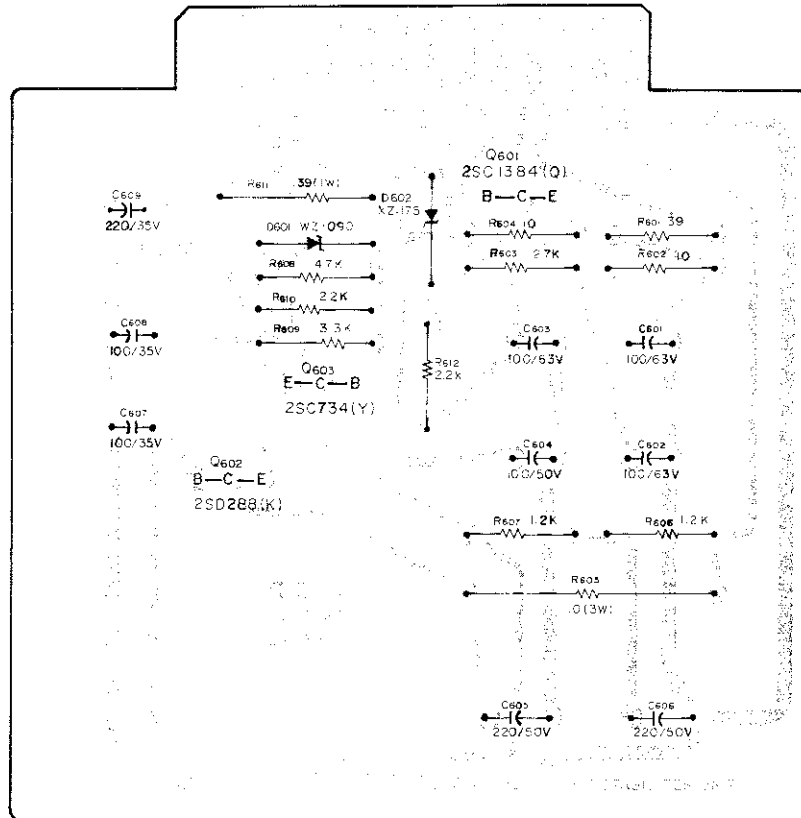
**NOTE:** \* The Empty Reel is available as an Optional Accessory and thus is not assigned a special TEAC parts number. Please order this by the MODEL CODE NUMBER (RE-1002). This number is included on the package.

