

# FR-TC5000 K(S)



# SERVICE MANUAL

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CD CLOCK RADIO

BASIC CD MECHANISM: BZG-4 AB2NC1

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This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-02A-454-9T2).

**aiwa**

S/M Code No. 09-02A-454-9R2

REVISION

DATA

## SPECIFICATIONS -1/1

### <Tuner section>

#### Frequency range

FM: 87.5 – 108 MHz  
(50 kHz steps)  
MW: 531 – 1,602 kHz  
(9 kHz steps)  
LW: 144 – 288 kHz  
(9 kHz steps)

#### Antenna

FM: Wire antenna  
LW, MW: Ferrite bar antenna

### <CD player section>

#### Tracking system

#### Laser pickup

#### D/A conversion

3-beam laser  
Semiconductor laser  
8-times oversampling digital  
filter + 1-bit DAC  
20 – 20,000 Hz

#### Frequency response

### <Common section>

#### Power source

#### Output

#### Power consumption

#### Speaker

AC 230 V, 50 Hz  
1,000 mW + 1,000 mW (JEITA)  
15 W  
66 mm, 8 ohms (2)


### Maximum outside dimensions (W × H × D)

216 × 193 × 261 mm  
(excluding projecting parts and  
controls)

### Weight

Approx. 2.85 kg  
(excluding the backup battery)

The specifications and external appearance are subject to  
change without notice.

Specifications, trade mark, model name and double square  
symbol  are marked on the bottom of the unit.

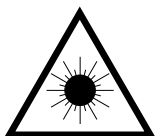
- Design and specifications are subject to change without notice.

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING -1/1

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.

Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstråling, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### ATTENTION

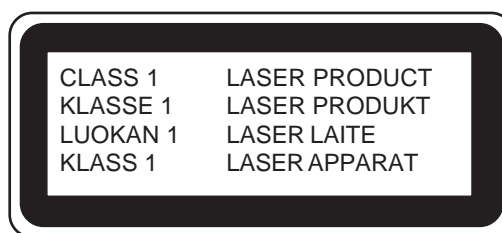
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.



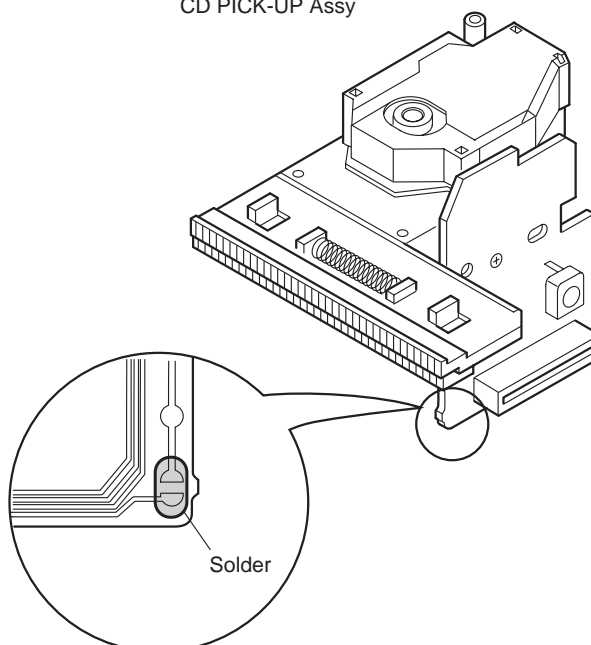
## Precaution to replace Optical block

### (BZL-5 A1NF)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

CD PICK-UP Assy



# ACCESSORIES PARTS LIST -1/1

! =  SAFETY PARTS

C = Components marked

All components used on this model at the production line are shown in this service manual.

However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000
					KSC
	O	AS1001	8C-RD2-908-010	IB, (K)	a
	! O	AS1002	87-099-726-110	EURO CONVERTOR PLUG 250V/2.5A	a

## SERVICE PRECAUTIONS -1/2

### 1. Disassembly Procedure

1. Remove 4 screws of a main part bottom.
2. Remove 2 screws of a inside CD lid (No-1 portion of Photo-1).
3. The speaker net left and right is removed, left and right each 2 screws are removed. (No-2 portion of Photo-1)

Reference Photo-1



Photo-1

### 2. Service Position

1. When Checking CD main circuit board.  
Remove 6 screws (Photo-2, No-1), remove the CD Mechanism and you verify when it is stabilized.
2. When CD Mechanism Assy is taken out.  
Remove 6 screws (Photo-2, No-2) and remove 1 screw of a substance bottom central and the Mechanism is removed.

Reference Photo-2

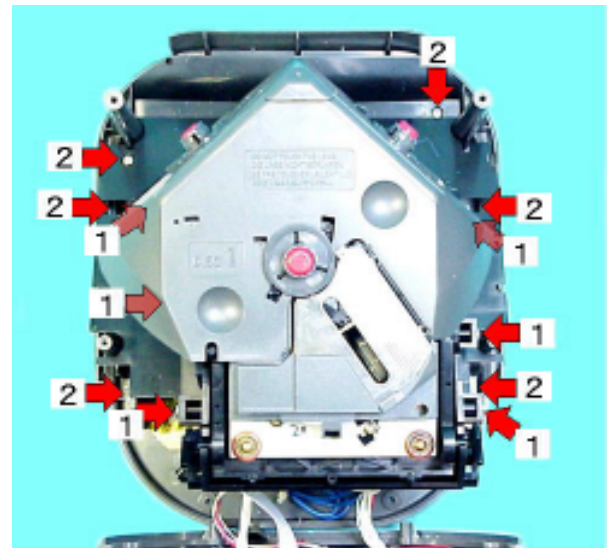


Photo-2

### 3. Test Mode

#### 1. CD test mode starting method

While pushing the FUNCTION button of the substance, insert the AC plug in the power source electrical outlet.

Test mode starts and the DISPLAY lights up all.

Reference Photo-3



Photo-3

#### 2. CD test mode cancellation method







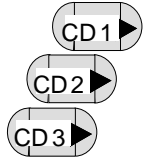
Push the Power button and turn off a power supply.

Push the FUNCTION button again.

Test mode is canceled by one of methods.

## SERVICE PRECAUTIONS -2/2

### 3. CD test mode functional explanation

MODE	Operation Key	Display	Operation	Contents
Start Mode	FUNCTION 	All-points light	Test mode starting	
Search Mode		All-points light	All SERVO OFF LASER ON VCC ON	APC circuit check Leather current measurement Focus error waveform check  (Notes 1) PU lens repeats full swing operation.
Play Mode		Track No, Disc No, and performance time are displayed.	Normality playback When TOC READ is improper, it is the same operation as search mode.	Focus Servo check Tracking Servo check CLV Servo check Sled Servo check
Traverse Mode		Track No, and performance time are displayed.	Playback pause state (Note 2)	Tracking Servo OFF
STOP		All-points light	Stand by	ALL SERVO OFF LASER ON/OFF
Sled Mode		All-points light	The pickup moves to outer circle.  The pickup moves to the inside perimeter.	Sled Servo / Mechanism operation check
DISC Change		All-points light	It changes to specified DISC (Notes 3).	Mechanism operation check

Notes 1: Do not continue operating Search Mode 10 minutes or more continuously for driver IC protection.

Notes 2: When canceling Traverse Mode, the PLAY button  is pushed once again.

Notes 3: Operation after Disc Change is equivalent to Play Mode.

# ELECTRICAL PARTS LIST -1/8

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					FR-TC5000 KSC
CD	O C	0101	S1-101-001-0C0	CAP,E 100-10V	a
CD	O C	0102	S1-101-001-0C0	CAP,E 100-10V	a
CD	X C	0103	S5-102-120-500	C-CAP,0.001UF-50V	a
CD	X C	0104	S5-224-820-160	C-CAP,0.22UF-16V	a
CD	X C	0105	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0121	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0122	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0123	S5-473-120-250	C-CAP,0.047-25V	a
CD	X C	0124	S5-223-120-500	C-CAP,0.022-50V	a
CD	X C	0125	S6-471-520-500	C-CAP,470PF-50V	a
CD	O C	0126	87-A10-260-080	C-CAP,0.1-16	a
CD	O C	0127	S1-101-001-0C0	CAP,E 100-10V	a
CD	O C	0128	S1-101-001-0C0	CAP,E 100-10V	a
CD	X C	0129	S5-333-120-250	C-CAP,0.033-25V	a
CD	X C	0130	S5-222-120-500	C-CAP,0.0022UF-50V	a
CD	O C	0131	87-A10-260-080	C-CAP,0.1-16	a
CD	O C	0132	87-A10-260-080	C-CAP,0.1-16	a
CD	O C	0133	87-A10-260-080	C-CAP,0.1-16	a
CD	X C	0134	S6-151-520-500	C-CAP,150PF-50V	a
CD	O C	0135	S2-020-005-0C0	CAP,E 2.2-50V	a
					FR-TC5000 KSC
CD	O C	0136	87-A10-260-080	C-CAP,0.1-16	a
CD	X C	0137	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0139	S6-151-520-500	C-CAP,150PF-50V	a
CD	X C	0140	S5-473-120-250	C-CAP,0.047-25V	a
CD	O C	0141	S2-220-001-6C0	CAP,E 22-16V	a
CD	O C	0142	S2-040-003-5C0	CAP,E 4.7-35V	a
CD	X C	0143	S5-153-120-500	C-CAP,0.015P-50V	a
CD	O C	0144	S1-101-001-0C0	CAP,E 100-10V	a
CD	X C	0145	S5-103-120-250	C-CAP,0.01-25V	a
CD	O C	0153	S2-010-005-0C0	CAP,E 1-50V	a
CD	X C	0155	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0156	S5-333-120-250	C-CAP,0.033-25V	a
CD	X C	0157	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0158	S5-333-120-250	C-CAP,0.033-25V	a
CD	X C	0160	S6-330-520-500	C-CAP,33PF-50V	a
CD	X C	0161	S5-272-120-500	C-CAP,0.0027-50V	a
CD	O C	0181	S1-470-001-6C0	CAP,E 4-16V	a
CD	X C	0182	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0185	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0191	S5-473-120-250	C-CAP,0.047-25V	a
					FR-TC5000 KSC
CD	X C	0192	S5-681-120-500	C-CAP,680P-50V	a
CD	X C	0193	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0194	S6-221-520-500	C-CAP,220PF-50V	a
CD	X C	0195	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0197	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0199	S5-472-120-500	C-CAP,0.0047-50V	a
CD	X C	0201	S5-104-821-250	C-CAP,0.1-25	a
CD	O C	0202	S2-100-001-6C0	CAP,E 10-16V	a
CD	O C	0203	S2-100-001-6C0	CAP,E 10-16V	a
CD	X C	0206	S5-102-120-500	C-CAP,0.001UF-50V	a
CD	O C	0221	S2-010-005-0C0	CAP,E 1-50V	a
CD	X C	0223	S5-681-120-500	C-CAP,680P-50V	a
CD	X C	0224	S5-681-120-500	C-CAP,680P-50V	a
CD	X C	0225	S6-151-520-500	C-CAP,150PF-50V	a
CD	X C	0226	S6-151-520-500	C-CAP,150PF-50V	a
CD	X C	0228	S6-100-520-500	C-CAP,10PF-50V	a
CD	X C	0229	S6-100-520-500	C-CAP,10PF-50V	a
CD	X C	0230	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0231	S5-104-821-250	C-CAP,0.1-25	a
CD	O C	0234	S0-331-000-6C0	CAP,E 330-6.3	a
					FR-TC5000 KSC
CD	X C	0235	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0236	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0237	S5-331-120-500	C-CAP,330PF-50V	a
CD	X C	0251	S5-104-821-250	C-CAP,0.1-25	a
CD	O C	0252	S0-471-001-0C0	CAP,E 470-10V	a
CD	O C	0253	S0-102-001-0C0	CAP,E 1000-10V	a
CD	X C	0254	S5-103-120-250	C-CAP,0.01-25V	a
CD	O C	0255	S0-471-001-0C0	CAP,E 470-10V	a
CD	X C	0256	S5-103-120-250	C-CAP,0.01-25V	a
CD	O C	0258	S1-101-001-0C0	CAP,E 100-10V	a
CD	X C	0259	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0260	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0261	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0270	S5-103-120-250	C-CAP,0.01-25V	a
CD	X C	0271	S5-104-821-250	C-CAP,0.1-25	a
CD	X C	0272	S5-104-821-250	C-CAP,0.1-25	a
CD	O CN	0101	87-A60-424-010	FFC CONN,16P P=1MM	a
CD	O CN	0201	S0-062-320-400	FFC CONN,4P PITCH=1MM	a
CD	O CN	0251	S0-096-040-600	FFC CONN,6P IMSA-9604	a
CD	O CN	0252	SP-HS0-200-200	HEADER CTL 2 PINS PHS-02 PITC	a

# ELECTRICAL PARTS LIST -2/8

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					FR-TC5000 KSC
CD		O D	0101 87-020-027-080	C-DIODE,1SS184	a
CD		O D	0221 87-020-027-080	C-DIODE,1SS184	a
CD		O D	0254 87-020-027-080	C-DIODE,1SS184	a
CD		S IC	0101 87-A20-547-010	IC,CXA1992AR	a
CD		S IC	0161 87-A20-546-010	IC,CXD2589Q	a
CD		O IC	0251 S4-059-360-000	IC,BA5936S	a
CD		X JR	0100 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0101 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0122 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0138 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0139 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0181 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0182 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0191 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0229 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0231 S3-000-510-180	C-RES,0-1/8W	a
CD		X JR	0251 S3-000-510-180	C-RES,0-1/8W	a
CD		X JR	0252 S3-000-520-160	C-RES,0 -1/16W	a
CD		X JR	0261 S3-000-510-180	C-RES,0-1/8W	a
CD		X JR	0262 S3-000-510-180	C-RES,0-1/8W	a
					FR-TC5000 KSC
CD		X JR	0263 S3-000-510-180	C-RES,0-1/8W	a
CD		O L	0102 S0-100-160-000	INDUCTOR,10UH	a
CD		O L	0201 S0-103-372-010	COIL,3.3UH	a
CD		O L	0231 S0-100-160-000	INDUCTOR,10UH	a
CD		O L	0252 S0-100-160-000	INDUCTOR,10UH	a
CD		O Q	0101 89-113-625-080	C-TR,2SA1362GR	a
CD		O Q	0102 SA-001-148-000	C-TR,DTC114TK/TKA	a
CD		O Q	0103 SA-001-148-000	C-TR,DTC114TK/TKA	a
CD		O Q	0104 SA-001-148-000	C-TR,DTC114TK/TKA	a
CD		S Q	0105 89-333-266-080	C-TR,2SC3326B	a
CD		S Q	0106 89-333-266-080	C-TR,2SC3326B	a
CD		S Q	0251 89-112-134-080	TR,2SA1213Y	a
CD		O Q	0252 SA-001-246-000	TR,DTC124XKA	a
CD		O Q	0253 SA-001-246-000	TR,DTC124XKA	a
CD		S Q	0254 87-A30-075-080	TR,2SA1235	a
CD		S Q	0255 87-A30-075-080	TR,2SA1235	a
CD		O Q	0256 SA-001-148-000	C-TR,DTC114TK/TKA	a
CD		X R	0101 S3-100-520-160	C-RES,10-1/16W	a
CD		X R	0102 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0103 S3-682-520-160	C-RES,6.8K-1/16W	a
					FR-TC5000 KSC
CD		X R	0104 S3-153-520-160	C-RES,15K-1/16W	a
CD		X R	0105 S3-153-520-160	C-RES,15K-1/16W	a
CD		X R	0106 S3-153-520-160	C-RES,15K-1/16W	a
CD		X R	0107 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0108 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0109 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0110 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0111 S3-153-520-160	C-RES,15K-1/16W	a
CD		X R	0112 S3-820-520-160	C-RES,82-1/16W	a
CD		X R	0113 S0-222-510-160	RES,2.2K-1/16W	a
CD		X R	0114 S0-222-510-160	RES,2.2K-1/16W	a
CD		X R	0115 S3-821-520-160	C-RES,820-1/16W	a
CD		X R	0116 S3-821-520-160	C-RES,820-1/16W	a
CD		X R	0117 S3-472-520-160	C-RES,4.7K-1/16W	a
CD		X R	0118 S3-154-520-160	C-RES,150K-1/16W	a
CD		X R	0119 S3-103-520-160	C-RES,10K-1/1	a
CD		X R	0120 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0121 S3-104-520-160	C-RES,100K-1/	a
CD		X R	0122 S3-682-520-160	C-RES,6.8K-1/16W	a
CD		X R	0123 S3-334-520-160	C-RES,330K-1/16W	a
					FR-TC5000 KSC
CD		X R	0124 S3-473-520-160	C-RES,47K-1/16W	a
CD		X R	0125 S3-183-520-160	C-RES,18K-1/16W	a
CD		X R	0126 S3-183-520-160	C-RES,18K-1/16W	a
CD		X R	0127 S3-472-520-160	C-RES,4.7K-1/16W	a
CD		X R	0131 S3-684-520-160	C-RES,680K-1/16W	a
CD		X R	0132 S3-683-520-160	C-RES,68K-1/16W	a
CD		X R	0133 S3-393-520-160	C-RES,39K-1/16W	a
CD		X R	0134 S3-474-520-160	C-RES,470K-1/16W	a
CD		X R	0136 S3-823-520-160	C-RES,82K-1/16W	a
CD		X R	0137 S3-683-520-160	C-RES,68K-1/16W	a
CD		X R	0141 S3-823-520-160	C-RES,82K-1/16W	a
CD		X R	0142 S3-153-520-160	C-RES,15K-1/16W	a
CD		X R	0143 S3-183-520-160	C-RES,18K-1/16W	a
CD		X R	0144 S3-473-520-160	C-RES,47K-1/16W	a
CD		X R	0145 S3-104-520-160	C-RES,100K-1/	a
CD		X R	0146 S3-563-520-160	C-RES,56K-1/16W	a
CD		X R	0147 S3-102-520-160	C-RES,1K-1/16	a
CD		X R	0148 S3-102-520-160	C-RES,1K-1/16	a
CD		X R	0149 S3-102-520-160	C-RES,1K-1/16	a
CD		X R	0151 S3-105-520-160	C-RES,1M-1/16W	a



