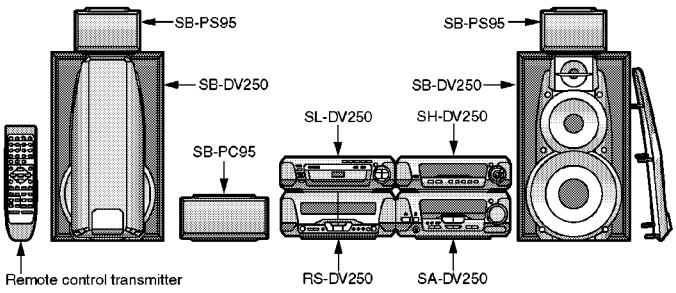
ORDER NO.AD0103077C2

Service Manual

Sound Processor

DOLBY SURROUND PRO•LOGIC



SH-DV250

Colour

(S) .....Silver Type

Area

EG .....Europe.

System: SC-DV250

Because of unique interconnecting cables,when a component requires servise,send or bring in the entire system.

Note: Refer to the service manual for Model No. SA-DV250 (ORDER NO.AD0103076C2) for information on “ACCESSORIES”and “PACKAGING”.

Specification

lEQ/SFP section

MANUAL GEQ

5-band EQ center frequency:	70/ 300/ 1k/ 3.15k/ 10k Hz
Level control:	+-2.0/ 4.0. 6.0 dB
EQ/Space mode:	4 Modes, HEAVY, CLEAR, SOFT, HALL
SUPER 3D AI EQ:	3 Modes AI EQ, SUPER 3D AI 1, SUPER 3D AI 2

lPre-amplifier section

Input sensitivity/ impedance

VCR (EXT):	250mV/ 15kΩ
AUX (DVD):	250mV/ 15kΩ

Output level

VCR RECOUT:	150mV/ 1.5kΩ

lDolby pro logic section

Pro logic mode:	SURROUND
Center mode:	NORMAL
Delay time:	20mSec.

lAV surround section

AV surround mode:	Super surround (music/ movie)

lDSP control section

DSP control mode:	Super sound EQ
	Center focus
	Virtual rear surround
	Multi rear surround
	Seat position

lSpectrum analyzer section

Display mode:	NORMAL, PEAKHOLD, AURORA

lGeneral

Dimensions (WxHxD):	293x89x270mm
Weight:	1.5kg
Power Supply	DC±10V/ -25V, AC4.6V
Power Consumption	7W

Notes:

1.Design and specifications are subject to change without notice.

2.Dimensions and weight are approximate.

lSystem

Sound Processor: SH-DV250, DVD/ Video CD/ CD changer: SL-DV250, Stereo tuner/ amplifier: SA-DV250, Cassette Deck: RS-DV250, Speakers: Front (SB-DV250), Center (SB-PC95), Surround (SB-PS95) (Made in MAES)

Technics®

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

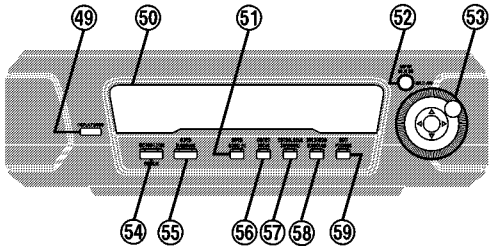
CONTENTS

1 Before Repair

This equipment (SH-DV250), which is the component of the system, is supplied with power from the amplifier (SA-DV250).When repairing this equipment or checking operation of the system, be sure to connect the amplifier with it.

Power supply and operation check in the state of it as a single equipmenet are impracticable.

2 Operating Instructions

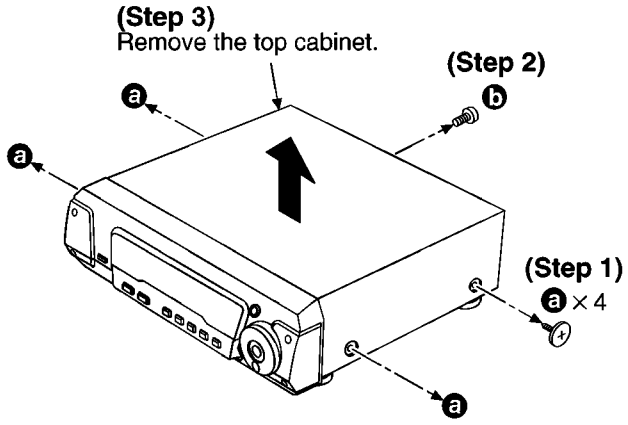


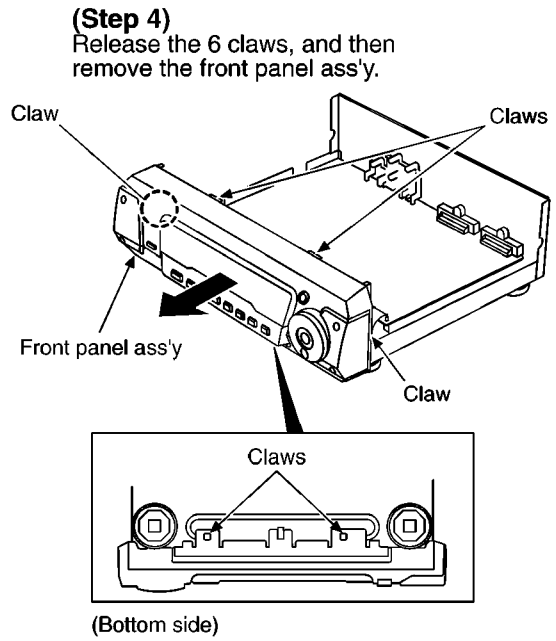
49 Display mode button (DISPLAY MODE)
50 Display
51 Super sound EQ button (SUPER SOUND EQ)
52 Super 3D AI EQ button (SUPER 3D AI EQ)
53 Jog control and joystick (◀, ▶, ▲, ▼, MULTI JOG)
54 DOLBY PRO LOGIC button and indicator (□□PRO LOGIC, OFF/ON)
55 Super surround button and indicator (SUPER SURROUND)
56 Center focus button and indicator (CENTER FOCUS)
57 Virtual rear surround button and indicator (VIRTUAL REAR SURROUND)
58 Multi rear surround button and indicator (MULTI REAR SURROUND)
59 Seat position button and indicator (SEAT POSITION)

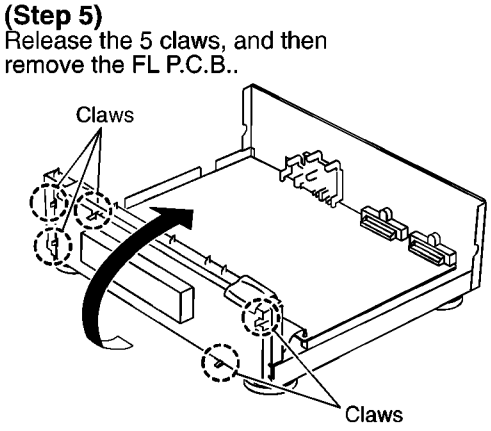
3 Operation Checks and Component Replacement Procedures

- **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
- **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**

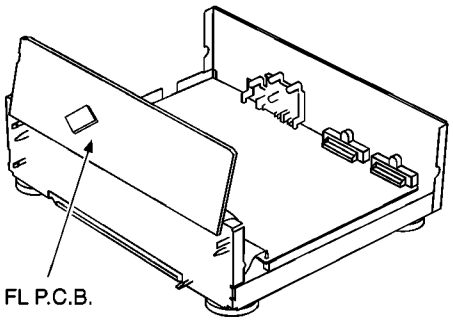
3.1. Checking for the FL P.C.B.





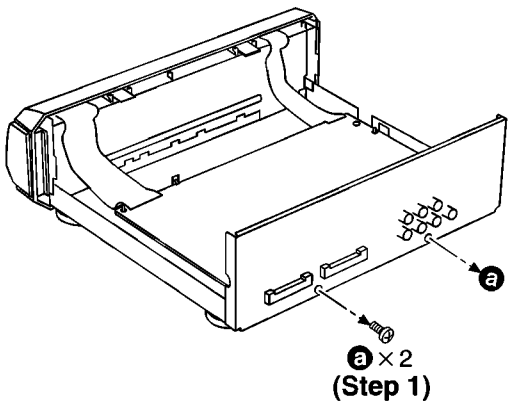


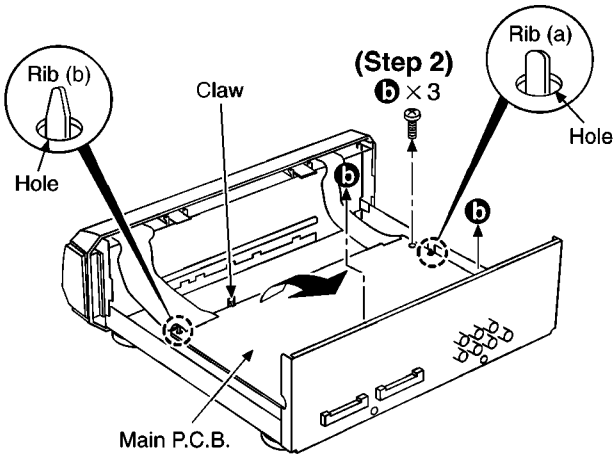
- **Check the FL P.C.B. as shown below.**



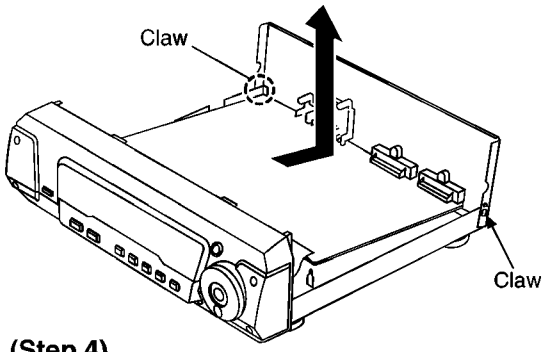
3.2. Checking for the main P.C.B.

- Follow the **(Step 1)** - **(Step 3)** of item 3.1.





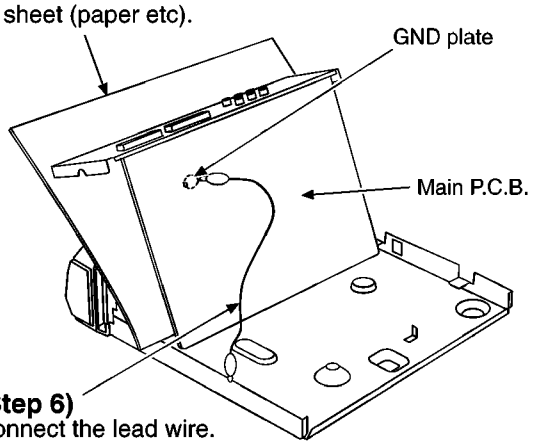
(Step 3)
Release the claw, and then lift up the main P.C.B..
(Lift up the main P.C.B. until the rib (a) and rib (b) are released from the hole of main P.C.B..)



(Step 4)
Release the 2 claws, and then remove the main P.C.B. in the direction of arrow.

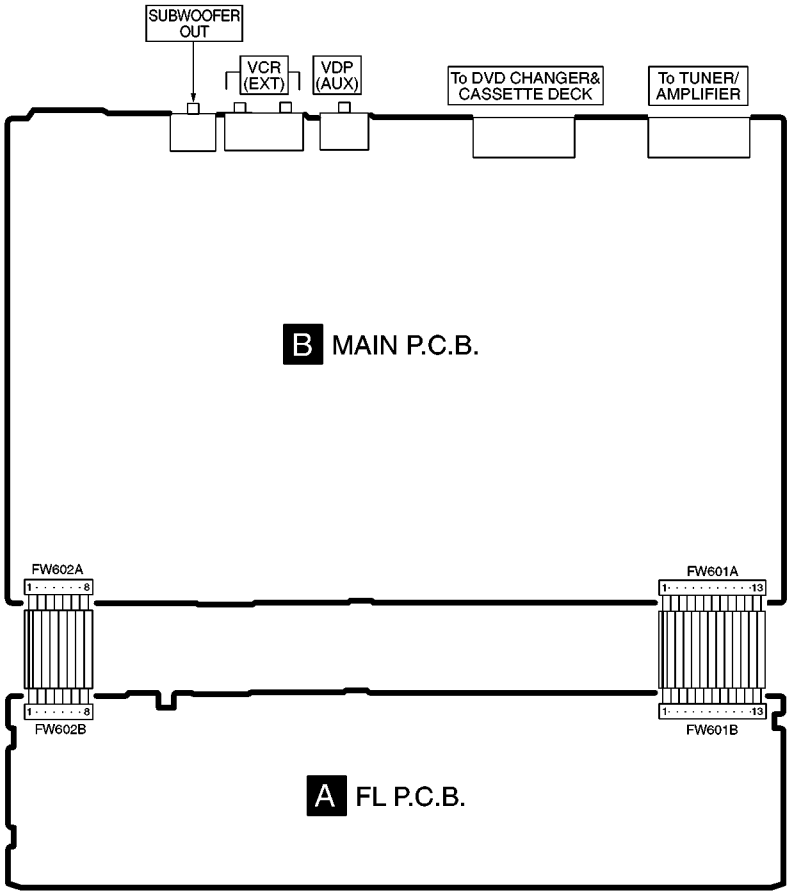
· Check the main P.C.B. as shown below.

(Step 5)
Insert the insulator sheet (paper etc).

