DENON

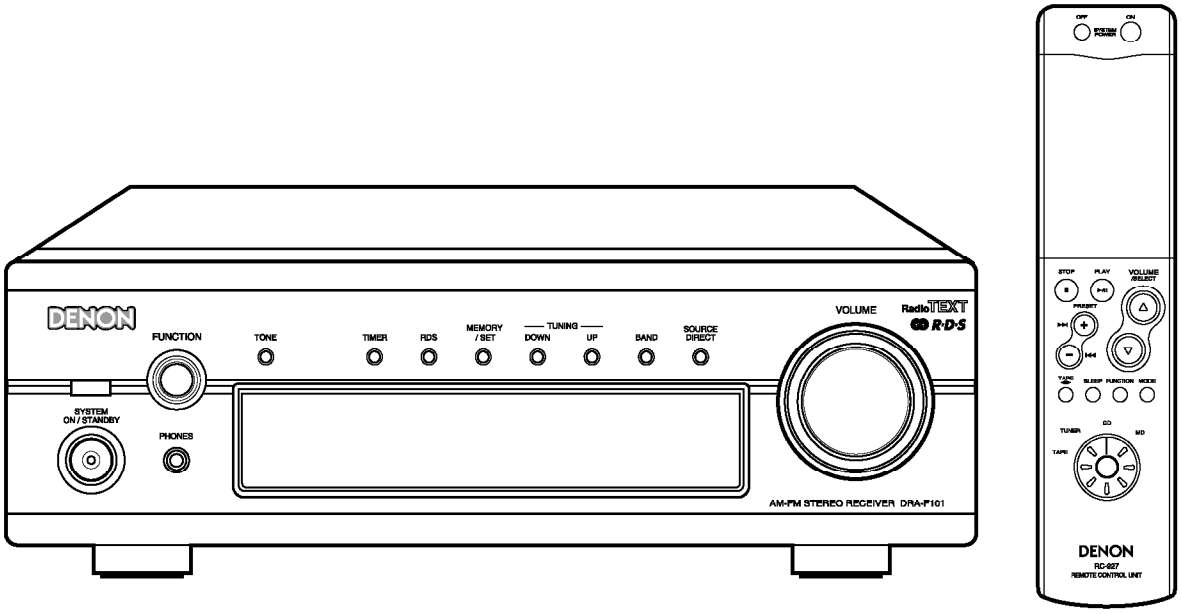
For Europe & U.K. model

Hi-Fi AM-FM Stereo Receiver

SERVICE MANUAL

MODEL DRA-F101

AM-FM STEREO RECEIVER



- **Some illustrations using in this service manual are slightly different from the actual set.**

DENON, Ltd.

16-11, YUSHIMA 3-CHOME, BUNKYOU-KU, TOKYO 113-0034 JAPAN
Telephone: 03 (3837) 5321

X0151 NC 0207

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

- **POWER AMPLIFIER SECTION**

Rated Output Power:	35W + 35W (4 Ω/ohms, DIN, 1 kHz, T.H.D. 0.7%)
Output terminals:	4 to 16 Ω/ohms

- **PRE AMPLIFIER SECTION**

PHONO EQ Amp Rated Output:	150 mV (Recout Terminal)	
Input Sensitivity/Input Impedance:	PHONO:	2.5 mV/47 kΩ/ohms
	CD, DVD/AUX, TAPE, MD:	300 mV/47 kΩ/ohms
RIAA Deviation:	PHONO:	20 HZ to 20 kHz ±0.5 dB

- **OVERALL CHARACTERISTICS**

SN Ratio (IHF A Network):	PHONO: 80 dB (at 5 mV input) (input terminals shout-circuited)	
	CD, DVD/AUX, TAPE, MD:	90 dB (SOURCE DIRECT: ON)
Frequency Response:	5 Hz to 80 kHz: +0.5, –3 dB (SOURCE DIRECT: ON)	
Tone Control Adjustable Range:	BASS:	100 Hz ±8 dB
	TREBLE:	10 kHz ±8 dB
	LOUDNESS:	100 Hz +8 dB
		10 kHz +6 dB

- **TUNER SECTION**

Reception frequency range:	FM:	87.50 MHz~108.00 MHz
	AM:	522 kHz~1611 kHz
Practical sensitivity:	FM:	1.2 μV/75 Ω/ohms (12.8 dBf)
	AM:	18 μV
FM stereo isolation:	40 dB (1 kHz)	
FM S/N ratio:	Monaural: 74 dB	Stereo: 70 dB
FM harmonic distortion:	Monaural: 0.3%	Stereo: 0.4%

- **CLOCK/TIMER SECTION**

Clock system:	Power source frequency synchronization system
Clock precision (per month):	±30 seconds
Timer functions:	Everyday timer (1 setting) Once timer (1 setting) Sleep timer (maximam 60 min.)

- **OTHERS**

Power supply:	AC 230 V, 50 Hz
Power consumption:	85 W (Approx. 1 W in standby mode)
Dimensions:	250 (W) × 81.5 (H) × 285 (D) mm
Net Mass:	3.5 kg

- **REMOTE CONTROL UNIT (RC-927)**

Remote control system:	Infrared pulse system
Power supply:	3 V DC, Two size R03 ("AAA") dry cell batteries
External dimensions:	48 (W) × 210 (H) × 29 (D) mm
Mass:	120 g (including batteries)

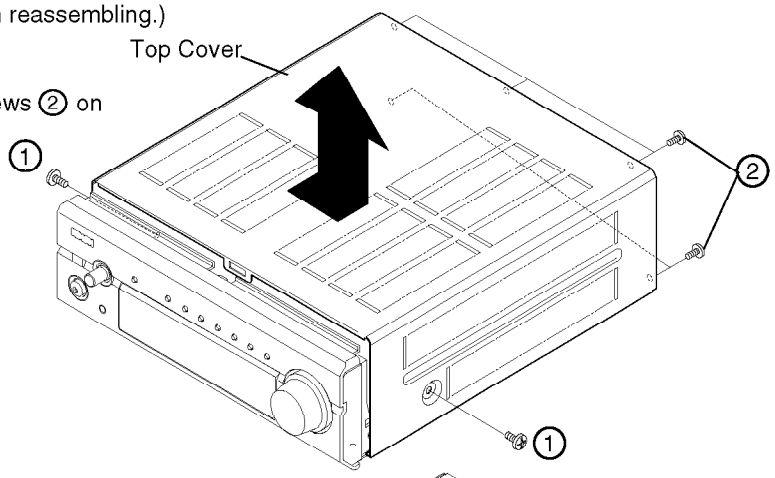
* For improvement purposes, specifications and functions are subject to change without advanced notice.

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling.)

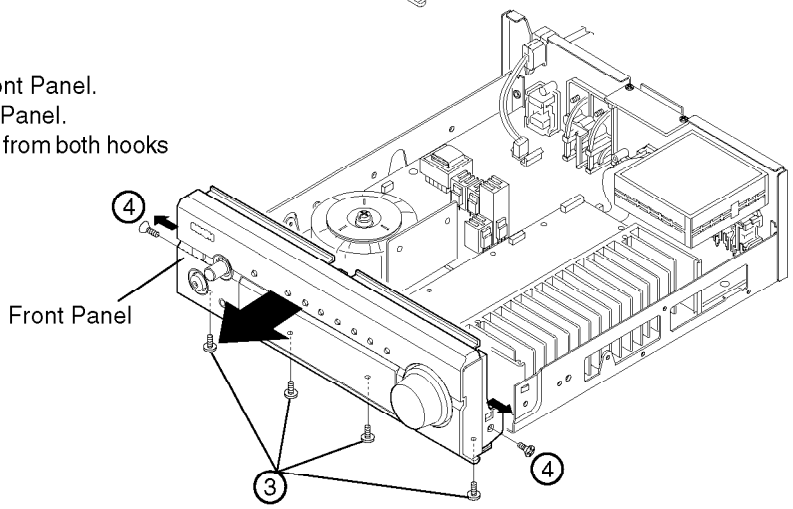
1. Top Cover

Remove 2 screws ① on both sides, and 5 screws ② on the rear.



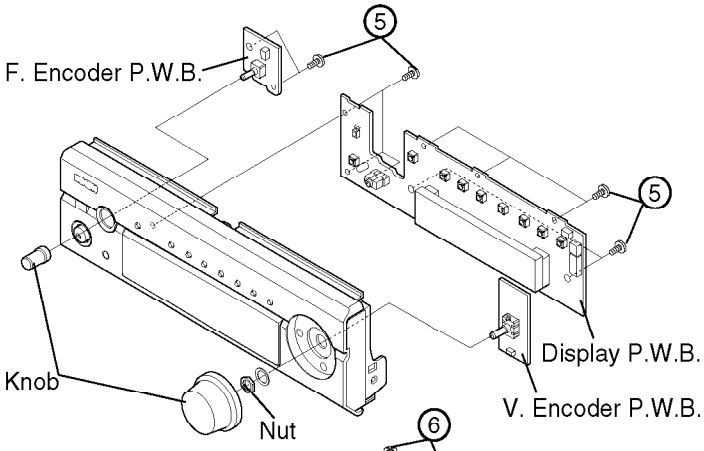
2. Front Panel

(1) Remove 4 bottom screws ③ from the Front Panel.
(2) Remove 2 side screws ④ from the Inner Panel.
(3) Widen the Inner Panel as shown to release from both hooks of the Chassis.



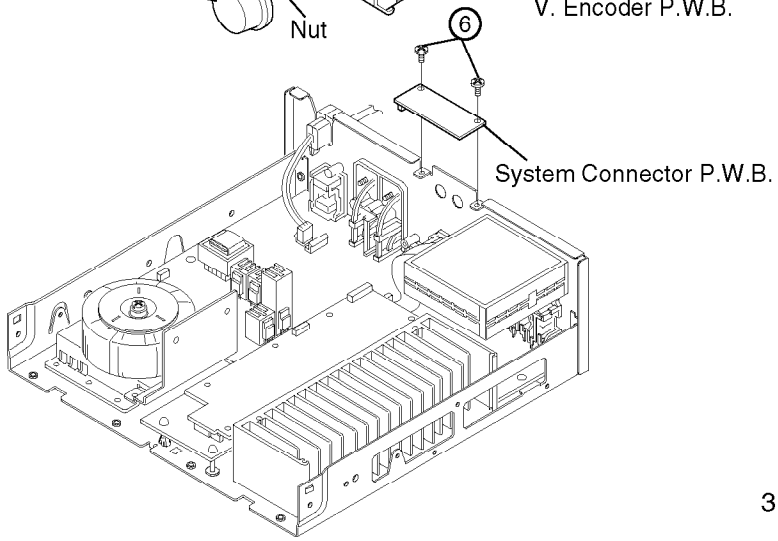
3. Display P.W.B., Encoder P.W.B.

(1) Remove 2 knobs and 1 nut.
(2) Remove 10 screws ⑤.



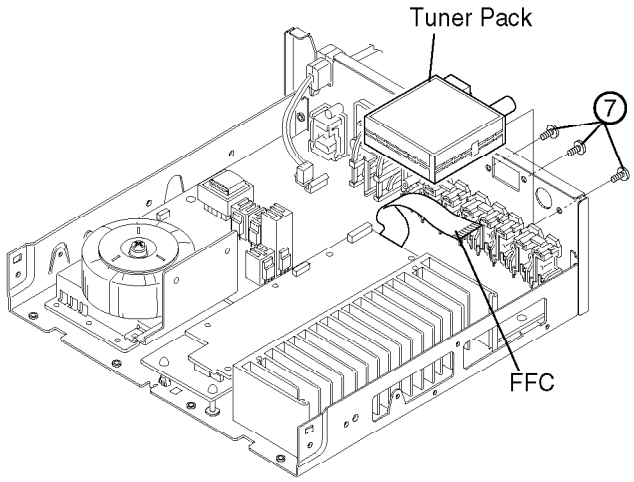
4. System Connector P.W.B.

Remove 2 screws ⑥.



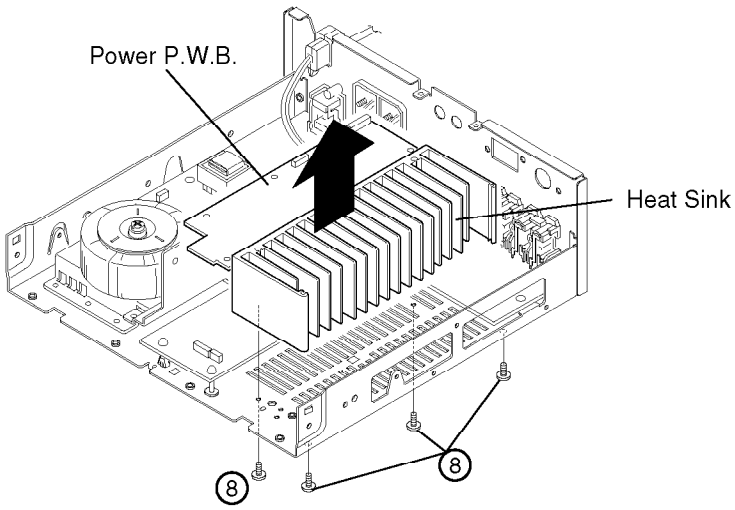
5. Tuner Pack

(1) Disconnect the FFC.
(2) Remove 3 screws ⑦.



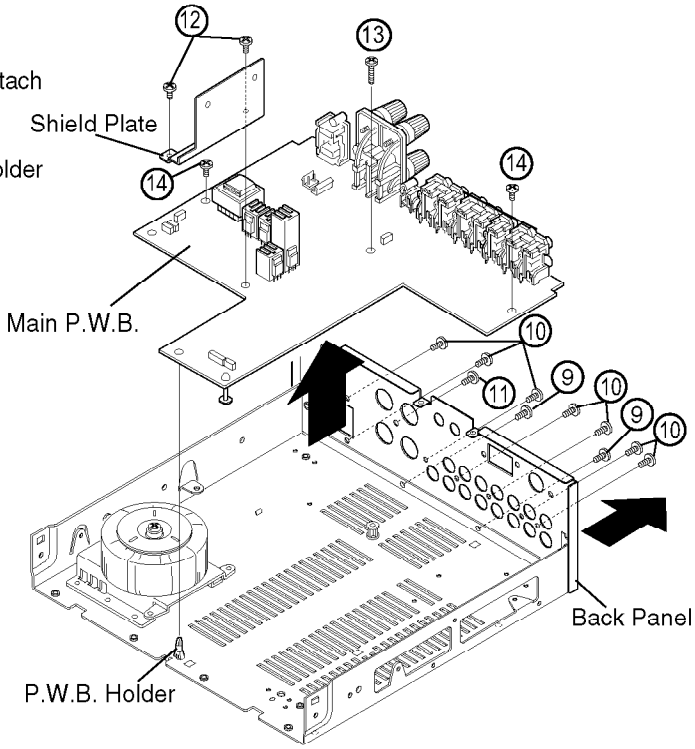
6. Power P.W.B., Heat Sink

(1) Remove 4 screws ⑧.
(2) Detach the Power P.W.B. and Heat Sink to the arrow direction.

