ORDER NO. MD9411188C2

Service Manual

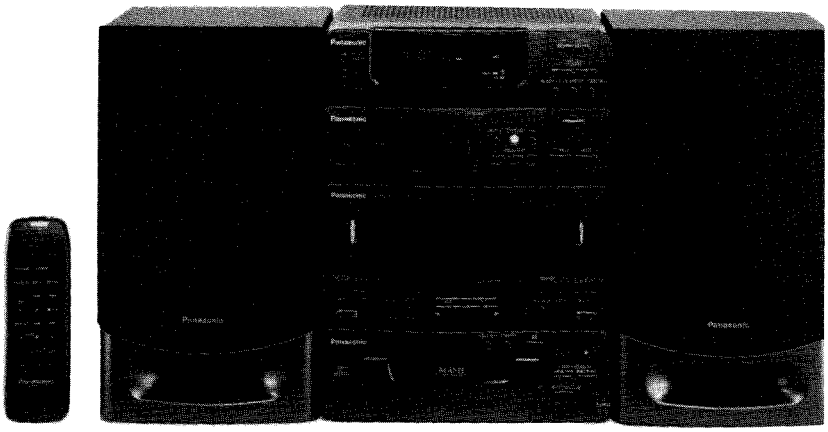
MASH* multi-stage noise shaping

*DOLBY B NR

COMPACT disc DIGITAL AUDIO

CD Stereo System

SA-CH32



↑ Remote Control Transmitter ↑ SB-CH32 ↑ SA-CH32 ↑ SB-CH32

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Continental Europe	(K)
(EB)	Great Britain	
(EG)	F.R. Germany/Italy	

System : SC-CH32

System	Unit	
	Audio center	Speaker
SC-CH32E	SA-CH32E	SB-CH32E (made in PAES)
SC-CH32EB	SA-CH32EB	
SC-CH32EG	SA-CH32EG	

* MASH is a trademark of NTT.

TAPE DECK : AR300 MECHANISM SERIES
TRAVERSE DECK : RAE0113Z MECHANISM SERIES

★ Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Panasonic

■ Specifications

■ AMPLIFIER SECTION

1 kHz continuous power output both channels driven	2 X 20 W(THD 1%, 4 Ω)
RMS (1 kHz)	2 X 30 W (THD 10%, 4Ω)
Total harmonic distortion half power at 1 kHz	0.07% (4Ω)
Frequency response	
CD,AUX	45 Hz — 20 kHz (–3 dB)
Input sensitivity and impedance	
AUX	250mV, 28kΩ
Tone controls	4-Preset SFC / EQ + SURROUND
Load impedance	4Ω

■ FM TUNER SECTION

Frequency range	87.50 — 108.00 MHz
Sensitivity	23.3 dBf
Total harmonic distortion	
MONO	0.3%
STEREO	0.5%
S/N ratio	
MONO	60 dB
Image rejection at 98 MHz	35 dB
Stereo separation	
1 kHz	35 dB
Antenna terminal(s)	75 Ω (unbalanced)

Notes :

1. Specifications are subject to change without notice. Weight and dimensions shown are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

■ AM TUNER SECTION

Frequency range	
MW	522 — 1611 kHz
LW	144 — 288 kHz
Sensitivity (for 500 mW)	
MW (at 999 kHz, 1000 kHz)	250 μV/m
LW (at 252 kHz, 250 kHz)	500μV/m

■ CASSETTE DECK SECTION

Track system	4 – track, 2 – channel
Heads	
Playback	Solid Permalloy Head (Rotary Head)
Record/Playback	Solid Permalloy Head (Rotary Head)
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias, 100 kHz
Erase system	AC erase, 100 kHz
Tape speed	4.8 cm/sec ($1^{7}/_{8}$ ips)
Frequency response	
NORMAL	40 Hz—14 kHz (+3, –6 dB)
CrO_2	40 Hz—14 kHz (+3, –6 dB)
S/N ratio(CrO_2 type tape)	
Dolby NR off	52 dB (A-WTD)
Dolby NR on	61 dB (CCIR)
Wow and flutter	0.1% (WRMS)
Fast forward and rewind times	Approx. 110 seconds with C-60 cassette tape

■ CD SECTION

Sampling frequency	44.1 kHz
Recoding	16–bit linear
Beam source/wave length	Semiconductor laser/780nm
Number of channels	2 – channel, Stereo
Frequency response	20 Hz–20 kHz (+1, –2 dB)
S/N ratio	95 dB filter (JIS. A)
Wow and flutter	Below measurable limit
Digital filter	4 times over sampling
D/A converter	Multi stage noise shaping (1 bit DAC)

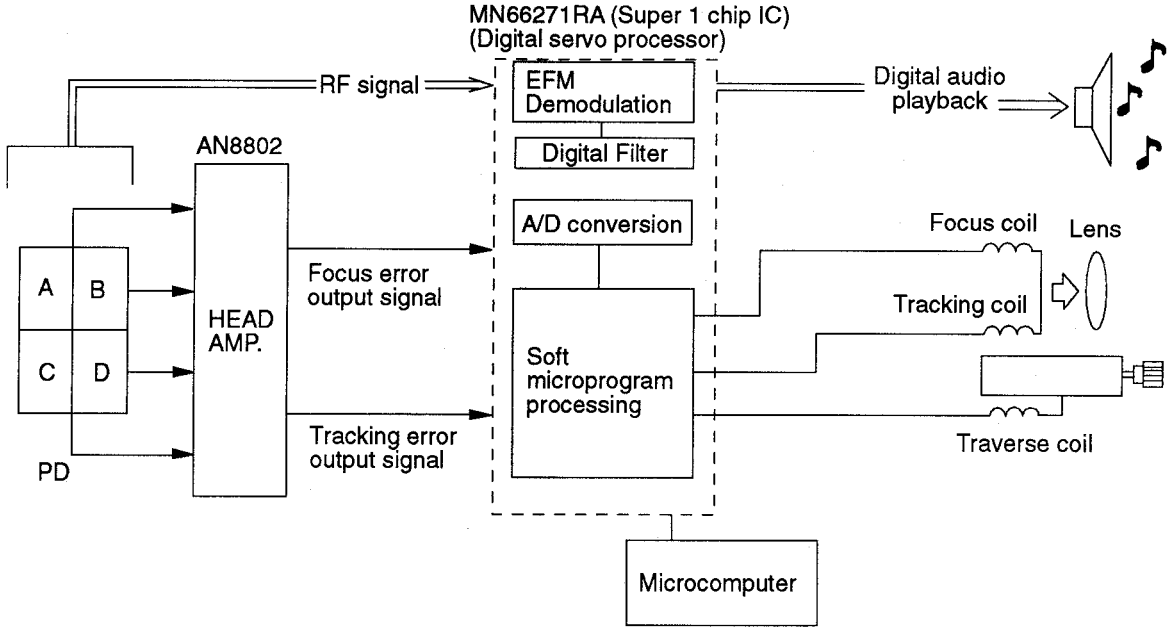
■ GENERAL

Power consumption	80 W
Power supply	
For United Kingdom	AC 50Hz, 230 — 240V
For Continental Europe	AC 50Hz, 230V
Dimension (W x H x D)	215.4 x 290 x 279 mm
Weight	5.9 kg

■ Digital Servo System

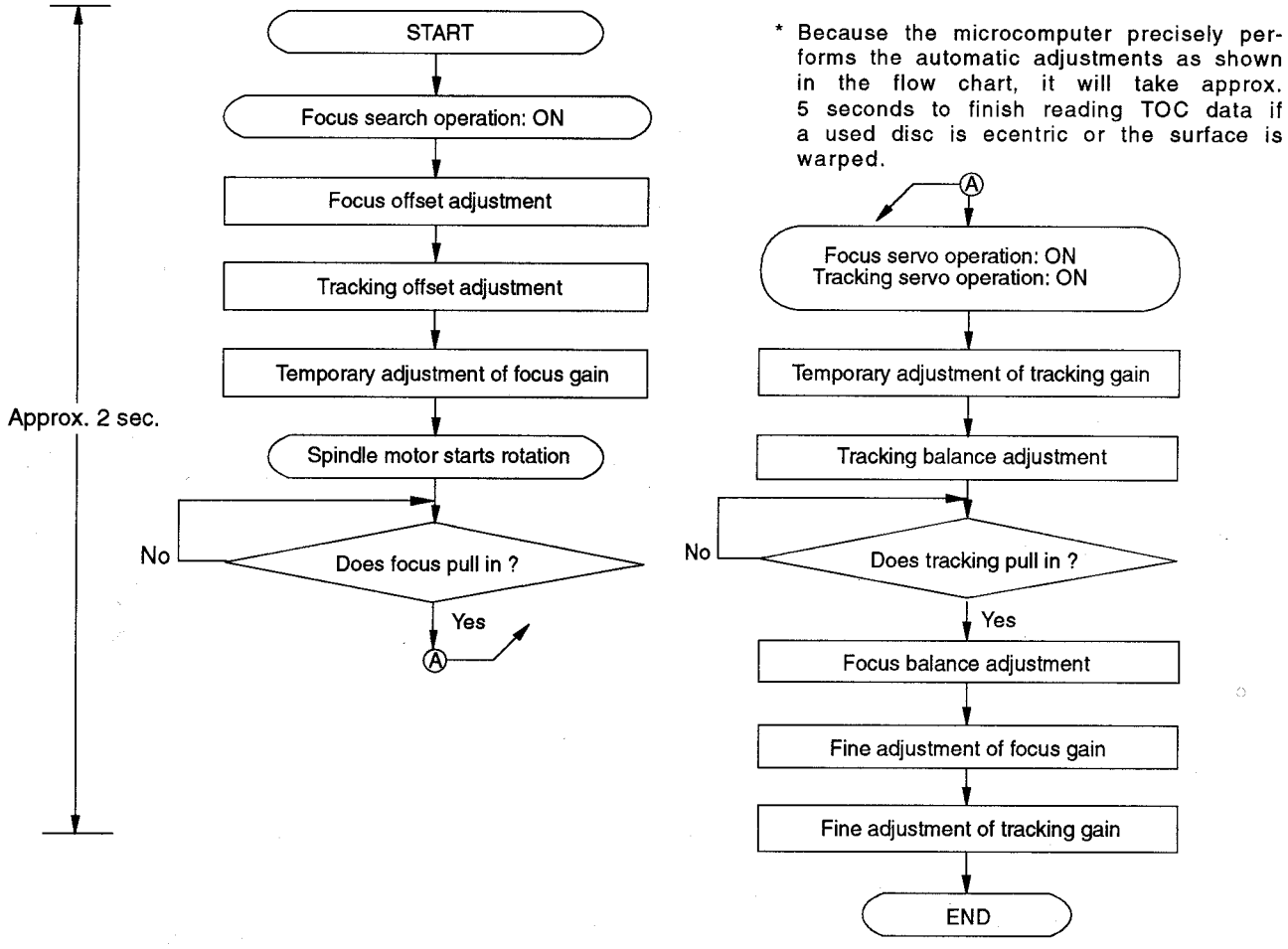
DIGITAL SERVO SYSTEM

This servo system has no adjustment VRs.



The following flow chart shows the sequence of automatic adjustments.

- **Flow chart on automatic adjustment sequence**



* Because the microcomputer precisely performs the automatic adjustments as shown in the flow chart, it will take approx. 5 seconds to finish reading TOC data if a used disc is ecentric or the surface is warped.

■ Self-Diagnostic Display Function

Self-diagnostic display

This unit is equipped with a self-diagnosis display function which, if a problem occurs, will display an error code corresponding to the problem.

Use this function when performing maintenance on the unit.

Display procedure

To display

• For error codes H02, H03, F01 and F02

1. With no tape casssette loaded in the cassette deck, press "POWER" button on.
2. Press the Stop (□) button of the Deck and select the "TAPE".
3. Press and hold the Stop (□) button of the Deck for more than 2 seconds, then press and hold the Fast forward (▶▶) button for more than 2 seconds at the same time. "T" will appear in the FL display (Entering the diagnostic mode.)
4. Select DECK 2 by pressing the "DECK 1/2" button.
5. Load the normal tape with the erasure prevention tab removed from one side (on your left side with tape facing down) and close the cassette holder.
6. Press the FF/TPS (▶▶) button. The cassette deck will fast-forward for about 2 seconds and stop automatically.
7. Press the REW/TPS (◀◀) button. The cassette deck will rewind the tape for 2 seconds and stop automatically.
8. Load a normal pre-recorded cassette tape with both erasure prevention tape tabs intact, and close the cassette holder.
9. Press the Play (◀ or ▶) button. The cassette deck will perform the TPS function automatically and then stop.
10. Press the "REC PAUSE" button (the mechanism doesn't operate at this moment). Then remove the cassette tape.
11. Select DECK 1 by pressing the "DECK 1/2" button.
12. Repeat above steps from 5 to 10.
13. Select Deck 1 or 2 which you want to check by self-diagnostic function, and press the Stop (□) button of the Deck. If there is a problem, an error code will be displayed. If more than one problem has occured, the error code will changed each time the Stop (□) button is pressed. (Example : H02 --> H03 --> F01 --> H02 --> H03 --> F01 --> ...)
14. If there is no problem, "T" indication remains unchanged even the Stop (□) button of the Deck is pressed.

• For error code H01, H15, H16, F15, F26, F75 (above steps from 4 to 13 are not necessary).

1. Press "POWER" on with no cassette tape loaded in the decks.
2. Press the Stop (□) button of the CD to select "CD".
3. Open the CD tray by pressing the "▲ OPEN/CLOSE" button .
4. After 5 seconds of opening the CD tray, press "▲ OPEN/CLOSE" button to close the CD tray.
5. Press Stop (□) button of the Deck to select "TAPE".
6. Press and hold the Stop (□) button of the Deck for more than 2 seconds, then the FF/TPS (▶▶) button for more than 2 seconds at the same time. "T" will appear in the FL display.
7. Select Deck 1 or 2, which you want to check by self-diagnostic function, and press the Stop (□) button of the Deck. If there is a problem, an error code will be displayed. If more than one problems has occured, the error code will change each time the Stop (□) button of the Deck is pressed. (Example : H01 --> H15 --> F15 --> H01 --> H15 --> F15 --> ...)

• For error code F61

A corresponding error code will automatically appear in the FL display when problem occurs.

To return to normal display

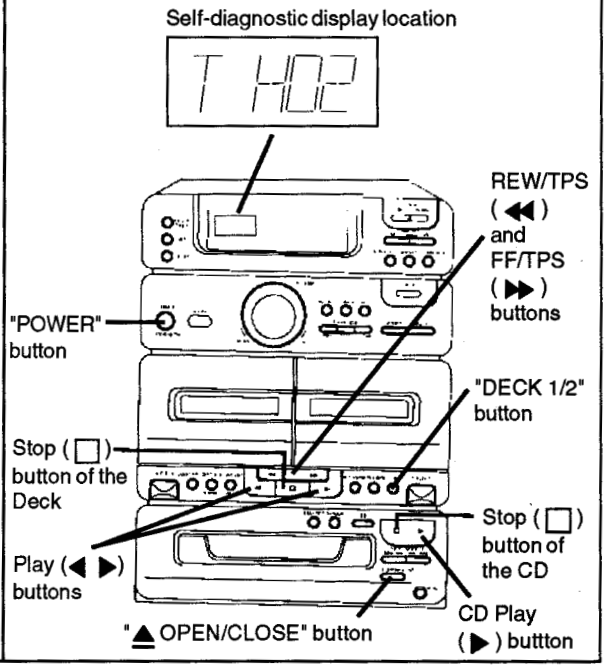
1. For H01, H02, H03, F01, F02, H15, H16, F15, F26, F75 error code :
   • Press the "POWER" button to swtich off the unit.
2. For F61 error code :
   • The unit must be repaired otherwise FL display does not return to normal display.

To dispay error code again

1. For error code H01, H02,H03, F01, F02, H15, F15, F26, F75 :
   • Repeat steps 1, 2, 3 and 13.
2. For error code F61 :
   • Press the "POWER" button on, then "F61" will appear in display for 3 seconds, after that the unit is automatically shut off and display changes to clock indication.

Note : The error code will be stored in memory. To clear the memory, press the Stop (□) button of the Deck for at least 5 seconds while in the self-diagnostic mode. When the memory is cleared, "CLEAR" will appear in the FL display for 1 second, and then the display will return to "T". Be sure to clear the memory after repairing a problem.

Display location



Interpretation of error codes

Error code	Problem condition	Correction procedure
H01	Faulty operation of cassette mechanism. Example : Reverse-play operation performance when FWD play button is pressed.	Faulty cassette mechanism mode switch [S951, S971] and plunger. (Check and replace)
H02	Recording not possible, or recording mode entered even though erasure prevention tabs have been removed.	Faulty contact or short-circuit of erasure prevention switches [S973, S974]. (Check and replace)
H03	Playback not performed when Play (◀ ▶) button is pressed. Motor turns when Play (◀ ▶) button is pressed even though there is no tape cassette loaded in cassette holder.	Faulty contact or short-circuit of cassette half detect switch. [S972] (Check and replace)
F01	When the Play (◀ ▶) button is pressed, the tape advances slightly and then stops.	Faulty reel pulse, faulty hole detect IC. [IC951, IC971] (Check and replace)
F02	Cassette deck will not perform TPS function.	Faulty playback EQ/recording amplifier IC. [IC101] (Check and replace)
H15	CD tray does not open or close when CD tray "▲ OPEN/CLOSE" button is pressed. When the CD tray "▲ OPEN/CLOSE" button is pressed, the CD tray closes momentarily but then opens again, or opens momentarily and then closes again.	Faulty loading motor and motor drive IC [IC790], or faulty contact or short-circuit on CD tray-close detect switch [S790] and CD tray-open detect switch [S791]. (Check and replace)
H16		
F15	Relatively long time (about 8 seconds) is required to begin play when the CD Play (▶) buttton is pressed from the power-off state or from a function other than CD player.	Faulty contact on CD mechanism optical pick-up rest switch [S701]. (Check and replace)
F26	CD does not function even when pressing Play (▶) button. CD track jumps. CD rotates irregularly.	Faulty system contact [IC601] or servo processor IC [IC702]. (Check and replace) Faulty connection or broken of FPC for CD circuit. (Check and replace)
F75	"NO DISC" indication show in the FL display even CD is loaded.	Faulty power supply circuit of CD [IC501 or circuit for power supply]. (Check and replace) Faulty servo processor IC [IC702]. (Check and replace)
F61	When power is switched on it automatically switches immediately back off, and cannot be switched on. (Faulty speaker output IC is causing DC voltage to be output to speakers.)	Faulty speaker output IC [IC501]. (Check and replace)

NOTE :

* For the cassette deck to perform the TPS (tape progarm sensor) functin, there must be black spaces with no signal recorded between the programs on the tape, so the followig types of recorded tapes cannot be used.

- Tape on which the blank space between programs is less than 4 seconds long.
- Tapes on which there is no unrecorded black spaces (such as a tape recorded using a microphone).
- When there are very low-level or silent sections within a program (such as some classical music recordings).
- When less than 10 seconds have passed after the start of the program or when there is less than 10 secomds remaining until the start of the next program.
- When the recording has bee made using a fade-in (gradually increasing level) or fade-out (gradually decreasing level).

■ Measurements and Adjustments

Warning: This product uses a laser diode. Refer to caution statements on page 3.

Caution: It is very dangerous to look or touch the laser beam. (laser radiation is invisible)
With the unit turned "on", laser radiation is emitted from the pickup lens.
Avoid exposure to the laser beam, especially when performing adjustments.

Measuring Instruments and Special Tools

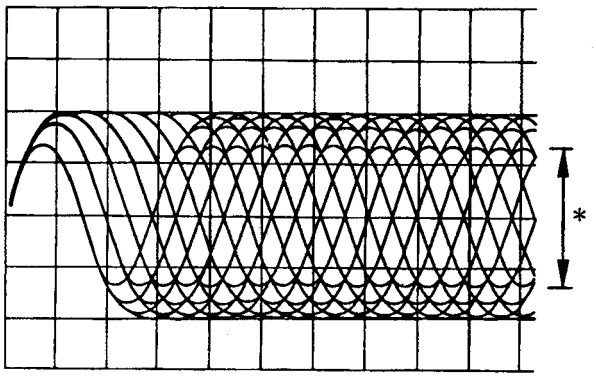
* Test discs
1. Playability test disc (SZZP1054C).
2. Uneven test disc (SZZP1056C).

* Musical program disc (ordinary).
* Dual-beam oscilloscope with bandwidth of 30 MHz or better (with EXT. trigger and 1 : 1 probe).
* Allen wrench (M2.0) (SZZP1101C).
* Lock paint (RZZ0L01)

(1) MECHANICAL ADJUSTMENT

- When the traverse deck is replaced, making adjustments is not necessary. (The traverse deck ass'y is already adjusted.)
- Make adjustments to improve playability if the traverse deck has not been replaced.

1. Connect the oscilloscope's CH. 1 probe across TJ701 (RF) (+) and TJ702 (V-Ref.) (–) on the servo P.C.B. (Refer to Fig. 1 on page 17)
   Oscilloscope setting : VOLT .....200mV.
   SWEEP.....0.5µs.
   Input coupling .....AC.
2. Switch the player power **ON**, and play track **19** on the test disc (SZZ1056C).
   (Playing any other track will prevent the HEX screws from being accessed.)
3. Leave the player in play mode.
4. Alternately adjust the HEX screws with the 2.0mm allen wrench (SZZP1101C) until the vertical fluctuation of RF signal is minimized and the eye pattern is most stretched. (Refer to Fig. 2 on page 17)
5. After completing the adjustment, lock the HEX screws with lock paint (RZZ0L01).



* Most stretched eye pattern

(3) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

*** Checking skip Search**
1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

*** Checking Manual Search**
1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

*** Checking Playability**
1. Play the 0.7mm black dot and the 0.7mm wedge on the test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

- **Adjustment points**

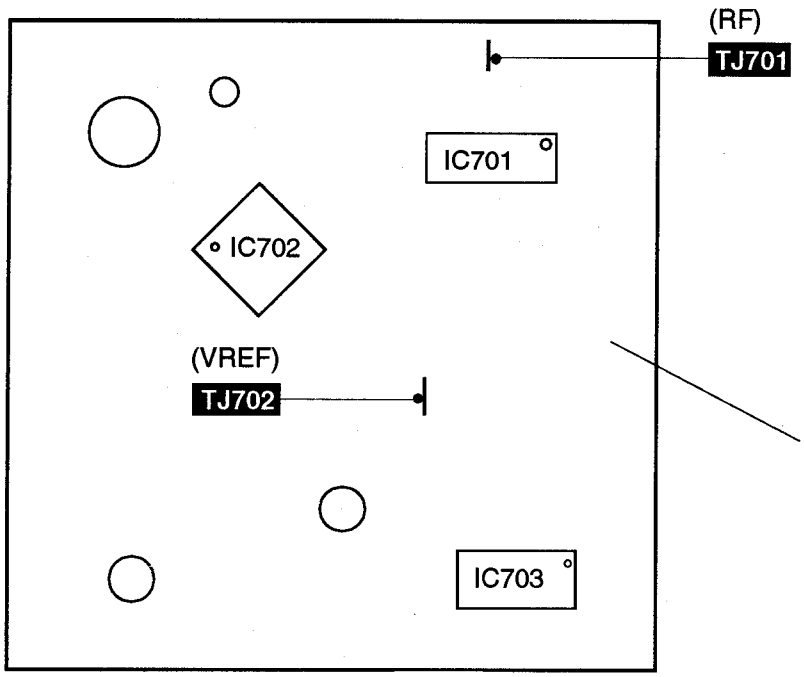


Fig.1

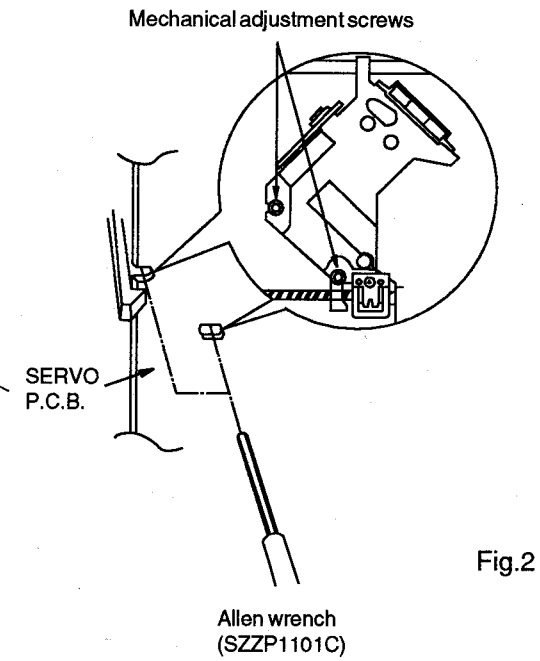


Fig.2

• CASSETTE DECK SECTION

(Please refer to Fig. 3 on page 19 for the adjustment point.)

MEASUREMENT CONDITION :

- Make sure heads are clean
- Make sure capstan and pressure roller are clean

TEST TAPE:

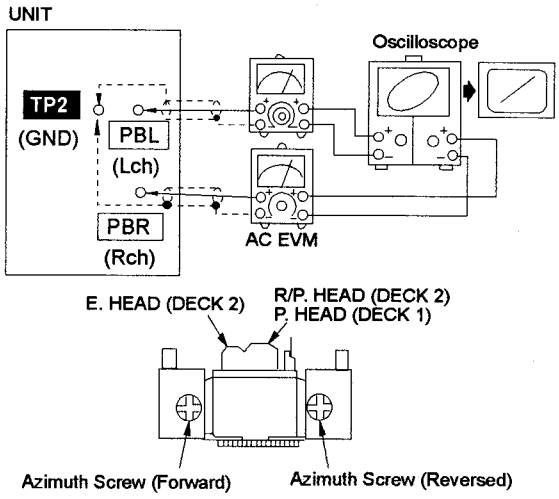
- Head azimuth adjustment (8 kHz, –20 dB): QZZCFM
- Tape speed adjustment (3 kHz, –10 dB): QZZCWAT
- Normal reference blank tape: QZZCRA
- CrO2 reference blank tape: QZZCRX

HEAD AZIMUTH ADJUSTMENT (DECK 1, 2)

1. Playback the azimuth adjustment portion (8 kHz, –20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-ch and R-ch are maximized and the lisajous waveform, as illustrated, approaches 0 degrees.

Note:
If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, lock the arimuth adjusting screw with neji-lock.

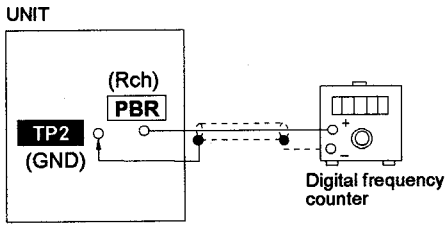


TAPE SPEED ADJUSTMENT (DECK 1, 2)

1. Test equipment connection is shown on thr right.
2. Set the unit to "**TAPE**" position.
3. Playback the middle part of the test tape (QZZCWAT).
4. Adjust **VR201** (DECK 1) and **VR202** (DECK 2) so that the output is within the standard value.
5. Set the unit to "**HIGH**" position of editing speed button.
6. Adjust **VR203** (DECK 2) so that the output is within the standard value.

Note:

1. The normal speed adjustment must be done be fore the High speed adjustment.
2. When adjusting the high speed, short circuit between **TP1** and **TP2**.

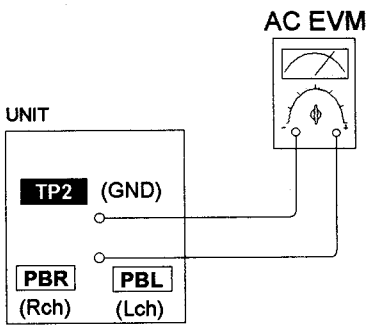


DECK 1 Standard value : 2995~3025 Hz (Normal)
DECK 2 Standard value : 2995~3025 Hz (Normal)

Standard value : 4890~5310 Hz (High)

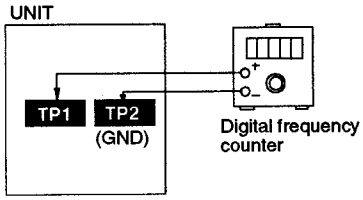
PLAYBACK GAIN ADJUSTMENT (DECK 1, 2)

1. Test equipment connection is shown on thr right.
2. Playback test tape (QZZCFM: 315Hz, –10dB).
3. Adjust **VR101, VR102** (DECK 1) and **VR103, VR104** (DECK 2) to read **388 ± 40 mV** on the AC Electronic Voltmeter. (AC EVM)



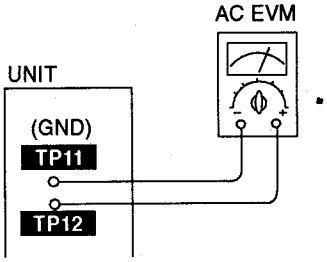
BIAS OSC FREQUENCY ADJUSTMENT (DECK 2)

1. Test equipment connection is shown on thr right.
2. Set the unit to "**TAPE**" position.
3. Place cassette deck into **REC** mode.
4. Adjust **L201** for **98 ± 8 kHz** on frequency counter reading.



ERASE VOLTAGE CHECK (DECK 2)

1. Test equipment connection is shown on thr right.
2. Insert the normal tape (QZZCRA).
3. Place cassette deck into **REC** mode.
4. Make sure that the output is within the standard value.
5. Insert the CrO2 tape (QZZCRX).
6. Repeat steps 3, 4.



