

Service Manual

ORDER NO.
RRV1886

CD/LD PLAYER

CLD-S290

● Refer to the service manual RRV1857 for CLD-S300V/TL.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	CLD-S290		
TAMXQ	○	AC110 - 240V	

1. CONTRAST OF MISCELLANEOUS PARTS

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The \triangle 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.
 - Screws adjacent to \blacktriangledown mark on product are used for disassembly.
 - When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω	\rightarrow	56 \times 10 ¹	\rightarrow	561	RD1/4PU561J
47k Ω	\rightarrow	47 \times 10 ³	\rightarrow	473	RD1/4PU473J
0.5 Ω	\rightarrow	R50			RN2H50K
1 Ω	\rightarrow	1R0			RS1P1R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	\rightarrow	562 \times 10 ¹	\rightarrow	5621	RN1/4PC5621F
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 - Reference Nos. indicate the pages and Nos. in the service manual for the base model.

■ CONTRAST TABLE

CLD-S290/TAMXQ and CLD-S300V/TL are constructed the same except for the following:

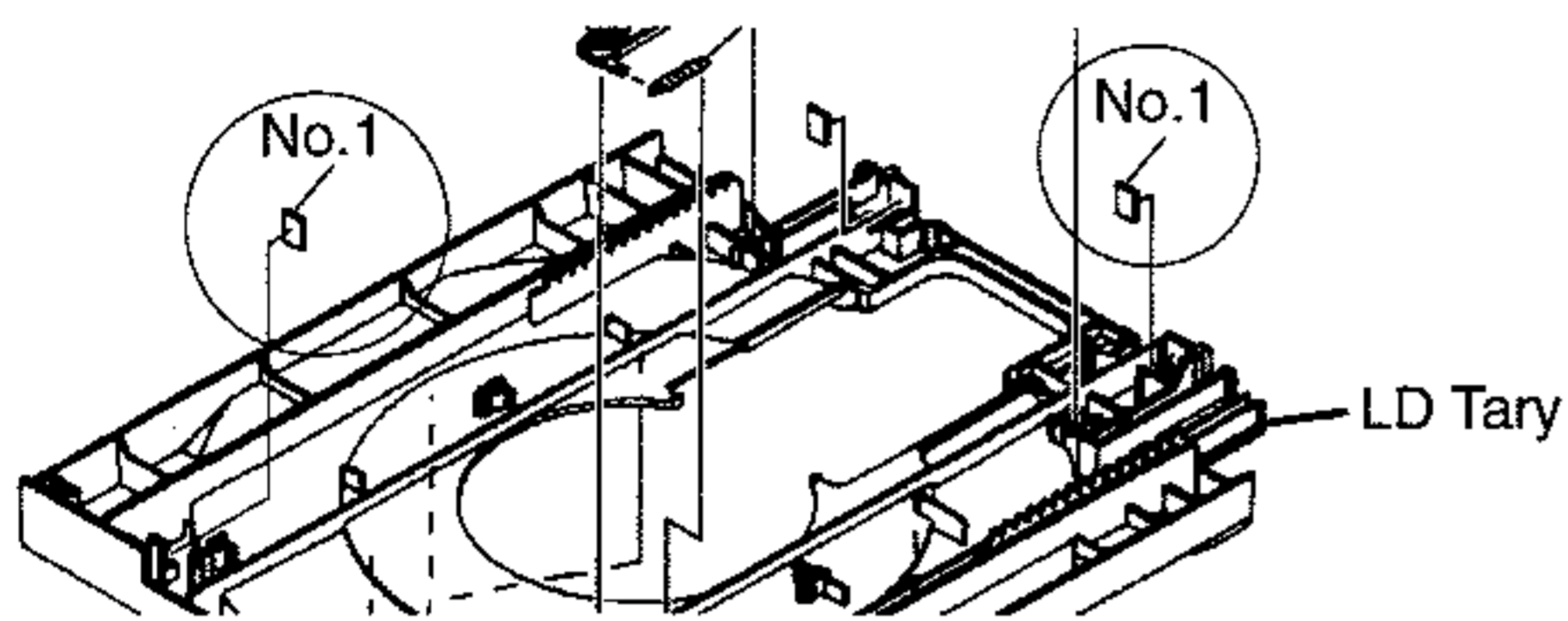
Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			CLD-S300V	CLD-S290	
			TL	TAMXQ	
	NSP	FLKB ASSY	VWM1778	VWM1831	
	NSP	└ FLKY ASSY	VWG1855	VWG1948	
		└ PWSB ASSY	VWG1856	VWG1949	
		MOTHER ASSY	VWS1314	VWS1317	
		VCDB ASSY	VWV1568	Not used	
		PACKING			
P3-4	\triangle	Power Cord	ADG1154	ADG7017	
P3-6		Operating Instruction (English/Chinese)	VRD1083	VRD1084	
P3-7		Remote Control Unit(CU-CLD151)	VXX2559	Not used	
		Remote Control Unit(CU-CLD154)	Not used	VXX2568	
P3-12		Packing Case	VHG1730	VHG1739	
		EXTERIOR AND DISC TRAY SECTION			
P5-1		Bonnet-S	VXX2117	VXX2315	No.1
P5-4	NSP	Getter	VRW1696	VRW1719	
		Damp Cushion	Not used	VEC1693	
P5-16	NSP	CD Door	VNK4152	VNK3316	
P5-18		Tray Panel	VNK4150	VNK3315	
P5-22		CD Door Assy	VXA2350	VXA2237	
		TOP VIEW SECTION			
P7-15	NSP	Panel Holder	VNA1710	VNA1840	Refer to "EXPLODED VIEWS"
P7-19		Connector Assy(5P)	PG05KK-F20	Not used	
P7-20		Flexible Cable(20P)	VDA1637	Not used	
		Flexible Cable(18P)	Not used	VDA1467	
P7-23		Washer	VEC1254	Not used	
		FRONT PANEL SECTION			
		BOTTOM VIEW SECTION			
P9-7		Rear Panel(R)	VNA1901	VNA1963	
P9-15		Rear Panel(L)	VNA1885	VNA1962	
P9-19		FL Spacer	REB1171	Not used	

Note: ● The numbers in the remarks column correspond to the numbers on "EXPLOEDED VIEWS".
Refer to "EXPLODED VIEWS"

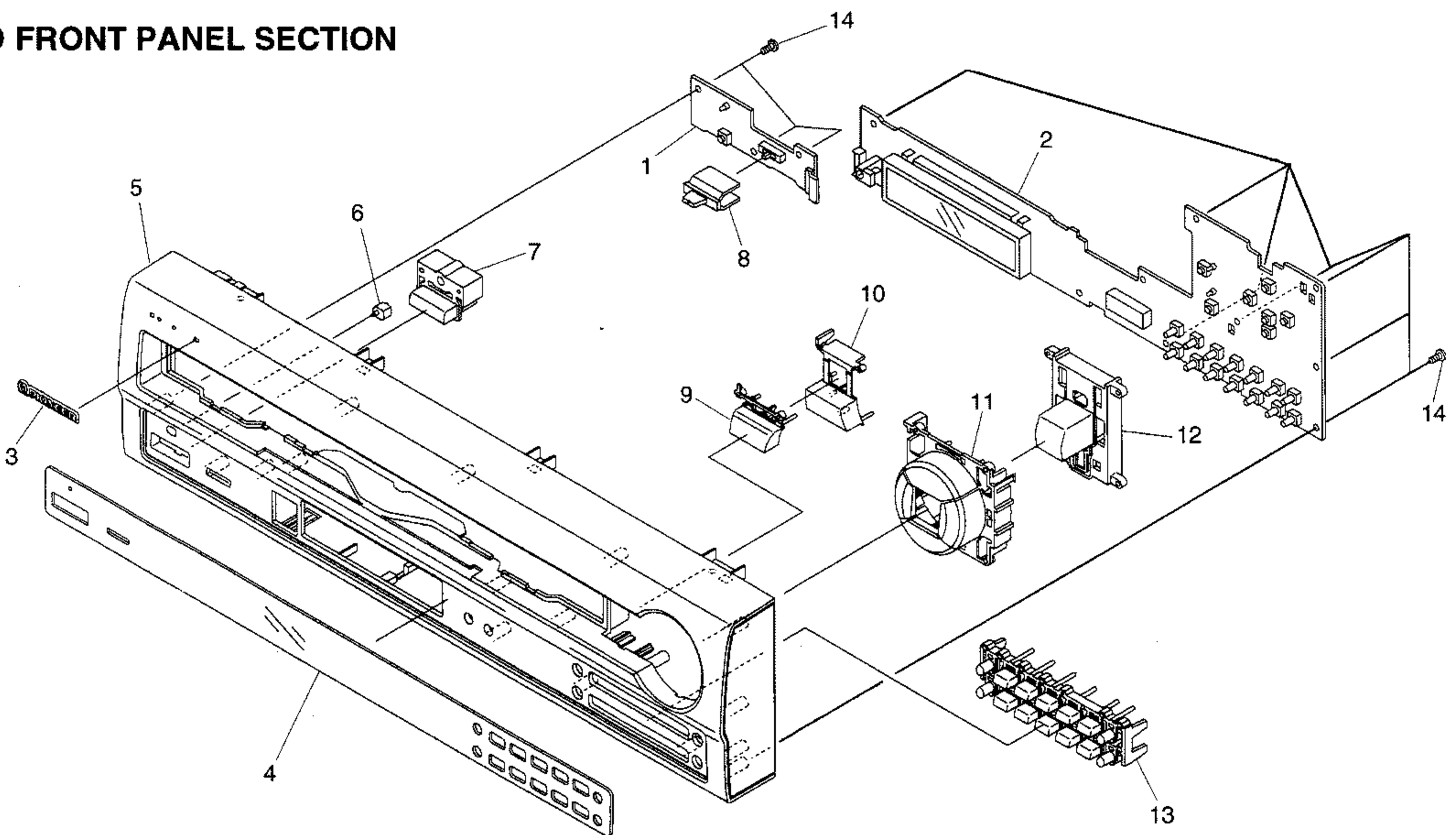
■ EXPLODED VIEWS

● EXTERIOR AND DISC TRAY SECTION

Note : The numbers on the exploded views correspond to the numbers in the remarks column of "CONTRAST TABLE".
Refer to "CONTRAST TABLE".



