

TC-V11W/V33W

SERVICE MANUAL

*AEP Model
UK Model
E Model*



NOTE: TC-V11W IS A DECK UNIT OF "LBT-V11W", WITHOUT REMOTE-CONTROL CIRCUIT.
TC-V33W IS A DECK UNIT OF "LBT-V33W", WITH REMOTE CONTROL CIRCUIT.

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

Tape Transport Mechanism Type

TCM-150V2(DECK B)

TCM-150V3(DECK A)

SPECIFICATIONS

Recording system 4-track 2-channel stereo

Frequency response

DOLBY NR OFF (DIN)

With TYPE IV cassette

(Sony METAL-ES)

30-15,000 Hz (± 3 dB)

With TYPE II cassette (Sony UCX)

30-15,000 Hz (± 3 dB)

With TYPE I cassette (Sony HF-S)

30-14,000 Hz (± 3 dB)

Wow and flutter

0.06% WRMS (NAB)

$\pm 0.2\%$ (DIN)

Dimensions

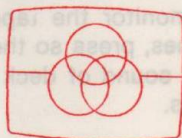
Approx. 355 x 115 x 235 mm (w/h/d)

(14 x 4 $\frac{5}{8}$ x 9 $\frac{3}{8}$ inches)

incl. projecting parts and controls

Weight

Approx. 3.75 kg (8 lb 5 oz) net



Free service manuals

Gratis schema's

Digitized by

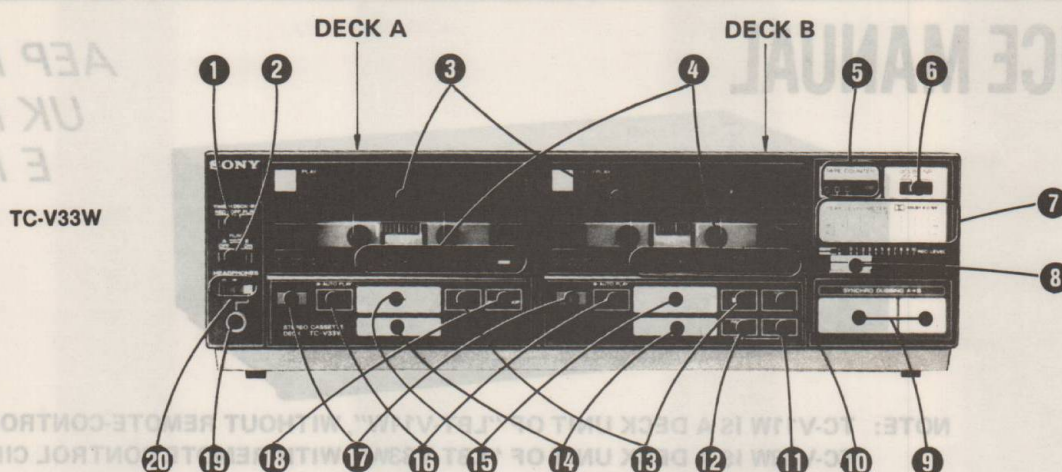
www.freeservicemanuals.info



STEREO CASSETTE DECK
SONY

TC

LOCATION AND FUNCTION OF CONTROLS



1 TIMER switch (deck B)

Normally set to OFF. To start recording or playback automatically using an optional timer, set to REC or PLAY.

2 PLAY A $\rightleftharpoons$ B (relay play) switch

Set to ON to continuously play back the cassettes in decks A and B. Set to OFF to play back a cassette in either deck A or B.

3 Cassette holder

4 Tape operation mode indicators

The indicator(s) light(s) to show the engaged tape operation mode.

▷ : Lights during playback, recording and rewinding for auto play.

Blinks during AMS or blank skip operation.

○ : Lights when the ● REC key is pressed.

⏏ : Lights during pause. Blinks just after the power is turned on and during record muting.

AMS/BLANK SKIP: Lights when the AMS/BLANK SKIP key is pressed.

5 TAPE COUNTER and reset button (deck B)

The tape counter provides a numerical reference point. To reset to zero, press the reset button.

6 DOLBY NR switch

Select the Dolby NR* (Noise Reduction) system to be used for recording or playback.

OFF To record or play back without the Dolby NR process.

B: To record or play back with the Dolby B-type NR process.

C: To record or play back with the Dolby C-type NR process

*Dolby and the double-D symbol are trade marks of the Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

7 PEAK LEVEL METERS

These meters show the peak input level of each channel during recording, and recorded levels during playback.

The left-most LED of each meter lights when the power is turned on.

8 REC LEVEL (recording level) controls

Adjust the recording level by observing the PEAK LEVEL METERS.

9 SYNCHRO DUBBING A → B keys and indicators

Press one of the keys to start dubbing from deck A to B. The indicator of the key lights.

NORMAL SPEED: For normal speed dubbing.

HIGH SPEED: For high speed dubbing.

10 ● REC (record) key (deck B)

To start recording, keeping this key pressed, press the ▷ key.

11 ○ (record muting) key (deck B)

12 || PAUSE key (deck B)

Press to stop the tape momentarily during recording or playback. To disengage pause mode, press it again.

13 ►► (fast forward) key

14 ■ (stop) key

15 ▷ (play) key

16 ◀◀ (rewind) key

17 ▲ (eject) button

Press to open the cassette holder.

18 AMS/BLANK SKIP key

Press to activate the AMS (Automatic Music Sensor) and blank skip function on decks A and B. To deactivate, press the key again.

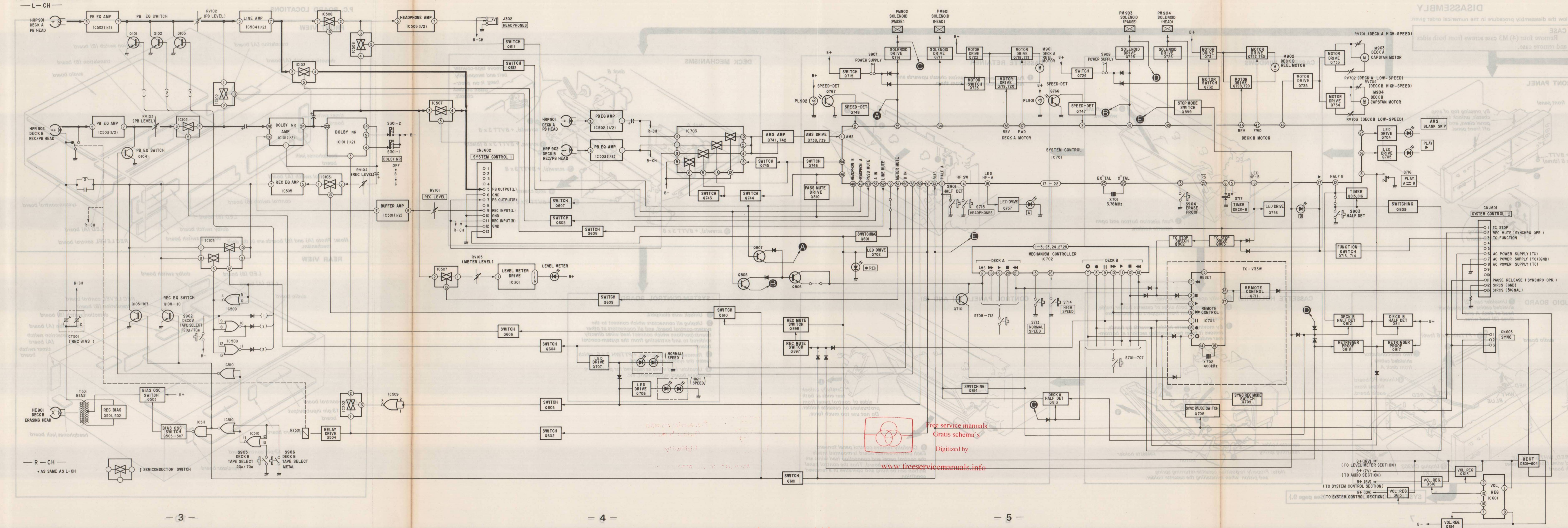
19 HEADPHONES jack (stereo phone jack)

20 HEADPHONES selector and indicators

To monitor the tape sound of deck A through headphones, press so the indicator A lights. To monitor the tape sound of deck B, press again so the indicator B lights.

TC-V11W/V33W TC-V11W/V33W

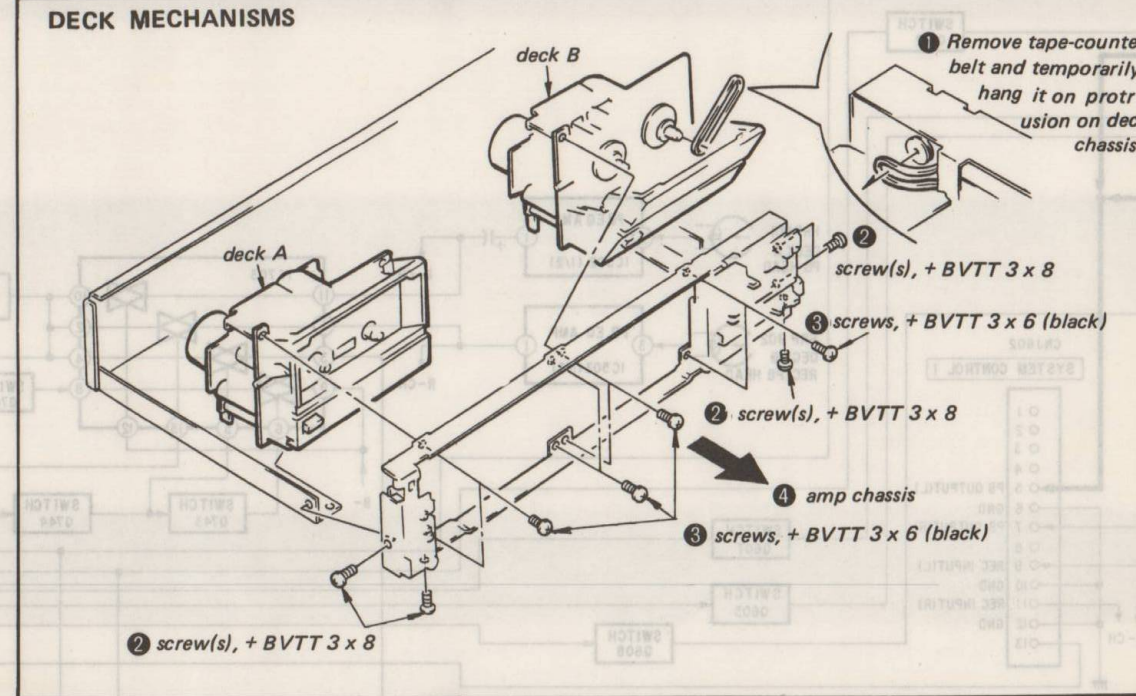
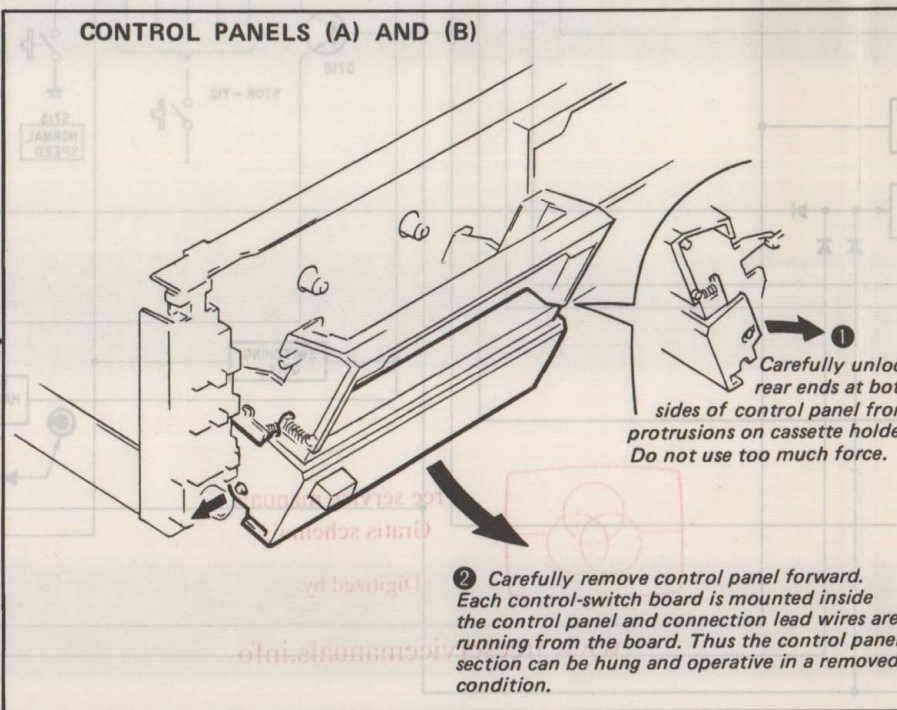
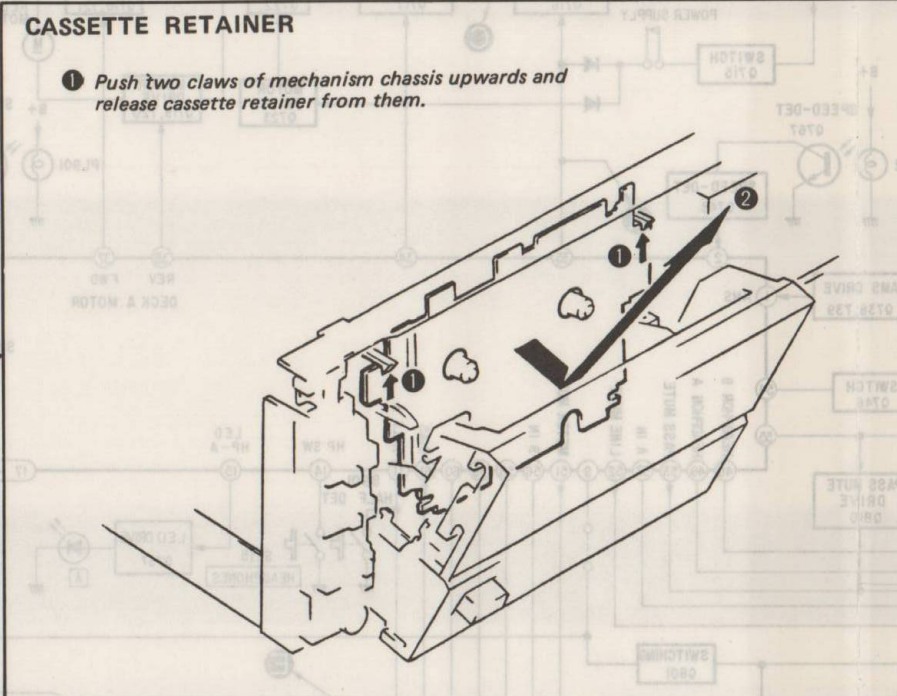
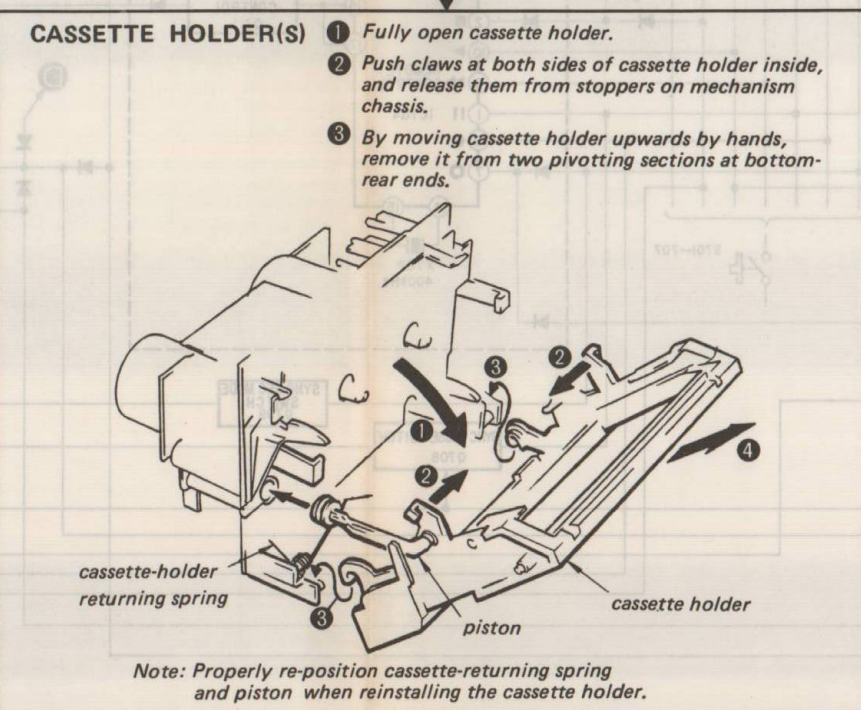
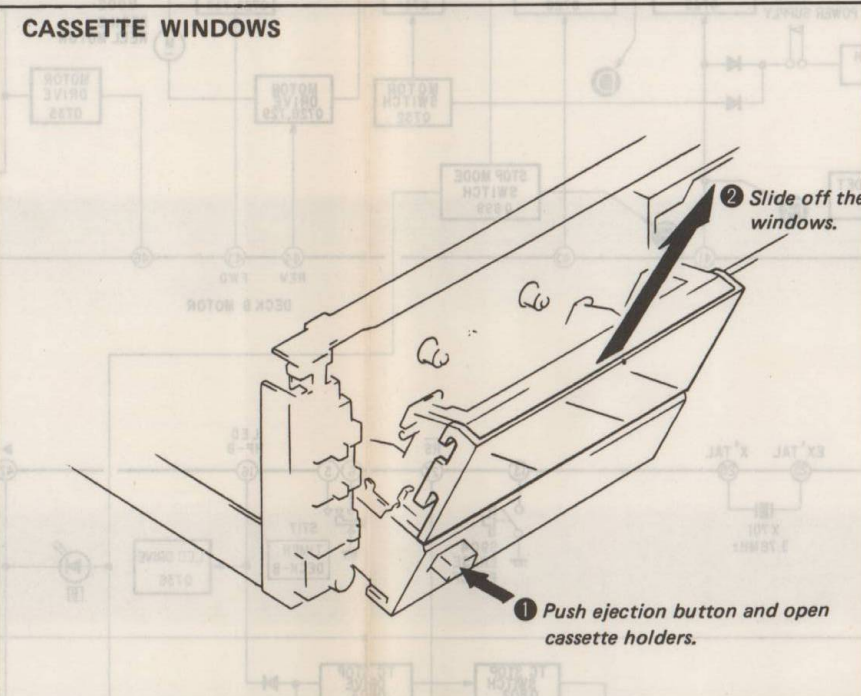
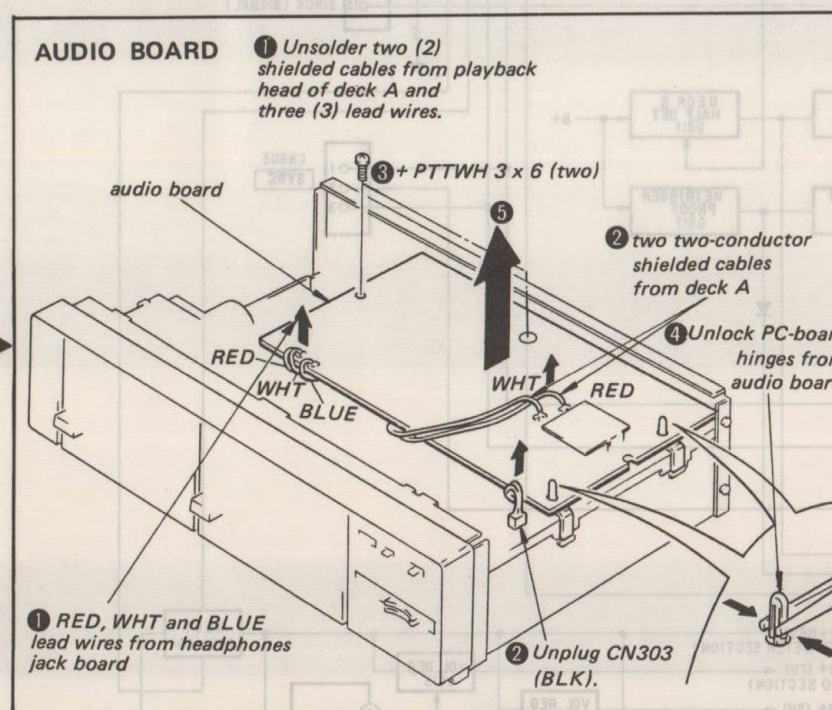
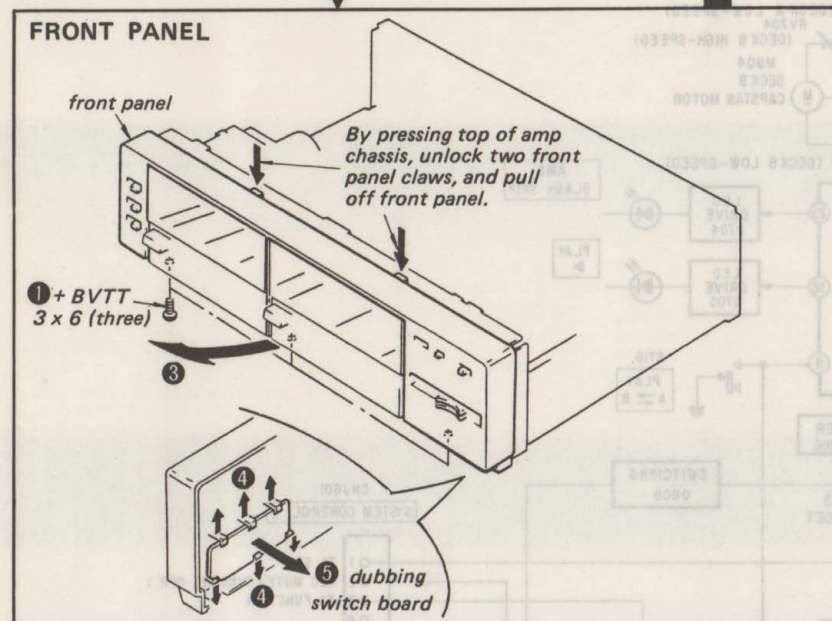
5



SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

CASE
Remove four (4) M3 case screws from both sides and remove case.



SYSTEM-CONTROL BOARD

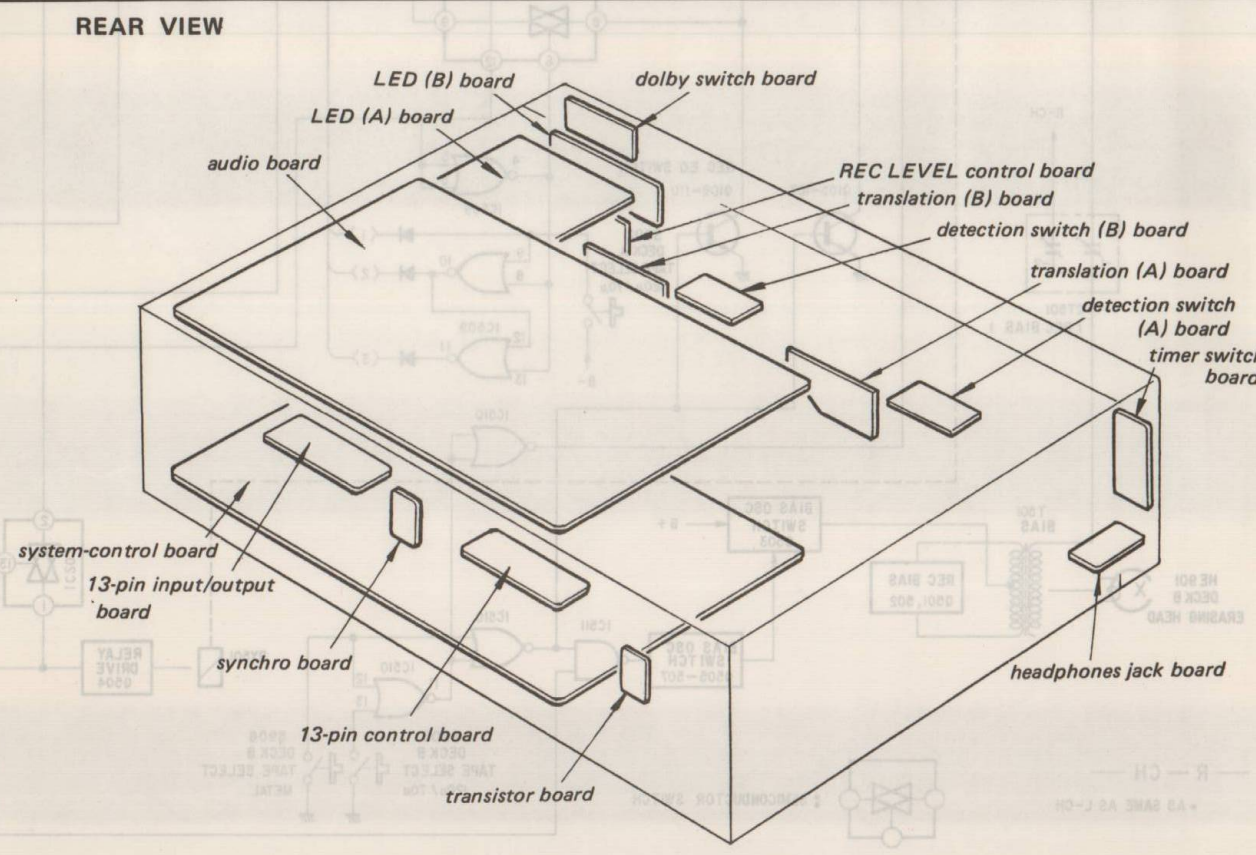
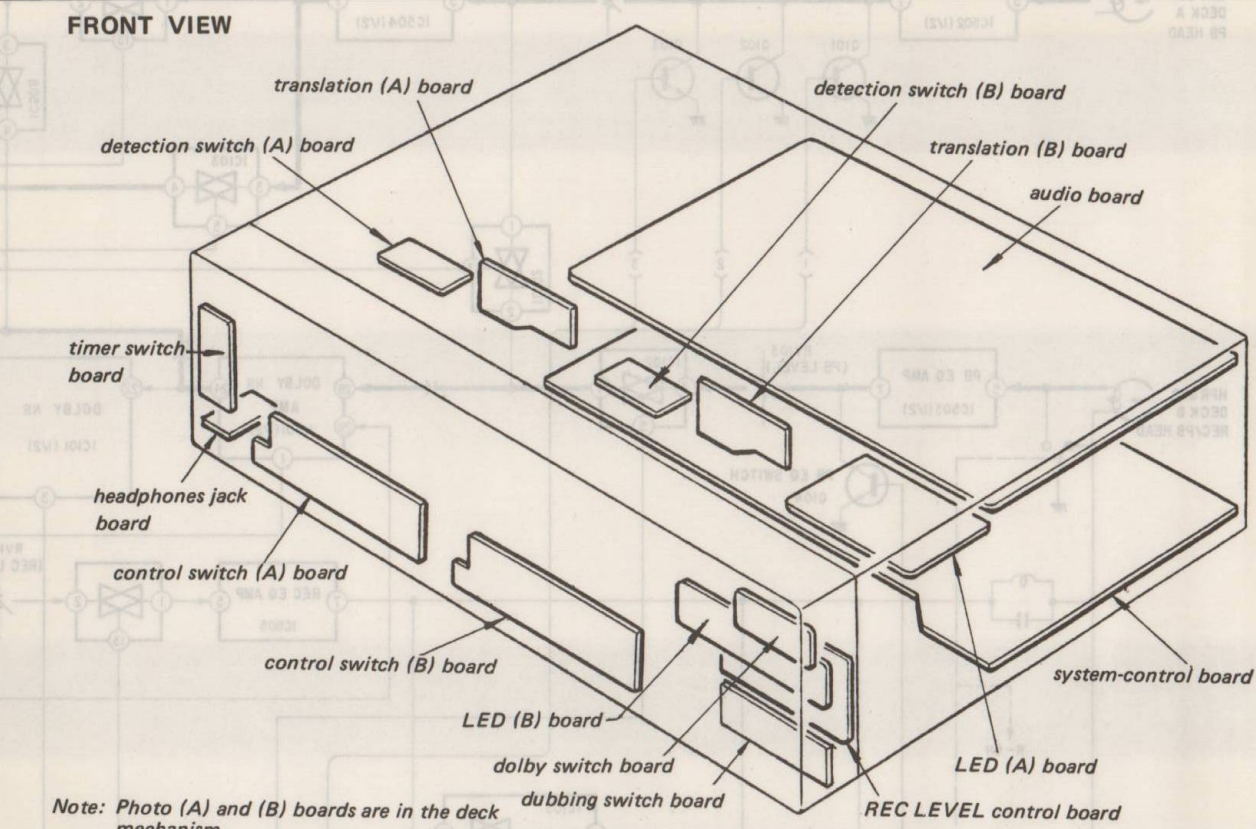
1 Unlock wire clampers.

2 Unplug all connectors which connect to the system-control board, and all connectors at other boards/portions which connect lead wires directly soldered to and extracting from the system-control board.

3 Remove three (3) screws, + PTTWH 3 x 6, which fasten the system-control board.

4 Unsolder lead wires as required for performing complete board replacement, etc.

P.C. BOARD LOCATIONS



SYSTEM CONTROL BOARD (See page 9.)

SECTION 3 ADJUSTMENTS

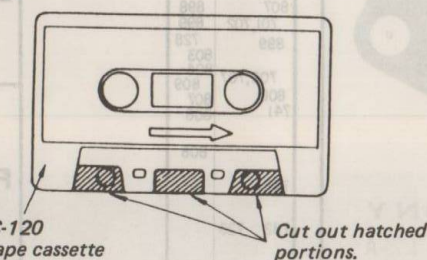
3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

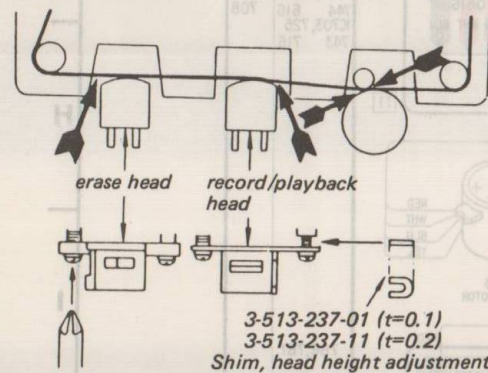
1. Clean the following parts with a denatured-alcohol-moistened swab:
record/playback/erase head rubber belts
capstan
pinch roller
2. Demagnetize the head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below, or mirror cassette.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at the portions shown by the arrows.



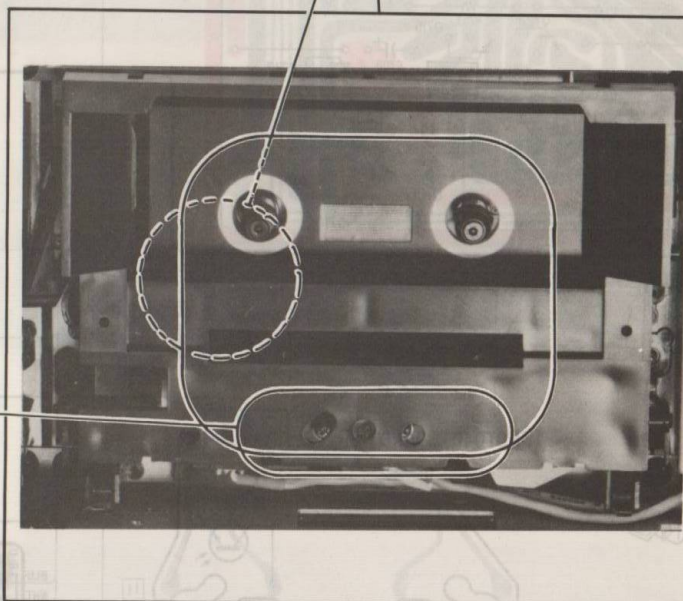
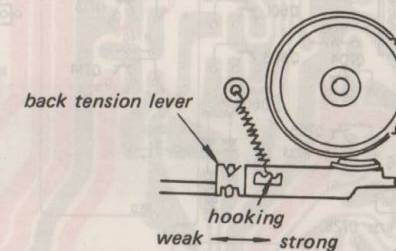
Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	28-60 g·cm (0.41-0.82 oz·inch)
Fast Forward and Rewind	CQ-201B	80-150 g·cm (1.2-2.1 oz·inch)
Brake	TOHNICHI Torque Gauge	10-100 g·cm (0.15-1.35 oz·inch)

BACK TENSION ADJUSTMENT

— Playback Mode —

Torque Meter CQ-102C, Torque 2.5-6 g·cm
(0.03-0.08 oz·inch)



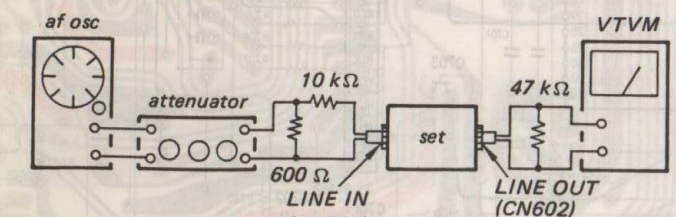
3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

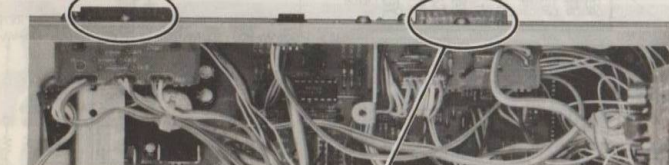
The adjustment procedures are given for either full LBT-V11W/V33W system or the TC-V11W/V33W Tape Deck proper. Use the distributed test/adjustment jig for the Liberty Component System when performing the adjustments to the tape deck proper.