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CD	X R	0152	S3-153-520-160	C-RES,15K-1/16W	a
CD	X R	0153	S3-102-520-160	C-RES,1K-1/16	a
CD	X R	0154	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0156	S3-225-520-160	C-RES,2.2M-1/16W	a
CD	X R	0157	S3-225-520-160	C-RES,2.2M-1/16W	a
CD	X R	0158	S3-155-520-160	CHIP RESISTOR 1.5 Mohm +-5% 1	a
CD	X R	0181	S3-104-520-160	C-RES,100K-1/	a
CD	X R	0192	S3-332-520-160	C-RES,3.3K-1/16W	a
CD	X R	0193	S3-122-520-160	C-RES,1.2K-1/16W	a
CD	X R	0194	S3-103-520-160	C-RES,10K-1/1	a
CD	X R	0195	S3-105-520-160	C-RES,1M-1/16W	a
CD	X R	0196	S3-224-520-160	C-RES,220K-1/16W	a
CD	X R	0197	S3-104-520-160	C-RES,100K-1/	a
CD	X R	0201	S3-272-520-160	C-RES,2.7K-1/16W	a
CD	X R	0202	S3-272-520-160	C-RES,2.7K-1/16W	a
CD	X R	0203	S3-682-520-160	C-RES,6.8K-1/16W	a
CD	X R	0204	S3-682-520-160	C-RES,6.8K-1/16W	a
CD	X R	0211	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0212	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0213	S0-103-510-160	RES,10K-1/16W (1	a
					FR-TC5000 KSC
CD	X R	0214	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0215	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0216	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0217	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0218	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0219	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0220	S3-222-520-160	C-RES,2.2K-1/16W	a
CD	X R	0221	S3-224-520-160	C-RES,220K-1/16W	a
CD	X R	0222	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0223	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0224	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0225	S3-104-520-160	C-RES,100K-1/	a
CD	X R	0226	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0227	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0228	S3-123-520-160	C-RES,12K-1/16W	a
CD	X R	0230	S3-330-520-160	C-RES,33-1/16W	a
CD	X R	0253	S3-478-520-160	C-RES,4.7-1/16W	a
CD	X R	0254	S3-228-530-120	C-RES,2.2-1/2W	a
CD	X R	0255	S3-682-520-160	C-RES,6.8K-1/16W	a
CD	X R	0256	S3-682-520-160	C-RES,6.8K-1/16W	a
					FR-TC5000 KSC
CD	X R	0257	S3-273-520-160	C-RES,27K-1/16W	a
CD	X R	0258	S3-273-520-160	C-RES,27K-1/16W	a
CD	X R	0259	S0-103-510-160	RES,10K-1/16W (1	a
CD	X R	0260	S3-103-520-160	C-RES,10K-1/1	a
CD	X R	0262	S3-100-510-180	C-RES,10-1/8W	a
CD	X R	0263	S3-100-510-180	C-RES,10-1/8W	a
CD	X R	0265	S3-472-520-160	C-RES,4.7K-1/16W	a
CD	X R	0266	S3-682-520-160	C-RES,6.8K-1/16W	a
CD	X R	0267	S3-471-520-160	C-RES,470-1/16W	a
CD	X R	0268	S3-682-520-160	C-RES,6.8K-1/16W	a
CD	X R	0269	S3-103-520-160	C-RES,10K-1/1	a
CD	X R	0270	S3-822-520-160	C-RES,8.2K-1/16W	a
CD	X R	0271	S3-100-520-160	C-RES,10-1/16W	a
CD	X R	0272	S3-100-520-160	C-RES,10-1/16W	a
CD	X R	0273	S0-478-510-160	RES,4.7-1/16W	a
CD	X R	0274	S0-478-510-160	RES,4.7-1/16W	a
CD	X R	0276	S0-103-510-160	RES,10K-1/16W (1	a
CD	O	SFR0301	S1-040-851-020	SFR,100K	a
CD	O W	0181	8C-RD2-612-010	CONN,PHR-15	a
CD	O W	0191	SF-006-250-000	CONN,PHR-06	a
					FR-TC5000 KSC
CD	O X	0221	S0-016-930-050	CER,RESO 16.93 MHz ZT	a
DOOR SW	O Q	0303	89-327-125-080	C-TR,2SC2712GR	a
DOOR SW	X R	0319	S3-474-520-160	C-RES,470K-1/16W	a
DOOR SW	O SW	0321	S0-246-110-000	DETECTOR SWITCH 1P1T ESE24SV6	a
FRONT	O C	0301	S2-220-001-6C0	CAP,E 22-16V	a
FRONT	X C	0302	S5-105-820-100	C-CAP,1UF-10V	a
FRONT	X C	0303	S5-105-820-100	C-CAP,1UF-10V	a
FRONT	X C	0306	87-018-147-080	CAP,CER 10PF-50V	a
FRONT	X C	0307	87-018-147-080	CAP,CER 10PF-50V	a
FRONT	X C	0308	87-A11-889-080	CAP,CER 330PF-50V	a
FRONT	X C	0310	S2-682-200-160	CAP,CER 0.0068UF-16V	a
FRONT	X C	0311	S2-104-100-250	CAP,CER 0.1UF-25V	a
FRONT	X C	0312	87-018-150-080	CAP,CER 18P-50	a
FRONT	X C	0313	S2-104-100-250	CAP,CER 0.1UF-25V	a
FRONT	O CN	0302	SB-14B-PH1-410	CONN,14P B14B-PH-SM3	a
FRONT	O CN	0303	SB-15B-PH1-510	CONN,15P B15B-PH-SM3	a
FRONT	O CN	0351	S0-702-401-300	CONN,7P (3+234+3)	a
FRONT	O CN	0352	S0-702-401-300	CONN,7P (3+234+3)	a
FRONT	O CN	0702	SB-05B-PH0-510	CONN,5P B5B-PH-SM3-T	a
FRONT	O D	0302	S0-093-440-030	LED,L-934SECK	a

# ELECTRICAL PARTS LIST -4/8

! = SAFETY PARTS  
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All components used on this model at the production line are shown in this service manual.

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UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000 KSC
FRONT	O D	0303	S0-093-440-030	LED, L-934SECK	a
FRONT	O D	0304	S0-093-440-030	LED, L-934SECK	a
FRONT	S D	0305	011-010033-123	C-ZENER, 3.3V 1/2W	a
FRONT	S IC	0301	87-A22-301-030	IC, LC877348A5Z52	a
FRONT	O LCD	0301	8C-RD2-609-010	LCD, N-04D-32	a
FRONT	O Q	0301	S3-181-500-010	TR, 2SC1815GR	a
FRONT	X R	0275	S3-104-520-160	C-RES, 100K-1/	a
FRONT	X R	0303	S0-223-510-160	RES, 22K-1/16W (1	a
FRONT	X R	0304	S0-332-510-160	RES, 3.3K-1/16W	a
FRONT	X R	0305	S0-153-510-160	RES, 15K-1/16W (1	a
FRONT	X R	0306	S0-223-510-160	RES, 22K-1/16W (1	a
FRONT	X R	0307	S0-153-510-160	RES, 15K-1/16W (1	a
FRONT	X R	0308	S0-472-510-160	RES, 4.7K-1/16W	a
FRONT	X R	0310	S0-102-510-160	RES, 1K-1/16W (1/	a
FRONT	X R	0312	S3-822-520-160	C-RES, 8.2K-1/16W	a
FRONT	X R	0313	S3-822-520-160	C-RES, 8.2K-1/16W	a
FRONT	X R	0314	S3-822-520-160	C-RES, 8.2K-1/16W	a
FRONT	X R	0315	S3-153-520-160	C-RES, 15K-1/16W	a
FRONT	X R	0316	S3-102-520-160	C-RES, 1K-1/16	a
FRONT	X R	0330	S0-151-510-160	RES, 150-1/6W	a
					FR-TC5000 KSC
FRONT	X R	0721	S0-102-510-160	RES, 1K-1/16W (1/	a
FRONT	X R	0722	S0-102-510-160	RES, 1K-1/16W (1/	a
FRONT	X R	0723	S0-104-510-160	RES, 100K-1/16W (	a
FRONT	X R	0724	S0-104-510-160	RES, 100K-1/16W (	a
FRONT	O S	0302	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0303	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0304	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0305	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0306	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0307	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O S	0308	S1-102-000-010	SW, TACT 4P 4.3MM	a
FRONT	O T	0301	S0-010-030-750	IFT, (OSC COIL) KY1003NC	a
FRONT	O VR	0701	87-A92-380-01	VR, E12M&GV020KAWSH&DXV0122GPV	a
FRONT	O X	0301	87-030-194-010	X' TAL, 32.768 KHZ	a
JACK	O CN	0705	8C-RD2-615-010	CONN, 3P 2001-WR-3	a
JACK	O J	0701	8A-CKA-628-010	HP, JACK HTJ-035-08	a
JACK	O L	0701	S0-100-160-000	INDUCTOR, 10UH	a
JACK	X R	0735	S0-101-510-160	RES, 100-1/16W (1	a
JACK	X R	0736	S0-101-510-160	RES, 100-1/16W (1	a
JACK	X R	0737	S0-330-510-160	RES, 33-1/16W	a
					FR-TC5000 KSC
JACK	X R	0738	S0-330-510-160	RES, 33-1/16W	a
KEY	X R	0317	S0-472-510-160	RES, 4.7K-1/16W	a
KEY	X R	0318	S0-472-510-160	RES, 4.7K-1/16W	a
KEY	O S	0309	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0310	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0311	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0312	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0313	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0314	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0315	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0316	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0317	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0318	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0319	S1-102-000-010	SW, TACT 4P 4.3MM	a
KEY	O S	0320	S1-102-000-010	SW, TACT 4P 4.3MM	a
MAIN	O BPF	0001	87-A91-680-010	BPS, FILTER GFMB5-C3	a
MAIN	X C	0001	S2-102-500-500	CAP, CER 0.001UF-50V	a
MAIN	X C	0002	S2-181-100-500	CAP, CER 180P-50	a
MAIN	X C	0003	S0-478-400-500	CAP, CER 4.7PF-50V	a
MAIN	X C	0004	S2-103-100-160	CAP, CER 0.01UF-16V	a
					FR-TC5000 KSC
MAIN	X C	0005	S2-101-500-500	CAP, CER 100PF-50V	a
MAIN	X C	0007	87-A11-840-080	CAP, CER 6.8PF-50V	a
MAIN	X C	0008	S2-103-100-160	CAP, CER 0.01UF-16V	a
MAIN	X C	0009	S2-103-100-160	CAP, CER 0.01UF-16V	a
MAIN	X C	0013	S2-228-100-500	CAP, CER 2.2PF-50V	a
MAIN	X C	0014	S2-103-100-160	CAP, CER 0.01UF-16V	a
MAIN	X C	0015	S2-101-500-500	CAP, CER 100PF-50V	a
MAIN	X C	0017	S4-470-500-500	CAP, CER 47PF-50V	a
MAIN	X C	0021	S2-104-100-250	CAP, CER 0.1UF-25V	a
MAIN	X C	0022	S2-223-100-500	CAP, CER 0.022UF-50V	a
MAIN	X C	0023	S2-104-100-250	CAP, CER 0.1UF-25V	a
MAIN	X C	0024	S2-680-500-500	CAP, CER 68PF-50V	a
MAIN	X C	0025	S4-221-500-500	CERAMIC CAP 220pF/50V +-5% (N	a
MAIN	X C	0026	S4-221-500-500	CERAMIC CAP 220pF/50V +-5% (N	a
MAIN	O C	0027	S4-270-500-500	CAP, CER 27PF-50V	a
MAIN	X C	0028	87-A10-130-010	CAP, CER 4PF-50V	a
MAIN	X C	0029	S4-181-500-500	CAP, CER 180PF-50V	a
MAIN	X C	0030	S4-180-500-500	CAP, CER 18P-50	a
MAIN	X C	0032	87-018-147-080	CAP, CER 10PF-50V	a
MAIN	X C	0033	S2-102-500-500	CAP, CER 0.001UF-50V	a

# ELECTRICAL PARTS LIST -5/8

! =  $\Delta$  SAFTY PARTS  
 C = Components marked

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UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000 KSC
MAIN	O C	0034	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0035	S0-001-005-0C0	CAP,E 0.1-50V	a
MAIN	O C	0036	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0037	S0-001-005-0C0	CAP,E 0.1-50V	a
MAIN	O C	0038	S0-001-005-0C0	CAP,E 0.1-50V	a
MAIN	O C	0039	87-016-643-080	CAP,E 4.7-50V	a
MAIN	X C	0040	S2-153-100-500	CAP,CER 0.015-50	a
MAIN	X C	0041	S2-153-100-500	CAP,CER 0.015-50	a
MAIN	X C	0042	S2-103-100-160	CAP,CER 0.01UF-16V	a
MAIN	X C	0043	S2-104-100-250	CAP,CER 0.1UF-25V	a
MAIN	O C	0044	87-A10-458-080	CAP,E 100-10V	a
MAIN	X C	0045	S2-102-500-500	CAP,CER 0.001UF-50V	a
MAIN	X C	0046	87-018-147-080	CAP,CER 10PF-50V	a
MAIN	X C	0047	87-018-147-080	CAP,CER 10PF-50V	a
MAIN	X C	0048	S2-103-100-160	CAP,CER 0.01UF-16V	a
MAIN	O C	0049	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0050	S0-470-001-6C0	CAP,E 47-16V	a
MAIN	O C	0051	S0-470-001-6C0	CAP,E 47-16V	a
MAIN	X C	0052	S2-103-100-160	CAP,CER 0.01UF-16V	a
MAIN	X C	0053	S2-103-100-160	CAP,CER 0.01UF-16V	a
					FR-TC5000 KSC
MAIN	X C	0055	S2-102-500-500	CAP,CER 0.001UF-50V	a
MAIN	X C	0056	S2-102-500-500	CAP,CER 0.001UF-50V	a
MAIN	X C	0058	S2-680-500-500	CAP,CER 68PF-50V	a
MAIN	X C	0059	S2-680-500-500	CAP,CER 68PF-50V	a
MAIN	O C	0320	87-A10-119-080	CAP,E 10-50V	a
MAIN	X C	0701	S2-473-800-500	CAP,CER 0.047-50	a
MAIN	X C	0702	S2-473-800-500	CAP,CER 0.047-50	a
MAIN	O C	0703	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0704	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0705	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	O C	0706	S0-010-005-0C0	CAP,E 1-50V	a
MAIN	X C	0707	87-A11-889-080	CAP,CER 330PF-50V	a
MAIN	X C	0708	87-A11-889-080	CAP,CER 330PF-50V	a
MAIN	O C	0709	S0-001-005-0C0	CAP,E 0.1-50V	a
MAIN	O C	0710	S0-001-005-0C0	CAP,E 0.1-50V	a
MAIN	O C	0711	87-A10-119-080	CAP,E 10-50V	a
MAIN	O C	0712	87-A10-119-080	CAP,E 10-50V	a
MAIN	O C	0713	87-A10-458-080	CAP,E 100-10V	a
MAIN	O C	0714	87-A10-458-080	CAP,E 100-10V	a
MAIN	O C	0715	S0-004-005-0C0	CAP,E 0.47-50V	a
					FR-TC5000 KSC
MAIN	O C	0716	S0-004-005-0C0	CAP,E 0.47-50V	a
MAIN	O C	0717	S0-102-001-0C0	CAP,E 1000-10V	a
MAIN	O C	0718	S0-102-001-0C0	CAP,E 1000-10V	a
MAIN	O C	0720	S0-221-001-0C0	CAP,E 220-10V	a
MAIN	X C	0721	S2-104-810-500	CAP,CER 0.1UF-50V	a
MAIN	X C	0723	S2-473-800-500	CAP,CER 0.047-50	a
MAIN	X C	0724	S2-473-800-500	CAP,CER 0.047-50	a
MAIN	X C	0725	87-A11-129-080	CAP,CER 0.0056UF-16V	a
MAIN	X C	0726	87-A11-129-080	CAP,CER 0.0056UF-16V	a
MAIN	X C	0727	S2-104-810-500	CAP,CER 0.1UF-50V	a
MAIN	X C	0728	S2-104-810-500	CAP,CER 0.1UF-50V	a
MAIN	O C	0730	S0-101-001-6C0	CAP,E 100-16V	a
MAIN	O C	0801	S0-332-002-5C0	CAP,E 3300-25V	a
MAIN	O C	0802	S0-472-001-6C0	CAP,E 4700-16V	a
MAIN	X C	0803	87-A11-917-080	CAP,CER 0.0022UF-16V	a
MAIN	O C	0804	87-A10-119-080	CAP,E 10-50V	a
MAIN	O C	0805	87-A10-458-080	CAP,E 100-10V	a
MAIN	X C	0806	S2-104-810-500	CAP,CER 0.1UF-50V	a
MAIN	O C	0807	87-A10-119-080	CAP,E 10-50V	a
MAIN	O C	0808	S0-470-001-6C0	CAP,E 47-16V	a
					FR-TC5000 KSC
MAIN	X C	0809	S2-470-500-500	CAP,CER 47P-50V	a
MAIN	X C	0813	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0814	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0815	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0816	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0817	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0818	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0819	S2-223-100-500	CAP,CER 0.022UF-50V	a
MAIN	X C	0821	S2-104-810-500	CAP,CER 0.1UF-50V	a
MAIN	O CD	0001	S6-010-700-020	CER,RESO #CDA10.7MG6	a
MAIN	O CF	0001	8A-RH2-611-010	CER,FIL SFU450B	a
MAIN	O CF	0002	87-PC4-617-010	CER,FIL SFE10.7MS2-A/LT	a
MAIN	O CN	0301	8C-RD2-613-010	CONN,PHR-14	a
MAIN	O CN	0701	8C-RD2-614-010	CONN,5P PHR-05	a
MAIN	O CN	0703	SP-HS0-600-600	HEADER CTL 6P	a
MAIN	O CN	0704	SF-003-200-010	CONN,PHR-03	a
MAIN	O D	0001	S0-613-600-000	VARACTOR DIODE,KV1360NT	a
MAIN	O D	0002	S0-613-600-000	VARACTOR DIODE,KV1360NT	a
MAIN	O D	0006	S0-015-900-010	VARI-CAP,KV1590NT	a
MAIN	O D	0009	S0-041-480-000	DIODE,1N4148	a

