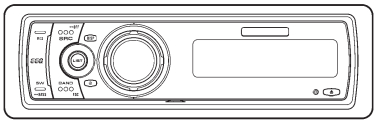
Pioneer *sound.vision.soul*

Service Manual



DEH-P680MP/XN/UC

ORDER NO.
CRT3569

MULTI-CD CONTROL HIGH POWER CD/MP3/WMA/AAC PLAYER WITH FM/AM TUNER

DEH-P680MP/XN/UC
DEH-P6800MP/XN/UC
DEH-P6850MP/XN/ES

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech.Module	Remarks
CX-3164	CRT3583	S10.5COMP1	CD Mech. Module:Circuit Description, Mech. Description, Disassembly

For details, refer to "Important Check Points for Good Servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZA.NOV. 2005 Printed in Japan

SAFETY INFORMATION

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

● **Service Precaution**

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
3. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY"
4. After replacing the pickup unit, be sure to check the grating.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

1. SPECIFICATIONS

● DEH-P680MP/XN/UC

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Backup current ..... 5 mA or less
Dimensions (W × H × D):
DIN
Chassis ..... 178 × 50 × 159 mm (7 × 2 × 6-1/4 in.)
Nose ..... 188 × 58 × 28 mm (7-3/8 × 2-1/4 × 1-1/8 in.)
D
Chassis ..... 178 × 50 × 164 mm (7 × 2 × 6-1/2 in.)
Nose ..... 170 × 46 × 23 mm (6-3/4 × 1-3/4 × 7/8 in.)
Weight ..... 1.6 kg (3.5 lbs)

Audio

Maximum power output ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output ... 22 W × 4 (50 – 15 000 Hz, 5% THD, 4 Ω load, both channels driven)
Load impedance ..... 4 – 8 Ω × 4
4 – 8 Ω × 2 + 2 Ω × 1
Preout max output level/output impedance 4 V/100Ω
Equalizer (7-Band Graphic Equalizer):
Frequency ..... 50/125/315/800/2k/5k/12.5k Hz
Gain ..... ±12dB
Loudness contour:
Low ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
Mid ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
High ..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)
HPF:
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –12 dB/oct
Subwoofer (mono):
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –18 dB/oct
Gain ..... +6 – –24 dB
Phase ..... Normal/Reverse
Bass boost:
Gain ..... +12 – 0 dB

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format:
Sampling frequency ..... 44.1 kHz
Number of quantization bits ..... 16; linear
Frequency characteristics ... 5 – 20 000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IHF-A network)
Dynamic range ..... 92 dB (1 kHz)
Number of channels ..... 2 (stereo)
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7, 7.1, 8, 9, 10 (2ch audio)
(Windows Media Player)
AAC decoding format ..... MPEG-4 AAC (iTunes® encoded only)
WAV signal format ..... Linear PCM & MS ADPCM

FM tuner

Frequency range ..... 87.9 – 107.9 MHz
Usable sensitivity ..... 8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 10 dBf (0.9 μV/75 Ω, mono)
Signal-to-noise ratio ..... 75 dB (IHF-A network)
Distortion ..... 0.3 % (at 65 dBf, 1 kHz, stereo)
0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response ..... 30 – 15 000 Hz (±3 dB)
Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)
Selectivity ..... 80 dB (±200 kHz)
Three-signal intermodulation (desired signal level) ..... 30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range ..... 530 – 1 710 kHz (10 kHz)
Usable sensitivity ..... 18 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IHF-A network)

Note

Specifications and the design are subject to possible modifications without notice due to improvements. ▣

● DEH-P6800MP/XN/UC

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Backup current ..... 5 mA or less
Dimensions (W × H × D):
DIN
Chassis ..... 178 × 50 × 159 mm (7 × 2 × 6-1/4 in.)
Nose ..... 188 × 58 × 28 mm (7-3/8 × 2-1/4 × 1-1/8 in.)
D
Chassis ..... 178 × 50 × 164 mm (7 × 2 × 6-1/2 in.)
Nose ..... 170 × 46 × 23 mm (6-3/4 × 1-3/4 × 7/8 in.)
Weight ..... 1.6 kg (3.5 lbs)

Audio

Maximum power output ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output ..... 22 W × 4 (50 – 15 000 Hz, 5% THD, 4 Ω load, both channels driven)
Load impedance ..... 4 – 8 Ω × 4
4 – 8 Ω × 2 + 2 Ω × 1
Preout max output level/output impedance ..... 2.2 V/1 kΩ
Equalizer (7-Band Graphic Equalizer):
Frequency ..... 50/125/315/800/2k/5k/12.5k Hz
Gain ..... ±12dB
Loudness contour:
Low ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
Mid ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
High ..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)
HPF:
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –12 dB/oct
Subwoofer (mono):
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –18 dB/oct
Gain ..... +6 – –24 dB
Phase ..... Normal/Reverse
Bass boost:
Gain ..... +12 – 0 dB

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format:
Sampling frequency ..... 44.1 kHz
Number of quantization bits ..... 16; linear
Frequency characteristics ..... 5 – 20 000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IHF-A network)
Dynamic range ..... 92 dB (1 kHz)
Number of channels ..... 2 (stereo)
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7, 7.1, 8, 9, 10 (2ch audio)
(Windows Media Player)
AAC decoding format ..... MPEG-4 AAC (iTunes® encoded only)
WAV signal format ..... Linear PCM & MS ADPCM

FM tuner

Frequency range ..... 87.9 – 107.9 MHz
Usable sensitivity ..... 8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 10 dBf (0.9 μV/75 Ω, mono)
Signal-to-noise ratio ..... 75 dB (IHF-A network)
Distortion ..... 0.3 % (at 65 dBf, 1 kHz, stereo)
0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response ..... 30 – 15 000 Hz (±3 dB)
Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)
Selectivity ..... 80 dB (±200 kHz)
Three-signal intermodulation (desired signal level) ..... 30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range ..... 530 – 1 710 kHz (10 kHz)
Usable sensitivity ..... 18 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IHF-A network)

Note

Specifications and the design are subject to possible modifications without notice due to improvements. ▣

● DEH-P6850MP/XN/ES

General

Rated power source ..... 14.4 V DC
(allowable voltage range: 12.0 – 14.4 V DC)
Grounding system ..... Negative type
Max. current consumption
..... 10.0 A
Backup current ..... 5 mA or less
Dimensions (W × H × D):
DIN
Chassis ..... 178 × 50 × 159 mm
Nose ..... 188 × 58 × 28 mm
D
Chassis ..... 178 × 50 × 164 mm
Nose ..... 170 × 46 × 23 mm
Weight ..... 1.6 kg

Audio

Maximum power output ..... 50 W × 4
50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output ... 22 W × 4 (50 – 15 000 Hz, 5% THD, 4 Ω load, both channels driven)
Load impedance ..... 4 – 8 Ω × 4
4 – 8 Ω × 2 + 2 Ω × 1
Preout max output level/output impedance
..... 4 V/100Ω
Equalizer (7-Band Graphic Equalizer):
Frequency ..... 50/125/315/800/2k/5k/12.5k Hz
Gain ..... ±12dB
Loudness contour:
Low ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
Mid ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
High ..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)
HPF:
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –12 dB/oct
Subwoofer (mono):
Frequency ..... 50/63/80/100/125 Hz
Slope ..... –18 dB/oct
Gain ..... +6 – –24 dB
Phase ..... Normal/Reverse
Bass boost:
Gain ..... +12 – 0 dB

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format:
Sampling frequency ..... 44.1 kHz
Number of quantization bits
..... 16; linear
Frequency characteristics ... 5 – 20 000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IEC-A network)
Dynamic range ..... 92 dB (1 kHz)
Number of channels ..... 2 (stereo)
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format ..... Ver. 7, 7.1, 8, 9, 10 (2ch audio)
(Windows Media Player)
AAC decoding format ..... MPEG-4 AAC (iTunes® encoded only)
WAV signal format ..... Linear PCM & MS ADPCM

FM tuner

Frequency range ..... 87.5 – 108.0 MHz
Usable sensitivity ..... 8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 10 dBf (0.9 μV/75 Ω, mono)
Signal-to-noise ratio ..... 75 dB (IEC-A network)
Distortion ..... 0.3 % (at 65 dBf, 1 kHz, stereo)
0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response ..... 30 – 15 000 Hz (±3 dB)
Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range ..... 531 – 1 602 kHz (9 kHz)
530 – 1 640 kHz (10 kHz)
Usable sensitivity ..... 18 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IEC-A network)

Infrared remote control

Wavelength ..... 940 nm ±50 nm
Output ..... typ; 12 mw/sr per Infrared LED

Note

Specifications and the design are subject to possible modifications without notice due to improvements. ▣

2. EXPLODED VIEWS AND PARTS LIST

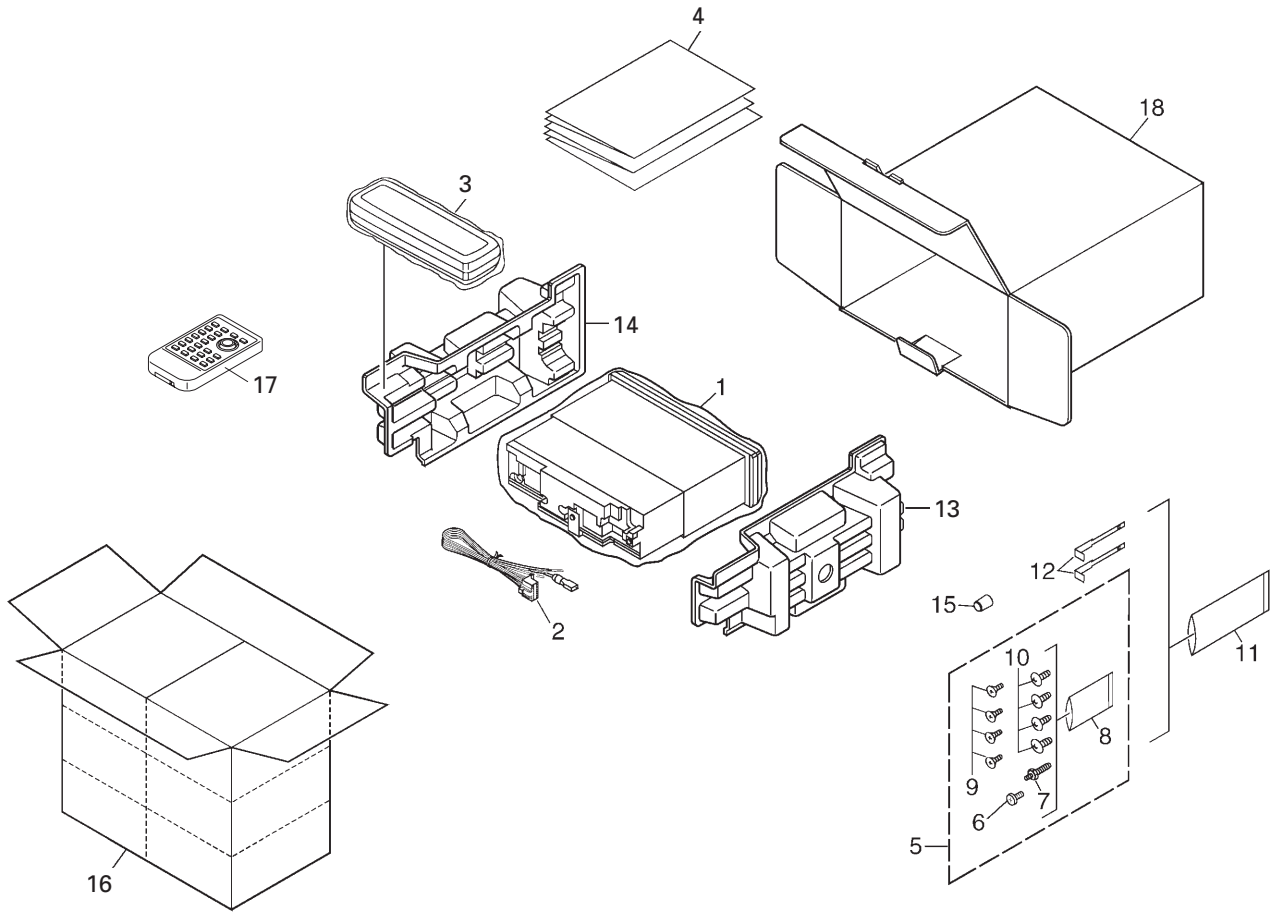
*NOTES : • Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*

• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

• Screw adjacent to▽mark on the product are used for disassembly.

• For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)

2.1 PACKING



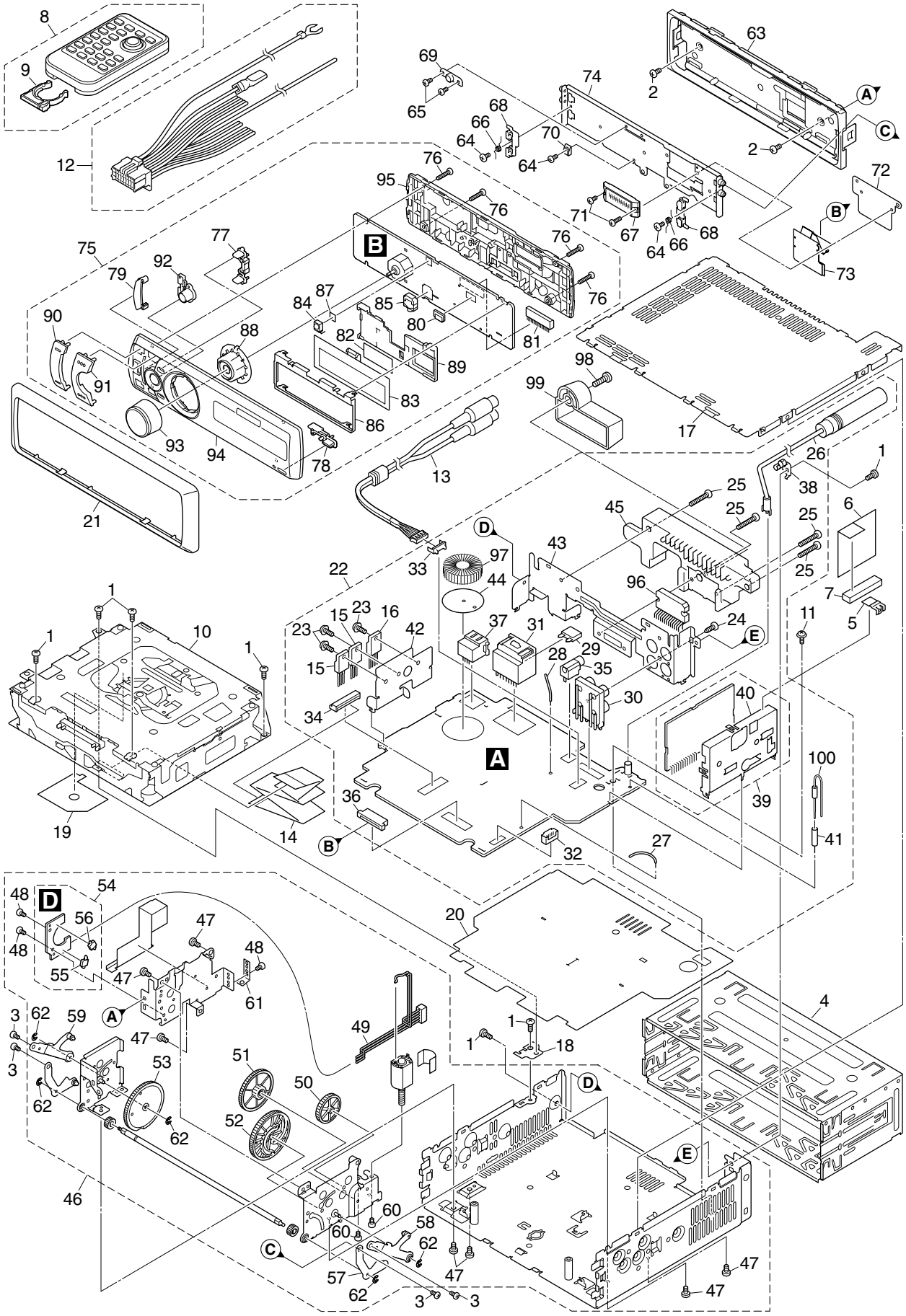
PACKING SECTION PARTS LIST

Mark	No.	Description	DEH-P680MP/XN/UC	DEH-P6800MP/XN/UC	DEH-P6850MP/XN/ES
	1	Polyethylene Bag	CEG1173	CEG1173	CEG-162
	2	Cord Assy	XDE7007	XDE7007	XDE7007
	3	Case Assy	XXA7417	XXA7417	XXA7417
	4-1	Owner's Manual	XRD7109	XRD7111	XRD7113
	4-2	Installation Manual	XRD7110	XRD7112	XRD7115
*	4-3	Caution Card	XRP7002	XRP7002	XRP7002
	4-4	Caution Card	CRP1310	CRP1310	CRP1310
*	4-5	Warranty Card	CRY1070	CRY1246	Not used
	4-6	Owner's Manual	Not used	Not used	XRD7114
*	4-7	Caution Card	Not used	CRP1294	Not used
	5	Screw Assy	CEA5322	CEA5322	CEA3849
	6	Screw	JPZ20P060FTB	JPZ20P060FTB	Not used
	7	Screw	CBA1650	CBA1650	CBA1650
*	8	Polyethylene Bag	CEG-127	CEG-127	CEG-127
	9	Screw	CRZ50P090FTC	CRZ50P090FTC	CRZ50P090FTC
	10	Screw	TRZ50P080FTC	TRZ50P080FTC	TRZ50P080FTC
*	11	Polyethylene Bag	CEG-158	CEG-158	CEG-158
	12	Handle	CNC5395	CNC5395	CNC5395
	13	Protector	XHP7008	XHP7008	XHP7008
	14	Protector	XHP7007	XHP7007	XHP7007
	15	Bush	CNV3930	CNV3930	CNV3930
	16	Contain Box	XHL7111	XHL7110	XHL7109
	17	Remote Control Assy	CXC5717	CXC5717	CXC5717
	18	Unit Box	XHG7111	XHG7110	XHG7109

Owner's Manual,Installation Manual

Part No.	Language
XRD7109,XRD7110, XRD7111,XRD7112	English,French
XRD7113	English,Spanish,Portuguese(B)
XRD7114	Arabic,Traditional Chinese
XRD7115	English,Spanish,Portuguese(B),Arabic,Traditional Chinese

2.2 EXTERIOR



(1)EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P060FTC
	2	Screw(M2.6x4)	CBA1828
	3	Screw(M2x2.5)	CBA1924
	4	Holder	CNC8659
	5	Earth Plate	CND2171
	6	Insulator	CNM8790
	7	Cushion	CNM9126
	8	Remote Control Assy	CXC5717
	9	Cover	CZN5357
	10	CD Mechanism Module(S10.5)	CXK5752
	11	Screw	ISS26P055FTC
	12	Cord Assy	XDE7007
	13	Cord Assy	XDE7013
	14	Cable	XDE7015
	15	Transistor(Q901,Q951)	2SD2396
	16	IC(IC931)	NJM2388F84
	17	Case	XNB7005
	18	Holder	XNC7014
	19	Insulator	XNM7106
	20	Insulator	XNM7114
	21	Panel	See Contrast table(2)
	22	Tuner Amp Unit	See Contrast table(2)
	23	Screw	ASZ26P060FTC
	24	Screw	BPZ26P080FTC
	25	Screw	BSZ26P160FTC
	26	Antenna Cable	CDH1336
	27	Clamper	CEF1046
	28	Clamper	CEF1048
⚠	29	Fuse(10A)	CEK1208
	30	Pin Jack(CN312)	CKB1051
	31	Plug(CN901)	CKM1376
	32	Plug(CN801)	CKS-786
	33	Plug(CN311)	CKS1238
	34	Connector(CN651)	CKS3834
	35	Connector(CN161)	See Contrast table(2)
	36	Connector(CN871)	CKS4811
	37	Connector(CN101)	CKS5271
	38	Holder	CNC5399
	39	FM/AM Tuner Unit	CWE1952
	40	Holder	CND1054
	41	Tube	XDM7001
	42	Holder	XNC7011
	43	Holder	See Contrast table(2)
	44	Insulator	XNM7031
	45	Heat Sink	XNR7001
	46	DRIVE UNIT	XXA7406
	47	Screw	BMZ26P040FTC
	48	Screw(M2x2)	CBA1871
	49	Cord	CDE7392
	50	Gear	CNV7752
	51	Gear	CNV7753
	52	Gear	CNV7754
	53	Gear	CNV7755
	54	Switch Unit	CWS1389
	55	Switch	CSN1051
	56	Spring Switch	CSN1052
	57	Arm Unit	CXC2199
	58	Arm Unit	CXC6623
	59	Arm Unit	CXC6624
	60	Screw	JFZ20P020FTC
	61	Spring	XBL7003
	62	Washer	YE15FTC
	63	Panel Unit	See Contrast table(2)
	64	Screw(M2x2)	CBA1871
	65	Screw	CBA1935
	66	Spring	CBH2530
	67	Connector	CKS5273
	68	Arm	CNV6962
	69	Guide	CNV6967
	70	Guide	CNV8048
	71	Screw	XBA7002
	72	Holder	XNC7019
	73	FLEXIBLE PCB	XNP7026
	74	CASE UNIT	XXA7426
	75	DETACHABLE ASS'Y	See Contrast table(2)
	76	Screw	BPZ20P080FTB
	77	Button(DISP,CLOCK)	XAC7128
	78	Button(EJECT)	XAC7130
	79	Lighting Conductor	XNV7027
	80	Connector(CN1801)	CKS5272
	81	Connector(CN1802)	CKS5545
	82	Double Sided Tape	CNM8673
	83	OEL UNIT	MXS8231
	84	IC(IC1811)	GP1UX31RK
	85	JACK(CN1803)	XKN7001
	86	Holder	XNC7009
	87	Double Sided Tape	XNM7118
	88	Holder	XNV7023
	89	Holder	XNV7029
	90	Button Unit(EQ,SW)	XXA7377
	91	Button Unit(SRC,BAND)	XXA7379
	92	Button Unit(LIST)	XXA7380
	93	KNOB UNIT	XXA7381
	94	SUB GRILLE ASS'Y	See Contrast table(2)
	95	COVER UNIT	XXA7428
	96	IC(IC301)	PAL007B
	97	Choke Coil(L841)	CTH1280
	98	Screw	See Contrast table(2)
	99	Holder	See Contrast table(2)
	100	Arrestor(AR401)	DSP-201M-S00B

(2) CONTRAST TABLE

DEH-P680MP/XN/UC , DEH-P6800MP/XN/UC and DEH-P6850MP/XN/ES are constructed the same except for the following:

Mark	No.	Description	DEH-P680MP/XN/UC	DEH-P6800MP/XN/UC	DEH-P6850MP/XN/ES
	21	Panel	XNS7145	XNS7144	XNS7144
	22	Tuner Amp Unit	XWM7116	XWM7115	XWM7114
	35	Connector(CN161)	CKS4124	CKS4124	Not used
	43	Holder	XNC7022	XNC7022	XNC7012
	63	Panel Unit	XXA7408	XXA7407	XXA7407
	75	Detachable Assy	XXA7413	XXA7412	XXA7411
	94	Sub Grille Assy	XXA7420	XXA7419	XXA7418
	98	Screw	Not used	BMZ40P140FTC	Not used
	99	Holder	Not used	CNV7619	Not used

A

B

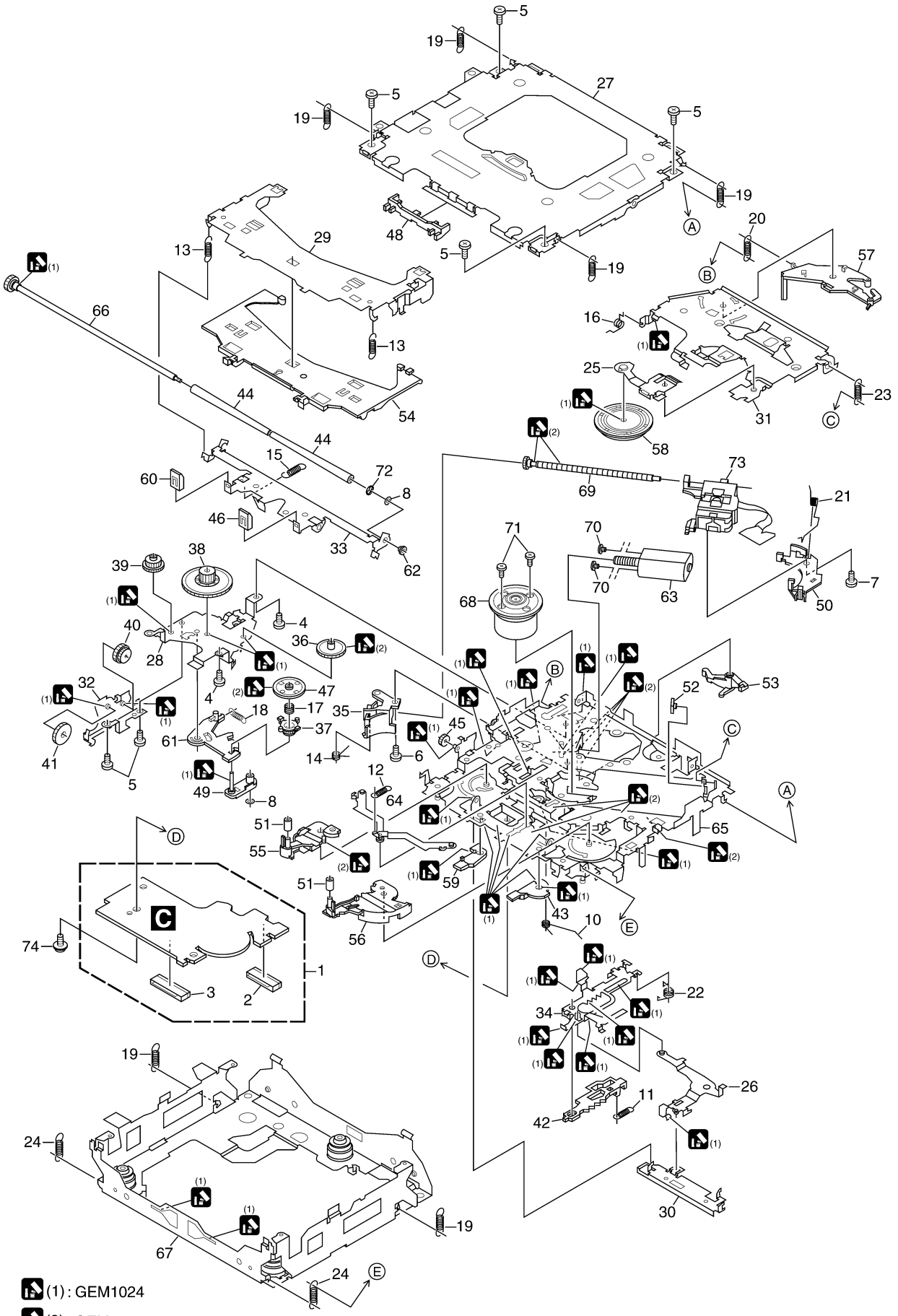
C

D

E

F

2.3 CD MECHANISM MODULE

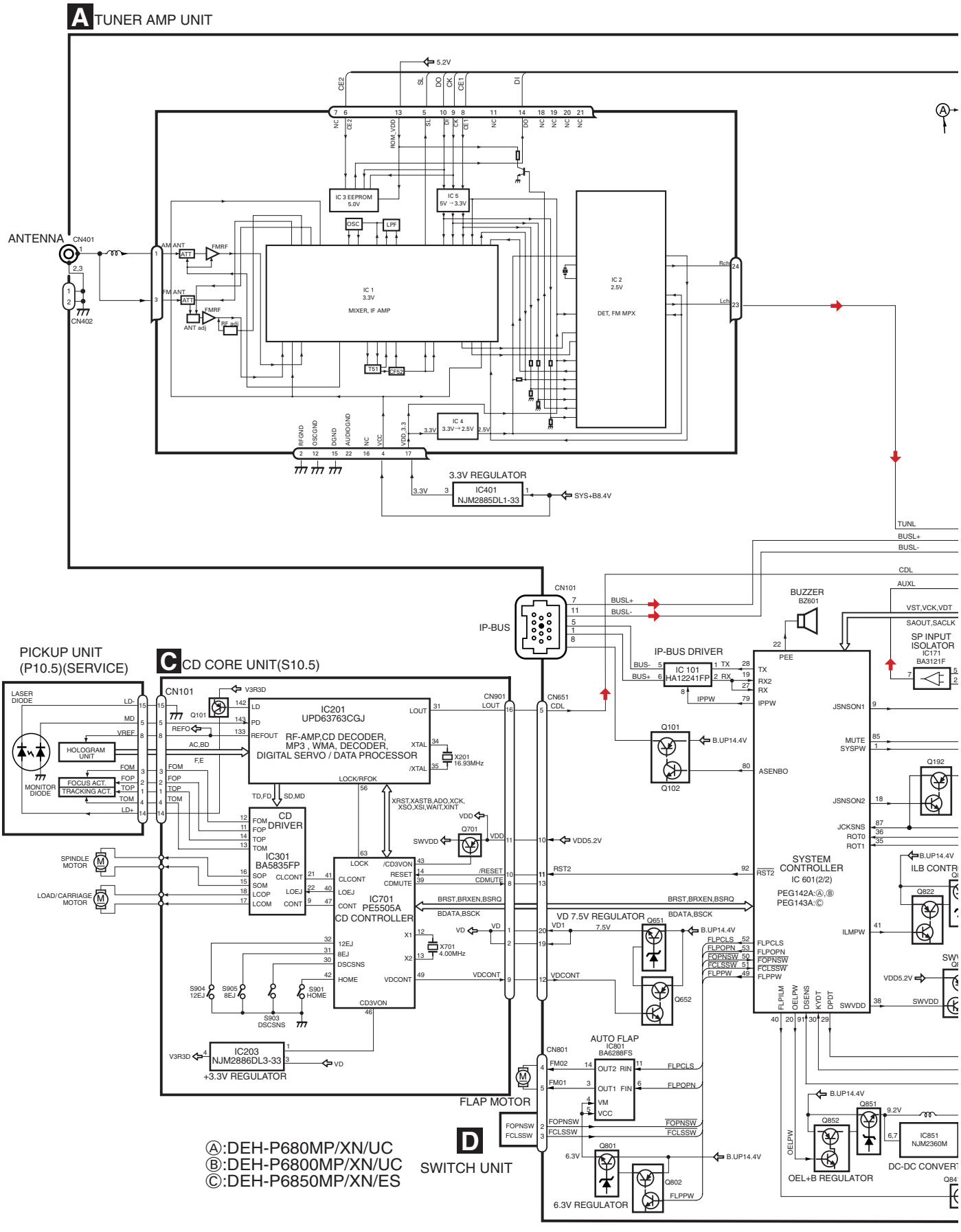


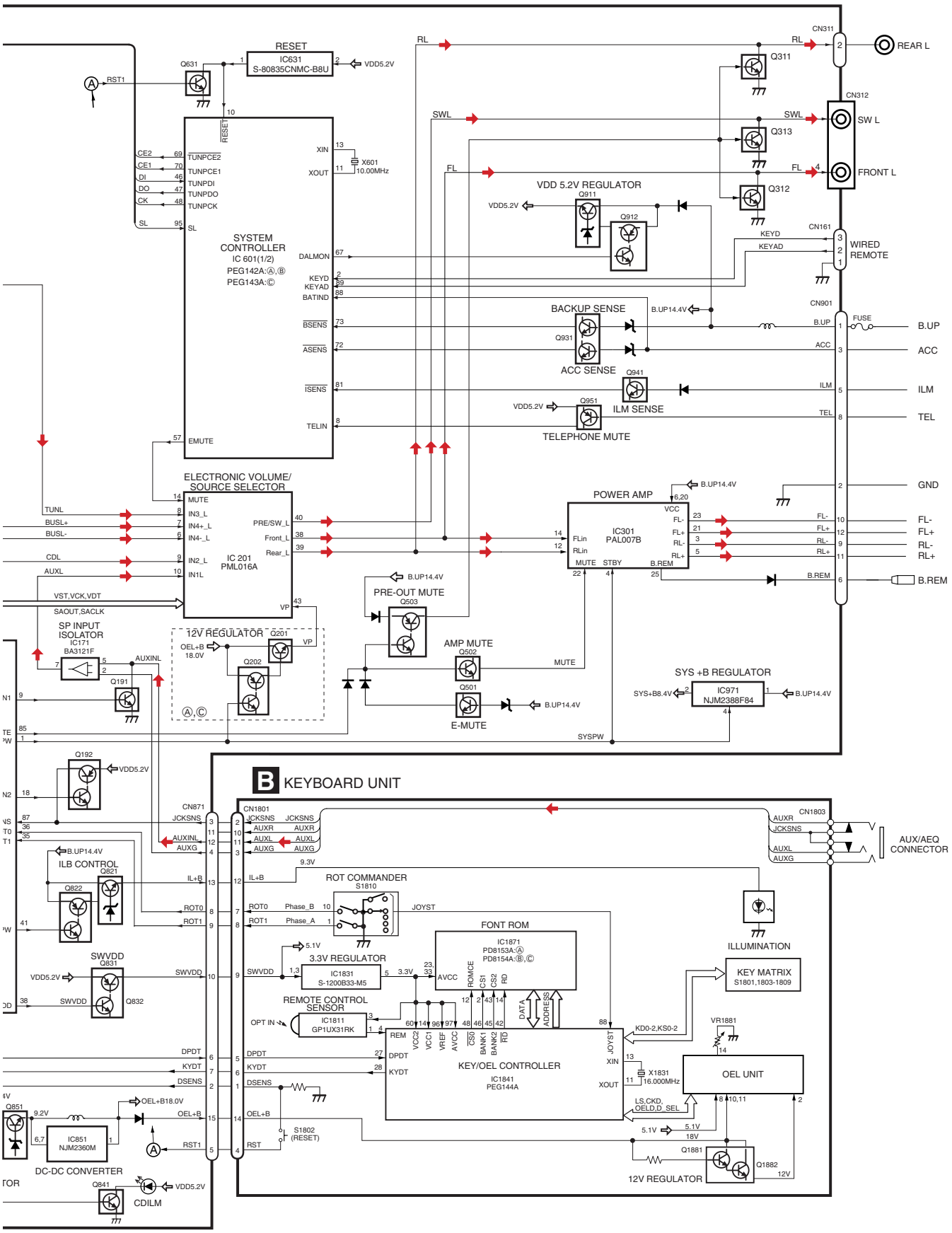
CD MECHANISM MODULE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	CD Core Unit(S10.5COMP1)	CWX3176
	2	Connector(CN101)	CKS4182
	3	Connector(CN901)	CKS5284
	4	Screw	BMZ20P025FTC
	5	Screw	BSZ20P040FTC
	6	Screw(M2 x 3)	CBA1511
	7	Screw(M2 x 4)	CBA1835
	8	Washer	CBF1038
	9	•••••	
	10	Spring	CBH2609
	11	Spring	CBH2612
	12	Spring	CBH2614
	13	Spring	CBH2616
	14	Spring	CBH2617
	15	Spring	CBH2620
	16	Spring	CBH2855
	17	Spring	CBH2937
	18	Spring	CBH2735
	19	Spring	CBH2854
	20	Spring	CBH2642
	21	Spring	CBH2856
	22	Spring	CBH2857
	23	Spring	CBH2860
	24	Spring	CBH2861
	25	Spring	CBL1686
	26	Arm	CND1909
	27	Frame	CND2582
	28	Bracket	CND2583
	29	Arm	CND2584
	30	Lever	CND2585
	31	Arm	CND2586
	32	Bracket	CND2587
	33	Arm	CND2588
	34	Lever	CND2589
	35	Holder	CNV7201
	36	Gear	CNV7207
	37	Gear	CNV7208
	38	Gear	CNV7209
	39	Gear	CNV7210
	40	Gear	CNV7211
	41	Gear	CNV7212
	42	Rack	CNV7214
	43	Arm	CNV7216
	44	Roller	CNV7218
	45	Gear	CNV7219
	46	Guide	CNV7361
	47	Gear	CNV7595
	48	Guide	CNV7799
	49	Arm	CNV7805
	50	Rack	CNV8342
	51	Roller	CNV8343
	52	Holder	CNV8344
	53	Arm	CNV8345
	54	Guide	CNV8347
	55	Arm	CNV8348
	56	Arm	CNV8349
	57	Arm	CNV8350
	58	Clamper	CNV8365
	59	Arm	CNV8386
	60	Guide	CNV8396
	61	Arm	CNV8413
	62	Collar	CNV8938
	63	Motor Unit(M2)	CXC4026
	64	Arm Unit	CXC4027
	65	Chassis Unit	CXC4028
	66	Gear Unit	CXC4029
	67	Frame Unit	CXC4031
	68	Motor Unit(M1)	CXC4166
	69	Screw Unit	CXC6359
	70	Screw	JFZ20P020FTC
	71	Screw	JGZ17P022FTC
	72	Washer	YE20FTC
	73	Pickup Unit(P10.5)(Service)	CXX1942
	74	Screw	IMS26P030FTC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