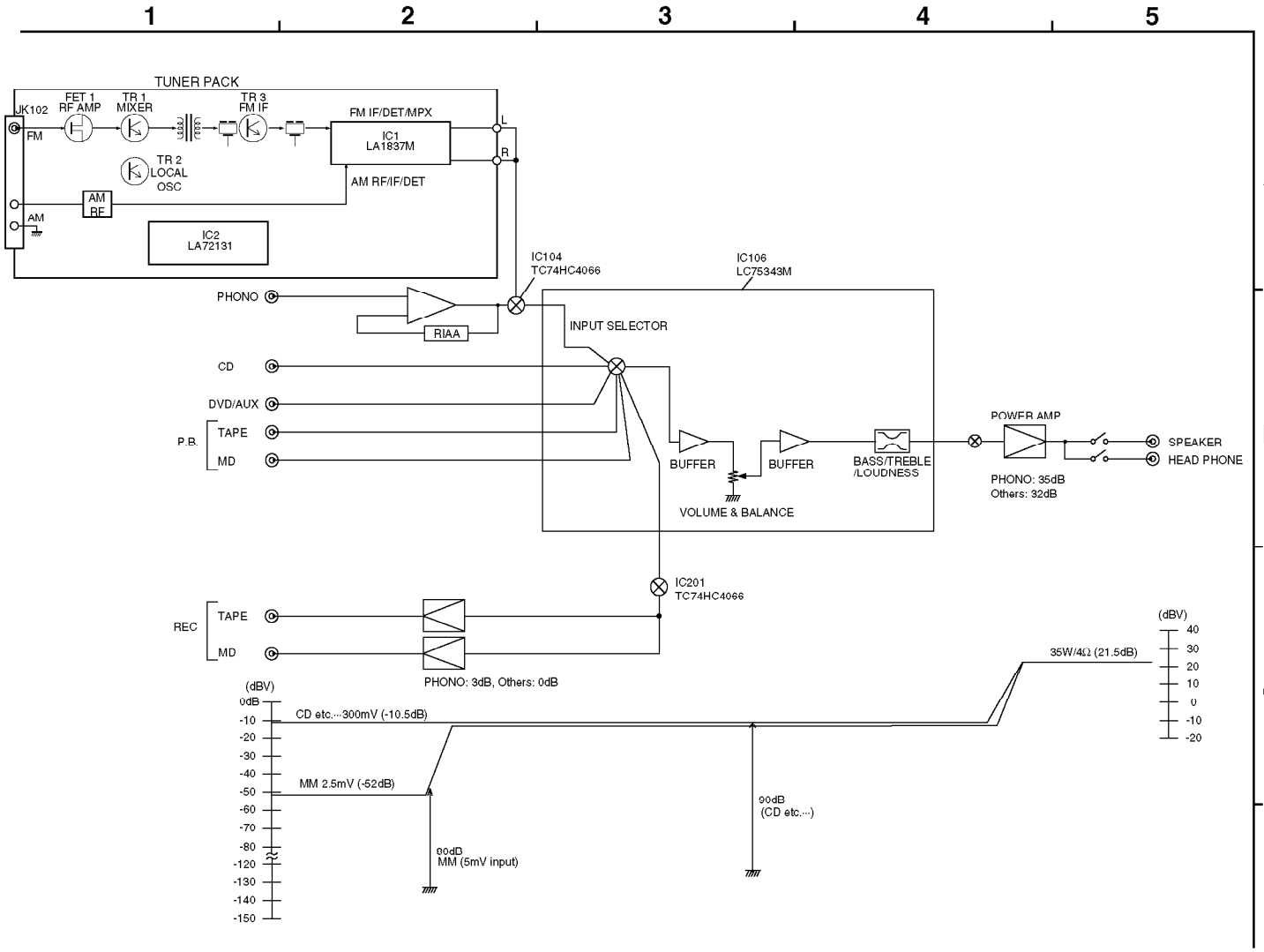


7. Shield Plate, Back Panel, Main P.W.B.

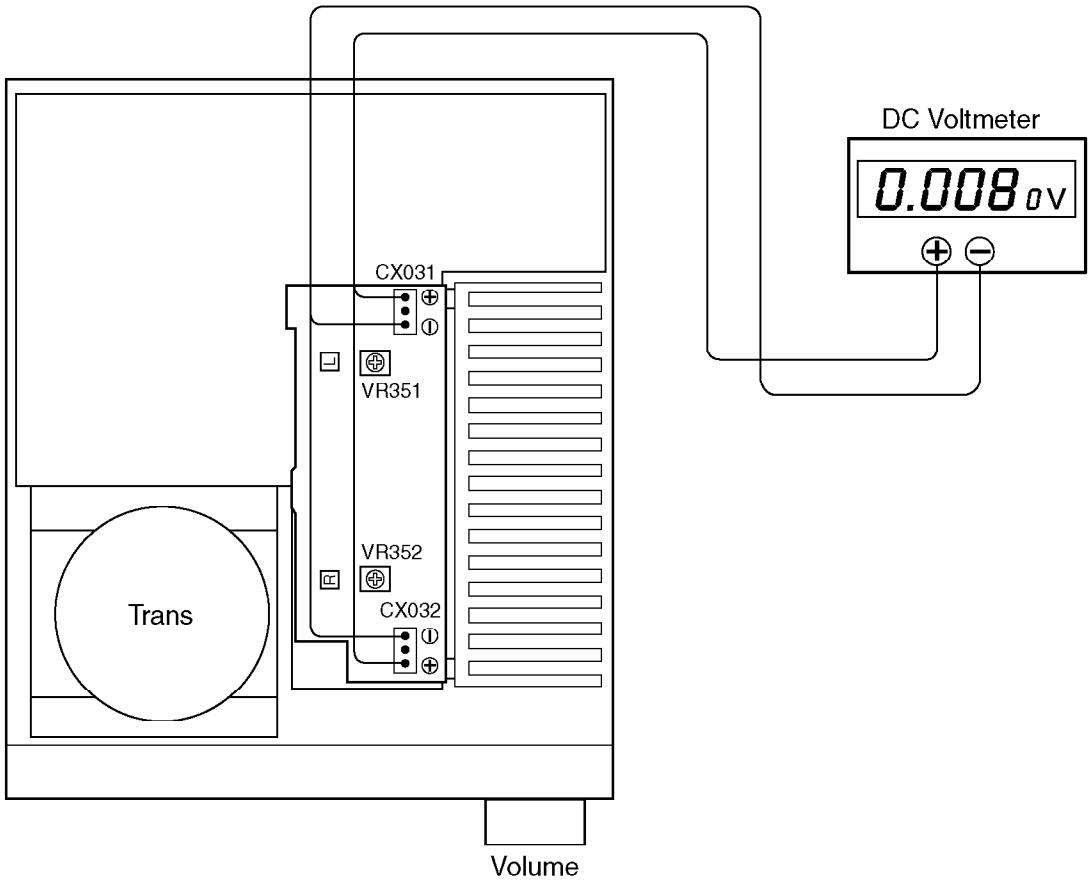
(1) Remove 2 screws ⑨, 7 screws ⑩, and 1 screw ⑪ to detach the Back Panel.
(2) Remove 2 screws ⑫ to detach the Shield Plate.
(3) Remove 1 screw ⑬, 2 screws ⑭ and release P.W.B. holder to detach the Main P.W.B.



BLOCK AND LEVEL DIAGRAM



ADJUSTMENT



IDLING CURRENT

● Setup

1. Place the unit at an ordinary position avoiding direct air flow from an air-conditioner or fan. Do the adjustment at a temperature between 15 °C (59 °F) and 30 °C (86 °F).
2. Set control as follows.

VOLUME control	→	fully counterclockwise (↺ min.)
SPEAKER terminals	→	open: do not connect the speakers, dummy load etc.

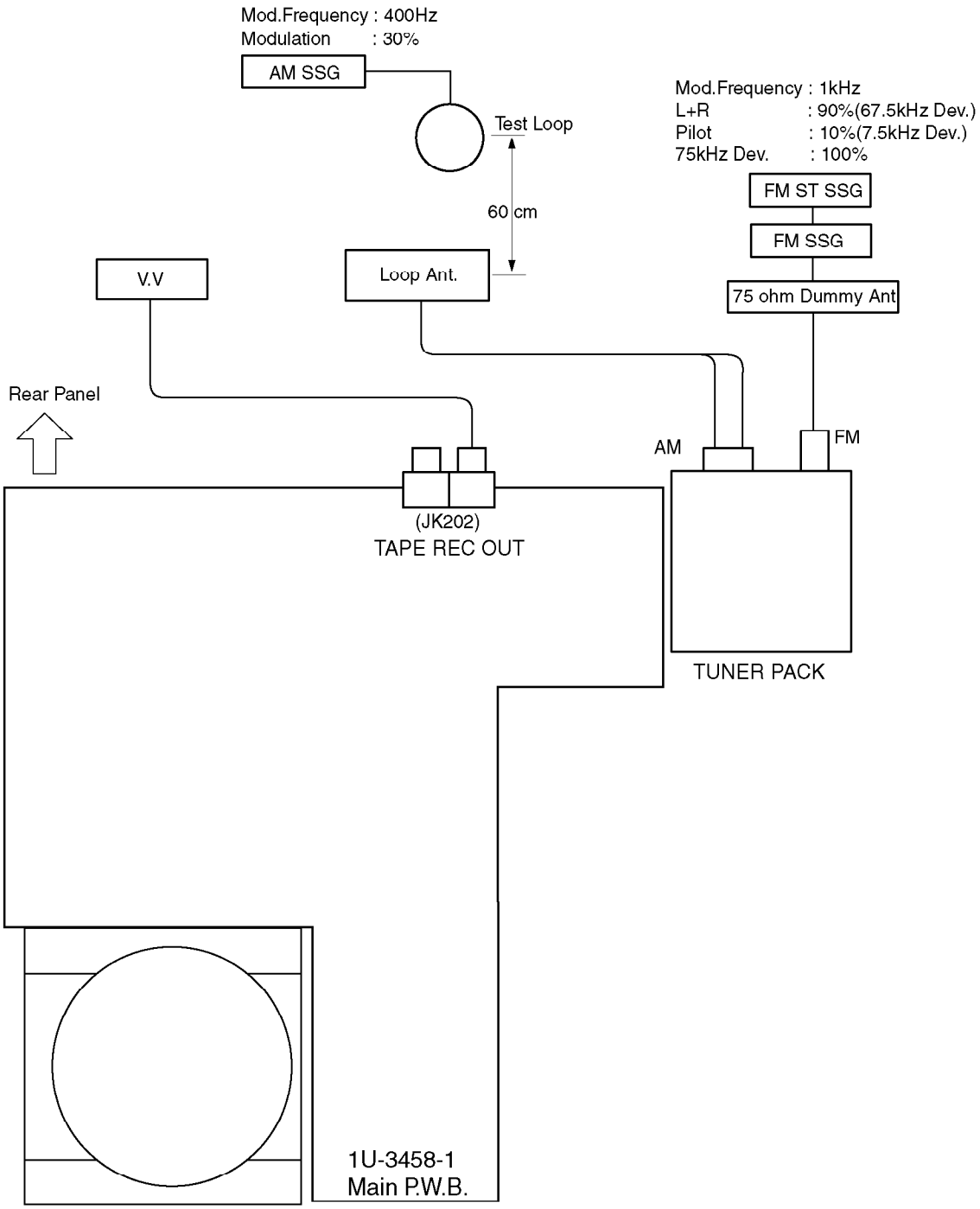
● Adjustment

1. Remove top cover. And then connect DC voltmeter to the test points CX031 and CX032 of POWER P.W.B.
2. Connect power cord to AC230V (218 ~ 242V) wall outlet, and turn POWER switch "ON".
3. Right after power on, adjust VR351 and VR352 so that the DC voltmeter reads 10 ±1mV.
4. Then after 2 minutes warmup adjust VR351 and VR352 so that the DC voltmeter reads 10 ±1mV.
5. And after 10 minutes warmup adjust VR351 and VR352 so that the DC voltmeter reads 10 ±0.5mV.

CHECK

● Connection Diagram

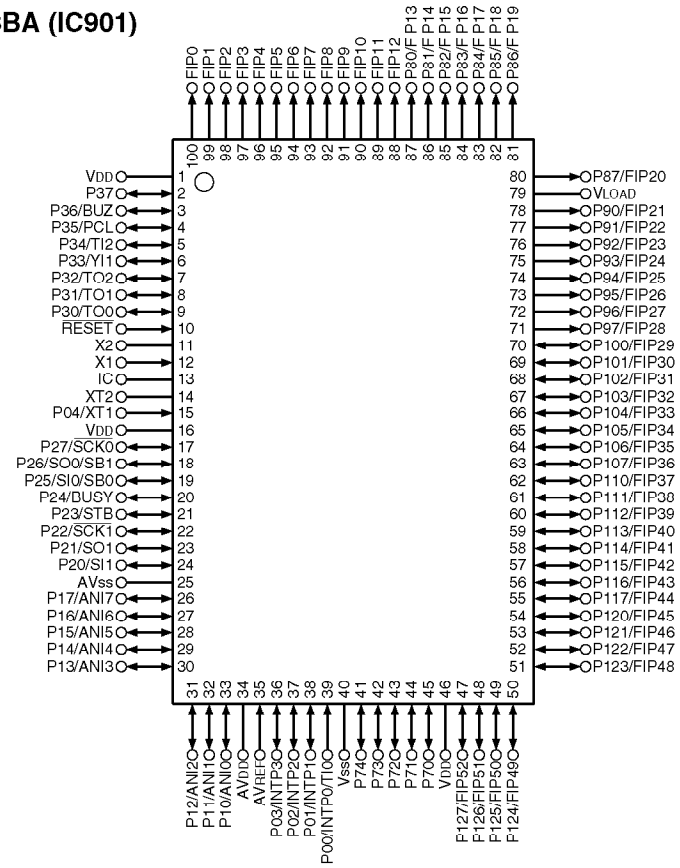
1U-3458-1 Main P.W.B. (Component Side)



SEMICONDUCTORS

● IC's

μPD780208GF-142-3BA (IC901)



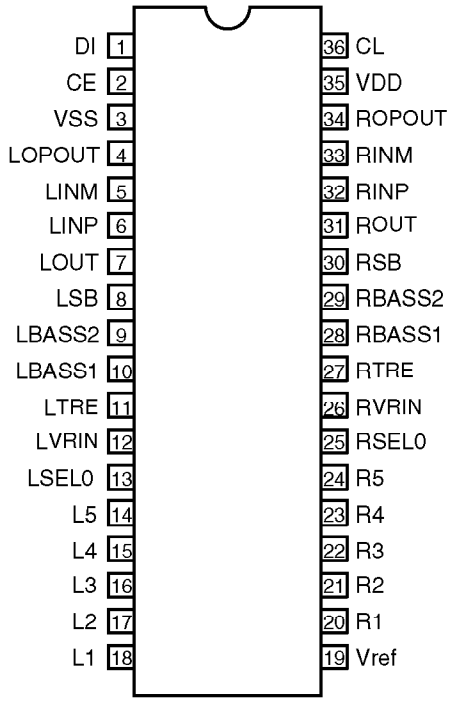
μPD780208GF-142-3BA Terminal Function

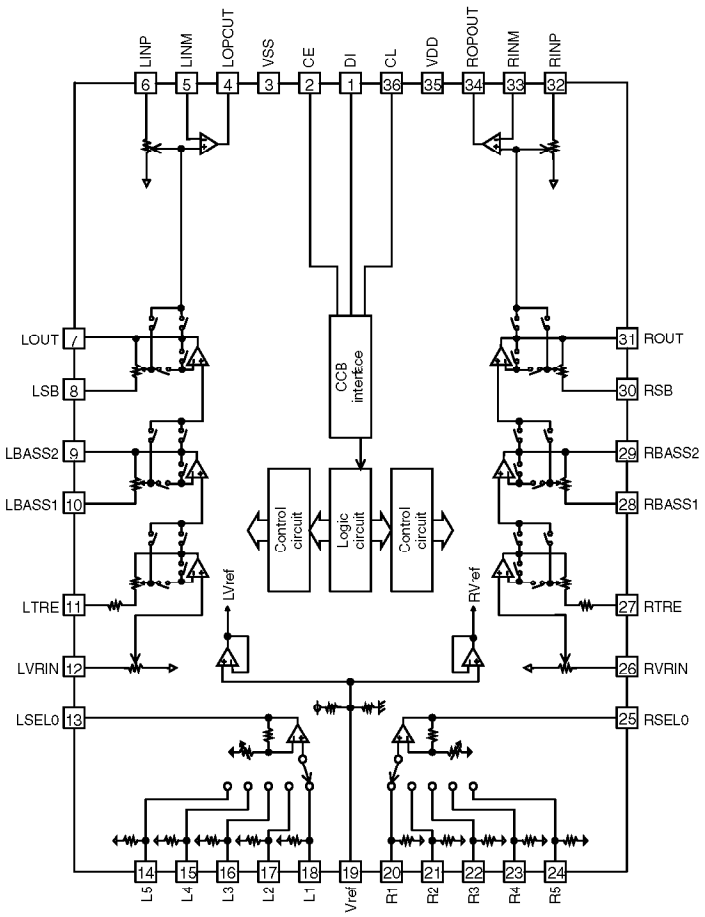
Pin No.	Pin Name	Symbol	I/O	Det	Res	Ext	Act	INIT	MO	Function
1	VDD	+5V	–	–	–	–	–	–	–	Positive power
2	P37	RL HP	O	Lv	Z	–	H	–	–	Headphone relay output
3	P36/BUZ	LED-G	O	–	Z	–	H	L	–	Power on LED drive output
4	P35/PCL	LED-R	O	–	Z	–	H	L	–	Standby LED drive output
5	P34/TI2	_MD OUT	O	–	Z	Pu	L	L	–	Rec out MD switching SW, L: REC OUT ON
6	P33/TI1	_TAPE OUT	O	–	Z	Pu	L	L	–	Rec out TAPE switching SW, L: REC OUT ON
7	P32/TO2	NC	O	–	Z	Pu	L	L	–	Not used
8	P31/TO1	NC	O	–	Z	Pu	L	L	–	Not used
9	P30/TO0	TU/_PHONO	O	–	Z	–	L	L	–	Tuner/Phono switching output, L: PHONO, H: OTHERS
10	$\overline{\text{RESET}}$	RESET	I	–	–	–	L	–	–	μcom reset input
11	X2	X2	–	–	–	–	–	–	–	X'tal connection for main clock oscillation
12	X1	X1	I	–	–	–	–	–	–	X'tal connection for main clock oscillation 4.19MHz
13	IC	IC	–	–	–	–	–	–	–	Internal connection, connect directly to Vss
14	XT2	XT2	–	–	–	–	–	–	–	X'tal connection for sub-clock oscillation, not used: NC
15	P04/XT1	P04/XT1	I	–	Z	–	–	–	–	X'tal connection for sub-clock oscillation, not used: connect to Vss or VDD
16	VDD	VDD	–	–	–	–	–	–	–	Positive power
17	P27/$\overline{\text{SCK0}}$	DB_CLK	O	–	Z	–	–	H	–	DENON bus clock output
18	P26/SO0/SB1	DB_TXD	O	–	Z	–	–	H	–	DENON bus data output
19	P25/SI0/SB0	DB_RXD	I	Ed	Z	–	–	–	–	DENON bus data input
20	P24/BUSY	RDSRST	O	–	Z	–	L	H	–	RDS IC reset output
21	P23/STB	DATA_CE	O	–	Z	–	H	L	–	Data bus (PLL, VOL, RDS IC common) chip enable output
22	P22/$\overline{\text{SCK1}}$	DATA_CLK	O	–	Z	–	–	H	–	Data bus (PLL, VOL, RDS IC common) clock output
23	P21/SO1	DATA_TXD	O	–	Z	–	–	H	–	Data bus (PLL, VOL, RDS IC common) data output
24	P20/SI1	DATA_RXD	I	Ed	Z	–	–	–	–	Data bus (PLL, VOL, RDS IC common) data input
25	AVSS	AVSS	–	–	–	–	–	–	–	Ground potential of A/D converter
26	P17/ANI7	NC	O	–	Z	Pu	–	L	–	Not used
27	P16/ANI6	NC	O	–	Z	Pu	–	L	–	Not used
28	P15/ANI5	V-STB	O	–	Z	–	H	L	–	LC75343M IC strobe output
29	P14/ANI4	NC	O	–	Z	Pu	–	L	–	Not used
30	P13/ANI3	CE-R	O	–	Z	–	H	L	–	EEPROM chip enable output
31	P12/ANI2	PWB	I	–	Z	Pu	–	–	–	For PWB check mode activation
32	P11/ANI1	KEY2	I	A	Z	Pu	–	–	–	Main unit operation button input 2