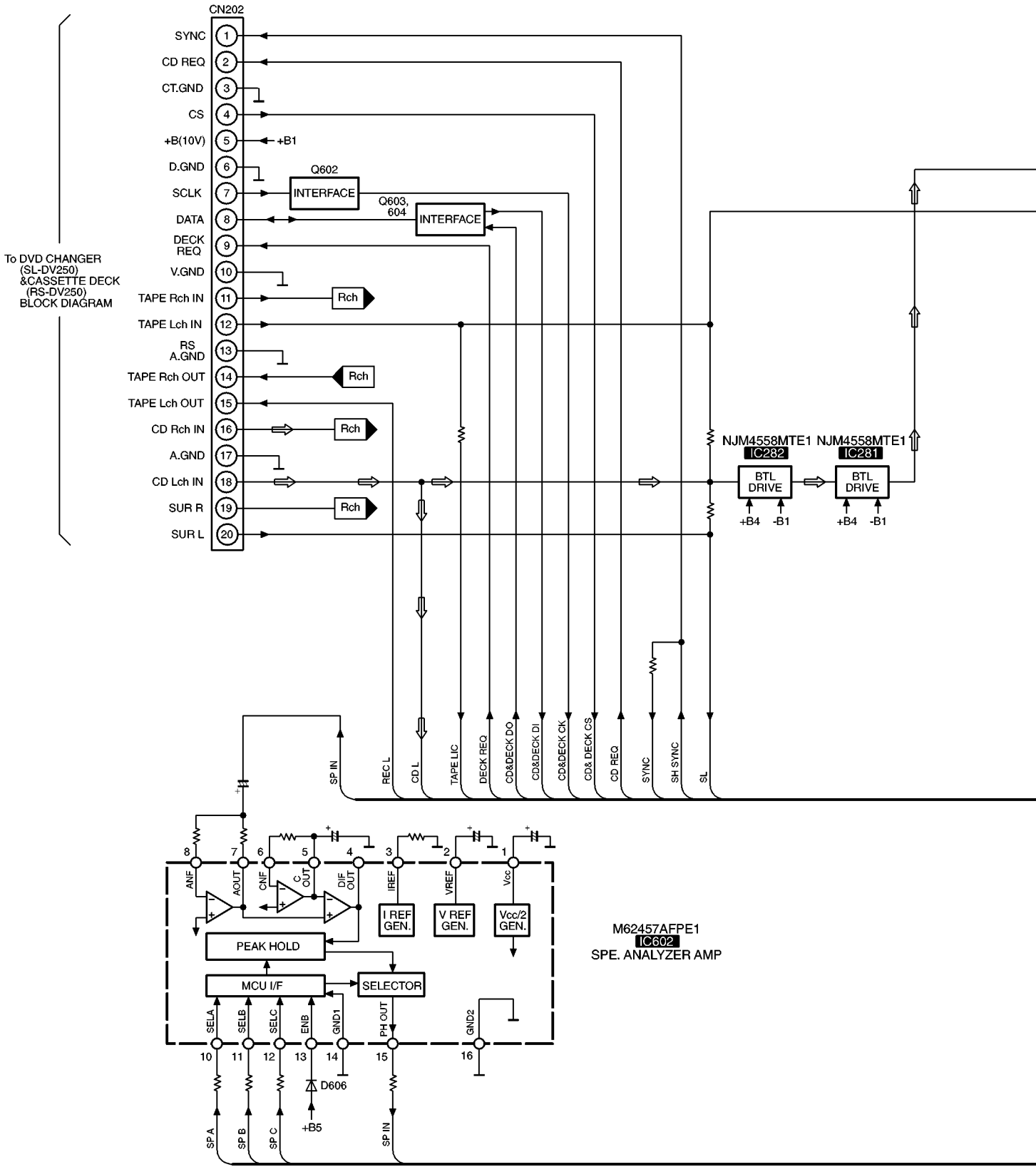


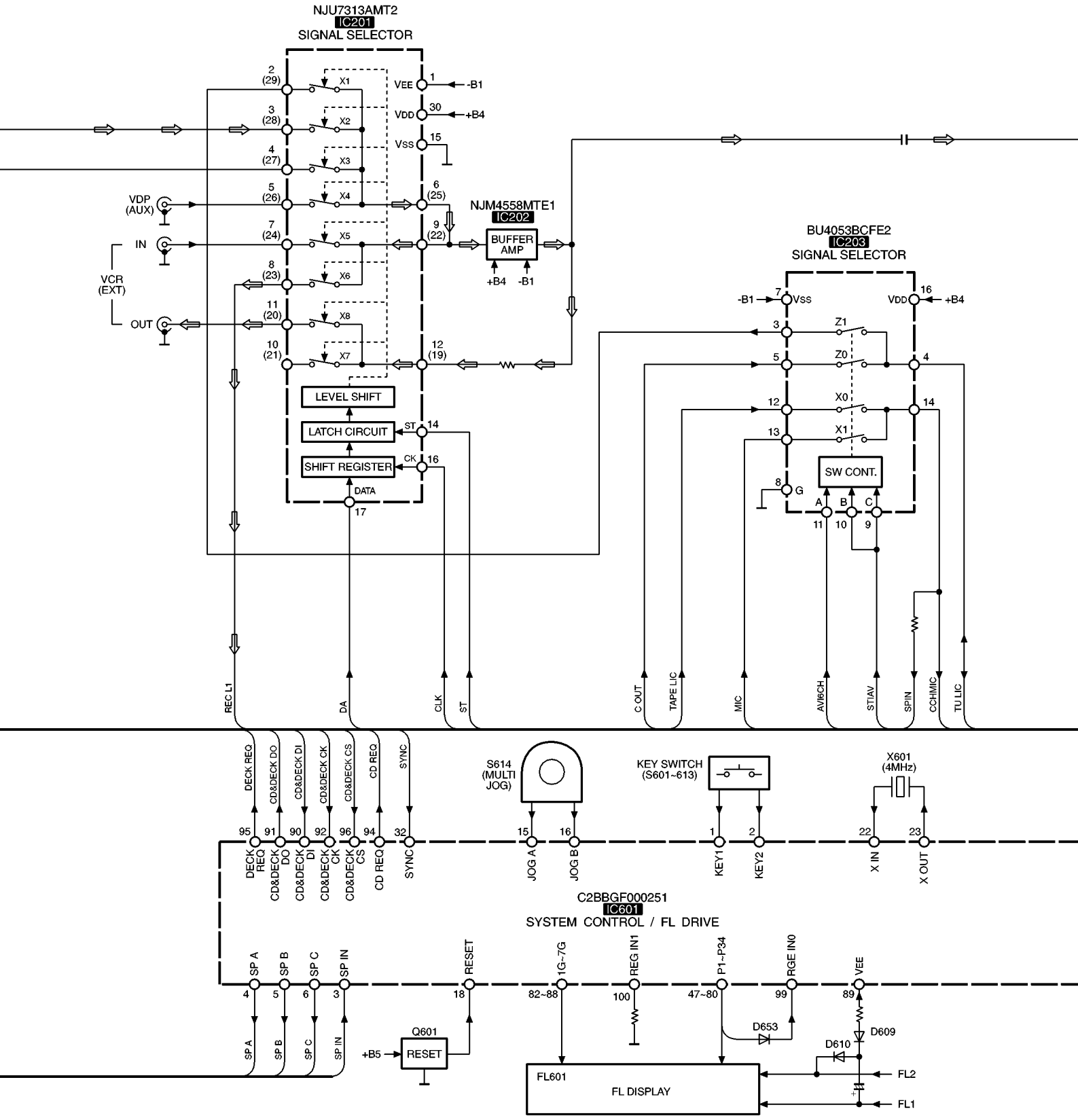
(Step 6)
Connect the lead wire.

