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SERVICE MANUAL

A-3340S

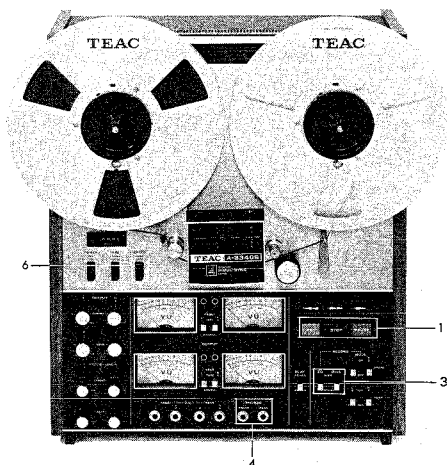
4 CHANNEL STEREO TAPE DECK



TEAC®
TOKYO JAPAN

FEATURE COMPARISON CHART, A-3340::A-3340S

1. Transport controls	Lever switch and buttons	All pushbuttons incl. PAUSE
2. Remote/Timer adapt.	Not avail.	RC-120 Remote RC-320 Timer adapt.
3. Tape Selector	Single	Separate BIAS and EQ
4. PHONES jacks	Single with F/R/MIX sw.	2 separate, F and R
5. Output level	0.3V (-8 dB)	0.775V (0 dB)
6. TAPE SPEED Sw	Rotating	Pushbutton
7. POWER Sw location	Ampl. sect.	Trans. section



Other minor design changes were also incorporated; for specific differences in parts and circuitry please consult the Parts List and Schematic Diagrams.

1. GENERAL DESCRIPTION

The TEAC A-3340S is a semi-professional tape deck capable of 4 channel, stereophonic and monophonic recording and playback, with Simul-Sync funct. It offers operating speeds of 15 ips and 7-1/2 ips. The basic design of the A-3340 is highly similar to that of the A-3340S, therefore information in this service manual may be applied to the A-3340.

If adjustments or repair procedures are not sufficiently clear or seem too difficult to accomplish, or for more detailed technical information, please contact your nearest TEAC Distributor, TEAC affiliated subsidiary corporation or the TEAC Corporation. TEAC addresses are printed on the last page of this manual.

When placing an order for parts, please refer to the PARTS LIST and PRICE LIST FOR PARTS which are printed separately from this manual.

1. File the PARTS LIST manual together with this SERVICE MANUAL; future MANUAL CHANGE SHEETS should also be kept with these.
2. Use the PARTS LIST manual and the PRICE LIST FOR PARTS when ordering replacement parts from TEAC Corp.

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2-1. SPECIFICATIONS

MECHANICAL

TYPE:	a) 4 track 4 channel stereophonic b) 4 track 2 channel stereophonic c) 4 track 1 channel monophonic
HEAD:	Erase head × 1, Record head × 1, Playback × 1
REEL SIZE:	10-1/2" maximum NAB reel
TAPE WIDTH:	Standard 1/4 inch tape
TAPE SPEED:	15ips and 7-1/2ips (0.5%)
MOTORS:	6 pole eddy current motors for reel drive × 2 4/8 pole hysteresis synchronous capstan motor × 1
WOW AND FLUTTER:	0.15% at 15ips (RMS) 0.18% at 7-1/2ips (RMS) Wow and flutter measured according to unweighted (RMS) NAB standard using TEAC YTT-2003/2004 flutter free tape. Above value is measured during playback.
FAST WINDING TIME:	Approx. 140 seconds or less with 1800 ft tape
OPERATING POSITION:	Horizontal or vertical
POWER REQUIREMENT:	DM : 100V 50 Hz, 60 Hz TCA: 117V/60 Hz for TEAC CORPORATION OF AMERICA
WEIGHT:	49.5 lbs (22.5kg) net
DIMENSIONS:	

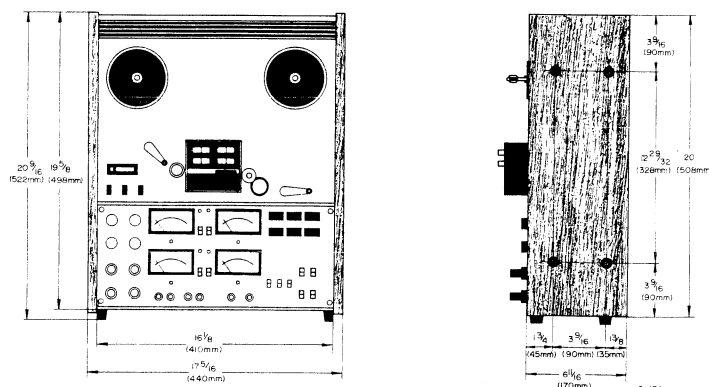


Fig. 2-1 Dimensions A-3340S

2-2. SPECIFICATIONS

ELECTRICAL

FREQUENCY RESPONSE:	Overall from recording INPUT to playback OUTPUT 15ips ... 30 Hz~22 kHz ± 3 dB 7-1/2ips ... 40 Hz~18 kHz ± 3 dB
RESP. at SIMUL-SYNC:	30 Hz~7.5 kHz ± 10 dB with both speed
SIGNAL-TO-NOISE RATIO:	50 dB or higher at Mic input (600 Ω load) 55 dB or higher at Line input (Measured during playback unweighted)
INPUT IMPEDANCE:	MIC: 10k Ω (600 Ω ~10k Ω) LINE: 50k Ω
OUTPUT LOAD IMPEDANCE:	LINE: approx. 0.3V/10k Ω HEADPHONE: 0.3mW/8 Ω
INPUT LEVEL:	MIC: -70 dB ± 2 dB (0.25mV) LINE: - 8 dB min. -18 dB ± 2 dB (97mV)
OUTPUT LEVEL:	OUTPUT: 0 dB (0.775V) max. +6 dB (1.55V) HEADPHONE: -12 dB/8 Ω
BIAS FREQUENCY:	100 kHz (± 5 kHz; Push-pull oscillator)
CROSS TALK REJECTION:	27 dB or more, adjacent track at 125 Hz
CHANNEL SEPARATION:	50 dB or more, channel to channel at 1 kHz
ERASE EFFICIENCY:	68 dB or more at 1 kHz signal

GENERAL NOTICE

- * As a result of continuing changes and improvements during the production run, minor difference may be found between early and later machines.
Refer to manual change sheet for information concerning modifications.
- * Value of "dB" in the test refer to 0 dB = 0.775V, except where specified. If a Test Set or an AC VTVM calibrated to 0 dB = 1V is to be used, appropriate compensation should be made.

Refer to the TEAC DECIBEL TABLE on page 33 to obtain conversion of millivolts to dB should your meter not have a dB scale.

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.

SPRING SCALE	0 4~kg (0~8 lbs), 0~300 g (0~10 ozs)
FLUTTER METER	Meguro Denpa Co., Model MK665B (preferred) or Sentinal Co., Model FL-3D-1
DIGITAL COUNTER	Range - 0~Hz~5 kHz
BANDPASS FILTER	TEAC Model M-206A (1 kHz)
VTVM	Hewlett-Packard Co., Model 4302B
OSCILLOSCOPE	General purpose
BLANK TAPE	Scotch 203 and 150, full 7" reels
TEST TAPE	TEAC YTT-1002 (3-3/4ips), YTT-1003 (7-1/2ips), YTT-1004 (15ips) for Playback Alignment test YTT-2002 (3-3/4ips), YTT-2003 (7-1/2ips), YTT-2004 (15ips) for Tape Speed and Flutter test
EMPTY REEL	TEAC RE-702(2" hub) and RE-701(4" hub)
TEST SET*	TEAC M-826A

* Use of the TEAC-M826A Test Set is recommended. This set incorporates an AC VTVM, Audio Oscillator, Channel Selecting switch, Variable Attenuator, Monitor Speaker and Cables.

TEAC M-826A measures the RMS value of the Voltage (0 dB = 0.775V). Characteristics of this Test Set are similar to the standard VU-meter.

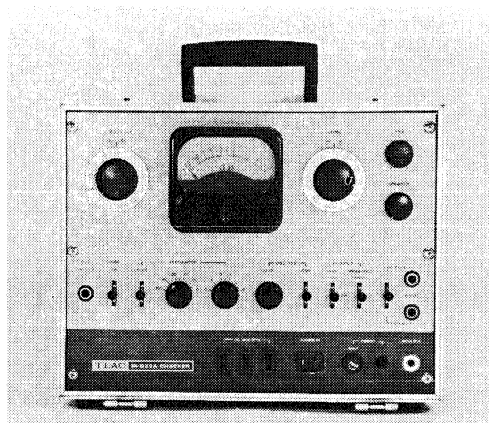


Fig. 3-1 TEAC Test Set

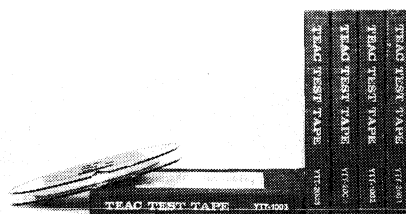


Fig. 3-2 TEAC Test Tape

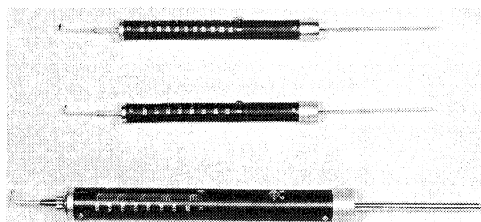


Fig. 3-3 Spring Scale

4. TEAC TEST TAPE -YTT SERIES-

TEAC-YTT Series Test Tapes are designed for aligning and checking the playback system performance of any tape recorder. They have been manufactured to be within close tolerance to the NAB Standard, and the recorded signal format has been arranged for maximum convenience during test procedures.

YTT-1002/1003/1004 (FOR PLAYBACK ALIGNMENT)

TYPE		YTT-1002	YTT-1003	YTT-1004	REMARKS	
TITLE		PLAYBACK ALIGNMENT				
TAPE	WIDTH	1/4 INCH				
	BASE	1 MIL	1 MIL	1-1/2 MIL		
TAPE SPEED(ips)		3-3/4	7-1/2	15	Accuracy: 0.2% Wow and Flutter: 0.1%(WRMS)	
RECORD TRACK		FULL TRACK			Azimuth Angle Tolerance: 90°±1.5'	
RECORDING CHARACTER- ISTICS	STANDARD	NAB				
	TIME CONSTANT (μs)	3180+90	3180+50	3180+50		
	TOLER- ANCE	WITHIN 0.5dB	50-5kHz	40-10kHz		30-15kHz
		WITHIN 1 dB	7.5k-10kHz	12k-15kHz		20kHz

	SECTION	FREQUENCY (Hz)			LEVEL	TIME	USE
		YTT-1002	YTT-1003	YTT-1004			
RECORDED SIGNAL	1	400	400	400	* 0dB	30s	Operating Reference Level Calibration
	2	7,500	15,000	15,000	-10dB	60s	Azimuth Alignment
	3	400	400	400		30s	Frequency Response Check
		10,000	15,000	20,000		15s each	
		7,500	12,000	15,000			
		5,000	10,000	12,000			
		2,500	7,500	10,000			
		1,000	5,000	7,500			
		750	2,500	5,000			
		500	1,000	2,500			
		250	750	1,000			
		100	500	750			
		50	250	500			
			100	250			
			50	100			
			40	50			
				40			
				30			

* 0dB recording level is 6dB below the 3% T.H.D. level

YTT-2002/2003/2004 (FOR TAPE SPEED AND WOW-FLUTTER TESTING)

TYPE		YTT-2002	YTT-2003	YTT-2004	REMARKS
TITLE		TAPE SPEED AND FLUTTER TSET			
TAPE	WIDTH	1/4 INCH			
	BASE	1 MIL	1 MIL	1-1/2 MIL	
TAPE SPEED(ips)		3-3/4	7-1/2	15	
WOW AND FLUTTER		0.07%	0.05%	0.03%	Weighted RMS
RECORDED WIDTH		FULL TRACK			
RECORDED SIGNAL	FREQUENCY	3,000Hz			
	LEVEL	-5dB			
	TIME	7 MINUTES			OdB: Operating Reference Level

Since these tapes will be your own reference standard, care should be exercised, in handling and storage, not to expose them to any magnetic flux which might deteriorate or completely destroy the recorded signals. High temperature and humidity are also harmful to the tape.

5. TAPE TRANSPORT PARTS LOCATION

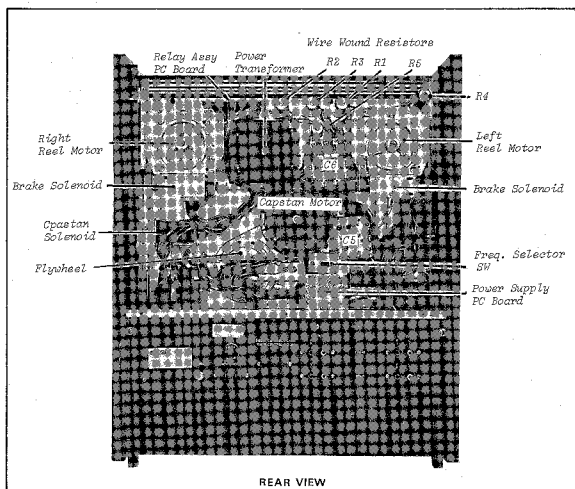


Fig. 5-1 Tape Transport Location

* For ordering parts, refer to the exploded view of the PARTS LIST. An accompanying listing provides the correct part numbers.

6. PARTIAL DISASSEMBLY

REMOVING WOODEN SIDES AND REAR PANEL

See illustration for complete disassembly instructions.

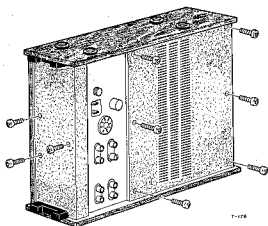


Fig. 6-1 Rear Panel and Bottom Plate

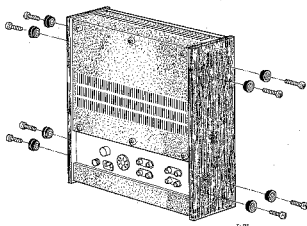


Fig. 6-2 Wood Side

Most amplifier checks and adjustments can be made from the bottom with the plate removed.

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.

HEAD ASSEMBLY REPLACEMENT

To change the head assembly as a unit, remove the 4 mounting screw. Note the positions of the wires on the circuit board before unsoldering. Solder the wires of the new assembly in exactly the same positions. Refer to the Fig. 8-3 Head Wiring Section.