Pin No.	Pin Name	Symbol	I/O	Det	Res	Ext	Act	INIT	MO	Function
33	P10/ANI0	KEY1	I	A	Z	Pu	–	–	–	Main unit operation button input 1
34	AV_{DD}	AVDD	–	–	–	–	–	–	–	Analog power for A/D converter
35	AV_{REF}	AVREF	I	–	–	–	–	–	–	Ref. V input for A/D converter
36	P03/INTP3	PROTECT	I	–	Z	–	L	–	–	Amp protect input (µcom inside pull-up)
37	P02/INTP2	DBRXD	I	Ed	Z	–	–	–	–	DENON bus data input (µcom inside pull-up)
38	P01/INTP1	50/60	I	Ed	Z	–	–	–	–	50/60Hz AC input (µcom inside pull-up)
39	P00/INTP0	REMOCON	I	–	Z	–	H	–	–	Remote control input (µcom inside pull-up)
40	V_{SS}	VSS	–	–	–	–	–	–	–	GND
41	P74	RL-SPA	O	–	Z	Pu	L	L	–	Not used
42	P73	RL-SPB	O	–	Z	Pu	L	H	–	Speaker relay output, L: OUTPUT
43	P72	CLOCK	O	–	Z	Pu	H	L	–	Clock output for LC75343M IC
44	P71	DATA	O	–	Z	Pu	–	L	–	Data output for LC75343M IC
45	P70	TMUTE	O	–	Z	Pu	L	L	N	Tuner mute output, L: MUTE ON
46	V_{DD}	VDD	–	–	–	–	–	–	–	Positive power
47	P127/FIP52	ENC-A	I	–	Z	Pu	–	–	–	Rotary encoder input A for volume
48	P126/FIP51	ENC-B	I	–	Z	Pu	–	–	–	Rotary encoder input B for volume
49	P125/FIP50	SEL-A	I	–	Z	Pu	–	–	–	Rotary encoder input A for select
50	P124/FIP49	SEL-B	I	–	Z	Pu	–	–	–	Rotary encoder input B for select
51	P123/FIP48	NC	O	–	Z	Pd	–	L	–	Not used
52	P122/FIP47	AM STEREO	I/O	Lv	Z	Pd	L	–	N	AM stereo demodulate detect input, L: STEREO
53	P121/FIP46	SD	I	Lv	Z	Pu	L	–	N	AM/FM tuned signal input, L: TUNED
54	P120/FIP45	ST IND	I	Lv	Z	Pu	L	–	N	FM stereo demodulate detect input, L: STEREO
55	P117/FIP44	USA	I	Lv	Z	–	–	–	N	Initial setting input
56	P116/FIP43	EUR	I	Lv	Z	–	–	–	N	Initial setting input
57	P115/FIP42	FREQ	I	Lv	Z	–	–	–	N	Initial setting input
58	P114/FIP41	RDS	I	Lv	Z	–	–	–	N	Initial setting input
59	P113/FIP40	V.MUTE	O	–	Z	Pu	H	L	–	Mute output at volume 00, H: MUTE
60	P112/FIP39	POWER	O	–	Z	Pu	L	L	N	Amp circuit power on/off output, L: ON
61	P111/FIP38	NC	O	–	–	Pd	–	L	N	Not used
62	P110/FIP37	SP OFF	I	–	Z	Pd	L	L	N	Headphone input
63	P107/FIP36	NC	O	–	Z	Pd	–	L	–	Not used
64	P106/FIP35	P1	O	–	Z	Pd	–	–	N	Segment output 1
65	P105/FIP34	P2	O	–	Z	Pd	–	–	N	Segment output 2
66	P104/FIP33	P3	O	–	Z	Pd	–	–	N	Segment output 3
67	P103/FIP32	P4	O	–	Z	Pd	–	–	N	Segment output 4
68	P102/FIP31	P5	O	–	Z	Pd	–	–	N	Segment output 5
69	P101/FIP30	P6	O	–	Z	Pd	–	–	N	Segment output 6
70	P100/FIP29	P7	O	–	Z	Pd	–	–	N	Segment output 7
71	P97/FIP28	P8	O	–	Z	Pd	–	–	N	Segment output 8
72	P96/FIP27	P9	O	–	Z	Pd	–	–	N	Segment output 9
73	P95/FIP26	P10	O	–	Z	Pd	–	–	N	Segment output 10
74	P94/FIP25	P11	O	–	Z	Pd	–	–	N	Segment output 11
75	P93/FIP24	P12	O	–	Z	Pd	–	–	N	Segment output 12
76	P92/FIP23	P13	O	–	Z	Pd	–	–	N	Segment output 13
77	P91/FIP22	P14	O	–	Z	Pd	–	–	N	Segment output 14
78	P90/FIP21	P15	O	–	Z	Pd	–	–	N	Segment output 15
79	V_{LOAD}	VLOAD	–	–	–	–	–	–	–	FL driver pull-down resister connection (-30V power)
80	P87/FIP20	P16	O	–	Z	Pd	–	–	N	Segment output 16
81	P86/FIP19	P17	O	–	Z	Pd	–	–	N	Segment output 17
82	P85/FIP18	P18	O	–	Z	Pd	–	–	N	Segment output 18
83	P84/FIP17	P19	O	–	Z	Pd	–	–	N	Segment output 19
84	P83/FIP16	P20	O	–	Z	Pd	–	–	N	Segment output 20
85	P82/FIP15	P21	O	–	Z	Pd	–	–	N	Segment output 21
86	P81/FIP14	P22	O	–	Z	Pd	–	–	N	Segment output 22
87	P80/FIP13	P23	O	–	Z	Pd	–	–	N	Segment output 23
88	FIP12	NC	O	–	Z	–	–	–	–	Segment output 24 (not connected)
89	FIP11	NC	O	–	Z	–	–	–	–	Segment output 25 (not connected)
90	FIP10	11G	O	–	Z	Pd	–	–	–	Digit output 11
91	FIP9	10G	O	–	Z	Pd	–	–	–	Digit output 10
92	FIP8	9G	O	–	Z	Pd	–	–	–	Digit output 9
93	FIP7	8G	O	–	Z	Pd	–	–	–	Digit output 8
94	FIP6	7G	O	–	Z	Pd	–	–	–	Digit output 7
95	FIP5	6G	O	–	Z	Pd	–	–	–	Digit output 6
96	FIP4	5G	O	–	Z	Pd	–	–	–	Digit output 5
97	FIP3	4G	O	–	Z	Pd	–	–	–	Digit output 4
98	FIP2	3G	O	–	Z	Pd	–	–	–	Digit output 3
99	FIP1	2G	O	–	Z	Pd	–	–	–	Digit output 2
100	FIP0	1G	O	–	Z	Pd	–	–	–	Digit output 1

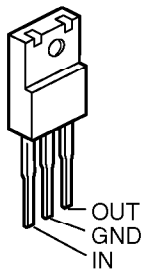
Det (Detecting method) : Lv (Level detect), Ed (Edge detect), L/E (Level/Edge detect), A (Analog voltage detect)
Res (Status at reset) : Z (Hi-impedance at reset)
Ext (Pull-down/Pull-up) : Pd (Pull-down), Pu (Pull-up)
MO (Mask option) : Y (Yes), N (No)

LC75343M (IC106)

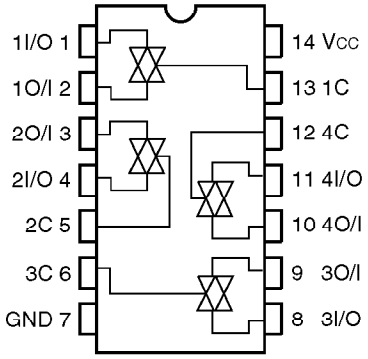




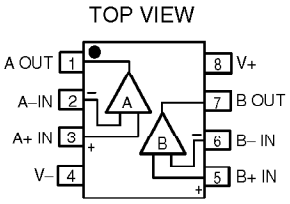
BA05T (IC907)
NJM7812FA(S) (IC101)



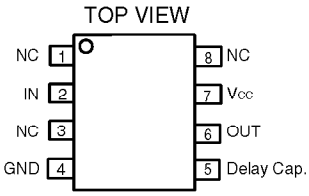
TC74HC4066AF (IC104, 201)



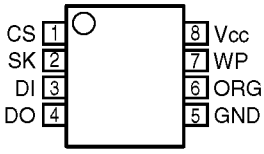
BA15218F (IC202, 203)
NJM2068DDC (IC401)
NJM5532DD (IC309)

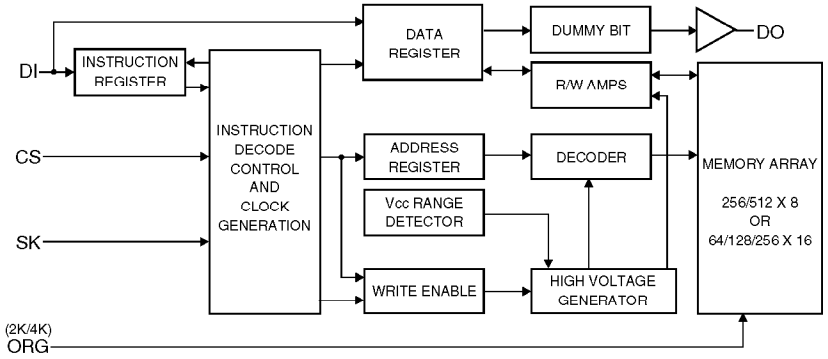


M51957BFP (IC903)

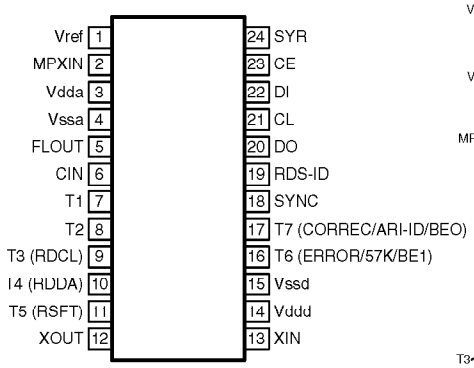


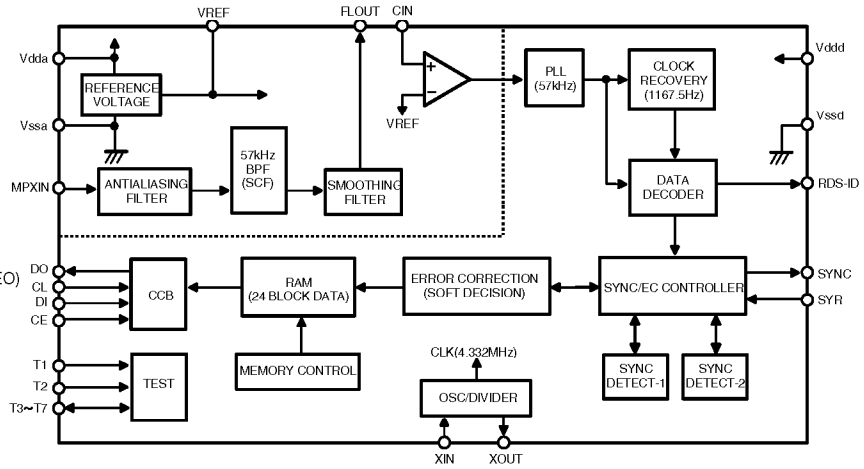
93LC66 (IC905)





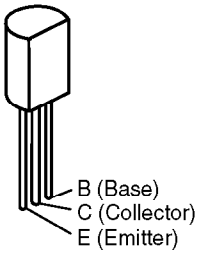
LC72720NM (IC601)



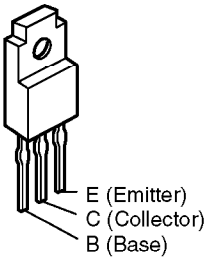


● TRANSISTORS

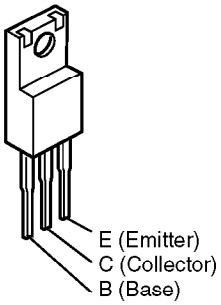
2SA988 (E/F)
2SC1841 (E/F)



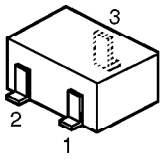
2SA1837 (Y)
2SC4793 (Y)



2SC4495 (O/Y)
2SD1913

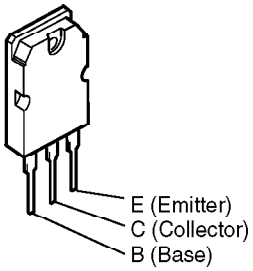


2SC2412K (S)
2SA1037K (S/R)

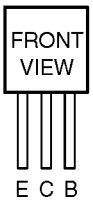


1: E (Emitter)
2: B (Base)
3: C (Collector)

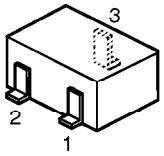
2SB1383 (P/Y)
2SD2083 (P/Y)



2SB1328

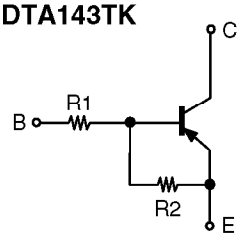


DTA114EK
DTA114YK
DTA115TK
DTA143TK
DTC114EK
DTC124EK
DTC143TK
DTC144EK
DTC323TK



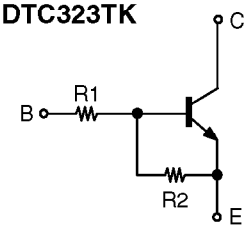
1: E (Emitter)
2: B (Base)
3: C (Collector)

DTA114EK
DTA114YK
DTA115TK
DTA143TK



	R1	R2
DTA114EK	10 kohm/Ω	10 kohm/Ω
DTA114YK	10 kohm/Ω	47 kohm/Ω
DTA115TK	100 kohm/Ω	——
DTA143TK	4.7 kohm/Ω	——

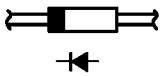
DTC114EK
DTC124EK
DTC143TK
DTC144EK
DTC323TK



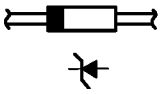
	R1	R2
DTC114EK	10 kohm/Ω	10 kohm/Ω
DTC124EK	22 kohm/Ω	22 kohm/Ω
DTC143TK	4.7 kohm/Ω	——
DTC144EK	47 kohm/Ω	47 kohm/Ω
DTC323TK	2.2 kohm/Ω	——

● DIODES (including LED)

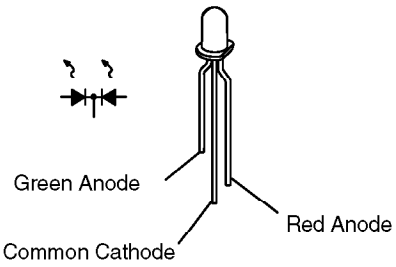
1N4004
1N4148



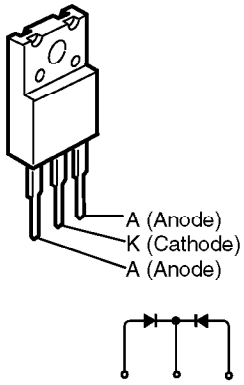
MTZJ4.3B
MTZJ6.2B
MTZJ10B
MTZJ18B
MTZJ33B



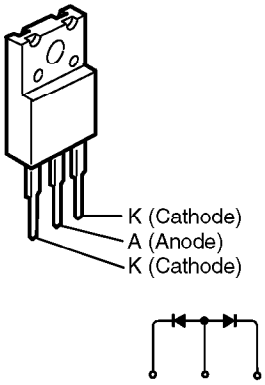
SLR-9336DS-91 (LD901)



FMG22S

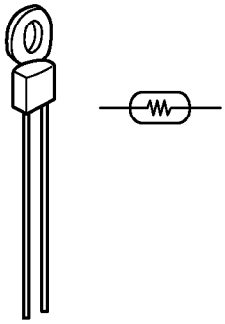


FMG22R



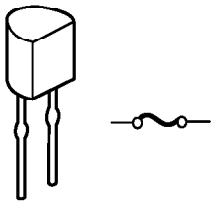
● POSISTOR

PTH9M04BC222TS2F333 (PH701)



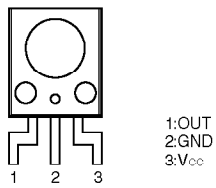
● IC PROTECTOR

ICP-N15 (IC107, 108, 906, 999)