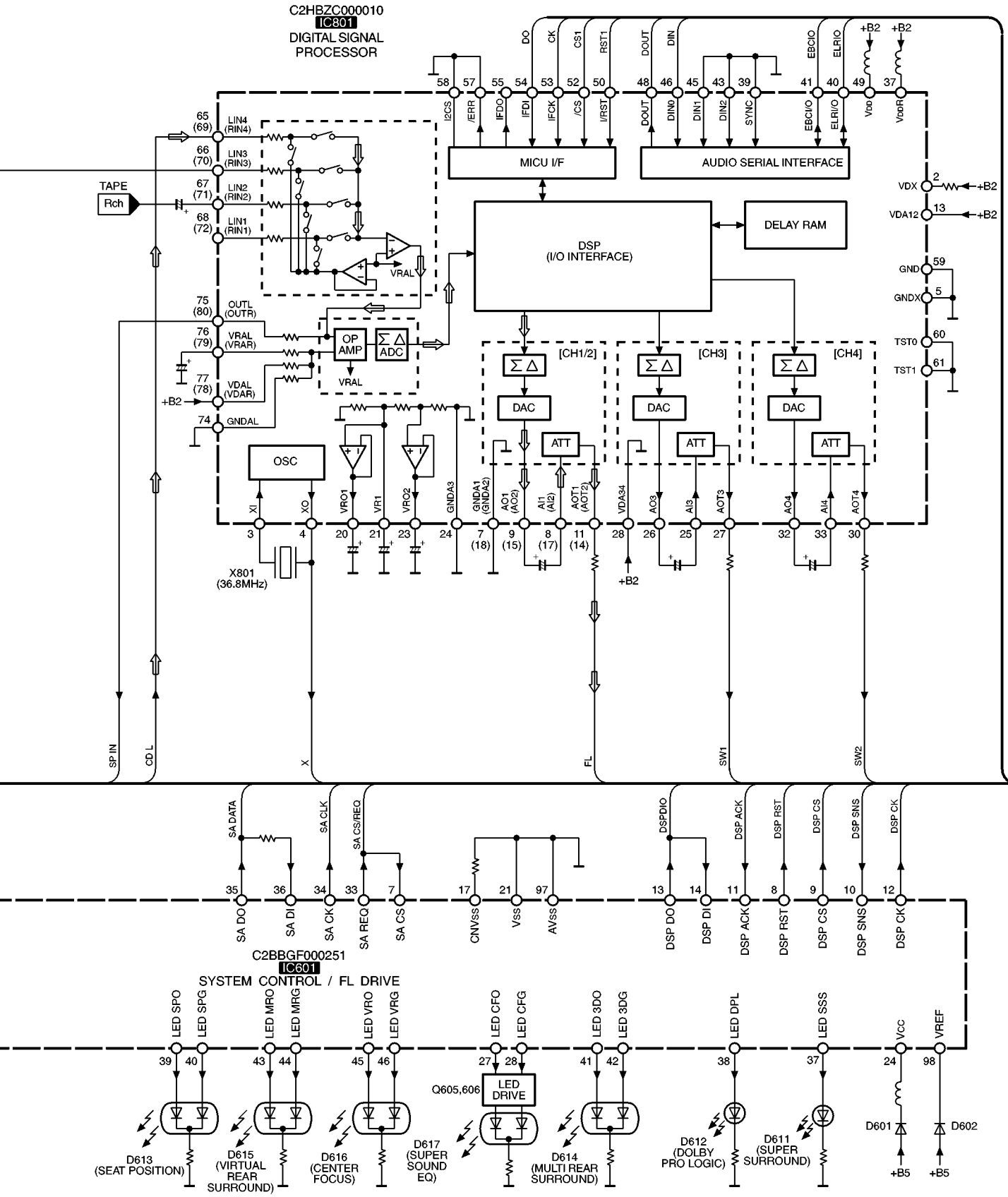
4 Wiring Connection Diagram

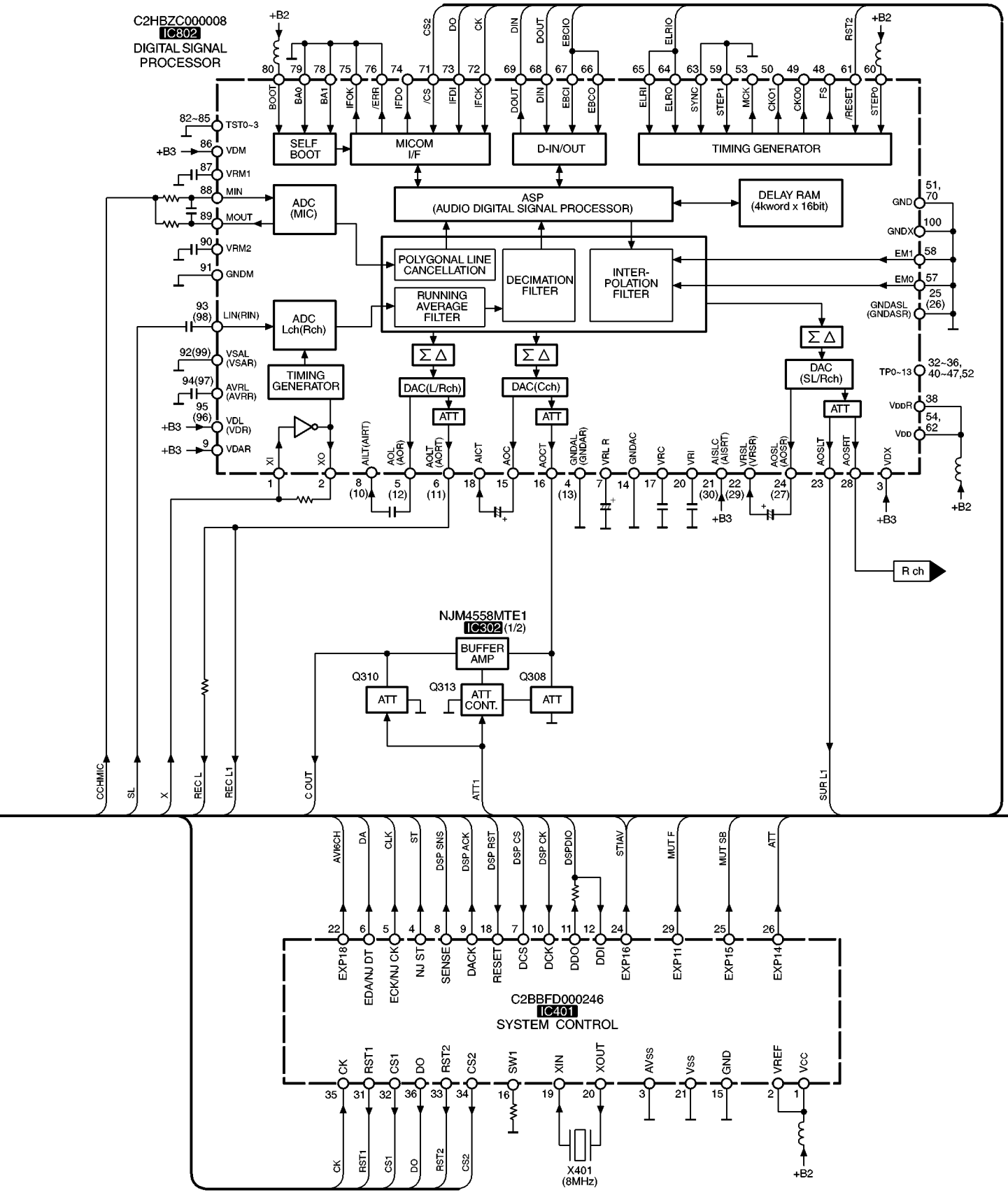


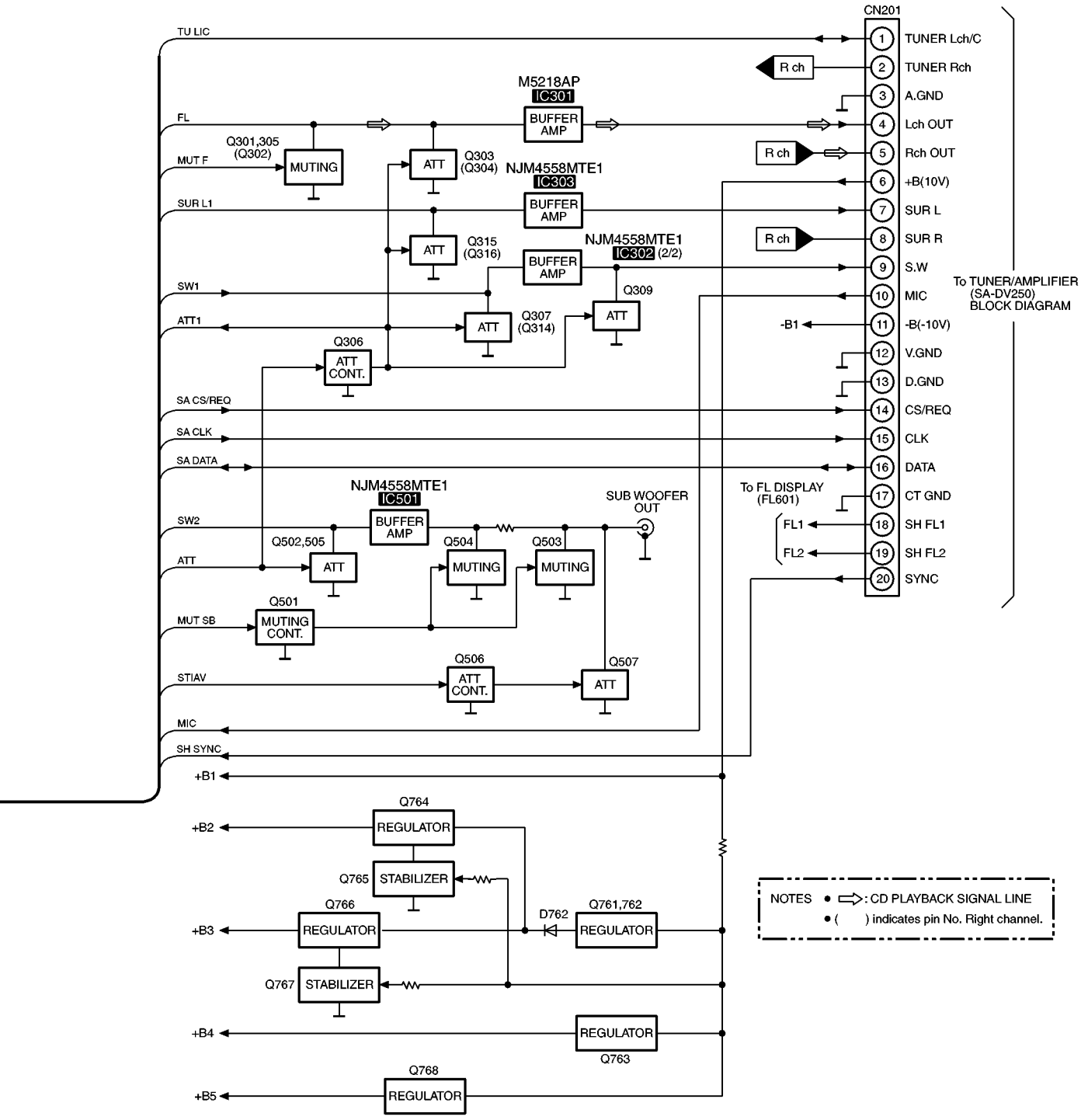
5 Block Diagram




NJU7313AMT2
IC201
SIGNAL SELECTOR
VEE
VDD
VSS
-B1
+B4
X1
X2
X3
X4
X5
X6
X8
X7
VDP (AUX)
IN
VCR (EXT)
OUT
NJM4558MTE1
IC202
BUFFER AMP
+B4
-B1
LEVEL SHIFT
LATCH CIRCUIT
SHIFT REGISTER
DATA
ST
CK
BU4053BCFE2
IC203
SIGNAL SELECTOR
Z1
Z0
X0
X1
SW CONT.
G
A
B
C
REC L1
DA
CLK
ST
C OUT
TAPE LIC
MIC
AVR6CH
STIAV
SPIN
CCHMIC
TU LIC
DECK REQ
CD&DECK DO
CD&DECK DI
CD&DECK CK
CD&DECK CS
CD REQ
SYNC
S614 (MULTI JOG)
KEY SWITCH (S601~613)
X601 (4MHz)
JOG A
JOG B
KEY1
KEY2
X IN
X OUT
C2BBGF000251
IC601
SYSTEM CONTROL / FL DRIVE
SP A
SP B
SP C
SP IN
RESET
1G~7G
REG IN1
P1~P34
RGE IN0
VEE
Q601
RESET
+B5
D653
D609
D610
FL601
FL DISPLAY
FL2
FL1


C2HBZC000010
IC801
DIGITAL SIGNAL PROCESSOR
MICU I/F
AUDIO SERIAL INTERFACE
DSP (I/O INTERFACE)
DELAY RAM
OP AMP
ADC
DAC
ATT
OSC
[CH1/2]
[CH3]
[CH4]
TAPE
Rch
LIN4 (RIN4)
LIN3 (RIN3)
LIN2 (RIN2)
LIN1 (RIN1)
OUTL (OUTR)
VRAL (VRAR)
VDAL (VDAR)
GNDAL
VRAL
X801 (36.8MHz)
SP IN
CD L
X
FL
SW1
SW2
C2BBGF000251
IC601
SYSTEM CONTROL / FL DRIVE
D613 (SEAT POSITION)
D615 (VIRTUAL REAR SURROUND)
D616 (CENTER FOCUS)
D617 (SUPER SOUND EQ)
D614 (MULTI REAR SURROUND)
D612 (DOLBY PRO LOGIC)
D611 (SUPER SURROUND)
D601
D602
LED DRIVE
Q605,606


C2HBZC000008
IC802
DIGITAL SIGNAL PROCESSOR
SELF BOOT
MICOM I/F
D-IN/OUT
TIMING GENERATOR
ASP (AUDIO DIGITAL SIGNAL PROCESSOR)
DELAY RAM (4kword x 16bit)
ADC (MIC)
ADC Lch(Rch)
TIMING GENERATOR
POLYGONAL LINE CANCELLATION
RUNNING AVERAGE FILTER
DECIMATION FILTER
INTER-POLATION FILTER
DAC(L/Rch)
DAC(Cch)
DAC (SL/Rch)
ATT
NJM4558MTE1
IC302 (1/2)
BUFFER AMP
Q310
Q313
Q308
ATT CONT.
C2BBFD000246
IC401
SYSTEM CONTROL
X401 (8MHz)
R ch
+B2
+B3


CN201
TU LIC
TUNER Lch/C
R ch
TUNER Rch
A.GND
M5218AP
IC301
FL
BUFFER AMP
Lch OUT
Q301,305 (Q302)
MUT F
MUTING
ATT
Q303 (Q304)
NJM4558MTE1
IC303
R ch
Rch OUT
+B(10V)
SUR L1
BUFFER AMP
SUR L
ATT
Q315 (Q316)
NJM4558MTE1
IC302 (2/2)
R ch
SUR R
BUFFER AMP
S.W
SW1
Q309
MIC
ATT1
ATT
Q307 (Q314)
ATT
-B1
-B(-10V)
Q306
ATT CONT.
V.GND
D.GND
SA CS/REQ
CS/REQ
SA CLK
CLK
SA DATA
DATA
NJM4558MTE1
IC501
SUB WOOFER OUT
To FL DISPLAY (FL601)
CT GND
SW2
BUFFER AMP
Q502,505
Q504
Q503
FL1
SH FL1
ATT
ATT
MUTING
MUTING
FL2
SH FL2
Q501
MUT SB
MUTING CONT.
SYNC
Q506
Q507
STIAV
ATT CONT.
ATT
MIC
SH SYNC
+B1
To TUNER/AMPLIFIER (SA-DV250) BLOCK DIAGRAM
Q764
+B2
REGULATOR
Q765
STABILIZER
Q766
D762
Q761,762
+B3
REGULATOR
REGULATOR
Q767
STABILIZER
+B4
REGULATOR
Q763
Q768
+B5
REGULATOR
NOTES • ⇨: CD PLAYBACK SIGNAL LINE
• ( ) indicates pin No. Right channel.

6 To Supply Power Source

This unit is designed to operate on power supplied from system connected.

When a component requires service, use the system connections to supply power source.

For system connections. (Refer to Fig. 1)

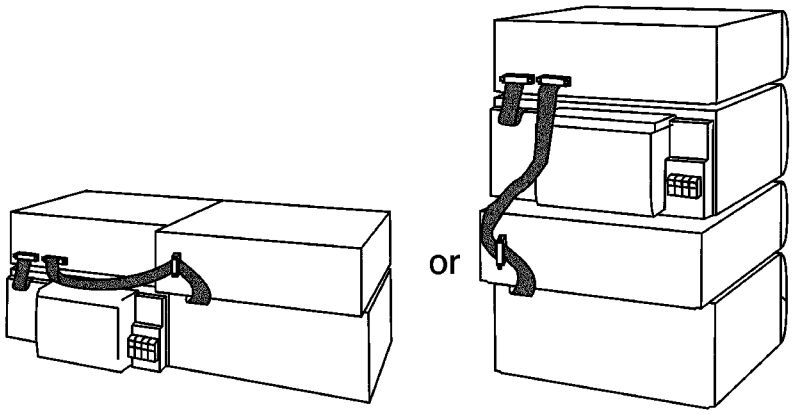
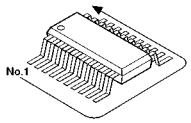


Fig. 1

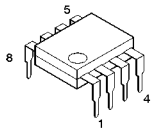
7 Schematic Diagram Notes

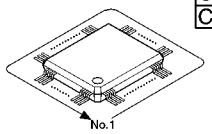
7.1. Type Illustrations of IC's, Transistors and Diodes



BU4053BCFE2	16PIN
M62457AFPE1	16PIN
NJU7313AMT2	30PIN
C2BBFD000246	42PIN
NJM4558MTE1	8PIN

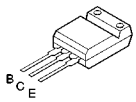
M5218AP

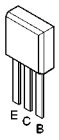




C2BBGF000251	100PIN
C2HBZC000010	80PIN
C2HBZC000008	100PIN

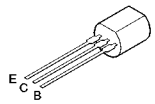
2SD2137PQTA



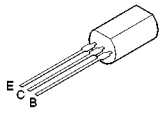


2SC3311ATA
UN4211TA
UN411FTA

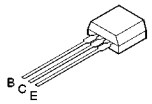
2SB621ARSTA
2SD592AQRSTA
2SA1309ATA



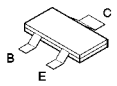
2SC3940AQSTA



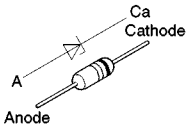
2SD2144STA



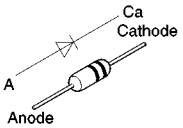
UN5211TX



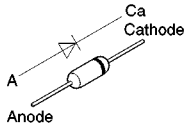
MA4051LTA
MA4062HTA
MA4082LTA
MA4051MTA
MA4056MTA



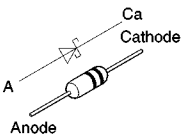
1SS291TA
MA700ATA



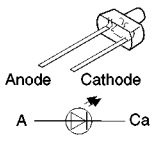
MA165TA



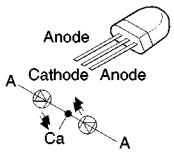
MA719TA



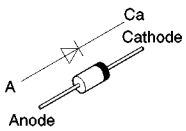
LNJ301MPUJAD



SML79455C



RL1N4003N02



7.2. Schematic Diagram Notes

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

Notes:

- S601: Display mode (DISPLAY MODE) switch.
- S602: DOLBY PRO LOGIC (▯▯ PRO LOGIC, OFF/ ON) switch.
- S603: Super surround (SUPER SURROUND) switch .
- S604: Super sound EQ (SUPER SOUND EQ) switch .
- S605: Center focus (CENTER FOCUS) switch.
- S606: Virtual rear surround (VIRTUAL REAR SURROUND) switch.
- S607: Multi rear surround (MULTI REAR SURROUND) switch.
- S608: Jog control (▶) switch.
- S609: Jog control (▲) switch.
- S610: Jog control (◀) switch.
- S611: Jog control (▼) switch.
- S612: Super 3D AI EQ (SUPER 3D AI EQ) switch.
- S613: Seat position (SEAT POSITION) switch.
- S614: Joystick (MULTI JOG) switch.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: Power on

Important safety notice:

Components identified by ⚠ mark have special characteristics impotant for safety.

Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Caution!