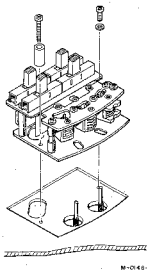


Fig. 6-3 Head Assy Removal

REMOVAL OF CAPSTAN MOTOR

1. Remove the 3 screw holding the capstan motor.
2. Unsolder the 6 wires connecting the capstan motor.
3. Remove the 4 screws holding the capstan motor. Watch for the Rubber Cushions.
4. Loosen the 2 set screws (hex head) in pulley and lift off pulley.

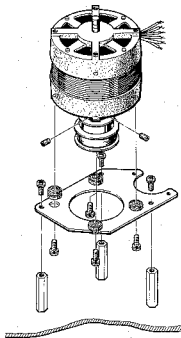


Fig. 6-4 Capstan Motor Removal

REMOVAL OF CAPSTAN ASSEMBLY

1. Unscrew capstan cover (front panel).
2. Remove 2 screws from rear bracket, allow bracket to drop toward floor of case.
3. Remove capstan belt.
4. Loosen 2 screws in capstan assy flywheel. Remove flywheel.
5. Remove 3 screws in capstan assy.
6. Gently move capstan assy up and down until it slides out of panel.

NOTE

A clearance of 0.01" must be maintained between the flywheel and capstan assembly.

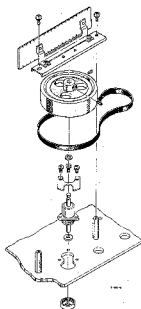


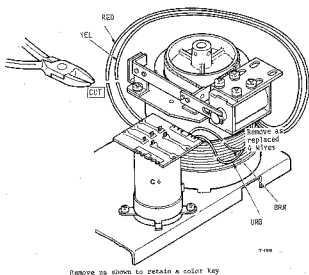
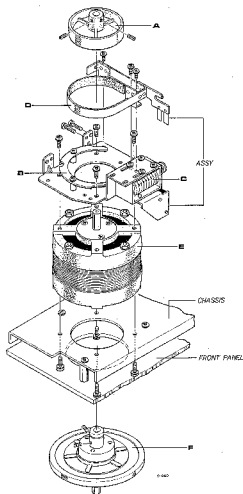
Fig. 6-5 Capstan Assy Removal

REMOVAL OF REEL MOTOR ASSEMBLY

1. Disconnect the 4 motor wires from terminals and release wire harness straps.
2. Loosen 2 set screws (hex head) in Brake drum(A) and 2 in the Reel Turntable assembly(F). Lift off these parts.
3. Remove 4 screws securing the Brake Assembly(D) to the motor. Carefully lift off the Brake Retainer(B) with its 2 wires still connected to the Brake Solenoid(C).
4. Remove 4 screws securing Reel Motor(E) to chassis through the front panel.

NOTE

Reel motor assemblies are mirror images of each other, these assemblies are not interchangeable.



Reel Motor (LEFT)
Replacement Step 1.

Fig. 6-6 Reel Motor Assy Disassembly

REMOVAL OF TENSION ARMS LEFT AND RIGHT

See illustration for complete disassembly instructions.

CAUTION

Do not over-tighten screws holding right tension arm. Insulating spacer and micro-switch are easily broken by excess pressure.

IMPORTANT

After reassembly check clearance to ascertain that arm moves freely and is not binding.

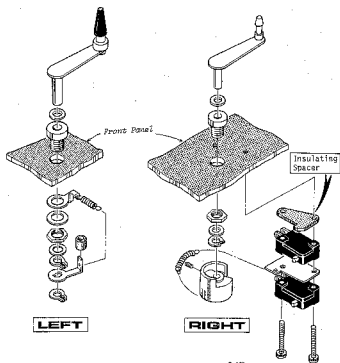


Fig. 6-7 Tension Arms Removal

HEAD REPLACEMENT

To replace a single head, a nut driver is required. Remove the 2 nuts on the defective head through the access hole provided, this releases the head from the mounting plate. Rewire the new heads as shown in Fig. 6-8. Replace the nuts securing the new head to the plate, perform head alignment before operation.

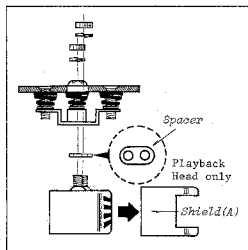


Fig. 6-8 Head Replacement

7.LINE VOLTAGE AND FREQUENCY CONVERSION

Unit must be set to the power line frequency available. Improper frequency setting will result in a 20% error between the tape speed and reel motors torque.

US model is preset to 117V AC and 60 Hz. No frequency conversion is required.

NOTE: If it should be necessary to convert the A-3340S deck to operate from a power source of different voltage or frequency, it may be easily accomplished as follows:

VOLTAGE CONVERSION:

The A-3340S may be set for 100 or 117 volts only. See illustration Fig. 7-1 (Voltage Conversion) and change wiring as shown.

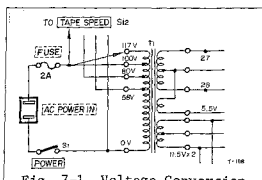


Fig. 7-1 Voltage Conversion

FREQUENCY CONVERSION:

1. Remove the power cord and all connecting cables.
2. Take off tape deck rear cover by removing the 6 screws holding it.
3. To convert the unit from 50 to 60 Hz operation reposition the capstan belt as shown in the illustration below.
4. Frequency selector slide switch inside the rear of the tape deck must be switched to the frequency of the power line.
5. Reinstall rear cover.

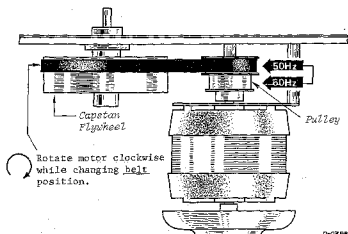
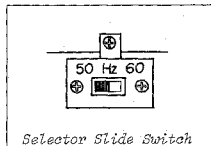


Fig. 7-2 Frequency Conversion

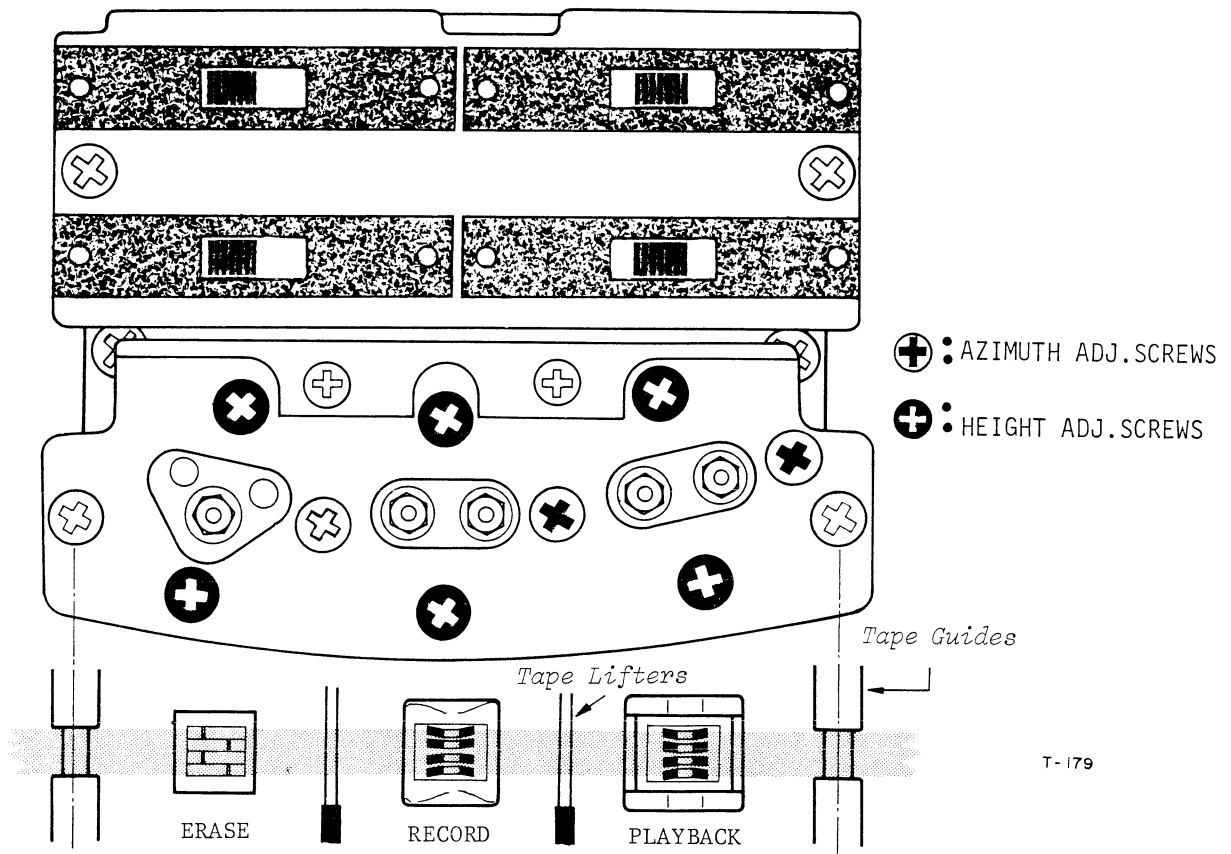


8. HEAD ALIGNMENT

HEAD ASSEMBLY (head cluster) is adjusted to very close tolerance at the factory and normally requires only minor alignments or adjustments after replacement on the deck. Complete readjustment of the HEAD ASSEMBLY will be necessary when an individual head is replaced.

HEIGHT ADJUSTMENT

- RECORD HEAD: The record head pole should be above the edge of a threaded tape by the width of a thin pencil line.
- PLAYBACK HEAD: The playback head pole should be even with the top of a threaded tape.
- ERASE HEAD: Erase section should be a heavy pencil line above.



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Fig. 8-1 Head Configuration and Alignment Screws

MIS-ALIGNMENT OF THE HEADS -EXAMPLES:

- * **ALIGNMENT** - The physical positioning of a tape head relative to the tape itself. Alignment in all respects must conform to rigid requirements in order for a unit to function properly.
- * **AZIMUTH** - The angle of a tape head/pole-piece gap relative to the direction of tape travel.

NOTE: In order for a tape unit to work at its best, with its own tapes as well as ones made on other units, its play and record heads must be aligned to correct the 4 possible errors as illustrated below.

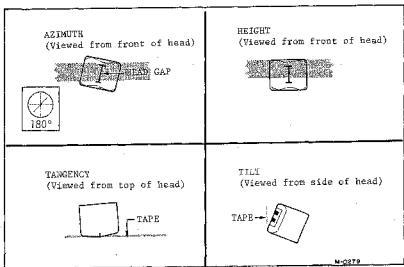


Fig. 8-2 Head Mis-Alignment -Examples-

HEAD WIRING

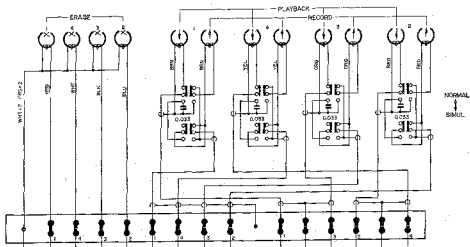


Fig. 8-3 Head Wiring

9. MEASUREMENT AND ADJUSTMENT -MECHANICAL-

The TEAC A-3340S uses a highly reliable 3 motor drive system and should require a minimum of mechanical maintenance or adjustment. These adjustments are made at the factory. Readjustment should only be required after long periods of operation or component replacement.

PINCH ROLLER PRESSURE

NOTE: Pinch roller pressure is supplied by the pinch roller spring arm and it is most important that the solenoid plunger be full bottomed before taking pressure measurement.

1. Load tape or block the shut-off arm in the "ON" position.
2. Attach a suitable spring scale to 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.
4. Do not allow the string to rub against the pinch roller.
5. Note the reading on the spring scale at the instant the pinch roller stops rotating.
6. The scale should indicate 2.2~2.5kg. Optimum value is 2.4kg $\pm$ 0.1kg.
7. If adjustment is necessary, loosen the 3 screws on the capstan solenoid and position the solenoid for optimum pressure.
8. Adjust solenoid-limit position so that the gap between capstan shaft and pinch roller is approximately 7mm when solenoid is not actuated. Limit is adjusted by loosening the mounting screw (A), then sliding limit until proper gap is obtained.

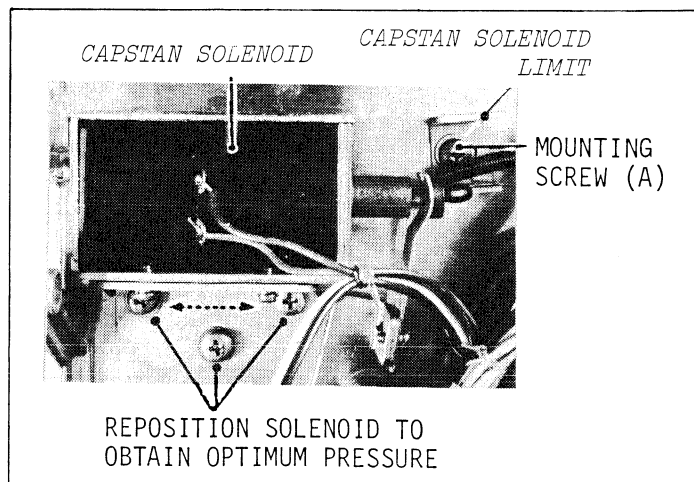
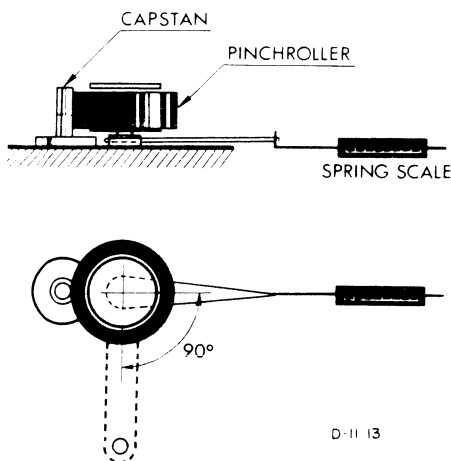


Fig. 9-1 Pressure Measurement and Adjustment Locations

BRAKE TORQUE

The brake torque is actuated mechanically. Pressure is set by the variable 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 machine for a month of normal operation before performing the procedures below.

Brake adjustments are made with "NO" power connected to the equipment.