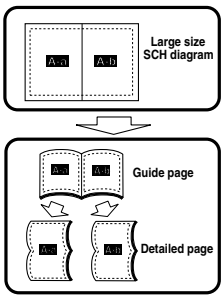
3.1 BLOCK DIAGRAM

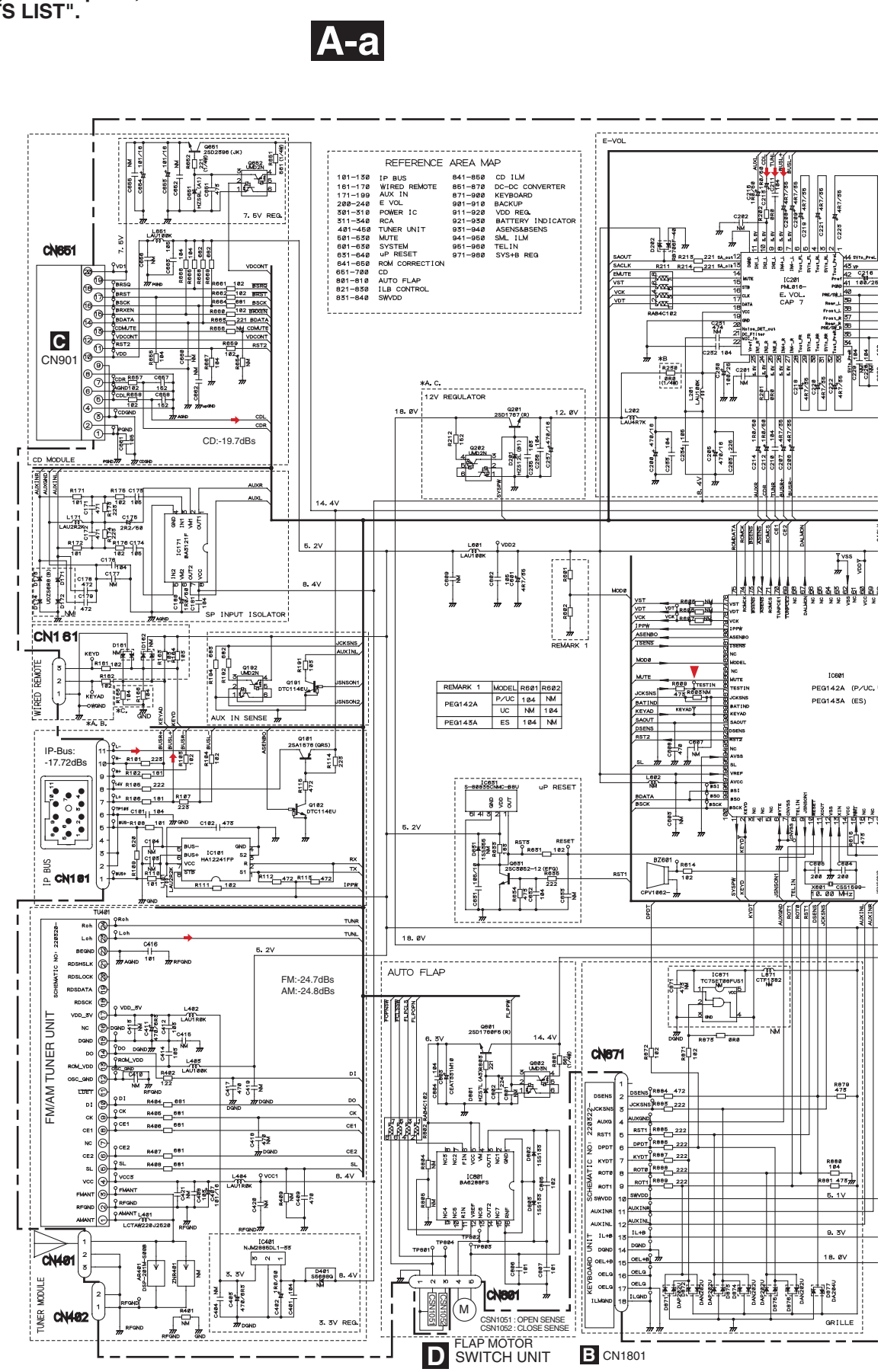



RESET
IC631
S-80835CNMC-B8U
Q631
VDD5.2V
RST1
SYSTEM CONTROLLER
IC 601(1/2)
PEG142A:Ⓐ,Ⓑ
PEG143A:Ⓒ
RESET
TUNPCE2
TUNPCE1
TUNPDI
TUNPDO
TUNPCK
SL
CE2
CE1
DI
DO
CK
XIN
XOUT
X601
10.00MHz
DALMON
KEYD
KEYAD
BATIND
BSENS
ASENS
ISENS
TELIN
EMUTE
RL
SWL
FL
VDD 5.2V REGULATOR
Q911
Q912
Q311
Q313
Q312
CN311
CN312
CN161
REAR L
SW L
FRONT L
WIRED REMOTE
BACKUP SENSE
Q931
B.UP14.4V
ACC SENSE
Q941
ILM SENSE
Q951
TELEPHONE MUTE
CN901
FUSE
B.UP
ACC
ILM
TEL
GND
FL-
FL+
RL-
RL+
B.REM
ELECTRONIC VOLUME/
SOURCE SELECTOR
IC 201
PML016A
MUTE
IN3_L
IN4+_L
IN4-_L
IN2_L
IN1L
PRE/SW_L
Front_L
Rear_L
VP
TUNL
BUSL+
BUSL-
CDL
AUXL
VST,VCK,VDT
SAOUT,SACLK
POWER AMP
IC301
PAL007B
VCC
FLin
RLin
MUTE
STBY
B.REM
PRE-OUT MUTE
Q503
AMP MUTE
Q502
Q501
E-MUTE
SYS +B REGULATOR
IC971
NJM2388F84
SYS+B8.4V
SYSPW
SP INPUT
ISOLATOR
IC171
BA3121F
AUXINL
Q191
12V REGULATOR
Q201
Q202
OEL+B
18.0V
Ⓐ,Ⓒ
B KEYBOARD UNIT
CN871
CN1801
CN1803
JCKSNS
AUXR
AUXL
AUXG
AUX/AEQ
CONNECTOR
ILB CONTROL
Q821
Q822
IL+B
ROT0
ROT1
ROT COMMANDER
S1810
Phase_B
Phase_A
JOYST
9.3V
FONT ROM
IC1871
PD8153A:Ⓐ
PD8154A:Ⓑ,Ⓒ
ILLUMINATION
KEY MATRIX
S1801,1803-1809
SWVDD
Q831
Q832
3.3V REGULATOR
IC1831
S-1200B33-M5
5.1V
3.3V
REMOTE CONTROL
SENSOR
IC1811
GP1UX31RK
OPT IN
KEY/OEL CONTROLLER
IC1841
PEG144A
KD0-2,KS0-2
VR1881
OEL UNIT
X1831
16.000MHz
LS,CKD,
OELD,D_SEL
DPDT
KYDT
DSENS
OEL+B
RST
S1802
(RESET)
Q851
IC851
NJM2360M
DC-DC CONVERTER
Q841
CDILM
Q1881
Q1882
12V REGULATOR
18V
12V

3.2 TUNER AMP UNIT(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



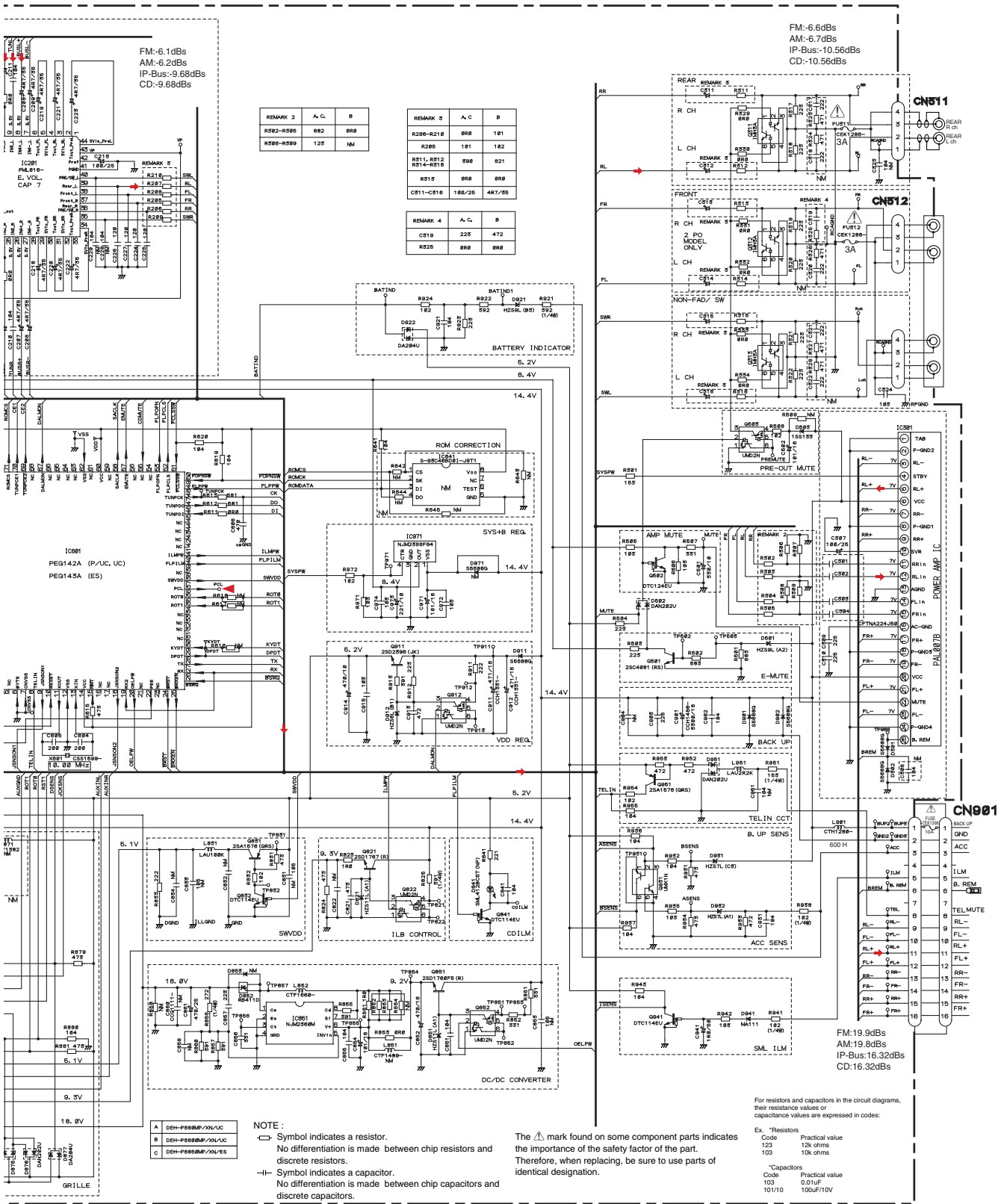


REMARK 1	MODEL	R601	R602
PEG142A	P/UC	104	NM
	UC	NM	104
PEG143A	ES	104	NM

A D

A-b

A TUNER AMP UNIT

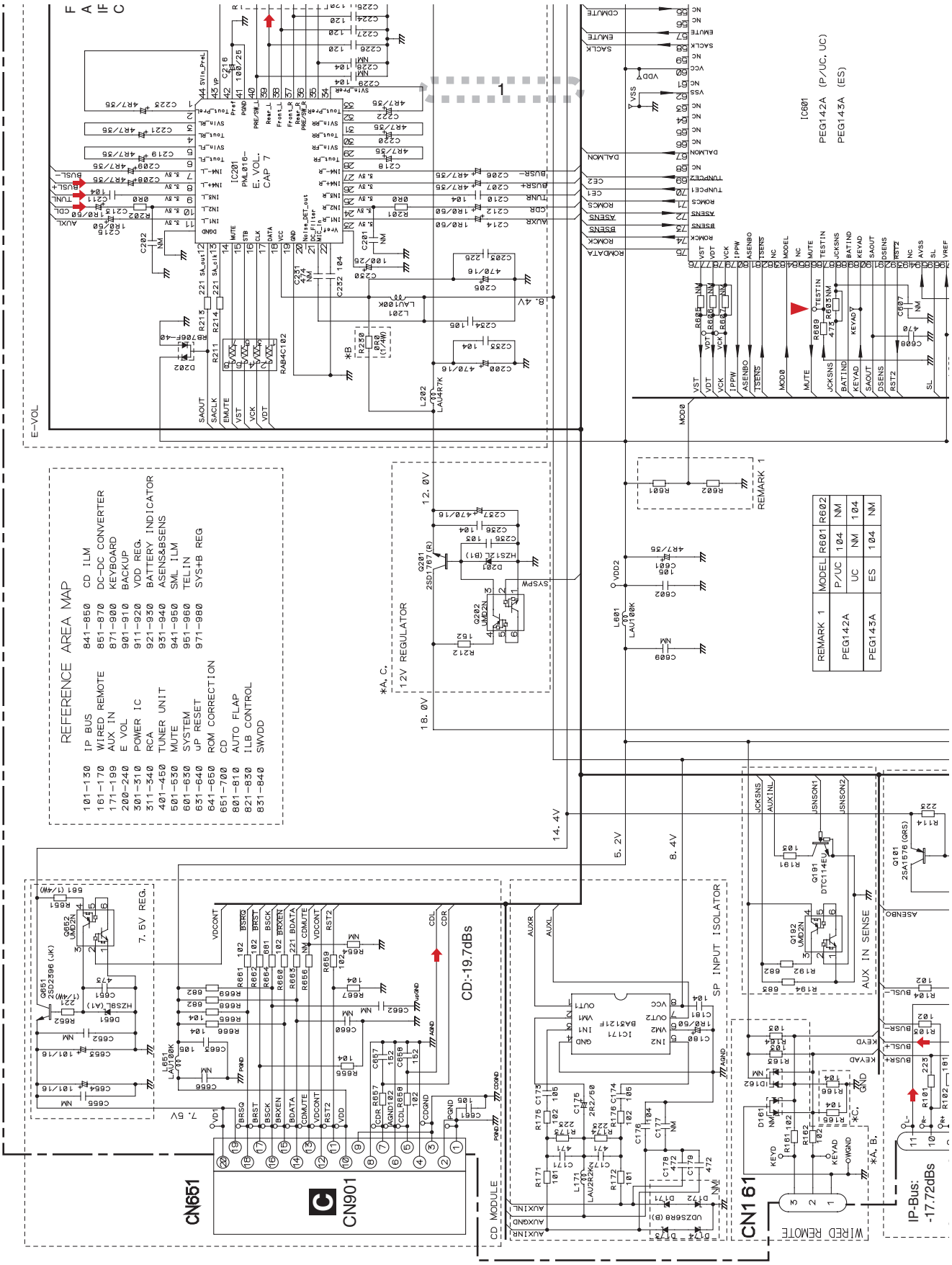


REMARK 2	A, C	B
R502-R505	682	0R0
R506-R509	125	NM

REMARK 5	A, C	B
R206-R210	0R0	101
R205	101	102
R511, R512 R514-R516	5R0	821
R515	0R0	0R0
C511-C516	100/25	4R7/25

REMARK 4	A, C	B
C519	225	472
R525	0R0	0R0

A	DEH-P680MP/XN/UC
B	DEH-P6800MP/XN/UC
C	DEH-P6860MP/XN/ES



REFERENCE AREA MAP

101–130	IP BUS	841–850 CD ILM
161–170	WIRED REMOTE	851–870 DC–DC CONVERTER
171–199	AUX IN	871–900 KEYBOARD
200–240	E VOL	901–910 BACKUP
301–310	POWER IC	911–920 VDD REG.
311–340	RCA	921–930 BATTERY INDICATOR
401–450	TUNER UNIT	931–940 ASENS&BSENS
501–530	MUTE	941–950 SML ILM
601–630	SYSTEM	951–960 TELIN
631–640	UP RESET	961–970 SYS+B REG
641–650	ROM CORRECTION	971–980
651–700	CD	
801–810	AUTO FLAP	
821–830	ILB CONTROL	
831–840	SWVDD	

REMARK 1	MODEL	R601	R602
PEG142A	P/UC	104	NM
	UC	NM	104
PEG143A	ES	104	NM

REMARK 1

[C601] PEG1142A (P/UC, UC) PEG1143A (ES)

CN651 CN901 CN1 61

CD MODULE

WIRED REMOTE

IP-Bus: -17.72dBs

CD:-19.7dBs

SP INPUT ISOLATOR

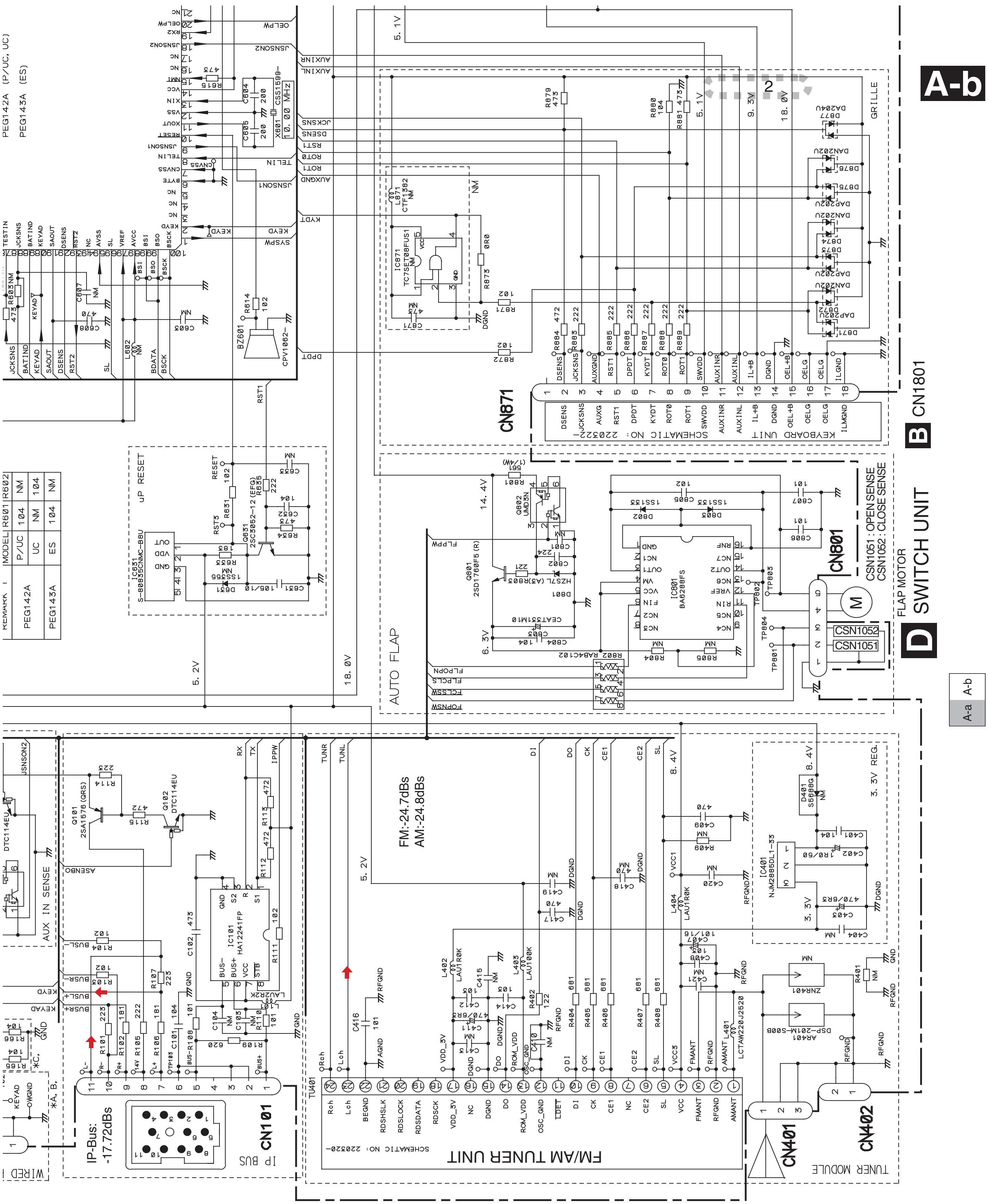
AUX IN SENSE

7.5V REG.

12V REGULATOR

E-VOL

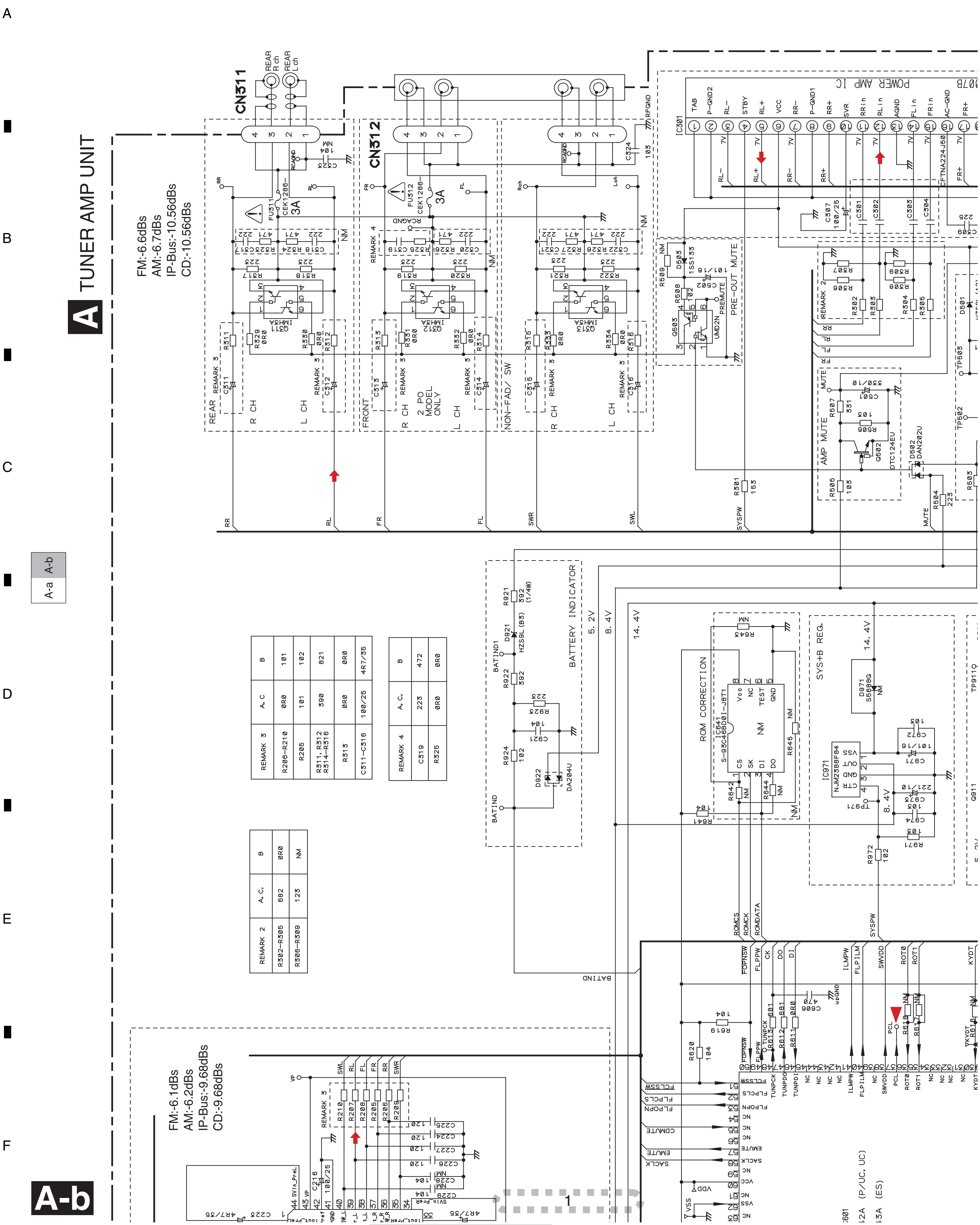
A-b



PEG142A (P/UC, UC)
PEG143A (ES)
REMARK | MODEL | R601 | R602
PEG142A | P/UC | 104 | NM
PEG142A | UC | NM | 104
PEG143A | ES | 104 | NM
uP RESET
AUTO FLAP
FLAP MOTOR
D SWITCH UNIT
CSN1051 : OPEN SENSE
CSN1052 : CLOSE SENSE
CN801
CN871
B CN1801
KEYBOARD UNIT
GRILLE
AUX IN SENSE
IP BUS
IP-Bus: -17.72dBs
CN101
FM:-24.7dBs
AM:-24.8dBs
FM/AM TUNER UNIT
TUNER MODULE
CN401
CN402
3.3V REG.

A-a D

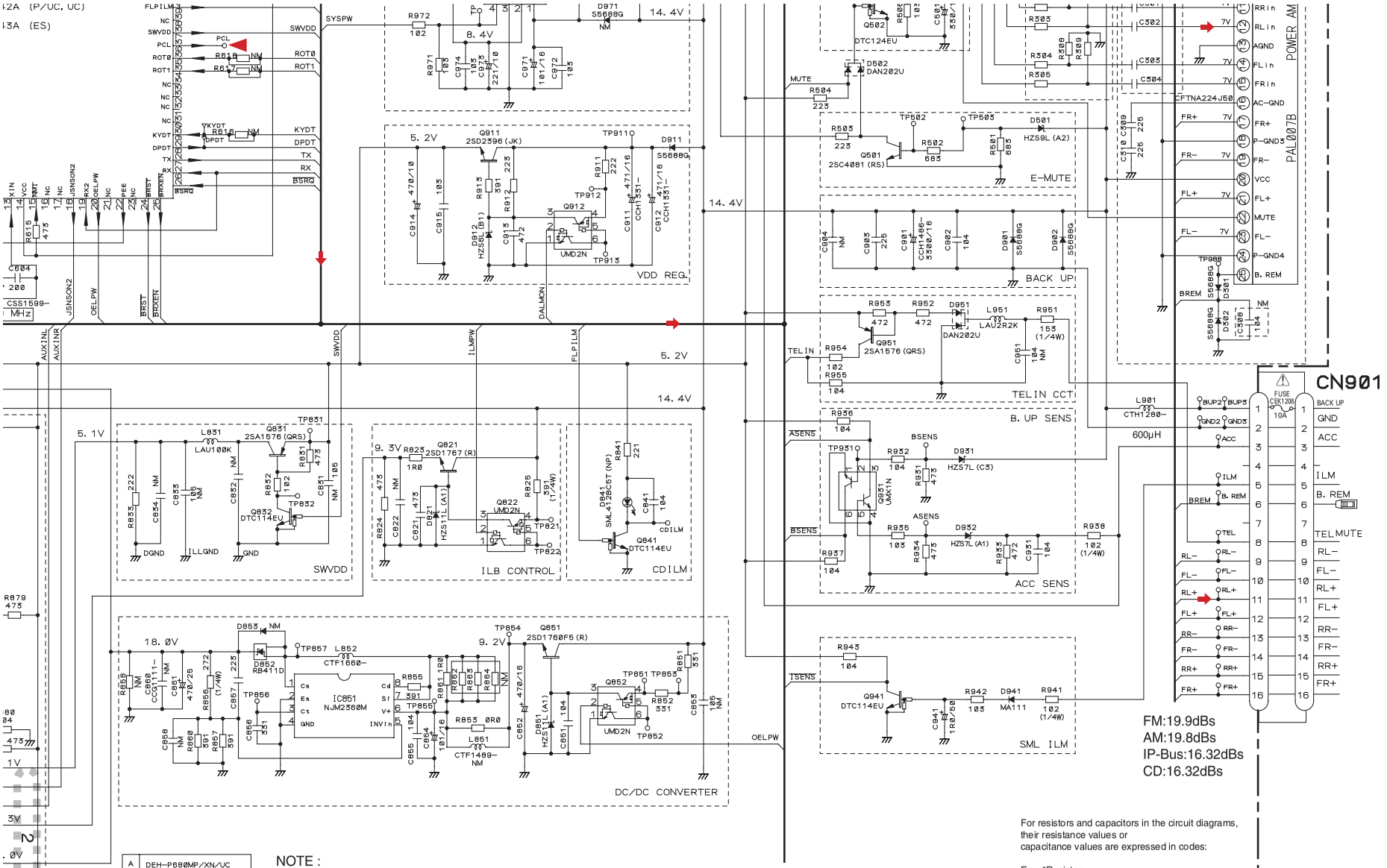
A-a A-b



REMARK 3	A, C	B
R206–R210	0R0	101
R205	101	102
R311, R312 R314–R316	390	821
R313	0R0	0R0
C311–C316	100/25	4R7/35

REMARK 4	A, C,	B
C319	223	472
R325	0R0	0R0

REMARK 2	A, C,	B
R302–R305	682	0R0
R306–R309	123	NM



A	DEH-P680MP/XN/UC
B	DEH-P6800MP/XN/UC
C	DEH-P6850MP/XN/ES

NOTE :