- Switches and controls should be set as follows unless otherwise specified.
DOLBY NR switch: OFF
TIMER switch: OFF
SYNCHRO DUBBING Switch: NORMAL SPEED
PLAY switch: OFF
HEADPHONES switch: A
- Standard Record:
Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

— Record Mode —



CNJ601 (SYSTEM CONTROL 2)
From right: Pin 1 → Pin 13
Pin 6: AC input (12.5V)
Pin 7: GND (ground)
Pin 8: AC input (12.5V)



CNJ602 (SYSTEM CONTROL 1)

From right: Pin 1 → Pin 13
Pin 5: L-CH
Pin 6: GND (ground)
Pin 7: R-CH
Pin 9: L-CH
Pin 10: GND (ground)
Pin 11: R-CH
Pin 12: GND (ground)

Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (-10 dB)

Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (-5 dB)

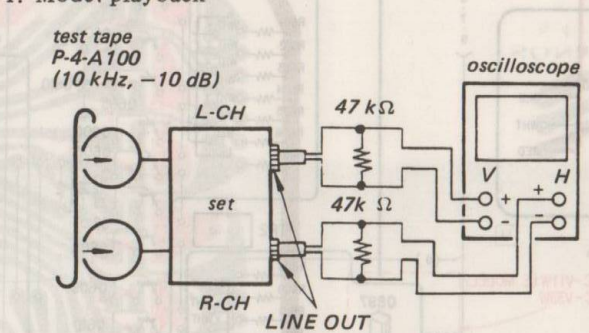
Do not use any kind of single pin from outside of CNJ601 and CNJ602. Their forming of contacts will easily be deformed or damaged.

Record/playback Head Azimuth Adjustment

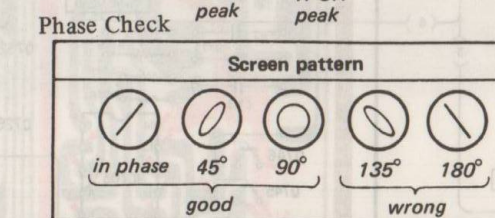
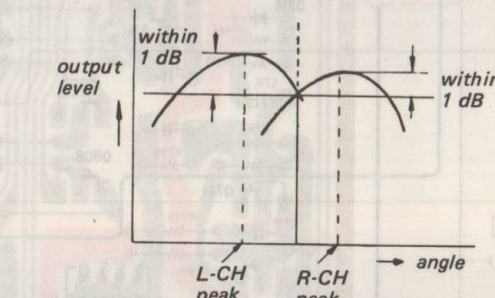
Note: Before performing this adjustment, remove front panel and function switch block referring to the Disassembly section.
Take care not to break the function-switch block panel.

Procedure:

1. Mode: playback



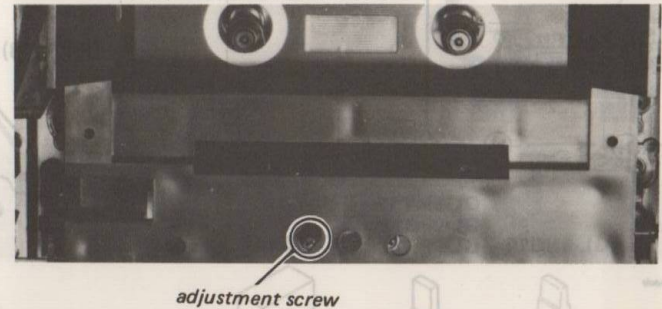
Adjust the adjustment screw so that amplitude of output pattern become in maximum both in vertically and horizontally within the good range shown below. Output-level difference between channels should be within 1 dB.



3. After the adjustment finishing with tightening direction, lock the adjustment screw with locking compound.
4. After the locking compound dried out, reassemble the function switch block.

Adjustment Location:

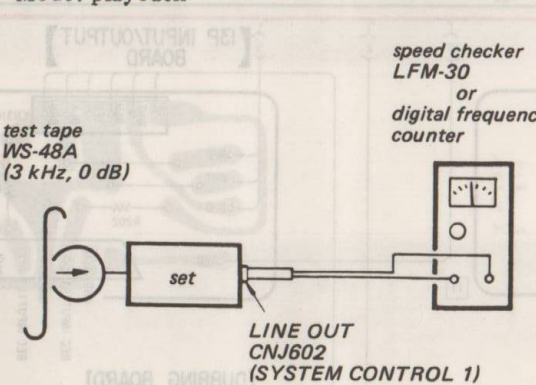
— heads of both decks A and B —



Tape Speed Adjustment

Procedure:

Mode: playback

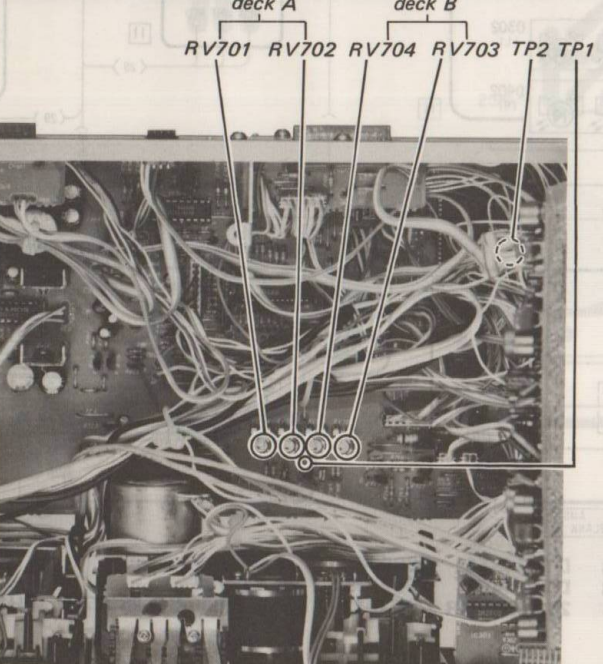


Be sure to use the starting portion of the test tape. When TP1 is grounded, the circuit forcibly becomes in the HIGH SPEED mode ignoring the HIGH and NORMAL SPEED DUBBING SWITCH. Ground TP1 after making the deck mode in playback. Perform the adjustment deck by deck, not in speed by speed.

DECK	GROUNDING of TP1	ADJUST TO 6000 Hz	ADJUST TO 3000 Hz
A	Ground.	RV701	RV702
	Open.		RV702
B	Ground.	RV704	RV703
	Open.		RV703

Adjustment Location

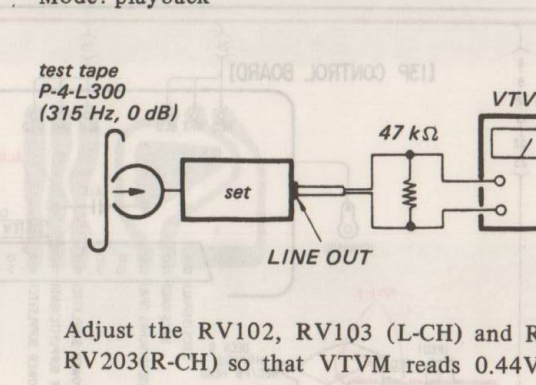
— System control board —



Playback Level Adjustment

Procedure:

Mode: playback



Adjust the RV102, RV103 (L-CH) and RV202, RV203 (R-CH) so that VTVM reads 0.44V (-5dB).

Specification:

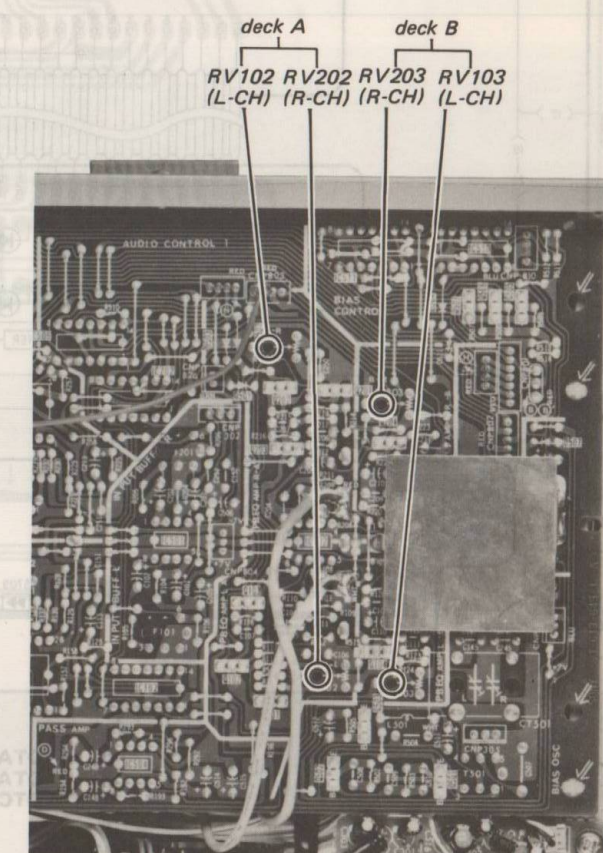
LINE OUT level: 0.41 to 0.46 V
(-5.5 to -4.5 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

— audio board —



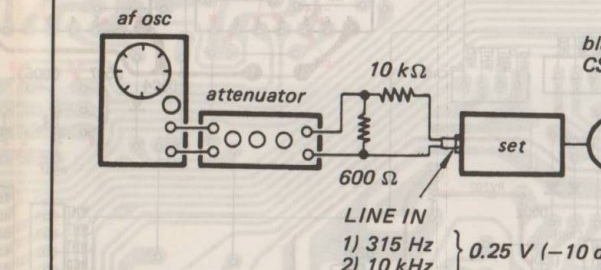
Record Bias Adjustment

Setting:

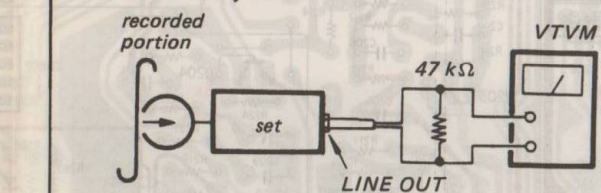
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out TP2 to aid monitoring (See page 13).
2. Mode: record



3. Mode: Playback

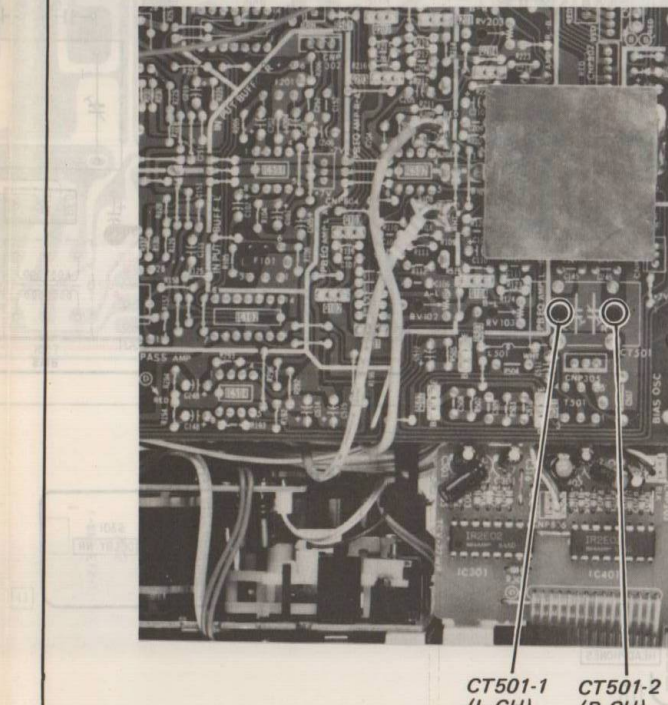


Confirm that the 10 kHz playback output is 0 dB relative to the 315 Hz output. If necessary, adjust CT501-1 (L-CH), CT501-2 (R-CH) and repeat the steps given above.

4. Remove shorting at TP2.

Adjustment Location:

— audio board —



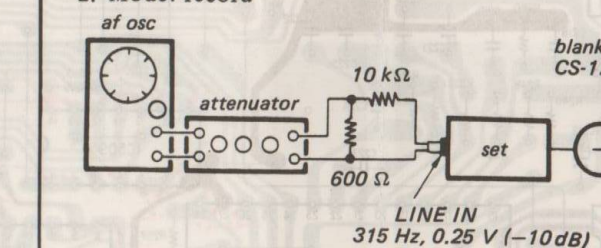
Record Level Adjustment

Setting:

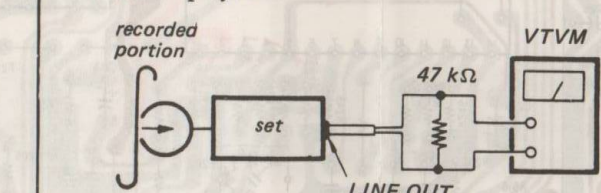
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out pins of TP2 to aid monitoring (See page 13).
2. Mode: record



3. Mode: playback



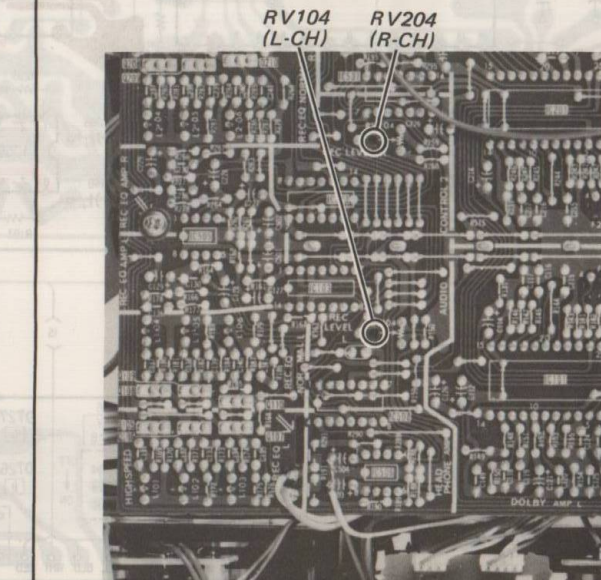
4. Playback the signal recorded in step 1.
Confirm that the signal level is within the specification below. If necessary, adjust RV104 (L-CH), RV204 (R-CH) and repeat the step 1-3.
5. Remove shorting at TP2.

Specification:

LINE OUT level: 0.41-0.46 V
-5dB ± 0.5dB

Adjustment Location:

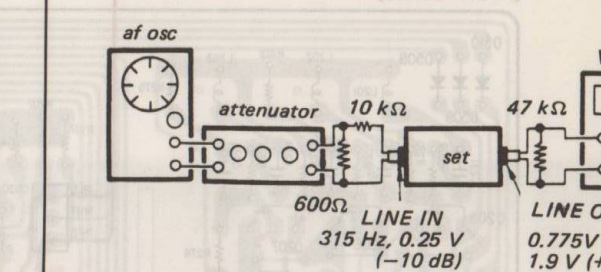
— audio board —



Level Meter Calibration

Procedure:

1. Short out pins of TP2 to aid monitoring (See page 13).
2. Mode: record



3. Set the REC LEVEL control so that the LINE OUT level is 0.775V (0dB).

4. Adjust RV105 (L-CH), RV205 (R-CH) so that the 0VU (red bar) segment of the level meter goes on.

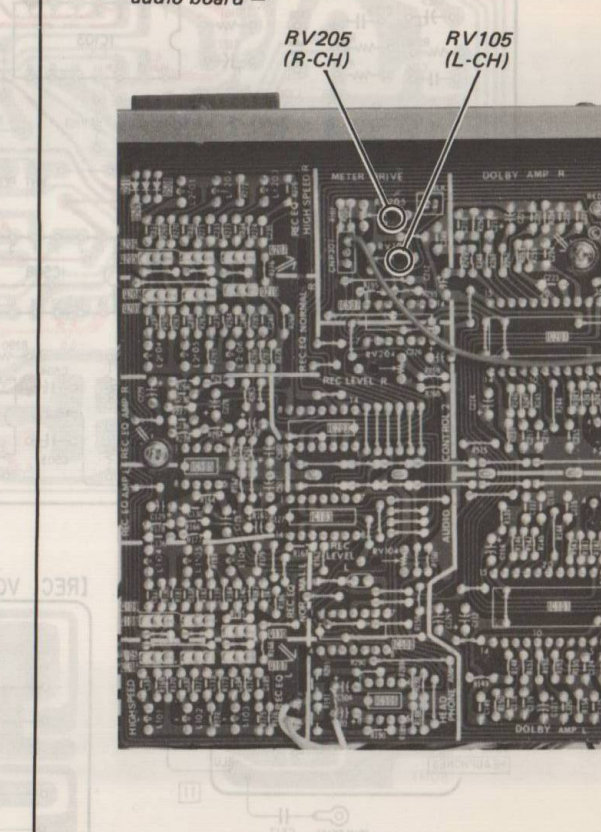
Note: The adjustment should be made while decreasing the level, not increasing level.