1. Place an empty 2" 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. 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.
4. The reading should be 1000 g-cm $\pm$ 200 g-cm.
5. If adjustment is required, loosen the 2 screws shown and position the brake for optimum torque.
6. The adjustment of the right brake is the same, with the exception that rotations are clockwise.

NOTE: The difference in reading between the right and left brakes should be kept within 100 g-cm.

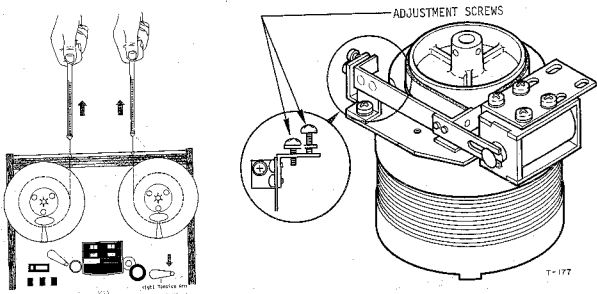


Fig. 9-2 Torque Measurement and Brake Assy Adj. Location

REEL TORQUE ADJUSTMENT LOCATIONS

Back tension and Take-up Torque should be to exact specified Limits given on the next page (TORQUE MEASUREMENT PROCEDURE). If necessary, adjust slider of the resistors until you have the correct scale reading to get optimum torque. Refer to ADJUSTMENT LOCATIONS below.

All Torque and Tension Measurements must be made with the automatic shut-off switch (Right Tension Arm) blocked to the "ON" position.

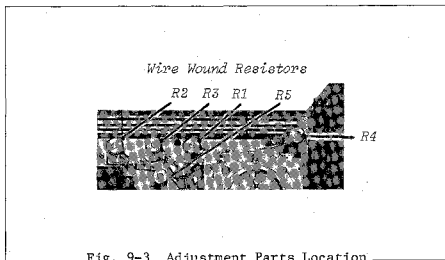


Fig. 9-3 Adjustment Parts Location

ADJUST

- R2 ... BACK TENSION ——— LARGE
- R3 ... BACK TENSION ——— SMALL
- R1 ... TAKE-UP TORQUE ——— LARGE, SMALL
- R4 ... BACK TENSION FOR FAST FORWARD

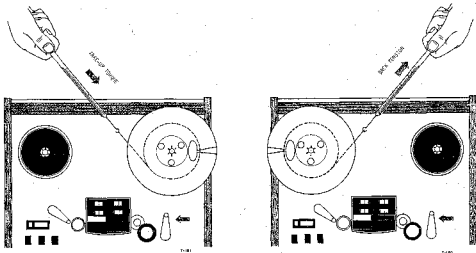


Fig. 9-4 Torque Measurement

TORQUE MEASUREMENT PROCEDURE

BACK TENSION

1. Load tape or block the shut-off arm in the ON position.
2. Place an empty 7" reel with a 2" diameter hub on the left reel table.
3. Rotate the reel and wind several turns of string around the hub. Attach spring scale to string.
4. Place the unit in the (▶) play mode.
5. Pull the scale away from the reel against the motor torque, with a steady smooth motion.
6. Note the scale reading while it is in steady motion.
7. Make sure the string does not rub against the reel flanges.
8. The reading should be approximately:

REEL SW	BACK TENSION
LARGE	300~320 g-cm
SMALL	180~210 g-cm

TAKE-UP TORQUE

1. Place the empty reel and attached 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. It should be approximately:

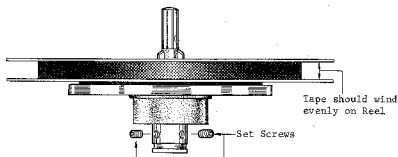
REEL SW	TAKE-UP TORQUE
LARGE	780~820 g-cm
SMALL	380~400 g-cm

REWIND BACK TENSION

1. Load a full 1,800 ft reel of tape (7-1/2") on the right reel table.
2. Place an empty reel with 2" rub on the left reel table.
3. Place the unit in the fast rewind mode.
4. At this time observe the right tension arm.
The arm should move approximately 1" to the right and remain there.
5. Check value of R4 (1.2k) if movement is extremely incorrect.

REEL HEIGHT ADJUSTMENT

Reel height adjustment is required only if a motor has been replaced or if tape rubs excessively against the reel flange. Adjustment is accomplished by the set screws as shown in the illustration below. Reel turntable should be adjusted using standard 7" reels. With a tape threaded on the machine, position the reel-height for smooth tape travel.



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Fig. 9-5 Reel Height Adjustment

FLUTTER

Flutter should be measured in playback mode using a TEAC flutter free tape YTT-2004 (15ips), 2003 (7-1/2ips) and Meguro model MK665B flutter meter. Measurement of flutter should be made in accordance with NAB standards. Values obtained with different standards or equipment cannot be compared.

Flutter should not exceed, 15 ips : 0.15% (RMS)
 7-1/2 ips: 0.18% (RMS)

These figures apply to any tape position and direction (such as full take-up reel, full supply reel or about mid point).

If there is excessive wow and flutter, examine the pinch roller, belt, motors, capstan shaft, and reel rest for "grease", "oil", "dirt" and/or "wear". Also examine the tape counter assy for evenness of operation.

TAPE SPEED

The tape speed should be measured using TEAC flutter free tape, Model YTT-2003 (7-1/2ips), YTT-2004 (15 ips). These tapes contain a highly accurate 3 kHz tone. Connect a digital frequency counter to either line OUTPUT jack. The indicated frequency should be 3000 Hz (± 30 Hz or less) for both speeds.

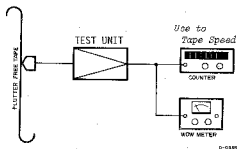
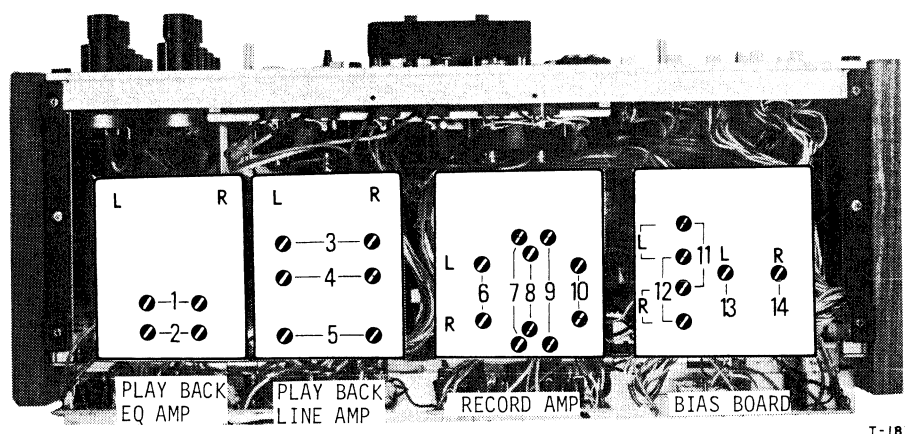


Fig. 9-6 Test Equipment Set-up

10. ELECTRICAL ADJUSTMENT GENERAL NOTICE

- * Outlined procedures refer only to FRONT channels, the same procedures also apply to REAR channels.
- * Before performing checks set all head function selector switches to NORMAL position.
- * Place OUTPUT switches (L1-R3, L2-R4) in TAPE position, place Tape SPEED control at HIGH, place PLAY switch in 4 CHAN position.
- * Procedures for checks and adjustments, unless otherwise indicated, are for the left channel at a tape speed of 15 ips. The same procedures are to be applied to the other channels and again for both channels at 7-1/2 ips.
All controls mentioned in this book will be printed in bold letters and will be exactly as they appear on the unit.
- * Double designated symbol numbers refer to left channel/right channel.
- * Only FRONT adjustments are illustrated, REAR adjustments are identical.

ADJUSTMENT LOCATIONS



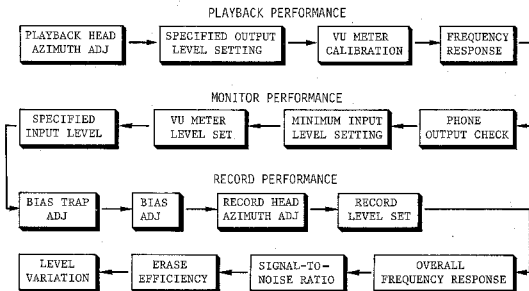
T-187

	FOR	ADJUSTMENT			FOR	ADJUSTMENT	
		LEFT	RIGHT			LEFT	RIGHT
1.	P.B EQ HIGH SPEED	VR101	VR103	8.	REC METER LEVEL	VR302	VR305
2.	P.B EQ LOW SPEED	VR102	VR104	9.	RECORD EQ	L301	L303
3.	BIAS TRAP	L201	L202	10.	BIAS TRAP	L302	L304
4.	P.B LEVEL	VR201	VR203	11.	BIAS HIGH ADJ	VC501	VC503
5.	P.B METER LEVEL	VR202	VR204	12.	BIAS NORMAL ADJ	VC502	VC504
6.	RECORD LEVEL	VR303	VR306	13.	DUMMY COIL	L401	
7.	MONITOR LEVEL	VR301	VR304	14.	DUMMY COIL		L402

Fig. 10-1 Adjustment Locations

11. MEASUREMENT AND ADJUSTMENT -ELECTRICAL-

ADJUSTMENT SEQUENCE



PLAYBACK HEAD AZIMUTH ADJUSTMENT

NOTE: After head replacement or if, during playback, a slight pressure on the heads results in a rise of the reading of the Test Set (M-826A), head azimuth should be readjusted.

Coarse Adjustment:

1. Connect a Test Set to either OUTPUT jack.
2. Thread a TEAC Test Tape YTT-1003 on the unit.
3. Play the 15 kHz Test Tone in Section 2 of the Test Tape.
4. Slowly rotate the azimuth screw until maximum indication is obtained on the Test Set. Then decrease reading 0.5 dB by rotating screw clockwise.

Fine Adjustment:

NOTE: It is absolutely essential to accomplish the coarse adjustment before performing the fine adjustment to avoid phase errors larger than 45°. After coarse adjustment, do not make large corrections, turn azimuth screw 1/4 turn or less.

5. Connect the test equipment as shown in Fig. 11-1.
6. Play a 50 Hz-10 kHz signal and adjust the azimuth screw until the oscilloscope shows that the signals are less than 45° out of phase.
7. Secure the screw with a drop of LOCTITE.

VU METER CALIBRATION

1. Play the 400 Hz tone (1% THD) in Section 1 of the Test Tape.
2. With OUTPUT switches FRONT and REAR in the TAPE position, adjust VR-202/204 for a reading of 0 VU on the VU meters.

FREQUENCY RESPONSE

1. Set Tape SPEED to HIGH position. Using Test Tape YTT-1004, play the Test Tones from 15 kHz down to 40 Hz (recorded at 10 dB below operating reference level).
2. Compare the readings obtained on the Test Set with the response limits given in Fig. 11-2.
3. In case of any deviation in the response curve, check head azimuth alignment, clean the heads, then adjust VR-101/103 for the best response.
4. Set Tape SPEED to LOW, using Test Tape YTT-1003. Repeat Frequency Response check at LOW speed. If required, adjust VR-102/104 as in HIGH position.

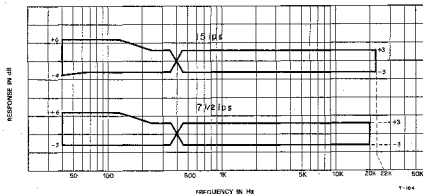
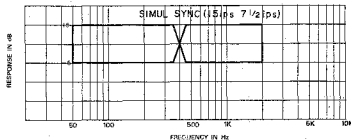


Fig. 11-2 Frequency Response Limits -Playback-

SIMUL SYNC FREQUENCY RESPONSE

15 ips and 7-1/2 ips response should be identical. Frequency response in SIMUL-SYNC function is measured as in normal operation.



PHONES OUTPUT CHECK

1. Place OUTPUT controls at the Specified Level Setting (400 Hz signal at 0 dB).
2. Connect an 8Ω non-inductive resistor across the headphone output. Connect Test Set across the resistor.
3. Test Set should indicate -16 dB $\pm$ 2 dB.

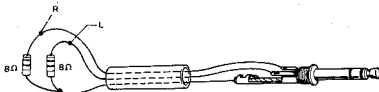


Fig. 11-3 Headphone Connecting Resistor

MINIMUM INPUT LEVEL SETTING

LINE Input:

With OUTPUT controls at specified output level (0 dB 0.775V)

1. Connect an AF oscillator to the LINE IN jacks.
2. Apply a 400 Hz signal at -18 dB.
3. Place the OUTPUT switches FRONT and REAR in the SOURCE position and turn the LINE controls fully clockwise.
4. Adjust VR-301/304 to obtain a specified output level of 0 dB at OUTPUT jacks.

MIC Input:

5. After adjusting VR301/304, apply a 400 Hz signal at -70 dB to the MIC IN jacks.
6. Rotate the MIC controls fully clockwise.
7. The output should be 0 dB (specified output level).

NOTE: Return MIC controls fully clockwise (CCW) to prevent noise insertion during the following steps.

SPECIFIED INPUT LEVEL SET

8. Apply a 400 Hz signal at -18 dB to the LINE IN jacks.
9. Adjust the LINE controls for 0 dB at the OUTPUT jacks.

NOTE

Do not disturb the specified input level position of these controls until the remaining checks and adjustments are completed. The difference between the channels must not exceed $\pm$ 2 dB as indicated on the Test Set. If they are not within limits, check the amplifier gain and the LINE control settings.

VU METER CALIBRATION —RECORD—

10. With the same 400 Hz signal at -18 dB applied and the OUTPUT switches FRONT and REAR in SOURCE adjust VR-302/305 for 0 VU on the VU meters.

Before making any adjustments on the record amplifier, be sure that all tests in the HEAD ALIGNMENT, PLAYBACK and MONITOR PERFORMANCE sections have been accomplished and that all level adjustments are correct.

Optimum recording performance is dependent upon tape characteristics. The TEAC A-3340S is factory set with SCOTCH type 203 for HIGH Bias and 150 type for NORMAL Bias tapes.

BIAS TRAP ADJUSTMENT

The bias trap tank circuit keeps the bias signal from reaching the record and monitor amplifier and under normal "no signal" conditions, voltage should not be present at the OUTPUT jacks.

1. Place BIAS/EQ switch in the HIGH position, OUTPUT switch in TAPE position and all RECORD MODE switches ON. Place tape mode lever at PAUSE position. Depress RECORD and (▶) buttons.
2. Connect a VTVM to the junction of L-302/C-312 (Left channel), L-304/C-330 (Right channel).
3. Adjust L-302, L-304 for minimum reading.

