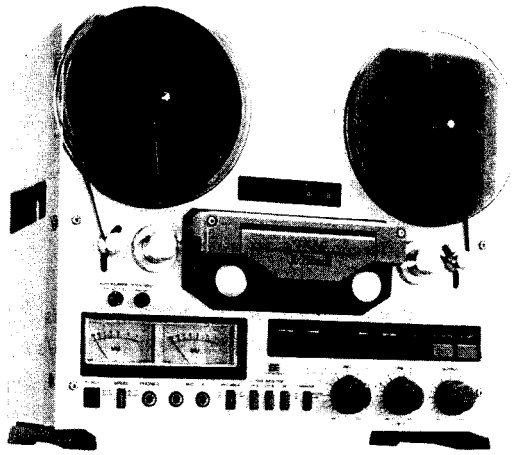
TEAC®



SERVICE MANUAL

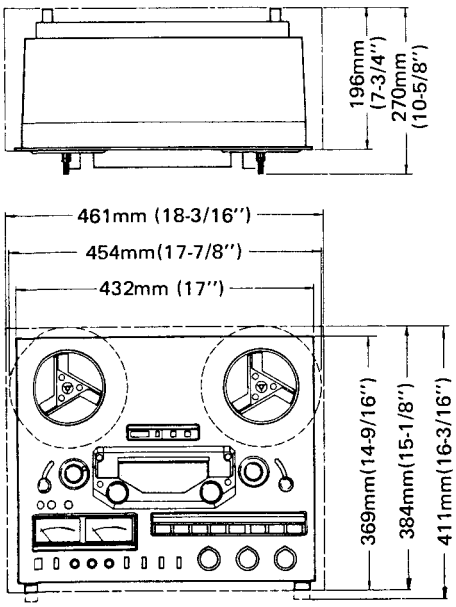
X-7R MK II / X-7 MK II

Stereo Tape Deck

1 SPECIFICATIONS AND SERVICE DATA

SPECIFICATIONS

Track System ¼-track, 2-channel stereo
Head System
X-7RMKII: 6 heads: forward erase, forward record, reverse playback, forward playback, reverse record, reverse erase.
X-7MKII: 3 heads: erase, record, playback
Reel Size 7"
Tape Speed 19cm/s (7-½ ips) and 9.5cm/s (3-¾ ips)
Inputs (level and impedance)
MIC: Specified input level: −60dB (0.775mV)/10kohms
Min. input level: −70dB (245μV)
LINE IN: Specified input level: −12dB (195mV)/50kohms
Min. input level: −22dB (61.5mV)
Outputs (level and impedance)
OUTPUT: Specified output level: −5dB (436mV)/10kohms
Max. output level: +1dB (0.869V)
PHONES: Specified output level: −24dB (48.9mV)/8ohms
Playback Equalization
19cm/s: 3,180μs + 50μs (NAB), 3,180μs + 35μs (EE)
9.5cm/s: 3,180μs + 90μs (NAB), 3,180μs + 50μs (EE)
Motors
Capstan motor: DC brush motor with FG servo
Reel motor: 2 DC slotless motors
Bias Frequency 100kHz
Operating Position Vertical, horizontal, angled
Power Requirements
100/117/220/240V, AC 50/60Hz, 77W, 72W for X-7MKII (General export model)
220V AC 50Hz, 77W, 72W for X-7MKII (Europe model)
240V AC 50Hz, 77W, 72W for X-7MKII (U.K./Australia model)
117V AC 60Hz, 77W, 72W for X-7MKII (U.S.A./Canada model)
Weight 18kg (38-11/16 lbs.) net



Dashed line indicates General Export Models for Limited Areas.

Fig. 1-1 Dimensions

SERVICE DATA

MECHANICAL

Tape Speed Deviation 3,000Hz ±30Hz
Tape Speed Drift 15Hz
FWD/RED Tape Speed Differential (X-7RMKII only) 30Hz
Wow and Flutter
Playback: 0.05% (WRMS), 0.10% (RMS) at 19cm/s
0.07% (WRMS), 0.12% (RMS) at 9.5cm/s
Record/Playback: 0.12% (RMS) at 19cm/s
0.15% (RMS) at 9.5cm/s
Pinch Roller Pressure 1.35kg ~ 1.9kg (3.0 lbs ~ 4.2 lbs)
Reel Torque
Play mode:
Take-up 260 ± 40g-cm (3.1 ~ 4.2oz-inch)
Back tension 180 ± 40g-cm (1.9 ~ 3.1oz-inch)
Fast winding mode:
Take-up: 1100g-cm (15.3oz-inch)
Back tension: 50g-cm (0.7oz-inch)
Brake Torque
Forward direction: 800 ~ 1400g-cm (11 ~ 19oz-inch)
Reverse direction: 500g-cm (6.9oz-inch) or less
Left/right deviation: 200g-cm (2.8oz-inch) or less
Fast Winding Time 150 seconds or less for 550m (1800 feet)
Pitch Control Standard tape speed ±6% or more
FWD/REV Change Time (X-7RMKII only) 3.5 sec. ±0.5 sec.
TIMER Activate Time 4 sec. ±2 sec.

ELECTRICAL

Frequency Response **Playback:** See Fig. 3-5 to 3-6
Overall: See Fig. 3-7 to 3-8
Signal to Noise Ratio **Playback:** 50 dB min. (19 cm/s, LH)
52 dB min. (19 cm/s, EE)
49 dB min. (9.5 cm/s, LH)
52 dB min. (9.5 cm/s, EE)
Overall: 48 dB min. (19 cm/s, LH)
50 dB min. (19 cm/s, EE)
46 dB min. (9.5 cm/s, LH)
50 dB min. (9.5 cm/s, EE)
Erase Efficiency 68dB min. at 1kHz (measured with input 10dB higher than the specified input level)
Channel Separation 50dB min. at 1kHz
Adjacent Track Crosstalk 40dB min. at 125Hz
Total Harmonic Distortion 0.8% or less at 1kHz

- Improvements may result in SPECIFICATIONS AND SERVICE DATA changes.
- Value of "dB" in the data refers to 0dB (0.775V), except where specified.

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components — refer to the TEAC Parts List and ensure exact replacement.

2 MECHANICAL ADJUSTMENTS AND CHECKS

NOTE: All the explanations are for the X-7RMKII. But unless specified they can also be applied to the X-7MKII except for those in relation to the REVERSE direction.

2-1 CONTROL PCB ASSY CHECK

Hooking CONTROL PCB ass'y as shown facilitates this check.

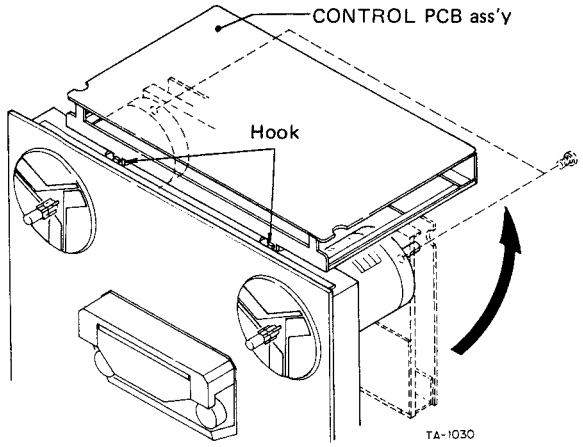


Fig. 2-1

2-2 BRAKE ADJUSTMENT

NOTE: The explanation and figure in this paragraph are for the left side brake, similar checks and adjustments are applicable for the right side one.

1. Adjust by moving the brake band bracket in either direction (arrow (A)) so that the reel motor chassis is in parallel with the brake arm, and so that the brake band makes proper clearance equally all around the reel table base.
2. Adjust by moving the brake solenoid in either direction (arrow (D)) so that the stroke of the solenoid plunger is about 2mm.
3. Adjust by moving the band ass'y retaining plate as shown in (B, C, E) so that, when the plunger is pushed in the direction of the solenoid housing, the reel table base is not rubbed by the brake band and is properly spaced.

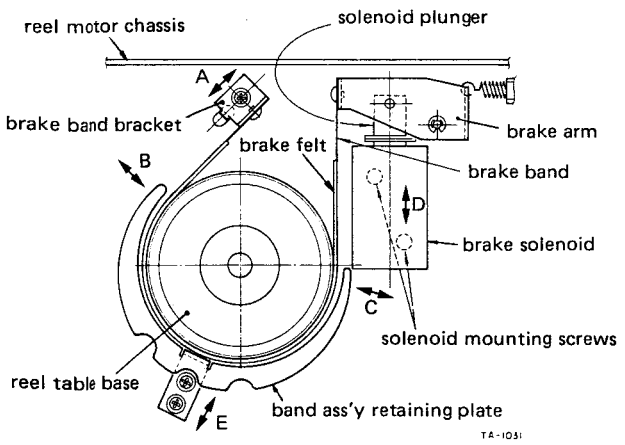
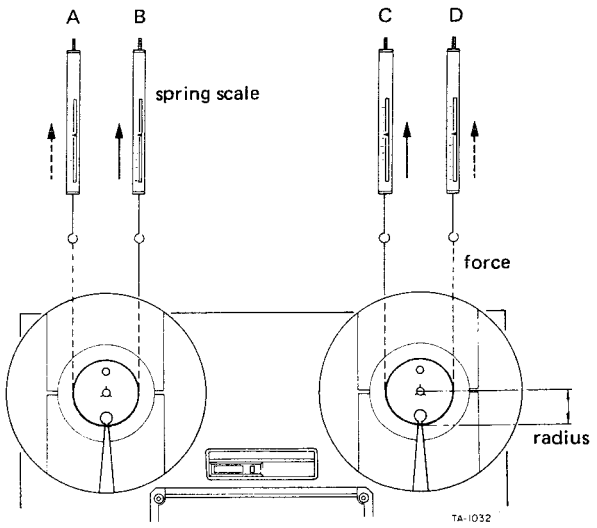


Fig. 2-2

2-3 BRAKE TORQUE MEASUREMENT

1. Place an empty 7" reel, connected to a spring scale by a string, on the reel table.
2. Pull the scale away from the reel and read the scale indication only when the reel table is steady motion.
3. Do steps 1 and 2 for each measuring condition, (A) through (D) in Fig. 2-3.
4. The values are as chart in Fig. 2-3.



Forward direction (B) (C)	800 to 1400g-cm (11 to 19oz-inch)
Reverse direction (A) (D)	500g-cm (6.9oz-inch) or less
Left/right deviation	200g-cm (2.8oz-inch) or less

NOTES: 1. The reverse direction values are reference.
2. The specification of left/right deviation only applies for forward direction torques.

Torque calculating formulas:

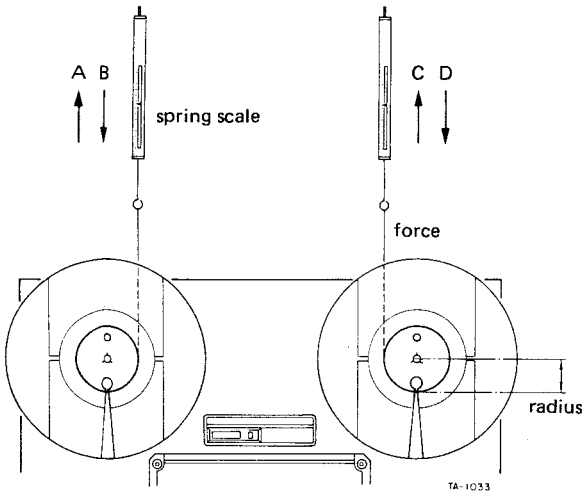
(1) Torque (in g-cm or oz-inch)
= Force or Weight (in g or oz) x Radius (in cm or inch)

(2) Conversion of g-cm to oz-inch:
g-cm x 0.0139 = oz-inch

Fig. 2-3

2-4 REEL MOTOR TORQUE MEASUREMENT

1. Hold both left and right tension arms in the upper position using rubber bands.
2. See Fig. 2-4. Measure torques for each operating mode with the conditions specified in the chart.
3. Since all the torque values are reference values, it is allowable that the take-up torque during the fast forward or rewind mode is 1kg-cm or more, and that the back tension torque during these mode is good unless the left or right tension arm are shut-off.
4. There is no specially provided adjustment, so if any torque correction are needed, repair or replace defective part(s) and/or circuit(s).



Reel torque reference value

Play mode

Mode	Torque
Take-up: (B) in REV (D) in FWD	260 ± 40g-cm (3.1 ~ 4.2oz-inch)
Back tension: (A) in FWD (C) in REV	180 ± 40g-cm (1.9 ~ 3.1oz-inch)

Fast winding mode

Mode	Torque
Take-up: (B) in REW, (D) in F.F.	1100g-cm (15.3oz-inch)
Back tension: (A) in F.F., (C) in REW	50g-cm (0.7oz-inch)

NOTE: For torque calculation, refer Fig. 2-3.

Fig. 2-4

2-5 PINCH ROLLER PRESSURE STROKE ADJUSTMENT

1. Set the deck in the forward or reverse play mode.
2. Adjust by turning the pressure storke adj. nut (Fig. 2-5) so that the clearance between the pin and the stopper cushion is about 1.0mm.
3. Since the clearance is produced at one side (left or right), adjustment for this side only is permissible.

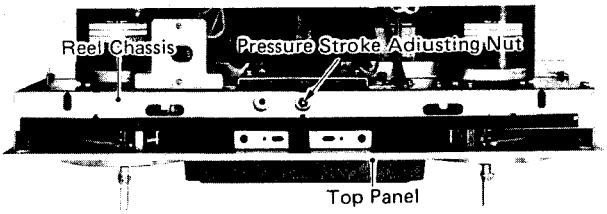
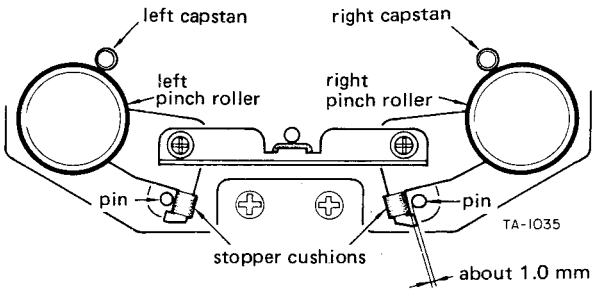


Fig. 2-5 Pinch roller pressure stroke adjustments



Either the left or right should have a clearance of about 1.0mm.

Fig. 2-6

2-6 PINCH ROLLER PRESSURE MEASUREMENT

NOTES: 1. The explanation below applies to both the left and right pinch rollers.
2. Both pinch roller pressures are automatically set with equal value.

1. Hold both the left and right tension arms in the upper positions using rubber bands, string etc.
2. Set the deck in either play mode with no tape loaded.
3. Attach the spring scale to the pinch roller as shown in the figure.
4. Draw the pinch roller away from the capstan shaft (in the direction of a line intersecting the centers of the capstan shaft and the pinch roller) until the capstan shaft and the pinch roller are separated.
5. Return the scale back until the pinch roller just begins to turn. The scale should then be reading as follow.
   Reference value: 1.35kg to 1.9kg. (3.0 lbs to 4.2 lbs)
6. If the reading is out of specification, replace defective part(s). There are no adjustable parts.

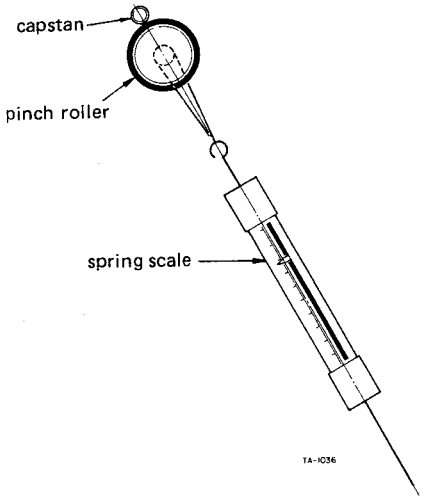


Fig. 2-7

2-7 TENSION ARM HEIGHT ADJUSTMENT

1. Thread any standard tape on the deck using a standard empty reels such as TEAC RE-702.
2. Set the deck in the forward or reverse play mode.
3. Stop left (right) guide roller's rotation by hand. Adjust by turning the left (right) tension arm adjusting nut (refer Fig. 2-8) so that the tape moves in the center of the guide roller.
4. Release the guide roller. Fine-adjust the adjusting nut again until there is no tape curling at the tape guide pin between the erase head and the left (right) guide roller.
5. After adjusting the height of both left and right tension arms, check that the tape running condition is good by repetition of fast forward and rewind modes.
6. If the tape running position is different when the guide roller stops and when it turns, the condition when the guide roller is rotating has priority.

2-8 TENSION ARM FORCE ADJUSTMENT

NOTE: The description below applies to both left and right sides.

1. Check the shut-off switch operates correctly with the deck in the horizontal and vertical positions.
2. Adjustment can be done by changing the hooking position of the tension arm spring against the spring hook.

2-9 DAMPER FUNCTION CHECK

NOTE: The explanation below applies to both left and right sides.

1. Check that the damper string begins to function after the tension arm has moved 10 to 15mm from the lowest position, while the damping function is working, there is a feeling of resistance.
2. Check that the tension arm returns freely from the above position to the lowest position.

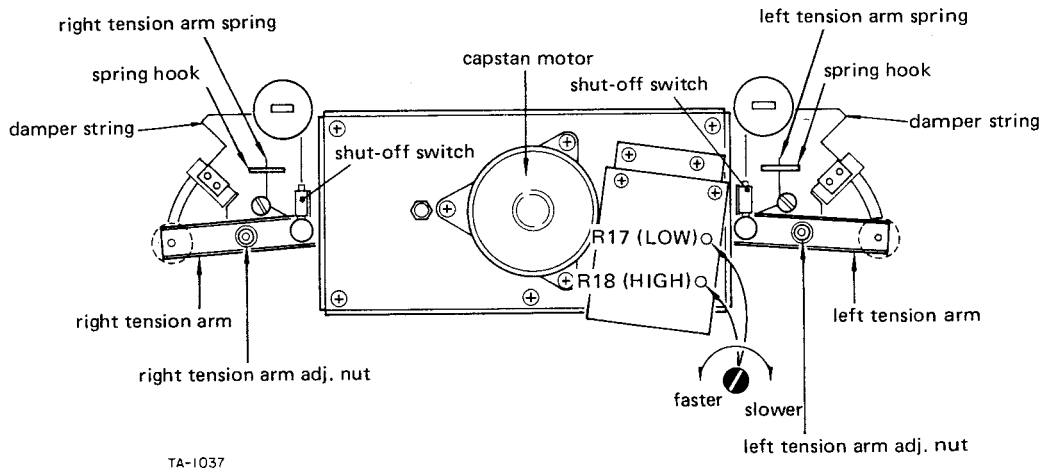


Fig. 2-8 Tension arm height, tension arm force, damper function, and tape speed

2-10 REEL TABLE HEIGHT ADJUSTMENT

1. Adjust the tension arm height beforehand. (See 2-7)
2. Check each reel table height using a TEAC RE-702 empty reel and letting the tape run in each tape operating mode.
3. If the tape rubs against the reel flanges, adjust the reel table height by means of the two reel table mounting screws.

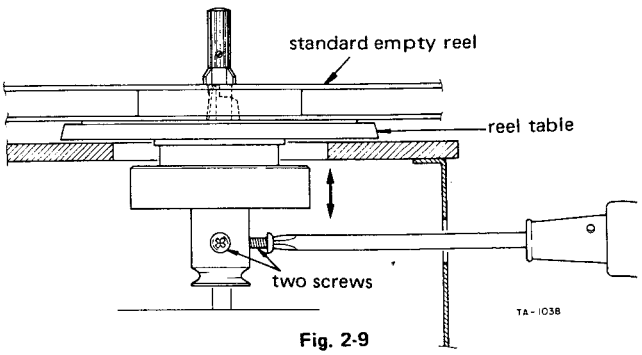
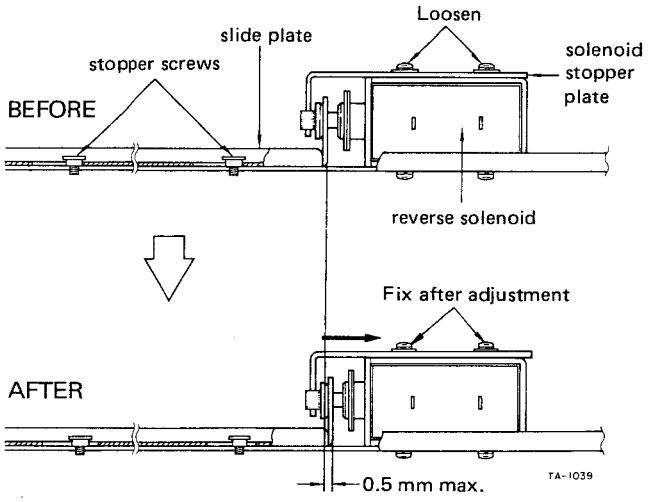


Fig. 2-9

2-11 REVERSE SOLENOID ADJUSTMENT (X-7RMKII ONLY)

1. When the reverse solenoid releases, if the slide plate hits the stopper screw/s noisily, the solenoid stopper plate may be adjusted in the direction of the solenoid housing. See illustration.

Parts below are accesible from the rear of the amplifier chassis.



Adjustment range is 0.5mm max. in solenoid-off condition.

Fig. 2-10

2-12 ROTATING PART THRUST CLEARANCE CHECKS

Reference values

Capstan shaft:	0.1mm to 0.25mm (magnefloat type)
Guide roller:	0.05mm to 0.3mm
Tension arm guide roller:	0.05mm to 0.3mm
Reel motor:	0 (spring type)
Tension arm:	0 (spring type)

NOTE: Since the capstan shaft is a magnefloat type, check that it is forced towards the rear of the deck while rotating.

2-13 CAPSTAN MOTOR REPLACEMENT

1. When the capstan motor is replaced, install it with its lead wires and washers as shown.
2. Check that, when the deck is operated by repeating the forward and reverse play modes, the capstan drive belt changes position on the flywheels smoothy.

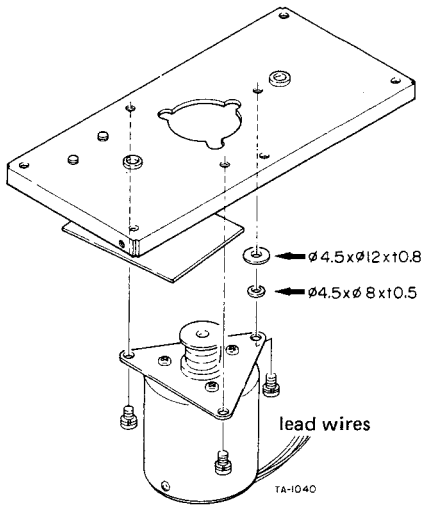


Fig. 2-11

2-14 TAPE SPEED ADJUSTMENT

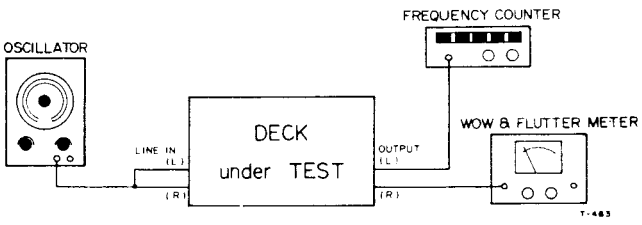


Fig. 2-12

NOTES: 1. Conduct all the following in both forwar and reverse play modes.
2. When ordering test tapes, allow for the longer delivery time that is required for them.

1. Connect a frequency counter to either OUTPUT terminal.
2. Load a TEAC YTT-2003 test tape. Set the SPEED switch–HIGH, and PITCH CONT knob-OFF.
3. Play the tape. Adjust R18 (see Fig. 2-8) for a reading of 3,000 Hz ±5Hz.
4. Check the following at the beginning and the end of the tape.
   Specifications:
   Tape Speed deviation . . . . . 3,000Hz ±30Hz
   Tape speed drift 15Hz
   FWD/REV tape speed differential . . 30Hz (X-7RMKII only)

5. Change the test tape to a TEAC YTT-2002, and SPEED switch setting to LOW.
6. Repeat steps 3 through 4. Adjust R17 if necessary.
7. Pull the PITCH CONT knob out. Set SPEED switch HIGH. Play a YTT-2003 tape.
8. Check if the speed variation of at least 3,000Hz ±180Hz is obtained when the PITCH CONT knob is rotated fully in both directions.
9. Change the test tape to YTT-2002, SPEED switch setting to LOW. Repeat step 8.

2-15 WOW AND FLUTTER CHECKS

NOTES: 1. All the following apply to both forward and reverse play modes.
2. The following measurements should be made at the beginning and the end of the tape.
3. When ordering test tapes, allow for the longer delivery time that is required for them.

Playback

1. Connect the test equipment to the deck as shown in Fig. 2-12.
2. Load and play a TEAC YTT-2003 test tape for HIGH speed (19cm/s or 7-½ ips), or a TEAC YTT-2002 test tape for LOW speed (9.5cm/s or 3-¾ ips).
3. Read the indication on the wow and flutter meter.
   Specifications:
   HIGH speed: 0.05% WRMS
   0.10% RMS
   LOW speed: 0.07% WRMS
   0.12% RMS

Overall

4. Load a TEAC YTT-8013 test tape (blank). Apply and record a 3,000Hz signal.
5. During simultaneous tape monitoring (playing) the recorded signal, read the wow and flutter meter display.
   Specifications:
   HIGH speed: 0.12% RMS
   LOW speed: 0.15% RMS

2-16 VOLTAGE CONVERSION (FOR GENERAL EXPORT MODELS)

Always disconnect the power line cord before making these adjustments.

Frequency Conversion

Since the X series uses DC motors, frequency conversion is not necessary.

Voltage Conversion

1. First remove the two feet by removing the screws in each one.
2. Unscrew the left and right sides of the cabinet.
3. Locate the voltage selector to the right of the power transformer as seen from the rear of the deck.
4. Turn the slotted center post of the selector with a screw-driver until the desired voltage numerals appear in the cut-out section of the selector.
5. Replace the cabinet and feed.