● FRONT PANEL SECTION



● FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	PWSB Assy	VWG1949	11	Key	VNK4283	
	2	FLKY Assy	VWG1948	12	Play Key	VNK4282	
	3	Name Plate	PAM1704	13	10 Key	VNK4278	
	4	FL Lens	VEC1984	14	Screw	BBZ30P080FMC	
	5	Front Panel	VNK4277				
	6	LED Lens	PNW2019				
	7	Power Button	VNK2329				
	8	Slide Knob	VNK3455				
	9	LD Key	VNK3319				
	10	CD Key	VNK3361				

CLD-S290

PCB PARTS LIST

Mark No.	Description	Parts No.
FLKB ASSY		
OTHERS		
	PCB(FLKB)	VNP1535
EF FLKY ASSY		
SEMICONDUCTORS		
IC101		PDG223B
IC102		S-806D
Q103		DTA124ES
Q102		DTA144ES
Q101		DTC114ES
Q104,Q105		DTC124ES
D103-D106		1SS254
D901,D902		MPG3062X
SWITCHES		
S111-S117		RSG1030
S101-S110,S118-S121		RSG1034
CAPACITORS		
C104		CEAL100M16
C106		CEAT100M50
C101		CEAT470M10
C102,C103,C105,C109		CKPUYF223Z25
RESISTORS		
All Resistors		RD1/4PU□□□J
OTHERS		
CN101 6P CONNECTOR		06R-FJ
CN102 18P CONNECTOR		52492-1820
X101 CERAMIC RESONATOR (8.00MHz)		EFOEC8004A4
REMOTE RECEIVER UNIT		GP1U28X
V101 FL TUBE SPACER FL HOLDER		VAW1035 VEC1599 VNF1085
FF PWSB ASSY		
SEMICONDUCTORS		
Q201		DTC124ES
D201		SLR-342VCT31
SWITCHES		
S201		RSG1030
S202		VSH1014
CAPACITOR		
C201		CKPUYF223Z25
RESISTORS		
All Resistors		RD1/4PU□□□J
OTHER		
CN201 FJ CONNECTOR 6P		06P-FJ

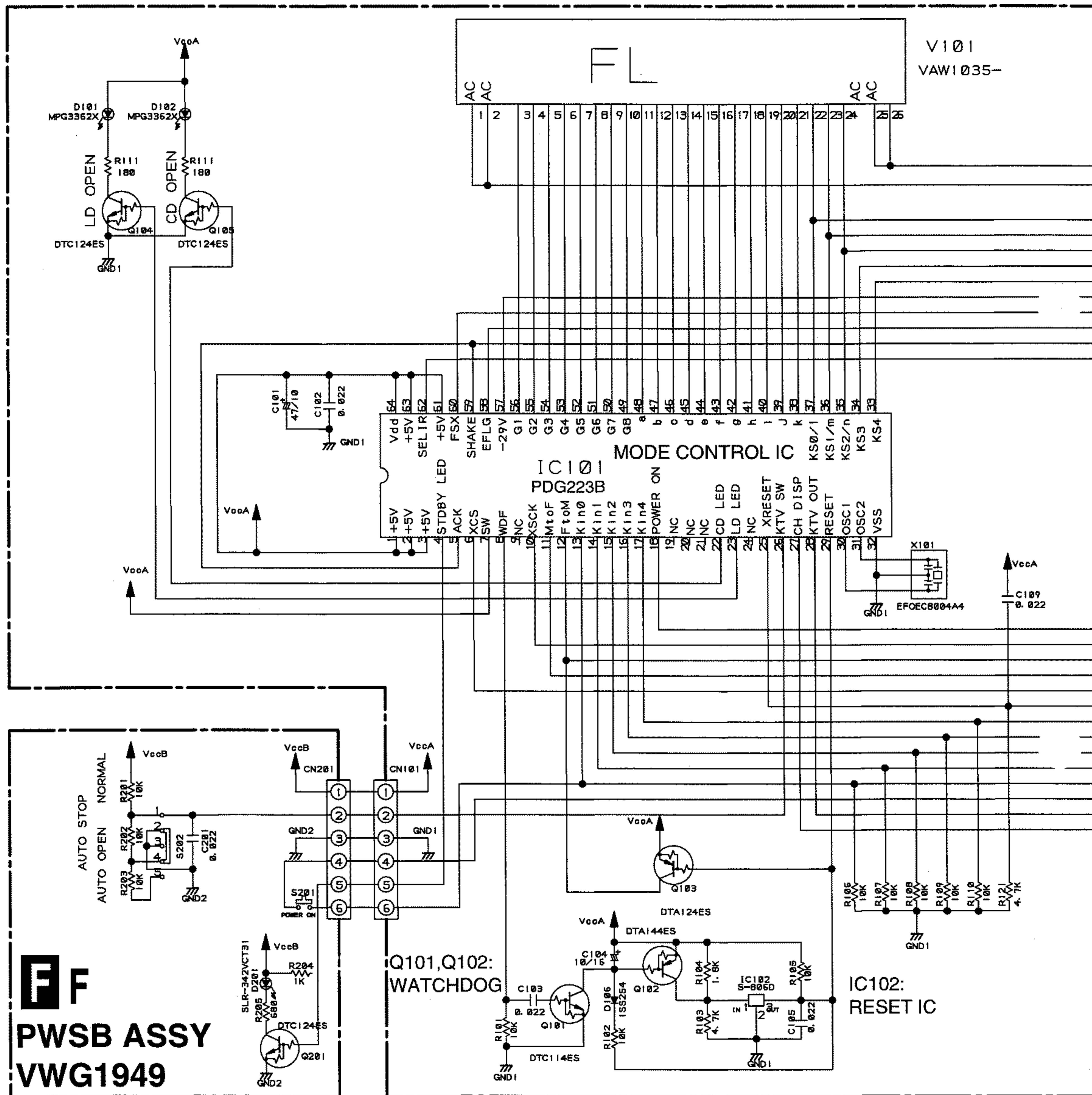
Mark No.	Description	Parts No.
GF MOTHER ASSY		
SEMICONDUCTORS		
IC202 ,IC905		BA4560F
IC301		CA0002AM
IC803		LA6510
IC400		LA7134M
IC801		LA9425
IC901		LA9430M
IC201		LC78625E
IC706		MC14577CP
IC500		PD0234A
IC101		PD0256C2
IC902		TA8410AK
Q101,Q102,Q702		2PB709A
Q207,Q208 ,Q301,Q302,Q304		2PD601A
Q431,Q451,Q703,Q805		2PD601A
Q903,Q904		2PD601A
Q834		2SA854S
Q401,Q803		2SC2412K
Q152		2SC3082K
Q204,Q205		2SD2114K
Q201,Q206,Q303		PDTA124EK
Q103,Q203,Q901,Q908		PDTC124EK
D102		HSS104-02
D201		KV1851
D963		MA111
D110		MTZJ5.1B
COILS AND FILTERS		
L404		LAU100J
L401		LAU101J
L302,L802-L804		LAU181J
L201,L202,L301,L403,L441		LAU220J
L451,L461,L800,L801		LAU220J
L402,L522,L701,L702		LAU270J
L406,L407,L521		LAU430J
L704		LAU4R7J
L443		LAU560J
L405		LAU8R2J
L207,L208		LFA220J
L442		LFA561J
F501		VTF1055
CAPACITORS		
C413,C414,C418,C425,C535		CCSQCH100D50
C540,C541		CCSQCH100D50
C111,C112,C211,C219,C304		CCSQCH101J50
C331,C572,C577,C810,C846		CCSQCH101J50
C848		CCSQCH101J50
C423,C427,C454,C537		CCSQCH120J50
C409		CCSQCH121J50
C403,C411,C453,C708		CCSQCH150J50
C222,C225,C303,C812,C912		CCSQCH151J50
C308,C574		CCSQCH180J50