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

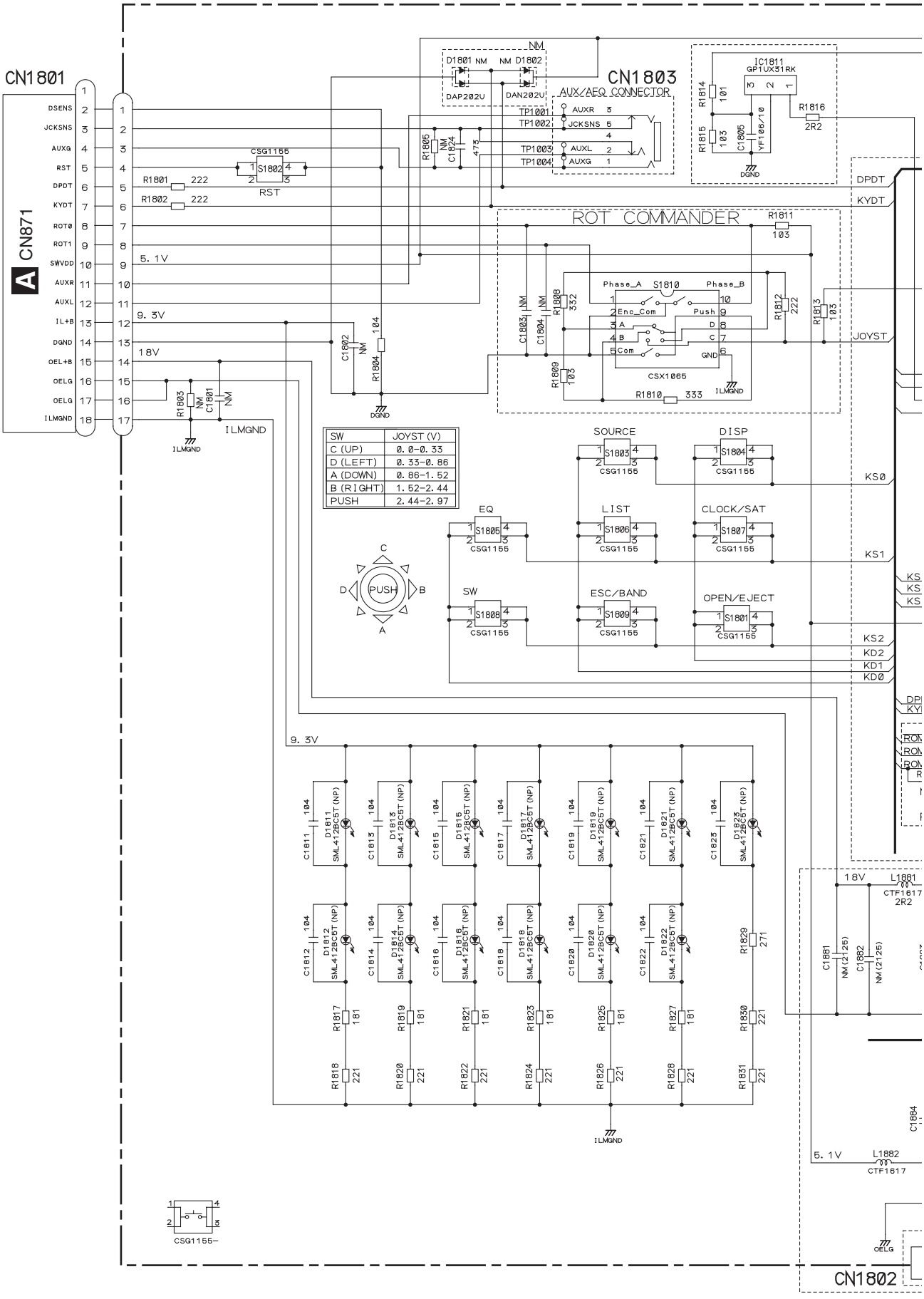
Ex. *Resistors

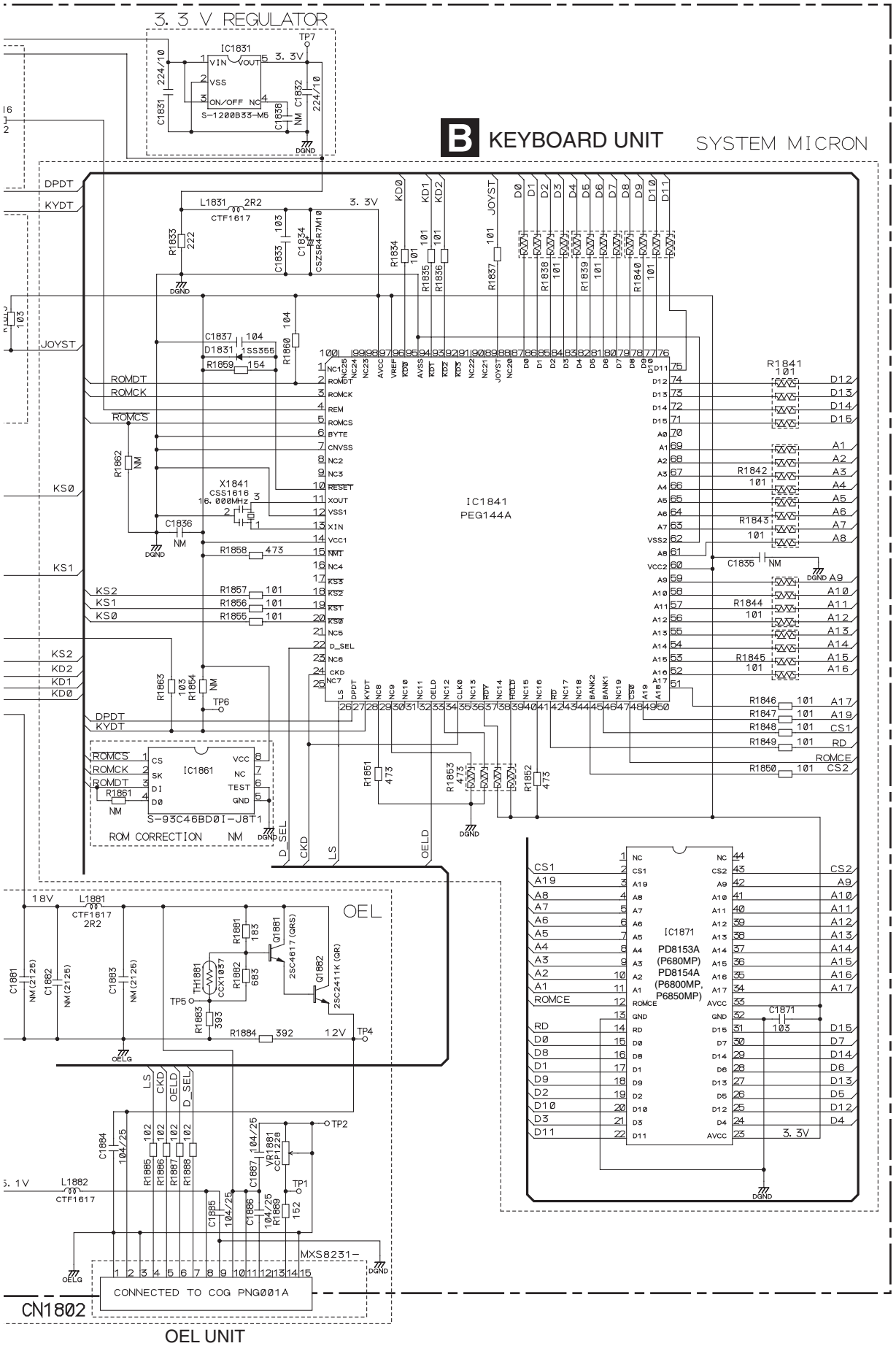
Code	Practical value
123	12k ohms
103	10k ohms

*Capacitors

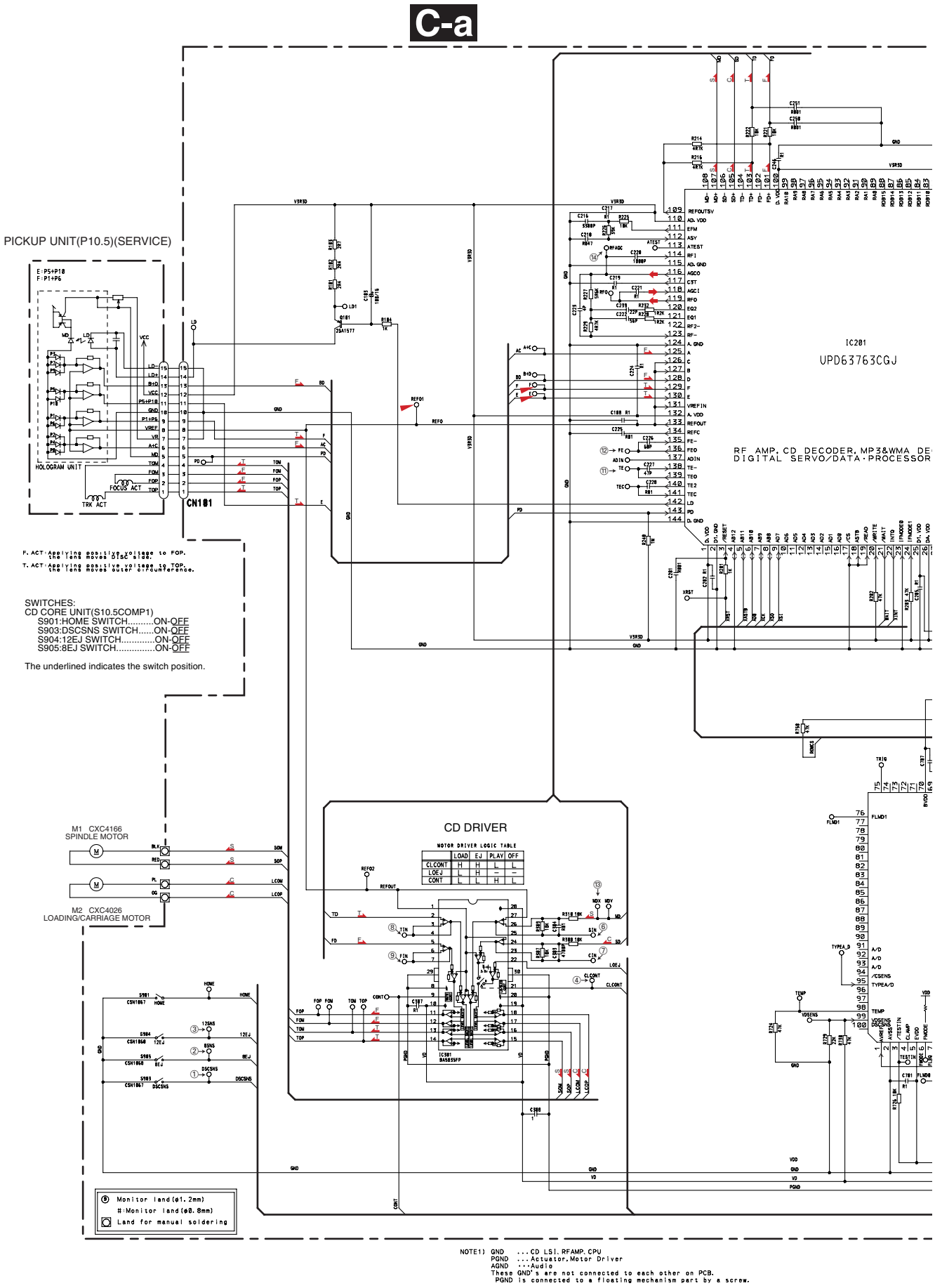
Code	Practical value
103	0.01uF
101/10	100uF/10V

3.3 KEYBOARD UNIT

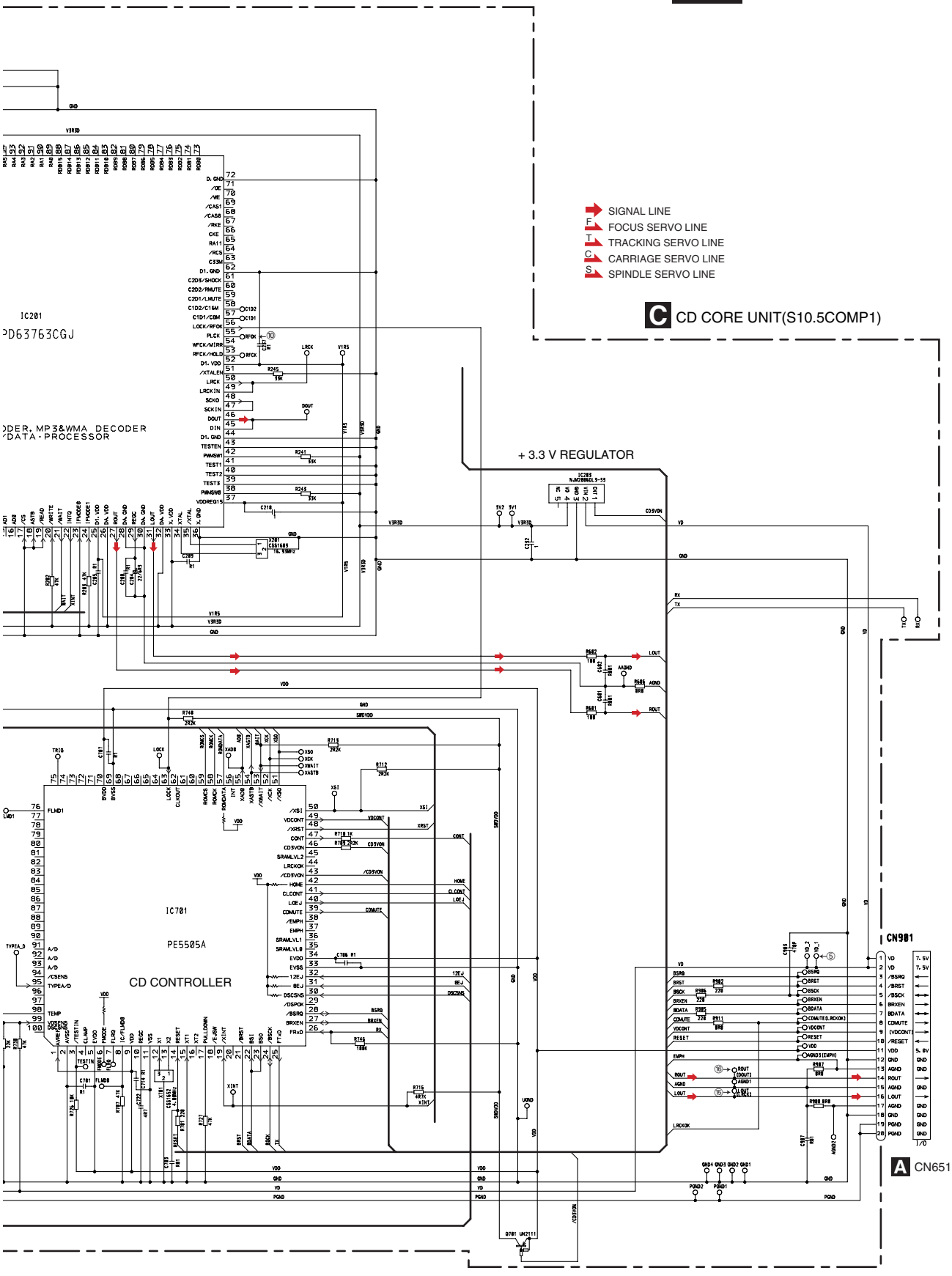


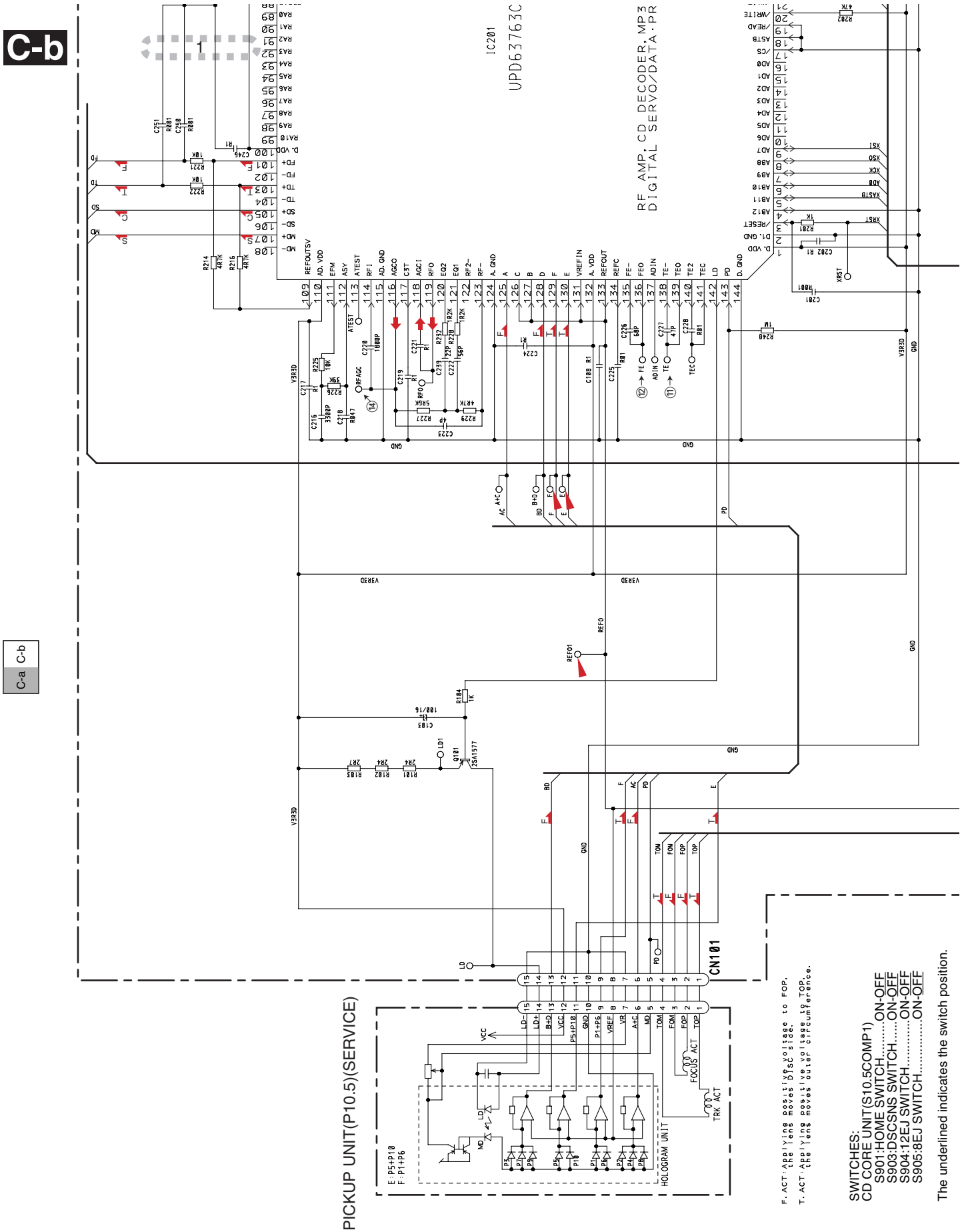

3. 3 V REGULATOR
B KEYBOARD UNIT
SYSTEM MICRON
IC1831
S-1200B33-M5
IC1841
PEG144A
X1841
CSS1616
16.000MHz
IC1861
S-93C46BD0I-J8T1
ROM CORRECTION
IC1871
PD8153A
(P680MP)
PD8154A
(P6800MP,
P6850MP)
OEL
CONNECTED TO COG PNG001A
CN1802
OEL UNIT

3.4 CD MECHANISM MODULE



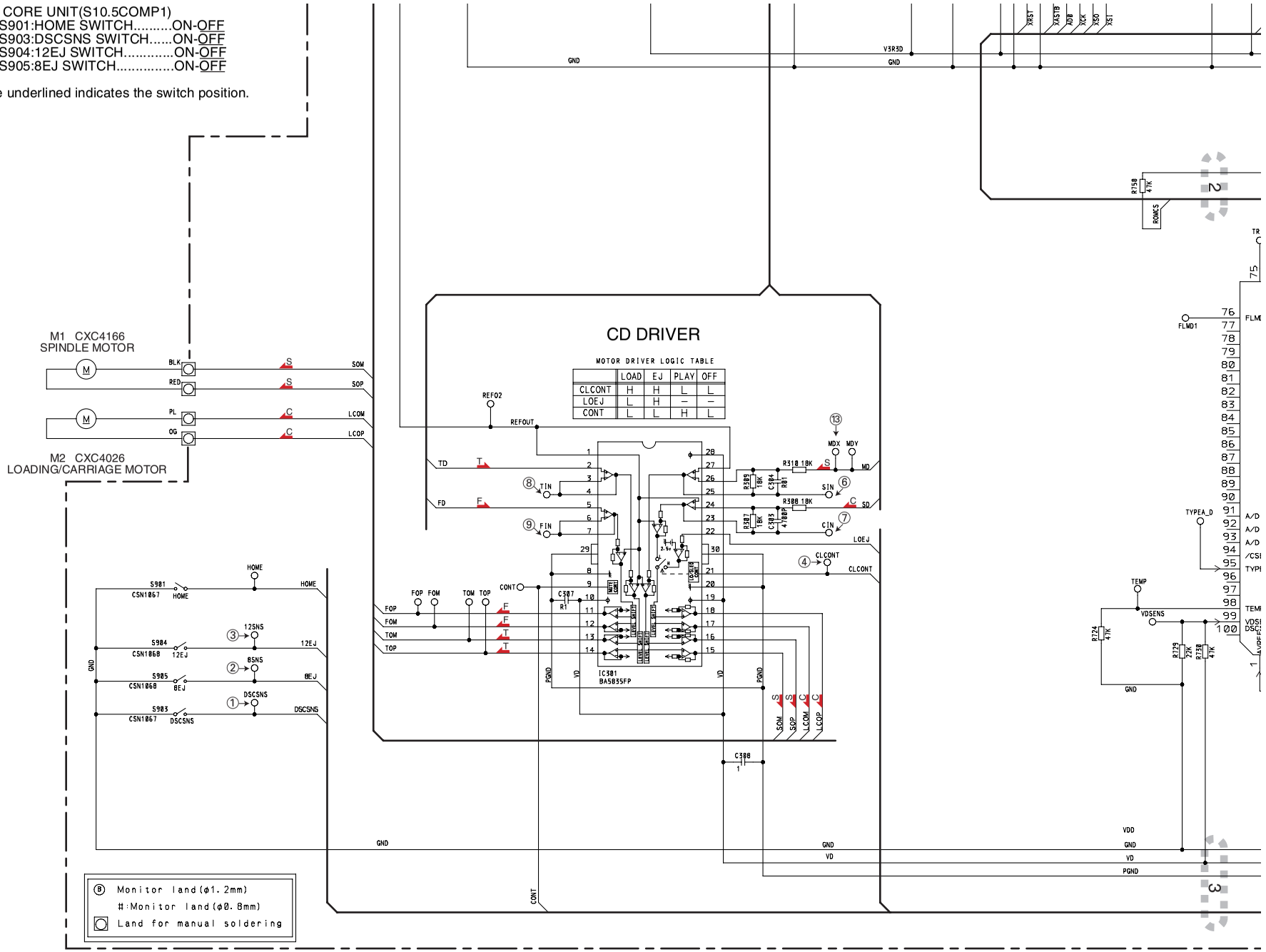
C-b


SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
C CD CORE UNIT(S10.5COMP1)
+ 3.3 V REGULATOR
IC201
PD63763CGJ
IC701
PE5505A
CD CONTROLLER
CN901
A CN651


IC201
UPD63763C
RF AMP, CD DECODER, MP3
DIGITAL SERVO/DATA·PR
PICKUP UNIT(P10.5)(SERVICE)
E : P5+P10
F : P1+P6
HOLOGRAM UNIT
CN101
SWITCHES:
CD CORE UNIT(S10.5COMP1)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF
S904:12EJ SWITCH.....ON-OFF
S905:8EJ SWITCH.....ON-OFF
The underlined indicates the switch position.
F. ACT : Applying positive voltage to FOP.
The lens moves DISC side.
T. ACT : Applying positive voltage to TOP.
The lens moves outer circumference.

CD CORE UNIT(S10.5COMP1)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF
S904:12EJ SWITCH.....ON-OFF
S905:8EJ SWITCH.....ON-OFF

The underlined indicates the switch position.



C-a C-b

SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

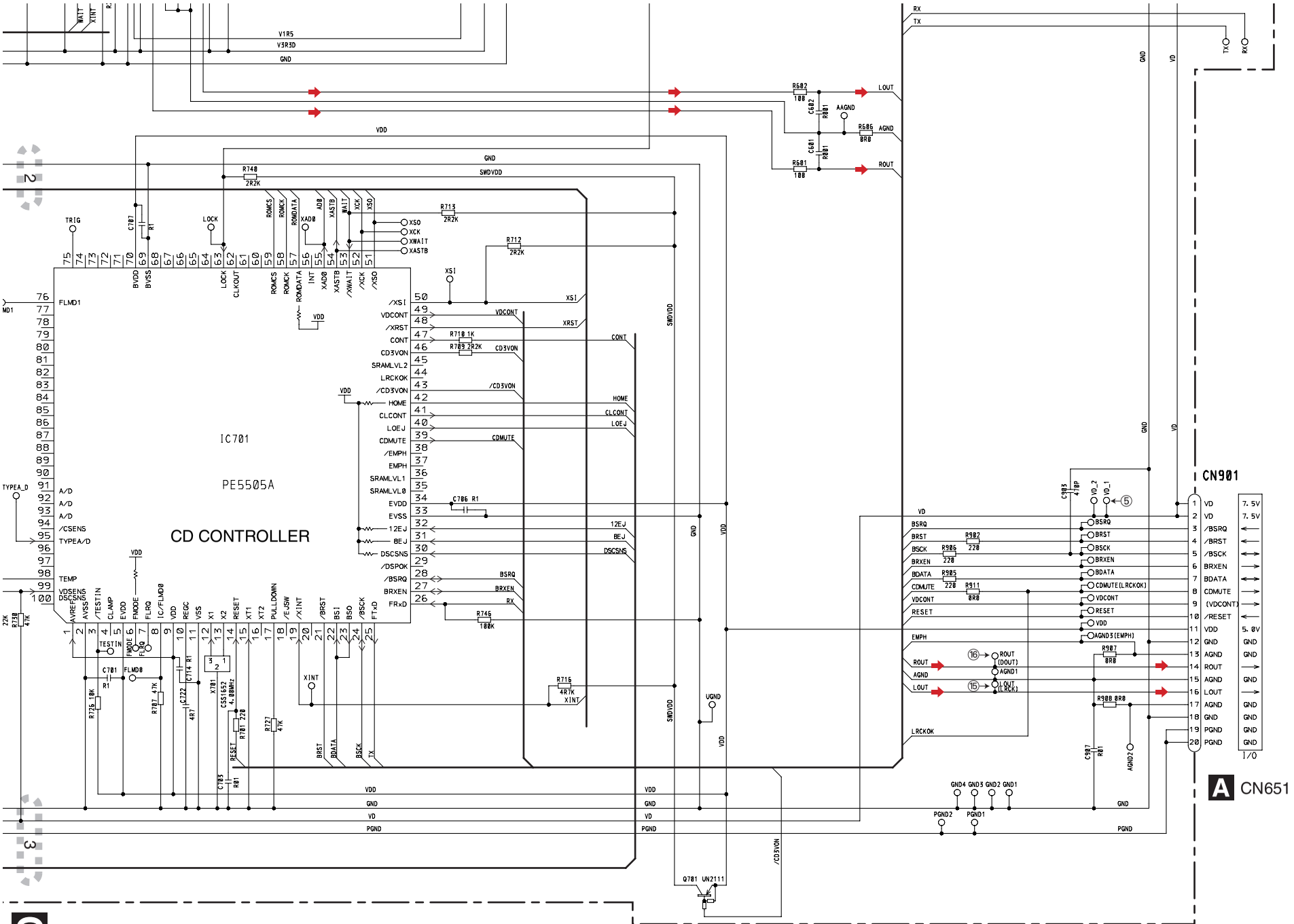
C CD CORE UNIT(S10.5COMP1)

IC201
D63763CGJ

DER, MP3&WMA DECODER
DATA · PROCESSOR

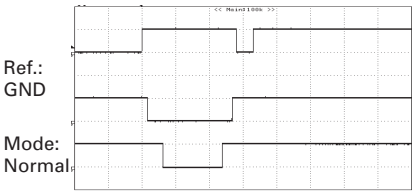
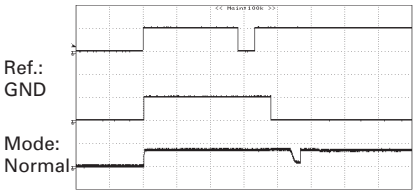
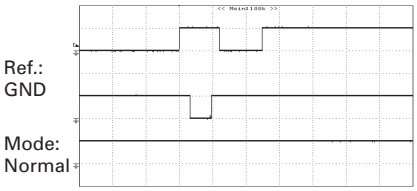
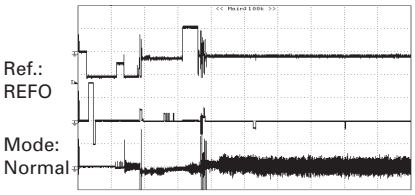
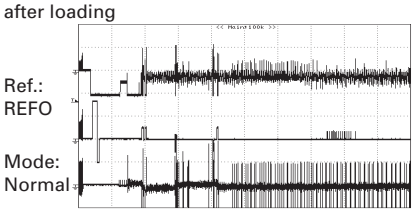
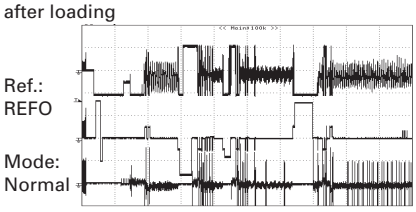
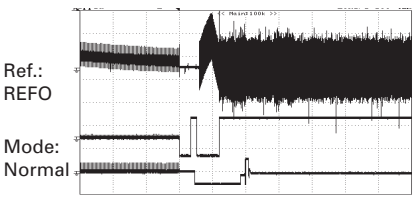
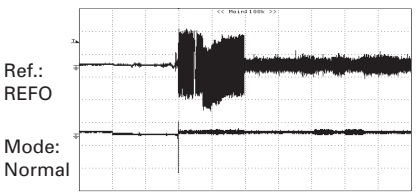
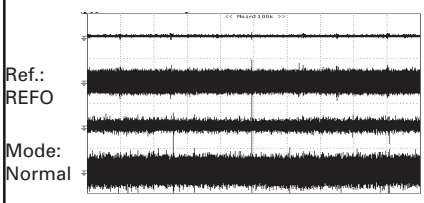
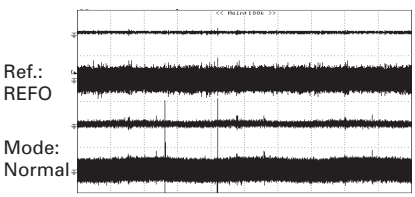
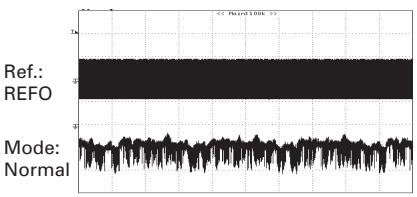
+ 3.3 V REGULATOR

IC203
NJM2886DL3-33


IC701
PE5505A
CD CONTROLLER
CN901
CN651
DEH-P680MP/XN/UC
C-b
C-a C-b

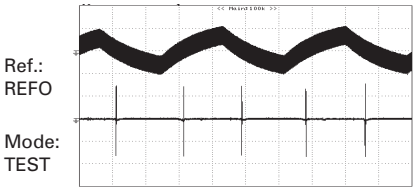
● Waveforms

Note : 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage REFO1(1.65 V)

① DSCSNS 5 V/div 500 ms/div ② 8SNS 5 V/div ③ 12SNS 5 V/div 12 cm CD Loading operation  	① DSCSNS 5 V/div 500 ms/div ④ CLCONT 5 V/div ⑤ VD 10 V/div 12 cm CD Loading operation  	① DSCSNS 5 V/div 500 ms/div ② 8SNS 5 V/div ③ 12SNS 5 V/div 8 cm CD Loading operation 
⑥ SIN 1 V/div 1 s/div ⑦ CIN 500 mV/div ⑧ TIN 500 mV/div 12 cm CD-DA setup operation after loading  	⑥ SIN 1 V/div 1 s/div ⑦ CIN 500 mV/div ⑧ TIN 500 mV/div 12 cm CD-ROM(1 session) setup operation after loading  	⑥ SIN 1 V/div 1 s/div ⑦ CIN 500 mV/div ⑧ TIN 500 mV/div 12 cm CD-ROM(3 sessions) setup operation after loading 
⑨ FIN 200 mV/div 500 ms/div ⑩ RFOK 2 V/div ⑥ SIN 2 V/div 12 cm CD-DA Source On setup operation  	⑪ TE 500 mV/div 200 ms/div ⑫ FE 500 mV/div Source On setup operation  	⑫ FE 500 mV/div 20 ms/div ⑨ FIN 500 mV/div ⑪ TE 500 mV/div ⑧ TIN 500 mV/div CD-DA Play operation 
⑫ FE 500 mV/div 20 ms/div ⑨ FIN 500 mV/div ⑪ TE 500 mV/div ⑧ TIN 500 mV/div CD-ROM play operation(Regular track Jump)  	⑬ MDX 2 V/div 50 ms/div ⑥ SIN 200 mV/div Spindle waveform during play operation  	⑬ MDX 2 V/div 5 µs/div ⑥ SIN 500 mV/div Spindle waveform during play operation (Wider) 

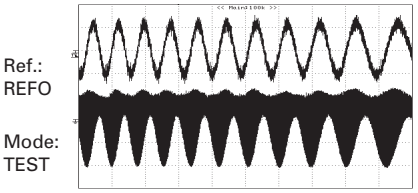
⑨ FIN 500 mV/div 200 ms/div
⑫ FE 500 mV/div

Focus Search waveform



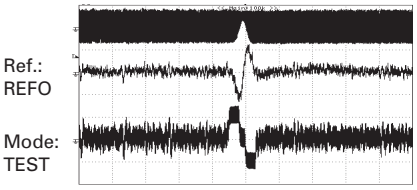
⑪ TE 500 mV/div 2 ms/div
⑭ RFAGC 500 mV/div

Track Open waveform



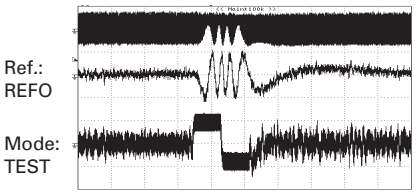
⑭ RFAGC 1 V/div 500 µs/div
⑪ TE 500 mV/div
⑧ TIN 500 mV/div

1 Track Jump waveform



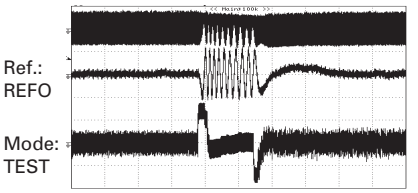
⑭ RFAGC 1 V/div 500 µs/div
⑪ TE 500 mV/div
⑧ TIN 500 mV/div

4 Tracks Jump waveform



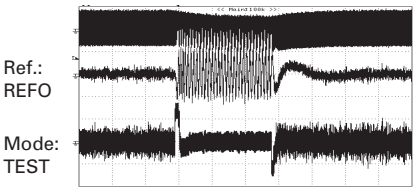
⑭ RFAGC 1 V/div 1 ms/div
⑪ TE 500 mV/div
⑧ TIN 500 mV/div

10 Tracks Jump waveform



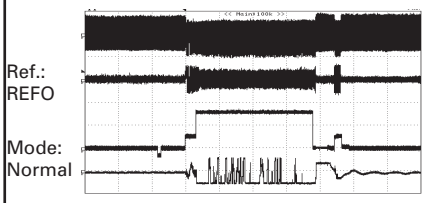
⑭ RFAGC 1 V/div 2 ms/div
⑪ TE 500 mV/div
⑧ TIN 500 mV/div