DECK 2 Standard value (Normal): more than 60 mV
DECK 2 Standard value (CrO2): more than 100 mV

• **Cassette Deck Adjustment points**

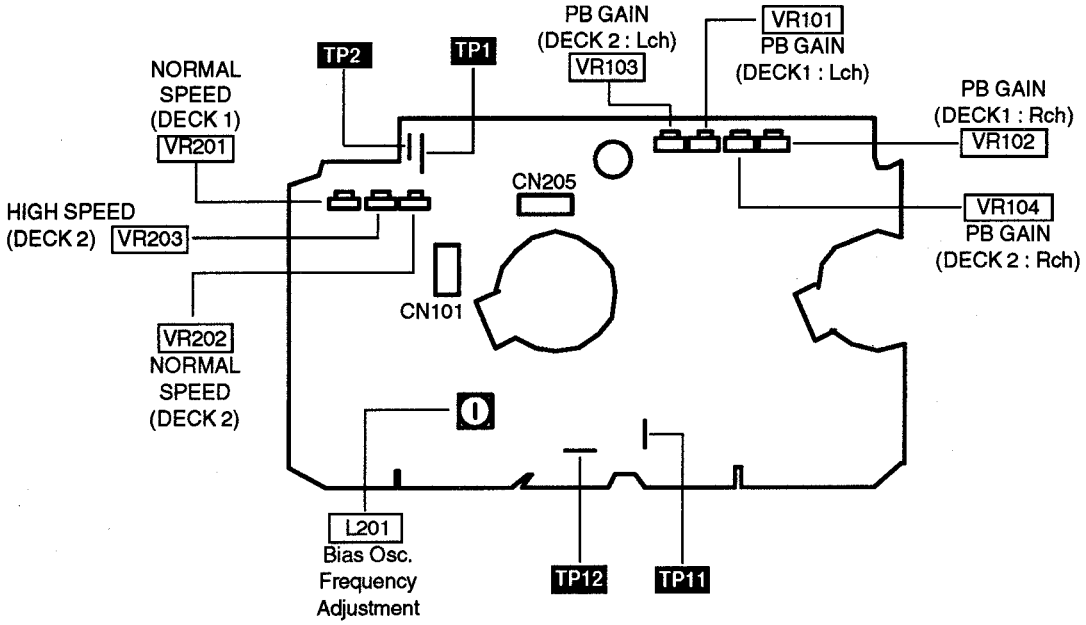


Fig.3

■ Terminal Function of ICs

• IC701 (AN8802SCE1V) : Servo amp

Pin No.	Mark	I/O Division	Function
1	PDAD	I	Photo detection Bch input without delay
2	PDA	I	Photo detection Ach input without delay
3	LPD	I	Laser PD signal
4	LD	O	Laser power auto control output
5	AMPI	I	RF amp terminal
6	V_{cc}	I	Power supply terminal
7	AMPO	O	RF amp signal, not used.
8	CAGC	I	AGC detection capacitor input
9	ARF	O	RF signal
10	CENV	I	RF detect capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	GND	—	GND terminal
13	LDON	I	LD APC ON/OFF ("H" : ON, "L" : OFF)
14	TES	I	Tracking error shunt input ("H" : shunt)
15	PLAY	I	Play signal ("H" : ON, "L" : OFF)
16	WVEL	I	Double velocity ("H" L double,"L":single)

Pin No.	Mark	I/O Division	Function
17	BDO	O	Dropout detection control
18	/RFDET	O	RF det. signal ("L" : det.)
19	CROSS	O	Tracking error zero cross output
20	OFTR	O	Off track detection ("H" : det.)
21	VDET	O	Oscillation det. signal ("H" : det.)
22	ENV	O	Envelope output terminal
23	TEBPF	I	Oscillation detect input terminal
24	TE	O	Tracking error signal
25	FE	O	Focusing error signal
26	*PTO	O	Potention amp output, not used.
27	PTI	I	Potention amp input, not used.
28	TBAL	I	Tracking balance adj. input
29	FBAL	I	Focus balance adj. input
30	VREF	O	Reference voltag output
31	PDB	I	Photo detection Ach input with delay
32	PDBD	I	Photo detection Bch input with delay

• IC601 (M38184M8145) : System microprocessor

Pin No.	Mark	I/O Division	Function
1	KEY2	I	KEY 2 INPUT
2	KEY1	I	KEY 1 INPUT
3	SENSE	I	CD SERVO PROCESSOR SENSE INPUT
4	STATUS	I	CD SIGNAL PROCESSOR STATUS INPUT
5	FLOCK	I	CD FOCUS LOCK INPUT
6	TLOCK	I	CD TRACKING LOCK INPUT
7	R1	—	GND
8	SQCK	I/O	CD SUBCODE CLOCK OUTPUT
9	NC	—	NO CONNECTION
10	SUBQ	I	CD SUBCODE DATA INPUT
11	MCLK	I/O	CD SIGNAL PROCESSOR COMMAND CLOCK OUTPUT
12	MDATA	I/O	CD SIGNAL PROCESSOR COMMAND DATA OUTPUT
13	MLD	I/O	CD SIGNAL PROCESSOR STROVE OUTPUT
14	CDRST	I/O	CD RESET OUTPUT
15	RESTSW	I	DETECT SW INPUT FOR THE MOST INSIDE
16	CDGM	—	NOT USED
17	CDGR	—	NOT USED
18	CDG	—	GND
19	DMUTE	O	CD DIGIT MUTE OUPUT
20	MKCK	I/O	MECH DECK CLOCK OUPUT
21	MKDA	I/O	MECH DECK DATA OUPUT
22	AFCK	I/O	AF CONTROLLER CLOCK OUTPUT
23	AFDA	I/O	AF CONTROLLER DATA OUTPUT
24	JOGB	I	JOG B INPUT
25	JOGA	I	JOG A INPUT
26	PWM	O	VR CONTROL PWM OUTPUT
27	SLA	O	SOUND CONTROLLER LATCH
28	SDA	O	SOUND CONTROLLER DATA
29	SCK	O	SOUND CONTROLLER CLOCK
30	BLKCK	I	CD SUBCODE CLOCK INPUT
31	RMT	I	REMOCON INPUT
32	PCNT	O	POWER CONTROL OUTPUT
33	DCDET	I	DC DETECT INPUT

Pin No.	Mark	I/O Division	Function
34	HALT	I	AC FAILURE DETECT INPUT
35	RESET	RST	RESET INPUT
36	X_{CIN}	—	32.768kHz SUB CLOCK
37	X_{COUT}	—	32.768kHz SUB CLOCK
38	X_{IN}	—	6.0MHz MAIN CLOCK
39	X_{OUT}	—	6.0MHz MAIN CLOCK
40	VSS	—	GROUND (0V)
41	MBP1	O	MPU BEAT PROOF OUTPUT 1
42	MBP2	O	MPU BEAT PROOF OUTPUT 2
43	MIC	I/O	MIC CONNECT INPUT
44	ST	I	STEREO DET INPUT
45	SD	I	SIGNAL DET INPUT
46	DO	I	PLL IF DATA INPUT
47	PLLCE	I/O	PLL CHIP ENABLE OUTPUT
48	PLLDI	I/O	PLL DATA OUTPUT
49	PLLCK	I/O	PLL CLOCK OUTPUT
50	OPNSW	I/O	DRAWER OPEN SW INPUT
51	CLSSW	I/O	DRAWER CLOSE SW INPUT
52	NC	—	NO CONNECTION
53	NC	—	NO CONNECTION
54	SULED	O	SURROUND LED CONTROL
55	NC	—	NO CONNECTION
56	NC	—	NO CONNECTION
57	DIG12	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
58	DIG11	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
59	DIG10	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
60	DIG9	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
61	DIG8	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
62	DIG7	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
63	DIG6	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
64	DIG5	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
65	DIG4	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
66	DIG3	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)

Pin No.	Mark	I/O Division	Function
67	DIG2	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
68	DIG1	O	DIGIT DRIVE OUTPUT (GRID DRIVE OUTPUT)
69	SEG1	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
70	SEG2	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
71	SEG3	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
72	SEG4	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
73	SEG5	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
74	SEG6	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
75	SEG7	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
76	SEG8	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
77	SEG9	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
78	SEG10	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
79	SEG11	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
80	SEG12	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
81	SEG13	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
82	SEG14	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
83	SEG15	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)

Pin No.	Mark	I/O Division	Function
84	SEG16	O	SEGMENT DRIVE OUTPUT (ANODE DRIVE OUTPUT)
85	NC	—	NO CONNECTION
86	NC	—	NO CONNECTION
87	NC	—	NO CONNECTION
88	NC	—	NO CONNECTION
89	VEE	—	-30V
90	R3	—	GND
91	VCC	—	+5V
92	R2	I	REGION SELECT 2
93	AVSS	—	0V
94	VREF	—	REFERENCE FOR A-D
95	DECK3	I	DECK 3 (TPS, R.INH, F.INH)
96	DECK2	I	DECK 2 (HOLE, MODE, HALF)
97	DECK1	I	DECK1 (HOLE, MODE, HALF)
98	CRT	I/O	CR TIMER
99	KEY4	I	KEY 4 INPUT
100	KEY3	I	KEY 3 INPUT

• IC703 (AN8389SE1) : Focus coil / tracking coil / traverse motor / spindle motor drive

Pin No.	Mark	I/O Division	Function
1	V_{cc}	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	GND terminal
6	NC	—	No connection
7	NRESET	I	Reset terminal
8	GND	—	GND terminal
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	I/O Division	Function
13	$PV_{cc}1$	I	Driver power supply (1)
14	PGND1	—	Driver GND terminal (1)
15	D1 –	O	Motor driver (1) output terminal (–)
16	D1 +	O	Motor driver (1) output terminal (+)
17	D2 –	O	Motor driver (2) output terminal (–)
18	D2 +	O	Motor driver (2) output terminal (+)
19	D3 –	O	Motor driver (3) output terminal (–)
20	D3 +	O	Motor driver (3) output terminal (+)
21	D4 –	O	Motor driver (4) output terminal (–)
22	D4 +	O	Motor driver (4) output terminal (+)
23	PGND2	—	Driver GND terminal (2)
24	PVCC2	I	Driver power supply (2)

• IC702 (MN66271RA): Digital Servo processor/digital signal processor/digital filter/D/A converter

Pin No.	Mark	I/O Division	Function
1	BCLK	O	Serial bit clock terminal
2	LRCK	O	L/R discriminating signal
3	SRDATA	O	Serial data (Not used, open)
4	$DV_{DD}1$	I	Power supply (digital circuit) terminal
5	$DV_{SS}1$	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Command clock signal
8	MDATA	I	Command data signal
9	MLD	I	Command load signal ("L": LOAD)
10	SENSE	O	Sense signal (OFT, FESL, NACEND, NAJEND, POSAD, SFG)
11	/FLOCK	O	Optical servo condition (focus) ("L": lead-in)
12	/TLOCK	O	Optical servo condition (tracking) ("L": lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	Sub-code Q register clock
15	SUBQ	O	Sub-code Q data
16	DMUTE	I	Muting input ("H": MUTE)
17	STAT	O	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQCK)
18	/RST	I	Reset signal ("L" : reset)
19	SMCK	O	System clock (f=4.2336 MHz)
20	PMCK	O	Frequency division clock signal (Not used, open) ($f=\frac{1}{1.92}$ x ck = 88.2 kHz)
21	TRV	O	Traverse servo control
22	TVD	O	Traverse drive signal
23	PC	O	Turntable motor drive signal ("L" : ON)
24	ECM	O	Turntable motor drive signal (Forced mode)
25	ECS	O	Turntable motor drive signal (Servo error signal)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive signal output
28	FOD	O	Focus drive signal output
29	VREF	I	D/A drive output (TVD,ECS,TRD,FOD, BAL,TBAL)normal voltage input terminal
30	FBAL	O	Focus balance adj. output
31	TBAL	O	Tracking balance adj. output
32	FE	I	Focus error signal (analog input)
33	TE	I	Tracking error signal (analog input)

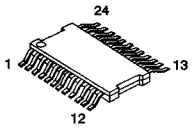
Pin No.	Mark	I/O Division	Function
34	RFENV	I	RF envelope signal
35	VDET	I	Oscillation det. signal ("H" : det.)
36	OFT	I	Off track signal ("H" : Off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal ("L" : detection)
39	BDO	I	Dropout detection signal ("H" : dropout)
40	LDON	O	Laser power control ("H" : ON)
41	TES	O	Tracking error shunt output ("H" : dropout)
42	PLAY	O	Play signal ("H" : play)
43	WVEL	O	Double velocity status signal ("H" : double)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias terminal (Not used, open)
47	DSLF	I/O	DSL loop filter terminal
48	PLLF	I/O	PLL loop filter terminal
49	VCOF	I/O	VCO loop filter terminal (Not used, open)
50	$AV_{DD}2$	I	Power supply (analog circuit) terminal (2)
51	$AV_{SS}2$	—	GND (analog circuit) terminal
52	EFM	O	EFM signal (Not used, open)
53	PCK	O	PLL extract clock (f = 4.3218 MHz)
54	PDO	O	Phase comparated signal of EFM and PCK (Not used, open)
55	SUBC	O	Sub-code serial output data (Not used, open)
56	SBCK	I	Sub-code serial output clock (Not used, open)
57	V_{SS}	—	GND terminal
58	X1	I	Crystal oscillator terminal (f = 16.9344 MHz)
59	X2	O	Crystal oscillator terminal (f = 16.9344 MHz)
60	VDD	I	Power supply terminal
61	BYTCK	O	Byte clock signal
62	/CLDCK	O	Sub-code frame clock signal (f CLDCK = 7.35 kHz : Normal) (Not used, open)
63	FCLK	O	Crystal rfame clock (Not used, open)
64	IPFLAG	O	Interpolation flag terminal
65	FLAG	O	Flag terminal
66	CLVS	O	Turntable servo phase synchro signal ("H" : CLV, "L" : Rough servo)

Pin No.	Mark	I/O Division	Function
67	CRC	O	Sub-code CRC check terminal ("H" : OK, "L" : NG)
68	DEMPH	O	De-emphasis ON signal ("H" : ON)
69	RESY	O	Re-synchronizing signal of frame sync. (Not used, open)
70	/RST2	I	Reset terminal after MASH" circuit
71	/TEST	I	Test terminal (Normal : "H")
72	$AV_{DD}1$	I	Power supply (analog circuit) terminal (1)
73	OUTL	O	Power supply (analog circuit) terminal (1)

Pin No.	Mark	I/O Division	Function
74	$AV_{SS}1$	—	GND (analog circuit) terminal (1)
75	OUTR	O	Rch audio signal
76	RSEL	I	Frequency control terminal of crystal oscillator
77	CSEL	I	Polarity direction control terminal of RF signal
78	PSEL	I	Test terminal (Normal : "L")
79	MSEL	I	"SUBQ" terminal mode select ("H" : Q code buffer)
80	SSEL	I	"SMCK" terminal frequency select ("L" : SMCK = 4.2336 MHz)

■ Terminal Guide of ICs, Transistors and Diodes

AN8389SE1



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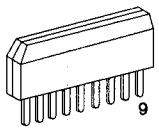

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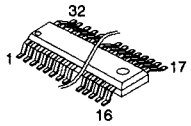

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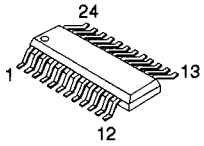

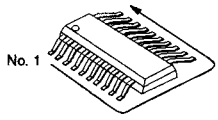

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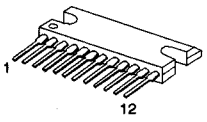
CXA1102M-T4 (16P)
M51167BFP-E1(36P)
BU4066BCF-E2(14P)
BU2090F-E2(16P)
BU4052BCF-E2(16P)

BA3936



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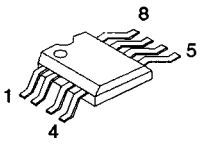

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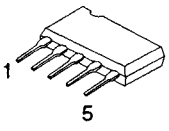

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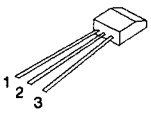

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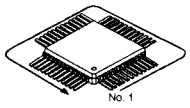

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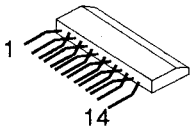

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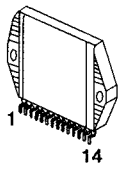

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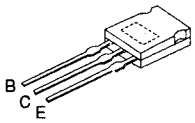

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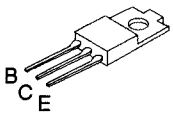

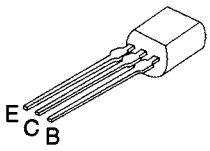

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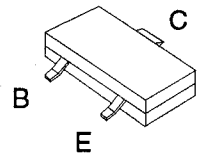
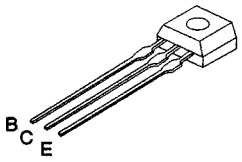
2SD965RTA
2SD1302STA

2SB709S





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2SC2785FTA
2SC2786MTA
2SC2787FL1TA
2SC2787LTA
2SD1020HTA

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BA1L4ZTA
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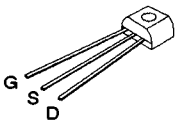
2SK544F-AC



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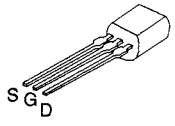

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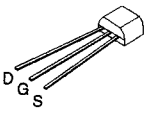

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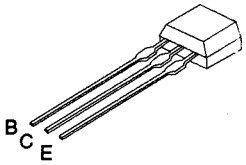
RVTDA143XST

RVTDC124EST
RVTDC143TST
RVTDTC144EST



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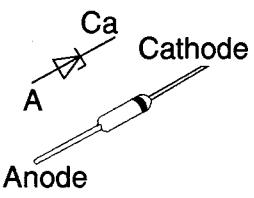
RVDMTZ6R8ATA
RVDMTZ7R5BTA
RVDMTZ10BTA

RVDMTZ15CTA
MA700TA
MTZJ6R2BTA
MTZJ6R2ATA
MTZJ8R2CTA



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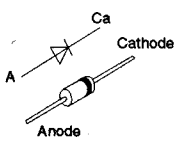

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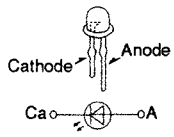

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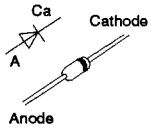

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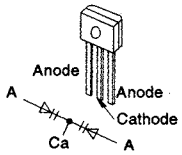
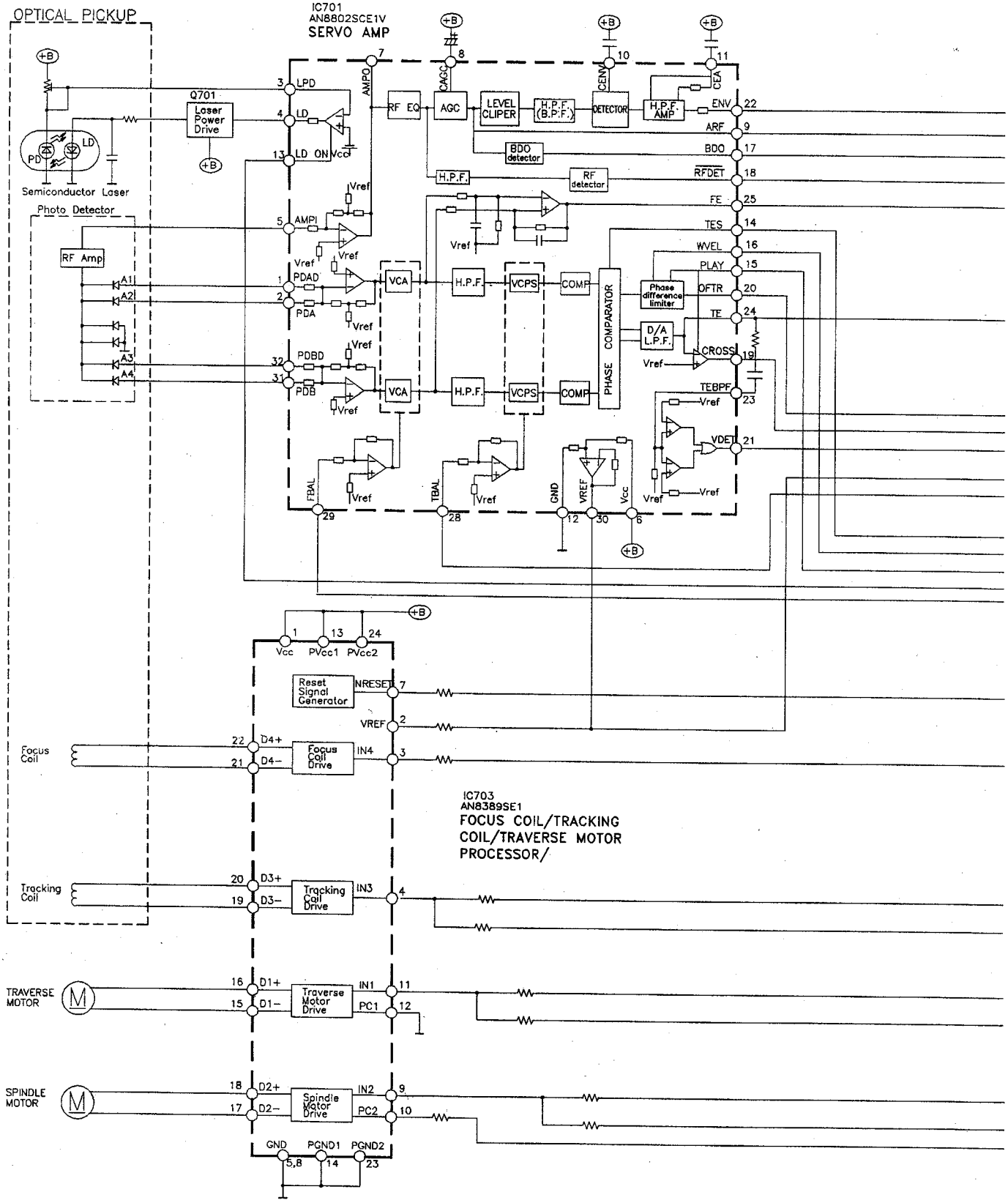
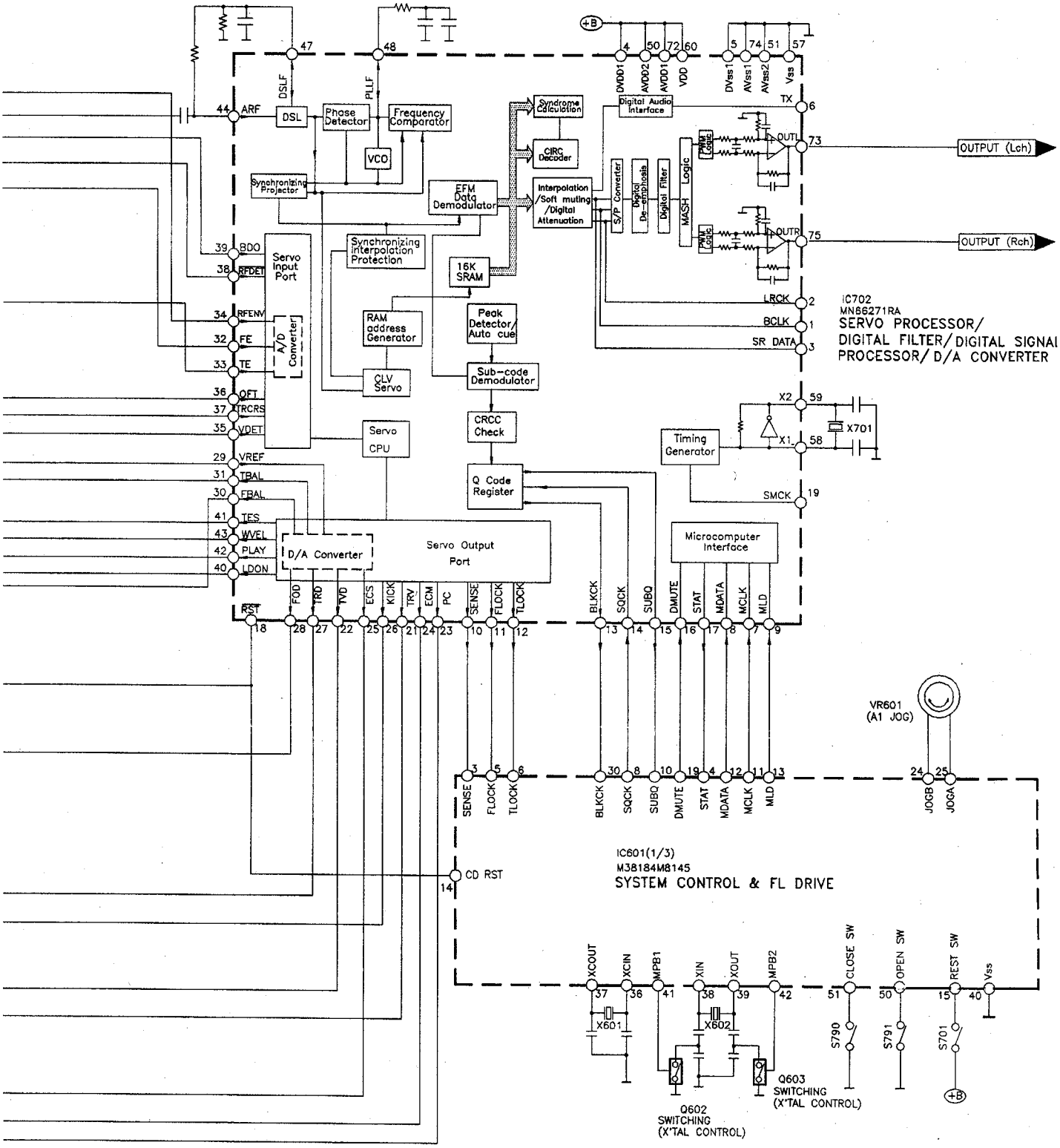
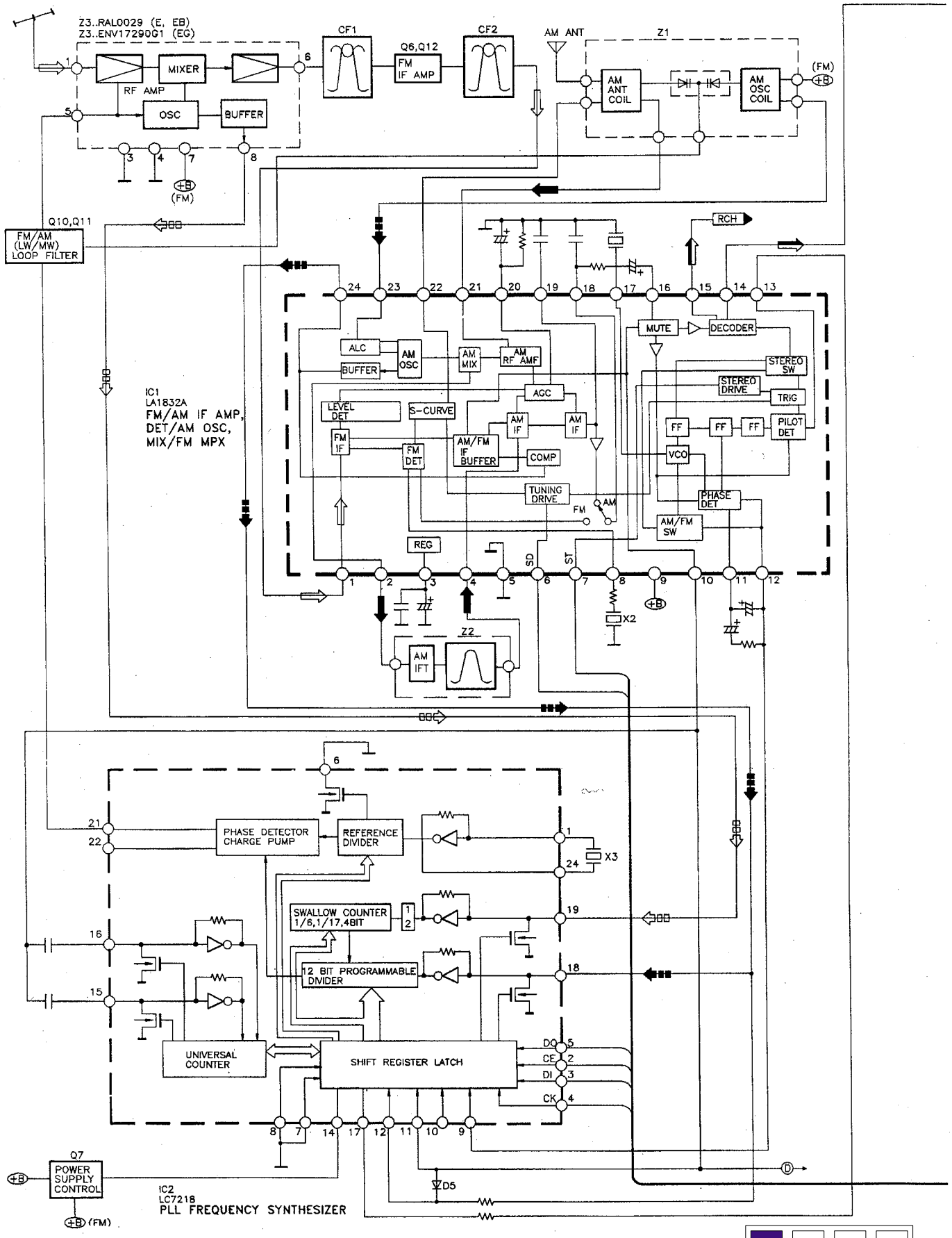
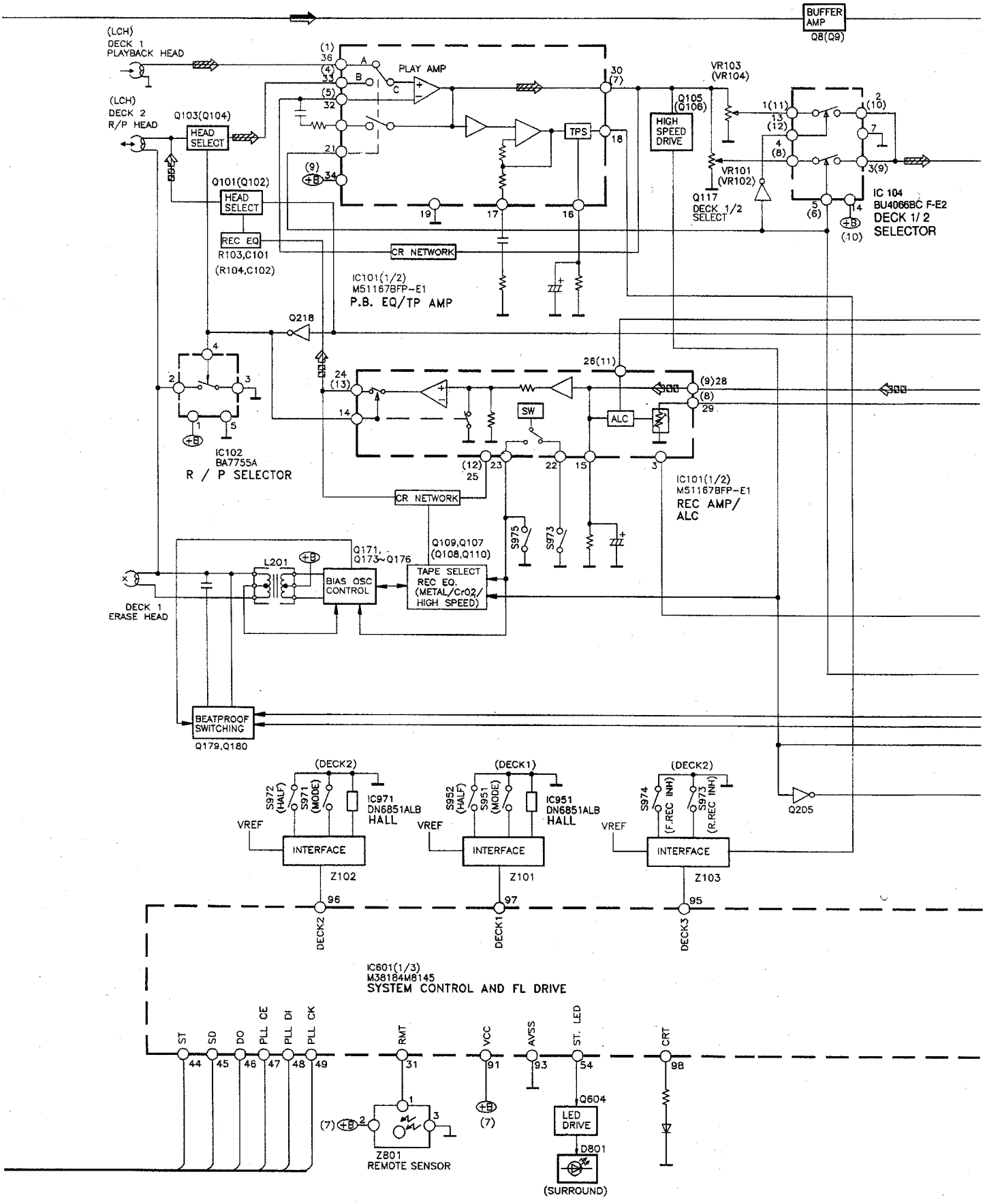