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C202, C457, C711, C813, C950 C410, C531, C781, C782 C307, C408, C412, C422, C931 C106, C107, C309, C424, C435 C527, C534, C575	CCSQCH220J50 CCSQCH221J50 CCSQCH270J50 CCSQCH330J50 CCSQCH330J50	C532, C533, C536, C538 C546, C547, C802, C804, C807 C831, C832, C834, C835, C843 C876, C888, C918, C928, C929 C932, C937, C938, C941, C964	CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50		
C919 C302, C402, C455, C712 C223, C224, C227, C230, C401 C443, C710 C250-C253	CCSQCH331J50 CCSQCH390J50 CCSQCH470J50 CCSQCH470J50 CCSQCH471J50	C971 C102, C103, C151, C208 C235, C236, C319, C321, C330 C405, C407, C415, C417, C421 C428, C433, C441, C451, C459	CKSQYF103Z50 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25		
C528 C306, C529, C806 C934 C426, C709, C809, C811 C305, C814	CCSQCH5R0C50 CCSQCH680J50 CCSQCH681J50 CCSQCH7R0D50 CCSQCH820J50	C461, C462, C520, C522-C524 C526, C530, C542, C545, C549 C551, C573, C576, C580, C713 C715, C785, C787, C840, C841 C847, C873, C874, C910, C911	CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25		
C442, C444 C936, C944 C935 C434 C786	CCSQCH910J50 CCSQSL102J50 CCSQSL152J50 CEAL100M6R3 CEAL101M6R3	C961, C967, C968 C214, C215 C837, C930 C314, C326, C905, C952 C445, C808, C815, C875, C877	CKSQYF104Z25 CKSQYF105Z16 CKSQYF223Z50 CKSQYF224Z25 CKSQYF473Z25		
C902 C788, C803, C836, C844 C432, C838 C960 C231, C232, C318, C901, C962	CEAL220M6R3 CEAL470M6R3 CEANP470M6R3 CEANP4R7M50 CEAT100M50	C883 C233, C234 VC501 (20pF)	CKSQYF473Z25 CQ MBA332J50 VCM-008		
C228, C229, C310, C312, C324 C416, C539, C550, C578 C581, C582, C585, C714, C917 C927, C933, C974, C975 C221, C226, C904	CEAT101M10 CEAT101M10 CEAT101M10 CEAT101M10 CEAT1R0M50	RESISTORS R405 R787, R788 R781 R435, R987, R989 R880, R883	RD1/4PU470J RN1/10SC75R0D RN1/10SE1001D RN1/10SE1002D RN1/10SE1003D		
C972, C987 C845, C926 C460 C548, C801, C842, C924 C850	CEAT220M50 CEAT2R2M50 CEAT331M10 CEAT470M16 CEAT4R7M50	R786 R886 R784 R879, R986, R990 R785	RN1/10SE1501D RN1/10SE2202D RN1/10SE2401D RN1/10SE3302D RN1/10SE3901D		
C317, C943, C973 C205, C220, C242, C243, C420 C907 C431 C206, C207, C292, C579, C922	CEATR47M50 CKSQYB102K50 CKSQYB102K50 CKSQYB103K50 CKSQYB104K25	R240, R242, R251, R252 R881, R882 R887, R888 VR431 (2.2kΩ) VR603 (4.7kΩ)	RN1/10SE4702D RN1/10SE4702D RN1/10SE8202D PCP1025 RCP1020		
C981 C942 C456, C908 C903 C920	CKSQYB104K25 CKSQYB153K50 CKSQYB154K16 CKSQYB222K50 CKSQYB223K50	VR604, VR607 (47kΩ) Other Resistors	RCP1047 RS1/10S□□□J		
C316, C325 C923 C313, C315, C322, C327, C328 C909 C983	CKSQYB392K50 CKSQYB393K50 CKSQYB472K50 CKSQYB472K50 CKSQYB473K50	OTHERS CN101 FFC CONNECTOR 10P CN105 FFC CONNECTOR 18P CN102 FFC CONNECTOR 21P CN106 11P TOP POST JA3, JA4 REMOTE CONTROL JACK	52045-1045 52045-1845 52045-2145 B11P-SHF-1AA RKN1004		
C921 C458 C110, C122, C150, C152, C160 C196-C198, C201, C209, C212 C311, C320, C323, C419	CKSQYB682K50 CKSQYB683K25 CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50	PCB BINDER JA201 4P PIN JACK JA701 3P PIN JACK CN103 FFC CONNECTOR 23P SCREW PLATE	VEF1040 VKB1065 VKB1093 VKN1199 VNE1948		
		KN101, KN102 EARTH METAL PCB(MOTHER) X101 CERAMIC RESONATOR(9.00MHz) X501 CRYSTAL RESONATOR(14.318MHz) X201 CRYSTAL RESONATOR(16MHz)	VNF1084 VNP1617 VSS1040 VSS1073 VSS1081		

2. SCHEMATIC DIAGRAM

2.1 FLKY ASSY AND PWSB ASSY

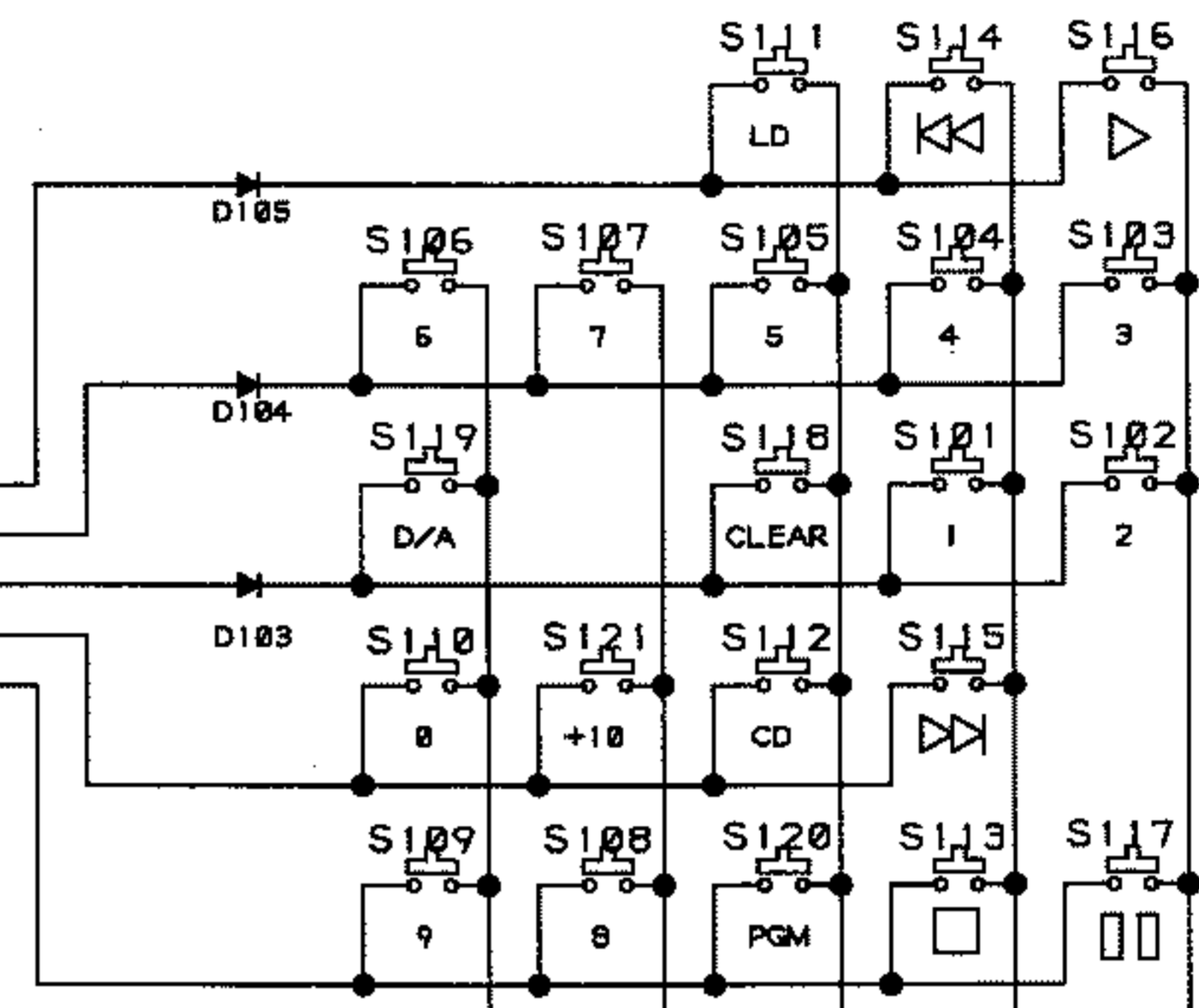
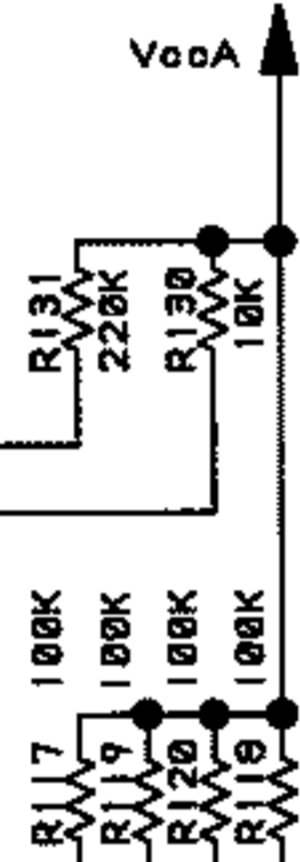
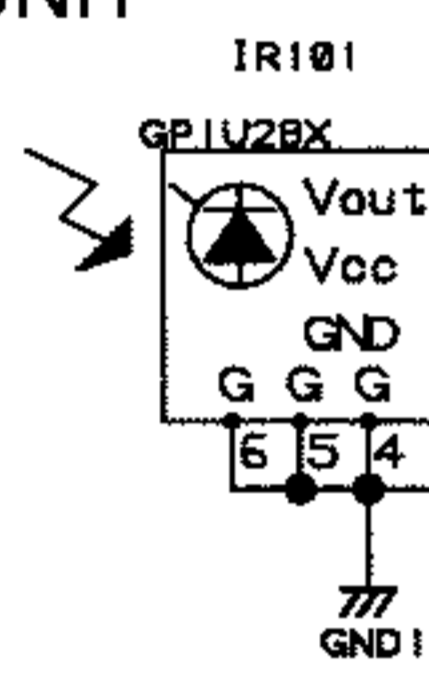
FLKB ASSY VWM1831