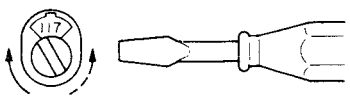


Fig. 2-13

2-17 LUBRICATION

Oiling is needed after every 1,000 hours of operation or once a year if the deck is infrequently used. For this purpose, TEAC spindle oil (from TEAC TZ-255 oil kit), Mobil D.T.E. Oil Light, etc are recommended. Lubrication is normally not necessary except at the points shown.

1. Place the deck in the horizontal position.
2. Apply a few drops of oil to the respective spindles shown, excluding capstans, then spread the oil evenly on the spindle surfaces using a cotton cloth, etc.
3. For capstans, apply a few drops to the indicated position.
4. After oiling all the points, leave the deck for 1 to 2 hours until the oil is thoroughly absorbed.

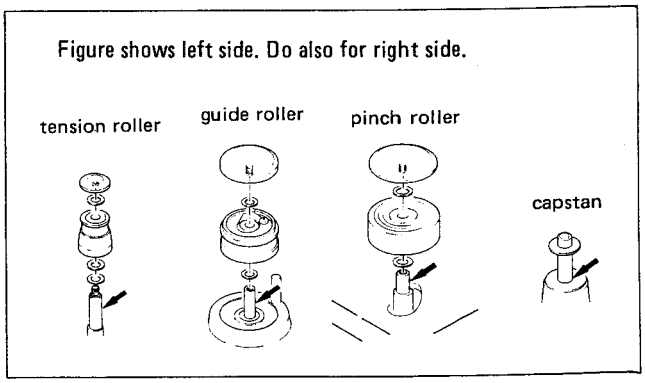


Fig. 2-14

2-18 HEAD AND TAPE PATH ALIGNMENTS

NOTES: 1. Head and tape path alignment are the same for the X-7RMKII and X-7MKII. The procedure for the X-7RMKII is given below.
2. For detailed alignment principles, refer to the book "Audio Fundamental -TAPE DECK-, 8. Mechanical Adjustments" published by the TEAC CORPORATION.

Head adjustment screws

Erase	Record and playback
Fixed screws (not adjustable)	⊕ Azimuth ✪ Height and tilt ⊛ Tangency

2-18-1 HEAD ARRANGEMENT (for X-7RMKII)

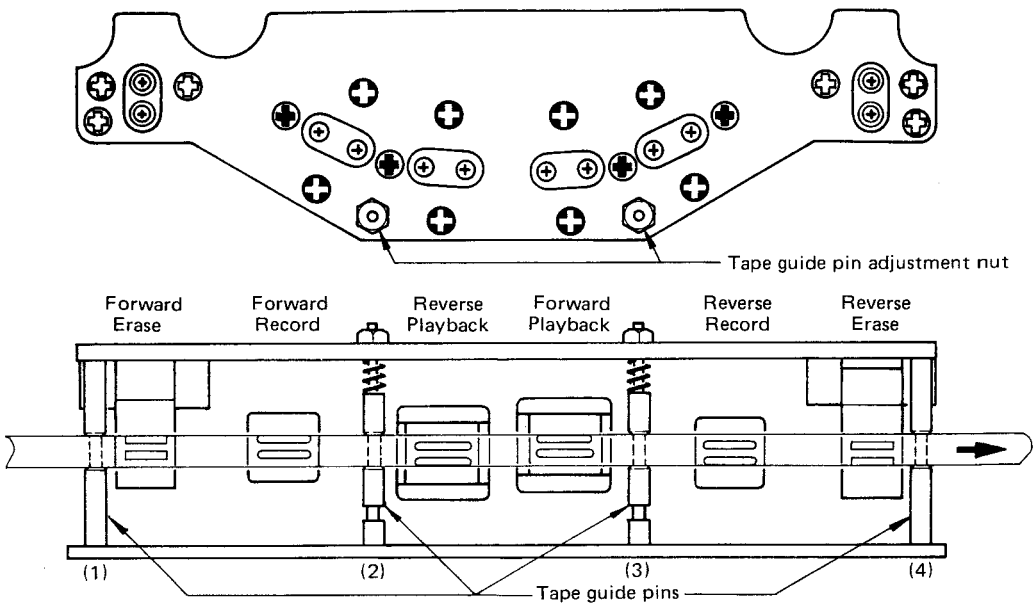
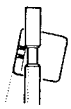


Fig. 2-15 Head arrangement

2-18-2 HEAD REGULATION ELEMENTS

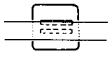
Adjust each head to satisfy each of the following:

TILT
The head surface should be parallel to the tape guide pin surface.



AZIMUTH
The gap of the head core should be perpendicular to the tape travel.

HEIGHT
The upper (lower) core of the head should be level with the upper (lower) edge of the tape.



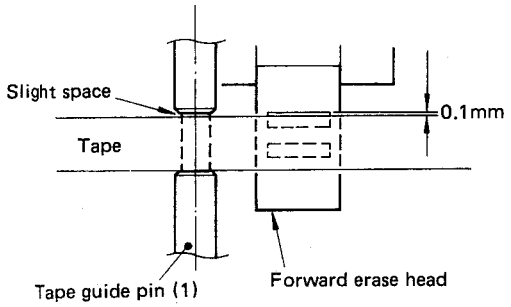
TANGENCY
The dotted line should be perpendicular to the surface of the tape.

Fig. 2-16 Head regulation elements

2-18-3 ALIGNMENT PROCEDURE (for X-7RMKII)

1. Visually adjust the tilt of each record and playback head so that the head surface is parallel to the nearest tape guide pin.
2. Make coarse azimuth adjustments for the record and playback heads by viewing each head from in front (without tape).
3. Running a TEAC YTT-8013 test tape (thickness = 35 μm) in the forward direction, fine-adjust the height of the left tention roller so that the lower edge of the tape is just touching the lower edge of the tape guide pin (1), See Fig. 2-17, then adjust the height of the tape guide pin (2) so that the upper edge of the tape is in contact with the upper edge of the tape guide. Confirm that the adjustments do not cause the tape to curl.
4. Confirm that the forward erase head core protrudes 0.1 mm above the moving tape. If not, replace the head with another one and recheck.
5. Do exactly the same adjustment (steps 3 and 4) for the reverse direction. Substitute the reverse mode for forward play mode.

Fig. shows the forward erase head.

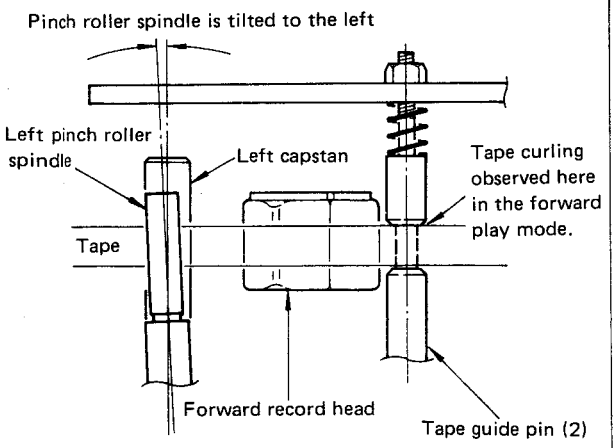


NOTE: In the case of the reverse erase head, the tape should be in contact with the lower surface of the tape guide pin (4).

Fig. 2-17 Erase head height

6. Check for any tape curling at either tape guide pin in the closed loop portion of the tape (i.e., between the capstans).
7. If there is any tape curling at tape guide pin (2) during forward play, do the following: Unthread the tape from the front of the head assembly. Remove both pinch rollers. Set the deck in the play mode. Then visually align the pinch roller spindle with the capstan as described below.

Fig. shows left side.



If the pinch roller spindle is tilted to the left (right) with respect to the capstan shaft, tape curling may occur at the upper (lower) edge of the tape guide pin (2).

Fig. 2-18 Example of improperly aligned pinch roller and capstan

8. Loosen the two screws holding the reinforcement plate, then adjust using the correction jig (TEAC P/N 5736000100) as shown in Fig. 2-19.
   Note:
   (1) Use the jig as near as possible to the pinch roller spindle.
   (2) Do not touch the surface of spindle.
   (3) Use no other tool for this adjustment!

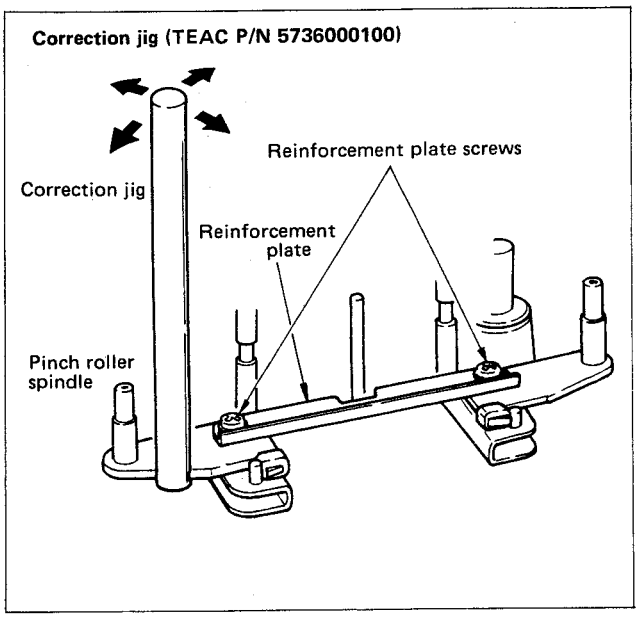
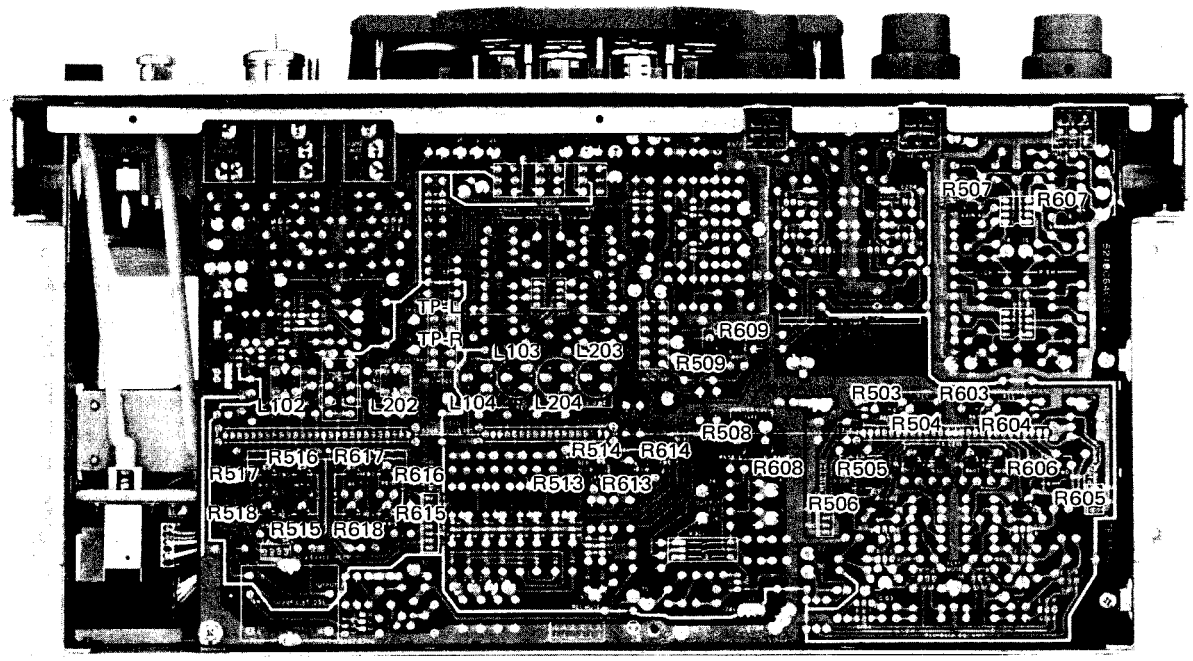


Fig. 2-19 Pinch roller/capstan alignment

9. If the tape curls at tape guide pin (3) in reverse play, correct in the same way (steps 7 and 8).
10. After it is entirely corrected that there is no tape curling condition in the head assembly, fine-adjust each record and playback height so that the brass-colored spacer of forward (reverse) direction purpose head will show above (below) the moving tape. (About as thick as a thin pencil line). Adjustment should be done by equally turning three screws required correction not to disturb tilt and azimuth regulation conducted before.
11. Finally, if necessary, make rough tangency adjustment of respective head with tape running.

3 ELECTRICAL ADJUSTMENTS AND CHECKS

ADJUSTMENT AND TEST POINT LOCATIONS



R501/R601	Playback level (FWD)	R514/R614	Record level (FWD)
R502/R602	Playback level (REV)	R513/R613	Record level (REV)
R503/R603	Playback EQ (HIGH FWD)	R516/R616	Record Bias EE (FWD)
R504/R604	Playback EQ (HIGH REV)	R515/R615	Record Bias EE (REV)
R505/R605	Playback EQ (LOW FWD)	R517/R617	Record Bias LHII (FWD)
R506/R606	Playback EQ (LOW REV)	R518/R618	Record Bias LHII (REV)
R507/R607	Output level	L102/L202	Bias trap (record)
R508/R608	VU meter (playback)	L103/L203	Record EQ (FWD)
R509/R609	VU meter (monitor)	L104/L204	Record EQ (REV)

NOTES

1. The following data in both the charts and the illustrations are for the X-7RMKII. All the procedures, however, are applicable to the X-7MKII except for those relating to the REVERSE direction.
2. Before performing adjustments and checks, clean and demagnetize the entire tape path.
3. Check that the deck is properly set for the voltage in your locality.
4. In general, adjustments and checks are done in the order of L-ch then R-ch. Double REF. Nos. indicate L-ch/R-ch. (Example: R509/R609)
5. The value of "dB" refers to 0 dB (0.775 V). If an AC voltmeter calibrated to 0 dB (1 V) is to be used, appropriate compensation should be made.
6. The AC voltmeter used in the procedures must have an input impedance of 1 M-ohms or more.
7. When ordering test tapes, allow for the longer delivery time that is required for them.

3-1 MONITOR PERFORMANCE

ITEM		CONNECTION	MODE/ INSTRUCTION	SIGNAL SOURCE	ADJUST (or CHECK)	OUTPUT	REMARKS
1. MONITOR output level	1-1	Fig. 3-1	MONITOR sw.–SOURCE OUTPUT cont.–CAL LINE cont.–MAX MIC cont.–MIN	400 Hz/–22 dB (61.5 mV)	R507 (for L-ch)	–5 dB (436 mV) at L-ch	LINE min. input level (L)
	1-2	"	"	400 Hz/–12 dB (195 mV)	LINE cont. (L/R)	"	LINE spec. input level (L)
	1-3	"	LINE spec. input level condition	"	R607 (for R-ch)	–5 dB at R-ch	LINE spec. input level (R)
2. VU meter	2-1	Fig. 3-1	LINE spec. input level condition	400 Hz/–12 dB (195 mV)	R509/R609	0 VU on VU meter	
3. MIC input level	3-1	Fig. 3-1, but LINE IN → MIC	LINE cont.–MIN MIC cont.–MAX	400 Hz/ –70 dB ±2 dB (195 μV ~ 308 μV)	Check	–5 dB (436 mV)	MIC min. input level
	3-2	"	"	400 Hz/–60 dB (0.775 mV)	MIC cont. (L/R)	"	MIC spec. input level
	3-3	Fig. 3-1	LINE cont.– spec. position (Item 1-2) MIC cont.–MIN	–	–	–	**IMPORTANT: Do not disturb these cont's during later checks.**

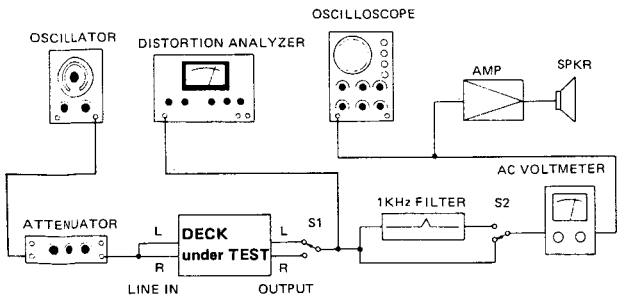


Fig. 3-1 Basic connection

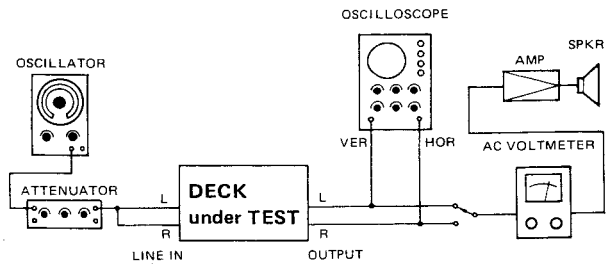


Fig. 3-2 Connection

TEAC test tape: For playback alignment
YTT-1002: 9.5 cm/s or 3-¾ ips, LHII
YTT-1003: 19 cm/s or 7-½ ips, LHII
YTT-1052: For 9.5 cm/s or 3-¾ ips, EE
YTT-1053: For 19 cm/s or 7-½ ips, EE
For recording alignment (blank)
YTT-8013: For LHII
YTT-8053: For EE

3-2 PLAYBACK PERFORMANCE

ITEM		CONNECTION	MODE/ INSTRUCTION		SIGNAL SOURCE	ADJUST (or CHECK)	OUTPUT	REMARKS
4. Playback head azimuth	4-1	Fig. 3-2	Do for both FWD & REV heads MONITOR sw.—TAPE SPEED sw.—HIGH TAPE SELEC.—LHII		YTT-1003 (16 kHz/—10 dB)	Azimuth adj. screw/s of head (Fig. 2-15)	Phase: within 45° on oscilloscope (Fig. 3-3)	
5. Playback level	5-1	Fig. 3-1	FWD & REV OUTPUT cont.—CAL SPEED sw.—HIGH		YTT-1003 (400 Hz/0 dB)	R501/R601 (FWD) R502/R602 (REV)	—5 dB (436 mV)	Spec. PB condition
	5-2	"	OUTPUT cont.—MAX		"	Check	+1 dB ±2 dB (690 mV ~ 1.09 V)	Max. output level
	5-3	"	OUTPUT cont.—CAL		"	—	—5 dB (436 mV)	Spec. PB condition **IMPORTANT: Do not disturb OUTPUT cont. during later checks.**
6. VU meter	6-1	Fig. 3-1	FWD Spec. PB condition		YTT-1003 (400 Hz/0 dB)	R508/R608	0 VU on VU meter	
7. Frequency response	7-1	Fig. 3-1	FWD & REV TAPE SELEC. —LHII	SPEED-HIGH	YTT-1003	R503/R603 (FWD) R504/R604 (REV)	Fig. 3-5	
	7-2	"	"	SPEED-LOW	YTT-1002	R505/R605 (FWD) R506/R606 (REV)	Fig. 3-6	
	7-3	"	FWD & REV TAPE SELEC. —EE	SPEED-HIGH	YTT-1053	Check	Fig. 3-5	
	7-4	"	"	SPEED-LOW	YTT-1052	Check	Fig. 3-6	
8. Phase shift	8-1	Fig. 3-2	FWD & REV	SPEED-HIGH	YTT-1003	Check	Phase: within 45° on oscilloscope (50 Hz ~ 18 kHz) (Fig. 3-3)	
	8-2	"	"	SPEED-LOW	YTT-1002	" "	" (50 Hz ~ 10 kHz)	
9. Headphone output level	9-1	Fig. 3-4	Spec. PB condition		YTT-1003 (400 Hz/0 dB)	Check	—24 dB ±2 dB (38.8 mV ~ 61.5 mV) (at PHONES jack)	When OUTPUT terminal is at —5 dB
10. Signal to noise ratio	10-1	Fig. 3-1	FWD & REV LH and EE Spec. PB condition Use fully erased tape (Use bulk tape eraser)		YTT-8013 and YTT-8053	Check	LHI, -II HIGH: 50 dB LOW: 49 dB EE HIGH: 52 dB LOW: 52 dB	-Ratio of spec. —5 dB and noise -Change-over the polarity of the AC Line plug. The worse reading should be within spec.

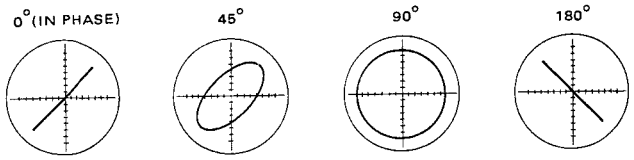


Fig. 3-3 Confirming phase relationship

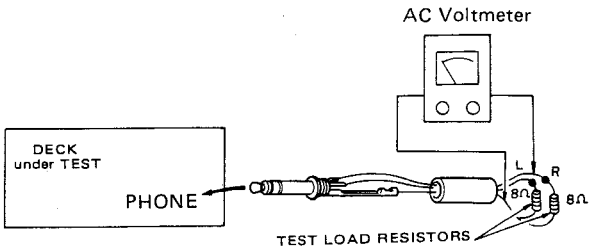


Fig. 3-4 Connection

3-3 RECORDING PERFORMANCE

TEAC test tape: YTT-8013: For recording alignment (blank) for LHII
YTT-8053: For recording alignment (blank) for EE

ITEM		CONNECTION	MODE/ INSTRUCTION	SIGNAL SOURCE	ADJUST (or CHECK)	OUTPUT	REMARKS
11. Bias trap	11-1	AC voltmeter between BIAS TRAP TP & GND	Rec-pause mode	–	L102/L202	Min. reading	Bias freq.: 100 kHz ±5 kHz
	11-2	Fig. 3-1	Rec-pause mode MONITOR sw.–TAPE OUTPUT cont.–CAL	–	Check	Min. reading –45 dB or more (4.36 mV or less)	
	11-3	"	"	–	Check	VU: no deflection	
12. Record head azimuth	12-1	Fig. 3-2	Do for both FWD & REV heads MONITOR sw.–TAPE	10 kHz/–32 dB (19.5 mV)	Azimuth adj. screw/s of head (Fig. 2-15)	Phase: within 45° on oscilloscope (Fig. 3-3)	
13. Record bias	13-1	Fig. 3-1	FWD & REV SPEED sw.–LOW MONITOR sw.–TAPE Test tape–YTT-8053 TAPE SELECTOR–EE	7 kHz/–22 dB (61.5 mV)	R516/R616 (FWD) R515/R615 (REV)	Over-bias value 3 dB ±1 dB (from peak)	Simultaneous monitoring First set adjustor fully CCN (↶), then adjust.
	13-2	"	Test tape–YTT-8013 TAPE SELECTOR–LHII	"	R517/R617 (FWD) R518/R618 (REV)	Over-bias value 4 dB ±1 dB	
14. Record level	14-1	Fig. 3-1	Same as 13-2 SPEED sw.–HIGH	400 Hz/–12 dB (195 mV)	R514/R614 (FWD) R513/R613 (REV)	–5 dB (436 mV)	Spec. REC condition
15. Distortion	15-1	Fig. 3-1	Same as 13-1 and 13-2, but SPEED sw.–HIGH	1 kHz/–12 dB (195 mV)	Check	0.8% or less (W/LHII, EE)	
16. Signal to noise ratio	16-1	Fig. 3-1	FWD & REV MONITOR sw.–TAPE HIGH & LOW LHII; YTT-8013 EE: YTT-8053	1 kHz/–12 dB (195 mV) then No signal recording	Check	LHII HIGH: 48 dB LOW: 46 dB EE HIGH: 50 dB LOW: 50 dB	Ratio of spec. –5 dB to noise.
17. Erase efficiency	17-1	Fig. 3-1 switch on 1 kHz filter	FWD & REV TAPE SELEC.–EE MONITOR sw.–TAPE SPEED sw.–HIGH YTT-8053 (EE)	1 kHz/–2 dB (615 mV) (+10 dB) then erasing	Check	OUTPUT: –65 dB or more (436 μV or less) (70 dB min. ratio)	-Reference output level: +5 dB -The worst value should be within spec.
18. REC MUTE function	18-1	Fig. 3-1 switch on 1 kHz filter	FWD & REV Spec. REC condition rec-mute mode	1 kHz/–2 dB (615 mV) (+10 dB) then record muting	Check	OUTPUT: –60 dB or more (0.775 mV or less) (65 dB min. ratio)	-Reference output level: +5 dB -The worst value should be within spec.

ITEM		CONNECTION	MODE/ INSTRUCTION	SIGNAL SOURCE	ADJUST (or CHECK)	OUTPUT	REMARKS
19. Frequency response	19-1	Fig. 3-1	FWD & REV SPEED—LOW MONITOR sw. —TAPE TAPE SELEC. —EE Test tape —YTT-8053	Required signal —32 dB (19.5 mV)	L103/L203 (FWD) L104/L204 (REV)	Fig. 3-8	Also it is possible to fine-adjust by the record bias adjustors (See item 13.) if this respective specified record bias setting ranges are kept.
	19-2	"	" SPEED—HIGH	"	Check	Fig. 3-7	
	19-3	"	TAPE SELEC. —LHII SPEED—LOW Test tape —YTT-8013	"	"	Fig. 3-8	
	19-4	"	" SPEED—HIGH	"	"	Fig. 3-7	
20. Phase shift	20-1	Fig. 3-2	FWD & REV Spec. REC condition SPEED sw.—HIGH	40 Hz ~ 10 kHz/ —32 dB (19.5 mV)	Check	Phase: within 45° on oscilloscope (40 Hz ~ 10 kHz) (Fig. 3-3)	
21. LHI position check	21-1	Fig. 3-1	FWD & REV Spec. REC condition Test tape— YTT-8013 SPEED sw.— HIGH	20 kHz/—32 dB (19.5 mV)	Check	When TAPE SELECTOR sw is changed LHII → LHI, output level should raise +3 dB ±1 dB	
22. Adjacent track crosstalk	22-1	Fig. 3-1	FWD record. Spec. REC condition SPEED sw.— HIGH TAPE SELECTOR sw.—LHII	125 Hz/—12 dB (195 mV)	—	—	For FWD record.
	22-2	"	REV playback the portion recorded above	—	Check	At both L- and R-ch 125 Hz: —45 dB or more (4.36 mV or less) (40 dB min. ratio)	
	22-3	"	Interchange R & L reels then do FWD playback	—	"	"	
	22-4	Repeat 22-1 through 22-3, but interchange FWD and REV					For REV record.
23. Channel separation	23-1	Fig. 3-1 switch on 1 kHz filter	Same as 22-1	L: 1 kHz/—12 dB (195 mV) R: No signal record.	Check	R, —55 dB or more (1.38 mV or less) (50 dB min. ratio)	For WED record.
	23-2	"	"	L: No signal record. R: 1 kHz/—12 dB	"	L, "	
	23-3	Repeat 23-1 and 23-2 with REV recording.					For REV record.