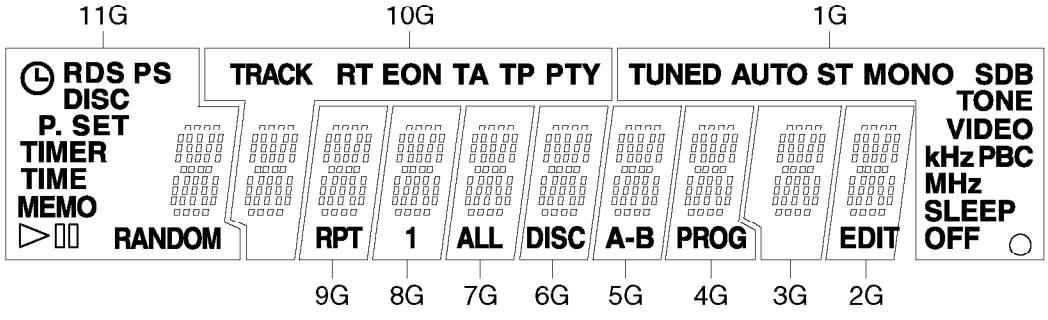
● IR SENSOR

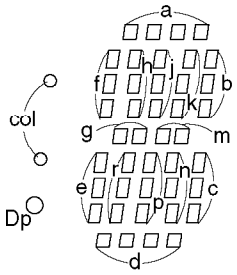
RPM6938-V4 (IC902)



● FL DISPLAY 11-BT-199GNK (FL901)

GRID ASSIGNMENT





[11G~2G]

PIN CONNECTION

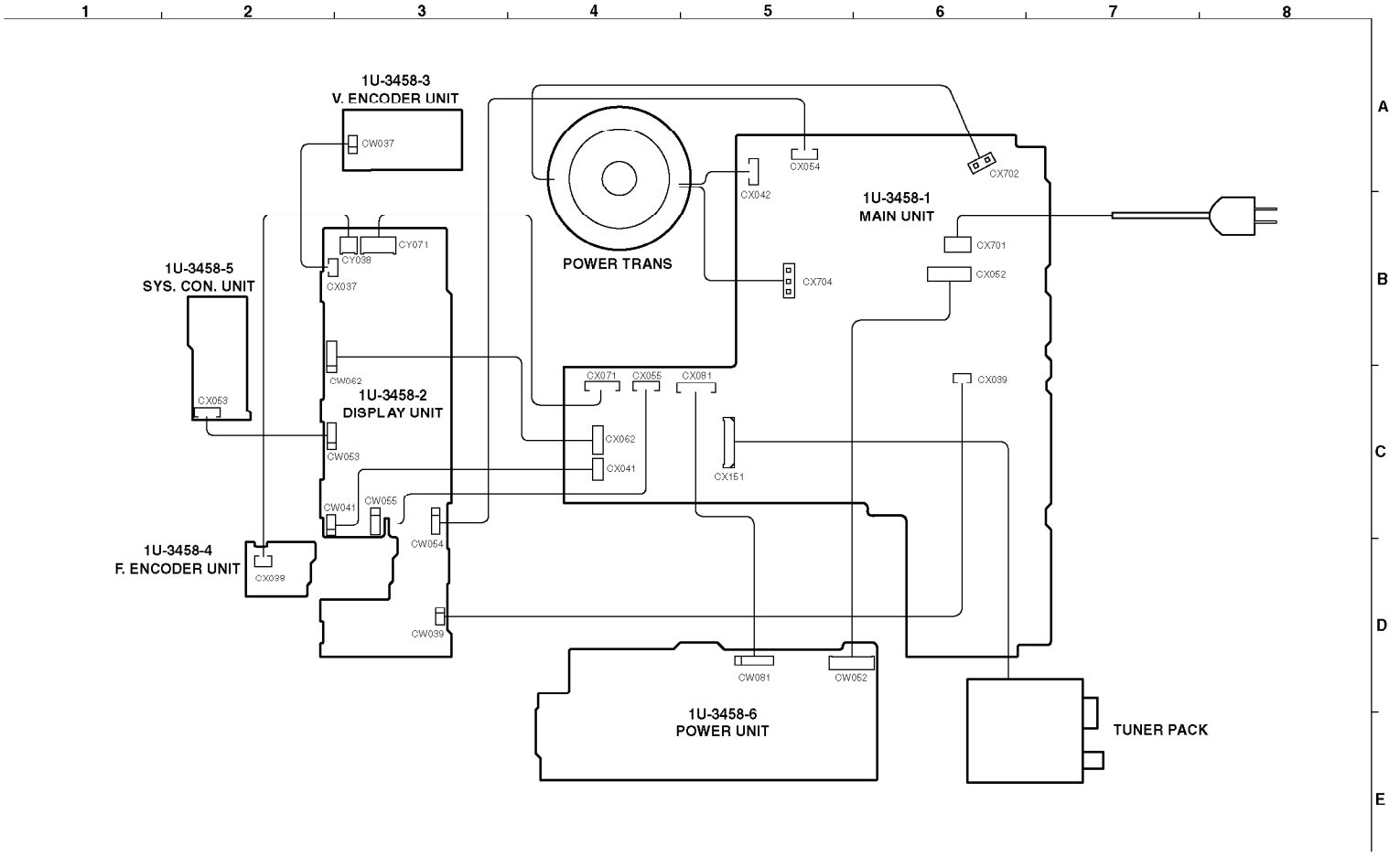
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CONNECTION	F1	NX	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	NC	P25	P24	P23	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	NX	F2

NOTE
1) F1,F2 ---- Filament
2) NP -------- No pin
3) NX -------- No extend pin
4) NC -------- No connection
(NC pin should be electrically open on the PC board)
5) DL --------- Datum Line
6) 1G~11G -- Grid

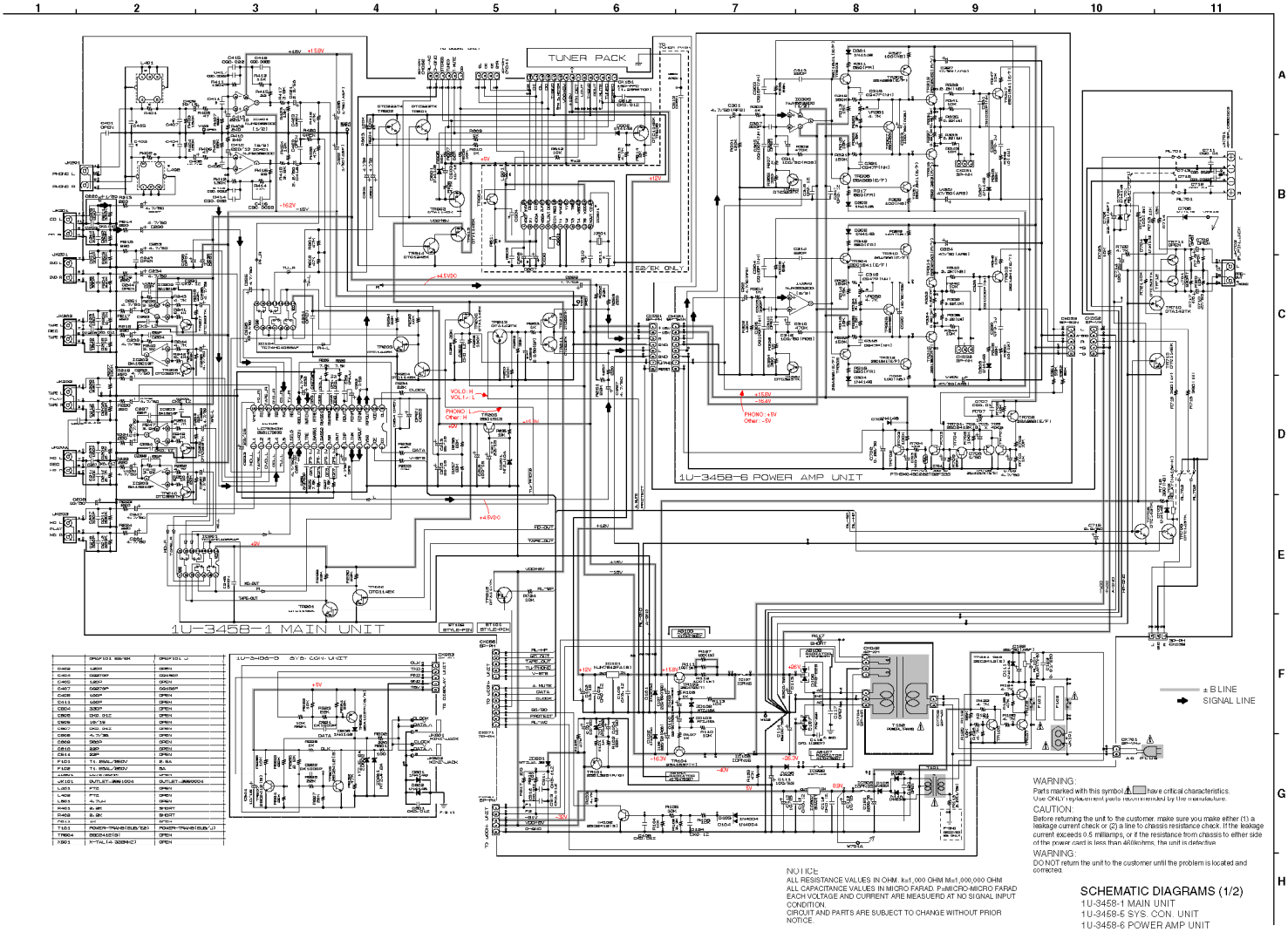
ANODE CONNECTION

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a	a	a	a	**TUNED**
P2	b	b	b	b	b	b	b	b	b	b	**AUTO**
P3	c	c	c	c	c	c	c	c	c	c	**ST**
P4	d	d	d	d	d	d	d	d	d	d	**MONO**
P5	e	e	e	e	e	e	e	e	e	e	**SDB**
P6	f	f	f	f	f	f	f	f	f	f	**TONE**
P7	g	g	g	g	g	g	g	g	g	g	**PBC**
P8	h	h	h	h	h	h	h	h	h	h	—
P9	j	j	j	j	j	j	j	j	j	j	**VIDEO**
P10	k	k	k	k	k	k	k	k	k	k	**kHz**
P11	m	m	m	m	m	m	m	m	m	m	**MHz**
P12	n	n	n	n	n	n	n	n	n	n	—
P13	p	p	p	p	p	p	p	p	p	p	—
P14	r	r	r	r	r	r	r	r	r	r	**SLEEP**
P15	**RANDOM**	**TRACK**	**RPT**	**1**	**ALL**	**DISC**	**A-**	**PROG**	col	**EDIT**	**OFF**
P16	◷	**RT**	—	—	—	—	**B**	—	Dp	—	○
P17	**RDS**	**EON**	—	—	—	—	—	—	—	—	—
P18	**PS**	**TA**	—	—	—	—	—	—	—	—	—
P19	**DISC**	**TP**	—	—	—	—	—	—	—	—	—
P20	**P. SET**	**PTY**	—	—	—	—	—	—	—	—	—
P21	**TIMER**	—	—	—	—	—	—	—	—	—	—
P22	**TIME**	—	—	—	—	—	—	—	—	—	—
P23	**MEMO**	—	—	—	—	—	—	—	—	—	—
P24	▶	—	—	—	—	—	—	—	—	—	—
P25	▮▮	—	—	—	—	—	—	—	—	—	—

WIRING DIAGRAM



SCHEMATIC DIAGRAMS (1/2)



NOTICE:
ALL RESISTANCE VALUES IN OHM. K=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL INPUT CONDITION
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

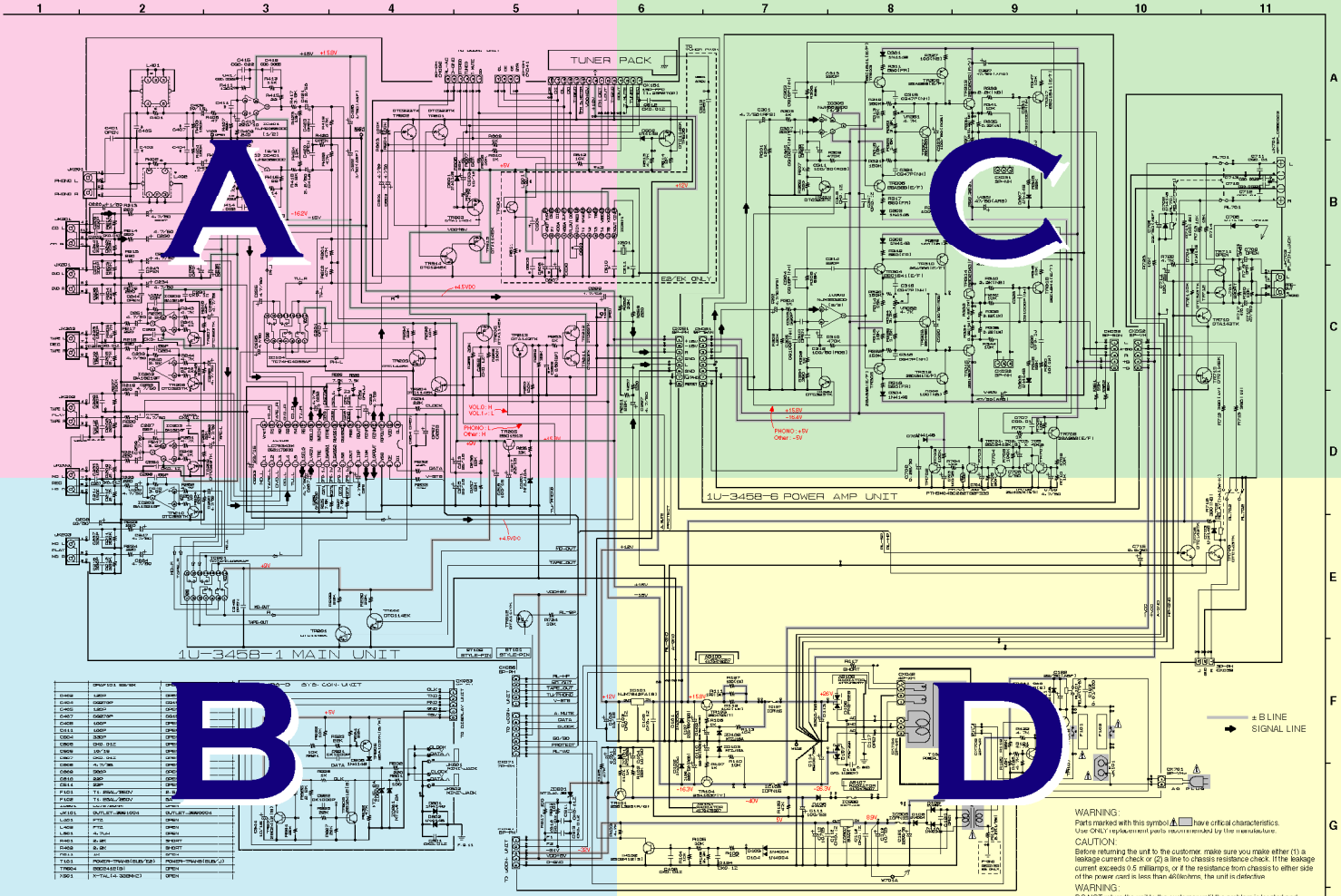
WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (1/2)
1U-3458-1 MAIN UNIT
1U-3458-5 SYS. CON. UNIT
1U-3458-6 POWER AMP UNIT

SCHEMATIC DIAGRAMS (1/2)



NOTICE:
ALL RESISTANCE VALUES IN OHM. K=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL INPUT CONDITION
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

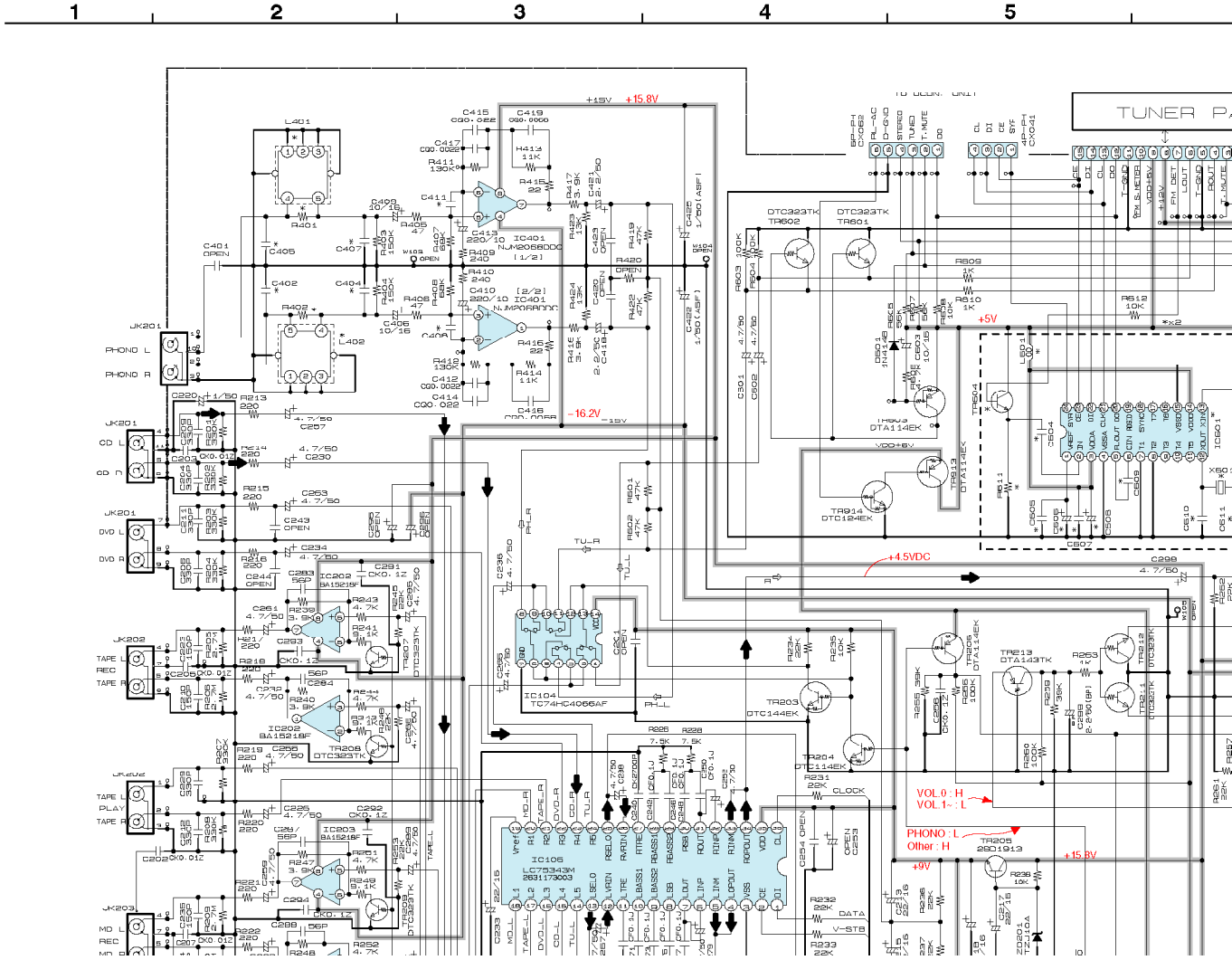
WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