32 Tracks Jump waveform



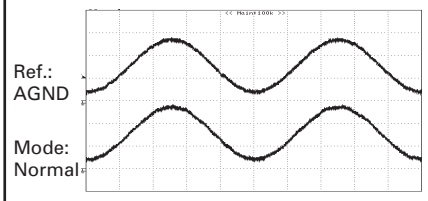
⑭ RFAGC 1 V/div 200 ms/div
⑪ TE 1 V/div
⑦ CIN 500 mV/div
⑥ SIN 2 V/div

Search operation(Outter to Inner)



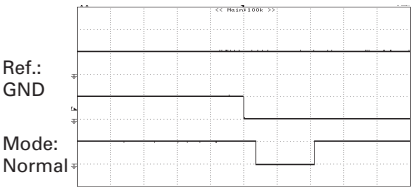
⑮ LOUT 1 V/div 200 µs/div
⑯ ROUT 1 V/div

Analog audio waveform



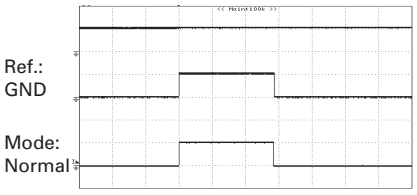
① DSCSNS 5 V/div 500 ms/div
② 8SNS 5 V/div
③ 12SNS 5 V/div

12 cm CD Eject operation



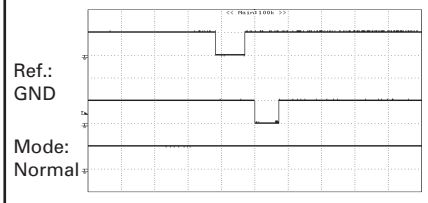
① DSCSNS 5 V/div 500 ms/div
⑤ CLCONT 5 V/div
④ LOEJ 5 V/div

12 cm CD Eject operation



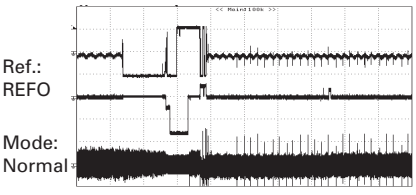
① DSCSNS 5 V/div 500 ms/div
② 8SNS 5 V/div
③ 12SNS 5 V/div

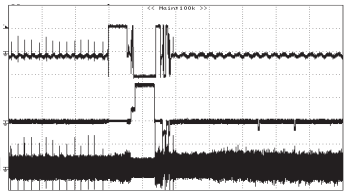
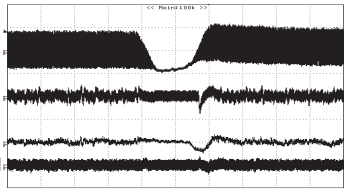
8 cm CD Eject operation



⑥ SIN 1 V/div 500 ms/div
⑦ CIN 500 mV/div
⑧ TIN 500 mV/div

CD-DA → CD-ROM mode change(Band key)



⑥ SIN 1 V/div 500 ms/div ⑦ CIN 500 mV/div ⑧ TIN 500 mV/div CD-ROM → CD-DA mode change(Band key) Ref.: REFO Mode: Normal 	⑭ RFAGC 1 V/div 500 µs/div ⑧ TIN 1 V/div ⑪ TE 1 V/div ⑨ FIN 1 V/div Black dot(800 µm) during play Ref.: REFO Mode: Normal 	

A

B

C

D

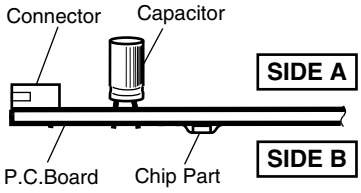
E

F

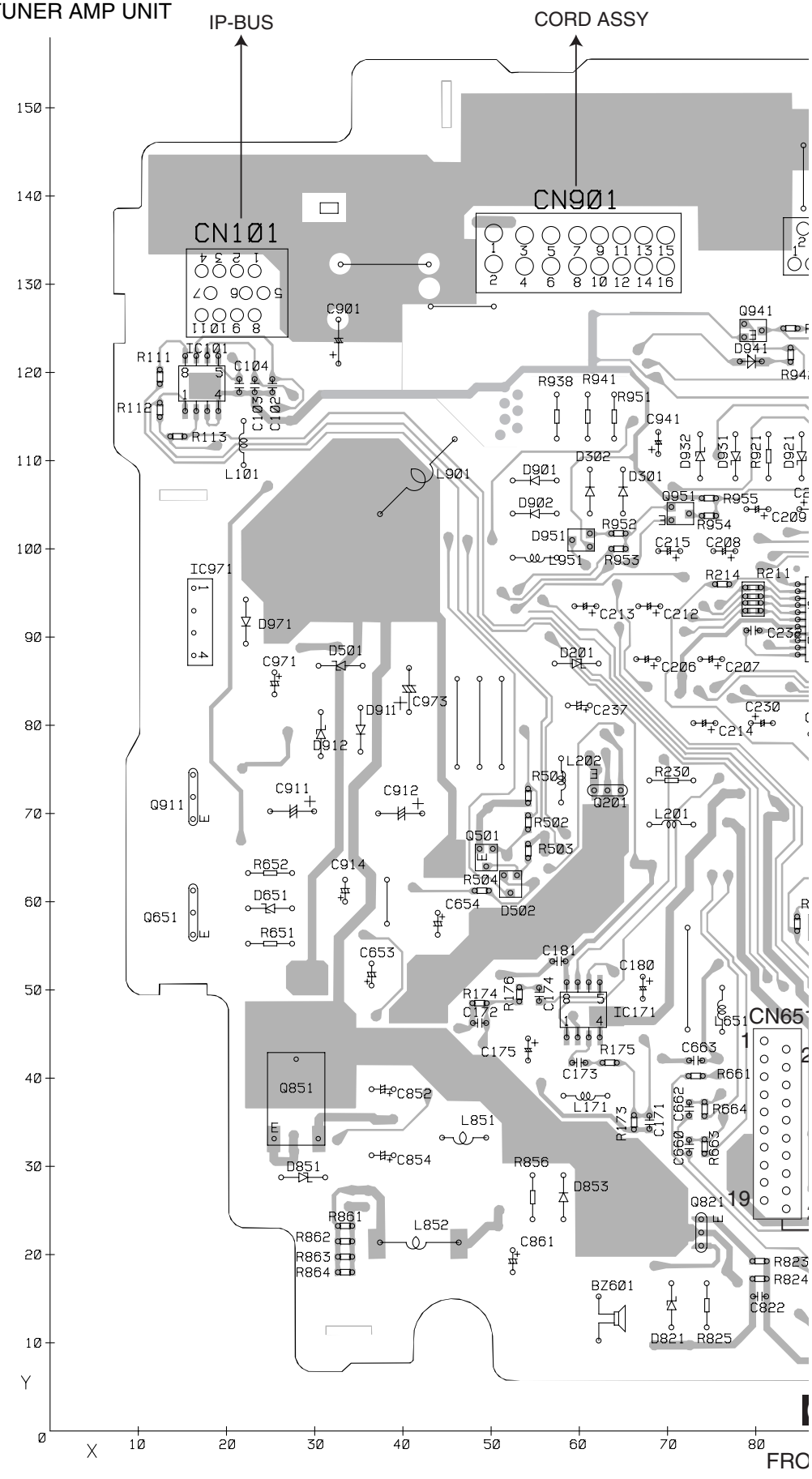
4. PCB CONNECTION DIAGRAM
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

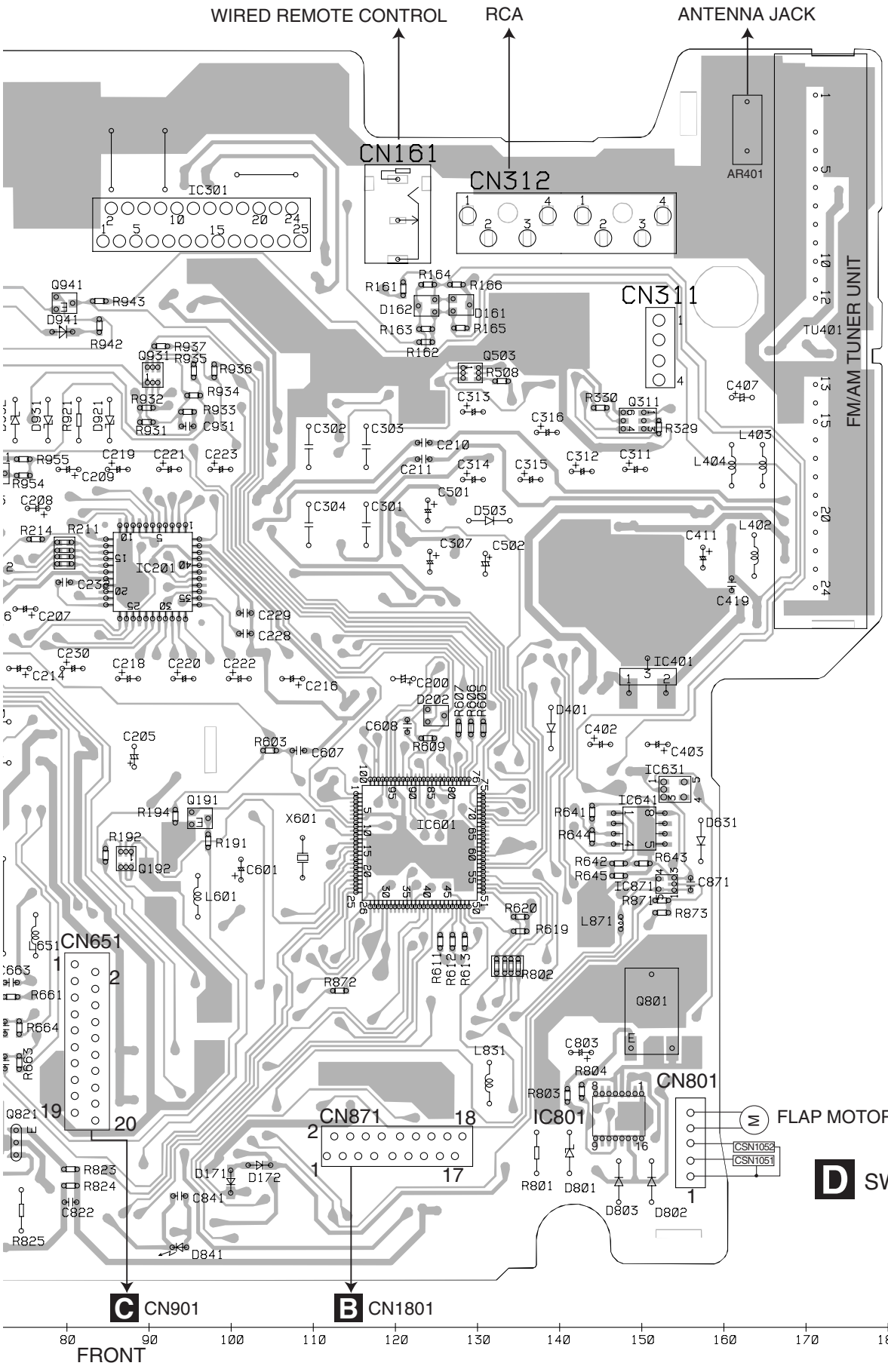
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



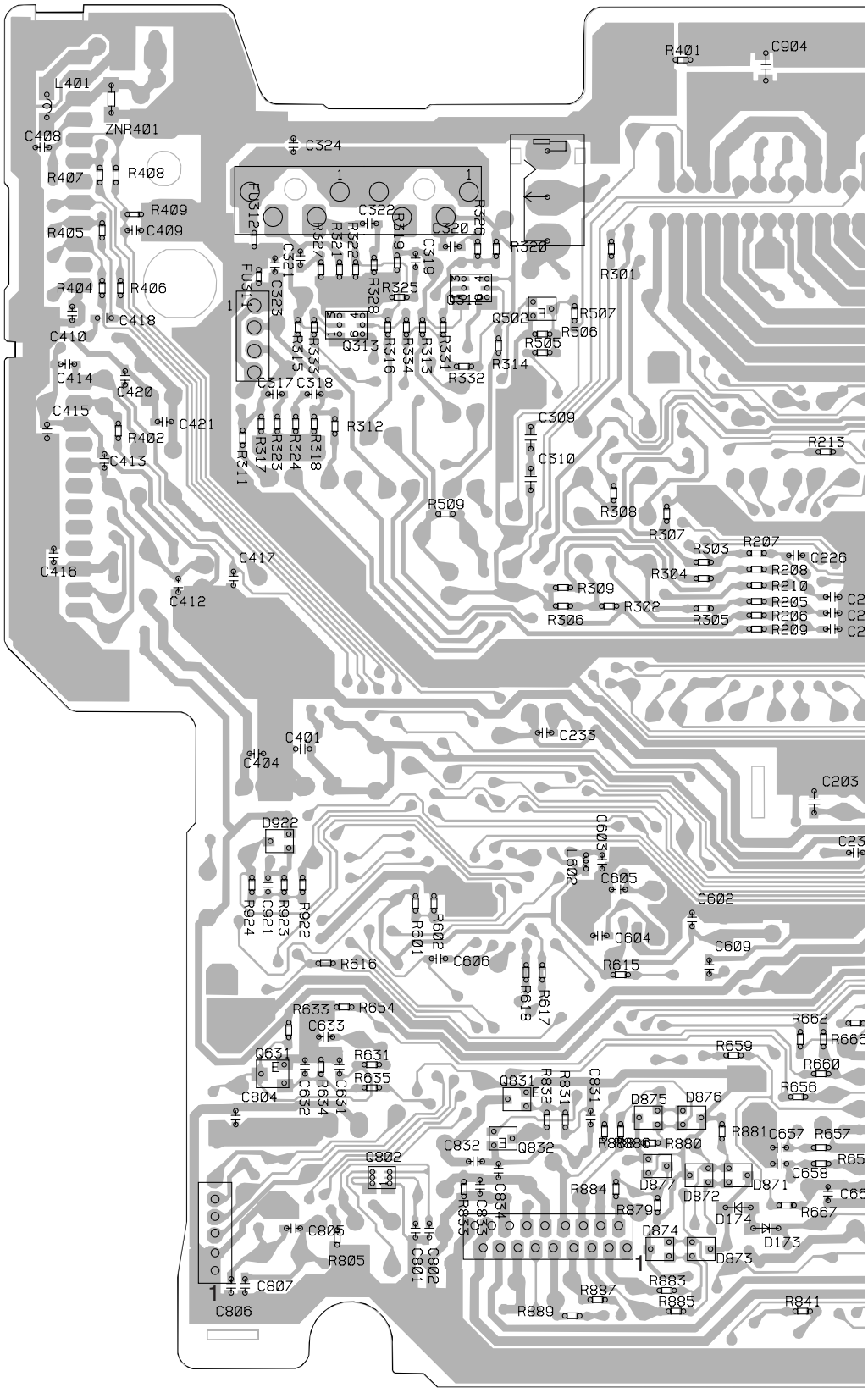
A TUNER AMP UNIT



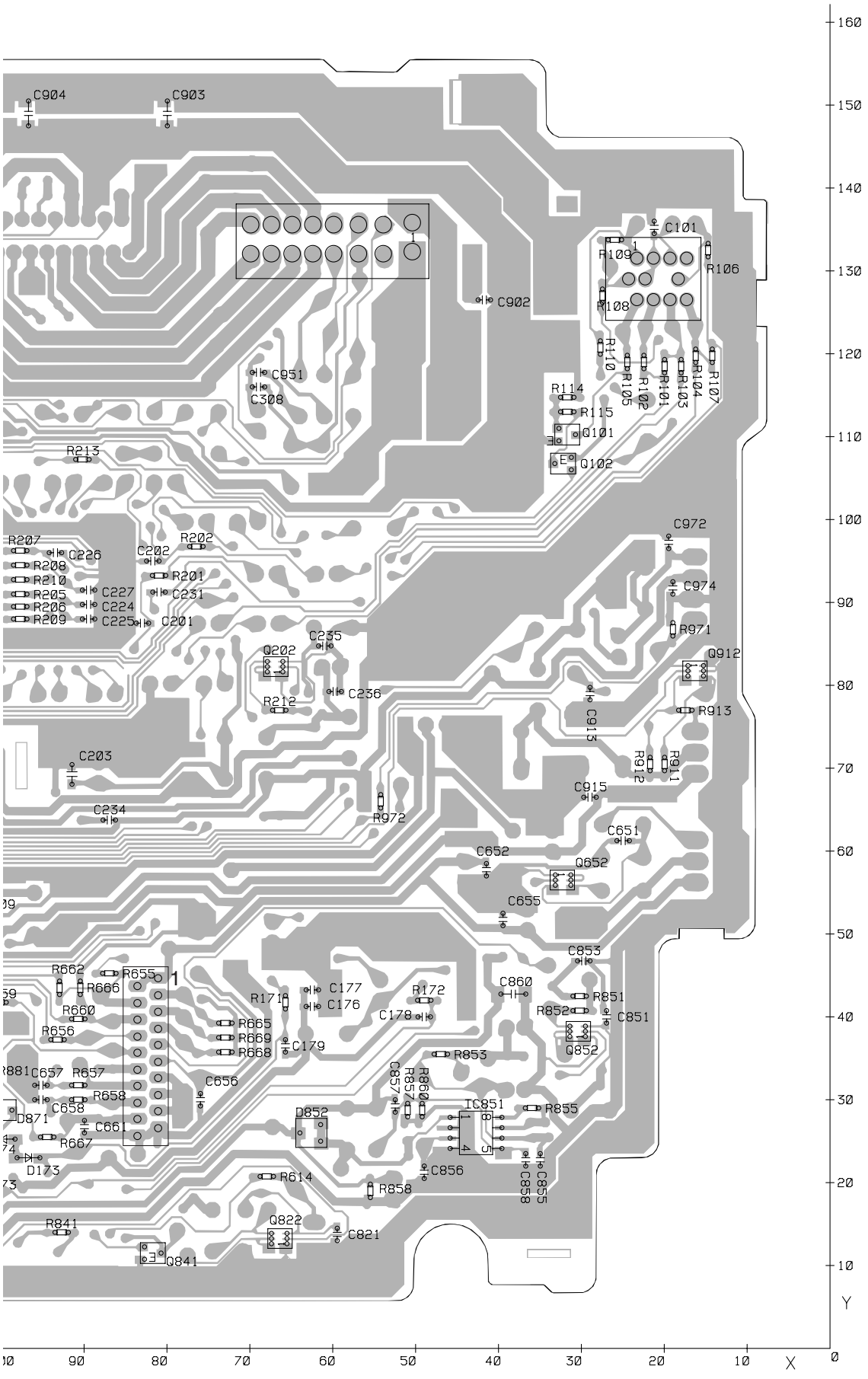
SIDE A


WIRED REMOTE CONTROL
RCA
ANTENNA JACK
CN161
CN312
AR401
IC301
CN311
FM/AM TUNER UNIT
TU401
IC201
IC601
IC401
IC631
IC641
IC871
IC801
CN651
CN871
CN801
Q801
FLAP MOTOR
CSN1052
CSN1051
D SWITCH UNIT
C CN901
B CN1801
FRONT

A TUNER AMP UNIT



SIDE B

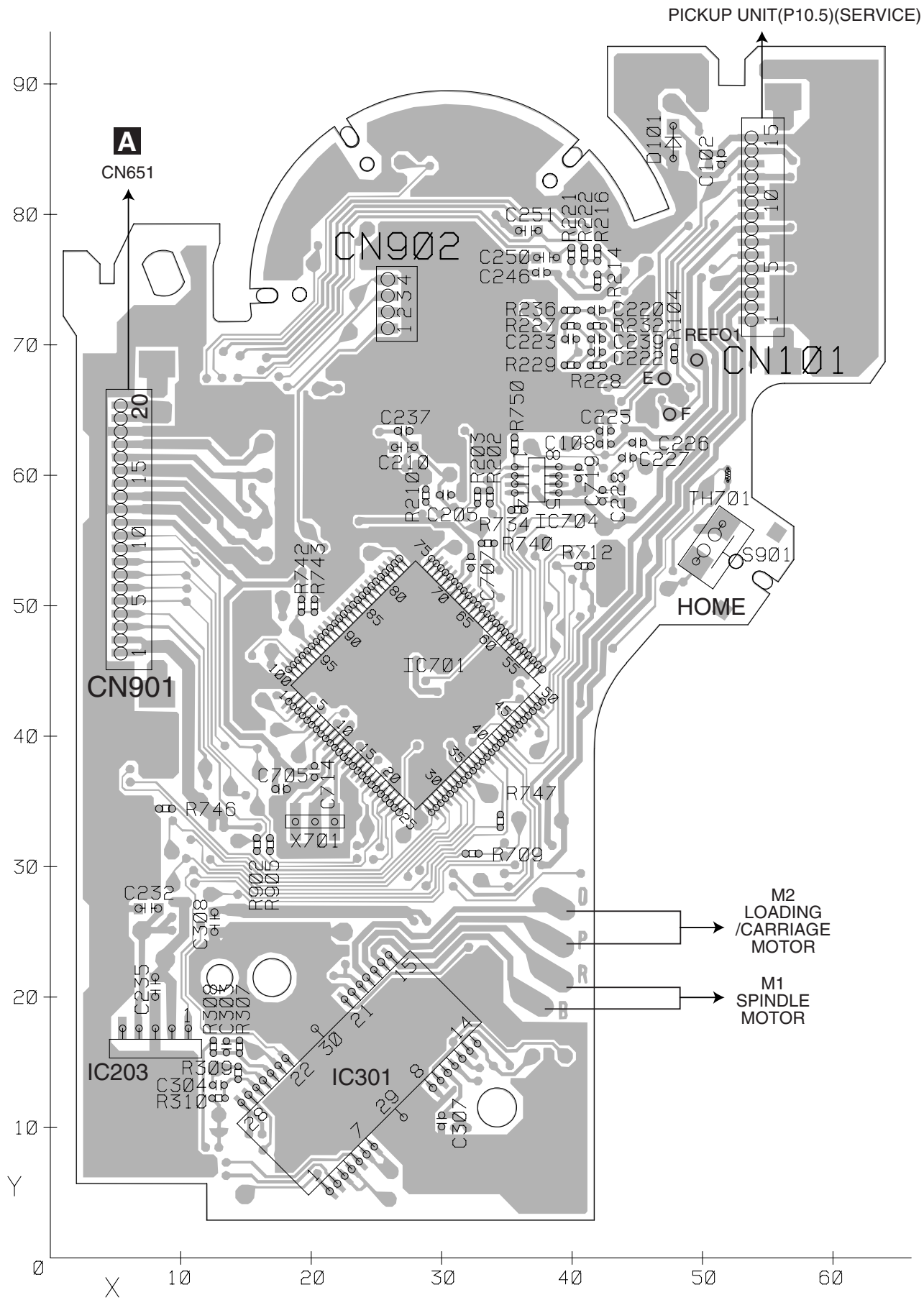

C904
C903
C902
C951
C308
C101
R109
R108
R106
R110
R105
R102
R101
R103
R104
R107
R114
R115
Q101
Q102
R213
R207
R208
R210
R205
R206
R209
C226
C227
C224
C225
C202
R202
R201
C231
C201
C235
Q202
R212
C236
C203
C234
R972
C972
C974
R971
Q912
R913
C913
R912
R911
C915
C651
C652
Q652
C655
C853
C860
R851
R852
C851
Q852
R853
C857
R857
R860
C856
IC851
R855
C858
C855
D852
R614
R858
Q822
C821
R841
Q841
R662
R655
R666
R660
R656
R665
R669
R668
C179
C177
C176
R171
R172
C178
C657
R657
R658
C658
C656
C661
R667
D871
D173
C203
C234
Y
X
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
90
80
70
60
50
40
30
20
10

A

4.2 CD CORE UNIT(S10. 5COMP1)

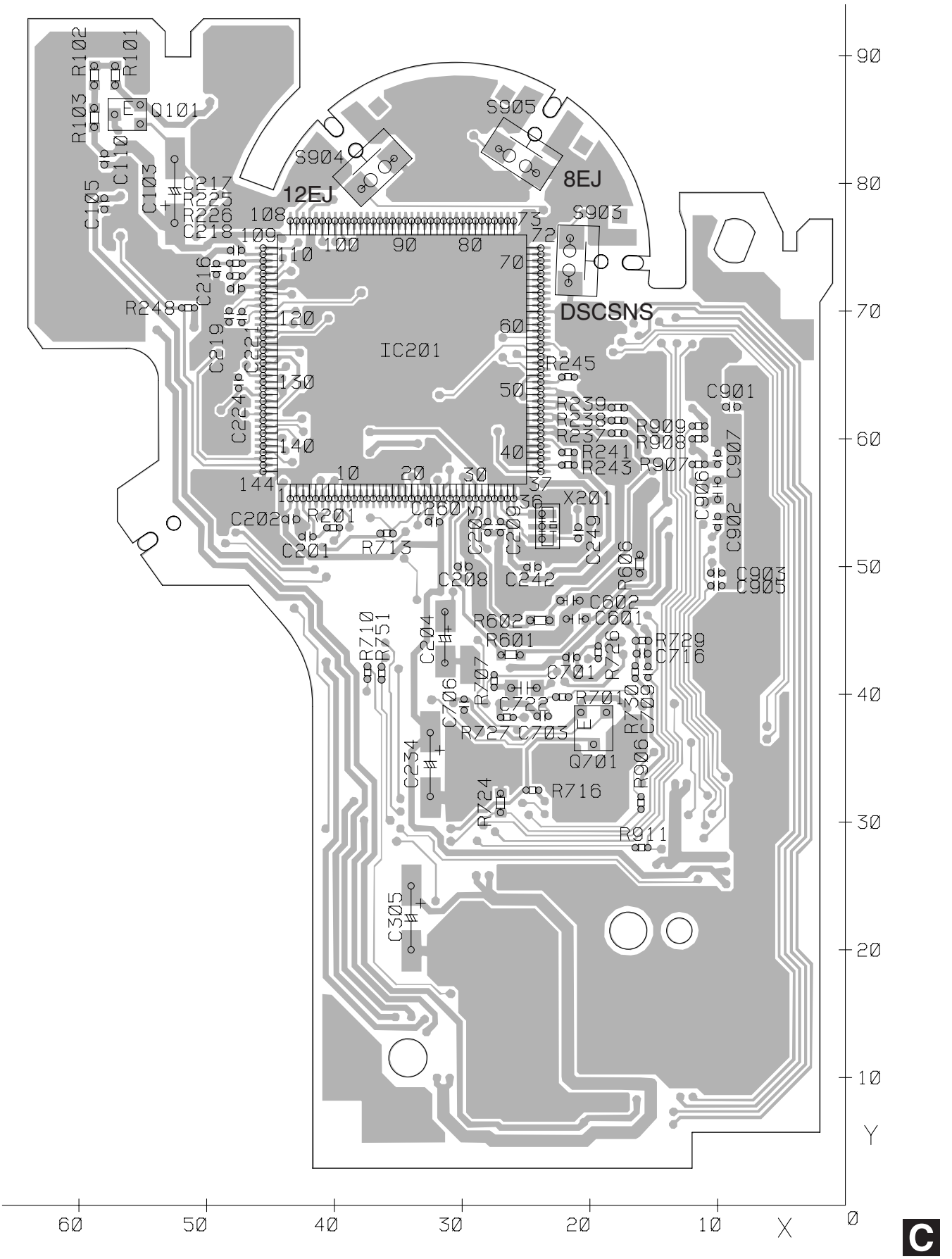
C CD CORE UNIT(S10.5COMP1)

SIDE A

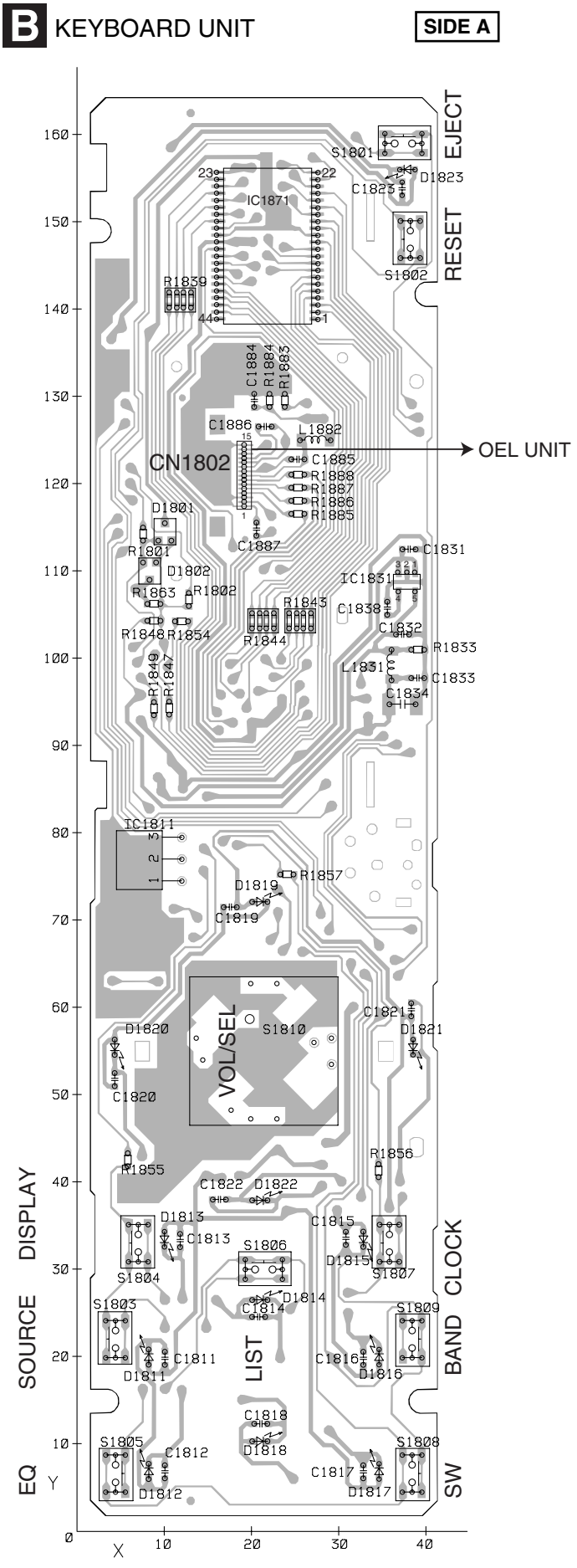


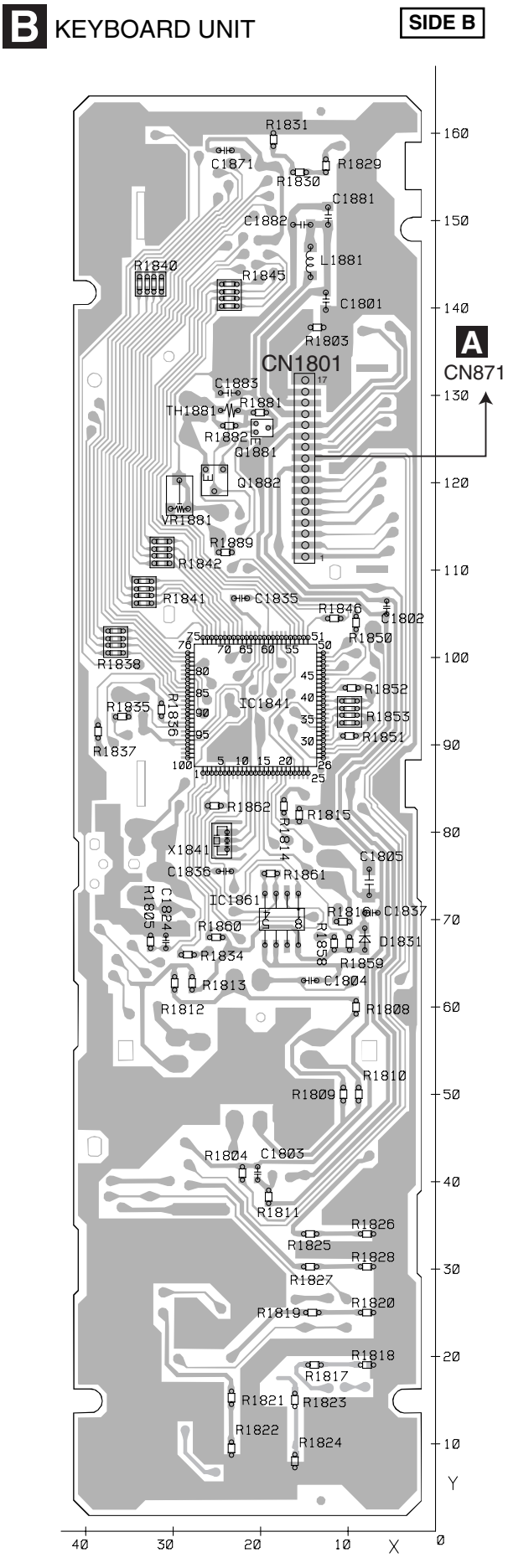
C CD CORE UNIT(S10.5COMP1)

SIDE B



4.3 KEYBOARD UNIT





5. ELECTRICAL PARTS LIST

NOTE:

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

  Chip Resistor

  RS1/◯S◯◯◯J,RS1/◯◯S◯◯◯J

  Chip Capacitor (except for CQS.....)