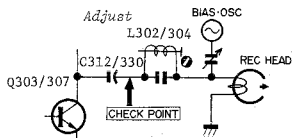


Fig. 11-4 Bias Trap Check Point

BIAS ADJUSTMENT

Adjust BIAS trap (L-302/304) before adjusting BIAS levels.
These adjustments are only made at 7-1/2 ips tape speed.
The bias oscillator frequency is 100 $\pm$ 5 kHz.

HIGH Position

1. Thread a record test tape (Scotch 203) on the unit. Place BIAS/EQ switch in HIGH position.
2. Place OUTPUT switches in TAPE position, PAUSE switch at PLAY.
3. Apply a 400 Hz signal at -8 dB at the LINE IN jacks.
4. Adjust VC-501/503 for a peak on the Test Set.
5. Turn the capacitors clockwise until a decrease of 0.5 dB is obtained.

NORMAL Position

1. Thread a record test tape (Scotch 150) on the unit. Place BIAS/EQ switch to NORMAL position.
2. Adjust VC-502/504 as in HIGH position.

RECORD HEAD AZIMUTH ADJUSTMENT

Coarse Adjustment:

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

1. Connect a Test Set to the OUTPUT jack and an AF oscillator to the LINE IN jack, then set the AF oscillator to 10 kHz.
2. Make certain that the LINE controls are at the Specified Input Level positions.
3. Place the MONITOR switch to SOURCE and adjust the AF oscillator to obtain a signal of 20 dB below the Specified Output Level.
4. Thread a record Test Tape on the unit.
5. Place the MONITOR switch in the TAPE position.
6. While recording adjust the azimuth screw for maximum indication on the Test Set.

Proceed to the next page "Fine Adjustment"

Fine Adjustment:

NOTE: It is absolutely essential to accomplish the coarse adjustment before performing the fine adjustment to avoid phase error larger than 45°.

7. Connect the test equipment as shown in Fig. 11-1.
8. Apply a 7.5 kHz signal at -28 dB to the LINE IN jacks and record this signal.
9. Carefully adjust the azimuth screw until the oscilloscope shows the signal to be in phase.
10. Secure the screw with a drop of LOCTITE.

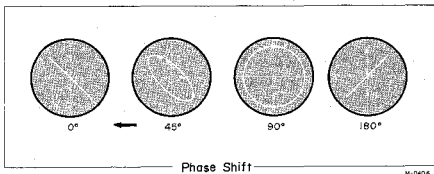


Fig. 11-5 Phase shift

Refer to Fig. 11-1 Fine Adjustment Set-up (playback)

RECORD LEVEL SET

1. Using Scotch 203 tape, BIAS/EQ switch at HIGH position. Apply a 400 Hz signal at -8 dB at the LINE IN jacks.
2. OUTPUT controls must be at specified output level position (0 dB at OUTPUT jacks), and the LINE controls at the Specified Input Level Setting.
3. Place unit in record mode, OUTPUT switches in the TAPE position.
4. Adjust VR-303/306 for a reading of 0 VU on the VU meters. (0 dB at the OUTPUT jacks).

OVERALL FREQUENCY RESPONSE

IMPORTANT

To avoid saturation of the tape these checks should be made at least 20 dB below the specified input level. Any bias signal feeding into the test equipment should be filtered out by adjusting the external bias trap. A broad band VTVM may be used at the output for this adjustment.

HIGH position, BIAS and EQ switches

1. Thread the unit with a record Test Tape (Scotch 203). Set Tape SPEED selector to HIGH position.
2. Adjust the AF oscillator to obtain an output level of -23 dB at OUTPUT jacks.
3. Apply a signal swept from 50 Hz to 18 kHz to the unit while recording on the test tape. With OUTPUT switch at TAPE position monitor the output at the Test Set. See fig. 7-9 for proper response limits.
4. Repeat the above procedures for L (3-3/4 ips), using a signal swept from 50 Hz to 15 kHz.
5. If response is not uniform the heads should be checked for accumulated dirt or tape oxide. If heads are clean, the equalization coils L-301 and L-303 should be adjusted (both speeds).

NORMAL position, BIAS and EQ switches

1. Thread the unit with a record Test Tape (Scotch 150).
2. Repeat the overall response check at both tape speeds. The record equalization should give the proper frequency response.
3. If further adjustment is required, adjust VC-502/504 for best response.

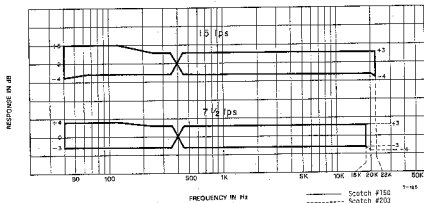


Fig. 11-6 Frequency Response Limits
-Record-

ERASE EFFICIENCY

NOTE: To measure erase efficiency, a 1 kHz band pass filter (TEAC M-206A filter) must be used.

Due to the high level of this signal, it is recommended that only a short recording be made (approximately 30 seconds) to prevent damage to the VU meter.

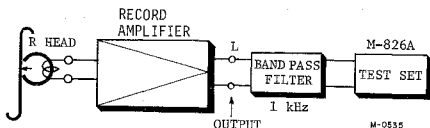


Fig. 11-7 Erase Efficiency Check Set-up

1. Apply a 1 kHz signal at 0 dB to the LINE IN jacks.
2. Place the unit in record mode and record this signal.
3. Rewind the recording to the beginning and remove the AF oscillator from the LINE IN jacks.
4. Place the unit in record mode and record over this portion of tape again.
5. Rewind the tape to the starting point and connect a Test Set (M-826A) to the LINE OUT jack through the 1 kHz band pass filter.
6. Play the erased portion of the tape.
7. The Test Set should indicate -68 dB or less.

LEVEL VARIATION

1. Thread a blank reel of High Output (SCOTCH 203), and select 15 ips. Set the BIAS and EQ switches to HIGH.
2. Record a variety of frequencies, such as 400 Hz, 2 kHz, 5 kHz, 8 kHz, 10 kHz, etc., at the specified input setting. Record approximately 30 seconds at each frequency.
3. During playback, the output level should not vary more than 0.5 dB at 400 Hz, 2 dB at 22 kHz.
4. Repeat steps 2 and 3 with the deck at 7-1/2 ips. The tolerances are the same.

SIGNAL-TO-NOISE RATIO

PLAYBACK

IMPORTANT

OUTPUT controls should be at the Specified Output Level Settings. The signal-to-noise ratio must meet factory standards. The values given are obtained using an unweighted Test Set (M-826A), with the supply and take-up motors having voltage applied but not rotating. The values are with reference to a 3% THD peak recording level.

1. Thread a blank SCOTCH 203 tape on the unit leaving the tape outside the capstan and pinch roller.
2. Place the unit in the PLAY mode (▶) (the tape will not move using PAUSE).
3. The Test Set connected to the OUTPUT jacks should indicate -50 dB or less. This represents a signal-to-noise ratio of 50 dB (1% THD). Residual tape noise is below this at 54 dB.
4. For a 3% THD signal-to-noise ratio, -6 dB is added (3% THD is 6 dB above 1% THD level), giving 54 dB, or the residual noise level of the tape. (See the chart to the right.)

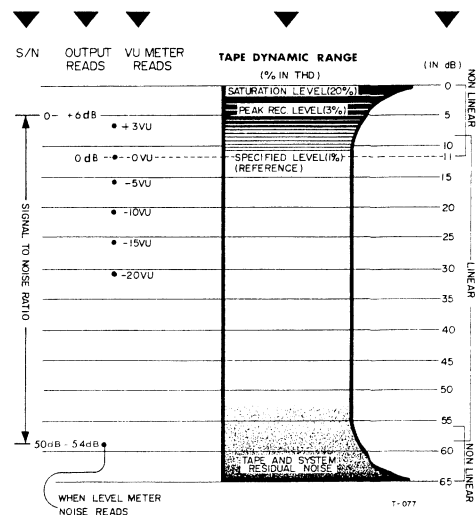


Fig. 11-8 Signal/Noise Computation

OVERALL

IMPORTANT: Clean and demagnetize the heads before proceeding. It is extremely important that all tests described in the preceding paragraphs have been completed and that all controls are left at their specified settings.

1. Thread a blank Test Tape SCOTCH 203 on the unit.
2. Remove the AF oscillator from the LINE IN jacks.
3. Place the unit in the RECORD mode with "no signal" applied. Note the point on the index counter where recording begins.
4. Rewind the tape to the beginning point and play it back.
5. The noise level as indicated on the Test Set should be -55 dB or less.

NOTE: Bias, erase and playback amplifier noise are all included in this measurement. All frequencies between 40 Hz and 15 kHz are measured unweighted.

12. SERVICING AND MAINTENANCE

1. Power supply:

Make sure that the power supply is stable at the rated voltage. Fluctuations will result in uneven tape speed, and wow and flutter in the recorded signal.

2. Cleaning:

TEAC TZ-261A for Head cleaning, TZ-261B for Rubber cleaning should be used.

3. Demagnetization of the head:

If the record or playback head become magnetized, noise will increase and fidelity will deteriorate. For this reason, it is advisable to use brass or other such non-magnetic tools when working near the heads.

Similarly, the use of a tester or vacuum tube ohm-meter should be avoided in checking the heads, as these instruments operate by applying a DC current, and will thus induce magnetism. If the heads have had any contact with DC currents or magnetic tools, demagnetize them with a TEAC Model E-1 Head Demagnetizer.

4. Lubrication:

Under normal operating conditions, lubrication is required only once each year. Before lubricating, clean the drive belt and drive pulleys. 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 absorption of the oil.

Approximately once each year or after 2000 hours of use, apply TEAC TZ-255 Lubricating Oil to the following places only;

Pinch roller shaft bearings 1 drop

Capstan motor shaft bearings ... 2 drops

* Remove the dust cap and washer for access to the felt

Both reel motors ... 0.3 cc maximum to each oiling tube

Capstan motor 0.5 cc maximum to each oiling tube

NOTE: Apply 3 or 4 drops at a time through the oiling tubes. The oil level can be seen to drop as the felt material in the motor bearings absorb oil. When the level ceases to drop, no more oil is needed. Do not attempt to force oil into the motors nor exceed the maximum.

WARNING: Excessive oiling will scatter oil inside the deck. This oil will cause drive belt slippage and other difficulties. Check for slippage and clean all parts inside the deck before operating after lubrication. Check for oil emission after operation before returning deck to the customer.

TEAC MAINTENANCE EQUIPMENT

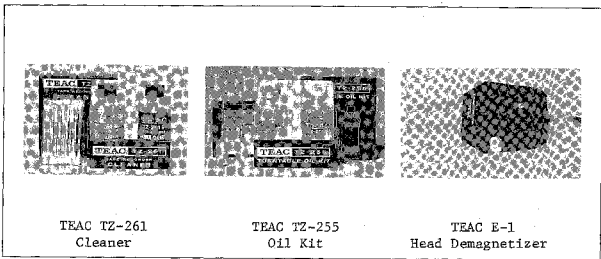


Fig. 12-1 TEAC Maintenance Equipment

LUBRICATION

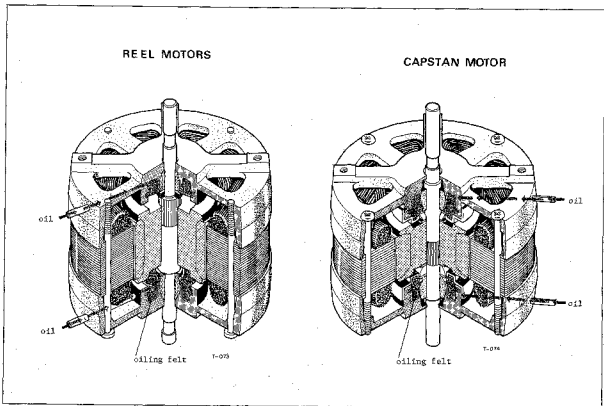


Fig. 12-2 Motor Construction and Oiling points

13. LIST OF LINE VOLTAGE AND CYCLE (Hz) USED AROUND THE WORLD

Name of the country	Cycle (Hz)	Voltage	Name of the country	Cycle (Hz)	Voltage	Name of the country	Cycle (Hz)	Voltage
Argentina	50	220	Guatemala	60	120, (220)	New Zealand	50	230
Algeria	50	127, 220	Germany	50	110, 120, 127, 220	Norway	50	220
Austria	50	230, 240	Hungary	50	220	Okinaua	60	100
Australia	50	220	Honduras	60	110	Pakistan	50	220, 230
Brazil	50/60	110, 115, 127, 227,	Haiti	(50)/60	(220)	Philippines	60	110, (115), (120)
Belgium	50	220	Iran	50	220	Portugal	50	110, (115), (120)
Burma	50	110, 127, 220	Iraq	50	230	Poland	50	220
Canada	60	230	Israel	50	110, 117	Romania	50	110, 220
Chile	60	110	Indonesia	50	230	Rep. of Vietnam	50	120, 127
Colombia	60	120	Italy	50	110, (120), (127)	Russia	50	(110), 220
Czechoslovakia	50/60	110, (115), (120)	Jamaica	50	(150), (160), 220	Saudi Arabia	50/60	120, 230
Dominica	50	(110), 220	Japan	50/60	110	Sierra Leone	50	230
England	50	220	Korea	60	100	Sri Lanka	50	115, 200
Ecuador	60	(110), 220	Lebanon	50	240	Sweden	50	220
El Salvador	60	(200), (210), (230),	Luxembourg	50	110, 220	Spain	50	(117), 220
Egypt	50	240	Malaya	50	110, 220	Sri Lanka	50	120, 127
France	50	(110), 120, 127	Mexico	50/60	120, 127	Thailand	50	220
Ghana	50	110	Morocco	50	230	Tunisia	50	110, 115, 220
Greece	50	220	Netherlands	50	115, 127, 220	U.S.A.	60	110, 220
Holland	50	220	Nicaragua	50	125, 127, 150, 220	Uruguay	50	115, 120
India	50	110, (115), (120),	Nigeria	50	230	Venezuela	(50)/60	120
Indonesia	50	(127), 220	Nicaragua	60	120	Yugoslavia	50	220

4. TEAC DECIBEL TABLE

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Relationship between decibels, currents, voltage and power ratios

[illegible]

15-1. TROUBLESHOOTING

NOTE: The following guide lists specific difficulties that could occur in the A-3340S. Possible causes are listed for each malfunction. Visually inspect the unit for any damage such as broken or burned components or wiring, loose connections, etc.