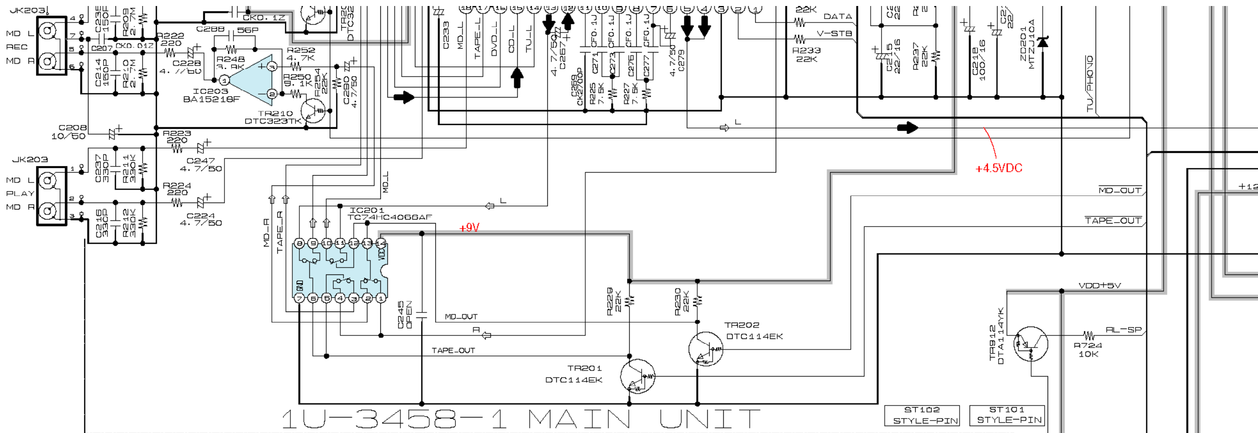
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

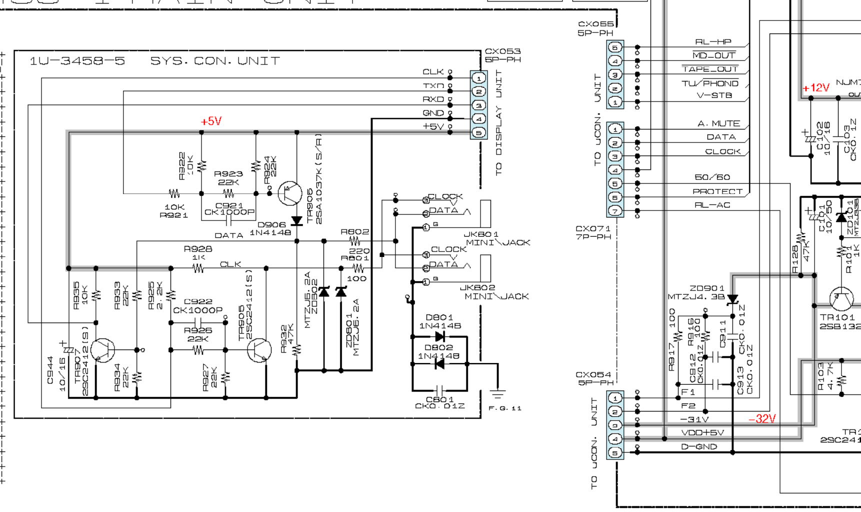
SCHEMATIC DIAGRAMS (1/2)
1U-3458-1 MAIN UNIT
1U-3458-5 SYS. CON. UNIT
1U-3458-6 POWER AMP UNIT

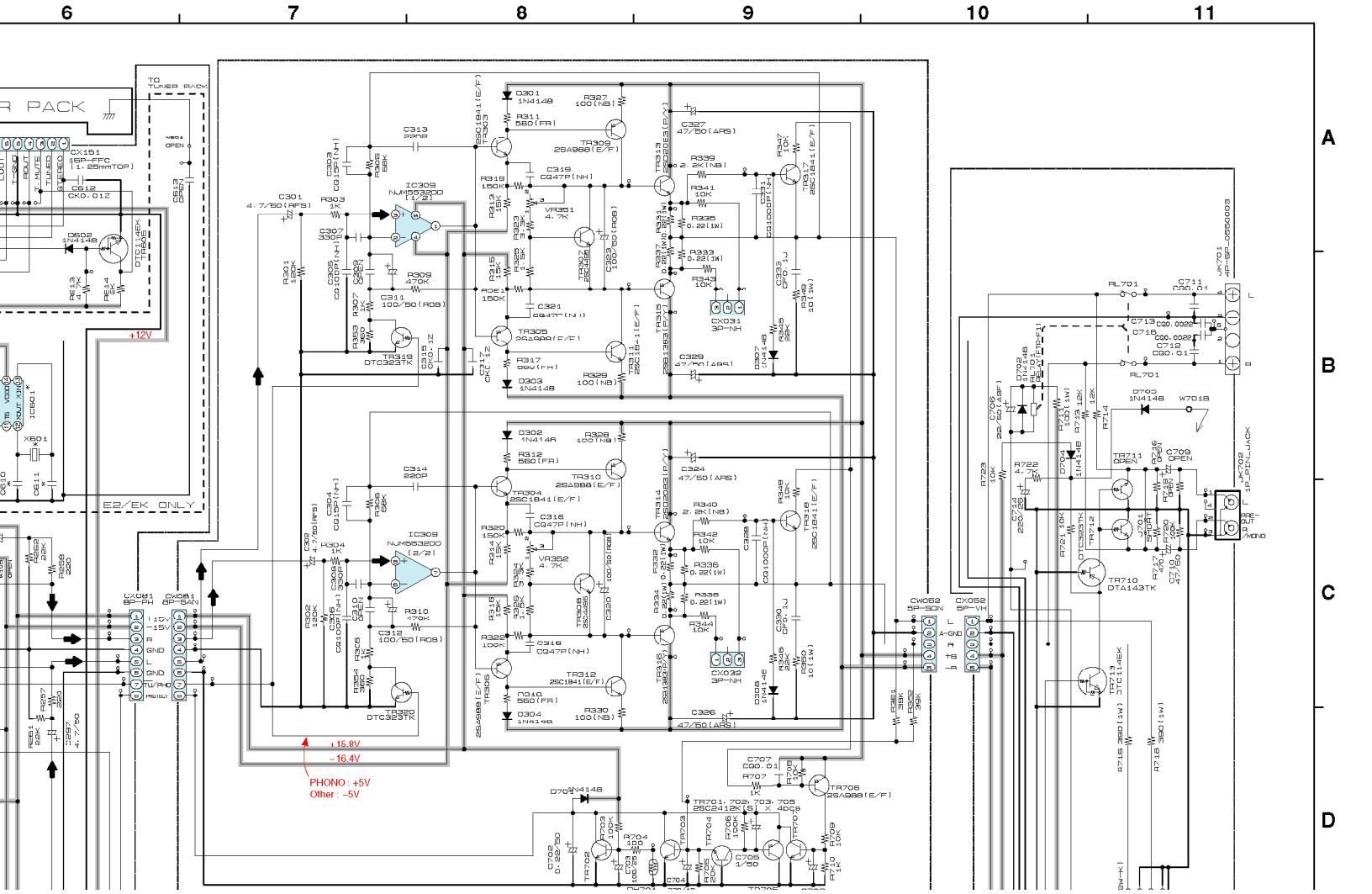
SCHEMATIC DIAGRAMS (1/2)

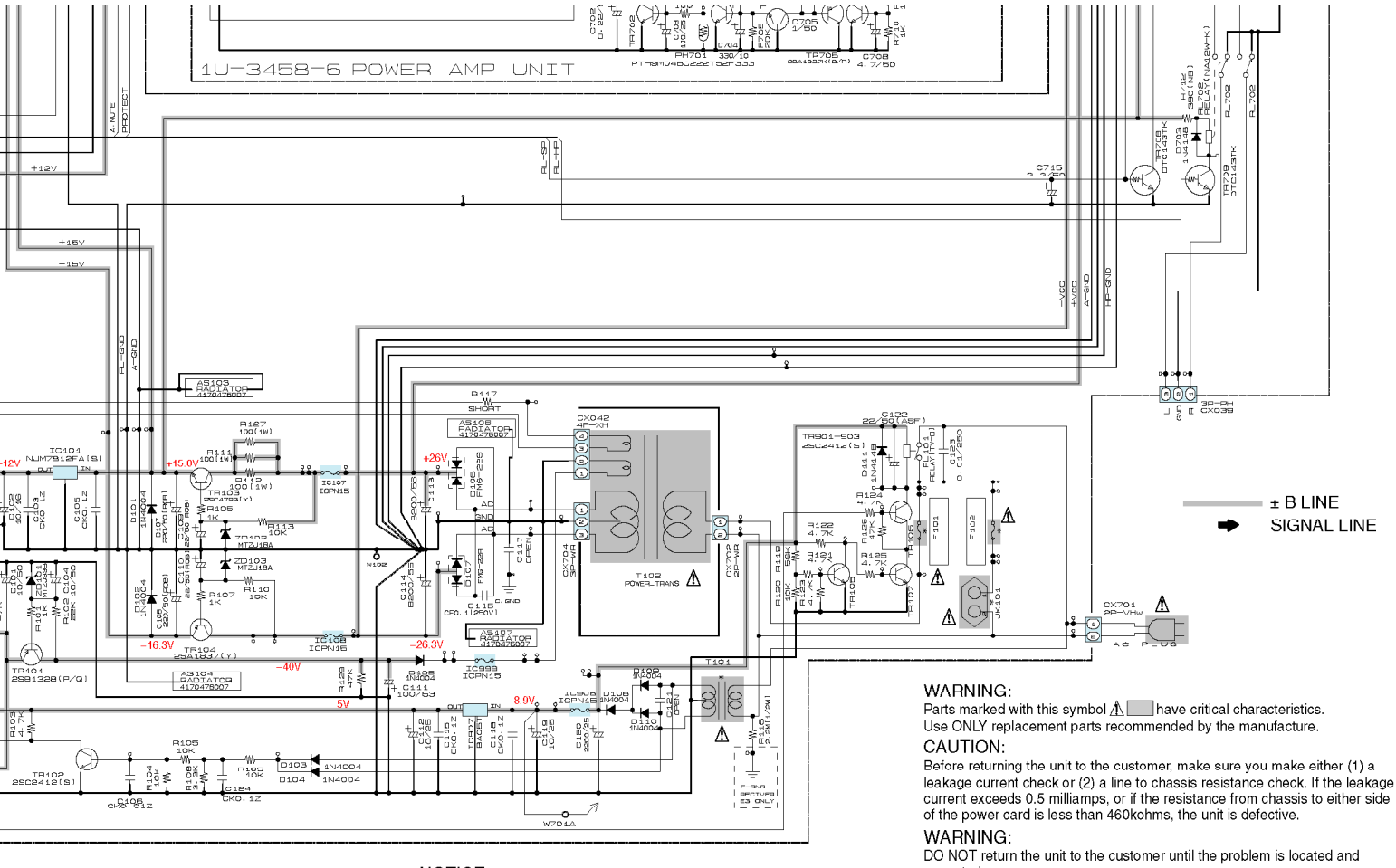




	DRAF101 E2/EK	DRAF101 J
C402	120P	OPEN
C404	CQ270P	CQ150P
C405	120P	OPEN
C407	CQ270P	CQ150P
C408	100P	OPEN
C411	100P	OPEN
C604	330P	OPEN
C605	CK0.01Z	OPEN
C606	10/16	OPEN
C607	CK0.01Z	OPEN
C608	4.7/35	OPEN
C609	560P	OPEN
C610	22P	OPEN
C611	22P	OPEN
F101	T1.25AL/250V	2.5A
F102	T1.25AL/250V	5A
IC601	LC72720NM	OPEN
JK101	OUTLET 3961004	OUTLET 3990004
L401	FTZ	OPEN
L402	FTZ	OPEN
L601	4.7uH	OPEN
R401	2.2K	SHORT
R402	2.2K	SHORT
R611	1K	OPEN
T101	POWER-TRANS(SUB/E2)	POWER-TRANS(SUB/J)
TR604	2SC2412(S)	OPEN
X601	X-TAL(4.332MHZ)	OPEN