# ELECTRICAL PARTS LIST -6/8

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UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000 KSC
MAIN	O D	0012	S0-041-480-000	DIODE,1N4148	a
MAIN	O D	0013	S0-041-480-000	DIODE,1N4148	a
MAIN	O D	0310	011-004148-000	DIODE,1N4148	a
MAIN	O D	0801	8A-RU2-621-010	DIODE,1.5A 50V	a
MAIN	O D	0802	8A-RU2-621-010	DIODE,1.5A 50V	a
MAIN	O D	0803	8A-RU2-621-010	DIODE,1.5A 50V	a
MAIN	O D	0804	8A-RU2-621-010	DIODE,1.5A 50V	a
MAIN	O D	0805	8A-RU2-620-010	ZENER,BZX55C6V8	a
MAIN	O D	0806	S0-100-560-010	ZENER,5.6V	a
MAIN	O D	0807	S0-100-560-010	ZENER,5.6V	a
MAIN	S D	0808	S0-100-471-240	ZENER,MTZJ4.7B	a
MAIN	O D	0810	S0-041-480-000	DIODE,1N4148	a
MAIN	! S F	0801	S0-200-200-010	FUSE #218002 2A/250V 5x20mm T	a
MAIN	X FM	0001	S6-79A-200-090	JP WIRE AWG26#1007 3x0mm 1200	a
MAIN	S IC	0001	S8-321-040-010	IC,TA2104AN	a
MAIN	O IC	0002	S7-172-130-2A0	IC,LC72131D/-N	a
MAIN	O IC	0701	S8-382-270-000	IC,TA8227P	a
MAIN	O IFT	0001	8Z-CS1-609-010	IFT,4A-224R,10mm	a
MAIN	O L	0000	S1-900-071-200	LW COIL	a
MAIN	O L	0000	S0-580-051-000	MW ANT COIL 58T:0 USTC	a
					FR-TC5000 KSC
MAIN	O L	0001	S0-500-450-080	FM,COIL 5T 4.5MM DIA 0.8MM	a
MAIN	O L	0003	8Z-CM2-632-010	FM,COIL 4T 4.5MM	a
MAIN	O L	0011	87-003-152-080	COIL,100UH	a
MAIN	O L	0012	87-003-152-080	COIL,100UH	a
MAIN	O L	0015	S0-304-742-000	CHOKO COIL,4.7MH	a
MAIN	O L	0301	S0-102-260-000	COIL,22UH	a
MAIN	O Q	0001	S3-192-300-000	TR,2SC1923 (O)	a
MAIN	O Q	0002	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0003	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0004	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0005	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0006	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0007	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0008	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0009	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0010	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0302	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0701	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0702	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0703	S3-181-500-010	TR,2SC1815GR	a
					FR-TC5000 KSC
MAIN	O Q	0704	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0801	S2-015-660-000	TR,2SB1566E/F	a
MAIN	O Q	0802	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0803	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0804	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0805	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0806	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0807	S1-101-500-250	TR,2SA1015Y	a
MAIN	O Q	0808	S3-181-500-010	TR,2SC1815GR	a
MAIN	O Q	0809	S3-181-500-010	TR,2SC1815GR	a
MAIN	X R	0001	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0002	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0003	S0-270-510-160	RES,27-1/16W	a
MAIN	X R	0004	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0005	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0006	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0007	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0008	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0009	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0010	S0-222-510-160	RES,2.2K-1/16W	a
					FR-TC5000 KSC
MAIN	X R	0011	S0-151-510-160	RES,150-1/6W	a
MAIN	X R	0013	S0-474-510-160	RES,470K-1/16W	a
MAIN	X R	0017	S0-102-510-160	RES,1K-1/16W (1/	a
MAIN	X R	0018	S0-102-510-160	RES,1K-1/16W (1/	a
MAIN	X R	0019	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0020	S0-471-510-160	RES,470-1/16W	a
MAIN	X R	0021	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0022	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0023	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0024	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0025	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0026	S0-331-510-160	RES,330-1/16W (1	a
MAIN	X R	0027	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0028	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0030	S0-223-510-160	RES,22K-1/16W (1	a
MAIN	X R	0031	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0032	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0033	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0034	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0035	S0-472-510-160	RES,4.7K-1/16W	a

# ELECTRICAL PARTS LIST -7/8

! = SAFETY PARTS  
 C = Components marked

All components used on this model at the production line are shown in this service manual.

However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000 KSC
MAIN	X R	0036	S0-331-510-160	RES,330-1/16W (1	a
MAIN	X R	0037	S0-100-510-160	RES,10-1/16W (1/	a
MAIN	X R	0038	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0039	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0041	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0043	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0045	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0046	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0047	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0048	S0-472-510-160	RES,4.7K-1/16W	a
MAIN	X R	0049	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0050	S0-331-510-160	RES,330-1/16W (1	a
MAIN	X R	0051	S0-152-510-160	RES,1.5K-1/16W	a
MAIN	X R	0052	S0-220-510-160	RES,22-1/16W (1/	a
MAIN	X R	0053	S0-823-510-160	RES,82K-1/16W	a
MAIN	X R	0054	S0-105-510-160	RES,1M-1/16W	a
MAIN	X R	0055	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0056	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0057	S0-220-510-160	RES,22-1/16W (1/	a
MAIN	X R	0059	S0-104-510-160	RES,100K-1/16W (	a
					FR-TC5000 KSC
MAIN	X R	0060	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0320	S0-102-510-160	RES,1K-1/16W (1/	a
MAIN	X R	0321	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0322	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0323	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0324	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0325	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0326	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0701	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0702	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0703	S0-223-510-160	RES,22K-1/16W (1	a
MAIN	X R	0704	S0-223-510-160	RES,22K-1/16W (1	a
MAIN	X R	0705	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0706	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0707	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0708	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0709	S0-123-510-160	RES,12K-1/16W (1	a
MAIN	X R	0710	S0-123-510-160	RES,12K-1/16W (1	a
MAIN	X R	0711	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0712	S0-103-510-160	RES,10K-1/16W (1	a
					FR-TC5000 KSC
MAIN	X R	0713	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0714	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0717	S0-682-510-160	RES,6.8K-1/16W	a
MAIN	X R	0718	S0-682-510-160	RES,6.8K-1/16W	a
MAIN	X R	0719	S0-478-510-160	RES,4.7-1/16W	a
MAIN	X R	0720	S0-478-510-160	RES,4.7-1/16W	a
MAIN	X R	0721	S0-123-510-160	RES,12K-1/16W (1	a
MAIN	X R	0722	S0-123-510-160	RES,12K-1/16W (1	a
MAIN	X R	0723	S0-682-510-160	RES,6.8K-1/16W	a
MAIN	X R	0724	S0-682-510-160	RES,6.8K-1/16W	a
MAIN	X R	0731	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0732	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0733	S0-221-510-160	RES,220-1/16W	a
MAIN	X R	0734	S0-221-510-160	RES,220-1/16W	a
MAIN	X R	0740	S0-471-510-160	RES,470-1/16W	a
MAIN	X R	0801	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0802	S0-331-500-120	RES,330-1/2W	a
MAIN	X R	0803	S0-222-510-160	RES,2.2K-1/16W	a
MAIN	X R	0804	S0-103-510-160	RES,10K-1/16W (1	a
MAIN	X R	0805	S0-102-510-160	RES,1K-1/16W (1/	a
					FR-TC5000 KSC
MAIN	X R	0806	S0-102-510-160	RES,1K-1/16W (1/	a
MAIN	X R	0807	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0808	S0-221-510-160	RES,220-1/16W	a
MAIN	X R	0809	S0-102-510-160	RES,1K-1/16W (1/	a
MAIN	X R	0810	S0-333-510-160	RES,33K-1/16W (1	a
MAIN	X R	0811	S0-473-510-160	RES,47K-1/16W (1	a
MAIN	X R	0812	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0813	S0-332-510-160	RES,3.3K-1/16W	a
MAIN	X R	0814	S0-104-510-160	RES,100K-1/16W (	a
MAIN	X R	0815	S0-151-510-160	RES,150-1/6W	a
MAIN	O S	0301	87-A92-381-01	TACT SW SKHMPFA010	a
MAIN	O TC	0001	S2-006-300-000	TRIMMER CAP CVN630 6.5-30pF G	a
MAIN	O TC	0002	S2-006-100-000	TRIMMER CAP CVN610 3-10pF WHI	a
MAIN	O X	0001	87-A70-306-01	X' TAL,4.5 MHz (CSA309)	a

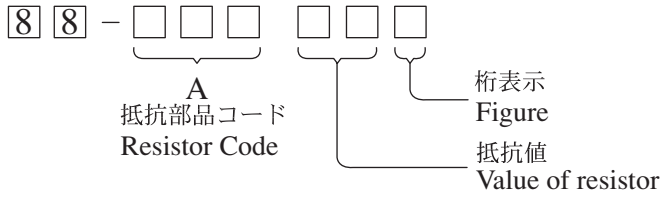
# ELECTRICAL PARTS LIST -8/8

- Regarding connectors, they are not stocked as they are not the initial order items.  
The connectors are available after they are supplied from connector manufacturers upon the order is received.

## ○チップ抵抗部品コード/CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

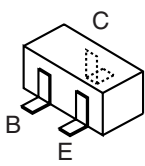
Chip Resistor Part Coding



## チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

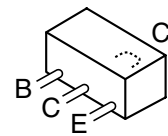
# TRANSISTOR ILLUSTRATION -1/1



E C B



B C E



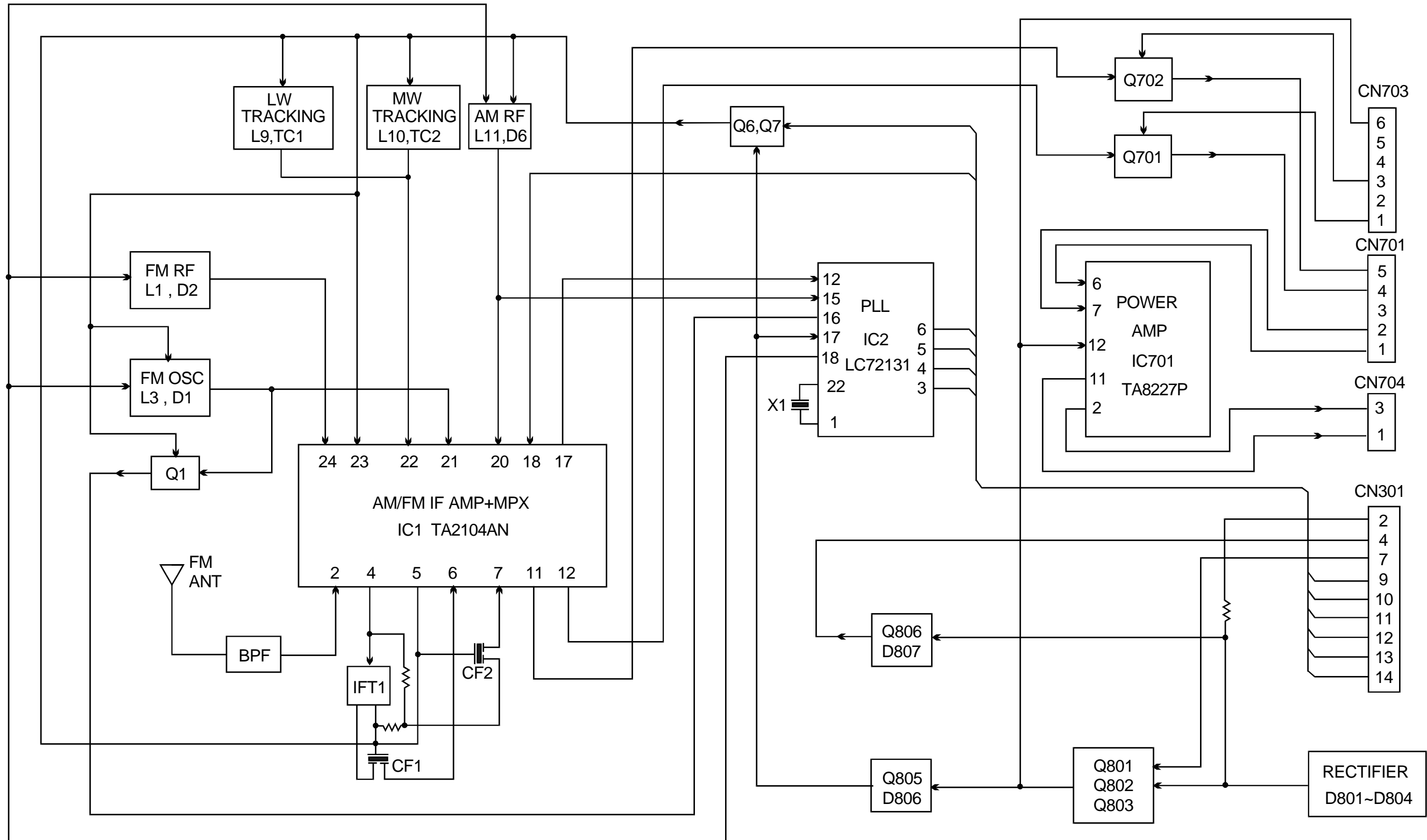
2SA1362  
2SC2712  
2SC3326  
DTC114TK/TKA  
DTC124XKA

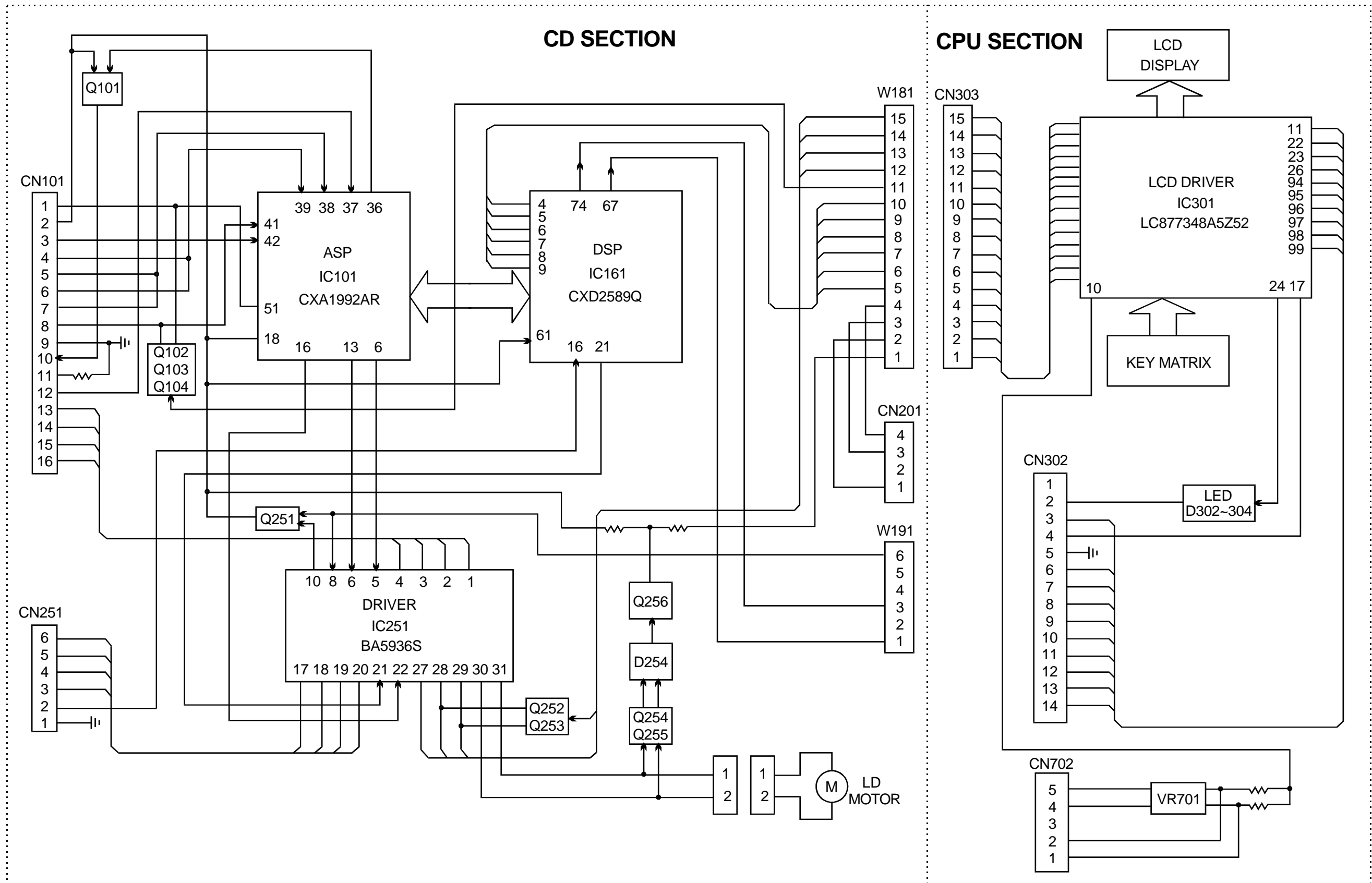
2SA1015  
2SC1815  
2SC1923

2SA1235  
2SB1566

2SA1213

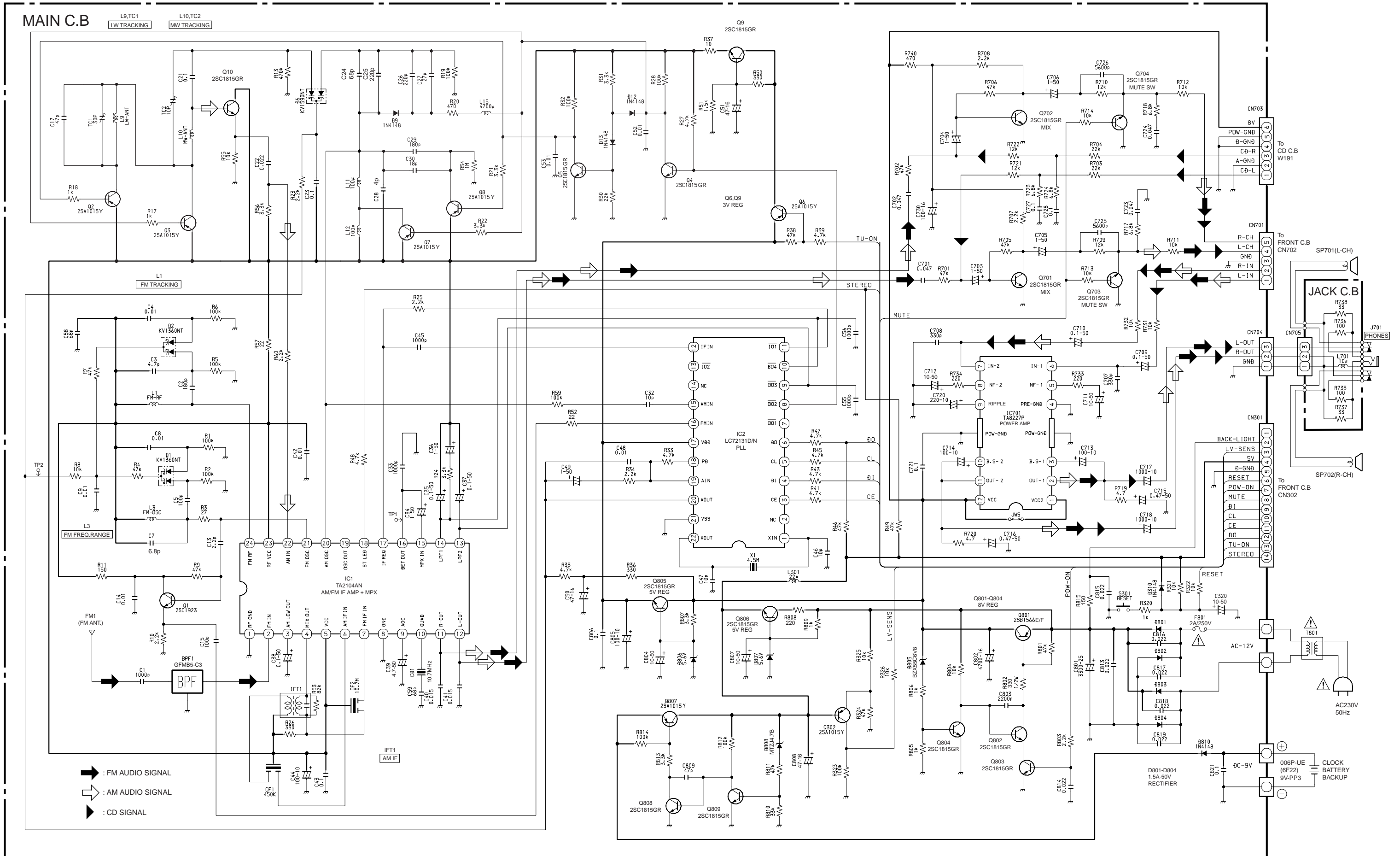
BLOCK DIAGRAM -1/2 (TUNER & POWER AMP. SECTION)