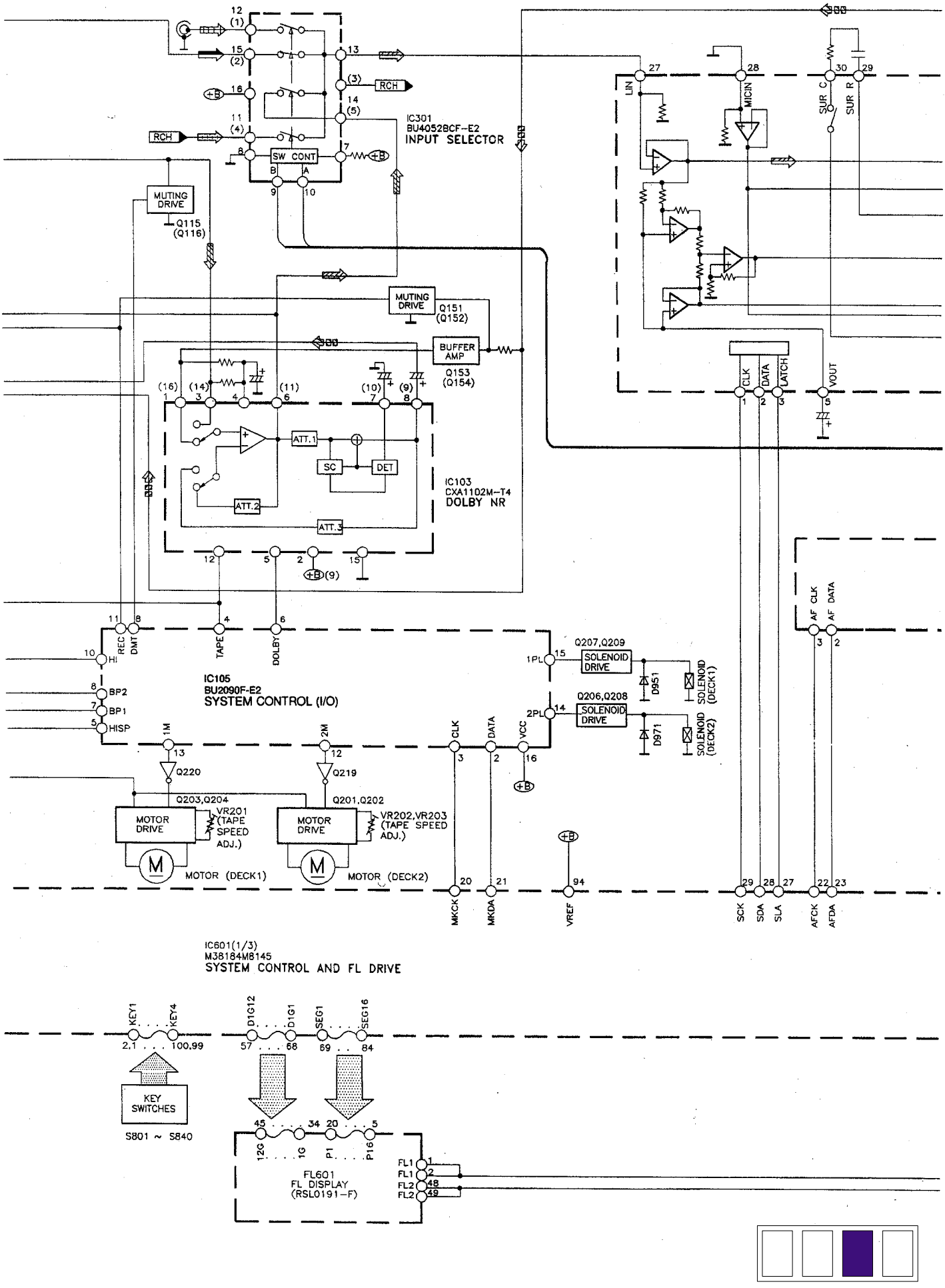
■ Block Diagram

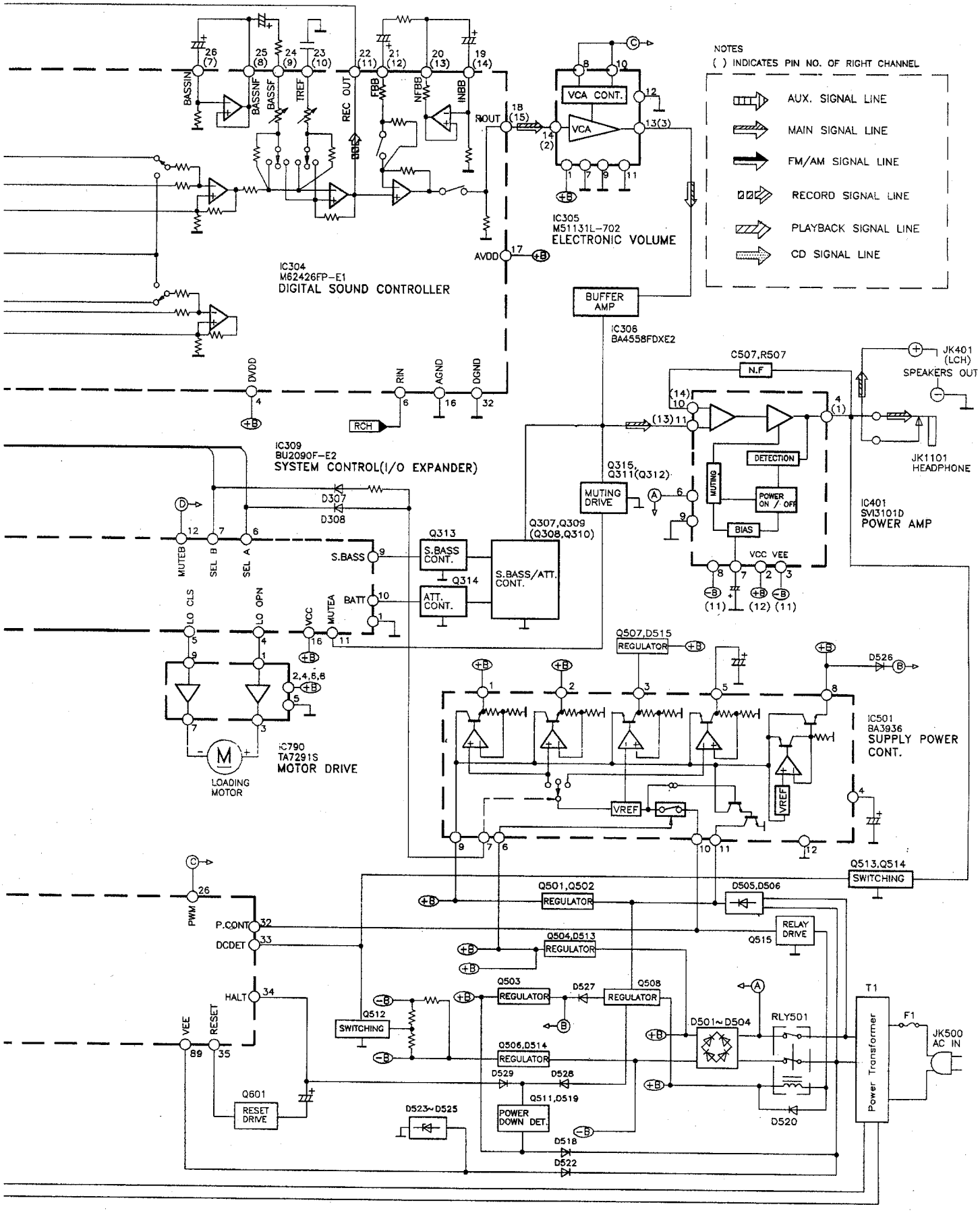



IC702
MN86271RA
SERVO PROCESSOR/
DIGITAL FILTER/DIGITAL SIGNAL
PROCESSOR/D/A CONVERTER
OUTPUT (Lch)
OUTPUT (Rch)
IC601(1/3)
M38184M8145
SYSTEM CONTROL & FL DRIVE
VR601
(A1 JOG)
X701
X601
X602
Q602
SWITCHING
(X'TAL CONTROL)
Q603
SWITCHING
(X'TAL CONTROL)
S790
S791
S701
CD RST
Servo Input Port
Servo Output Port
D/A Converter
A/D Converter
Servo CPU
Timing Generator
Microcomputer Interface
Digital Audio Interface
Phase Detector
Frequency Comparator
VCO
DSL
EFM Data Demodulator
Interpolation /Soft muting /Digital Attenuation
Syndrome Calculation
CIRC Decoder
Synchronizing Projector
Synchronizing interpolation Protection
16K SRAM
RAM address Generator
Peak Detector/ Auto cue
Sub-code Demodulator
CRCC Check
Q Code Register
CLV Servo
S/P Converter
Digital De-emphasis
Digital Filter
MASH Logic
PWM Circuit
CLOSE SW
OPEN SW
REST SW

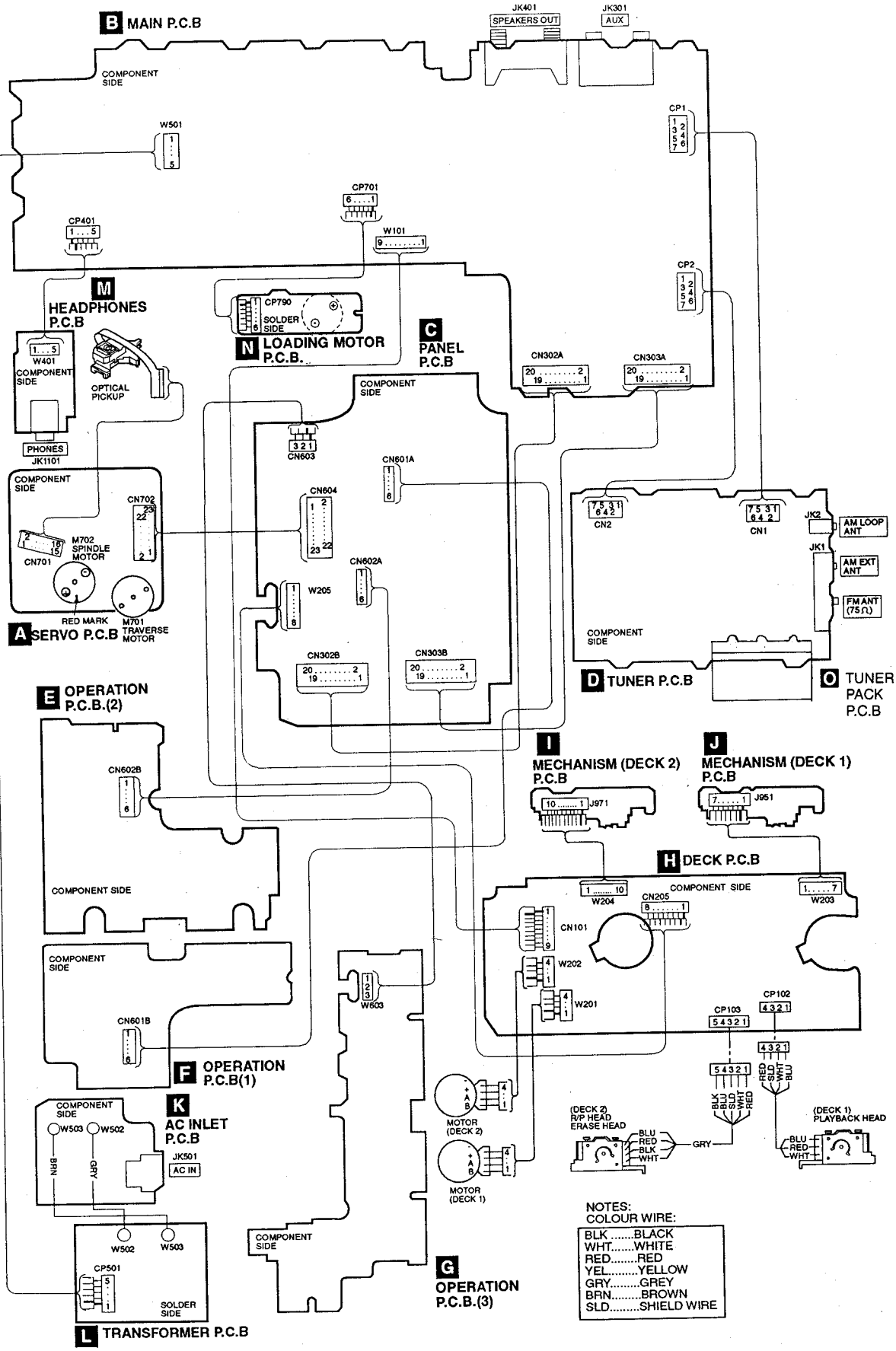

Z3..RAL0029 (E, EB)
Z3..ENV17290G1 (EG)
CF1
Q6,Q12
FM IF AMP
CF2
AM ANT
Z1
AM ANT COIL
AM OSC COIL
(FM)
+B
MIXER
RF AMP
OSC
BUFFER
Q10,Q11
FM/AM (LW/MW) LOOP FILTER
RCH
MUTE
DECODER
ALC
AM OSC
AM MIX
AM RF AMF
BUFFER
AGC
STEREO SW
STEREO DRIVE
TRIG
LEVEL DET
S-CURVE
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
FF
PILOT DET
VCO
TUNING DRIVE
PHASE DET
AM/FM SW
REG
SD
ST
X2
Z2
AM IFT
IC1
LA1832A
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
X3
SWALLOW COUNTER 1/6,1/17,4BIT
12 BIT PROGRAMMABLE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
DO
CE
DI
CK
Q7
POWER SUPPLY CONTROL
D5
IC2
LC7218
PLL FREQUENCY SYNTHESIZER


BUFFER AMP
Q8(Q9)
(LCH) DECK 1 PLAYBACK HEAD
(LCH) DECK 2 R/P HEAD
Q103(Q104)
HEAD SELECT
Q101(Q102)
HEAD SELECT
REC EQ
R103,C101
(R104,C102)
PLAY AMP
TPS
HIGH SPEED DRIVE
Q105 (Q106)
VR103 (VR104)
VR101 (VR102)
Q117 DECK 1/2 SELECT
IC 104 BU4066BC F-E2 DECK 1/2 SELECTOR
CR NETWORK
IC101(1/2) M51167BFP-E1 P.B. EQ/TP AMP
Q218
IC102 BA7755A R / P SELECTOR
SW
ALC
IC101(1/2) M51167BFP-E1 REC AMP/ ALC
L201
BIAS OSC CONTROL
Q171, Q173~Q176
Q109,Q107 (Q108,Q110)
TAPE SELECT REC EQ. (METAL/CrO2/ HIGH SPEED)
S975
S973
DECK 1 ERASE HEAD
BEATPROOF SWITCHING
Q179,Q180
(DECK2)
S972 (HALF)
S971 (MODE)
IC971 DN6851ALB HALL
(DECK1)
S952 (HALF)
S951 (MODE)
IC951 DN6851ALB HALL
(DECK2)
S974 (F.REC INH)
S973 (R.REC INH)
Q205
VREF
INTERFACE
Z102
Z101
Z103
DECK2
DECK1
DECK3
IC601(1/3) M38184M8145 SYSTEM CONTROL AND FL DRIVE
ST
SD
DO
PLL CE
PLL DI
PLL CK
RMT
VCC
AVSS
ST. LED
CRT
Z801 REMOTE SENSOR
Q604
LED DRIVE
D801
(SURROUND)

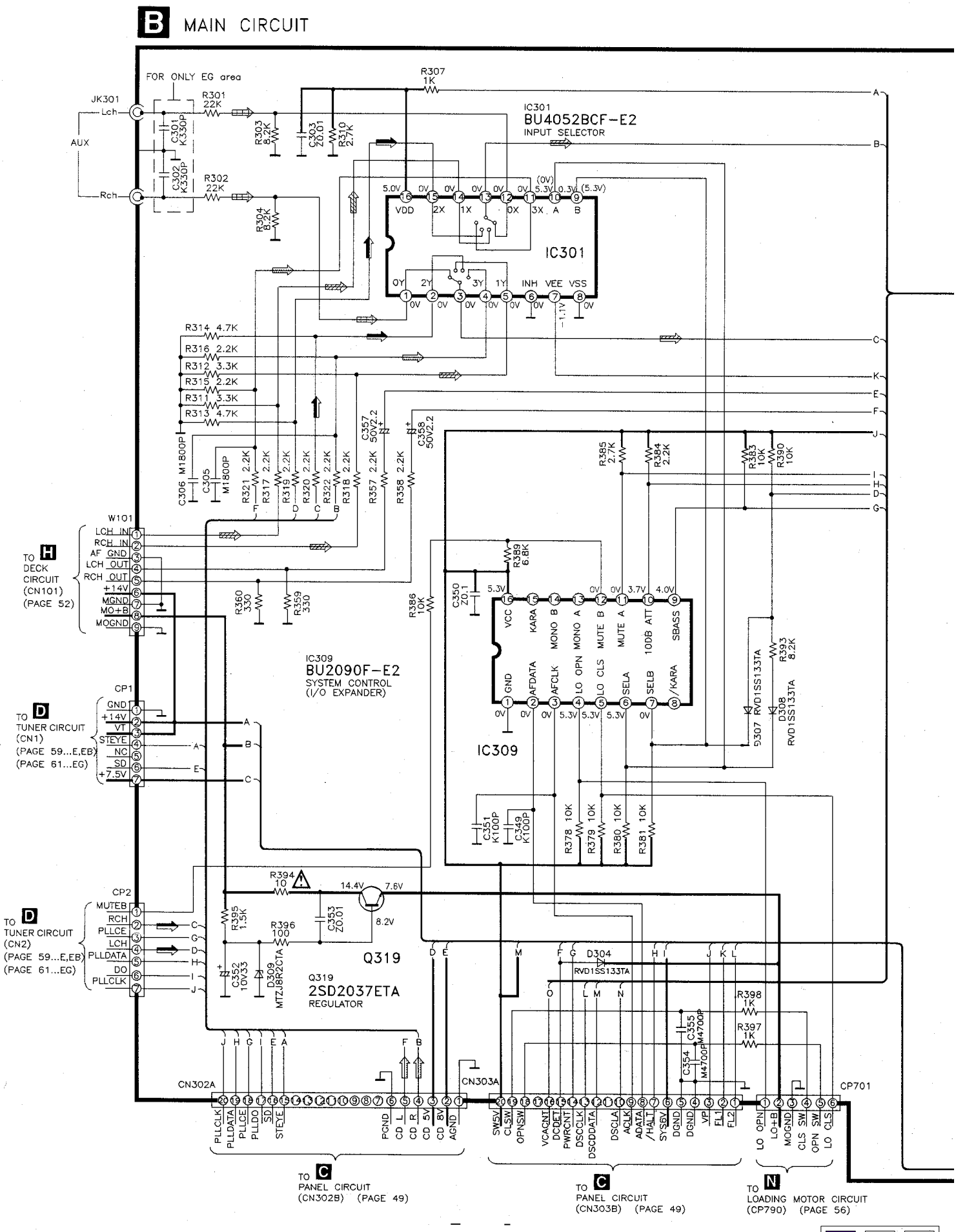

IC301
BU4052BCF-E2
INPUT SELECTOR
SW CONT
RCH
MUTING DRIVE
Q115
(Q116)
MUTING DRIVE
Q151
(Q152)
BUFFER AMP
Q153
(Q154)
ATT.1
ATT.2
ATT.3
SC
DET
IC103
CXA1102M-T4
DOLBY NR
LIN
MICIN
SUR C
SUR R
CLK
DATA
LATCH
VOUT
IC105
BU2090F-E2
SYSTEM CONTROL (I/O)
REC
DMT
TAPE
DOLBY
HI
BP2
BP1
HISP
1M
2M
Q220
Q219
Q203,Q204
Q201,Q202
MOTOR DRIVE
VR201 (TAPE SPEED ADJ.)
VR202,VR203 (TAPE SPEED ADJ.)
MOTOR (DECK1)
MOTOR (DECK2)
Q207,Q209
SOLENOID DRIVE
Q206,Q208
SOLENOID DRIVE
D951
D971
SOLENOID (DECK1)
SOLENOID (DECK2)
VCC
MKCK
MKDA
VREF
SCK
SDA
SLA
AFCK
AFDA
AF CLK
AF DATA
IC601(1/3)
M38184M8145
SYSTEM CONTROL AND FL DRIVE
KEY1
KEY4
KEY SWITCHES
S801 ~ S840
D1G12
D1G1
SEG1
SEG16
FL601
FL DISPLAY
(RSL0191-F)
FL1
FL2

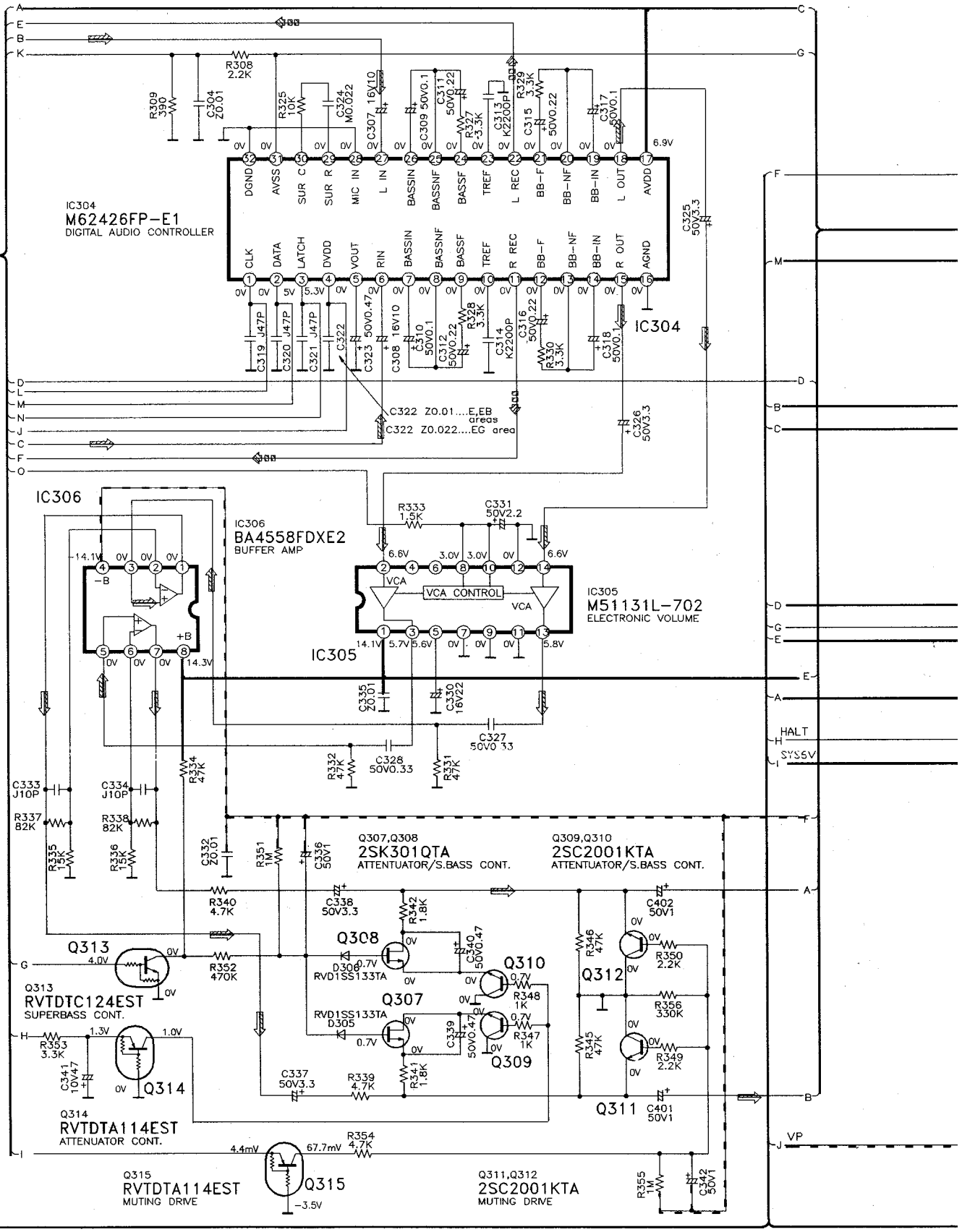

NOTES
( ) INDICATES PIN NO. OF RIGHT CHANNEL
AUX. SIGNAL LINE
MAIN SIGNAL LINE
FM/AM SIGNAL LINE
RECORD SIGNAL LINE
PLAYBACK SIGNAL LINE
CD SIGNAL LINE
IC304
M62426FP-E1
DIGITAL SOUND CONTROLLER
IC305
M51131L-702
ELECTRONIC VOLUME
VCA CONT.
VCA
BUFFER AMP
IC306
BA4558FDXE2
IC309
BU2090F-E2
SYSTEM CONTROL(I/O EXPANDER)
IC401
SVI3101D
POWER AMP
N.F
DETECTION
MUTING
POWER ON / OFF
BIAS
MUTING DRIVE
S.BASS CONT.
ATT. CONT.
S.BASS/ATT. CONT.
IC790
TA7291S
MOTOR DRIVE
LOADING MOTOR
IC501
BA3936
SUPPLY POWER CONT.
REGULATOR
SWITCHING
RELAY DRIVE
RESET DRIVE
POWER DOWN DET.
Power Transformer
JK401 (LCH)
SPEAKERS OUT
JK1101
HEADPHONE
JK500
AC IN

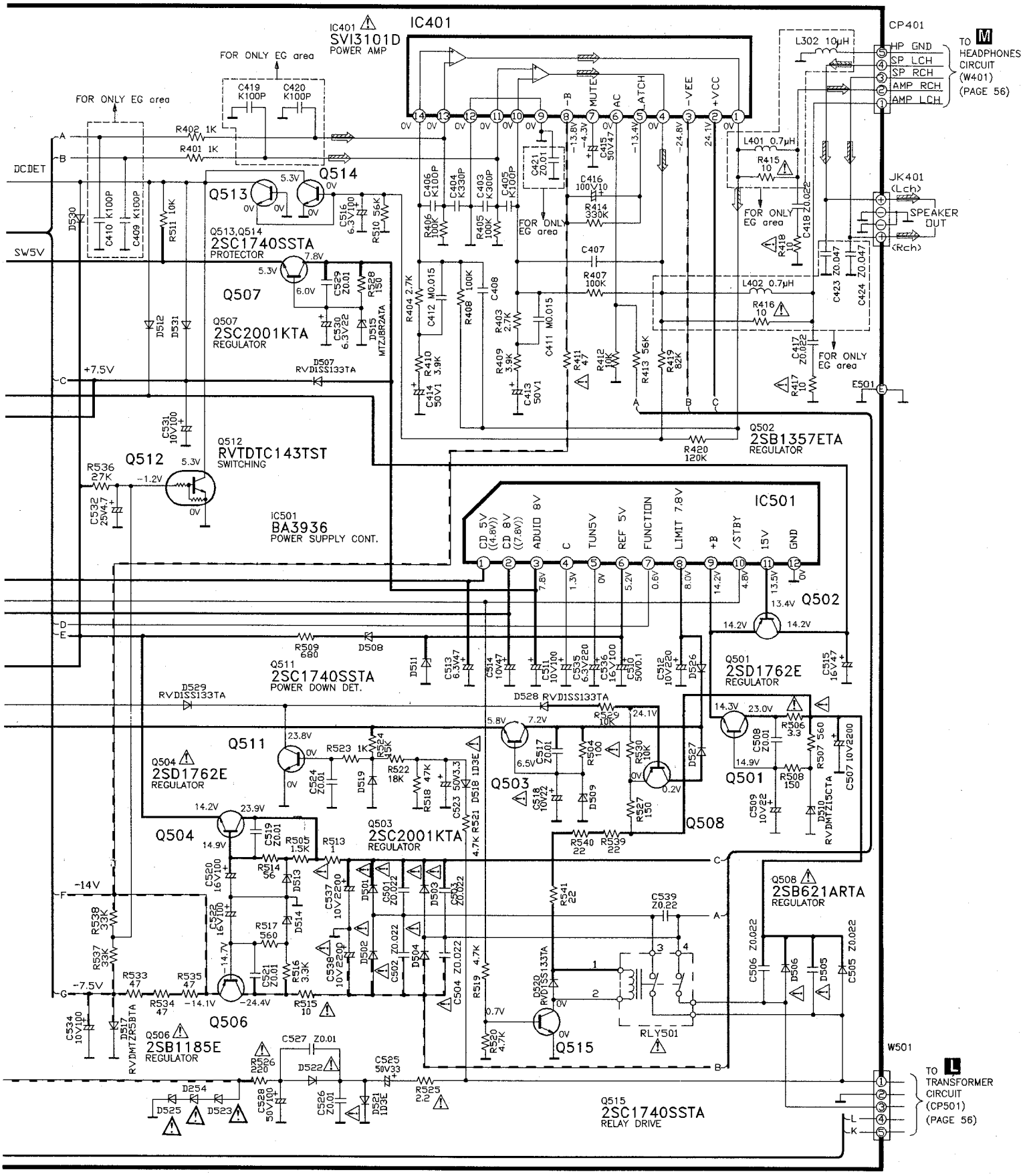
■ Wiring Connection Diagram



■ Schematic Diagram




IC304
M62426FP-E1
DIGITAL AUDIO CONTROLLER
DGND AVSS SUR C SUR R MIC IN L IN BASSIN BASSNF BASSF TREF L REC BB-F BB-NF BB-IN L OUT AVDD
CLK DATA LATCH DVDD VOUT RIN BASSIN BASSNF BASSF TREF R REC BB-F BB-NF BB-IN R OUT AGND
IC304
C322 Z0.01....E,EB areas
C322 Z0.022....EG area
IC306
BA4558FDXE2
BUFFER AMP
IC305
M51131L-702
ELECTRONIC VOLUME
VCA
VCA CONTROL
HALT
SYS5V
Q307,Q308
2SK3010TA
ATTENTUATOR/S.BASS CONT.
Q309,Q310
2SC2001KTA
ATTENTUATOR/S.BASS CONT.
Q313
RVTDTC124EST
SUPERBASS CONT.
Q314
RVTDTA114EST
ATTENUATOR CONT.
Q315
RVTDTA114EST
MUTING DRIVE
Q311,Q312
2SC2001KTA
MUTING DRIVE
VP


IC401
SVI3101D
POWER AMP
IC401
FOR ONLY EG area
CP401
HP GND
SP LCH
SP RCH
AMP RCH
AMP LCH
TO M HEADPHONES CIRCUIT (W401) (PAGE 56)
L302 10µH
L401 0.7µH
L402 0.7µH
JK401 (Lch)
SPEAKER OUT
(Rch)
DCDET
SW5V
Q513
Q514
Q513,Q514
2SC1740SSTA
PROTECTOR
Q507
2SC2001KTA
REGULATOR
+7.5V
Q512
RVTDTC143TST
SWITCHING
iC501
BA3936
POWER SUPPLY CONT.
IC501
Q502
2SB1357ETA
REGULATOR
Q501
2SD1762E
REGULATOR
Q511
2SC1740SSTA
POWER DOWN DET.
Q504
2SD1762E
REGULATOR
Q503
2SC2001KTA
REGULATOR
Q508
2SB621ARTA
REGULATOR
Q506
2SB1185E
REGULATOR
Q515
2SC1740SSTA
RELAY DRIVE
RLY501
E501
W501
TO L TRANSFORMER CIRCUIT (CP501) (PAGE 56)

(This schematic diagram may be modified at any time with the development of new technology)

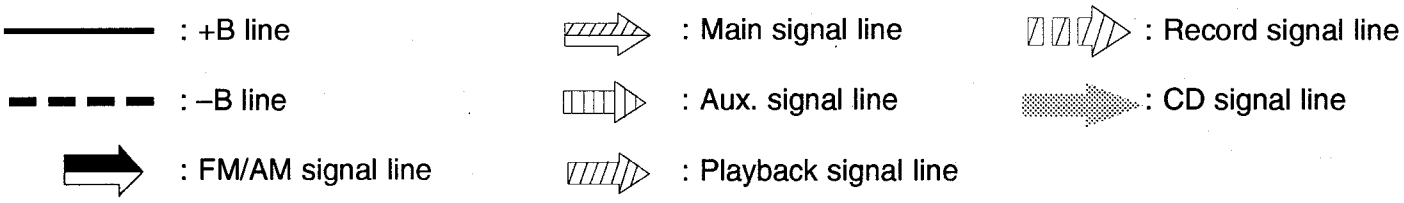
Note :

< for Main circuit > < for Panel circuit >

< for Operation circuit (1) > < for Operation circuit (2) > < for Operation circuit (3) >

•S801	:	Power switch	**•S822**	:	Reverse mode switch
•S802	:	Clock-timer switch	**•S823**	:	Record-pause switch
•S803	:	Record-timer switch	**•S824**	:	Forward play switch
•S804	:	Player-timer switch	**•S825**	:	Forward winding switch
•S805	:	Memory-set switch	**•S826**	:	Deck stop switch
•S806	:	FM/AM-mode switch	**•S827**	:	Reverse winding switch
•S807	:	Tuning-mode switch	**•S828**	:	Reverse play switch
•S808	:	Increase setting switch	**•S829**	:	High speed switch
•S809	:	Decrease setting switch	**•S830**	:	Normal speed switch
•S810	:	AM switch	**•S831**	:	Dolby-Nr switch
•S811	:	FM switch	**•S832**	:	CD open/close switch
•S812	:	V. bass switch	**•S833**	:	CD search backward switch
•S813	:	Heavy sound switch	**•S834**	:	CD search forward switch
•S814	:	Clear sound switch	**•S835**	:	CD play switch
•S815	:	Soft sound switch	**•S836**	:	CD stop switch
•S816	:	Hall sound switch	**•S837**	:	CD pause switch
•S817	:	Flat sound switch	**•S838**	:	Easy-edit switch
•S818	:	Surround sound switch	**•S839**	:	Random switch
•S820	:	Aux. switch	**•S840**	:	Mute switch
•S821	:	Select Deck 1 or 2 switch	**•VR601**	:	Volume control