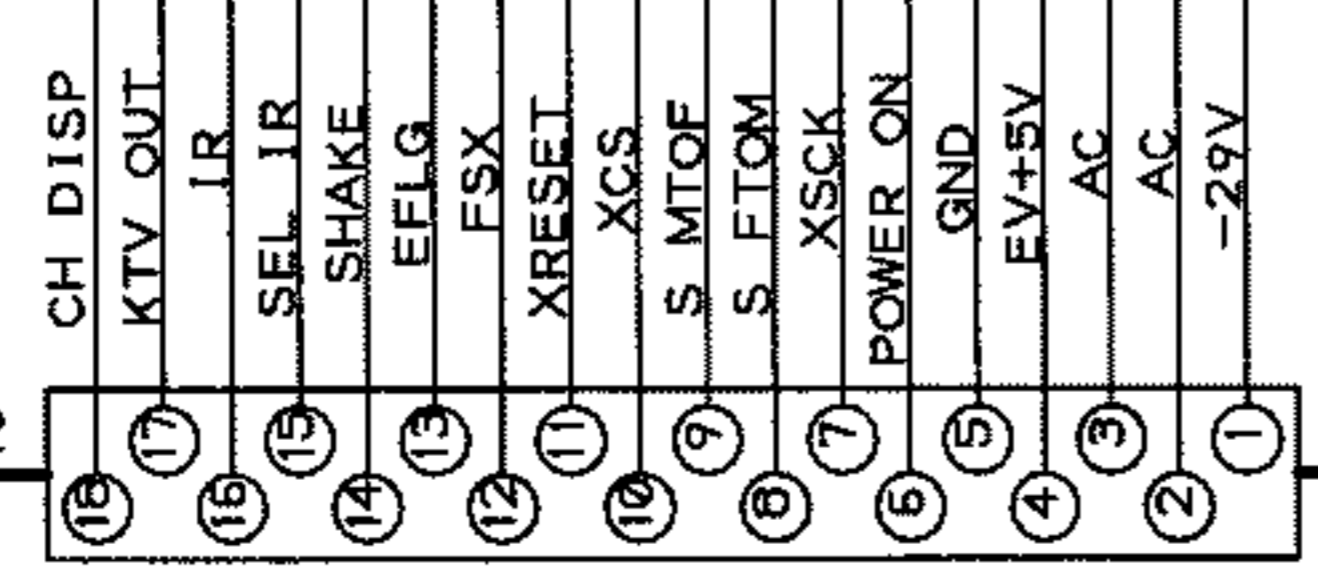
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

FLKY ASSY VWG1948

IR101:
REMOTE RECEIVER
UNIT



CN102



GF 1/3 CN105

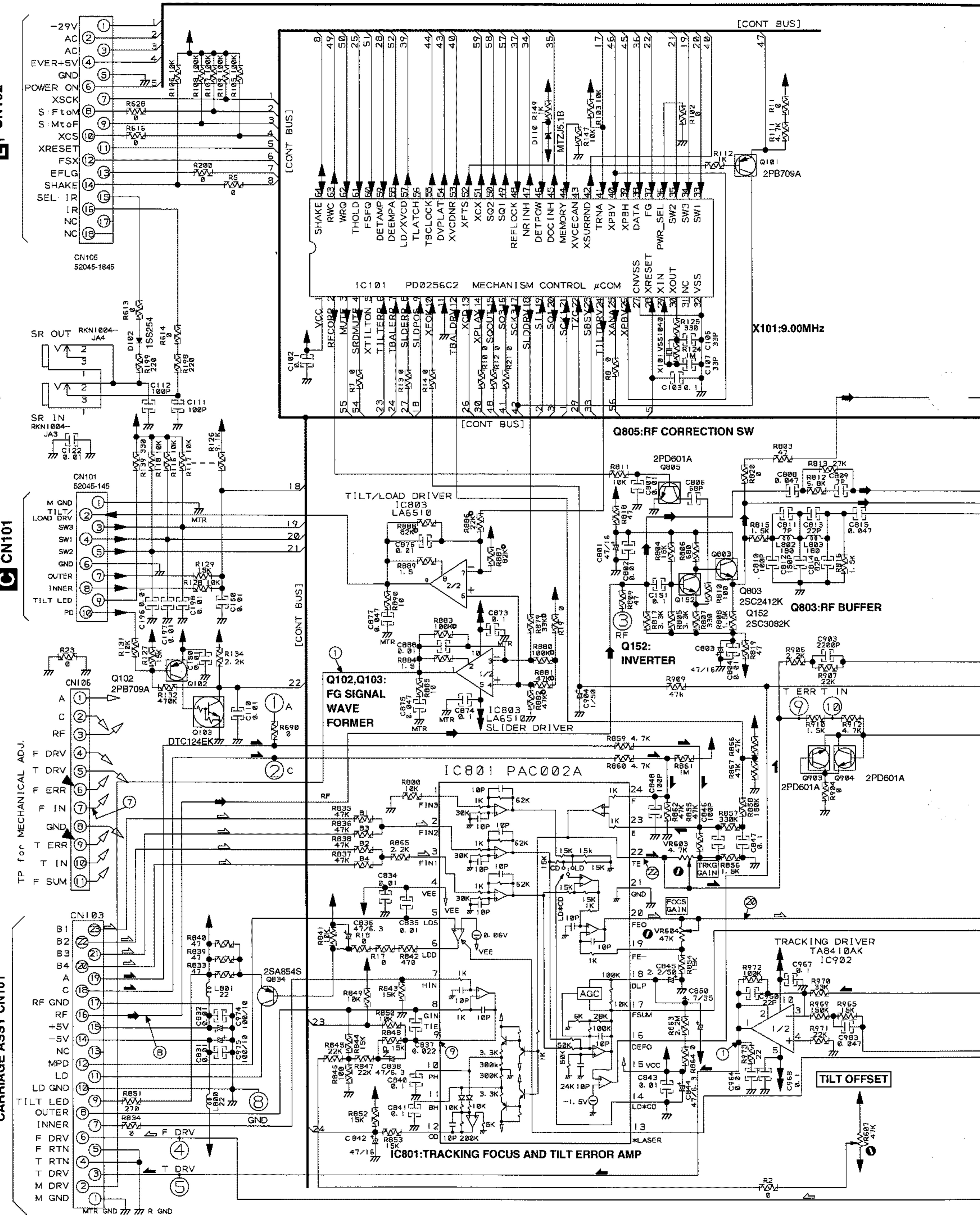
- FLKB ASSY
- S101: 1
 - S102: 2
 - S103: 3
 - S104: 4
 - S105: 5
 - S106: 6
 - S107: 7
 - S108: 8
 - S109: 9
 - S110: 0
 - S111: LD
 - S112: CD
 - S113: ■ STOP
 - S114: ◀◀◀ REV
 - S115: ▶▶▶ FWD
 - S116: ▶ PLAY
 - S117: ■ PAUSE
 - S118: CLEAR
 - S119: D/A
 - S120: PGM
 - S121: +10