  CKS....., CCS....., CSZS.....
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Meaning of the figures and others in the parentheses in the parts list.*

  Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

  IC 301 (A, 91, 111) IC NJM2068V

Unit Number : XWM7116(P680MP/XN/UC)
Unit Number : XWM7114
(P6850MP/XN/ES)
Unit Name : Tuner Amp Unit
Unit Number : XWM7115
(P6800MP/XN/UC)
Unit Name : Tuner Amp Unit
Unit Number :
Unit Name : Keyboard Unit
Unit Number : CWS1389
Unit Name : Switch Unit
Unit Number : CWX3176
Unit Name : CD Core Unit
(S10.5COMP1)

A

Unit Number : XWM7116(P680MP/XN/UC)
Unit Number : XWM7114
(P6850MP/XN/ES)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

Circuit Symbol and No.		Part No.
IC 101	(A,17,119) IC	HA12241FP
IC 171	(A,60,48) IC	BA3121F
IC 201	(A,90,92) IC	PML016A
IC 301	(A,84,132) IC	PAL007B
IC 401	(A,151,82) IC	NJM2885DL1-33
IC 601	(A,123,59) IC(P680MP/XN/UC)	PEG142A
IC 601	(A,123,59) IC(P6850MP/XN/ES)	PEG143A
IC 631	(A,154,66) IC	S-80835CNMC-B8U
IC 801	(A,147,26) IC	BA6288FS
IC 851	(B,43,26) IC	NJM2360M
IC 971	(A,16,96) IC	NJM2388F84

Circuit Symbol and No.		Part No.
Q 101	(B,32,110) Transistor	2SA1576
Q 102	(B,32,107) Transistor	DTC114EU
Q 191	(A,96,62) Transistor	DTC114EU
Q 192	(A,87,57) Transistor	UMD2N
Q 201	(A,63,71) Transistor	2SD1767
Q 202	(B,67,82) Transistor	UMD2N
Q 311	(A,149,110) Transistor	IMH3A
Q 312	(B,128,125) Transistor	IMH3A
Q 313	(B,142,121) Transistor	IMH3A
Q 501	(A,49,65) Transistor	2SC4081
Q 502	(B,121,123) Transistor	DTC124EU
Q 503	(A,129,116) Transistor	UMD2N
Q 631	(B,150,40) Transistor	2SC3052-12
Q 651	(A,16,56) Transistor	2SD2396
Q 652	(B,32,57) Transistor	UMD2N
Q 801	(A,151,39) Transistor	2SD1760F5
Q 802	(B,138,29) Transistor	UMD3N
Q 821	(A,72,23) Transistor	2SD1767
Q 822	(B,66,13) Transistor	UMD2N
Q 831	(B,124,37) Transistor	2SA1576
Q 832	(B,125,33) Transistor	DTC114EU
Q 841	(B,82,12) Transistor	DTC114EU
Q 851	(A,28,38) Transistor	2SD1760F5
Q 852	(B,30,38) Transistor	UMD2N
Q 911	(A,16,69) Transistor	2SD2396
Q 912	(B,16,82) Transistor	UMD2N
Q 931	(A,90,116) Transistor	UMX1N
Q 941	(A,80,125) Transistor	DTC114EU
Q 951	(A,71,104) Transistor	2SA1576
D 201	(A,57,87) Diode	HZS12L(B1)
D 202	(A,125,75) Diode	RB706F-40
D 301	(A,65,104) Diode	S5688G
D 302	(A,61,104) Diode	S5688G
D 501	(A,35,87) Diode	HZS9L(A2)
D 502	(A,52,62) Diode	DAN202U
D 503	(A,129,98) Diode	1SS133
D 651	(A,27,59) Diode	HZS9L(A1)
D 801	(A,141,19) Diode	HZS7L(A3)
D 802	(A,151,15) Diode	1SS133
D 803	(A,147,15) Diode	1SS133

Circuit Symbol and No.		Part No.
D 821	(A,70,12) Diode	HZS11L(A1)
D 841	(A,94,10) LED	SML412BC5T(NP)
D 851	(A,26,29) Diode	HZS11L(A1)
D 852	(B,63,26) Diode	RB411D
D 871	(B,100,29) Diode	DAP202U
D 872	(B,104,29) Diode	DAN202U
D 873	(B,104,21) Diode	DAP202U
D 874	(B,108,21) Diode	DAN202U
D 875	(B,109,35) Diode	DAP202U
D 876	(B,105,35) Diode	DAN202U
D 877	(B,108,30) Diode Network	DA204U
D 901	(A,57,108) Diode	S5688G
D 902	(A,57,104) Diode	S5688G
D 911	(A,35,82) Diode	S5688G
D 912	(A,31,77) Diode	HZS6L(B1)
D 921	(A,85,113) Diode	HZS9L(B3)
D 922	(B,149,65) Diode Network	DA204U
D 931	(A,78,113) Diode	HZS7L(C3)
D 932	(A,74,108) Diode	HZS7L(A1)
D 941	(A,79,121) Diode	MA111
D 951	(A,60,101) Diode	DAN202U
L 101	(A,22,110) Inductor	LAU2R2K
L 171	(A,63,38) Inductor	LAU2R2K
L 201	(A,68,69) Ferri-Inductor	LAU100K
L 202	(A,58,76) Ferri-Inductor	LAU4R7K
L 401	(B,175,145) Inductor	LCTAW220J2520
L 402	(A,164,97) Inductor	LAU1R0K
L 403	(A,165,108) Ferri-Inductor	LAU100K
L 404	(A,161,108) Inductor	LAU1R0K
L 601	(A,96,50) Ferri-Inductor	LAU100K
L 651	(A,76,45) Ferri-Inductor	LAU100K
L 831	(A,131,27) Ferri-Inductor	LAU100K
L 852	(A,42,21) Inductor	CTF1660
L 901	(A,37,103) Choke Coil 600µH	CTH1280
L 951	(A,57,99) Inductor	LAU2R2K
X 601	(A,109,55) Radiator 10.000MHz	CSS1599
⚠FU311	(B,152,126) Fuse 3A	CEK1286
⚠FU312	(B,152,130) Fuse 3A	CEK1286
⚠	Fuse 10A	CEK1208
BZ601	(A,62,13) Buzzer	CPV1062
AR401	(A,162,146) Surge Protector	DSP-201M-S00B

RESISTORS

R 101	(B,20,119)	RS1/16S223J
R 102	(B,22,119)	RS1/16S181J
R 103	(B,18,119)	RS1/16S102J
R 104	(B,16,120)	RS1/16S102J
R 105	(B,24,119)	RS1/16S222J
R 106	(B,15,133)	RS1/16S181J
R 107	(B,14,120)	RS1/16S223J
R 108	(B,27,127)	RS1/16S101J
R 109	(B,26,134)	RS1/16S620J
R 110	(B,28,121)	RS1/16S101J
R 111	(A,12,120)	RS1/16S102J
R 112	(A,12,116)	RS1/16S472J
R 113	(A,14,113)	RS1/16S472J
R 114	(B,32,115)	RS1/16S223J
R 115	(B,32,113)	RS1/16S472J
R 161	(A,121,127) (P680MP/XN/UC)	RS1/16S102J
R 162	(A,124,120) (P680MP/XN/UC)	RS1/16S102J
R 163	(A,124,122) (P680MP/XN/UC)	RS1/16S103J
R 164	(A,124,127) (P680MP/XN/UC)	RS1/16S103J
R 165	(A,128,122) (P6850MP/XN/ES)	RS1/16S104J
R 166	(A,127,127) (P6850MP/XN/ES)	RS1/16S104J
R 171	(B,66,42)	RS1/16S101J
R 172	(B,49,42)	RS1/16S101J
R 173	(A,66,35)	RS1/16S223J
R 174	(A,49,49)	RS1/16S223J
R 175	(A,63,42)	RS1/16S102J
R 176	(A,53,50)	RS1/16S102J
R 191	(A,97,59)	RS1/16S103J
R 192	(A,85,58)	RS1/16S682J
R 194	(A,93,62)	RS1/16S683J
R 201	(B,81,93)	RS1/16S0R0J
R 202	(B,76,97)	RS1/16S0R0J
R 205	(B,98,91)	RS1/16S101J
R 206	(B,98,90)	RS1/16S0R0J
R 207	(B,98,96)	RS1/16S0R0J
R 208	(B,98,95)	RS1/16S0R0J
R 209	(B,98,88)	RS1/16S0R0J
R 210	(B,98,93)	RS1/16S0R0J
R 211	(A,80,94)	RAB4C102J
R 212	(B,66,77)	RS1/16S152J
R 213	(B,90,107)	RS1/16S221J
R 214	(A,76,96)	RS1/16S221J
R 301	(B,113,129)	RS1/16S153J
R 302	(B,114,91)	RS1/16S682J
R 303	(B,103,95)	RS1/16S682J
R 304	(B,103,94)	RS1/16S682J
R 305	(B,103,90)	RS1/16S682J
R 306	(B,119,91)	RS1/16S123J
R 307	(B,107,101)	RS1/16S123J
R 308	(B,113,103)	RS1/16S123J
R 309	(B,119,93)	RS1/16S123J
R 311	(B,153,109)	RS1/16S390J
R 312	(B,143,110)	RS1/16S390J
R 313	(B,134,121)	RS1/16S0R0J
R 314	(B,126,119)	RS1/16S390J
R 315	(B,147,121)	RS1/16S390J
R 316	(B,138,121)	RS1/16S390J
R 317	(B,151,110)	RS1/16S223J
R 318	(B,146,110)	RS1/16S223J
R 319	(B,137,128)	RS1/16S223J
R 320	(B,126,129)	RS1/16S223J
R 321	(B,143,127)	RS1/16S223J
R 322	(B,141,127)	RS1/16S223J
R 325	(B,129,118)	RS1/16S0R0J
R 329	(A,152,110)	RS1/16S0R0J
R 330	(A,145,112)	RS1/16S0R0J
R 331	(B,132,121)	RS1/16S0R0J
R 332	(B,129,117)	RS1/16S0R0J
R 333	(B,146,121)	RS1/16S0R0J
R 334	(B,136,121)	RS1/16S0R0J
R 402	(B,167,110)	RS1/16S122J
R 404	(B,169,125)	RS1/16S681J
R 405	(B,169,131)	RS1/16S681J
R 406	(B,167,125)	RS1/16S681J
R 407	(B,169,137)	RS1/16S681J
R 408	(B,167,137)	RS1/16S681J
R 501	(A,54,72)	RS1/16S683J

Circuit Symbol and No.		Part No.
R 502	(A,54,69)	RS1/16S683J
R 503	(A,54,66)	RS1/16S223J
R 504	(A,49,61)	RS1/16S223J
R 505	(B,121,118)	RS1/16S103J
R 506	(B,121,120)	RS1/16S103J
R 507	(B,117,122)	RS1/16S331J
R 508	(A,133,115)	RS1/16S102J
R 601	(B,135,58)	RS1/16S104J
R 609	(A,124,72)	RS1/16S473J
R 611	(A,125,47)	RS1/16S0R0J
R 612	(A,127,47)	RS1/16S681J
R 613	(A,128,47)	RS1/16S681J
R 614	(B,68,21)	RS1/16S102J
R 615	(B,112,51)	RS1/16S473J
R 619	(A,135,48)	RS1/16S104J
R 620	(A,135,50)	RS1/16S104J
R 631	(B,139,41)	RS1/16S102J
R 633	(B,148,45)	RS1/16S183J
R 634	(B,145,41)	RS1/16S473J
R 635	(B,139,38)	RS1/16S222J
R 641	(A,144,63)	RS1/16S104J
R 651	(A,27,55)	RD1/4PU561J
R 652	(A,22,63)	RD1/4PU221J
R 655	(B,87,45)	RS1/16S104J
R 657	(B,91,32)	RS1/16S102J
R 658	(B,91,30)	RS1/16S102J
R 659	(B,100,42)	RS1/16S102J
R 660	(B,91,40)	RS1/16S102J
R 661	(A,73,40)	RS1/16S102J
R 662	(B,93,44)	RS1/16S102J
R 663	(A,74,32)	RS1/16S221J
R 664	(A,74,37)	RS1/16S681J
R 665	(B,73,39)	RS1/16S104J
R 666	(B,90,44)	RS1/16S104J
R 667	(B,94,26)	RS1/16S104J
R 668	(B,73,36)	RS1/16S682J
R 669	(B,73,38)	RS1/16S682J
R 801	(A,137,19)	RD1/4PU561J
R 802	(A,134,44)	RAB4C102J
R 803	(A,141,28)	RS1/16S221J
R 823	(A,80,19)	RS1/16S1R0J
R 824	(A,80,17)	RS1/16S473J
R 825	(A,74,12)	RD1/4PU391J
R 831	(B,118,35)	RS1/16S473J
R 832	(B,120,35)	RS1/16S102J
R 833	(B,129,27)	RS1/16S222J
R 841	(B,93,14)	RS1/16S221J
R 851	(B,30,43)	RS1/16S331J
R 852	(B,30,41)	RS1/16S331J
R 853	(B,47,36)	RS1/16S0R0J
R 855	(B,36,29)	RS1/16S391J
R 856	(A,55,24)	RD1/4PU272J
R 857	(B,51,29)	RS1/16S391J
R 860	(B,49,29)	RS1/16S391J
R 861	(A,33,23)	RS1/16S1R0J
R 871	(A,152,52)	RS1/16S102J
R 872	(A,113,41)	RS1/16S102J
R 873	(A,152,51)	RS1/16S0R0J
R 879	(B,108,26)	RS1/16S473J
R 880	(B,109,32)	RS1/16S104J

Circuit Symbol and No.		Part No.
R 881	(B,101,34)	RS1/16S473J
R 883	(B,107,16)	RS1/16S222J
R 884	(B,113,27)	RS1/16S472J
R 885	(B,106,14)	RS1/16S222J
R 886	(B,112,34)	RS1/16S222J
R 887	(B,115,15)	RS1/16S222J
R 888	(B,114,34)	RS1/16S222J
R 889	(B,118,14)	RS1/16S222J
R 911	(B,20,71)	RS1/16S222J
R 912	(B,22,71)	RS1/16S223J
R 913	(B,17,77)	RS1/16S391J
R 921	(A,81,108)	RD1/4PU392J
R 922	(B,147,60)	RS1/16S392J
R 923	(B,149,60)	RS1/16S223J
R 924	(B,152,60)	RS1/16S102J
R 931	(A,90,110)	RS1/16S473J
R 932	(A,90,112)	RS1/16S104J
R 933	(A,95,112)	RS1/16S472J
R 934	(A,95,114)	RS1/16S473J
R 935	(A,95,117)	RS1/16S103J
R 936	(A,98,117)	RS1/16S104J
R 937	(A,91,120)	RS1/16S104J
R 938	(A,57,113)	RD1/4PU102J
R 941	(A,61,113)	RD1/4PU102J
R 942	(A,84,122)	RS1/16S103J
R 943	(A,84,125)	RS1/16S104J
R 951	(A,64,118)	RD1/4PU153J
R 952	(A,64,102)	RS1/16S472J
R 953	(A,64,100)	RS1/16S472J
R 954	(A,75,104)	RS1/16S102J
R 955	(A,75,106)	RS1/16S104J
R 971	(B,19,87)	RS1/16S103J
R 972	(B,54,66)	RS1/16S102J

CAPACITORS

C 101	(B,21,135)	CKSRYB104K16
C 102	(A,25,119)	CKSRYB473K25
C 171	(A,68,35)	CCSRCH471J50
C 172	(A,49,46)	CCSRCH471J50
C 173	(A,60,42)	CKSRYB105K10
C 174	(A,55,50)	CKSRYB105K10
C 175	(A,54,45)	CEJQ2R2M50
C 176	(B,62,41)	CKSRYB104K16
C 178	(B,49,40)	CKSRYB472K50
C 179	(B,66,37)	CKSRYB472K50
C 180	(A,67,52)	CEJQ1R0M50
C 181	(A,58,53)	CKSRYB104K16
C 200	(A,122,79)	CEJQ470M16
C 203	(B,91,69)	CKSQYB225K10
C 205	(A,88,68)	CEJQ470M16
C 206	(A,69,88)	CEJQ4R7M35
C 207	(A,76,88)	CEJQ4R7M35
C 208	(A,78,100)	CEJQ4R7M35
C 209	(A,81,105)	CEJQ4R7M35
C 210	(A,123,108)	CKSRYB104K16
C 211	(A,123,106)	CKSRYB104K16
C 212	(A,69,94)	CEJQ1R0M50
C 213	(A,62,94)	CEJQ1R0M50
C 214	(A,75,80)	CEJQ1R0M50

Circuit Symbol and No.		Part No.
C 215	(A,71,100)	CEJQ1R0M50
C 216	(A,109,79)	CEJQ100M25
C 218	(A,86,79)	CEJQ4R7M35
C 219	(A,85,105)	CEJQ4R7M35
C 220	(A,93,79)	CEJQ4R7M35
C 221	(A,91,105)	CEJQ4R7M35
C 222	(A,100,79)	CEJQ4R7M35
C 223	(A,97,105)	CEJQ4R7M35
C 224	(B,89,90)	CCSRCH120J50
C 225	(B,89,88)	CCSRCH120J50
C 226	(B,93,96)	CCSRCH120J50
C 227	(B,89,92)	CCSRCH120J50
C 230	(A,79,80)	CEJQ100M25
C 232	(A,80,91)	CKSRYB104K16
C 233	(B,121,77)	CKSRYB104K16
C 234	(B,87,64)	CKSRYB105K10
C 235	(B,61,85)	CKSRYB103K50
C 236	(B,60,79)	CKSRYB104K16
C 237	(A,61,82)	CEJQ470M16
C 301	(A,116,100)	CFTNA224J50
C 302	(A,109,110)	CFTNA224J50
C 303	(A,116,110)	CFTNA224J50
C 304	(A,109,100)	CFTNA224J50
C 307	(A,124,95)	CEJQ100M25
C 309	(B,122,109)	CKSQYB225K10
C 310	(B,122,104)	CKSQYB225K10
C 311	(A,148,105)	CEJQ100M25
C 312	(A,141,104)	CEJQ100M25
C 313	(A,128,112)	CEJQ100M25
C 314	(A,128,103)	CEJQ100M25
C 315	(A,135,103)	CEJQ100M25
C 316	(A,137,109)	CEJQ100M25
C 319	(B,128,122)	CKSRYB223K50
C 324	(B,148,141)	CKSRYB103K50
C 401	(B,147,75)	CKSRYB104K16
C 402	(A,144,71)	CEJQ1R0M50
C 403	(A,153,71)	CEJQ470M6R3
C 407	(A,161,113)	CEJQ101M16
C 408	(B,175,140)	CKSRYB103K50
C 409	(B,165,131)	CCSRCH470J50
C 411	(A,157,95)	CEJQ470M6R3
C 412	(B,160,93)	CKSRYB103K50
C 414	(B,172,117)	CKSRYB103K50
C 416	(B,174,96)	CCSRCH101J50
C 417	(B,154,94)	CCSRCH470J50
C 501	(A,124,101)	CEJQ330M10
C 502	(A,131,94)	CEJQ101M16
C 601	(A,101,55)	CEJQ4R7M35
C 602	(B,105,57)	CKSRYB105K10
C 604	(B,115,55)	CCSRCH200J50
C 605	(B,113,60)	CCSRCH200J50
C 606	(B,132,52)	CCSRCH470J50
C 608	(A,121,73)	CCSRCH470J50
C 631	(B,143,41)	CKSRYB105K10
C 632	(B,147,41)	CKSRYB104K16
C 651	(B,25,61)	CKSRYB473K25
C 653	(A,36,51)	CEJQ101M16
C 654	(A,44,59)	CEJQ101M16
C 657	(B,95,32)	CKSRYB152K50
C 658	(B,95,30)	CKSRYB152K50
C 661	(B,90,27)	CKSRYB105K10
C 663	(A,73,42)	CKSRYB105K10
C 802	(B,133,23)	CKSRYB224K10
C 803	(A,142,34)	CEAT331M10
C 804	(B,154,35)	CKSRYB104K16
C 805	(B,148,23)	CKSRYB102K50
C 806	(B,155,17)	CCSRCH101J50
C 807	(B,153,17)	CCSRCH101J50
C 821	(B,59,14)	CKSRYB473K25
C 841	(A,94,16)	CKSRYF104Z25
C 851	(B,27,40)	CKSRYB104K16
C 852	(A,39,39)	CEJQ470M16
C 854	(A,39,31)	CEJQ101M16
C 855	(B,35,23)	CKSRYB104K16
C 856	(B,49,21)	CCSRCH331J50
C 857	(B,52,29)	CKSRYB223K50
C 861	(A,52,21)	CEJQ470M25
C 901	(A,33,121) 3300µF/16V	CCH1486
C 902	(B,42,127)	CKSRYB104K16
C 903	(B,80,149)	CKSYB225K16
C 911	(A,25,70) 470µF/16V	CCH1331
C 912	(A,37,70) 470µF/16V	CCH1331
C 913	(B,29,79)	CKSRYB472K50
C 914	(A,33,60)	CEJQ470M10
C 915	(B,29,67)	CKSRYB103K50
C 921	(B,151,60)	CKSRYB104K16
C 931	(A,95,110)	CKSRYB104K16
C 941	(A,69,111)	CEJQ1R0M50
C 971	(A,25,86)	CEJQ101M16
C 972	(B,19,97)	CKSRYB103K50
C 973	(A,41,82)	CEJQ221M10
C 974	(B,19,92)	CKSRYB103K50

A

Unit Number : XWM7115 (P6800MP/XN/UC)

Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC 101	(A,17,119) IC	HA12241FP
IC 171	(A,60,48) IC	BA3121F
IC 201	(A,90,92) IC	PML016A
IC 301	(A,84,132) IC	PAL007B
IC 401	(A,151,82) IC	NJM2885DL1-33
IC 601	(A,123,59) IC	PEG142A
IC 631	(A,154,66) IC	S-80835CNMC-B8U
IC 801	(A,147,26) IC	BA6288FS
IC 851	(B,43,26) IC	NJM2360M
IC 971	(A,16,96) IC	NJM2388F84
Q 101	(B,32,110) Transistor	2SA1576
Q 102	(B,32,107) Transistor	DTC114EU
Q 191	(A,96,62) Transistor	DTC114EU
Q 192	(A,87,57) Transistor	UMD2N
Q 311	(A,149,110) Transistor	IMH3A
Q 312	(B,128,125) Transistor	IMH3A
Q 313	(B,142,121) Transistor	IMH3A
Q 501	(A,49,65) Transistor	2SC4081
Q 502	(B,121,123) Transistor	DTC124EU
Q 503	(A,129,116) Transistor	UMD2N

Circuit Symbol and No.		Part No.
Q 631	(B,150,40) Transistor	2SC3052-12
Q 651	(A,16,56) Transistor	2SD2396
Q 652	(B,32,57) Transistor	UMD2N
Q 801	(A,151,39) Transistor	2SD1760F5
Q 802	(B,138,29) Transistor	UMD3N
Q 821	(A,72,23) Transistor	2SD1767
Q 822	(B,66,13) Transistor	UMD2N
Q 831	(B,124,37) Transistor	2SA1576
Q 832	(B,125,33) Transistor	DTC114EU
Q 841	(B,82,12) Transistor	DTC114EU
Q 851	(A,28,38) Transistor	2SD1760F5
Q 852	(B,30,38) Transistor	UMD2N
Q 911	(A,16,69) Transistor	2SD2396
Q 912	(B,16,82) Transistor	UMD2N
Q 931	(A,90,116) Transistor	UMX1N
Q 941	(A,80,125) Transistor	DTC114EU
Q 951	(A,71,104) Transistor	2SA1576
D 202	(A,125,75) Diode	RB706F-40
D 301	(A,65,104) Diode	S5688G
D 302	(A,61,104) Diode	S5688G
D 501	(A,35,87) Diode	HZS9L(A2)
D 502	(A,52,62) Diode	DAN202U
D 503	(A,129,98) Diode	1SS133
D 651	(A,27,59) Diode	HZS9L(A1)
D 801	(A,141,19) Diode	HZS7L(A3)
D 802	(A,151,15) Diode	1SS133
D 803	(A,147,15) Diode	1SS133
D 821	(A,70,12) Diode	HZS11L(A1)
D 841	(A,94,10) LED	SML412BC5T(NP)
D 851	(A,26,29) Diode	HZS11L(A1)
D 852	(B,63,26) Diode	RB411D
D 871	(B,100,29) Diode	DAP202U
D 872	(B,104,29) Diode	DAN202U
D 873	(B,104,21) Diode	DAP202U
D 874	(B,108,21) Diode	DAN202U
D 875	(B,109,35) Diode	DAP202U
D 876	(B,105,35) Diode	DAN202U
D 877	(B,108,30) Diode Network	DA204U
D 901	(A,57,108) Diode	S5688G
D 902	(A,57,104) Diode	S5688G
D 911	(A,35,82) Diode	S5688G
D 912	(A,31,77) Diode	HZS6L(B1)
D 921	(A,85,113) Diode	HZS9L(B3)
D 922	(B,149,65) Diode Network	DA204U
D 931	(A,78,113) Diode	HZS7L(C3)
D 932	(A,74,108) Diode	HZS7L(A1)
D 941	(A,79,121) Diode	MA111
D 951	(A,60,101) Diode	DAN202U
L 101	(A,22,110) Inductor	LAU2R2K
L 171	(A,63,38) Inductor	LAU2R2K
L 201	(A,68,69) Ferri-Inductor	LAU100K
L 202	(A,58,76) Ferri-Inductor	LAU4R7K
L 401	(B,175,145) Inductor	LCTAW220J2520
L 402	(A,164,97) Inductor	LAU1R0K
L 403	(A,165,108) Ferri-Inductor	LAU100K
L 404	(A,161,108) Inductor	LAU1R0K
L 601	(A,96,50) Ferri-Inductor	LAU100K
L 651	(A,76,45) Ferri-Inductor	LAU100K
L 831	(A,131,27) Ferri-Inductor	LAU100K
L 852	(A,42,21) Inductor	CTF1660

Circuit Symbol and No.		Part No.
L 901	(A,37,103) Choke Coil 600µH	CTH1280
L 951	(A,57,99) Inductor	LAU2R2K
X 601	(A,109,55) Radiator 10.000MHz	CSS1599
⚠FU311	(B,152,126) Fuse 3A	CEK1286
⚠FU312	(B,152,130) Fuse 3A	CEK1286
⚠	Fuse 10A	CEK1208
BZ601	(A,62,13) Buzzer	CPV1062
AR401	(A,162,146) Arrestor	DSP-201M-S00B

RESISTORS

R 101	(B,20,119)	RS1/16S223J
R 102	(B,22,119)	RS1/16S181J
R 103	(B,18,119)	RS1/16S102J
R 104	(B,16,120)	RS1/16S102J
R 105	(B,24,119)	RS1/16S222J
R 106	(B,15,133)	RS1/16S181J
R 107	(B,14,120)	RS1/16S223J
R 108	(B,27,127)	RS1/16S101J
R 109	(B,26,134)	RS1/16S620J
R 110	(B,28,121)	RS1/16S101J
R 111	(A,12,120)	RS1/16S102J
R 112	(A,12,116)	RS1/16S472J
R 113	(A,14,113)	RS1/16S472J
R 114	(B,32,115)	RS1/16S223J
R 115	(B,32,113)	RS1/16S472J
R 161	(A,121,127)	RS1/16S102J
R 162	(A,124,120)	RS1/16S102J
R 163	(A,124,122)	RS1/16S103J
R 164	(A,124,127)	RS1/16S103J
R 171	(B,66,42)	RS1/16S101J
R 172	(B,49,42)	RS1/16S101J
R 173	(A,66,35)	RS1/16S223J
R 174	(A,49,49)	RS1/16S223J
R 175	(A,63,42)	RS1/16S102J
R 176	(A,53,50)	RS1/16S102J
R 191	(A,97,59)	RS1/16S103J
R 192	(A,85,58)	RS1/16S682J
R 194	(A,93,62)	RS1/16S683J
R 201	(B,81,93)	RS1/16S0R0J
R 202	(B,76,97)	RS1/16S0R0J
R 205	(B,98,91)	RS1/16S102J
R 206	(B,98,90)	RS1/16S101J
R 207	(B,98,96)	RS1/16S101J
R 208	(B,98,95)	RS1/16S101J
R 209	(B,98,88)	RS1/16S101J
R 210	(B,98,93)	RS1/16S101J
R 211	(A,80,94)	RAB4C102J
R 213	(B,90,107)	RS1/16S221J
R 214	(A,76,96)	RS1/16S221J
R 230	(A,68,74)	RD1/4PU0R0J
R 301	(B,113,129)	RS1/16S153J
R 302	(B,114,91)	RS1/16S0R0J
R 303	(B,103,95)	RS1/16S0R0J
R 304	(B,103,94)	RS1/16S0R0J
R 305	(B,103,90)	RS1/16S0R0J
R 311	(B,153,109)	RS1/16S821J
R 312	(B,143,110)	RS1/16S821J
R 313	(B,134,121)	RS1/16S0R0J
R 314	(B,126,119)	RS1/16S821J

Circuit Symbol and No.		Part No.
R 315	(B,147,121)	RS1/16S821J
R 316	(B,138,121)	RS1/16S821J
R 317	(B,151,110)	RS1/16S223J
R 318	(B,146,110)	RS1/16S223J
R 319	(B,137,128)	RS1/16S223J
R 320	(B,126,129)	RS1/16S223J
R 321	(B,143,127)	RS1/16S223J
R 322	(B,141,127)	RS1/16S223J
R 325	(B,129,118)	RS1/16S0R0J
R 329	(A,152,110)	RS1/16S0R0J
R 330	(A,145,112)	RS1/16S0R0J
R 331	(B,132,121)	RS1/16S0R0J
R 332	(B,129,117)	RS1/16S0R0J
R 333	(B,146,121)	RS1/16S0R0J
R 334	(B,136,121)	RS1/16S0R0J
R 402	(B,167,110)	RS1/16S122J
R 404	(B,169,125)	RS1/16S681J
R 405	(B,169,131)	RS1/16S681J
R 406	(B,167,125)	RS1/16S681J
R 407	(B,169,137)	RS1/16S681J
R 408	(B,167,137)	RS1/16S681J
R 501	(A,54,72)	RS1/16S683J
R 502	(A,54,69)	RS1/16S683J
R 503	(A,54,66)	RS1/16S223J
R 504	(A,49,61)	RS1/16S223J
R 505	(B,121,118)	RS1/16S103J
R 506	(B,121,120)	RS1/16S103J
R 507	(B,117,122)	RS1/16S331J
R 508	(A,133,115)	RS1/16S102J
R 602	(B,133,58)	RS1/16S104J
R 609	(A,124,72)	RS1/16S473J
R 611	(A,125,47)	RS1/16S0R0J
R 612	(A,127,47)	RS1/16S681J
R 613	(A,128,47)	RS1/16S681J
R 614	(B,68,21)	RS1/16S102J
R 615	(B,112,51)	RS1/16S473J
R 619	(A,135,48)	RS1/16S104J
R 620	(A,135,50)	RS1/16S104J
R 631	(B,139,41)	RS1/16S102J
R 633	(B,148,45)	RS1/16S183J
R 634	(B,145,41)	RS1/16S473J
R 635	(B,139,38)	RS1/16S222J
R 641	(A,144,63)	RS1/16S104J
R 651	(A,27,55)	RD1/4PU561J
R 652	(A,22,63)	RD1/4PU221J
R 655	(B,87,45)	RS1/16S104J
R 657	(B,91,32)	RS1/16S102J
R 658	(B,91,30)	RS1/16S102J
R 659	(B,100,42)	RS1/16S102J
R 660	(B,91,40)	RS1/16S102J
R 661	(A,73,40)	RS1/16S102J
R 662	(B,93,44)	RS1/16S102J
R 663	(A,74,32)	RS1/16S221J
R 664	(A,74,37)	RS1/16S681J
R 665	(B,73,39)	RS1/16S104J
R 666	(B,90,44)	RS1/16S104J
R 667	(B,94,26)	RS1/16S104J
R 668	(B,73,36)	RS1/16S682J
R 669	(B,73,38)	RS1/16S682J
R 801	(A,137,19)	RD1/4PU561J
R 802	(A,134,44)	RAB4C102J
R 803	(A,141,28)	RS1/16S221J
R 823	(A,80,19)	RS1/16S1R0J
R 824	(A,80,17)	RS1/16S473J
R 825	(A,74,12)	RD1/4PU391J
R 831	(B,118,35)	RS1/16S473J
R 832	(B,120,35)	RS1/16S102J
R 833	(B,129,27)	RS1/16S222J
R 841	(B,93,14)	RS1/16S221J
R 851	(B,30,43)	RS1/16S331J
R 852	(B,30,41)	RS1/16S331J
R 853	(B,47,36)	RS1/16S0R0J
R 855	(B,36,29)	RS1/16S391J
R 856	(A,55,24)	RD1/4PU272J
R 857	(B,51,29)	RS1/16S391J
R 860	(B,49,29)	RS1/16S391J
R 861	(A,33,23)	RS1/16S1R0J
R 871	(A,152,52)	RS1/16S102J
R 872	(A,113,41)	RS1/16S102J
R 873	(A,152,51)	RS1/16S0R0J
R 879	(B,108,26)	RS1/16S473J
R 880	(B,109,32)	RS1/16S104J
R 881	(B,101,34)	RS1/16S473J
R 883	(B,107,16)	RS1/16S222J
R 884	(B,113,27)	RS1/16S472J
R 885	(B,106,14)	RS1/16S222J
R 886	(B,112,34)	RS1/16S222J
R 887	(B,115,15)	RS1/16S222J
R 888	(B,114,34)	RS1/16S222J
R 889	(B,118,14)	RS1/16S222J
R 911	(B,20,71)	RS1/16S222J
R 912	(B,22,71)	RS1/16S223J
R 913	(B,17,77)	RS1/16S391J
R 921	(A,81,108)	RD1/4PU392J
R 922	(B,147,60)	RS1/16S392J
R 923	(B,149,60)	RS1/16S223J
R 924	(B,152,60)	RS1/16S102J
R 931	(A,90,110)	RS1/16S473J
R 932	(A,90,112)	RS1/16S104J
R 933	(A,95,112)	RS1/16S472J
R 934	(A,95,114)	RS1/16S473J
R 935	(A,95,117)	RS1/16S103J
R 936	(A,98,117)	RS1/16S104J
R 937	(A,91,120)	RS1/16S104J
R 938	(A,57,113)	RD1/4PU102J
R 941	(A,61,113)	RD1/4PU102J
R 942	(A,84,122)	RS1/16S103J
R 943	(A,84,125)	RS1/16S104J
R 951	(A,64,118)	RD1/4PU153J
R 952	(A,64,102)	RS1/16S472J
R 953	(A,64,100)	RS1/16S472J
R 954	(A,75,104)	RS1/16S102J
R 955	(A,75,106)	RS1/16S104J
R 971	(B,19,87)	RS1/16S103J
R 972	(B,54,66)	RS1/16S102J