## 2. PC BOARD SECTION (Diagram)

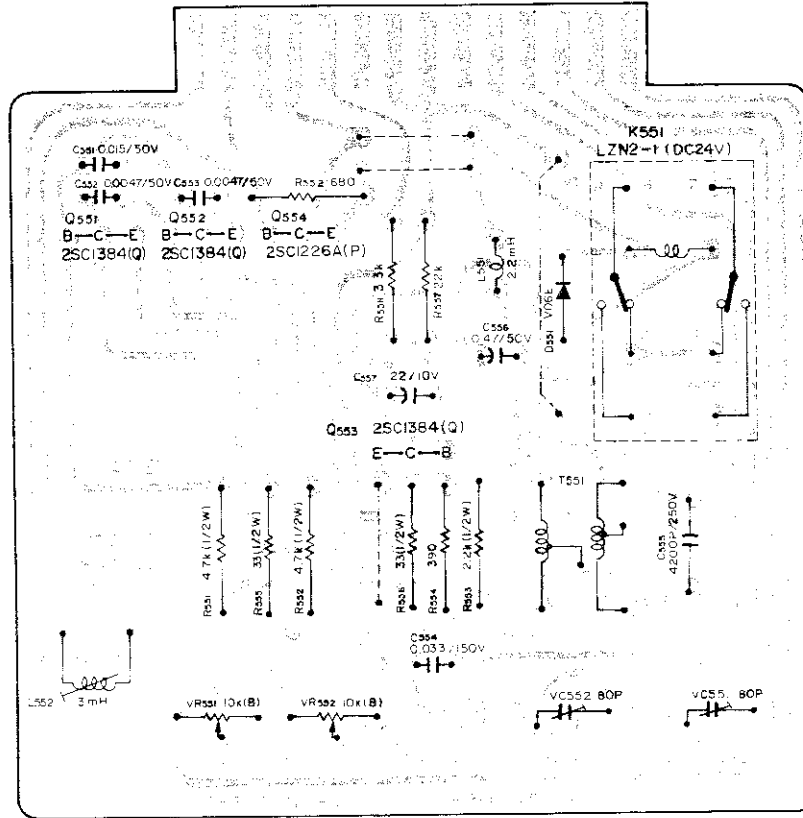
### 1. PLAY LINE AMPL. UNIT



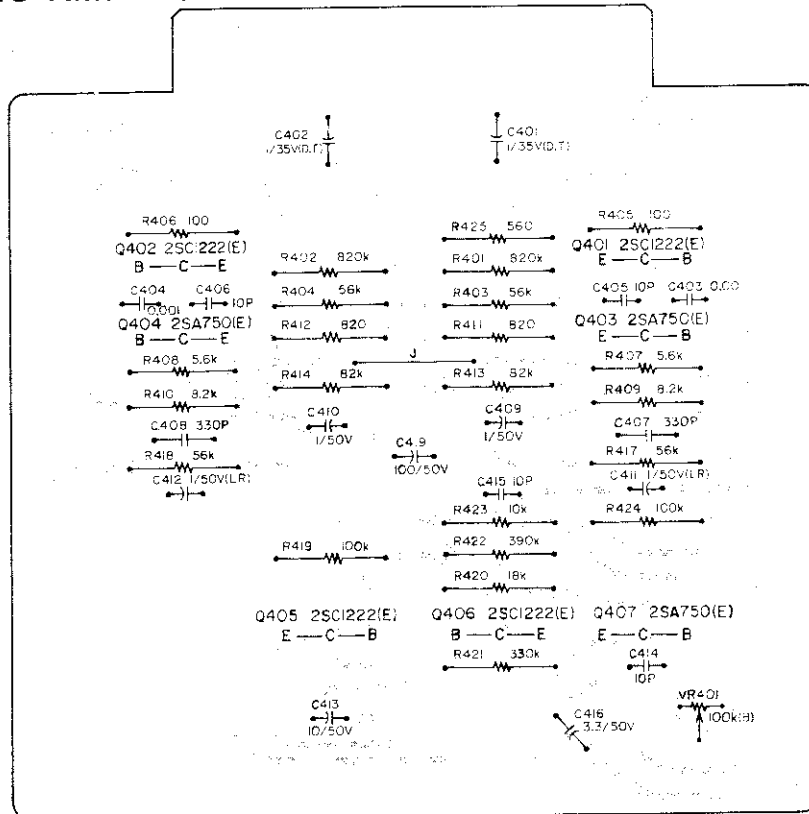
### 2. AMPL. STABILIZER UNIT



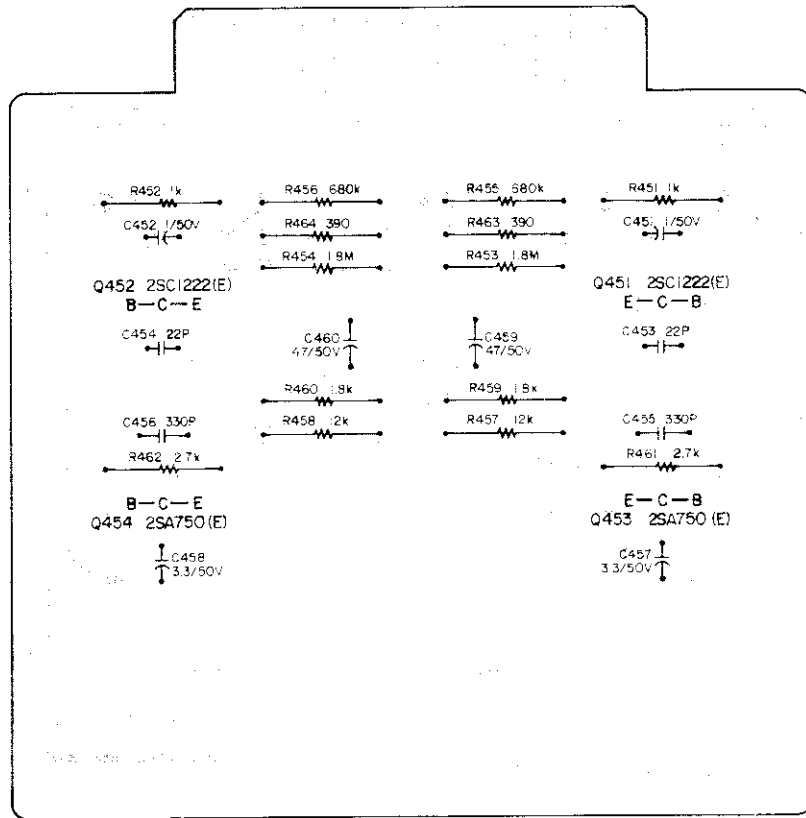
### 3. BIAS OSC UNIT



### 4. MIC MIXING AMPL. UNIT

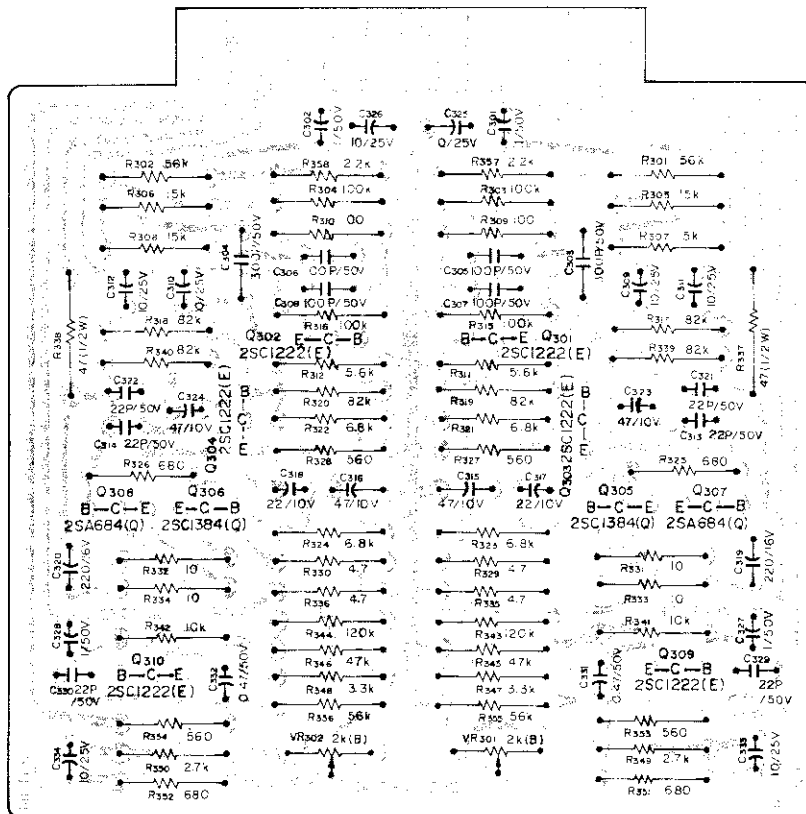


### 5. REC LINE AMPL. UNIT



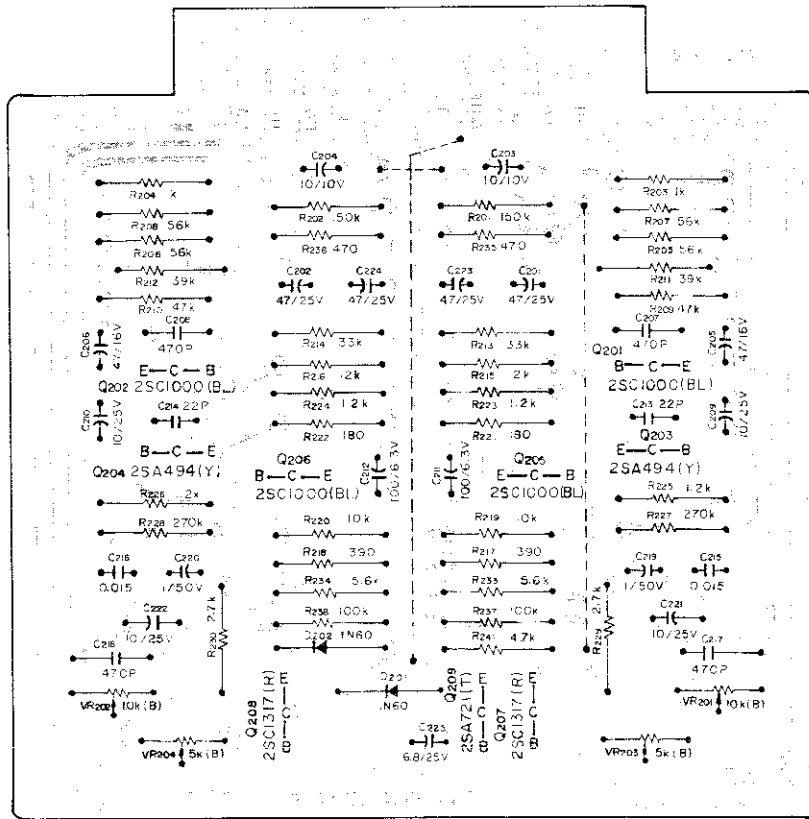
P-132-1

### 6. METER PHONE AMPL. UNIT



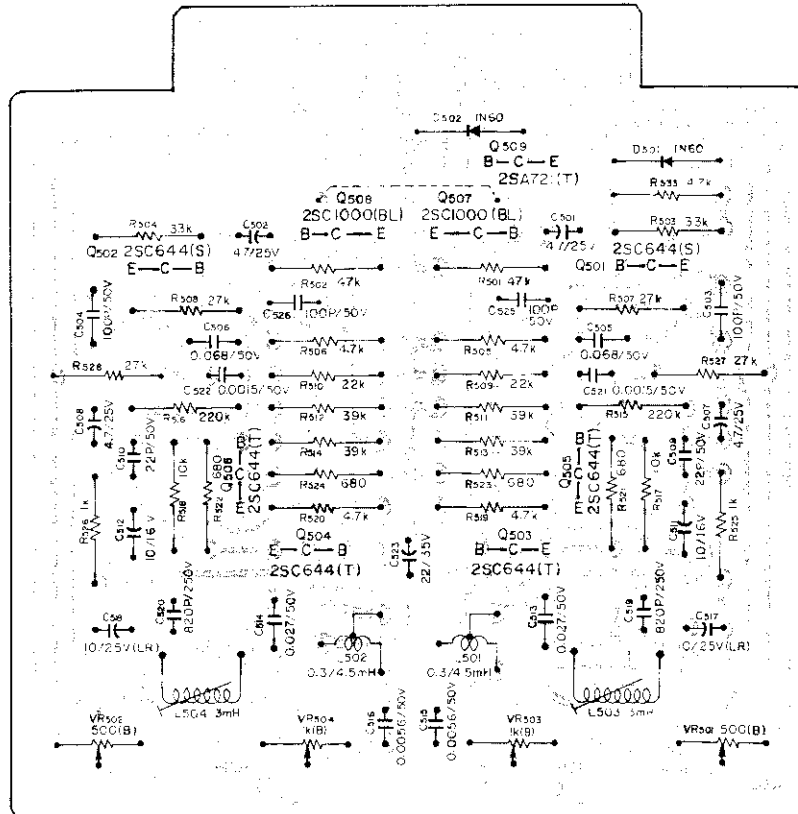
P-124-1

## 7. PLAY EQ AMPL. UNIT



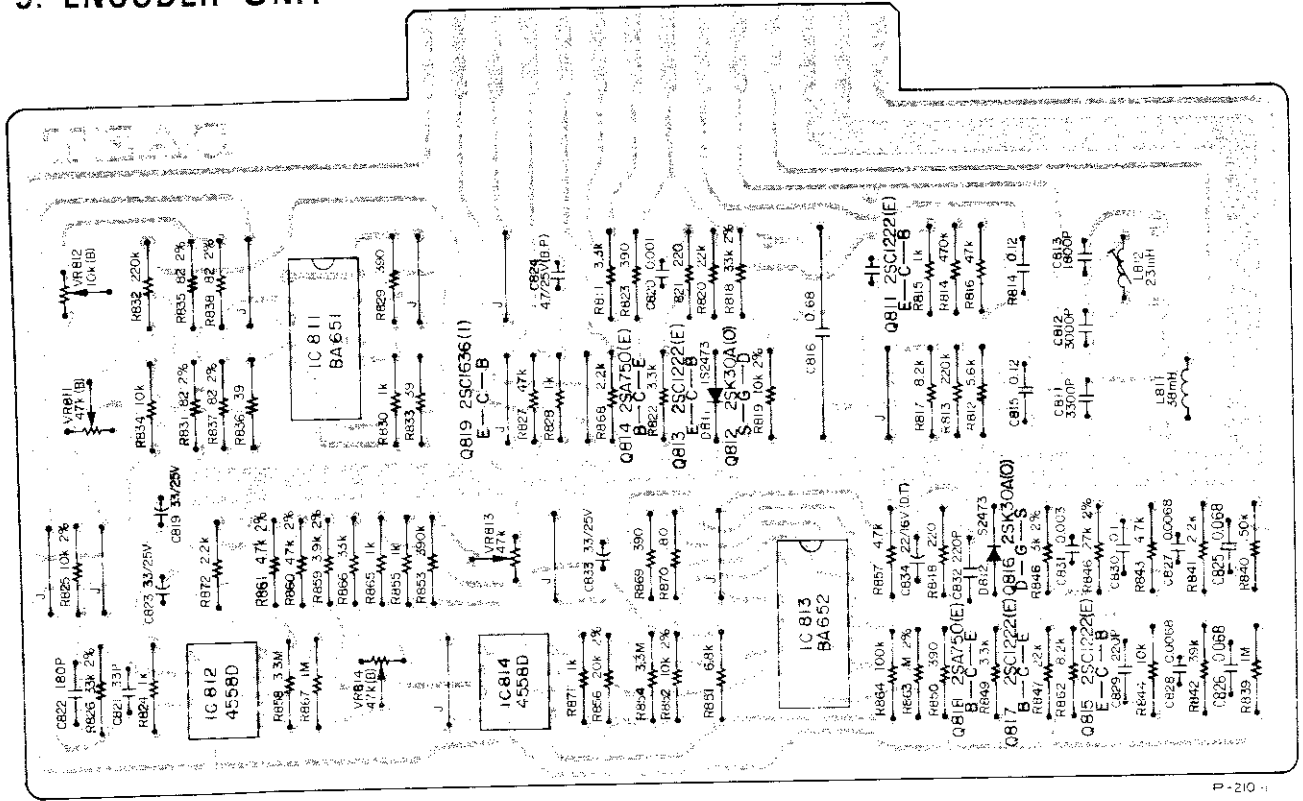
P.133

## 8. RECORD AMPL. UNIT

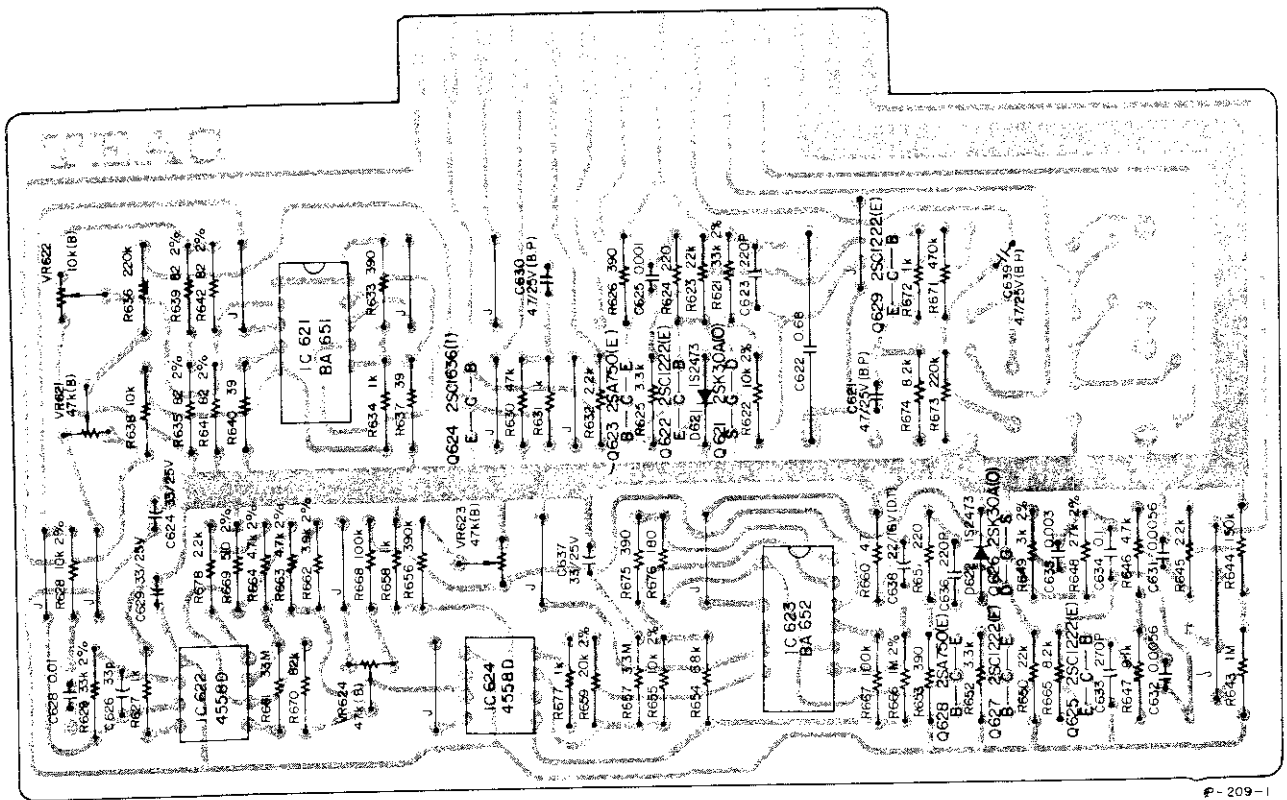


P.131

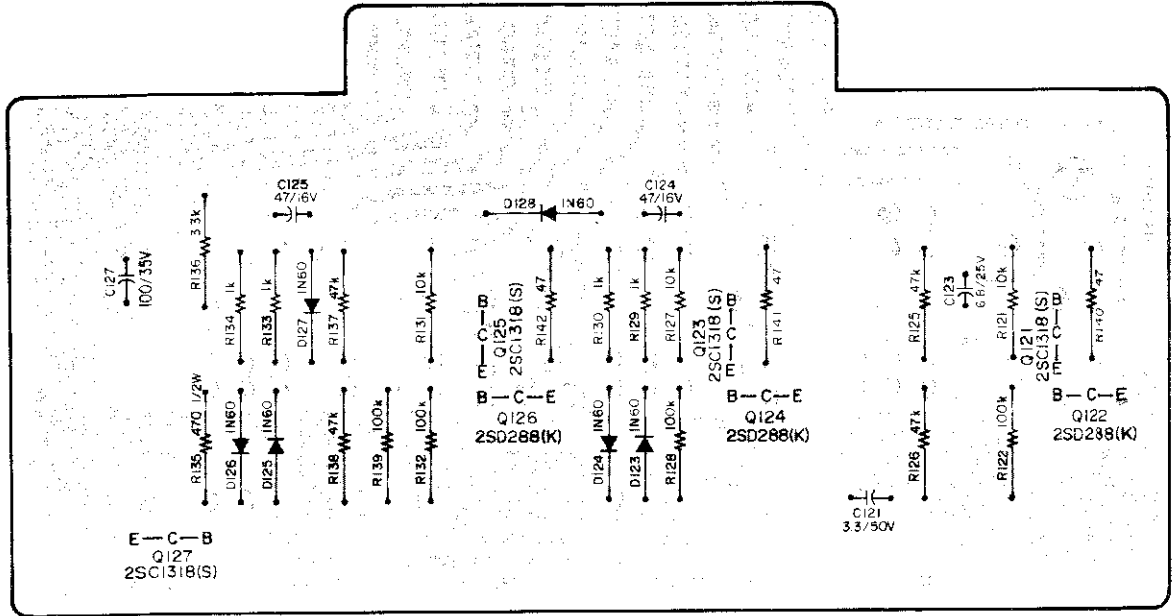
# 9. ENCODER UNIT



# 10. DECODER UNIT

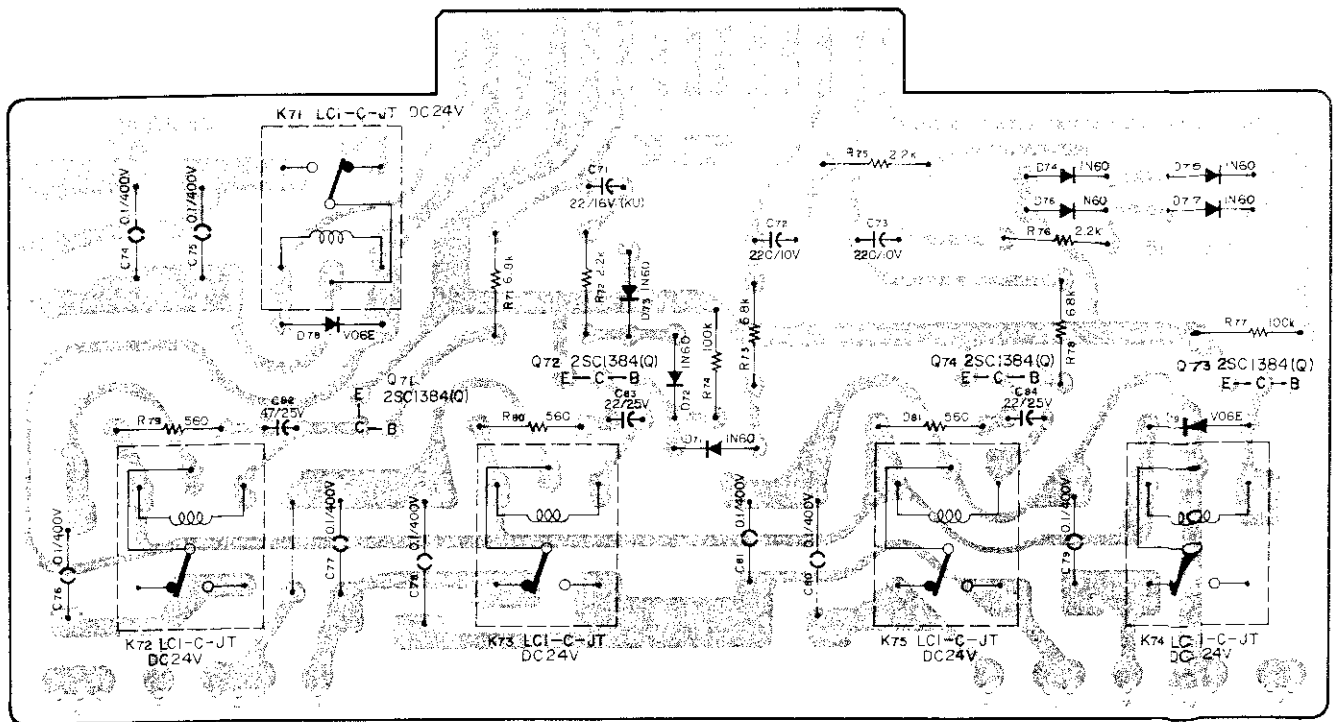


# 11. SOLENOID DRIVE UNIT



P-24

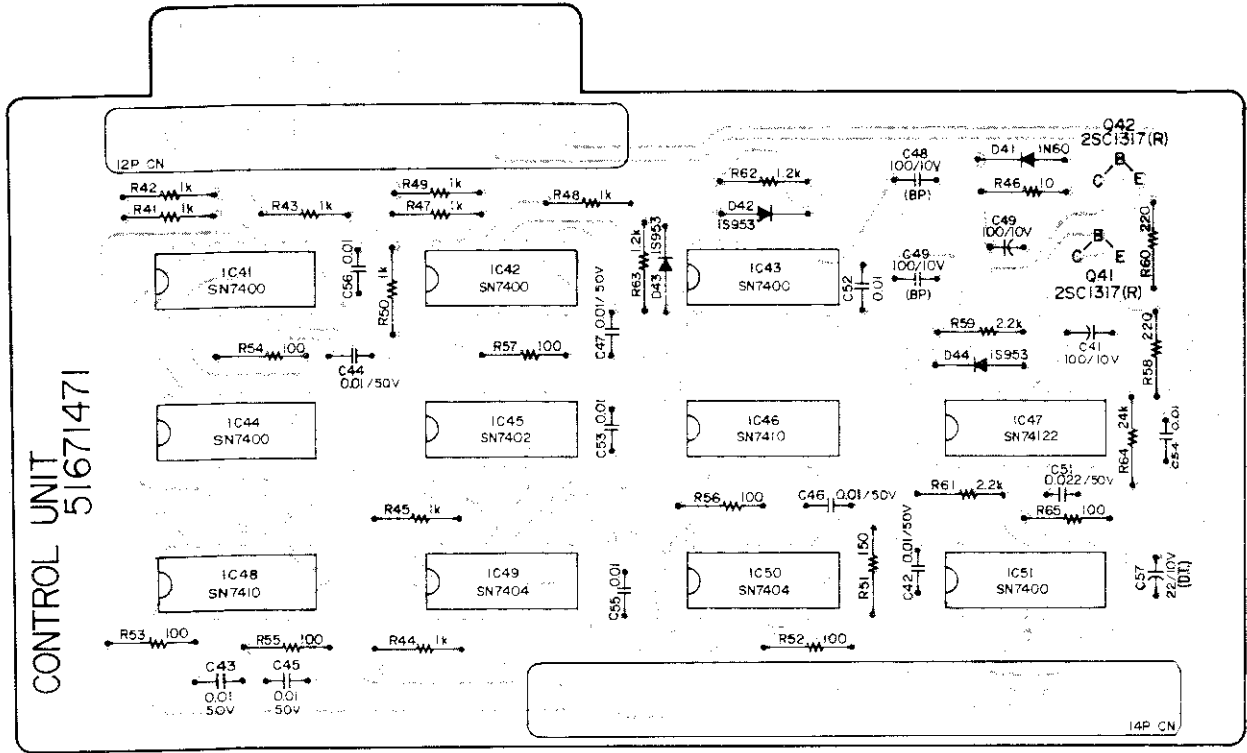
# 12. REEL MOTOR DRIVE UNIT



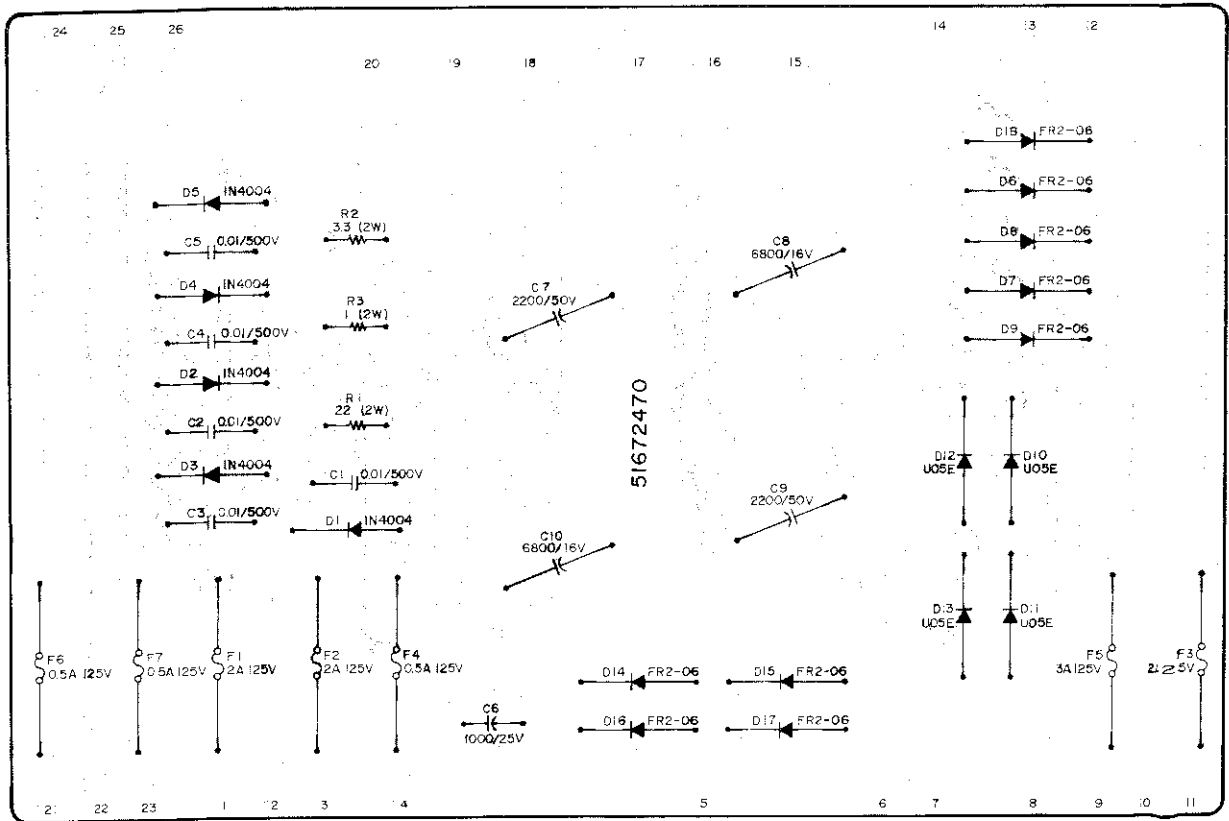
P-25



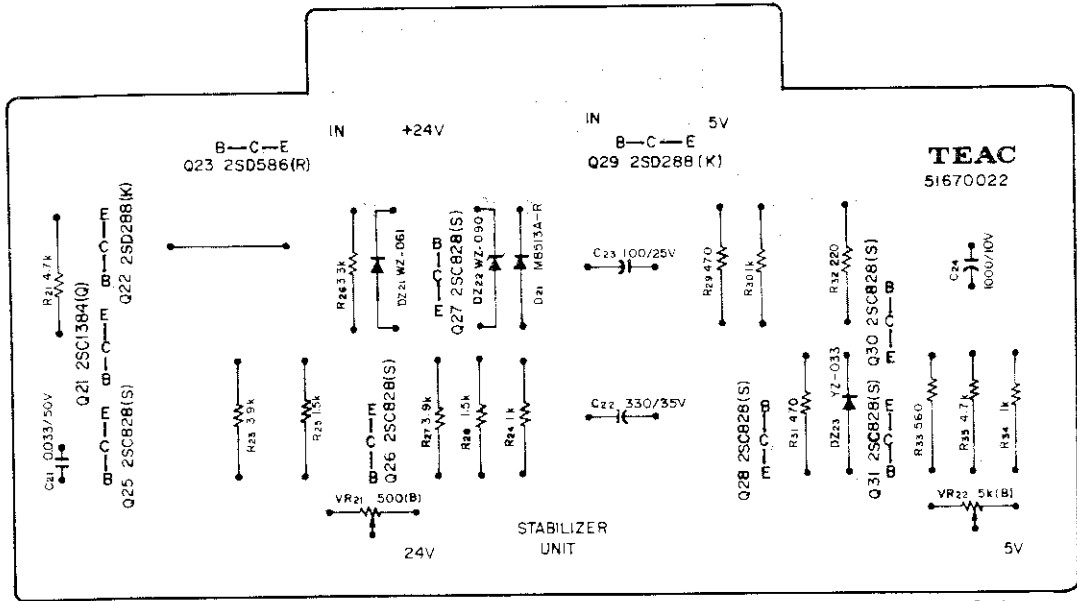
### 13. CONTROL UNIT



### 14. POWER SUPPLY UNIT

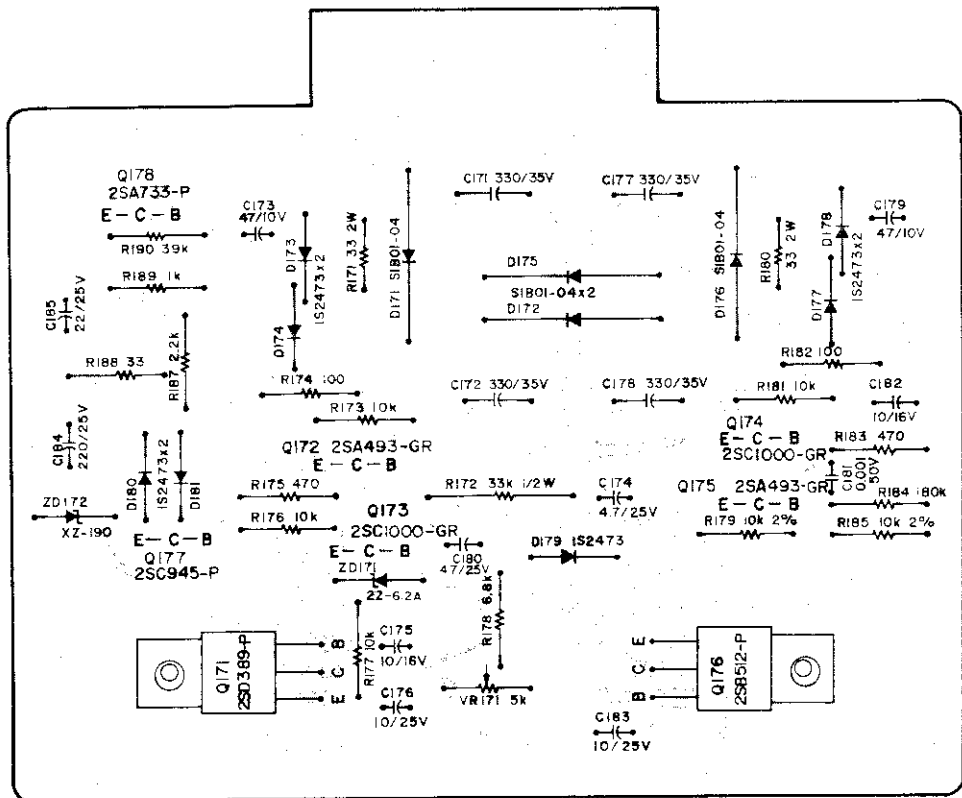


# 15. STABILIZER UNIT



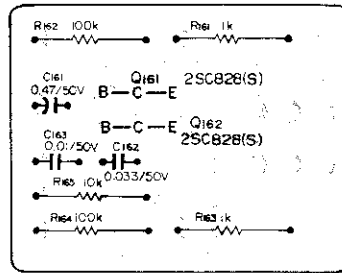
P-116

# 16. STABILIZER UNIT, B



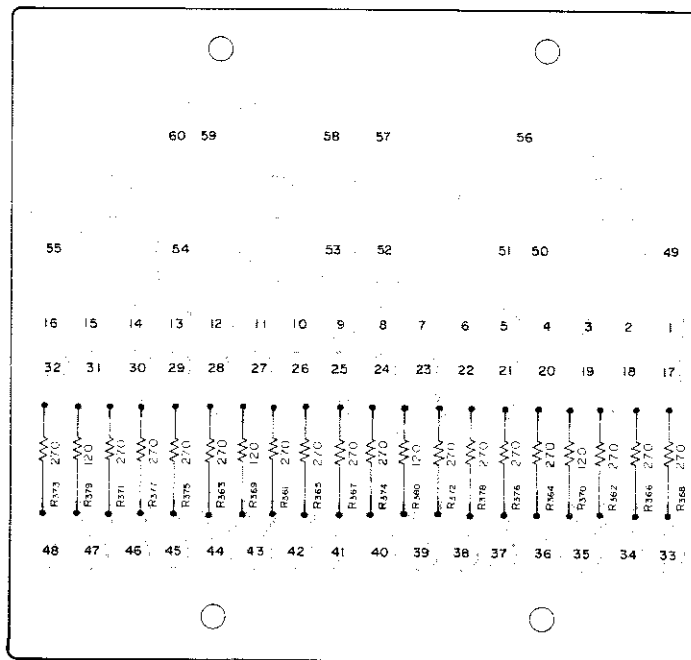
P-207

## 17. REWIND STOP UNIT



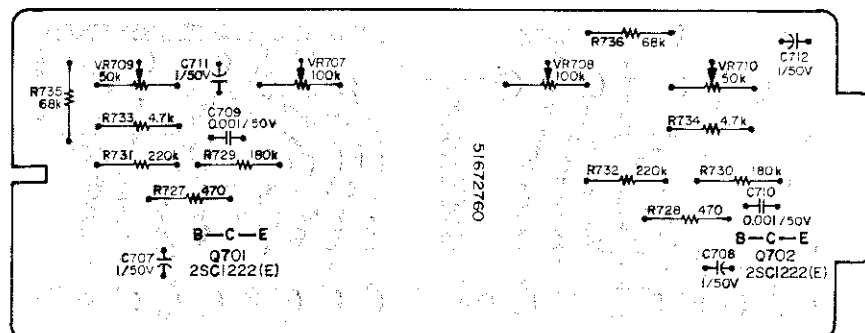
P-125

## 18. MIC TRANSFORMER



P-126

## 19. TRIMMER RESISTORS



P-211

## 2. PC BOARD SECTION (Parts List)

### 1. PLAY LINE AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51682171	PC Board Assy, B
	51670780	PC Board
	51670120	PC Board, Coil Mtg. (2 used)