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

Voltage and signal line

: Positive voltage line

: CD Playback signal line

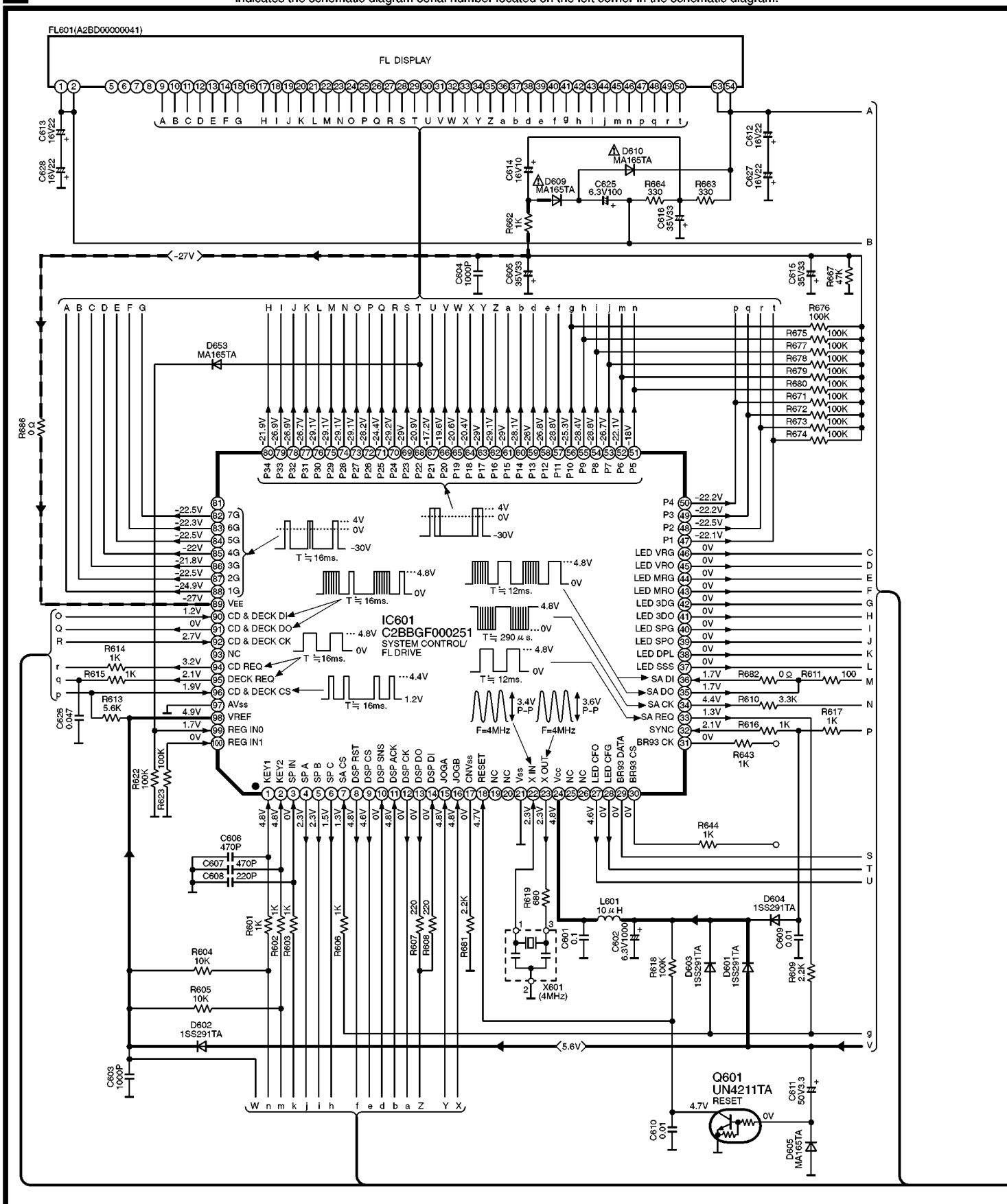
: Negative voltage line

8 Schematic Diagram

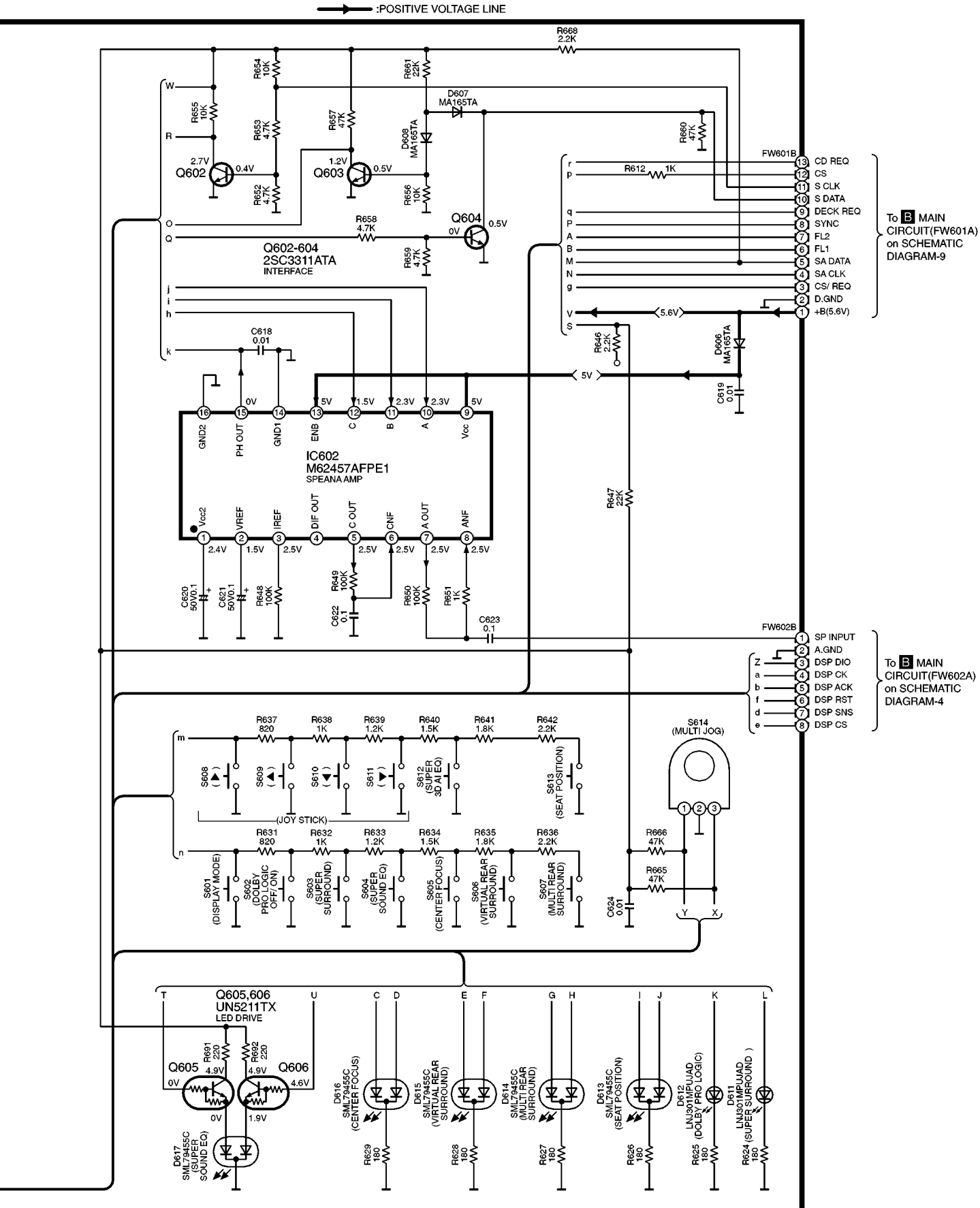
SCHEMATIC DIAGRAM-1
A FL CIRCUIT

NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE



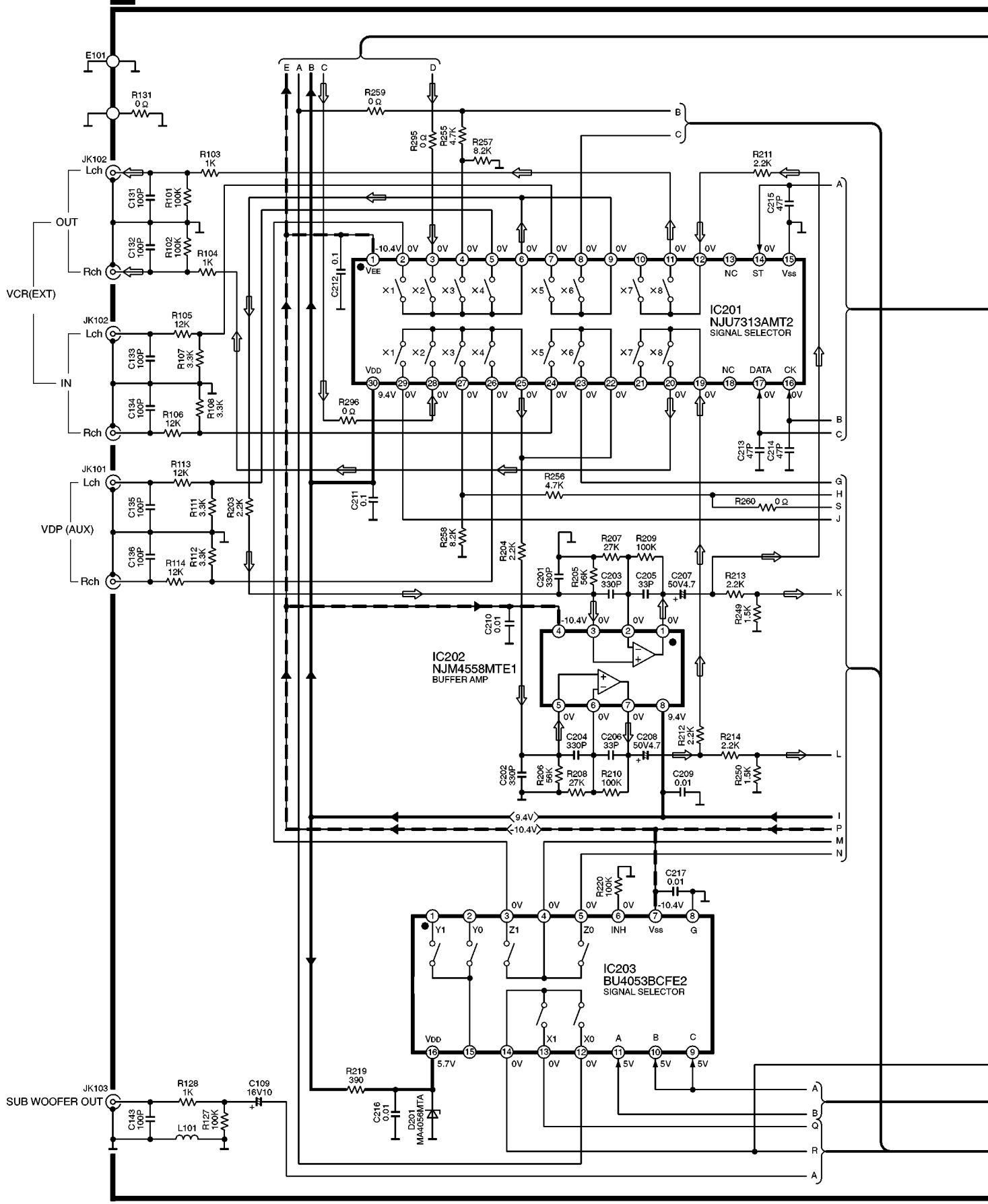
SCHEMATIC DIAGRAM-2



SCHEMATIC DIAGRAM-3

B MAIN CIRCUIT

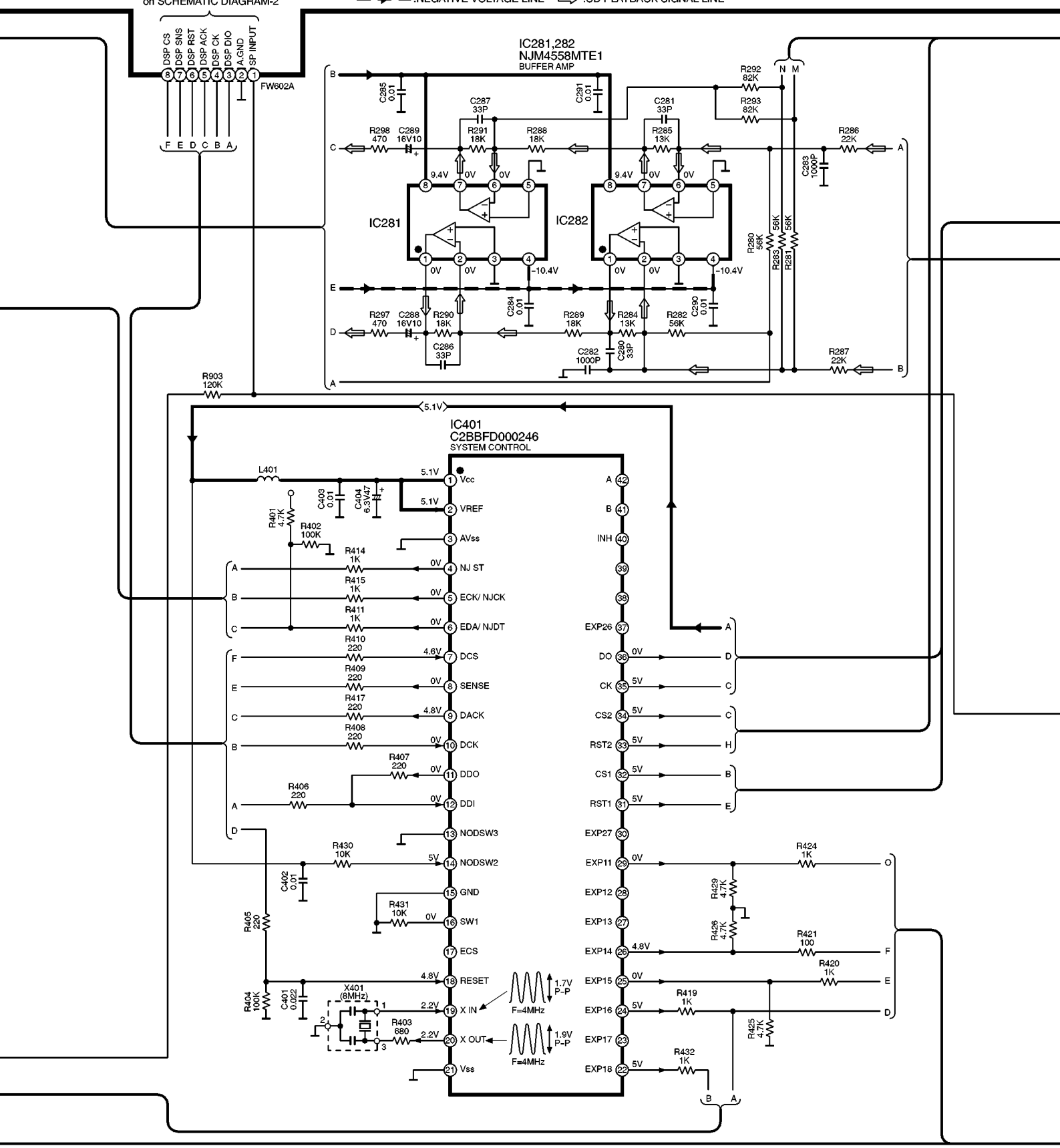
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE



SCHEMATIC DIAGRAM-4

To A FL CIRCUIT(FW602B)
on SCHEMATIC DIAGRAM-2

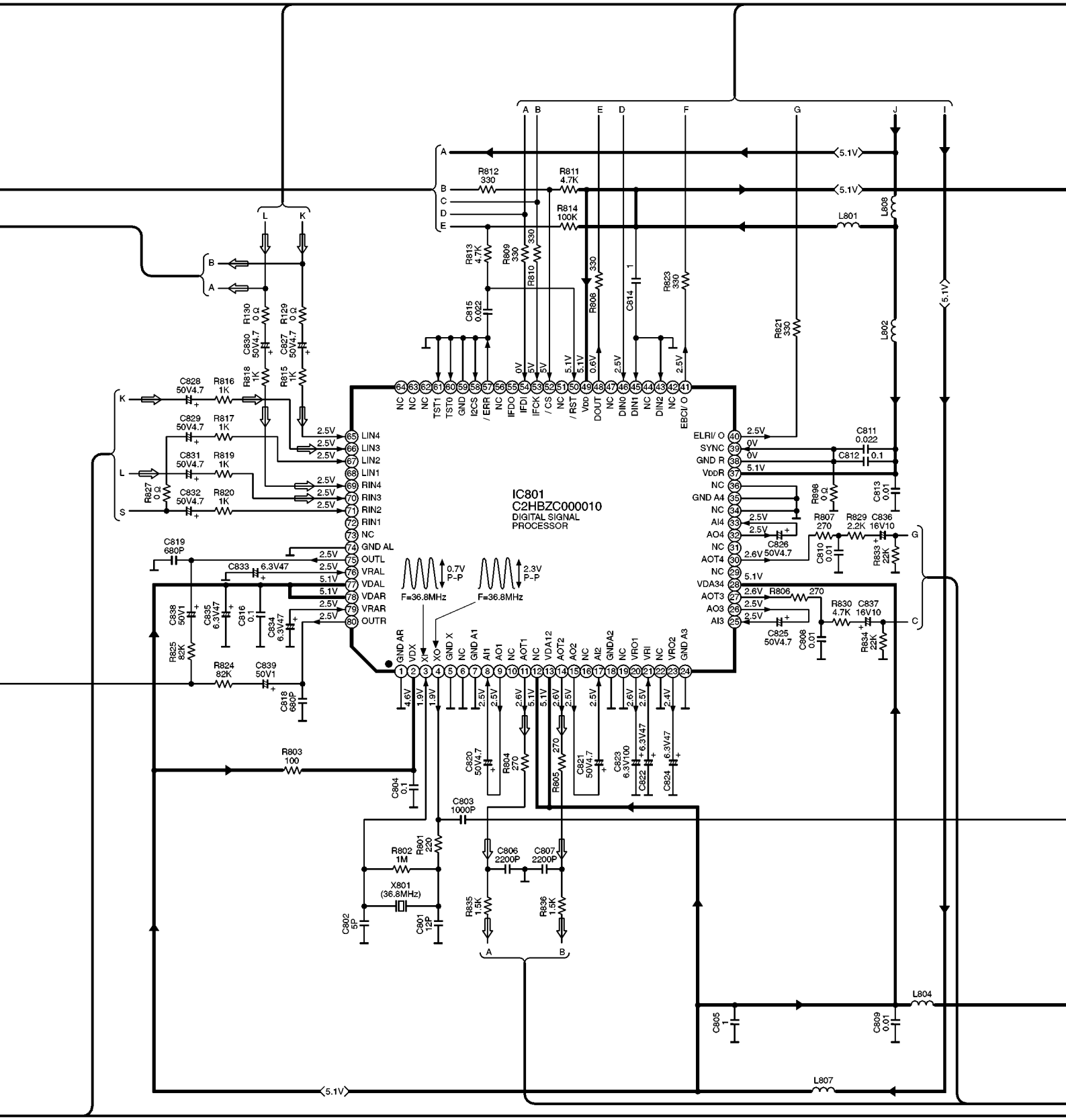
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE



SCHEMATIC DIAGRAM-5

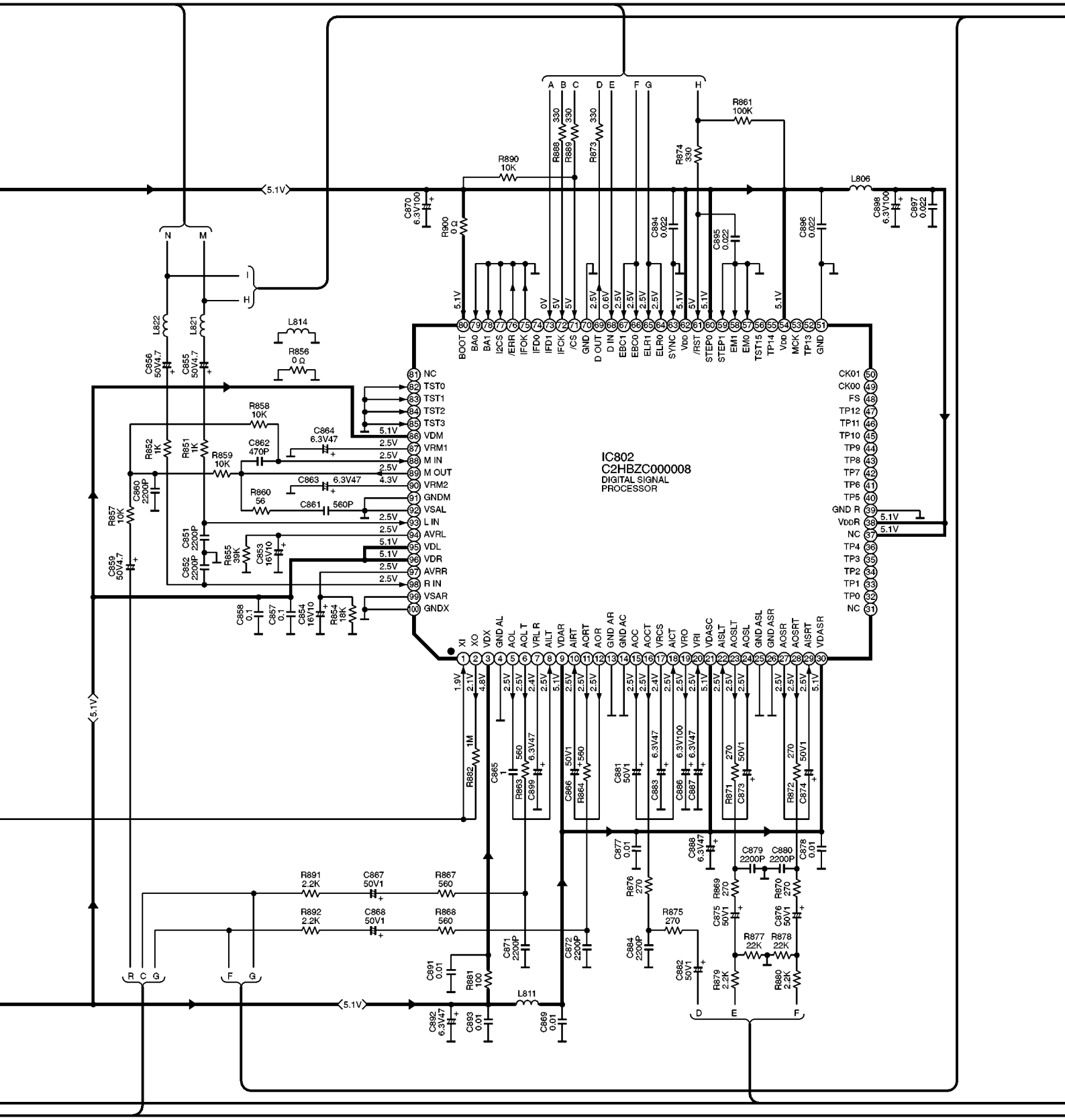
B MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE



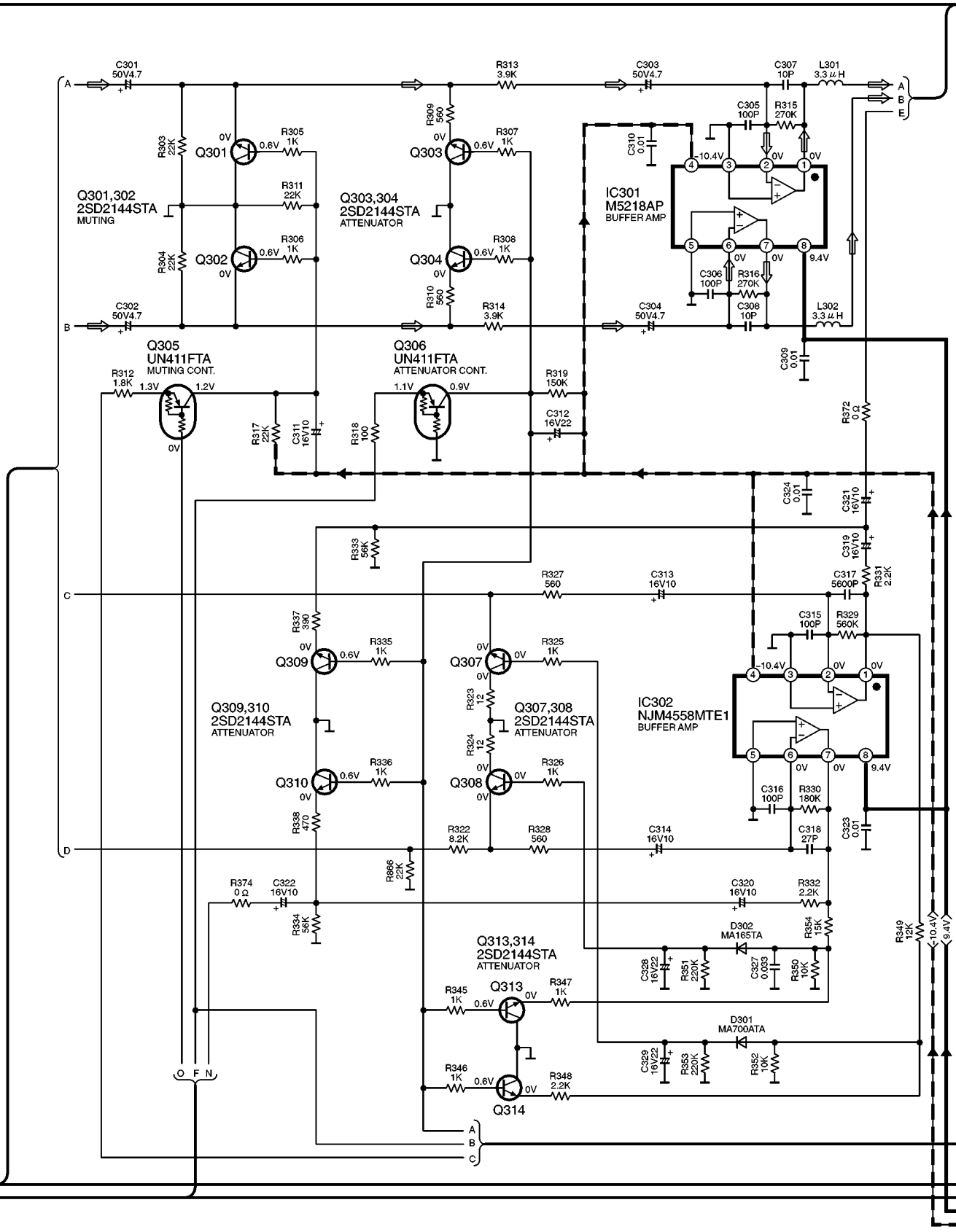
SCHEMATIC DIAGRAM-6

:POSITIVE VOLTAGE LINE



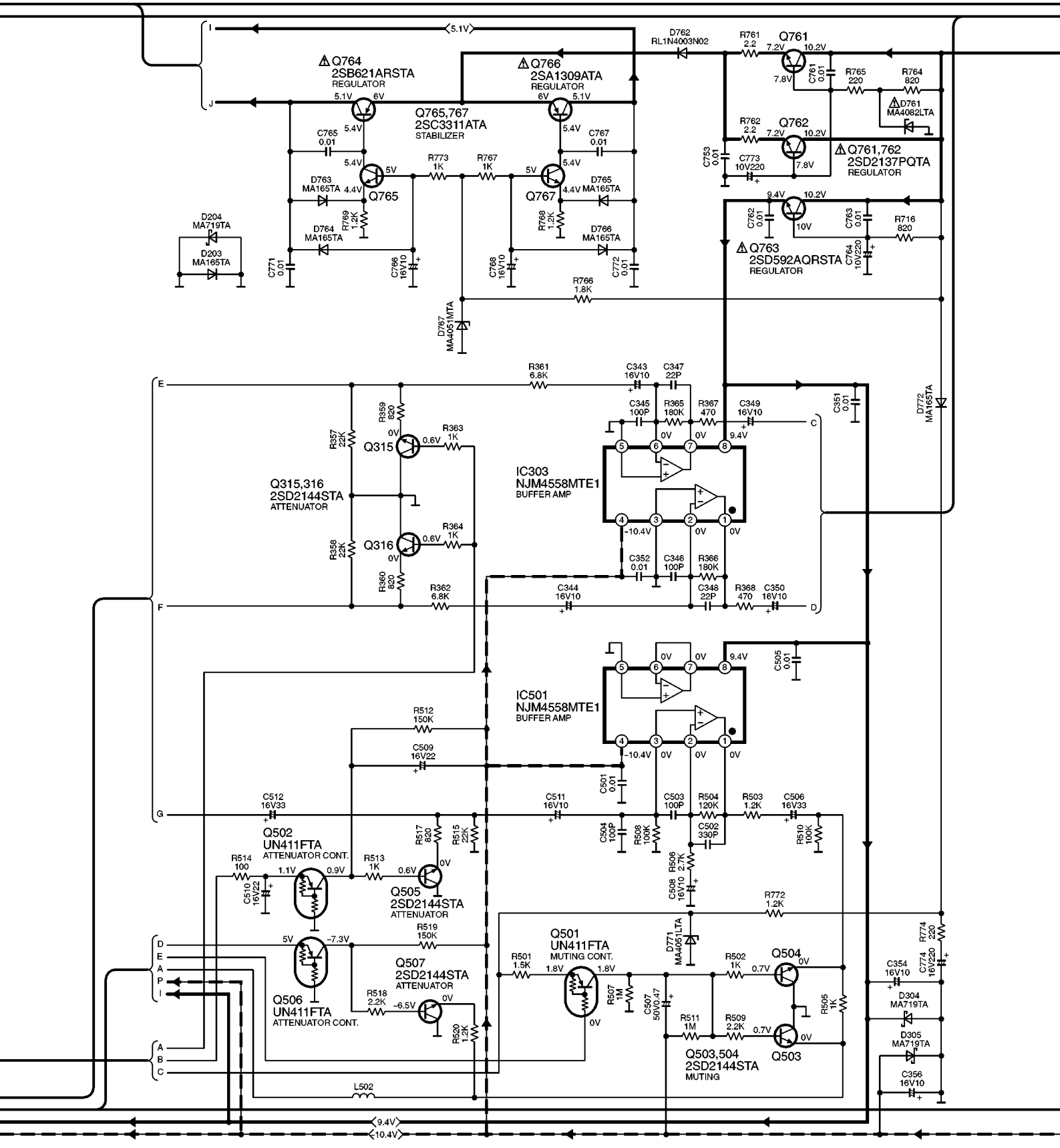
SCHEMATIC DIAGRAM-7

B MAIN CIRCUIT :POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE



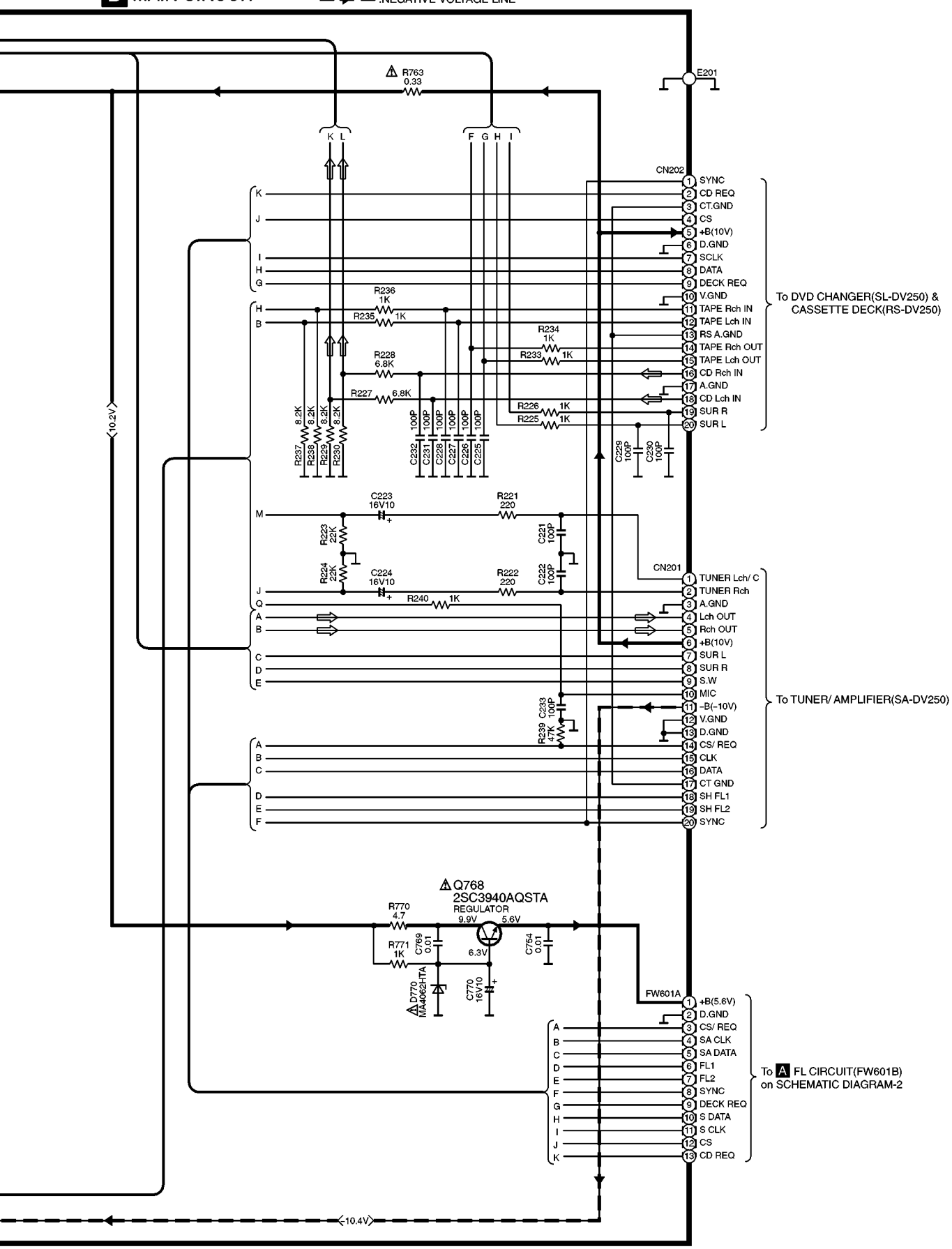
SCHEMATIC DIAGRAM-8

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE

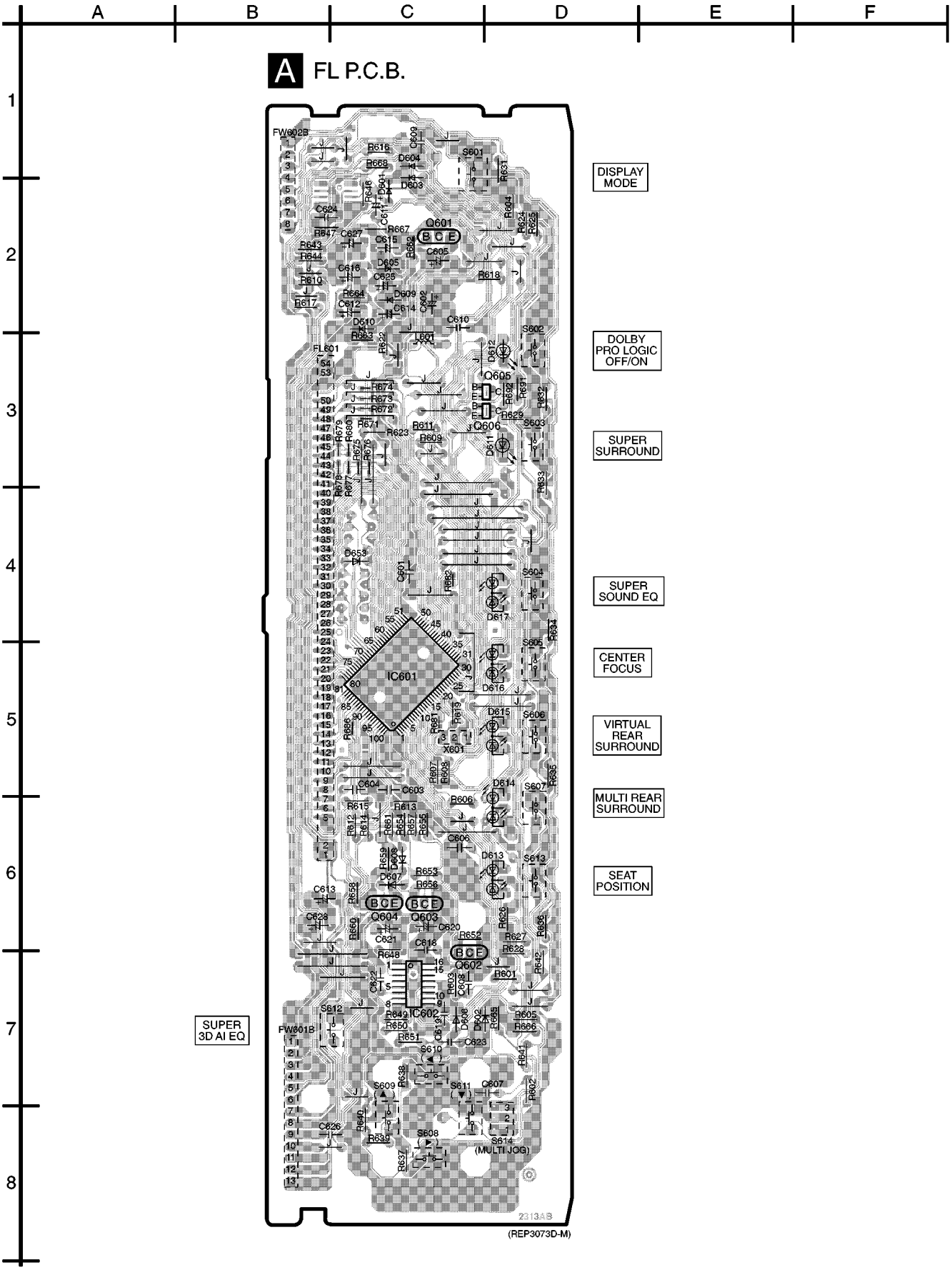


SCHEMATIC DIAGRAM-9
B MAIN CIRCUIT

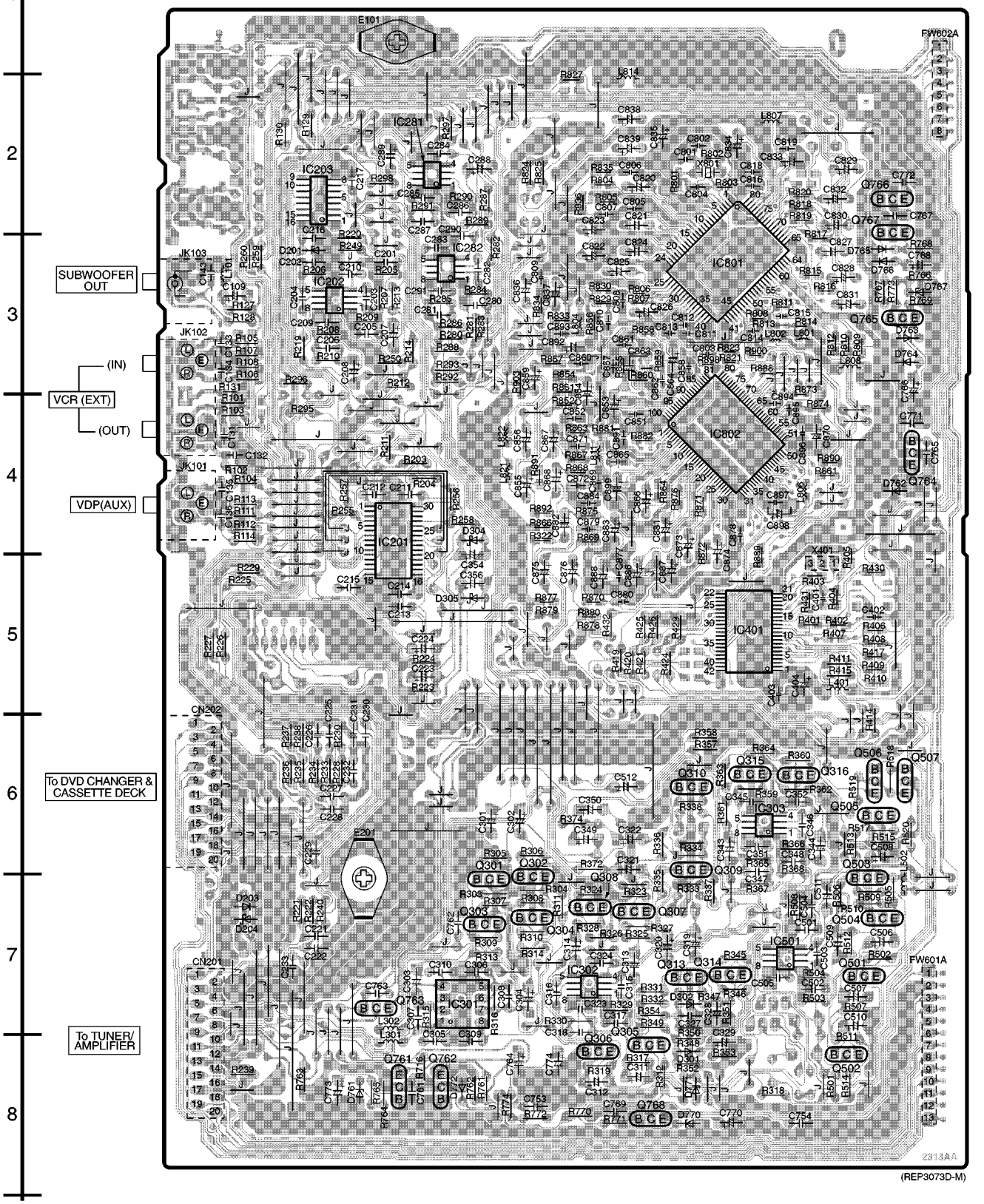
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:CD PLAYBACK SIGNAL LINE



9 Printed Circuit Board Diagram



B MAIN P.C.B.



(REP3073D-M)

10 Terminal Function of IC's

10.1. IC601(C2BBGF000251):System control/FL drive

Pin No.	Mark	I/O Division	Function
1	KEY1	I	Operation key1 signal input terminal
2	KEY2	I	Operation key2 signal input terminal
3	SP IN	I	A/D signal input terminal from IC602
4	SP A	O	Band select signal output terminal for IC602
5	SP B	O	Band select signal output terminal for IC602
6	SP C	O	Band select signal output terminal for IC602
7	SA CS	I	Chip select signal input terminal
8	DSP RST	O	Reset signal output terminal for IC401
9	DSP CS	O	Chip select signal output terminal for IC401
10	DSP SNS	I	Sense signal input terminal from IC401
11	DSP ACK	I	Acknowledge signal input terminal from IC401
12	DSP CK	O	Clock signal output terminal for IC401
13	DSP DO	O	Data signal output terminal for IC401
14	DSP DI	I	Data signal input terminal for IC401
15	JOGA	I	JOG A signal input terminal
16	JOGB	I	JOG B signal input terminal
17	CNVSS	I	Connected to GND through resistor
18	RESET	I	System reset signal input terminal
19	NC	-	Not used, open
20	NC	-	Not used, open
21	VSS	-	GND terminal
22	XIN	I	Ceramic oscillator input terminal (f=4MHz)
23	XOUT	O	Ceramic oscillator output terminal (f=4MHz)
24	VCC	I	Power supply input terminal
25	NC	-	Not used, open
26	NC	-	Not used, open
27	LED CFO	O	ORANGE LED(CENTER FOCUS) signal output terminal
28	LED CFG	O	GREEN LED(CENTER FOCUS) signal output terminal
29	BR93 DATA	I	Data signal input terminal from EEPROM
30	BR93 CS	O	Chip select signal output terminal for EEPROM
31	BR93 CK	O	Clock signal output terminal for EEPROM
32	SYNC	I	Power failure detect signal input terminal
33	SA REQ	O	Request signal output terminal for Tuner/Amplifier
34	SA CK	O	Serial communication signal output terminal for Tuner/Amplifier
35	SA DO	O	Serial communication signal output terminal for Tuner/Amplifier
36	SA DI	I	Serial communication signal input terminal from Tuner/Amplifier
37	LED SSS	O	LED(SUPER SURROUND)signal output terminal
38	LED DPL	O	LED(DOLBY PRO LOGIC) signal output terminal
39	LED SPO	O	ORANGE LED (SEAT POSITION) signal output terminal
40	LED SPG	O	GREEN LED (SEAT POSITION) signal output terminal
41	LED 3DO	O	ORANGE LED (3D ENHANCED SURROUND) signal output terminal
42	LED 3DG	O	GREEN LED (3D ENHANCED SURROUND) signal output terminal
43	LED MRO	O	ORANGE LED (MULTI REAR SURROUND) signal output terminal
44	LED MRG	O	GREEN LED (MULTI REAR SURROUND) signal output terminal
45	LED VRO	O	ORANGE LED (VIRTUAL REAR SURROUND) signal output terminal
46	LED VRG	O	GREEN LED (VIRTUAL REAR SURROUND) signal output terminal
47-80	P1-P34	O	Segment signal output terminal
81	---	-	Not used, open
82-88	7G-1G	O	Grid signal output terminal
89	VEE	I	Power supply input terminal
90	CD&DECK DI	I	Data signal input terminal (DVD and deck machanism)
91	CD&DECK DO	O	Data signal output terminal (DVD and deck machanism)
92	CD&DECK CK	I	Clock signal input terminal (DVD and deck machanism)
93	NC	-	Not used, open
94	CD REQ	O	Serial data request signal output terminal for DVD
95	DECK REQ	O	Serial data request signal output terminal for deck machanism
96	CD&DECK CS	I	Chip select signal input terminal (DVD and deck machanism)
97	AVSS	-	GND terminal
98	VREF	I	Reference voltage input terminal
99	REG IN0	I	Destination select signal input terminal
100	REG IN1	I	Destination select signal input terminal

11 Replacement Parts List

Note:

*Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fireretardant (resistors), high-quality sound (capacitors), lownoise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*The markings <RTL> indicate that the Retention Time is limited for these items. After the discontinuation of these assemblies in production, the items will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

*Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKA0105-K	RUBBER	4	
2	RKA0106-N	FOOT RING	4	
3	RYP1034-S	FRONT PANEL ASS'Y	1	
3-1	RGB0025-A	TECHNICS BADGE	1	
3-2	RKW0576A-1V	FL WINDOW	1	
3-3	RGK1242-S	JOG RING ORNAMENT	1	
3-4	RGW0344-S1	JOG KNOB	1	
3-5	RGW0345-S	JOY KNOB	1	
3-6	RMB0594	JOY SPRING	1	
3-7	RMQ0882	JOY LEVER	1	
3-8	RMQ0883	JOY SUPPORT	1	
3-9	RMQ0884	JOY BASE	1	
3-10	RMQ0885	JOG KNOB BASE	1	
3-11	RMX0169	RING	1	
4	XTB3+8JFZ	SCREW	11	
5	RHD30007-1S	SCREW	4	
6	RKM0400-1S	TOP CABINET	1	
C109	ECA1CAK100XB	16V 10U	1	
C131-36	ECUV1H101KCV	50V 100P	6	F1H1H101A720
C143	ECUV1H101KCV	50V 100P	1	F1H1H101A720
C201-04	ECBT1H331KB5	50V 330P	4	F1D1H331A012
C205,06	ECBT1H330J5	50V 33P	2	F1D1H330A006
C207,08	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C209,10	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C211,12	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C213-15	ECBT1H470J5	50V 47P	3	F1D1H470A006
C216,17	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C221,22	ECBT1H101KB5	50V 100P	2	F1D1H101A012
C223,24	ECA1CAK100XB	16V 10U	2	
C225-33	ECBT1H101KB5	50V 100P	9	F1D1H101A012
C280,81	ECBT1H330J5	50V 33P	2	F1D1H330A006
C282,83	ECBT1H102KB5	50V 1000P	2	F1D1H102A012
C284,85	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C286,87	ECBT1H330J5	50V 33P	2	F1D1H330A006
C288,89	ECA1CAK100XB	16V 10U	2	
C290,91	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C301-04	RCE1HKA4R7BG	50V 4.7U	4	F2A1H4R70009
C305,06	ECBT1H101KB5	50V 100P	2	F1D1H101A012
C307,08	ECBT1H100JC5	50V 10P	2	F1D1H100A015
C309,10	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C311	ECA1CAK100XB	16V 10U	1	
C312	ECA1CAK220XB	16V 22U	1	
C313,14	ECA1CAK100XB	16V 10U	2	
C315,16	ECBT1H101KB5	50V 100P	2	F1D1H101A012
C317	ECBT1C562KR5	16V 5600P	1	F1D1C562A010
C318	ECBT1H270J5	50V 27P	1	ECBT1H270J3
C319-22	ECA1CAK100XB	16V 10U	4	
C323,24	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C327	ECBT1H333KB5	50V 0.033U	1	
C328,29	ECA1CAK220XB	16V 22U	2	
C343,44	ECA1CAK100XB	16V 10U	2	
C345,46	ECBT1H101KB5	50V 100P	2	F1D1H101A012
C347,48	ECBT1H220J5	50V 22P	2	F1D1H220A006
C349,50	ECA1CAK100XB	16V 10U	2	
C351,52	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C354	ECA1CAK100XB	16V 10U	1	
C356	ECA1CAK100XB	16V 10U	1	
C401	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C402,03	ECUVNH103KBV	25V 0.01U	2	F1H1H103A748
C404	ECA0JAK470XH	6.3V 47U	1	
C501	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C502	ECBT1H331KB5	50V 330P	1	F1D1H331A012
C503,04	ECBT1H101KB5	50V 100P	2	F1D1H101A012
C505	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C506	ECA1CAK330XB	16V 33U	1	
C507	RCE1HKAR47BG	50V 0.47U	1	F2A1HR47A015
C508	ECA1CAK100XB	16V 10U	1	
C509,10	ECA1CAK220XB	16V 22U	2	
C511	ECA1CAK100XB	16V 10U	1	
C512	ECA1CAK330XB	16V 33U	1	
C601	ECBT1H104KB5	50V 0.1U	1	F1D1H1040002
C602	ECA0JM102	6.3V 1000U	1	
C603,04	ECBT1H102KB5	50V 1000P	2	F1D1H102A012
C605	ECA1VAK330XB	35V 33U	1	
C606,07	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C608	ECBT1H221KB5	50V 220P	1	F1D1H221A012
C609,10	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C611	ECA1HAK3R3XB	50V 3.3U	1	
C612,13	ECEA1CKS220	16V 22U	2	
C614	ECA1CAK100XB	16V 10U	1	
C615	ECA1VAK330XB	35V 33U	1	
C616	ECEA1VKS330Q	35V 33U	1	
C618,19	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C620,21	ECA1HAK0R1XB	50V 0.1U	2	
C622,23	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C624	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C625	ECA0JAK101XB	6.3V 100U	1	
C626	ECBT1H473KB5	50V 0.047U	1	
C627,28	ECEA1CKS220	16V 22U	2	
C753,54	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C761-63	ECBT1C103MS5	16V 0.01U	3	F1D1C103A004
C764	ECA1AAK221XH	10V 220U	1	
C765	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C766	ECA1CAK100XB	16V 10U	1	
C767	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C768	ECA1CAK100XB	16V 10U	1	
C769	ECBT1C103MS5	16V 0.01U	1	F1D1C103A004
C770	ECA1CAK100XB	16V 10U	1	
C771,72	ECBT1C103MS5	16V 0.01U	2	F1D1C103A004
C773	ECA1AAK221XH	10V 220U	1	
C774	ECA1CAM221XB	16V 220U	1	
C801	ECUV1H120JCV	50V 12P	1	
C802	ECUV1H050CCV	50V 5P	1	
C803	ECUV1H102KBV	50V 1000P	1	
C804	ECUVNC104KBV	16V 0.1U	1	
C805	ECUVNJ105KBV	63V 1U	1	F1H0J105A002
C806,07	ECUV1H222KBV	50V 2200P	2	
C808-10	ECUVNH103KBV	25V 0.01U	3	F1H1H103A748
C811	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C812	ECUVNC104KBV	16V 0.1U	1	
C813	ECUVNH103KBV	25V 0.01U	1	F1H1H103A748
C814	ECUVNJ105KBV	63V 1U	1	F1H0J105A002
C815	ECUVNE223KBV	25V 0.022U	1	F1H1E223A050
C816	ECUVNC104KBV	16V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C818,19	ECUV1H681KBV	50V 680P	2	
C820,21	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C822	ECA0JAK470XH	6.3V 47U	1	
C823	EEAFC0J101B	6.3V 100U	1	
C824	ECA0JAK470XH	6.3V 47U	1	
C825-32	RCE1HKA4R7BG	50V 4.7U	8	F2A1H4R70009
C833-35	ECA0JAK470XH	6.3V 47U	3	
C836,37	ECA1CAK100XB	16V 10U	2	
C838,39	ECA1HAK010XI	50V 1U	2	ECA1HAK010XB
C851,52	ECUV1H222KBV	50V 2200P	2	
C853,54	ECA1CAK100XB	16V 10U	2	
C855,56	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C857,58	ECUVNC104KBV	16V 0.1U	2	
C859	RCE1HKA4R7BG	50V 4.7U	1	F2A1H4R70009
C860	ECUV1H222KBV	50V 2200P	1	
C861	ECUV1H561KBV	50V 560P	1	F1H1H561A013
C862	ECUV1H471KBV	50V 470P	1	F1H1H471A013
C863,64	ECA0JAK470XH	6.3V 47U	2	
C865	ECUVNJ105KBV	63V 1U	1	F1H0J105A002
C866-68	ECA1HAK010XI	50V 1U	3	ECA1HAK010XB
C869	ECUVNH103KBV	25V 0.01U	1	F1H1H103A748
C870	EEAFC0J101B	6.3V 100U	1	
C871,72	ECUV1H222KBV	50V 2200P	2	
C873-76	ECA1HAK010XI	50V 1U	4	ECA1HAK010XB
C877,78	ECUVNH103KBV	25V 0.01U	2	F1H1H103A748
C879,80	ECUV1H222KBV	50V 2200P	2	
C881,82	ECA1HAK010XI	50V 1U	2	ECA1HAK010XB
C883	ECA0JAK470XH	6.3V 47U	1	
C884	ECUV1H222KBV	50V 2200P	1	
C886	EEAFC0J101B	6.3V 100U	1	
C887,88	ECA0JAK470XH	6.3V 47U	2	
C891	ECUVNH103KBV	25V 0.01U	1	F1H1H103A748
C892	ECA0JAK470XH	6.3V 47U	1	
C893	ECUVNH103KBV	25V 0.01U	1	F1H1H103A748
C894-97	ECUVNE223KBV	25V 0.022U	4	F1H1E223A050
C898	EEAFC0J101B	6.3V 100U	1	
C899	ECA0JAK470XH	6.3V 47U	1	
CN201	RJT065A20	SYSTEM CONNECTOR(20P)	1	K1FA220B0007
CN202	RJT065K20	SYSTEM CONNECTOR(20P)	1	K1FA220B0006
D201	MA4056M	DIODE	1	MAZ40560M
D203	MA165	DIODE	1	MA2C165
D204	MA719TA	DIODE	1	MA2C71900A
D301	MA700	DIODE	1	MA2C700
D302	MA165	DIODE	1	MA2C165
D304,05	MA719TA	DIODE	2	MA2C71900A
D601-04	1SS291TA	DIODE	4	
D605-08	MA165	DIODE	4	MA2C165
D609,10	MA165	DIODE	2	MA2C165 ⚠
D611,12	LNJ301MPUJAD	LED	2	
D613-17	SML79455C	LED	5	
D653	MA165	DIODE	1	MA2C165
D761	MA4082LTA	DIODE	1	MAZ40820LF ⚠
D762	RL1N4003N02	DIODE	1	
D763-66	MA165	DIODE	4	MA2C165
D767	MA4051M	DIODE	1	MAZ40510M
D770	MA4062H	DIODE	1	MAZ40620H ⚠
D771	MA4051-L	DIODE	1	MAZ40510L
D772	MA165	DIODE	1	MA2C165
FL601	A2BD00000041	FL DISPLAY TUBE	1	
IC201	NJU7313AMT2	IC	1	C0JZAS000002
IC202	NJM4558MTE1	IC	1	C0ABBB000109
IC203	BU4053BCFE2	IC	1	
IC281,82	NJM4558MTE1	IC	2	C0ABBB000109
IC301	M5218AP	IC	1	C0AABB000055
IC302,03	NJM4558MTE1	IC	2	C0ABBB000109
IC401	C2BBFD000246	IC	1	