3-4 FREQUENCY RESPONSE

3-4-1 PLAYBACK

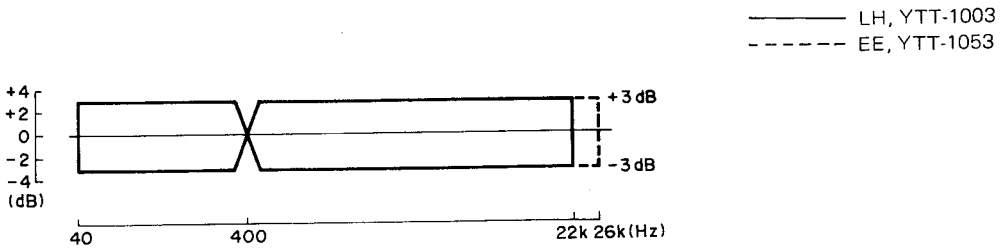


Fig. 3-5 Playback frequency response (19 cm/s)

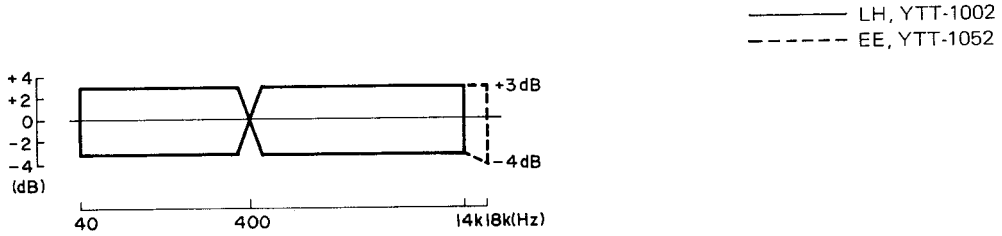


Fig. 3-6 Playback frequency response (9.5 cm/s)

3-4-2 OVERALL

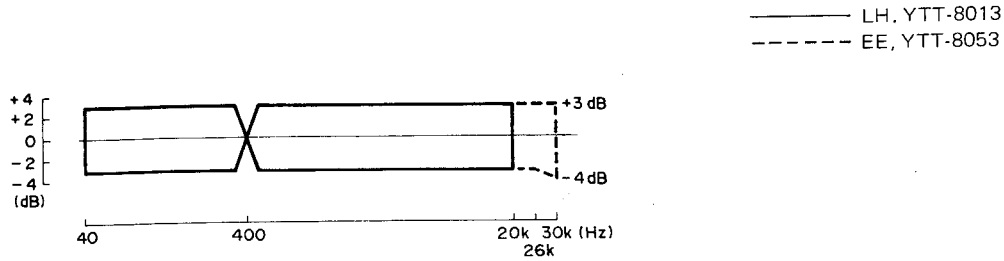


Fig. 3-7 Overall frequency response (19 cm/s)

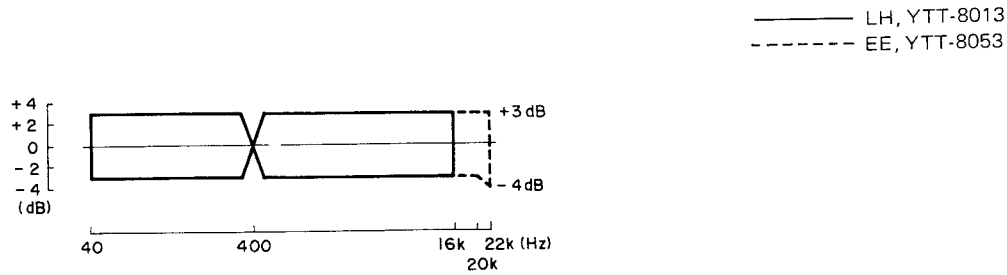
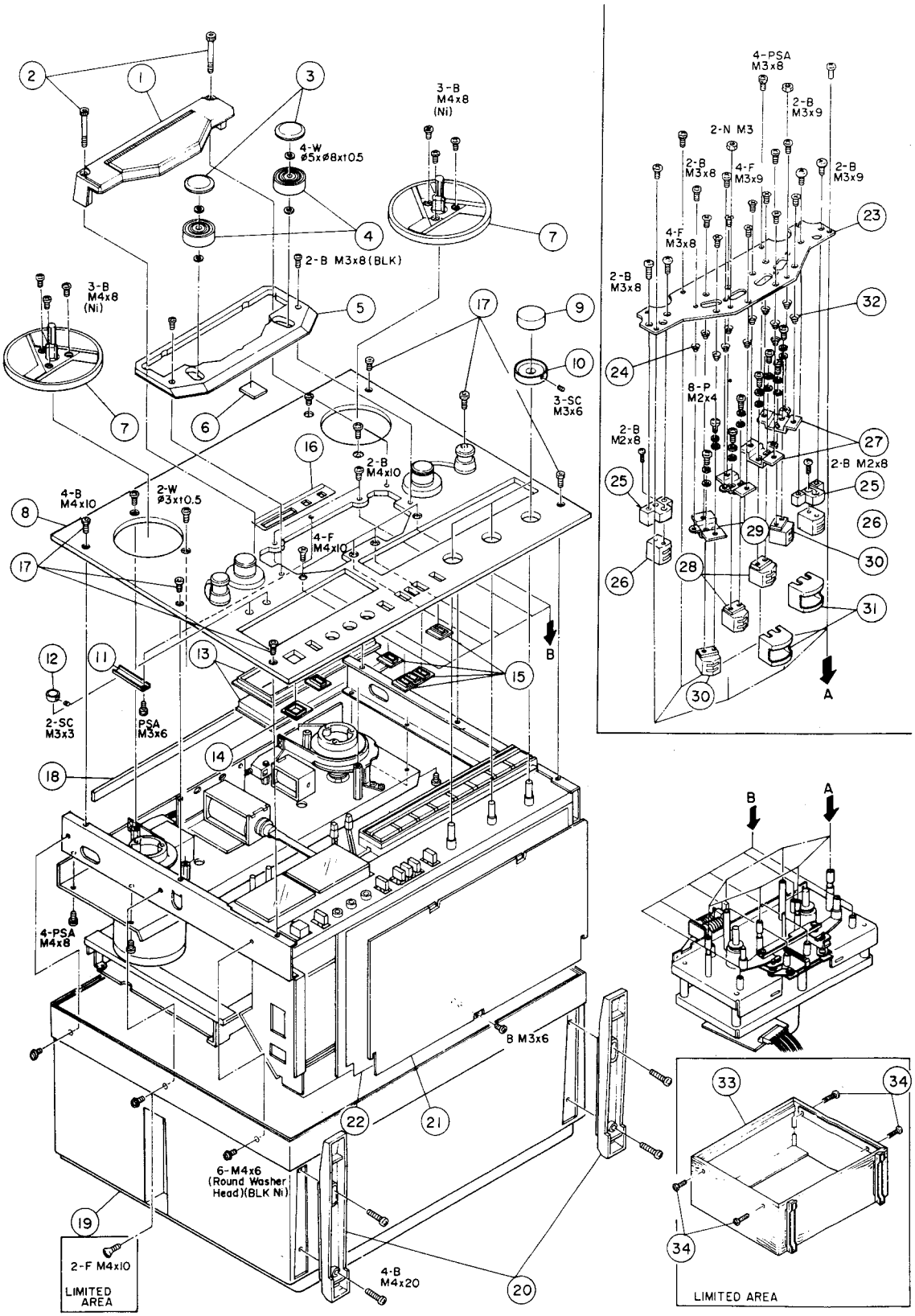


Fig. 3-8 Overall frequency response (9.5 cm/s)

4 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW-1 (X-7RMKII)



Parts marked with *require longer delivery time.

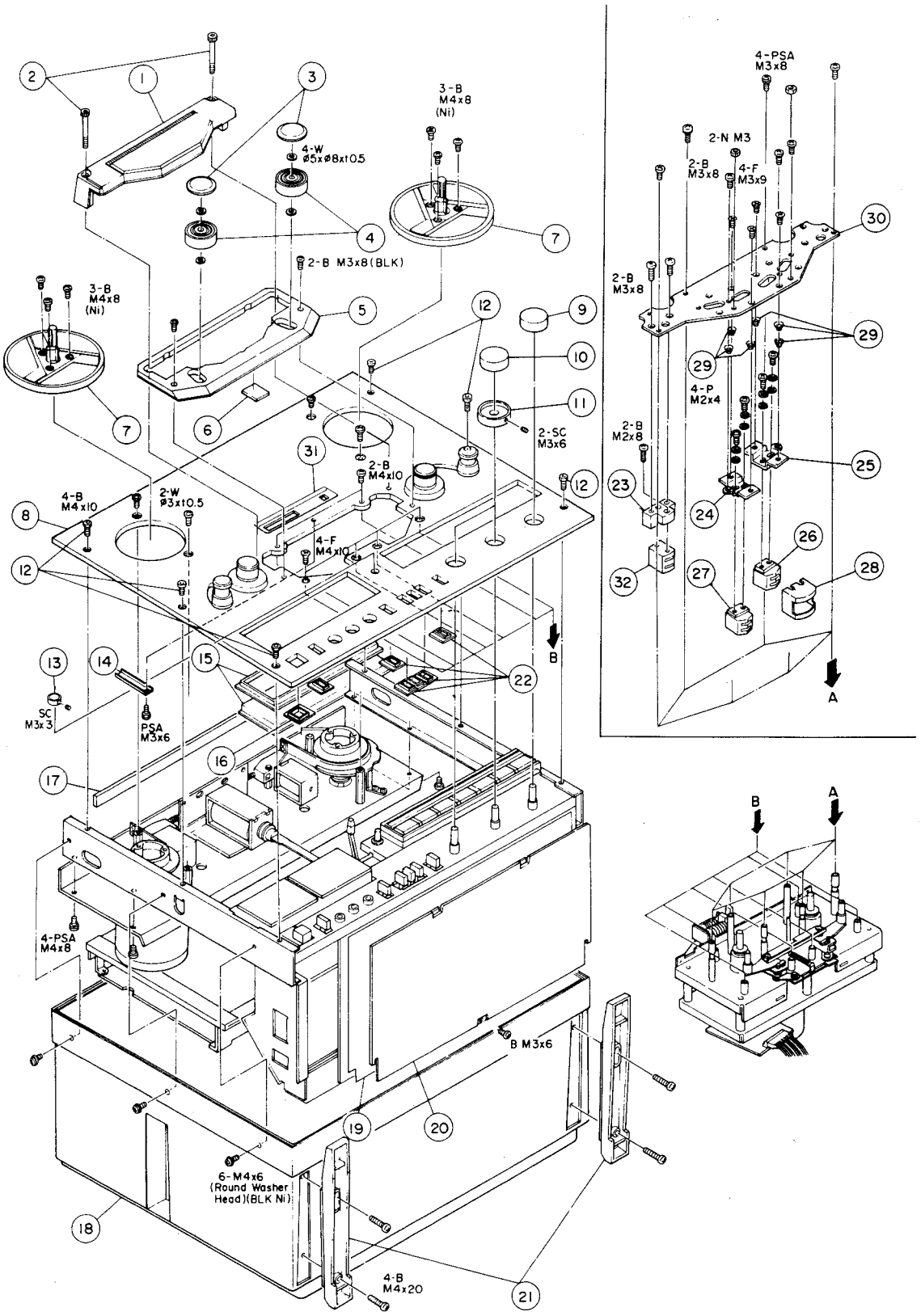
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	5800268160	Head Housing	
1 - 2	5581065000	Screw, Cap; A	
1 - 3	5545014000	Cap, Pinch Roller	X-10R
1 - 4	5534691101	Pinch Roller	X-10R
1 - 5	5532061000	Cover, Head Base Plate	X-10R
1 - 6	*5800002700	Cushion, Head Base Plate	X-10R
1 - 7	5504744000	Reel Table Assy	X-10R
1 - 8	*5800268200	Top Panel	
1 - 9	5534704000	Knob, VR; B	X-10R
1 - 10	5533188000	Knob, VR; A	X-10R
1 - 11	*5555698000	Plate, Escutchion Pressure	X-10R
1 - 12	5534722000	Knob, VR; D	X-7R
1 - 13	*5504748000	Cover Assy, VU Meter	X-10R
1 - 14	*5534707000	Escutsheon, Power Switch	X-10R
1 - 15	*5534706001	Escutcheon, Bottom	X-10R
1 - 16	*5533186100	Escutcheon, Counter; R	X-10R
1 - 17	5581067000	Screw, Cap; B	
1 - 18	*5555887001	Cushion; Case (All except L)	X-10R
1 - 19	*5800055001	Case; S	X-7R
1 - 20	5533190000	Foot	X-10R
1 - 21	*5553306000	Plate, Ampl. Shield	X-7
1 - 22	*5553308000	Paper, Ampl. Insulating	X-10R
1 - 23	*5553289100	Plate, Head Base	X-10R
1 - 24	*5520182000	Spring; D	A-5300
1 - 25	*5800285300	Spacer, Erase Head	X-1000R
1 - 26	5378300800	Head, Erase	
1 - 27	*5555673000	Bracket, Head; R	X-10R
1 - 28	5378300700	Head, Playback; 4T2ch	X-20R "EE"
1 - 29	*5555672000	Bracket, Head; L	X-10R
1 - 30	5378300600	Head, Record; 4T2ch	X-20R "EE"
1 - 31	*5554949000	Head Shield, A	A-6600
1 - 32	*5022050000	Spring, B	
1 - 33	*5502278000	Case Assy, Wooden (L)	X-7R
1 - 34	*5504499000	Screw Assy, Case (L)	A-480

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	5350008500	Cord, Input-Output Connection	
	5085008300	Empty Reel, 7inch	
	5062962000	Splicing Tape	
	5101337100	Open Reel Supplement [U]	
	5101708000	Open Reel Supplement [All except U]	
	5101671000	X - 7RMkII Owners Manual [U]	
	5101672000	X - 7RMkII Owners Manual [All except U]	
	5101668000	X - 7MkII Owners Manual [U]	
	5101669000	X - 7MkII Owners Manual [All except U]	

[U] : U.S.A. [C] : CANADA [GE] : GENERAL EXPORT
[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

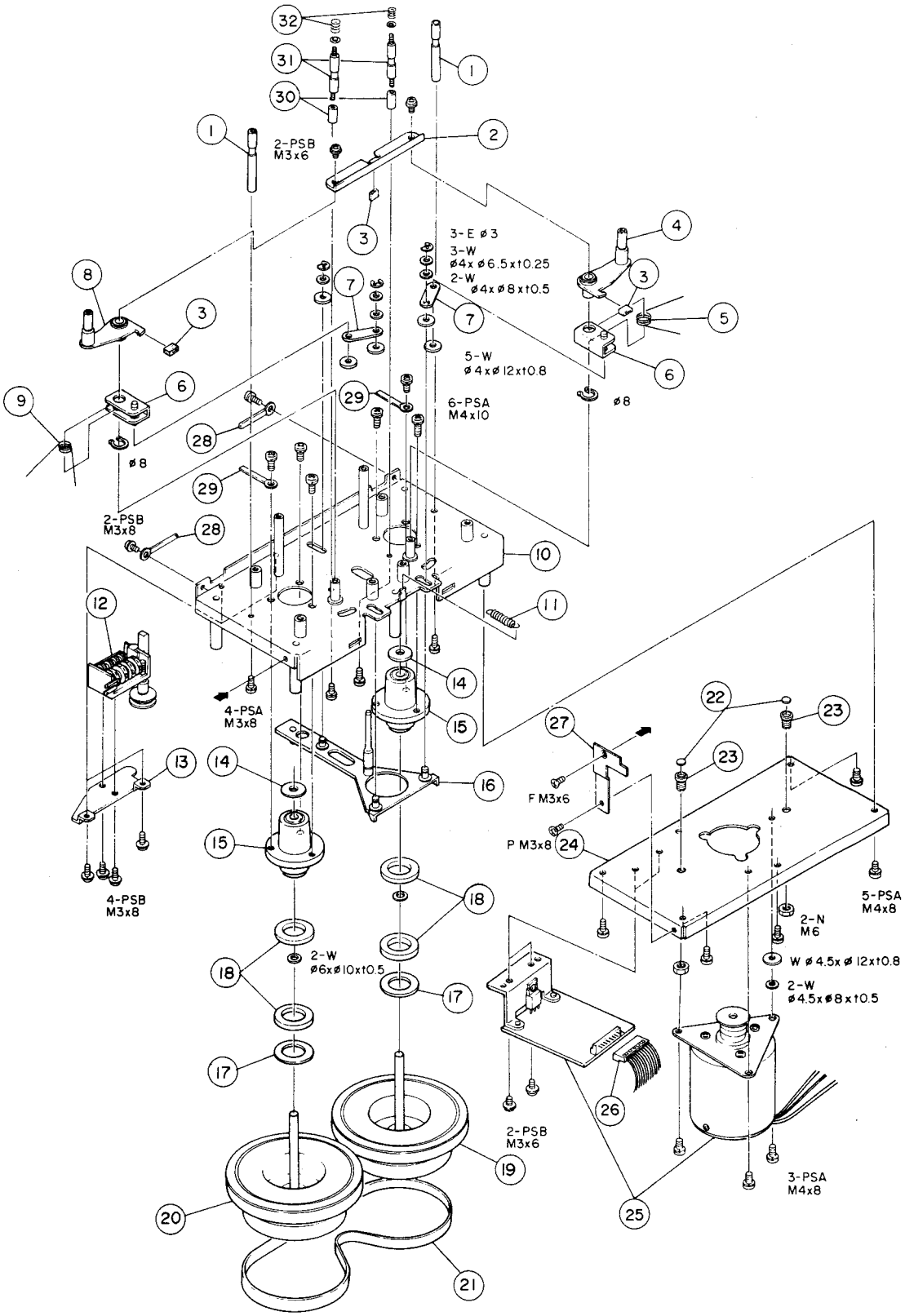
EXPLODED VIEW-2 (X-7MKII)



Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	5800285200	Head Housing	
2 - 2	5581065000	Screw, Cap; A	
2 - 3	5545014000	Cap, Pinch Roller	X-10R
2 - 4	5534691100	Pinch Roller	X-10R
2 - 5	5532061000	Cover, Head Base Plate	X-10R
2 - 6	*5800002700	Cushion, Head Base Plate	X-10R
2 - 7	5504744000	Reel Table Assy	X-10R
2 - 8	*5800285100	Panel Assy, Top	
2 - 9	5533230000	Knob, VR; E	X-7R
2 - 10	5534704000	Knob, VR; B	X-10R
2 - 11	5533188000	Knob, VR; A	X-10R
2 - 12	5581067000	Screw, Cap; B	
2 - 13	5534705000	Knob, VR; C	X-10R
2 - 14	*5555698000	Plate, Escutcheon Pressure	X-10R
2 - 15	*5504748000	Cover Assy, VU Meter	X-10R
2 - 16	*5534707000	Escutcheon, Power Switch	X-10R
2 - 17	*5555887001	Cushion, Case	X-10R
2 - 18	*5800055001	Case Assy; S	X-7R
2 - 19	*5553308001	Paper, Ampl. Insulating	X-10R
2 - 20	*5553306000	Plate, Ampl. Shield	X-7
2 - 21	5533190000	Foot	X-10R
2 - 22	*5534706001	Escutcheon, Botton	X-10R
2 - 23	*5800285300	Spacer, Erase Head	X-1000R
2 - 24	*5555672000	Bracket, Head Base; L	X-10R
2 - 25	*5555673000	Bracket, Head Base; R	X-10R
2 - 26	5569203100	Head, Playback; 4T2ch	
2 - 27	5569202000	Head, Record; 4T2ch	X-1000R
2 - 28	*5554949000	Head Shield, B	A-6600
2 - 29	*5520182000	Spring; D	A-5300
2 - 30	*5553289100	Plate, Head Base	X-10R
2 - 31	*5534721001	Escutcheon, Counter	X-10
2 - 32	5378300800	Head, Erase	X-1000R

EXPLODED VIEW-3

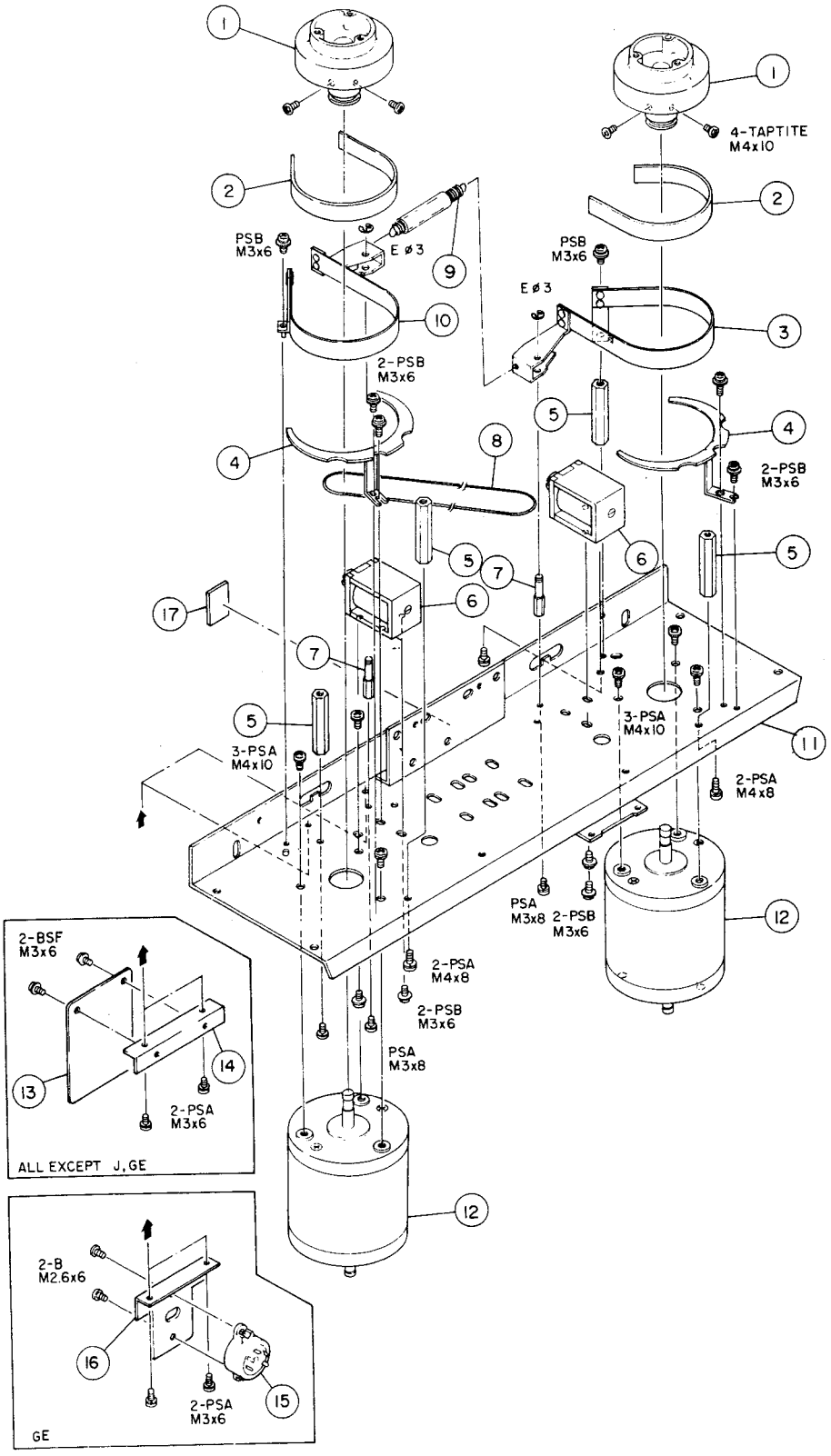


Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	*5545023000	Pin, Tape Guide	X-10R
3 - 2	*5555666000	Plate, Reinforement	X-10R
3 - 3	*5534694000	Cushion, Stopper	X-10R
3 - 4	*5504729000	Arm Assy, Pinch Roller; R	X-10R
3 - 5	*5524216000	Spring, Pinch Roller; R	X-10R
3 - 6	*5504731000	Arm Assy, Press	X-10R
3 - 7	*5555667000	Plate, Joint	X-10R
3 - 8	*5504730000	Arm Assy, Pinch Roller; L	X-10R
3 - 9	*5524217000	Spring, Pinch Roller; L	X-10R
3 - 10	*5503196000	Base Assy, Capstan	X-10R
3 - 11	*5524219000	Spring, Slide Plate	X-10R
3 - 12	5504724000	Counter Assy; A [X-7RMkII]	X-10R
	5504725000	Counter Assy; B [X-7MkII]	X-10
3 - 13	*5555665000	Bracket, Counter	X-10R
3 - 14	*5534695000	Washer, Oil Retaining	X-10R
3 - 15	5504726100	Housing Assy, Capstan Flywheel	X-10R
3 - 16	*5504733001	Plate Assy, Slide	X-10R
3 - 17	*5555704000	Tape, Adhesive	X-10R
3 - 18	*5534715000	Ring, Magnet; Thrust	X-10R
3 - 19	5504727000	Flywheel Assy, Capstan; R	X-10R
3 - 20	5504728000	Flywheel Assy, Capstan; L	X-10R
3 - 21	5534692000	Belt, Capstan Drive; 4T	X-10R
3 - 22	*5555703000	Bearing	X-10R
3 - 23	*5544003000	Screw, Bearing	A-7300
3 - 24	*5553290001	Bracket, Motor Mounting	X-10R
3 - 25	7105018000	DC Motor Assy, Capstan	X-7R
3 - 26	*5122172000	Connector Socket, 10P	
3 - 27	*5555914100	Plate, Capstan Chassis	X-10R
3 - 28	*5786713000	Clamper, Cord; ϕ3	
3 - 29	*5786714000	Clamper, Cord; ϕ4	
3 - 30	*5800285500	Support, Guide	X-1000R
3 - 31	*5800285400	Tape Guide	X-1000R
3 - 32	*5800285600	Guide Spring	X-1000R