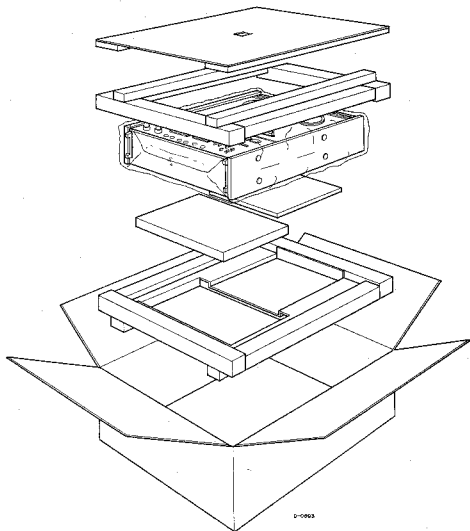
MALFUNCTION	POSSIBLE SOURCE OF TROUBLE	CORRECTIVE PROCEDURE
Capstan fails to turn	Belt off or slipping, line fuse, safety switch(SW-2), speed select switch(SW-12), phase advance capacitor(C-5)	Repair or replace the defective components.
Pinch roller fails to contact capstan in play mode	Operation relay(K-1), Start relay(K-7), Q1, STOP micro-switch(S-4), PLAY (▶) micro-switch(S-7), capstan solenoid	Refer to schematic diagram and repair or replace the defective components.
Right reel motor does not rotate in play mode. Left reel motor does not rotate in play mode. Both motors fail to operate.	Reel motor(right), brake solenoid, operation relay(K-6), resistor(R-1) Reel motor(left), brake solenoid, operation relay(K-6), resistor(R-2) Safety switch(SW-2), operation relay(K-1,K-6)	Replace the defective components.
A-3340S does not operate in PLAY (▶)	Remote control jumper plug missing or loose, STOP micro switch(S-4), brake solenoid, pause switch(S-9), operation relay(K-1,K-6), phase advance capacitor(C-5), (C-4)	Normal DC resistance of the brake solenoid is 1.3k ohms. Refer to schematic diagram and repair or replace the defective components.
Playback noise or hum	Faulty connections, SIMUL switch (S-701), faulty playback head, faulty amplifier	Repair to replace defective components.
Noise or hum during record	Magnetized head, faulty connections, MIC level set to maximum, faulty record amplifier, record relay (K501,K502,K601,K602)	Demagnetize and clean head, repair or replace defective components, check MIC VR.
Wow and flutter	Defective tape, dirty or defective pinch roller and pressure oily or defective belt, reel motor tension	Clean or replace defective components. Adjust motor tension

15-2. TROUBLESHOOTING

MALFUNCTION	POSSIBLE SOURCE OF TROUBLE	CORRECTIVE PROCEDURE
Incorrect tape speed	Drive belt in wrong position. Incorrect pinch roller pressure.	Reposition drive belt. Adjust pinch roller pressure.
Brakes do not release	Defective brake solenoid	The D.C resistance of the brake solenoid should be 1.6k ohms. Replace solenoid.
Fast forward or rewind mode inoperative	Rewind relay(K-3) Fast relay(K-2)	Refer to schematic diagram and repair or replace the defective components.
No record and/or no erase	Record head dirty, erase head dirty, operate relay (K-1), record relay(K501,K502, K601,K602), REC micro switch(S-8), record amplifier, bias OSC, record head, erase head	Refer to schematic diagram and repair or replace the defective components.
No playback	Playback head defective or dirty, amplifier-to-deck connections, monitor switch (S-712), playback amplifiers	Refer to playback amplifier voltage chart.

16. PACKING FOR SHIPMENT

Keep this Carton Box and its packing materials. For shipping, re-pack as shown in the illustration.



WARRANTY

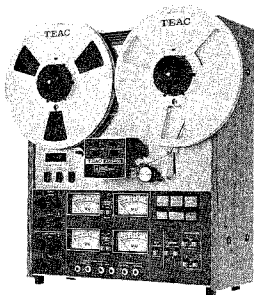
Your TEAC equipment has been manufactured under the strictest quality control and is covered by warranty under normal operation. However, warranty terms may vary with the country (area) in which it was purchased and for different models of equipment. The warranty terms are fully described on the warranty card. Please read the card for complete details. Include a copy of the warranty in the package when you return the equipment to an Authorized Service Center.

TEAC®

A-3340S

4-CHANNEL STEREO TAPE DECK

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

- Do not order by only REF. NO.
- 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.

PARTS IDENTIFICATION CODING

Parts are identical between the different models with the exceptions as coded by the designations explained below.

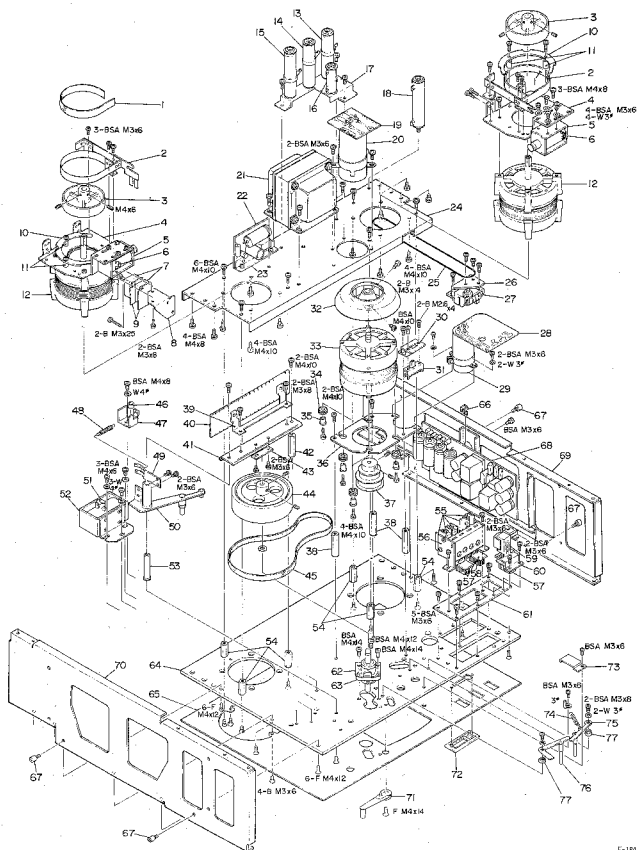
- | | |
|--------|---|
| JAPAN | Domestic (Japan) market decks only. |
| U.S.A. | TEAC Corporation of America, U.S.A. version only. |
| CANADA | Canada version only. |
| EUROPE | European market decks (except United Kingdom). |
| EXPORT | All decks not specified above (incl. U.K.). |

1-1. MAIN CHASSIS GROUP



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	50136321	Cap, Slide Switch; B	
1 - 2	55505330	Mask, Slide Switch	
1 - 3	51681730	PC Board Assy, Simul-Sync	
	50444700	Switch, Slide; Simul-Sync	
1 - 4	55403510	Spacer, Simul-Sync Switch Assy	
1 - 5	55505140	Bracket, Head Protector; A	
1 - 6	55505120	Plate, Head Base	
1 - 7	50220500	Spring, Head; B	
1 - 8	50134371	Plate, Head	
1 - 9	50136591	Spacer, Erase Head	
1 - 10	50134390	Spacer, Head	
1 - 11	50136790	Head Shield, Front; A	
1 - 12	50664350	Head, Playback (4T - 4CH)	
1 - 13	50664250	Head, Record (4T - 4CH)	
1 - 14	55505150	Bracket, Head Protector; B	
1 - 15	50664110	Head, Erase (4T - 4CH)	
1 - 16	50182672	Pin, Tape Guide	
1 - 17	55505320	Plate, Housing Base	
1 - 18	55542110	Plate, Head Housing	
1 - 19	55505100	Name Plate, A	
1 - 20	50136292	Head Housing	
1 - 21	55403520	Sleeve, Head Assy Mtg Screw	
1 - 22	50112980	Grille Assy, Top	
1 - 23	55040870	Reel Table Assy	
1 - 24	50288200	Sideboard	
1 - 25	50180590	Tension Arm Assy, Left	
1 - 26	50182701	Bushing, Arm; A	
1 - 27	50276870	Anchor, Spring; Left	
1 - 28	50221110	Spring, B	
1 - 29	50182750	Travel Limiter; Tension Arm	
1 - 30	50276990	Collar, Rubber	
1 - 31	50123910	Cap, Guide Ring	
1 - 32	50123930	Ring, Guide	
1 - 33	50123921	Guide Ring Base	
1 - 34	50125351	Cap, Dust	
1 - 35	50142180	Cap, Pinch Roller	
1 - 36	50141751	Pinch Roller	
1 - 37	50180432	Tension Arm Assy, Right	
1 - 38	50182701	Bushing, Arm; A	
1 - 39	50221122	Spring, C	
1 - 40	50103921	Drum, Tension Arm	
1 - 41	50182731	Limit Stop, Right	
1 - 42	50529050	Spark Killer, 0.1 μ F+120 Ω 400V	
1 - 43	50183931	Spacer, Insulator Paper	
1 - 44	51300010	Switch, Micro; V-1A-44	
1 - 45	50276930	Washer, Trim	
1 - 46	50235312	Angle, Rear Cover	
1 - 47	55530320	Cover, Rear	
1 - 48	50277111	Washer, Trim	
1 - 49	55330180	Leg, Case; Right	
1 - 50	55330190	Leg, Case; Left	
1 - 51	55040581	Cover Assy, Bottom	

1-2. MOTOR CHASSIS GROUP

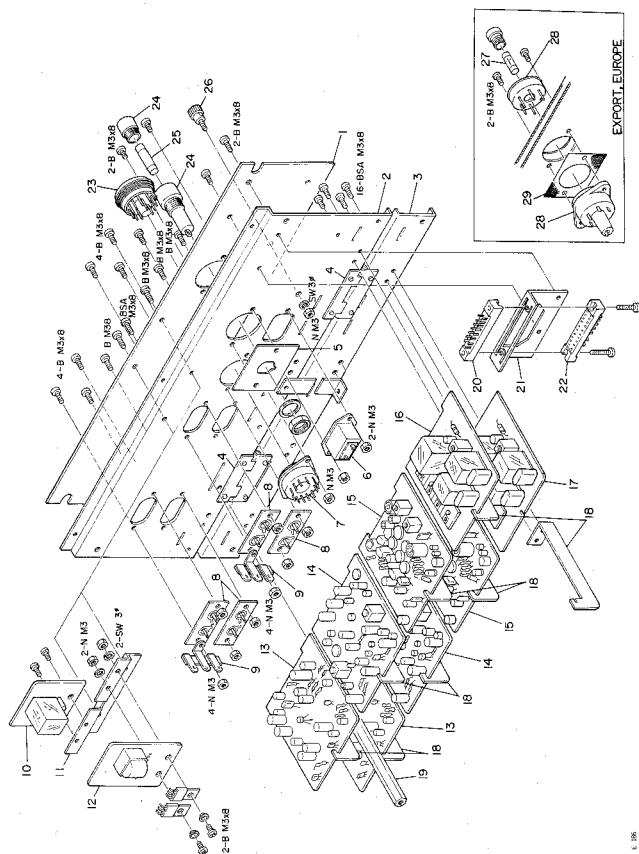


REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	55541560	Felt, Brake	
2 - 2	50173811	Brake Band Assy, P	
2 - 3	50173570	Drum, Brake	
2 - 4	50173601	Plate, Reel Motor; P	
2 - 5	50616770	Solenoid, Brake	
2 - 6	50422570	Diode, SIB 01-06	
2 - 7	50446180	Switch, Micro; V-1A-44	
2 - 8	50173640	Plate, Micro Switch	
2 - 9	50332680	Spacer, Insulator Paper	
2 - 10	50173481	Retainer, Brake Shaping	
2 - 11	50173490	Spacer, Brake Shaping Retainer	
2 - 12	71041070	Motor, Reel	
2 - 13	50522280	Resistor, Wire wound, 250 Ω 30HA	
2 - 14	50522290	Resistor, Wire wound, 150 Ω 30HA	
2 - 15	50522230	Resistor, Wire wound, 100 Ω 30HA	
2 - 16	50524440	Resistor, Wire wound, 1.5 Ω 10H	
2 - 17	50235661	Plate, Resistor	JAPAN, U.S.A., CANADA
	55505340	Plate, Resistor; E	EXPORT, EUROPE
2 - 18	50522320	Resistor, Wire wound; 600 Ω 40H	
2 - 19	50491353	PC Board Assy, MP Capacitor	
2 - 20	51700050	Capacitor, MP (7.0 $\pm$ 1.5) μ Fx2 250V	
2 - 21	50563342	Transformer, Power	JAPAN
	50563360	Transformer, Power	U.S.A., CANADA
	50563370	Transformer, Power	EXPORT, EUROPE
2 - 22	50490912	PC Board Assy, Solenoid Control Relay	JAPAN
	50491582	PC Board Assy, Solenoid Control Relay	U.S.A., CANADA
	50491600	PC Board Assy, Solenoid Control Relay	EXPORT, EUROPE
2 - 23	55505351	Angle, PC Board; E	
2 - 24	55520040	Chassis, Reel Motor; B	
2 - 25	50332530	Belt, Counter; P	
2 - 26	50332520	Plate, Counter	
2 - 27	50585140	Counter, Index	
2 - 28	50491401	PC Board Assy, Terminal	
2 - 29	50545650	Capacitor, MP (2.0 $\pm$ 0.8) μ F 250V	
2 - 30	50332380	Bracket, Slide Switch	JAPAN, EXPORT, EUROPE
2 - 31	50444610	Switch, Slide; Freq. Conv.	JAPAN, EXPORT, EUROPE
2 - 32	50123983	Fan, Motor Cooling	
2 - 33	50701341	Motor, Capstan	
2 - 34	60706211	Cushion, Rubber	
2 - 35	50332790	Spacer, Rubber Cushion	
2 - 36	50237520	Plate, Capstan Motor	
2 - 37	50124003	Pulley, Motor	JAPAN, EXPORT, EUROPE
	50125121	Pulley, Motor	U.S.A., CANADA
2 - 38	50123850	Standoff, Capstan Motor	
2 - 39	55505090	Bracket, Terminal PC Board Assy	
2 - 40	51681720	PC Board Assy, Terminal	
2 - 41	50277151	Angle, Thrust	
2 - 42	50123860	Standoff, Flywheel	
2 - 43	50277232	Plate, Thrust	
2 - 44	50123802	Flywheel, Capstan	
2 - 45	50125340	Belt, Capstan	
2 - 46	50276690	Cushion, Rubber	
2 - 47	50141842	Limit Stop, Pinch Roller	
2 - 48	50220441	Spring, Return	
2 - 49	50221152	Spring, Pressure	
2 - 50	50140236	Arm Assy, Pinch Roller	
2 - 51	50422570	Diode, SIB 01-06	
2 - 52	50616760	Solenoid Assy, Pinch Roller	
2 - 53	50141821	Shaft, Roller Arm	
2 - 54	50161950	Standoff, Reel Motor	
2 - 55	50332671	Spacer, Insulator Paper	
2 - 56	50443902	Switch Assy, Selector; REEL/SPEED	

(Continued on page 9.)