2.2 MOTHER ASSY(1/3)

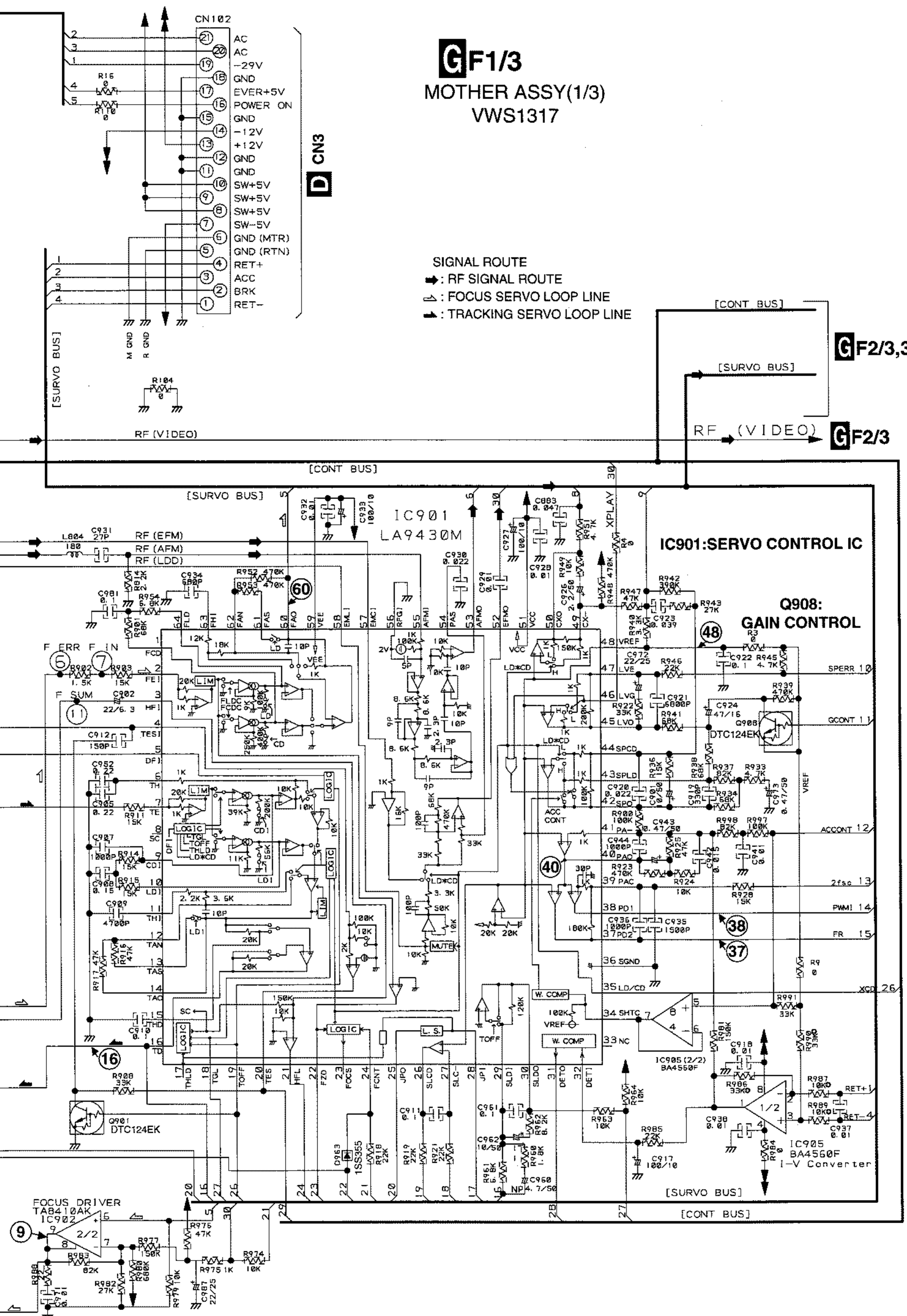
EF CN102

CN101

CARRIAGE ASSY CN101



GF1/3
MOTHER ASSY(1/3)
VWS1317



SIGNAL ROUTE
 → RF SIGNAL ROUTE
 - - - FOCUS SERVO LOOP LINE
 ···· TRACKING SERVO LOOP LINE

GF2/3,3/3

GF2/3

IC901:SERVO CONTROL IC

Q908: GAIN CONTROL

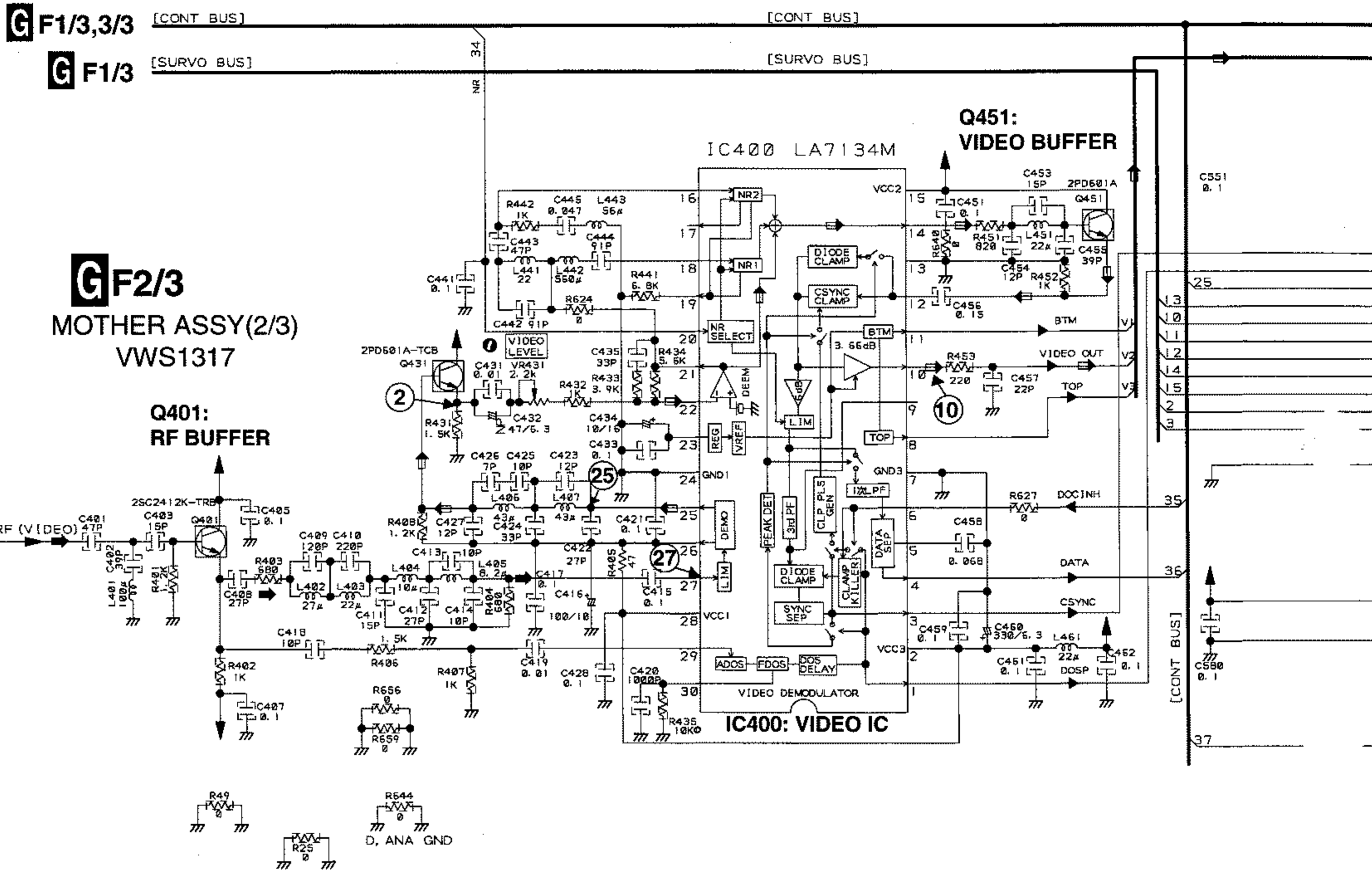