<b>TRANSISTORS</b>		
Q215/Q252	50424100	2SC1000 - GR
Q253/Q254	50424890	2SA493 - GR
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and 1/4 watt.		
R251/R252	50573300	100k ohm
R253/R254	50572980	4.7k ohm
R255/R256	50573240	56k ohm
R257/R258	50573180	33k ohm
R259/R260	50573220	47k ohm
R261/R262	50573180	33k ohm
R263/R264	50573080	12k ohm
R265/R266	50573200	39k ohm
R267/R268	50573160	27k ohm
R269/R270	50572820	1k ohm
R271/R272	50572760	560 ohm
R273/R274	50572980	4.7k ohm
R275/R276	50573220	47k ohm
<b>CAPACITORS</b>		
C251/C252	50554540	Elec. 1 mfd 50V
C253/C254	50555550	Elec. 47 mfd 50V
C255/C256	50555540	Elec. 47 mfd 10V
C257/C258	50555540	Elec. 47 mfd 10V
C259/C260	50547590	Dip. Mica 33 pfd 50V
C261/C262	50554350	Elec. 10 mfd 50V
C263/C264	50547450	Dip. Mica 220 pfd 50V
C265/C266	50548020	Mylar 0.01 mfd 50V
C267/C268	50554260	Elec. 33 mfd 16V
C269/C270	50554350	Elec. 10 mfd 50V
C281/C282	50554540	Elec. 1 mfd 50V
<b>VARIABLE RESISTORS</b>		
VR251/VR252	50534210	Semi-fixed, 5k ohm - B
<b>COILS</b>		
L251/L252	50566640	Choke, 220 uhy

### 2. AMPL. STABILIZER UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51680832	PC Board Assy
	51670831	PC Board
<b>TRANSISTORS</b>		
Q601	50424750	2SC1384 - Q
Q602	50425270	2SD288 - K
Q603	50423500	2SC734 - Y
<b>ZENER DIODES</b>		
D601	50425150	WZ - 090 or
	50422980	Q2Z 9.1A
D602	50425260	XZ - 175
<b>CARBON RESISTORS</b>		
R601	50572480	39 ohm 1/4W 5%
R602, R604	50572340	10 ohm 1/4W 5%
R603	50572920	2.7k ohm 1/4W 5%
R605	50520360	10 ohm 3W
R606, R607	50572840	1.2k ohm 1/4W 5%
