

TC-V702/V902

SERVICE MANUAL

*AEP Model
UK Model
E Model*



TC-V702 and TC-V902 are the cassette deck section in LBT-V702 and LBT-V902 respectively.

photo: TC-V902

Model Name Using Similar Mechanism	TC-V701
Type Transport Mechanism	Deck A: TCM-170RA6
Type	Deck B: TCM-170RB19

SPECIFICATIONS

Cassette deck

Recording system
Frequency response

4-track 2-channel stereo
DOLBY NR OFF
With type IV cassette (Sony METAL-ES)
30Hz to 15kHz (± 3 dB)
With type II cassette (Sony UX-S)
30Hz to 14kHz (± 3 dB)
With type I cassette (Sony HF-S)
30Hz to 13kHz (± 3 dB)

Wow and flutter
Power consumption
AC outlet
Weight
Dimensions

$\pm 0.2\%$ (DIN)
25W
1 unswitched, 100W max.
Approx. 4.5 kg
Approx. 355 X 130 X 310mm
(w/h/d, including projections)

Design and specifications subject to change without notice.

Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
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Dolby Laboratories Licensing Corporation.

STEREO CASSETTE DECK
SONY®

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SERVICING NOTES

• Power Supply (TC-V702)

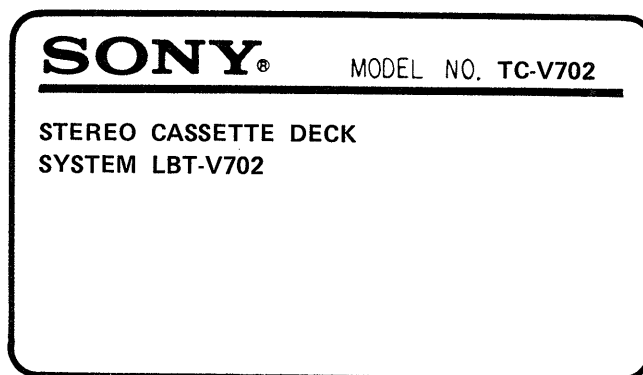
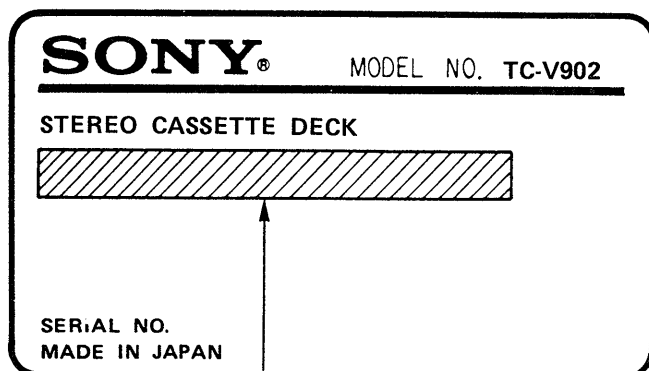
On servicing, connect CN510 (SYSTEM CONTROL 2) to the system amplifier TA-V701.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— Specification Label —

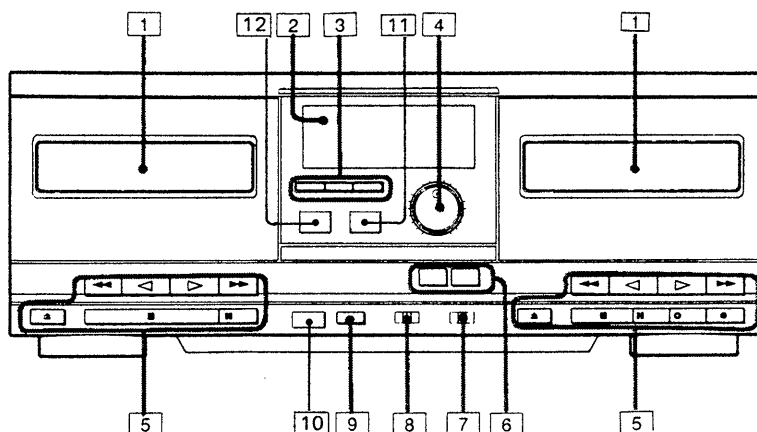


AEP, West Germany, Italian Model: AC: 220 V ~ 50/60 Hz
 UK Model: AC: 240 V ~ 50/60 Hz
 E, Saudi Arabia Model: AC: 120/220/240 V ~ 50/60 Hz 26W

SECTION 1

GENERAL

1-1. LOCATION OF CONTROLS



- 1 Cassette holders
- 2 Display window
- 3 COUNTER buttons
- 4 REC (recording) LEVEL control
- 5 Tape operation buttons
 - ◀◀ Leftward fast winding/AMS*
 - ▶▶ Rightward fast winding/AMS*
 - ◀ Reverse play
 - ▶ Forward play
 - ▲ Ejection
 - Stop
 - || Pause
 - Record muting (deck B only)
 - Recording (deck B only)
- 6 SYNCHRO (synchronized) DUBBING buttons
- 7 DOLBY switch
- 8 DIRECTION MODE switch
- 9 BLANK SKIP button
- 10 Power switch (TC-V902)
- 11 FADER button (TC-V902)
- 12 SAF (Sound Auto Focus) button (TC-V902)

* AMS is the abbreviation for Automatic Music Sensor.

SECTION 2

ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idler
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	30 to 60 g · cm (0.42 to 0.83 oz · inch)
FWD Back Tension	CQ-102C	1 to 5 g · cm (0.014 to 0.06 oz · inch)
REV	CQ-102RC	30 to 60 g · cm (0.42 to 0.83 oz · inch)
REV Back Tension	CQ-102RC	1 to 5 g · cm (0.014 to 0.06 oz · inch)
FF, REW	CQ-201B	100 to 170 g · cm (1.4 to 2.36 oz · inch)

2-2. ELECTRICAL ADJUSTMENTS

Note : The adjustment should be performed in the order given in the service manual.

The adjustments should be performed for both L-CH and R-CH.

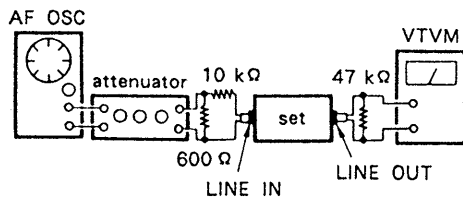
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch : OFF

- 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-



• 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)

• Test tape

Type	Signal	User for
P-4-A100	10 kHz, −10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	PB LEVEL Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

• Test Mode

The following function operates by test mode when power switch is on position after making pin 34 of IC801 low level by connecting TP801 to ground with jumper wire while power is off position.

- Source monitor

Release the line mute while recording.

- High speed playback

On playback, while pressing HIGH SPEED(DUBBING) button, high speed playback operates. press again, tape speed become normal.

- RECORD memory

Tape counter resets zero position at record start point.

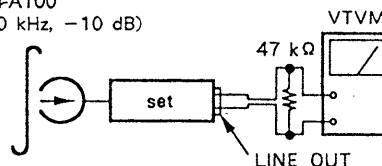
Record/Playback Head Azimuth Adjustment

DECK A DECK B

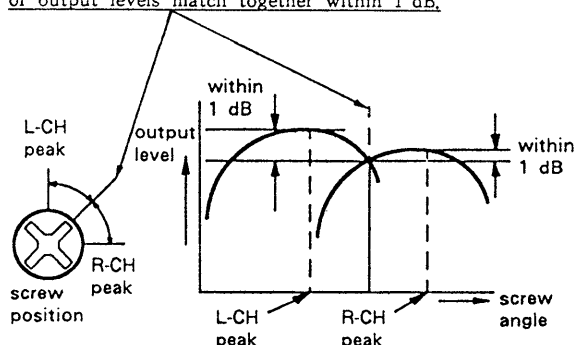
Procedure :

- Mode : FWD playback

test tape
P-4-A100
(10 kHz, −10 dB)

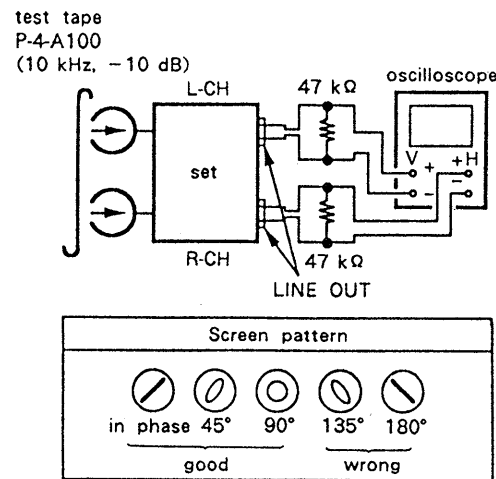


- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



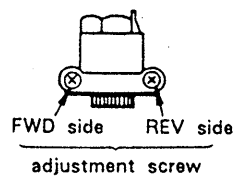
SECTION 3 DIAGRAMS

3. Phase Check
Mode : playback



4. Set in the REV mode and repeat the step 1 - 3.
5. After the adjustment, lock the screws with locking compound.

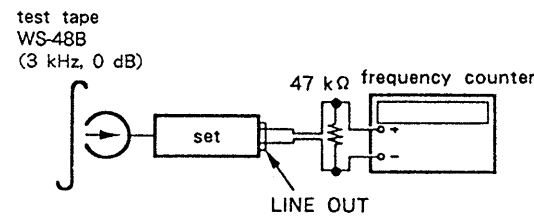
Adjustment Location : record/playback head



Tape Speed Adjustment **DECK A** **DECK B**

Perform high speed adjustment before normal speed adjustment.

- Procedure :
Mode : FWD playback



- [High Speed Adjustment]
- Short-circuit TP801.
 - Put the set to FWD playback state.
 - Press and keep on pressing HIGH SPEED DUNNING switcg (S820 on FL board).
 - On this time, adjust with the semi-fixed variable resistors (H) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.
 - After adjustment, release the short on TP801.

- [Normal Speed Adjustment]
- Put the set to FWD playback state.
 - On this time, adjust with the semi-fixed variable resistors (L) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.

Adjustment Limits :

Speed	Frequency Counter
high	6,000 $\pm$ 20 Hz
normal	3,000 $\pm$ 10 Hz

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between Deck A and Deck B the beginning of the tape should be within 1.5%.

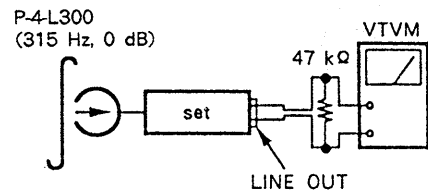
Adjustment Location :

- Deck A : motor (M901A) rear side
Deck B : motor (M901B) rear side

Playback Level Adjustment **DECK A** **DECK B**

Procedure :

Mode : playback



Adjust Deck A : RV41A (L-CH), RV61A (R-CH) and Deck B : RV41B (L-CH), RV61B (R-CH) so that the VTVM reading becomes the adjustment limits below.

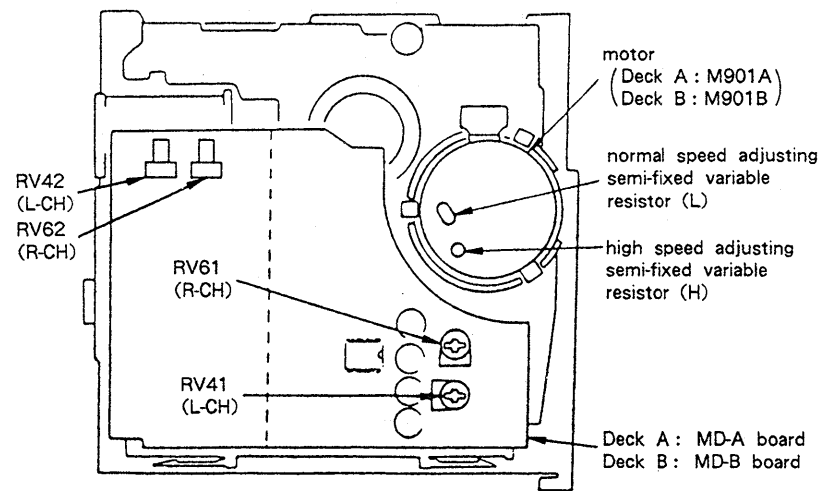
Adjustment Limits :

- LINE OUT level : -5 $\pm$ 0.5 dB (0.42 - 0.46 V)
Level difference between channels : less than 1 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 : MD (A), (B) board

-Adjustment Parts Location Diagram-



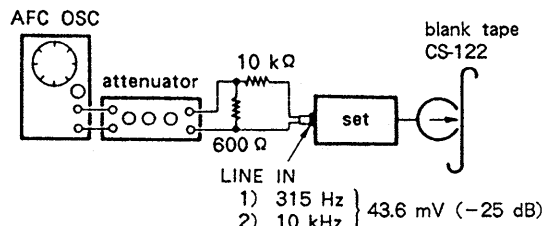
Record Bias Adjustment **DECK B**

Setting :

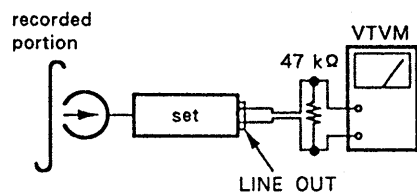
- REC LEVEL control : standard record (See page 5.)
- Short-circuit TP801.