5. Set the REC LEVEL control so that the LINE OUT level is 1.9 V (+8 dB). Make sure that all the lights in the segments go on.

6. Remove shorting at TP2.

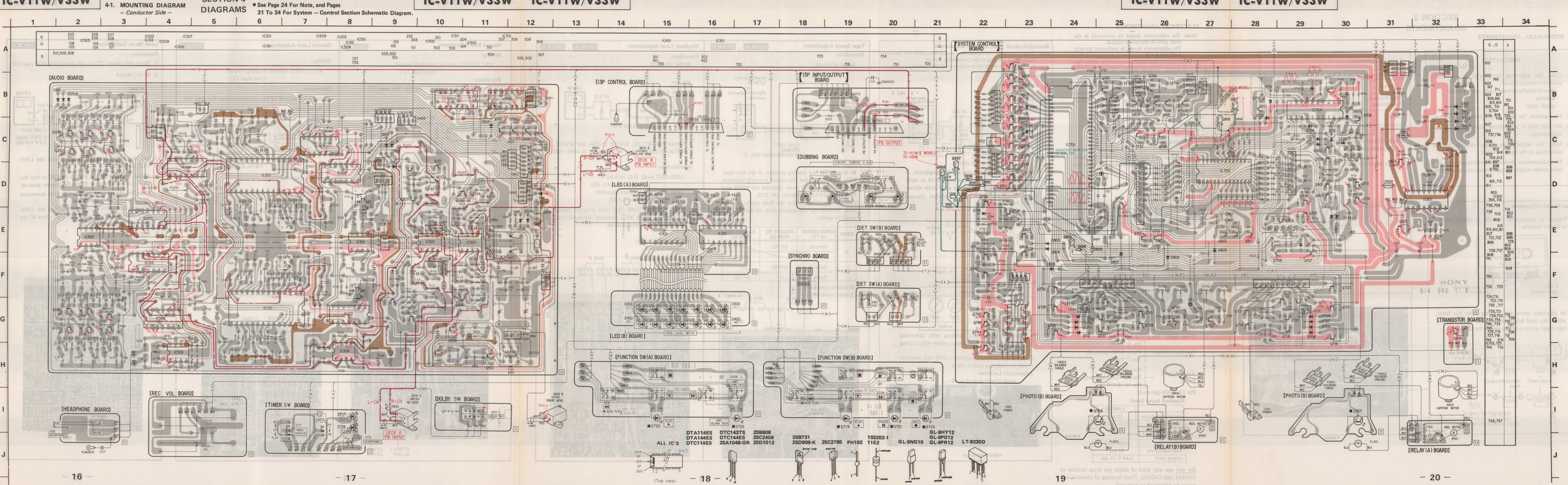
Adjustment Location:

— audio board —



TC V11W/V33W

TC V11W/V33W



PARTIAL SCHEMATIC DIAGRAMS (SYSTEM-CONTROL CIRCUIT)

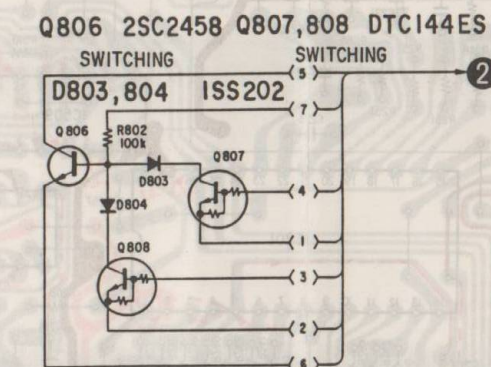
NOTE ON THE SYSTEM-CONTROL CIRCUIT:

The TC-V11W and TC-V33W units have some misoperation-correcting additional partial circuits as shown below depending upon the old-type CPU (MB88421-164M) and new-type CPU (MB88421-178M). Some of these additional circuits are mounted on the foil side and others on the component-side of the system-control circuit board. So, carefully evaluate each unit when performing any service to one by checking its serial number on the model-number label.

OLD CPU

COUNTERMEASURE FOR AMS OPERATION

AMS switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.

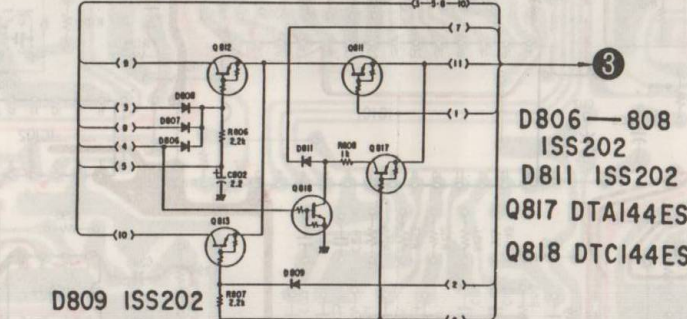


OLD CPU
COUNTERMEASURE FOR SUMULTANEOUS
PRESSING OF THE RECORD AND PLAY
BUTTONS.

TC-V11W:
UK Model: Serials up to 600500.

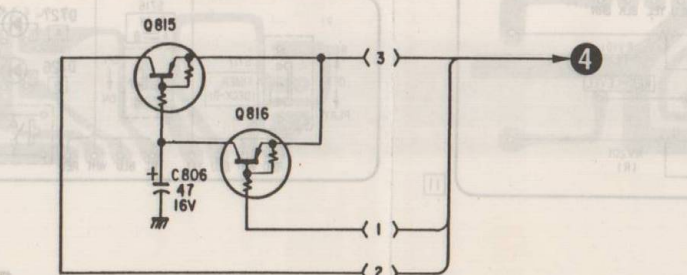
TC-V33W:
AEP Model: Serials up to 500100.
E Model: Serials up to 300600.

Q811—813 DTA144ES



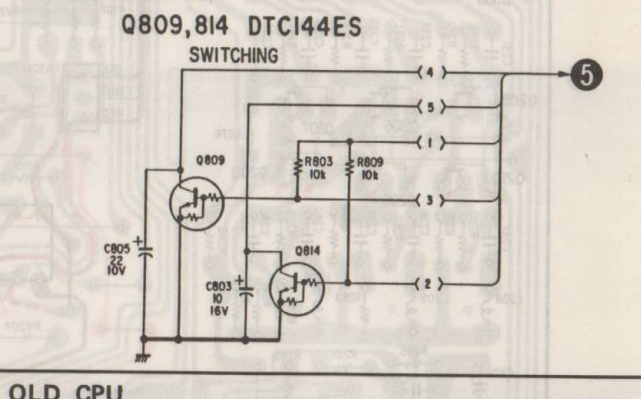
OLD CPU
COUNTERMEASURE FOR TIMER OPERATION

Timer switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.



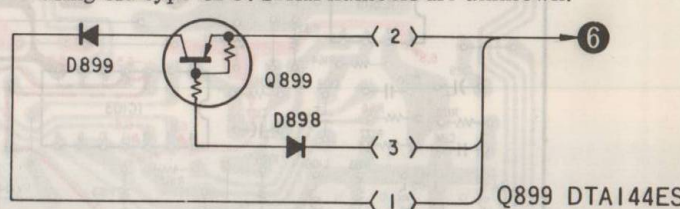
OLD CPU
COUNTERMEASURE FOR STOP-MODE OPERATION

Switching circuit is added for some units of both TC-V11W and TC-V33W using old CPU. Serial numbers unknown.



OLD CPU
COUNTERMEASURE FOR RECORD/FORWARD
PAUSE ON/OFF NOISE

Some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers are unknown.

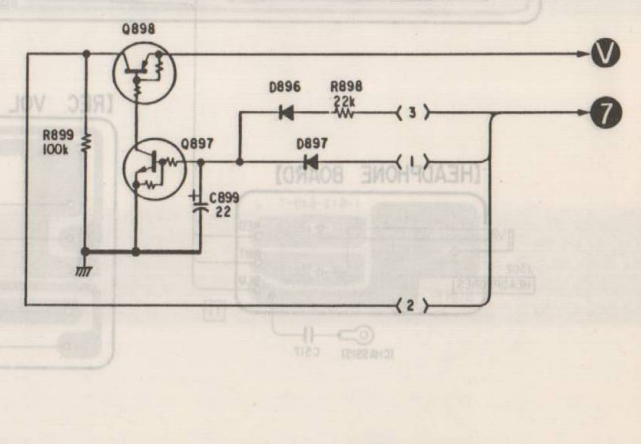


NEW CPU
COUNTERMEASURE FOR RECORD-MUTING
OPERATION

TC-V11W:
E Model: Serials up to 600600

TC-V33W:
AEP Model: Serials 500101 to 500300
E Model: Serials 600601 to 601400

Q898 DTA144ES Q897 DTC114ES



Note For Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\rightarrow$: signal path.
- Components for right channel have same values as for left channel. Reference numbers are coded from:
 - Δ : internal component.
 - $\square$: fusible resistor.

Ref. No.	Switch	Position
S301	DOLBY NR	OFF
S902	tape select	120 μ
S905	METAL TAPE	OFF
S906	TAPE SELECT	120 μ

- $\rightarrow$: B+ bus.
- $\rightarrow$: B- bus.
- $\square$: adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Readings are taken under no-signal conditions (stop mode) with a VOM (50 k Ω /V).
- Voltage variations may be noted due to normal production tolerances.

Note For Mounting Diagram:

- Color code of sleeving over the end of the jacket.

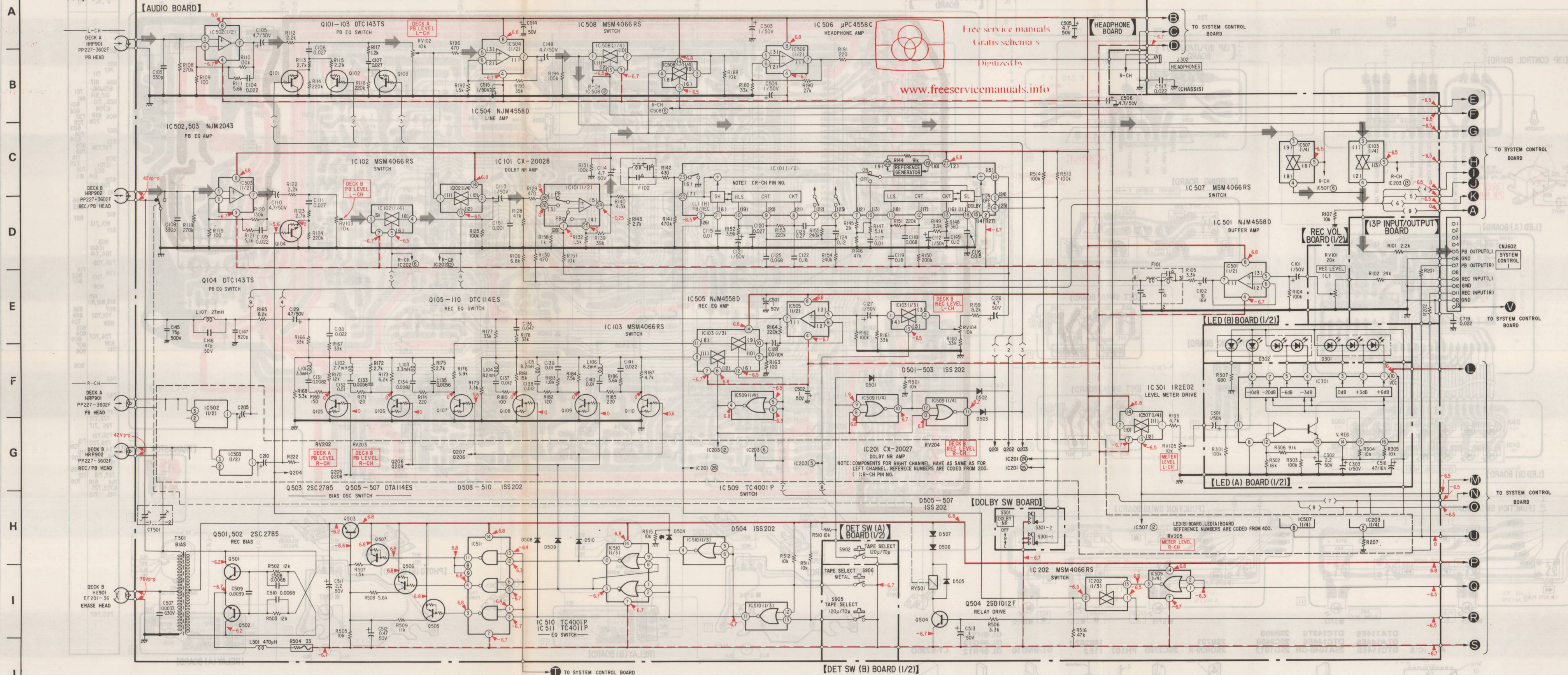


- $\circ$: parts extracted from the component side.
- $\bullet$: parts extracted from the conductor side.
- $\blacksquare$: part mounted on the conductor side.
- $\square$: indicates side identified with part number.

- $\rightarrow$: signal path
- $\rightarrow$: L-CH signal path
- $\rightarrow$: R-CH signal path
- $\rightarrow$: B+ pattern
- $\rightarrow$: B- pattern

4-2. SCHEMATIC DIAGRAM (1) • See Pages 31 To 34 For System — Control Section.

— Amp Section —



TC-V11W/V33W

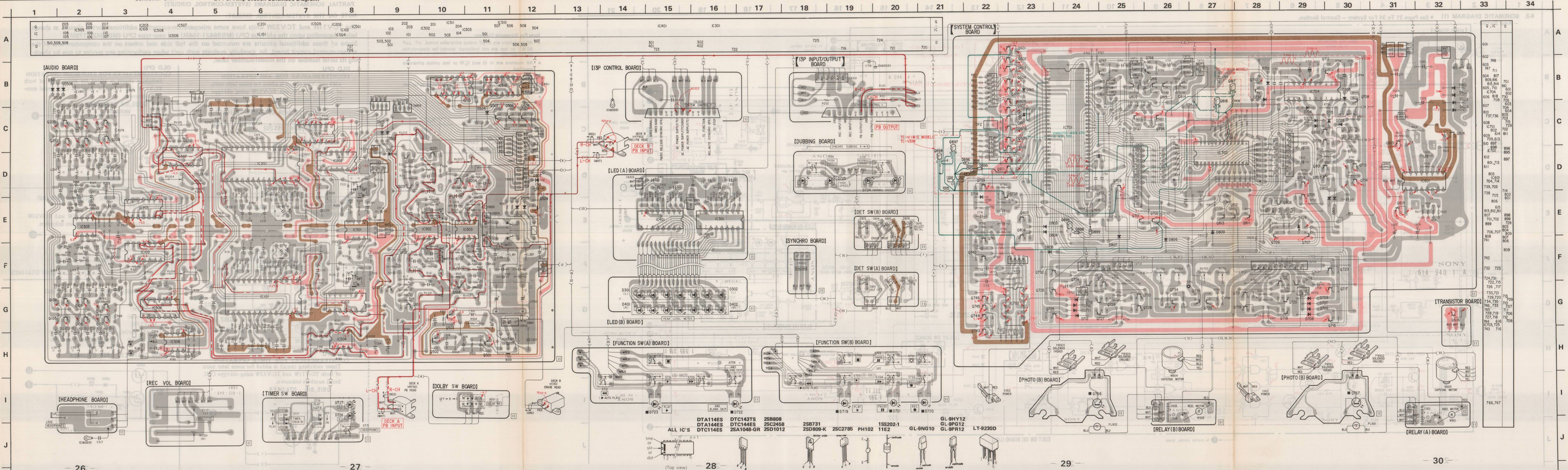
4-3. MOUNTING DIAGRAM
— Conductor Side —• See Page 34 For Note and Pages 21 To
24 For Amp Section Schematic Diagram.