CAPACITORS

C 101	(B,21,135)	CKSRYB104K16
C 102	(A,25,119)	CKSRYB473K25

Circuit Symbol and No.		Part No.
C 171	(A,68,35)	CCSRCH471J50
C 172	(A,49,46)	CCSRCH471J50
C 173	(A,60,42)	CKSRYB105K10
C 174	(A,55,50)	CKSRYB105K10
C 175	(A,54,45)	CEJQ2R2M50
C 176	(B,62,41)	CKSRYB104K16
C 178	(B,49,40)	CKSRYB472K50
C 179	(B,66,37)	CKSRYB472K50
C 180	(A,67,52)	CEJQ1R0M50
C 181	(A,58,53)	CKSRYB104K16
C 200	(A,122,79)	CEJQ470M16
C 203	(B,91,69)	CKSQYB225K10
C 205	(A,88,68)	CEJQ470M16
C 206	(A,69,88)	CEJQ4R7M35
C 207	(A,76,88)	CEJQ4R7M35
C 208	(A,78,100)	CEJQ4R7M35
C 209	(A,81,105)	CEJQ4R7M35
C 210	(A,123,108)	CKSRYB104K16
C 211	(A,123,106)	CKSRYB104K16
C 212	(A,69,94)	CEJQ1R0M50
C 213	(A,62,94)	CEJQ1R0M50
C 214	(A,75,80)	CEJQ1R0M50
C 215	(A,71,100)	CEJQ1R0M50
C 216	(A,109,79)	CEJQ100M25
C 218	(A,86,79)	CEJQ4R7M35
C 219	(A,85,105)	CEJQ4R7M35
C 220	(A,93,79)	CEJQ4R7M35
C 221	(A,91,105)	CEJQ4R7M35
C 222	(A,100,79)	CEJQ4R7M35
C 223	(A,97,105)	CEJQ4R7M35
C 224	(B,89,90)	CCSRCH120J50
C 225	(B,89,88)	CCSRCH120J50
C 226	(B,93,96)	CCSRCH120J50
C 227	(B,89,92)	CCSRCH120J50
C 230	(A,79,80)	CEJQ100M25
C 232	(A,80,91)	CKSRYB104K16
C 233	(B,121,77)	CKSRYB104K16
C 234	(B,87,64)	CKSRYB105K10
C 301	(A,116,100)	CFTNA224J50
C 302	(A,109,110)	CFTNA224J50
C 303	(A,116,110)	CFTNA224J50
C 304	(A,109,100)	CFTNA224J50
C 307	(A,124,95)	CEJQ100M25
C 309	(B,122,109)	CKSQYB225K10
C 310	(B,122,104)	CKSQYB225K10
C 311	(A,148,105)	CEJQ4R7M35
C 312	(A,141,104)	CEJQ4R7M35
C 313	(A,128,112)	CEJQ4R7M35
C 314	(A,128,103)	CEJQ4R7M35
C 315	(A,135,103)	CEJQ4R7M35
C 316	(A,137,109)	CEJQ4R7M35
C 319	(B,128,122)	CKSRYB472K50
C 324	(B,148,141)	CKSRYB103K50
C 401	(B,147,75)	CKSRYB104K16
C 402	(A,144,71)	CEJQ1R0M50
C 403	(A,153,71)	CEJQ470M6R3
C 407	(A,161,113)	CEJQ101M16
C 408	(B,175,140)	CKSRYB103K50
C 409	(B,165,131)	CCSRCH470J50
C 411	(A,157,95)	CEJQ470M6R3

Circuit Symbol and No.		Part No.
C 412	(B,160,93)	CKSRYB103K50
C 414	(B,172,117)	CKSRYB103K50
C 416	(B,174,96)	CCSRCH101J50
C 417	(B,154,94)	CCSRCH470J50
C 501	(A,124,101)	CEJQ330M10
C 502	(A,131,94)	CEJQ101M16
C 601	(A,101,55)	CEJQ4R7M35
C 602	(B,105,57)	CKSRYB105K10
C 604	(B,115,55)	CCSRCH200J50
C 605	(B,113,60)	CCSRCH200J50
C 606	(B,132,52)	CCSRCH470J50
C 608	(A,121,73)	CCSRCH470J50
C 631	(B,143,41)	CKSRYB105K10
C 632	(B,147,41)	CKSRYB104K16
C 651	(B,25,61)	CKSRYB473K25
C 653	(A,36,51)	CEJQ101M16
C 654	(A,44,59)	CEJQ101M16
C 657	(B,95,32)	CKSRYB152K50
C 658	(B,95,30)	CKSRYB152K50
C 661	(B,90,27)	CKSRYB105K10
C 663	(A,73,42)	CKSRYB105K10
C 802	(B,133,23)	CKSRYB224K10
C 803	(A,142,34)	CEAT331M10
C 804	(B,154,35)	CKSRYB104K16
C 805	(B,148,23)	CKSRYB102K50
C 806	(B,155,17)	CCSRCH101J50
C 807	(B,153,17)	CCSRCH101J50
C 821	(B,59,14)	CKSRYB473K25
C 841	(A,94,16)	CKSRYF104Z25
C 851	(B,27,40)	CKSRYB104K16
C 852	(A,39,39)	CEJQ470M16
C 854	(A,39,31)	CEJQ101M16
C 855	(B,35,23)	CKSRYB104K16
C 856	(B,49,21)	CCSRCH331J50
C 857	(B,52,29)	CKSRYB223K50
C 861	(A,52,21)	CEJQ470M25
C 901	(A,33,121) 3300µF/16V	CCH1486
C 902	(B,42,127)	CKSRYB104K16
C 903	(B,80,149)	CKSYB225K16
C 911	(A,25,70) 470µF/16V	CCH1331
C 912	(A,37,70) 470µF/16V	CCH1331
C 913	(B,29,79)	CKSRYB472K50
C 914	(A,33,60)	CEJQ470M10
C 915	(B,29,67)	CKSRYB103K50
C 921	(B,151,60)	CKSRYB104K16
C 931	(A,95,110)	CKSRYB104K16
C 941	(A,69,111)	CEJQ1R0M50
C 971	(A,25,86)	CEJQ101M16
C 972	(B,19,97)	CKSRYB103K50
C 973	(A,41,82)	CEJQ221M10
C 974	(B,19,92)	CKSRYB103K50

B

Unit Number :

Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1811	(A,12,74) IC	GP1UX31RK
IC 1831	(A,38,109) IC	S-1200B33-M5

Circuit Symbol and No.		Part No.
IC 1841	(B,21,95) IC	PEG144A
IC 1871	(A,22,147) IC(P680MP/XN/UC)	PD8153A
IC 1871	(A,22,147) IC(P6800MP/XN/UC)	PD8154A
IC 1871	(A,22,147) IC(P6850MP/XN/ES)	PD8154A
Q 1881	(B,20,126) Transistor	2SC4617
Q 1882	(B,25,120) Transistor	2SC2411K
D 1811	(A,8,20) LED	SML412BC5T(NP)
D 1812	(A,8,7) LED	SML412BC5T(NP)
D 1813	(A,10,33) LED	SML412BC5T(NP)
D 1814	(A,21,26) LED	SML412BC5T(NP)
D 1815	(A,33,33) LED	SML412BC5T(NP)
D 1816	(A,35,20) LED	SML412BC5T(NP)
D 1817	(A,35,7) LED	SML412BC5T(NP)
D 1818	(A,21,10) LED	SML412BC5T(NP)
D 1819	(A,21,72) LED	SML412BC5T(NP)
D 1820	(A,4,55) LED	SML412BC5T(NP)
D 1821	(A,39,55) LED	SML412BC5T(NP)
D 1822	(A,21,38) LED	SML412BC5T(NP)
D 1823	(A,38,156) LED	SML412BC5T(NP)
D 1831	(B,8,68) Diode	1SS355
L 1831	(A,36,99) Inductor	CTF1617
L 1881	(B,14,145) Inductor	CTF1617
L 1882	(A,27,125) Inductor	CTF1617
TH1881	(B,24,128) Thermistor	CCX1037
X 1841	(B,24,79) Ceramic Resonator 16.000MHz	CSS1616
S 1801	(A,37,159) Push Switch	CSG1155
S 1802	(A,38,148) Push Switch	CSG1155
S 1803	(A,4,22) Push Switch	CSG1155
S 1804	(A,7,33) Push Switch	CSG1155
S 1805	(A,4,7) Push Switch	CSG1155
S 1806	(A,21,30) Push Switch	CSG1155
S 1807	(A,36,33) Push Switch	CSG1155
S 1808	(A,38,7) Push Switch	CSG1155
S 1809	(A,38,22) Push Switch	CSG1155
S 1810	(A,21,55) Switch(VOL/SEL)	CSX1065
VR1881	(B,29,119) Semi-fixed6.8kΩ	CCP1228

RESISTORS

R 1801	(A,8,114)	RS1/16S222J
R 1802	(A,13,107)	RS1/16S222J
R 1804	(B,22,41)	RS1/16S104J
R 1808	(B,9,60)	RS1/16S332J
R 1809	(B,11,50)	RS1/16S103J
R 1810	(B,9,50)	RS1/16S333J
R 1811	(B,19,38)	RS1/16S103J
R 1812	(B,30,63)	RS1/16S222J
R 1813	(B,28,63)	RS1/16S103J
R 1814	(B,17,83)	RS1/16S101J
R 1815	(B,16,82)	RS1/16S103J
R 1816	(B,11,70)	RS1/16S2R2J
R 1817	(B,14,19)	RS1/16S181J
R 1818	(B,8,19)	RS1/16S221J
R 1819	(B,14,25)	RS1/16S181J
R 1820	(B,8,25)	RS1/16S221J
R 1821	(B,23,15)	RS1/16S181J
R 1822	(B,23,9)	RS1/16S221J
R 1823	(B,16,15)	RS1/16S181J
R 1824	(B,16,8)	RS1/16S221J
R 1825	(B,14,34)	RS1/16S181J
R 1826	(B,8,34)	RS1/16S221J
R 1827	(B,14,30)	RS1/16S181J
R 1828	(B,8,30)	RS1/16S221J
R 1829	(B,13,156)	RS1/16S271J
R 1830	(B,16,156)	RS1/16S221J
R 1831	(B,19,159)	RS1/16S221J
R 1833	(A,39,101)	RS1/16S222J
R 1834	(B,28,66)	RS1/16S101J
R 1835	(B,36,93)	RS1/16S101J
R 1836	(B,31,94)	RS1/16S101J
R 1837	(B,39,92)	RS1/16S101J
R 1838	(B,37,102)	RAB4C101J
R 1839	(A,12,141)	RAB4C101J
R 1840	(B,33,143)	RAB4C101J
R 1841	(B,33,107)	RAB4C101J
R 1842	(B,31,112)	RAB4C101J
R 1843	(A,26,104)	RAB4C101J
R 1844	(A,21,104)	RAB4C101J
R 1845	(B,24,141)	RAB4C101J
R 1846	(B,12,104)	RS1/16S101J
R 1847	(A,11,94)	RS1/16S101J
R 1848	(A,12,104)	RS1/16S101J
R 1849	(A,9,94)	RS1/16S101J
R 1850	(B,9,104)	RS1/16S101J
R 1851	(B,10,91)	RS1/16S473J
R 1852	(B,10,97)	RS1/16S473J
R 1853	(B,10,94)	RAB4C473J
R 1855	(A,6,43)	RS1/16S101J
R 1856	(A,35,41)	RS1/16S101J
R 1857	(A,24,75)	RS1/16S101J
R 1858	(B,12,67)	RS1/16S473J
R 1859	(B,10,67)	RS1/16S154J
R 1860	(B,25,68)	RS1/16S104J
R 1863	(A,9,106)	RS1/16S103J
R 1881	(B,20,128)	RS1/16S183J
R 1882	(B,24,127)	RS1/16S563J
R 1883	(A,24,130)	RS1/16S333J
R 1884	(A,22,130)	RS1/16S392J
R 1885	(A,25,117)	RS1/16S102J
R 1886	(A,25,118)	RS1/16S102J
R 1887	(A,25,120)	RS1/16S102J
R 1888	(A,25,121)	RS1/16S102J
R 1889	(B,24,112)	RS1/16S152J

CAPACITORS

C 1805	(B,8,74)	CKSYF106Z10
C 1811	(A,10,20)	CKSRYF104Z25
C 1812	(A,10,7)	CKSRYF104Z25
C 1813	(A,12,33)	CKSRYF104Z25
C 1814	(A,21,25)	CKSRYF104Z25
C 1815	(A,31,34)	CKSRYF104Z25
C 1816	(A,33,20)	CKSRYF104Z25
C 1817	(A,33,7)	CKSRYF104Z25
C 1818	(A,21,12)	CKSRYF104Z25
C 1819	(A,18,71)	CKSRYF104Z25
C 1820	(A,4,52)	CKSRYF104Z25
C 1821	(A,38,60)	CKSRYF104Z25
C 1822	(A,16,38)	CKSRYF104Z25
C 1823	(A,37,154)	CKSRYF104Z25
C 1824	(B,31,67)	CKSRYB473K25

Circuit Symbol and No.		Part No.
C 1831	(A,38,112)	CKSRYB224K10
C 1832	(A,37,103)	CKSRYB224K10
C 1833	(A,39,98)	CKSRYB103K50
C 1834	(A,37,95)	CSZSR4R7M10
C 1837	(B,7,71)	CKSRYB104K16
C 1871	(B,24,158)	CKSRYB103K50
C 1884	(A,20,130)	CKSRYB104K25
C 1885	(A,25,123)	CKSRYB104K16
C 1886	(A,22,127)	CKSRYB104K25
C 1887	(A,21,115)	CKSRYB104K25

D

Unit Number : CWS1389
Unit Name : Switch Unit

Switch(OPEN SENSE)	CSN1051
Spring Switch(CLOSE SENSE)	CSN1052

C

Unit Number : CWX3176
Unit Name : CD Core Unit
(S10.5COMP1)

MISCELLANEOUS

IC 201	(B,39,70)	IC	UPD63763CGJ
IC 203	(A,12,16)	IC	NJM2886DL3-33
IC 301	(A,28,18)	IC	BA5835FP
IC 701	(A,32,48)	IC	PE5505A
Q 101	(B,60,89)	Transistor	2SA1577
Q 701	(B,24,41)	Transistor	UN2111
X 201	(B,28,57)	Ceramic Resonator 16.934MHz	CSS1603
X 701	(A,24,37)	Ceramic Resonator 4.000MHz	CSS1652
S 901	(A,57,57)	Switch(HOME)	CSN1067
S 903	(B,23,78)	Switch(DSCSNS)	CSN1067
S 904	(B,42,87)	Switch(12EJ)	CSN1068
S 905	(B,28,88)	Switch(8EJ)	CSN1068

RESISTORS

R 101	(B,61,92)	RS1/10SR2R4J
R 102	(B,63,92)	RS1/10SR2R4J
R 103	(B,63,89)	RS1/10SR2R7J
R 104	(A,52,73)	RS1/16SS102J
R 201	(B,44,57)	RS1/16SS102J
R 202	(A,38,62)	RS1/16SS473J
R 203	(A,37,62)	RS1/16SS473J
R 214	(A,46,79)	RS1/16SS472J
R 216	(A,46,81)	RS1/16SS472J
R 221	(A,44,81)	RS1/16SS103J
R 222	(A,45,81)	RS1/16SS103J
R 225	(B,52,78)	RS1/16SS103J
R 226	(B,52,77)	RS1/16SS393J
R 227	(A,44,75)	RS1/16SS562J
R 228	(A,46,72)	RS1/16SS122J
R 229	(A,44,72)	RS1/16SS472J
R 232	(A,46,75)	RS1/16SS122J
R 241	(B,26,63)	RS1/16SS333J
R 243	(B,26,62)	RS1/16SS333J
R 245	(B,26,69)	RS1/16SS333J

Circuit Symbol and No.		Part No.
R 248	(B,55,74)	RS1/16SS105J
R 307	(A,19,20)	RS1/16SS183J
R 308	(A,17,20)	RS1/16SS183J
R 309	(A,18,18)	RS1/16SS183J
R 310	(A,17,16)	RS1/16SS183J
R 601	(B,30,47)	RS1/16S101J
R 602	(B,28,50)	RS1/16S101J
R 606	(B,20,54)	RS1/16S0R0J
R 701	(B,26,44)	RS1/16SS221J
R 707	(B,32,45)	RS1/16SS473J
R 709	(A,36,35)	RS1/16SS222J
R 710	(B,41,46)	RS1/16SS102J
R 712	(A,45,57)	RS1/16SS222J
R 713	(B,40,57)	RS1/16SS222J
R 716	(B,29,37)	RS1/16SS472J
R 724	(B,31,36)	RS1/16S473J
R 726	(B,23,47)	RS1/16SS103J
R 727	(B,31,42)	RS1/16SS473J
R 729	(B,20,48)	RS1/16SS223J
R 730	(B,20,46)	RS1/16SS473J
R 740	(A,38,59)	RS1/16SS222J
R 746	(A,13,38)	RS1/16SS104J
R 750	(A,40,66)	RS1/16SS473J
R 902	(A,20,36)	RS1/16SS221J
R 905	(A,21,36)	RS1/16SS221J
R 906	(B,20,36)	RS1/16SS221J
R 907	(B,16,62)	RS1/16SS0R0J
R 908	(B,16,64)	RS1/16SS0R0J
R 911	(B,20,32)	RS1/16SS0R0J

CAPACITORS

C 103	(B,57,83)	CEVW101M16
C 108	(A,47,66)	CKSSYB104K10
C 201	(B,46,56)	CKSSYB102K50
C 202	(B,47,58)	CKSSYB104K10
C 204	(B,35,48)	CEVW220M6R3
C 205	(A,34,63)	CKSSYB104K10
C 208	(B,34,54)	CKSSYB104K10
C 209	(B,31,57)	CKSSYB104K10
C 210	(A,31,66)	CKSRYB105K10
C 216	(B,53,77)	CKSSYB332K50
C 217	(B,52,79)	CKSSYB104K10
C 218	(B,52,76)	CKSSYB473K10
C 219	(B,52,74)	CKSSYB104K10
C 220	(A,46,77)	CKSSYB182K50
C 221	(B,51,74)	CKSSYB104K10
C 222	(A,46,73)	CCSSCH560J50
C 223	(A,44,74)	CCSSCH4R0C50
C 224	(B,52,68)	CKSSYB104K10
C 225	(A,47,67)	CKSSYB103K16
C 226	(A,49,67)	CCSSCH680J50
C 227	(A,48,65)	CCSSCH470J50
C 228	(A,46,62)	CKSSYB103K16
C 232	(A,12,31)	CKSRYB105K10
C 237	(A,31,67)	CKSSYB104K10
C 239	(A,46,74)	CCSSCH220J50
C 246	(A,42,80)	CKSSYB104K10
C 250	(A,42,81)	CKSRYB102K50
C 251	(A,41,83)	CKSRYB102K50

Circuit Symbol and No.		Part No.
C 303	(A,18,20)	CKSSYB472K25
C 304	(A,17,17)	CKSSYB103K16
C 307	(A,34,15)	CKSSYB104K10
C 308	(A,17,30)	CKSRYB105K10
C 601	(B,25,50)	CCSRCH102J50
C 602	(B,26,51)	CCSRCH102J50
C 701	(B,25,47)	CKSSYB104K10
C 703	(B,28,42)	CKSSYB103K16
C 706	(B,34,43)	CKSSYB104K10
C 707	(A,36,57)	CKSSYB104K10
C 714	(A,24,41)	CKSSYB104K10
C 722	(B,29,45)	CKSQYB475K6R3
C 903	(B,14,54)	CKSSYB471K50
C 907	(B,14,62)	CKSSYB103K16

Miscellaneous Parts List

	Pickup Unit(P10.5)(Service)	CXX1942
M 1	Motor Unit(SPINDLE)	CXC4166
M 2	Motor Unit(LOADING/CARRIAGE)	CXC4026

6. ADJUSTMENT

6.1 CD ADJUSTMENT

1) Cautions on adjustments

• In this product the single voltage (3.3V) is used for the regulator. The reference voltage is the REFO1 (1.65V) instead of the GND.
If you should mistakenly short the REFO1 with the GND during adjustment, accurate voltage will not be obtained, and the servo's misoperation will apply excessive shock to the pickup. To avoid such problems:
a. Do not mix up the REFO1 with the GND when connecting the (-) probe of measuring instruments. Especially on an oscilloscope, avoid connecting the (-) probe for CH1 to the GND.
b. In many cases, measuring instruments have the same potential as that for the (-) probe. Be sure to set the measuring instruments to the floating state.
c. If you have mistakenly connected the REFO1 to the GND, turn off the regulator or the power immediately.

• Before mounting and removing filters or leads for adjustment, be sure to turn off the regulator.

• For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.

• In the test mode, any software protections will not work. Avoid applying any mechanical or electrical shock to the mechanism during adjustment.

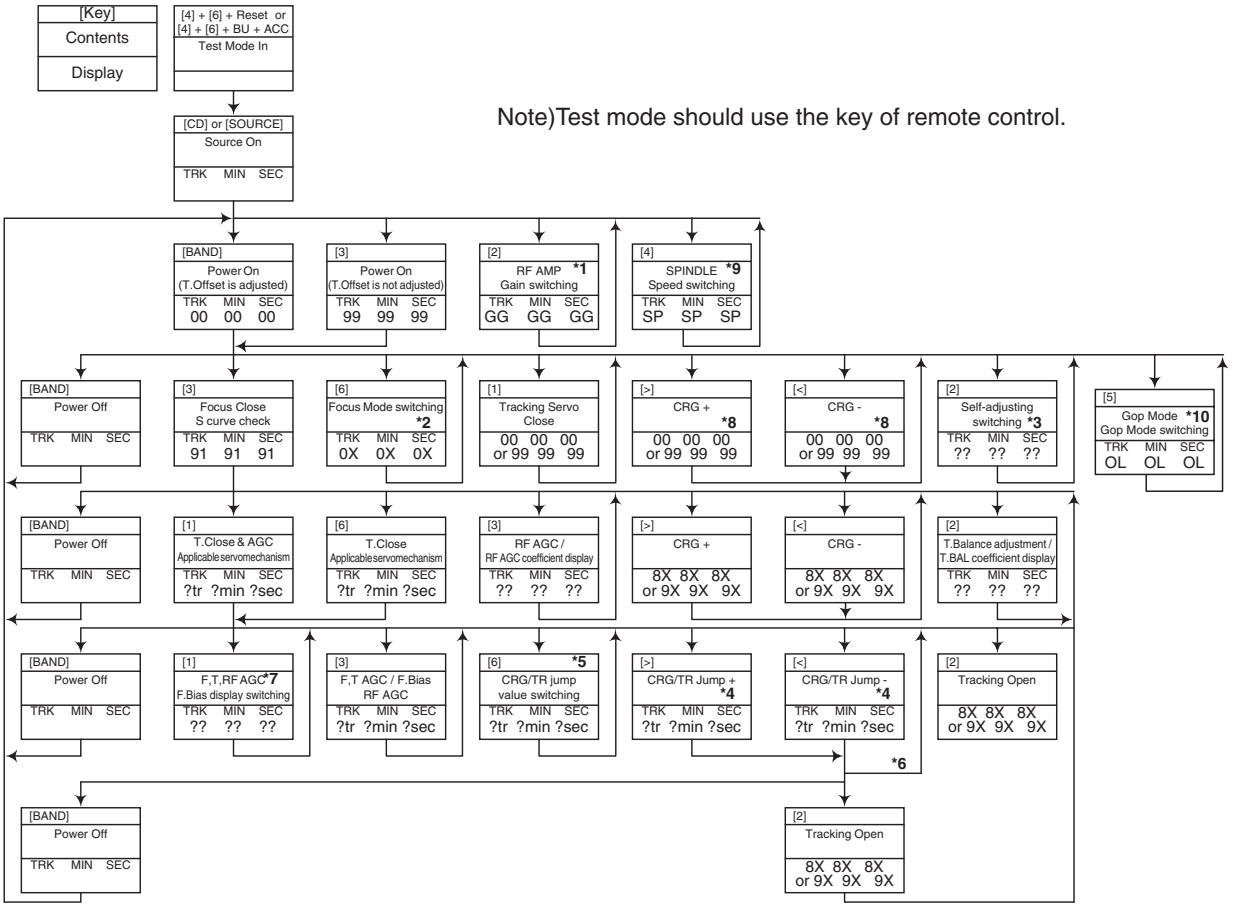
• The RFI and RFO signals with a wide frequency range are easy to oscillate. When observing the signals, insert a resistor of 1k ohms in series.

• The load and eject operation is not guarantied with the mechanism upside down. If the mechanism is blocked due to mistaken eject operation, reset the product or turn off and on the ACC to restore it.

2) Test mode

This mode is used to adjust the CD mechanism module.
• To enter the test mode.
While pressing the 4 and 6 keys at the same time, reset.
• To exit from the test mode.
Turn off the ACC and back up.

Notes:
a. During ejection, do not press any other keys than the EJECT key until the loaded disc is ejected.
b. If you have pressed the (→) key or (←) key during focus search, turn off the power immediately to protect the actuator from damage caused by the lens stuck.
c. For the TR jump modes except 100TR, the track jump operation will continue even if the key is released.
d. For the CRG move and 100TR jump modes, the tracking loop will be closed at the same time when the key is released.
e. When the power is turned off and on, the jump mode is reset to the single TR (91), the RF amp gain is set to 0dB, and the auto-adjustment values are reset to the default settings.



Note)Test mode should use the key of remote control.

*1) TYP (TRK MIN SEC) → + 6 dB ($^{TRK}06^{MIN}06^{SEC}06$) → + 12 dB ($^{TRK}12^{MIN}12^{SEC}12$)

*2) Focus Close → S Curve check setting → F EQ measurement setting
$^{TRK}00^{MIN}00^{SEC}00$ $^{TRK}01^{MIN}01^{SEC}01$ $^{TRK}02^{MIN}02^{SEC}02$
($^{TRK}99^{MIN}99^{SEC}99$)

*3) F.Offset Display → RF.Offset → T.Offset Display → Switch to the order of the original display

*4) 1TR/4TR/10TR/32TR/100TR

*5) Single → 4TR → 10TR → 32TR → 100TR → CRG Move
9x(8x):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

*6) Only at the time of CRG move, 100TR jump

*7) TRK/MIN/SEC → F.AGC → T.AGC Gain → F.Bias → RF AGC

*8) CRG motor voltage = 2 [V]

[Key]	Operation Test Mode
[BAND]	Power On/Off
[>]	CRG + / TR Jump + (Direction of the external surface)
[<]	CRG - / TR Jump - (Direction of the internal surface)
[1]	T. CLS & AGC & Applicable servomechanism / AGC,AGC display setting
[2]	RF Gain switching / Offset adjustment display / T.Balance adjustment / T. Open
[3]	F. Close,S Curve / Rough Servo and RF AGC / F,T,RF AGC
[4]	SPDL 1X/2X switching As for the double speed(2x), audio output cannot be supported.
[5]	Error Rate measurement ON : ERR 30Counts Start BER display data[%]
[6]	F. Mode switching / Tracking Close / CRG•TR Jump Switching

*9) TYP (1X) (TRK MIN SEC) → 2X ($^{TRK}22^{MIN}22^{SEC}22$) → 1X ($^{TRK}11^{MIN}11^{SEC}11$)

*10) OFF(TYP) (TRK MIN SEC) → FORCUS ($^{TRK}70^{MIN}70^{SEC}70$) → TRACKING ($^{TRK}71^{MIN}71^{SEC}71$)

- As for the double speed (2x), audio output cannot be supported

*) • After the [Eject] key is pressed keys other than the [Eject] key should not be pressed, until disc ejection is complete.
- When the key [2] or [3] is pressed during the Focus Search, the power supply should be immediately turned off (otherwise the lens sticks to Wall, causing the actuator to be damaged).
- In the case of TR jump other than to 100TR, the function shall continue to be processed even if the TR jump key is released. As for the CRG Move and 100TR Jump, the mechanism shall be set to the Tracking Close mode when the key is released.
- When the power is turned on/off the jump mode is reset to the Single TR (91) while the gain of the RFAMP is reset to 0 dB. At the same time all the self-adjusting values shall return to the default setting.

6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

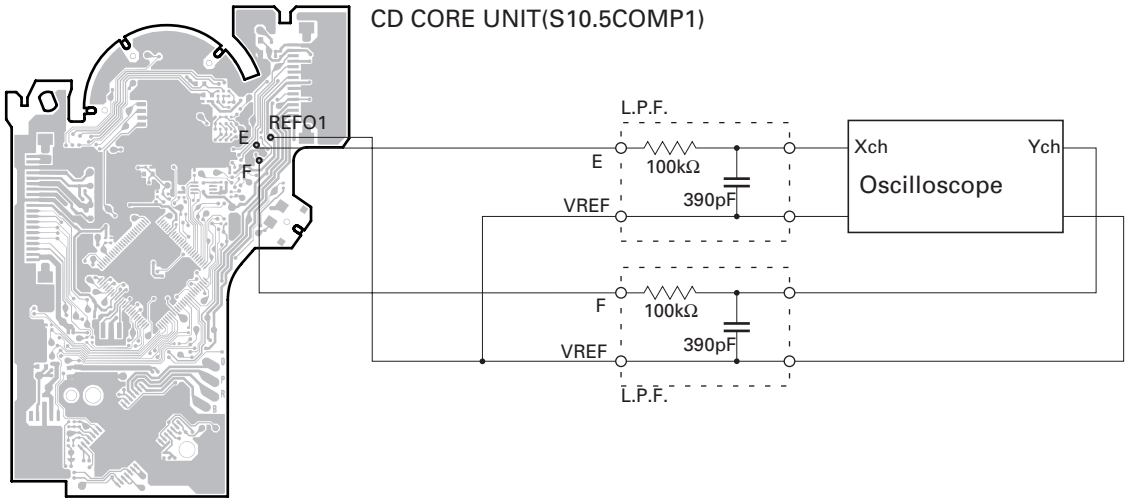
• **Note :**
The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• **Purpose :**
To check that the grating is within an acceptable range when the PU unit is changed.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• **Method :**

• Measuring Equipment	• Oscilloscope, Two L.P.F.
• Measuring Points	• E, F, REFO1
• Disc	• TCD-782
• Mode	• TEST MODE



• **Checking Procedure**
1. In test mode, load the disc and switch the 3V regulator on.
2. Using the → and ← buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

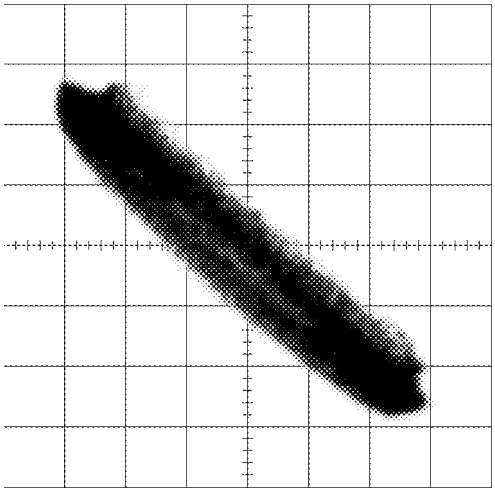
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• **Hint**
Reloading the disc changes the clamp position and may decrease the "wobble".

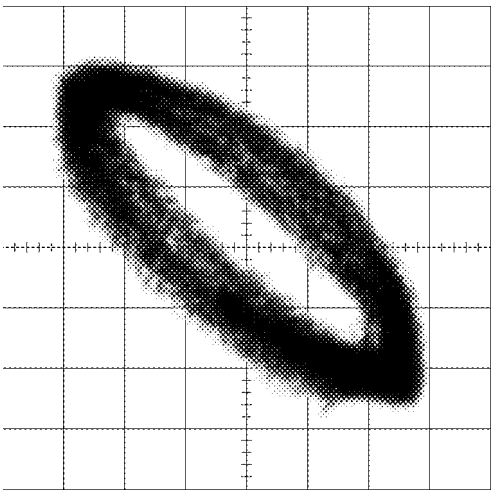
Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC

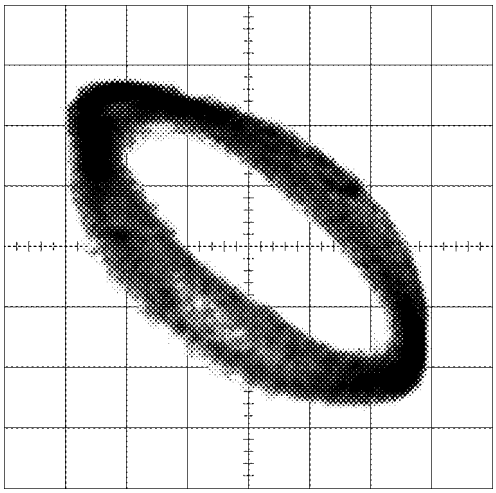
0°



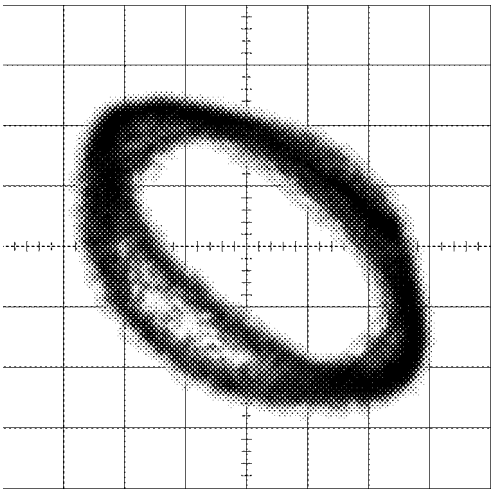
30°



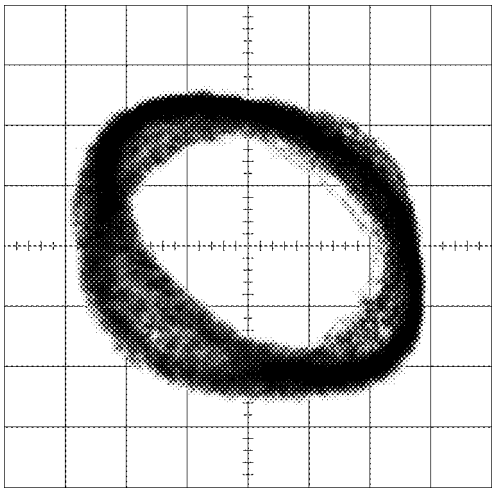
45°



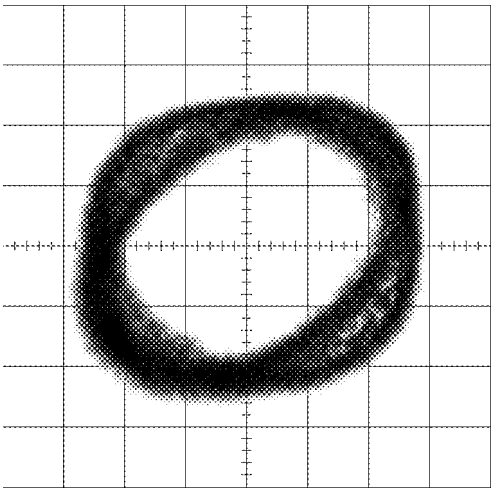
60°



75°



90°



6.3 ERROR MODE

● Error Messages

If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

(1) Basic Indication Method

1) When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

2) Head unit display examples

Depending on display capability of LCD used, display will vary as shown below. xx contains the error number.