Procedure :

1. Mode : record



2. Mode : playback

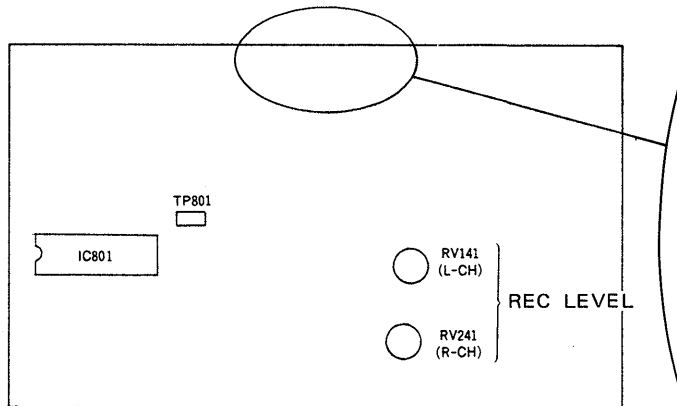


Confirm that the 10 kHz playback output is 0 $\pm$ 0.5 dB relative to the 315 Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

3. After adjustment, release the short on TP801.

Adjustment Location : MD (B) board

AUDIO SYSTEM CONTROL BOARD -component side-



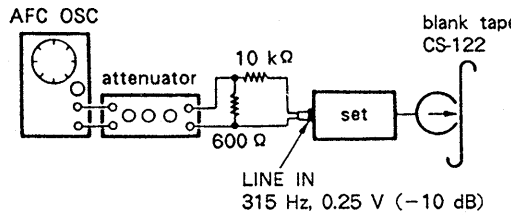
Record Level Adjustment **DECK B**

Setting :

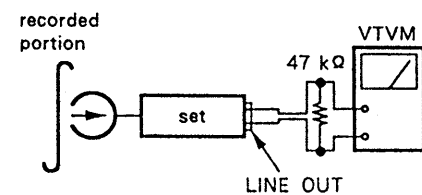
- REC LEVEL control : standard record (See page 5.)
- Short-circuit TP801.

Procedure :

1. Mode : record



2. Mode : playback



3. Play back the signal recorded in step 1.
Confirm that the signal level is within the specification below.
If necessary, adjust RV141 (L-CH), RV241 (R-CH) and repeat the step 1 - 3.
4. After adjustment, release the short on TP801.

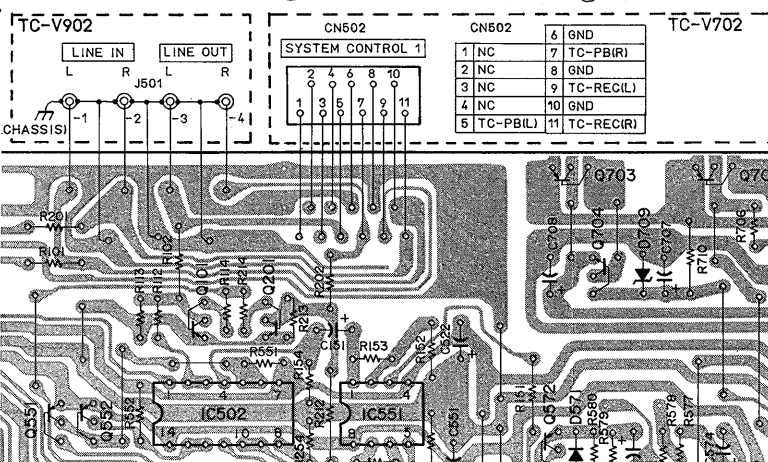
Specification : LINE OUT level : -5 $\pm$ 0.5 dB
(0.42 - 0.46 V)

Adjustment Location : main board

• TC-V902 LINE IN/OUT (CN502)

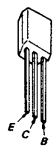
LINE IN { L-CH: ⑨
R-CH: ⑪

LINE OUT { L-CH: ⑤
R-CH: ⑦



3-1. SEMICONDUCTOR LEAD LAYOUTS

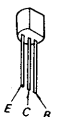
DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SC2603EF



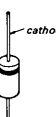
2SB1116



2SD1387



10E2N



2SB1187-EF
2SD1761-EF



HZS6A1L
UZL-6L3
1SS120
11ES2



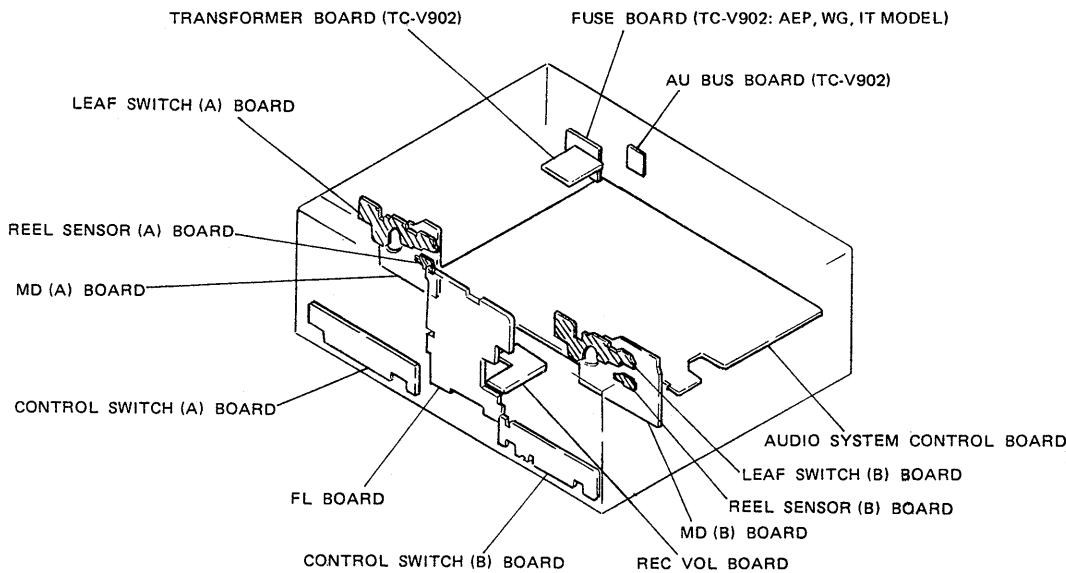
SEL2210S-C



2SA1175-HFE
2SC2785-HFE
2SD1020-HFE

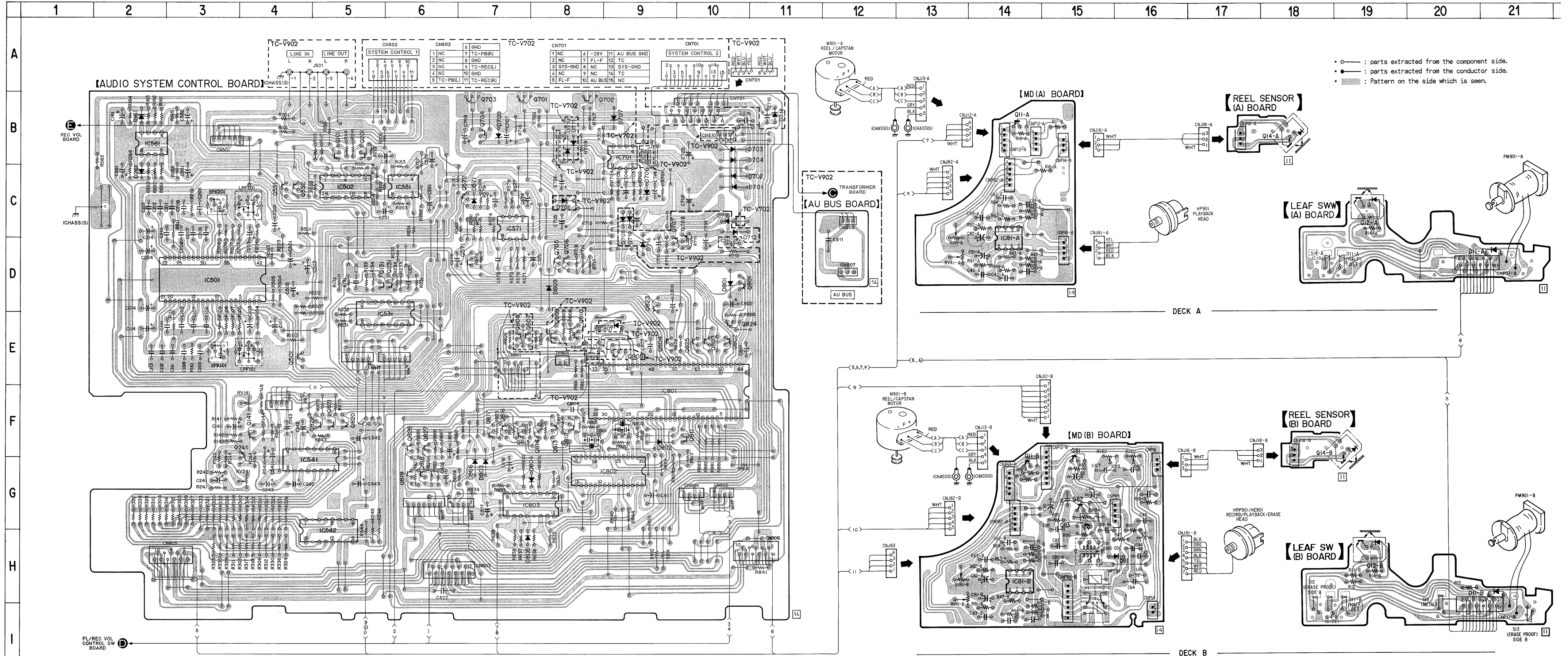


3-2. CIRCUIT BOARDS LOCATION



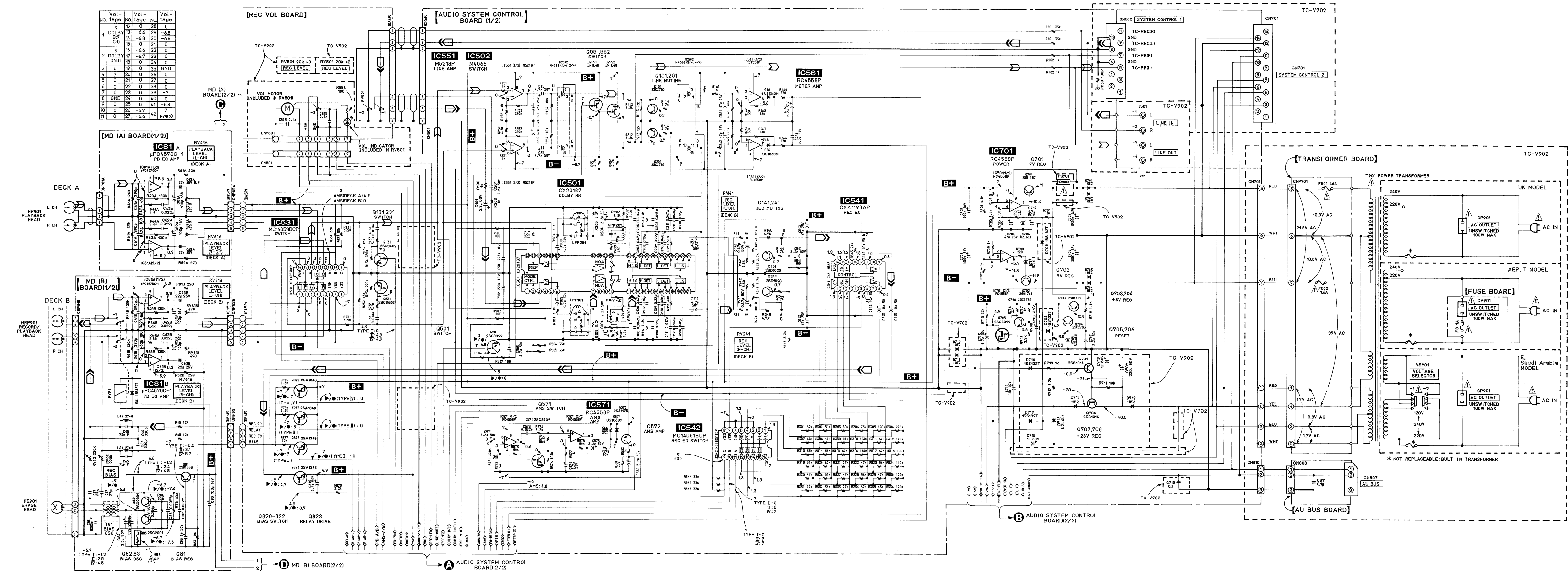
3-3. PRINTED WIRING BOARDS (Main Section)

- Refer to page 19 for semiconductor location.