TC-V11W/V33W

TC-V11W/V33W

TC-V11W/V33W

TC-V11W/V33W



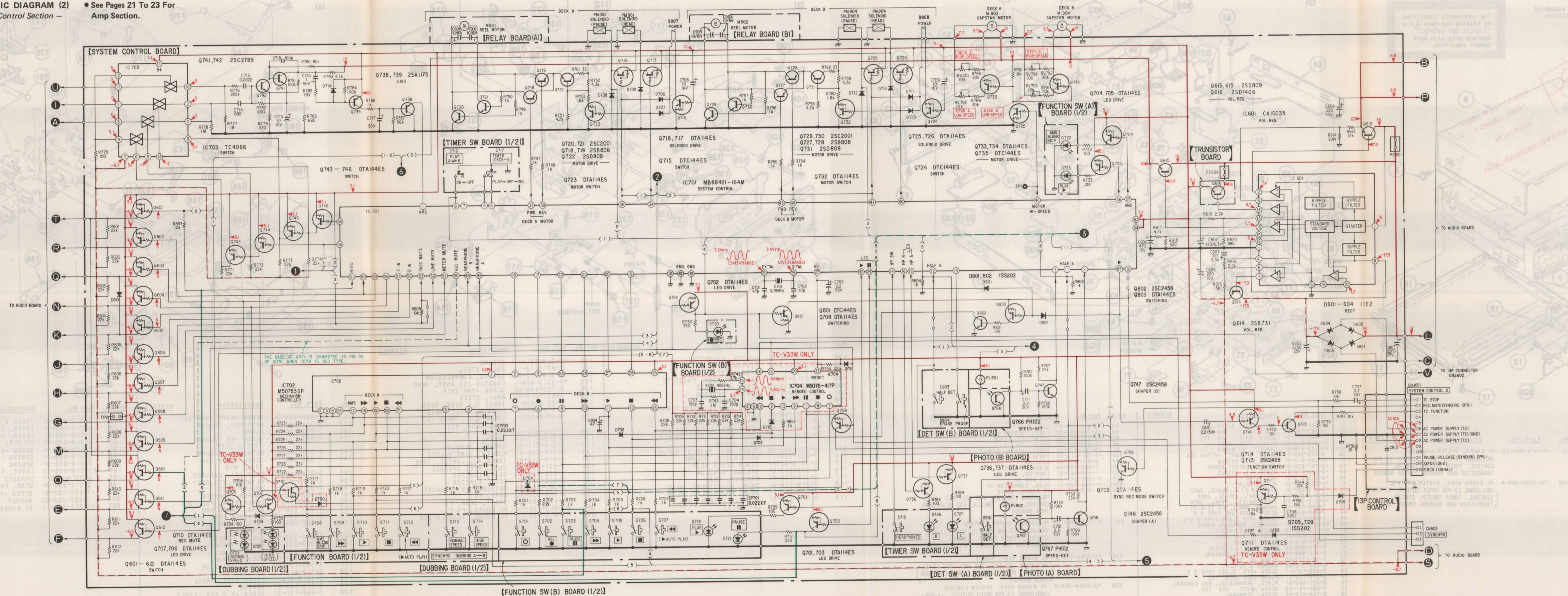
TC-V11W/V33W

TC-V11W/V33W

SYSTEM CONTROL SECTION

TC-V11W/V33W

TC-V11W/V33W

4-4. SCHEMATIC DIAGRAM (2)
— System Control Section —• See Pages 21 To 23 For
Amp Section.

Note For Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.

Ref. No.	Switch	Position
S701	Record muting	OFF
S702	Record REC	OFF
S703	Pause	OFF
S704	Fast Forward	OFF
S705	Playback	OFF
S706	Stop	OFF
S707	Auto Playback	OFF
S708	AUTO PLAY	OFF
S709	AMS/BLANK SKIP	OFF
S710	Fast Forward	OFF
S711	Stop	OFF
S712	Rewind	OFF
S713	NORMAL SPEED	OFF
S714	HIGH SPEED	OFF
S715	HEADPHONES	A or B
S716	PLAY A=B	OFF
S717	TIMER DECK B	OFF

- B+ bus.
- B- bus.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions (stop mode) with a VOM (50 $\text{k}\Omega/\text{V}$).
- Voltage variations may be noted due to normal production tolerances.
- Portions indicated by blue lines are dependent on new/old CPU IC701.
- Take care when tracing circuits.
- OLD-TYPE CPU
- NEW-TYPE CPU

Note For Mounting Diagram:

- Color code of sleeving over the end of the jacket.



- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : part mounted on the conductor side.
- : indicates side identified with part number.
- signal path
- L-CH signal path
- R-CH signal path
- B+ pattern
- B- pattern
- OLD-TYPE CPU
- NEW-TYPE CPU

TC-V11W/V33W

TC-V11W/V33W

TC-V11W/V33W

TC-V11W/V33W

SECTION 5

EXPLODED VIEWS AND PARTS LIST

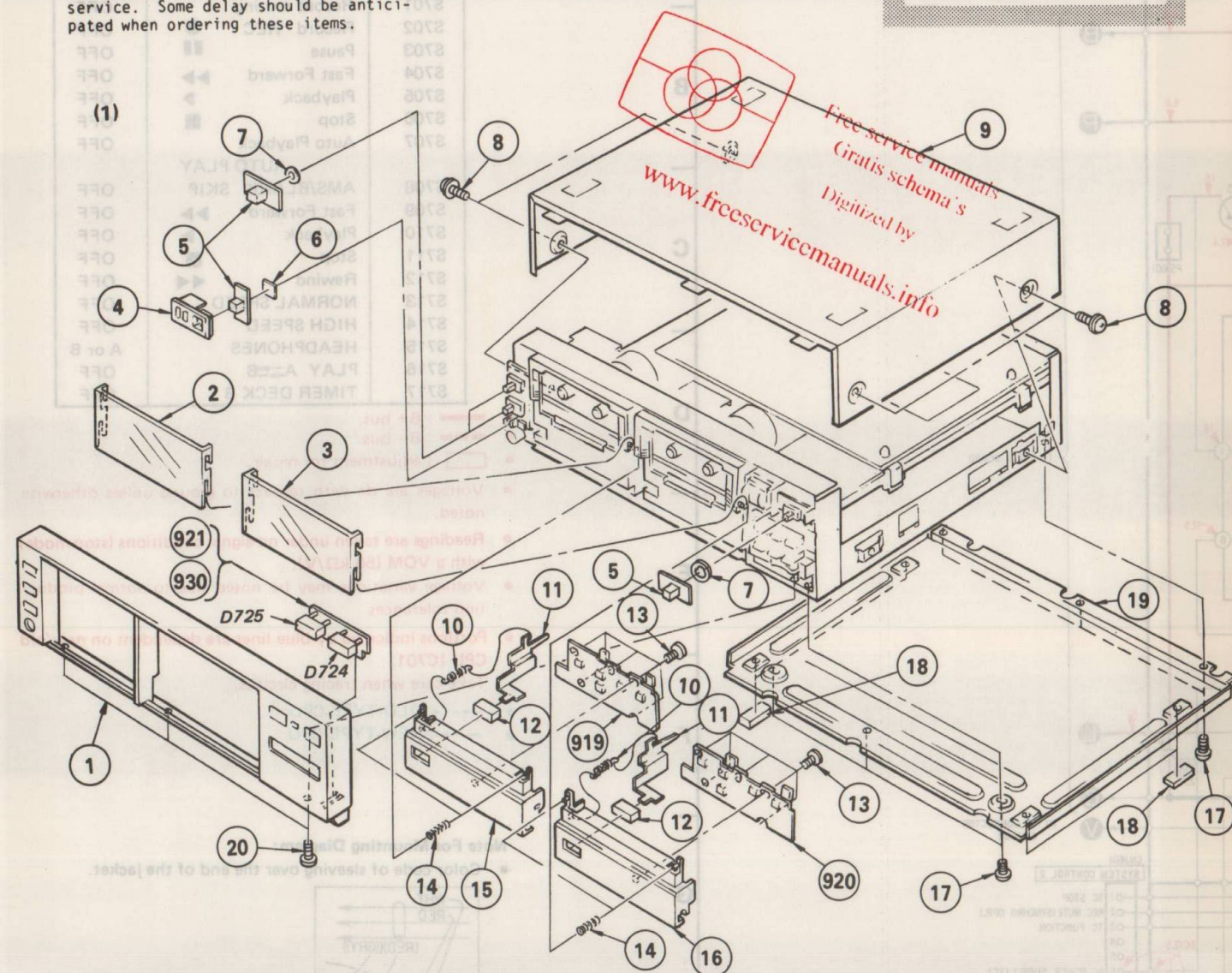
NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

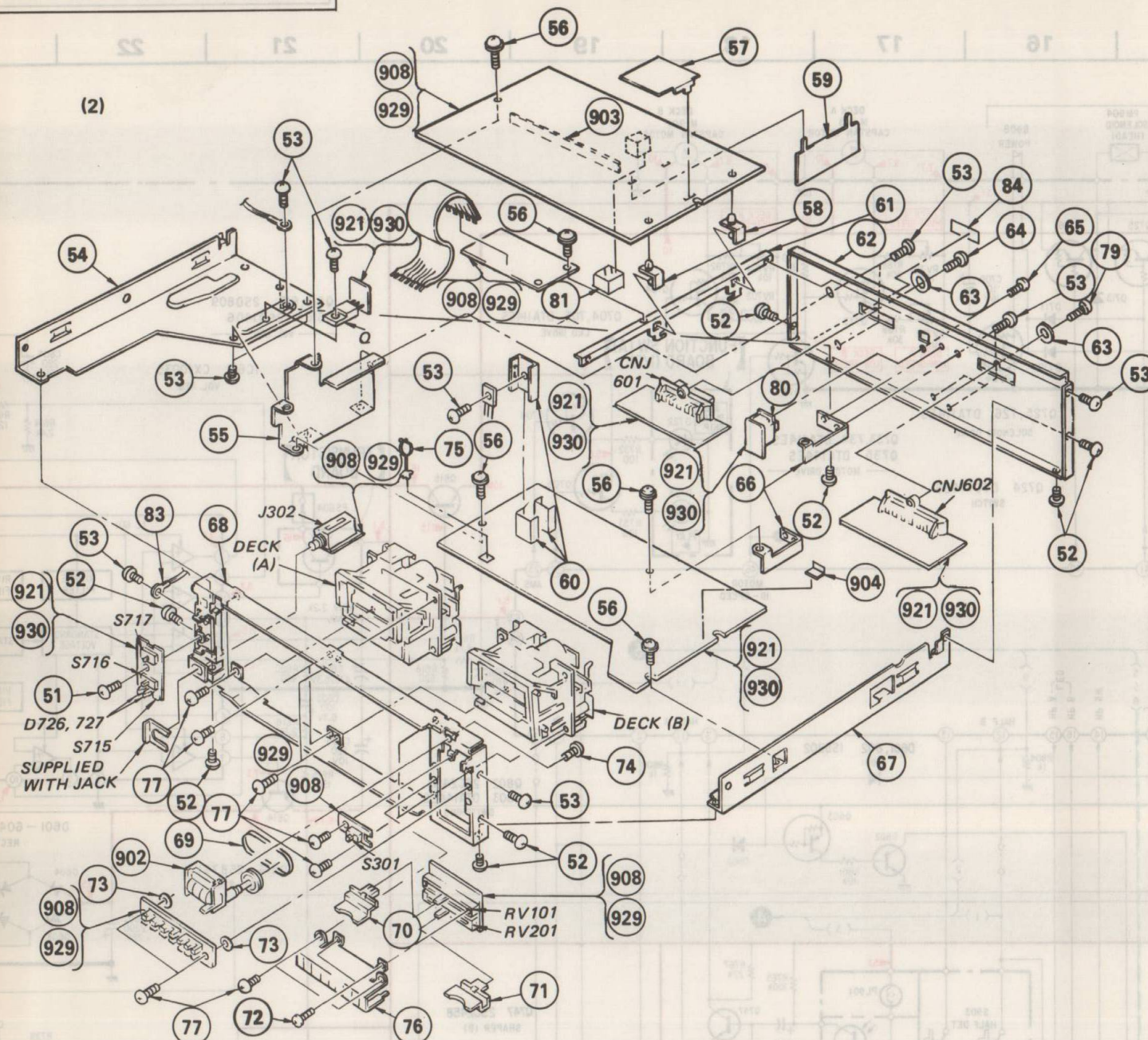
Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.

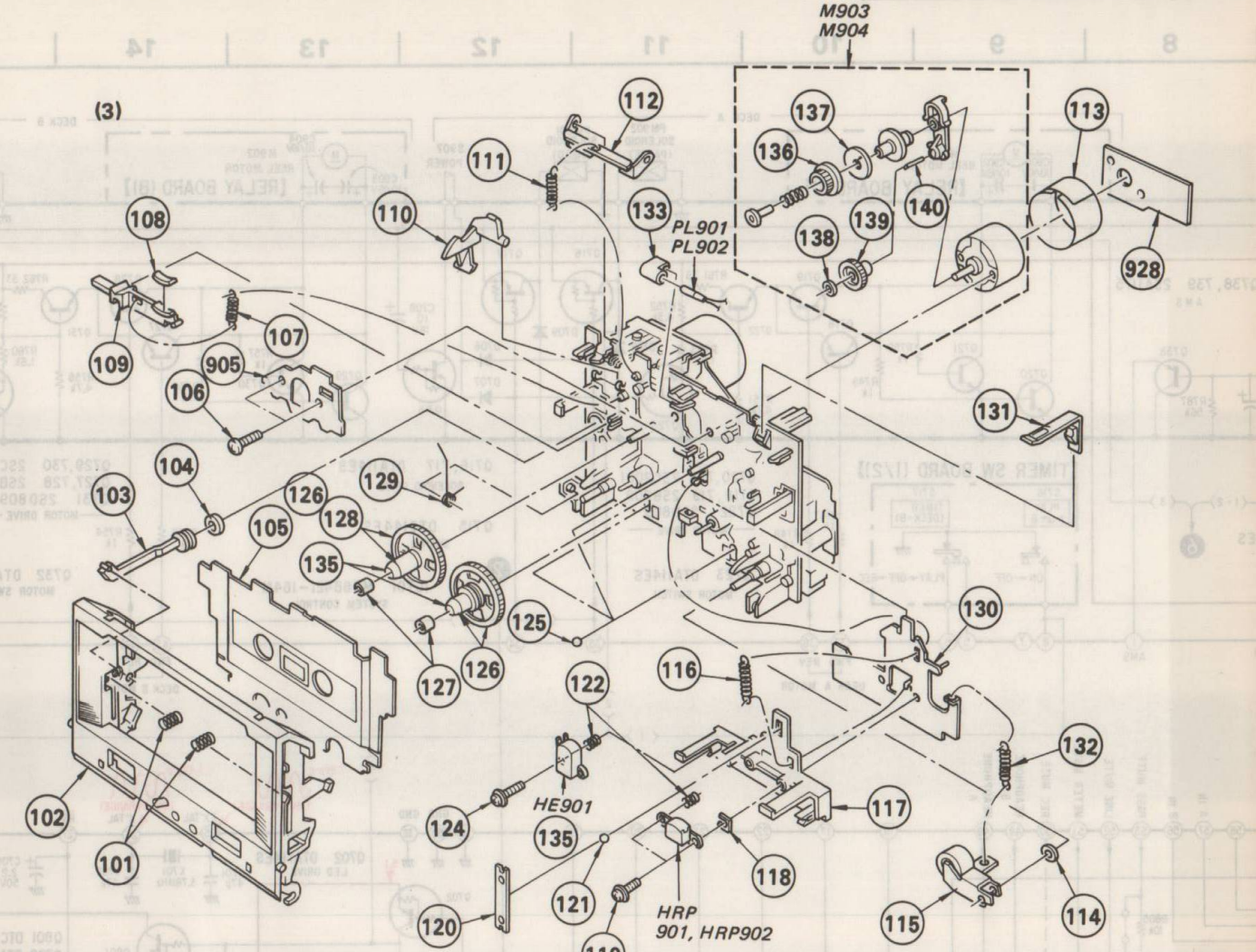
The components identified by shading and mark  are critical for safety. Replace only with part number specified.