[U] : U.S.A. [C] : CANADA [GE] : GENERAL EXPORT
[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

EXPLODED VIEW-4

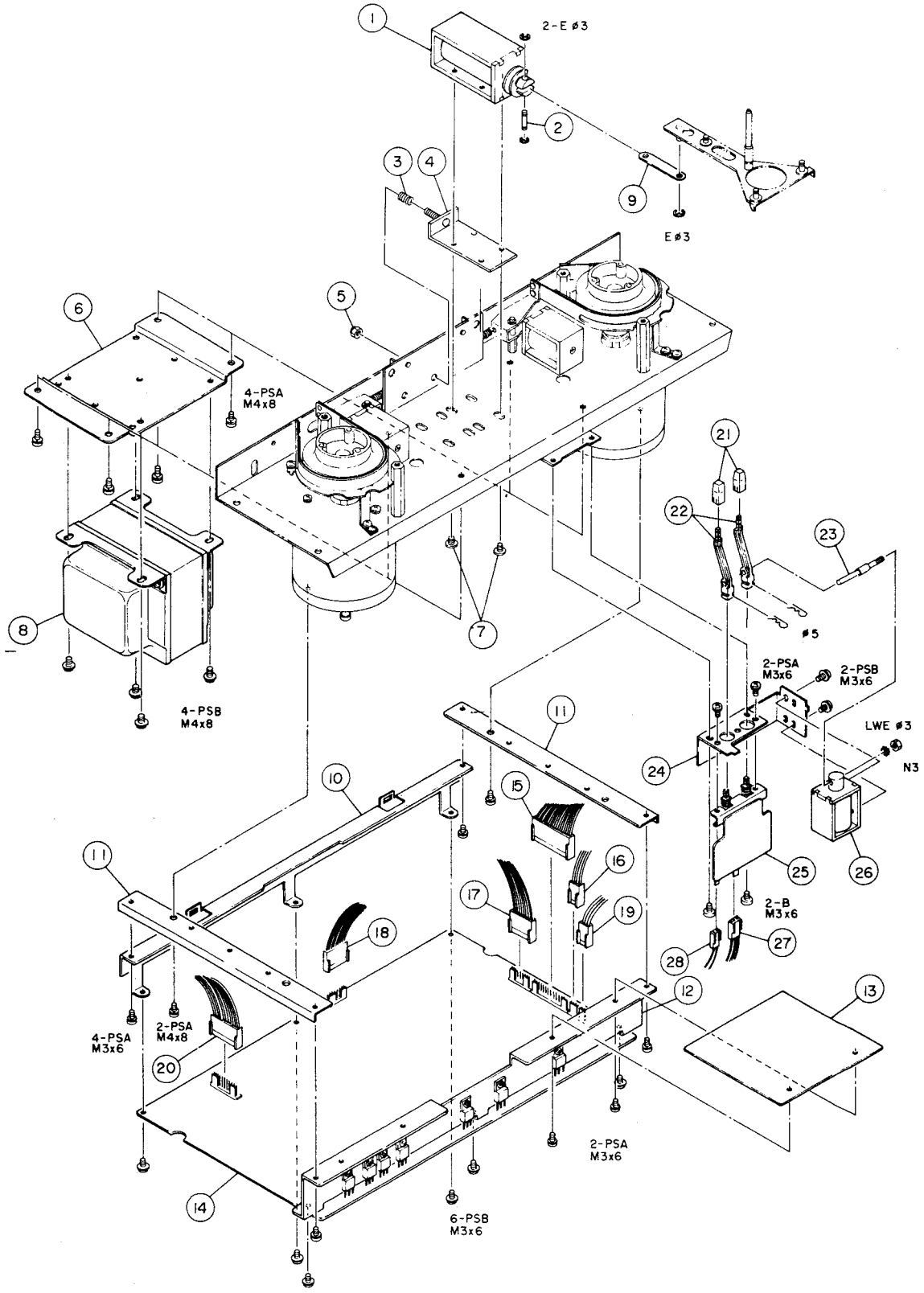


Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	*5533189000	Base Assy, Reel Table	X-10R
4 - 2	5555274000	Shoe, Brake	A-3300SX
4 - 3	5504736000	Band Assy, Brake; R	X-10R
4 - 4	*5555685000	Plate, Band Assy Retaining	X-10R
4 - 5	*5544916000	Stay, Top Panel	A-6100Mk-II
4 - 6	5163044000	Solenoid, Brake	
4 - 7	*5545033000	Shaft, Brake Band	X-10R
4 - 8	*5027759000	Belt, Counter	A-7030
4 - 9	*5524296000	Spring, Brake; 1	X-7R
4 - 10	5504735000	Band Assy, Brake; L	X-10R
4 - 11	*5503194002	Chassis, Reel Motor	X-10R
4 - 12	7105019001	DC Motor, Reel	X-7
4 - 13	*5168997000	PCB Ass'y, FUSE [U, C: X-7RMkII, U: X-7MkII]	
	*5158105000	PCB Assy, FUSE [E, UK, A: X-7RMkII]	
4 - 14	*5555789000	Bracket, FUSE PCB Assy [U, C, E, UK, A]	X-10
4 - 15	5131007000	Voltage Selector [GE, L: X-7RMkII]	
4 - 16	*5555790000	Bracket, Voltage Selector [GE, L]	X-10
4 - 17	*5555570000	Cushion	X-10R

[U] : U.S.A. [C] : CANADA [GE] : GENERAL EXPORT
[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

EXPLODED VIEW-5 (X-7RMKII)

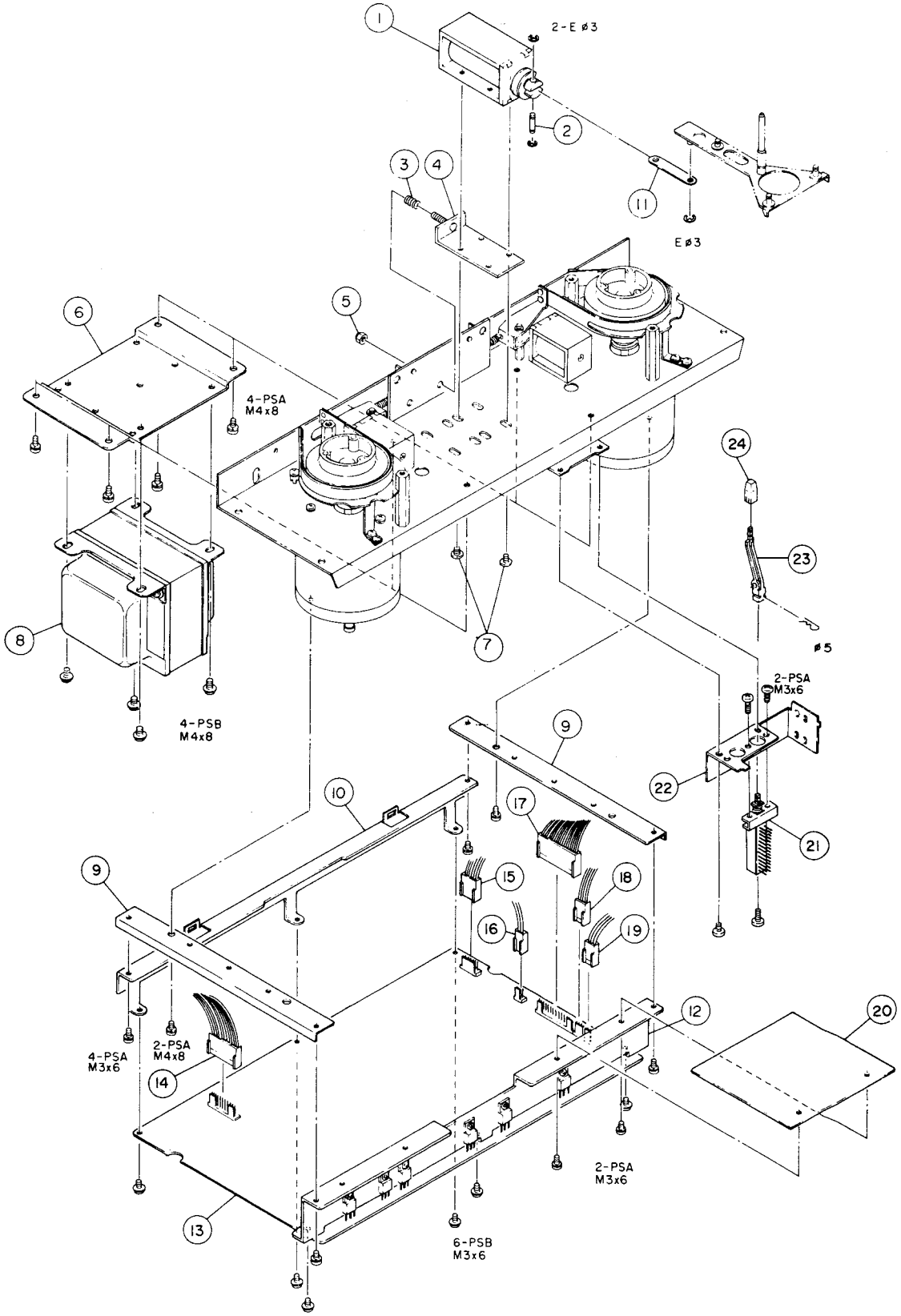


Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	5163041001	Solenoid, Pinch Roller	
5 - 2	*5545022000	Pin, Solenoid	X-10R
5 - 3	*5524218000	Spring, Pinch Roller Pressure	X-10R
5 - 4	*5504732000	Plate Assy, Solenoid	X-10R
5 - 5	*5581066000	Nut, Nylon; M4	X-10R
5 - 6	*5555681100	Bracket, Power Transformer	X-10R
5 - 7	*5800022600	Screw, Shoulder; G	X-10R
5 - 8	⚠ 5152192000	Transformer, Power [U, C]	X-10R
	⚠ 5152239000	Transformer, Power [E, UK, A]	X-10R
	⚠ 5320006600	Transformer, Power [GE, L]	X-10R
5 - 9	*5555676000	Plate, B	X-10R
5 - 10	*5552390000	Frame, PCB	X-10R
5 - 11	*5553296001	Frame, Joint	X-10R
5 - 12	*5552391000	Frame, H.S	X-10R
5 - 13	*5555888000	Heat Sink, C	X-10R
5 - 14	*5200004603	PCB Assy, CONTROL [U, C]	X-7R
	*5200004613	PCB Assy, CONTROL [E, UK, A]	X-7R
	*5200004623	PCB Assy, CONTROL [GE, L]	X-7R
5 - 15	*5122177000	Connector Socket, 15P	
5 - 16	*5122165000	Connector Socket, 3P	
5 - 17	*5122170000	Connector Socket, 8P	
5 - 18	*5122169000	Connector Socket, 7P	
5 - 19	*5122222000	Connector Socket, 3P (BLK)	
5 - 20	*5127173000	Connector Socket, 11P	
5 - 21	5534714000	Button, B	X-10R
5 - 22	*5534685000	Rod, Switch	X-10R
5 - 23	*5545024001	Shaft, Timer Solenoid	X-10R
5 - 24	*5555671100	Bracket, Timer Switch	X-10R
5 - 25	*5168926100	PCB Assy, Timer	
5 - 26	5163045000	Solenoid, Timer	
5 - 27	*5122281000	Connector Socket, 3P (RED)	
5 - 28	*5122164000	Connector Socket, 2P	

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT
[A]: AUSTRALIA [E]: EUROPE [UK]: U.K.
[L]: LIMITED AREA

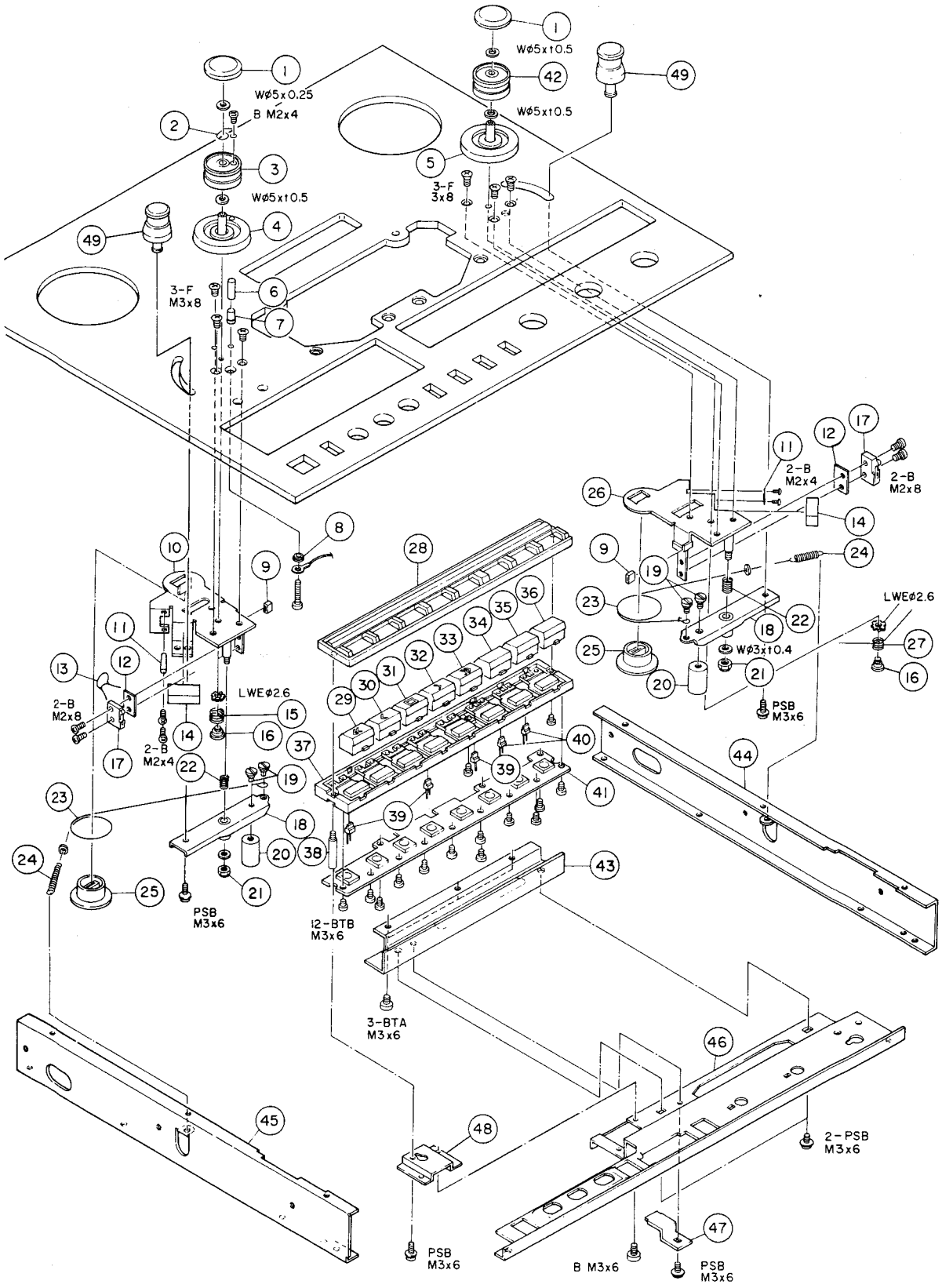
EXPLODED VIEW-6 (X-7MKII)



Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
6 - 1	5163041001	Solenoid, Pinch Roller	
6 - 2	*5545022000	Pin, Solenoid	X-10R
6 - 3	*5524218000	Spring, Pinch Roller Pressure	X-10R
6 - 4	*5504732000	Plate Assy, Solenoid	X-10R
6 - 5	*5581066000	Nut, Nylon; M4	
6 - 6	*5555681100	Bracket, Power Transformer	X-10R
6 - 7	*5800022600	Screw, Shoulder; G	X-10R
6 - 8	⚠ 5152225000	Power Transformer	X-10R
6 - 9	*5553296001	Frame, Joint	X-10R
6 -10	*5552390000	Frame, PCB	X-10R
6 -11	*5555676000	Plate, B	X-10R
6 -12	*5552390000	Frame, H.S	X-10R
6 -13	*5200004803	PCB Assy, CONTROL	X-7
6 -14	*5127171000	Connector Socket, 9P	
6 -15	*5122167000	Connector Socket, 5P	
6 -16	*5122221000	Connector Socket, 2P (BLK)	
6 -17	*5122174000	Connector Socket, 12P	
6 -18	*5122222000	Connector Socket, 3P (BLK)	
6 -19	*5122165000	Connector Socket, 3P	
6 -20	*5555888000	Heat Sink	X-10R
6 -21	5134115000	Switch, Push; DPDT	
6 -22	*5555671100	Bracket, Timer Switch	X-10R
6 -23	*5534685000	Rod, Switch	X-10R
6 -24	5534714000	Button; B	X-10R

EXPLODED VIEW-7 (X-7RMKII)

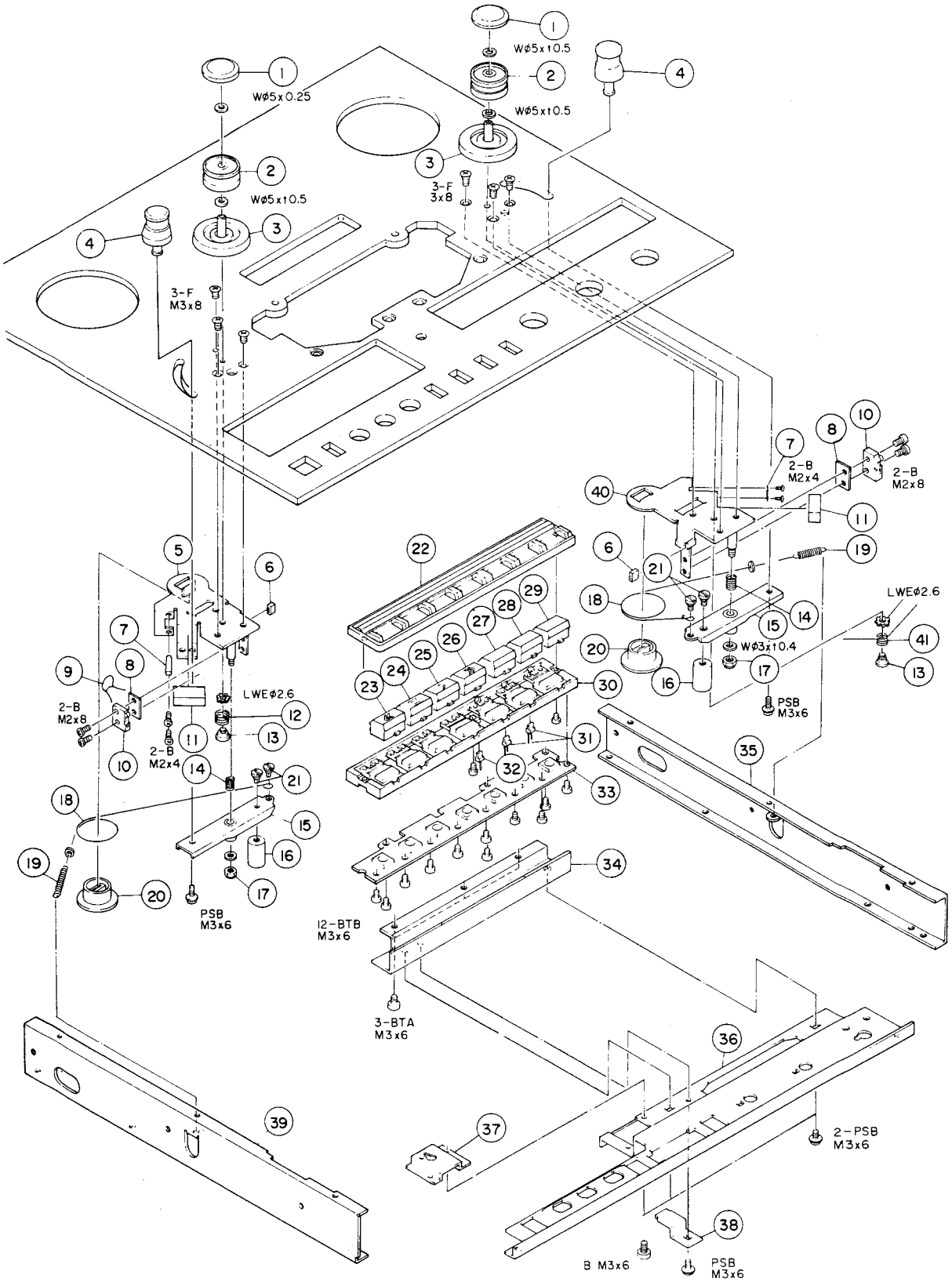


Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
7 - 1	5545037000	Cap, Roller	X-10R
7 - 2	*5524225000	Spring, GND	X-10R
7 - 3	5504740002	Roller Assy, A	X-10R
7 - 4	*5504739000	Base Assy, Roller; A	X-10R
7 - 5	*5504742000	Base Assy, Roller; B	X-10R
7 - 6	5545042000	Post, Sensing	X-10R
7 - 7	*5534716000	Post, Insulating	X-10R
7 - 8	*5534368100	Washer, Insulating	A-6600
7 - 9	5027699000	Coller, Rubber	
7 -10	*5504719102	Base Assy, Shut Off; L	X-10R
7 -11	*5524215000	Wire, String Stopper	X-10R
7 -12	*5550025100	Plate, Insulating	A-450
7 -13	*5054230000	Capacitor, Ceramic 0.047μF 50V ±20%	
7 -14	*5534686001	Cushion	X-10R
7 -15	*5524229001	Spring, Tension Arm; L	X-10R
7 -16	*5581064000	Screw, Shoulder; E	
7 -17	5301455500	Switch, Micro	
7 -18	5800305800	Arm Assy, Tension	X-20R "EE"
7 -19	*5800002600	Screw, Shoulder; F	X-10R
7 -20	*5545010000	Weight, Counter	X-10R
7 -21	*5581045000	Nut, Nylon; M3	
7 -22	*5524069000	Spring, Roller Arm	AL-700
7 -23	*5504721000	String Assy, Damper	X-10R
7 -24	*5524183000	Spring, Motor Switch Lever	A-601R
7 -25	*5534684001	Drum, Damper	X-10R
7 -26	*5504720101	Base Assy, Shut Off; R	X-10R
7 -27	*5524230001	Spring, Tension Arm; R	X-10R
7 -28	*5533192000	Escutcheon, Button; Operation	X-10R
7 -29	5533196000	Button, D	X-10R
7 -30	5533194000	Button; B	X-10R
7 -31	5533197000	Button, E	X-10R
7 -32	5533193000	Button, A	X-10R
7 -33	5533195000	Button, C	X-10R
7 -34	5533198000	Button, F	X-10R
7 -35	5533219000	Button, K	X-10R
7 -36	5533199000	Button, G	X-10R
7 -37	*5503204001	Base Assy, Button	X-10R
7 -38	*5545166001	Stay, Button Escutcheon	X-7R
7 -39	*5143139000	LED, SLB-26GG (GRN)	
7 -40	*5143140000	LED, SLB-26UR (RED)	
7 -41	*5168929000	PCB Assy, OPERATION	
7 -42	*5504743002	Roller Assy, B	X-10R
7 -43	*5600003600	Bracket Assy, OPERATION PCB	
7 -44	*5552404001	Angle, Side; R	X-7R
7 -45	*5552405001	Angle, Side; L	X-7R
7 -46	*5552403102	Chassis, Ampl.; B	X-7
7 -47	*5555720000	Bracket, Stopper	X-7R
7 -48	*5555719100	Bracket, Variable Resistor	X-7
7 -49	*5800349000	Roller Assy, Tension; (A)	X-20R "EE"

[U] : U.S.A. [C] : CANADA [GE] : GENERAL EXPORT
[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