6
7
8
9
10
11
A
B
C
D
TO TUNER PACK
R PACK
CX151 15P-FFC (1.25mmTOP)
E2/EK ONLY
+12V
+15.8V
-16.4V
PHONO : +5V
Other : -5V
IC309 NJM553D (1/2)
IC308 NJM553D (2/2)
CX031 3P-NH
CX032 3P-NH
CX052 5P-VH
CW052 5P-SDN
CX081 6P-PH
CW081 6P-SAN
JK701 4P-BP-055D003
JK702 5P-PIN_JACK
RL701
TR710 DTA143TK
TR712 DTC363TK
TR713 DTC114EK
TR714 DTC114EK
TR715 390(1W)
TR716 390(1W)
TR701, 702, 703, 705 2SC2412K
TR706 2SA988(E/F)
TR707 2SA988(E/F)
TR708 2SA988(E/F)
TR709 2SA988(E/F)
TR301 DTC323TK
TR305 2SA988(E/F)
TR307 2SA988(E/F)
TR309 2SA988(E/F)
TR310 2SA988(E/F)
TR311 2SC1841(E/F)
TR312 2SC1841(E/F)
TR313 2SC2003(E/F)
TR314 2SC2003(E/F)
TR315 2SA1943(E/F)
TR316 2SA1943(E/F)
TR317 2SC1841(E/F)
TR318 2SC1841(E/F)
TR319 DTC323TK
TR320 DTC323TK
TR303 2SC1841(E/F)
TR304 2SC1841(E/F)
TR306 2SA988(E/F)
D301 1N4148
D302 1N4148
D303 1N4148
D304 1N4148
D305 1N4148
D306 1N4148
D307 1N4148
D308 1N4148
D309 1N4148
D310 1N4148
D702 RL-201(F)
D703 1N4148
D704 1N4148
D705 1N4148
D706 1N4148
D707 1N4148
D708 1N4148
D709 1N4148
D710 1N4148
D711 1N4148
D712 1N4148
D713 1N4148
D714 1N4148
D715 1N4148
D716 1N4148
D717 1N4148
D718 1N4148
D719 1N4148
D720 1N4148
D721 1N4148
D722 1N4148
D723 1N4148
D724 1N4148
D725 1N4148
D726 1N4148
D727 1N4148
D728 1N4148
D729 1N4148
D730 1N4148
D731 1N4148
D732 1N4148
D733 1N4148
D734 1N4148
D735 1N4148
D736 1N4148
D737 1N4148
D738 1N4148
D739 1N4148
D740 1N4148
D741 1N4148
D742 1N4148
D743 1N4148
D744 1N4148
D745 1N4148
D746 1N4148
D747 1N4148
D748 1N4148
D749 1N4148
D750 1N4148
D751 1N4148
D752 1N4148
D753 1N4148
D754 1N4148
D755 1N4148
D756 1N4148
D757 1N4148
D758 1N4148
D759 1N4148
D760 1N4148
D761 1N4148
D762 1N4148
D763 1N4148
D764 1N4148
D765 1N4148
D766 1N4148
D767 1N4148
D768 1N4148
D769 1N4148
D770 1N4148
D771 1N4148
D772 1N4148
D773 1N4148
D774 1N4148
D775 1N4148
D776 1N4148
D777 1N4148
D778 1N4148
D779 1N4148
D780 1N4148
D781 1N4148
D782 1N4148
D783 1N4148
D784 1N4148
D785 1N4148
D786 1N4148
D787 1N4148
D788 1N4148
D789 1N4148
D790 1N4148
D791 1N4148
D792 1N4148
D793 1N4148
D794 1N4148
D795 1N4148
D796 1N4148
D797 1N4148
D798 1N4148
D799 1N4148
D800 1N4148
D801 1N4148
D802 1N4148
D803 1N4148
D804 1N4148
D805 1N4148
D806 1N4148
D807 1N4148
D808 1N4148
D809 1N4148
D810 1N4148
D811 1N4148
D812 1N4148
D813 1N4148
D814 1N4148
D815 1N4148
D816 1N4148
D817 1N4148
D818 1N4148
D819 1N4148
D820 1N4148
D821 1N4148
D822 1N4148
D823 1N4148
D824 1N4148
D825 1N4148
D826 1N4148
D827 1N4148
D828 1N4148
D829 1N4148
D830 1N4148
D831 1N4148
D832 1N4148
D833 1N4148
D834 1N4148
D835 1N4148
D836 1N4148
D837 1N4148
D838 1N4148
D839 1N4148
D840 1N4148
D841 1N4148
D842 1N4148
D843 1N4148
D844 1N4148
D845 1N4148
D846 1N4148
D847 1N4148
D848 1N4148
D849 1N4148
D850 1N4148
D851 1N4148
D852 1N4148
D853 1N4148
D854 1N4148
D855 1N4148
D856 1N4148
D857 1N4148
D858 1N4148
D859 1N4148
D860 1N4148
D861 1N4148
D862 1N4148
D863 1N4148
D864 1N4148
D865 1N4148
D866 1N4148
D867 1N4148
D868 1N4148
D869 1N4148
D870 1N4148
D871 1N4148
D872 1N4148
D873 1N4148
D874 1N4148
D875 1N4148
D876 1N4148
D877 1N4148
D878 1N4148
D879 1N4148
D880 1N4148
D881 1N4148
D882 1N4148
D883 1N4148
D884 1N4148
D885 1N4148
D886 1N4148
D887 1N4148
D888 1N4148
D889 1N4148
D890 1N4148
D891 1N4148
D892 1N4148
D893 1N4148
D894 1N4148
D895 1N4148
D896 1N4148
D897 1N4148
D898 1N4148
D899 1N4148
D900 1N4148
D901 1N4148
D902 1N4148
D903 1N4148
D904 1N4148
D905 1N4148
D906 1N4148
D907 1N4148
D908 1N4148
D909 1N4148
D910 1N4148
D911 1N4148
D912 1N4148
D913 1N4148
D914 1N4148
D915 1N4148
D916 1N4148
D917 1N4148
D918 1N4148
D919 1N4148
D920 1N4148
D921 1N4148
D922 1N4148
D923 1N4148
D924 1N4148
D925 1N4148
D926 1N4148
D927 1N4148
D928 1N4148
D929 1N4148
D930 1N4148
D931 1N4148
D932 1N4148
D933 1N4148
D934 1N4148
D935 1N4148
D936 1N4148
D937 1N4148
D938 1N4148
D939 1N4148
D940 1N4148
D941 1N4148
D942 1N4148
D943 1N4148
D944 1N4148
D945 1N4148
D946 1N4148
D947 1N4148
D948 1N4148
D949 1N4148
D950 1N4148
D951 1N4148
D952 1N4148
D953 1N4148
D954 1N4148
D955 1N4148
D956 1N4148
D957 1N4148
D958 1N4148
D959 1N4148
D960 1N4148
D961 1N4148
D962 1N4148
D963 1N4148
D964 1N4148
D965 1N4148
D966 1N4148
D967 1N4148
D968 1N4148
D969 1N4148
D970 1N4148
D971 1N4148
D972 1N4148
D973 1N4148
D974 1N4148
D975 1N4148
D976 1N4148
D977 1N4148
D978 1N4148
D979 1N4148
D980 1N4148
D981 1N4148
D982 1N4148
D983 1N4148
D984 1N4148
D985 1N4148
D986 1N4148
D987 1N4148
D988 1N4148
D989 1N4148
D990 1N4148
D991 1N4148
D992 1N4148
D993 1N4148
D994 1N4148
D995 1N4148
D996 1N4148
D997 1N4148
D998 1N4148
D999 1N4148
D1000 1N4148
D1001 1N4148
D1002 1N4148
D1003 1N4148
D1004 1N4148
D1005 1N4148
D1006 1N4148
D1007 1N4148
D1008 1N4148
D1009 1N4148
D1010 1N4148
D1011 1N4148
D1012 1N4148
D1013 1N4148
D1014 1N4148
D1015 1N4148
D1016 1N4148
D1017 1N4148
D1018 1N4148
D1019 1N4148
D1020 1N4148
D1021 1N4148
D1022 1N4148
D1023 1N4148
D1024 1N4148
D1025 1N4148
D1026 1N4148
D1027 1N4148
D1028 1N4148
D1029 1N4148
D1030 1N4148
D1031 1N4148
D1032 1N4148
D1033 1N4148
D1034 1N4148
D1035 1N4148
D1036 1N4148
D1037 1N4148
D1038 1N4148
D1039 1N4148
D1040 1N4148
D1041 1N4148
D1042 1N4148
D1043 1N4148
D1044 1N4148
D1045 1N4148
D1046 1N4148
D1047 1N4148
D1048 1N4148
D1049 1N4148
D1050 1N4148
D1051 1N4148
D1052 1N4148
D1053 1N4148
D1054 1N4148
D1055 1N4148
D1056 1N4148
D1057 1N4148
D1058 1N4148
D1059 1N4148
D1060 1N4148
D1061 1N4148
D1062 1N4148
D1063 1N4148
D1064 1N4148
D1065 1N4148
D1066 1N4148
D1067 1N4148
D1068 1N4148
D1069 1N4148
D1070 1N4148
D1071 1N4148
D1072 1N4148
D1073 1N4148
D1074 1N4148
D1075 1N4148
D1076 1N4148
D1077 1N4148
D1078 1N4148
D1079 1N4148
D1080 1N4148
D1081 1N4148
D1082 1N4148
D1083 1N4148
D1084 1N4148
D1085 1N4148
D1086 1N4148
D1087 1N4148
D1088 1N4148
D1089 1N4148
D1090 1N4148
D1091 1N4148
D1092 1N4148
D1093 1N4148
D1094 1N4148
D1095 1N4148
D1096 1N4148
D1097 1N4148
D1098 1N4148
D1099 1N4148
D1100 1N4148
D1101 1N4148
D1102 1N4148
D1103 1N4148
D1104 1N4148
D1105 1N4148
D1106 1N4148
D1107 1N4148
D1108 1N4148
D1109 1N4148
D1110 1N4148
D1111 1N4148
D1112 1N4148
D1113 1N4148
D1114 1N4148
D1115 1N4148
D1116 1N4148
D1117 1N4148
D1118 1N4148
D1119 1N4148
D1120 1N4148
D1121 1N4148
D1122 1N4148
D1123 1N4148
D1124 1N4148
D1125 1N4148
D1126 1N4148
D1127 1N4148
D1128 1N4148
D1129 1N4148
D1130 1N4148
D1131 1N4148
D1132 1N4148
D1133 1N4148
D1134 1N4148
D1135 1N4148
D1136 1N4148
D1137 1N4148
D1138 1N4148
D1139 1N4148
D1140 1N4148
D1141 1N4148
D1142 1N4148
D1143 1N4148
D1144 1N4148
D1145 1N4148
D1146 1N4148
D1147 1N4148
D1148 1N4148
D1149 1N4148
D1150 1N4148
D1151 1N4148
D1152 1N4148
D1153 1N4148
D1154 1N4148
D1155 1N4148
D1156 1N4148
D1157 1N4148
D1158 1N4148
D1159 1N4148
D1160 1N4148
D1161 1N4148
D1162 1N4148
D1163 1N4148
D1164 1N4148
D1165 1N4148
D1166 1N4148
D1167 1N4148
D1168 1N4148
D1169 1N4148
D1170 1N4148
D1171 1N4148
D1172 1N4148
D1173 1N4148
D1174 1N4148
D1175 1N4148
D1176 1N4148
D1177 1N4148
D1178 1N4148
D1179 1N4148
D1180 1N4148
D1181 1N4148
D1182 1N4148
D1183 1N4148
D1184 1N4148
D1185 1N4148
D1186 1N4148
D1187 1N4148
D1188 1N4148
D1189 1N4148
D1190 1N4148
D1191 1N4148
D1192 1N4148
D1193 1N4148
D1194 1N4148
D1195 1N4148
D1196 1N4148
D1197 1N4148
D1198 1N4148
D1199 1N4148
D1200 1N4148
D1201 1N4148
D1202 1N4148
D1203 1N4148
D1204 1N4148
D1205 1N4148
D1206 1N4148
D1207 1N4148
D1208 1N4148
D1209 1N4148
D1210 1N4148
D1211 1N4148
D1212 1N4148
D1213 1N4148
D1214 1N4148
D1215 1N4148
D1216 1N4148
D1217 1N4148
D1218 1N4148
D1219 1N4148
D1220 1N4148
D1221 1N4148
D1222 1N4148
D1223 1N4148
D1224 1N4148
D1225 1N4148
D1226 1N4148
D1227 1N4148
D1228 1N4148
D1229 1N4148
D1230 1N4148
D1231 1N4148
D1232 1N4148
D1233 1N4148
D1234 1N4148
D1235 1N4148
D1236 1N4148
D1237 1N4148
D1238 1N4148
D1239 1N4148
D1240 1N4148
D1241 1N4148
D1242 1N4148
D1243 1N4148
D1244 1N4148
D1245 1N4148
D1246 1N4148
D1247 1N4148
D1248 1N4148
D1249 1N4148
D1250 1N4148
D1251 1N4148
D1252 1N4148
D1253 1N4148
D1254 1N4148
D1255 1N4148
D1256 1N4148
D1257 1N4148
D1258 1N4148
D1259 1N4148
D1260 1N4148
D1261 1N4148
D1262 1N4148
D1263 1N4148
D1264 1N4148
D1265 1N4148
D1266 1N4148
D1267 1N4148
D1268 1N4148
D1269 1N4148
D1270 1N4148
D1271 1N4148
D1272 1N4148
D1273 1N4148
D1274 1N4148
D1275 1N4148
D1276 1N4148
D1277 1N4148
D1278 1N4148
D1279 1N4148
D1280 1N4148
D1281 1N4148
D1282 1N4148
D1283 1N4148
D1284 1N4148
D1285 1N4148
D1286 1N4148
D1287 1N4148
D1288 1N4148
D1289 1N4148
D1290 1N4148
D1291 1N4148
D1292 1N4148
D1293 1N4148
D1294 1N4148
D1295 1N4148
D1296 1N4148
D1297 1N4148
D1298 1N4148
D1299 1N4148
D1300 1N4148
D1301 1N4148
D1302 1N4148
D1303 1N4148
D1304 1N4148
D1305 1N4148
D1306 1N4148
D1307 1N4148
D1308 1N4148
D1309 1N4148
D1310 1N4148
D1311 1N4148
D1312 1N4148
D1313 1N4148
D1314 1N4148
D1315 1N4148
D1316 1N4148
D1317 1N4148
D1318 1N4148
D1319 1N4148
D1320 1N4148
D1321 1N4148
D1322 1N4148
D1323 1N4148
D1324 1N4148
D1325 1N4148
D1326 1N4148
D1327 1N4148
D1328 1N4148
D1329 1N4148
D1330 1N4148
D1331 1N4148
D1332 1N4148
D1333 1N4148
D1334 1N4148
D1335 1N4148
D1336 1N4148
D1337 1N4148
D1338 1N4148
D1339 1N4148
D1340 1N4148
D1341 1N4148
D1342 1N4148
D1343 1N4148
D1344 1N4148
D1345 1N4148
D1346 1N4148
D1347 1N4148
D1348 1N4148
D1349 1N4148
D1350 1N4148
D1351 1N4148
D1352 1N4148
D1353 1N4148
D1354 1N4148
D1355 1N4148
D1356 1N4148
D1357 1N4148
D1358 1N4148
D1359 1N4148
D1360 1N4148
D1361 1N4148
D1362 1N4148
D1363 1N4148
D1364 1N4148
D1365 1N4148
D1366 1N4148
D1367 1N4148
D1368 1N4148
D1369 1N4148
D1370 1N4148
D1371 1N4148
D1372 1N4148
D1373 1N4148
D1374 1N4148
D1375 1N4148
D1376 1N4148
D1377 1N4148
D1378 1N4148
D1379 1N4148
D1380 1N4148
D1381 1N4148
D1382 1N4148
D1383 1N4148
D1384 1N4148
D1385 1N4148
D1386 1N4148
D1387 1N4148
D1388 1N4148
D1389 1N4148
D1390 1N4148
D1391 1N4148
D1392 1N4148
D1393 1N4148
D1394 1N4148
D1395 1N4148
D1396 1N4148
D1397 1N4148
D1398 1N4148
D1399 1N4148
D1400 1N4148
D1401 1N4148
D1402 1N4148
D1403 1N4148
D1404 1N4148
D1405 1N4148
D1406 1N4148
D1407 1N4148
D1408 1N4148
D1409 1N4148
D1410 1N4148
D1411 1N4148
D1412 1N4148
D1413 1N4148
D1414 1N4148
D1415 1N4148
D1416 1N4148
D1417 1N4148
D1418 1N4148
D1419 1N4148
D1420 1N4148
D1421 1N4148
D1422 1N4148
D1423 1N4148
D1424 1N4148
D1425 1N4148
D1426 1N4148
D1427 1N4148
D1428 1N4148
D1429 1N4148
D1430 1N4148
D1431 1N4148
D1432 1N4148
D1433 1N4148
D1434 1N4148
D1435 1N4148
D1436 1N4148
D1437 1N4148
D1438 1N4148
D1439 1N4148
D1440 1N4148
D1441 1N4148
D1442 1N4148
D1443 1N4148
D1444 1N4148
D1445 1N4148
D1446 1N4148
D1447 1N4148
D1448 1N4148
D1449 1N4148
D1450 1N4148
D1451 1N4148
D1452 1N4148
D1453 1N4148
D1454 1N4148
D1455 1N4148
D1456 1N4148
D1457 1N4148
D1458 1N4148
D1459 1N4148
D1460 1N4148
D1461 1N4148
D1462 1N4148
D1463 1N4148
D1464 1N4148
D1465 1N4148
D1466 1N4148
D1467 1N4148
D1468 1N4148
D1469 1N4148
D1470 1N4148
D1471 1N4148
D1472 1N4148
D1473 1N4148
D1474 1N4148
D1475 1N4148
D1476 1N4148
D1477 1N4148
D1478 1N4148
D1479 1N4148
D1480 1N4148
D1481 1N4148
D1482 1N4148
D1483 1N4148
D1484 1N4148
D1485 1N4148
D1486 1N4148
D1487 1N4148
D1488 1N4148
D1489 1N4148
D1490 1N4148
D1491 1N4148
D1492 1N4148
D1493 1N4148
D1494 1N4148
D1495 1N4148
D1496 1N4148
D1497 1N4148
D1498 1N4148
D1499 1N4148
D1500 1N4148
D1501 1N4148
D1502 1N4148
D1503 1N4148
D1504 1N4148
D1505 1N4148
D1506 1N4148
D1507 1N4148
D1508 1N4148
D1509 1N4148
D1510 1N4148
D1511 1N4148
D1512 1N4148
D1513 1N4148
D1514 1N4148
D1515 1N4148
D1516 1N4148
D1517 1N4148
D1518 1N4148
D1519 1N4148
D1520 1N4148
D1521 1N4148
D1522 1N4148
D1523 1N4148
D1524 1N4148
D1525 1N4148
D1526 1N4148
D1527 1N4148
D1528 1N4148
D1529 1N4148
D1530 1N4148
D1531 1N4148
D1532 1N4148
D1533 1N4148
D1534 1N4148
D1535 1N4148
D1536 1N4148
D1537 1N4148
D1538 1N4148
D1539 1N4148
D1540 1N4148
D1541 1N4148
D1542 1N4148
D1543 1N4148
D1544 1N4148
D1545 1N4148
D1546 1N4148
D1547 1N4148
D1548 1N4148
D1549 1N4148
D1550 1N4148
D1551 1N4148
D1552 1N4148
D1553 1N4148
D1554 1N4148
D1555 1N4148
D1556 1N4148
D1557 1N4148
D1558 1N4148
D1559 1N4148
D1560 1N4148
D1561 1N4148
D1562 1N4148
D1563 1N4148
D1564 1N4148
D1565 1N4148
D1566 1N4148
D1567 1N4148
D1568 1N4148
D1569 1N4148
D1570 1N4148
D1571 1N4148
D1572 1N4148
D1573 1N4148
D1574 1N4148
D1575 1N4148
D1576 1N4148
D1577 1N4148
D1578 1N4148
D1579 1N4148
D1580 1N4148
D1581 1N4148
D1582 1N4148
D1583 1N4148
D1584 1N4148
D1585 1N4148
D1586 1N4148
D1587 1N4148
D1588 1N4148
D1589 1N4148
D1590 1N4148
D1591 1N4148
D1592 1N4148
D1593 1N4148
D1594 1N4148
D1595 1N4148
D1596 1N4148
D1597 1N4148
D1598 1N4148
D1599 1N4148
D1600 1N4148
D1601 1N4148
D1602 1N4148
D1603 1N4148
D1604 1N4148
D1605 1N4148
D1606 1N4148
D1607 1N4148
D1608 1N4148
D1609 1N4148
D1610 1N4148
D1611 1N4148
D1612 1N4148
D1613 1N4148
D1614 1N4148
D1615 1N4148
D1616 1N4148
D1617 1N4148
D1618 1N4148
D1619 1N4148
D1620 1N4148
D1621 1N4148
D1622 1N4148
D1623 1N4148
D1624 1N4148
D1625 1N4148
D1626 1N4148
D1627 1N4148
D1628 1N4148
D1629 1N4148
D1630 1N4148
D1631 1N4148
D1632 1N4148
D1633 1N4148
D1634 1N4148
D1635 1N4148
D1636 1N4148
D1637 1N4148
D1638 1N4148
D1639 1N4148
D1640 1N4148
D1641 1N4148
D1642 1N4148
D1643 1N4148
D1644 1N4148
D1645 1N4148
D1646 1N4148
D1647 1N4148
D1648 1N4148
D1649 1N4148
D1650 1N4148
D1651 1N4148
D1652 1N4148
D1653 1N4148
D1654 1N4148
D1655 1N4148
D1656 1N4148
D1657 1N4148
D1658 1N4148
D1659 1N4148
D1660 1N4148
D1661 1N4148
D1662 1N4148
D1663 1N4148
D1664 1N4148
D1665 1N4148
D1666 1N4148
D1667 1N4148
D1668 1N4148
D1669 1N4148
D1670 1N4148
D1671 1N4148
D1672 1N4148
D1673 1N4148
D1674 1N4148
D1675 1N4148
D1676 1N4148
D1677 1N4148
D1678 1N4148
D1679 1N4148
D1680 1N4148
D1681 1N4148
D1682 1N4148
D1683 1N4148
D1684 1N4148
D1685 1N4148
D1686 1N4148
D1687 1N4148
D1688 1N4148
D1689 1N4148
D1690 1N4148
D1691 1N4148
D1692 1N4148
D1693 1N4148
D1694 1N4148
D1695 1N4148
D1696 1N4148
D1697 1N4148
D1698 1N4148
D1699 1N4148
D1700 1N4148
D1701 1N4148
D1702 1N4148
D1703 1N4148
D1704 1N4148
D1705 1N4148
D1706 1N4148
D1707 1N4148
D1708 1N4148
D1709 1N4148
D1710 1N4148
D1711 1N4148
D1712 1N4148
D1713 1N4148
D1714 1N4148
D1715 1N4148
D1716 1N4148
D1717 1N4148
D1718 1N4148
D1719 1N4148
D1720 1N4148
D1721 1N4148
D1722 1N4148
D1723 1N4148
D1724 1N4148
D1725 1N4148
D1726 1N4148
D1727 1N4148
D1728 1N4148
D1729 1N4148
D1730 1N4148
D1731 1N4148
D1732 1N4148
D1733 1N4148
D1734 1N4148
D1735 1N4148
D1736 1N4148
D1737 1N4148
D1738 1N4148
D1739 1N4148
D1740 1N4148
D1741 1N4148
D1742 1N4148
D1743 1N4148
D1744 1N4148
D1745 1N4148
D1746 1N4148
D1747 1N4148
D1748 1N4148
D1749 1N4148
D1750 1N4148
D1751 1N4148
D1752 1N4148
D1753 1N4148
D1754 1N4148
D1755 1N4148
D1756 1N4148
D1757 1N4148
D1758 1N4148
D1759 1N4148
D1760 1N4148
D1761 1N4148
D1762 1N4148
D1763 1N4148
D1764 1N4148
D1765 1N4148
D1766 1N4148
D1767 1N4148
D1768 1N4148
D1769 1N4148
D1770 1N4148
D1771 1N4148
D1772 1N4148
D1773 1N4148
D1774 1N4148
D1775 1N4148
D1776 1N4148
D1777 1N4148
D1778 1N4148
D1779 1N4148
D1780 1N4148
D1781 1N4148
D1782 1N4148
D1783 1N4148
D1784 1N4148
D1785 1N4148
D1786 1N4148
D1787 1N4148
D1788 1N4148
D1789 1N4148
D1790 1N4148
D1791 1N4148
D1792 1N4148
D1793 1N4148
D1794 1N4148
D1795 1N4148
D1796 1N4148
D1797 1N4148
D1798 1N4148
D1799 1N4148
D1800 1N4148
D1801 1N4148
D1802 1N4148
D1803 1N4148
D1804 1N4148
D1805 1N4148
D1806 1N4148
D1807 1N4148
D1808 1N4148
D1809 1N4148
D1810 1N4148
D1811 1N4148
D1812 1N4148
D1813 1N4148
D1814 1N4148
D1815 1N4148
D1816 1N4148
D1817 1N4148
D1818 1N4148
D1819 1N4148
D1820 1N4148
D1821 1N4148
D1822 1N4148
D1823 1N4148
D1824 1N4148
D1825 1N4148
D1826 1N4148
D1827 1N4148
D1828 1N4148
D1829 1N4148
D1830 1N4148
D1831 1N4148
D1832 1N4148
D1833 1N4148
D1834 1N4148
D1835 1N4148
D1836 1N4148
D1837 1N4148
D1838 1N4148
D1839 1N4148
D1840 1N4148
D1841 1N4148
D1842 1N4148
D1843 1N4148
D1844 1N4148
D1845 1N4148
D1846 1N4148
D1847 1N4148
D1848 1N4148
D1849 1N4148
D1850 1N4148
D1851 1N4148
D1852 1N4148
D1853 1N4148
D1854 1N4148
D1855 1N4148
D1856 1N4148
D1857 1N4148
D1858 1N4148
D1859 1N4148
D1860 1N4148
D1861 1N4148
D1862 1N4148
D1863 1N4148
D1864 1N4148
D1865 1N4148
D1866 1N4148
D1867 1N4148
D1868 1N4148
D1869 1N4148
D1870 1N4148
D1871 1N4148
D1872 1N4148
D1873 1N4148
D1874 1N4148
D1875 1N4148
D1876 1N4148
D1877 1N4148
D1878 1N4148
D1879 1N4148
D1880 1N4148
D1881 1N4148
D1882 1N4148
D1883 1N4148
D1884 1N4148
D1885 1N4148
D1886 1N4148
D1887 1N4148
D1888 1N4148
D1889 1N4148
D1890 1N4148
D1891 1N4148
D1892 1N4148
D1893 1N4148
D1894 1N4148
D1895 1N4148
D1896 1N4148
D1897 1N4148
D1898 1N4148
D1899 1N4148
D1900 1N4148
D1901 1N4148
D1902 1N4148
D1903 1N4148
D1904 1N4148
D1905 1N4148
D1906 1N4148
D1907 1N4148
D1908 1N4148
D1909 1N4148
D1910 1N4148
D1911 1N4148
D1912 1N4148
D1913 1N4148
D1914 1N4148
D1915 1N4148
D1916 1N4148
D1917 1N4148
D1918 1N4148
D1919 1N4148
D1920 1N4148
D1921 1N4148
D1922 1N4148
D1923 1N4148
D1924 1N4148
D1925 1N4148
D1926 1N4148
D1927 1N4148
D1928 1N4148
D1929 1N4148
D1930 1N4148
D1931 1N4148
D1932 1N4148
D1933 1N4148
D1934 1N4148
D1935 1N4148
D1936 1N4148
D1937 1N4148
D1938 1N4148
D1939 1N4148
D1940 1N4148
D1941 1N4148
D1942 1N4148
D1943 1N4148
D1944 1N4148
D1945 1N4148
D1946 1N4148
D1947 1N4148
D1948 1N4148
D1949 1N4148
D1950 1N4148
D1951 1N4148
D1952 1N4148
D1953 1N4148
D1954 1N4148
D1955 1N4148
D1956 1N4148
D1957 1N4148
D1958 1N4148
D1959 1N4148
D1960 1N4148
D1961 1N4148
D1962 1N4148
D1963 1N4148
D1964 1N4148
D1965 1N4148
D1966 1N4148
D1967 1N4148
D1968 1N4148
D1969 1N4148
D1970 1N4148
D1971 1N4148
D1972 1N4148
D1973 1N4148
D1974 1N4148
D1975 1N4148
D1976 1N4148
D1977 1N4148
D1978 1N4148
D1979 1N4148
D1980 1N4148
D1981 1N4148
D1982 1N4148
D1983 1N4148
D1984 1N4148
D1985 1N4148
D1986 1N4148
D1987 1N4148
D1988 1N4148
D1989 1N4148
D1990 1N4148
D1991 1N4148
D1992 1N4148
D1993 1N4148
D1994 1N4148
D1995 1N4148
D1996 1N4148
D1997 1N4148
D1998 1N4148
D1999 1N4148
D2000 1N4148