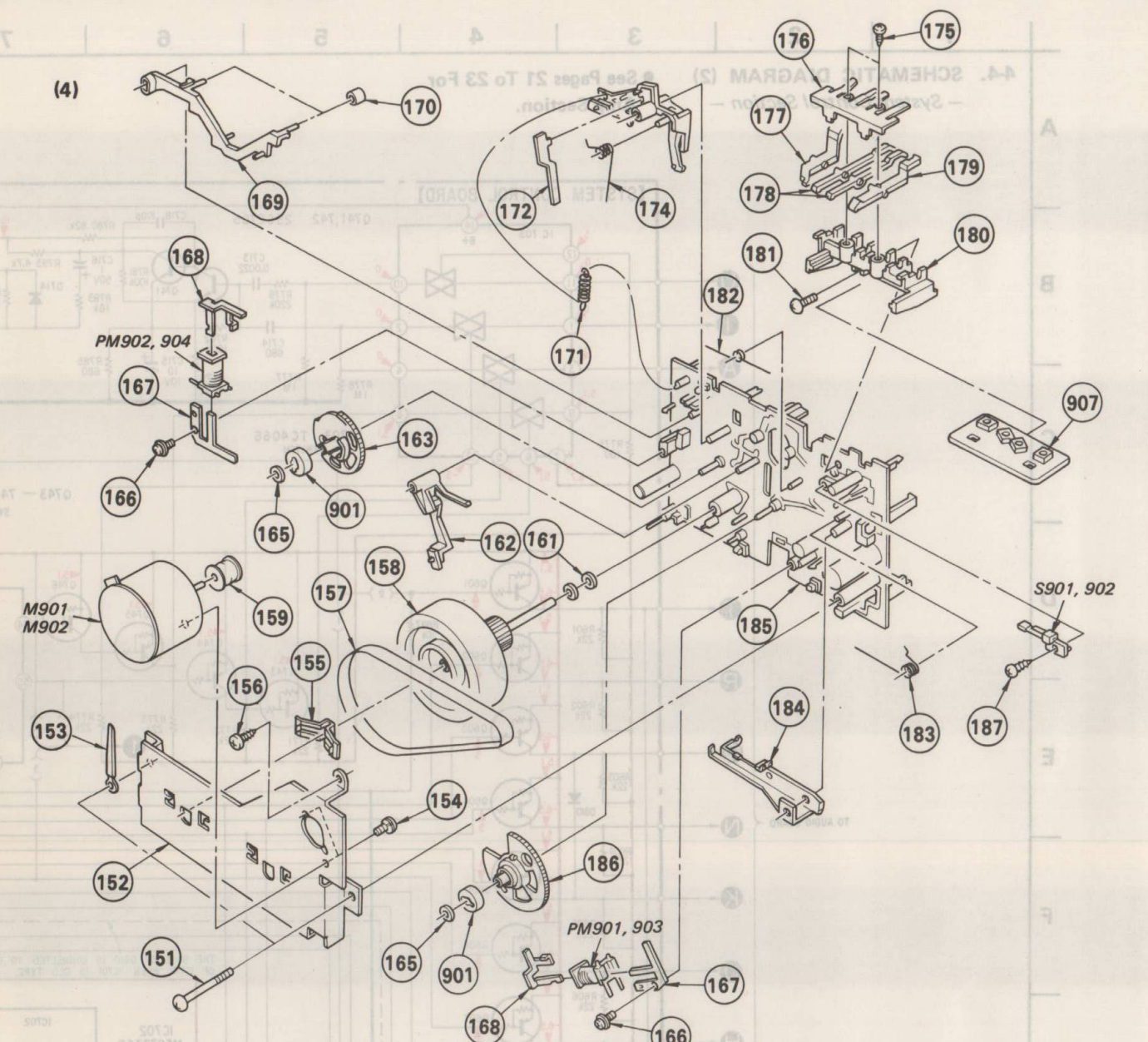
No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
1	A-2310-281-A	PANEL ASSY, FRONT		921	*1-614-940-13	PC BOARD, SYSTEM CONTROL	
2	3-313-295-01	WINDOW, CASSETTE				INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN	
3	3-313-295-11	WINDOW, CASSETTE				CONTROL, TIMER SWITCH, SYNCRO,	
4	*3-323-416-01	PLATE, INDICATION, FRONT				TRANSISTOR AND DUBBING SWITCH BOARDS	
5	3-323-415-01	KNOB, SWITCH TIMER					
6	9-911-815-01	CSHION		930	*A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL	
7	3-701-438-21	WASHER				INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN	
8	4-886-821-01	SCREW, M3 CASE				CONTROL, TIMER SWITCH, SYNCRO,	
9	3-313-223-41	CASE				TRANSISTOR AND DUBBING SWITCH BOARDS	
10	*3-323-411-01	SPRING, TENSION					
11	3-323-410-01	SLIDER, EJECT					
12	3-323-410-01	BUTTON, EJECT					
13	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S					
14	3-323-484-01	SPRING, COMPRESSION					
15	X-3313-208-1	(TC-V11W)...PANEL (A) ASSY, CONTROL					
16	X-3313-207-1	(TC-V33W)...PANEL (A) ASSY, CONTROL					
17	X-3313-206-1	PANEL (B) ASSY, CONTROL					
18	3-703-108-21	SCREW +BV 3X6, S TIGHT					
19	3-323-476-01	FOOT					
20	*3-323-422-01	PLATE, BOTTOM					
21	7-685-751-09	SCREW +BVTT 3X6 (S)					
22	*1-614-638-11	PC BOARD, CONTROL SW (A)					
920	*1-614-939-11	PC BOARD, CONTROL SW (B)					



No.	Part No.	Description	REMARKS	Ref.No.	Part No.	Description	REMARKS
51	7-685-791-04	SCREW +BVTT 2.6X5 (S)		83	7-623-508-01	LUG, 3	
52	7-685-752-04	SCREW +BVTT 3X8 (S)		84	*4-302-759-00	LABEL, SERIAL NUMBER	
53	7-685-871-01	SCREW +BVTT 3X6 (S)		85	*4-875-466-00	JOINT, (F2), KNOB	
54	*3-313-217-00	PLATE, SIDE, LEFT		86	*3-646-067-00	PURSE LOCK, T	
55	*3-323-419-01	BRACKET, PC BOARD		87	*3-701-030-00	LABEL, SERIAL NUMBER	
56	3-703-249-01	SCREW, S TIGHT, +PTTMH 3X6		88	*3-701-417-00	PURSE LOCK (11 DIA.)	
57	*3-322-817-01	PLATE (2) SHIELD		89	9-911-841-X2	CUSHION	
58	*3-701-832-00	HINGE, CIRCUIT BOARD		90	7-682-546-04	SCREW +P 3X5	
59	*3-322-816-01	PLATE (1), SHIELD		902	1-548-563-81	COUNTER, TAPE	
60	*3-312-615-31	HEAT SINK		903	1-560-242-31	BUS BAR SP	
61	*3-323-420-01	PLATE, RELAY		904	*1-564-505-11	PLUG, CONNECTOR 2P	
62	*3-313-297-31	(TC-V11W)...PLATE, JACK		908	*1-613-649-11	PC BOARD, AUDIO	
63	*3-313-297-21	(TC-V33W)...PLATE, JACK				INCLUDING LED (A), LED (B), REC LEVEL	
64	*3-313-297-01	(TC-V33W)...PANEL, JACK				CONTROL, DOLBY, SWITCH, AND HEADPHONE	
65	7-688-002-01	WASHER, SMA, 2.6 (+0.5)				JACK BOARDS	
66	7-685-646-11	SCREW +BVTP 3X8 TYPE 2 S		921	*1-614-940-13	PC BOARD, SYSTEM CONTROL	
67	7-685-133-11	SCREW +PTP 2.6X6 TYPE 2 N-S				INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN	
68	*3-323-408-01	BRACKET, AUDIO PC BOARD				CONTROL, TIMER SWITCH, SYNCRO,	
69	*3-313-210-00	PLATE, SIDE, RIGHT				TRANSISTOR AND DUBBING SWITCH BOARDS	
70	*3-323-421-01	CHASSIS, AMPLIFIER					
71	3-578-512-00	BELT, TAKE-UP					
72	3-312-949-00	KNOB (LEFT), CONTROL					
73	3-312-948-00	KNOB (RIGHT), CONTROL		929	*A-2056-250-A	PC BOARD ASSY, AUDIO	
74	7-621-772-02	SCREW +B 2.6X4 TYPE 2 S				INCLUDING LED (A), LED (B), REC LEVEL	
75	4-903-312-00	WASHER 3 (+0.8)				CONTROL, DOLBY, SWITCH, AND HEADPHONE	
76	7-685-131-11	SCREW +PTP 2.6X4 TYPE 2 S				JACK BOARDS	
77	3-315-159-01	PURSE LOCK (DIA. 14)					
78	3-323-406-01	PLATE, ORNAMENTAL, REC CONTROL		930	*A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL	
79	7-685-751-09	SCREW +BVTT 3X6 (S)				INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN	
80	3-703-473-00	SCREW, TERMINAL				CONTROL, TIMER SWITCH, SYNCRO,	
81	3-322-819-01	HOLDER, CONNECTOR				TRANSISTOR AND DUBBING SWITCH BOARDS	
82	*3-323-473-01	CASE, SHIELD					
	4-866-397-00	CUSHION, LED					



No.	Part No.	Description	REMARKS	Ref.No.	Part No.	Description	REMARKS
102	3-319-700-01	HOLDER, CASSETTE		120	*3-319-601-11	SPRING	
103	3-319-613-01	PISTON (B)		121	7-671-112-11	BALL, STEEL	
104	3-312-441-00	RING, PISTON		122	3-319-712-01	SPRING, COMPRESSION	
105	X-3313-209-1	RETAINER ASSY, CASSETTE		123	*X-3319-624-1	CHASSIS (S) ASSY, HEAD	
106	7-621-775-60	SCREW +B 2.6X12		124	3-703-496-00	SCREW +PMH 2X14	
107	3-319-694-01	SPRING, TENSION		125	7-671-112-01	BALL, STEEL	
108	3-575-346-01	FELT, BRAKE		126	X-3319-626-1	TABLE (L) ASSY, REEL	
109	*3-319-611-01	LEVER (LEFT), BACK TENSION		127	3-319-607-01	BUSHING, REEL TABLE	
110	3-319-669-01	LEVER, EJECT		128	X-3319-627-1	(DECK B)...TABLE (L)	
111	3-312-432-00	SPRING, TENSION				(CB) ASSY, REEL	
112	*3-319-709-01	LEVER (B)...LIFT, SWITCH		129	3-319-614-01	SPRING	
113	*3-319-702-01	(DECK B)...PLATE, SHIELD,		131	3-319-717-01	SPRING	
		REEL MOTOR		132	3-319-711-01	SPRING, TENSION	
113	3-575-457-00	PLATE (B) SHIELD, MOTOR		133	3-319-636-01	RUBBER, LAMP HOLDER	
114	7-623-924-11	WASHER 3.0, NYLONE		134	3-319-716-01	(DECK A)...GUIDE, TAPE	
115	X-3319-625-1	PINCH LEVER ASSY		135	3-531-760-00	CLAW, REEL SPINDLE	
116	3-319-713-01	SPRING, TENSION		136	3-575-324-00	GEAR, LIMITER	
117	3-319-715-01	BRACKET, HEAD		137	3-564-027-11	FELT, LIMITER	
118	3-319-718-01	SHIM, ADJUSTMENT, HEAD		138	3-307-394-00	RETAINER (B), THRUST	
118	3-319-718-11	SHIM, ADJUSTMENT, HEAD		139	3-575-332-00	GEAR, FR	
119	3-319-719-01	SCREW, TOOTHED LOCK		140	3-575-304-00	SHAFT, GEAR, FR	
		(+ 2X13)		905	*1-612-725-11	PC BOARD, PH.T	
				928	*1-615-080-11	PC BOARD, TRANSLATION	



No.	Part No.	Description	REMARKS	Ref.No.	Part No.	Description	REMARKS
151	7-685-879-01	SCREW +BVTT 3X30 (S)		177	3-319-605-01	(DECK B)...LEVER, METAL	
152	*3-319-665-01	RETAINER, THRUST		178	3-319-603-01	LEVER, REC DETECTION	
153	3-703-150-11	CLAMP		179	3-319-604-01	LEVER, HALF DETECTION	
154	7-628-253-95	SCREW +PS 2.6X4		180	3-319-670-01	HOLDER, SWITCH, DETECTION	
		TYPE 2 SLIT		181	7-685-865-01	SCREW +BVTT 2.6X12 (S)	
155	3-319-608-01	RETAINER, THRUST		182	3-319-649-01	SPRING	
156	7-685-645-11	SCREW +BVTP 3X6		183	3-319-633-01	SPRING	
		TYPE2 N-S		184	*3-319-676-11	LEVER, FWD	
157	3-319-710-01	BELT (R), CAPSTAN		185	X-3319-628-1	CHASSIS ASSY, MECHANICAL	
158	X-3319-630-1	FLYWHEEL (T) ASSY		186	3-319-689-01	GEAR, FWD CAM	
159	X-3319-617-1	PULLEY ASSY		187	7-685-132-21	SCREW +P 2.6X5 TYPE2 SLIT	
161	3-307-482-00	WASHER, LUMILER		901	1-452-202-00	MAGNET	
162	*X-3319-615-1	LEVER ASSY, FWD LOCK		907	*1-613-523-11	PC BOARD, DETECTION SW	
163	3-319-688-01	GEAR, PAUSE CAM					
165	3-307-394-00	RETAINER (B), THRUST					
166	7-687-204-21	TOTSU PTPWH 2X6					
		NON-SLIT, TYPE2					
167	3-307-332-00	ARBOR, FIXED					
168	3-307-333-00	ARBOR, TRIGGER					
169	*3-319-668-01	PLATE, BRAKE					
170	3-319-662-01	RUBBER, BRAKE					
171	3-555-124-00	SPRING, TENSION					
172	3-319-612-01	SPRING					
173	*X-3319-614-1	LEVER ASSY, PAUSE					
174	3-319-606-01	SPRING					
175	7-685-131-21	SCREW +P 2.6X4 TYPE2					
		SLIT					
176	3-319-602-01	SPRING					

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μF.

RESISTORS
★ All resistors are in ohms.
F: nonflammable

COILS
MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

Ref.No.	Part No.	Description
901	I-452-202-00	MAGNET
902	I-448-563-81	COUNTER, TAPE
903	I-560-242-31	BUS BAR 5P
904	I-564-505-11	PLUG, CONNECTOR 2P
905	I-612-725-11	PC BOARD, P.H.T
907	I-613-523-11	PC BOARD, DETECTION SW
908	I-613-649-11	PC BOARD, AUDIO INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS
919	I-614-638-11	PC BOARD, CONTROL SW (A)
920	I-614-939-11	PC BOARD, CONTROL SW (B)
921	I-614-940-13	PC BOARD, SYSTEM CONTROL INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS
928	I-615-080-11	PC BOARD, TRANSLATION
929	A-2056-250-A	PC BOARD ASSY, AUDIO (INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS)
930	A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL (INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS)
C101	I-123-380-00	ELECT 1MF 20% 50V
C102	I-123-356-00	ELECT 10MF 20% 16V
C103	I-162-288-31	CERAMIC 330PF 10% 50V
C104	I-136-157-00	FILM 0.022MF 5% 50V
C105	I-123-369-00	ELECT 4.7MF 20% 50V
C106	I-136-158-00	FILM 0.027MF 5% 50V
C107	I-136-158-00	FILM 0.027MF 5% 50V
C108	I-162-288-31	CERAMIC 330PF 10% 50V
C109	I-136-157-00	FILM 0.022MF 5% 50V
C110	I-123-369-00	ELECT 4.7MF 20% 50V
C111	I-136-158-00	FILM 0.027MF 5% 50V
C112	I-123-380-00	ELECT 1MF 20% 50V
C113	I-123-380-00	ELECT 1MF 20% 50V
C114	I-123-369-00	ELECT 4.7MF 20% 50V
C115	I-136-153-00	FILM 0.01MF 5% 50V
C116	I-136-155-00	FILM 0.015MF 5% 50V
C117	I-136-153-00	FILM 0.01MF 5% 50V
C118	I-136-163-00	FILM 0.068MF 5% 50V
C119	I-136-168-00	FILM 0.18MF 5% 50V
C120	I-136-158-00	FILM 0.027MF 5% 50V
C121	I-123-380-00	ELECT 1MF 20% 50V

Ref.No.	Part No.	Description
C122	I-136-168-00	FILM 0.18MF 5% 50V
C123	I-136-170-00	FILM 0.27MF 5% 50V
C124	I-136-166-00	FILM 0.12MF 5% 50V
C125	I-136-163-00	FILM 0.068MF 5% 50V
C126	I-123-369-00	ELECT 4.7MF 20% 50V
C127	I-123-380-00	ELECT 1MF 20% 50V
C128	I-123-307-00	ELECT 100MF 20% 10V
C129	I-123-369-00	ELECT 4.7MF 20% 50V
C130	I-136-157-00	FILM 0.022MF 5% 50V
C131	I-110-206-00	MYLAR 0.0082MF 5% 50V
C132	I-136-153-00	FILM 0.01MF 5% 50V
C133	I-110-204-00	MYLAR 0.0056MF 5% 50V
C134	I-110-206-00	MYLAR 0.0082MF 5% 50V
C135	I-110-204-00	MYLAR 0.0056MF 5% 50V
C136	I-136-161-00	FILM 0.047MF 5% 50V
C137	I-136-154-00	FILM 0.012MF 5% 50V
C138	I-136-154-00	FILM 0.012MF 5% 50V
C139	I-136-153-00	FILM 0.01MF 5% 50V
C140	I-136-153-00	FILM 0.01MF 5% 50V
C141	I-136-157-00	FILM 0.022MF 5% 50V
C145	I-107-167-00	MICA 75PF 5% 500V
C146	I-107-163-00	MICA 47PF 5% 500V
C147	I-162-293-31	CERAMIC 820PF 10% 50V
C148	I-123-369-00	ELECT 4.7MF 20% 50V
C149	I-136-166-00	FILM 0.12MF 5% 50V
C151	I-162-294-31	CERAMIC 0.001MF 10% 50V
C152	I-162-282-31	CERAMIC 100PF 10% 50V
C301	I-123-611-00	ELECT 1MF 20% 50V
C302	I-123-612-00	ELECT 2.2MF 20% 50V
C303	I-123-611-00	ELECT 1MF 20% 50V
C501	I-123-380-00	ELECT 1MF 20% 50V
C502	I-123-380-00	ELECT 1MF 20% 50V
C503	I-123-380-00	ELECT 1MF 20% 50V
C504	I-123-380-00	ELECT 1MF 20% 50V
C505	I-123-369-00	ELECT 4.7MF 20% 50V
C506	I-123-369-00	ELECT 4.7MF 20% 50V
C507	I-129-708-00	FILM 0.0033MF 10% 630V
C508	I-130-293-00	FILM 0.0068MF 5% 100V
C509	I-130-287-00	FILM 0.0039MF 5% 100V
C510	I-130-293-00	FILM 0.0068MF 5% 100V
C511	I-123-381-00	ELECT 2.2MF 20% 50V
C512	I-123-379-00	ELECT 0.47MF 20% 50V
C513	I-123-356-00	ELECT 10MF 20% 16V
C514	I-123-380-00	ELECT 1MF 20% 50V
C515	I-123-380-00	ELECT 1MF 20% 50V
C516	I-123-821-00	ELECT 47MF 20% 16V