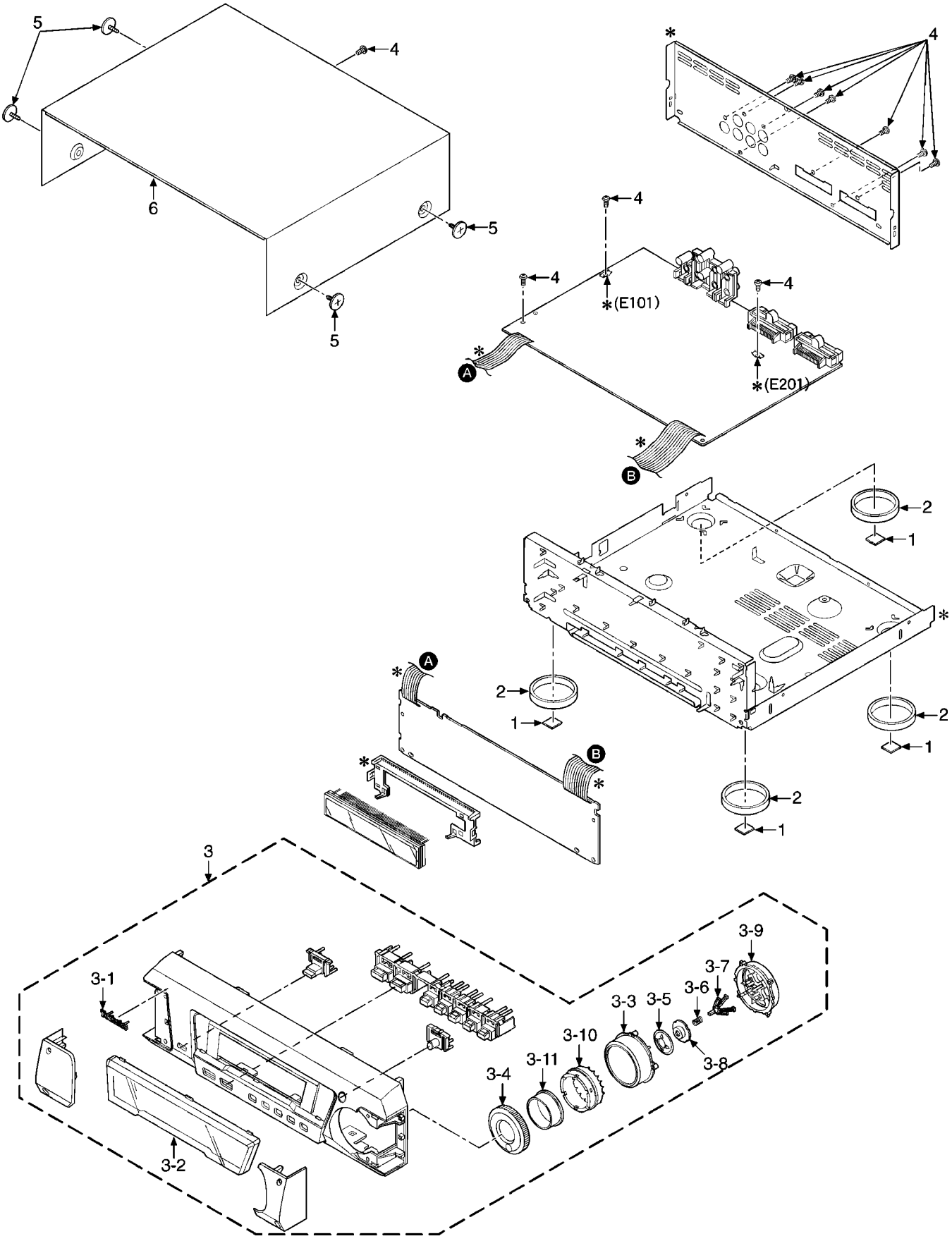
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC501	NJM4558MTE1	IC	1	C0ABBB000109
IC601	C2BBGF000251	IC	1	
IC602	M62457AFPE1	IC	1	C1BB00000486
IC801	C2HBZC000010	IC	1	
IC802	C2HBZC000008	IC	1	
JK101	SJF3068-7N	JACK,VDP(AUX)	1	
JK102	SJF3069-5N	JACK,VCR(EXT)IN/OUT	1	
JK103	SJFD7	JACK,SUB WOOFER OUT	1	
L101	RLBV252AV-Y	COIL	1	J0JBC0000019
L301,02	RLQA3R3JT1-Y	COIL	2	G0C3R3JA0019
L401	RLQB100JTD-D	COIL	1	
L502	RLBV252AV-Y	COIL	1	J0JBC0000019
L601	RLQA100JT1-Y	COIL	1	G0C100JA0019
L801	RLBV601AV-Y	COIL	1	J0JCC0000077
L802	RLBV102V-Y	COIL	1	J0JBC0000014
L804	RLBV102V-Y	COIL	1	J0JBC0000014
L806	RLBV102V-Y	COIL	1	J0JBC0000014
L807	RLL500050T-Y	COIL	1	G0A100G00005
L808	RLQB100JTD-D	COIL	1	
L811	RLBV102V-Y	COIL	1	J0JBC0000014
L814	RLL500050T-Y	COIL	1	G0A100G00005
L821,22	RLBV252AV-Y	COIL	2	J0JBC0000019
PCB1	REP3073D-M	MAIN P.C.B.ASS'Y	1	(RTL)
Q301-04	2SC3327A	TRANSISTOR	4	
Q305,06	UN411FTA	TRANSISTOR	2	UNR411F00A
Q307-10	2SC3327A	TRANSISTOR	4	
Q313-16	2SC3327A	TRANSISTOR	4	
Q501,02	UN411FTA	TRANSISTOR	2	UNR411F00A
Q503-05	2SC3327A	TRANSISTOR	3	
Q506	UN411FTA	TRANSISTOR	1	UNR411F00A
Q507	2SC3327A	TRANSISTOR	1	
Q601	UN4211	TRANSISTOR	1	UNR4211
Q602-04	2SC3311ATA	TRANSISTOR	3	2SC3311A0A
Q605,06	UN5211TX	TRANSISTOR	2	UNR521100L
Q761,62	2SD2137PQTA	TRANSISTOR	2	2SD21370PA ⚠
Q763	2SD592AR	TRANSISTOR	1	2SD0592AR ⚠
Q764	2SB621A-R	TRANSISTOR	1	2SB0621AH ⚠
Q765	2SC3311ATA	TRANSISTOR	1	2SC3311A0A
Q766	2SA1309ATA	TRANSISTOR	1	2SA1309AWA ⚠
Q767	2SC3311ATA	TRANSISTOR	1	2SC3311A0A
Q768	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA ⚠
R101,02	ERDS2FJ104	1/4W 100K	2	
R103,04	ERDS2FJ102	1/4W 1K	2	
R105,06	ERDS2FJ123	1/4W 12K	2	
R107,08	ERDS2FJ332	1/4W 3.3K	2	
R111,12	ERDS2FJ332	1/4W 3.3K	2	
R113,14	ERDS2FJ123	1/4W 12K	2	
R127	ERDS2FJ104	1/4W 100K	1	
R128	ERDS2FJ102	1/4W 1K	1	
R129,30	ERDS2T0T	1/4W 0	2	
R131	ERJ3GEY0R00V	1/16W 0	1	
R203,04	ERDS2FJ222	1/4W 2.2K	2	
R205,06	ERDS2FJ563	1/4W 56K	2	
R207,08	ERDS2FJ273	1/4W 27K	2	
R209,10	ERDS2FJ104	1/4W 100K	2	
R211-14	ERDS2FJ222	1/4W 2.2K	4	
R219	ERDS2FJ391	1/4W 390	1	
R220	ERDS2FJ104	1/4W 100K	1	
R221,22	ERDS2FJ221	1/4W 220	2	
R223,24	ERDS2FJ223	1/4W 22K	2	
R225,26	ERDS2FJ102	1/4W 1K	2	
R227,28	ERDS2FJ682	1/4W 6.8K	2	
R229,30	ERDS2FJ822	1/4W 8.2K	2	
R233-36	ERDS2FJ102	1/4W 1K	4	
R237,38	ERDS2FJ822	1/4W 8.2K	2	
R239	ERDS2FJ473	1/4W 47K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R240	ERDS2FJ102	1/4W 1K	1	
R249,50	ERDS2FJ152	1/4W 1.5K	2	
R255,56	ERDS2FJ472	1/4W 4.7K	2	
R257,58	ERDS2FJ822	1/4W 8.2K	2	
R259,60	ERDS2T0T	1/4W 0	2	
R280-83	ERDS2FJ563	1/4W 56K	4	
R284,85	ERDS2FJ133	1/4W 13K	2	
R286,87	ERDS2FJ223	1/4W 22K	2	
R288-91	ERDS2FJ183	1/4W 18K	4	
R292,93	ERDS2FJ823	1/4W 82K	2	
R295,96	ERDS2T0T	1/4W 0	2	
R297,98	ERDS2FJ471	1/4W 470	2	
R303,04	ERDS2FJ223	1/4W 22K	2	
R305-08	ERDS2FJ102	1/4W 1K	4	
R309,10	ERDS2FJ561	1/4W 560	2	
R311	ERDS2FJ223	1/4W 22K	1	
R312	ERDS2FJ182	1/4W 1.8K	1	
R313,14	ERDS2FJ392	1/4W 3.9K	2	
R315,16	ERDS2FJ274	1/4W 270K	2	
R317	ERDS2FJ223	1/4W 22K	1	
R318	ERDS2FJ101	1/4W 100	1	
R319	ERDS2FJ154	1/4W 150K	1	
R322	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R323,24	ERDS2FJ120	1/4W 12	2	
R325,26	ERDS2FJ102	1/4W 1K	2	
R327,28	ERDS2FJ561	1/4W 560	2	
R329	ERDS2FJ564	1/4W 560K	1	
R330	ERDS2FJ184	1/4W 180K	1	
R331,32	ERDS2FJ222	1/4W 2.2K	2	
R333,34	ERDS2FJ563	1/4W 56K	2	
R335,36	ERDS2FJ102	1/4W 1K	2	
R337	ERDS2FJ391	1/4W 390	1	
R338	ERDS2FJ471	1/4W 470	1	
R345-47	ERDS2FJ102	1/4W 1K	3	
R348	ERDS2FJ222	1/4W 2.2K	1	
R349	ERDS2FJ123	1/4W 12K	1	
R350	ERDS2FJ103	1/4W 10K	1	
R351	ERDS2FJ224	1/4W 220K	1	
R352	ERDS2FJ103	1/4W 10K	1	
R353	ERDS2FJ224	1/4W 220K	1	
R354	ERDS2FJ153	1/4W 15K	1	
R357,58	ERDS2FJ223	1/4W 22K	2	
R359,60	ERDS2FJ821	1/4W 820	2	
R361,62	ERDS2FJ682	1/4W 6.8K	2	
R363,64	ERDS2FJ102	1/4W 1K	2	
R365,66	ERDS2FJ184	1/4W 180K	2	
R367,68	ERDS2FJ471	1/4W 470	2	
R372	ERDS2T0T	1/4W 0	1	
R374	ERDS2T0T	1/4W 0	1	
R401	ERJ3GEYJ472V	1/16W 4.7K	1	D0GB472JA002
R402	ERJ3GEYJ104Z	1/16W 100K	1	
R403	ERJ3GEYJ681V	1/16W 680	1	D0GB681JA002
R404	ERJ3GEYJ104Z	1/16W 100K	1	
R405-10	ERJ3GEYJ221V	1/16W 220	6	
R411	ERDS2FJ102	1/4W 1K	1	
R414,15	ERDS2FJ102	1/4W 1K	2	
R417	ERJ3GEYJ221V	1/16W 220	1	
R419,20	ERDS2FJ102	1/4W 1K	2	
R421	ERDS2FJ101	1/4W 100	1	
R424	ERDS2FJ102	1/4W 1K	1	
R425,26	ERDS2FJ472	1/4W 4.7K	2	
R429	ERDS2FJ472	1/4W 4.7K	1	
R430,31	ERJ3GEYJ103Z	1/16W 10K	2	
R432	ERDS2FJ102	1/4W 1K	1	
R501	ERDS2FJ152	1/4W 1.5K	1	
R502	ERDS2FJ102	1/4W 1K	1	
R503	ERDS2FJ122	1/4W 1.2K	1	
R504	ERDS2FJ124	1/4W 120K	1	
R505	ERDS2FJ102	1/4W 1K	1	
R506	ERDS2FJ272	1/4W 2.7K	1	
R507	ERDS2FJ105	1/4W 1M	1	
R508	ERDS2FJ104	1/4W 100K	1	
R509	ERDS2FJ222	1/4W 2.2K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R510	ERDS2FJ104	1/4W 100K	1	
R511	ERDS2FJ105	1/4W 1M	1	
R512	ERDS2FJ154	1/4W 150K	1	
R513	ERDS2FJ102	1/4W 1K	1	
R514	ERDS2FJ101	1/4W 100	1	
R515	ERDS2FJ223	1/4W 22K	1	
R517	ERDS2FJ821	1/4W 820	1	
R518	ERDS2FJ222	1/4W 2.2K	1	
R519	ERDS2FJ154	1/4W 150K	1	
R520	ERDS2FJ122	1/4W 1.2K	1	
R601-03	ERDS2FJ102	1/4W 1K	3	
R604,05	ERDS2FJ103	1/4W 10K	2	
R606	ERDS2FJ102	1/4W 1K	1	
R607,08	ERDS2FJ221	1/4W 220	2	
R609	ERDS2FJ222	1/4W 2.2K	1	
R610	ERDS2FJ332	1/4W 3.3K	1	
R611	ERDS2FJ101	1/4W 100	1	
R612	ERDS2FJ102	1/4W 1K	1	
R613	ERDS2FJ562	1/4W 5.6K	1	
R614-17	ERDS2FJ102	1/4W 1K	4	
R618	ERDS2FJ104	1/4W 100K	1	
R619	ERDS2FJ681	1/4W 680	1	
R622,23	ERDS2FJ104	1/4W 100K	2	
R624-29	ERDS2FJ181	1/4W 180	6	
R631	ERDS2FJ821	1/4W 820	1	
R632	ERDS2FJ102	1/4W 1K	1	
R633	ERDS2FJ122	1/4W 1.2K	1	
R634	ERDS2FJ152	1/4W 1.5K	1	
R635	ERDS2FJ182	1/4W 1.8K	1	
R636	ERDS2FJ222	1/4W 2.2K	1	
R637	ERDS2FJ821	1/4W 820	1	
R638	ERDS2FJ102	1/4W 1K	1	
R639	ERDS2FJ122	1/4W 1.2K	1	
R640	ERDS2FJ152	1/4W 1.5K	1	
R641	ERDS2FJ182	1/4W 1.8K	1	
R642	ERDS2FJ222	1/4W 2.2K	1	
R643,44	ERDS2FJ102	1/4W 1K	2	
R646	ERDS2FJ222	1/4W 2.2K	1	
R647	ERDS2FJ223	1/4W 22K	1	
R648-50	ERDS2FJ104	1/4W 100K	3	
R651	ERDS2FJ102	1/4W 1K	1	
R652,53	ERDS2FJ472	1/4W 4.7K	2	
R654-56	ERDS2FJ103	1/4W 10K	3	
R657	ERDS2FJ473	1/4W 47K	1	
R658,59	ERDS2FJ472	1/4W 4.7K	2	
R660	ERDS2FJ473	1/4W 47K	1	
R661	ERDS2FJ223	1/4W 22K	1	
R662	ERDS2FJ102	1/4W 1K	1	
R663,64	ERDS2FJ331	1/4W 330	2	
R665-67	ERDS2FJ473	1/4W 47K	3	
R668	ERDS2FJ222	1/4W 2.2K	1	
R671-80	ERJ6GEYJ104V	1/10W 100K	10	
R681	ERJ3GEYJ222V	1/16W 2.2K	1	
R682	ERJ3GEY0R00V	1/16W 0	1	
R686	ERJ3GEY0R00V	1/16W 0	1	
R691,92	ERDS2FJ221	1/4W 220	2	
R716	ERDS2FJ821	1/4W 820	1	
R761,62	ERDS2FJ2R2	1/4W 2.2	2	
R763	ERQ16NKWR33E	0.33	1	⚠
R764	ERDS2FJ821	1/4W 820	1	
R765	ERDS2FJ221	1/4W 220	1	
R766	ERDS2FJ182	1/4W 1.8K	1	
R767	ERDS2FJ102	1/4W 1K	1	
R768,69	ERDS2FJ122	1/4W 1.2K	2	
R770	ERD2FCJ4R7	1/4W 4.7	1	
R771	ERDS2FJ102	1/4W 1K	1	
R772	ERDS2FJ122	1/4W 1.2K	1	
R773	ERDS2FJ102	1/4W 1K	1	
R774	ERDS2FJ221	1/4W 220	1	
R801	ERJ3GEYJ221V	1/16W 220	1	
R802	ERJ3GEYJ105V	1/16W 1M	1	
R803	ERJ3GEYJ101V	1/16W 100	1	
R804-07	ERJ3GEYJ271V	1/16W 270	4	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R808-10	ERJ3GEYJ331V	1/16W 330	3	
R811	ERJ3GEYJ472V	1/16W 4.7K	1	D0GB472JA002
R812	ERJ3GEYJ331V	1/16W 330	1	
R813	ERJ3GEYJ472V	1/16W 4.7K	1	D0GB472JA002
R814	ERJ3GEYJ104Z	1/16W 100K	1	
R815-20	ERJ3GEYJ102V	1/16W 1K	6	ERJ3GEYJ102Z
R821	ERJ3GEYJ331V	1/16W 330	1	
R823	ERJ3GEYJ331V	1/16W 330	1	
R824,25	ERDS2FJ823	1/4W 82K	2	
R827	ERJ3GEY0R00V	1/16W 0	1	
R829	ERJ3GEYJ222V	1/16W 2.2K	1	
R830	ERJ3GEYJ472V	1/16W 4.7K	1	D0GB472JA002
R833,34	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R835,36	ERJ3GEYJ152V	1/16W 1.5K	2	
R851,52	ERJ3GEYJ102V	1/16W 1K	2	ERJ3GEYJ102Z
R854	ERJ3GEYJ183V	1/16W 18K	1	D0GB183JA002
R855	ERJ3GEYJ393V	1/16W 39K	1	D0GB393JA002
R856	ERJ3GEY0R00V	1/16W 0	1	
R857-59	ERJ3GEYJ103Z	1/16W 10K	3	
R860	ERJ3GEYJ560V	1/16W 56	1	
R861	ERJ3GEYJ104Z	1/16W 100K	1	
R863,64	MCR03PZHJ561	1/16W 560	2	ERJ3GEYJ561V
R866	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R867,68	MCR03PZHJ561	1/16W 560	2	ERJ3GEYJ561V
R869-72	ERJ3GEYJ271V	1/16W 270	4	
R873,74	ERJ3GEYJ331V	1/16W 330	2	
R875,76	ERJ3GEYJ271V	1/16W 270	2	
R877,78	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R879,80	ERJ3GEYJ222V	1/16W 2.2K	2	
R881	ERJ3GEYJ101V	1/16W 100	1	
R882	ERJ3GEYJ105V	1/16W 1M	1	
R888,89	ERJ3GEYJ331V	1/16W 330	2	
R890	ERJ3GEYJ103Z	1/16W 10K	1	
R891,92	ERJ3GEYJ222V	1/16W 2.2K	2	
R898	ERJ3GEY0R00V	1/16W 0	1	
R900	ERJ3GEY0R00V	1/16W 0	1	
R903	ERDS2FJ124	1/4W 120K	1	
S601-07	EVQ11G05R	SW,PUSH	7	
S608-11	EVQ11G07K	SW,JOY STICK	4	
S612,13	EVQ11G05R	SW,PUSH	2	
S614	ESE24SV7	SW,MULTI JOG	1	
X401	RSXY8M00D01T	OSCILLATOR	1	H2B800400005
X601	H2B400400013	OSCILLATOR	1	
X801	RSXZ36M8M01T	OSCILLATOR	1	

12 Cabinet Parts Location



Note : We do not supply those items of parts marked ✻.