8-digit display	6-digit display	4-digit display
ERROR–xx	ERR–xx	E–xx

(2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG SERVO LSI Communication Error	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism. Communication error between microcomputer and SERVO LSI.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG Subcode NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations. A disc not containing CD-R data is found. Turned over disc are found, though rarely. CD signal error.
17	Electricity	Setup NG	AGC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations on REWRITABLE.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
44	Electricity	ALL Skip	Skip setting for all track. (CD-R/RW)
50	Mechanism	CD On Mech Error	Mechanical error during CD ON. → Defective loading motor, mechanical lock and mechanical sensor.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, Ax: Other errors.

6.4 FREQUENCY CHECK FOR CLOCK

● PCL output

In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN terminal (IC601 Pin 86) to H.
The clock signal is output from the PCL terminal (IC601 Pin 37).
The frequency of the clock signal is 625.0kHz that is one 32th of the fundamental frequency.
The clock signal should be 625.0kHz.
If the clock signal is out of the range, the X'tal (X601) should be replaced with new one.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● **Removing the Case (not shown)**

1. Remove the Case.

● **Removing the CD Mechanism Module (Fig.1)**

1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

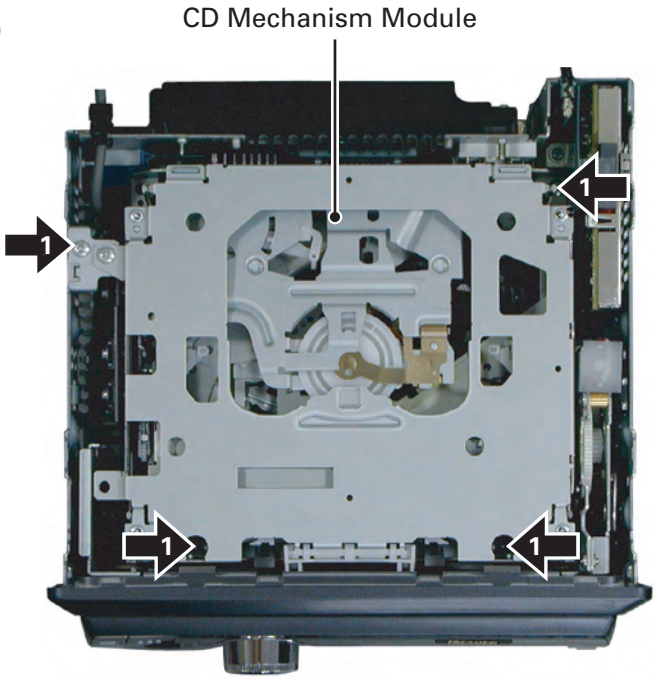


Fig.1

● **Removing the Grille Assy (Fig.2)**

1 Remove the four screws.

Disconnect the connector and then remove the Grille Assy.

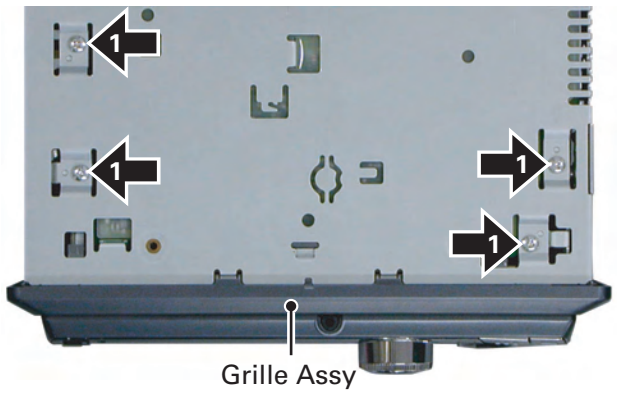


Fig.2

● Removing the Tuner Amp Unit (Fig.3)

1. Remove the two screws.
2. Straighten the tabs at three locations indicated.
3. Remove the screw and then remove the Tuner Amp Unit.

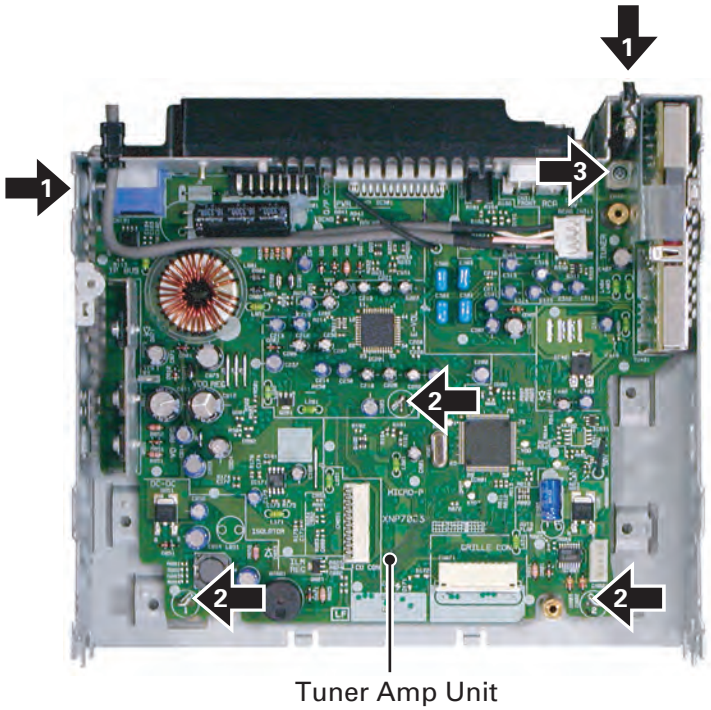
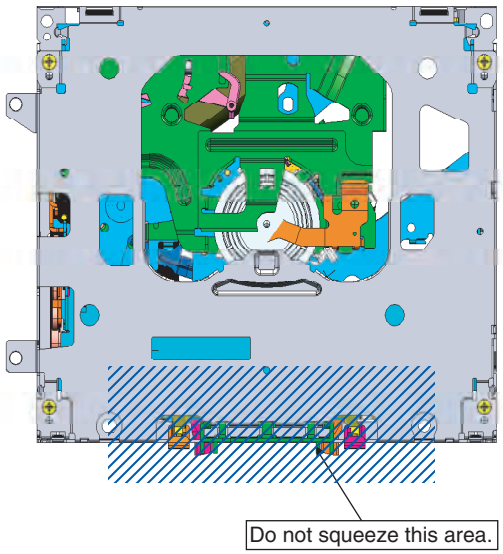


Fig.3

● How to hold the Mechanism Unit

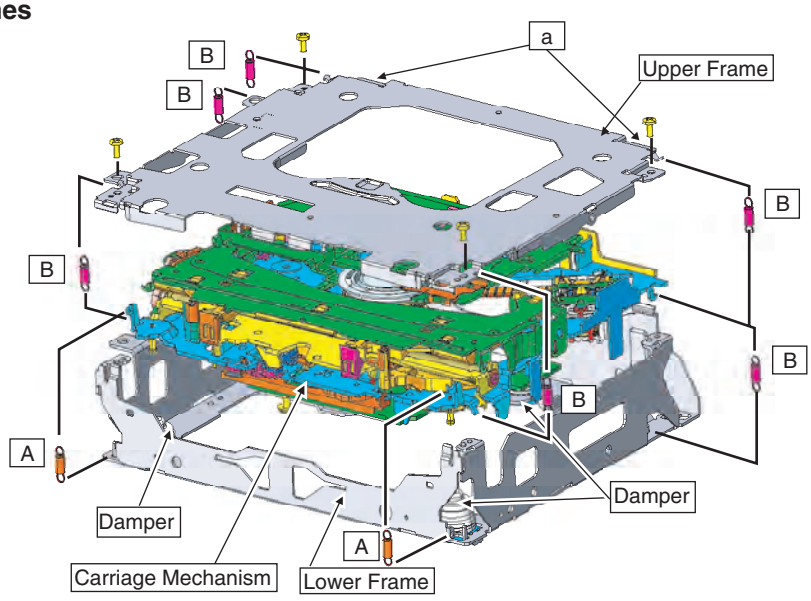
1. Hold the Upper and Lower Frames.
2. Do not hold the front portion of the Upper Frame, because it is not very solid.



● Removing the Upper and Lower Frames

1. With a disc inserted and clamped in the mechanism, remove the two Springs (A), the six Springs (B), and the four Screws.
2. Turn the Upper Frame using the part "a" as a pivot, and remove the Upper Frame.
3. While lifting the Carriage Mechanism, remove it from the three Dampers.

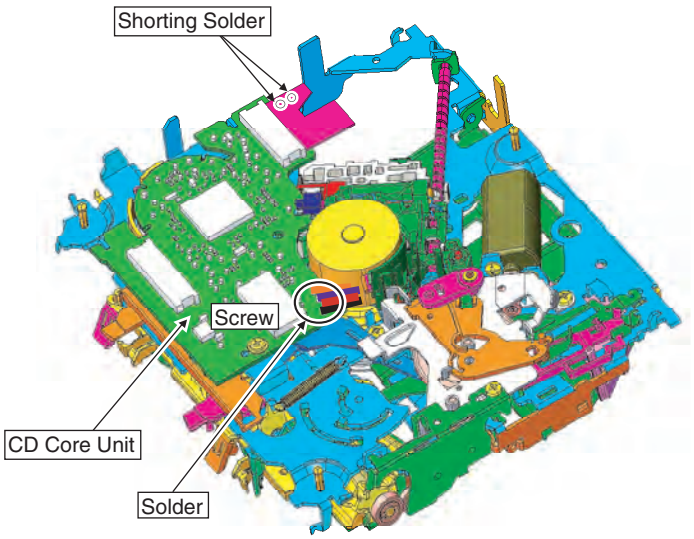
Caution: When assembling, be sure to apply some alcohol to the Dampers and assemble the mechanism in a clamped state.



● How to remove the CD Core Unit

1. Apply Shorting Solder to the flexible cable of the Pickup, and disconnect it from the connector.
2. Unsolder the four leads, and loosen the Screw.
3. Remove the CD Core Unit.

Caution: When assembling the CD Core Unit, assemble it with the SW in a clamped state so as not to damage it.

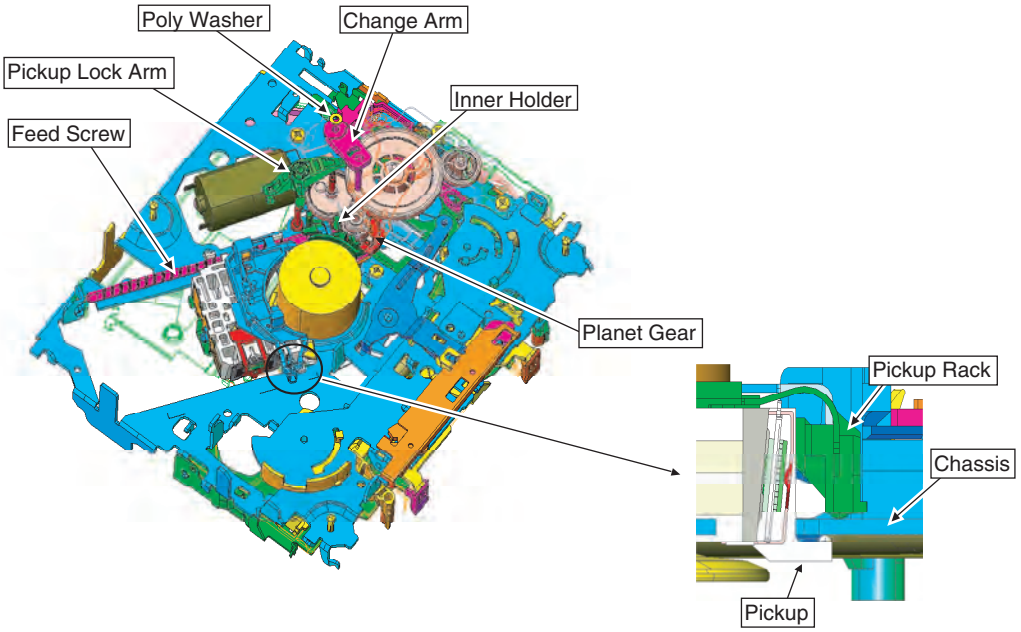


● How to remove the Pickup Unit

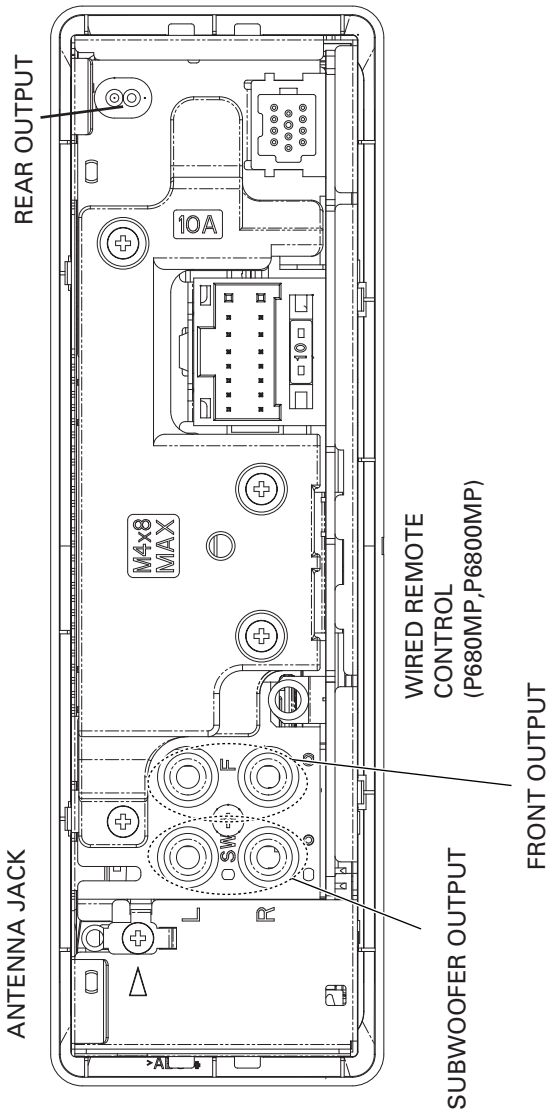
1. Make the system in the carriage mechanism mode, and have it clamped.
2. Remove the CD Core Unit and remove the leads from the Inner Holder.
3. Remove the Poly Washer, Change Arm, and Pickup Lock Arm.
4. While releasing from the hook of the Inner Holder, lift the end of the Feed Screw.

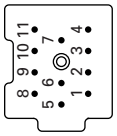
Caution: When assembling, move the Planet Gear to the load/eject position before setting the Feed Screw in the Inner Holder.

Assemble the sub unit side of the Pickup, taking the plate (Chassis) in-between. When treating the leads of the Load Carriage Motor Assy, do not make them loose over the Feed Screw.

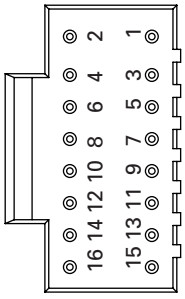


7.1.2 CONNECTOR FUNCTION DESCRIPTION





1. BUS+	
2. GND	
3. GND	
4. NC	
5. BUS-	
6. GND	
7. BUS L+	
8. ASENB	
9. BUS R+	
10. BUS R-	
11. BUS L-	



1	B.UP	9	RL-
2	GND	10	FL-
3	ACC	11	RL+
4	NC	12	FL+
5	ILM	13	RR-
6	B.REM	14	FR-
7	NC	15	RR+
8	TEL	16	FR+

7.2 IC

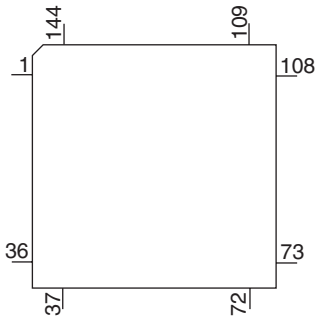
UPD63763CGJ PEG142A PAL007B PD8153A GP1UX31RK
PE5505A PEG143A PML016A PD8154A
NJM2886DL3-33 S-1200B33-M5 PEG144A HA12241FP

● Pin Functions (UPD63763CGJ)

Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Power supply for digital circuits
2	D1.GND		Ground for 1.6 V digital circuits
3	$\overline{\text{RESET}}$	I	Input of reset
4-8	AB12-8	I	Address bus 12-8 from the microcomputer
9-16	AD7-0	I/O	Address/data bus 7-0 to the microcomputer
17	$\overline{\text{CS}}$	I	Chip selection
18	ASTB	I	Address strobe
19	$\overline{\text{READ}}$	I	Control signals(read)
20	$\overline{\text{WRITE}}$	I	Control signals(write)
21	$\overline{\text{WAIT}}$	O	Control signals(wait)
22	INTQ	O	Interruption signals to the external microcomputer
23,24	IFMODE0,1	I	Switching the microcomputer I/F 0, 1
25	D1.VDD		Power supply for 1.6 V digital circuits
26	DA.VDD		Power supply for DAC
27	ROUT	O	Output of audio for the right channel
28	DA.GND		Ground for DAC
29	REGC		Connected to the capacitor for band gap
30	DA.GND		Ground for DAC
31	LOUT	O	Output of audio for the left channel
32	DA.VDD		Power supply for DAC
33	X.VDD		Power supply for the crystal oscillator
34	XTAL	I	Connected to the crystal oscillator(16.9344 MHz)
35	$\overline{\text{XTAL}}$	O	Connected to the crystal oscillator(16.9344 MHz)
36	X.GND		Ground for the crystal oscillator
37	VDDREG15		Control of 1.6 V regulator
38	PWMSW0	I	Setup 0 for PWM output(SD, MD)
39-41	TEST3-1	I	Connected to Ground
42	PWMSW1	I	Setup 1 for PWM output(FD, TD)
43	TESTEN	I	Connected to Ground
44	D1.GND		Ground for 1.6 V digital circuits
45	DIN	I	Input of audio data
46	DOUT	O	Output of audio data
47	SCKIN	I	Clock input for audio data
48	SCKO	O	Clock output for audio data
49	LRCKIN	I	Input of LRCK for audio data
50	LRCK	O	Output LRCK for audio data
51	$\overline{\text{XTALEN}}$	I	Permission to oscillate 16.9344 MHz
52	D1.VDD		Power supply for 1.6 V digital circuits
53	RFCK/HOLD	O	Output of RFCK/HOLD signal
54	WFCK/MIRR	O	Output of WFCK/MIRR signal
55	PLCK/RFOK	O	Output of PLCK/Output of RFOK
56	LOCK/RFOK	O	Output of LRCK/Output of RFOK
57	C1D1/C8M/(RA13)	O	Information on error correction/C8M : 8 MHz
58	C1D2/C16M/(RA12)	O	Information on error correction/C16M : 16 MHz
59	C2D1/RMUTE	O	Information on error correction/Mute for Rch
60	C2D2/LMUTE	O	Information on error correction/Mute for Lch
61	C2D3/SHOCK	O	Information on error correction/Detection of vibration
62	D1.GND		Ground for 1.6 V digital circuits
63	C33M	O	Output of 33.8688 MHz(CLK for SDRAM)
64	($\overline{\text{RCS}}$)	O	DRAM $\overline{\text{CS}}$
65	RA11	O	Output of DRAM address 11
66	(CKE)	O	Output of DRAM CKE
67	$\overline{\text{RAS}}$	O	Output of DRAM $\overline{\text{RAS}}$
68	$\overline{\text{CAS0}}$(LDQM)	O	Output of DRAM lower $\overline{\text{CAS}}$(LDQM)
69	$\overline{\text{CAS1}}$(UDQM)	O	Output of DRAM upper $\overline{\text{CAS}}$(UDQM)

Pin No.	Pin Name	I/O	Function and Operation
70	$\overline{WE}$	O	Output of DRAM $\overline{WE}$
71	$\overline{OE}$($\overline{CAS}$)	O	Output of DRAM $\overline{OE}$($\overline{CAS}$)
72	D.GND		Ground for digital circuits
73-88	RDB0-15	I/O	Input/output of DRAM data0-15
89-99	RA0-10	O	Output of DRAM address0-10
100	D.VDD		Power supply for digital circuits
101	FD+	O	Output of focus drive PWM +
102	FD-	O	Output of focus drive PWM -
103	TD+	O	Output of tracking drive PWM +
104	TD-	O	Output of tracking drive PWM -
105	SD+	O	Output of thread drive PWM +
106	SD-	O	Output of thread drive PWM -
107	MD+	O	Output of spindle drive PWM +
108	MD-	O	Output of spindle drive PWM -
109	REFOUTSV	O	REFOUT for servo
110	AD.VDD		Power supply for ADC
111	EFM	O	Output of EFM signals
112	ASY	I	Input of asymmetry
113	ATEST	O	Analog tests
114	RFI	I	Input of RF
115	AD.GND		Ground for the analog system
116	AGCO	O	Output of RF
117	C3T	O	Connection to the capacitor for detecting 3T
118	AGCI	I	Input of AGC
119	RFO	O	Output of RF(AGC)
120,121	EQ2,1	I	Equalizer 2, 1
122	RF2-	I	Reversal input of RF2
123	RF-	I	Reversal input of RF
124	A.GND		Ground for the analog system
125	A	I	Input of A
126	C	I	Input of C
127	B	I	Input of B
128	D	I	Input of D
129	F	I	Input of F
130	E	I	Input of E
131	VREFIN	I	Input of reference voltage
132	A.VDD		Power supply for the analog system
133	REFOUT	O	Output of reference voltage
134	REFC	I	Connected to the capacitor for output of REFOUT
135	FE-	I	Reversal input of FE
136	FEO	O	Output of FE
137	ADIN	I	Input of FE, TE A/D converter
138	TE-	I	Reversal input of TE
139	TEO	O	Output of TE
140	TE2	O	TE2
141	TEC	I	TEC
142	LD	O	Output of LD
143	PD	I	Input of PD
144	D.GND		Ground for digital circuits

* UPD63763CGJ



IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

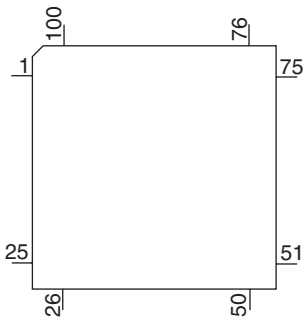
● Pin Functions (PE5505A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	AVREF			A power supply / Positive power supply(5V)
2	AVSS			A power supply GND
3	$\overline{\text{TESTIN}}$			Chip check test program starting input
4	CLAMP			Not used
5	EVDD			E power supply / Positive power supply
6	FMODE			For flash rewriting / L : flash rewriting mode
7	FLRQ			For flash rewriting / Reset voltage control
8	IC/FLMD0			IC : VSS direct connection/FLMOD0 : Pull-down
9	VDD			Positive power supply(5V)
10	REGC			Connected to the capacity stabilizing outputof the regulator
11	VSS			GND
12	X1	I		Oscillator connection for mainclock
13	X2			Oscillator connection for mainclock
14	$\overline{\text{RESET}}$	I		System reset input
15	XT1	I		Connected to the oscillator for subclock(connected to VSS via the resistor)
16	XT2			Connected to the oscillator for subclock(Open)
17	PULLDOWN	I		Connected to EVDD or EVSS via the resistor
18	$\overline{\text{EJSW}}$			Not used
19	$\overline{\text{XINT}}$		C	CD LSI interruption signal input
20	NC			Not used
21	$\overline{\text{BRST}}$	I		Bus reset input
22	BSI	I		Bus serial data input
23	BSO	O	C	Bus serial data output
24	$\overline{\text{BSCK}}$	I/O	/C	Bus serial clock input/output
25	FTxD	O	C	For flash rewriting(transmitted signal)
26	FRxD	I		For flash rewriting(received signal)
27	BRXEN	I/O	/C	Bus RX enable input/output
28	$\overline{\text{BSRQ}}$	I/O	/C	Bus serial clock input/output
29	$\overline{\text{DSPOK}}$			Not used
30	DSCSNS	I	C	Disc state sense input
31	8EJ(S905)	O	C	inputof detection of 8 cm disc ejection
32	12EJ(S904)	O	C	inputof detection of 12 cm disc ejection
33	EVSS			E power supply GND
34	EVDD			E power supply / Positive power supply
35,36	SRAMLEVEL0,1			SRAM level meter output
37	EMPH	O	C	Emphasis information output
38	$\overline{\text{EMPH}}$			Not used
39	CDMUTE			Not used
40	LOEJ			Not used
41	CLCONT			Driver input switching output
42	HOME			Home SW sense input
43	$\overline{\text{ADENA}}$	O	C	A/D reference voltage supply control output
44	LRCKOK	O	C	(DOUT mute output)
45	SRAMLEVEL2	O	C	SRAM level meter output
46	CD3VON(MCKRQ)	O	C	CD + 3.3 V power supply control output(Digital output : MCKRQ)
47	CONT	O	C	Servo driver power supply control output
48	$\overline{\text{XRST}}$	O	C	CD LSI reset control output
49	VDCONT	O	C	VD power supply control output
50	$\overline{\text{XSI}}$	I/O	/C	CD LSI serial data input
51	$\overline{\text{XSO}}$	O	C	CD LSI serial data output
52	$\overline{\text{XCK}}$	O	C	CD LSI serial clock output
53	$\overline{\text{XWAIT}}$	O	C	CD LSI wait control signal output
54	XASTB	O	C	CD LSI address strobe output
55	AD0	O	C	Address/data Bus 0
56	INT			Not used

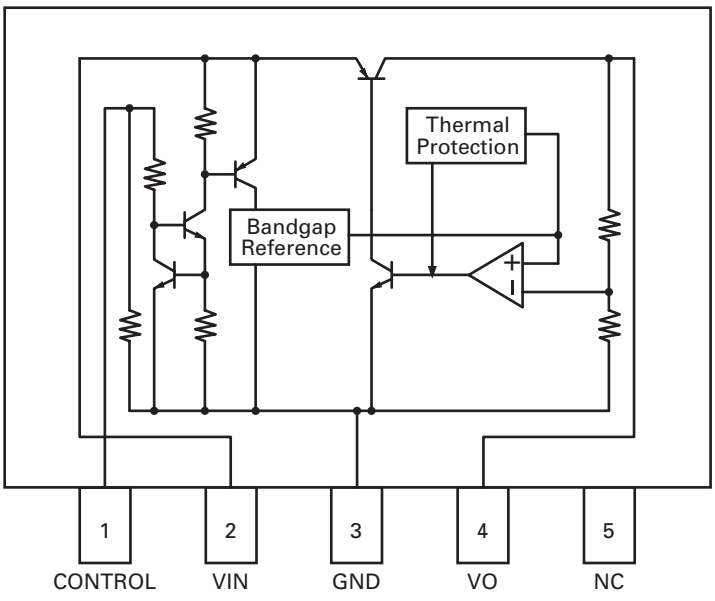
Pin No.	Pin Name	I/O	Format	Function and Operation
57	ROMDATA			E2PROM data input/output
58	ROMCK			E2PROM clock output
59	ROMCS	O	C	E2PROM chip selection output
60,61	NC			Not used
62	CLKOUT			Not used
63	LOCK	I		Spindle lock input
64-68	NC			Not used
69	BVSS			B power supply GND
70	BVDD			B power supply / Positive power supply
71-75	NC			Not used
76	FLMD1	I/O	/C	Address/Data Bus 5
77-90	NC			Not used
91-93	A/D			Not used
94	$\overline{\text{CSENS}}$			Not used
95	TYPE_A/D			Not used
96,97	NC			Not used
98	TEMP			Not used
99	VDSENS			VD power supply short sense input
100	DSCSNS			Not used

Format	meaning
C	C MOS

* PE5505A



* NJM2886DL3-33

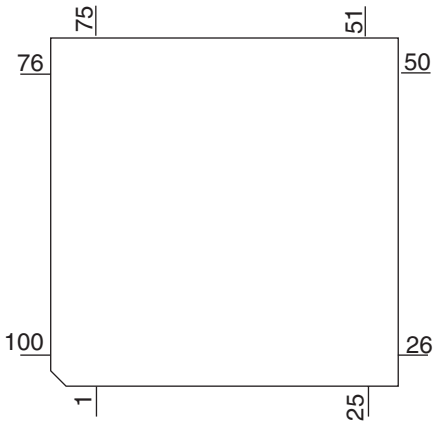


● Pin Functions(PEG142A,PEG143A)

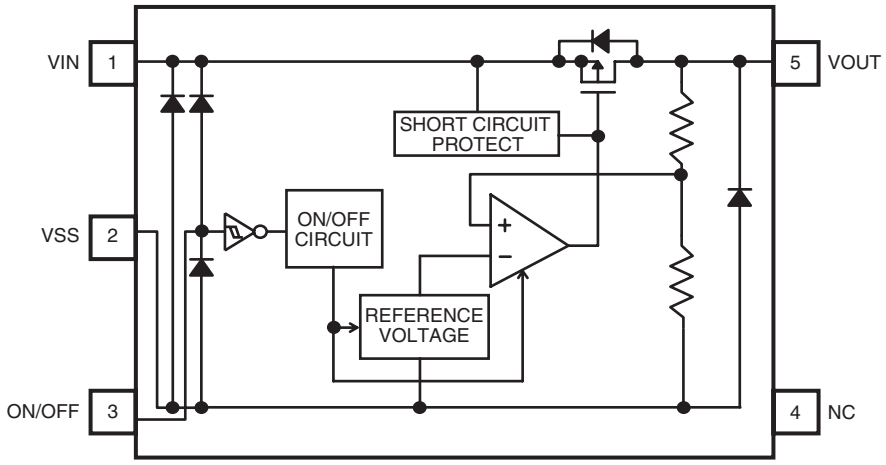
Pin No.	Pin Name	I/O	Function and Operation
1	SYSPW	O	System power control output
2	KEYD	I	Key data input
3-5	NC		Not Used
6	BYTE	I	External data bus width change input
7	CNVss	I	Processor mode change input
8	TELIN	I	TEL : Cellular mute input
9	JSNSON	O	Jack sense output
10	RESET	I	Reset input
11	Xout	O	Clock output
12	Vss	I	GND
13	Xin	I	Clock input
14	Vcc	I	Power supply input
15	NMI	I	Not Used
16,17	NC		Not Used
18	JSNSON2		Jack sense
19	RX2	I	IPBUS : Input 2
20	OELPW		OEL power supply output
21	NC		Not Used
22	PEE	O	PEE sound output
23	NC		Not Used
24	BRST	O	P-BUS : Reset output
25	BRXEN	I/O	P-BUS : Reception enable input/output
26	BSRQ	I	P-BUS : Service request input
27	RX	I	IPBUS : Input
28	TX	O	IPBUS : Output
29	DPDT	O	GRILLE : Data output
30	KYDT	I	GRILLE : Data input
31-34	NC		Not Used
35	ROT1	I	Rotary encoder pulse input
36	ROT0	I	Rotary encoder pulse input
37	PCL	O	Output for clock adjustment
38	SWVDD	O	GRILLE : Chip enable output
39	NC		Not Used
40	FLPILM	O	Illumination output inside flap
41	ILMPW	O	Illumination output
42-45	NC		Not Used
46	TUNPDI	I	Tuner data input
47	TUNPDO	O	Tuner data output
48	TUNPCK	O	Tuner clock output
49	FLPPW		Flap motor operation
50	FOPNSW	I	Flap open sense input
51	FCLSSW	I	Flap close sense input
52	FLPCLS	O	Flap close operation output
53	FLPOPN	O	Flap open operation output
54-56	NC		Not Used
57	EMUTE		EVOL : Mute output
58	SACLK	O	Level indicator clock output
59	NC		Not Used
60	Vcc	I	Power supply input
61	NC		Not Used
62	Vss	I	GND
63-66	NC		Not Used
67	DALMON		For consumption current reduction
68	NC		Not Used
69	TUNPCE2	O	TUNER : Chip enable output
70	TUNPCE1	O	TUNER : Chip enable output
71	ROMCS		ROM correction : Chip select output
72	ASENS	I	ACC sense input
73	BSENS	I	Back up sense input
74	ROMCK	O	ROM correction : Clock output

Pin No.	Pin Name	I/O	Function and Operation
75	ROMDATA	I/O	ROM correction : Data input/output
76	VST	O	EVOL : Strobe output
77	VDT	O	EVOL : Data output
78	VCK	O	EVOL : Clock output
79	IPPW	O	IPBUS : Driver power supply control output
80	ASENBO	O	IPBUS : Slave ACC sense output
81	ISENS		Illumination sense input
82	NC		Not Used
83	MODEL	I	Model select input
84	NC		Not Used
85	MUTE	O	MUTE output
86	TESTIN	I	Test program input
87	JCKSNS		Jack sense
88	BATIND		Battery indicator
89	KEYAD	I	Key data input
90	SAOUT	I	Level indicator
91	DSENS	I	Detach sense input
92	RST2	O	Reset of CD output
93	NC		Not Used
94	AVss	I	AD translation power supply input terminal
95	SL	I	TUNER : Signal level input
96	Vref	I	AD translation reference voltage
97	AVcc	I	AD translation power supply input terminal
98	BSI	I	PBUS input
99	BSO	O	PBUS output
100	BSCK	O	PBUS clock output