Ref.No.	Part No.	Description
C517	I-161-494-00	CERAMIC 0.022MF 30% 25V
C601	I-123-338-00	ELECT 2200MF 20% 25V
C602	I-123-338-00	ELECT 2200MF 20% 25V
C603	I-123-307-00	ELECT 100MF 20% 10V
C604	I-123-308-00	ELECT 220MF 20% 10V
C605	I-123-308-00	ELECT 220MF 20% 10V
C606	I-123-323-00	ELECT 470MF 20% 16V
C607	I-123-298-00	ELECT 470MF 20% 6.3V
C613	I-161-494-00	CERAMIC 0.022MF 30% 25V
C701	I-162-037-00	CERAMIC 100PF 5% 50V
C702	I-162-037-00	CERAMIC 100PF 5% 50V
C703	I-162-100-00	(TC-V33W)...CERAMIC 150PF 10% 50V
C704	I-162-100-00	(TC-V33W)...CERAMIC 150PF 10% 50V
C705	I-123-381-00	ELECT 2.2MF 20% 50V
C706	I-162-110-00	(TC-V33W)...CERAMIC 1000PF 10% 50V
C707	I-123-381-00	ELECT 2.2MF 20% 50V
C708	I-123-356-00	ELECT 10MF 20% 16V
C709	I-123-356-00	ELECT 10MF 20% 16V
C711	I-123-381-00	ELECT 2.2MF 20% 50V
C712	I-123-381-00	ELECT 2.2MF 20% 50V
C713	I-162-111-00	CERAMIC 0.0022MF 30% 25V
C714	I-162-108-00	CERAMIC 680PF 10% 50V
C715	I-123-356-00	ELECT 10MF 20% 16V
C716	I-123-380-00	ELECT 1MF 20% 50V
C717	I-123-379-00	ELECT 0.47MF 20% 50V
C718	I-162-282-31	CERAMIC 100PF 10% 50V
C719	I-161-494-00	CERAMIC 0.022MF 30% 25V
C720	I-123-380-00	ELECT 1MF 20% 50V
C801	I-123-380-00	ELECT 1MF 20% 50V
C802	I-123-381-00	ELECT 2.2MF 20% 50V
C803	I-123-356-00	ELECT 10MF 20% 16V
C804	I-123-306-00	ELECT 47MF 20% 10V
C805	I-123-330-00	ELECT 22MF 20% 16V
C806	I-123-306-00	ELECT 47MF 20% 10V
C901	I-123-617-00	ELECT 10MF 20% 16V
C902	I-123-617-00	ELECT 10MF 20% 16V
C903	I-123-617-00	ELECT 10MF 20% 16V
C904	I-123-617-00	ELECT 10MF 20% 16V
CN601	I-562-068-00	SOCKET, CONNECTOR 13P
CN602	I-562-068-00	SOCKET, CONNECTOR 13P
CNP301	I-564-506-11	PLUG, CONNECTOR 3P
CNP302	I-564-506-11	PLUG, CONNECTOR 3P
CNP303	I-564-336-00	PIN, CONNECTOR 2P
CNP304	I-564-509-11	PLUG, CONNECTOR 6P
CNP305	I-564-506-11	PLUG, CONNECTOR 3P
CNP310	I-564-509-11	PLUG, CONNECTOR 6P
CNP701	I-564-514-11	PLUG, CONNECTOR 11P
CNP702	I-564-511-11	PLUG, CONNECTOR 8P
CNP703	I-564-513-21	PLUG, CONNECTOR 10P
CNP704	I-564-513-41	PLUG, CONNECTOR 10P
CNP705	I-564-505-31	PLUG, CONNECTOR 2P
CNP706	I-564-505-41	PLUG, CONNECTOR 2P
CNP709	I-564-337-00	PIN, CONNECTOR 3P
CNP710	I-564-336-00	PIN, CONNECTOR 2P
CNP711	I-564-506-11	PLUG, CONNECTOR 3P

Ref.No.	Part No.	Description
CNP712	I-564-506-11	PLUG, CONNECTOR 3P
CNP801	I-564-341-11	PIN, CONNECTOR 7P
CNP802	I-564-339-00	PIN, CONNECTOR 5P
CNP803	I-564-338-00	PIN, CONNECTOR 4P
CNP804	I-564-337-00	PIN, CONNECTOR 3P
CNP805	I-564-337-00	PIN, CONNECTOR 3P
CNP806	I-564-336-00	PIN, CONNECTOR 2P
CNP810	I-564-338-00	PIN, CONNECTOR 4P
CNP826	I-564-336-00	PIN, CONNECTOR 2P
CT501	I-141-225-00	CAP, TUNING, TRIMMER
D501	8-719-107-94	DIODE 1SS202-1
D502	8-719-107-94	DIODE 1SS202-1
D503	8-719-107-94	DIODE 1SS202-1
D504	8-719-107-94	DIODE 1SS202-1
D505	8-719-107-94	DIODE 1SS202-1
D506	8-719-107-94	DIODE 1SS202-1
D507	8-719-107-94	DIODE 1SS202-1
D508	8-719-107-94	DIODE 1SS202-1
D509	8-719-107-94	DIODE 1SS202-1
D510	8-719-107-94	DIODE 1SS202-1
D601	8-719-200-23	DIODE 1IE2
D602	8-719-200-23	DIODE 1IE2
D603	8-719-200-23	DIODE 1IE2
D604	8-719-200-23	DIODE 1IE2
D701	8-719-107-94	DIODE 1SS202-1
D702	8-719-107-94	DIODE 1SS202-1
D703	8-719-107-94	DIODE 1SS202-1
D704	8-719-107-94	(TC-V33W)...DIODE
D705	8-719-107-94	(TC-V33W)...DIODE
D706	8-719-107-94	DIODE 1SS202-1
D707	8-719-107-94	DIODE 1SS202-1
D708	8-719-107-94	DIODE 1SS202-1
D709	8-719-107-94	DIODE 1SS202-1
D710	8-719-107-94	DIODE 1SS202-1
D711	8-719-107-94	DIODE 1SS202-1
D712	8-719-107-94	DIODE 1SS202-1
D713	8-719-107-94	DIODE 1SS202-1
D714	8-719-107-94	DIODE 1SS202-1
D715	8-719-107-94	(TC-V33W)...DIODE
D719	8-719-920-07	DIODE GL-9PG12
D720	8-719-906-55	DIODE GL-9PR12
D721	8-719-920-06	DIODE GL-9HY12
D722	8-719-920-07	DIODE GL-9PG12
D723	8-719-920-07	DIODE GL-9PG12
D724	8-719-913-59	DIODE LT-9230D
D725	8-719-913-59	DIODE LT-9230D
D726	8-719-907-34	DIODE GL-9NG10
D727	8-719-907-34	DIODE GL-9NG10
D728	8-719-107-94	DIODE 1SS202-1
D729	8-719-107-94	(TC-V33W)...DIODE
D730	8-719-107-94	DIODE 1SS202-1
D801	8-719-107-94	DIODE 1SS202-1
D802	8-719-107-94	DIODE 1SS202-1
D803	8-719-107-94	DIODE 1SS202-1
D804	8-719-107-94	DIODE 1SS202-1
D805	8-719-107-94	DIODE 1SS202-1
D806	8-719-107-94	DIODE 1SS202-1

Ref.No.	Part No.	Description
D807	8-719-107-94	DIODE 1SS202-1
D808	8-719-107-94	DIODE 1SS202-1
D809	8-719-107-94	DIODE 1SS202-1
D810	8-719-107-94	DIODE 1SS202-1
F101	I-231-388-00	FILTER, LOW PASS
F102	I-235-186-00	ENCAPSULATED COMPONENT
F201	I-231-388-00	FILTER, LOW PASS
F202	I-235-186-00	ENCAPSULATED COMPONENT
HE901	8-825-724-00	(DECK B)...HEAD, ERASE EF-201-36
HRP901	8-825-507-80	HEAD (PP227-3602F)
HRP902	8-825-507-80	HEAD (PP227-3602F)
IC101	8-752-002-80	IC CX20028
IC102	8-759-240-66	IC TC4066BP
IC103	8-759-240-66	IC TC4066BP
IC201	8-752-002-70	IC CX20027
IC202	8-759-240-66	IC TC4066BP
IC203	8-759-240-66	IC TC4066BP
IC301	8-759-912-79	IC IR2E02
IC401	8-759-912-79	IC IR2E02
IC501	8-759-145-58	IC UPC4558C
IC502	8-759-700-04	IC NJM2043D-D
IC503	8-759-700-04	IC NJM2043D-D
IC504	8-759-145-58	IC UPC4558C
IC505	8-759-145-58	IC UPC4558C
IC506	8-759-145-58	IC UPC4558C
IC507	8-759-240-66	IC TC4066BP
IC508	8-759-240-66	IC TC4066BP
IC509	8-759-240-01	IC TC4001BP
IC510	8-759-240-01	IC TC4001BP
IC511	8-759-240-11	IC TC4011BP
IC601	8-759-700-47	IC CX10035
IC701	8-759-915-39	((TC-V11W (UK: SERIAL UP TO 600,500), TC-V33W (E: SERIAL UP TO 300,600 AEP: SERIAL UP TO 500,100))...IC MB88421-164M (TC-V11W (UK: SERIAL 600,501 AND UP, E: SERIAL 300,601 AND UP), TC-V33W (E: SERIAL 300,601 AND UP, AEP: SERIAL 500,101 AND UP)) IC MB88421-178M
IC702	8-759-600-54	IC M50783SP
IC703	8-759-240-66	IC TC4066BP
IC704	8-759-602-47	(TC-V33W)...IC M50761-417P
J302	I-507-796-21	JACK
L101	I-408-918-11	MICRO INDUCTOR 3.3MMH
L102	I-408-917-11	MICRO INDUCTOR 2.7MMH
L103	I-408-918-11	MICRO INDUCTOR 3.3MMH
L104	I-408-923-00	MICRO INDUCTOR 8.2MMH
L105	I-408-923-00	MICRO INDUCTOR 8.2MMH
L106	I-408-923-00	MICRO INDUCTOR 8.2MMH
L107	I-408-929-00	MICRO INDUCTOR 27MMH
L201	I-408-918-11	MICRO INDUCTOR 3.3MMH
L202	I-408-917-11	MICRO INDUCTOR 2.7MMH
L203	I-408-918-11	MICRO INDUCTOR 3.3MMH
L204	I-408-923-00	MICRO INDUCTOR 8.2MMH
L205	I-408-923-00	MICRO INDUCTOR 8.2MMH
L206	I-408-923-00	MICRO INDUCTOR 8.2MMH
L207	I-408-929-00	MICRO INDUCTOR 27MMH
L501	I-408-096-00	MICRO INDUCTOR 470UH

Ref.No.	Part No.	Description
LED301	I-806-968-11	DIODE (LED BLOCK)
LED302	I-806-967-11	DIODE (LED BLOCK)
LED401	I-806-968-11	DIODE (LED BLOCK)
LED402	I-806-967-11	DIODE (LED BLOCK)
M901	X-3319-612-1	MOTOR ASSY, REEL
M902	X-3319-612-1	MOTOR ASSY, REEL
M903	8-835-124-01	MOTOR, DC (DNE-7101A)
M904	8-835-124-01	MOTOR, DC (DNE-7101A)
PL901	I-518-563-11	LAMP, PILOT
PL902	I-518-563-11	LAMP, PILOT
PM901	I-454-317-00	SOLENOID, PLUNGER
PM902	I-454-317-00	SOLENOID, PLUNGER</