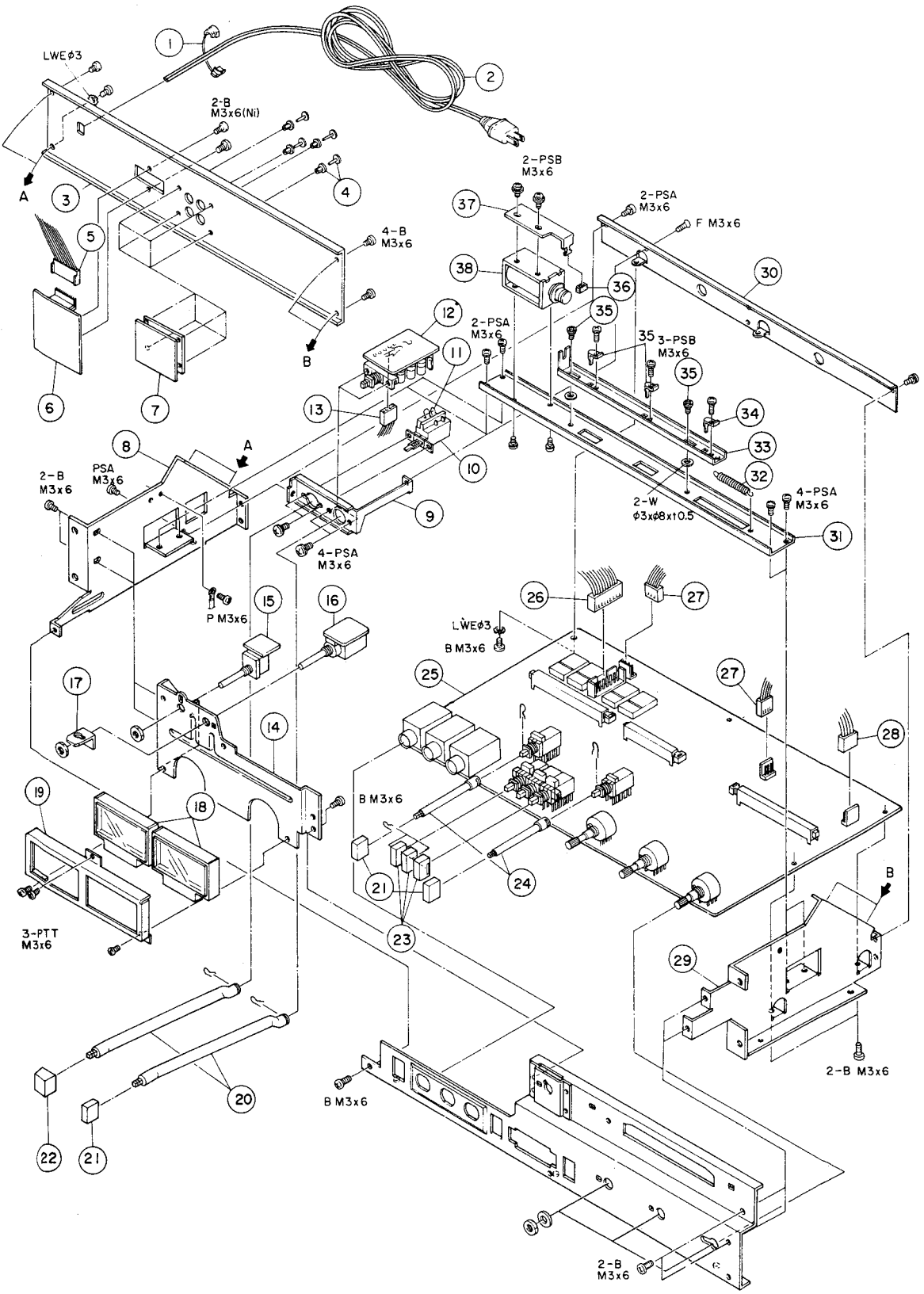
EXPLODED VIEW-8 (X-7RMKII)



Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
8 - 1	5545037000	Cap, Roller	X-10R
8 - 2	5504743002	Roller Assy, B	X-10R
8 - 3	*5504742000	Base Assy, Roller; B	X-10R
8 - 4	*5800306100	Roller Assy, Tension	X-20R "EE"
8 - 5	*5504719102	Base Assy, Shut Off; L	X-10R
8 - 6	*5027699000	Coller, Rubber	X-10R
8 - 7	*5524215000	Wire, String Stopper	X-10R
8 - 8	*5550025100	Plate, Insulating	A-450
8 - 9	*5054230000	Capacitor, Ceramic 0.047μF 50V ±10%	
8 -10	*5301455500	Switch, Micro	
8 -11	*5534686001	Cushion	X-10R
8 -12	*5524229001	Spring, Tension Arm; L	X-10R
8 -13	*5581064000	Screw, Shoulder; E	
8 -14	*5524069000	Spring, Roller Arm	AL-700
8 -15	5800305800	Arm Assy, Tension	X-20R "EE"
8 -16	*5545010000	Weight, Counter	X-10R
8 -17	*5581045000	Nut, Nylon; M3	
8 -18	*5504721000	String Assy, Damper	
8 -19	*5524183000	Spring, Motor Switch Lever	A-601R
8 -20	*5534684001	Drum, Damper	X-10R
8 -21	*5800002600	Screw, Shoulder; F	
8 -22	*5533191000	Escutcheon, Button; Operation	X-10
8 -23	5533196000	Button, D	X-10R
8 -24	5533197000	Button, E	X-10R
8 -25	5533193000	Button, A	X-10R
8 -26	5533195000	Button, C	X-10R
8 -27	5533198000	Button, F	X-10R
8 -28	5533219000	Button, H	X-10R
8 -29	5533199000	Button, G	X-10R
8 -30	*5503205000	Base Assy, Button	X-10
8 -31	*5143140000	LED (RED)	
8 -32	*5143139000	LED (GREEN)	
8 -33	*5168930000	PCB Assy, OPERATION SW	
8 -34	*5553321000	Angle, Button Base; B	X-10R
8 -35	*5552404001	Angle, Side; R	X-7R
8 -36	*5552403102	Chassis, Ampl.; B	X-7
8 -37	*5555719100	Bracket, PC-VR	X-7
8 -38	*5555720000	Bracket, Stopper	X-7
8 -39	*5552405001	Angle, Side; L	X-7R
8 -40	*5504720101	Base Assy, Shut Off; R	X-10R
8 -41	*5524230001	Spring, Tension Arm; R	X-10R

EXPLODED VIEW-9 (X-7RMKII)

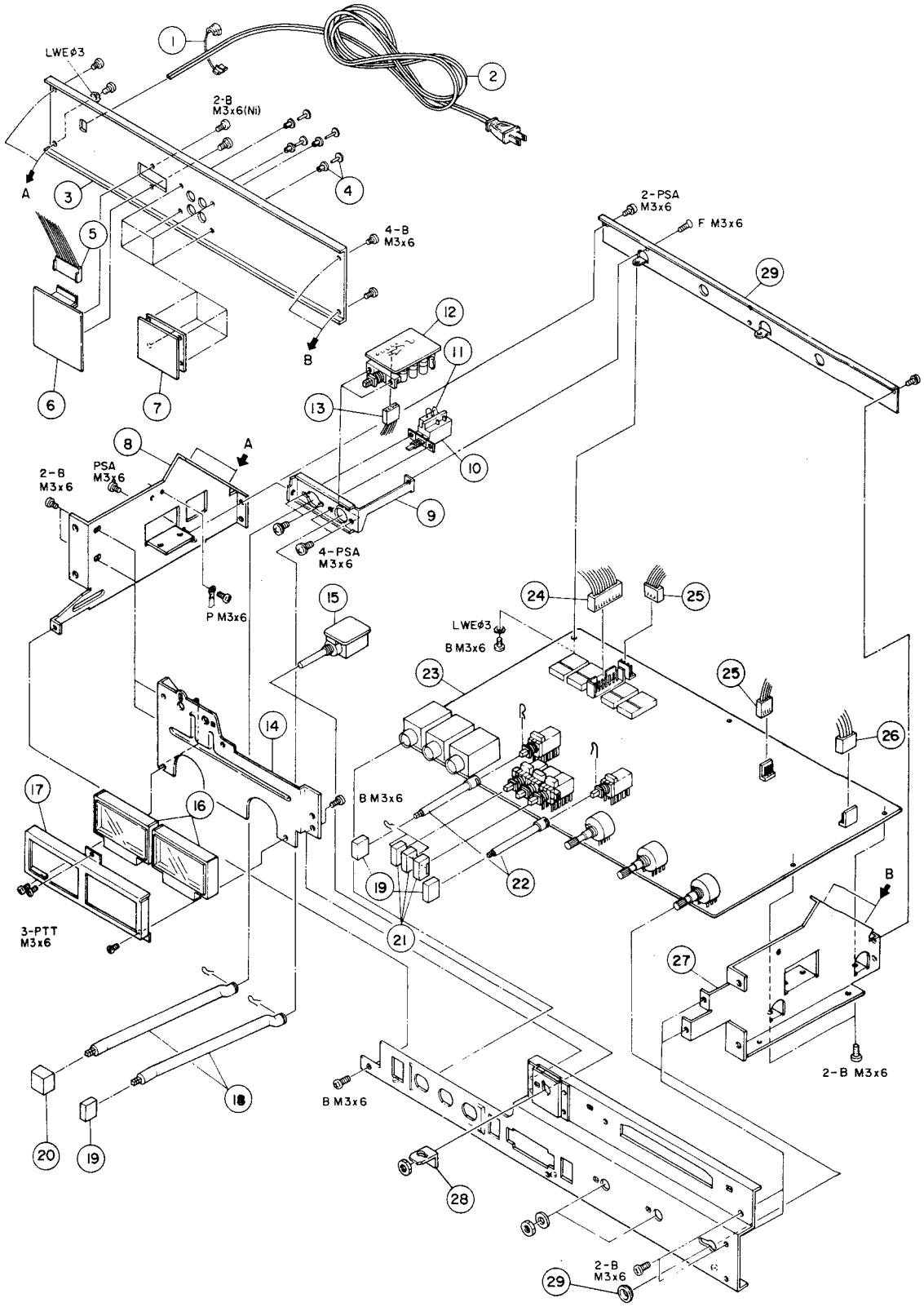


Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
9 - 1	*5534660000	Strain Relief, AC Power Cord [All except UK]	
	*5534661000	Strain Relief, AC Power Cord [UK]	
9 - 2	⚠*5128027000	Cord, AC Power [GE, L]	
	⚠*5128075000	Cord, AC Power [U, C]	
	⚠*5350008200	Cord, AC Power [E, A]	
	⚠*5350008300	Cord, AC Power [UL]	
9 - 3	*5552402000	Panel, Ampl.; Rear	X-7
9 - 4	*5534118000	Push Rivet	
9 - 5	*5122177000	Connector Socket, 15P	
9 - 6	*5168931100	PCB Assy, CONNECTOR; A	
9 - 7	*5200036000	PCB Assy, IN/OUTPUT	X-20R
9 - 8	*5553304000	Frame, Ampl.; L	X-7
9 - 9	*5555718000	Bracket, Push Switch	X-7R
9 -10	⚠ 5134036000	Push Switch, POWER [GE, L]	
	⚠ 5134018000	Push Switch, POWER [U, C]	
	⚠ 5134011000	Push Switch, POWER [E, UK, A]	
9 -11	⚠ 5052910000	Spark Killer, 0.033μF + 120V/125V [U]	
	⚠ 5052907000	Spark Killer, 0.01μF + 300V/300V [GE, L]	
	⚠ 5052911000	Spark Killer, 0.033μF + 120V/250V [C]	
	⚠ 5267702500	Spark Killer, 0.0047μF 250V [E, UK, A]	
9 -12	*5158001000	PCB Assy, SPEED	X-7
9 -13	*5127168000	Connector Socket, 6P	
9 -14	*5553307100	Bracket, Meter; B	X-7
9 -15	*5168928000	PCB Assy, Switch	
9 -16	*5168938000	PCB Assy, PITCH CONT	
9 -17	*5800003000	Bracket, Variable Resistor	
9 -18	5296001500	VU Meter	X-10R
9 -19	*5553293000	Plate, Meter	X-10R
9 -20	*5534723000	Rod; A	X-7
9 -21	5534701000	Button	X-10R
9 -22	5534702000	Button, Switch	X-10R
9 -23	5800000100	Button, Loose; B	X-10R
9 -24	*5534712000	Rod; B	X-10R
9 -25	*5200064000	PCB Assy, REC/PLAY AMPL.	
9 -26	*5122170000	Connector Socket, 8P	
9 -27	*5122160000	Connector Socket, 4P	
9 -28	*5122282000	Connector Socket, 4P (RED)	
9 -29	*5553305000	Frame, Ampl.; R	
9 -30	*5553297100	Frame, Connector	X-10R
9 -31	*5553298000	Bracket, Solenoid	
9 -32	*5524222000	Spring, Return	X-10R
9 -33	*5555694000	Plate, Slide	X-10R
9 -34	*5524224000	Spring, Plate; Change	X-10R
9 -35	*5581056000	Screw, Shoulder; A	A-304
9 -36	*5534116000	Cushion	A-400
9 -37	*5555701000	Plate, Solenoid Stopper	X-10R
9 -38	5163043000	Solenoid, Reverse	

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT
[A]: AUSTRALIA [E]: EUROPE [UK]: U.K.
[L]: LIMITED AREA

EXPLODED VIEW-10 (X-7MKII)



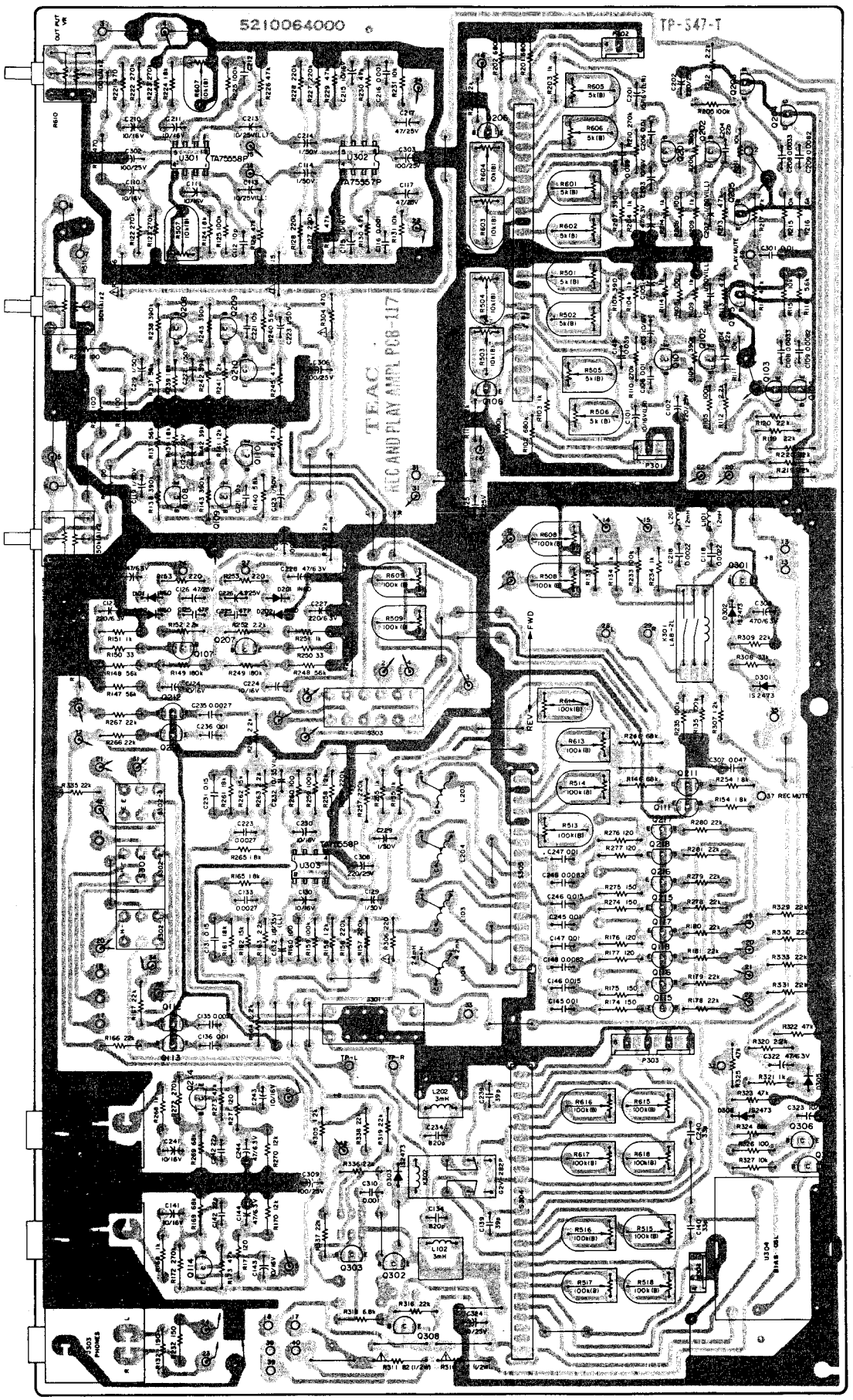
Parts marked with *require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
10 - 1	*5534660000	Strain Relief, AC Power Cord	
10 - 2	⚠*5128075000	Cord, AC Power	
10 - 3	*5552402000	Panel, Ampl.; Rear	
10 - 4	*5534118000	Push Rivet	
10 - 5	*5122174000	Connector Socket; 12P	
10 - 6	*5158002000	PCB Assy, CONNECTOR; B	
10 - 7	*5200036000	PCB Assy, IN/OUT	X-20R
10 - 8	*5553304000	Frame, Ampl.; L	X-7
10 - 9	*5555718000	Bracket, Push Switch	X-7R
10 - 10	⚠ 5134018000	Push Switch, POWER	
10 - 11	⚠ 5052110000	Spark Killer 0.033μF + 120V/125V	
10 - 12	*5158001000	PCB Assy, SPEED SW	X-7
10 - 13	*5122168000	Connector Socket, 6P	
10 - 14	*5553307100	Bracket, Meter; B	X-7
10 - 15	*5168938000	PCB Assy, PITCH CONT	
10 - 16	*5296001500	Meter, VU	X-10R
10 - 17	*5553293000	Plate, Meter	X-10R
10 - 18	*5534723000	Rod; A	X-7
10 - 19	5534701000	Button	
10 - 20	5534702000	Button, Switch	X-10R
10 - 21	5800000101	Button, Loose; B	X-10R
10 - 22	*5534712000	Rod; B	X-10R
10 - 23	*5200073000	PCB Assy, REC/PLAY AMPL.	
10 - 24	*5122166000	Connector Socket, 4P	
10 - 25	*5122164000	Connector Socket, 2P	
10 - 26	*5122280000	Connector Socket, 2P (RED)	
10 - 27	*5553305000	Frame, Ampl.; R	X-7
10 - 28	*5800003000	Bracket, Variable Resistor	X-7R
10 - 29	*5545049000	Bracket, Collar; VR	X-7

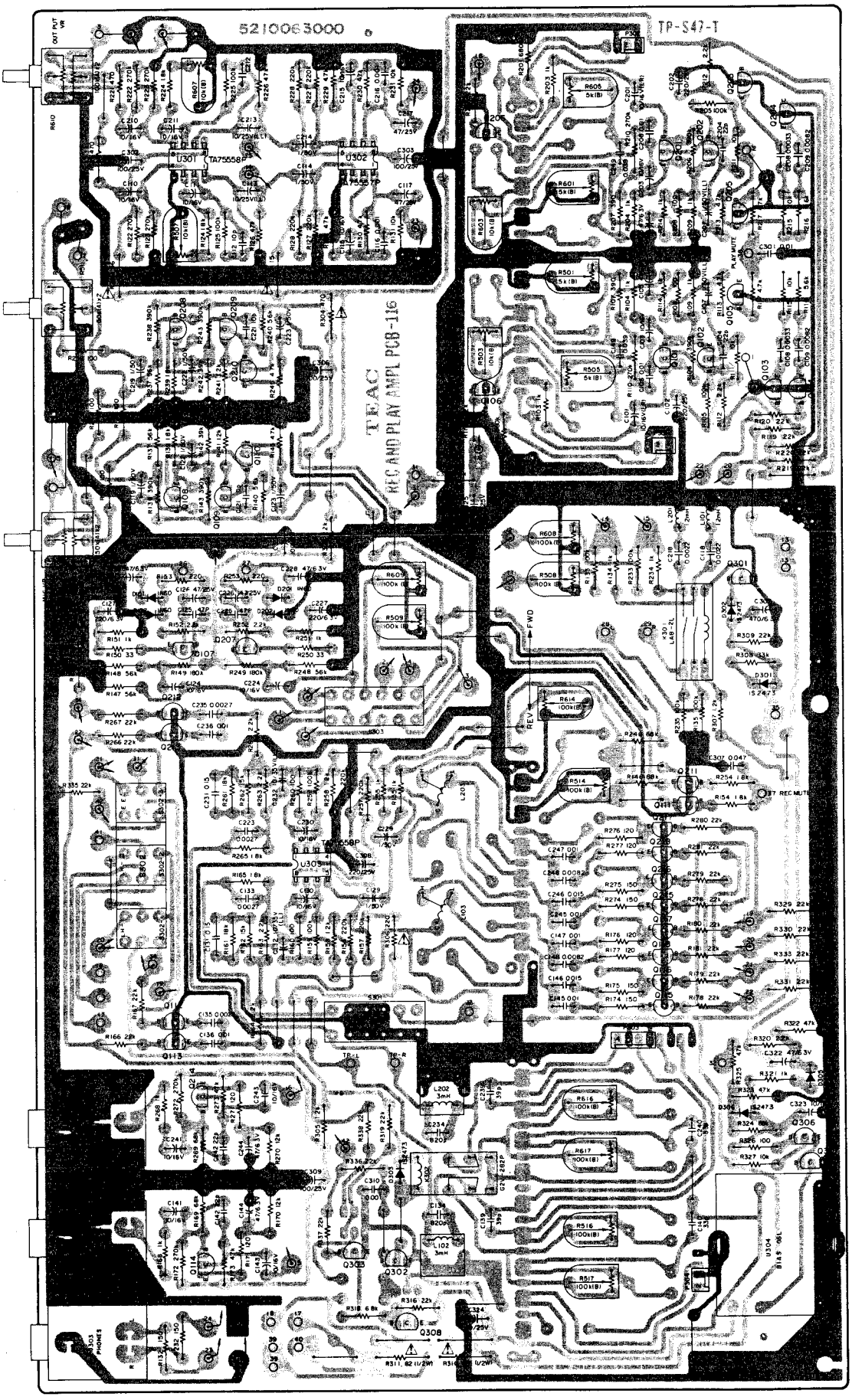
5 PC BOARD AND PARTS LIST

PC Boards shown viewed from foil side.

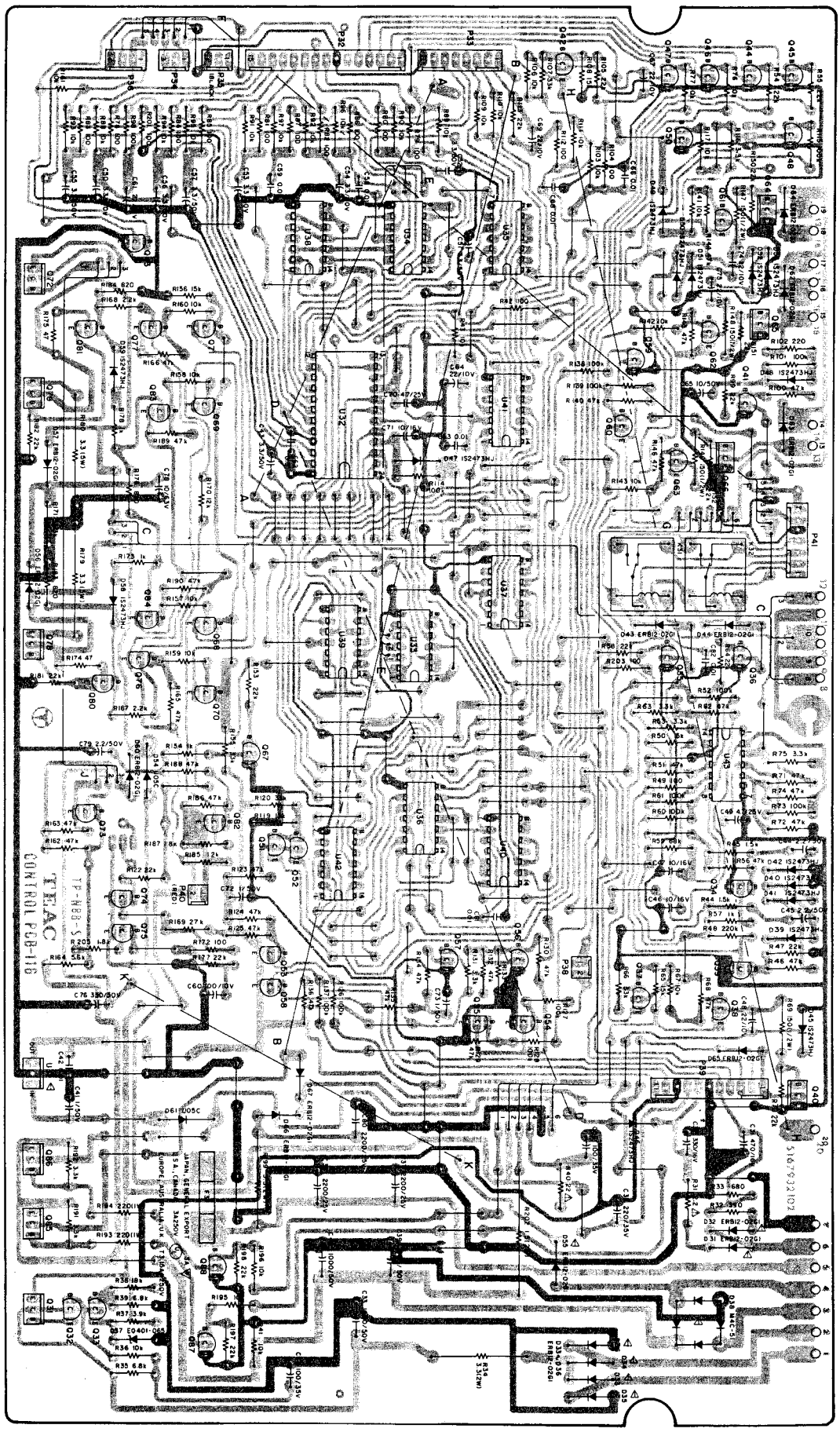
REC AND PLAY AMPL. PCB ASSY (X-7RMkII)



REC AND PLAY AMPL. PCB ASSY (X-7MkII)



CONTROL PCB ASSY (X-7RMkII)



REC AND PLAY AMPL. PCB ASSY (X-7RMkII)