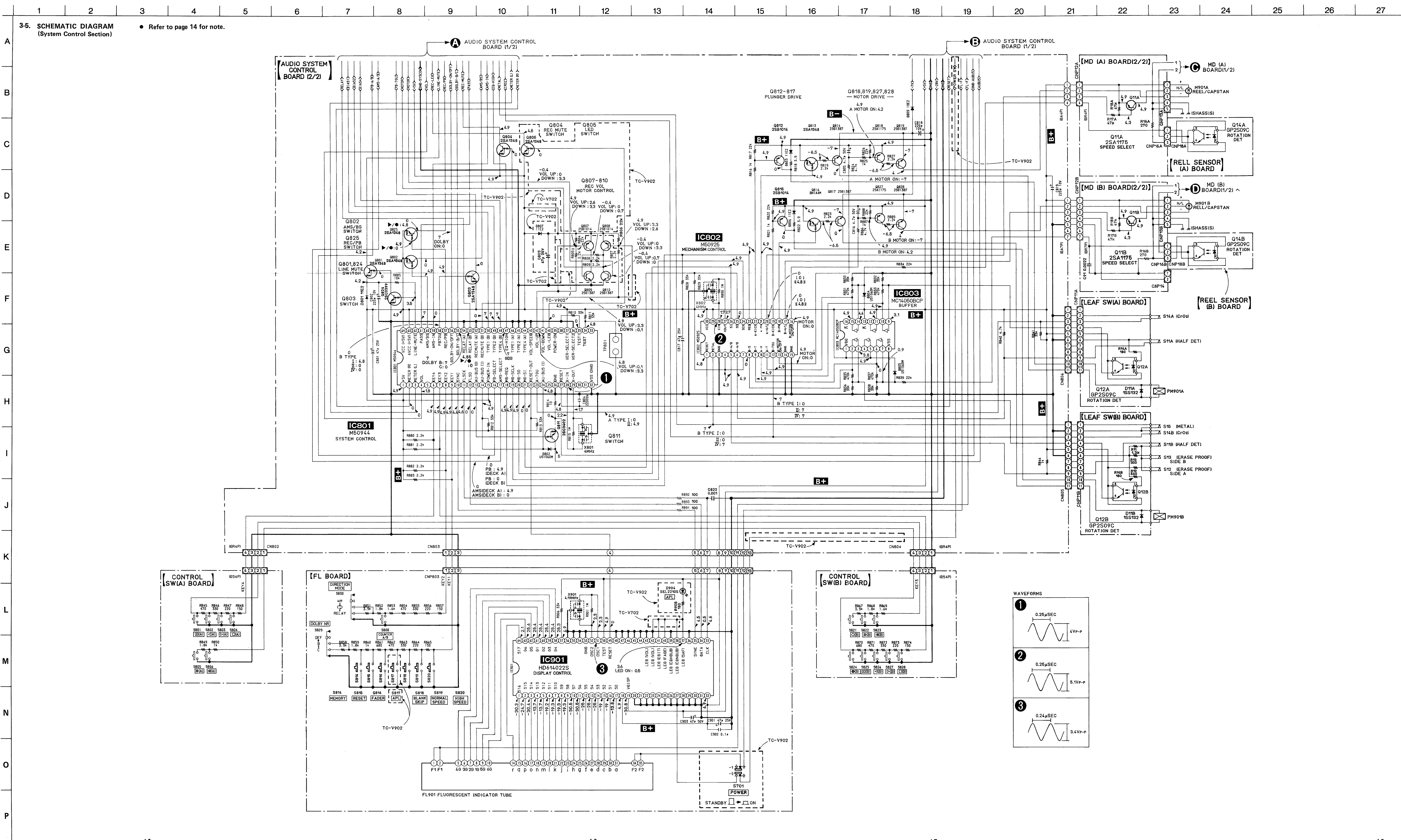


3-4. SCHEMATIC DIAGRAM
(Audio Section)

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P



All capacitors are in μF unless otherwise noted. pF: $\mu u F$
50WV or less are not indicated except for electrolytics and tantalums.
All resistors are in Ω and $\frac{1}{4} W$ or less unless otherwise specified.
 $\triangle$: internal component.
 $\square$: fusible resistor.
 $B+$: 8+ lines.
 $B-$: 8- lines.
 $\square$: adjustment for repair.
Voltage and waveforms are dc with respect to ground under no signal conditions.
no mark: STOP
(): NORMAL DUBBING
(): HIGH SPEED DUBBING
 $\blacktriangleright/\bullet$: REC
Voltages are taken with a VOM. (input impedance 10 M Ω)
Voltage variations may be noted due to normal production tolerances.
Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
Signal path.
 $\square$: PB (DECK A) $\square$: PB (DECK B)
 $\blacktriangleright$: REC (DECK A) $\blacktriangleright$: REC (DECK B)
Note: The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety.
Replace only with part number specified.



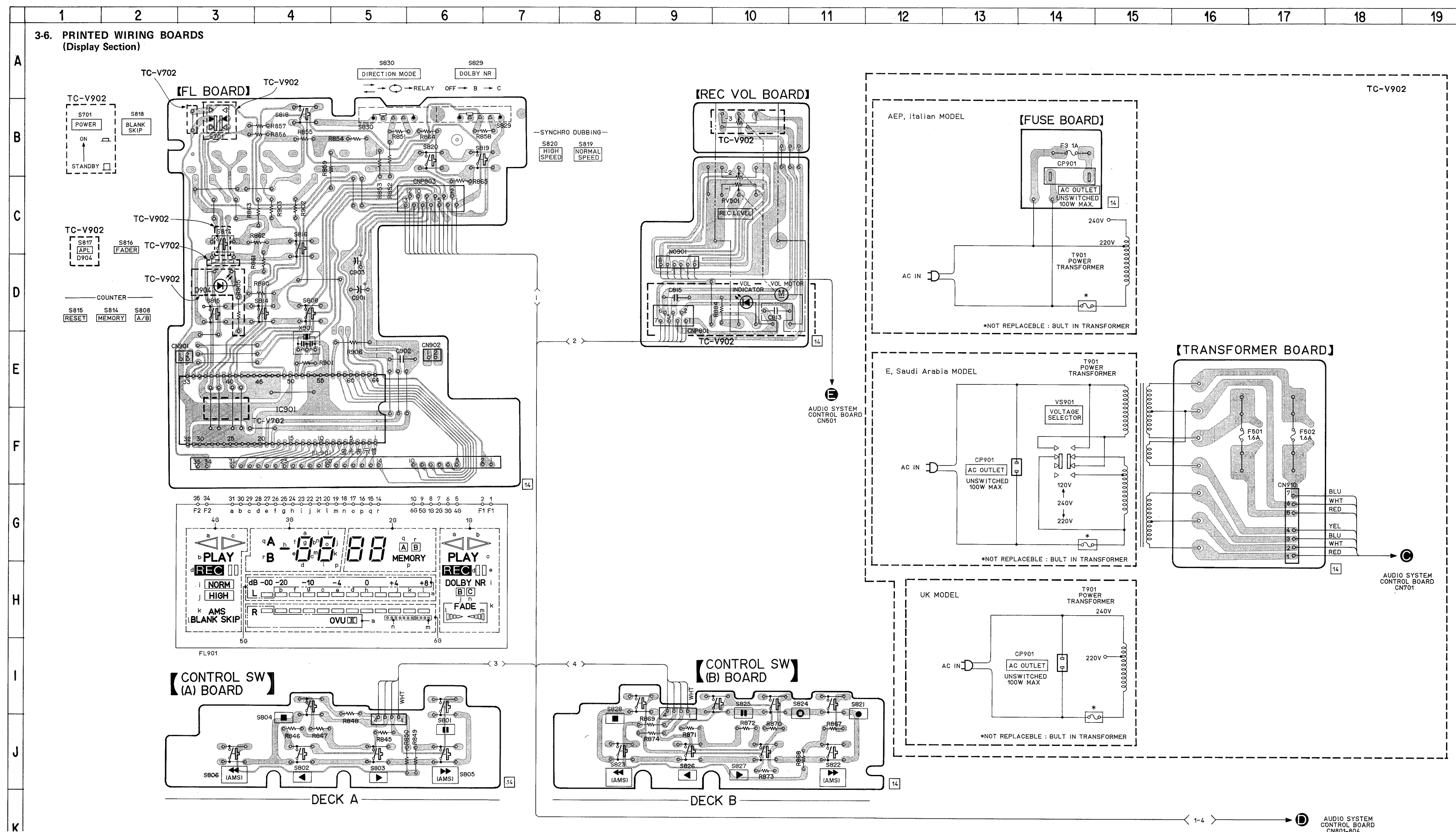
● Semiconductor Location (Main Section)

Ref. No.	Location	Ref. No.	Location
D11-A	D-21	Q14-A	B-19
D11-B	H-21	Q14-B	H-19
D81	H-16	Q81	F-15
D161	B-2	Q82	G-15
Q261	C-2	Q83	G-15
D571	C-7	Q101	C-5
D701	C-11	Q131	E-6
D702	C-11	Q141	G-4
D703	C-11	Q201	C-6
D704	C-11	Q231	E-6
D705	D-10	Q241	G-4
D706	C-10	Q501	F-5
D707	B-10	Q551	C-4
D708	C-9	Q552	C-5
D709	B-8	Q571	D-7
D710	B-8	Q572	C-7
D711	B-8	Q701	B-8
D712	D-11	Q702	B-9
D715	D-11	Q703	B-7
D716	D-10	Q704	B-8
D718	B-12	Q705	D-9
D719	D-10	Q706	D-9
D801	E-11	Q707	D-10
D802	G-10	Q708	D-11
D803	G-8	Q801	E-11
D804	H-8	Q802	F-11
D805	H-8	Q803	F-11
D806	G-7	Q804	F-10
D807	E-9	Q805	F-10
D809	E-9	Q807	E-8
		Q808	E-8
		Q809	E-9
		Q810	E-9
IC81-A	C-14	Q811	G-11
IC81-B	H-14	Q812	G-9
IC501	E-3	Q813	G-9
IC502	C-5	Q814	G-8
IC531	E-6	Q815	G-8
IC541	G-5	Q816	G-8
IC542	H-5	Q817	G-8
IC551	C-6	Q818	G-7
IC561	B-2	Q819	H-6
IC571	D-8	Q820	G-5
IC701	C-9	Q821	G-5
IC801	F-10	Q822	G-5
IC802	H-9	Q823	E-10
IC803	H-8	Q824	E-11
		Q825	F-11
		Q827	G-7
		Q828	G-6

● Semiconductor Location (Display Section)

Ref. No.	Location
D904	D-3
IC901	E-3

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- ▨ : Pattern on the side which is seen.



3-7. IC PIN FUNCTIONS

● IC801 SYSTEM CONTROLLER (M50944)

No.	SIGNAL	I/O	FUNCTION	No.	Signal	I/O	FUNCTION
1	Vref		+5V	33	—		
2	METER R	I	Meter display signal (Rch) input	34	TEST	I	L: TEST mode, H: NORMAL
3	METER L	I	Meter display signal (Lch) input	35	TEST 1	I	Normally L
4	VOL	I	Volume position detect	36	VER SEL 2	I	Normally L
5	—			37	VER SEL 1	I	Normally H
6	KEY 4	I	KEY input (analog)	38	—		
7	KEY 3	I	KEY input (analog)	39	—		
8	KEY 2	I	KEY input (analog)	40	VOL LED	O	L: LIGHT, H: OFF
9	KEY 1	I	KEY input (analog)	41	VOL DOWN	O	L: DOWN
10	SYNC	O	Synchronization output for display data	42	VOL UP	O	L: UP
11	FLSCK	O	Clock signal for display data	43	VOL SPEED	O	L: LOW, H: HIGH
12	FLSO	O	Display data output	44	TYPE IV (A)	O	DECK A L: ON (IV), H: OFF
13	AU-BUS	O	AUDIO BUS output	45	TYPE II (A)	O	DECK A L: ON (II), H: OFF
14	AU-BUS	I	AUDIO BUS input	46	TYPE I (A)	O	DECK A L: ON (I), H: OFF
15	POWER IN	I	Power down detect	47	EQ HIGH	O	L: HIGH SPEED, H: NORMAL
16	PB SEL	O	PB signal select L: DECK B, H: DECK A	48	TYPE IV (B)	O	DECK B L: ON (IV), H: OFF
17	AMS SEL	O	AMS signal select L: DECK B, H: DECK A	49	TYPE II (B)	O	DECK B L: ON (II), H: OFF
18	MD-REQ	I	Data request from IC802 (MECHANISM CONTROLLER)	50	TYPE I (B)	O	DECK B L: ON (I), H: OFF
19	MD-SCLK	O	Clock signal for serial data	51	REC MUTE (B)	O	DECK B L: MUTE, H: OFF
20	MD-SO	O	Serial data output to IC802	52	REC MUTE (A)	O	DECK A L: MUTE, H: OFF
21	MD-SI	I	Serial data input from IC802	53	RELAY (B)	O	DECK B L: ON (REC), H: OFF (PB)
22	RESET OUT	O	Reset signal output to IC901	54	RELAY (A)	O	DECK A L: ON (REC), H: OFF (PB)
23	A-70 μ	I	DECK A CrO ₂ switch input L: TYPE I, H: TYPE II	55	DOLBY B/C	O	L: C, H: B
24	AU-BUS	I	AUDIO BUS input	56	DOLBY ON/OFF	O	L: ON, H: OFF
25	—			57	REC/PB	O	L: REC, H: PB
26	Vss		GND	58	PB 70 μ	O	Play back equalizer select L: 70 μ , H: 120 μ
27	RESET	I	Reset signal input	59	AMS IN	I	AMS signal input
28	XIN	I	Oscillation signal input	60	AMS/BS	O	AMS/BS amp select L: AMS, H: BS
29	XOUT	O	Oscillation signal output	61	PASS	O	Pass amp select L: PASS, H: LINE
30	—			62	LINE MUTE	O	L: MUTING
31	—			63	AVcc		+5V
32	Vss		GND	64	Vcc		+5V