IC905 (2/2) BA4550F

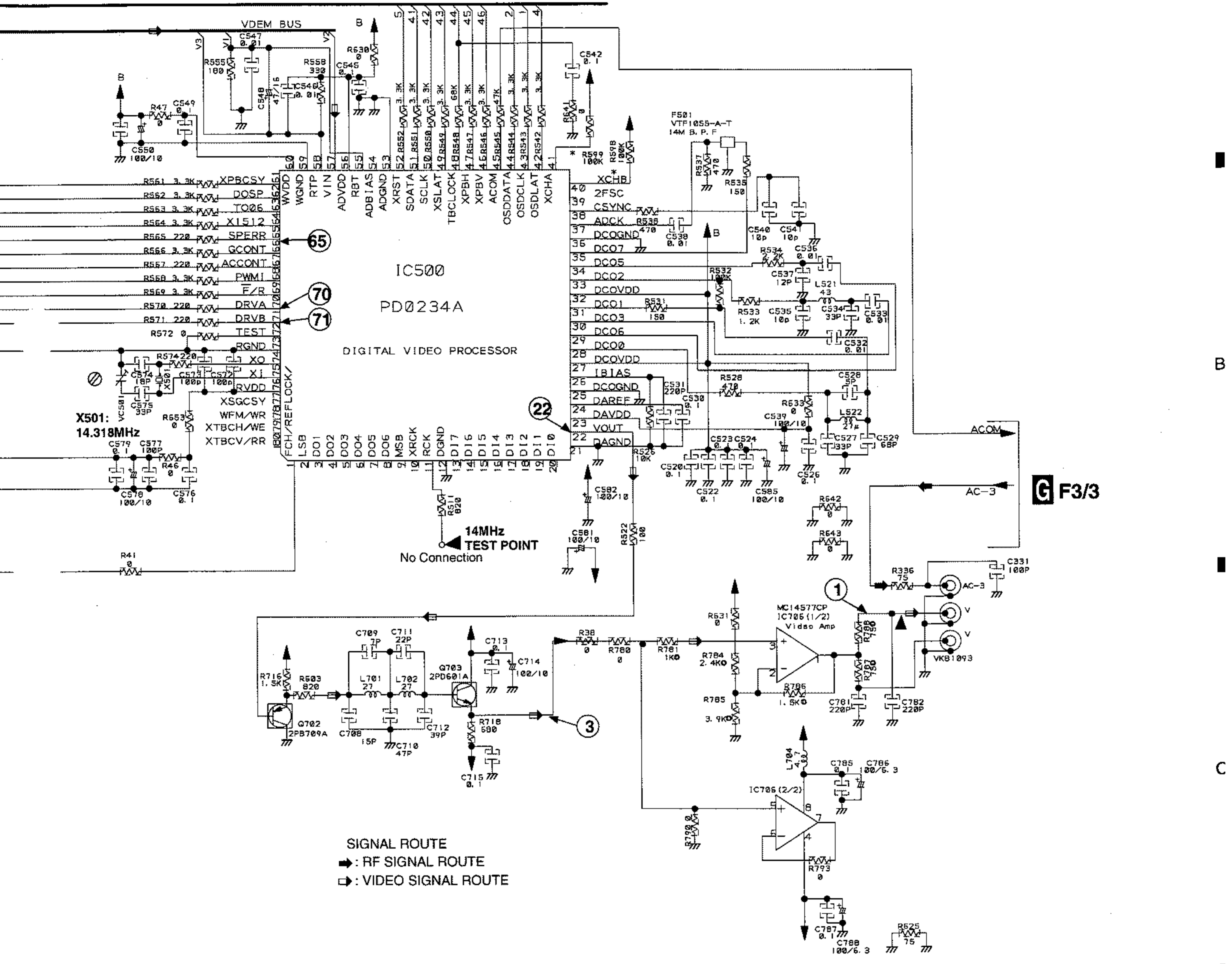
IC905 BA4560F I-V Converter

FOCUS DRIVER TAB410AK IC902

GF 1/3

2.3 MOTHER ASSY(2/3)

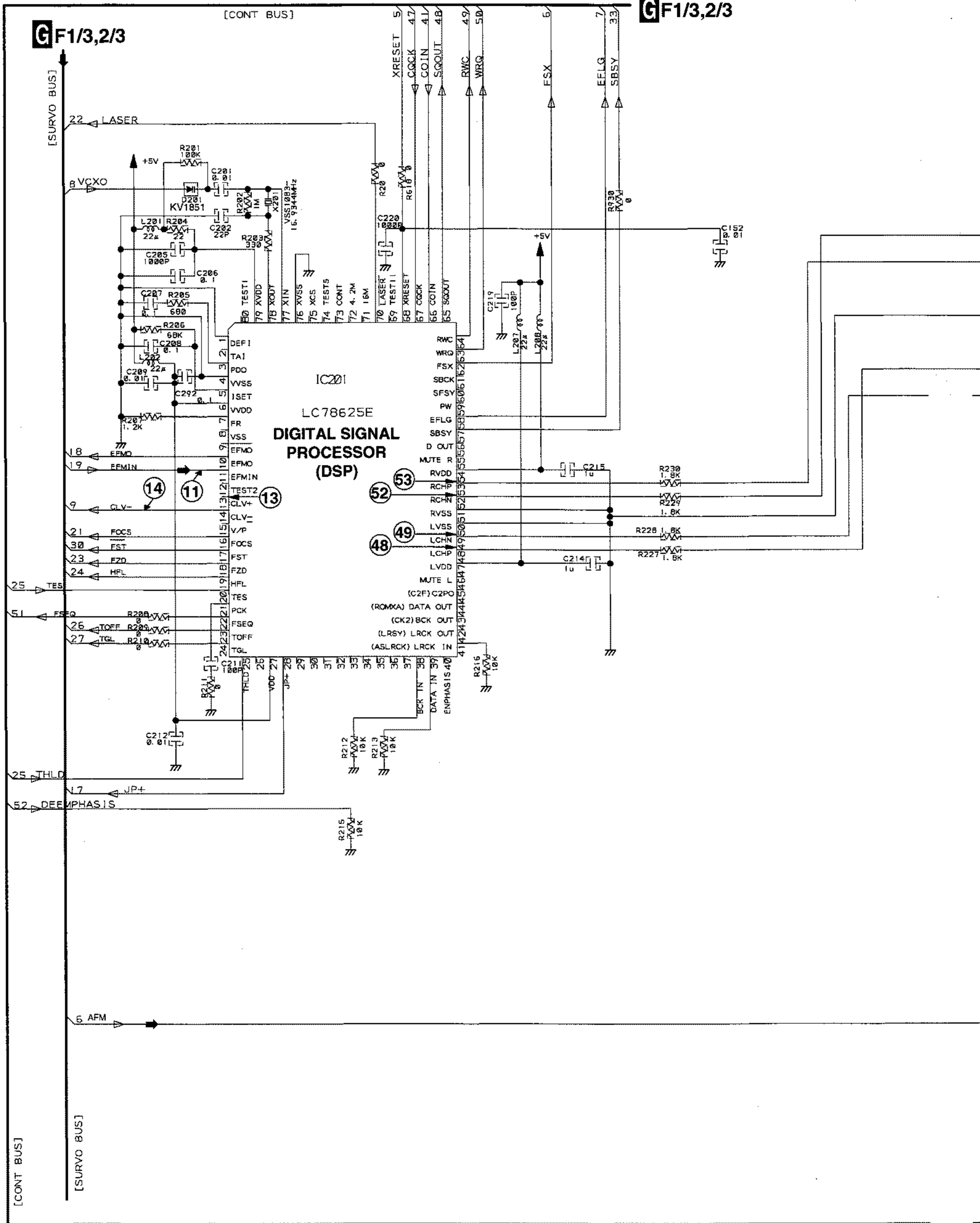




G F3/3

SIGNAL ROUTE
 ➔ : RF SIGNAL ROUTE
 ◻ : VIDEO SIGNAL ROUTE

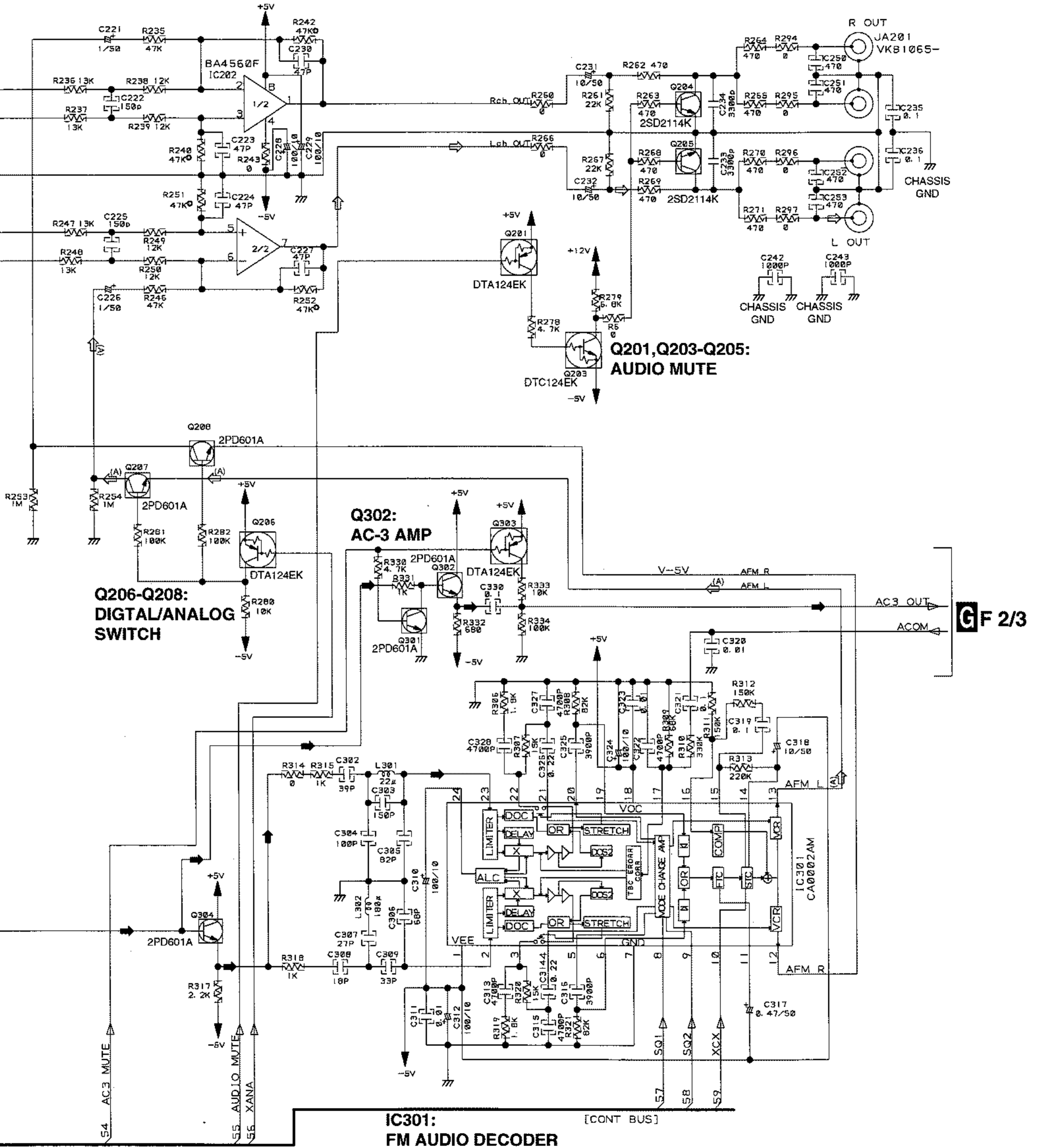
2.4 MOTHER ASSY(3/3)