•Signal line



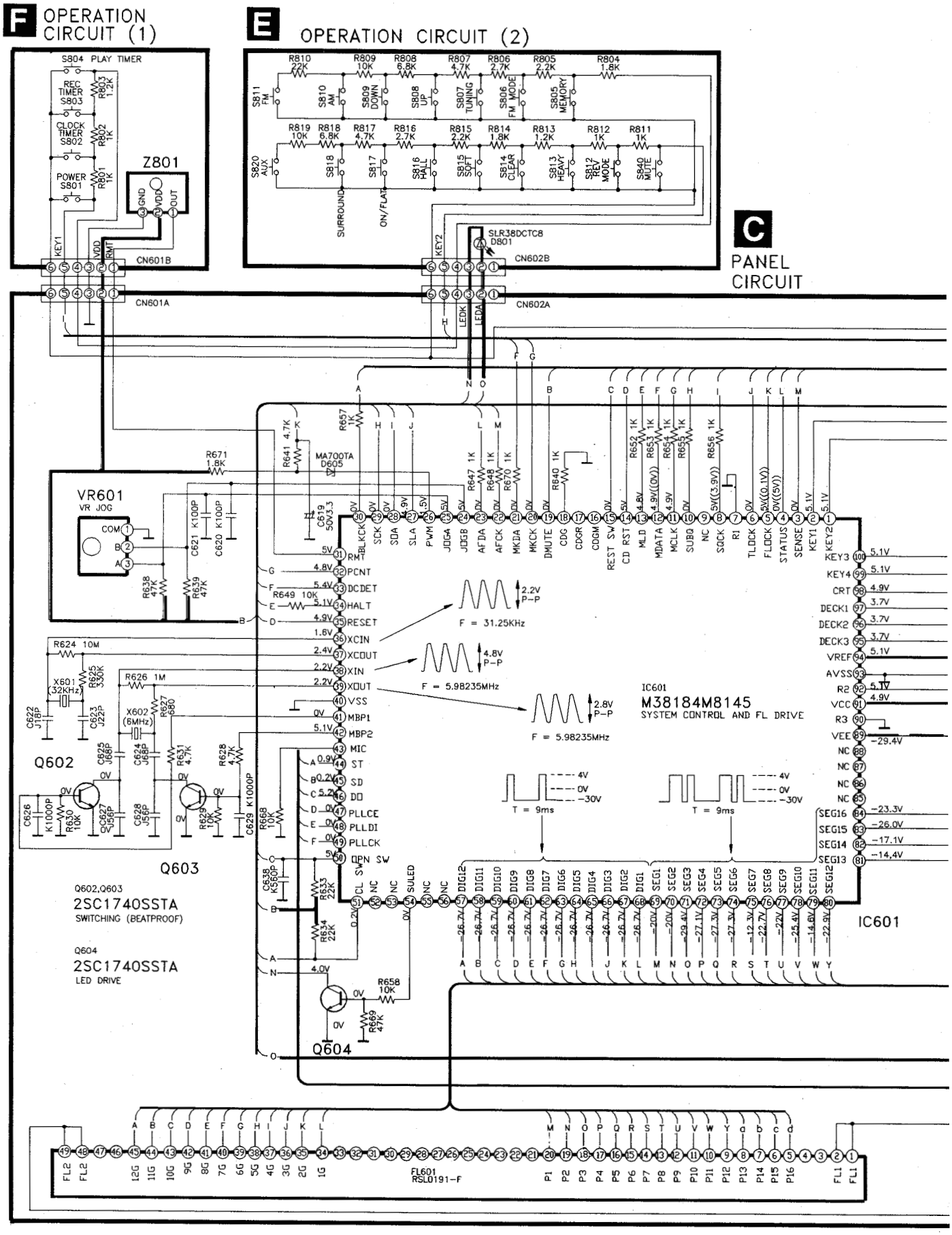
•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark : Playback (( )) : CD

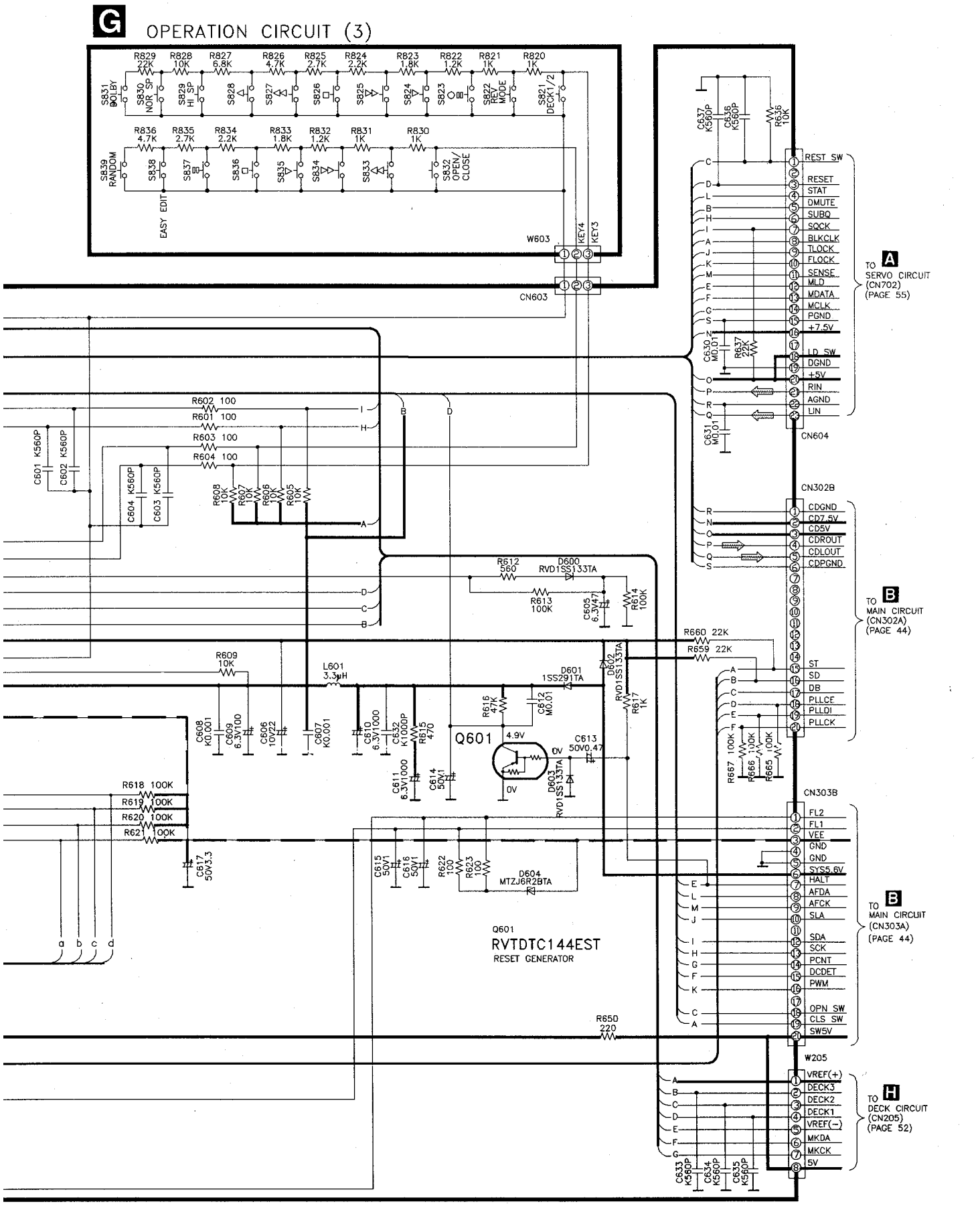
•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

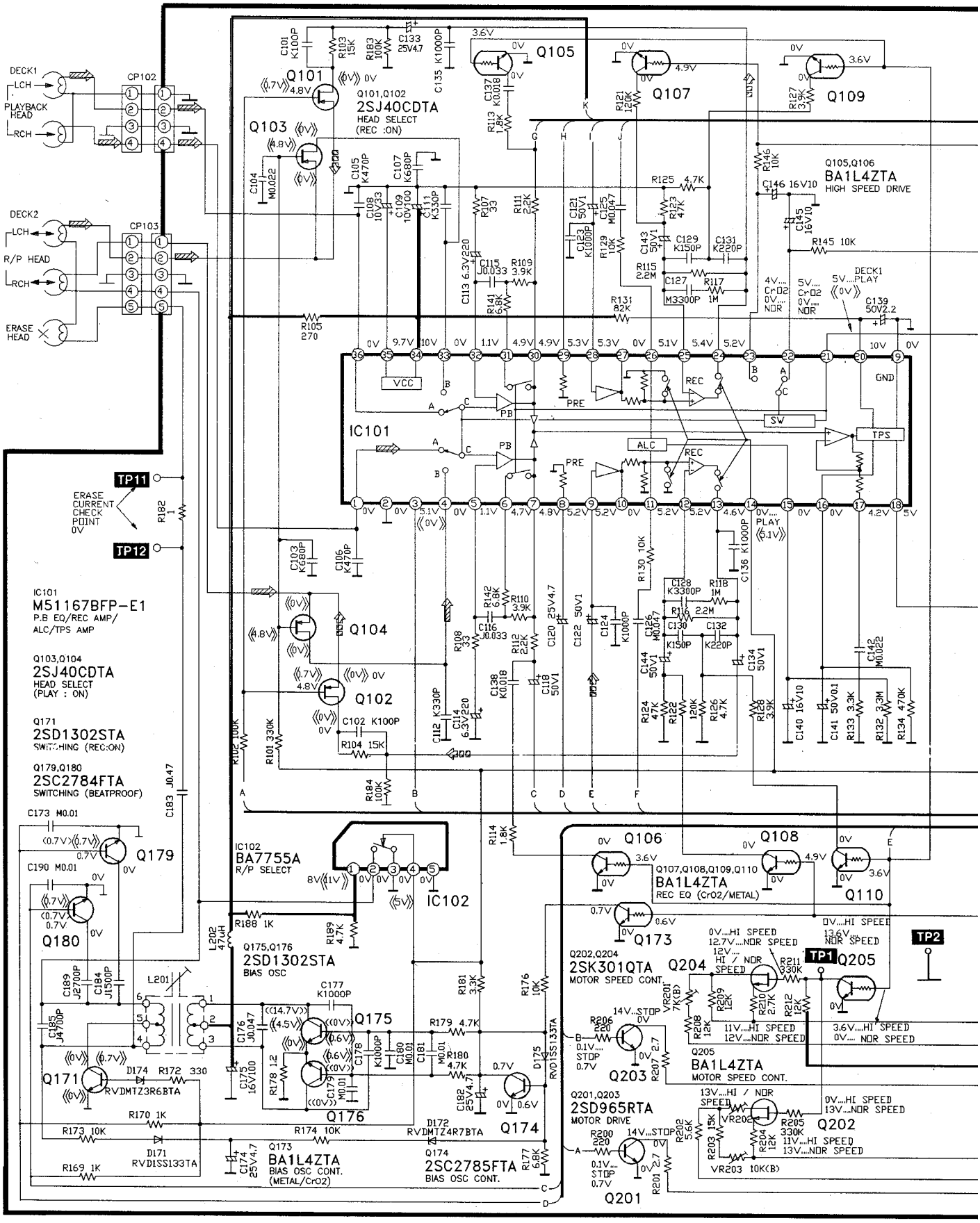
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.

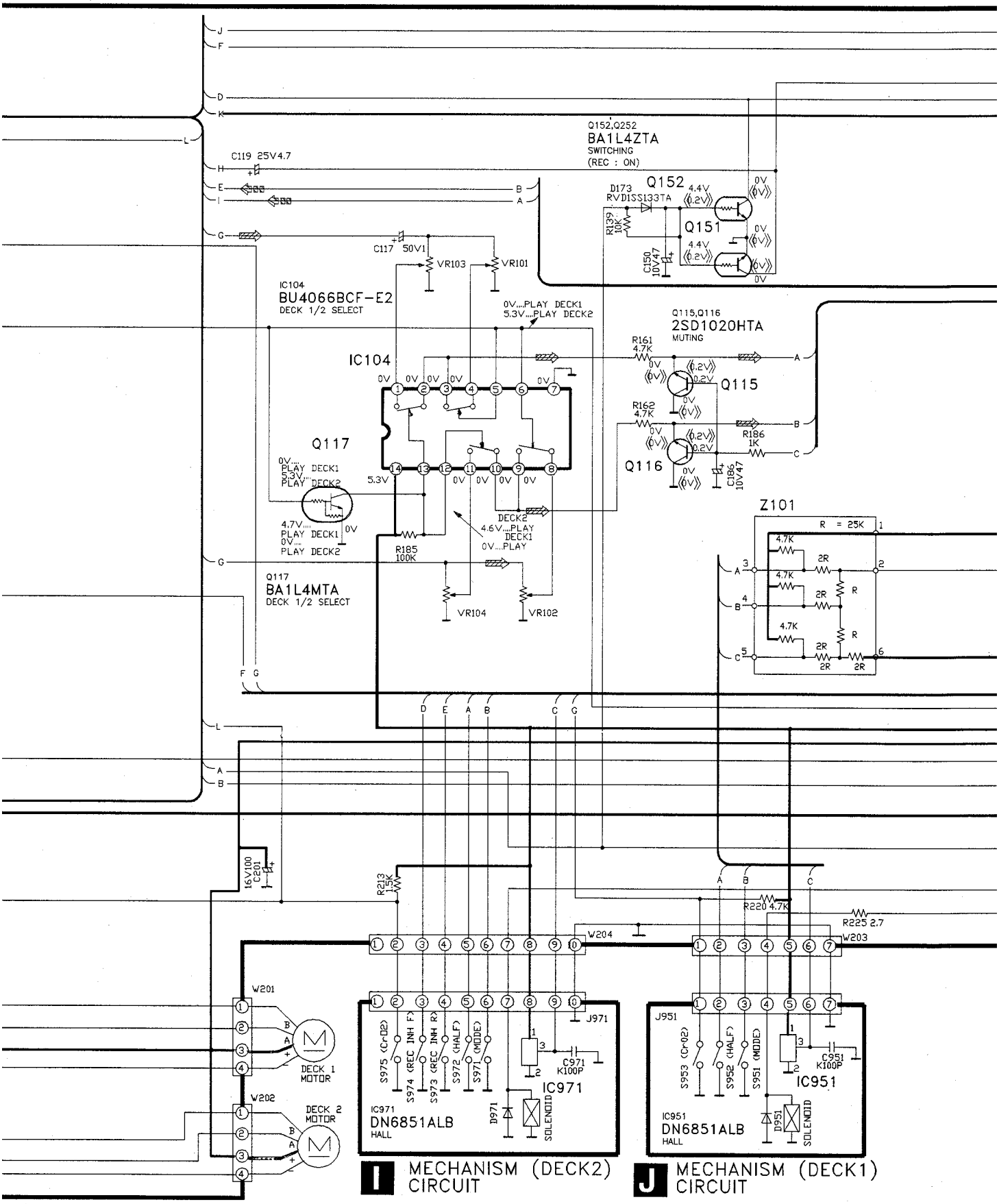

F OPERATION CIRCUIT (1)
E OPERATION CIRCUIT (2)
C PANEL CIRCUIT
S804 PLAY TIMER
REC TIMER S803
CLOCK TIMER S802
POWER S801
Z801
CN601B
CN601A
CN602B
CN602A
SLR38DCTC8 D801
VR601
VR JOG
MA700TA D605
IC601
M38184M8145
SYSTEM CONTROL AND FL DRIVE
F = 31.25KHz
F = 5.98235MHz
Q602
Q603
Q602,Q603
2SC1740SSTA
SWITCHING (BEATPROOF)
Q604
2SC1740SSTA
LED DRIVE
FL601
RSL0191-F

G OPERATION CIRCUIT (3)



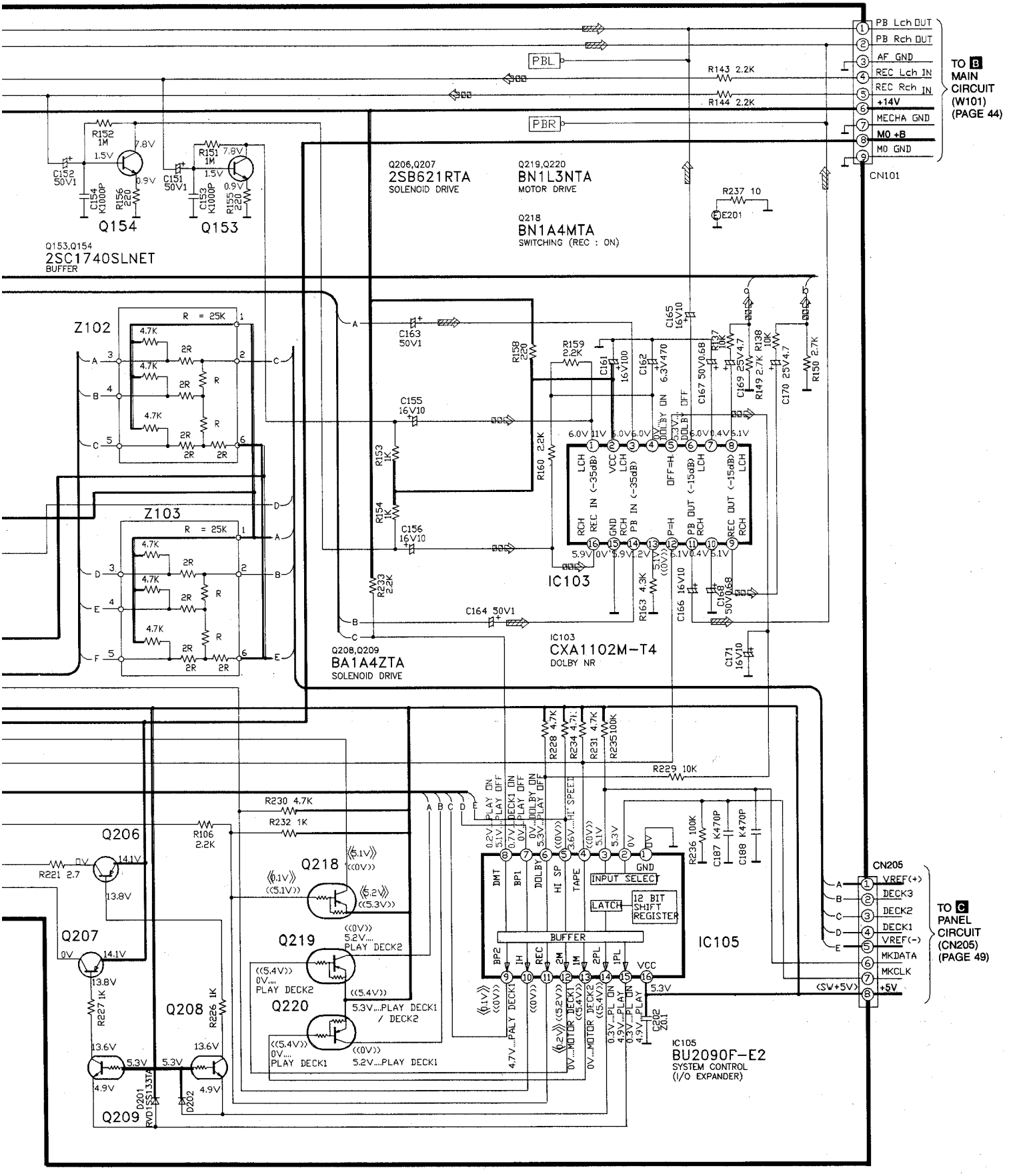
H DECK CIRCUIT





I MECHANISM (DECK2) CIRCUIT

J MECHANISM (DECK1) CIRCUIT


PB Lch OUT
PB Rch OUT
AF GND
REC Lch IN
REC Rch IN
+14V
MECHA GND
M0 +B
M0 GND
CN101
TO B MAIN CIRCUIT (W101) (PAGE 44)
PBL
PBR
R143 2.2K
R144 2.2K
R237 10
E201
Q154
Q153
Q153,Q154
2SC1740SLNET
BUFFER
Q206,Q207
2SB621RTA
SOLENOID DRIVE
Q219,Q220
BN1L3NTA
MOTOR DRIVE
Q218
BN1A4MTA
SWITCHING (REC : ON)
Z102
Z103
R = 25K
IC103
CXA1102M-T4
DOLBY NR
Q208,Q209
BA1A4ZTA
SOLENOID DRIVE
Q206
Q207
Q208
Q209
Q218
Q219
Q220
IC105
BU2090F-E2
SYSTEM CONTROL
(I/O EXPANDER)
INPUT SELECT
LATCH
12 BIT SHIFT REGISTER
BUFFER
CN205
VREF(+)
DECK3
DECK2
DECK1
VREF(-)
MKDATA
MKCLK
+5V
TO C PANEL CIRCUIT (CN205) (PAGE 49)

(This schematic diagram may be modified at any time with the development of new technology)

Note :

< for Deck circuit > < for Mechanism (Deck 1) circuit > < for Mechanism (Deck 2) circuit >

- **S951** : Deck 1 mode detect switch.
- **S952** : Deck 1 tape detect switch.
- **S953** : Deck 1 tape select switch.
- **S971** : Deck 2 mode detect switch.
- **S972** : Deck 2 tape detect switch.
- **S973** : Deck 2 tape tab switch (REV).
- **S974** : Deck 2 tape tab switch (FWD).
- **S975** : Deck 2 tape select switch (CrO_2).
- **VR101** : Deck 1 Lch playback gain adjustment VR (Dolby).
- **VR102** : Deck 1 Rch playback gain adjustment VR (Dolby).
- **VR103** : Deck 2 Lch playback gain adjustment VR (Dolby).
- **VR104** : Deck 2 Rch playback gain adjustment VR (Dolby).
- **VR201** : Deck 1 tape speed adjustment VR (Normal).
- **VR202** : Deck 2 tape speed adjustment VR (Normal).
- **VR203** : Deck 2 tape speed adjustment VR (High).

< for Servo circuit >

- **S701** : Reset switch

•Signal line

: +B line

: –B line

: Playback signal line

: Record signal line

: CD signal line

General

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
- Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
  * The parenthesized are the values of voltage generated during playing (Test disc 1 kHz, L + R, 0 dB), others are voltage values in stop mode.

(( )) .....CD << >> .....Tape Recording No mark .....Tape Playback

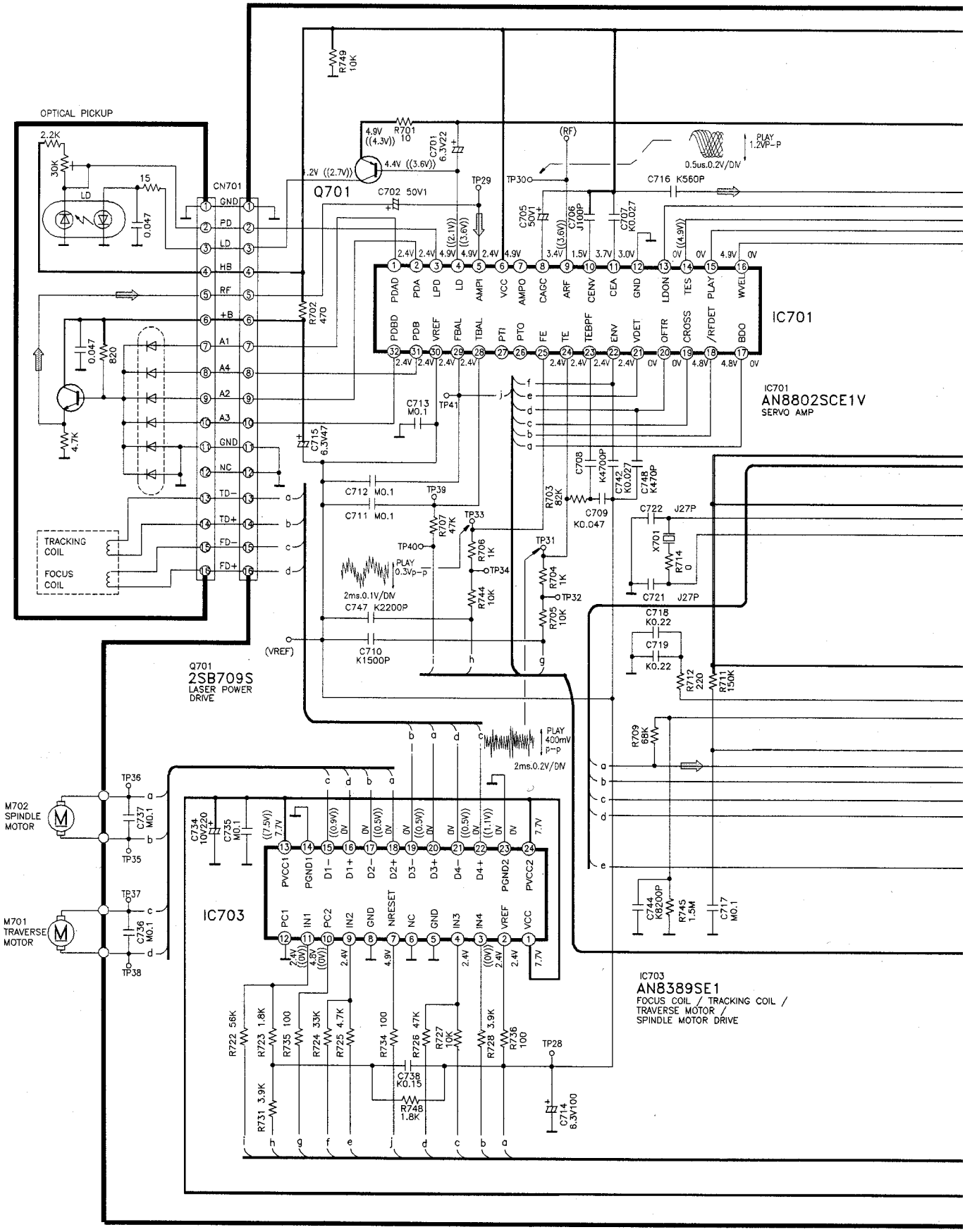
- Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.

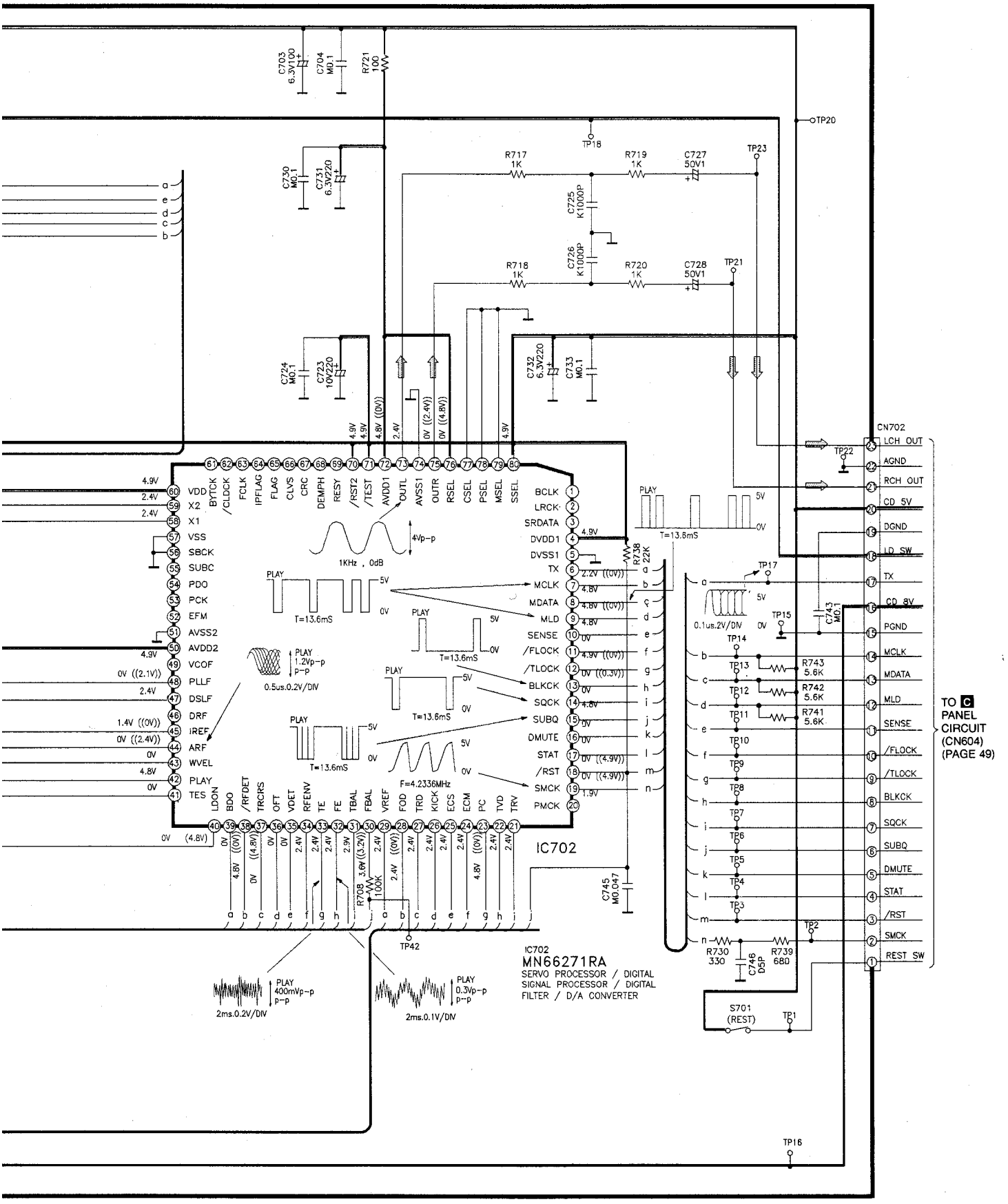
Caution !

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

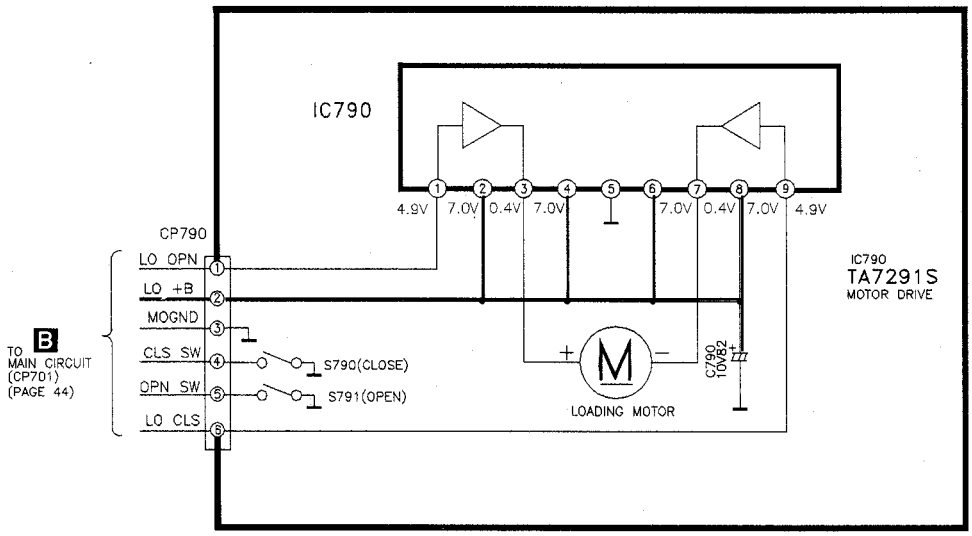
- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.