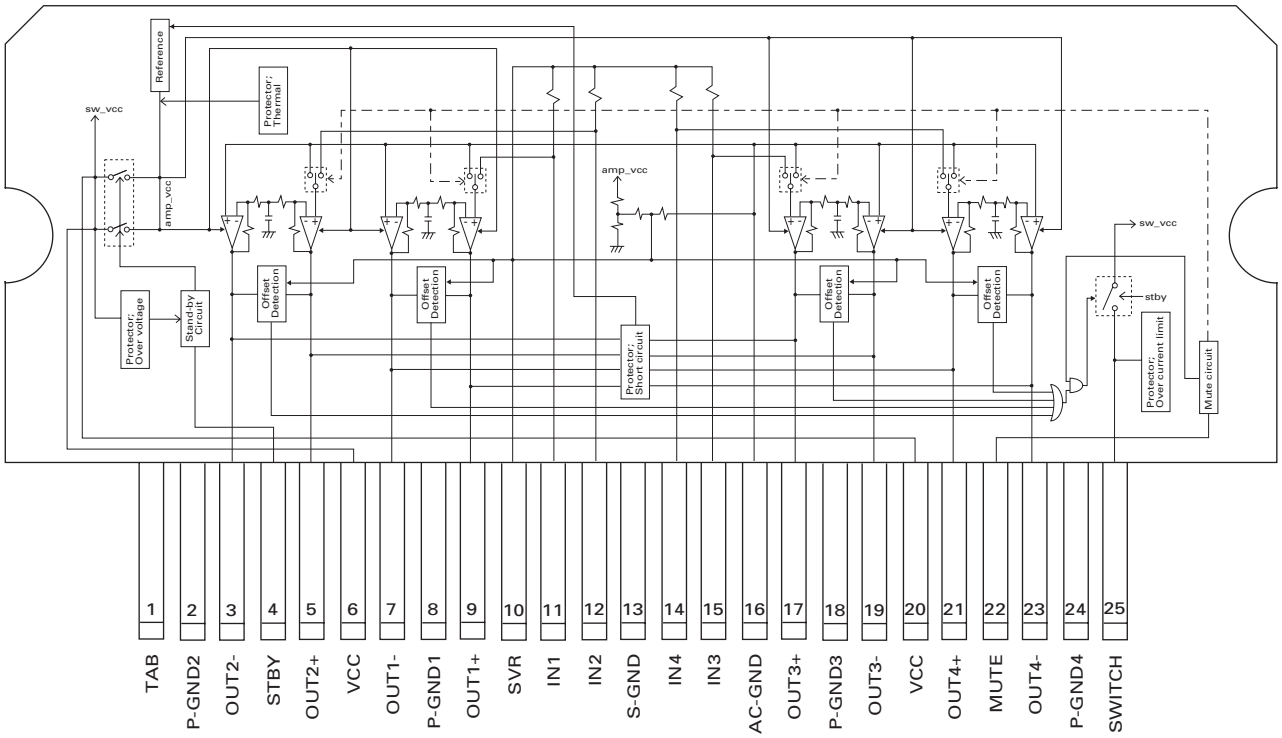
*PEG142A,*PEG143A



S-1200B33-M5

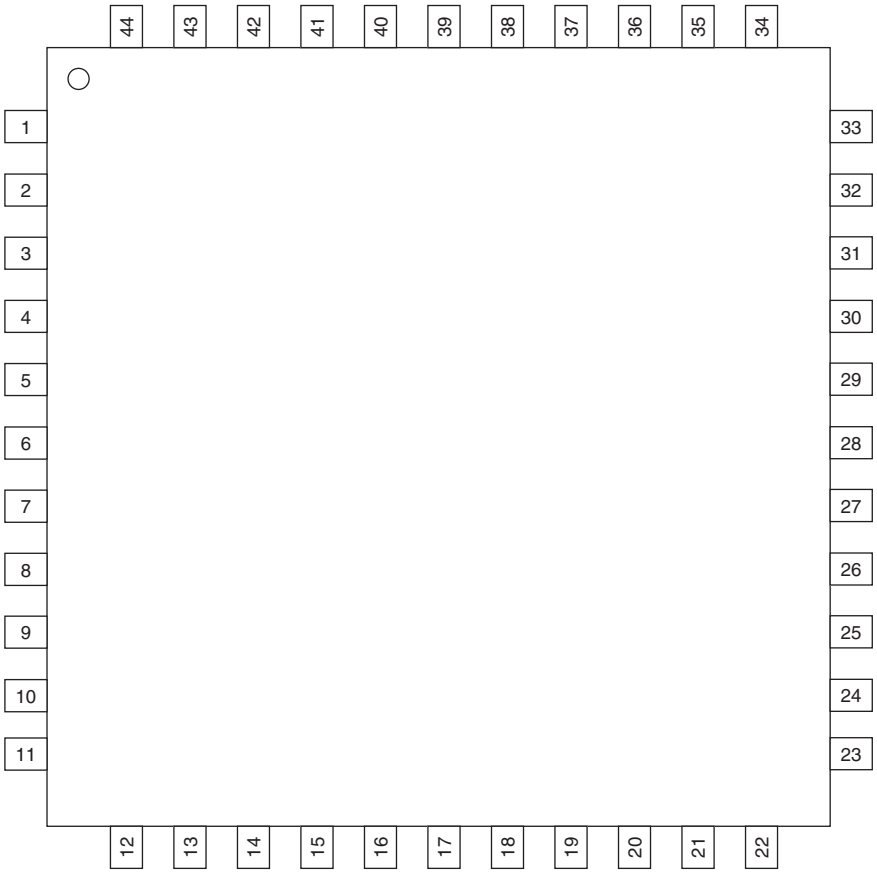


*PAL007B

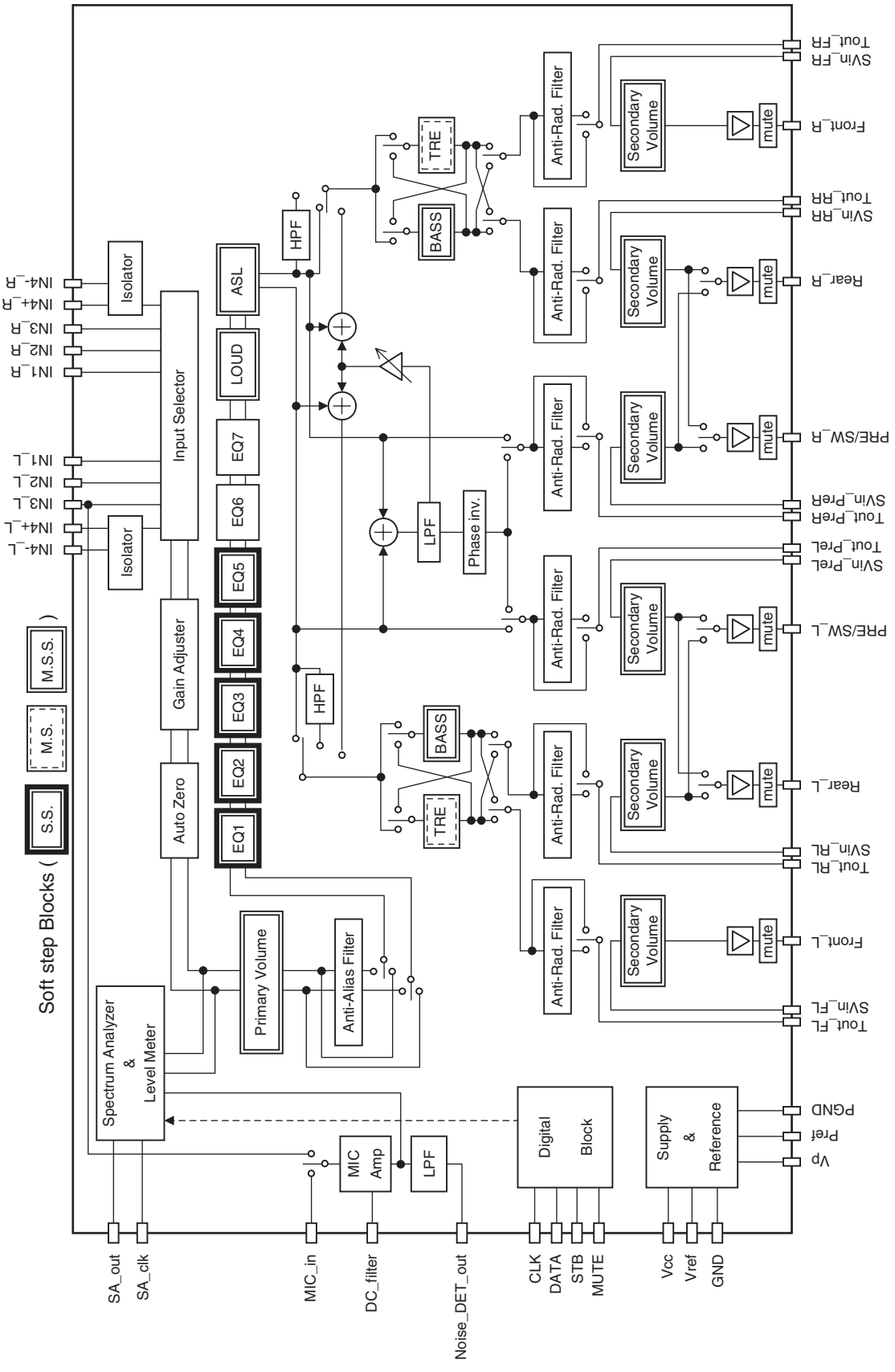


*PML016A

● Pin Layout



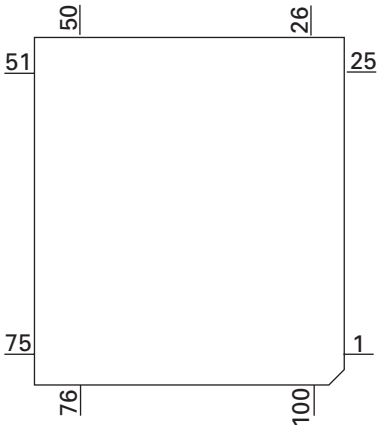
● Block Diagram



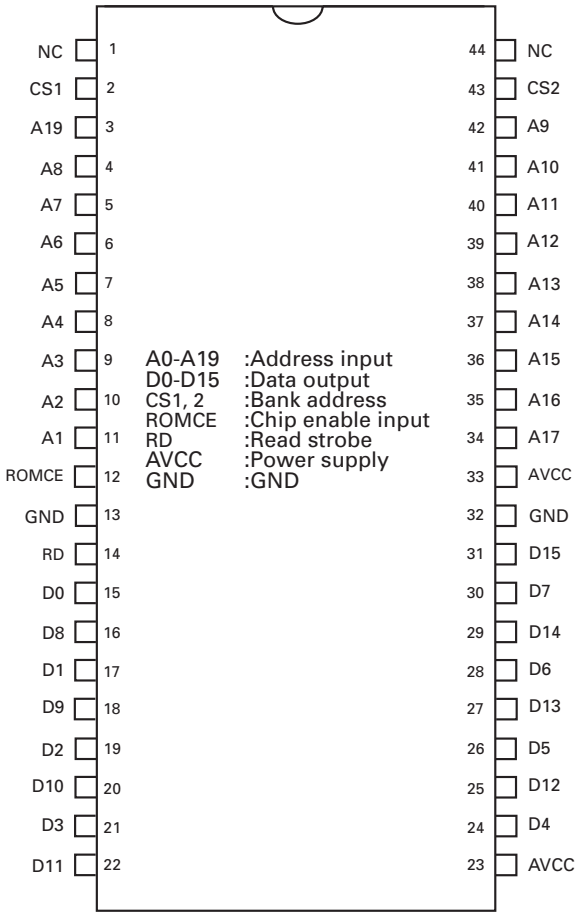
●Pin Functions (PEG144A)

Pin No.	Pin Name	I/O	Function and Operation
1	NC		Not used
2	ROMDT	I/O	ROM data input/output
3	ROMCK	I	ROM clock input
4	REM	I	Remote control input
5	ROMCS		ROM chip select
6	BYTE		GND
7	CNVSS		GND
8,9	NC		Not used
10	$\overline{\text{RESET}}$	I	Reset input
11	XOUT	O	Main clock output
12	VSS1		VSS
13	XIN	I	Main clock input
14	VCC1		VCC
15	$\overline{\text{NMI}}$	I	NMI input
16	NC		Not used
17-20	$\overline{\text{KS3-0}}$	I/O	Key strobe input/output
21	NC		Not used
22	D_SEL		Data select
23	NC		Not used
24	CKD	O	Data transfer and a driver operation clock output
25	NC		Not used
26	LS	O	Line sink signal output
27	DPDT	I	Display data communication input
28	KYDT	O	Key data communication output
29-32	NC		Not used
33	OELD	O	Display data output
34	NC		Not used
35	CLK0	I	Clock input for UART1
36	NC		Not used
37	$\overline{\text{RDY}}$		(Pull up)
38	NC		Not used
39	$\overline{\text{HOLD}}$		(Pull up)
40,41	NC		Not used
42	$\overline{\text{RD}}$	O	Read strobe output
43,44	NC		Not used
45,46	BANK2,1	O	Bank address output
47	NC		Not used
48	$\overline{\text{CS0}}$		ROM chip select
49-59	A19-9	O	Address bus output
60	VCC2		VCC
61	A8	O	Address bus output
62	VSS2		VSS
63-70	A7-0	O	Address bus output
71-86	D15-0	I/O	Data bus input/output
87	NC		Not used
88	JOYST	I	Joystick input
89,90	NC		Not used
91-93	$\overline{\text{KD3-1}}$	I	Key data input
94	AVSS		VSS
95	$\overline{\text{KD0}}$	I	Key data input
96	VREF		VSS
97	AVCC		VCC
98-100	NC		Not used

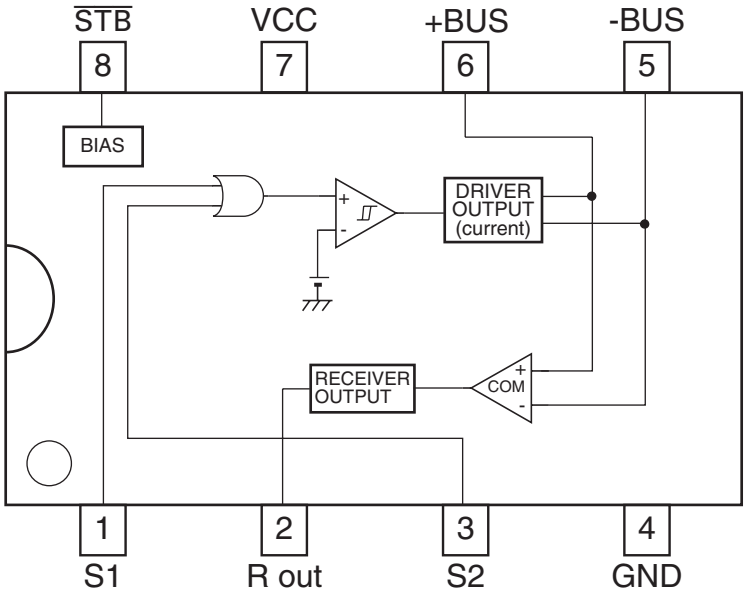
* PEG144A



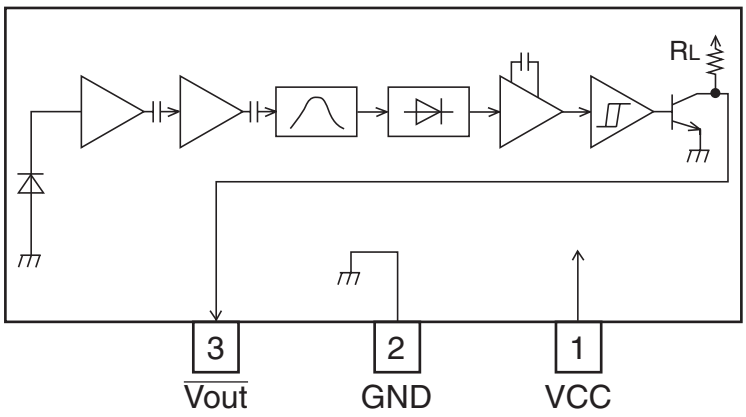
* PD8153A,*PD8154A



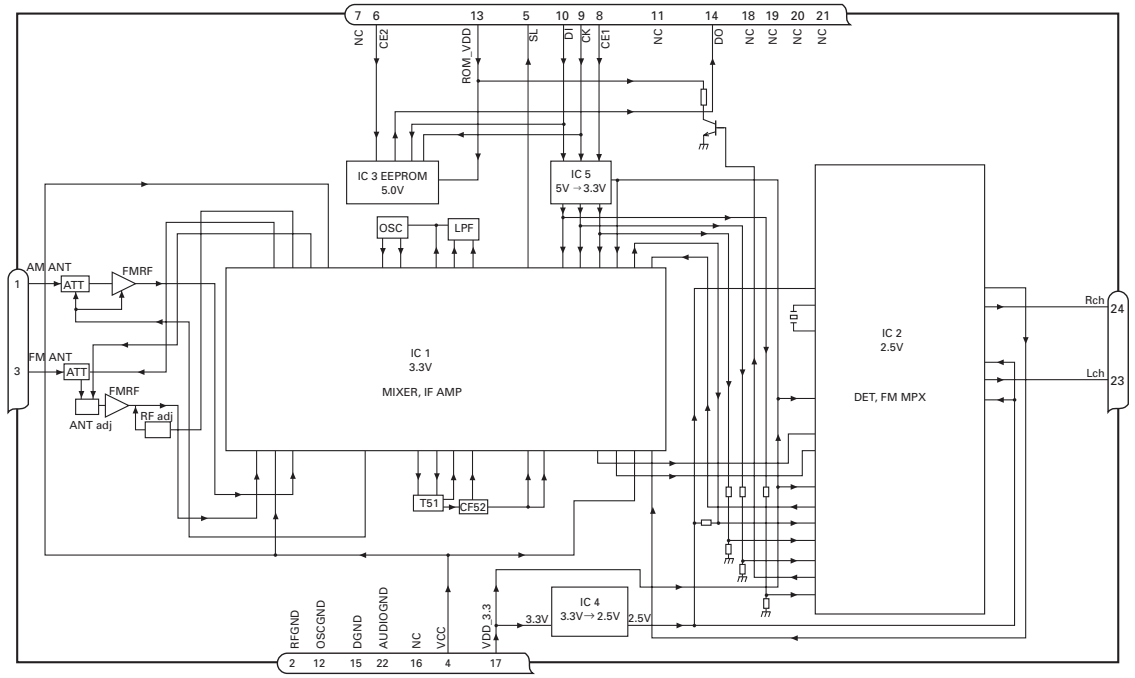
HA12241FP



GP1UX31RK

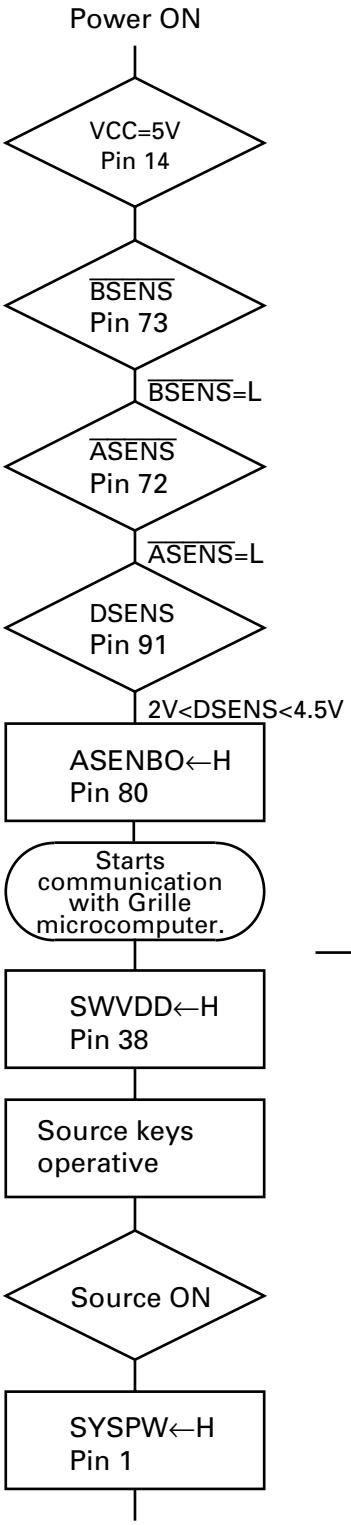


● FM/AM Tuner Unit

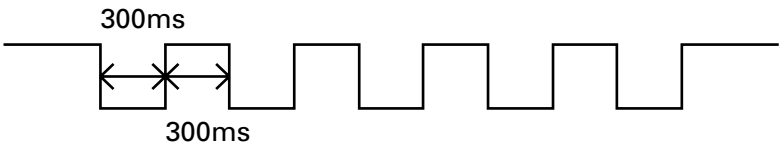


No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7μH. (LAU type inductor) A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75Ω Surge absorber(DSP-201M-S00B) is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4V ± 0.3V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM "Low" active
7	NC		non connection	Not used
8	CE1	I	chip enable-1	Chip enable for AF•RF "High" active
9	CK	I	clock	Clock
10	DI	I	data in	Data input
11	NC		non connection	Not used
12	OSCGND		osc ground	Ground of oscillator block
13	ROM_VDD		power supply	Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out	Data output
15	DGND		digital ground	Ground of digital block
16	NC		non connection	Not used
17	VDD_3.3		power supply	The power supply for digital block. 3.3V ± 0.2V
18	NC		non connection	Not used
19	NC		non connection	Not used
20	NC		non connection	Not used
21	NC		non connection	Not used
22	AUDIOGND		audio ground	Ground of audio block
23	L ch	O	L channel output	FM stereo "L-ch" signal output or AM audio output
24	R ch	O	R channel output	FM stereo "R-ch" signal output or AM audio output

7.3 OPERATIONAL FLOW CHART

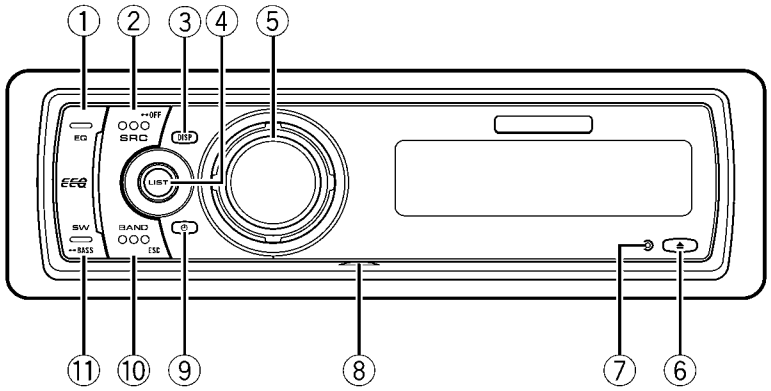


Completes power-on operation.
(After that, proceed to each source operation)



In case of the above signal, the communication with Grille microcomputer may fail.
If the time interval is not 300msec, the oscillator may be defective.

8. OPERATIONS



Head unit

① **EQ button**
Press to select various equalizer curves.

② **SOURCE button**
This unit is turned on by selecting a source.
Press to cycle through all the available sources.

③ **DISPLAY button**
Press to select different displays.

④ **LIST button**
Press to display the disc title list, track title list, folder list, file list or preset channel list depending on the source.

⑤ **MULTI-CONTROL**
Move to perform manual seek tuning, fast forward, reverse and track search controls.
Also used for controlling functions.
Turn to increase or decrease the volume.

⑥ **EJECT button**
Press to eject a CD from your built-in CD player.
Press and hold to open or close the front panel.

⑦ **RESET button**
Press to reset the microprocessor.

⑧ **AUX1 input jack (2.5 mm stereo jack)**
Use to connect an auxiliary equipment.

⑨ **CLOCK button**
Press to change to the clock display.

⑩ **BAND button**
Press to select among three FM bands and one AM band and to cancel the control mode of functions.

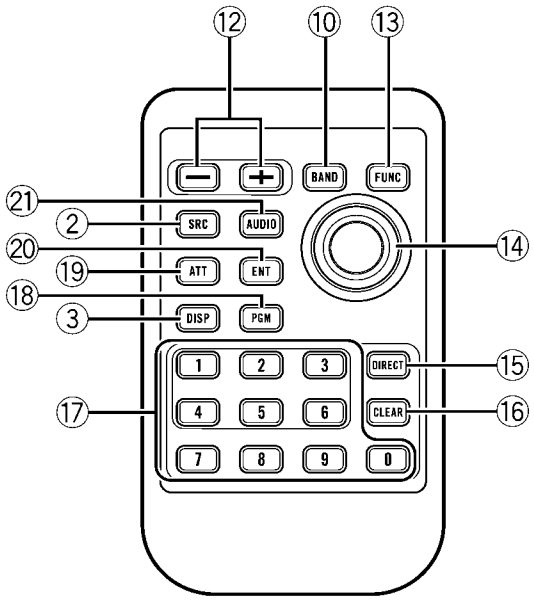
⑪ **SW button**
Press to select the subwoofer setting menu.
Press and hold to select the bass boost setting menu. ▣

Remote control

Operation is the same as when using the buttons on the head unit.

⑫ **VOLUME buttons**
Press to increase or decrease the volume.

⑬ **FUNCTION button**
Press to select functions.



⑭ Joystick

Move to perform manual seek tuning, fast forward, reverse and track search controls. Also used for controlling functions. Functions are the same as **MULTI-CONTROL** except for volume control.

⑮ DIRECT button

Press to directly select the desired track.

⑯ CLEAR button

Press to cancel the input number when **0–9** are used.

⑰ 0–9 buttons

Press to directly select the desired track, preset tuning or disc. Buttons **1–6** can operate the preset tuning for the tuner or disc number search for the multi-CD player.

⑱ PGM button

Press to operate the preprogrammed functions for each source.

⑲ ATT button

Press to quickly lower the volume level, by about 90%. Press once more to return to the original volume level.

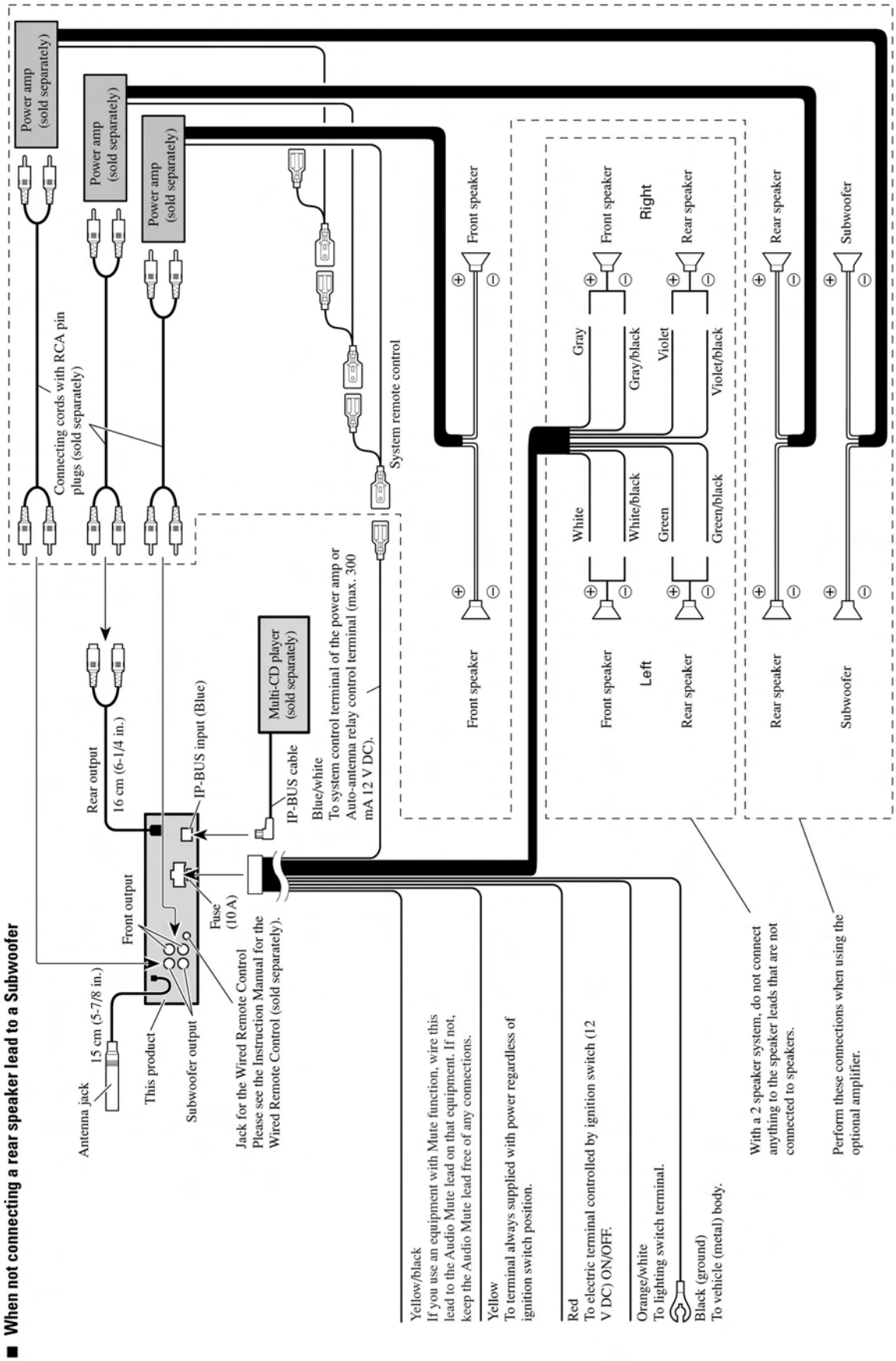
⑳ ENTERTAINMENT button

Press to change to the entertainment display.

㉑ AUDIO button

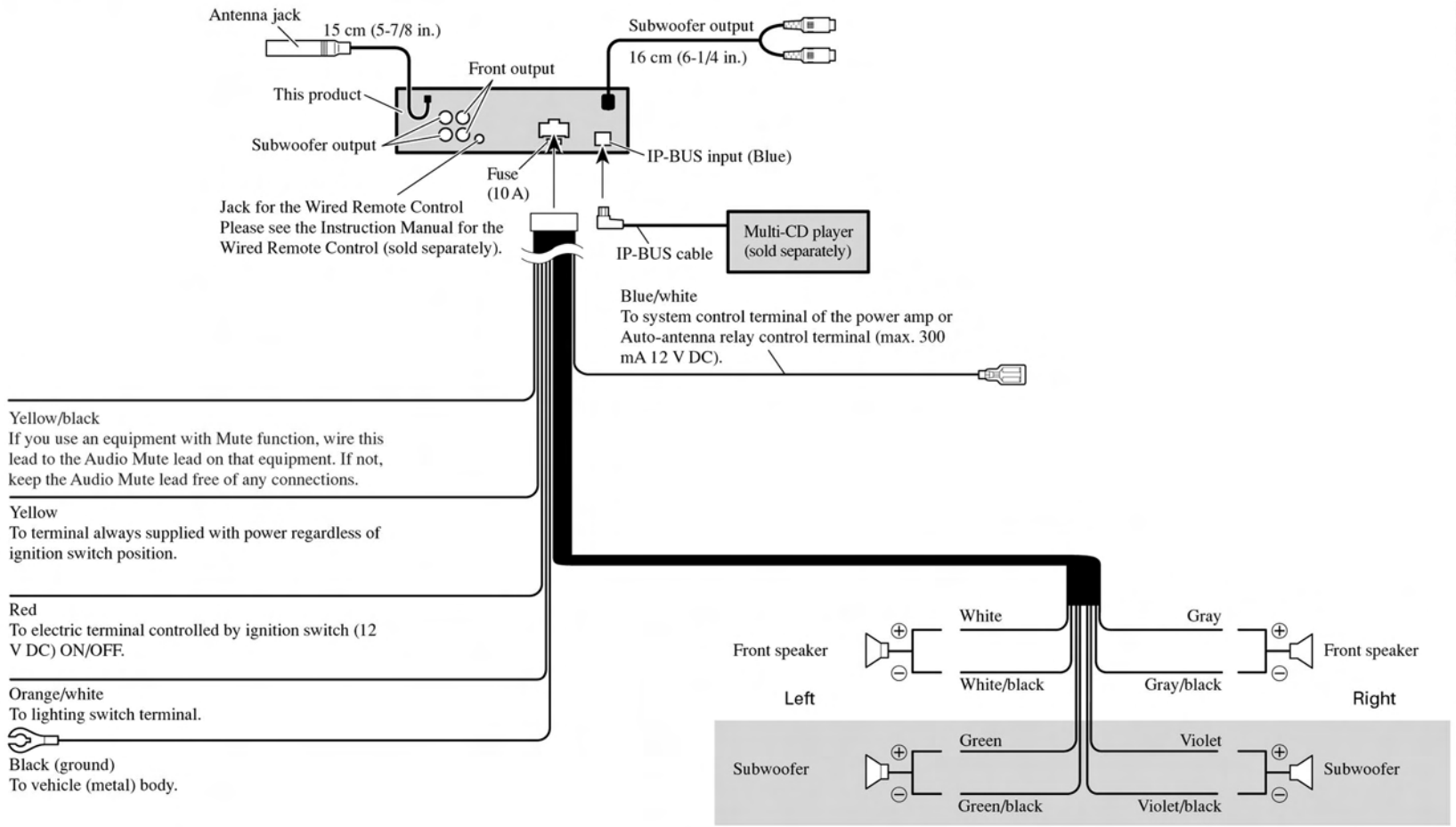
Press to select various sound quality controls. ■

CONNECTION DIAGRAM



■ **When not connecting a rear speaker lead to a Subwoofer**

■ When using a Subwoofer without using the optional amplifier



Note:
Change the initial setting of this unit.
The subwoofer output of this unit is monaural.

● Jigs List

Name	Jig No.	Remarks
Test Disc	TCD-782	Checking the grating
L.P.F.		Checking the grating (Two pieces)

● Grease List

Name	Jig No.	Remarks
Grease	GEM1024	CD Mechanism Module
Grease	GEM1045	CD Mechanism Module

Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008