GF3/3

MOTHER ASSY(3/3) VWS1317

SIGNAL ROUTE
 ➡ : RF SIGNAL ROUTE
 ⇄ : AUDIO SIGNAL ROUTE
 ⇄ : AUDIO SIGNAL ROUTE



A

B

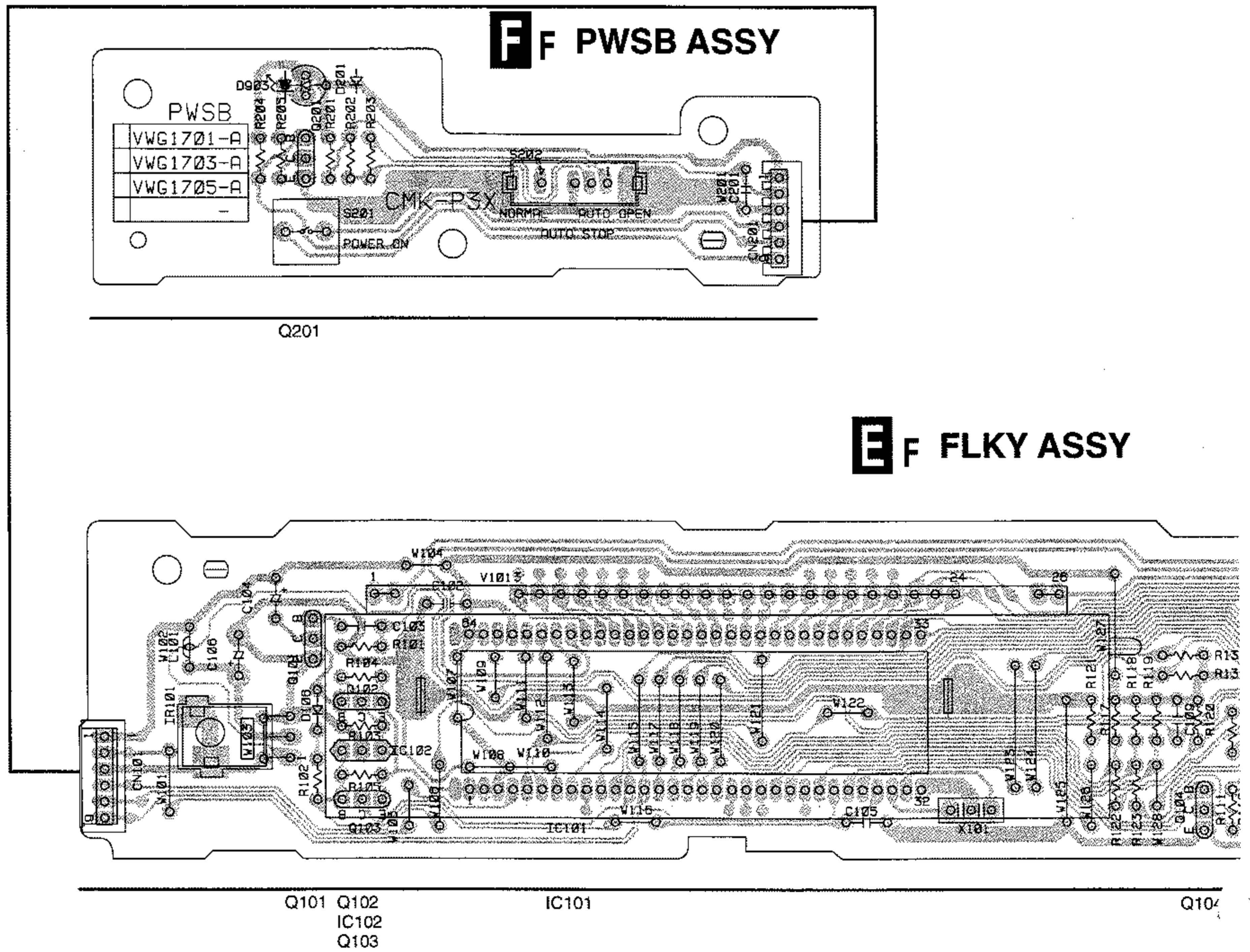
C

D

3. PCB CONNECTION DIAGRAM

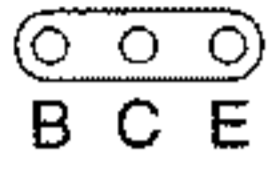
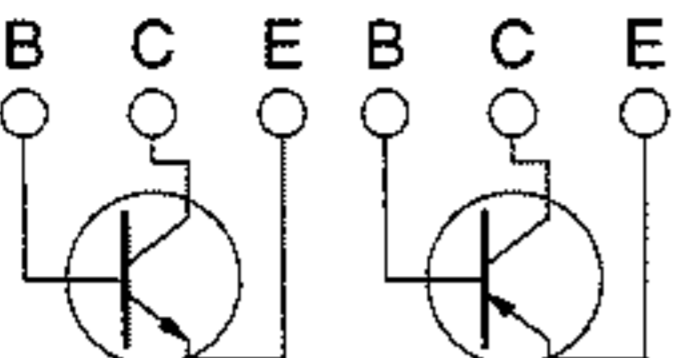
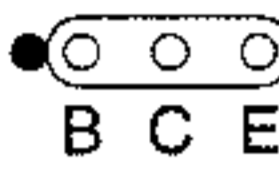
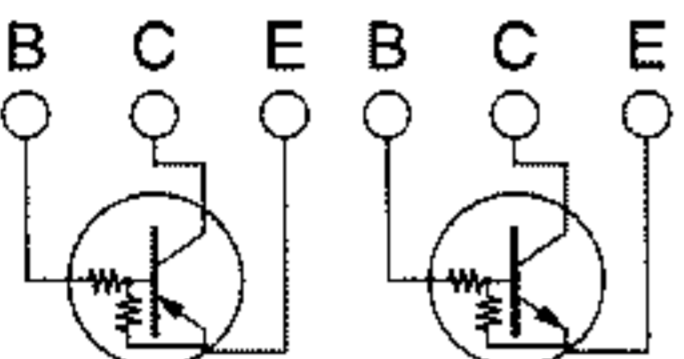
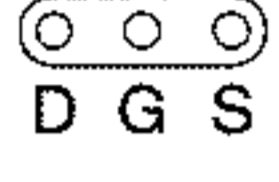
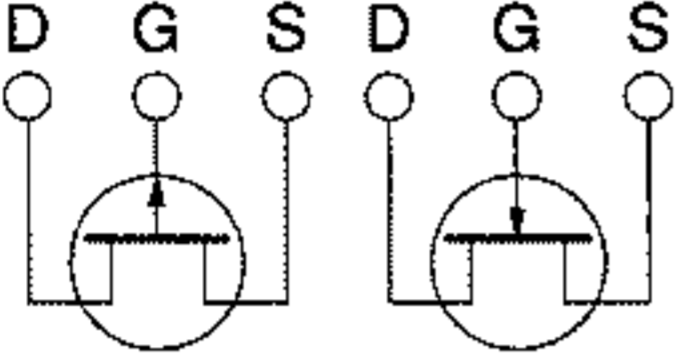
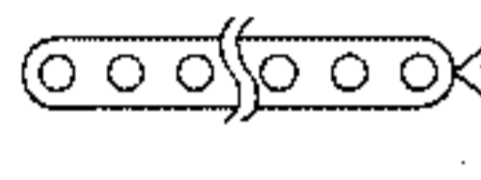
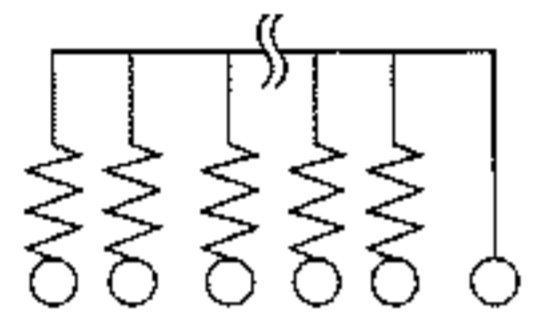
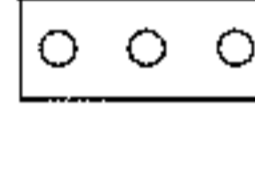
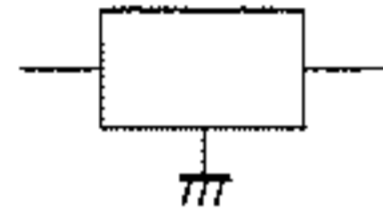
3.1 FLKY AND PWSB ASSEMBLIES