R608	50572980	4.7k ohm 1/4W 5%
R609	50572940	3.3k ohm 1/4W 5%
R610, R612	50572900	2.2k ohm 1/4W 5%
R611	50526420	39 ohm 1W
<b>ELEC. CAPACITORS</b>		
C601~C603	50555640	100 mfd 63V
C604	50554070	100 mfd 50V
C605, C606	50555610	220 mfd 50V
C607, C608	50554630	100 mfd 35V
C609	50554380	220 mfd 35V
<b>MISCELLANEOUS</b>		
	50333040	Heat Sink (for 2SC1384)
	55504320	Heat Sink, A
	50332910	Sheet, Insul.; for 2SD235

### 3. BIAS OSC UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51680823	PC Board Assy
	51670820	PC Board
<b>TRANSISTORS</b>		
Q551~Q553	50424750	2SC1384 - Q
Q554	50424160	2SC1226 - A(P)
<b>DIODE</b>		
D551	51430930	V06E

REF. NO.	PARTS NO.	DESCRIPTION
<b>CARBON RESISTORS</b>		
R551, R552	50574980	4.7k ohm 1/2W 5%
R553	50517860	2.2k ohm 1/2W
R554	50572720	390 ohm 1/4W 5%
R555, R556	50574460	33 ohm 1/4W 5%
R557	50573140	22k ohm 1/4W 5%
R558	50572940	3.3k ohm 1/4W 5%
R559	50572780	680 ohm 1/4W 5%
<b>CAPACITORS</b>		
C551	50548870	Mylar 0.015 mfd 50V 5%
C552, C553	50548910	Mylar 0.0047 mfd 50V 5%
C554	51700160	Mylar 0.033 mfd 150V
C555	50544040	Mica 4200 pfd 250V 5%
C556	50554970	Elec. 0.47 mfd 50V
C557	50554720	Elec. 22 mfd 10V
<b>TRIMMERS</b>		
VC551, VC552	50547110	Trimmer Cap., 80 pfd Max.
VR551, VR552	50534210	Semi-fixed Res., 10k ohm - B
<b>COILS</b>		
L551	50566720	Choke, 2.2 mH
L552	50566581	Dummy, 3 mH
T551	50563550	Bias Oscillator
<b>RELAY</b>		
K551	51611280	DPDT, DC 24V 1740 ohm
<b>MISCELLANEOUS</b>		
	51670120	PC Board, Coil Mounting
	50330940	Washer, Insulating
	50333040	Heat Sink