● IC803 MECHANISM CONTROLLER (M50925)

No.	SIGNAL	I/O	FUNCTION	No.	SIGNAL	I/O	FUNCTION
1	RESET	I	Reset signal input	16	B-ON/OFF	O	Deck B capstan motor ON/OFF
2	METAL	I	Deck B METAL switch input H: METAL, L: OTHER TYPE	17	B-H/L	O	Deck B capstan motor high/ normal speed select H: High, L: normal
3	AVss		GND	18	B-PM	O	Deck B solenoid hold
4	Vref		+5V	19	B-KICK	O	Deck B solenoid kick
5	B A/D	I	Deck B leaf switch input (analog)	20	A-H/L	O	Deck A capstan motor high/ normal speed select H: High, L: normal
6	A A/D	I	Deck A leaf switch input (analog)	21	A-PM	O	Deck A solenoid hold
7	A V _{DD}		+5V	22	A-KICK	O	Deck A solenoid kick
8	B-S	I	Deck B supply reel rotation detect	23	REQ	O	Data request to IC801
9	B-T	I	Deck B take up reel rotation detect	24	SCLK	I	Clock signal for serial data
10	A-S	I	Deck A supply reel rotation detect	25	SI	I	Serial data input from IC801
11	A-T	I	Deck A take up reel rotation detect	26	SO	O	Serial data output to IC801
12	B-70 μ	I	Deck B CrO ₂ switch input L: TYPE I, H: TYPE II	27	X OUT	O	Oscillation signal output
13	A-ON/OFF	O	Deck A capstan motor ON/OFF L: ON, H: OFF	28	X IN	I	Oscillation signal input
14	CNVSS		GND	29	CNTR	I	Normally H
15	Vss		GND	30	V _{DD}		+5V

SECTION 4
EXPLODED VIEWS

NOTE:

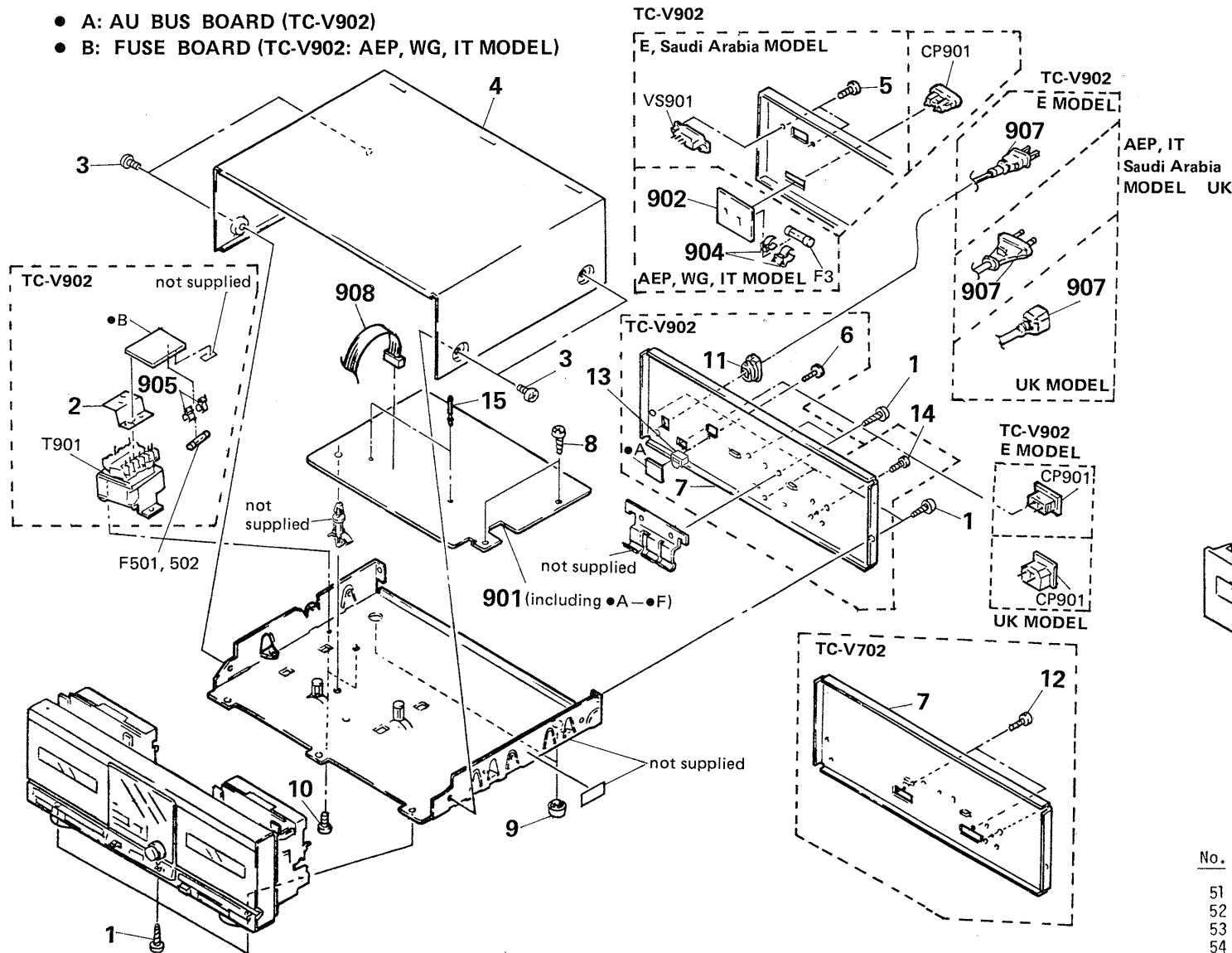
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

(1) CHASSIS SECTION

- A: AU BUS BOARD (TC-V902)
- B: FUSE BOARD (TC-V902: AEP, WG, IT MODEL)

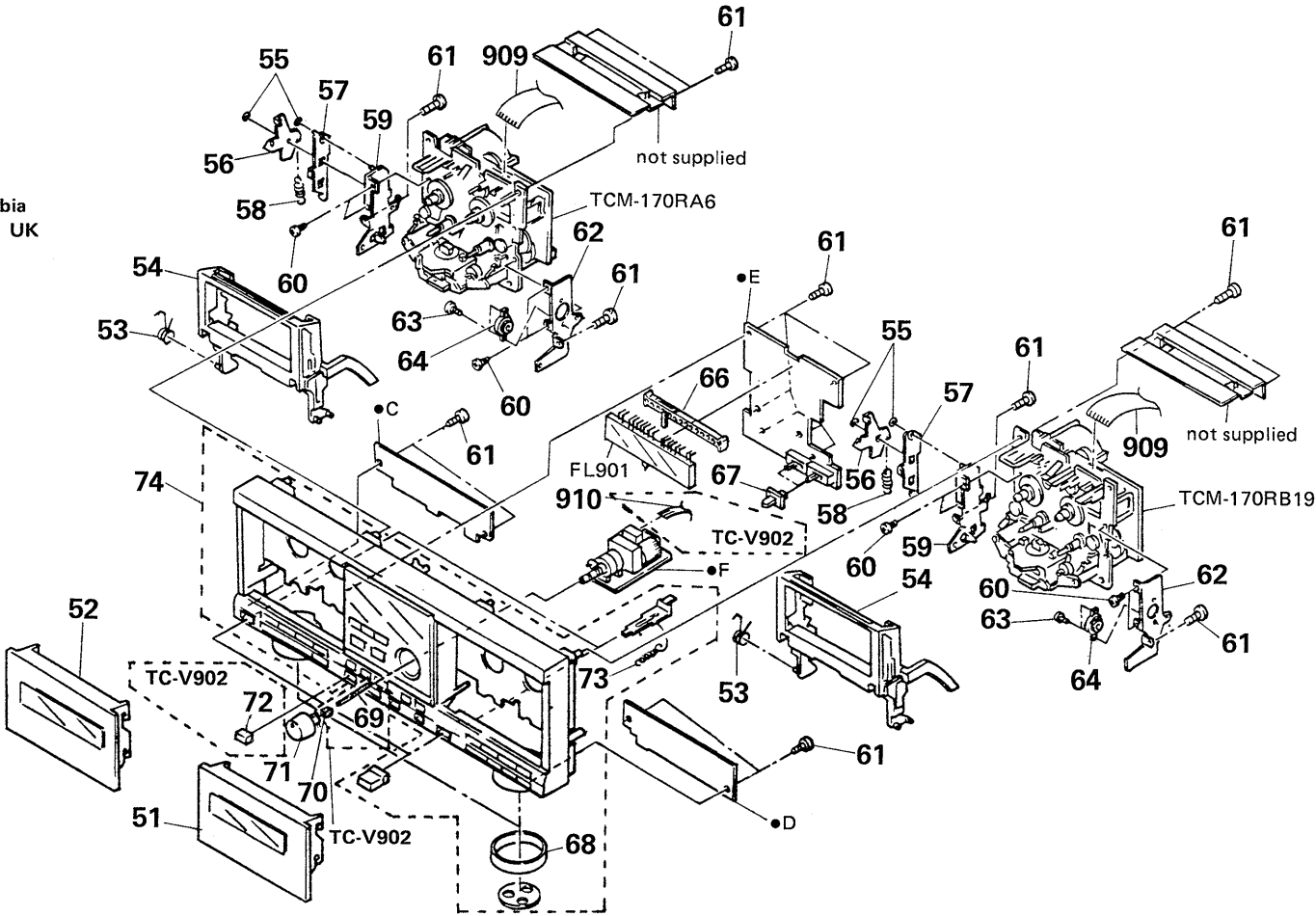


No.	Part No.	Description	Remarks
1	7-682-547-09	SCREW +BVTT 3X6 (S)	
2	*3-337-136-01	(V902)...COVER, TRANSFORMER SAFETY	
3	3-704-366-01	SCREW (CASE) (M3X8)	
4	4-919-379-41	CASE	
5	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
6	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
7	*3-343-685-61	(V702:EXCEPT WG)...PANEL, BACK	
	*3-343-685-71	(V702:WG)...PANEL, BACK	
	*3-350-163-01	(V902:AEP,WG,IT)...PANEL, BACK	
	*3-350-163-11	(V902:UK)...PANEL, BACK	
	*3-350-163-21	(V902:E)...PANEL, BACK	
	*3-350-163-31	(V902:EA)...PANEL, BACK	
8	7-682-547-04	SCREW +BVTT 3X6 (S)	
9	*4-934-883-01	FOOT	
10	7-682-548-04	SCREW +BVTT 3X8 (S)	
11	*3-703-244-00	(V902:EXCEPT E)...BUSHING (2104), CORD	
	3-703-571-11	(V902:E)...BUSHING (S) (4516), CORD	
12	7-685-646-79	(V702)...SCREW +BVTT 3X8 TYPE-2 NS	
13	*3-322-819-01	(V902)...HOLDER, CONNECTOR	
14	7-621-849-00	SCREW, TAPPING	
15	*3-350-161-01	HOLDER (FL)	

No.	Part No.	Description	Remarks
901	*A-2006-275-A	(V902)...MOUNTED PCB, AUDIO SYSCON	
	*A-2026-461-A	(V702)...MOUNTED PCB, AUDIO SYSCON	
902	*1-626-652-11	(V902:AEP,WG,IT)...PC BOARD, FUSE	
904	*1-533-162-00	(V902:AEP,WG,IT)...HOLDER, FUSE	
905	*1-533-213-31	(V902)...HOLDER, FUSE	
907	*1-551-188-XX	(V902:E)...CORD, POWER	
	*1-555-750-00	(V902:AEP,WG,IT)...CORD, POWER	
	*1-555-795-00	(V902:EA)...CORD, POWER, EULO PLUG	
	*1-556-562-00	(V902:UK)...CORD, POWER	
908	1-575-215-11	WIRE, FLAT TYPE (13 CORE)	
CP901	*1-526-751-00	(V902:UK)...OUTLET, AC	
	*1-526-794-11	(V902:AEP,WG,IT,EA)...OUTLET, AC	
	*1-526-882-00	(V902:E)...OUTLET, AC	
F3	*1-532-078-00	(V902:AEP,WG,IT)...FUSE, TIME-LAG	
F501	*1-532-259-00	(V902)...FUSE, TIME-LAG	
F502	*1-532-259-00	(V902)...FUSE, TIME-LAG	
T901	*1-449-460-11	(V902:AEP,WG,IT,UK)...TRANSFORMER, POWER	
	*1-449-461-11	(V902:E,EA)...TRANSFORMER, POWER	