Ref.No.Part No.	Description	Ref.No.Part No.	Description	Ref.No.Part No.	Description	Ref.No.Part No.	Description	Ref.No.Part No.	Description	Ref.No.Part No.	Description
Q703	8-729-900-65 TRANSISTOR DTAI144ES	Q812	8-729-900-65 TRANSISTOR DTAI144ES	R163	1-247-879-00 CARBON 100K 5% 1/6W	R515	1-247-855-00 CARBON 10K 5% 1/6W	R736	1-247-783-00 (TC-V33W)... CARBON 10 5% 1/6W	R801	1-247-855-00 CARBON 10K 5% 1/6W
Q704	8-729-900-65 TRANSISTOR DTAI144ES	Q813	8-729-900-65 TRANSISTOR DTAI144ES	R164	1-247-887-00 CARBON 220K 5% 1/6W	R516	1-247-871-00 CARBON 47K 5% 1/6W	R738	1-247-855-00 CARBON 10K 5% 1/6W	R802	1-247-879-00 CARBON 100K 5% 1/6W
Q705	8-729-900-65 TRANSISTOR DTAI144ES	Q814	8-729-900-89 TRANSISTOR DTC144ES	R165	1-247-853-00 CARBON 8.2K 5% 1/6W	R601	1-247-863-00 CARBON 22K 5% 1/6W	R739	1-247-855-00 CARBON 10K 5% 1/6W	R803	1-247-855-00 CARBON 10K 5% 1/6W
Q706	8-729-900-65 TRANSISTOR DTAI144ES			R166	1-247-867-00 CARBON 33K 5% 1/6W	R602	1-247-863-00 CARBON 22K 5% 1/6W	R740	1-247-855-00 CARBON 10K 5% 1/6W	R804	1-247-831-00 CARBON 1K 5% 1/6W
Q707	8-729-900-65 TRANSISTOR DTAI144ES	Q815	8-729-900-61 TRANSISTOR DTAI144ES	R167	1-247-867-00 CARBON 33K 5% 1/6W	R603	1-247-863-00 CARBON 22K 5% 1/6W	R741	1-247-855-00 CARBON 10K 5% 1/6W	R805	1-247-855-00 CARBON 10K 5% 1/6W
Q708	8-729-900-65 TRANSISTOR DTAI144ES	Q816	8-729-900-61 TRANSISTOR DTAI144ES	R168	1-247-843-00 CARBON 3.3K 5% 1/6W	R604	1-247-863-00 CARBON 22K 5% 1/6W	R743	1-247-903-00 (TC-V33W)... CARBON 1M 5% 1/6W	R806	1-247-839-00 CARBON 2.2K 5% 1/6W
Q709	8-729-900-65 TRANSISTOR DTAI144ES			R169	1-247-811-00 CARBON 150 5% 1/6W			R747	1-247-831-00 CARBON 1K 5% 1/6W	R807	1-247-839-00 CARBON 2.2K 5% 1/6W
Q710	8-729-900-89 (TC-V33W)... TRANSISTOR DTC144ES	R101	1-247-839-00 CARBON 2.2K 5% 1/6W	R170	1-247-857-00 CARBON 12K 5% 1/6W	R605	1-247-863-00 CARBON 22K 5% 1/6W	R748	1-247-831-00 CARBON 1K 5% 1/6W	R808	1-247-831-00 CARBON 1K 5% 1/6W
Q711	8-729-900-65 (TC-V33W)... TRANSISTOR DTAI144ES	R102	1-247-864-00 CARBON 24K 5% 1/6W	R171	1-247-809-00 CARBON 120 5% 1/6W	R606	1-247-863-00 CARBON 22K 5% 1/6W	R749	1-247-831-00 CARBON 1K 5% 1/6W	R809	1-247-855-00 CARBON 10K 5% 1/6W
Q713	8-729-245-83 TRANSISTOR 2SC2458	R104	1-247-879-00 CARBON 100K 5% 1/6W	R172	1-247-841-00 CARBON 2.7K 5% 1/6W	R607	1-247-863-00 CARBON 22K 5% 1/6W	R750	1-247-831-00 CARBON 1K 5% 1/6W	R810	1-247-831-00 CARBON 1K 5% 1/6W
Q714	8-729-900-65 TRANSISTOR DTAI144ES	R105	1-247-843-00 CARBON 3.3K 5% 1/6W	R173	1-247-850-00 CARBON 6.2K 5% 1/6W	R608	1-247-863-00 CARBON 22K 5% 1/6W	R751	1-247-847-00 CARBON 4.7K 5% 1/6W	RV101	1-228-670-00 RES, VAR, SLIDE 20K(REC LEVEL)
Q715	8-729-900-85 TRANSISTOR 2SB808	R106	1-247-864-00 CARBON 6.8K 5% 1/6W	R174	1-247-815-00 CARBON 220 5% 1/6W	R609	1-247-863-00 CARBON 22K 5% 1/6W	R752	1-247-846-00 CARBON 4.3K 5% 1/6W	RV102	1-226-236-00 RES, ADJ, CARBON 10K(DECK A PB LEVEL)
Q716	8-729-900-61 TRANSISTOR DTAI144ES	R107	1-247-855-00 CARBON 10K 5% 1/6W	R175	1-247-841-00 CARBON 2.7K 5% 1/6W	R610	1-247-863-00 CARBON 22K 5% 1/6W	R753	1-247-837-00 CARBON 1.8K 5% 1/6W	RV103	1-226-236-00 RES, ADJ, CARBON 10K(DECK B PB LEVEL)
Q717	8-729-900-61 TRANSISTOR DTAI144ES	R108	1-247-889-00 CARBON 270K 5% 1/6W	R176	1-247-845-00 CARBON 3.9K 5% 1/6W	R611	1-247-863-00 CARBON 22K 5% 1/6W	R754	1-247-831-00 CARBON 1K 5% 1/6W	RV104	1-226-236-00 RES, ADJ, CARBON 10K(DECK B REC LEVEL)
Q718	8-729-800-83 TRANSISTOR 2SB808	R109	1-247-807-00 CARBON 100 5% 1/6W	R177	1-247-867-00 CARBON 33K 5% 1/6W	R612	1-247-863-00 CARBON 22K 5% 1/6W	R755	1-247-831-00 CARBON 1K 5% 1/6W	RV105	1-226-236-00 RES, ADJ, CARBON 10K(METER LEVEL)
Q719	8-729-800-83 TRANSISTOR 2SB808	R110	1-247-882-00 CARBON 130K 5% 1/6W	R178	1-247-867-00 CARBON 33K 5% 1/6W	R613	1-247-857-00 CARBON 12K 5% 1/6W	R756	1-247-831-00 CARBON 1K 5% 1/6W	RV201	1-228-670-00 RES, VAR, SLIDE 20K(REC LEVEL)
Q720	8-729-811-22 TRANSISTOR 2SD1012	R111	1-247-849-00 CARBON 5.6K 5% 1/6W	R179	1-247-843-00 CARBON 3.3K 5% 1/6W	R614	1-247-840-00 CARBON 2.4K 5% 1/6W	R757	1-247-831-00 CARBON 1K 5% 1/6W	RV202	1-226-236-00 RES, ADJ, CARBON 10K(DECK A PB LEVEL)
Q721	8-729-811-22 TRANSISTOR 2SD1012	R112	1-247-839-00 CARBON 2.2K 5% 1/6W	R180	1-247-807-00 CARBON 100 5% 1/6W	R615	1-247-858-00 CARBON 13K 5% 1/6W	R758	1-247-847-00 CARBON 4.7K 5% 1/6W	RV203	1-226-236-00 RES, ADJ, CARBON 10K(DECK B PB LEVEL)
Q722	8-729-180-92 TRANSISTOR 2SD809-K	R113	1-247-841-00 CARBON 2.7K 5% 1/6W	R181	1-247-859-00 CARBON 15K 5% 1/6W	R616	1-247-839-00 CARBON 2.2K 5% 1/6W	R759	1-247-846-00 CARBON 4.3K 5% 1/6W	RV204	1-226-236-00 RES, ADJ, CARBON 10K(DECK B REC LEVEL)
Q723	8-729-900-65 TRANSISTOR DTAI144ES	R114	1-247-887-00 CARBON 220K 5% 1/6W	R182	1-247-809-00 CARBON 120 5% 1/6W	R617	1-247-847-00 CARBON 4.7K 5% 1/6W	R760	1-247-837-00 CARBON 1.8K 5% 1/6W	RV205	1-226-236-00 RES, ADJ, CARBON 10K(METER LEVEL)
Q724	8-729-900-89 TRANSISTOR DTC144ES	R115	1-247-839-00 CARBON 2.2K 5% 1/6W	R183	1-247-837-00 CARBON 1.8K 5% 1/6W	R618	1-247-826-00 CARBON 620 5% 1/6W	R761	1-247-204-00 CARBON 33 5% 1/2W	RV701	1-228-994-00 RES, ADJ, CARBON 10K(DECK A HIGH SPEED)
Q725	8-729-900-61 TRANSISTOR DTAI144ES	R116	1-247-887-00 CARBON 220K 5% 1/6W	R184	1-247-852-00 CARBON 7.5K 5% 1/6W	R619	1-247-839-00 CARBON 2.2K 5% 1/6W	R762	1-247-204-00 CARBON 33 5% 1/2W	RV702	1-228-994-00 RES, ADJ, CARBON 10K(DECK A NORMAL SPEED)
Q726	8-729-900-61 TRANSISTOR DTAI144ES	R117	1-247-833-00 CARBON 1.2K 5% 1/6W	R185	1-247-815-00 CARBON 220 5% 1/6W	R620	1-247-827-00 CARBON 680 5% 1/6W	R763	1-247-807-00 CARBON 100 5% 1/6W	RV703	1-228-994-00 RES, ADJ, CARBON 10K(DECK B HIGH SPEED)
Q727	8-729-800-83 TRANSISTOR 2SB808	R118	1-247-889-00 CARBON 270K 5% 1/6W	R186	1-247-849-00 CARBON 5.6K 5% 1/6W	R701	1-247-831-00 CARBON 1K 5% 1/6W	R764	1-247-807-00 CARBON 100 5% 1/6W	RV704	1-228-994-00 RES, ADJ, CARBON 10K(DECK B NORMAL SPEED)
Q728	8-729-800-83 TRANSISTOR 2SB808	R119	1-247-807-00 CARBON 100 5% 1/6W	R187	1-247-847-00 CARBON 4.7K 5% 1/6W	R702	1-247-831-00 CARBON 1K 5% 1/6W	R765	1-247-879-00 CARBON 100K 5% 1/6W	RY501	1-515-547-11 RELAY
Q729	8-729-811-22 TRANSISTOR 2SD1012	R120	1-247-882-00 CARBON 130K 5% 1/6W	R188	1-247-855-00 CARBON 10K 5% 1/6W	R703	1-247-831-00 CARBON 1K 5% 1/6W	R766	1-247-879-00 CARBON 100K 5% 1/6W	S301	1-554-168-00 SWITCH, SLIDE (DOLBY NR)
Q730	8-729-811-22 TRANSISTOR 2SD1012	R121	1-247-848-00 CARBON 5.1K 5% 1/6W	R189	1-247-867-00 CARBON 33K 5% 1/6W	R704	1-247-831-00 CARBON 1K 5% 1/6W	R767	1-247-863-00 CARBON 22K 5% 1/6W	S701	1-553-856-00 SWITCH, KEY BOARD (RECORD MUTING)
Q731	8-729-180-92 TRANSISTOR 2SD809-K	R122	1-247-839-00 CARBON 2.2K 5% 1/6W	R190	1-247-865-00 CARBON 27K 5% 1/6W	R705	1-247-831-00 CARBON 1K 5% 1/6W	R768	1-247-863-00 CARBON 22K 5% 1/6W	S702	1-553-856-00 SWITCH, KEY BOARD (RECORD)
Q732	8-729-900-65 TRANSISTOR DTAI144ES	R123	1-247-841-00 CARBON 2.7K 5% 1/6W	R191	1-247-815-00 CARBON 220 5% 1/6W	R706	1-247-831-00 CARBON 1K 5% 1/6W	R769	1-247-879-00 CARBON 100K 5% 1/6W	S703	1-553-856-00 SWITCH, KEY BOARD (PAUSE)
Q733	8-729-900-65 TRANSISTOR DTAI144ES	R124	1-247-887-00 CARBON 220K 5% 1/6W	R192	1-247-835-00 CARBON 1.5K 5% 1/6W	R707	1-247-831-00 CARBON 1K 5% 1/6W	R770	1-247-879-00 CARBON 100K 5% 1/6W	S704	1-553-856-00 SWITCH, KEY BOARD (FAST FORWARD)
Q734	8-729-900-65 TRANSISTOR DTAI144ES	R125	1-247-879-00 CARBON 100K 5% 1/6W	R193	1-247-869-00 CARBON 39K 5% 1/6W	R708	1-247-863-00 CARBON 22K 5% 1/6W	R771	1-247-863-00 CARBON 22K 5% 1/6W	S705	1-553-856-00 SWITCH, KEY BOARD (PLAY)
Q735	8-729-900-65 TRANSISTOR DTC144ES	R128	1-247-871-00 CARBON 47K 5% 1/6W	R194	1-247-879-00 CARBON 100K 5% 1/6W	R709	1-247-863-00 CARBON 22K 5% 1/6W	R772	1-247-863-00 CARBON 22K 5% 1/6W	S706	1-553-856-00 SWITCH, KEY BOARD (STOP)
Q736	8-729-900-65 TRANSISTOR DTAI144ES	R129	1-247-823-00 CARBON 470 5% 1/6W	R195	1-247-847-00 CARBON 4.7K 5% 1/6W	R710	1-247-863-00 CARBON 22K 5% 1/6W	R773	1-247-863-00 CARBON 22K 5% 1/6W	S707	1-553-856-00 SWITCH, KEY BOARD (REWIND)
Q737	8-729-900-65 TRANSISTOR DTAI144ES	R130	1-247-823-00 CARBON 470 5% 1/6W	R196	1-247-823-00 CARBON 4.7K 5% 1/6W	R711	1-247-863-00 CARBON 22K 5% 1/6W	R774	1-247-863-00 CARBON 22K 5% 1/6W	S708	1-553-856-00 SWITCH, KEY BOARD (AMS/BLANK SKIP)
Q738	8-729-204-83 TRANSISTOR 2SA1048-GR	R131	1-247-879-00 CARBON 100K 5% 1/6W	R301	1-247-879-00 CARBON 100K 5% 1/6W	R712	1-247-863-00 CARBON 22K 5% 1/6W	R775	1-247-879-00 CARBON 100K 5% 1/6W	S709	1-553-856-00 SWITCH, KEY BOARD (FAST FORWARD)
Q739	8-729-204-83 TRANSISTOR 2SA1048-GR	R132	1-247-835-00 CARBON 1.5K 5% 1/6W	R302	1-247-861-00 CARBON 18K 5% 1/6W	R713	1-247-863-00 CARBON 22K 5% 1/6W	R776	1-247-887-00 CARBON 220K 5% 1/6W	S710	1-553-856-00 SWITCH, KEY BOARD (PLAY)
Q741	8-729-245-83 TRANSISTOR 2SC2458	R139	1-247-869-00 CARBON 39K 5% 1/6W	R303	1-247-879-00 CARBON 100K 5% 1/6W	R714	1-247-863-00 CARBON 22K 5% 1/6W	R777	1-247-903-00 CARBON 1M 5% 1/6W	S711	1-553-856-00 SWITCH, KEY BOARD (STOP)
Q742	8-729-245-83 TRANSISTOR 2SC2458	R140	1-247-846-00 CARBON 4.3K 5% 1/6W	R304	1-247-855-00 CARBON 10K 5% 1/6W	R715	1-247-831-00 CARBON 1K 5% 1/6W	R778	1-247-903-00 CARBON 1M 5% 1/6W	S712	1-553-856-00 SWITCH, KEY BOARD (REWIND)
Q743	8-729-900-65 TRANSISTOR DTAI144ES	R141	1-247-895-00 CARBON 470K 5% 1/6W	R305	1-247-855-00 CARBON 10K 5% 1/6W	R716	1-247-831-00 CARBON 1K 5% 1/6W	R779	1-247-823-00 CARBON 470 5% 1/6W	S713	1-553-856-00 SWITCH, KEY BOARD (NORMAL SPEED)
Q744	8-729-900-65 TRANSISTOR DTAI144ES	R142	1-247-822-00 CARBON 430 5% 1/6W	R306	1-247-878-00 CARBON 91K 5% 1/6W	R717	1-247-831-00 CARBON 1K 5% 1/6W	R780	1-247-877-00 CARBON 82K 5% 1/6W	S714	1-553-856-00 SWITCH, KEY BOARD (HIGH SPEED)
Q745	8-729-900-65 TRANSISTOR DTAI144ES	R143	1-247-841-00 CARBON 2.7K 5% 1/6W	R307	1-247-827-00 CARBON 680 5% 1/6W	R718	1-247-831-00 CARBON 1K 5% 1/6W	R781	1-247-879-00 CARBON 100K 5% 1/6W	S715	1-553-856-00 SWITCH, KEY BOARD (HEADPHONES)
Q746	8-729-900-65 TRANSISTOR DTAI144ES	R144	1-247-776-00 METAL 91K 1% 1/4W	R501	1-247-855-00 CARBON 10K 5% 1/6W	R719	1-247-831-00 CARBON 1K 5% 1/6W	R782	1-247-879-00 CARBON 100K 5% 1/6W	S716	1-554-078-21 SWITCH, SLIDE (PLAY)
Q747	8-729-245-83 TRANSISTOR 2SC2458	R145	1-247-838-00 CARBON 2K 5% 1/6W	R502	1-247-857-00 CARBON 12K 5% 1/6W	R720	1-247-831-00 CARBON 1K 5% 1/6W	R783	1-247-861-00 CARBON 18K 5% 1/6W	S717	1-554-168-00 SWITCH, SLIDE (TIMER)
Q748	8-729-245-83 TRANSISTOR 2SC2458	R146	1-247-871-00 CARBON 47K 5% 1/6W	R503	1-247-857-00 CARBON 12K 5% 1/6W	R721	1-247-831-00 CARBON 1K 5% 1/6W	R784	1-247-879-00 CARBON 100K 5% 1/6W	S907	1-554-410-00 SWITCH, LEAF
Q766	8-729-101-02 TRANSISTOR PHI02	R147	1-247-848-00 CARBON 5.1K 5% 1/6W	R504	1-217-529-00 FUSIBLE 33 5% 1/4W	R722	1-247-863-00 CARBON 22K 5% 1/6W	R785	1-247-827-00 CARBON 680 5% 1/6W	S901	1-553-856-00 SWITCH, KEY BOARD
Q767	8-729-101-02 TRANSISTOR PHI02	R148	1-247-820-00 CARBON 360 5% 1/6W	R505	1-247-855-00 CARBON 10K 5% 1/6W	R723	1-247-863-00 CARBON 22K 5% 1/6W	R786	1-247-831-00 CARBON 1K 5% 1/6W	S908	1-554-410-00 SWITCH, LEAF
Q801	8-729-900-89 TRANSISTOR DTC144ES	R149	1-247-845-00 CARBON 3.9K 5% 1/6W	R506	1-247-855-00 CARBON 10K 5% 1/6W	R724	1-247-863-00 CARBON 22K 5% 1/6W	R787	1-247-875-00 CARBON 68K 5% 1/6W	S902	1-553-856-00 SWITCH, KEY BOARD
Q802	8-729-245-83 TRANSISTOR 2SC2458	R150	1-247-886-00 CARBON 200K 5% 1/6W	R507	1-247-843-00 CARBON 3.3K 5% 1/6W	R725	1-247-863-00 CARBON 22K 5% 1/6W	R788	1-247-866-00 CARBON 30K 5% 1/6W	S903	1-553-856-00 SWITCH, KEY BOARD
Q803	8-729-900-65 TRANSISTOR DTAI144ES	R151	1-247-887-00 CARBON 220K 5% 1/6W	R508	1-247-849-00 CARBON 5.6K 5% 1/6W	R726	1-247-863-00 CARBON 22K 5% 1/6W	R789	1-247-866-00 CARBON 30K 5% 1/6W	S904	1-553-856-00 SWITCH, KEY BOARD
Q806	8-729-245-83 TRANSISTOR 2SC2458	R152	1-247-845-00 CARBON 3.9K 5% 1/6W	R509	1-247-856-00 CARBON 11K 5% 1/6W	R727	1-247-863-00 CARBON 22K 5% 1/6W	R790	1-247-861-00 CARBON 18K 5% 1/6W	S905	1-553-856-00 SWITCH, KEY BOARD
Q807	8-729-900-89 TRANSISTOR DTC144ES	R153	1-247-887-00 CARBON 220K 5% 1/6W	R510	1-247-855-00 CARBON 10K 5% 1/6W	R728	1-247-863-00 CARBON 22K 5% 1/6W	R791	1-247-866-00 CARBON 30K 5% 1/6W	S906	1-553-856-00 SWITCH, KEY BOARD
Q808	8-729-900-89 TRANSISTOR DTC144ES	R154	1-247-888-00 CARBON 240K 5% 1/6W	R511	1-247-855-00 CARBON 10K 5% 1/6W	R729					