REF. NO.	PARTS NO.	DESCRIPTION
	5200064000	PCB Assy
	5210064000	PCB
	IC's	
U301	5220410900	TA-75558P
U302	5220412200	TA-75557P
U303	5220410900	TA-75558P
	TRANSISTORS	
Q101, Q201	5042461000	2SC-1327T
Q102, Q202	5145036000	2SC-945LK
Q103, Q203	5145036000	2SC-945LK
Q104, Q204	5145036000	2SC-945LK
Q105, Q205	5145036000	2SC-945LK
Q106, Q206	5145036000	2SC-945LK
Q107, Q207	5145036000	2SC-945LK
Q108, Q208	5145092000	2SC-1740LNS
Q109, Q209	5145092000	2SC-1740LNS
Q110, Q210	5145036000	2SC-945LK
Q111, Q211	5145036000	2SC-945LK
Q112, Q212	5145036000	2SC-945LK
Q113, Q213	5145036000	2SC-945LK
Q114, Q214	5042461000	2SC-1327T
Q115, Q215	5145036000	2SC-945LK
Q116, Q276	5145036000	2SC-945LK
Q117, Q217	5145036000	2SC-945LK
Q118, Q218	5145036000	2SC-945LK
Q301~Q308	5145036000	2SC-945LK
Q306	5145036000	2SC-945LK
Q307	5145036000	2SD-655E
Q308	5145036000	2SA-1015GR
	DIODES	
D101, D201	5042213000	IN60
D102, D202	5042213000	IN60
D301~D303	5042517000	1S2473VE
D305, D306	5042517000	1S2473VE
	CARBON RESISTORS	
	All Resistors are rated ±5% tolerance and ¼W.	
R101, R201	5183150000	680kΩ
R102, R202	5183150000	680kΩ
R103, R203	5183082000	1kΩ
R104, R204	5183082000	1kΩ
R105, R205	5183130000	100kΩ
R106, R206	5183144000	390kΩ
R107, R207	5183072000	390Ω
R108, R208	5183058000	100Ω
R109, R209	5183082000	1kΩ
R110, R210	5183142000	330kΩ
R111, R211	5183106000	10kΩ
R112, R212	5183090000	2.2kΩ
R113, R213	5183098000	47kΩ
R114, R214	5183082000	1kΩ
R115, R215	5183106000	10kΩ
R116, R216	5183100000	5.6kΩ
R117, R217	5183098000	4.7kΩ
R118, R218	5183114000	22kΩ
R119, R219	5183114000	22kΩ
R120, R220	5183114000	22kΩ
R121, R221	5183074000	470Ω
R122, R222	5183140000	270kΩ
R123, R223	5183140000	270kΩ
R124, R224	5183088000	1.8kΩ

REF. NO.	PARTS NO.	DESCRIPTION	
R125, R225	5183130000	100kΩ	
R126, R226	5183122000	47kΩ	
R127, R227	5183138000	220kΩ	
R128, R228	5183138000	220kΩ	
R129, R229	5183098000	4.7kΩ	
R130, R230	5183098000	4.7kΩ	
R131, R231	5183106000	10kΩ	
R132, R232	5183062000	150Ω	
R133, R233	5183130000	100kΩ	
R134, R234	5183082000	1kΩ	
R135, R235	5183130000	100kΩ	
R136, R236	5183058000	100Ω	
R137, R237	5183124000	56kΩ	
R138, R238	5183144000	390kΩ	
R139, R239	5183088000	1.8kΩ	
R140, R240	5183100000	5.6kΩ	
R141, R241	5183084000	1.2kΩ	
R142, R242	5183120000	39kΩ	
R143, R243	5183144000	390kΩ	
R144, R244	5183058000	100Ω	
R145, R245	5183098000	4.7kΩ	
R146, R246	5183130000	100kΩ	
R147, R247	5183124000	56kΩ	
R148, R248	5183124000	56kΩ	
R149, R249	5183136000	180kΩ	
R150, R250	5183046000	33Ω	
R151, R251	5183082000	1kΩ	
R152, R252	5183090000	2.2kΩ	
R153, R253	5183066000	220Ω	
R154, R254	5183088000	1.8kΩ	
R155, R255	5183082000	1kΩ	
R156, R256	5183138000	220kΩ	
R157, R257	5183138000	220kΩ	
R158, R258	5183084000	1.2kΩ	
R159, R259	5183130000	100kΩ	
R160, R260	5183058000	100Ω	
R161, R261	5183112000	18kΩ	
R162, R262	5183110000	15kΩ	
R163, R263	5183090000	2.2kΩ	
R164, R264	5183090000	2.2kΩ	
R165, R265	5183088000	1.8kΩ	
R166, R266	5183114000	22kΩ	
R167, R267	5183114000	22kΩ	
R168, R268	5183082000	1kΩ	
R169, R269	5183126000	68kΩ	
R170, R270	5183108000	12kΩ	
R171, R271	5183060000	120Ω	
R172, R272	5183140000	270kΩ	
R173, R273	5183122000	47kΩ	
R174, R274	5183062000	150Ω	
R175, R275	5183062000	150Ω	
R176, R276	5183060000	120Ω	
R177, R277	5183060000	120Ω	
R178, R278	5183114000	22kΩ	
R179, R279	5183114000	22kΩ	
R180, R280	5183114000	22kΩ	
R181, R281	5183114000	22kΩ	
R301	⚠5184229000	15Ω	Nonflammable
R302	⚠5184243000	56Ω	Nonflammable
R303	5183090000	2.2kΩ	
R304	⚠5184265000	470Ω	Nonflammable
R305	5183084000	1.2kΩ	
R306	⚠5184257000	220Ω	Nonflammable
R307	5183084000	1.2kΩ	

REF. NO.	PARTS NO.	DESCRIPTION	
R308	5183118000	33kΩ	
R309	5183114000	22kΩ	
R310	⚠5181990000	47Ω	Nonflammable
R311	⚠5181996000	82Ω	Nonflammable
R316	5183114000	22kΩ	
R318	5183102000	6.8kΩ	
R320	5183090000	2.2kΩ	
R321	5183082000	1kΩ	
R322, R323	5183098000	4.7kΩ	
R324	5183126000	68kΩ	
R325	5183098000	4.7kΩ	
R326	5183058000	100Ω	
R327	5183106000	10kΩ	
R328~R331	5183114000	22kΩ	
R332	5183082000	1kΩ	
R333	5183114000	22kΩ	
R335~R337	5183114000	22kΩ	

CAPACITORS

C101, C201	5171565000	Elec.	10μF	16V	(LR)
C102, C202	5173055000	Elec.	220μF	25V	(SM)
C103, C203	5173010000	Elec.	10μF	16V	(SM)
C104, C204	5172304000	Ceramic	220pF	50V	±10%
C105, C205	5173034000	Elec.	47μF	6.3V	(SM)
C106, C206	5054877500	Mylar	0.01μF	100V	±5%
C107, C207	5260226110	Elec.	1μF	50V	±10%
C108, C208	5054881500	Mylar	0.0033μF	100V	±5%
C109, C209	5054894500	Mylar	0.0082μF	100V	±5%
C110, C210	5173010000	Elec.	10μF	16V	(SM)
C111, C211	5173010000	Elec.	10μF	16V	(SM)
C112, C212	5172300000	Ceramic	10pF	50V	±20%
C113, C213	5260222010	Elec.	10μF	35V	±20%
C114, C214	5172992000	Elec.	1μF	50V	(SM)
C115, C215	5173010000	Elec.	10μF	16V	(SM)
C116, C216	5054878500	Mylar	0.001μF	100V	±5%
C117, C217	5173037000	Elec.	47μF	25V	(SM)
C118, C218	5054876500	Mylar	0.0022μF	100V	±5%
C119, C219	5172992000	Elec.	1μF	50V	(SM)
C121, C221	5172300000	Elec.	10pF	50V	±20%
C122, C222	5172992000	Elec.	1μF	50V	(SM)
C123, C223	5172992000	Elec.	1μF	50V	(SM)
C124, C224	5173010000	Elec.	10μF	16V	(SM)
C125, C225	5172308000	Ceramic	47pF	50V	±10%
C126, C226	5173004000	Elec.	4.7μF	25V	(SM)
C127, C227	5173052000	Elec.	220μF	6.3V	(SM)
C128, C228	5173034000	Elec.	47μF	6.3V	(SM)
C129, C229	5172992000	Elec.	1μF	50V	(SM)
C130, C230	5173010000	Elec.	10μF	16V	(SM)
C131, C231	5054930500	Mylar	0.15μF	100V	±5%
C132, C232	5260222000	Elec.	10μF	35V	±20%
C133, C233	5054889500	Mylar	0.0027μF	100V	±5%
C134, C234	5172826000	Rubber Polyst.	820pF	50V	±5%
C135, C235	5054889500	Mylar	0.0027μF	100V	±5%
C136, C236	5054877500	Mylar	0.01μF	100V	±5%
C139, C239	5172794000	Rubber Polyst.	39pF	50V	±5%
C140, C240	5172794000	Rubber Polyst.	33pF	50V	±5%
C141, C241	5173010000	Elec.	10μF	16V	(SM)
C142, C242	5172304000	Ceramic	22pF	50V	±10%
C143, C243	5173010000	Elec.	10μF	16V	(SM)
C144, C244	5173034000	Elec.	47μF	6.3V	(SM)
C145, C245	5054877500	Mylar	0.01μF	100V	±5%
C146, C246	5054887500	Mylar	0.015μF	100V	±5%
C147, C247	5054877500	Mylar	0.01μF	100V	±5%
C148, C248	5054894500	Mylar	0.0082μF	100V	±5%

REF. NO.	PARTS NO.	DESCRIPTIONS			
C149, C249	5054924500	Mylar	0.039μF	100V	±5%
C301	5054877500	Mylar	0.01μF	100V	±5%
C302	5173046000	Elec.	100μF	25V	(SM)
C303	5173055000	Elec.	220μF	25V	(SM)
C304	5173046000	Elec.	100μF	25V	(SM)
C305	5173070000	Elec.	470μF	6.3V	(SM)
C306	5173046000	Elec.	100μF	25V	(SM)
C307	5054738500	Mylar	0.047μF	100V	±5%
C308	5173055000	Elec.	220μF	25V	(SM)
C309	5173046000	Elec.	100μF	25V	(SM)
C310	5054878500	Mylar	0.001μF	100V	±5%
C322	5173034000	Elec.	47μF	6.3V	(SM)
C323	5173010000	Elec.	10μF	16V	(SM)
C324, C325	5173011000	Elec.	10μF	25V	(SM)

VARIABLE RESISTORS

R501, R601	5280003302	Semi-fixed	5kΩ(B)
R502, R602	5280003302	Semi-fixed	5kΩ(B)
R503, R603	5280003502	Semi-fixed	10kΩ(B)
R504, R604	5280003502	Semi-fixed	10kΩ(B)
R505, R605	5280003302	Semi-fixed	5kΩ(B)
R506, R606	5280003302	Semi-fixed	5kΩ(B)
R507, R607	5280003502	Semi-fixed	10kΩ(B)
R508, R608	5280004202	Semi-fixed	100kΩ(B)
R509, R609	5280004202	Semi-fixed	100kΩ(B)
R513, R613	5280004202	Semi-fixed	100kΩ(B)
R514, R614	5280004202	Semi-fixed	100kΩ(B)
R515, R615	5280004202	Semi-fixed	100kΩ(B)
R516, R616	5280004202	Semi-fixed	100kΩ(B)
R517, R617	5280004202	Semi-fixed	100kΩ(B)
R518, R618	5280004202	Semi-fixed	100kΩ(B)

MISCELLANEOUS

U304	5040090000	BIAS OSC Unit
K301	5061137000	Relay; 12V LAB2L
K302	5290009400	Relay; 24V G2V-282P
S301	5134095000	Push; 4-2
S303	5134095000	Push; 4-2
S304	5131044000	Slide; 9-2
S305	5131045000	Slide; 6-2
S306	5131044000	Slide; 9-2
S307	5300025200	Push Switch; 2-2x3
S309	5300025200	Push Switch; 2-2x3
P301	5122128000	Connector Plug 4P
P302	5122301000	Connector Plug 4P (RED)
P303	5122132000	Connector Plug 8P
P304	5122128000	Connector Plug 4P
L101, L201	5160107000	Choke Coil; 1200μF ±5% (Lock)
L102, L202	5056659000	Trap Coil; 3μH 20%
L103, L203	5056637000	Record Coil; EQ 2.4-4.2mH 20%
L104, L204	5056637000	Record Coil; EQ 2.4-4.2mH 20%
J301, J302	5124045000	Jack, MIC
J303	5124046000	Jack, PHONES

REC AND PLAY AMPL. PCB ASSY (X-7MkII)

REF. NO.	PARTS NO.	DESCRIPTION
	5200073000	PCB Assy
	5210073000	PCB
	IC's	
U301	5220410900	TA75558P
U302	5220412200	TA75559P
U303	5220410900	TA75558P
	TRANSISTORS	
Q101, Q201	5042461000	2SC-1327T
Q102, Q202	5145036000	2SC-945LK
Q103, Q203	5145036000	2SC-945LK
Q104, Q204	5145036000	2SC-945LK
Q105, Q205	5145036000	2SC-945LK
Q106, Q206	5145036000	2SC-945LK
Q107, Q207	5145036000	2SC-945LK
Q108, Q208	5145092000	2SC-1740LNS
Q109, Q209	5145092000	2SC-1740LNS
Q110, Q210	5145036000	2SC-945LK
Q111, Q211	5145036000	2SC-945LK
Q112, Q212	5145036000	2SC-945LK
Q113, Q213	5145036000	2SC-945LK
Q114, Q214	5042461000	2SC-1327T
Q115, Q215	5145036000	2SC-945LK
Q116, Q216	5145036000	2SC-945LK
Q117, Q217	5145036000	2SC-945LK
Q118, Q218	5145036000	2SC-945LK
Q301	5145036000	2SC-945LK
Q302	5145036000	2SC-945LK
Q303	5145036000	2SC-945LK
Q306	5145036000	2SC-945LK
Q307	5145185000	2SD-655E
Q308	5145150000	2SA-1015GR
	DIODES	
D101, D201	5042213000	IN60
D102, D202	5042213000	IN60
D301~D303	5042517000	1S2473VE
D305, D306	5042517000	1S2473VE
	CARBON RESISTORS	
	All Resistors are rated ±5% tolerance and ⅛W.	
R101, R201	5183150000	680kΩ
R103, R203	5183082000	1kΩ
R104, R204	5183082000	1kΩ
R105, R205	5183130000	100kΩ
R106, R206	5183144000	390kΩ
R107, R207	5183072000	390Ω
R108, R208	5183058000	100Ω
R109, R209	5183082000	1kΩ
R110, R210	5183142000	330kΩ
R111, R211	5183106000	10kΩ
R112, R212	5183090000	2.2kΩ
R113, R213	5183098000	4.7kΩ
R114, R214	5183082000	1kΩ
R115, R215	5183106000	10kΩ
R116, R216	5183100000	5.6kΩ
R117, R217	5183098000	4.7kΩ
R118, R218	5183114000	22kΩ
R119, R219	5183114000	22kΩ
R120, R220	5183114000	22kΩ
R121, R221	5183074000	470Ω

REF. NO.	PARTS NO.	DESCRIPTION	
R122, R222	5183140000	270kΩ	
R123, R223	5183140000	270kΩ	
R124, R224	5183088000	1.8kΩ	
R125, R225	5183130000	100kΩ	
R126, R226	5183122000	47kΩ	
R127, R227	5183138000	220kΩ	
R128, R228	5183138000	220kΩ	
R129, R229	5183098000	4.7kΩ	
R130, R230	5183098000	4.7kΩ	
R131, R231	5183106000	10kΩ	
R132, R232	5183062000	150Ω	
R133, R233	5183130000	100kΩ	
R134, R234	5183082000	1kΩ	
R135, R235	5183130000	100kΩ	
R136, R236	5183058000	100Ω	
R137, R237	5183124000	56kΩ	
R138, R238	5183144000	390kΩ	
R139, R239	5183088000	1.8kΩ	
R140, R240	5183100000	5.6kΩ	
R141, R241	5183084000	1.2kΩ	
R142, R242	5183120000	39kΩ	
R143, R243	5183144000	390kΩ	
R144, R244	5183058000	100Ω	
R145, R245	5183098000	4.7kΩ	
R146, R246	5183130000	100kΩ	
R147, R247	5183124000	56kΩ	
R148, R248	5183124000	56kΩ	
R149, R249	5183136000	180kΩ	
R150, R250	5183046000	33Ω	
R151, R251	5183082000	1kΩ	
R152, R252	5183090000	2.2kΩ	
R153, R253	5183066000	220Ω	
R154, R254	5183088000	1.8kΩ	
R155, R255	5183082000	1kΩ	
R156, R256	5183138000	220kΩ	
R157, R257	5183138000	220kΩ	
R158, R258	5183084000	1.2kΩ	
R159, R259	5183130000	100kΩ	
R160, R260	5183058000	100Ω	
R161, R261	5183172000	18kΩ	
R162, R262	5183110000	15kΩ	
R163, R263	5183090000	2.2kΩ	
R164, R264	5183090000	2.2kΩ	
R165, R265	5183088000	1.8kΩ	
R166, R266	5183114000	22kΩ	
R167, R267	5183114000	22kΩ	
R168, R268	5183082000	1kΩ	
R169, R269	5183126000	68kΩ	
R170, R270	5183108000	12kΩ	
R171, R271	5183060000	120Ω	
R172, R272	5183140000	270kΩ	
R173, R273	5183122000	47kΩ	
R174, R274	5183062000	150Ω	
R175, R275	5183062000	150Ω	
R176, R276	5183060000	120Ω	
R177, R277	5183060000	120Ω	
R178, R278	5183114000	22kΩ	
R179, R279	5183114000	22kΩ	
R180, R280	5183114000	22kΩ	
R181, R281	5183114000	22kΩ	
R301	⚠5184229000	15Ω	Nonflammable
R302	⚠5184243000	56Ω	Nonflammable
R303	5183090000	2.2kΩ	
R304	⚠5184265000	470Ω	Nonflammable

REF. NO.	PARTS NO.	DESCRIPTION	
R305	5183084000	1.2kΩ	
R306	⚠5184257000	220Ω	Nonflammable
R307	5183084000	1.2kΩ	
R308	5183118000	33kΩ	
R309	5183114000	22kΩ	
R310	⚠5181990000	47kΩ	Nonflammable
R311	⚠5181996000	82kΩ	Nonflammable
R316	5183114000	22kΩ	
R318	5183102000	6.8kΩ	
R320	5183090000	2.2kΩ	
R321	5183082000	1kΩ	
R322	5183098000	4.7kΩ	
R323	5183098000	4.7kΩ	
R324	5183126000	68kΩ	
R325	5183098000	4.7kΩ	
R326	5183058000	100Ω	
R327	5183106000	10kΩ	
R328~R331	5183114000	22kΩ	
R332	5183082000	1kΩ	
R333	5183114000	22kΩ	
R335~R337	5183114000	22kΩ	
CAPACITORS			
C101, C201	5171565000	Elec.	10μF 16V (LR)
C102, C202	5173055000	Elec.	220μF 25V (SM)
C103, C203	5173010000	Elec.	10μF 16V (SM)
C104, C204	5172304000	Ceramic	22pF 50V ±10%
C105, C205	5173034000	Elec.	47μF 63V (SM)
C106, C206	5054877500	Mylar	0.01μF 100V ±5%
C107, C207	5260226110	Elec.	1μF 50V ±10%
C108, C208	5054881500	Mylar	0.0033μF 100V ±10%
C109, C209	5054881500	Mylar	0.0082μF 100V ±10%
C110, C210	5173010000	Elec.	10μF 16V (SM)
C111, C211	5173010000	Elec.	10μF 16V (SM)
C112, C212	5172300000	Ceramic	10pF 50V ±20%
C113, C213	5260222000	Elec.	10μF 35V ±20%
C114, C214	5172992000	Elec.	1μF 50V (SM)
C115, C215	5173010000	Elec.	10μF 16V (SM)
C116, C216	5054878500	Mylar	0.001μF 100V ±5%
C117, C217	5173037000	Elec.	47μF 25V (SM)
C118, C218	5054876500	Mylar	0.0022μF 100V ±5%
C119, C219	5172992000	Elec.	1μF 50V (SM)
C121, C221	5172300000	Ceramic	10pF 50V ±20%
C122, C222	5172992000	Elec.	1μF 50V (SM)
C123, C223	5172992000	Elec.	1μF 50V (SM)
C124, C224	5173010000	Elec.	10μF 16V (SM)
C125, C225	5172308000	Ceramic	47pF 50V ±10%
C126, C226	5173004000	Elec.	4.7μF 25V (SM)
C127, C227	5173052000	Elec.	220μF 6.3V (SM)
C128, C228	5173034000	Elec.	47μF 6.3V (SM)
C129, C229	5172992000	Elec.	1μF 50V (SM)
C130, C230	5173010000	Elec.	10μF 16V (SM)
C131, C231	5054930500	Mylar	0.15μF 100V ±5%
C132, C232	5260222010	Elec.	10μF 35V ±20%
C133, C233	5054889500	Mylar	0.0027μF 100V ±5%
C134, C234	5172826000	Rubber Polyst.	820pF 50V ±5%
C135, C235	5054889500	Mylar	0.0027μF 100V ±5%
C136, C236	5054877500	Mylar	0.01μF 100V ±5%
C139, C239	5172794000	Rubber Polyst.	39pF 50V ±5%
C140, C240	5172792000	Rubber Polyst.	33pF 50V ±5%
C141, C241	5173010000	Elec.	10μF 16V (SM)
C142, C242	5172304000	Ceramic	22pF 50V ±10%
C143, C243	5173010000	Elec.	10μF 16V (SM)

REF. NO.	PARTS NO.	DESCRIPTION	
C144, C244	5173034000	Elec.	47μF 6.3V (SM)
C145, C245	5054877500	Mylar	0.01μF 100V ±5%
C146, C246	5054887500	Mylar	0.015μF 100V ±5%
C147, C247	5054877500	Mylar	0.01μF 100V ±5%
C148, C248	5054894500	Mylar	0.0082μF 100V ±5%
C149, C249	5054924500	Mylar	0.039μF 100V ±5%
C301	5054877500	Mylar	0.01μF 100V ±5%
C302~C304	5173046000	Elec.	100μF 25V (SM)
C305	5173070000	Elec.	470μF 6.3V (SM)
C306	5173046000	Elec.	100μF 25V (SM)
C307	5054738500	Mylar	0.047μF 100V ±5%
C308	5173055000	Elec.	220μF 25V (SM)
C309	5173046000	Elec.	100μF 25V (SM)
C310	5054878500	Mylar	0.001μF 100V ±5%
C322	5173034000	Elec.	47μF 6.3V (SM)
C323	5173010000	Elec.	10μF 16V (SM)
C324, C325	5173011000	Elec.	10μF 25V (SM)
VARIABLE RESISTORS			
R501, R601	5280003302	Semi-fixed	5kΩ(B)
R503, R603	5280003502	Semi-fixed	10kΩ(B)
R505, R605	5280003302	Semi-fixed	5kΩ(B)
R507, R607	5280003502	Semi-fixed	10kΩ(B)
R508, R608	5280004202	Semi-fixed	100kΩ(B)
R509, R609	5280004202	Semi-fixed	100kΩ(B)
R514, R614	5280004202	Semi-fixed	100kΩ(B)
R516, R616	5280004202	Semi-fixed	100kΩ(B)
R517, R617	5280004202	Semi-fixed	100kΩ(B)
MISCELLANEOUS			
U304	5040090000	BIAS OSC Unit	
K301	5061137000	Relay; 12V LAB2L	
K302	5290009400	Relay; 24V G2V-282P	
S301	5134095000	Push Switch; 4-2	
S303	5134095000	Push Switch; 4-2	
S307	5300025200	Push Switch; 2-2x3	
P301	5122126000	Connector Plug 2P	
P302	5122299000	Connector Plug 2P (RED)	
P303	5122128000	Connector Plug 4P	
P304	5122126000	Connector Plug 2P	
J301, J302	5124045000	Jack, MIC	
J303	5124046000	Jack, PHONES	
L101, L201	5160107000	Choke Coil 1200μF ±5% (Lock)	
L102, L202	5056659000	Trap Coil 3mH 20%	
L103, L203	5056637000	Record Coil; EQ 2.4-4.2mH 20%	

CONTROL PCB ASSY (X-7RMkII)

REF. NO.	PARTS NO.	DESCRIPTION
	5200004603	PCB Assy [U, C]
	5200004613	PCB Assy [E, UK, A]
	5200004623	PCB Assy [GE, L]
	5167932102	PCB
	IC's	
U31	⚠5147058000	NJM-78M05A
U32	5147054000	AN6251
U33~U37	5147056000	HD-7400P
U38~U42	5147057000	HD-7402P
U43	5147039000	NJM-2901N

[U] : U.S.A. [C] : CANADA [GE] : GENERAL EXPORT
[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