#### 4. MIC MIXING AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51683760	PC Board Assy, C
	51673670	PC Board
<b>TRANSISTORS</b>		
Q401/Q402	50424950	2SC1222 - E
Q403/Q404	51450380	2SA750 - E
Q405/Q406	50424950	2SC1222 - E
Q407	50450380	2SA750 - E

REF. NO.	PARTS NO.	DESCRIPTION
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and 1/4 watt.		
R401/R402	50573520	820k ohm
R403/R404	50573240	56k ohm
R405/R406	50572580	100 ohm
R407/R408	50573000	5.6k ohm
R409/R410	50573040	8.2k ohm
R411/R412	50572800	820 ohm
R413/R414	50573280	82k ohm
R417/R418	50573240	56k ohm
R419, R424	50573300	100k ohm
R420	50573120	18k ohm
R421	50573420	330k ohm
R422	50573440	390k ohm
R423	50573060	10k ohm
R425	50572760	560 ohm
<b>CAPACITORS</b>		
C401/C402	50546703	Dip. Tant 1 mfd 35V
C403/C404	50548320	Mylar 0.001 mfd 50V
C405/C406	50547400	Dip. Mica 10 pfd 50V
C407/C408	50547460	Dip. Mica 330 pfd 50V
C409/C410	50554540	Elec. 1 mfd 35V
C411/C412	51700860	Elec. 1 mfd 50V (LR)
C413	50554350	Elec. 10 mfd 50V
C414, C415	50547400	Dip. Mica 10 pfd 50V
C416	50555730	Elec. 3.3 mfd 50V
C419	50554070	Elec. 100 mfd 50V
<b>VARIABLE RESISTORS</b>		
VR401	50536290	Semi-fixed, 100k ohm - B

#### 5. REC LINE AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51683660	PC Board Assy, F
	51673660	PC Board
<b>TRANSISTORS</b>		
Q451/Q452	50424950	2SC1222 - E
Q453/Q454	51450380	2SA750 - E
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and 1/4 watt.		
R451/R452	50572820	1k ohm
R453/R454	50573590	1.8M ohm
R455/R456	50573500	680k ohm
R457/R458	50573080	12k ohm
R459/R460	50572880	1.8k ohm
R461/R462	50572920	2.7k ohm
R463/R464	50572720	390 ohm

REF. NO.	PARTS NO.	DESCRIPTION
<b>CAPACITORS</b>		
C451/C452	50554540	Elec. 1 mfd 50V
C453/C454	50543820	Dip. Mica 22 pfd 50V
C455/C456	50542580	Dip. Mica 150 pfd 50V
C457/C458	50555730	Elec. 3.3 mfd 50V
C459/C460	50555550	Elec. 47 mfd 50V

## 6. METER PHONE AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51682971	PC Board Assy, D
	51670791	PC Board
<b>TRANSISTORS</b>		
Q301/Q302	50424950	2SC1222 - E
Q303/Q304	50424100	2SC1000 - GR
Q305/Q306	50424750	2SC1384 - Q
Q307/Q308	50424900	2SA684 - Q
Q309/Q310	50424100	2SC1000 - GR

### CARBON RESISTORS

All resistors are rated  $\pm 5\%$  tolerance and 1/4 watt.

R301/R302	50573240	56k ohm
R303/R304	50573300	100k ohm
R305/R306	50573100	15k ohm
R307/R308	50573100	15k ohm
R309/R310	50572580	100 ohm
R311/R312	50573000	5.6k ohm
R315/R316	50573300	100k ohm
R317/R318	50573250	62k ohm
R319/R320	50573280	82k ohm
R321/R322	50573020	6.8k ohm
R323/R324	50573020	6.8k ohm
R325/R326	50572780	680 ohm
R327/R328	50572760	560 ohm
R329/R330	50572260	4.7 ohm
R331/R332	50572340	10 ohm
R333/R334	50572340	10 ohm
R335/R336	50572260	4.7 ohm
R337/R338	50574500	47 ohm 1/2W
R339/R340	50573360	180k ohm
R341/R342	50573060	10k ohm
R343/R344	50573320	120k ohm
R345/R346	50573220	47k ohm
R347/R348	50572940	3.3k ohm
R349/R350	50572920	2.7k ohm
R351/R352	50572500	47 ohm
R353/R354	50572760	560 ohm
R355/R356	50573240	56k ohm
R357/R358	50572900	2.2k ohm

REF. NO.	PARTS NO.	DESCRIPTION
<b>CAPACITORS</b>		
C301/C302	50554540	Elec. 1 mfd 50V
C303/C304	50547360	Dip. Mica 300 pfd 50V
C305/C306	50547440	Dip. Mica 100 pfd 50V
C307/C308	50547440	Dip. Mica 100 pfd 50V
C309/C310	50554040	Elec. 10 mfd 25V
C311/C312	50554040	Elec. 10 mfd 25V
C313/C314	50547400	Dip. Mica 10 pfd 50V
C315/C316	50554570	Elec. 100 mfd 10V
C317/C318	50554720	Elec. 22 mfd 10V
C319/C320	50554390	Elec. 220 mfd 16V
C321/C322	50547400	Dip. Mica 10 pfd 50V
C323/C324	50555540	Elec. 47 mfd 10V
C325/C326	50554040	Elec. 10 mfd 25V
C327/C328	50554540	Elec. 1 mfd 50V
C329/C330	50543820	Dip. Mica 22 pfd 50V
C331/C332	50554970	Elec. 0.47 mfd 50V
C333/C334	50554040	Elec. 10 mfd 25V

### VARIABLE RESISTORS

VR301/VR302 50534190 Semi-fixed, 500 ohm - B

## 7. PLAY EQ AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51683640	PC Board Assy, E
	51670073	PC Board
<b>TRANSISTORS</b>		
Q201/Q202	50424340	2SC1000 - BL
Q203/Q204	50423650	2SA494 - Y
Q205/Q206	50424340	2SC1000 - BL
Q207/Q208	50424670	2SC1317 - R
Q209	50424340	2SC1000 - BL

### DIODES

D201/D202 50422130 1N60

### CARBON RESISTORS

All resistors are rated  $\pm 5\%$  tolerance and 1/4 watt.

R201/R202	50573340	150k ohm
R203/R204	50572820	1k ohm
R205/R206	50573240	56k ohm
R207/R208	50573240	56k ohm
R209/R210	50573220	47k ohm
R211/R212	50573200	39k ohm
R213/R214	50573180	33k ohm
R215/R216	50573080	12k ohm
R217/R218	50572720	390 ohm
R219/R220	50573060	10k ohm
R221/R222	50572680	180 ohm
R223/R224	50572840	1.2k ohm

REF. NO.	PARTS NO.	DESCRIPTION
R225/R226	50572840	1.2k ohm
R227/R228	50573400	270k ohm
R229/R230	50572920	2.7k ohm
R233/R234	50573000	5.6k ohm
R235/R236	50572740	470 ohm
R237/R238	50573300	100k ohm
R241	50572980	4.7k ohm

#### CAPACITORS

C201/C202	50554490	Elec.	47 mfd	25V
C203/C204	50546190	Tant.	10 mfd	10V
C205/C206	50554010	Elec.	47 mfd	16V
C207/C208	50547560	Dip. Mica	470 pfd	50V
C209/C210	51700820	Elec.	10 mfd	25V (LR)
C211/C212	50554230	Elec.	100 mfd	6.3V
C213/C214	50543820	Dip. Mica	22 pfd	50V
C215/C216	50548960	Mylar	0.015 mfd	50V 5%
C217/C218	50547560	Dip. Mica	470 pfd	50V
C219/C220	50554540	Elec.	1 mfd	50V
C221/C222	50554040	Elec.	10 mfd	25V
C223/C224	50554490	Elec.	47 mfd	25V
C225	50546622	Elec.	6.8 mfd	25V

#### VARIABLE RESISTORS

VR201/VR202	50534220	Semi-fixed, 10k ohm - B
VR203/VR204	50534210	Semi-fixed, 5k ohm - B

## 8. RECORD AMPL. UNIT

REF. NO.	PARTS NO.	DESCRIPTION
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51680893 PC Board Assy, B

51670112 PC Board

#### TRANSISTORS

Q501/Q502	50423590	2SC644 - S
Q503/Q504	50423770	2SC644 - T
Q505/Q506	50423770	2SC644 - T
Q507/Q508	50424340	2SC1000 - BL
Q509	50424650	2SA721 - T

#### DIODE

D501/D502 50422130 1N60

#### CARBON RESISTORS

All resistors are rated  $\pm 5\%$  tolerance and 1/4 watt.

R501/R502	50573220	47k ohm
R503/R504	50573180	33k ohm
R505/R506	50572980	4.7k ohm
R507/R508	50573160	27k ohm
R509/R510	50573140	22k ohm
R511/R512	50573200	39k ohm
R513/R514	50573200	39k ohm

REF. NO.	PARTS NO.	DESCRIPTION
R515/R516	50573380	220k ohm
R517/R518	50573060	10k ohm
R519/R520	50572980	4.7k ohm
R521/R522	50572780	680 ohm
R523/R524	50572780	680 ohm
R525/R526	50572820	1k ohm
R527/R528	50573160	27k ohm
R533	50572980	4.7k ohm

#### CAPACITORS

C501/C502	50554530	Elec.	4.7 mfd	25V
C503/C504	50547440	Dip. Mica	100 pfd	50V
C505/C506	50549260	Mylar	0.068 mfd	50V 5%
C507/C508	50554530	Elec.	4.7 mfd	25V
C509/C510	50543820	Dip. Mica	22 pfd	50V
C511/C512	50554050	Elec.	10 mfd	16V
C513/C514	50548990	Mylar	0.027 mfd	50V 5%
C515/C516	50548920	Mylar	0.0056 mfd	50V 5%
C517/C518	51700820	Elec.	10 mfd	25V (LR)
C519/C520	50543120	Polyst.	820 pfd	250V
C521/C522	50548960	Mylar	0.0015 mfd	50V 5%
C523	50554900	Elec.	22 mfd	35V
C525/C526	50547440	Dip. Mica	100 pfd	50V

#### VARIABLE RESISTORS

VR501, VR502	50534190	Semi-fixed, 500 ohm - B
VR503, VR504	50534200	Semi-fixed, 1k ohm - B

#### COILS

L501/L502	50566750	Record EQ. 0.3/4.5 mH
L503/L504	50566300	Trap, 3 mH

#### MISCELLANEOUS

51670120 PC Board, Coil Mounting (2 used)

## 9. ENCODER UNIT

REF. NO.	PARTS NO.	DESCRIPTION
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51683561 PC Board Assy

51673560 PC Board

#### IC's

IC811	51470200	BA651
IC812	50427380	NJM4558D
IC813	51470211	BA652
IC814	50427380	NJM4558D

#### TRANSISTORS

Q811, Q813	50424950	2SC1222 - E
Q812, Q816	50425480	FET 2SK - 30A - O
Q814, Q818	51450380	2SA750 - E

REF. NO.	PARTS NO.	DESCRIPTION
Q815, Q817	50424950	2SC1222 - E
Q819	50425490	2SC1636 - I

### DIODE

D811, D812	50425500	1S2473
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### RESISTORS

All resistors are rated  $\pm 5\%$  tolerance, 1/4 watt and of carbon type unless otherwise noted.