A SERVO CIRCUIT

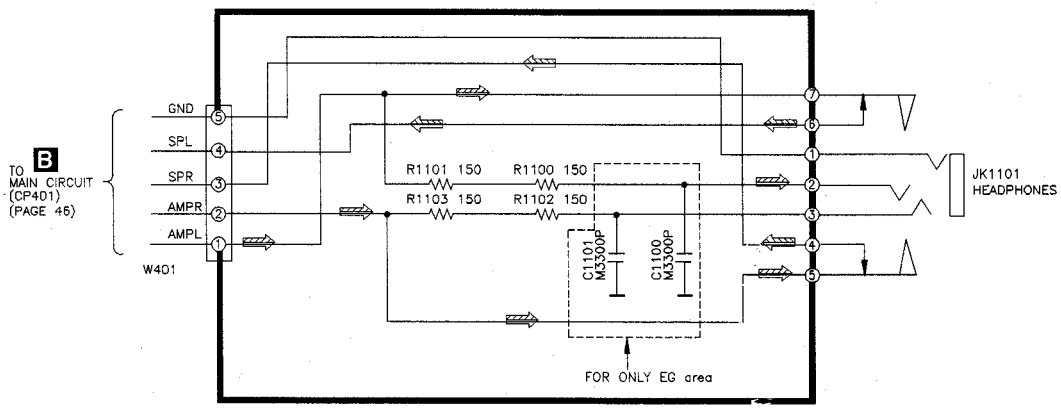



IC702
MN66271RA
SERVO PROCESSOR / DIGITAL
SIGNAL PROCESSOR / DIGITAL
FILTER / D/A CONVERTER
CN702
TO C PANEL CIRCUIT (CN604) (PAGE 49)
S701 (REST)
TP1
TP2
TP15
TP16
TP17
TP18
TP20
TP21
TP22
TP23
TP42
C703 6.3V100
C704 M0.1
R721 100
C730 M0.1
C731 6.3V220
R717 1K
R719 1K
C727 50V1
C725 K1000P
C726 K1000P
R718 1K
R720 1K
C728 50V1
C724 M0.1
C723 10V220
C732 6.3V220
C733 M0.1
R738 22K
C745 M0.047
R743 5.6K
R742 5.6K
R741 5.6K
R730 330
C746 DSP
R739 680
R708 100K
C743 M0.1
VDD
X2
X1
VSS
SBCK
SUBC
PDO
PCK
EFM
AVSS2
AVDD2
VCOF
PLLF
DSLF
DRF
IREF
ARF
WVEL
PLAY
TES
BCLK
LRCK
SRDATA
DVDD1
DVSS1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LCH OUT
AGND
RCH OUT
CD 5V
DGND
LD SW
TX
CD 8V
PGND
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
REST SW
1KHz , 0dB
4Vp-p
T=13.6mS
0.5us.0.2V/DIV
F=4.2336MHz
2ms.0.2V/DIV
2ms.0.1V/DIV
PLAY 400mVp-p
PLAY 0.3Vp-p
PLAY 1.2Vp-p

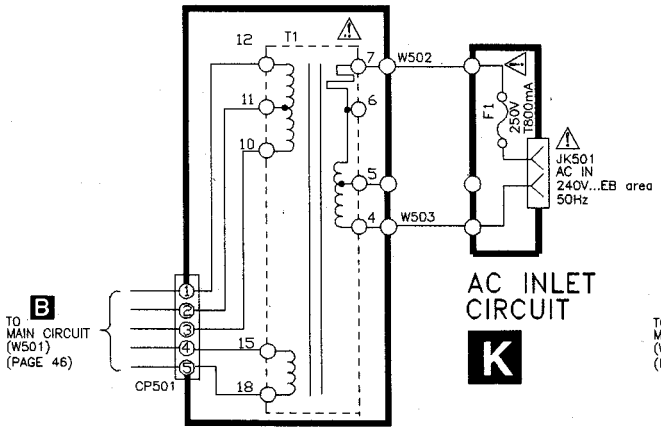
N LOADING MOTOR CIRCUIT



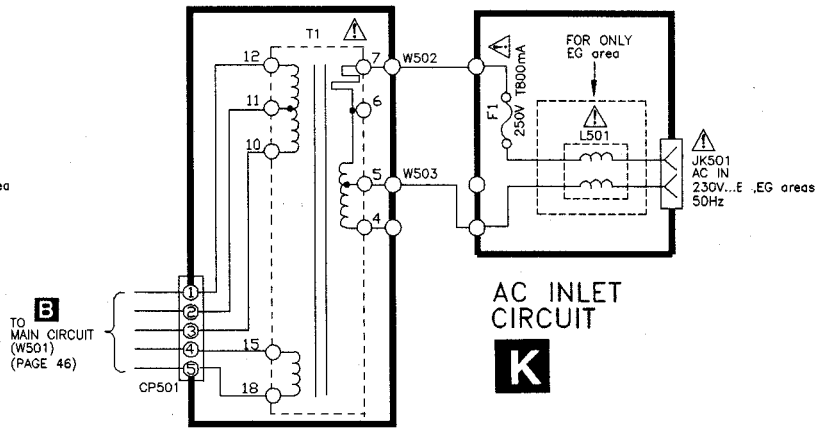
M HEADPHONES CIRCUIT



L TRANSFORMER CIRCUIT FOR EB area



L TRANSFORMER CIRCUIT FOR E, EG areas



Note:

< for Loading Motor circuit >
•S790, S791 : Disc tray open/close detection switch

< for Headphones circuit >
< for Transformer circuit >
< for Tuner circuit >
< for Tuner pack circuit >

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

〈 〉 : FM ( ) : AM No mark : Playback

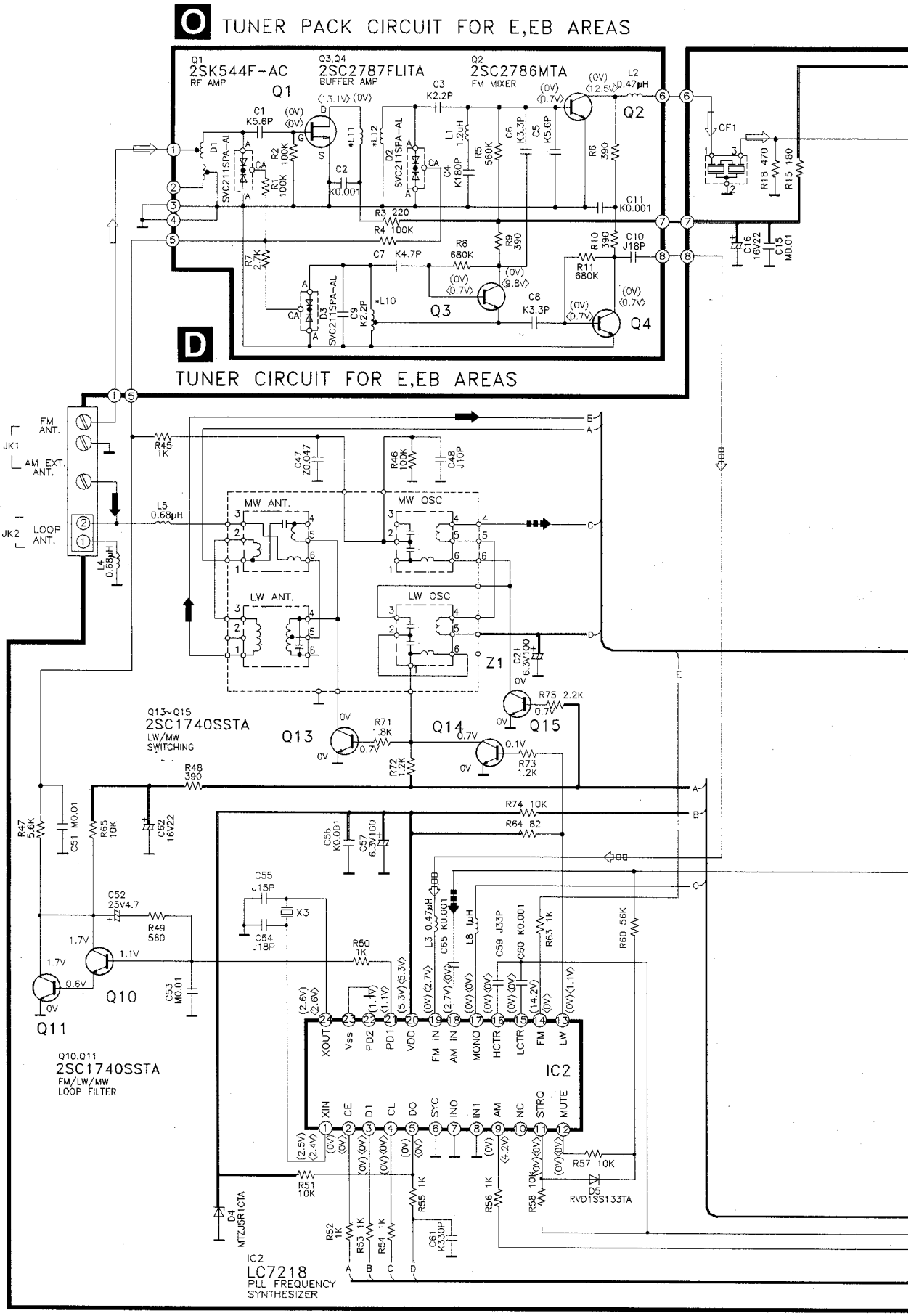
•Signal line :

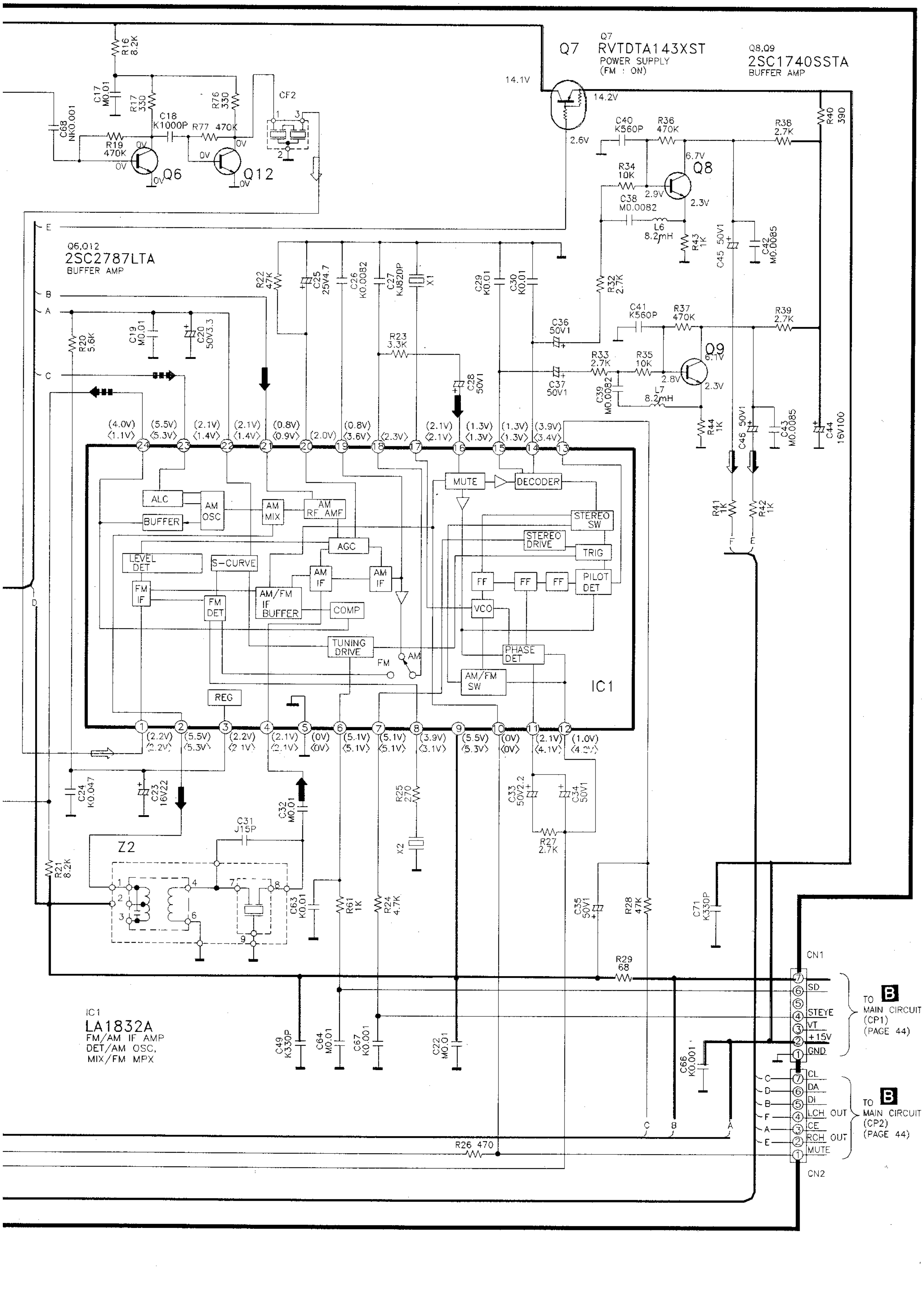
: FM signal line
: FM OSC signal line
: Main signal line
: AM (MW/LW) signal line
: +B line
: AM (MW/LW) OSC signal line
: FM/AM signal line

•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the pins of IC or LSI with fingers directly.

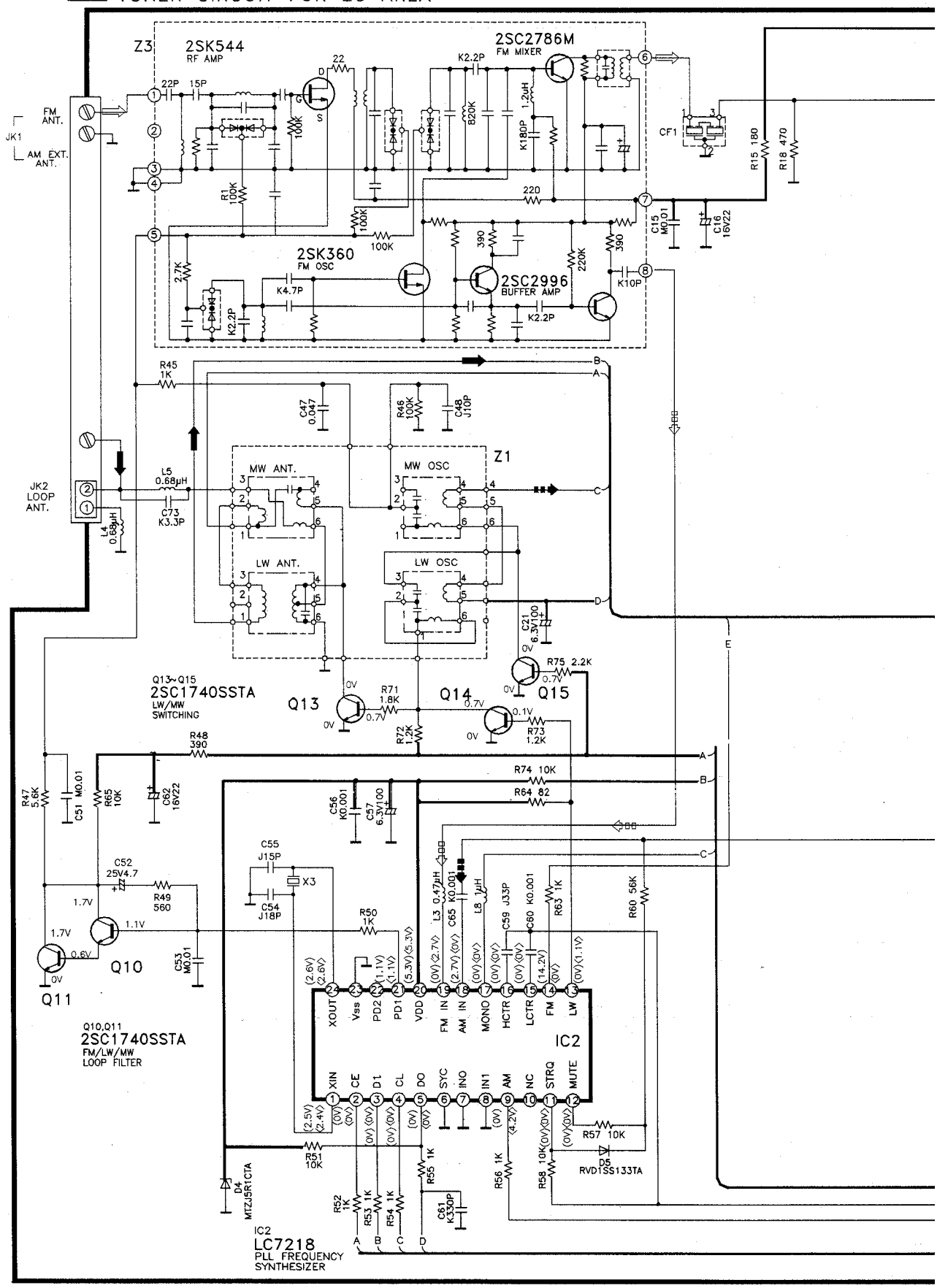
This schematic diagram may be modified at any time with development of new technology.

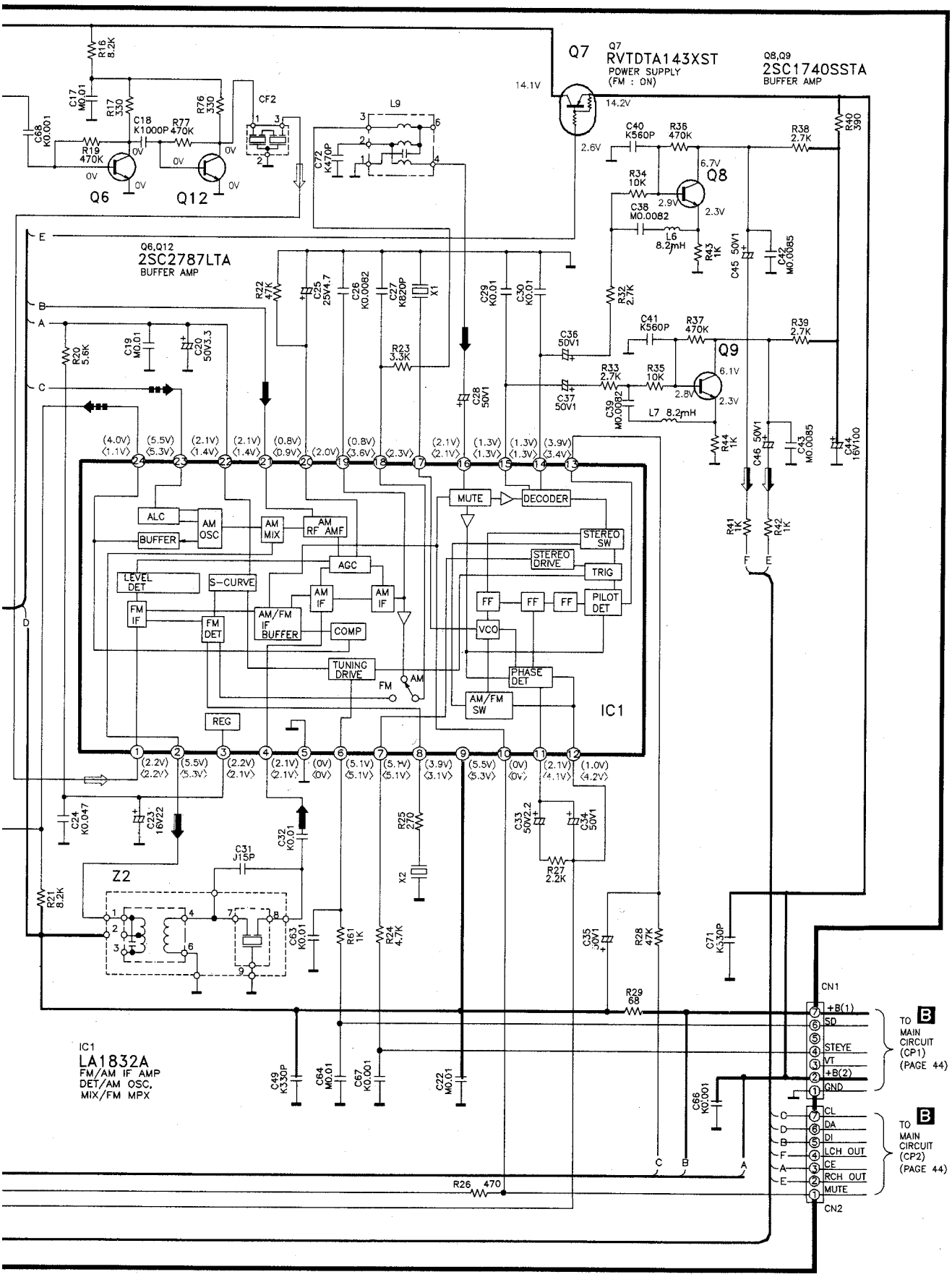

O TUNER PACK CIRCUIT FOR E,EB AREAS
Q1
2SK544F-AC
RF AMP
Q3,Q4
2SC2787FLITA
BUFFER AMP
Q2
2SC2786MTA
FM MIXER
Q1
Q2
Q3
Q4
D
TUNER CIRCUIT FOR E,EB AREAS
FM ANT.
AM EXT. ANT.
LOOP ANT.
JK1
JK2
MW ANT.
MW OSC
LW ANT.
LW OSC
Z1
Q13~Q15
2SC1740SSTA
LW/MW SWITCHING
Q13
Q14
Q15
Q10,Q11
2SC1740SSTA
FM/LW/MW LOOP FILTER
Q10
Q11
IC2
LC7218
PLL FREQUENCY SYNTHESIZER
XOUT
Vss
PD2
PD1
VDD
FM IN
AM IN
MONO
HCTR
LCTR
FM
LW
XIN
CE
D1
CL
DO
SYC
IN0
IN1
AM
NC
STRQ
MUTE
X3
CF1
D4
MTZJ5R1CTA
D5
RVD1SS133TA



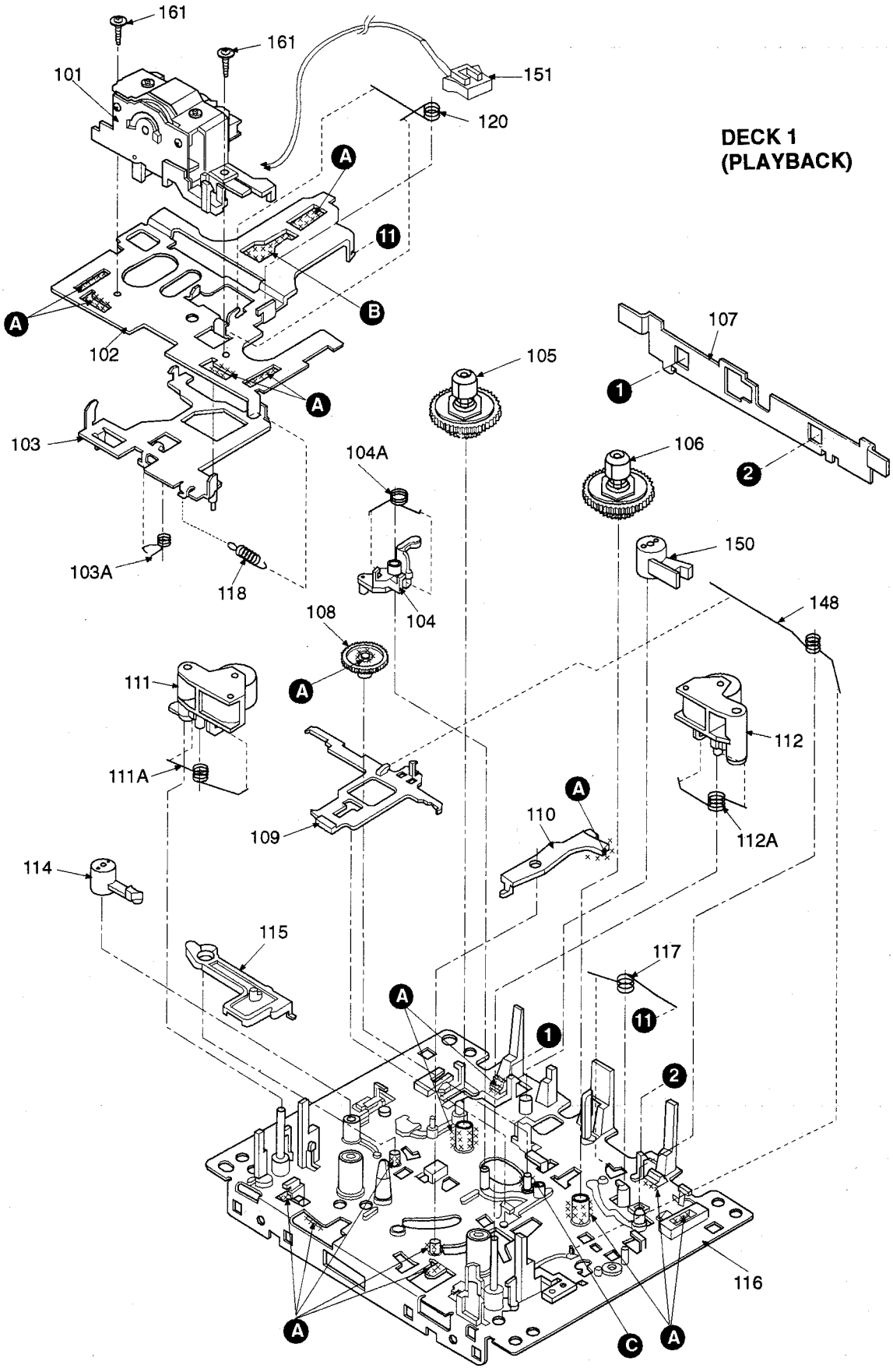
Q7 RVTDTA143XST
POWER SUPPLY (FM : ON)
Q8,Q9 2SC1740SSTA
BUFFER AMP
Q6,Q12 2SC2787LTA
BUFFER AMP
IC1
LA1832A
FM/AM IF AMP
DET/AM OSC,
MIX/FM MPX
Z2
CN1
SD
STEYE
VT
+15V
GND
TO B MAIN CIRCUIT (CP1) (PAGE 44)
CL
DA
DI
LCH OUT
CE
RCH OUT
MUTE
CN2
TO B MAIN CIRCUIT (CP2) (PAGE 44)
ALC
AM OSC
AM MIX
AM RF AMF
BUFFER
AGC
LEVEL DET
S-CURVE
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
REG
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
PILOT DET
VCO
PHASE DET
AM/FM SW

D TUNER CIRCUIT FOR EG AREA



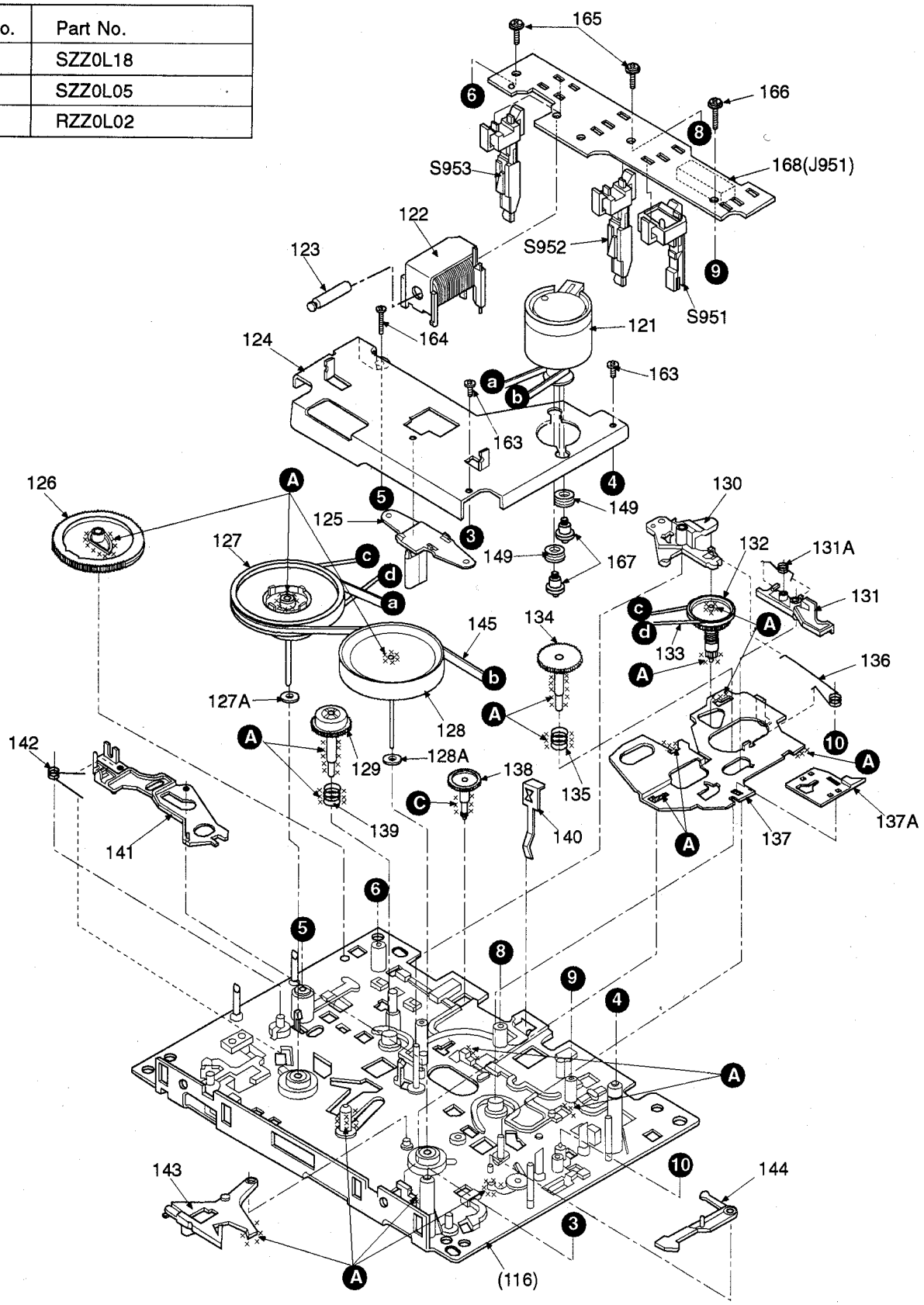

Q7
RVTDTA143XST
POWER SUPPLY
(FM : ON)
Q8,Q9
2SC1740SSTA
BUFFER AMP
Q6,Q12
2SC2787LTA
BUFFER AMP
IC1
LA1832A
FM/AM IF AMP
DET/AM OSC.
MIX/FM MPX
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
PILOT DET
VCO
PHASE DET
AM/FM SW
TUNING DRIVE
AM OSC
AM MIX
AM RF AMF
AGC
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
LEVEL DET
S-CURVE
ALC
BUFFER
REG
CN1
+B(1)
SD
STEYE
VT
+B(2)
GND
CL
DA
DI
LCH OUT
CE
RCH OUT
MUTE
CN2
TO B MAIN CIRCUIT (CP1) (PAGE 44)
TO B MAIN CIRCUIT (CP2) (PAGE 44)

■ Mechanism Parts Location (RAA0368)



Note:
When changing mechanism parts, apply the specified grease to arrow indicated areas shown in the drawing.