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	55520460	Panel, Ampl.	
3 - 2	55020290	Panel, Ampl. Trim	
3 - 3	55340910	Knob, A	
3 - 4	55040590	Knob, Lower	
3 - 5	50253750	Knob	
3 - 6	50236430	Escutcheon, Record Lamp	
3 - 7	50236500	Escutcheon, VU Meter	
3 - 8	50332850	Washer, Insulating; Jack	
3 - 9	55320060	Escutcheon, Button	
3 - 10	50236512	Clamp, Meter Escutcheon	
3 - 11	50236420	Retainer, VU Meter	
3 - 12	50535240	Var. Res., 100k Ω	
3 - 13	51501170	Var. Res., Outer Shaft 100k Ω /Inner 10k Ω	
3 - 14	50430240	Jack, Phone; 2 cond. (MIC)	
3 - 15	50432450	Jack, Phone; 3 cond. (PHONES)	
3 - 16	50440000	Switch, Slide	
3 - 17	55340710	Cap, Slide Switch; C	
3 - 18	50444450	Switch, Slide; Play	
3 - 19	50939110	Band, VU Meter	
3 - 20	50581381	VU Meter	
3 - 21	55003540	Plate Assy, VU Meter; S	
3 - 22	50419070	Sleeve, Record Lamp	
3 - 23	50414580	Lamp, Bayonet Type; Record (8V)	
3 - 24	50415250	Socket, Record Lamp	
3 - 25	50490892	PC Board Assy, Control Relay	
3 - 26	50237160	Spacer	
3 - 27	50237131	Plate, Switch; L	
3 - 28	50237141	Plate, Switch; R	
3 - 29	50237121	Plate	
3 - 30	50446580	Switch, Micro; VV-15-3A	
3 - 31	50446560	Switch, Micro; VV-15-1A	
3 - 32	50446570	Switch, Micro; VV-15-2A	
3 - 33	50414630	Lamp, Subminiature; PAUSE	
3 - 34	50237490	Cushion, Lamp	
3 - 35	50237291	Plate Nut, Retaining	
3 - 36	55340430	Hinge, A	
3 - 37	55340440	Hinge, B	
3 - 38	55340730	Button, B	
3 - 39	55340720	Button, A	
3 - 40	55300731	Button, REC	
3 - 41	55340740	Button, STOP	
3 - 42	50237262	Button Assy, PAUSE	
3 - 43	50237300	Rubber Protector, P	
3 - 44	55505210	Plate Nut, Hinge; S	
3 - 45	55505200	Bracket, Hinge; S	

1-4. REAR PANEL



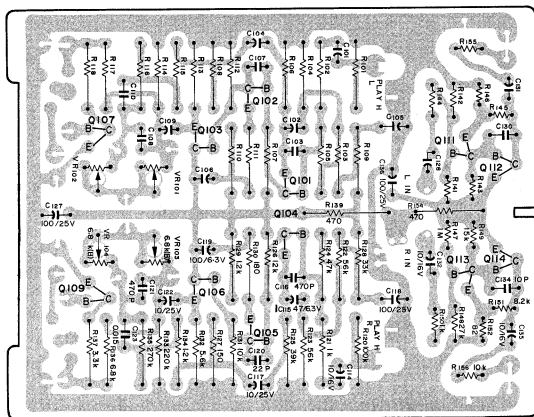
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	55505261	Panel, Rear Connection	JAPAN, U.S.A., CANADA
4 - 2	55505221	Chassis, Ampl; Main	
4 - 3	55505230	Chassis, Ampl; Sub	
4 - 4	50236480	Hinge	
4 - 5	55501151	Plate, Fuse Holder	
4 - 6	50432950	Socket, AC	
4 - 7	50432700	Socket, 11P	
4 - 8	50434632	Jack, Pin; 2P	
4 - 9	50452060	Terminal Strip, 1L-2P	
4 - 10	51680560	PC Board Assy, REC EQ Relay	
4 - 11	55505281	Angle, PC Board; S	
4 - 12	50490830	PC Board Assy, Bias Oscillator	
4 - 13	51681710	PC Board Assy, MIC/PB EQ Ampl.	
4 - 14	51681690	PC Board Assy, Line Out/Phone Ampl.	
4 - 15	51681702	PC Board Assy, Meter/Record EQ Ampl.	
4 - 16	51680541	PC Board Assy, Bias Adjustment; A	
4 - 17	51680581	PC Board Assy, Bias Adjustment; B	
4 - 18	50233760	Plate, PC Board	
4 - 19	50236490	Standoff, Ampl. Chassis	
4 - 20	50436530	Connector, 15P (Plug)	JAPAN, EXPORT, EUROPE U.S.A., CANADA
	50436520	Connector, 15P (Plug)	
4 - 21	50237450	Bracket, Connector	
4 - 22	50438310	Connector, 15P (Socket)	JAPAN, EXPORT, EUROPE U.S.A., CANADA
	50438300	Connector, 15P (Socket)	
4 - 23	50433010	Dummy Plug	JAPAN
4 - 24	50924500	Fuse Holder	U.S.A.
	50412280	Fuse Holder	JAPAN
4 - 25	50411140	Fuse, 2A	U.S.A.
	50411440	Fuse, 2A-250V	
4 - 26	50454071	Post, Grounding	
4 - 27	50411010	Fuse, 1A	EXPORT, EUROPE
	50411440	Fuse, 2A	EXPORT, EUROPE
4 - 28	50435030	Voltage Selector, w/Fuse	EXPORT, EUROPE
4 - 29	55501500	Mask, Fuse	EXPORT, EUROPE

1-2. MOTOR CHASSIS GROUP (Continued from page 5.)

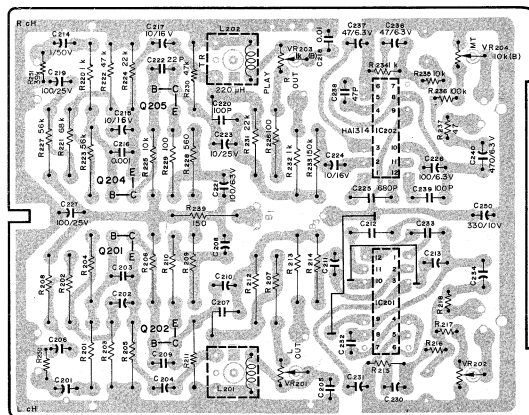
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 57	50253530	Button, D	JAPAN, EXPORT, EUROPE U.S.A., CANADA
2 - 58	50253880	Mask, Switch	
2 - 59	50443870	Switch, Power	
	50444560	Switch, Power	
2 - 60	50237083	Plate, Power Switch	
2 - 61	50237391	Plate, Selector Switch	
2 - 62	50142190	Plate, Arm Support	
2 - 63	50120450	Capstan Assy	
2 - 64	50114244	Panel, Chassis	
2 - 65	55020280	Panel, Trim; B	
2 - 66	55505310	Angle, PC Board	
2 - 67	55810370	Screw, Guide	
2 - 68	51680532	PC Board Assy, Power Supply	
2 - 69	55030220	Panel Assy, Side; Left	
2 - 70	55030230	Panel Assy, Side; Right	
2 - 71	55030241	Arm Assy, Cue	
2 - 72	50162980	Escutcheon, Counter (Cover)	
2 - 73	50152453	Plate, Lifter	
2 - 74	50221100	Spring, Lifter; A	
2 - 75	50150253	Arm Assy, Lifter; B	
2 - 76	50150243	Arm Assy, Lifter; A	
2 - 77	50152502	Shaft, Lifter, Arm	

2. PC BOARD SECTION (Diagram)

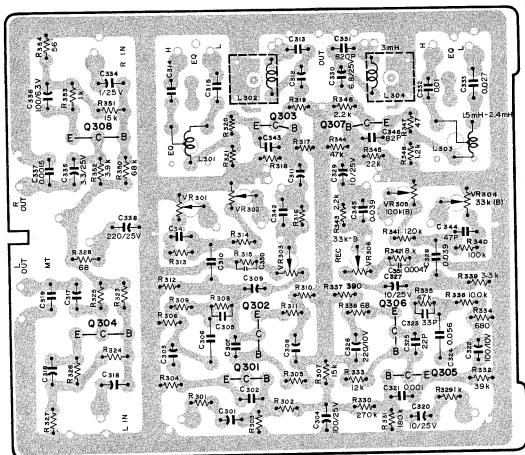
2-1. EQ / MIC AMPLIFIER



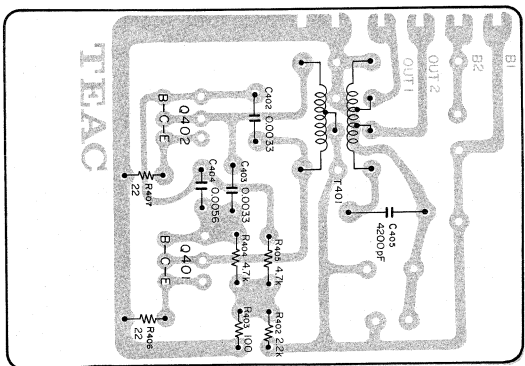
2-2. LINE/PHONE AMPLIFIER



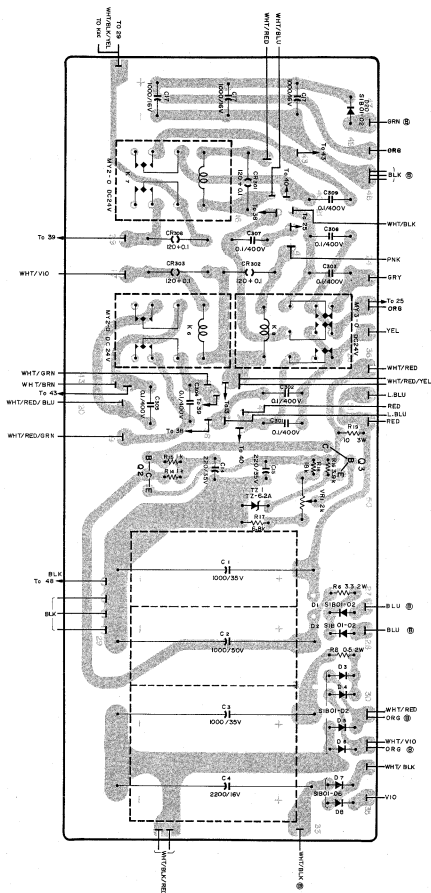
2-3. REC/METER AMPLIFIER



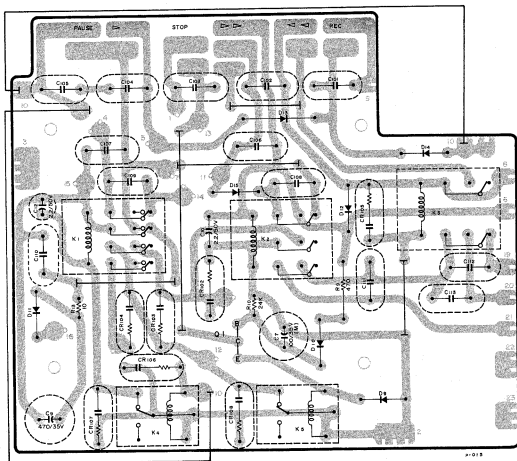
2-4. BIAS OSCILLATORS



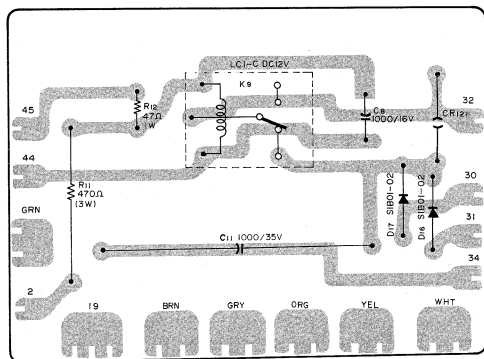
2-5. POWER SUPPLY



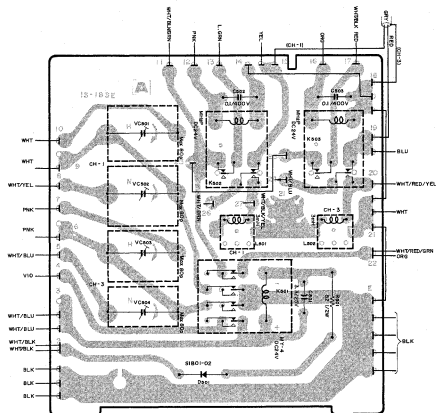
2-6. CONTROL RELAY



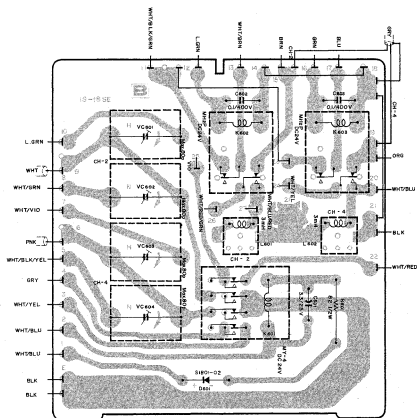
2-7. SOLENOID CONTROL RELAY



2-8. BIAS PC BOARD-A



2-9. BIAS PC BOARD-B



2. PC BOARD SECTION (Parts List)

2-1. EQ/MIC AMPLIFIER

REF. NO.	PARTS NO.	DESCRIPTION
	51681710	PC Bd. Assy
	51670501	PC Board

TRANSISTORS

Q101/Q104	50424610	2SC1327-T
Q102/Q105	50424870	2SA763-YL (5)
Q103/Q106	50424600	2SC828-S
Q107/Q109	50424600	2SC828-S
Q111/Q113	50424610	2SC1327-T
Q112/Q114	50424870	2SA763-YL (5)