R811	51812940	3.3k ohm
R812	51813000	5.6k ohm
R813	51813380	220k ohm
R814	51813460	470k ohm
R815	51812820	1k ohm
R816	51813220	47k ohm
R817	51813040	8.2k ohm
R818	51813840	33k ohm 2%, Metal Film
R819	51813810	10k ohm 2%, Metal Film
R820	51813140	22k ohm
R821	51812660	220 ohm
R822	51812940	3.3k ohm
R823	51812720	390 ohm
R824	51812820	1k ohm
R825	51813810	10k ohm 2%, Metal Film
R826	51813840	33k ohm 2%, Metal Film
R827	51813270	47k ohm
R828	51812820	1k ohm
R829	51812720	390 ohm
R830	51812820	1k ohm
R831	51813760	82 ohm 2%, Metal Film
R832	51813380	220k ohm
R833	51812480	39 ohm
R834	51813060	10k ohm
R835	51813760	82 ohm 2%, Metal Film
R836	51812480	39 ohm
R837, R838	51813760	82 ohm 2%, Metal Film
R839	51813540	1M ohm
R840	51813340	150k ohm
R841	51812900	2.2k ohm
R842	51813200	39k ohm
R843	51812980	4.7k ohm
R844	51813060	10k ohm
R845	51813830	27k ohm 2%, Metal Film
R846	51813780	3.0k ohm 2%, Metal Film
R847	51813140	22k ohm
R848	51812660	220 ohm
R849	51812940	3.3k ohm
R850	51812720	390 ohm
R851	51813020	6.8k ohm
R852	51813810	10k ohm 2%, Metal Film
R853	51813400	270k ohm
R854	51813620	2.2M ohm
R855	51812820	1k ohm
R856	51813820	20k ohm 2%, Metal Film
R857	51812260	4.7 ohm
R858	51813660	3.3M ohm
R859	51813790	3.9k ohm 2%, Metal Film
R860, R861	51813800	4.7k ohm 2%, Metal Film
R862	51813040	8.2k ohm
R863	51813870	1M ohm 2%, Metal Film
R864	51813300	100k ohm

REF. NO.	PARTS NO.	DESCRIPTION
R865	51812820	1k ohm
R866	51813120	18k ohm
R867	51813540	1M ohm
R868	51812900	2.2k ohm
R869	51812720	390 ohm
R870	51812640	180 ohm
R871, R872	51812900	2.2k ohm

### CAPACITORS

C811	50596800	Polyst.	3300 pfd	50V 5%
C812	50596810	Polyst.	3000 pfd	50V 5%
C813	50543990	Polyst.	1800 pfd	50V 5%
C814, C815	50549290	Mylar	0.12 mfd	50V 5%
C816	50700210	Metalized Mylar	0.68 mfd	200V 10%
C817	50548770	Mylar	0.01 mfd	50V 5%
C819	50554480	Elec.	33 mfd	25V
C820	50548780	Mylar	0.001 mfd	50V 5%
C821	50543510	Dip. Mica	33 pfd	50V
C822	50542600	Dip. Mica	180 pfd	50V
C823	50554480	Elec.	33 mfd	25V
C824	50559090	Bi-Polar	4.7 mfd	25V
C825, C826	50549260	Mylar	0.068 mfd	50V 5%
C827, C828	50548930	Mylar	0.0068 mfd	50V 5%
C829	50547450	Dip. Mica	220 pfd	50V
C830	50549280	Mylar	0.1 mfd	50V 5%
C831	50547260	Mylar	0.003 mfd	50V 5%
C832	50547450	Dip. Mica	220 pfd	50V
C833	50554480	Elec.	33 mfd	25V
C834	50546780	Dip. Tant.	22 mfd	16V 10%

### VARIABLE RESISTORS

VR811, VR813	50539270	Semi-fixed, 47k ohm - B
VR812	50539230	Semi-fixed, 10k ohm - B
VR814	50536270	Semi-fixed, 47k ohm - B

### COILS

L811	50566660	38 mH
L812	50566650	23 mH

## 10. DECODER UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51683551	PC Board Assy
	51673550	PC Board
		IC's
IC621	51470200	BA651
IC622	50427380	NJM4558D
IC623	51470211	BA652
IC624	50427380	NJM4558D



REF. NO.	PARTS NO.	DESCRIPTION
<b>TRANSISTORS</b>		
Q621, Q626	50425480	FET 2SK30A - O
Q622, Q627	50424950	2SC1222 - E
Q623, Q628	51450380	2SA750 - E
Q624	50425490	2SC1636 - I
Q625, Q629	50424950	2SC1222 - E
<b>DIODES</b>		
D621, D622	50425500	1S2473
<b>RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance, 1/4 watt and of carbon type unless otherwise noted.		
R621	51813840	33k ohm 2%, Metal Film
R622	51813810	10k ohm 2%, Metal Film
R623	51813140	22k ohm
R624	51812660	220 ohm
R625	51812940	3.3k ohm
R626	51812720	390 ohm
R627	51812820	1k ohm
R628	51813810	10k ohm 2%, Metal Film
R629	51813840	33k ohm 2%, Metal Film
R630	51813220	47k ohm
R631	51812820	1k ohm
R632	51812900	2.2k ohm
R633	51812720	390 ohm
R634	51812820	1k ohm
R635	51813760	82 ohm 2%, Metal Film
R636	51813380	220k ohm
R637	51812480	39 ohm
R638	51813060	10k ohm
R639	51813760	82 ohm 2%, Metal Film
R640	51812480	39 ohm
R641, R642	51813760	82 ohm 2%, Metal Film
R643	51813540	1M ohm
R644	51813340	150k ohm
R645	51812900	2.2k ohm
R646	51812980	4.7k ohm
R647	51813050	9.1k ohm
R648	51813830	27k ohm 2%, Metal Film
R649	51813780	3k ohm 2%, Metal Film
R650	51813140	22k ohm
R651	51812660	220 ohm
R652	51812940	3.3k ohm
R653	51812720	390 ohm
R654	51813020	6.8k ohm
R655	51813810	10k ohm 2%, Metal Film
R656	51813440	270k ohm
R657	51813620	2.2M ohm
R658	51812820	1k ohm
R659	51813820	20k ohm 2%, Metal Film
R660	51812260	4.7 ohm
R661	51813660	3.3M ohm
R662	51813790	3.9k ohm 2%, Metal Film
R663, R664	51813800	4.7k ohm 2%, Metal Film
R665	51813040	8.2k ohm
R666	51813870	1M ohm 2%, Metal Film
R667	51813300	100k ohm
R668	51813220	47k ohm
R669	51813770	510 ohm 2%, Metal Film

REF. NO.	PARTS NO.	DESCRIPTION
R670	51813280	82k ohm
R671	51813460	470k ohm
R672	51812820	1k ohm
R673	51813380	220k ohm
R674	51813040	8.2k ohm
R675	51812720	390 ohm
R676	51812640	180 ohm
R677, R678	51812900	2.2k ohm
<b>CAPACITORS</b>		
C621	50559090	Bi-Polar 4.7 mfd 25V
C622	51700210	Metalized 0.68 mfd 200V 10% Mylar
C623	50547450	Dip. Mica 220 pfd 50V
C624	50554480	Elec. 33 mfd 25V
C625	50548780	Mylar 0.001 mfd 50V 5%
C626	50543510	Dip. Mica 33 pfd 50V
C628	50548770	Mylar 0.01 mfd 50V 5%
C629	50554480	Elec. 33 mfd 25V
C630	50559090	Bi-Polar 4.7 mfd 25V
C631, C632	50548920	Mylar 0.0056 mfd 50V 5%
C633	50547370	Dip. Mica 270 pfd 50V
C634	50549280	Mylar 0.1 mfd 50V 5%
C635	50547260	Mylar 0.003 mfd 50V 5%
C636	50547450	Dip. Mica 220 pfd 50V
C637	50554480	Elec. 33 mfd 25V
C638	50546780	Dip. Tant. 22 mfd 16V 10%
C639	50559090	Bi-Polar 4.7 mfd 25V
<b>VARIABLE RESISTORS</b>		
VR621, VR623	50539270	Semi-fixed, 47k ohm - B
VR622	50539230	Semi-fixed, 10k ohm - B
VR624	50536270	Semi-fixed, 47k ohm - B

## 11. SOLENOID DRIVE UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51681457	PC Board Assy
	51671451	PC Board
Q121, Q123	50426250	Transistor, 2SC1318 - S
Q122, Q124	50425270	Transistor, 2SD288 - K
Q125	50426250	Transistor, 2SC1318 - S
Q126	50425270	Transistor, 2SD288 - K
Q127	50426250	Transistor, 2SC1318 - S
D123~D128	50422130	Diode, 1N60
R121, R127	50573060	Carbon 10k ohm 1/4W 5%
R122, R128	50573300	Carbon 100k ohm 1/4W 5%
R125, R126	50573220	Carbon 47k ohm 1/4W 5%
R129, R130	50572820	Carbon 1k ohm 1/4W 5%
R131	50573060	Carbon 10k ohm 1/4W 5%
R132	50573300	Carbon 100k ohm 1/4W 5%
R133, R134	50572820	Carbon 1k ohm 1/4W 5%
R135	50574740	Carbon 470 ohm 1/2W 5%
R136	50572940	Carbon 3.3k ohm 1/4W 5%

REF. NO.	PARTS NO.	DESCRIPTION
R137, R138	50573220	Carbon 47k ohm 1/4W 5%
R139	50573300	Carbon 100k ohm 1/4W 5%
R140~R142	50572500	Carbon 47 ohm 1/4W 5%
C121	50555730	Elec. 3.3 mfd 50V
C123	50546622	Dip. Tant. 6.8 mfd 25V
C124, C125	50554010	Elec. 47 mfd 16V
C127	50554630	Elec. 100 mfd 35V

## 12. REEL MOTOR DRIVE UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51681312	PC Board Assy
	51671311	PC Board
Q71~Q74	50424750	Transistor, 2SC1384 - Q
C71~D77	50422130	Diode, 1N60
D78, D79	51430930	Diode, V06E
R71	50573020	Carbon 6.8k ohm 1/4W 5%
R72	50572900	Carbon 2.2k ohm 1/4W 5%
R73	50573020	Carbon 6.8k ohm 1/4W 5%
R74	50573300	Carbon 100k ohm 1/4W 5%
R75, R76	50572900	Carbon 2.2k ohm 1/4W 5%
R77	50573300	Carbon 100k ohm 1/4W 5%
R78	50573020	Carbon 6.8k ohm 1/4W
R79~R81	50572760	Carbon 560 ohm 1/4W 5%
C71	50549780	Elec. 22 mfd 16V (KU)
C72, C73	50554910	Elec. 220 mfd 10V
C74~C81	50549920	Meta. Mylar 0.1 mfd 400V AC
C82	50554490	Elec. 47 mfd 25V
C83, C84	50554950	Elec. 22 mfd 25V
K71~K75	50611270	Relay, DC 24V

## 13. CONTROL UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51681623	PC Board Assy
	51671471	PC Board
		<b>IC's</b>
IC41~IC44	50427120	SN7400N
IC45	50427130	SN7402N
IC46, IC48	50427140	SN7410N
IC47	50427270	SN74122N
IC49, IC50	50427250	SN7404N
IC51	50427120	SN7400N
		<b>TRANSISTORS</b>
Q41, Q42	50424670	2SC1317 - R