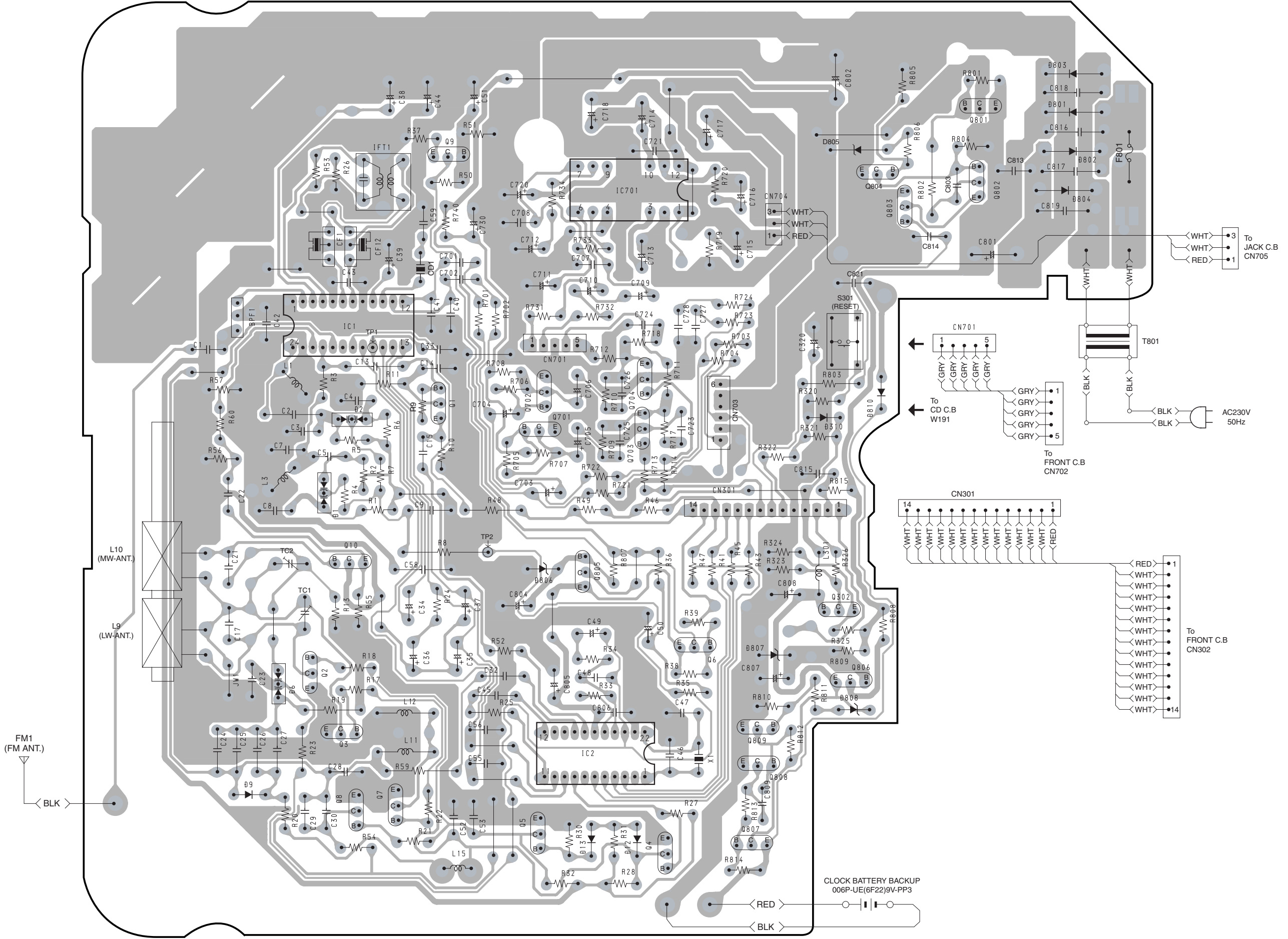




SCHEMATIC DIAGRAM -1/3 (MAIN SECTION)



MAIN C.B



A B C D E F G H I J K L M N O P Q R S T U

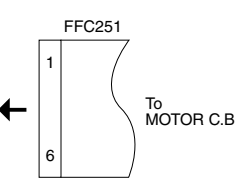
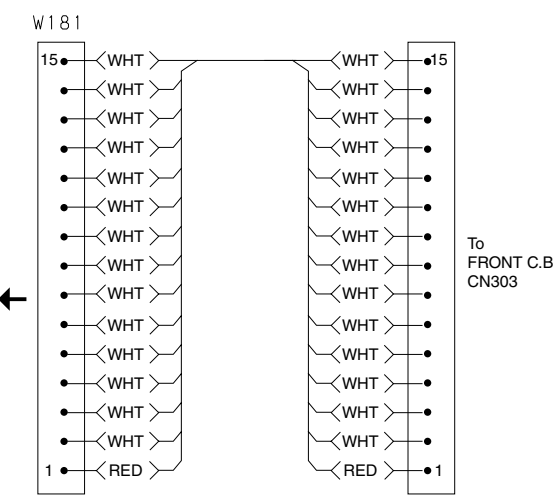
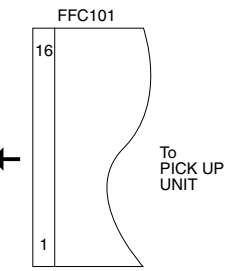
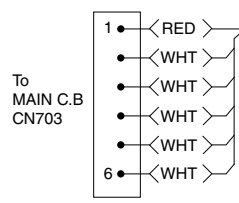
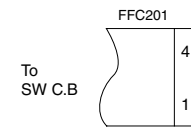
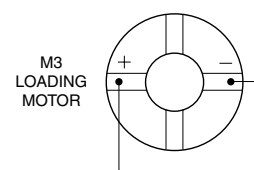
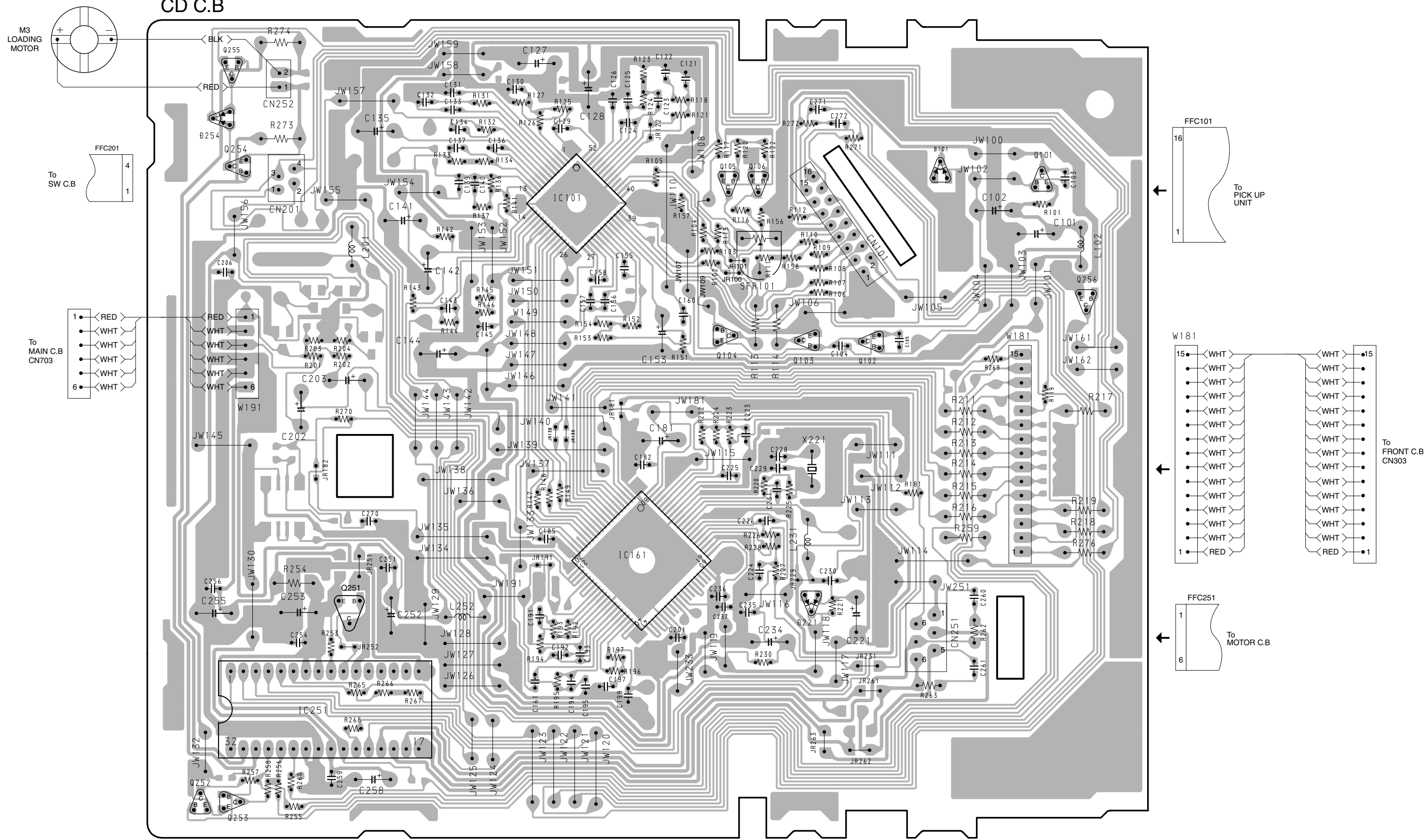


WIRING -2/5 (CD C.B.)

32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

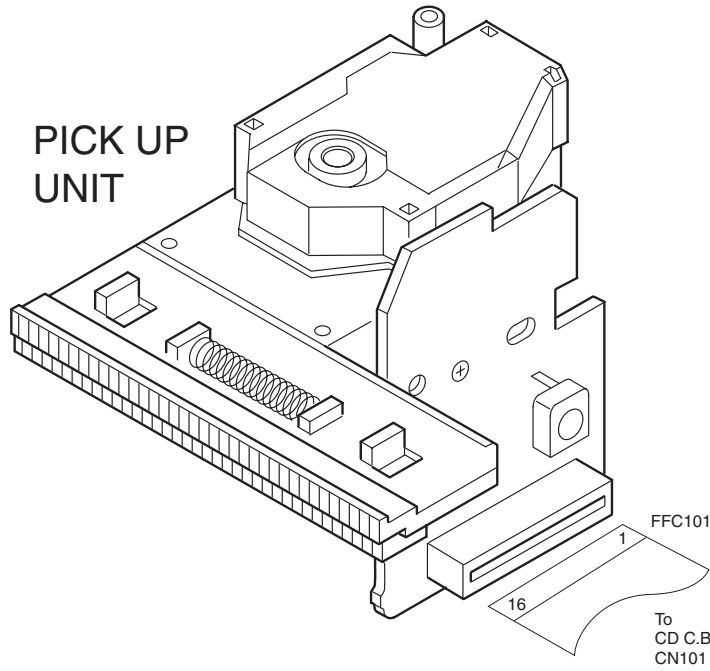
A
B
C
D
E
F
G
H
I
J
K
L
M
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O
P
Q
R
S
T
U

CD C.B.

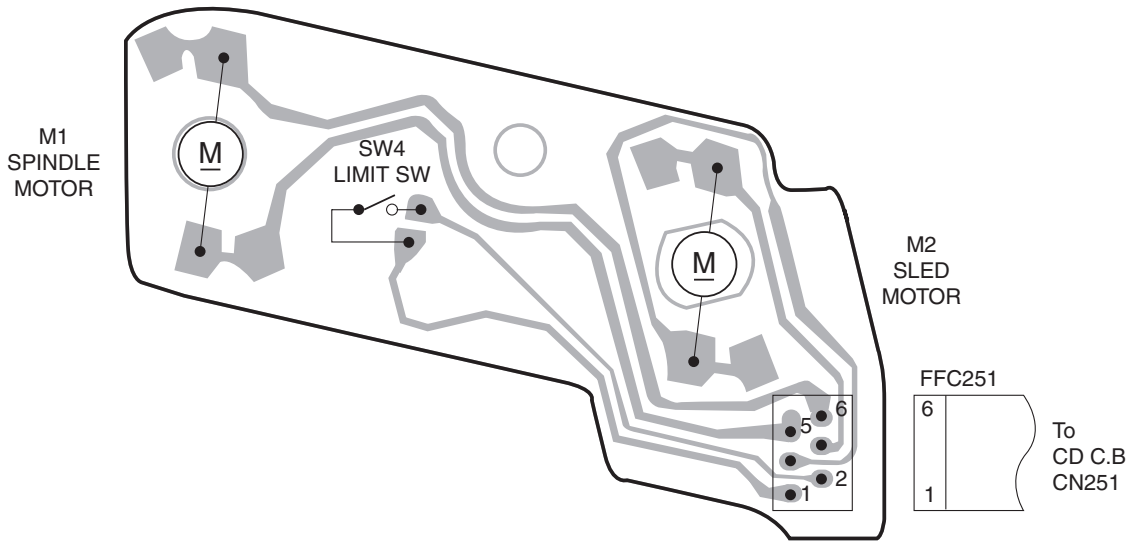


WIRING -3/5 (MOTOR C.B./SW C.B)

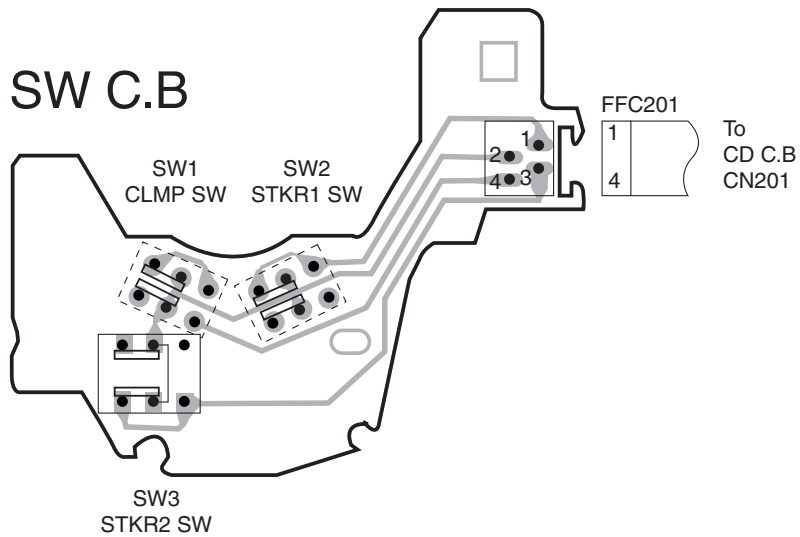
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	---	---	---	---	---	---	---	---	---