Ref No.	Part No.
Ⓐ	SZZ0L18
Ⓑ	SZZ0L05
Ⓒ	RZZ0L02



■ Mechanism Parts List

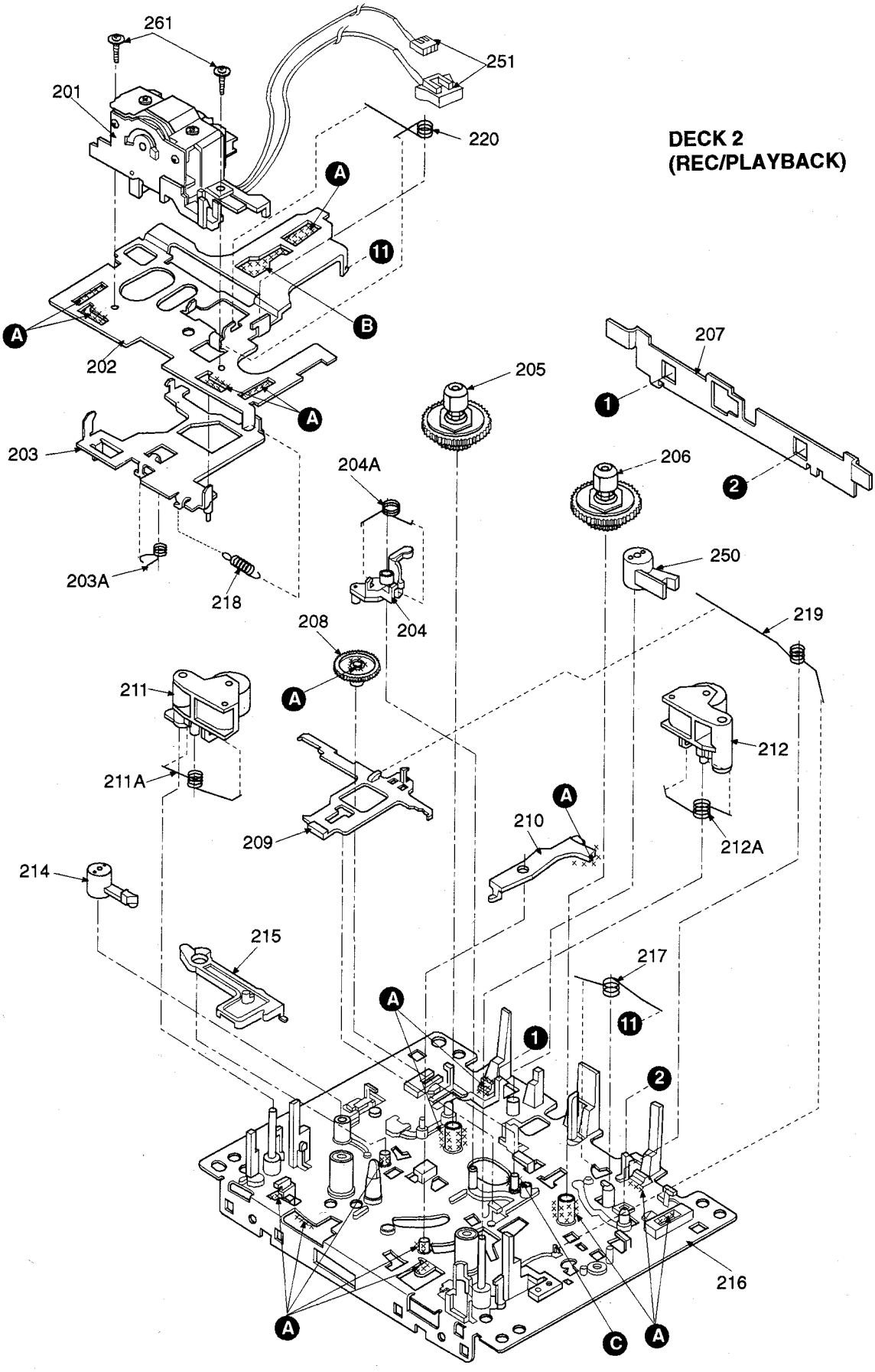
Note : [M] mark in Remarks column indicates parts that are supplied by **MESA**.

Ref. No	Part No.	Part Name & Description	Remarks
		DECK 1	
101	RXQ0383	HEAD BLOCK ASS'Y	
102	RUA793ZF	HEAD PANEL	
103	RUB501ZB	ROD	
103A	RUW143ZA	SPRING	
104	1UB0089Z	ARM	
104A	RUW148ZA	SPRING	
105	1DM0018ZB	REEL TABLE ASS'Y	
106	1DM0017ZB	REEL TABLE ASS'Y	
107	RML0069-1	LEVER	
108	RDG5772ZC	GEAR	
109	RUB508ZB	LEVER	
110	RUB506ZB	LEVER	
111	1UB0088ZB	PINCH ROLLER	
111A	RUW141ZA	SPRING	
112	1UB0087ZB	PINCH ROLLER	
112A	RUW140ZB	SPRING	
114	RNL1ZD	ARM	
115	RUB503ZD	LEVER	
116	RFKRRSCH9N	CHASSIS ASS'Y	
117	RUW142ZA	SPRING	
118	RUD105ZA	SPRING	
120	RUW139ZA	SPRING	
121	RFKPXDT680PK	MOTOR ASS'Y	
122	1UE0015ZB	PLUNGER	
123	RUB428ZE	SHAFT	
124	RUL1030ZE	PLATE	[M]
125	RMD5014ZC	SPACER	
126	RDG5927ZG	GEAR	
127	1DW0037ZB	FLYWHEEL ASS'Y	
127A	RNW139ZA	WASHER	
128	1DW0038ZA	FLYWHEEL ASS'Y	
128A	RNW138ZA	WASHER	
129	1DG0006ZA	GEAR ASS'Y	
130	RUB513ZD	ARM	
131	1UB0091ZA	LEVER	
131A	RUW146ZA	SPRING	
132	1DR0011ZA	PULLEY ASS'Y	
133	RDV90ZB	BELT	
134	RDG5769ZA	GEAR	
135	RUQ111ZB	SPRING	
136	RUW145ZA	SPRING	
137	1UB0090ZA	ROD	
137A	RUB512ZB	ROD	
138	RDG5773ZA	GEAR	
139	RUQ112ZA	SPRING	
140	RUS609ZC	SPRING	
141	RUB514ZC	LEVER	
142	RUW147ZA	SPRING	
143	RUB515ZA	LEVER	
144	RUB509ZA	LEVER	
145	RDV108ZA	BELT	
148	RUW144ZA	SPRING	
149	RMG0102-1	RUBBER	
150	RNL180ZB	LEVER	
151	REX0450	LEAD WIRE BLOCK (4P)	[M]
161	XTW2+6L	SCREW	
163	XTN26+7J	SCREW	
164	RHE5203ZA	SCREW	
165	XTW2+8S	SCREW	
166	XYC2+JF16	SCREW	
167	RHD26002	SCREW	
168	RJS7T7ZA	CONNECTOR (J951)	

Ref. No	Part No.	Part Name & Description	Remarks
		DECK 2	
201	RXQ0384	HEAD BLOCK ASS'Y	
202	RUA793ZF	HEAD PANEL	
203	RUB501ZB	ROD	
203A	RUW143ZA	SPRING	
204	1UB0089ZA	ARM	
204A	RUW148ZA	SPRING	
205	1DM0018ZB	REEL TABLE ASS'Y	
206	1DM0017ZB	REEL TABLE ASS'Y	
207	RML0069-1	LEVER	
208	RDG5772ZC	GEAR	
209	RUB508ZB	LEVER	
210	RUB506ZA	LEVER	
211	1UB0088ZB	PINCH ROLLER	
211A	RUW141ZA	SPRING	
212	1UB0087ZB	PINCH ROLLER	
212A	RUW140ZB	SPRING	
214	RNL1ZD	ARM	
215	RUB503ZD	LEVER	
216	RFKRRSCH9N	CHASSIS ASS'Y	
217	RUW142ZA	SPRING	
218	RUD105ZA	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFKPXDT680PK	MOTOR ASS'Y	[M]
222	1UE0015ZB	PLUNGER	
223	RUB428ZE	SHAFT	
224	RUL1030ZE	PLATE	[M]
225	RMD5014ZC	SPACER	
226	RDG5927ZG	GEAR	
227	1DW0037ZA	FLYWHEEL ASS'Y	
227A	RNW139ZA	WASHER	
228	1DW0038ZA	FLYWHEEL ASS'Y	
228A	RNW138ZA	WASHER	
229	1DG0006ZA	GEAR ASS'Y	
230	RUB513ZD	ARM	
231	1UB0091ZA	LEVER	
231A	RUW146ZA	SPRING	
232	1DR0011ZA	PULLEY ASS'Y	
233	RDV90ZB	BELT	
234	RDG5769ZA	GEAR	
235	RUQ111ZB	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237A	RUB512ZB	ROD	
238	RDG5773ZA	GEAR	

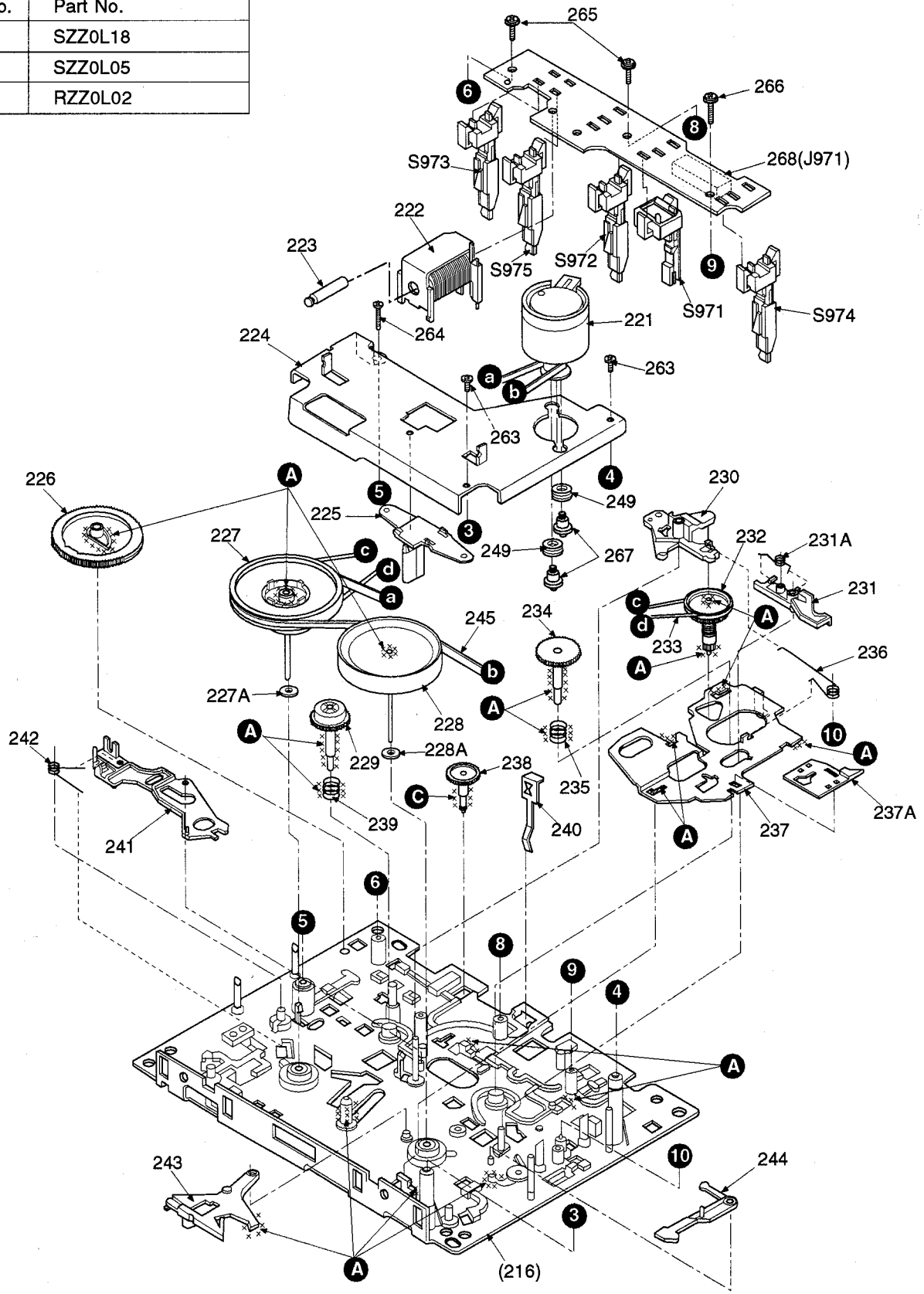
Ref. No	Part No.	Part Name & Description	Remarks
239	RUQ112ZA	SPRING	
240	RUS609ZC	SPRING	
241	RUB514ZC	LEVER	
242	RUW147ZA	SPRING	
243	RUB515ZA	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	BELT	
249	RMG0102-1	RUBBER	
250	RNL180ZB	LEVER	
251	REX0305	LEAD WIRE BLOCK	[M]
261	XTW2+6L	SCREW	
263	XTN26+7J	SCREW	
264	RHE5203ZA	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	RHD26002	SCREW	
268	RJS10T7ZA	CONNECTOR (J971)	

■ Mechanism Parts Location (RAA0369)



Note:
When changing mechanism parts, apply the specified grease to arrow indicated areas shown in the drawing.

Ref No.	Part No.
Ⓐ	SZZ0L18
Ⓑ	SZZ0L05
Ⓒ	RZZ0L02

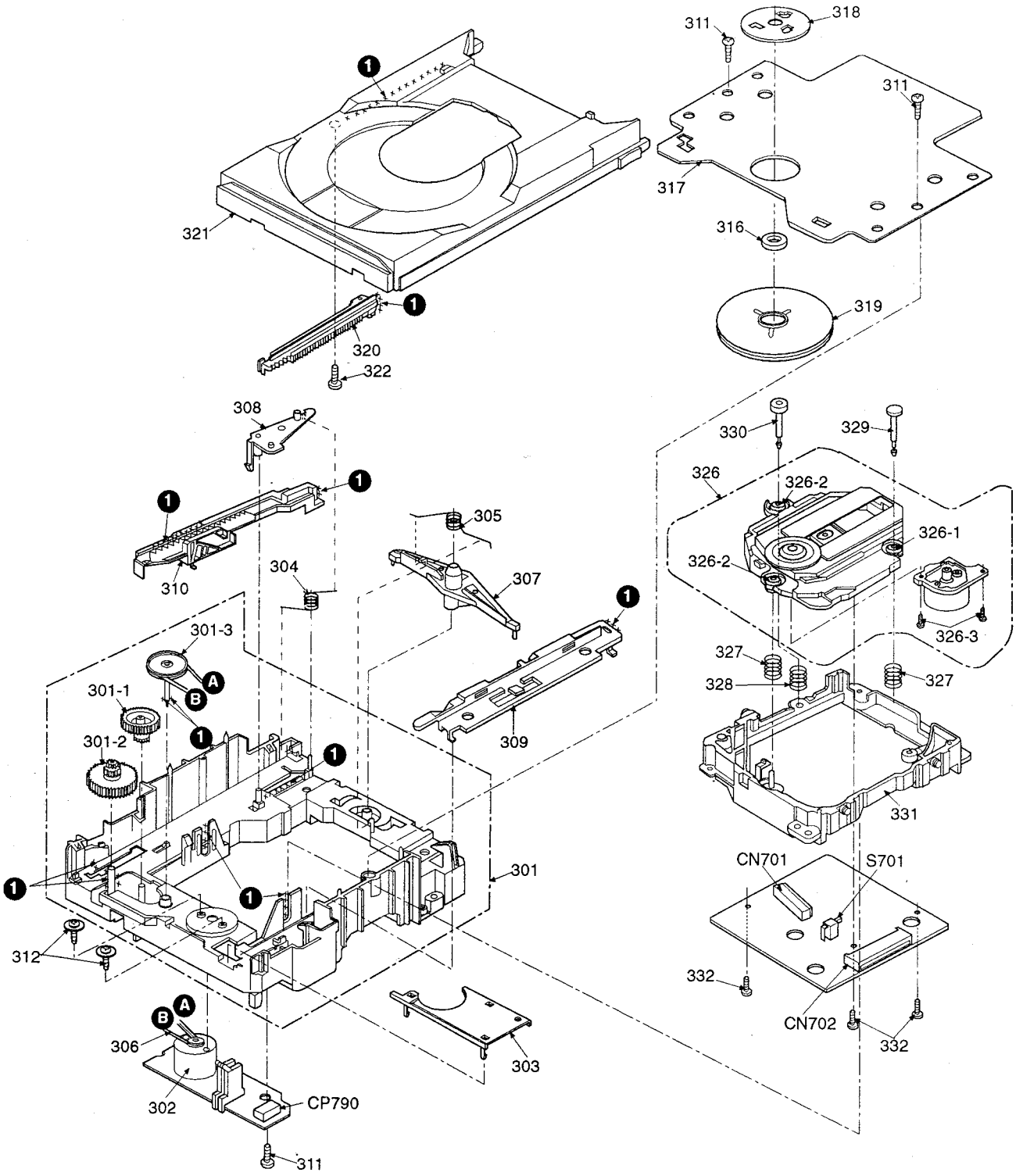


■ CD Loading Unit Parts Location

Note : When changing the loading mechanism parts, apply the specified grease to the areas marked "x x" as shown in the drawing.

Ref. No.	Part No.
❶	SZZ0L30

The parts enclosed in the dotted boxes are supplied as an assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.

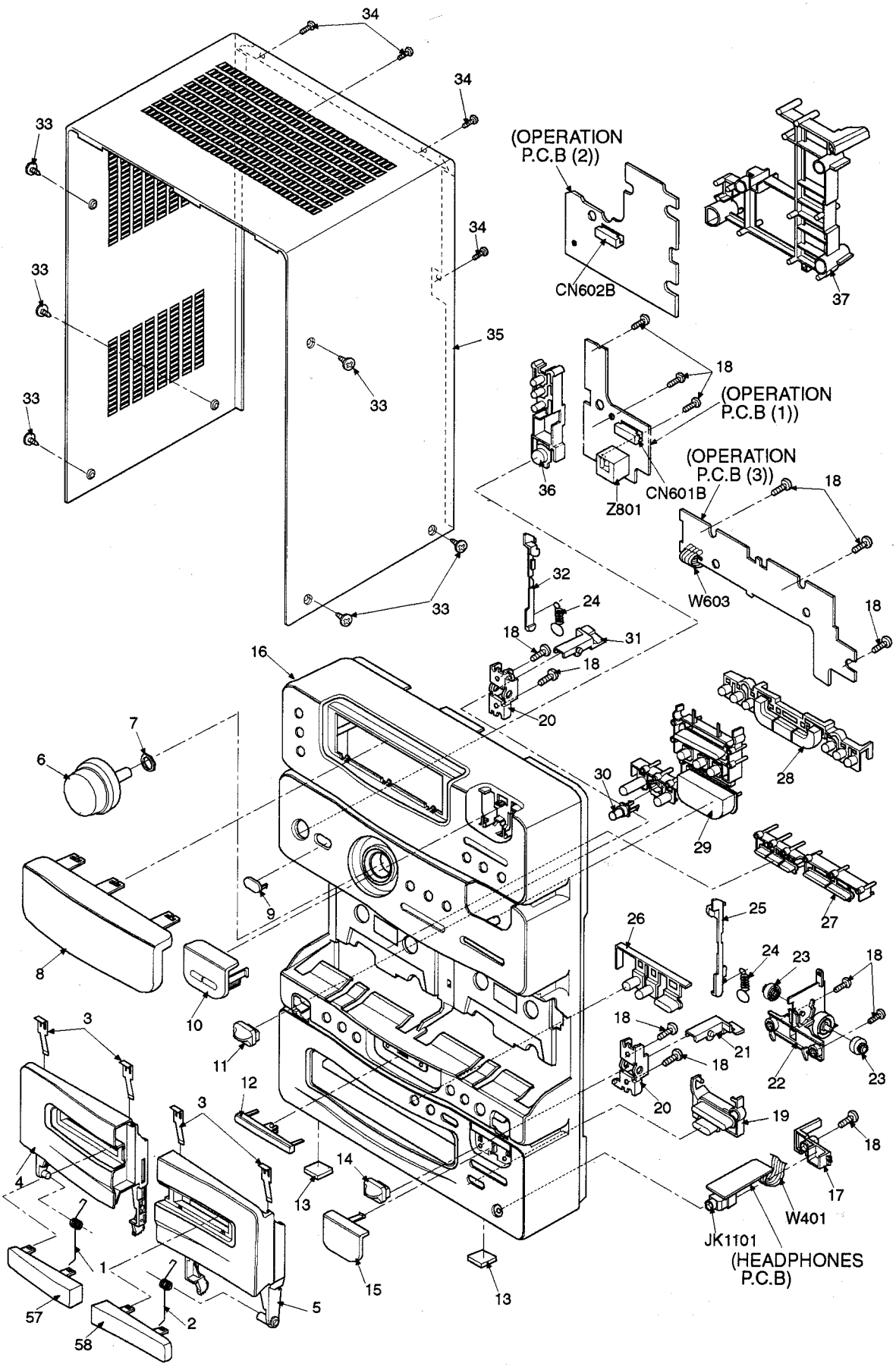


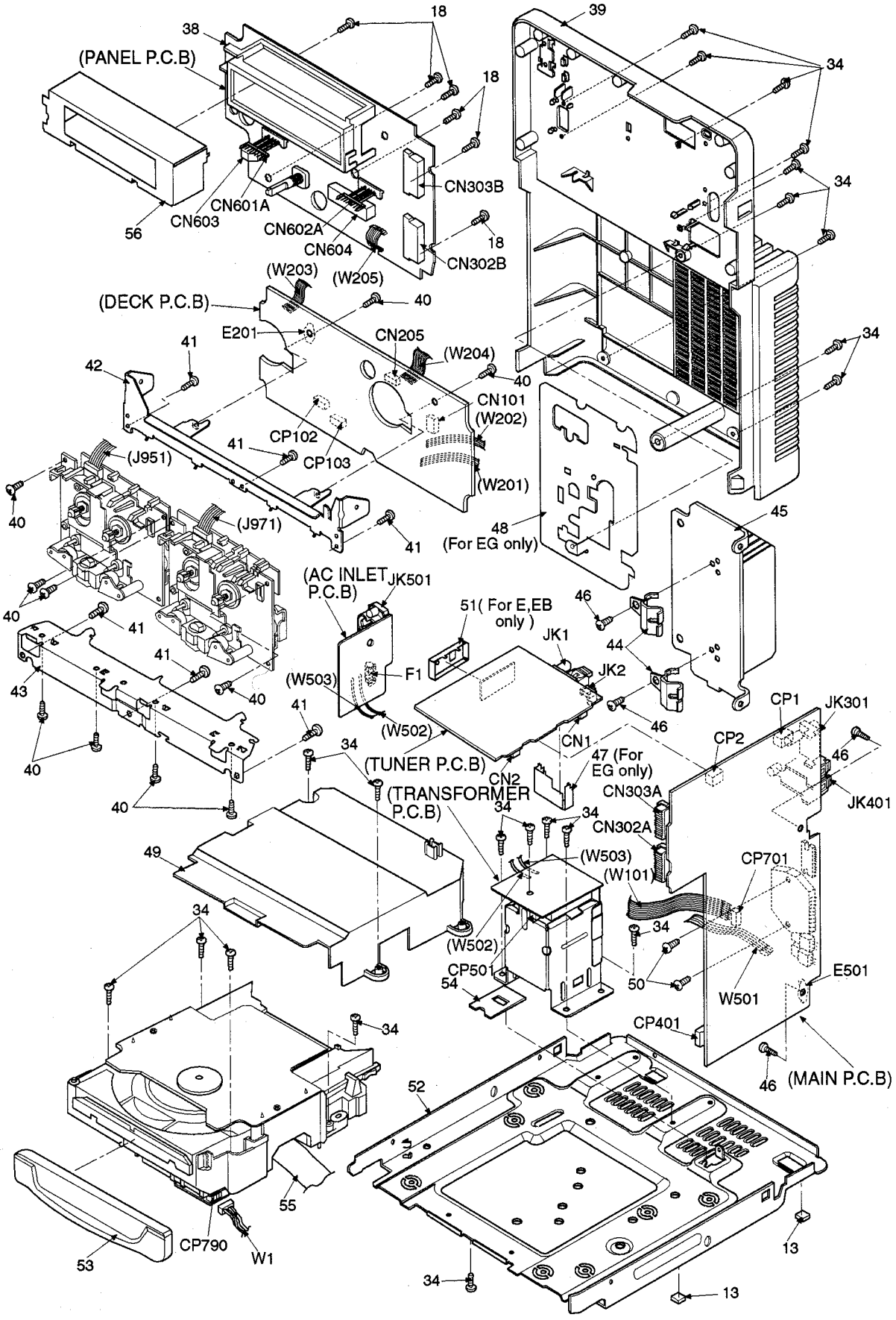
■ CD Loading Unit Parts List

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* The parenthesized indications in the Ref. No. columns specify the areas. (refer to the cover page for area.)
Parts without these indications can be used for all areas.
[M] Indicates in Remarks columns parts that are supplied by MESA.
* Warning: This product uses a laser diode. Refer to caution statements on page 3.
* ACHTUNG: Die lasereinheit nicht zerlegen.
Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.

Ref. No	Part No.	Part Name & Description	Remarks	Ref. No	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK					
301	RFKJXDT07-K	TRV CHASSIS ASS'Y					
301-1	RDG0142	INTERMEDIATE GEAR					
301-2	RDG0193	DRIVE GEAR (1)					
301-3	RDP0065	INTERMEDIATE PULLEY					
302	REM0019	LOADING MOTOR ASS'Y					
303	RMK0255	BELT COVER					
304	RME0063	LOCK LEVER SPRING					
305	RME0087	ASSISTANCE SPRING					
306	RMG0158	BELT					
307	RML0177	CONVERSION LEVER					
308	RML0178-1	LOCK LEVER					
309	RMM0059-1	SLIDE PLATE (2)					
310	RMM0079	SLIDE PLATE (1)					
311	XTN26+6G	SCREW (PLATE)					
312	XYN2+F6FZ	SCREW (MOTOR)					
316	RHM245ZA	MAGNET					
317	RMA0793	CLAMP PLATE					
318	RMR0334	FIXED PLATE					
319	RXQ0380	MAGNET HOLDER ASS'Y					
320	RFKNLPG440-K	DRIVE GEAR (2) ASS'Y					
321	RGQ0144-K	DISC TRAY					
322	RHD20009-1	SCREW					
326	RAE0113Z	TRAVERSE UNIT					
326-1	SHGD112	FLOATING RUBBER (A)					
326-2	SHGD113-1	FLOATING RUBBER (B)					
326-3	XQS2+A35FZ	SCREW					
327	RME0109	FLOATING SPRING A					
328	RME0142	FLOATING SPRING B					
329	RMS0123-1	FIXED PIN A					
330	RMS0350	FIXED PIB B					
331	RMR0698-K	TRAVERSE CHASSIS					
332	XTV2+6G	SCREW					

■ Cabinet Parts Location




(PANEL P.C.B)
(DECK P.C.B)
(AC INLET P.C.B)
(TUNER P.C.B)
(TRANSFORMER P.C.B)
(MAIN P.C.B)
(For EG only)
51(For E,EB only)
47 (For EG only)
CN303B
CN601A
CN603
CN602A
CN604
CN302B
(W203)
(W205)
E201
CN205
(W204)
CN101
(W202)
CP102
CP103
(W201)
(J951)
(J971)
JK501
F1
(W503)
(W502)
JK1
JK2
CN1
CN2
CP1
JK301
CP2
JK401
CN303A
CN302A
(W101)
CP701
CP501
W501
E501
CP401
CP790
W1

■ Replacement Parts List

Notes:
* Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* The parenthesized indications in the Remarks column specify the areas. (refer to the cover page for area.)
  Parts without these indications can be used for all areas.
* [M] indicates in Remarks column parts that are supplied by MESA.
* The "(SF)" mark denotes the standard part.
* [VRD] indicates parts that are supplied by Video Recorder Division.
* Warning: This product uses a laser diode. Refer to caution statements on page 3.
* ACHTUNG: Die lasereinheit nicht zerlegen.
  Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.