REF. NO.	PARTS NO.	DESCRIPTION
		<b>DIODES</b>
D41	50422130	1N60
D42~D44	50425360	1S953
		<b>CARBON RESISTORS</b>
R41~R45	51812820	1k ohm 1/4W
R46	51812340	10 ohm 1/4W
R47~R50	51812820	1k ohm 1/4W
R51	51812620	150 ohm 1/4W
R52~R57	51812580	100 ohm 1/4W
R58, R60	51812660	220 ohm 1/4W
R59, R61	51812900	2.2k ohm 1/4W
R62, R63	51812840	1.2k ohm 1/4W
R64	51813150	24k ohm 1/4W
R65	51812580	100 ohm 1/4W
		<b>CAPACITORS</b>
C41	50554570	Elec. 100mfd 10V
C42~C47	50542040	Ceramic 0.01mfd 50V
C48, C49	50559130	Bi-Polar 100mfd 10V
C50	51700700	Elec. 390mfd 6.3V 10%
C51	50548290	Mylar 0.022 mfd 50V
C52~C56	50542040	Ceramic 0.01mfd 50V
C57	50546501	Dip. Tant. 22 nfd 10V

## MISCELLANEOUS

J41	50438370	Connector, 14P
J42	50438360	Connector, 12P

## 14. POWER SUPPLY UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51682470	PC Board Assy
	51672470	PC Board
D1~D9	50422570	Diode, S1B01 - G
D10~D13	51430180	Diode, U05 (E)
D14~D18	50422570	Diode, S1B01 - G
R1	51806420	Wire Wound 22ohm 2W
R2	51806220	Wire Wound 3.3ohm 2W
R3	51806100	Wire Wound 1 ohm 2W
C1~C5	50542230	Ceramic 0.01mfd 500V
C6	50555580	Elec. 100mfd 25V
C7, C9	50555710	Elec. 220mfd 50V
C8, C10	50555720	Elec. 680mfd 16V
F1, F2, F3	50411360	Fuse, 2A - 125V
F4, F6, F7	50411430	Fuse, 0.5A - 125V
F5	50411420	Fuse, 3A - 125V
	5507470	Holder, Capacitor

## 15. STABILIZER UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51682940	PC Board Assy
	51670022	PC Board
<b>TRANSISTORS</b>		
Q21	50424750	2SC1384 - Q
Q22	50425270	2SD288 - K
Q23	50425560	2SD586 - R
Q25~Q28	50424600	2SC828 - S
Q29	50425270	2SD288 - K
Q30 Q31	50424600	2SC828 - S
<b>DIODES</b>		
D21	50422180	M8513A - R
DZ - 21	50425140	Zener, WZ - 061
DZ - 22	50425150	Zener, WZ - 090
DZ - 23	50425560	Zener, YZ - 033
<b>CARBON RESISTORS</b>		
R21	50572980	4.7k ohm 1/4W 5%
R23	50572960	3.9k ohm 1/4W 5%
R24	50572820	1k ohm 1/4W 5%
R25	50572860	1.5k ohm 1/4W 5%
R26	50572940	3.3k ohm 1/4W 5%
R27	50572960	3.9k ohm 1/4W 5%
R28	50572860	1.5k ohm 1/4W 5%
R29	50572740	470 ohm 1/4W 5%
R30	50572820	1k ohm 1/4W 5%
R31	50572740	470 ohm 1/4W 5%
R32	50572660	220 ohm 1/4W 5%
R33	50572760	560 ohm 1/4W 5%
R34	50572820	1k ohm 1/4W 5%
R35	50572980	4.7k ohm 1/4W 5%
<b>CAPACITORS</b>		
C21	50548240	Mylar 0.033 mfd 50V
C22	50554650	Elec. 330 mfd 35V
C23	50554170	Elec. 100 mfd 25V
C24	50554880	Elec. 1000 mfd 10V
<b>VARIABLE RESISTORS</b>		
VR21	50534190	Semi-fixed, 500 ohm - B
VR22	50534210	Semi-fixed, 5k ohm - B
<b>MISCELLANEOUS</b>		
	55504581	Heat Sink, E
	55504331	Heat Sink, B
	55504341	Heat Sink, C
	50332950	Insulating Tube (2 used)
	50332910	Insulating Sheet

## 16. STABILIZER UNIT, B

REF. NO.	PARTS NO.	DESCRIPTION
	51682311	PC Board Assy, B
	51672310	PC Board, B
<b>TRANSISTORS</b>		
Q171	50425290	2SD389 - P
Q172, Q175	50424890	2SA493 - GR
Q173, Q174	50424100	2SC1000 - GR
Q176	50424720	2SB512 - P
Q177	50425210	2SC945 - P
Q178	50425530	2SA733 - P
<b>DIODES</b>		
D171, D172	50422850	Silicon, S1B01 - 04
D173, D174	50425500	Silicon, 1S2473
D175, D176	50422850	Silicon, S1B01 - 04
D177~D181	50425500	Silicon, 1S2473
<b>ZENER DIODES</b>		
ZD171	50422870	2Z - 6.2A
ZD172	50425510	XZ - 190
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance, 1/4 watt and of carbon type unless otherwise noted.		
R171, R180	51806460	33 ohm 2W, Wire Wound
R172	51800940	3.3k ohm 1/2W 5%
R173, R176	51813060	10k ohm
R174, R182	51812580	100 ohm
R175, R183	51812740	470 ohm
R177, R181	51813060	10k ohm
R178	51813020	6.8k ohm
R179, R185	51813810	10k ohm 1/4W 2%, Metal Film
R184	51813360	180k ohm
R186	51812940	3.3k ohm
R187	51812900	2.2k ohm
R188	51812460	33 ohm
R189	51812820	1k ohm
R190	51813200	39k ohm
<b>CAPACITORS</b>		
C171, C172	50554650	Elec. 330 mfd 35V
C173, C179	50555540	Elec. 47 mfd 10V
C174, C180	50554530	Elec. 4.7 mfd 25V
C175, C182	50554050	Elec. 10 mfd 16V
C176, C183	50554040	Elec. 10 mfd 25V
C177, C178	50554650	Elec. 330 mfd 35V
C181	50548320	Mylar 0.001 mfd 50V
C184	50554180	Elec. 220 mfd 25V
<b>VARIABLE RESISTORS</b>		
VR171	50534210	Semi-fixed, 5k ohm - B

## 18. MIC TRANSFORMER

REF. NO.	PARTS NO.	DESCRIPTION
<b>MISCELLANEOUS</b>		
	50234870	Heat Sink (2 used)
	50332950	Insulating Tube (2 used)
	50332910	Insulating Sheet (2 used)

## 17. REWIND STOP UNIT

REF. NO.	PARTS NO.	DESCRIPTION
	51680670	PC Board Assy
	51670670	PC Board
Q161, Q162	50424600	Transistor, 2SC828 - S
R161, R163	50572820	Carbon 1k ohm 1/4W 5%
R162, R164	50573300	Carbon 100k ohm 1/4W 5%
R165	50573060	Carbon 10k ohm 1/4W 5%
C161	50554970	Elec. 0.47 mfd 50V
C162	50548240	Mylar 0.033 mfd 50V 10%
C163	50542040	Ceramic 0.01 mfd 50V

REF. NO.	PARTS NO.	DESCRIPTION
	51680840	PC Board Assy
	51670840	PC Board
R361~R368	50572680	Carbon 270 ohm 1/4W 5%
R369, R370	50572600	Carbon 120 ohm 1/4W 5%
R371~R378	50572680	Carbon 270 ohm 1/4W 5%
R379, R380	50572600	Carbon 120 ohm 1/4W 5%
T361~T364	51520972	Transformer, Microphone

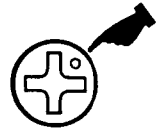
## 19. TRIMMER RESISTORS

REF. NO.	PARTS NO.	DESCRIPTION
	51682760	PC Board Assy
	51672760	PC Board
Q701/Q702	50424950	Transistor, 2SC1222 - E
R727/R728	51812740	Carbon 470 ohm 1/4W
R729/R730	51813360	Carbon 180k ohm 1/4W
R731/R732	51813380	Carbon 220k ohm 1/4W
R733/R734	51812980	Carbon 4.7k ohm 1/4W
R735/R736	51813260	Carbon 68k ohm 1/4W
C707/C708	50554540	Elec. 1 mfd 50V
C709/C710	50548320	Mylar 0.001 mfd 50V
C711/C712	50554540	Elec. 1 mfd 50V
VR707/VR708	50534230	Semi-fixed Res., 100k ohm - B
VR709/VR710	50534280	Semi-fixed Res., 50k ohm - B

# A-7300RX Stereo Tape Deck with dbx System

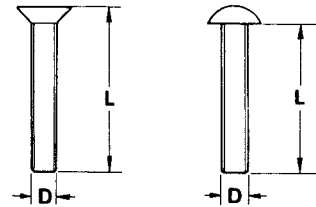
## ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:

B M 3 x 6  
 ----- Length in mm (L)  
 ----- Diameter in mm (D) \*  
 ----- Metric System  
 ----- Nomenclature



\* Inner dia. for washers and nuts

	Code	Name	Type		Code	Name	Type
MACHINE SCREW	<b>R</b>	Round Head Screw		TAPPING SCREW	<b>BTA</b>	Binding Head Tapping Screw(A Type)	
	<b>P</b>	Pan Head Screw			<b>BTB</b>	Binding Head Tapping Screw(B Type)	
	<b>T</b>	Stove Head Screw (Truss)			<b>RTA</b>	Round Head Tapping Screw(A Type)	
	<b>B</b>	Binding Head Screw			<b>RTB</b>	Round Head Tapping Screw(B Type)	
	<b>F</b>	Flat Countersunk Head Screw			SETSCREW	<b>SF</b>	Hex Socket Setscrew(Flat Point)
<b>O</b>	Oval Countersunk Head Screw		<b>SC</b>	Hex Socket Setscrew(Cup Point)			
WOOD SCREW	<b>RW</b>	Round Head Wood Screw		<b>SS</b>		Slotted Socket Setscrew(Flat Point)	
	<b>FW</b>	Flat Countersunk Wood Screw		WASHER	<b>E</b>	E-Ring (Retaining Washer)	
	<b>OW</b>	Oval Countersunk Wood Screw			<b>W</b>	Flat Washer (Plain)	
SEMS SCREW	<b>BSA</b>	Binding Head SEMS Screw(A Type)			<b>SW</b>	Lock Washer (Spring)	
	<b>BSB</b>	Binding Head SEMS Screw(B Type)		<b>LWI</b>	Lock Washer (Internal Teeth)		
	<b>BSF</b>	Binding Head SEMS Screw(F Type)		<b>LWE</b>	Lock Washer (External Teeth)		
	<b>PSA</b>	Pan Head SEMS Screw(A Type)		<b>TW</b>	Trim Washer (Countersunk)		
	<b>PSB</b>	Pan Head SEMS Screw(B Type)		NUT	<b>N</b>	Hex Nut	

**TEAC CORPORATION** 3-7-3, NAKA-CHO, MUSASHINO, TOKYO PHONE: (0422) 53-1111

TEAC CORPORATION OF AMERICA 7733 TELEGRAPH ROAD, MONTEBELLO, CALIFORNIA 90640 PHONE: (213) 726-0303

TEAC HONGKONG LIMITED FLAT 78, PORTLAND HOUSE, 7TH FLOOR, BLOCK C, No. 41-D, MA TAU WAI ROAD, KOWLOON, HONG KONG PHONE 3-659071~4