MOTOR C.B



SW C.B



A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

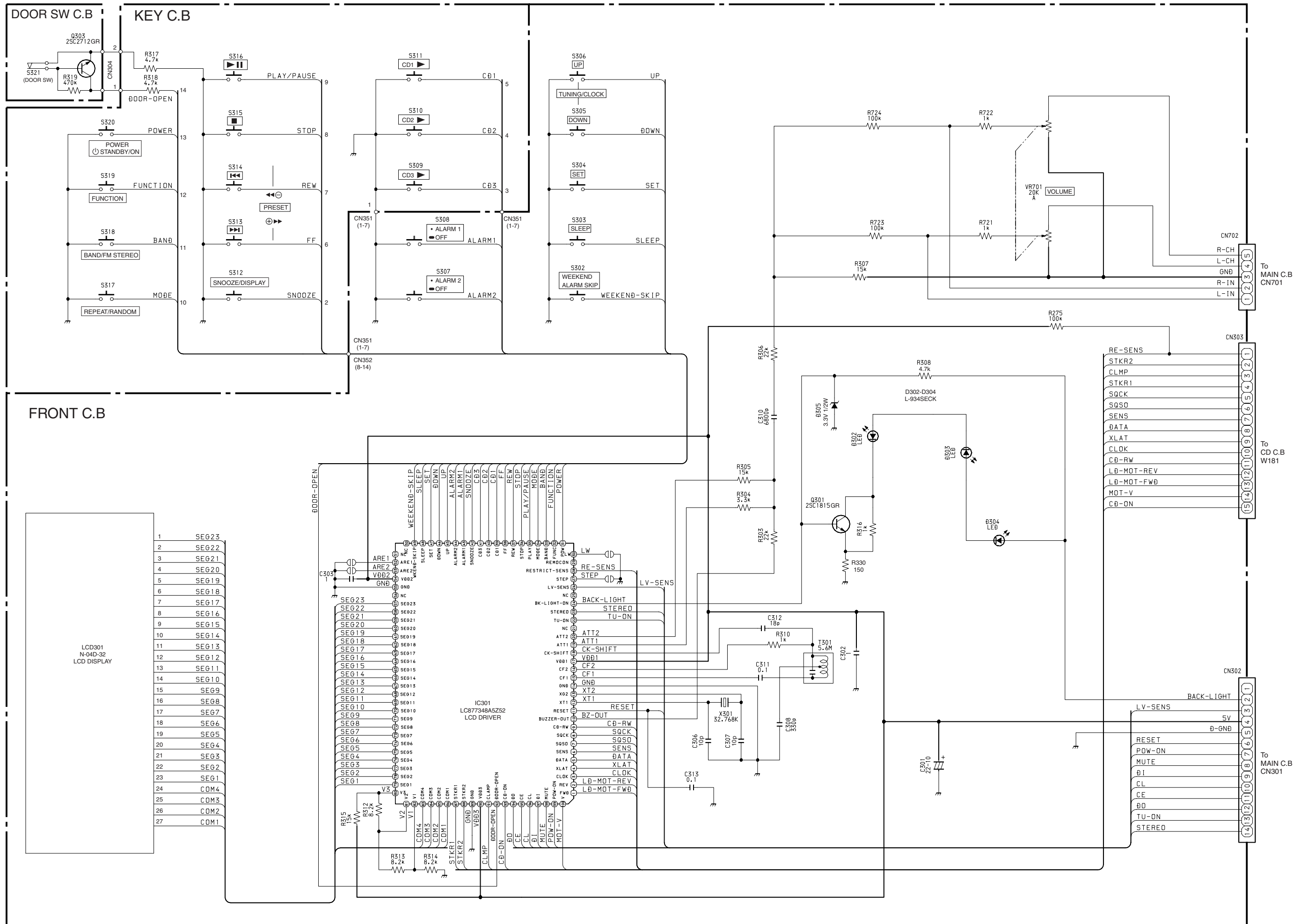
R

S

T

U

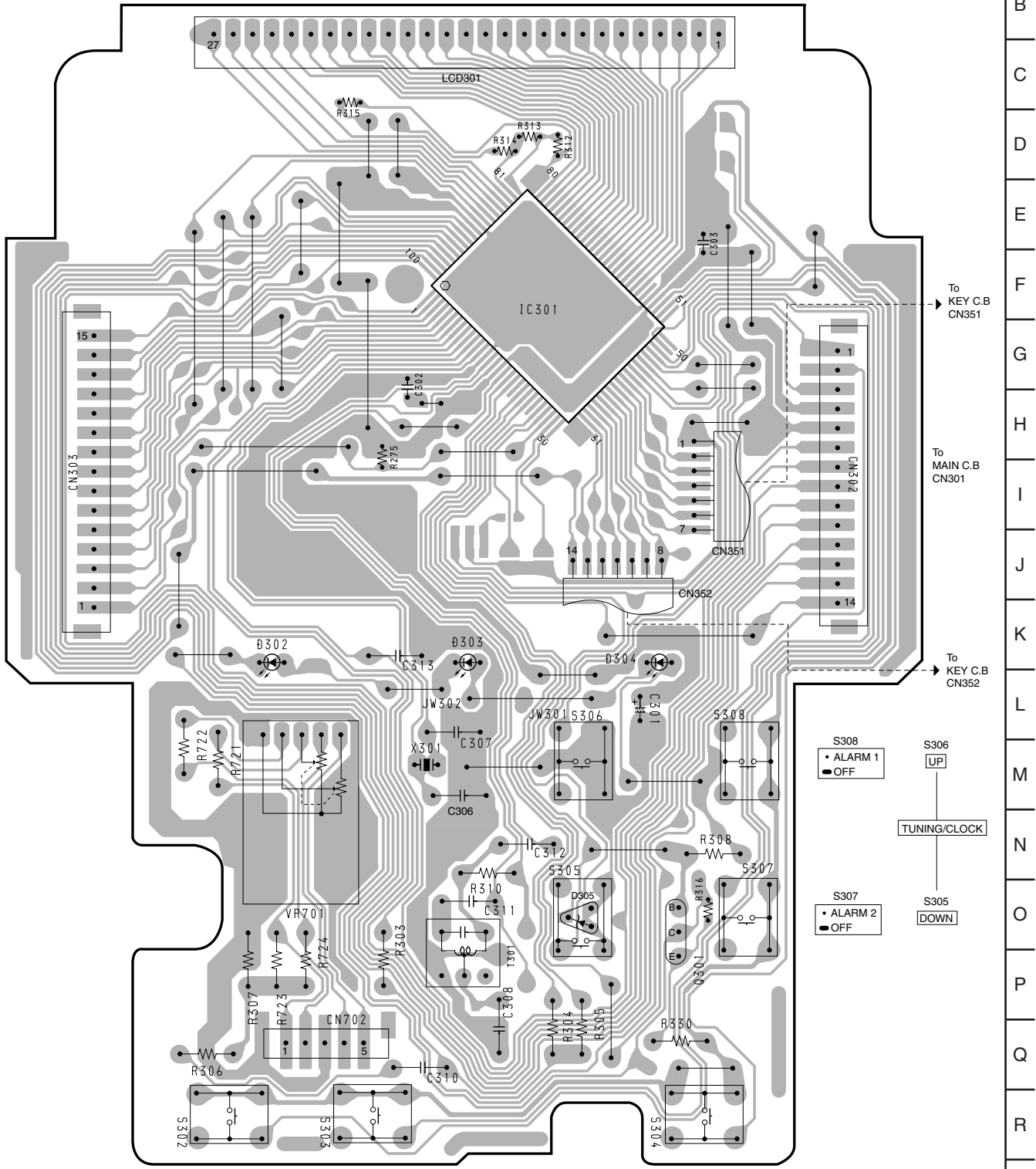
SCHEMATIC DIAGRAM -3/3 (FRONT SECTION)



WIRING -4/5 (FRONT C.B)

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

FRONT C.B



To CD C.B  
W181

To KEY C.B  
CN351

To MAIN C.B  
CN301

To KEY C.B  
CN352

S308  
• ALARM 1  
■ OFF

S306  
[UP]  
TUNING/CLOCK

S307  
• ALARM 2  
■ OFF

S305  
[DOWN]

RV701  
VOLUME  
MAX MIN

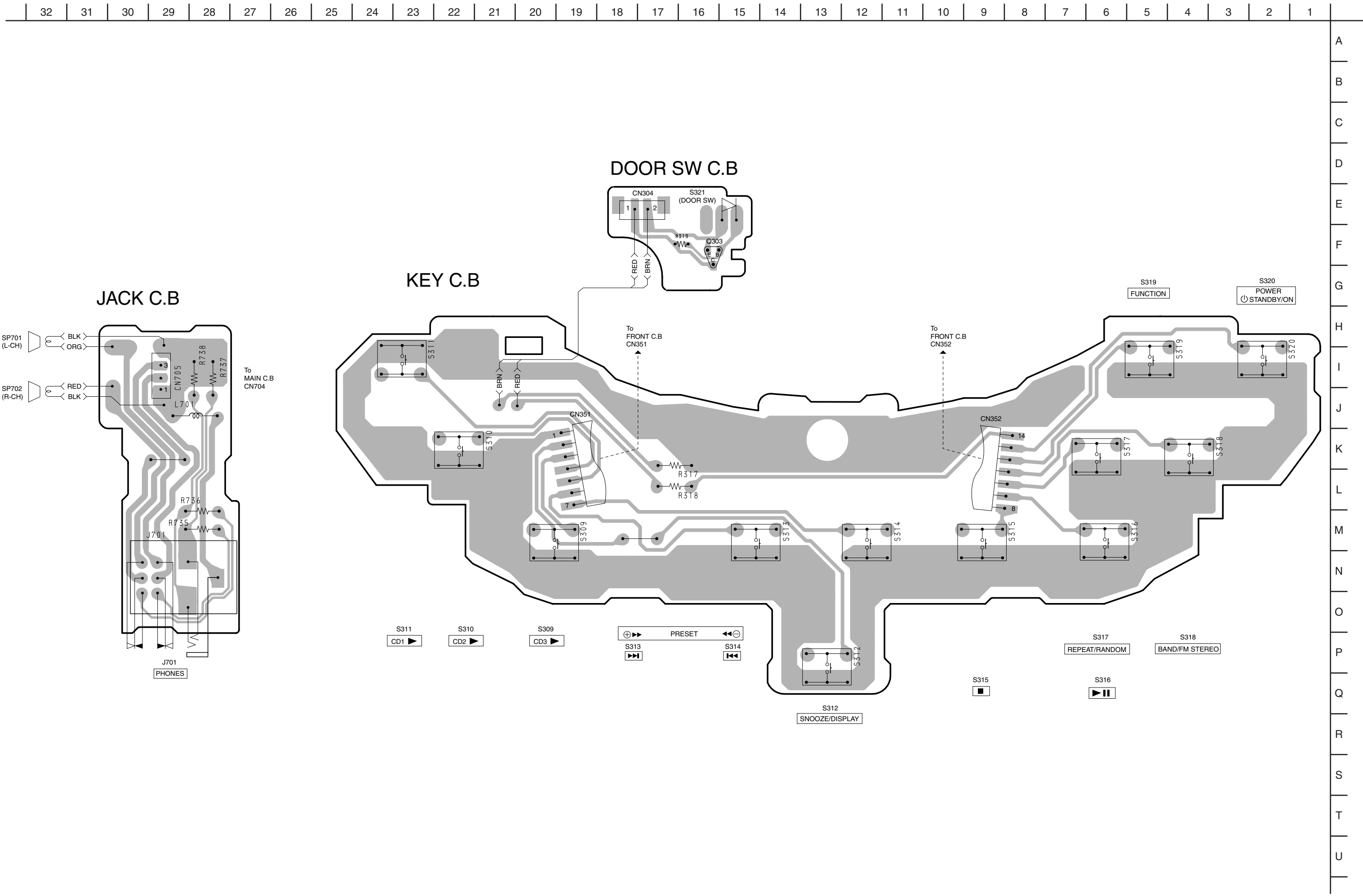
S302  
WEEKEND  
ALARM SKIP

↑  
To MAIN C.B  
CN701

S303  
[SLEEP]

S304  
[SET]

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U





VOLTAGE CHART -1/3

THE MEASURED VALUE IS DC VOLTAGE

UNIT: V

CD SECTION

TEST CONDITION: CD PLAY

IC301 (LC877348A5Z52)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
CD PLAY	0	0	4.87	4.92	4.81	0.05	0.58	4.86	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.92	1.17	2.55	0	2.09	2.25	4.93	0.91	0	0
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
CD PLAY	0	4.74	4.90	0.78	0.85	5.52	4.19	4.88	0	4.91
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
CD PLAY	4.91	0	4.91	4.91	4.91	0	4.91	4.91	4.91	4.91
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
CD PLAY	4.91	4.91	4.91	0	4.91	4.91	4.91	4.91	4.91	4.91
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
CD PLAY	4.91	0	4.91	4.93	0	1.51				
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
CD PLAY										
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
CD PLAY										3.03
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
CD PLAY	2.02	0	1.52	1.52	1.52	1.52	0.48	4.91	0	4.93
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
CD PLAY	0.48	4.00	0	4.91	0	0	0	0	4.67	0

IC161 (CXD2589Q)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
CD PLAY	0	4.98	4.98	4.87	0.55	0	4.81	4.93	4.88	4.91
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
CD PLAY	0.08	4.07	4.87	4.94	4.98	4.93	4.98	5.00	4.99	0
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
CD PLAY	2.70	0	0	0	0	0	0	4.99	2.53	2.54
PIN'SNUMBER	31	32	33	34	35	36	37	38	39	40
CD PLAY	2.53	0	2.54	4.97	2.49	0.85	2.50	2.50	2.49	2.49
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
CD PLAY	2.51	2.50	2.41	2.41	0	4.98	4.97	2.35	4.98	0
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	2.37	2.44	0	0	2.50	0	0.12	0	0
PIN'SNUMBER	61	62	63	64	65	66	67	68	69	70
CD PLAY	4.98	0.13	0.13	4.69	2.05	2.07	2.08	0.13	4.98	2.44
PIN'SNUMBER	71	72	73	74	75	76	77	78	79	80
CD PLAY	2.45	0	0.13	2.06	0	2.09	4.69	0.13	4.88	4.98

IC101 (CXA1992AR)

PIN'SNUMBER	1	2	3	4	5	6	7	8	9	10	11
CD PLAY	2.55	2.54	2.51	2.54	2.52	2.54	2.53	2.77	2.53	2.53	0.81
PIN'SNUMBER	12	13	14	15	16	17	18	19	20	21	22
CD PLAY	2.53	2.55	2.55	2.54	2.58	1.29	5.04	5.04	4.94	4.98	4.87
PIN'SNUMBER	23	24	25	26	27	28	29	30	31	32	33
CD PLAY	4.88	0.08	4.91	4.97	5.01	1.21	1.30	2.11	2.28	2.53	3.24
PIN'S NUMBER	34	35	36	37	38	39	40	41	42	43	44
CD PLAY	2.55	3.16	3.93	0.17	2.55	2.53	2.53	2.54	2.56	2.26	0
PIN'SNUMBER	45	46	47	48	49	50	51	52			
CD PLAY	2.53	2.47	2.53	2.44	2.52	2.50	2.53	2.52			

## VOLTAGE CHART -2/3

### IC251 (BA5936S)

PIN'SNUMBER	1	2	3	4	5	6	7	8
CD PLAY	3.57	3.56	3.50	3.58	2.53	2.53	7.60	7.63
PIN'SNUMBER	9	10	11	12	13	14	15	16
CD PLAY	7.61	7.02	5.04	0	0	3.87	3.87	0
PIN'SNUMBER	17	18	19	20	21	22	23	24
CDPLAY	3.43	3.60	3.22	0	0	2.53	7.62	2.53
PIN'SNUMBER	25	26	27	28	29	30	31	32
CD PLAY	0	0	3.12	0	0	3.88	3.88	0

### TUNER SECTION

TEST CONDITION: SET AM/FM TUNER ON ONE FREQUENCY

#### IC1 (TA2104AN)

PIN'SNUMBER	1	2	3	4	5	6	7	8
AM	0	0	1.17	2.98	3.01	2.33	3.01	0
FM	0	0.79	0	2.65	2.93	2.57	2.93	0
PIN'SNUMBER	9	10	11	12	13	14	15	16
AM	0.47	2.81	1.21	1.23	0	0	0.70	1.06
FM	0.16	2.15	1.20	1.22	2.07	0	0.70	1.38
PIN'SNUMBER	17	18	19	20	21	22	23	24
AM	1.24	4.91	2.81	3.01	2.98	3.00	2.98	2.98
FM	1.11	4.92	2.72	2.93	2.85	2.93	2.86	2.86

#### IC2 (LC72131D/N)

PIN'SNUMBER	1	2	3	4	5	6	7	8	9	10	11
FM	2.3	0	0	0	0	4.92	0	1.15	2.07	0	1.30
PIN'SNUMBER	12	13	14	15	16	17	18	19	20	21	22
FM	0	1.20	0	0	2.31	4.67	0.90	0.90	3.12	0	2.28

#### IC701 (TA8227P)

PIN'SNUMBER	1	2	3	4	5	6
FM	8.09	4.13	7.75	0	0.58	0
PIN'SNUMBER	7	8	9	10	11	12
FM	0	0.58	4.58	7.76	4.17	8.09

TRANSISTORS	Q6(A1015)			Q9(C1815)		
	E	C	B	E	C	B
AM	4.80	4.74	4.05	3.18	4.74	3.87
FM	4.78	4.71	4.03	3.14	4.71	3.85

TRANSISTORS	Q10(C1815)			Q1(C1923)		
	E	C	B	E	C	B
AM	2.50	3.10	3.10	1.82	2.94	2.52

TRANSISTORS	Q805(C1815)			Q806(C1815)			Q807(A1015)		
	E	C	B	E	C	B	E	C	B
FM	4.8	8.1	5.5	5	9.6	5.66	8.8	4.97	8.76
TRANSISTORS	Q808(C1815)			Q809(C1815)			Q302(A1015)		
	E	C	B	E	C	B	E	C	B
FM	0	4.53	0	0	0	0.57	8.8	4.97	8.76
TRANSISTORS	Q801(B1566)			Q802(C1815)			Q803(C1815)		
	E	C	B	E	C	B	E	C	B
FM	14.26	8.09	13.5	0	13.5	0.6	0	0	0.73
TRANSISTORS	Q804(C1815)			Q301(C1815)					
	E	C	B	E	C	B			
FM	0	0.6	0.64	2.43	5.7	3.15			

VOLTAGE CHART -3/3

TRANSISTORS	Q101(A1362)			Q102(C114)			Q103(C114)		
	E	C	B	E	C	B	E	C	B
CD	4.63	1.9	3.99	0	3.74	0	2.54	2.54	3.74
TRANSISTORS	Q104(C114)			Q105(C3326)			Q106(C3326)		
	E	C	B	E	C	B	E	C	B
CD	2.54	2.54	3.74	2.54	2.54	3.2	2.54	2.54	3.2
TRANSISTORS	Q251(A1213Y)			Q252(C124)			Q253(C124)		
	E	C	B	E	C	B	E	C	B
CD	7.6	5.04	7.0	0	0	2.8	0	0	2.8
TRANSISTORS	Q254(A1235)			Q255(A1235)			Q256(C114)		
	E	C	B	E	C	B	E	C	B
CD	3.87	-0.6	3.87	3.87	-0.6	3.87	0	4.9	-0.7
TRANSISTORS	Q303(C2712)								
	E	C	B						
CD (door open)	0	0.85	0.77						
CD (door close)	0	4.53	0						

TRANSISTORS	Q2(A1015)			Q3(A1015)		
	E	C	B	E	C	B
AM	2.75	0	2.72	2.75	2.72	2.04

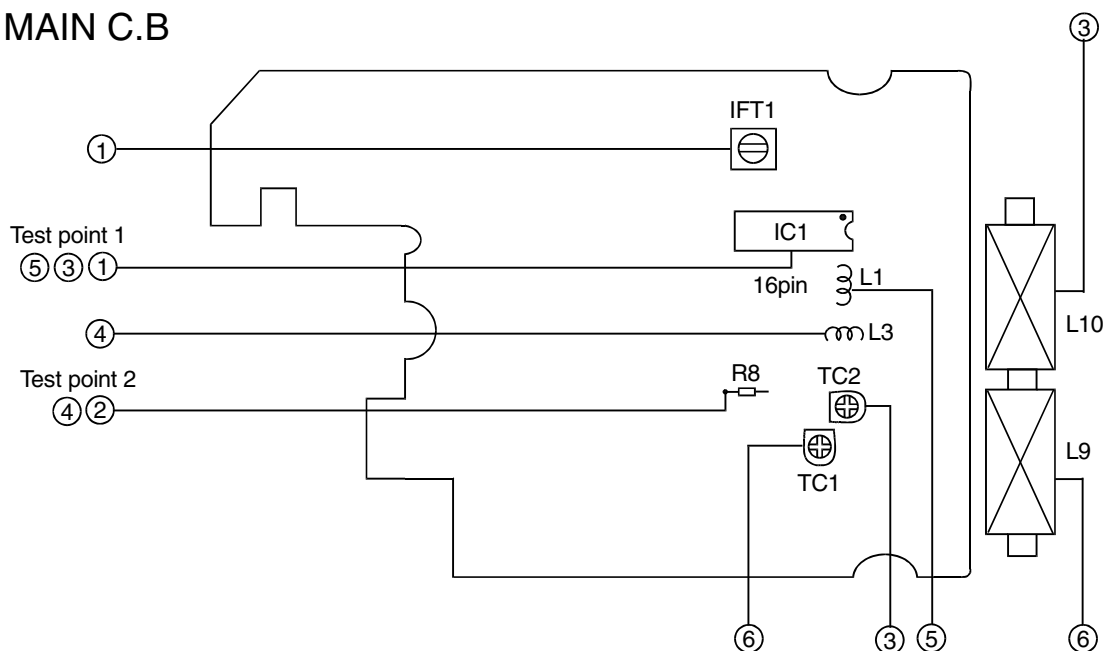
TRANSISTORS	Q4(C1815)			Q5(C1815)			Q7(A1015)		
	E	C	B	E	C	B	E	C	B
AM	0	0	0.69	0	2.72	0.21	2.75	2.75	2.05

TRANSISTORS	Q8(A1015)		
	E	C	B
AM	2.75	-5.03	2.72

TRANSISTORS	Q701(C1815)		
	E	C	B
FM	0	1.08	0.64
AM	0	1.08	0.64

TRANSISTORS	Q702(C1815)			Q703(C1815)			Q704(C1815)		
	E	C	B	E	C	B	E	C	B
FM	0	1.07	0.64	0	0	0	0	0	0
AM	0	1.08	0.64	0	0	0	0	0	0

MAIN C.B



1. AM IF Adjustment

Testpoint: IC1 (TA2104AN) 16PIN (TP1)  
 Adjustment location: IFT1  
 IFT1 ..... 450kHz

2. MW VT Check

Testpoint: R8 (TP2)  
 Set the frequency to be 531kHz and observe the test point voltage. It should be 0.9~1.2V.  
 Change the frequency to be 1602kHz and observe the test point voltage. It should be less than 7 V.