(2) FRONT PANEL SECTION

- C: CONTROL SW (A) BOARD
- D: CONTROL SW (B) BOARD
- E: FL BOARD
- F: REC VOL BOARD



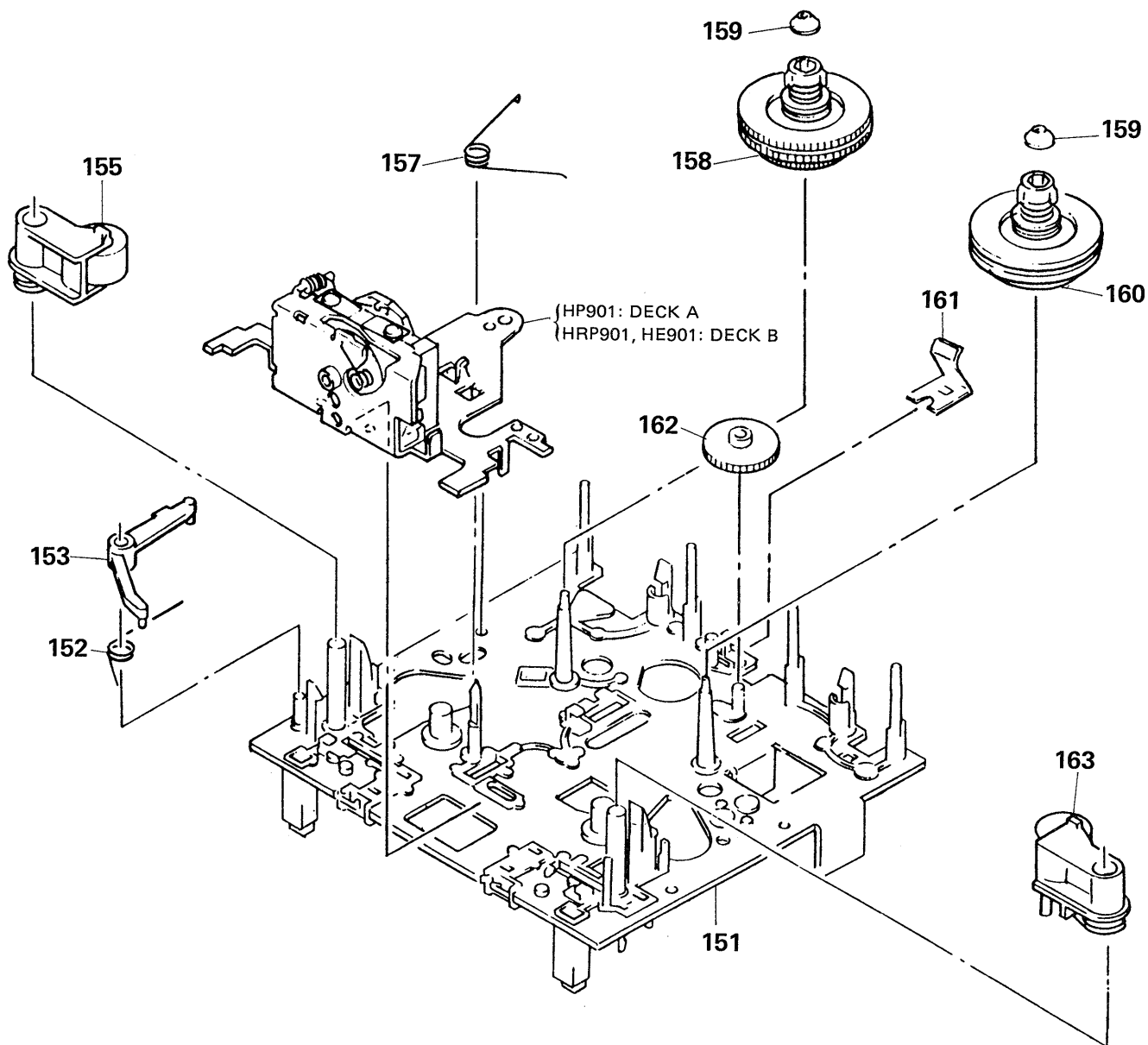
No.	Part No.	Description	Remarks
51	X-4919-303-1	LID (B) ASSY, CASSETTE	
52	X-4919-302-1	LID (A) ASSY, CASSETTE	
53	3-350-162-01	SPRING, TORSION	
54	X-3332-482-1	HOLDER ASSY, CASSETTE	
55	3-558-708-21	WASHER, STOPPER	
56	*3-343-449-01	LEVER (LOCK LEVER)	
57	*3-329-997-01	LEVER (EJECT)	
58	3-329-998-01	SPRING, TENSION	
59	*X-3329-913-1	BRACKET ASSY	
60	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
61	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
62	*3-346-305-01	BRACKET (DAMPER)	
63	7-621-255-15	SCREW +PTT 2X3 (S)	
64	3-319-224-31	DAMPER, SMALL	
66	*3-350-161-01	HOLDER (FL)	

No.	Part No.	Description	Remarks
67	4-922-518-11	KNOB (TIMER)	
68	4-921-918-01	PLATE, ORNAMENTAL	
69	4-922-979-01	(V902)...INDICATOR	
70	4-922-978-01	(V902)...HOLDER (FIBER)	
71	X-4919-301-1	(V702)...KNOB (REC)	
	3-329-983-01	(V902)...KNOB (REC)	
72	4-922-903-01	(V902)...BUTTON (PW)	
73	4-885-182-11	SPRING, TENSION	
74	X-3343-641-1	(V702)...PANEL ASSY, FRONT	
	X-3343-642-1	(V902)...PANEL ASSY, FRONT	
909	1-575-214-11	WIRE, FLAT TYPE (11 CORE)	
910	1-574-723-11	(V902)...WIRE, FLAT TYPE (7 CORE)	
FL901	1-519-572-11	INDICATOR TUBE, FLUORESCENT	

(3) MECHANISM SECTION 1

TCM-170RA6 : DECK A

TCM-170RB19: DECK B

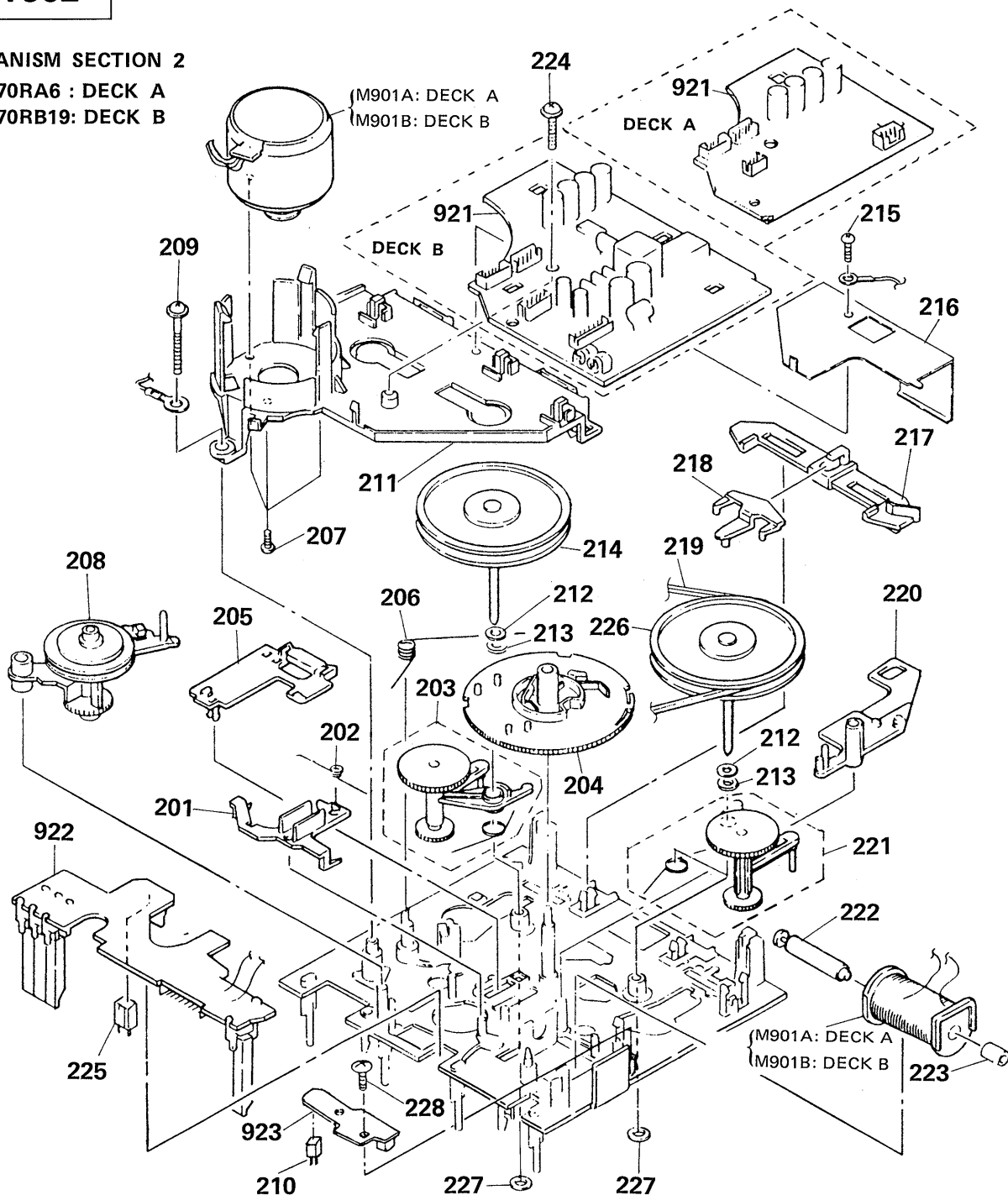


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	*X-3343-418-5	CHASSIS ASSY, MECHANICAL		160	X-3343-401-1	TABEL ASSY, REEL	
152	3-343-477-01	SPRING, TORSION (EJECT SAFTY)		161	3-343-420-01	SPRING, LEAF	
153	3-343-476-01	LEVER (EJECT SAFETY LEVER)		162	3-343-411-01	GEAR (FF GEAR)	
155	X-3343-456-1	LEVER (PINCH R) ASSY		163	X-3343-455-1	LEVER (PINCH F) ASSY	
157	3-343-401-01	SPRING, TORSION		HP901	A-2003-503-A	(DECK A)...PC BOARD ASSY, HEAD	
158	X-3343-415-1	TABEL (REV) ASSY, REEL		HRP901	A-2003-504-A	(DECK B)...CHASSIS ASSY, HEAD	
159	3-343-439-01	CAP (REEL TABLE)		HE901			

(4) MECHANISM SECTION 2

TCM-170RA6 : DECK A

TCM-170RB19: DECK B



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	3-343-453-01	SLIDER (BRAKE PLATE)		221	X-3343-453-1	LEVER (TU-F) ASSY	
202	3-343-429-01	SPRING, TORSION		222	*3-343-425-01	ARBOR (MOVABLE IRON ARBOR), IRON	
203	X-3343-454-1	LEVER (TU-R) ASSY		223	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
204	3-343-470-01	GEAR (CAM GEAR)		224	3-343-404-01	SCREW (PTPW 2X12)	
205	3-343-461-01	SLIDER					
206	3-343-430-01	SPRING, TORSION		225	3-343-419-01	HOLDER (S SENSOR A)	
207	7-627-556-28	SCREW +P 2.6X3.5		226	X-3343-411-6	FLYWHEEL COMPLETE ASSY	
208	X-3343-414-1	LAVER (FR ARM) ASSY		227	3-343-473-01	WASHER, NYLON	
209	3-355-801-01	SCREW (BTP 2X18)		228	7-685-103-19	+ PTPWH (2X5)	
210	*3-343-491-01	HOLDER (S SENSOR B)		921	*1-624-147-11	(DECK A)...PC BOARD, MD-A	
211	*X-3343-407-1	BASE (THRUST RETAINER) ASSY			*1-625-912-14	(DECK B)...PC BOARD, MD-B	
212	4-605-835-11	WASHER (2.6), POLYSLIDER		922	*1-632-201-11	PC BOARD, LEAF SW	
213	3-307-482-00	WASHER, LUMILER		923	*1-628-656-11	PC BOARD, REEL SENSOR	
214	X-3343-416-7	FLYWHEEL (REV) COMPLETE ASSY					
215	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT		M901A	X-3343-447-1	(DECK A)...MOTOR ASSY	
216	3-343-480-01	PLATE, SHIELD		M901B	X-3343-447-1	(DECK B)...MOTOR ASSY	
217	3-343-457-01	SLIDER (REVERSE SLIDER)		PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER	
218	3-343-462-01	LEVER		PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	
219	3-313-816-00	BELT (CAPSTAN BELT SQUARE)					
220	3-343-493-01	LEVER (PM LEVER)					