REF. NO.	PARTS NO.	DESCRIPTION
C110/C123	50548420	Mylar 0.015 μ F 50V
C127	50554170	Elec. 100 μ F 25V
C128/C132	50554050	Elec. 10 μ F 16V
C130/C134	50547400	Dip. Mica 10pF 50V
C131/C135	50554050	Elec. 10 μ F 16V
C136	50554170	Elec. 100 μ F 25V

J101/J102	50435000	Jack, Pin
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2-2. LINE/PHONE AMPLIFIER

CARBON RESISTORS

All resistors are rated 10% tolerance and 1/4 watt

R101/R120	50573300	100k Ω
R102/R121	50513430	1k Ω
R103/R122	50513990	56k Ω
R104/R123	50513990	56k Ω
R105/R124	50513870	47k Ω
R106/R125	50518850	39k Ω
R107/R126	50513580	12k Ω
R108/R127	50513320	150 Ω
R109/R128	50518840	33k Ω
R110/R129	50513440	1.2k Ω
R111/R130	50518770	180 Ω
R112/R131	50513570	10k Ω
R113/R132	50513880	5.6k Ω
R114/R133	50518880	220k Ω
R115/R134	50513440	1.2k Ω
R116/R135	50518890	270k Ω
R117/R136	50573020	6.8k Ω
R118/R137	50572940	3.3k Ω
R139	50518790	470 Ω
R141/R147	50573540	1M Ω
R142/R148	50513860	27k Ω
R143/R149	50571100	15k Ω
R144/R150	50513430	1k Ω
R145/R151	50571040	8.2k Ω
R146/R152	50518760	82 Ω
R154	50518790	470 Ω
R155/R156	50513570	10k Ω

SEMI FIXED RESISTORS

VR101/VR103	50533580	6.8k Ω (B)	10 ϕ
VR102/VR104	50533580	6.8k Ω (B)	10 ϕ

CAPACITORS

C101/C114	51700090	Tant.	10 μ F	16V
C102/C115	50554030	Elec.	47 μ F	6.3V
C103/C116	50547560	Dip. Mica	470pF	50V
C104/C117	51700820	Elec.	10 μ F	25V (LR)
C105/C118	50554170	Elec.	100 μ F	25V
C106/C119	50554230	Elec.	100 μ F	6.3V
C107/C120	50543820	Dip. Mica	22pF	50V
C108/C121	50547560	Dip. Mica	470pF	50V
C109/C122	51700820	Elec.	10 μ F	25V (LR)

REF. NO.	PARTS NO.	DESCRIPTION
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51681690	PC Bd. Assy
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51670511	PC Board (only)
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IC's

IC201/IC202	50427150	HA1314
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TRANSISTORS

Q201/Q204	50423770	2SC644-T
Q202/Q205	50424660	2SA564-R

CARBON RESISTORS

All resistors are rated 10% tolerance and 1/4 watt.

R201/R220	50513430	1k Ω
R202/R221	50518860	68k Ω
R203/R222	50513870	47k Ω
R204/R223	50513990	56k Ω
R205/R224	50513930	22k Ω
R206/R225	50513570	10k Ω
R207/R226	50513300	100 Ω
R208/R227	50513990	56k Ω
R209/R228	50513910	560 Ω
R210/R229	50513300	100 Ω
R211/R230	50513970	4.7k Ω
R212/R231	50513930	22k Ω
R213/R232	50513430	1k Ω
R214/R233	50515660	150k Ω
R215/R234	50513430	1k Ω
R216/R235	50513570	10k Ω
R217/R236	50573300	100k Ω
R218/R237	50572500	47 Ω
R239	50513320	150 Ω
R250/R251	50571200	39k Ω

SEMI FIXED RESISTORS

VR201/VR203	50533950	1k Ω (B)	10 ϕ
VR202/VR204	50533480	10k Ω (B)	10 ϕ

REF. NO. PARTS NO. DESCRIPTION

CAPACITORS

C201/C214	51700860	Elec.	1 μ F	50V(LR)
C202/C215	50554050	Elec.	10 μ F	16V
C203/C216	50548320	Mylar	0.001 μ F	50V
C204/C217	50554050	Elec.	10 μ F	16V
C205/C218	50548020	Mylar	0.01 μ F	50V
C206/C219	50554170	Elec.	100 μ F	25V
C207/C220	50537440	Dip. Mica	100pF	50V
C208/C221	50554230	Elec.	100 μ F	6.3V
C209/C222	50543820	Dip. Mica	22pF	50V
C210/C223	51700820	Elec.	10 μ F	25V(LR)
C211/C224	50554050	Elec.	10 μ F	16V
C212/C225	50547470	Dip. Mica	680pF	50V
C213/C226	50554230	Elec.	100 μ F	6.3V
C227	50554170	Elec.	100 μ F	25V
C230/C236	50554030	Elec.	47 μ F	6.3V
C231/C237	50554030	Elec.	47 μ F	6.3V
C232/C238	50547420	Dip. Mica	47pF	50V
C233/C239	50547440	Dip. Mica	100pF	50V
C234/C240	50554600	Elec.	470 μ F	6.3V
C250	50554920	Elec.	330 μ F	10V

COILS

L201/L202	50566640	Choke	220 μ H
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2-3. REC/METER AMPLIFIER

REF. NO. PARTS NO. DESCRIPTION

51681702	PC Bd. Assy
51670520	PC Board (only)

TRANSISTORS

Q301/Q305	50423770	2SC844-T
Q302/Q306	50424140	2SA572-YL
Q303/Q307	50424600	2SC828-S
Q304/Q308	50424600	2SC828-S

CARBON RESISTORS

All resistors are rated 10% tolerance and 1/4 watt.

R301/R329	50570820	1k Ω
R302/R330	50571400	270k Ω
R303/R331	50571360	180k Ω
R304/R332	50571200	39k Ω
R305/R333	50571080	12k Ω
R306/R334	50570780	680 Ω
R308/R335	50571220	47k Ω
R309/R336	50571300	100k Ω

REF. NO. PARTS NO. DESCRIPTION

R310/R337	50570720	390 Ω
R311/R338	50570540	68 Ω
R312/R339	50570940	3.3k Ω
R313/R340	50571300	100k Ω
R314/R341	50571320	120k Ω
R315/R342	50571120	18k Ω
R316/R343	50570900	2.2k Ω
R317/R344	50571220	47k Ω
R318/R345	50571140	22k Ω
R319/R346	50570900	2.2k Ω
R320/R347	50570500	47 Ω
R321/R348	50570840	1.2k Ω
R323/R350	50571260	68k Ω
R324/R351	50571100	15k Ω
R325/R352	50570960	3.9k Ω
R326/R353	50570820	1k Ω
R327/R354	50570520	56 Ω
R328	50570540	68 Ω

SEMIFIXED RESISTORS

VR301/VR304	50534120	33k Ω (B)	10 ϕ
VR302/VR305	50533490	100k Ω (B)	10 ϕ
VR303/VR306	50534120	33k Ω (B)	10 ϕ

CAPACITORS

C301/C320	50554040	Elec.	10 μ F	25V
C302/C321	50548320	Mylar	0.001 μ F	50V
C303/C322	50554570	Elec.	100 μ F	10V
C304	50554170	Elec.	100 μ F	25V
C305/C323	50547590	Dip. Mica	33pF	50V
C306/C324	50548460	Mylar	0.056 μ F	50V
C307/C325	50543820	Dip. Mica	22pF	50V
C308/C326	50554910	Elec.	220 μ F	10V
C309/C327	51700820	Elec.	10 μ F	25V (LR)
C310/C328	50548630	Mylar	0.039 μ F	50V
C311/C329	50554040	Elec.	10 μ F	25V
C312/C330	50548622	Dip. Tant.	6.8 μ F	25V
C313/C331	50543440	Polyst.	820pF	50V
C314/C332	50548020	Mylar	0.01 μ F	50V
C315/C333	50548330	Mylar	0.027 μ F	50V
C316/C334	50555470	Elec.	1 μ F	25V
C317/C335	50554140	Elec.	3.3 μ F	25V
C318/C336	50554230	Elec.	100 μ F	6.3V
C319/C337	50548120	Mylar	0.0015 μ F	50V
C338	50555520	Elec.	220 μ F	25V

C341/C344	50547420	Dip. Mica	47pF	50V
C342/C345	50548630	Mylar	0.039 μ F	50V
C343/C346	50547580	Dip. Mica	82pF	50V
C350/C351	50548130	Mylar	0.0047 μ F	50V

COILS

L301/L303	50566670	Record EQ	1.5/2.4mH
L302/L304	50566300	Trap	3mH

2.4. BIAS OSCILLATORS

REF. NO.	PARTS NO.	DESCRIPTION
	50490830	PC Bd. Assy
	50483322	PC Board
Q401, Q402	50424450	Transistor 2SC1225A-R
R402	50514920	Carbon 2.2k Ω 1/2W
R403	50515210	Carbon 100 Ω 1/4W
R404, R405	50516440	Carbon 4.7k Ω 1/2W
R406, R407	50516130	Carbon 22 Ω 1/2W
C402, C403	50543810	Mylar 0.0033 μ F 50V 5%
C404	50544040	Mylar 0.0056 μ F 50V 5%
C405	50548920	Mica 4200pF 250V 5%
T401	50563231	Transformer, Oscillator

2.5. POWER SUPPLY

REF. NO.	PARTS NO.	DESCRIPTION
	51680533	PC Bd. Assy
	51670532	PC Board
Q2	50424620	Transistor 2SD235-Y
Q3	50424820	Transistor 2SC733-GR
D1~D6	50422560	Diode 1SB01-02
D7, D8	50422570	Diode 1SB01-06
D20	50422560	Diode 1SB01-02
TZ1	50422580	Diode Zener; 02Z-6.2A
K6	50611140	Relay MY2-0 24V DC
K7	50611160	Relay MY2-0 24V DC
K8	50611120	Relay MY3-0 24V DC
VR1	50534260	Trimmer Resistor 2k Ω (B)
R6	50525400	Wire Wound 3.3 Ω 2W
R8	50526150	Wire Wound 0.5 Ω 2W
R14, R15	50570820	Carbon 1k Ω 1/4W
R16	50570960	Carbon 3.9k Ω 1/4W
R17	50515470	Carbon 6.8k Ω 1/4W
R18	50515520	Carbon 18k Ω 1/4W
R19	50528010	Wire Wound 10 Ω 3W
C1, C3	50555110	Elec. 1000 μ F 35V
C2	50555700	Elec. 1000 μ F 50V
C4	50555660	Elec. 2200 μ F 16V
C14, C15	50554380	Elec. 220 μ F 35V
C17	50554890	Elec. 1000 μ F 16V
C301~C307	50548390	Metalized Mylar 0.1 μ F 400VAC
C309	50548390	Metalized Mylar 0.1 μ F 400VAC
CR301, CR302	50529050	Spark Killer 0.1 μ F+ 120 Ω 400WV
CR303	50529050	Spark Killer 0.1 μ F+ 120 Ω 400WV
	55505300	Heat Sink

2.6. CONTROL RELAY

REF. NO.	PARTS NO.	DESCRIPTION
	50490892	PC Bd. Assy
	50484130	PC Board
Q1	50424620	Transistor 2SD235-Y
K1	50611180	Relay 24VDC 24V DC
K2	50611120	Relay MY3-0 24V DC
K3	50611140	Relay MY2-0 24V DC
K4	50611200	Relay LC1-C 24V DC
K5	50611170	Relay LC1-C 24V DC
D9~D15	50422560	Diode 1SB01-02
R9	50574740	Carbon 470 Ω 1/2W
R13	50525720	Wire Wound 10 Ω 1/2W
C7	51700070	Elec. 100 μ F 50V
C9	50554620	Elec. 470 μ F 35V
C10, C12	50554980	Elec. 2.2 μ F 50V
C101~C113	50549920	Metalized Mylar 0.1 μ F 400VAC
CR102~CR108	50529050	Spark Killer 0.1 μ F+ 120 Ω 400WV

2.7. SOLENOID CONTROL RELAY

REF. NO.	PARTS NO.	DESCRIPTION
	50490912	PC Bd. (JAPAN)
	50491592	PC Bd. Assy (U.S.A.)
	50491600	PC Bd. Assy (EXPORT, EUROPE)
	50484071	PC Board
K9	50611130	Relay LC1-C 12V DC
CR121	50529050	Spark Killer 0.1 μ F+ 120 Ω 400WV
R11	50527140	Metal Oxide 470 Ω 3W 5%
R12	50526140	Wire Wound 47 Ω 1/2W
C8	50554890	Elec. 1000 μ F 16V
C11	50555100	Elec. 1000 μ F 35V
D16, D17	50422560	Diode 1SB01-02

2-8.9. BIAS PC BOARD-A, B

REF. NO.	PARTS NO.	DESCRIPTION	
FRONT	REAR		
	51680541	PC Bd. Assy, A	for FRONT channels
	51680581	PC Bd. Assy, B	for REAR channels
	51670541	PC Board, A	for FRONT channels
	51670581	PC Board, B	for REAR channels
VC/501/VC503	VC601/VC603	50547070	Trimmer Capacitor, 80pF Max.
VC/502/VC504	VC602/VC604	50547070	Trimmer Capacitor, 80pF Max.
L501/L502	L601/L602	50566620	Coil, Dummy Load; 3mH
D501	D601	50422560	Diode, S1B01-02
R501	R601	50510080	Carbon, 82Ω 1/2W
K501	K601	50610690	Relay, 4T 24V DC
K502/K503	K602/K603	50611260	Relay, 2T 24V DC
C501	C601	50564220	Elec. 3.3μF 25V
C502/C503	C602/C603	50549920	Mylar 0.1μF 400V

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	51280260	AC Power Cord	JAPAN
	50470772	AC Power Cord	EXPORT
	50478250	AC Power Cord	U.S.A.
	51280120	AC Power Cord	CANADA
	51280010	Cords, Input-Output Connection, x 4	
	50411440	Fuse, 2A-250V	U.S.A., CANADA
	* RE-1002	Empty Reel, 10inch	
	55980250	Reel Adapter Clamp (TZ-612), x 2	
	50291860	Oil and Applicator	
	50100300	Cleaning Stick (TZ-275)	
	50629620	Splicing Tape	
	50291350	Silicone Cloth	
	50276971	Rubber Feet (for Horizontal Use), x 4	
	51013530	A-3340S Owner's Manual	JAPAN
	51013500	A-3340S Owner's Manual	EXPORT, EUROPE
	51013390	A-3340S Owner's Manual	U.S.A., CANADA
	51013371	Information Supplement (Open Reel)	EXPORT, EUROPE, U.S.A., CANADA

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.