3. MW Tracking Adjustment

Testpoint: IC1 (TA2104AN) 16PIN (TP1)  
 Adjustment location: L10, TC2  
 L10 ..... 594kHz  
 TC2 ..... 1404kHz

4. FM VT Check

Testpoint: R8 (TP2)  
 Adjustment location: L3  
 Set the frequency to be 87.5 MHz then test the voltage.  
 Adjust L3 so that test point voltage is  $1.5 \pm 0.05$  V.  
 Change the frequency to be 108 MHz and observe the test point voltage. It should be less than 4 V.

5. FM Tracking Adjustment

Testpoint: IC1 (TA2104AN) 16PIN (TP1)  
 Adjustment location: L1  
 L1 ..... 87.5MHz

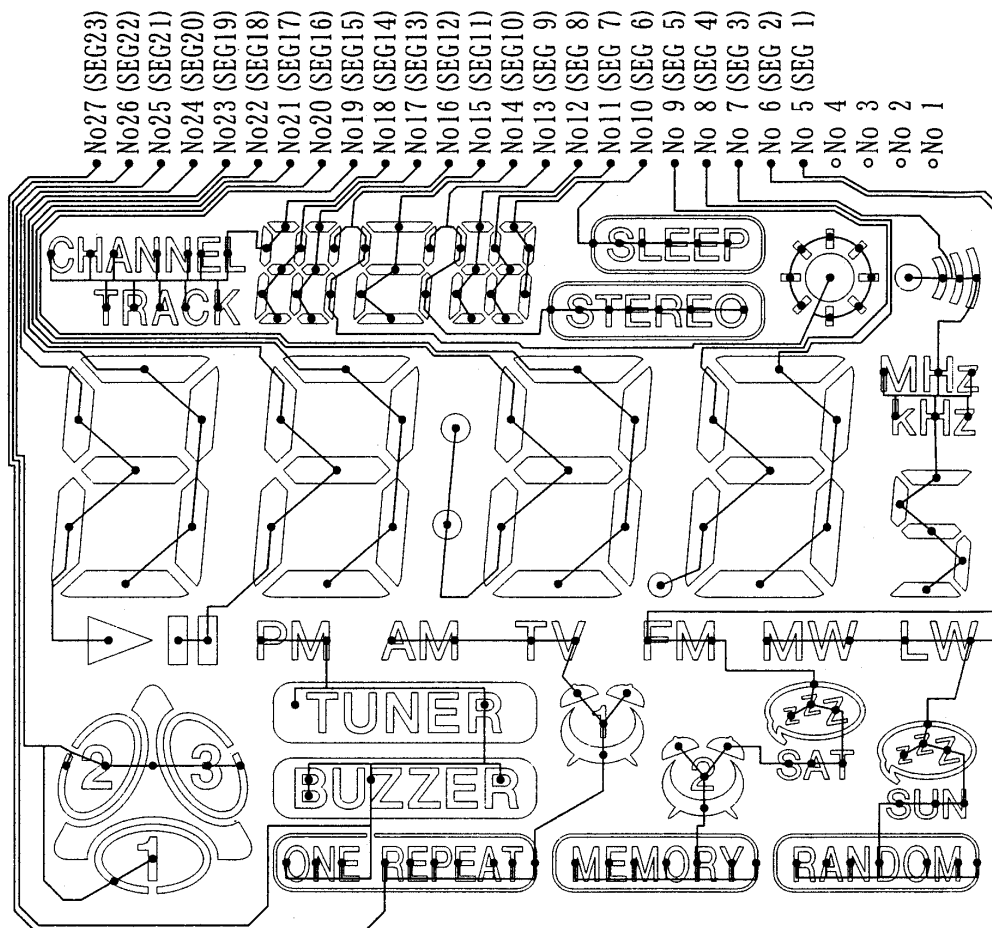
7. LW VT Check

Testpoint: R8 (TP2)  
 Set the frequency to be 144kHz and observe the test point voltage.  
 It should be 1~1.4V.

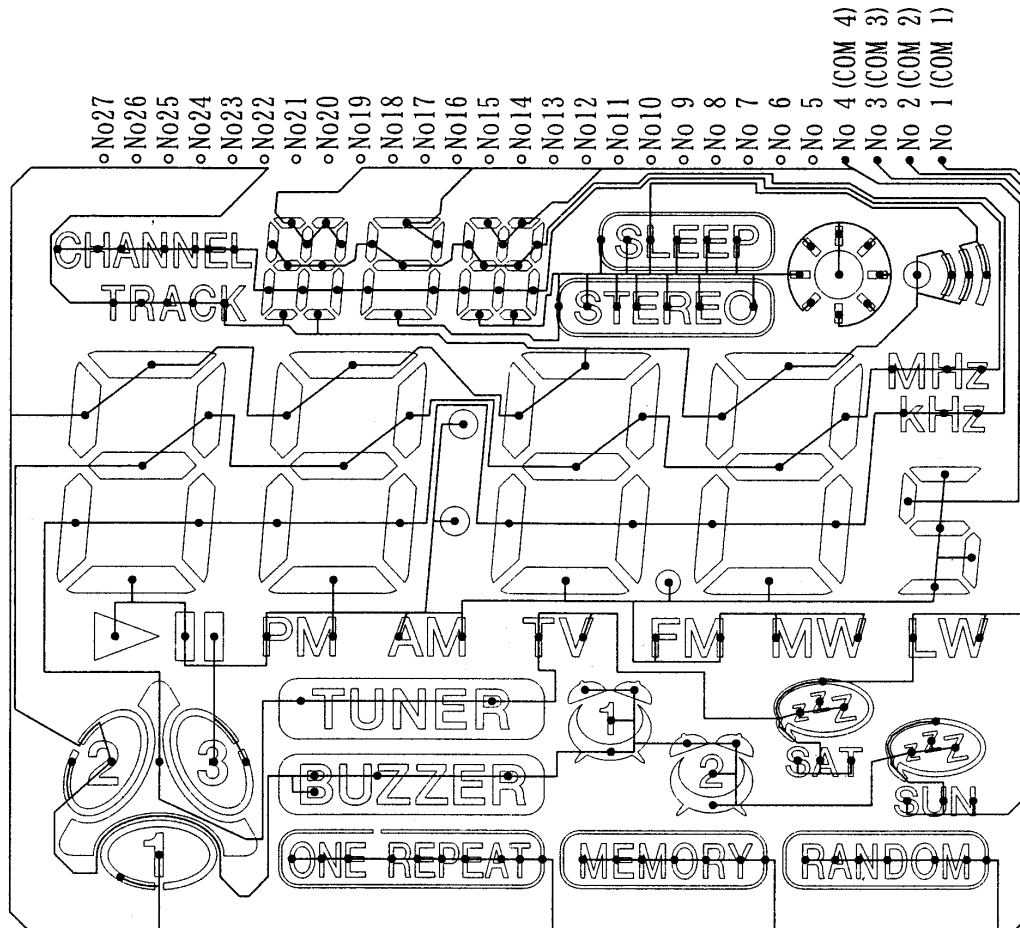
8. LW Tracking Adjustment

Testpoint: IC1 (TA2104AN) 16PIN (TP1)  
 Adjustment location: L9, TC1  
 L9 ..... 153kHz  
 TC1 ..... 288kHz