Ref. No	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RMB0237	OPEN SPRING (L)	[M]
2	RMB0238	OPEN SPRING (R)	[M]
3	RUS757ZAA	CASS. HALF SPRING	[M]
4	RKF0385A-K	CASSETTE HOLDER (L)	[M]
5	RKF0386-K	CASSETTE HOLDER (R)	[M]
6	RGW0210-K	VOLUME KNOB	[M]
7	XNS9D	NUT (VOLUME KNOB)	
8	RKW0354-Q	FL WINDOW	[M]
9	RKW0355-Q	SENSOR WINDOW	[M]
10	RGU1120A-K	BAND SELECTOR BUTTON	[M]
11	RGU1111-K	EJECT KNOB (L)	[M]
12	RGU1116-K	FF/REW BUTTON	[M]
13	RKA0059-K	LEG FELT	[M]
14	RGU1112-K	EJECT KNOB (R)	[M]
15	RGU1113-K	CD PLAY/STOP BUTTON	[M]
16	RGP0415A-K	FRONT PANEL	[M]
17	RMR0795-X	HP JACK HOLDER	[M]
18	XTBS26+10J	SCREW (PCB)	
19	RGU1114-K	CD OPEN/CLOSE BUTTON	[M]
20	RML0254	EJECT LEVEL STAND	[M]
21	RML0253	EJECT LEVEL (R)	[M]
22	RMS0352	DAMPER GEAR HOLDER	[M]
23	RDG0129	DAMPER GEAR	[M]
24	RMB0239	EJECT SPRING	[M]
25	RMM0088	EJECT ROD (R)	[M]
26	RGU1115-K	A1 EDIT BUTTON	[M]
27	RGU1119-K	AMP BUTTON	[M]
28	RGU1117-K	DECK CONTROL BUTTON	[M]
29	RGU1121-K	TUNER BUTTON	[M]
30	RGU1149-Q	SURROUND BUTTON	[M]
31	RML0252	EJECT LEVEL (L)	[M]
32	RMM0087	EJECT ROD (L)	[M]
33	RHD30007	SCREW (CABINET)	
34	XTB3+10JFZ	SCREW (REAR CABINET)	
35	RKM0270-K	CABINET	[M]
36	RGU1118-K	POWER BUTTON	[M]

Ref. No	Part No.	Part Name & Description	Remarks
37	RMR0797	PCB SUPPORT	[M]
38	RMN0289	FL HOLDER	[M]
39	RKF0404A-K	REAR PANEL	[M] (E)
39	RKF0404B-K	REAR PANEL	[M] (EB)
39	RKF0404C-K	REAR PANEL	[M] (EG)
40	XTV26+6F	SCREW (MECH)	
41	XTB3+12JFR	SCREW (MECH PCB)	
42	RMA0570	CASS. ANGLE (UPPER)	[M]
43	RMA0571	CASS. ANGLE (LOWER)	[M]
44	RMC0158-S	TRANSISTOR HOLDER	[M]
45	RXX0152	HEAT SINK UNIT	[M]
46	XTV3+8J	SCREW (TRANISITOR)	
47	RSC0403	EARTH PLATE	[M] (EG)
48	RSC0402	SHIELD PLATE	[M] (EG)
49	RMV0077	CD DUST COVER	[M]
50	XTW3+15T	SCREW (POWER IC)	
51	RSC0027	SHIELD COVER	(E,EB)
52	RMK0257-1	BOTTOM CHASSIS	[M]
53	RGK0655A-K	CD LID	[M]
54	RMQ0513	PROTECTION SHEET	[M]
55	REE0608	FFC	[M]
56	RSC0408	FL SHIELD PLATE	[M]
57	RKW0352-Q	CASSETTE WINDOW (L)	[M]
58	RKW0353-Q	CASSETTE WINDOW (R)	[M]
		INTEGRATED CIRCUITS	
IC1	LA1832A	IC,IF/MPX	
IC2	LC7218	IC,PLL	
IC101	M51167BFP-E1	IC,REC/PLAY	
IC102	BA7755A	IC,ANALOG SW	
IC103	CXA1102M-T4	IC,DOLBY	
IC104	BU4066BCF-E2	IC,ANALOG SW	[M]
IC105	BU2090F-E2	IC,I/O EXPANDER	[M]
IC301	BU4052BCF-E2	IC,ANALOG SW	
IC304	M62426FP-E1	IC,AUDIO	[M]
IC305	M51131L-702	IC,VCA	
IC306	BA4558FDXE2	IC, OP AMP	[M]

Ref. No	Part No.	Part Name & Description	Remarks
IC309	BU2090F-E2	IC,IO EXPANDER	[M]
IC401	SVI3101D	IC,POWER	⚠
IC501	BA3936	IC,REGULATOR	
IC601	M38184M8145	IC,UCOM	[M]
IC701	AN8802SCE1V	IC,HEAD AMP	
IC702	MN66271RA	IC,DIGITAL LSI	
IC703	AN8389SE1	IC,4-CH DRIVER	
IC790	TA7291S	IC, LOADING DRIVER	
IC951	DN6851ALB	IC, HALL	
IC971	DN6851ALB	IC, HALL	
		TRANSISTORS	
Q1	2SK544F-AC	TRANSISTOR	(E,EB)
Q2	2SC2786MTA	TRANSISTOR	(E,EB)
Q3	2SC2787FL1TA	TRANSISTOR	(E,EB)
Q4	2SC2787FL1TA	TRANSISTOR	(E,EB)
Q6	2SC2787LTA	TRANSISTOR	
Q7	RVTDTA143XST	TRANSISTOR	
Q8	2SC1740SSTA	TRANSISTOR	
Q9	2SC1740SSTA	TRANSISTOR	
Q10	2SC2785FETA	TRANSISTOR	
Q11	2SC2785FETA	TRANSISTOR	
Q12	2SC2787LTA	TRANSISTOR	
Q13	2SC1740SSTA	TRANSISTOR	
Q14	2SC1740SSTA	TRANSISTOR	
Q15	2SC1740SSTA	TRANSISTOR	
Q101	2SJ40CDTA	TRANSISTOR	
Q102	2SJ40CDTA	TRANSISTOR	
Q103	2SJ40CDTA	TRANSISTOR	
Q104	2SJ40CDTA	TRANSISTOR	
Q105	BA1L4ZTA	TRANSISTOR	[M]
Q106	BA1L4ZTA	TRANSISTOR	[M]
Q107	BA1L4ZTA	TRANSISTOR	[M]
Q108	BA1L4ZTA	TRANSISTOR	[M]
Q109	BA1L4ZTA	TRANSISTOR	[M]
Q110	BA1L4ZTA	TRANSISTOR	[M]
Q115	2SD1020HTA	TRANSISTOR	[M]
Q116	2SD1020HTA	TRANSISTOR	[M]
Q117	BA1L4MTA	TRANSISTOR	[M]
Q151	BA1L4ZTA	TRANSISTOR	[M]
Q152	BA1L4ZTA	TRANSISTOR	[M]
Q153	2SC1740SLNET	TRANSISTOR	
Q154	2SC1740SLNET	TRANSISTOR	
Q171	2SD1302STA	TRANSISTOR	
Q173	BA1L4ZTA	TRANSISTOR	[M]
Q174	2SC2785FTA	TRANSISTOR	
Q175	2SD1302STA	TRANSISTOR	

Ref. No	Part No.	Part Name & Description	Remarks
Q176	2SD1302STA	TRANSISTOR	
Q179	2SC2784FTA	TRANSISTOR	[M]
Q180	2SC2784FTA	TRANSISTOR	[M]
Q201	2SD965RTA	TRANSISTOR	
Q202	2SK301QTA	TRANSISTOR	[M]
Q203	2SD965RTA	TRANSISTOR	
Q204	2SK301QTA	TRANSISTOR	[M]
Q205	BA1L4ZTA	TRANSISTOR	[M]
Q206	2SB621RTA	TRANSISTOR	
Q207	2SB621RTA	TRANSISTOR	
Q208	BA1A4ZTA	TRANSISTOR	[M]
Q209	BA1A4ZTA	TRANSISTOR	[M]
Q218	BN1A4MTA	TRANSISTOR	[M]
Q219	BN1L3NTA	TRANSISTOR	[M]
Q220	BN1L3NTA	TRANSISTOR	[M]
Q307	2SK301QTA	TRANSISTOR	[M]
Q308	2SK301QTA	TRANSISTOR	[M]
Q309	2SC2001KTA	TRANSISTOR	
Q310	2SC2001KTA	TRANSISTOR	
Q311	2SC2001KTA	TRANSISTOR	
Q312	2SC2001KTA	TRANSISTOR	
Q313	RVTDTC124EST	TRANSISTOR	[M]
Q314	RVTDTA114EST	TRANSISTOR	
Q315	RVTDTA114EST	TRANSISTOR	
Q319	2SD2037ETA	TRANSISTOR	[M]
Q501	2SD1762E	TRANSISTOR	[M]
Q502	2SB1357ETA	TRANSISTOR	[M]
Q503	2SC2001KTA	TRANSISTOR	
Q504	2SD1762E	TRANSISTOR	[M] ⚠
Q506	2SB1185E	TRANSISTOR	⚠
Q507	2SC2001KTA	TRANSISTOR	
Q508	2SB621ARTA	TRANSISTOR	⚠
Q511	2SC1740SSTA	TRANSISTOR	
Q512	RVTDTC143TST	TRANSISTOR	
Q513	2SC1740SSTA	TRANSISTOR	
Q514	2SC1740SSTA	TRANSISTOR	
Q515	2SC1740SSTA	TRANSISTOR	
Q601	RVTDTC144EST	TRANSISTOR	
Q602	2SC1740SSTA	TRANSISTOR	
Q603	2SC1740SSTA	TRANSISTOR	
Q604	2SC1740SSTA	TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
		DIODES	
D1	SVC211SPA-AL	DIODE	(E,EB)
D2	SVC211SPA-AL	DIODE	(E,EB)
D3	SVC211SPA-AL	DIODE	(E,EB)

Ref. No	Part No.	Part Name & Description	Remarks
D2	SVC211SPA-AL	DIODE	(E,EB)
D3	SVC211SPA-AL	DIODE	(E,EB)
D4	MTZJ5R1CTA	DIODE	[M]
D5	RVD1SS133TA	DIODE	
D171	RVD1SS133TA	DIODE	
D172	RVDMTZ4R7BTA	DIODE	
D173	RVD1SS133TA	DIODE	
D174	RVDMTZ3R6BTA	DIODE	
D175	RVD1SS133TA	DIODE	
D201	RVD1SS133TA	DIODE	
D202	RVD1SS133TA	DIODE	
D304	RVD1SS133TA	DIODE	
D305	RVD1SS133TA	DIODE	
D306	RVD1SS133TA	DIODE	
D307	RVD1SS133TA	DIODE	
D308	RVD1SS133TA	DIODE	
D309	MTZJ8R2CTA	DIODE	
D501	RL154M11	DIODE	⚠
D502	RL154M11	DIODE	⚠
D503	RL154M11	DIODE	⚠
D504	RL154M11	DIODE	⚠
D505	1D3E	DIODE	[M] ⚠
D506	1D3E	DIODE	[M] ⚠
D507	RVD1SS133TA	DIODE	
D508	MTZJ5R1CTA	DIODE	[M]
D509	RVDMTZ6R8ATA	DIODE	[M]
D510	RVDMTZ15CTA	DIODE	[M]
D511	MTZJ5R1CTA	DIODE	[M]
D512	RVD1SS133TA	DIODE	
D513	RVDMTZ15CTA	DIODE	[M]
D514	RVDMTZ15CTA	DIODE	[M]
D515	MTZJ6R2ATA	DIODE	
D517	RVDMTZ7R5BTA	DIODE	
D518	1D3E	DIODE	[M] ⚠
D519	RVD1SS133TA	DIODE	
D520	RVD1SS133TA	DIODE	
D521	1D3E	DIODE	[M] ⚠
D522	1D3E	DIODE	[M] ⚠
D523	RVDMTZ10BTA	DIODE	⚠
D524	RVDMTZ10BTA	DIODE	⚠
D525	RVDMTZ10BTA	DIODE	⚠
D526	RVD1SS133TA	DIODE	
D527	RVD1SS133TA	DIODE	
D528	RVD1SS133TA	DIODE	
D529	RVD1SS133TA	DIODE	
D530	RVD1SS133TA	DIODE	
D531	RVD1SS133TA	DIODE	
D600	RVD1SS133TA	DIODE	

Ref. No	Part No.	Part Name & Description	Remarks
D601	1SS291TA	DIODE	
D602	RVD1SS133TA	DIODE	
D603	RVD1SS133TA	DIODE	
D604	MTZJ6R2BTA	DIODE	
D605	MA700TA	DIODE	
D801	SLR38DCTC8	DIODE	[M]
D951	RVD1SS133TA	DIODE	
D971	RVD1SS133TA	DIODE	
		VARIABLE RESISTORS	
VR101	RVNCC24B1T-A	VR,SEMIFIXED	
VR102	RVNCC24B1T-A	VR,SEMIFIXED	
VR103	RVNCC24B1T-A	VR,SEMIFIXED	
VR104	RVNCC24B1T-A	VR,SEMIFIXED	
VR201	RVNCC73B1T-A	VR,SEMIFIXED	
VR202	RVNCC24B1T-A	VR,SEMIFIXED	
VR203	RVNCC14B1T-A	VR,SEMIFIXED	
VR601	RRV16B24104B	VR,VOLUME	
		SWITCHES	
S701	RSM0006-P	RESET SWITCH	
S790	RSH1A005	SW,OPEN/CLOSE DETECT	
S791	RSH1A005	SW,OPEN/CLOSE DETECT	
S801	EVQ21405R	SW,POWER	
S802	EVQ21405R	SW,CLOCK-TIMER	
S803	EVQ21405R	SW,REC-TIMER	
S804	EVQ21405R	SW,PLAYER-TIMER	
S805	EVQ21405R	SW,MEMORY-SET	
S806	EVQ21405R	SW,FM/AM MODE	
S807	EVQ21405R	SW,TUNING MODE	
S808	EVQ21405R	SW,INCREASE SETTING	
S809	EVQ21405R	SW,DECREASE SETTING	
S810	EVQ21405R	SW,AM	
S811	EVQ21405R	SW,FM	
S812	EVQ21405R	SW,V.BASS	
S813	EVQ21405R	SW,HEAVY	
S814	EVQ21405R	SW,CLEAR	
S815	EVQ21405R	SW,SOFT	
S816	EVQ21405R	SW,HALL	
S817	EVQ21405R	SW,FLAT	
S818	EVQ21405R	SW,SURROUND	
S820	EVQ21405R	SW,AUX	
S821	EVQ21405R	SW,DECK 1/2	
S822	EVQ21405R	SW,REVERSE MODE	
S823	EVQ21405R	SW,REC-PAUSE	
S824	EVQ21405R	SW,FWD-PLAY	

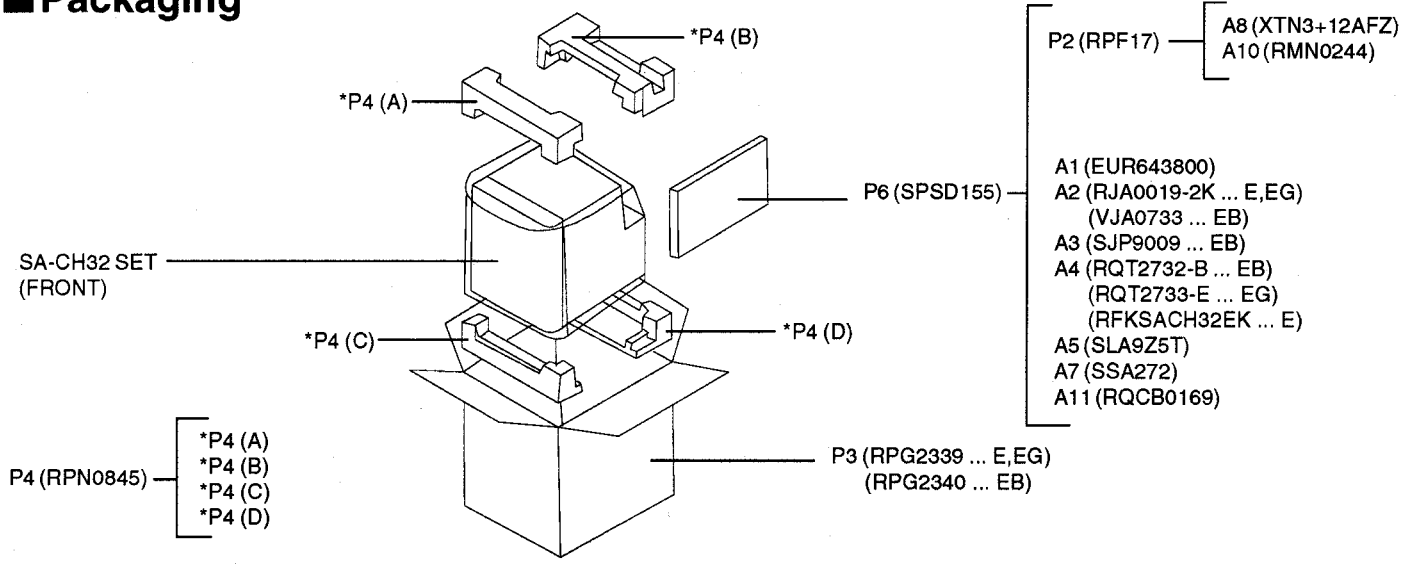
Ref. No	Part No.	Part Name & Description	Remarks
S825	EVQ21405R	SW,FWD-WINDING	
S826	EVQ21405R	SW,DECK STOP	
S827	EVQ21405R	SW,REVERSE-WINDING	
S828	EVQ21405R	SW,REVERSE-PLAY	
S829	EVQ21405R	SW,HIGH SPEED	
S830	EVQ21405R	SW,NORMAL SPEED	
S831	EVQ21405R	SW,DOLBY-NR	
S832	EVQ21405R	SW,CD OPEN/CLOSE	
S833	EVQ21405R	SW,SEARCH BACKWARD	
S834	EVQ21405R	SW,SEARCH FORWARD	
S835	EVQ21405R	SW,CD PLAY	
S836	EVQ21405R	SW,CD STOP	
S837	EVQ21405R	SW,CD PAUSE	
S838	EVQ21405R	SW,EASY-EDIT	
S839	EVQ21405R	SW,RANDOM	
S840	EVQ21405R	SW,MUTE	
S951	RSH1A89ZD-U	SW,MODE DETECT (1)	
S952	RSH1A90YD-U	SW,TAPE DETECT (1)	
S953	RSH1A90YD-U	SW,CrO2 DETECT (1)	
S971	RSH1A89ZD-U	SW,MODE DETECT (2)	
S972	RSH1A90YD-U	SW,TAPE DETECT (2)	
S973	RSH1A90YD-U	SW,TAP DETECT (2)	
S974	RSH1A90YD-U	SW,TAP DETECT (2)	
S975	RSH1A90YD-U	SW,CrO2 DETECT (2)	
		CONNECTORS	
CN1	RJU063W07T	7P B-B CONNECTOR	
CN2	RJU063W07T	7P B-B CONNECTOR	
CN101	RJS9T4ZA	6 PIN CONNECTOR	
CN205	RJS8T4ZA	8P CONNECTOR	
CN302A	RJU077K20	20P B-B CONNECTOR	
CN302B	RJT077K20	20P B-B CONNECTOR	
CN303A	RJU077K20	20P B-B CONNECTOR	
CN303B	RJT077K20	20P B-B CONNECTOR	
CN601A	RJT066H06	6P B-B CONNECTOR	
CN601B	RJU066H06	6P B-B CONNECTOR	
CN602A	RJT066H06	6P B-B CONNECTOR	
CN602B	RJU066H06	6P B-B CONNECTOR	
CN603	RJP3G17ZA	3P CONNECTOR	
CN604	RJS1A6223-1	23P FFC CONNECTOR	
CN701	RJU035T016-1	16 PIN FFC CONNECTOR	
CN702	RJS1A6723-1Q	23 PIN FFC CONNCETOR	
CP1	RJT063W07T	7P CONNECTOR (TUNER)	
CP2	RJT063W07T	7P CONNECTOR (TUNER)	
CP102	RJP4G18ZA	4P CONNECTOR (2.0)	
CP103	RJP5G18ZA	5P CONNECTOR (2.0)	
CP401	RJP5G17ZA	5P CONNECTOR	

Ref. No	Part No.	Part Name & Description	Remarks
CP501	RJP5G18ZA	5P CONNECTOR	
CP701	RJP6G18ZA	6P CONNECTOR	
CP790	RJP6G17ZA	CONNECTOR	
		COILS & TRANSFORMERS	
L1	RLQZP1R2KT-Y	AXIAL COIL	(E,EB)
L2	RLQZPR47KT-Y	AXIAL COIL	(E,EB)
L3	RLQZPR47KT-Y	INDUCTOR	
L4	ELEPKR68MA	INDUCTOR	
L5	ELEPKR68MA	INDUCTOR	
L6	ELELN822KL	RF CHOCK COIL	
L7	ELELN822KL	RF CHOCK COIL	
L8	RLQZP1R0KT-Y	AXIAL COIL	
L9	SLM1B10-1M	A.B. FILTER	(EG)
L201	RL08C002M-T	BIAS OSC COIL	
L202	RLQZB470KT-D	RF CHOKE COIL	
L302	RLQZP100KT-Y	AXIAL COIL	(EG)
L401	SLQY07G-40	SP COIL	(EG)
L402	SLQY07G-40	SP COIL	(EG)
L501	RLQZ600-W	AC LINE FILTER	[M] (EG)
L601	RLQA3R3JT-D	AXIAL COIL	[M]
T1	RTP2M3B002	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z1	RLA6Z005M-T	AM ANT/OSC	
Z2	RLI2Z006M-T	AM IFT	
Z3	ENV17290G1R	FM TUNER PACK	(EG)
Z101	EXBF6L306SYV	BLOCK RESISTOR	
Z102	EXBF6L306SYV	BLOCK RESISTOR	
Z103	EXBF6L306SYV	BLOCK RESISTOR	
Z801	RCDHC-278N	REMO-CON SENSOR	
		CERAMIC FILTERS	
CF1	RLFFETNGA01L	FM CF	(EG)
CF1	RLFFETWNA01L	FM CF	(E,EB)
CF2	RLFFETNGA02L	FM CF	(EG)
CF2	RLFFETWNA01L	FM CF	(E,EB)
		OSCILLATORS	
X1	RSXZ456KM01	19KHZ OSC	
X2	RLFDFT12DD	FM RESONATOR	
X3	SVQ49U722T-S	7.2MHZ X'TAL	
X601	RSXD32K7S02	32.768KHZ X'TAL	[M]
X602	EF0EN6004T4	CERAMIC OSC	[M]

Ref. No	Part No.	Part Name & Description	Remarks
X701	RSXZ16M9M02T	CERAMIC OSC	
		DISPLAY TUBE	
FL601	RSL0191-F	FL	[M]
		FUSES	
F1	XBA2C08TB0	FUSE	⚠
		FUSE CLIPS	
FC1	EYF52BC	FUSE CLIP	
FC2	EYF52BC	FUSE CLIP	
		JACKS	
JK1	RJH8201	JK,ANTENNA	[M]
JK2	SJS208	JK,LOOP ANT	
JK301	RJH3209N	JK,RCA	[M]
JK401	RJR0054E	JK,SPEAKER	[M]
JK501	SJS9236	JK,AC	⚠
JK1101	RJJ37TK01-C	JK,MIC	
		RELAYS	
RLY501	RSY0013M-0	RELAY	⚠
		EARTH TERMINAL	
E201	SNE1004-2	EARTH TERMINAL	
E501	SNE1004-2	EARTH TERMINAL	

Ref. No	Part No.	Part Name & Description	Remarks
		WIRES	
W3	REX0435	WIRE,CD MOTOR	[M]
W401	REX0639	WIRE,5P	[M]
W501	REX0663	WIRE,5P	[M]
W603	REX0636	WIRE,3P	[M]
		ACCESSORIES	
A1	EUR643800	REMOTE CONTROL	[M]
A2	RJA0019-2K	AC CORD ⚠ (SF)	(E,EG)
A2	VJA0733	AC CORD ⚠ (SF)	[VRD](EB)
A3	SJP9009	ANTENNA ADAPTER	(EB)
A4	RQT2732-B	INSTRUCTION MANUAL	[M] (EB)
A4	RQT2733-E	INSTRUCTION MANUAL	[M] (EG)
A4	RFKSACH32EK	INSTRUCTION MANUAL	[M] (E)
A5	SLA9Z5T	LOOP ANT	[M]
A7	SSA270M	FM ANTENA	[M]
A8	XTN3+12AFZ	SCREW (ANT HOLDER)	
A10	RMN0244	ANT HOLDER	
A11	RQCB0169	SERVICE CENTRE LIST	
		PACKING MATERIALS	
P1	RPF0084	BAG (SET)	[M]
P2	RPF17	BAG (ANT. HOLDER)	
P3	RPG2339	GIFT BOX	[M](E,EG)
P3	RPG2340	GIFT BOX	[M] (EB)
P4	RPN0845	POLYFOAM	[M]
P6	SPSD155	ACCESSORY CASE	

■ Packaging



■ Resistors & Capacitors

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)
* The parenthesized indications in the Values & Remarks column specify the areas. (refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Values & Remarks
	RESISTORS	
R1	ERDS2TJ104T	100K 1/4W(E,EB)
R2	ERDS2TJ104T	100K 1/4W(E,EB)
R3	ERDS2TJ221T	220 1/4W (E,EB)
R4	ERDS2TJ104T	100K 1/4W(E,EB)
R5	ERDS2TJ564T	560K 1/4W(E,EB)
R6	ERDS2TJ391T	390 1/4W (E,EB)
R7	ERDS2TJ272T	2.7K 1/4W(E,EB)
R8	ERDS2TJ684T	680K 1/4W(E,EB)
R9	ERDS2TJ391T	390 1/4W (E,EB)
R10	ERDS2TJ391T	390 1/4W (E,EB)
R11	ERDS2TJ684T	680K 1/4W(E,EB)
R15	ERDS2TJ181T	180 1/4W
R16	ERDS2TJ822T	8.2K 1/4W
R17	ERDS2TJ331T	330 1/4W
R18	ERDS2TJ471T	470 1/4W
R19	ERDS2TJ474T	470K 1/4W
R20	ERDS2TJ562T	5.6K 1/4W
R21	ERDS2TJ822T	8.2K 1/4W
R22	ERDS2TJ473T	47K 1/4W
R23	ERDS2TJ332T	3.3K 1/4W
R24	ERDS2TJ472T	4.7K 1/4W
R25	ERDS2TJ271T	270 1/4W
R26	ERDS2TJ471T	470 1/4W
R27	ERDS2TJ272T	2.7K 1/4W
R28	ERDS2TJ473T	47K 1/4W
R29	ERDS2TJ680T	68 1/4W
R32	ERDS2TJ272T	2.7K 1/4W
R33	ERDS2TJ272T	2.7K 1/4W
R34	ERDS2TJ103T	10K 1/4W
R35	ERDS2TJ103T	10K 1/4W
R36	ERDS2TJ474T	470K 1/4W
R37	ERDS2TJ474T	470K 1/4W
R38	ERDS2TJ272T	2.7K 1/4W
R39	ERDS2TJ272T	2.7K 1/4W
R40	ERDS2TJ391T	390 1/4W
R41	ERDS2TJ102T	1K 1/4W
R42	ERDS2TJ102T	1K 1/4W
R43	ERDS2TJ102T	1K 1/4W
R44	ERDS2TJ102T	1K 1/4W
R45	ERDS2TJ102T	1K 1/4W
R46	ERDS2TJ104T	100K 1/4W
R47	ERDS2TJ562T	5.6K 1/4W
R48	ERDS2TJ391T	390 1/4W
R49	ERDS2TJ561T	560 1/4W
R50	ERDS2TJ102T	1K 1/4W
R51	ERDS2TJ103T	10K 1/4W
R52	ERDS2TJ102T	1K 1/4W
R53	ERDS2TJ102T	1K 1/4W
R54	ERDS2TJ102T	1K 1/4W
R55	ERDS2TJ102T	1K 1/4W
R56	ERDS2TJ102T	1K 1/4W
R57	ERDS2TJ103T	10K 1/4W
R58	ERDS2TJ103T	10K 1/4W
R60	ERDS2TJ563T	56K 1/4W
R61	ERDS2TJ102T	1K 1/4W
R63	ERDS2TJ102T	1K 1/4W
R64	ERDS2TJ820T	82 1/4W
R65	ERDS2TJ103T	10K 1/4W
R71	ERDS2TJ182T	1.8K 1/4W
R72	ERDS2TJ122T	1.2K 1/4W
R73	ERDS2TJ122T	1.2K 1/4W
R74	ERDS2TJ103T	10K 1/4W
R75	ERDS2TJ222T	2.2K 1/4W
R76	ERDS2TJ331T	330 1/4W
R77	ERDS2TJ474T	470K 1/4W
R101	ERDS2TJ334T	330K 1/4W
R102	ERDS2TJ104T	100K 1/4W
R103	ERDS2TJ153T	15K 1/4W
R104	ERDS2TJ153T	15K 1/4W
R105	ERDS2TJ271T	270 1/4W
R106	ERDS2TJ222T	2.2K 1/4W
R107	ERDS2TJ330T	33 1/4W
R108	ERDS2TJ330T	33 1/4W
R109	ERDS2TJ392T	3.9K 1/4W
R110	ERDS2TJ392T	3.9K 1/4W
R111	ERDS2TJ222T	2.2K 1/4W
R112	ERDS2TJ222T	2.2K 1/4W
R113	ERDS2TJ182T	1.8K 1/4W
R114	ERDS2TJ182T	1.8K 1/4W
R115	ERDS2TJ225T	2.2M 1/4W
R116	ERDS2TJ225T	2.2M 1/4W
R117	ERDS2TJ105T	1M 1/4W
R118	ERDS2TJ105T	1M 1/4W
R121	ERDS2TJ124T	120K 1/4W
R122	ERDS2TJ124T	120K 1/4W
R123	ERDS2TJ473T	47K 1/4W
R124	ERDS2TJ473T	47K 1/4W
R125	ERDS2TJ472T	4.7K 1/4W
R126	ERDS2TJ472T	4.7K 1/4W
R127	ERDS2TJ392T	3.9K 1/4W
R128	ERDS2TJ392T	3.9K 1/4W
R129	ERDS2TJ103T	10K 1/4W
R130	ERDS2TJ103T	10K 1/4W
R131	ERDS2TJ823T	82K 1/4W
R132	ERDS2TJ335T	3.3M 1/4W
R133	ERDS2TJ332T	3.3K 1/4W
R134	ERDS2TJ474T	470K 1/4W
R137	ERDS2TJ103T	10K 1/4W
R138	ERDS2TJ103T	10K 1/4W
R139	ERDS2TJ103T	10K 1/4W
R141	ERDS2TJ682T	6.8K 1/4W
R142	ERDS2TJ682T	6.8K 1/4W
R143	ERDS2TJ222T	2.2K 1/4W
R144	ERDS2TJ222T	2.2K 1/4W
R145	ERDS2TJ103T	10K 1/4W
R146	ERDS2TJ103T	10K 1/4W
R149	ERDS2TJ272T	2.7K 1/4W
R150	ERDS2TJ272T	2.7K 1/4W
R151	ERDS2TJ105T	1M 1/4W
R152	ERDS2TJ105T	1M 1/4W
R153	ERDS2TJ102T	1K 1/4W
R154	ERDS2TJ102T	1K 1/4W
R155	ERDS2TJ681T	680 1/4W
R156	ERDS2TJ681T	680 1/4W
R158	ERDS2TJ221T	220 1/4W
R159	ERDS2TJ222T	2.2K 1/4W
R160	ERDS2TJ222T	2.2K 1/4W

Ref. No.	Part No.	Values & Remarks
R161	ERDS2TJ472T	4.7K 1/4W
R162	ERDS2TJ472T	4.7K 1/4W
R163	ERDS2TJ433T	43K 1/4W
R169	ERDS2TJ102T	1K 1/4W
R170	ERDS2TJ102T	1K 1/4W
R172	ERDS2TJ331T	330 1/4W
R173	ERDS2TJ103T	10K 1/4W
R174	ERDS2TJ103T	10K 1/4W
R176	ERDS2TJ103T	10K 1/4W
R177	ERDS2TJ682T	6.8K 1/4W
R178	ERDS2TJ1R2T	1.2 1/4W
R179	ERDS2TJ472T	4.7K 1/4W
R180	ERDS2TJ472T	4.7K 1/4W
R181	ERDS2TJ332T	3.3K 1/4W
R182	ERDS2TJ1R0T	1 1/4W
R183	ERDS2TJ104T	100K 1/4W
R184	ERDS2TJ104T	100K 1/4W
R185	ERDS2TJ104T	100K 1/4W
R186	ERDS2TJ102T	1K 1/4W
R188	ERDS2TJ102T	1K 1/4W
R189	ERDS2TJ472T	4.7K 1/4W
R200	ERDS2TJ221T	220 1/4W
R201	ERDS2TJ2R7T	2.7 1/4W
R202	ERDS2TJ562T	5.6K 1/4W
R203	ERDS2TJ153T	15K 1/4W
R204	ERDS2TJ123T	12K 1/4W
R205	ERDS2TJ334T	330K 1/4W
R206	ERDS2TJ221T	220 1/4W
R207	ERDS2TJ2R7T	2.7 1/4W
R208	ERDS2TJ123T	12K 1/4W
R209	ERDS2TJ123T	12K 1/4W
R210	ERDS2TJ272T	2.7K 1/4W
R211	ERDS2TJ334T	330K 1/4W
R212	ERDS2TJ123T	12K 1/4W
R213	ERDS2TJ152T	1.5K 1/4W
R220	ERDS2TJ472T	4.7K 1/4W
R221	ERDS2TJ2R7T	2.7 1/4W
R225	ERDS2TJ2R7T	2.7 1/4W
R226	ERDS2TJ102T	1K 1/4W
R227	ERDS2TJ102T	1K 1/4W
R228	ERDS2TJ472T	4.7K 1/4W
R229	ERDS2TJ103T	10K 1/4W
R230	ERDS2TJ472T	4.7K 1/4W
R231	ERDS2TJ472T	4.7K 1/4W
R232	ERDS2TJ102T	1K 1/4W
R233	ERDS2TJ222T	2.2K 1/4W
R234	ERDS2TJ472T	4.7K 1/4W
R235	ERDS2TJ104T	100K 1/4W

Ref. No.	Part No.	Values & Remarks
R236	ERDS2TJ104T	100K 1/4W
R237	ERDS2TJ100T	10 1/4W
R301	ERDS2TJ223T	22K 1/4W
R302	ERDS2TJ223T	22K 1/4W
R303	ERDS2TJ822T	8.2K 1/4W(E,EB)
R304	ERDS2TJ822T	8.2K 1/4W
R307	ERDS2TJ102T	1K 1/4W
R308	ERDS2TJ222T	2.2K 1/4W
R309	ERDS2TJ391T	390 1/4W
R310	ERDS2TJ272T	2.7K 1/4W
R311	ERDS2TJ332T	3.3K 1/4W
R312	ERDS2TJ332T	3.3K 1/4W
R313	ERDS2TJ472T	4.7K 1/4W
R314	ERDS2TJ472T	4.7K 1/4W
R315	ERDS2TJ222T	2.2K 1/4W
R316	ERDS2TJ222T	2.2K 1/4W
R317	ERDS2TJ222T	2.2K 1/4W
R318	ERDS2TJ222T	2.2K 1/4W
R319	ERDS2TJ222T	2.2K 1/4W
R320	ERDS2TJ222T	2.2K 1/4W
R321	ERDS2TJ222T	2.2K 1/4W
R322	ERDS2TJ222T	2.2K 1/4W
R325	ERDS2TJ103T	10K 1/4W
R327	ERDS2TJ332T	3.3K 1/4W
R328	ERDS2TJ332T	3.3K 1/4W
R329	ERDS2TJ332T	3.3K 1/4W
R330	ERDS2TJ332T	3.3K 1/4W
R331	ERDS2TJ473T	47K 1/4W
R332	ERDS2TJ473T	47K 1/4W
R333	ERDS2TJ152T	1.5K 1/4W
R334	ERDS2TJ473T	47K 1/4W
R335	ERDS2TJ153T	15K 1/4W
R336	ERDS2TJ153T	15K 1/4W
R337	ERDS2TJ823T	82K 1/4W
R338	ERDS2TJ823T	82K 1/4W
R339	ERDS2TJ472T	4.7K 1/4W
R340	ERDS2TJ472T	4.7K 1/4W
R341	ERDS2TJ182T	1.8K 1/4W
R342	ERDS2TJ182T	1.8K 1/4W
R345	ERDS2TJ473T	47K 1/4W
R346	ERDS2TJ473T	47K 1/4W
R347	ERDS2TJ102T	1K 1/4W
R348	ERDS2TJ102T	1K 1/4W
R349	ERDS2TJ222T	2.2K 1/4W
R350	ERDS2TJ222T	2.2K 1/4W
R351	ERDS2TJ105T	1M 1/4W
R352	ERDS2TJ474T	470K 1/4W
R353	ERDS2TJ332T	3.3K 1/4W