ASSEMBLING HARWARE CODING LIST

All screws conform to ISO standards, and have cross-recessed heads, unless otherwise noted.

ISO screws have the head inscribed with a point as in the figure to the right.



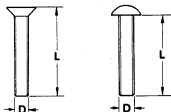
FOR EXAMPLE:

B M 3 x 6

Length in mm (L)

Diameter in mm (D)

Type of Head



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

T-310

TEAC CORPORATION

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TEAC TONBAND-ANLAGEN

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TEAC HONGKONG LIMITEDFLAT 78, PORTLAND HOUSE, 7TH FLOOR, BLOCK C, No. 41-D, MA TAU WEI ROAD,
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A-3340S ELECTRICAL ADJUSTMENTS

Outlined procedures refer only to FRONT channels (L1/R3).
The same procedures also apply to REAR channels (L2/R4).
Before performing checks set all head function selector switches to NORMAL position.
QUB=-0.775V

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	INSTRUCTIONS	MODE	ADJUSTING POINT (on P.C.B.)	ADJ. LOCATION Ref. No
Power Supply Check & Adj.	No signal	VTVM between T.P. 50 and ground	1. Remove wooden sides and REAR TOP and Bottom panels 2. Power on 3. Adjust for +23V DC	VR1 (on POWER SUPPLY)	See Fig. 1	
PLAYBACK PERFORMANCE						
Head Adjustment	TEAC Test Tape YTT-1003 15 kHz Tone and 10 kHz	VTVM & Oscilloscope to OUTPUT jacks	1. Tape SPEED SW at LOW 2. Adjust for max. indication 3. Less than 45° out of phase at scope at 10 kHz. (Less than 90° on REAR channels)	PLAY	Play head Azimuth screw (on head ass'y)	
Specified Output Level Setting	TEAC Test Tape YTT-1003 400 Hz 0 dB Test Tone		1. OUTPUT controls at 8 (3 o'clock) position 2. Adjust VR's for 0 dB at OUTPUT jacks. (This is the Specified Output level)		VR-201 (on LINE, PHONE AMPL.) VR-203 (on LINE, PHONE AMPL.) VR-204 (on LINE, PHONE AMPL.)	④ ⑤
VU Meter Calibration	TEAC Test Tape YTT-1003 (LOW Speed)	VTVM to OUTPUT jacks	1. Adjust for 0 VU on the VU Meters.		VR-102 LOW VR-104	②
Frequency Response (Playback)	TEAC Test Tape YTT-1004 (HIGH Speed)		1. Compare the readings obtained on the VTVM with response Limits given in Fig. 2 2. Set the tape SPEED SW to match test tape for both speeds.		VR-101 HIGH VR-103 (on EQ, MIC AMPL.)	①
MONITOR PERFORMANCE						
Monitor Level Setting	AF oscillator to LINE IN jacks 400 Hz -18 dB (97mV)		1. Set LINE controls to max. 2. OUTPUT SW to SOURCE. 3. Adjust the VR's to obtain the specified output level of 0 dB at OUTPUT jacks.	Stop	VR-301 VR-304 (on REC. METER AMPL.)	⑦
Specified Input Level Setting	400 Hz -8 dB (308mV)	VTVM to OUTPUT jacks	4. Increase input signal level to -8 dB (308mV) 5. Adjust LINE controls to 0 dB at OUTPUT jacks.		VR-302 VR-305 (on REC. METER AMPL.)	⑧
VU Meter Level Check			6. Check VU Meters for 0 VU indication. 7. If necessary, adjust VR's for 0 VU indication on the VU Meters.			
RECORD PERFORMANCE						
Bias Trap Adjustment	No signal	VTVM or oscilloscope from ground to the junction of L-302/C-332/L-401 or L-304/C-330/R-401 See Fig. 2 for Test Point Location	1. Use TEAC Test Tape YTT-8013. 2. RECORD MODE SWs → ON 3. SPEED SW → LOW 4. Depress REC and PAUSE button 5. RECORD BIAS and EQ SW → 1 6. Adjust coils for min. on VTVM or scope.	REC/PAUSE	L-302 (L-401) L-304 (R-401) (on REC. METER AMPL.)	⑩
Bias Leakage Check			7. Adjust coils for min. bias leakage reading at OUTPUT jacks Spec. -40 dB or less.		L-201 L-202 (on LINE, METER AMPL.)	③
Record Head Azimuth Adj.	AF oscillator to LINE IN jacks 5 kHz -18 dB (97mV)	VTVM and Oscilloscope to OUTPUT jacks	8. OUTPUT (MONITOR) SW's → TAPE DEPRESS button 9. Adjust Record Head azimuth screws for max. indication on output VTVM 10. Compare phase difference between output of L and R channel to insure that phase difference is 45° or less. (Less than 90° on REAR channels)		Record Azimuth screws (on head ass'y)	See Fig. 2
Bias 1 Adjustment	7 kHz -18 dB		11. While recording, adjust capacitor VC501/503 for peak reading on the VTVM 12. Then turn the capacitor clockwise until the signal level decreases by 2.5 dB from the peak.		VC501 & (VC601) VC503 & (VC603) (on BIAS PC BOARD A)	⑪
Bias 2 Adjustment		VTVM to OUTPUT jacks	13. Change to TEAC Test Tape YTT-8003 or equivalent. 14. Set REC BIAS and SW to 2 15. Repeat step 11 and 12 except adjust VC502/504.		VC502 & (VC602) VC504 & (VC604) (on BIAS PC BOARD A)	⑫
Record Level Set	400 Hz -8 dB (308mV)		16. Use TEAC Test Tape YTT-8013. 17. REC BIAS and SW to 1 18. Adjust VR's for 0 dB on VTVM.	REC	VR-303 VR-306 (on REC. METER AMPL.)	⑥
Frequency Response (Overall) REC BIAS SW at 1	40 Hz to 18 kHz -28 dB (31mV) (LOW Speed)		19. While recording input signals swept from 40 Hz to 18 kHz. 20. Measure the playback output levels on the VTVM. Levels shall be within limits shown in Fig. 4		L-301 L-303 (on REC. METER AMPL.)	⑨
REC EQ SW at 1	40 Hz to 22 kHz (HIGH Speed)		21. Set SPEED SW to HIGH. 22. Repeat step 19, but increase frequency to 22 kHz. 23. If response is not within limits in applicable chart in Fig. 5 adjust coils for best response.			
Frequency Response (Overall) REC BIAS SW at 2	Repeat div. Signals inputs	VTVM to OUTPUT jacks	24. Use TEAC Test Tape YTT-8003 (or equivalent) on the unit. 25. Set REC BIAS SW to 2. 26. Repeat steps 19, 22		No adjustment available if response is not within limits, repeat Bias adjustment, see Fig. 4 & 5	

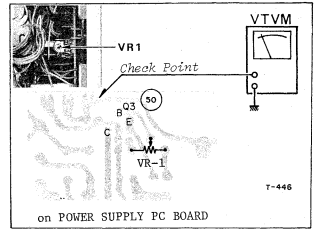


Fig. 1

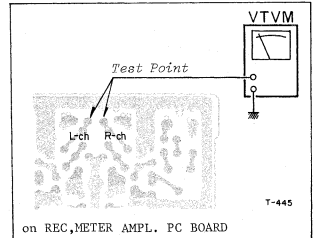


Fig. 2

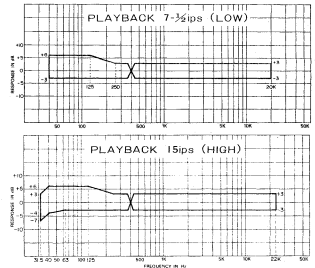


Fig. 3

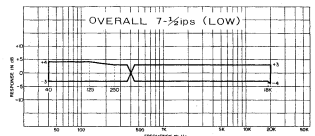


Fig. 4

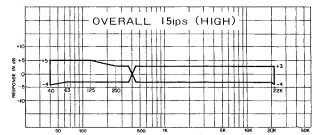
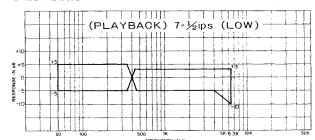
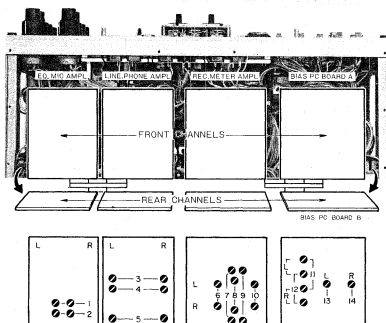


Fig. 5

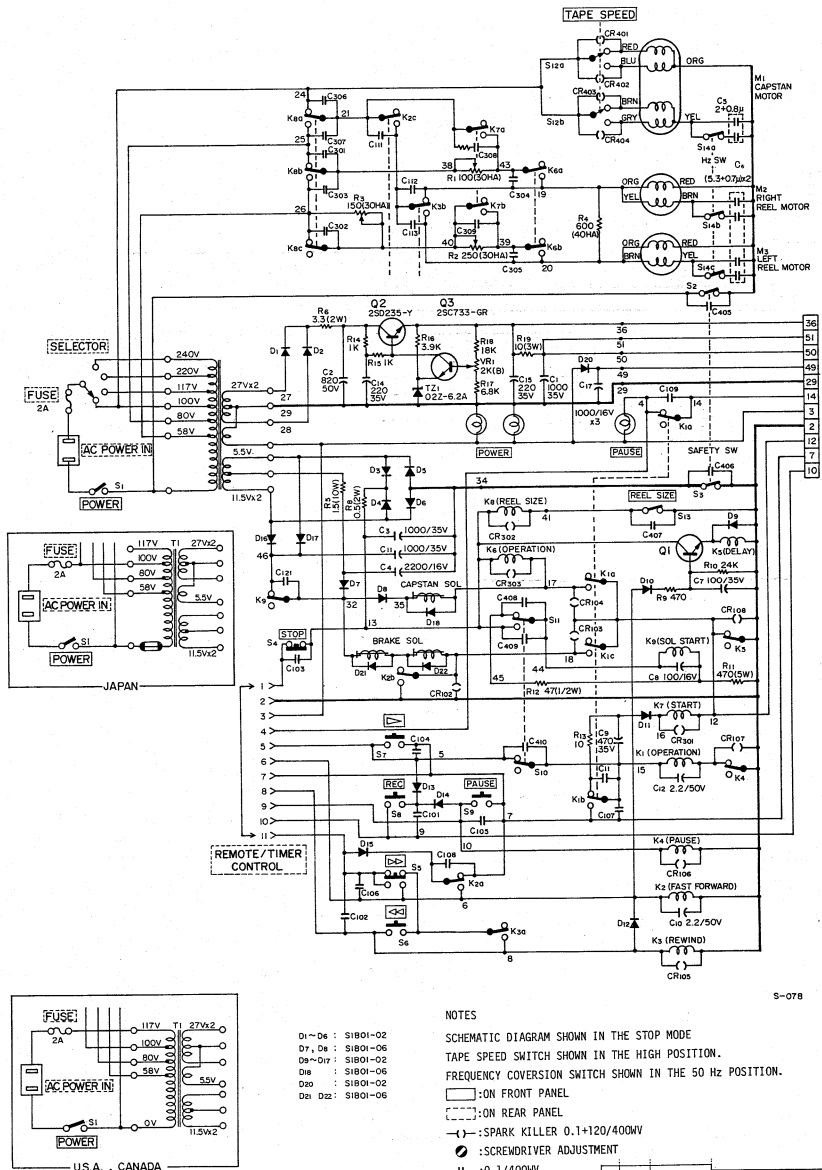
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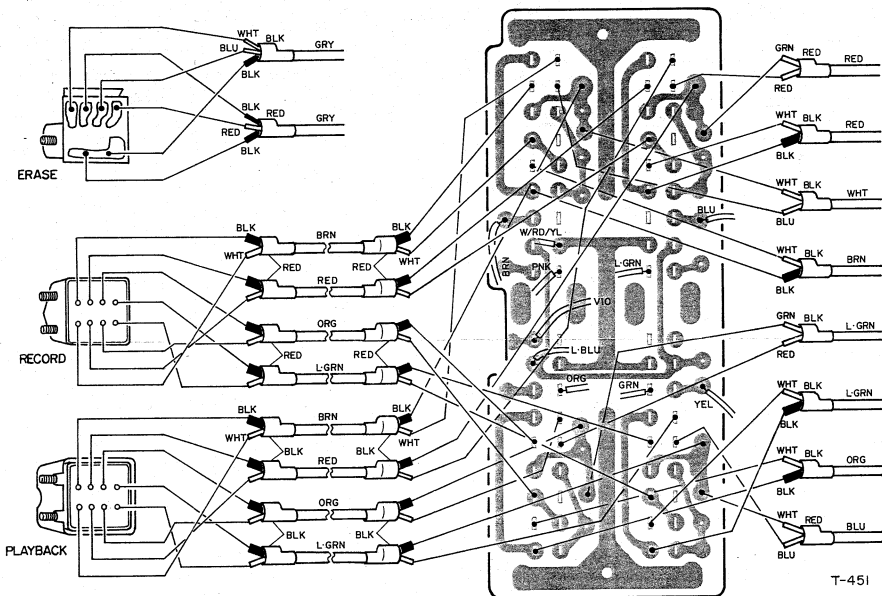


Amp PC Board Locations and Adjustment Points



Ref.No	FOR	ADJUSTMENT
1.	P.B.EQ HIGH SPEED	VR1B1 VR1B3
2.	P.B.EQ LOW SPEED	VR1B2 VR1B4
3.	BIAS TRAP	L-201 L-202
4.	P.B.LEVEL	VR2B1 VR2B3
5.	P.B.METER LEVEL	VR2B2 VR2B4
6.	RECORD LEVEL	VR3B1 VR3B3
7.	MONITOR LEVEL	VR3B2 VR3B4
8.	REC METER LEVEL	VR3B5 VR3B6
9.	RECORD EQ	L-301 L-303
10.	BIAS TRAP	L-302 L-304
11.	BIAS 1 ADJ.	VC501 VC503
12.	BIAS 2 ADJ.	VC502 VC504
13.	DUMMY COIL (Fixed)	L-501
14.	DUMMY COIL (Fixed)	L-502





NOTE

Note color coding of wires to head and then unsolder these wires.
During removal or replacement of head, use caution not to overheat terminals on head as this may cause head problems.

HEAD WIRING

MODEL NO.
A-3340S

SHEET NO.

TEAC CORPORATION