SEGMENT

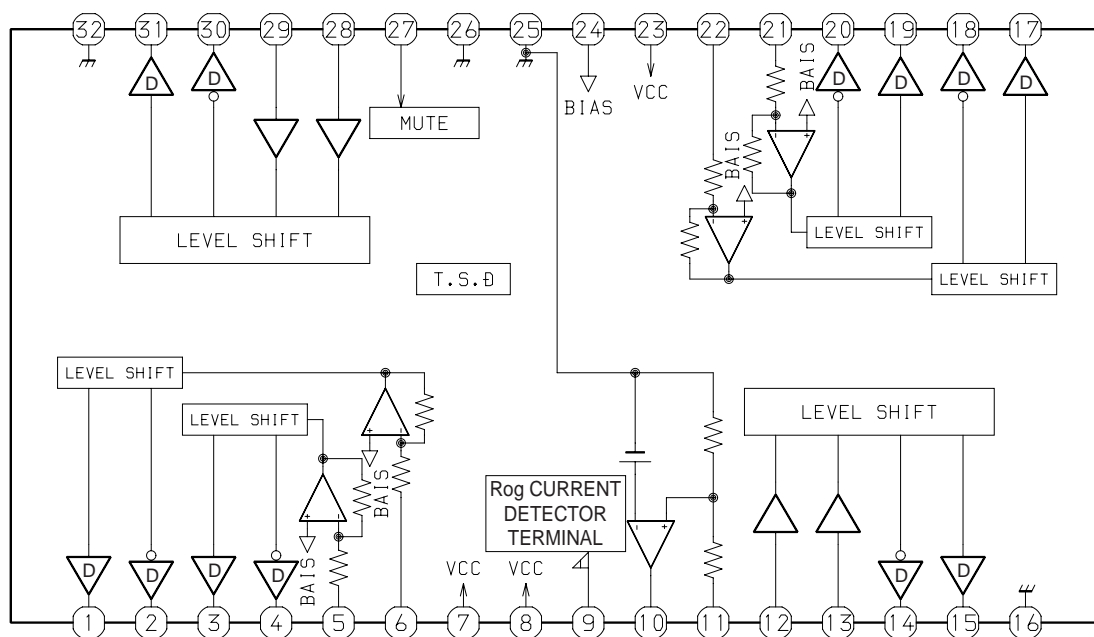


COMMON

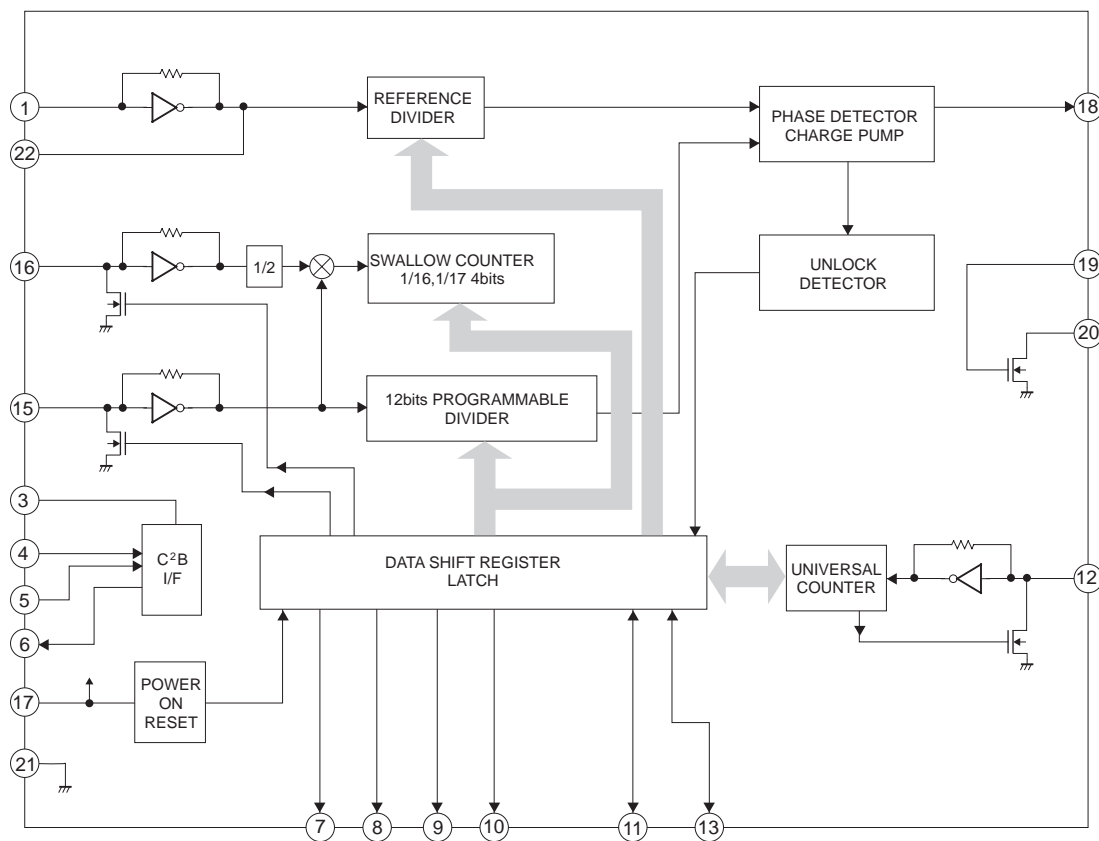


# IC BLOCK DIAGRAM -1/3

IC, BA5936S

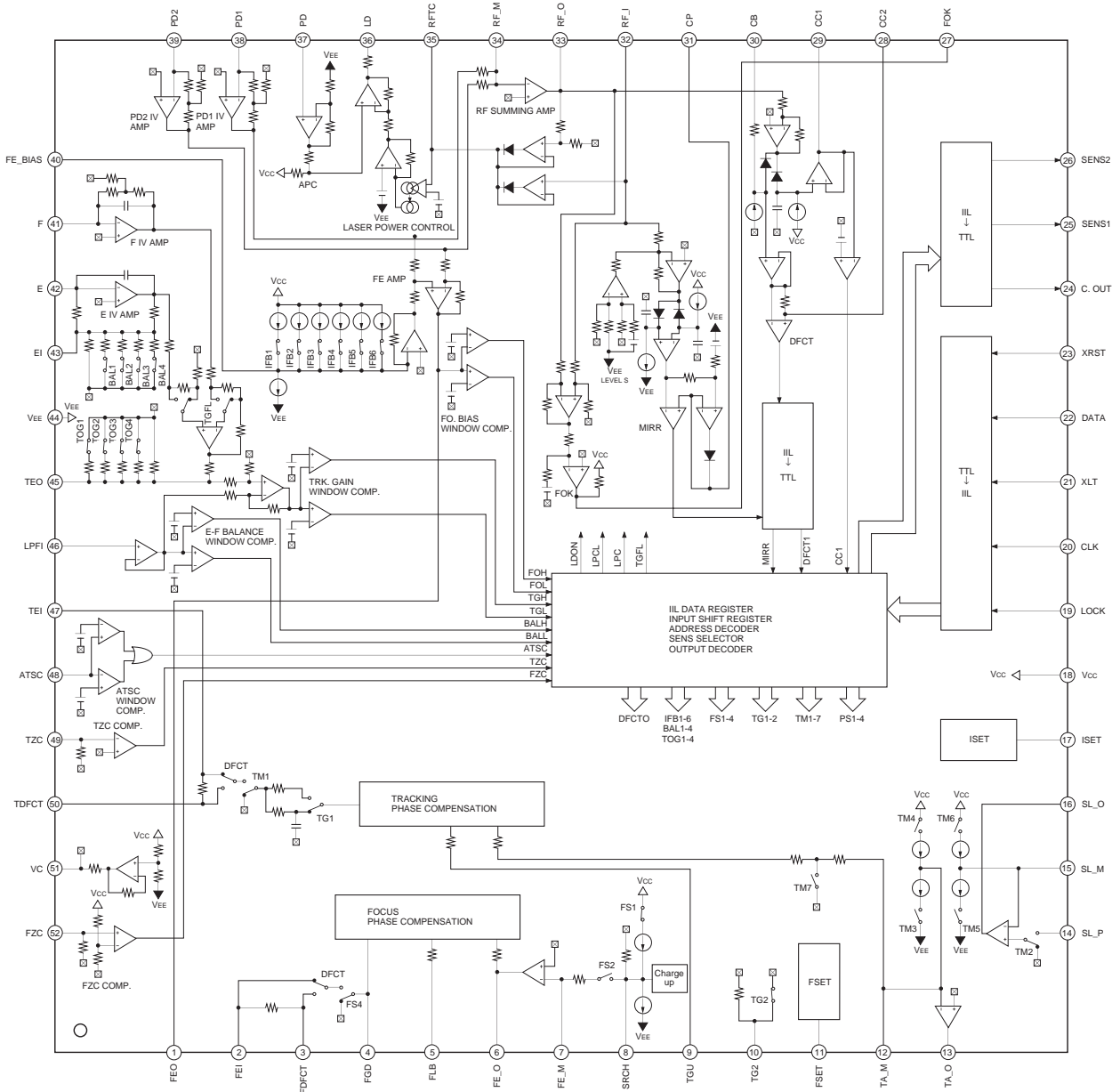


IC, LC72131D

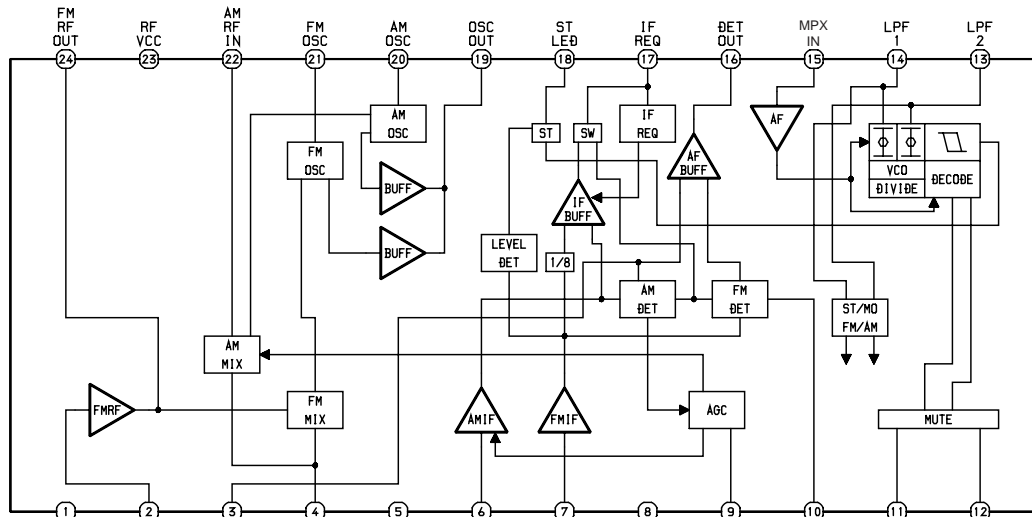


# IC BLOCK DIAGRAM -2/3

## IC, CXA1992AR

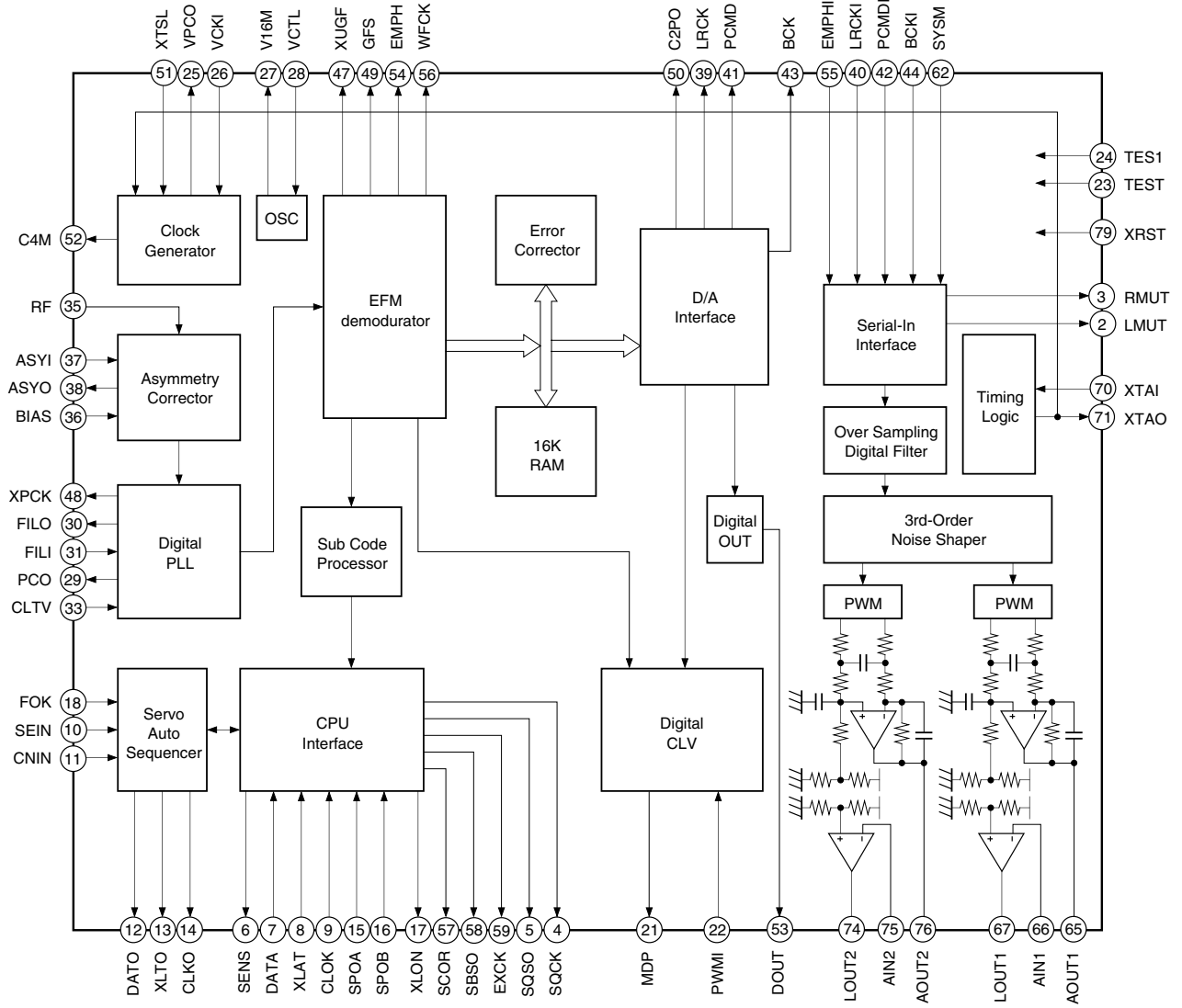


## IC, TA2104AN

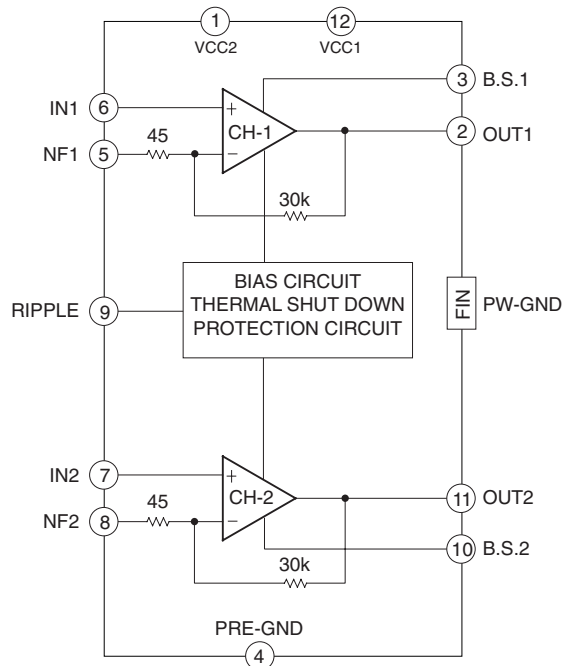


# IC BLOCK DIAGRAM -3/3

## IC, CXD2589Q



## IC, TA8227P





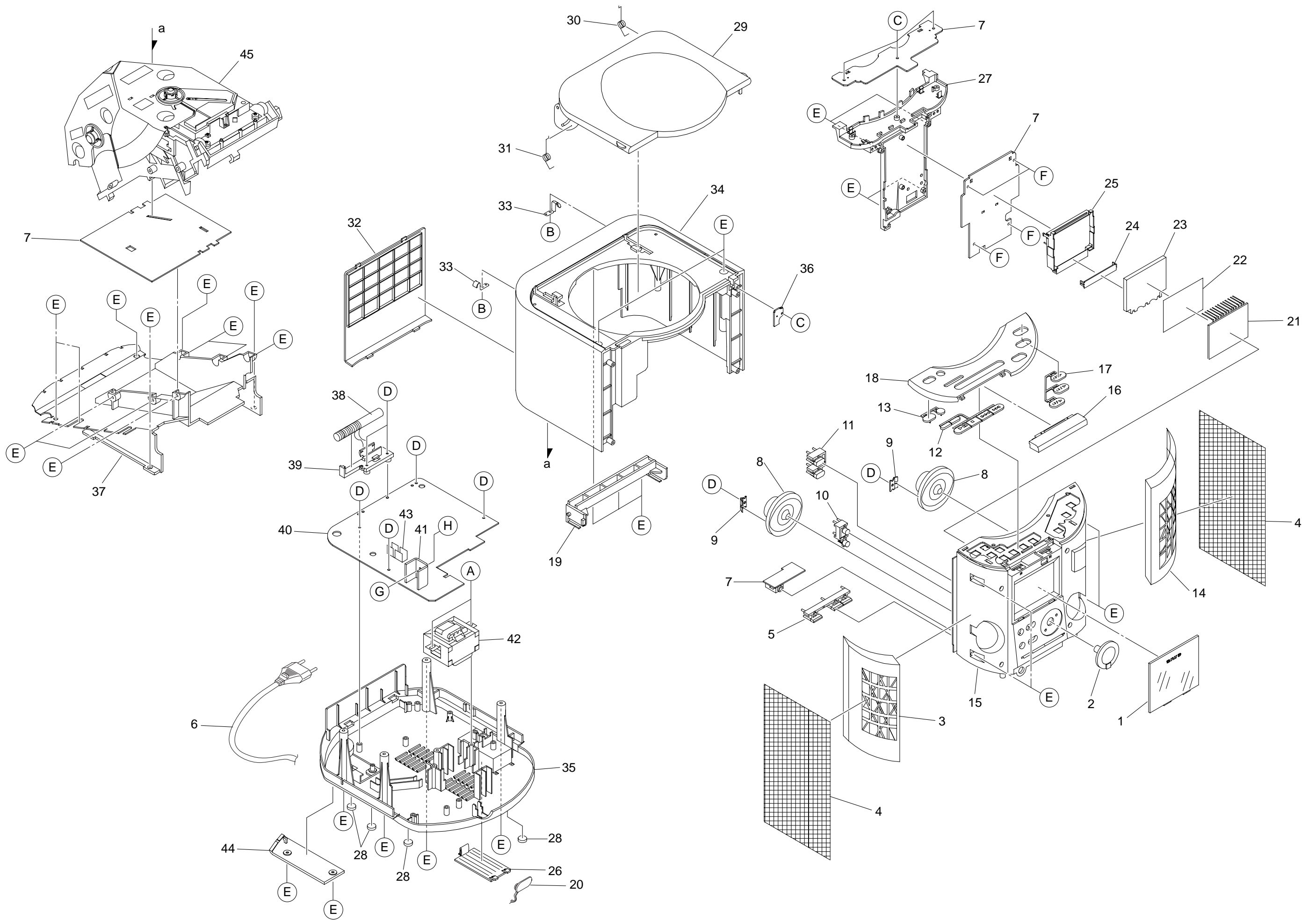
# IC DESCRIPTION -1/1 (LC877348A5Z52)-1/2

Pin No.	Pin Name	I/O	Description
1	LD-MOT-FWD	O	CD mechanic changer control output motor control
2	LD-MOT-REV	O	CD mechanic changer control output motor control
3	CLOCK	I/O	CD control serial port
4	XLAT	I/O	CD control serial port
5	DATA	I/O	CD control serial port
6	SENS	I/O	CD control serial port
7	SQSO	I/O	CD control serial port
8	SQCK	I/O	CD control serial port
9	CD-RW	O	CD-R/W change output
10	BZ-OUT	O	Buzzer sound output
11	RESET	I	System reset
12	XT1	I	Oscillation
13	XT2	O	Oscillation
14	GND	-	GND
15	CF1	I	Oscillation
16	CF2	O	Oscillation
17	VDD1	-	VDD1
18	CK-SHIFT	O	Oscillation frequency change terminal
19	ATT1	O	Buzzer sound control terminal
20	ATT2	O	Buzzer sound control terminal
21	N.C	-	Not connected
22	TU-ON	O	Tuner power source. At the time of tuner Lo
23	STEREO	I	FM stereo detection. At the time of stereo Lo
24	BACK-LIGHT	O	LCD back light output
25	N.C	I/O	Not connected
26	LV-SENS	I	Power failure detection. When having a power failure Lo
27	STEP	I	AM step change
28	RESTRICT-SENS	I	CD mechanic restrict detection terminal
29	REMOCON	I	Remote control input
30	LW	I	TV LW selection change
31	POWER KEY	I	POWER button input terminal (Lo active)
32	FUNCTION KEY	I	FUNCTION button input terminal (Lo active)
33	BAND KEY	I	BAND button input terminal (Lo active)
34	MODE KEY	I	MODE button input terminal (Lo active)
35	PLAY/PAUSE KEY	I	PLAY/PAUSE button input terminal (Lo active)
36	STOP KEY	I	STOP button input terminal (Lo active)
37	REW KEY	I	REW button input terminal (Lo active)
38	FF KEY	I	FF button input terminal (Lo active)
39	CD1 KEY	I	CD1 button input terminal (Lo active)
40	CD2 KEY	I	CD2 button input terminal (Lo active)
41	CD3 KEY	I	CD3 button input terminal (Lo active)
42	SNOOZE KEY	I	SNOOZE button input terminal (Lo active)

IC DESCRIPTION -1/1 (LC877348A5Z52)-2/2

Pin No.	Pin Name	I/O	Description															
43	ALARM1 KEY	I	ALARM1 button input terminal (Lo active)															
44	ALARM2 KEY	I	ALARM2 button input terminal (Lo active)															
45	UP KEY	I	UP button input terminal (Lo active)															
46	DOWN KEY	I	DOWN button input terminal (Lo active)															
47	SET KEY	I	SET button input terminal (Lo active)															
48	SLEEP KEY	I	SLEEP button input terminal (Lo active)															
49	WEEKEND-SKIP KEY	I	WEEKEND-SKIP button input terminal (Lo active)															
50	N.C	-	Not connected															
51	N.C	-	Not connected															
52	ARE1	I	Reception area change 1															
53	ARE2	I	Reception area change 2															
54	VDD2	-	VDD3															
55	GND	-	GND															
56	N.C	-	Not connected															
57 ~ 79	SEG23 ~ SEG1	O	LCD segment															
80	V3	-	LCD bias3															
81	V2	-	LCD bias2															
82	V1	-	LCD bias1															
83	COM4	-	LCD common 4															
84	COM3	-	LCD common 3															
85	COM2	-	LCD common 2															
86	COM1	-	LCD common 1															
87	STKR1	I	CD Stocker detection <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>ON: Lo</th> <th>Stocker1</th> <th>Stocker2</th> <th>Stocker3</th> <th>Rotary middle</th> </tr> </thead> <tbody> <tr> <td>SW2</td> <td>ON</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>SW3</td> <td>ON</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> </tbody> </table>	ON: Lo	Stocker1	Stocker2	Stocker3	Rotary middle	SW2	ON	ON	OFF	OFF	SW3	ON	OFF	ON	OFF
ON: Lo	Stocker1	Stocker2		Stocker3	Rotary middle													
SW2	ON	ON		OFF	OFF													
SW3	ON	OFF	ON	OFF														
88	STKR2	I																
89	GND	-	GND															
90	VDD3	-	VDD3															
91	CLMP	I	CD mechanic clamp detection terminal (SW1 ON: Lo) Play:ON,Middle:OFF															
92	DOOR-OPEN	I	CD door detection terminal (CD ON:Hi)															
93	CD-ON	O	At the time of the CD function it outputs the Hi															
94	DO	I/O	Tuner control serial port															
95	CE	I/O	Tuner control serial port															
96	CL	I/O	Tuner control serial port															
97	DI	I/O	Tuner control serial port															
98	MUTE	O	MUTING output															
99	POWER-ON	O	POWER ON output. ON: Hi															
100	MOT-V CONT	O	CD mechanic changer motor torque UP output															

MECHANICAL EXPLODED VIEW -1/1



# MECHANICAL PARTS LIST -1/1

! =  $\Delta$  SAFETY PARTS  
 C = Components marked

All components used on this model at the production line are shown in this service manual.