REF. NO.	PARTS NO.	DESCRIPTION
	TRANSISTORS	
Q31	⚠5145087000	2SD-313E
Q32	5042625000	2SC-1318S
Q33~Q37	5042383000	2SC-536F
Q38	5042553000	2SA-733P
Q39	5042383000	2SC-536F
Q40	5042564000	2SC-1061C
Q41~Q52	5042383000	2SC-536F
Q53	5042553000	2SA-733P
Q54~Q57	5042383000	2SC-536F
Q58	5042553000	2SA-733P
Q59	5042383000	2SC-536F
Q60	5042553000	2SA-733P
Q62, Q63	5042553000	2SA-733P
Q65, Q66	5042553000	2SA-733P
Q67~Q71	5042383000	2SC-536F
Q72	5145087000	2SD-313E
Q73	5042625000	2SC-1318S
Q74, Q75	5230776500	2SC-1685R
Q76, Q77	5042553000	2SA-733P
Q78, Q79	5145087000	2SD-313E
Q80, Q81	5042625000	2SC-1318S
Q82~Q84	5042553000	2SA-733P
Q85, Q86	5145129000	2SB-507E
Q87, Q88	5042625000	2SC-1318S
	DIODES	
D31~D36	⚠5143243000	ERB12-02GI
D37	5143154000	Zener, EQA01-06S
D38	⚠5143142000	M4C-51
D39~D42	5143118000	IS2473HJ
D43, D44	5143243000	ERB12-02GI
D45~D47	5143118000	IS2473HJ
D52, D53	IS43118000	IS2473HJ
D54	5143017000	U05C
D55~D57	5143243000	ERB12-02GI
D58, D59	5143118000	IS2473HJ
D60	5143243000	ERB12-02GI
D61	5143017000	U05C
D62, D63	5143243000	ERB12-02GI
D65~D67	5143243000	ERB12-02GI
D69	5143118000	IS2473HJ
	CARBON RESISTORS	
	All Resistors are rated ±5% tolerance and ¼W.	
R31	⚠5184209000	2.2Ω Nonflammable
R32	5183072000	390Ω
R33	5183078000	680Ω
R34	5184306000	3.3Ω 10% Cement
R35	5183102000	6.8kΩ
R36	5183106000	10kΩ
R37	5183096000	3.9kΩ
R38	5183112000	18kΩ
R39	5183102000	6.8kΩ
R40	⚠5184233000	22Ω Nonflammable
R41	5183106000	10kΩ
R42	5183058000	100Ω
R43	5183106000	10kΩ
R44, R45	5183086000	1.5kΩ
R46	5183122000	4.7kΩ
R47	5183114000	22kΩ
R48	5183138000	220kΩ
R49	5183058000	100Ω
R50	5183110000	15kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R51	5183122000	47kΩ
R52	5183130000	100kΩ
R53	5183094000	3.3kΩ
R54, R55	5183114000	2.2kΩ
R56	5183122000	47kΩ
R57	5183082000	1kΩ
R58	5183114000	22kΩ
R59	5183126000	68kΩ
R60, R61	5183130000	100kΩ
R62	5183122000	47kΩ
R63	5183094000	3.3kΩ
R64	5183114000	22kΩ
R65	5183110000	15kΩ
R66	5183118000	33kΩ
R67	5183106000	10kΩ
R68	5183122000	47kΩ
R69	5180062000	150Ω
R70	5183114000	22kΩ
R71, R72	5183122000	47kΩ
R73	5183130000	100kΩ
R74	5183122000	47kΩ
R75	5183094000	3.3kΩ
R76, R77	5183106000	10kΩ
R78~R87	5183058000	100Ω
R88~R97	5183106000	10kΩ
R98	5183130000	100kΩ
R103	5183106000	10kΩ
R104	5183058000	100Ω
R105	5183114000	22kΩ
R106	5183106000	10kΩ
R107	5183118000	33kΩ
R108	5183110000	15kΩ
R109~R111	5183106000	10kΩ
R112	5183058000	100Ω
R113	5183114000	22kΩ
R114, R115	5183130000	100kΩ
R116	5183094000	3.3kΩ
R117	5183106000	10kΩ
R118	5183114000	22kΩ
R119	5183110000	15kΩ
R120	5183118000	33kΩ
R122	5183114000	22kΩ
R123~R125	5183122000	47kΩ
R126~R128	5183130000	100kΩ
R129, R130	5183122000	47kΩ
R131	5183094000	3.3kΩ
R132	5183122000	47kΩ
R133	5183114000	22kΩ
R134~R136	5183122000	47kΩ
R137~R139	5183130000	100kΩ
R140	5183122000	47kΩ
R142, R143	5183106000	10kΩ
R145, R146	5183122000	47kΩ
R148, R149	5183062000	150Ω
R151, R152	5183114000	22kΩ
R153	5183114000	22kΩ
R154	5183082000	1kΩ
R155	5183118000	33kΩ
R156	5183110000	15kΩ
R157~R160	5183106000	10kΩ
R162, R163	5183122000	47kΩ
R164	5183100000	5.6kΩ
R169	5183116000	27kΩ
R170	5183106000	10kΩ

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT
[A]: AUSTRALIA [E]: EUROPE [UK]: U.K.
[L]: LIMITED AREA

REF. NO.	PARTS NO.	DESCRIPTION			
R172	5183058000	100Ω			
R177	5183114000	22kΩ			
R191, R192	5183094000	3.3kΩ			
R193, R194	5184763000	220Ω	1W	Nonflammable	
R195, R196	5183106000	10kΩ			
R197, R198	5183114000	22kΩ			
R199	5184306000	3.3Ω	2W	±10%	Cement
R200	5183138000	220kΩ			
R202	5184302000	1.5Ω	2W	±10%	Cement
R203	5183058000	100Ω			
R205	5183088000	1.8kΩ			
	CAPACITORS				
C31, C32	5172961000	Elec.	470μF	16V	
C33	5172973000	Elec.	1000μF	50V	
C34	5172936000	Elec.	100μF	35V	
C35	5172945000	Elec.	220μF	35V	
C36	5172936000	Elec.	100μF	35V	
C37, C38	5055714800	Elec.	2200μF	25V	
C39, C40	5172973000	Elec.	1000μF	50V	
C41	5172882000	Elec.	1μF	50V	
C42	5054204000	Ceramic	0.01μF	50V	10%
C43	5172890000	Elec.	3.3μF	50V	
C44, C45	5172886000	Elec.	2.2μF	50V	
C46, C47	5172900000	Elec.	10μF	16V	
C48	5172907000	Elec.	22μF	10V	
C49	5172894000	Elec.	4.7μF	25V	
C50~C57	5172890000	Elec.	3.3μF	50V	
C58, C59	5054204000	Elec.	0.01μF	50V	
C61	5172907000	Elec.	22μF	10V	
C63	5054204000	Ceramic	0.01μF	50V	10%
C64	5172907000	Elec.	22μF	10V	
C66	5054204000	Ceramic	0.01μF	50V	10%
C67	5172907000	Elec.	22μF	10V	
C68	5054204000	Ceramic	0.01μF	50V	10%
C69	5172907000	Elec.	22μF	10V	
C70	5172894000	Elec.	47μF	25V	
C71	5172900000	Elec.	10μF	16V	
C72, C73	5172882000	Elec.	1μF	50V	
C75	5172907000	Elec.	2.2μF	10V	
C78	5172904000	Elec.	10μF	63V	
C79	5172886000	Elec.	2.2μF	50V	
C80	5055714800	Elec.	2200μF	25V	
C81, C82	5054204000	Ceramic	0.01μF	50V	10%
	MISCELLANEOUS				
K31, K31	5061144000	Relay; G2U-113P 24V			
	5033291000	Plate, Insulating			
	5033295000	Tube, Insulating			
	5122127000	Connector Plug 3P			
	5122131000	Connector Plug 7P			
	5122132000	Connector Plug 8P			
	5122135000	Connector Plug 11P			
	5122139000	Connector Plug 15P			
	5122184000	Connector Plug 3P (BLK)			
	5142087000	Fuse Holder			
F31	⚠5142231000	Mini Fuse 3A 250V [GE, L]			
	⚠5307027100	Mini Fuse 3A 250V [U, C]			
	⚠5142191000	Mini Fuse 3.15A 250V [E,UK,A]			

CONTROL PCB ASSY (X-7MkII)

REF. NO.	PARTS NO.	DESCRIPTION
	5200004803	PCB Assy
	5167933002	PCB
	IC's	
U31	⚠5147058000	NJM78M05A
U32	5147054000	AN6251
U33~U35	5147056000	HD7400P
U36, U37	5147057000	HD7402P
	TRANSISTORS	
Q31	⚠5145087000	2SD313(E)
Q32	5042625000	2SC1318(S)
Q33~Q41	5230776520	2SC-1685R
Q42	5230015220	2SA-1127R
Q43~Q45	5230776520	2SC-1685R
Q46	5230015220	2SA-1127R
Q47	5230776520	2SC-1685R
Q48	5230015220	2SA-1127R
Q51, Q52	5230015220	2SA-1127R
Q53, Q54	5042564000	2SC1061(C)
Q58~Q61	5230776520	2SC-1685R
Q68, Q69	5042625000	2SC1318(S)
Q70, Q71	5145087000	2SD313(E)
Q72	5145129000	2SB507(E)
Q73	5042625000	2SC1318(S)
Q74	5145087000	2SD-313E
Q75	5042625000	2SC-1318S
Q78	5230776520	2SC-1685R
Q79, Q80	5230776520	2SC-1685R
	DIODES	
D31~D36	⚠5143243000	ERB12-02GI
D37	5143154000	Zener, EQA01-06S
D38	⚠5143142000	M4C-51
D39	5143118000	1S2473HJ
D41	5143118000	1S2473HJ
D45, D46	5143118000	1S2473HJ
D48, D49	5143243000	ERB12-02GI
D50	5143118000	1S2473HJ
D51	5143017000	U05C
D52	5143243000	ERB12-02GI
D55, D56	5143243000	ERB12-02GI
D57, D58	5143118000	1S2473HJ
D60	⚠5143243000	ERB12-02GI
	RESISTORS	
	All Resistors are rated ±5% tolerance, ¼W and of carbon type unless otherwise noted.	
R31	⚠5184209000	2.2Ω Nonflammable
R32	5183072000	390Ω
R33	5183078000	680Ω
R34	5184306000	3.3Ω 2W Cement
R35	5183102000	6.8kΩ
R36	5183106000	10kΩ
R37	5183096000	3.9kΩ
R38	5183112000	18kΩ
R39	5183102000	6.8kΩ
R40	⚠5184233000	22Ω Nonflammable
R41	5183106000	10kΩ
R42, R43	5183094000	3.3kΩ
R44, R45	5183112000	18kΩ
R46~R53	5183058000	100Ω
R54~R61	5183054000	10kΩ

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[A] : AUSTRALIA [E] : EUROPE [UK] : U.K.
[L] : LIMITED AREA

REF. NO.	PARTS NO.	DESCRIPTION	
R62	5183058000	100Ω	
R63	5183106000	10kΩ	
R73	5183130000	100kΩ	
R74	5183138000	220kΩ	
R75, R76	5183106000	10kΩ	
R77	5183130000	100kΩ	
R78	5183094000	3.3kΩ	
R79	5183106000	10kΩ	
R80	5183130000	100kΩ	
R81	5183118000	33kΩ	
R82	5183110000	15kΩ	
R83~R85	5183122000	47kΩ	
R86, R87	5183130000	100kΩ	
R88, R89	5183122000	47kΩ	
R90	5183094000	3.3kΩ	
R91, R94	5183122000	47kΩ	
R96, R97	5183130000	100kΩ	
R98	5183122000	47kΩ	
R103, R104	5183106000	10kΩ	
R105, R106	5183122000	47kΩ	
R107, R108	5180062000	150Ω	
R109, R111	5183114000	22kΩ	
R112	5183118000	33kΩ	
R113	5183110000	15kΩ	
R114, R115	5183122000	47kΩ	
R116, R117	5183106000	10kΩ	
R118, R119	5183090000	2.2kΩ	
R120	5183084000	1.2kΩ	
R121, R122	5183122000	47kΩ	
R123	5183088000	1.8kΩ	
R124	5183122000	47kΩ	
R125	5183106000	10kΩ	
R127	5183106000	10kΩ	
R128	5183116000	27kΩ	
R129	5183094000	3.3kΩ	
R130	5183088000	1.8kΩ	
R131, R132	5183050000	47Ω	
R133, R134	5184410000	3.3Ω	5W Cement
R135, R136	5183114000	22kΩ	
R137, R138	518308000	820Ω	
R139	5183082000	1kΩ	
R140	5183100000	5.6kΩ	
R141	5183094000	3.3kΩ	
R142	5184763000	220Ω	1W Metal Film
R143	5183106000	10kΩ	
R144	5183114000	22kΩ	
R145, R146	5183122000	47kΩ	
R150	5183130000	100kΩ	
R151	5183082000	1kΩ	
R158	5183114000	22kΩ	
R159	5183088000	1.8kΩ	
R160	5183058000	100Ω	
R161	5184302000	1.5Ω	2W 10% Cement
CAPACITORS			
C31, C32	5172961000	Elec. 470μF	16V
C33	5172973000	Elec. 1000μF	50V
C34	5172936000	Elec. 100μF	35V
C35	5172945000	Elec. 220μF	35V
C36	5172936000	Elec. 100μF	35V
C37, C38	5172973000	Elec. 1000μF	50V
C39, C40	5055714800	Elec. 2200μF	25V
C41	5172882000	Elec. 1μF	50V
C42	5172236000	Ceramic 0.01μF	50V

REF. NO.	PARTS NO.	DESCRIPTION	
C43~C49	5172890000	Elec. 3.3μF	50V
C50	5172236000	Ceramic. 0.01μF	50V
C52	5172890000	Elec. 3.3μF	50V
C53, C54	5172907000	Elec. 22μF	10V
C55	5172236000	Ceramic 0.01μF	50V
C57	5172900000	Elec. 10μF	16V
C58	5172907000	Elec. 10μF	16V
C61, C62	5172907000	Elec. 22μF	10V
C64	5172907000	Elec. 22μF	10V
C65, C66	5172882000	Elec. 1μF	50V
C68	5172955000	Elec. 330μF	50V
C69	5172886000	Elec. 2.2μF	50V
C70	5172904000	Elec. 10μF	63V
C72	5172236000	Ceramic 0.01μF	50V
MISCELLANEOUS			
P31	5122129000	Connector, Plug; 5P	
P33	5122183000	Connector, Plug; 2P (Black)	
P34	5122136000	Connector, Plug; 12P	
P35	5122184000	Connector, Plug; 3P (Black)	
P36	5122127000	Connector, Plug; 3P	
P38	5122133000	Connector, Plug; 9P	
	5147041000	Socket, IC; 24P	
	5033291000	Plate, Insulating	
	5033295000	Tube, Insulating	
F31	⚠5307027100	Fuse 3A 250V	
	5142087000	Fuse Holder	

SPEED SW PCB ASSY (X-7RMkII/X-7MkII)

REF. NO.	PARTS NO.	DESCRIPTION	
	5158001000	PCB Assy	
	5157001001	PCB	
TRANSISTOR			
Q621	5042383000	2SC536(F)	
CARBON RESISTORS			
All Resistors are rated ±5% tolerance and ¼W.			
R621	5057058000	100Ω	
R622	5057122000	47kΩ	
R623	5057114000	22kΩ	
R626	5057058000	100Ω	
CAPACITORS			
C621, C622	5055454000	Elec. 1μF	50V
MISCELLANEOUS			
P621	5122130000	Connector, Plug; 6P	
	5134093000	Switch, Push; 6PDT	

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[A]: AUSTRALIA [E]: EUROPE [UK]: U.K.
[L]: LIMITED AREA

CONNECTOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5168931100	PCB Assy
	5167931000	PCB
	DIODE	
D601	5143118000	1S2473HJ
	CARBON RESISTORS	
	All Resistors are rated ±5% tolerance and ¼W.	
R601	5183122000	47kΩ
R602, R603	5183090000	2.2kΩ
R604	5183086000	1.5kΩ
R605~R607	5183088000	1.8kΩ
	MISCELLANEOUS	
P602	5122158000	Connector Plug, 15P
J601	5122336000	Connector Plug, 12P
	5554099100	Bracket, Connector [A-7300]

CONNECTOR PCB ASSY (X-7MkII)

REF. NO.	PARTS NO.	DESCRIPTION
	5158002000	PCB Assy
	5167931000	PCB
	CARBON RESISTORS	
	All Resistors are rated ±5% tolerance and ¼W.	
R601	5183088000	1.8kΩ
R602	5183090000	2.2kΩ
R604	5183086000	1.5kΩ
R605	5183088000	1.8kΩ
R609	5183090000	2.2kΩ
	MISCELLANEOUS	
	5122155000	Connector Plug, 12P

TIMER PCB ASSY (PC Board Omitted.) [X-7RMkII/X-7MkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5168926100	PCB Assy
	5167926000	PCB
	DIODE	
D641	5143243000	ERB12-02
	MISCELLANEOUS	
P641	5122145000	Connector Plug, 2P (WHT)
P642	5122454000	Connector Plug, 3P (RED)
S32	5134090000	Push Switch 2-4

OPERATION PCB ASSY (PC Board Omitted.) [X-7RMkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5168929000	PCB Assy
	5167929000	PCB
D801~D803	5143139000	LED SLB-260GG (GREEN)
D804, D805	5143140000	LED SLB-26UR (RED)
S801~S808	513801100	Switch, Tact

OPERATION PCB ASSY (PC Board Omitted.) [X-7MkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5168930000	PCB Assy
	5167930000	PCB
S801~S807	5138011000	Switch, Tact
D801	5143139000	LED SLB-260GG (GREEN)
D802, D803	5143140000	LED SLB-26UR (RED)

SWITCH PCB ASSY (PC Board Omitted.) [X-7RMkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5168928000	PCB Assy
	5167928000	PCB
S34	5133013000	Rotary Switch

PITCH CONT PCB ASSY (PC Board Ommitted.) [X-7RMkII/X-7MkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5168938000	PCB Assy
	5167988000	PCB
	VARIABLE RESISTORS	
S36	5150239000	5kΩ(B)

FUSE PCB ASSY (PC Board Omitted.) [X-7RMkII/X-7MkII]

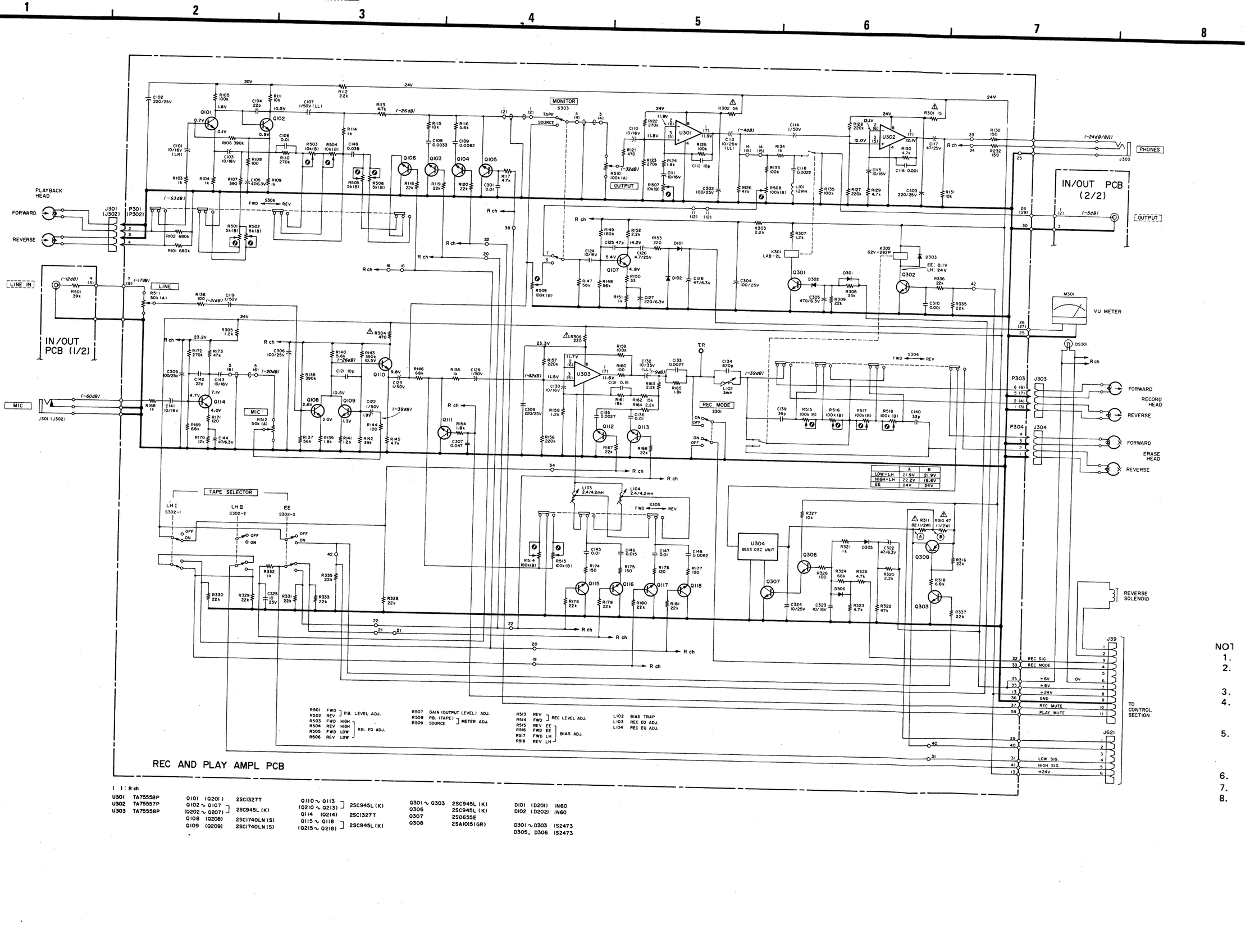
REF. NO.	PARTS NO.	DESCRIPTION
	5168997000	FUSE PCB Assy [U, C]
	5167997000	PCB
F1, F2	⚠5307004700	Fuse 7A 127V
F3	⚠5307004100	Fuse 2A 250V
	5041237000	Fuse Holder
	5158105000	Fuse PCB Assy [E, UK, A]
	5157105000	PCB Assy
	⚠5142193000	Mini Fuse 5A 250V
	⚠5142189000	Mini Fuse 2A 250V
	5142087000	Fuse Holder

IN/OUTPUT TERMINAL PCB ASSY (PC Board Ommitted.) [X-7RMkII/X-7MkII]

REF. NO.	PARTS NO.	DESCRIPTION
	5200036000	PCB Assy
	5167987101	PCB
	5124058000	Jack, 4P
	CARBON RESISTORS	
R535, R536	5183120000	39kΩ ¼W 5%

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT
[A]: AUSTRALIA [E]: EUROPE [UK]: U.K.
[L]: LIMITED AREA

TEAC SCHEMATIC DIAGRAM (AMPLIFIER) X-7R MK II



	A	B
LOW-LH	21.9V	21.9V
HIGH-LH	22.2V	18.6V
EE	24V	24V

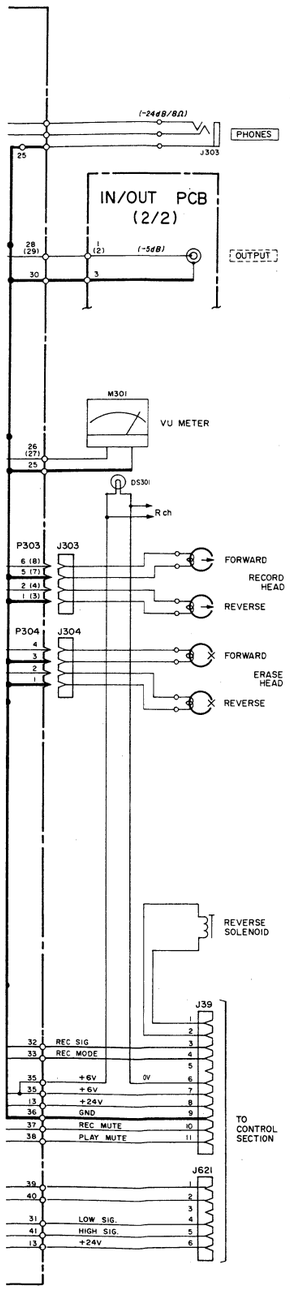
R501 FWD, R502 REV] RB. LEVEL ADJ.
R503 FWD HIGH, R504 REV HIGH, R505 FWD LOW, R506 REV LOW] RB. EQ ADJ.
R507 GAIN (OUTPUT LEVEL) ADJ.
R508 RB. (TAPE)] METER ADJ.
R509 SOURCE
R513 REV, R514 FWD] REC LEVEL ADJ.
R515 REV EE, R516 FWD EE, R517 FWD LH, R518 REV LH] BIAS ADJ.
L102 BIAS TRAP
L103 REC EQ ADJ.
L104 REC EQ ADJ.

( ) : R ch

U301	TA75558P	Q101 (Q201)	2SC1327T	Q110 ~ Q113 (Q210 ~ Q213)	2SC945L (K)	Q301 ~ Q303	2SC945L (K)
U302	TA75557P	Q102 ~ Q107 (Q202 ~ Q207)	2SC945L (K)	Q114 (Q214)	2SC1327T	Q306	2SC945L (K)
U303	TA75558P	Q108 (Q208)	2SC1740LN (S)	Q115 ~ Q118 (Q215 ~ Q218)	2SC945L (K)	Q307	2SD655E
		Q109 (Q209)	2SC1740LN (S)			Q308	2SA1015(GR)

D101 (D201)	IN60	D301 ~ D303	IS2473
D102 (D202)	IN60	D305, D306	IS2473

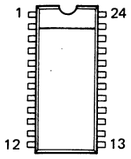
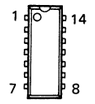
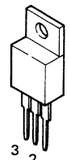
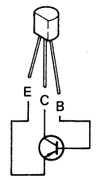
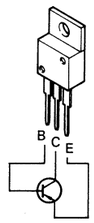
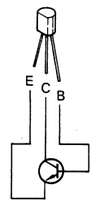
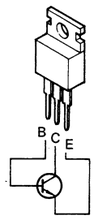
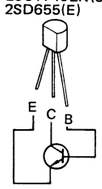
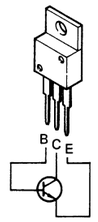
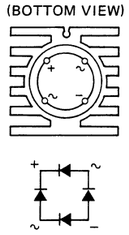
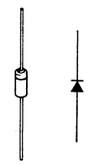
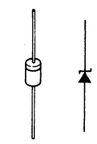
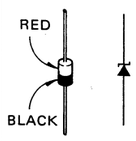
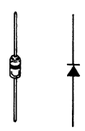
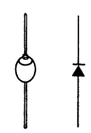
NOTE
1.
2.
3.
4.
5.
6.
7.
8.