Ref. No.	Part No.	Values & Remarks
R354	ERDS2TJ472T	4.7K 1/4W
R355	ERDS2TJ105T	1M 1/4W
R356	ERDS2TJ334T	330K 1/4W
R357	ERDS2TJ222T	2.2K 1/4W
R358	ERDS2TJ222T	2.2K 1/4W
R359	ERDS2TJ331T	330 1/4W
R360	ERDS2TJ331T	330 1/4W
R378	ERDS2TJ103T	10K 1/4W
R379	ERDS2TJ103T	10K 1/4W
R380	ERDS2TJ103T	10K 1/4W
R381	ERDS2TJ103T	10K 1/4W
R383	ERDS2TJ103T	10K 1/4W
R384	ERDS2TJ222T	2.2K 1/4W
R385	ERDS2TJ272T	2.7K 1/4W
R386	ERDS2TJ103T	10K 1/4W
R389	ERDS2TJ682T	6.8K 1/4W
R390	ERDS2TJ103T	10K 1/4W
R393	ERDS2TJ822T	8.2K 1/4W
R394	ERDS1FVJ100T	10 1/2W
R395	ERDS2TJ152T	1.5K 1/4W
R396	ERDS2TJ101T	100 1/4W
R397	ERDS2TJ102T	1K 1/4W
R398	ERDS2TJ102T	1K 1/4W
R401	ERDS2TJ102T	1K 1/4W
R402	ERDS2TJ102T	1K 1/4W
R403	ERDS2TJ272T	2.7K 1/4W
R404	ERDS2TJ272T	2.7K 1/4W
R405	ERDS2TJ104T	100K 1/4W
R406	ERDS2TJ104T	100K 1/4W
R407	ERDS2TJ104T	100K 1/4W
R408	ERDS2TJ104T	100K 1/4W
R409	ERDS2TJ392T	3.9K 1/4W
R410	ERDS2TJ392T	3.9K 1/4W
R411 ⚠	ERDS1FVJ470T	47 1/2W
R412	ERDS2TJ103T	10K 1/4W
R413	ERDS2TJ563T	56K 1/4W
R414	ERDS2TJ334T	330K 1/4W
R415 ⚠	ERDS2TJ100T	10 1/4W
R416 ⚠	ERDS2TJ100T	10 1/4W(EG)
R417	ERDS1FVJ100T	10 1/2W(EG)
R418 ⚠	ERDS1FVJ100T	10 1/2W
R419	ERDS2TJ823T	82K 1/4W
R420	ERDS2TJ124T	120K 1/4W
R504 ⚠	ERDS2TJ101T	100 1/4W
R505	ERDS2TJ152T	1.5K 1/4W
R506 ⚠	ERDS1FVJ3R3T	3.3 1/2W
R507 ⚠	ERDS1FVJ561T	560 1/2W
R508	ERDS2TJ151T	150 1/4W

Ref. No.	Part No.	Values & Remarks
R509	ERDS2TJ681T	680 1/4W
R510	ERDS2TJ563T	56K 1/4W
R511	ERDS2TJ103T	10K 1/4W
R513	ERDS2TJ1R0T	1 1/4W
R514	ERDS2TJ560T	56 1/4W
R515 ⚠	ERDS1FVJ100T	10 1/2W
R516	ERDS2TJ332T	3.3K 1/4W
R517	ERDS2TJ561T	560 1/4W
R518	ERDS2TJ473T	47K 1/4W
R519	ERDS2TJ472T	4.7K 1/4W
R520	ERDS2TJ472T	4.7K 1/4W
R521	ERDS2TJ472T	4.7K 1/4W
R522	ERDS2TJ183T	18K 1/4W
R523	ERDS2TJ102T	1K 1/4W
R524	ERDS2TJ153T	15K 1/4W
R525 ⚠	ERDS1FVJ2R2T	2.2 1/2W
R526 ⚠	ERDS1FVJ221T	220 1/2W
R527	ERDS2TJ101T	100 1/4W
R528	ERDS2TJ151T	150 1/4W
R529	ERDS2TJ103T	10K 1/4W
R530	ERDS2TJ103T	10K 1/4W
R533	ERDS2TJ470T	47 1/4W
R534	ERDS2TJ470T	47 1/4W
R535	ERDS2TJ470T	47 1/4W
R536	ERDS2TJ273T	27K 1/4W
R537	ERDS2TJ333T	33K 1/4W
R538	ERDS2TJ333T	33K 1/4W
R539	ERDS2TJ220T	22 1/4W
R540	ERDS2TJ220T	22 1/4W
R541	ERDS2TJ220T	22 1/4W
R601	ERDS2TJ101T	100 1/4W
R602	ERDS2TJ101T	100 1/4W
R603	ERDS2TJ101T	100 1/4W
R604	ERDS2TJ101T	100 1/4W
R605	ERDS2TJ103T	10K 1/4W
R606	ERDS2TJ103T	10K 1/4W
R607	ERDS2TJ103T	10K 1/4W
R608	ERDS2TJ103T	10K 1/4W
R609	ERDS2TJ103T	10K 1/4W
R612	ERDS2TJ561T	560 1/4W
R613	ERDS2TJ104T	100K 1/4W
R614	ERDS2TJ104T	100K 1/4W
R615	ERDS2TJ471T	470 1/4W
R616	ERDS2TJ473T	47K 1/4W
R617	ERDS2TJ102T	1K 1/4W
R618	ERDS2TJ104T	100K 1/4W
R619	ERDS2TJ104T	100K 1/4W
R620	ERDS2TJ104T	100K 1/4W

Ref. No.	Part No.	Values & Remarks
R621	ERDS2TJ104T	100K 1/4W
R622	ERDS2TJ101T	100 1/4W
R623	ERDS2TJ101T	100 1/4W
R624	ERDS2TJ106T	10M 1/4W
R625	ERDS2TJ334T	330K 1/4W
R626	ERDS2TJ105T	1M 1/4W
R627	ERDS2TJ681T	680 1/4W
R628	ERDS2TJ472T	4.7K 1/4W
R629	ERDS2TJ103T	10K 1/4W
R630	ERDS2TJ103T	10K 1/4W
R631	ERDS2TJ472T	4.7K 1/4W
R633	ERDS2TJ223T	22K 1/4W
R634	ERDS2TJ223T	22K 1/4W
R636	ERDS2TJ103T	10K 1/4W
R637	ERDS2TJ223T	22K 1/4W
R638	ERDS2TJ473T	47K 1/4W
R639	ERDS2TJ473T	47K 1/4W
R640	ERDS2TJ102T	1K 1/4W
R641	ERDS2TJ472T	4.7K 1/4W
R647	ERDS2TJ102T	1K 1/4W
R648	ERDS2TJ102T	1K 1/4W
R649	ERDS2TJ103T	10K 1/4W
R650	ERDS2TJ221T	220 1/4W
R652	ERDS2TJ102T	1K 1/4W
R653	ERDS2TJ102T	1K 1/4W
R654	ERDS2TJ102T	1K 1/4W
R655	ERDS2TJ102T	1K 1/4W
R656	ERDS2TJ102T	1K 1/4W
R657	ERDS2TJ102T	1K 1/4W
R658	ERDS2TJ103T	10K 1/4W
R659	ERDS2TJ223T	22K 1/4W
R660	ERDS2TJ223T	22K 1/4W
R665	ERDS2TJ104T	100K 1/4W
R666	ERDS2TJ104T	100K 1/4W
R667	ERDS2TJ104T	100K 1/4W
R668	ERDS2TJ103T	10K 1/4W
R669	ERDS2TJ473T	47K 1/4W
R670	ERDS2TJ102T	1K 1/4W
R671	ERDS2TJ182T	1.8K 1/4W
R701	ERJ6GEYJ100V	10 1/10W
R702	ERJ6GEYJ471V	470 1/10W
R703	ERJ6GEYJ823V	82K 1/10W
R704	ERJ6GEYJ102V	1K 1/10W
R705	ERJ6GEYJ103V	10K 1/10W
R706	ERJ6GEYJ102V	1K 1/10W
R707	ERJ6GEYJ473V	47K 1/10W
R708	ERJ6GEYJ104V	100K 1/10W
R709	ERJ6GEYJ683V	68K 1/10W

Ref. No.	Part No.	Values & Remarks
R711	ERJ6GEYJ154V	150K 1/10W
R712	ERJ6GEYJ221V	220 1/10W
R717	ERJ6GEYJ102V	1K 1/10W
R718	ERJ6GEYJ102V	1K 1/10W
R719	ERJ6GEYJ102V	1K 1/10W
R720	ERJ6GEYJ102V	1K 1/10W
R721	ERJ6GEYJ101V	100 1/10W
R722	ERJ6GEYJ563V	56K 1/10W
R723	ERJ6GEYJ182V	1.8K 1/10W
R724	ERJ6GEYJ333V	33K 1/10W
R725	ERJ6GEYJ472V	4.7K 1/10W
R726	ERJ6GEYJ473V	47K 1/10W
R727	ERJ6GEYJ103V	10K 1/10W
R728	ERJ6GEYJ392V	3.9K 1/10W
R730	ERJ6GEYJ331V	330 1/10W
R731	ERJ6GEYJ392V	3.9K 1/10W
R734	ERJ6GEYJ101V	100 1/10W
R735	ERJ6GEYJ101V	100 1/10W
R736	ERJ6GEYJ101V	100 1/10W
R738	ERJ6GEYJ223V	22K 1/10W
R739	ERJ6GEYJ681V	680 1/10W
R741	ERJ6GEYJ562V	5.6K 1/10W
R742	ERJ6GEYJ562V	5.6K 1/10W
R743	ERJ6GEYJ562V	5.6K 1/10W
R744	ERJ6GEYJ103V	10K 1/10W
R745	ERJ6GEYJ155V	1.5M 1/10W
R748	ERJ6GEYJ182V	1.8K 1/10W
R749	ERJ8GEYJ103V	10K 1/8W
R801	ERDS2TJ102T	1K 1/4W
R802	ERDS2TJ102T	1K 1/4W
R803	ERDS2TJ122T	1.2K 1/4W
R804	ERDS2TJ182T	1.8K 1/4W
R805	ERDS2TJ222T	2.2K 1/4W
R806	ERDS2TJ272T	2.7K 1/4W
R807	ERDS2TJ472T	4.7K 1/4W
R808	ERDS2TJ682T	6.8K 1/4W
R809	ERDS2TJ103T	10K 1/4W
R810	ERDS2TJ223T	22K 1/4W
R811	ERDS2TJ102T	1K 1/4W
R812	ERDS2TJ102T	1K 1/4W
R813	ERDS2TJ122T	1.2K 1/4W
R814	ERDS2TJ182T	1.8K 1/4W
R815	ERDS2TJ222T	2.2K 1/4W
R816	ERDS2TJ272T	2.7K 1/4W
R817	ERDS2TJ472T	4.7K 1/4W
R818	ERDS2TJ682T	6.8K 1/4W
R819	ERDS2TJ103T	10K 1/4W
R820	ERDS2TJ102T	1K 1/4W

Ref. No.	Part No.	Values & Remarks
R821	ERDS2TJ102T	1K 1/4W
R822	ERDS2TJ122T	1.2K 1/4W
R823	ERDS2TJ182T	1.8K 1/4W
R824	ERDS2TJ222T	2.2K 1/4W
R825	ERDS2TJ272T	2.7K 1/4W
R826	ERDS2TJ472T	4.7K 1/4W
R827	ERDS2TJ682T	6.8K 1/4W
R828	ERDS2TJ103T	10K 1/4W
R829	ERDS2TJ223T	22K 1/4W
R830	ERDS2TJ102T	1K 1/4W
R831	ERDS2TJ102T	1K 1/4W
R832	ERDS2TJ122T	1.2K 1/4W
R833	ERDS2TJ182T	1.8K 1/4W
R834	ERDS2TJ222T	2.2K 1/4W
R835	ERDS2TJ272T	2.7K 1/4W
R836	ERDS2TJ472T	4.7K 1/4W
R1100	ERDS2TJ151T	150 1/4W
R1101	ERDS2TJ151T	150 1/4W
R1102	ERDS2TJ151T	150 1/4W
R1103	ERDS2TJ151T	150 1/4W
	CAPACITORS	
C1	ECBT1H5R6KC5	5.6P 50V(E,EB)
C2	RCBS1H102KBY	1000P 50V(E,EB)
C3	ECBT1H2R2KC5	2.2P 50V (E,EB)
C4	ECBT1H181KB5	180P 50V (E,EB)
C5	ECBT1H5R6KC5	5.6P 50V (E,EB)
C6	ECBT1H3R3KC5	3.3P 50V (E,EB)
C7	ECBT1H4R7KC5	4.7P 50V (E,EB)
C8	ECBT1H3R3KC5	3.3P 50V (E,EB)
C9	ECBT1H2R2KC5	2.2P 50V (E,EB)
C10	ECBT1H180JC5	18P 50V (E,EB)
C11	RCBS1H102KBY	1000P 50V (E,EB)
C15	ECBT1C103MS5	0.01 16V
C16	ECEA1CU220B	22 16V
C17	ECBT1C103MS5	0.01 16V
C18	ECBT1H102KB5	1000P 50V
C19	ECBT1C103MS5	0.01 16V
C20	ECEA1HKA3R3B	3.3 50V
C21	ECEA0JU101B	100 6.3V
C22	ECBT1C103MS5	0.01 16V
C23	ECEA1CU220B	22 16V
C24	ECBT1H473ZF5	0.047 50V
C25	ECEA1HKA4R7B	4.7 50V
C26	ECBT1C822MS5	8200P 16V
C27	ECQP1821JZ	820P 100V
C28	ECEA1HKA010B	1 50V

Ref. No.	Part No.	Values & Remarks
C29	ECFR1C103KR	0.01 16V
C30	ECFR1C103KR	0.01 16V
C31	ECBT1H150JC5	15P 50V
C32	ECBT1C103MS5	0.01 16V
C33	ECEA1HKA2R2B	2.2 50V
C34	ECEA1HKA010B	1 50V
C35	ECEA1HKA010B	1 50V
C36	ECEA1HKA010B	1 50V
C37	ECEA1HKA010B	1 50V
C38	ECBT1C822MS5	8200P 16V
C39	ECBT1C822MS5	8200P 16V
C40	ECBT1H561KB5	560P 50V
C41	ECBT1H561KB5	560P 50V
C42	ECBT1C562MR5	5600P 16V
C43	ECBT1C562MR5	5600P 16V
C44	ECEA1CU101B	100 16V
C45	ECEA1HKA010B	1 50V
C46	ECEA1HKA010B	1 50V
C47	ECBT1H473ZF5	0.047 50V
C48	ECBT1H100JC5	10P 50V
C49	ECBT1H331KB5	330P 50V
C51	ECBT1C103MS5	0.01 16V
C52	ECEA25M4R7RB	4.7 25V
C53	ECBT1C103MS5	0.01 16V
C54	ECBT1H180JC5	18P 50V
C55	ECBT1H150JC5	15P 50V
C56	ECBT1H102KB5	1000P 50V
C57	ECEA0JU101B	100 6.3V
C59	ECBT1H330J5	33P 50V
C60	ECBT1H102KB5	1000P 50V
C61	ECBT1H331KB5	330P 50V
C62	ECEA1CU220B	22 16V
C63	ECBT1C103MS5	0.01 16V
C64	ECBT1C103MS5	0.01 16V
C65	ECBT1H102KB5	1000P 50V
C66	ECBT1H102KB5	1000P 50V
C67	ECBT1H102KB5	1000P 50V
C68	ECBT1H102KB5	1000P 50V
C71	ECBT1H331KB5	330P 50V
C72	ECBT1H471KB5	470P 50V (EG)
C73	ECBT1H3R3KC5	3.3P 50V (EG)
C101	ECBT1H102KB5	1000P 50V
C102	ECBT1H102KB5	1000P 50V
C103	ECBT1H681KB5	680P 50V
C104	ECFR1C223MR	0.022 16V
C105	ECBT1H471KB5	470P 50V
C106	ECBT1H471KB5	470P 50V
C107	ECBT1H681KB5	680P 50V

Ref. No.	Part No.	Values & Remarks
C108	ECEA1AU330B	33 10V
C109	ECEA1AU101B	100 10V
C111	ECBT1H331KB5	330P 50V
C112	ECBT1H331KB5	330P 50V
C113	ECEA0JU221B	220 6.3V
C114	ECEA0JU221B	220 6.3V
C115	ECFR1C333JR	0.033 16V
C116	ECFR1C333JR	0.033 16V
C117	ECEA1HKA010B	1 50V
C118	ECEA1HU010B	1 50V
C119	ECEA1EU4R7B	4.7 25V
C120	ECEA1EU4R7B	4.7 25V
C121	ECEA1HU010B	1 50V
C122	ECEA1HU010B	1 50V
C123	ECBT1H102KB5	1000P 50V
C124	ECBT1H102KB5	1000P 50V
C125	ECFR1C473MR	0.047 16V
C126	ECFR1C473MR	0.047 16V
C127	ECBT1C332KR5	3300P 16V
C128	ECBT1C332KR5	3300P 16V
C129	ECBT1H151KB5	150P 50V
C130	ECBT1H151KB5	150P 50V
C131	ECBT1H221KB5	220P 50V
C132	ECBT1H221KB5	220P 50V
C133	ECEA1EU4R7B	4.7 25V
C134	ECEA1EU4R7B	4.7 25V
C135	ECBT1H102KB5	1000P 50V
C136	ECBT1H102KB5	1000P 50V
C137	ECFR1C183KR	0.018 16V
C138	ECFR1C183KR	0.018 16V
C139	ECEA1HU2R2B	2.2 50V
C140	ECEA1CU100B	10 16V
C141	ECEA1HU0R1B	0.1 50V
C142	ECFR1C223MR	0.022 16V
C143	ECEA1HU010B	1 50V
C144	ECEA1HU010B	1 50V
C145	ECEA1CU100B	10 16V
C146	ECEA1CU100B	10 16V
C150	ECEA1AU470B	47 10V
C151	ECEA1HU010B	1 50V
C152	ECEA1HU010B	1 50V
C153	ECBT1H102KB5	1000P 50V
C154	ECBT1H102KB5	1000P 50V
C155	ECEA1CU100B	10 16V
C156	ECEA1CU100B	10 16V
C161	ECEA1CU101B	100 16V
C162	ECA0JM471B	470 6.3V
C163	ECEA1HU010B	1 50V

Ref. No.	Part No.	Values & Remarks
C164	ECEA1HKA010B	1 50V
C165	ECEA1CKA100B	10 16V
C166	ECEA1CU100B	10 16V
C167	ECEA50ZR68B	0.68 50V
C168	ECEA50ZR68B	0.68 50V
C169	ECEA1EU4R7B	4.7 25V
C170	ECEA1EU4R7B	4.7 25V
C171	ECEA1CKS100B	10 16V
C173	ECBT1C103MS5	0.01 16V
C174	ECEA1EU4R7B	4.7 25V
C175	ECEA1CU101B	100 16V
C176	ECQV1H473JZ3	0.047 50V
C177	ECBT1H102KB5	1000P 50V
C178	ECBT1H102KB5	1000P 50V
C179	ECBT1C103MS5	0.01 16V
C180	ECFR1C103MR	0.01 16V
C181	ECBT1C103MS5	0.01 16V
C182	ECEA1EU4R7B	4.7 25V
C183	ECQV1H474JZ3	0.47 50V
C184	ECQP2A152JZT	1500P 100V
C185	ECQP2A472JZT	4700P 100V
C186	ECEA1AU470B	47 10V
C187	ECBT1H101KB5	100P 50V
C188	ECBT1H101KB5	100P 50V
C189	ECQP2A272JZT	2700P 100V
C190	ECBT1C103MS5	0.01 16V
C201	ECEA1CKA101B	100 16V
C202	ECBT1H104ZF5	0.1 50V
C301	ECBT1H331KB5	330P 50V (EG)
C302	ECBT1H331KB5	330P 50V (EG)
C303	ECBT1E103ZF5	0.01 25V
C304	ECBT1E103ZF5	0.01 25V
C305	ECBT1C182MR5	1800P 16V
C306	ECBT1C182MR5	1800P 16V
C307	ECEA1CKA100B	10 16V
C308	ECEA1CKA100B	10 16V
C309	ECEA1HKA0R1B	0.1 50V
C310	ECEA1HKA0R1B	0.1 50V
C311	ECEA1HKAR22B	0.22 50V
C312	ECEA1HKAR22B	0.22 50V
C313	ECBT1C222MR5	2200P 16V
C314	ECBT1C222MR5	2200P 16V
C315	ECEA1HKAR22B	0.22 50V
C316	ECEA1HKAR22B	0.22 50V
C317	ECEA1HKA0R1B	0.1 50V
C318	ECEA1HKA0R1B	0.1 50V
C319	ECBT1H470J5	47P 50V
C320	ECBT1H470J5	47P 50V
C321	ECBT1H470J5	47P 50V
C322	ECBT1E103ZF5	0.01 25V (E,EB)
C322	ECBT1E223ZF5	0.022 25V (EG)
C323	ECEA1HKAR47B	0.47 50V
C324	ECBT0J223MS5	0.022 6.3V
C325	ECEA1HKA3R3B	3.3 50V
C326	ECEA1HKA3R3B	3.3 50V
C327	ECEA1HKAR33B	0.33 50V
C328	ECEA1HKAR33B	0.33 50V
C330	ECEA1CU220B	22 16V
C331	ECEA1HKA2R2B	2.2 50V
C332	ECBT1E103ZF5	0.01 25V
C333	ECBT1H100J5	10P 50V
C334	ECBT1H100J5	10P 50V
C335	ECBT1E103ZF5	0.01 25V
C336	ECEA1HKA010B	1 50V
C337	ECEA1HKA3R3B	3.3 50V
C338	ECEA1HKA3R3B	3.3 50V
C339	ECEA1HKAR47B	0.47 50V
C340	ECEA1HKAR47B	0.47 50V
C341	ECEA1AU470B	47 10V
C342	ECEA1HKA010B	1 50V
C349	ECBT1H101KB5	100P 50V
C350	ECBT1H104ZF5	0.1 50V
C351	ECBT1H101KB5	100P 50V
C352	ECEA1AKA330B	33 10V
C353	ECBT1E103ZF5	0.01 25V
C354	ECBT1C472MR5	4700P 16V
C355	ECBT1C472MR5	4700P 16V
C357 ⚠	ECEA1HKA2R2B	2.2 50V
C358 ⚠	ECEA1HKA2R2B	2.2 50V
C401	ECEA1HKA010B	1 50V
C402	ECEA1HKA010B	1 50V
C403	ECBT1H331KB5	330P 50V
C404	ECBT1H331KB5	330P 50V
C405	ECBT1H102KB5	1000P 50V
C406	ECBT1H102KB5	1000P 50V
C407	ECBT1H150J5	15P 50V (E,EB)
C407	ECBT1H330J5	33P 50V (EG)
C408	ECBT1H150J5	15P 50V (E,EB)
C408	ECBT1H330J5	33P 50V (EG)
C409	ECBT1H101KB5	100P 50V (EG)
C410	ECBT1H101KB5	100P 50V (EG)
C411	ECBT0J153MS5	0.015 6.3V
C412	ECBT0J153MS5	0.015 6.3V
C413	ECEA1HKA010B	1 50V
C414	ECEA1HKA010B	1 50V
C415	ECEA1HU470B	47 50V
C416	ECEA2AU100B	10 100V
C417	ECKR1H223ZF5	0.022 50V
C418	ECKR1H223ZF5	0.022 50V
C419	ECBT1H101KB5	100P 50V (EG)
C420	ECBT1H101KB5	100P 50V (EG)
C421	ECBT1E103ZF5	0.01 25V (EG)
C423	ECKR1H473ZF5	0.047 50V (EG)
C424	ECKR1H473ZF5	0.047 50V (EG)
C501 ⚠	ECKR1H223ZF5	0.022 50V
C502 ⚠	ECKR1H223ZF5	0.022 50V
C503 ⚠	ECKR1H223ZF5	0.022 50V
C504 ⚠	ECKR1H223ZF5	0.022 50V
C505	ECKR1H223ZF5	0.022 50V
C506	ECKR1H223ZF5	0.022 50V
C507	ECEA1VU222E	2200 10V
C508	ECBT1E103ZF5	0.01 25V
C509	ECEA1HU220B	22 50V
C510	ECEA1HKA010B	1 50V
C511	ECEA1AU101B	100 10V
C512	ECEA1AU221B	220 10V
C513	ECEA0JKA470B	47 6.3V
C514	ECEA1AU470B	47 10V
C515	ECEA1CU470B	47 16V
C516	ECEA0JU101B	100 6.3V
C517	ECBT1E103ZF5	0.01 25V
C518 ⚠	ECEA1AU220B	22 10V
C519	ECBT1E103ZF5	0.01 25V
C520	ECEA1CU101B	100 16V
C521	ECBT1E103ZF5	0.01 25V
C522	ECEA1CU101B	100 16V
C523	ECEA1HKA3R3B	3.3 50V
C524	ECBT1E103ZF5	0.01 25V
C525	ECEA1HU330B	33 50V
C526	ECKR1H103ZF5	0.01 50V
C527	ECKR1H103ZF5	0.01 50V
C528	ECEA1HU101B	100 50V
C529	ECBT1E103ZF5	0.01 25V
C530	ECEA0JKA220B	22 6.3V
C531	ECEA1AKA101B	100 10V
C532	ECEA1EN4R7SB	4.7 25V
C534	ECEA1AU101B	100 10V
C535	ECEA0JU221B	220 6.3V
C536	ECEA1CKA100B	10 16V
C537 ⚠	ECEA1VU222E	2200 10V
C538 ⚠	ECEA1VU222E	2200 10V
C539	ECQE1224KZ	0.22 100V
C601	ECBT1H561KB5	560P 50V
C602	ECBT1H561KB5	560P 50V

Ref. No.	Part No.	Values & Remarks
C603	ECBT1H561KB5	560P 50V
C604	ECBT1H561KB5	560P 50V
C605	ECEA0JKA470B	47 6.3V
C606	ECEA1AKA220B	22 10V
C607	ECBT1H102KB5	1000P 50V
C608	ECBT1H102KB5	1000P 50V
C609	ECEA0JKA101B	100 6.3V
C610	ECEA0JU102B	1000 6.3V
C611	ECEA0JU102B	1000 6.3V
C612	ECBT1C103MS5	0.01 16V
C613	ECEA1HKAR47B	0.47 50V
C614	ECEA1HKA010B	1 50V
C615	ECEA1HKA010B	1 50V
C616	ECEA1HKA010B	1 50V
C617	ECEA1HKA3R3B	3.3 50V
C619	ECEA1HKA3R3B	3.3 50V
C620	ECBT1H101KB5	100P 50V
C621	ECBT1H101KB5	100P 50V
C622	ECBT1H180JC5	18P 50V
C623	ECBT1H220JC5	22P 50V
C624	ECBT1H680J5	68P 50V
C625	ECBT1H680J5	68P 50V
C626	ECBT1H102KB5	1000P 50V
C627	ECBT1H560J5	56P 50V
C628	ECBT1H560J5	56P 50V
C629	ECBT1H102KB5	1000P 50V
C630	ECBT1C103MS5	0.01 16V
C631	ECBT1C103MS5	0.01 16V
C632	ECBT1H102KB5	1000P 50V
C633	ECBT1H561KB5	560P 50V
C634	ECBT1H561KB5	560P 50V
C635	ECBT1H561KB5	560P 50V
C636	ECBT1H561KB5	560P 50V
C637	ECBT1H561KB5	560P 50V
C638	ECBT1H561KB5	560P 50V
C701	ECEA0JKA220I	22 6.3V

Ref. No.	Part No.	Values & Remarks
C702	ECEA1HKA010I	1 50V
C703	ECEA0JKA101I	100 6.3V
C704	ECUZ1E104MBN	0.1 25V
C705	ECEA1HKA010I	1 50V
C706	ECUV1H101JCN	100P 50V
C707	ECUV1E273KBN	0.027 25V
C708	ECUV1H472KBN	4700P 50V
C709	ECUV1C473KBN	0.047 16V
C710	ECUV1H152KBN	1500P 50V
C711	ECUZ1E104MBN	0.1 25V
C712	ECUZ1E104MBN	0.1 25V
C713	ECUV1C104MBM	0.1 16V
C714	ECEA0JKA101I	100 6.3V
C715	ECEA0JKA470I	47 6.3V
C716	ECUV1H561KBN	560P 50V
C717	ECUZ1E104MBN	0.1 25V
C718	ECUV1C224KBM	0.22 16V
C721	ECUV1H270JCN	27P 50V
C722	ECUV1H270JCN	27P 50V
C723	ECEA1AKA221I	220 10V
C724	ECUV1C104MBM	0.1 16V
C725	ECUV1H102KBN	1000P 50V
C726	ECUV1H102KBN	1000P 50V
C727	ECEA1HPK010I	1 50V
C728	ECEA1HPK010I	1 50V
C730	ECUZ1E104MBN	0.1 25V
C731	ECEA0JKA221I	220 6.3V
C732	ECEA0JKA221I	220 6.3V
C733	ECUZ1E104MBN	0.1 25V
C734	ECEA1AKA221I	220 10V
C735	ECUZ1E104MBN	0.1 25V
C736	ECUZ1E104MBN	0.1 25V
C737	ECUZ1E104MBN	0.1 25V
C738	ECUV1C154KBN	0.15 16V
C742	ECUV1E273KBN	0.027 25V
C743	ECUZ1E104MBN	0.1 25V

Ref. No.	Part No.	Values & Remarks
C744	ECUV1E822KBN	8200P 25V
C745	ECUV1C473MBN	0.047 16V
C746	ECUV1H050DCN	5P 50V
C747	ECUV1H222KBN	2200P 50V
C748	ECUV1H471KBM	470P 50V
C790	ECA1AKF820E	82 10V
C951	ECBT1H101KB5	100P 50V
C971	ECBT1H101KB5	100P 50V
C1100	ECBT1C332MR5	3300P 16V
C1101	ECBT1C332MR5	3300P 16V
	CLIPS JUMPERS	
R701	ERJ8GEY0R00A	0 1/10W
R702	ERJ8GEY0R00A	0 1/10W
RJ703	ERJ8GEY0R00A	0 1/10W
RJ704	ERJ8GEY0R00A	0 1/10W
RJ707	ERJ8GEY0R00A	0 1/10W
RJ708	ERJ8GEY0R00A	0 1/10W
RJ709	ERJ8GEY0R00A	0 1/10W
RJ714	ERJ8GEY0R00A	0 1/10W
RJ715	ERJ8GEY0R00A	0 1/10W
RJ716	ERJ8GEY0R00A	0 1/10W
RJ717	ERJ8GEY0R00A	0 1/10W
RJ721	ERJ6GEY0R00A	0 1/10W
RJ724	ERJ6GEY0R00A	0 1/10W
RJ725	ERJ6GEY0R00A	0 1/10W
RJ726	ERJ6GEY0R00A	0 1/10W
RJ799	ERJ6GEY0R00A	0 1/10W
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER
TJ702	EYF8CU	TEST JUMPER

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G941210500 S/A/J/C