However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

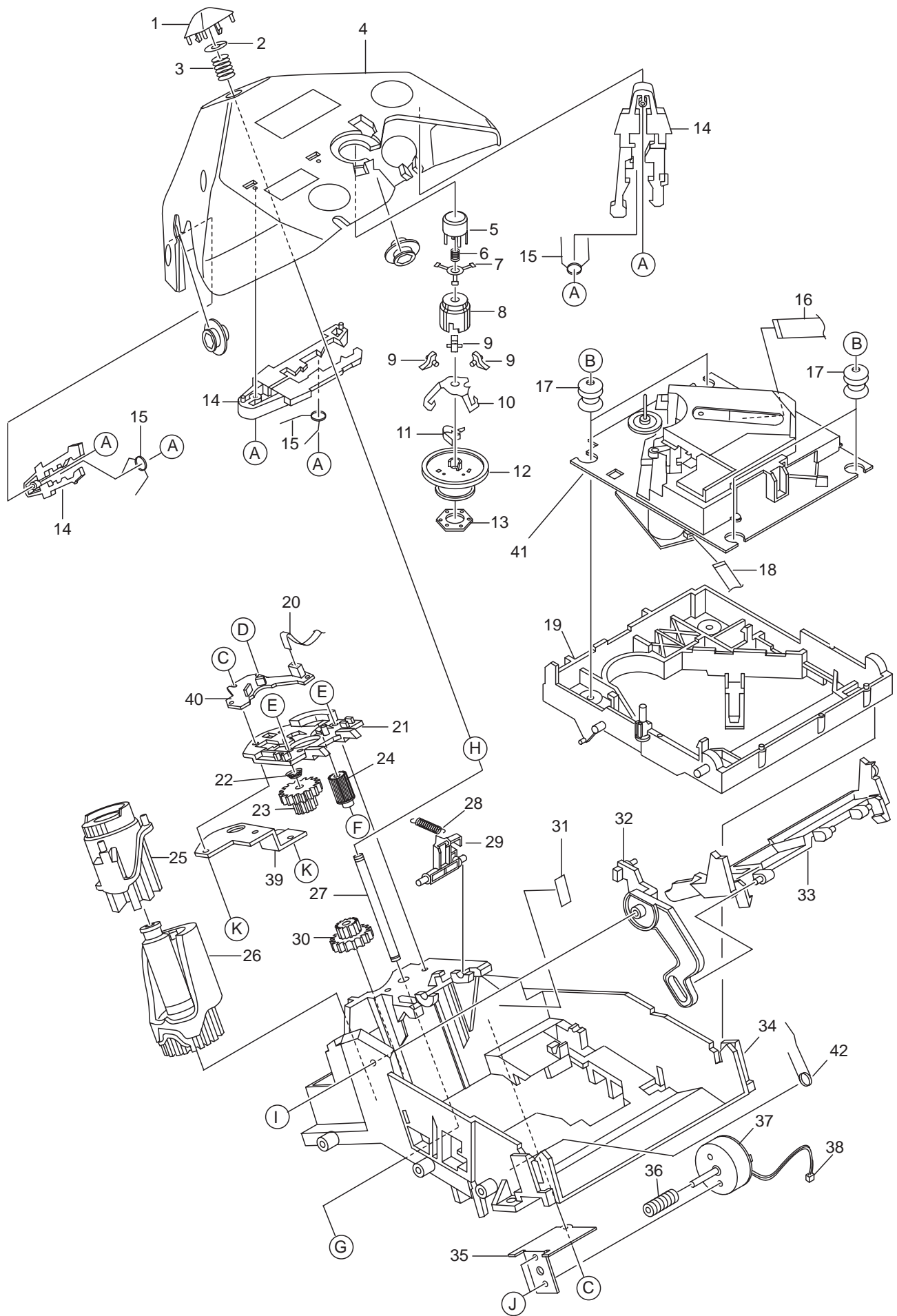
Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000
					KSC
	O	MC1001	8C-RD2-011-010	WINDOW,FR	a
	O	MC1002	8C-RD2-012-010	KNOB,VOL	a
	O	MC1003	8C-RD2-010-010	GRILL,SPEAKER (L)	a
	X	MC1004	S0-052-000-000	CLOTH,SPKR	a
	O	MC1005	8C-RD2-014-110	KNOB,SET/SLP/WE	a
	!	O	MC1006	SB-103-320-010 (F134-220120-019) PLA-VDE-6' 0	a
	X	MC1007	S0-0CR-D25-010	PWB,CRD2-02-02,03,04,05,06	a
	O	MC1008	87-A92-382-010	SPK,8OHM 2W	a
	O	MC1009	8C-RD2-206-010	FRAME,SPKR	a
	O	MC1010	8C-RD2-019-010	BTN,ALARM	a
	O	MC1011	8C-RD2-013-010	BTN,FREQ	a
	O	MC1012	8C-RD2-016-010	BTN,BAND/MO/PL	a
	O	MC1013	8C-RD2-015-010	BTN,POW/FUNC	a
	O	MC1014	8C-RD2-009-010	GRILL,SPEAKER (R)	a
	O	MC1015	8C-RD2-001-010	CAB,FRONT	a
	O	MC1016	8C-RD2-018-010	BTN,SNOOZE	a
	O	MC1017	8C-RD2-017-010	BTN,CD	a
	O	MC1018	8C-RD2-004-010	PANEL, TOP	a
	O	MC1019	SC-RD2-220-000	FRAME,CD HINGE	a
	O	MC1020	S7-RU5-000-000	BATT,SNAP "T" TYPE	a
					FR-TC5000
					KSC
	O	MC1021	8C-RD2-609-010	LCD,N-04D-32	a
	X	MC1022	SC-RD2-290-000	SH, REFLECTION	a
	O	MC1023	8C-RD2-207-010	PLATE, REFLECTION	a
	O	MC1024	SC-RD2-240-000	COVER,LED	a
	X	MC1025	SC-RD2-230-000	HLDR, LCD	a
	O	MC1026	8C-RD2-007-010	LID, BATTERY	a
	O	MC1027	SC-RD2-210-000	FRAME,FRONT	a
	O	MC1028	8C-RD2-208-010	FOOT RUBBER	a
	O	MC1029	8C-RD2-003-010	LID,CD	a
	O	MC1030	8C-RD2-210-010	SPR-T, LID CD (R)	a
	O	MC1031	8C-RD2-211-010	SPR-T, LID CD (L)	a
	O	MC1032	8C-RD2-006-010	LID,REAR	a
	O	MC1033	8C-RD2-320-000	SPRING PLATE, LID CD	a
	O	MC1034	8C-RD2-002-010	CAB, TOP	a
	O	MC1035	8C-RD3-005-010	CAB, BOTTOM	a
	X	MC1036	S0-0CR-D21-000	PWB,CRD2-01-01 137x160.9x1.6	a
	O	MC1037	SC-RD2-200-000	MECHANISM FRAME	a
	O	MC1038	S0-101-000-000	FERRITE BAR 10x100mm (LW)	a
	O	MC1039	8C-RD2-205-010	HLDR, BAR ANT	a
	X	MC1040	S0-0CR-D22-010	PWB,CRD2-02-01 195x330x1.6	a
					FR-TC5000
					KSC
	O	MC1041	S0-CDG-740-000	HEAT SINK CDG-74 T=2.0mm ALUM	a
	!	O	MC1042	SC-330-311-000 PT012WEI48/23&F&WEN& 230V EN	a
	X	MC1043	S3-838-000-000	HEAT SINK	a
	O	MC1044	8C-RD2-008-010	AC CORD PLATE COVER	a
	X	MC1045	M8-BZG-495-070	BZG-4 AB 2NC1	a
	O	MC1A	S0-303-001-200	SCREW ST3-12	a
	O	MC1B	S1-102-600-600	SCREW,ST2.6-6MM	a
	O	MC1C	S1-102-601-000	SCREW,ST2.6-10MM BB	a
	O	MC1D	87-B10-365-010	SCREW,ST3-10MM HEAD V5.9-6.3	a
	O	MC1E	S1-103-001-200	SCREW ST3-12MM HEAD	a
	O	MC1F	S1-402-600-800	SCREW,ST 2.6-8	a
	O	MC1G	S0-103-000-800	V+3-8	a
	O	MC1H	86-CS3-217-010	NUT M3x0.5 PITCH Ni	a

COLOR NAME TABLE -1/1

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray
HM	Metallic Gray	NH	Champagne Gold	M	Wood Pattern

CD MECHANISM EXPLODED VIEW -1/2 <BZG-4 AB2NC1>



# CD MECHANISM PARTS LIST -1/2 <BZG-4 AB2NC1>

! =  SAFETY PARTS  
 C = Components marked

All components used on this model at the production line are shown in this service manual.

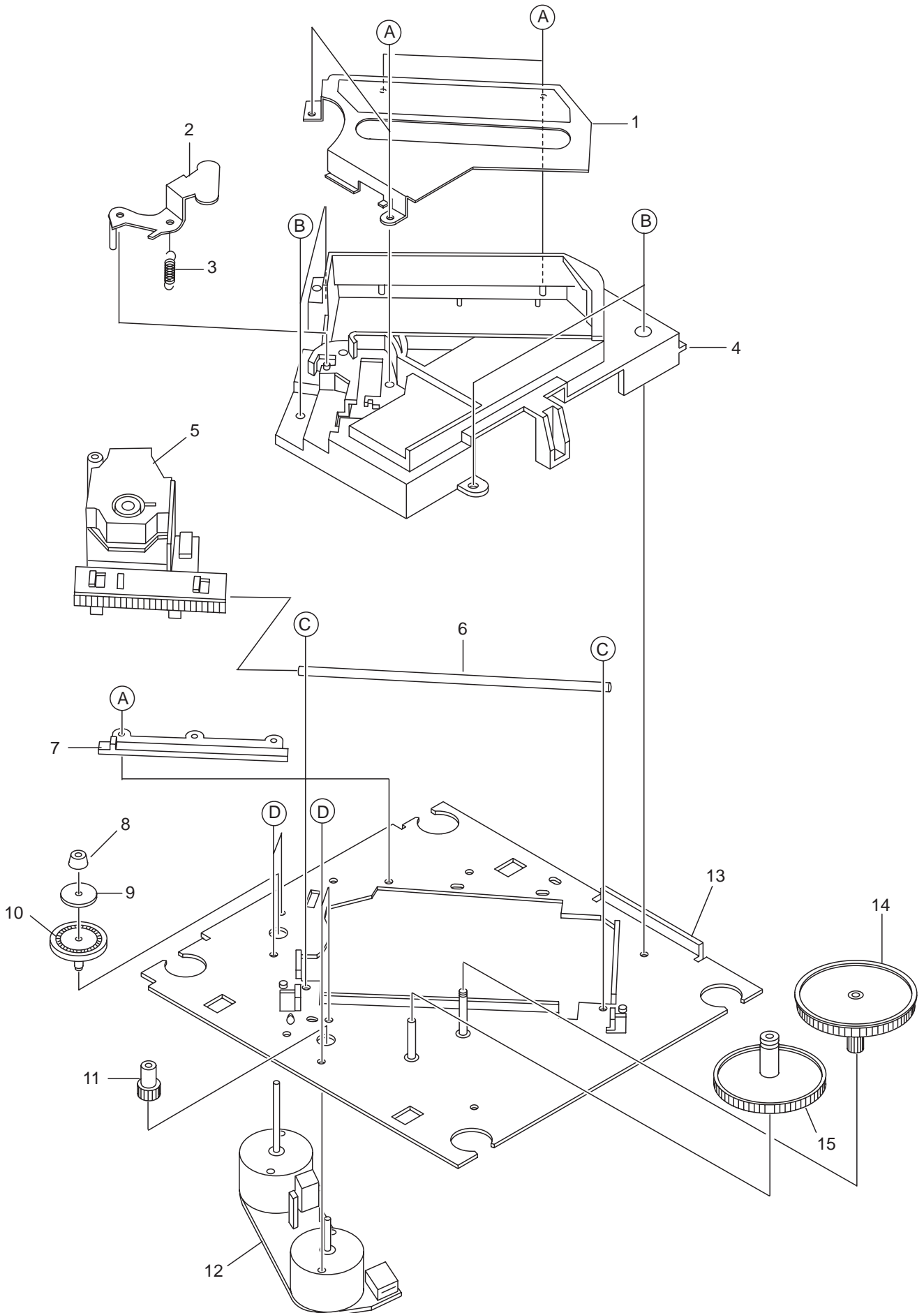
However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					BZG-4 AB2NC1
	O	SC1001	8B-ZG4-258-010	CAP, TT	a
	O	SC1002	8B-ZG4-252-010	W-P, 3.2-10-0.5 SLIT	a
	O	SC1003	8B-ZG4-250-010	SPR-C, TT BH	a
	O	SC1004	8B-ZG4-202-010	TURN TABLE, BH	a
	O	SC1005	8B-ZG4-225-010	CAP, CD A	a
	O	SC1006	8B-ZG4-237-010	SPR-C, CAP	a
	O	SC1007	8B-ZG4-234-010	CAP, CD C	a
	O	SC1008	8B-ZG4-226-010	CAP, CD B	a
	O	SC1009	8B-ZG4-223-010	LEVER, HOOK	a
	O	SC1010	8B-ZG4-240-010	SPR-P, HOOK	a
	O	SC1011	8B-ZG4-228-010	SPR-P, CAP	a
	O	SC1012	8B-ZG4-211-010	TURN TABLE, BC	a
	O	SC1013	8B-ZG4-213-010	PLATE, CHUCK	a
	O	SC1014	8B-ZG4-206-010	LEVER, LOCK TT	a
	O	SC1015	8B-ZG4-248-010	SPR-T, LOCK TT	a
	O	SC1016	8B-ZG4-604-010	FF-CABLE, 16P 1.0 220MM	a
	O	SC1017	8A-ZG1-204-010	CUSHION, CD880BRN	a
	O	SC1018	88-906-121-110	FF-CABLE, 6P	a
	O	SC1019	8B-ZG4-241-010	HLDR, MECHA HORIZ	a
	O	SC1020	8B-ZG4-602-010	FF-CABLE, 4P 1.0 220MM	a
					BZG-4 AB2NC1
	O	SC1021	8B-ZG4-221-010	PLATE, GEAR	a
	O	SC1022	8B-ZG4-259-010	SPR-C, GB	a
	O	SC1023	8B-ZG4-218-110	GEAR, B	a
	O	SC1024	8B-ZG4-219-010	GEAR, C	a
	O	SC1025	8B-ZG4-230-010	CAM, MAIN A2	a
	O	SC1026	8B-ZG4-231-010	CAM, MAIN B2	a
	O	SC1027	8B-ZG4-208-010	SHAFT, CTR	a
	O	SC1028	8B-ZG4-236-010	SPR-E, CAM LOCK	a
	O	SC1029	8B-ZG4-222-010	LEVER, CAM LOCK	a
	O	SC1030	8B-ZG4-217-010	GEAR, A	a
	X	SC1031	8B-ZG4-255-010	SH, 6-15-0.15	a
	O	SC1032	8B-ZG4-215-010	LEVER, M UP	a
	O	SC1033	8B-ZG4-216-010	LEVER, M LOCK	a
	O	SC1034	8B-ZG4-201-010	BASE,	a
	O	SC1035	8B-ZG4-229-010	HLDR, MOT	a
	O	SC1036	8B-ZG4-220-010	GEAR, MOT	a
	O	SC1037	87-045-305-010	MOT, RF-500TB	a
	O	SC1038	8B-ZG4-601-010	F-CABLE, 2P 120MM	a
	O	SC1039	8B-ZG4-235-010	PLATE, HOLD	a
	X	SC1040	8B-ZG4-612-010	PWB, SW BZG4	a
					BZG-4 AB2NC1
	X	SC1041	M8-BZG-D91-040	BZG-D YB1NF	a
	O	SC1042	8B-ZG4-254-010	SPR-T, HLDR M	a
	O	SC1A	8B-ZG4-249-010	S-SCREW, LOCK TT S	a
	O	SC1B	8B-ZG4-260-010	S-SCREW, DAMPER 2	a
	O	SC1C	87-751-073-410	VT2+2.6-6 W/O SLOT	a
	O	SC1D	87-B10-409-010	VFT2+2-5	a
	O	SC1E	87-751-096-410	VT2+3-10 W/O SLOT	a
	O	SC1F	8B-ZG4-265-010	W-L, 2.16-4-0.25 SLIT	a
	O	SC1G	8B-ZG4-261-010	W-L, 3.6-6-0.5 C-CUT	a
	O	SC1H	8B-ZG4-264-011	W-L, 4.2-9-0.125	a
	O	SC1I	8B-ZG4-251-010	S-SCREW, M UP	a
	O	SC1J	87-251-070-410	U+2.6-3	a
	O	SC1K	87-B10-401-010	VT2+2-5 W/O SLOT BLK	a

CD MECHANISM EXPLODED VIEW -2/2 <BZG-D YB1NF>





# CD MECHANISM PARTS LIST -2/2 <BZG-D YB1NF>

! =  SAFETY PARTS

C = Components marked

All components used on this model at the production line are shown in this service manual.

However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					BZG-D
					YB1NF
	O	SC2001	8B-ZGD-216-010	PLATE, DECO2	a
	O	SC2002	8B-ZGD-209-110	LEVER, SHUTTER	a
	O	SC2003	8B-ZGD-211-110	SPR-E, SHUTTER	a
	O	SC2004	8B-ZGD-213-110	HLDR, DECO	a
	O	SC2005	M8-BZL-590-040	BZL-5 A1NF	a
	O	SC2006	83-ZG2-253-110	SHAFT, SLIDE 5	a
	O	SC2007	8B-ZGD-208-010	PLATE, GUIDE	a
	O	SC2008	8B-ZGD-217-010	CAP, MAGNET	a
	O	SC2009	8B-ZG4-212-010	MAGNET, G4	a
	O	SC2010	8B-ZG4-210-110	PULLEY, SP	a
	O	SC2011	83-ZG2-236-010	GEAR, MOTOR 3	a
	X	SC2012	8B-ZGD-602-010	PWB, DRIVE BZGD	a
	O	SC2013	8B-ZGD-214-010	CHAS ASSY, MAIN HORIZ	a
	X	SC2013a	8B-ZGD-210-010	CHAS, MAIN HORIZ	a
	X	SC2013b	8B-ZGD-203-010	SHAFT, GEAR A	a
	X	SC2013c	8B-ZGD-204-010	SHAFT, GEAR B	a
	O	SC2014	8B-ZGD-207-010	GEAR, B	a
	O	SC2015	8B-ZGD-206-010	GEAR, A	a
	O	SC2A	87-067-644-010	VTT+1.7-4 BLK	a
	O	SC2B	87-067-421-010	VTT+2-4	a
					BZG-D
					YB1NF
	O	SC2C	8B-ZGD-215-010	S-SCREW, GUIDE	a
	O	SC2D	87-261-032-210	V+2-3	a

# OTHER PARTS LIST -1/1

- ! =  $\Delta$  SAFTY PARTS
- C = Components marked

All components used on this model at the production line are shown in this service manual.

However, please note that not all components will be available as spare parts for after-sales service.

Components marked S and O are designated as spare parts for service and will be stocked at the spare parts centers.

Components marked X and R are not designated as spare parts for after sales service, and will not be stocked at the spare parts centers.

UNIT-NAME	! C	REF-NO	PARTS-NO	PARTS-NAME	SUFFIX&MODEL
					FR-TC5000
					KSC
	X		S0-019-000-000	EYELET	a
	X		S0-001-000-000	CABLE/PLASTIC TIE	a
	X		SC-RD2-970-000	POLYTHENE FOAM CUSHION S:55x5	a
	X		8C-RD2-043-010	AC CORD CAUTION LABEL CRD2-94	a
	X		87-057-961-010	CAUTION LABEL	a
	X		87-056-864-010	DIFFERENCE LABEL <K>	a
	X		87-B50-078-010	FACILITY LIST (S)-0007	a
	X		8C-RD2-857-010	G/B(EZSC) CRD2-92-02 E-PLY	a
	X		87-056-168-010	INFORMATION WARRANTY SHEET	a
	X		8C-RD2-863-010	INNER CARTON (KS) CRD2-96-04	a
	X		87-B40-281-010	LBL,BAR CODE (A-35-8)	a
	X		87-B40-154-010	LBL,BAR CODE (CU)	a
	X		87-057-995-010	LBL,CLASS 1	a
	X		S0-000-010-000	METAL TIE	a
	X		8C-RD2-864-010	OUTER CARTON (KS) CRD2-93-04	a
	X		S0-401-300-000	PE POLY BAG 0.045x4"x13" w/RE	a
	X		87-B40-085-010	POLY BAG 0.045-8.5-14	a
	X		8C-RD2-851-010	POLYFOAM CRD2-90 #2704	a
	X		8C-RD2-912-010	SH,CAUTION	a
	X		S9-990-000-020	SH,FOAM POLYTHENE	a
					FR-TC5000
					KSC
	X		8C-RD2-022-010	SPEC LABEL (K) CRD2-94-05	a
	X		S6-751-000-090	JP WIRE 100MM (BLK)	a
	X		S1-000-000-010	BAR,SOLDERING	a
	X		8C-CHB-647-010	HSG CD170-2A JP WIRE	a
	X		S6-751-000-060	JP WIRE 100MM (RED)	a
	X		S6-751-000-030	JP WIRE,AWG26#1007 5x5mm 100m	a
	X		S1-060-400-010	SOLDERING BAR	a
	X		S0-060-401-120	WIRE,SOLDER 1.2MM	a
	X		S0-060-401-080	WIRE,SOLDERING	a
	X		SC-RD2-340-010	SH, LID CD (B) FELT CRD2-34 T	a
	X		SC-RD2-350-000	SH,SPR-P LID CD	a
	X		SC-RD2-370-000	SH,BOTM	a
	X		SC-RD2-360-000	SH,BTN	a
	X		SC-RD2-330-000	SH,LID CD (A)	a
	X		8C-RD2-218-010	RING,GRILLE SPKR	a
	X		S7-900-000-000	FUSE HOLDER 7900, HTF-015	a
	X		S0-002-000-000	JOINT,WIRE IN/CLIP	a
	X		S9-938-560-000	SPK. BOX FELT 80x8x0.3mm, 993	a
	X		S0-000-010-200	SPONGE 12x12x8mm WHITE	a
	X		SA-CM3-300-000	FOAM BAR FOAM ACM3-30	a