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- 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: μ F, PF: μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*A-2006-275-A	(V902)...MOUNTED PCB, AUDIO SYSCON	C89	1-161-494-00	CERAMIC 0.022MF 25V
	*A-2026-461-A	(V702)...MOUNTED PCB, AUDIO SYSCON	C90	1-126-101-11	ELECT 100MF 20% 16V
902	*1-626-652-11	(V902:AEP,WG,IT)...PC BOARD, FUSE	C91	1-161-375-00	CERAMIC 0.0022MF 20% 16V
904	1-533-162-00	(V902:AEP,WG,IT)...HOLDER, FUSE	C101	1-126-161-11	ELECT 2.2MF 20% 50V
905	1-533-213-31	(V902)...HOLDER, FUSE	C103	1-124-045-00	ELECT 4.7MF 20% 50V
907	1-551-188-XX	(V902:E).....CORD, POWER	C104	1-124-767-00	ELECT 2.2MF 20% 50V
	1-555-750-00	(V902:AEP,WG,IT)...CORD, POWER	C105	1-130-479-00	MYLAR 0.0047MF 5% 50V
	1-555-795-00	(V902:EA)....CORD, POWER, EULO PLUG	C106	1-136-173-00	FILM 0.47MF 5% 50V
	1-556-562-00	(V902:UK).....CORD, POWER	C107	1-136-167-00	FILM 0.15MF 5% 50V
908	1-575-215-11	WIRE, FLAT TYPE (13 CORE)	C108	1-136-155-00	FILM 0.015MF 5% 50V
909	1-575-214-11	WIRE, FLAT TYPE (11 CORE)	C109	1-136-169-00	FILM 0.22MF 5% 50V
910	1-574-723-11	(V902)...WIRE, FLAT TYPE (7 CORE)	C110	1-136-163-00	FILM 0.068MF 5% 50V
921	*1-624-147-11	(DECK A)...PC BOARD, MD-A	C111	1-136-161-00	FILM 0.047MF 5% 50V
	*1-625-912-14	(DECK B)...PC BOARD, MD-B	C112	1-130-481-00	MYLAR 0.0068MF 5% 50V
922	*1-632-201-11	PC BOARD, LEAF SW	C113	1-136-153-00	FILM 0.01MF 5% 50V
923	*1-628-656-11	PC BOARD, REEL SENSOR	C114	1-124-045-00	ELECT 4.7MF 20% 50V
C41A	1-162-289-31	CERAMIC 390PF 10% 50V	C131	1-136-156-00	FILM 0.018MF 5% 50V
C41B	1-110-342-11	MYLAR 390PF 5% 50V	C141	1-126-300-11	ELECT 0.47MF 20% 50V
C42A	1-136-157-00	FILM 0.022MF 5% 50V	C142	1-126-059-11	ELECT 10MF 20% 50V
C42B	1-136-157-00	FILM 0.022MF 5% 50V	C143	1-126-059-11	ELECT 10MF 20% 50V
C43A	1-124-282-00	ELECT 22MF 20% 25V	C151	1-124-045-00	ELECT 4.7MF 20% 50V
C43B	1-124-282-00	ELECT 22MF 20% 25V	C161	1-126-161-11	ELECT 2.2MF 20% 50V
C44	1-162-288-31	CERAMIC 330PF 10% 50V	C201	1-126-161-11	ELECT 2.2MF 20% 50V
C45	1-136-273-91	FILM 75PF 5% 630V	C203	1-124-045-00	ELECT 4.7MF 20% 50V
C47	1-162-209-31	CERAMIC 27PF 5% 50V	C204	1-124-767-00	ELECT 2.2MF 20% 50V
C61A	1-162-289-31	CERAMIC 390PF 10% 50V	C205	1-130-479-00	MYLAR 0.0047MF 5% 50V
C61B	1-110-342-11	MYLAR 390PF 5% 50V	C206	1-136-173-00	FILM 0.47MF 5% 50V
C62A	1-136-157-00	FILM 0.022MF 5% 50V	C207	1-136-167-00	FILM 0.15MF 5% 50V
C62B	1-136-157-00	FILM 0.022MF 5% 50V	C208	1-136-155-00	FILM 0.015MF 5% 50V
C63A	1-124-282-00	ELECT 22MF 20% 25V	C209	1-136-169-00	FILM 0.22MF 5% 50V
C63B	1-124-282-00	ELECT 22MF 20% 25V	C210	1-136-163-00	FILM 0.068MF 5% 50V
C64	1-162-288-31	CERAMIC 330PF 10% 50V	C211	1-136-161-00	FILM 0.047MF 5% 50V
C65	1-136-273-91	FILM 75PF 5% 630V	C212	1-130-481-00	MYLAR 0.0068MF 5% 50V
C67	1-162-209-31	CERAMIC 27PF 5% 50V	C213	1-136-153-00	FILM 0.01MF 5% 50V
C81A	1-126-101-11	ELECT 100MF 20% 16V	C214	1-124-045-00	ELECT 4.7MF 20% 50V
C82A	1-126-101-11	ELECT 100MF 20% 16V	C231	1-136-156-00	FILM 0.018MF 5% 50V
C81B	1-126-101-11	ELECT 100MF 20% 16V	C241	1-126-300-11	ELECT 0.47MF 20% 50V
C82B	1-126-101-11	ELECT 100MF 20% 16V	C242	1-126-059-11	ELECT 10MF 20% 50V
C83	1-124-791-11	ELECT 1MF 20% 50V	C243	1-126-059-11	ELECT 10MF 20% 50V
C84	1-124-925-11	ELECT 2.2MF 20% 50V	C251	1-124-045-00	ELECT 4.7MF 20% 50V
C85	1-130-480-00	MYLAR 0.0056MF 5% 50V	C261	1-126-161-11	ELECT 2.2MF 20% 50V
C86	1-130-476-00	MYLAR 0.0027MF 5% 50V	C501	1-126-101-11	ELECT 220MF 20% 10V
C87	1-130-476-00	MYLAR 0.0027MF 5% 50V	C502	1-126-101-11	ELECT 220MF 20% 10V
C88	1-136-562-11	FILM 0.0082MF 5% 630V	C503	1-124-045-00	ELECT 4.7MF 20% 50V
			C541	1-126-161-11	ELECT 2.2MF 20% 50V

Ref.No.	Part No.	Description			
C542	1-124-910-11	ELECT	47MF	20%	25V
C543	1-124-910-11	ELECT	47MF	20%	25V
C551	1-124-910-11	ELECT	47MF	20%	25V
C552	1-124-910-11	ELECT	47MF	20%	25V
C561	1-124-910-11	ELECT	47MF	20%	25V
C562	1-124-910-11	ELECT	47MF	20%	25V
C571	1-126-161-11	ELECT	2.2MF	20%	50V
C573	1-161-494-00	CERAMIC	0.022MF		25V
C574	1-124-045-00	ELECT	4.7MF	20%	50V
C575	1-126-161-11	ELECT	2.2MF	20%	50V
C576	1-126-161-11	ELECT	2.2MF	20%	50V
C702	1-124-887-00	ELECT	3300MF	20%	16V
C703	1-124-887-00	ELECT	3300MF	20%	16V
C704	1-124-910-11	ELECT	47MF	20%	25V
C705	1-124-360-00	ELECT	1000MF	20%	16V
C706	1-124-360-00	ELECT	1000MF	20%	16V
C707	1-126-161-11	ELECT	2.2MF	20%	50V
C708	1-124-472-11	ELECT	470MF	20%	6.3V
C709	1-124-911-11	(V902)...ELECT	220MF	20%	50V
C710	1-126-301-11	(V902)...ELECT	1MF	20%	50V
C711	1-126-059-11	ELECT	10MF	20%	50V
C713	1-124-045-00	ELECT	4.7MF	20%	50V
C714	1-124-045-00	ELECT	4.7MF	20%	50V
C715	1-126-059-11	(V902)...ELECT	10MF	20%	50V
C715	1-164-159-11	(V702)...ELECT	0.1MF		50V
C801	1-124-910-11	ELECT	47MF	20%	25V
C802	1-126-101-11	ELECT	220MF	20%	10V
C803	1-124-910-11	(V902)...ELECT	47MF	20%	25V
C804	1-164-159-11	CERAMIC	0.1MF		50V
C805	1-124-045-00	ELECT	4.7MF	20%	50V
C810	1-126-161-11	ELECT	2.2MF	20%	50V
C811	1-164-159-11	CERAMIC	0.1MF		50V
C813	1-164-159-11	CERAMIC	0.1MF		50V
C815	1-164-159-11	CERAMIC	0.1MF		50V
C816	1-124-045-00	ELECT	4.7MF	20%	50V
C817	1-124-910-11	ELECT	47MF	20%	25V
C818	1-126-101-11	ELECT	220MF	20%	10V
C819	1-126-101-11	ELECT	220MF	20%	10V
C822	1-162-294-31	CERAMIC	0.001MF	10%	50V
C901	1-124-910-11	ELECT	47MF	20%	25V
C902	1-164-159-11	CERAMIC	0.1MF		50V
C903	1-124-910-11	ELECT	47MF	20%	50V
CNP11A	1-569-061-11	SOCKET, CONNECTOR 11P			
CNP11B	1-569-061-11	SOCKET, CONNECTOR 11P			
CNP12A	*1-564-338-00	PIN, CONNECTOR 4P			
CNP12B	*1-564-341-11	PIN, CONNECTOR 7P			
CNP13A	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNP13B	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNP14	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
CNP16A	*1-564-337-00	PIN, CONNECTOR 3P			
CNP16B	*1-564-337-00	PIN, CONNECTOR 3P			
CNP18A	*1-564-496-11	PIN, CONNECTOR 3P			
CNP18B	*1-564-496-11	PIN, CONNECTOR 3P			
CNP81A	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNP81B	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			

Ref.No.	Part No.	Description
CNP82A	*1-564-339-00	PIN, CONNECTOR 5P
CNP82B	*1-564-339-61	PIN, CONNECTOR 5P
CNP83	*1-564-338-61	PIN, CONNECTOR 4P
CN501	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P
CN502	*1-566-858-41	(V702)...SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)
CN701	*1-566-859-11	(V702)...SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)
CN801	1-568-439-11	SOCKET, CONNECTOR 7P
CN802	*1-564-338-00	PIN, CONNECTOR 4P
CN803	1-568-443-11	SOCKET, CONNECTOR 13P
CN804	*1-564-338-61	PIN, CONNECTOR 4P
CN805	1-569-060-11	SOCKET, CONNECTOR 11P
CN806	1-569-060-11	SOCKET, CONNECTOR 11P
CN807	*1-565-562-11	CONNECTOR (BASE POST) 3P
CN808	*1-564-496-11	PIN, CONNECTOR 3P
CN901	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CN902	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNP801	1-568-437-11	SOCKET, CONNECTOR 7P
CNP803	1-568-444-11	SOCKET, CONNECTOR 13P
CP901A	1-526-751-00	(V902:UK).....OUTLET, AC
CP901A	1-526-794-11	(V902:AEP,WG,IT,EA).....OUTLET, AC
CP901A	1-526-882-00	(V902:E).....OUTLET, AC
D11A	8-719-107-94	DIODE 1SS202-1
D11B	8-719-107-94	DIODE 1SS202-1
D81	8-719-107-94	DIODE 1SS202-1
D161	8-719-912-20	DIODE 1SS120
D261	8-719-912-20	DIODE 1SS120
D571	8-719-912-20	DIODE 1SS120
D701	8-719-200-77	DIODE 10E2N
D702	8-719-200-77	DIODE 10E2N
D703	8-719-200-77	DIODE 10E2N
D704	8-719-200-77	DIODE 10E2N
D705	8-719-912-20	(V902)...DIODE 1SS120
D706	8-719-933-33	DIODE HZS6A1L
D707	8-719-933-33	DIODE HZS6A1L
D708	8-719-912-20	(V902)...DIODE 1SS120
D709	8-719-000-54	DIODE UZL-6L3
D710	8-719-200-77	(V702)...DIODE 10E2N
D711	8-719-200-77	(V702)...DIODE 10E2N
D712	8-719-200-82	(V902)...DIODE 11ES2
D715	8-719-200-82	(V902)...DIODE 11ES2
D716	8-719-912-20	(V902)...DIODE 1SS120
D718	8-719-933-33	(V902)...DIODE HZS6A1L
D719	8-719-912-20	(V902)...DIODE 1SS120
D801	8-719-200-82	DIODE 11ES2
D802	8-719-912-20	DIODE 1SS120
D803	8-719-200-82	DIODE 11ES2
D804	8-719-912-20	DIODE 1SS120
D805	8-719-912-20	DIODE 1SS120
D806	8-719-200-82	DIODE 11ES2
D807	8-719-200-82	(V902)...DIODE 11ES2
D809	8-719-200-77	DIODE 10E2N
D904	8-719-301-38	(V902)...LED SEL2210S-C
F3	1-532-078-00	(V902:AEP,WG,IT)....FUSE, TIME-LAG
F501	1-532-259-00	(V902)...FUSE, TIME-LAG
F502	1-532-259-00	(V902)...FUSE, TIME-LAG