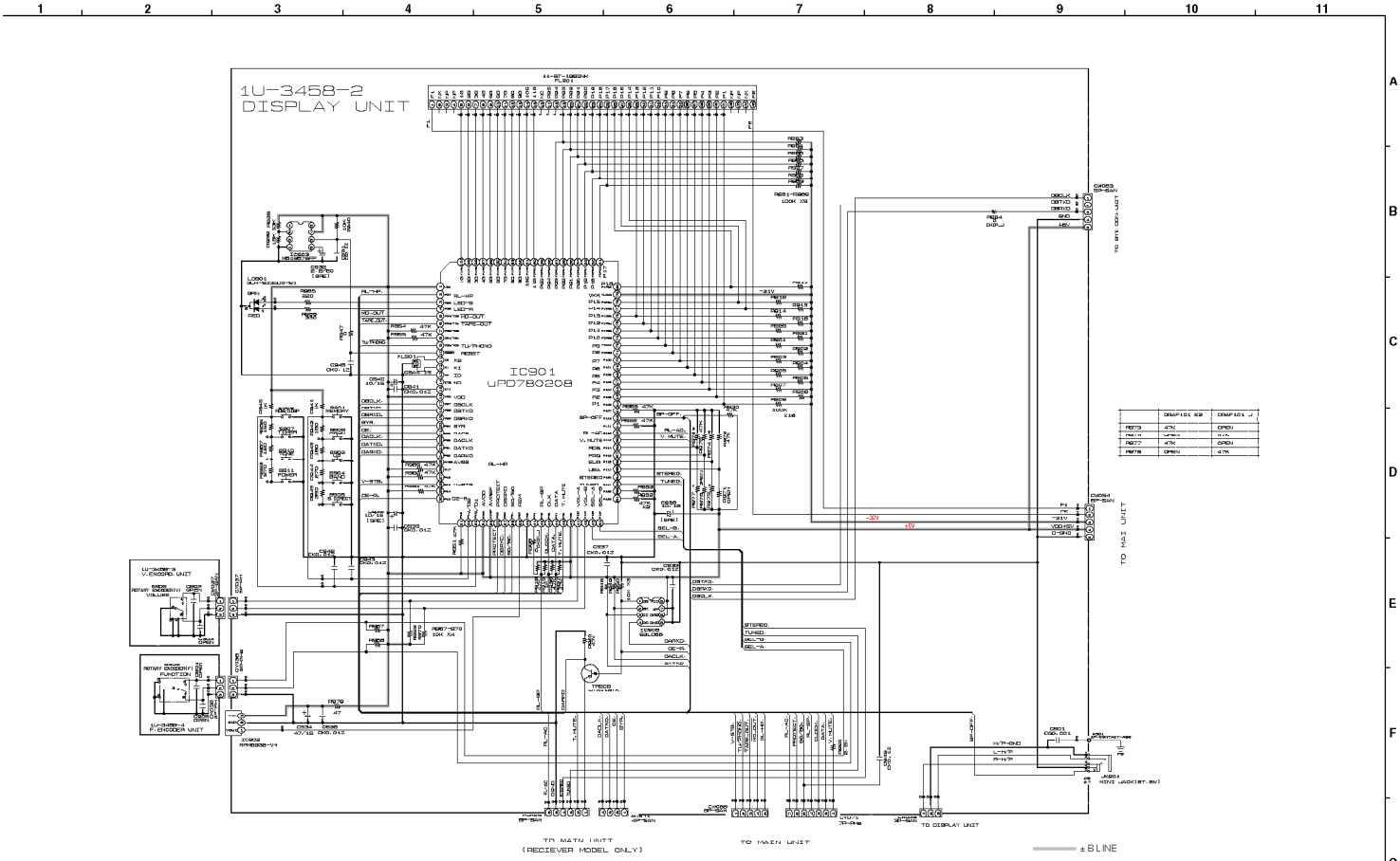
NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAMS (1/2)

1U-3458-1 MAIN UNIT
1U-3458-5 SYS. CON. UNIT
1U-3458-6 POWER AMP UNIT

SCHEMATIC DIAGRAMS (2/2)



NOTICE
ALL RESISTANCE VALUES IN OHM. for1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

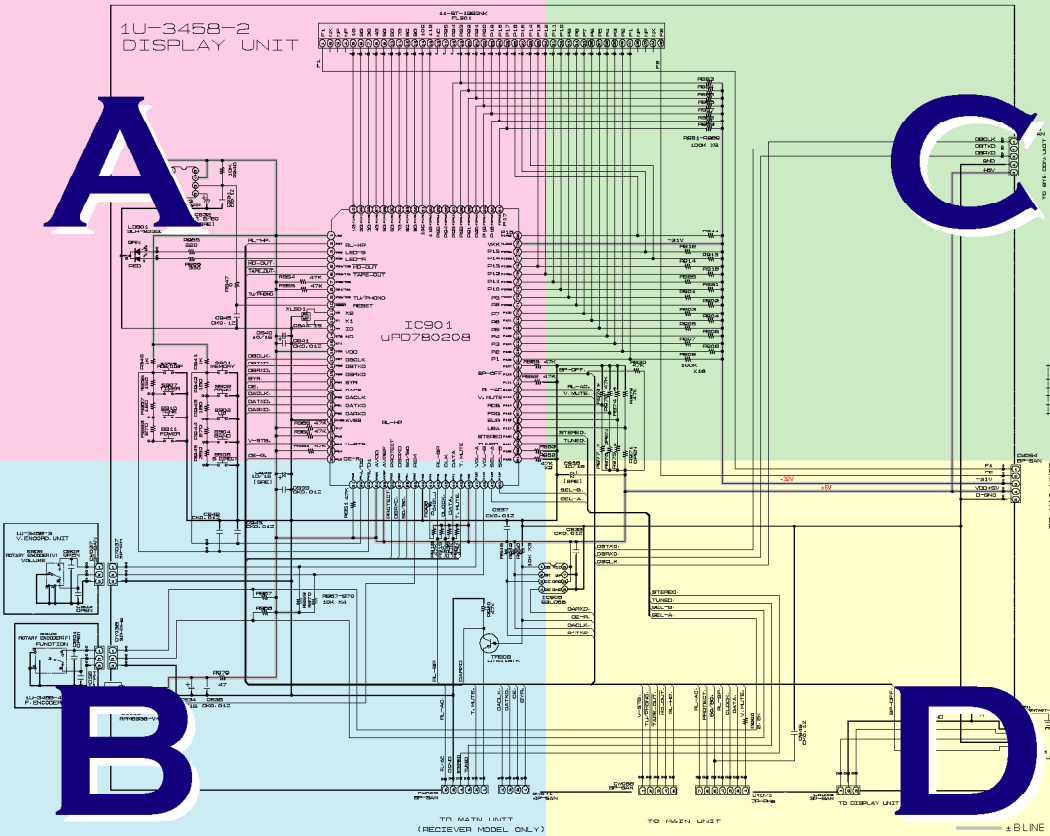
WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (2/2)
1U-3458-2 DISPLAY UNIT
1U-3458-3 V. ENCODER UNIT
1U-3458-4 F. ENCODER UNIT

SCHEMATIC DIAGRAMS (2/2)



NOTICE
ALL RESISTANCE VALUES IN OHM: k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD: F=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

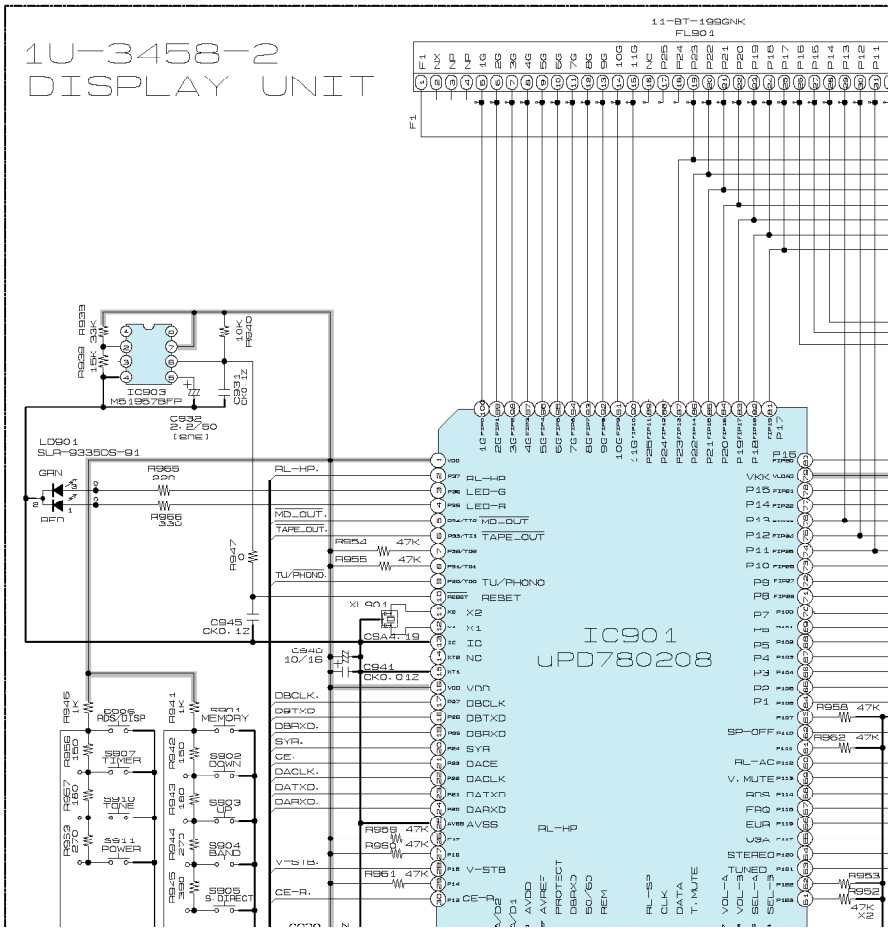
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