NOTES

1. Schematic diagram shown for left channel except for some of the components.
2. All resistors are ¼ watt, ±5%, unless marked otherwise.
   Resistor values are in ohms (k = 1,000 ohms).
3. All capacitor values are in microfarads (p = picofarads).
4. ⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the TEAC parts list and ensure exact replacement.
5. Voltage and level values are for reference only.
   0dB = 0.775V
   Indicated values are those existing when the meter indicates 0VU.
6. ▭ : front panel indication
7. ▭ : rear panel incication
8. ——— + B power supply circuit

SEMICONDUCTOR ELECTRODES

AN6251 (TOP VIEW) 	HD7400P HD7402P (TOP VIEW) 	NJM2091N (TOP VIEW) 	TA75558P (TOP VIEW) 	NJM203D (TOP VIEW)
NJM78M05A  1: OUT 2: GND 3: IN	2SA733(P) 2SA564(A) 2SA1015GR 	2SB507(E) 	2SC536(F) 	2SC-1061(C) 2SD235(Q) 
2SC828A(R) 2SC945L(K) 2SC1318(S) 2SC1327(T) 2SC1685(R) 2SC1740LN(S) 2SD655(E) 	2SD313(E) 	M4C-51 (BOTTOM VIEW) 	1S2473 1S2473HJ 1S2473VE 	EQA01-06S 
ERB12-02G1 	IN60 	U05C 		

X-7R MK II
Stereo Tape Deck

TEAC SCHEMATIC DIAGRAM (CONTROL) X-7R MK II

JAPAN

GENERAL EXPORT

AUSTRALIA

U.K.

EUROPE

U.S.A., CANADA

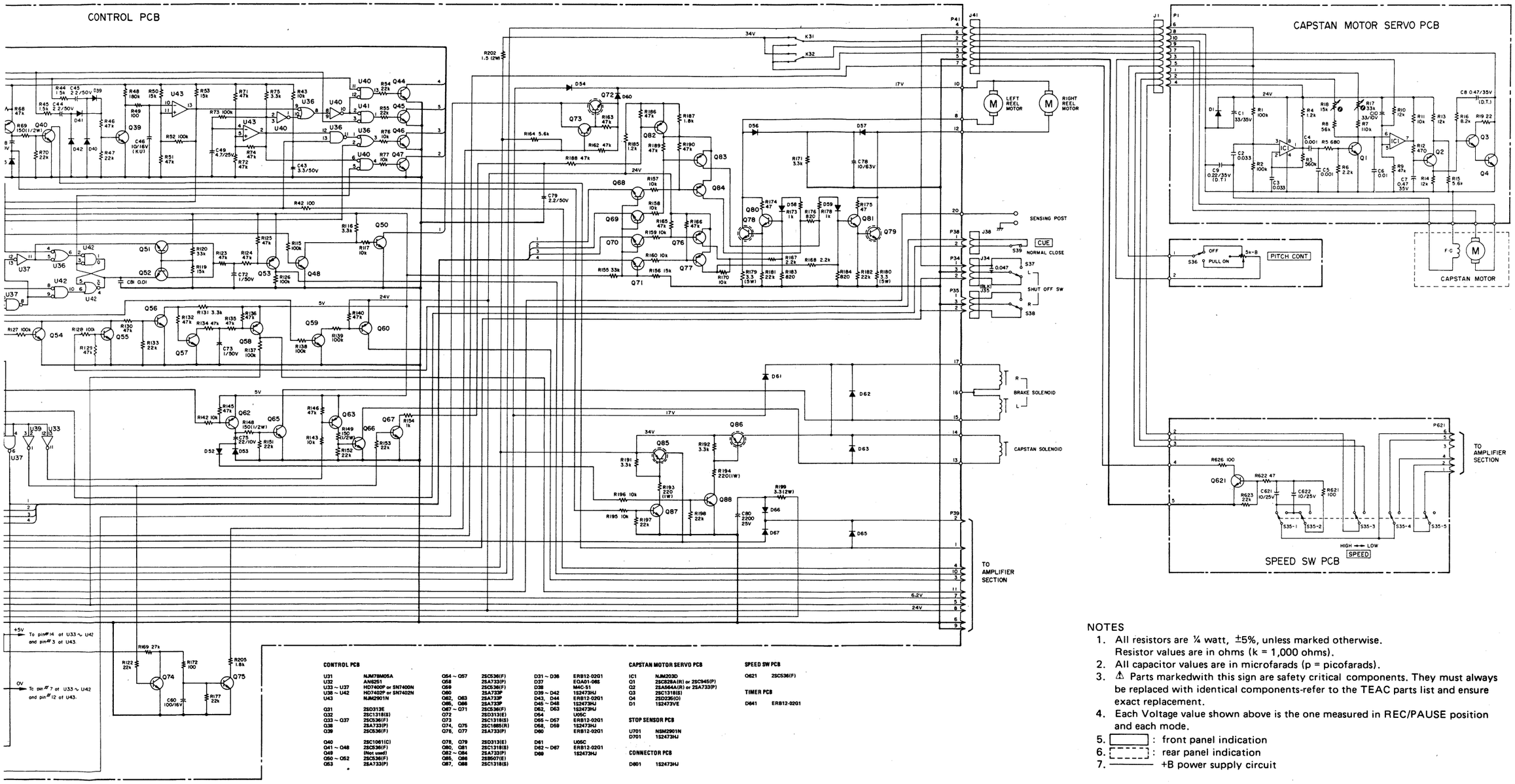
KEY BOARD

CONNECTOR PCB

REMOTE CONTROL

TIMER PCB

CONTROL PCB



CONTROL PCB

U31	NJM78M05A
U32	AN6251
U33 ~ U37	HD7400P or SN7400N
U38 ~ U42	HD7402P or SN7402N
U43	NJM2901N
Q31	2SD313E
Q32	2SC1318(S)
Q33 ~ Q37	2SC536(F)
Q38	2SA733(P)
Q39	2SC536(F)
Q40	2SC1061(C)
Q41 ~ Q48	2SC536(F)
Q49	(Not used)
Q50 ~ Q52	2SC536(F)
Q53	2SA733(P)
Q54 ~ Q57	2SC536(F)
Q58	2SA733(P)
Q59	2SC536(F)
Q60	2SA733P
Q62, Q63	2SA733P
Q65, Q66	2SA733P
Q67 ~ Q71	2SC536(F)
Q72	2SD313(E)
Q73	2SC1318(S)
Q74, Q75	2SC1685(R)
Q78, Q77	2SA733(P)
Q78, Q79	2SD313(E)
Q80, Q81	2SC1318(S)
Q82 ~ Q84	2SA733(P)
Q85, Q86	2SB507(E)
Q87, Q88	2SC1318(S)
D31 ~ D36	ERB12-02G1
D37	EQA01-06S
D38	M4C-51
D39 ~ D42	1S2473HJ
D43, D44	ERB12-02G1
D45 ~ D48	1S2473HJ
D62, D63	1S2473HJ
D64	U05C
D65 ~ D67	ERB12-02G1
D68, D59	1S2473HJ
D60	ERB12-02G1
D61	U05C
D62 ~ D67	ERB12-02G1
D69	1S2473HJ

CAPSTAN MOTOR SERVO PCB

IC1	NJM2030
Q1	2SC828A(R) or 2SC945(P)
Q2	2SA564A(R) or 2SA733(P)
Q3	2SC1318(S)
Q4	2SD236(O)
D1	1S2473VE

STOP SENSOR PCB

U701	NSM2901N
D701	1S2473HJ

CONNECTOR PCB

D601	1S2473HJ

SPEED SW PCB

Q621	2SC536(F)

TIMER PCB

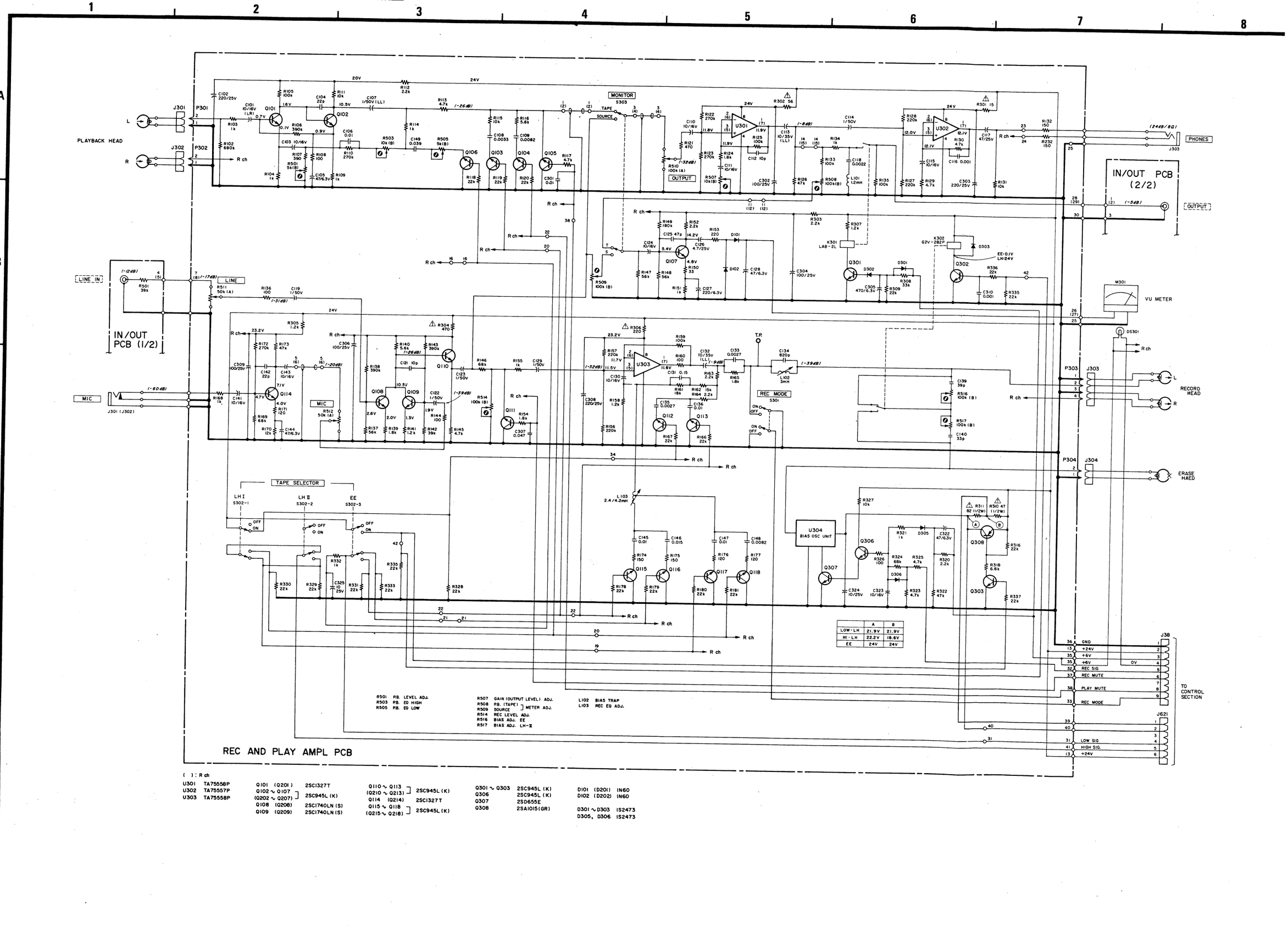
D641	ERB12-02G1

NOTES

1. All resistors are ¼ watt, ±5%, unless marked otherwise. Resistor values are in ohms (k = 1,000 ohms).
2. All capacitor values are in microfarads (p = picofarads).
3. ⚠ Parts markedwith this sign are safety critical components. They must always be replaced with identical components-refer to the TEAC parts list and ensure exact replacement.
4. Each Voltage value shown above is the one measured in REC/PAUSE position and each mode.
5. [ ] : front panel indication
6. [ ] : rear panel indication
7. ——— +B power supply circuit

X-7R MK II
Stereo Tape Deck

TEAC SCHEMATIC DIAGRAM (AMPLIFIER) X-7MKII



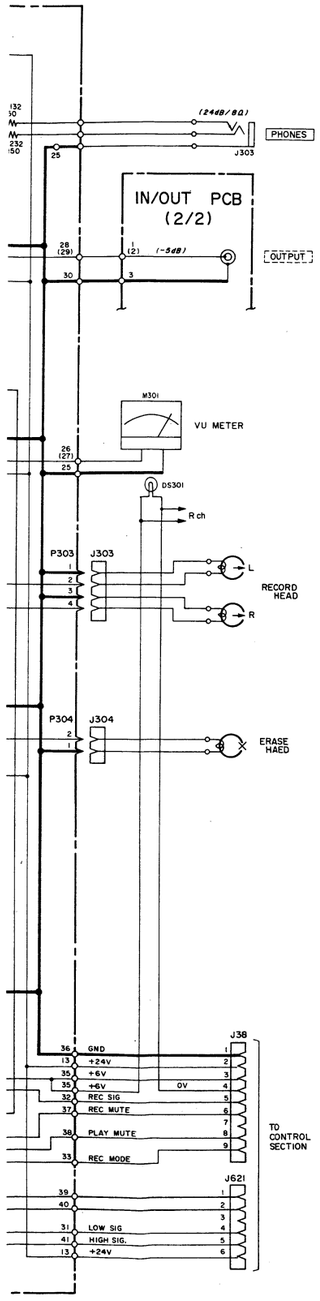
	A	B
LOW-LH	21.9V	21.9V
HI-LH	22.2V	18.6V
EE	24V	24V

( ) : R ch

U301 TA75558P
U302 TA75557P
U303 TA75558P

Q101 (Q201) 2SC1327T
Q102 ~ Q107 (Q202 ~ Q207) 2SC945L (K)
Q108 (Q208) 2SC1740LN (S)
Q109 (Q209) 2SC1740LN (S)
Q110 ~ Q113 (Q210 ~ Q213) 2SC945L (K)
Q114 (Q214) 2SC1327T
Q115 ~ Q118 (Q215 ~ Q218) 2SC945L (K)
Q301 ~ Q303 2SC945L (K)
Q306 2SC945L (K)
Q307 2SD655E
Q308 2SA1015 (GR)

D101 (D201) IN60
D102 (D202) IN60
D301 ~ D303 IS2473
D305, D306 IS2473



NOTES

1. Schematic diagram shown for left channel except for some of the components.
2. All resistors are ¼ watt, ±5%, unless marked otherwise.
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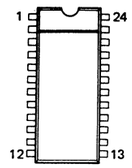
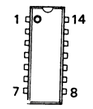
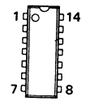
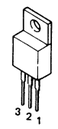
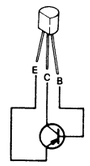
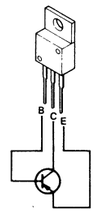
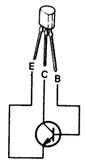
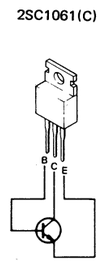
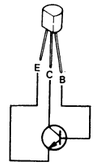
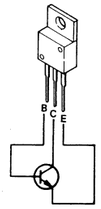
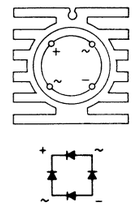
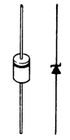
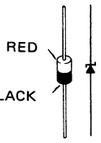
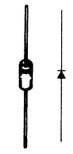
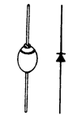
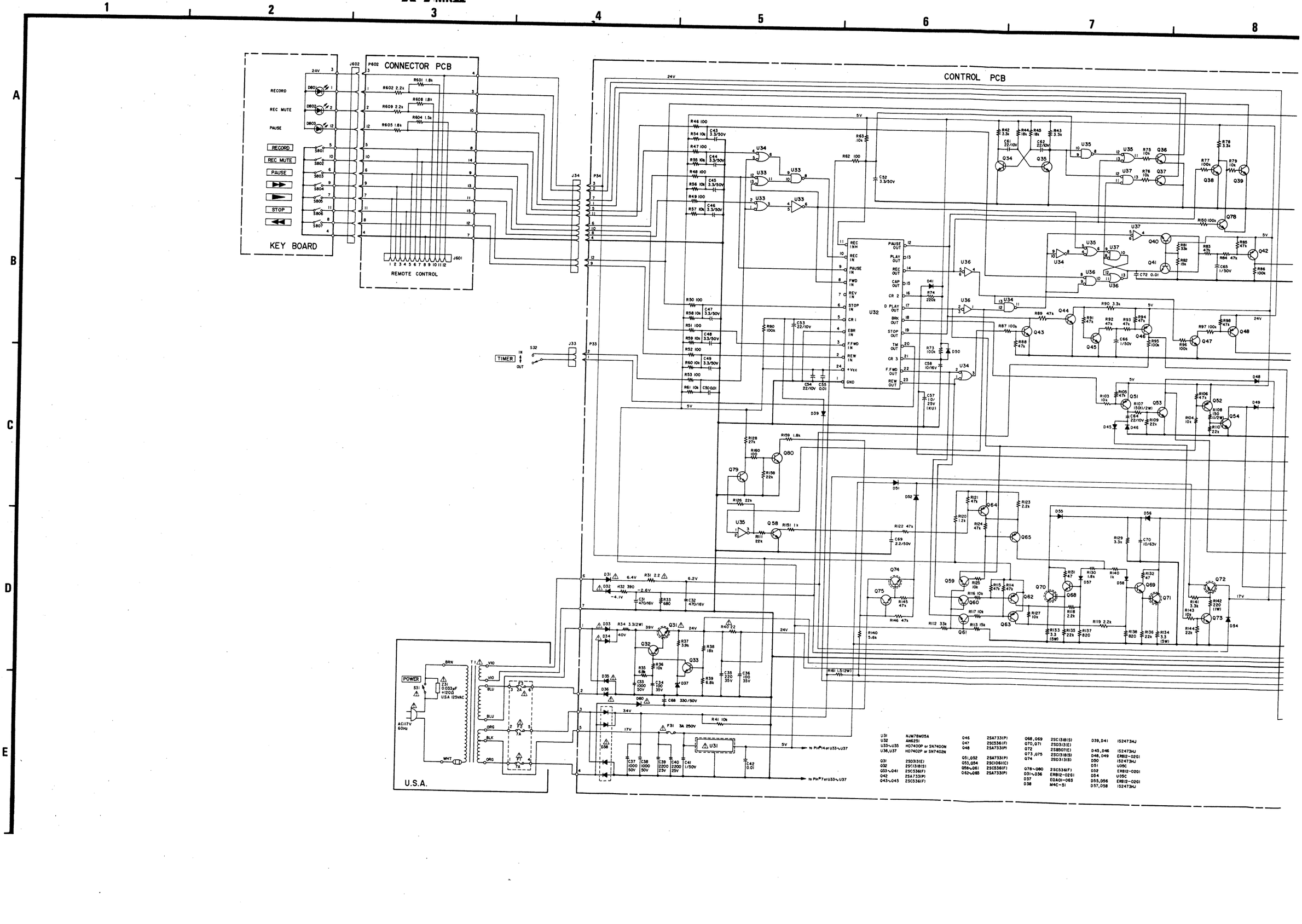
   0dB = 0.775V
   Indicated values are those existing when the meter indicates 0VU.
6. ▭ : front panel indication
7. ▭ : rear panel incication
8. ——— + B power supply circuit

SEMICONDUCTOR ELECTRODES

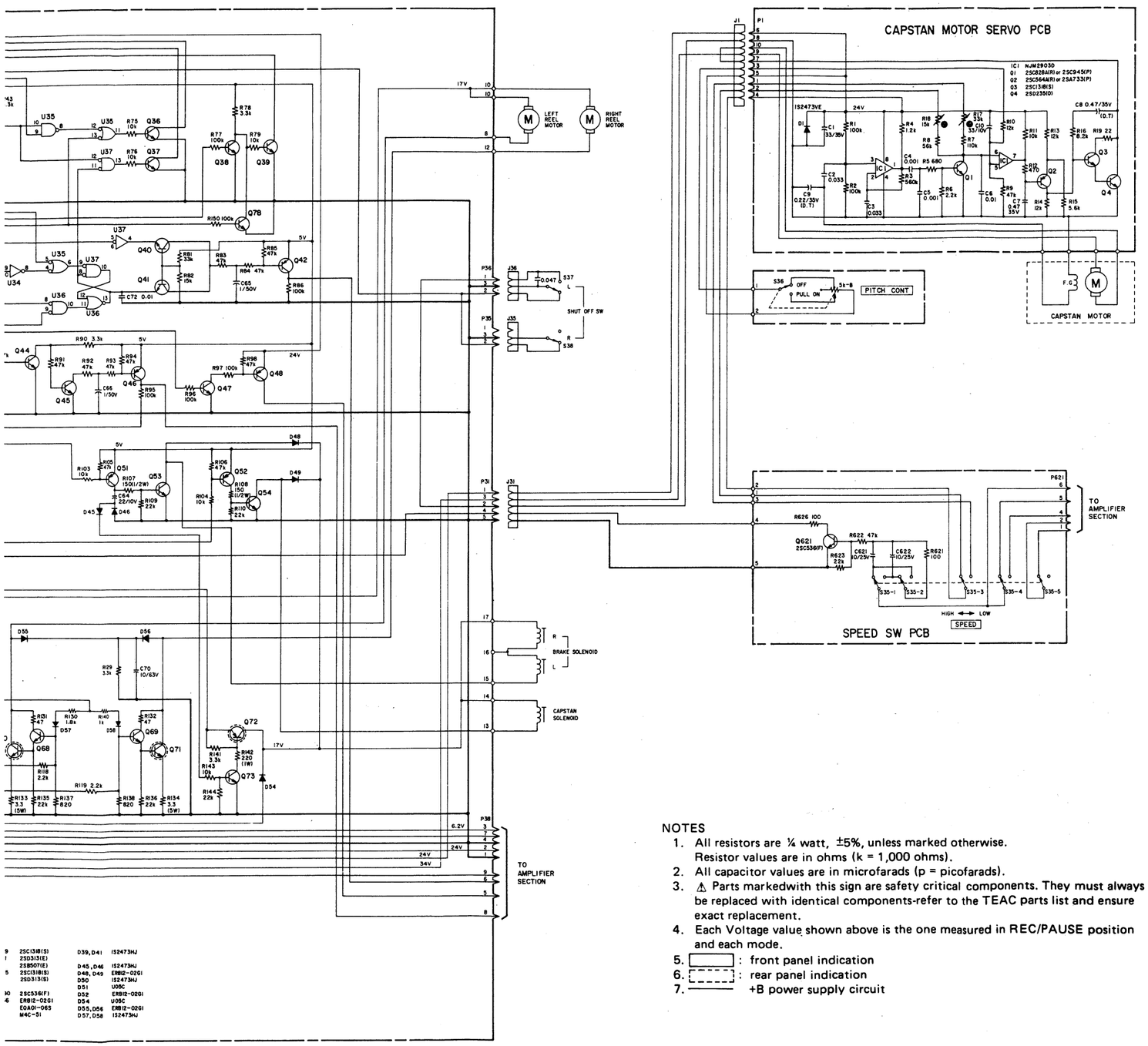
AN6251 (TOP VIEW) 	HD7400P HD7402P (TOP VIEW) 	NJM2901N (TOP VIEW) 	TA75558P TA75559P (TOP VIEW)
NJM78M05  1: OUT 2: GND 3: IN	2SA1015G(R) 2SA1127(R) 	2SB507(E) 	2SC536(F) 
2SC1061(C) 	2SC945L(K) 2SC1318(S) 2SC1327(T) 2SC1685(R) 2SC1740LN(S) 2SD655(E) 	2SD313(E) 	M4C-51 (BOTTOM VIEW) 
1S2473HJ 1S2473VE 	EQA01-06S 	ERB12-02G1  RED BLACK	1N60 	U05C 

X-7MKII
Stereo Tape Deck

TEAC SCHEMATIC DIAGRAM (TAPE TRANSPORT) X-7MKII



U31	NJM78M05A	Q46	2SA733(P)	Q68,Q69	2SC1318(S)	D39,D41	IS2473HJ
U32	AN6251	Q47	2SC536(F)	Q70,Q71	2SD313(E)		
U33~U35	HD74009P or SN7400N	Q48	2SA733(P)	Q72	2SB507(E)	D45,D46	IS2473HJ
U36,U37	HD7402P or SN7402N			Q73,Q75	2SC1318(S)	D48,D49	ERB12-02GI
		Q51,Q52	2SA733(P)	Q74	2SD313(E)	D50	IS2473HJ
Q31	2SD313(E)	Q53,Q54	2SC1061(C)			D51	U05C
Q32	2SC1318(S)	Q56~Q61	2SC536(F)	Q78~Q80	2SC536(F)	D52	ERB12-02GI
Q33~Q41	2SC536(F)	Q62~Q65	2SA733(P)	D31~D36	ERB12-02GI	D54	U05C
Q42	2SA733(P)			D37	EQA01-06S	D55,D56	ERB12-02GI
Q43~Q45	2SC536(F)			D38	M4C-51	D57,D58	IS2473HJ



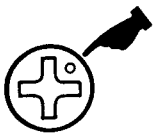
NOTES

1. All resistors are ¼ watt, ±5%, unless marked otherwise. Resistor values are in ohms (k = 1,000 ohms).
2. All capacitor values are in microfarads (p = picofarads).
3. ⚠ Parts markedwith this sign are safety critical components. They must always be replaced with identical components-refer to the TEAC parts list and ensure exact replacement.
4. Each Voltage value shown above is the one measured in REC/PAUSE position and each mode.
5. ▭ : front panel indication
6. ┄┄ : rear panel indication
7. ——— +B power supply circuit

X-7MKII
Stereo Tape Deck

ASSEMBLING HARDWARE CODING LIST

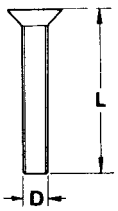
All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.

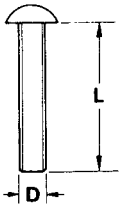


FOR EXAMPLE:

B M3 x 6

- Length in mm (L)
- Diameter in mm (D) *
- Metric System
- Nomenclature





* Inner dia. for washers and nuts

	Code	Name	Type
MACHINE SCREW	R	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	RW	Round Head Wood Screw	
TAPTITE SCREW	PTT	Pan Head Taptite Screw	
	WTT	Washer Head Taptite Screw	
SEMS SCREW	BSA	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

	Code	Name	Type
TAPPING SCREW	BTA	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	SF	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	E	E-Ring (Retaining Washer)	
	W	Flat Washer (Plain)	
	SW	Lock Washer (Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	N	Hex Nut	