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
FL901	1-519-572-11	INDICATOR TUBE, FLUORESCENT
HP901	A-2003-503-A	(DECK A)...PC BOARD ASSY, HEAD
HRP901 HE901	A-2003-504-A	(DECK B)...CHASSIS ASSY, HEAD
IC81A	8-759-111-44	IC UPC4570C-1
IC81B	8-759-111-44	IC UPC4570C-1
IC501	8-752-018-70	IC CX20187
IC502	8-759-208-14	IC TC4066BPHB
IC531	8-759-040-53	IC MC140538CP
IC541	8-752-038-02	IC CXA1198AP
IC542	8-759-208-06	IC TC4051BPHB
IC551	8-759-601-02	(V902)...IC M5218P
IC551	8-759-634-51	(V702)...IC M5218AP
IC561	8-759-945-58	IC RC4558P
IC571	8-759-945-58	IC RC4558P
IC701	8-759-945-58	IC RC4558P
IC801	8-759-634-79	IC M50944-155SP
IC802	8-759-633-81	IC M50925-410SP
IC803	8-759-240-50	IC TC4050BP
IC901	8-759-321-92	IC HD614022S
J501	1-565-258-11	(V902)...JACK, PIN 4P (LINE IN/OUT)
L41	1-410-780-11	INDUCTOR 27MMH
L61	1-410-780-11	INDUCTOR 27MMH
LPF101	1-231-388-00	FILTER, LOW PASS
LPF201	1-231-388-00	FILTER, LOW PASS
M901A	X-3343-447-1	(DECK A)...MOTOR ASSY
M901B	X-3343-447-1	(DECK B)...MOTOR ASSY
PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER
PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER
PS701A	1-532-675-00	(V902)...LINK, IC
Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q12A	8-719-939-23	PHOTO SENSOR GP2S09-C
Q12B	8-719-939-23	PHOTO SENSOR GP2S09-C
Q14A	8-719-939-23	PHOTO SENSOR GP2S09-C
Q14B	8-719-939-23	PHOTO SENSOR GP2S09-C
Q81	8-729-111-29	TRANSISTOR 2SD1388
Q82	8-729-100-12	TRANSISTOR 2SC2001-LK
Q83	8-729-100-12	TRANSISTOR 2SC2001-LK
Q101	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF
Q101	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q131	8-729-900-80	TRANSISTOR DTC114ES
Q141	8-729-142-25	TRANSISTOR 2SD1020-HFE
Q201	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF
Q201	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q231	8-729-900-80	TRANSISTOR DTC114ES
Q241	8-729-142-25	TRANSISTOR 2SD1020-HFE
Q501	8-729-900-89	TRANSISTOR DTC144ES
Q551	8-729-900-65	TRANSISTOR DTA114ES
Q552	8-729-900-65	TRANSISTOR DTA114ES
Q571	8-729-900-80	TRANSISTOR DTC114ES
Q572	8-729-119-76	TRANSISTOR 2SA1175-HFE

Ref.No.	Part No.	Description
Q701	8-729-920-97	TRANSISTOR 2SB1187-EF
Q702	8-729-920-98	TRANSISTOR 2SD1761-EF
Q703	8-729-920-97	TRANSISTOR 2SB1187-EF
Q704	8-729-620-05	(V902)...TRANSISTOR 2SC2603-EF
Q704	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q705	8-729-900-89	TRANSISTOR DTC144ES
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF
Q706	8-729-119-78	(V702)...TRANSISTOR 2SC2785-HFE
Q707	8-729-118-01	(V902)...TRANSISTOR 2SB1116
Q708	8-729-118-01	(V902)...TRANSISTOR 2SB1116
Q801	8-729-900-61	TRANSISTOR DTA114ES
Q802	8-729-900-61	TRANSISTOR DTA114ES
Q803	8-729-900-61	TRANSISTOR DTA114ES
Q804	8-729-900-61	TRANSISTOR DTA114ES
Q805	8-729-900-61	(V902)...TRANSISTOR DTA114ES
Q807	8-729-118-01	(V902)...TRANSISTOR 2SB1116
Q808	8-729-118-01	(V902)...TRANSISTOR 2SB1116
Q809	8-729-801-93	(V902)...TRANSISTOR 2SD1387
Q810	8-729-801-93	(V902)...TRANSISTOR 2SD1387
Q811	8-729-900-80	TRANSISTOR DTC114ES
Q812	8-729-118-01	TRANSISTOR 2SB1116
Q813	8-729-900-61	TRANSISTOR DTA114ES
Q814	8-729-801-93	TRANSISTOR 2SD1387
Q815	8-729-118-01	TRANSISTOR 2SB1116
Q816	8-729-900-61	TRANSISTOR DTA114ES
Q817	8-729-801-93	TRANSISTOR 2SD1387
Q818	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q819	8-729-801-93	TRANSISTOR 2SD1387
Q820	8-729-900-61	TRANSISTOR DTA114ES
Q821	8-729-900-61	TRANSISTOR DTA114ES
Q822	8-729-900-61	TRANSISTOR DTA114ES
Q823	8-729-900-61	TRANSISTOR DTA114ES
Q824	8-729-900-89	TRANSISTOR DTC144ES
Q825	8-729-900-61	TRANSISTOR DTA114ES
Q827	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q828	8-729-801-93	TRANSISTOR 2SD1387
R11	1-247-834-11	CARBON 1.3K 5% 1/4W
R12	1-249-414-11	CARBON 560 5% 1/4W
R13	1-247-818-11	CARBON 300 5% 1/4W
R14A	1-249-408-11	CARBON 180 5% 1/4W
R14B	1-249-408-11	CARBON 180 5% 1/4W
R16A	1-249-410-11	CARBON 270 5% 1/4W
R16B	1-249-410-11	CARBON 270 5% 1/4W
R17A	1-249-437-11	CARBON 47K 5% 1/4W
R17B	1-249-437-11	CARBON 47K 5% 1/4W
R18A	1-249-437-11	CARBON 47K 5% 1/4W
R18B	1-249-437-11	CARBON 47K 5% 1/4W
R41A	1-247-881-00	CARBON 120K 5% 1/4W
R41B	1-247-881-00	CARBON 120K 5% 1/4W
R42A	1-249-405-11	CARBON 100 5% 1/4W
R42B	1-249-405-11	CARBON 100 5% 1/4W
R43A	1-247-882-11	CARBON 130K 5% 1/4W
R43B	1-247-882-11	CARBON 130K 5% 1/4W

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Ref.No.	Part No.	Description			
R44A	1-249-426-11	CARBON	5.6K	5%	1/4W
R44B	1-249-426-11	CARBON	5.6K	5%	1/4W
R45	1-249-430-11	CARBON	12K	5%	1/4W
R61A	1-247-881-00	CARBON	120K	5%	1/4W
R61B	1-247-881-00	CARBON	120K	5%	1/4W
R62A	1-249-405-11	CARBON	100	5%	1/4W
R62B	1-249-405-11	CARBON	100	5%	1/4W
R63A	1-247-882-11	CARBON	130K	5%	1/4W
R63B	1-247-882-11	CARBON	130K	5%	1/4W
R64A	1-249-426-11	CARBON	5.6K	5%	1/4W
R64B	1-249-426-11	CARBON	5.6K	5%	1/4W
R65	1-249-430-11	CARBON	12K	5%	1/4W
R81A	1-249-409-11	CARBON	220	5%	1/4W
R81B	1-249-409-11	CARBON	220	5%	1/4W
R82A	1-249-409-11	CARBON	220	5%	1/4W
R82B	1-249-409-11	CARBON	220	5%	1/4W
R83	1-249-429-11	CARBON	10K	5%	1/4W
R84	△ 1-212-849-00	FUSIBLE	4.7	5%	1/4W
R85	1-249-435-11	CARBON	33K	5%	1/4W
R86	1-249-435-11	CARBON	33K	5%	1/4W
R101	1-249-435-11	CARBON	33K	5%	1/4W
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-423-11	CARBON	3.3K	5%	1/4W
R105	1-249-428-11	CARBON	8.2K	5%	1/4W
R106	1-247-846-11	CARBON	4.3K	5%	1/4W
R107	1-247-840-00	CARBON	2.4K	5%	1/4W
R109	1-247-822-11	CARBON	430	5%	1/4W
R110	1-249-427-11	CARBON	6.8K	5%	1/4W
R111	1-249-415-11	CARBON	680	5%	1/4W
R112	1-249-421-11	CARBON	2.2K	5%	1/4W
R113	1-249-433-11	CARBON	22K	5%	1/4W
R114	1-249-425-11	CARBON	4.7K	5%	1/4W
R131	1-249-424-11	CARBON	3.9K	5%	1/4W
R132	1-249-431-11	CARBON	15K	5%	1/4W
R133	1-249-424-11	CARBON	3.9K	5%	1/4W
R134	1-247-887-00	CARBON	220K	5%	1/4W
R141	1-249-429-11	CARBON	10K	5%	1/4W
R142	1-249-427-11	CARBON	6.8K	5%	1/4W
R143	1-249-422-11	CARBON	2.7K	5%	1/4W
R144	1-249-425-11	CARBON	4.7K	5%	1/4W
R145	1-249-425-11	CARBON	4.7K	5%	1/4W
R151	1-249-417-11	CARBON	1K	5%	1/4W
R152	1-249-427-11	CARBON	6.8K	5%	1/4W
R153	1-247-887-00	CARBON	220K	5%	1/4W
R154	1-249-441-11	CARBON	100K	5%	1/4W
R161	1-249-417-11	CARBON	1K	5%	1/4W
R162	1-249-436-11	CARBON	39K	5%	1/4W
R163	1-249-432-11	CARBON	18K	5%	1/4W
R164	1-249-410-11	CARBON	270	5%	1/4W
R165	1-249-441-11	CARBON	100K	5%	1/4W
R201	1-249-435-11	CARBON	33K	5%	1/4W
R202	1-249-417-11	CARBON	1K	5%	1/4W
R203	1-249-417-11	CARBON	1K	5%	1/4W
R204	1-249-423-11	CARBON	3.3K	5%	1/4W

Ref.No.	Part No.	Description			
R205	1-249-428-11	CARBON	8.2K	5%	1/4W
R206	1-247-846-11	CARBON	4.3K	5%	1/4W
R207	1-247-840-00	CARBON	2.4K	5%	1/4W
R209	1-247-822-11	CARBON	430	5%	1/4W
R210	1-249-427-11	CARBON	6.8K	5%	1/4W
R211	1-249-415-11	CARBON	680	5%	1/4W
R212	1-249-421-11	CARBON	2.2K	5%	1/4W
R213	1-249-433-11	CARBON	22K	5%	1/4W
R214	1-249-425-11	CARBON	4.7K	5%	1/4W
R231	1-249-424-11	CARBON	3.9K	5%	1/4W
R232	1-249-431-11	CARBON	15K	5%	1/4W
R233	1-249-424-11	CARBON	3.9K	5%	1/4W
R234	1-247-887-00	CARBON	220K	5%	1/4W
R241	1-249-429-11	CARBON	10K	5%	1/4W
R242	1-249-427-11	CARBON	6.8K	5%	1/4W
R243	1-249-422-11	CARBON	2.7K	5%	1/4W
R244	1-249-425-11	CARBON	4.7K	5%	1/4W
R245	1-249-425-11	CARBON	4.7K	5%	1/4W
R251	1-249-417-11	CARBON	1K	5%	1/4W
R252	1-249-427-11	CARBON	6.8K	5%	1/4W
R253	1-247-887-00	CARBON	220K	5%	1/4W
R254	1-249-441-11	CARBON	100K	5%	1/4W
R261	1-249-417-11	CARBON	1K	5%	1/4W
R262	1-249-436-11	CARBON	39K	5%	1/4W
R263	1-249-432-11	CARBON	18K	5%	1/4W
R264	1-249-410-11	CARBON	270	5%	1/4W
R265	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-247-874-11	CARBON	62K	5%	1/4W
R302	1-247-872-11	CARBON	51K	5%	1/4W
R303	1-249-436-11	CARBON	39K	5%	1/4W
R304	1-247-876-11	CARBON	75K	5%	1/4W
R305	1-249-441-11	CARBON	100K	5%	1/4W
R306	1-247-887-00	CARBON	220K	5%	1/4W
R307	1-249-439-11	CARBON	68K	5%	1/4W
R308	1-247-870-11	CARBON	43K	5%	1/4W
R309	1-247-878-00	CARBON	91K	5%	1/4W
R310	1-247-883-00	CARBON	150K	5%	1/4W
R311	1-247-874-11	CARBON	62K	5%	1/4W
R312	1-247-881-00	CARBON	120K	5%	1/4W
R313	1-249-435-11	CARBON	33K	5%	1/4W
R314	1-249-435-11	CARBON	33K	5%	1/4W
R315	1-247-874-11	CARBON	62K	5%	1/4W
R316	1-247-885-00	CARBON	180K	5%	1/4W
R317	1-249-438-11	CARBON	56K	5%	1/4W
R318	1-249-441-11	CARBON	100K	5%	1/4W
R319	1-247-872-11	CARBON	51K	5%	1/4W
R320	1-247-874-11	CARBON	62K	5%	1/4W
R321	1-249-434-11	CARBON	27K	5%	1/4W
R322	1-249-437-11	CARBON	47K	5%	1/4W
R323	1-249-438-11	CARBON	56K	5%	1/4W
R324	1-247-880-11	CARBON	110K	5%	1/4W
R325	1-249-437-11	CARBON	47K	5%	1/4W
R326	1-247-872-11	CARBON	51K	5%	1/4W
R327	1-249-437-11	CARBON	47K	5%	1/4W
R328	1-249-438-11	CARBON	56K	5%	1/4W
R329	1-249-437-11	CARBON	47K	5%	1/4W
R330	1-247-881-00	CARBON	120K	5%	1/4W