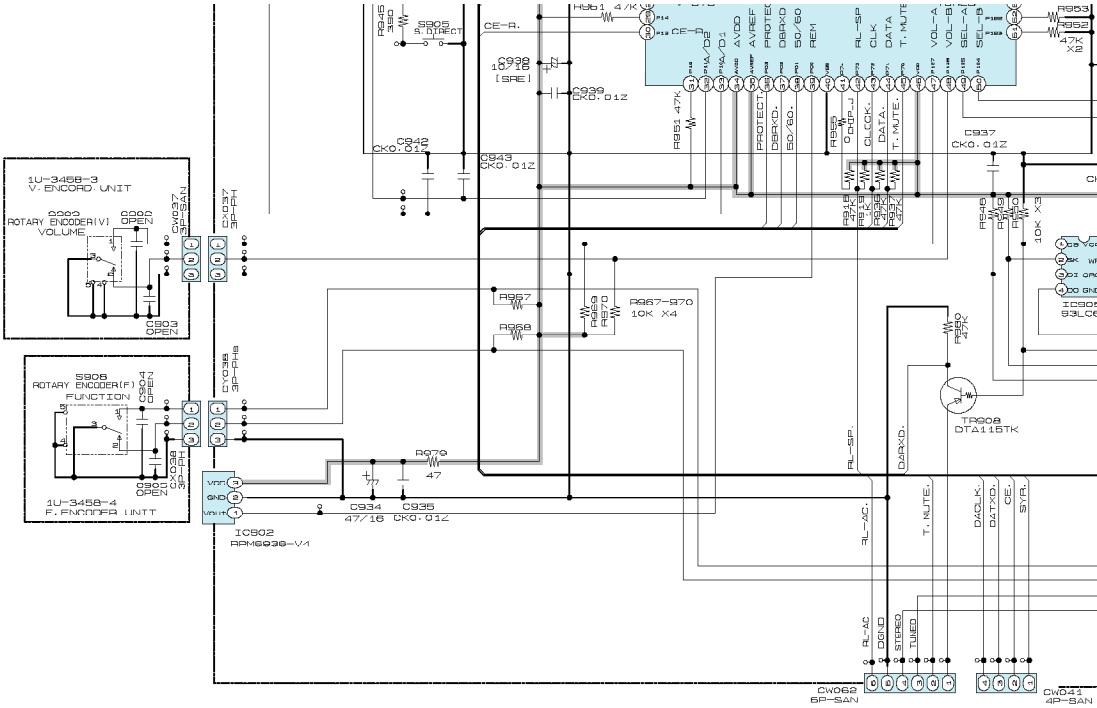
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (2/2)
1U-3458-2 DISPLAY UNIT
1U-3458-3 V. ENCODER UNIT
1U-3458-4 F. ENCODER UNIT

SCHEMATIC DIAGRAMS (2/2)

1 2 3 4 5

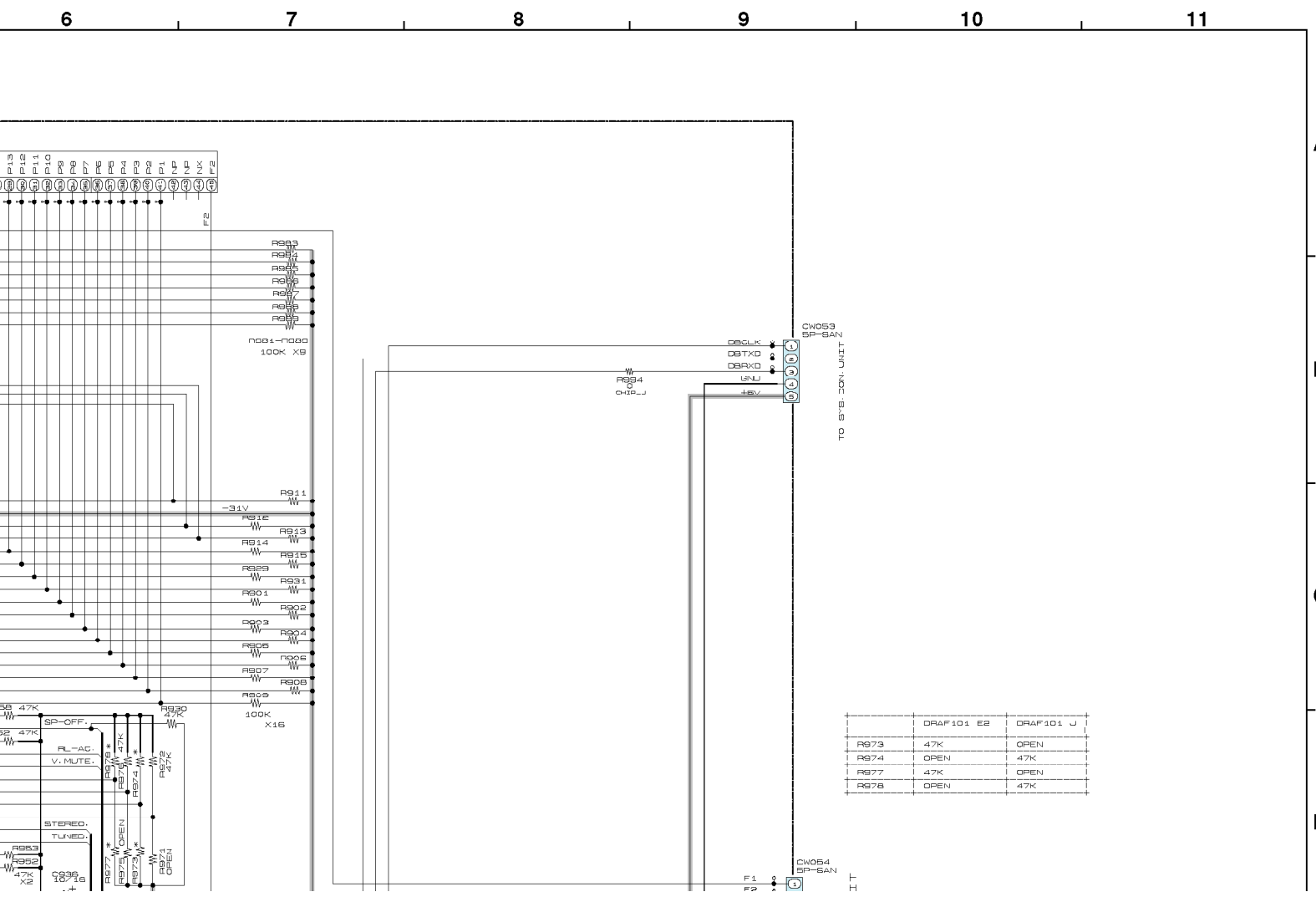




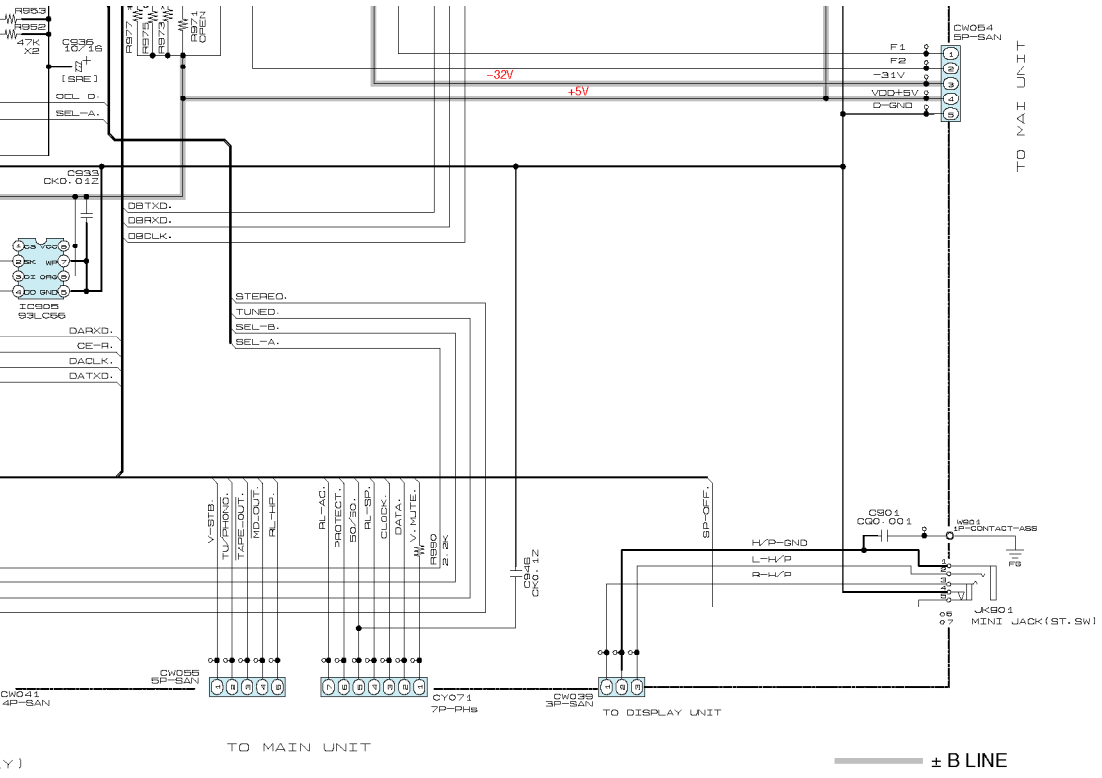
TO MAIN UNIT
(RECIEVER MODEL ONLY)

NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 O
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO
EACH VOLTAGE AND CURRENT ARE MEASUERD AT NO SIGNAL
CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRI
NOTICE.



	DRAF101 E2	DRAF101 J
R973	47K	OPEN
R974	OPEN	47K
R977	47K	OPEN
R978	OPEN	47K



,000 OHM
-MICRO FARAD
SIGNAL INPUT

UT PRIOR

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (2/2)

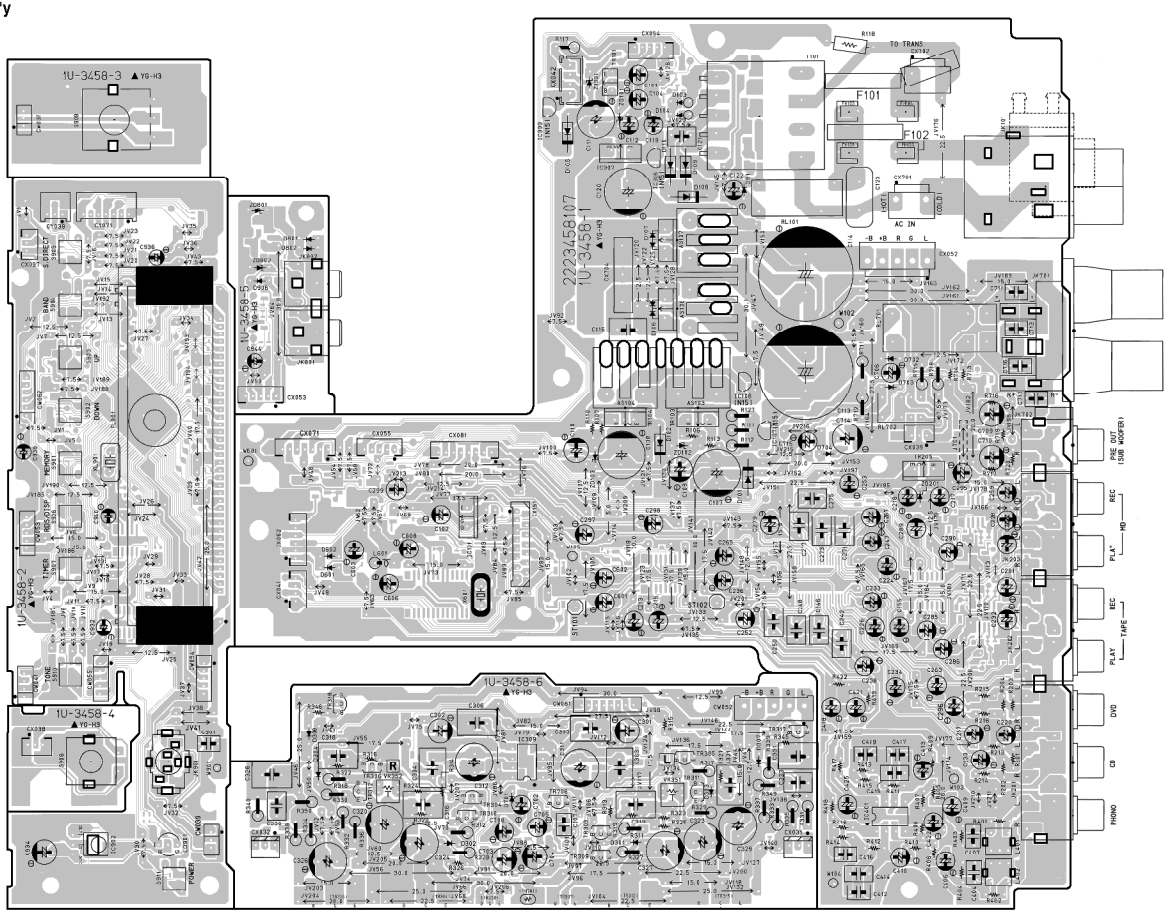
1U-3458-2 DISPLAY UNIT
1U-3458-3 V. ENCODER UNIT
1U-3458-4 F. ENCODER UNIT

E
F
G
H

PRINTED WIRING BOARDS

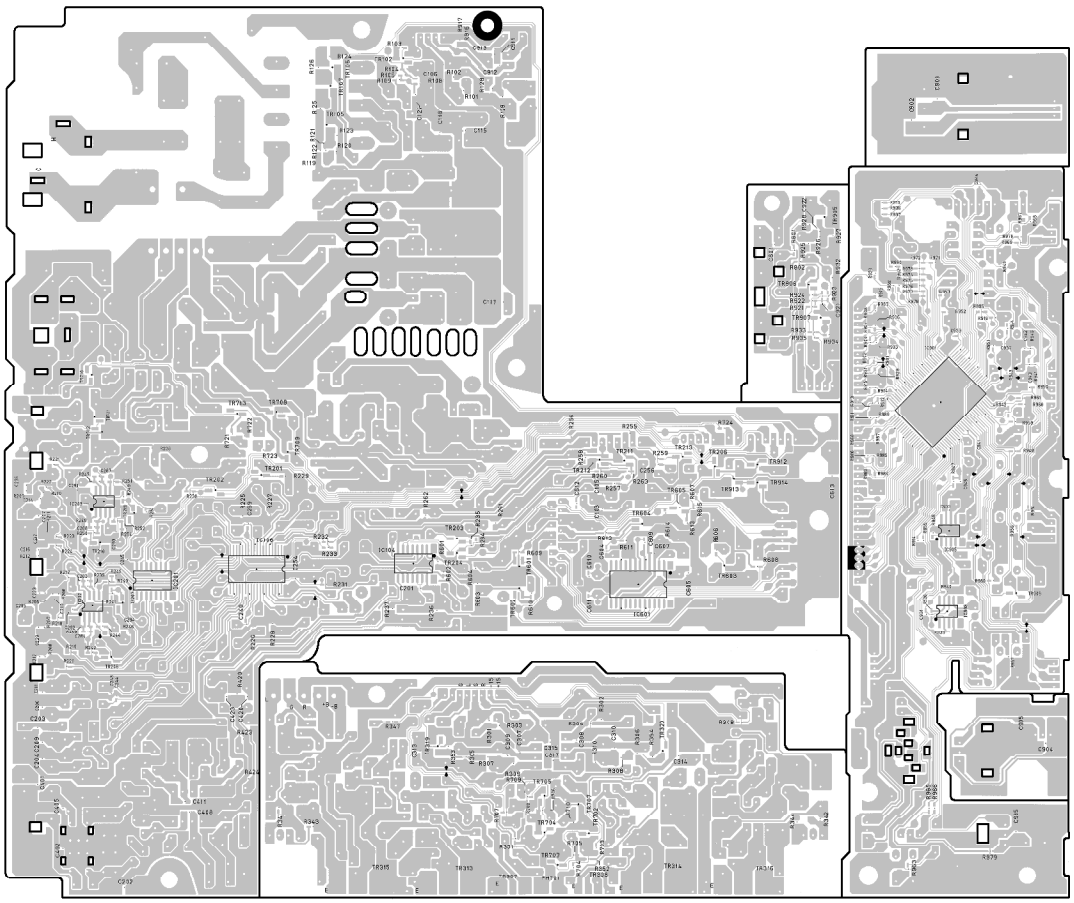
1 2 3 4 5 6 7 8

1U-3458 DRA P.W.B. UNIT Ass'y



COMPONENT SIDE

1U-3458 DRA P.W.B. UNIT Ass'y



FOIL SIDE