SIDE A



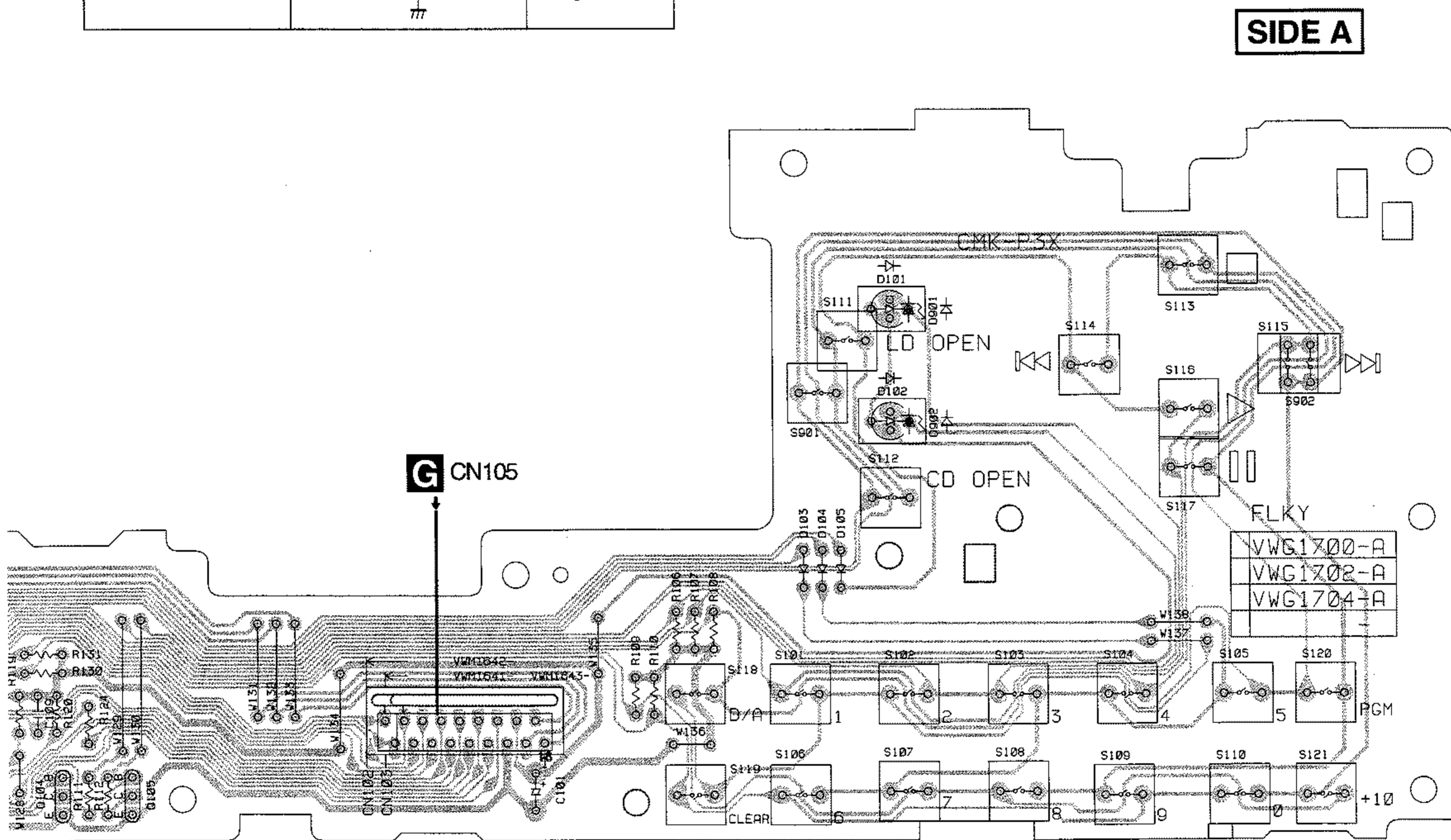
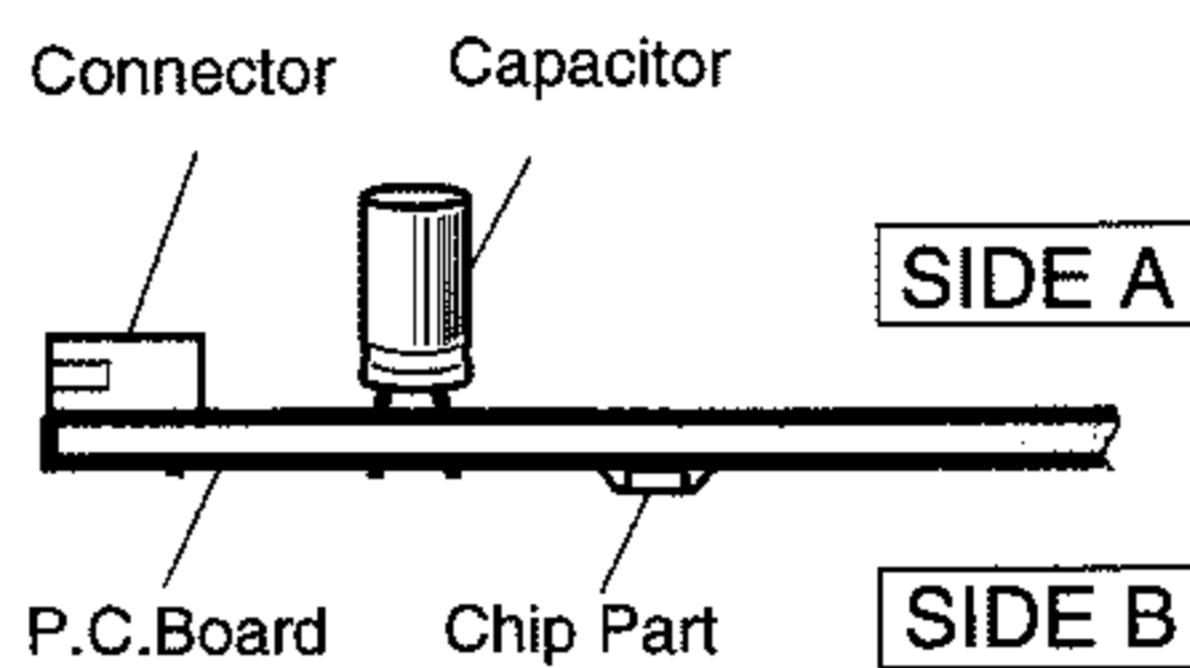
NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. 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.

4. Viewpoint of PCB diagrams



Q104 Q105

VNP1535-C

4. IC INFORMATION

■ PDG223B(FLKY ASSY : IC101)

● MODE CONTROL IC

● Pin Functions

● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

Pin No.	Pin name	I/O	Function	
21 ~ 28	PA0/AN0 ~ PA7/AN7	I/O	(Port A) The input and output can be specified in units of one bit by an 8-bit input/output port. Internal pull-up resistors (8) can be specified in units of four bits by software.	Analog input pins (8) of A/D converter.
5	PB0/CS1	I/O	(Port B) The input and output can be specified in units of one bit by an 8-bit input/output port. Internal pull-up resistors (8) can be specified in units of four bits by software.	Chip select input pin of serial interface (CH1).
6	PB1/CS0	I/O		Chip select input pin of serial interface (CH0).
7	PB2/SCK0	I/O		Input/output pin of serial clock (CH0).
8	PB3/SI0	I/O		Input pin of serial data (CH0).
9	PB4/SO0	I/O		Output pin of serial data (CH0).
10	PB5/SCK1	I/O		Input/output pin of serial clock (CH1).
11	PB6/SI1	I/O		Input pin of serial data (CH1).
12	PB7/SO1	I/O	Output pin of serial data (CH1).	
13 ~ 20	PC0/KR0 ~ PC7/KR7	I/O	(Port C) The input and output can be specified in units of one bit by an 8-bit output port. This port can drive a sink current of 12 mA. Internal pull-up resistors (8) can be specified in units of four bits by software.	Key return input pin during key scanning using an FDP segment signal.
58	PE0/INT0/EC	I / I / I	(Port E) Low-order five bits are a 7-bit input-only port, and high-order two bits are a 7-bit output-only port.	External event input pin (1) of timer and counter.
59	PE1/INT1	I / I		External interrupt request input pins (4).
60	PE2/INT2	I / I		Non-maskable interrupt request pin.
61	PE3/INT3/NMI	I / I / I		Input pin of remote control receive circuit.
62	PE4/RMC	I / I		8-bit PWM output pin.
63	PE5	O		Rectangular wave output signal of timer and counter. Frequency-division output pin of 32-kHz oscillation.
4	PE6/ADJ/TO	O		FDP segment signal output pin.
33 ~ 35	PF5/S13 ~ PF7/S15	O / O	(Port F) 3-bit output pin (3)	
36~40	S16~S20	O	FDP segment signal output pin.	
48 ~ 41	T8/S28 ~ T15/S21	O / O	Output pin of FDP timing signal and segment signal.	
56~49	T0~T7	O	Output pin of FDP timing signal.	
57	V _{FDP}		FDP voltage supply pin when internal resistor is specified by mask option.	
30	EXTAL	I	Crystal connection pin for system clock oscillation. A clock should be input to the EXTAL pin when it is supplied from the outside. In this case, a clock with opposite phase should be input to the XTAL pin.	
31	XTAL	O		
2	PH1/TEX	I / I	(Port H) 2-bit input pin (2)	Crystal connection pin for 32-kHz timer and counter clock oscillation. A 32-kHz crystal oscillator is put between TEX and TX pins. When this signal is used as an event input, the clock source should be connected to the TEX pin, and the TX pin should be opened.
1	PH0/TX	I / O		
29	RST	I	Low-level active system reset pin. The RST pin is an input pin.	
3	NC		NC pin. This pin should be connected to V _{DD} during normal operation.	
64	V _{DD}		Power supply connection pin.	
32	V _{SS}		Ground	