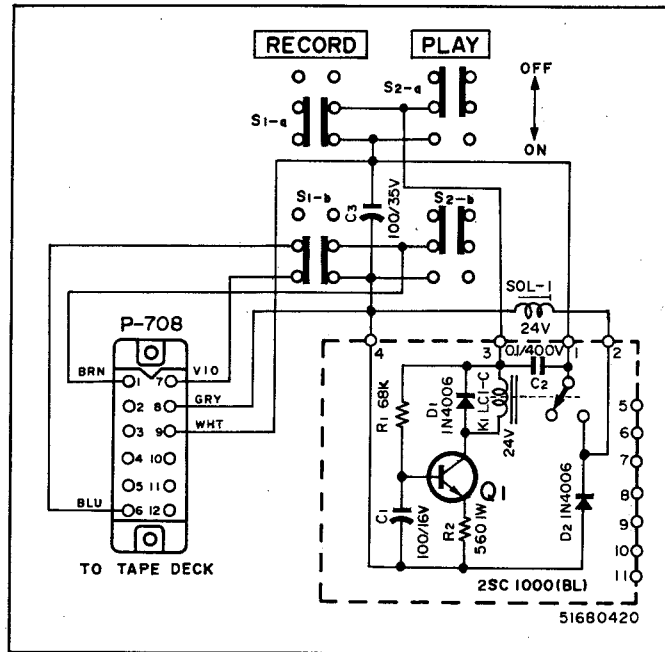
# SCHEMATICS

## **TEAC A-7300RX**

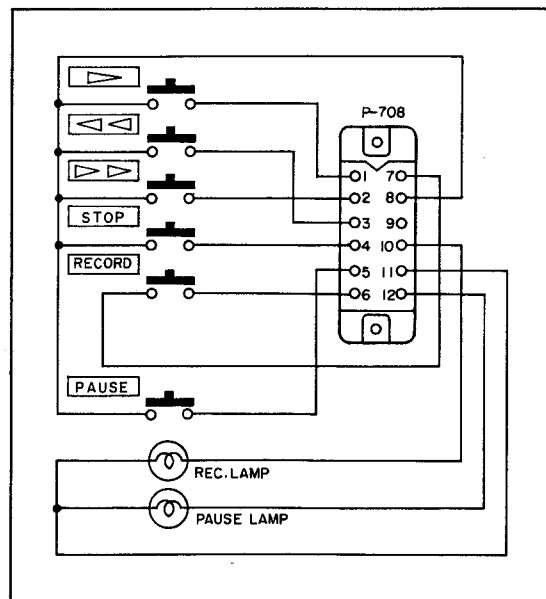
2-Track Master Recorder with dbx System.

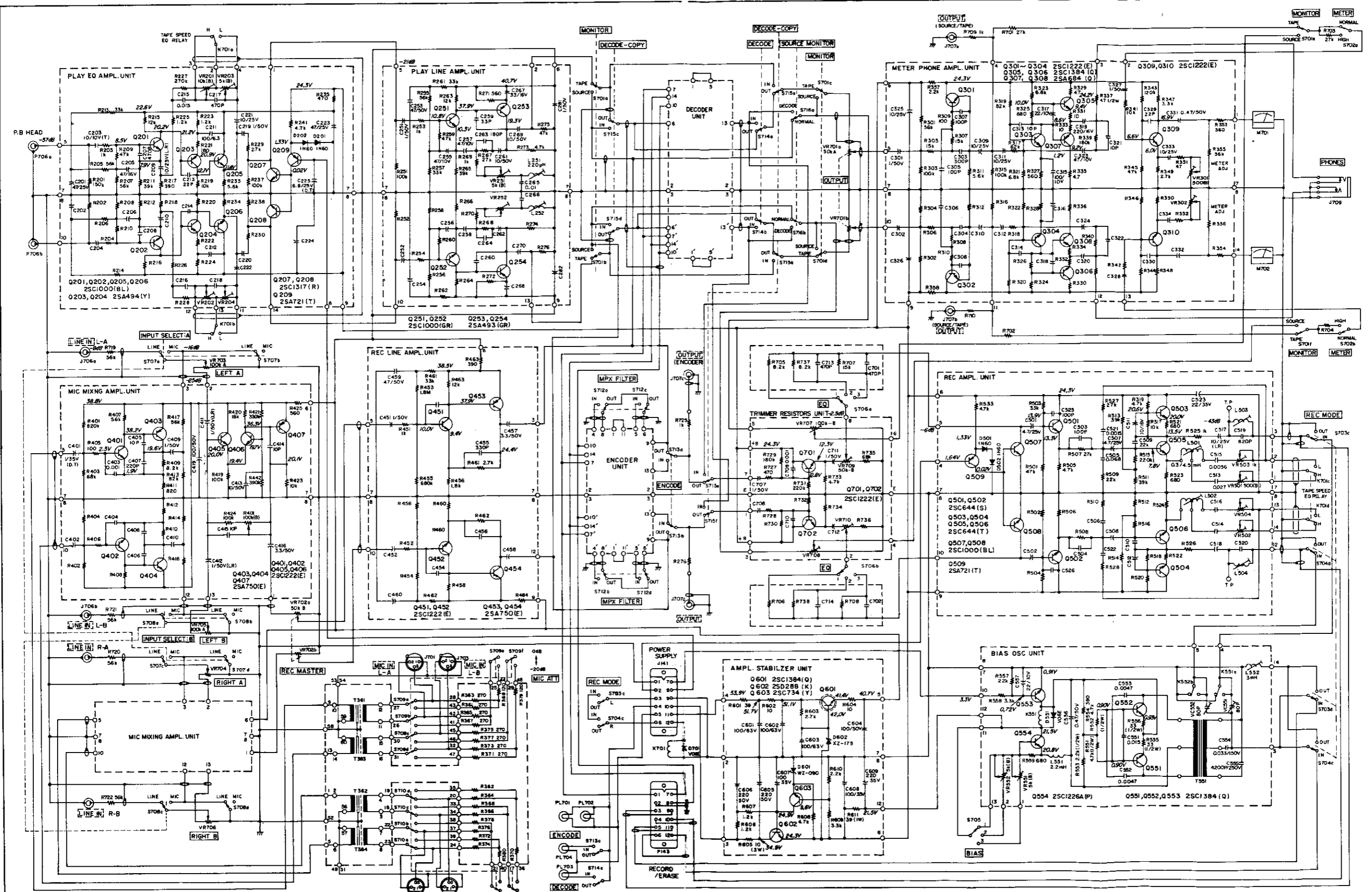
**TEAC®**

### TIMER CONTROL SCHEMATIC (RC-350)



### REMOTE CONTROL SCHEMATIC (RC-170)

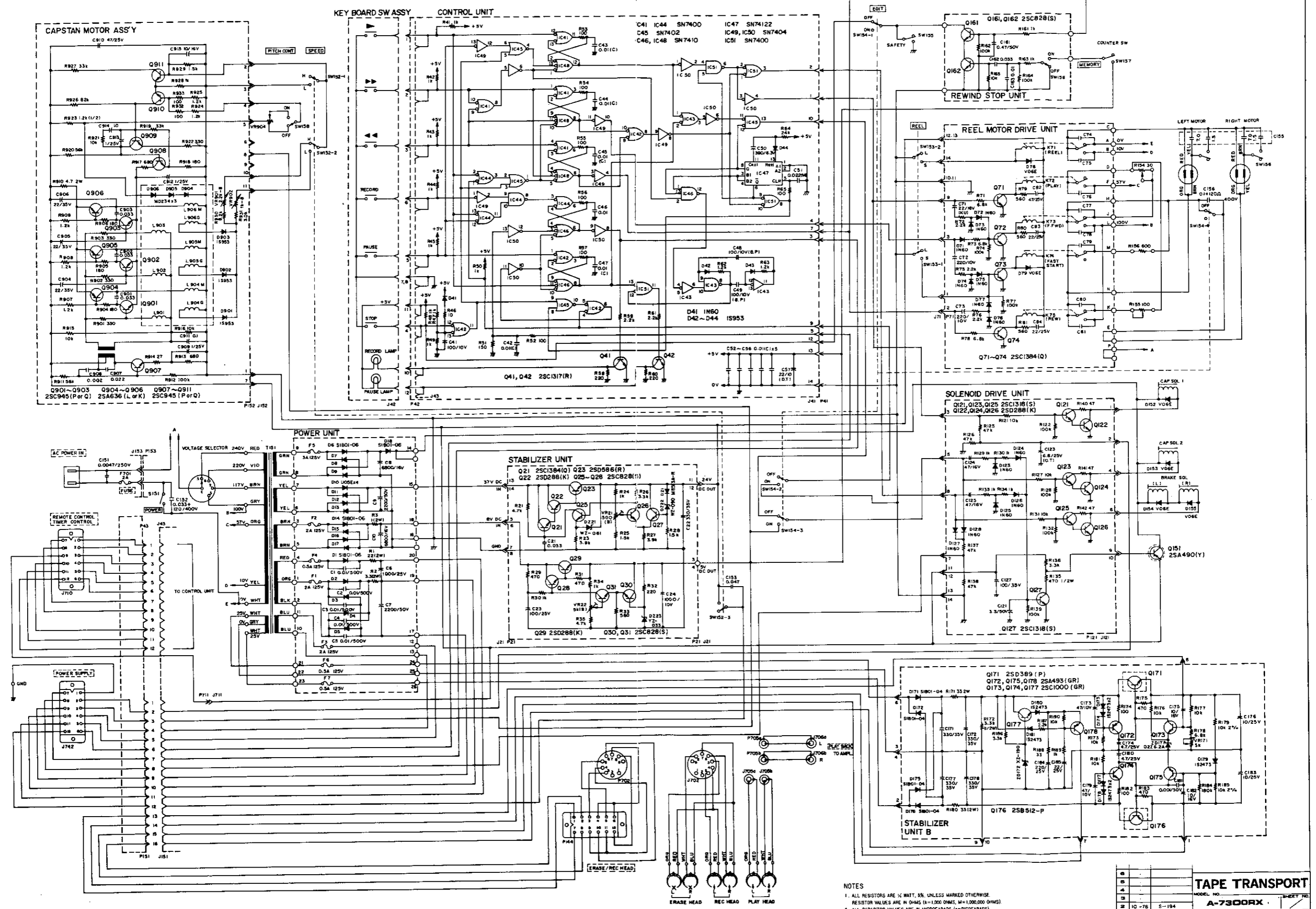




- NOTES
1. ALL RESISTORS ARE 1/4 WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (K=1,000 OHMS, M=1,000,000 OHMS).
  2. ALL CAPACITOR VALUES ARE IN MICROFARADS (P=PROPAGANDS).
  3. DC VOLTAGES WERE MEASURED DURING RECORD PAUSE MODE.
  4. SIGNAL LEVELS (dB) WERE MEASURED WITH INPUT AND OUTPUT CONTROLS AT SPECIFIED POSITION.
  5. READING IN dB REFERENCED TO 0dB=0.775V.

<b>PREAMPLIFIER</b>	
MODEL NO.	SHEET NO.
<b>A-7300RX</b>	
1 04-76	5-194
REVISION	DATE CHANGE NO.
<b>TEAC CORPORATION</b>	





NOTES  
 1. ALL RESISTORS ARE 1/2 WATT, 5% UNLESS MARKED OTHERWISE  
 2. RESISTOR VALUES ARE IN OHMS (Ω)-1,000 OHMS (K)-1,000,000 OHMS (M)  
 3. ALL CAPACITOR VALUES ARE IN MICROFARADS (μ-PICOFARADS)

REV	DATE	CHANGE NO.
1	04-75	S-194

**TAPE TRANSPORT**  
 MODEL NO. A-7300RX SHEET NO. 1  
 TEAC CORPORATION