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			
R331	1-249-433-11	CARBON	22K	5%	1/4W
R332	1-247-868-11	CARBON	36K	5%	1/4W
R333	1-249-434-11	CARBON	27K	5%	1/4W
R334	1-247-874-11	CARBON	62K	5%	1/4W
R335	1-247-870-11	CARBON	43K	5%	1/4W
R336	1-247-881-00	CARBON	120K	5%	1/4W
R501	1-249-405-11	CARBON	100	5%	1/4W
R502	1-249-405-11	CARBON	100	5%	1/4W
R503	1-215-469-00	METAL	100K	1%	1/6W
R504	1-249-435-11	CARBON	33K	5%	1/4W
R505	1-249-435-11	CARBON	33K	5%	1/4W
R506	1-249-435-11	CARBON	33K	5%	1/4W
R507	1-249-405-11	CARBON	100	5%	1/4W
R531	1-249-435-11	CARBON	33K	5%	1/4W
R532	1-249-435-11	CARBON	33K	5%	1/4W
R541	1-249-441-11	CARBON	100K	5%	1/4W
R542	1-249-421-11	CARBON	2.2K	5%	1/4W
R543	1-215-454-00	METAL	24K	1%	1/6W
R544	1-249-435-11	CARBON	33K	5%	1/4W
R545	1-249-435-11	CARBON	33K	5%	1/4W
R546	1-249-435-11	CARBON	33K	5%	1/4W
R551	1-249-425-11	CARBON	4.7K	5%	1/4W
R552	1-249-425-11	CARBON	4.7K	5%	1/4W
R571	1-247-887-00	CARBON	220K	5%	1/4W
R572	1-249-429-11	CARBON	10K	5%	1/4W
R573	1-249-441-11	CARBON	100K	5%	1/4W
R574	1-249-428-11	CARBON	8.2K	5%	1/4W
R575	1-249-423-11	CARBON	3.3K	5%	1/4W
R576	1-249-441-11	CARBON	100K	5%	1/4W
R577	1-249-417-11	CARBON	1K	5%	1/4W
R578	1-249-441-11	CARBON	100K	5%	1/4W
R579	1-249-429-11	CARBON	10K	5%	1/4W
R580	1-249-441-11	CARBON	100K	5%	1/4W
R581	1-249-437-11	CARBON	47K	5%	1/4W
R582	1-249-417-11	CARBON	1K	5%	1/4W
R583	1-249-441-11	(V902)...CARBON	100K		1/4W
R701	1-249-420-11	CARBON	1.8K	5%	1/4W
R702	1-249-427-11	CARBON	6.8K	5%	1/4W
R703	1-249-419-11	CARBON	1.5K	5%	1/4W
R704	1-247-854-11	CARBON	9.1K	5%	1/4W
R705	1-249-419-11	CARBON	1.5K	5%	1/4W
R706	1-249-427-11	CARBON	6.8K	5%	1/4W
R707	1-249-427-11	CARBON	6.8K	5%	1/4W
R708	1-249-409-11	CARBON	220	5%	1/4W
R709	1-249-417-11	CARBON	1K	5%	1/4W
R710	1-249-420-11	CARBON	1.8K	5%	1/4W
R711	1-249-429-11	(V902)...CARBON	10K	5%	1/4W
R712	1-247-850-11	(V902)...CARBON	6.2K	5%	1/4W
R713	1-249-417-11	(V902)...CARBON	1K	5%	1/4W
R715	1-249-433-11	CARBON	22K	5%	1/4W
R716	1-249-433-11	CARBON	22K	5%	1/4W
R717	1-249-432-11	CARBON	18K	5%	1/4W
R718	1-249-423-11	CARBON	3.3K	5%	1/4W
R804	1-249-433-11	(V902)...CARBON	22K	5%	1/4W
R805	1-249-421-11	(V902)...CARBON	2.2K	5%	1/4W
R806	1-249-433-11	CARBON	22K	5%	1/4W
R807	1-249-421-11	(V902)...CARBON	2.2K	5%	1/4W

Ref.No.	Part No.	Description			
R808	1-249-421-11	(V902)...CARBON	2.2K	5%	1/4W
R809	1-249-421-11	(V902)...CARBON	2.2K	5%	1/4W
R810	1-249-435-11	CARBON	33K	5%	1/4W
R811	1-249-435-11	CARBON	33K	5%	1/4W
R812	1-249-435-11	CARBON	33K	5%	1/4W
R813	1-249-435-11	CARBON	33K	5%	1/4W
R814	1-249-393-11	CARBON	10	5%	1/4W
R815	1-247-903-00	CARBON	1M	5%	1/4W
R816	1-249-417-11	CARBON	1K	5%	1/4W
R817	1-249-433-11	CARBON	22K	5%	1/4W
R818	1-249-388-11	CARBON	3.9	5%	1/4W
R819	1-249-421-11	CARBON	2.2K	5%	1/4W
R820	1-249-433-11	CARBON	22K	5%	1/4W
R821	1-249-417-11	CARBON	1K	5%	1/4W
R822	1-249-388-11	CARBON	3.9	5%	1/4W
R823	1-249-421-11	CARBON	2.2K	5%	1/4W
R824	1-249-425-11	CARBON	4.7K	5%	1/4W
R825	1-249-417-11	CARBON	1K	5%	1/4W
R826	1-249-433-11	CARBON	22K	5%	1/4W
R827	1-249-421-11	CARBON	2.2K	5%	1/4W
R828	1-249-435-11	CARBON	33K	5%	1/4W
R829	1-249-435-11	CARBON	33K	5%	1/4W
R830	1-249-436-11	CARBON	39K	5%	1/4W
R831	1-247-895-00	CARBON	470K	5%	1/4W
R832	1-249-436-11	CARBON	39K	5%	1/4W
R833	1-247-895-00	CARBON	470K	5%	1/4W
R834	1-249-433-11	CARBON	22K	5%	1/4W
R835	1-247-895-00	CARBON	470K	5%	1/4W
R836	1-249-436-11	CARBON	39K	5%	1/4W
R837	1-247-895-00	CARBON	470K	5%	1/4W
R838	1-249-436-11	CARBON	39K	5%	1/4W
R839	1-249-433-11	CARBON	22K	5%	1/4W
R840	1-249-425-11	CARBON	4.7K	5%	1/4W
R841	1-249-435-11	CARBON	33K	5%	1/4W
R844	1-249-417-11	CARBON	1K	5%	1/4W
R845	1-249-413-11	CARBON	470	5%	1/4W
R846	1-249-411-11	CARBON	330	5%	1/4W
R847	1-249-409-11	CARBON	220	5%	1/4W
R848	1-249-407-11	CARBON	150	5%	1/4W
R849	1-249-420-11	CARBON	1.8K	5%	1/4W
R850	1-249-417-11	CARBON	1K	5%	1/4W
R851	1-249-424-11	CARBON	3.9K	5%	1/4W
R852	1-249-420-11	CARBON	1.8K	5%	1/4W
R853	1-247-836-11	CARBON	1.6K	5%	1/4W
R854	1-249-413-11	CARBON	470	5%	1/4W
R855	1-249-411-11	CARBON	330	5%	1/4W
R856	1-249-409-11	CARBON	220	5%	1/4W
R857	1-249-407-11	CARBON	150	5%	1/4W
R858	1-249-424-11	CARBON	3.9K	5%	1/4W
R859	1-249-420-11	CARBON	1.8K	5%	1/4W
R860	1-249-417-11	CARBON	1K	5%	1/4W
R861	1-249-415-11	CARBON	680	5%	1/4W
R862	1-249-413-11	CARBON	470	5%	1/4W
R863	1-249-411-11	CARBON	330	5%	1/4W
R864	1-249-409-11	CARBON	220	5%	1/4W
R865	1-249-407-11	CARBON	150	5%	1/4W
R867	1-249-424-11	CARBON	3.9K	5%	1/4W

Ref.No.	Part No.	Description
R868	1-249-420-11	CARBON 1.8K 5% 1/4W
R869	1-247-836-11	CARBON 1.6K 5% 1/4W
R870	1-249-415-11	CARBON 680 5% 1/4W
R871	1-249-413-11	CARBON 470 5% 1/4W
R872	1-249-411-11	CARBON 330 5% 1/4W
R873	1-249-409-11	CARBON 220 5% 1/4W
R874	1-249-407-11	CARBON 150 5% 1/4W
R875	1-247-834-11	CARBON 1.3K 5% 1/4W
R876	1-249-423-11	CARBON 3.3K 5% 1/4W
R877	1-249-429-11	CARBON 10K 5% 1/4W
R879	1-249-421-11	CARBON 2.2K 5% 1/4W
R880	1-249-421-11	CARBON 2.2K 5% 1/4W
R881	1-249-421-11	CARBON 2.2K 5% 1/4W
R882	1-249-421-11	CARBON 2.2K 5% 1/4W
R883	1-249-421-11	CARBON 2.2K 5% 1/4W
R884	1-249-408-11	CARBON 180 5% 1/4W
R885	1-249-429-11	CARBON 10K 5% 1/4W
R886	1-249-425-11	CARBON 4.7K 5% 1/4W
R887	1-249-417-11	CARBON 1K 5% 1/4W
R888	1-249-433-11	CARBON 22K 5% 1/4W
R889	1-249-421-11	CARBON 2.2K 5% 1/4W
R890	1-247-903-00	CARBON 1M 5% 1/4W
R891	1-249-405-11	CARBON 100 5% 1/4W
R892	1-249-405-11	CARBON 100 5% 1/4W
R893	1-249-405-11	CARBON 100 5% 1/4W
R901	1-247-903-00	CARBON 1M 5% 1/4W
R905	1-249-408-11	(V902)...CARBON 180 5% 1/4W
R906	1-249-435-11	CARBON 33K 5% 1/4W
RV41A	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL L)
RV41B	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL L)
RV42	1-230-500-11	RES, ADJ, CARBON 220K (REC BIAS)
RV61A	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL R)
RV61B	1-228-989-00	RES, ADJ, CARBON 470 (PB LEVEL R)
RV62	1-230-500-11	RES, ADJ, CARBON 220K (REC BIAS)
RV141	1-238-016-11	RES, ADJ, CARBON 10K (REC LEVEL L)
RV241	1-238-016-11	RES, ADJ, CARBON 10K (REC LEVEL R)
RV501	1-238-763-11	(V902)...RES, VAR, CARBON 20KX3 (REC LEVEL)
RV501	1-238-966-11	(V702)...RES, VAR, CARBON 20K/20K (REC LEVEL)
RY81	1-515-614-11	RELAY
S11A	1-571-281-21	SWITCH, LEAF (HALF DET)
S11B	1-571-281-21	SWITCH, LEAF (HALF DET)
S12	1-571-281-21	SWITCH, LEAF (ERASE PROOF)
S13	1-571-281-21	SWITCH, LEAF (ERASE PROOF)
S14A	1-571-281-21	SWITCH, LEAF (CrO2)
S14B	1-571-281-21	SWITCH, LEAF (CrO2)
S15	1-571-281-21	SWITCH, LEAF (METAL)
S701	1-571-305-11	(V902)...SWITCH, PUSH (1 KEY)(POWER)
S801	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (■)
S802	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (▶)
S803	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (▶)

Ref.No.	Part No.	Description
S804	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (■)
S805	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (▶)
S806	1-554-303-21	(DECK A)...SWITCH, KEY BOARD (◀)
S808	1-554-303-21	SWITCH, KEY BOARD (COUNTER A/B)
S814	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S815	1-554-303-21	SWITCH, KEY BOARD (RESET)
S816	1-554-303-21	SWITCH, KEY BOARD (FADER)
S817	1-554-303-21	(V902)...SWITCH, KEY BOARD (APL)
S818	1-554-303-21	SWITCH, KEY BOARD (BLANK SKIP)
S819	1-554-303-21	SWITCH, KEY BOARD (NORMAL SPEED)
S820	1-554-303-21	SWITCH, KEY BOARD (HIGH SPEED)
S821	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (●)
S822	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (▶)
S823	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (◀)
S824	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (○)
S825	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (■)
S826	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (◀)
S827	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (▶)
S828	1-554-303-21	(DECK B)...SWITCH, KEY BOARD (■)
S829	1-571-520-21	SWITCH, SLIDE (DOLBY NR)
S830	1-571-520-21	SWITCH, SLIDE (DIRECTION MODE)
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T81	1-433-337-11	TRANSFORMER, BIAS OSCILLATION
T901	△ 1-449-460-11	(V902:AEP,WG,IT,UK) ...TRANSFORMER, POWER
T901	△ 1-449-461-11	(V902:E,EA)...TRANSFORMER, POWER
TP801	*1-564-336-00	PIN, CONNECTOR 2P
VS901	△ 1-570-307-11	(V902:E,EA)...SWITCH, VOLTAGE SELECTOR
X801	1-567-819-11	VIBRATOR, CERAMIC (4MHz)
X802	1-567-819-11	VIBRATOR, CERAMIC (4MHz)
X901	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)

ACCESSORY & PACKING MATERIAL

1-465-407-11	(V702:AEP,WG,UK,IT)...REMOTE COMMANDER (RM-S730)
1-465-439-11	(V702:E,EA)...REMOTE COMMANDER (RM-S730E)
1-465-406-11	(V902:AEP,WG,UK,IT)...REMOTE COMMANDER (RM-S930)
1-465-440-11	(V902:E,EA)...REMOTE COMMANDER (RM-S930E)
1-559-533-11	CORD, CONNECTION
*3-343-648-01	(V902:AEP,WG,IT).....CUSHION
3-350-154-01	(V902:UK,E,EA,V702)...CUSHION
*3-343-647-11	INDIVIDUAL CARTON
*3-704-350-01	SHEET (STANDARD), PROTECTION
3-707-584-01	COVER, BATTERY
3-751-596-11	(V902:AEP,WG,IT)...MANUAL, INSTRUCTION
3-751-596-41	(V902:AEP,WG,IT)...MANUAL, INSTRUCTION

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.