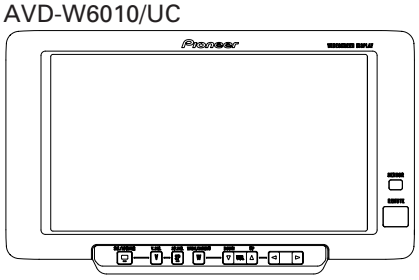
Service Manual

AVD-W6010/UC



ORDER NO.
CRT2691

COLOR LCD DISPLAY

AVD-W6010 UC
AVD-W6010 EW

● This product has the unit part numbers as below.

Unit Part No. (AVD-W6010/UC)	Unit Part No. (AVD-W6010/EW)	Description
CPN1701	CPN1750	Monitor Assy
CPN1702	CPN1751	Power Supply Assy

*) The unit part numbers listed above are not for the service components.

CONTENTS

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZY. MAY 2001 Printed in Japan

1. SAFETY INFORMATION

CAUTION

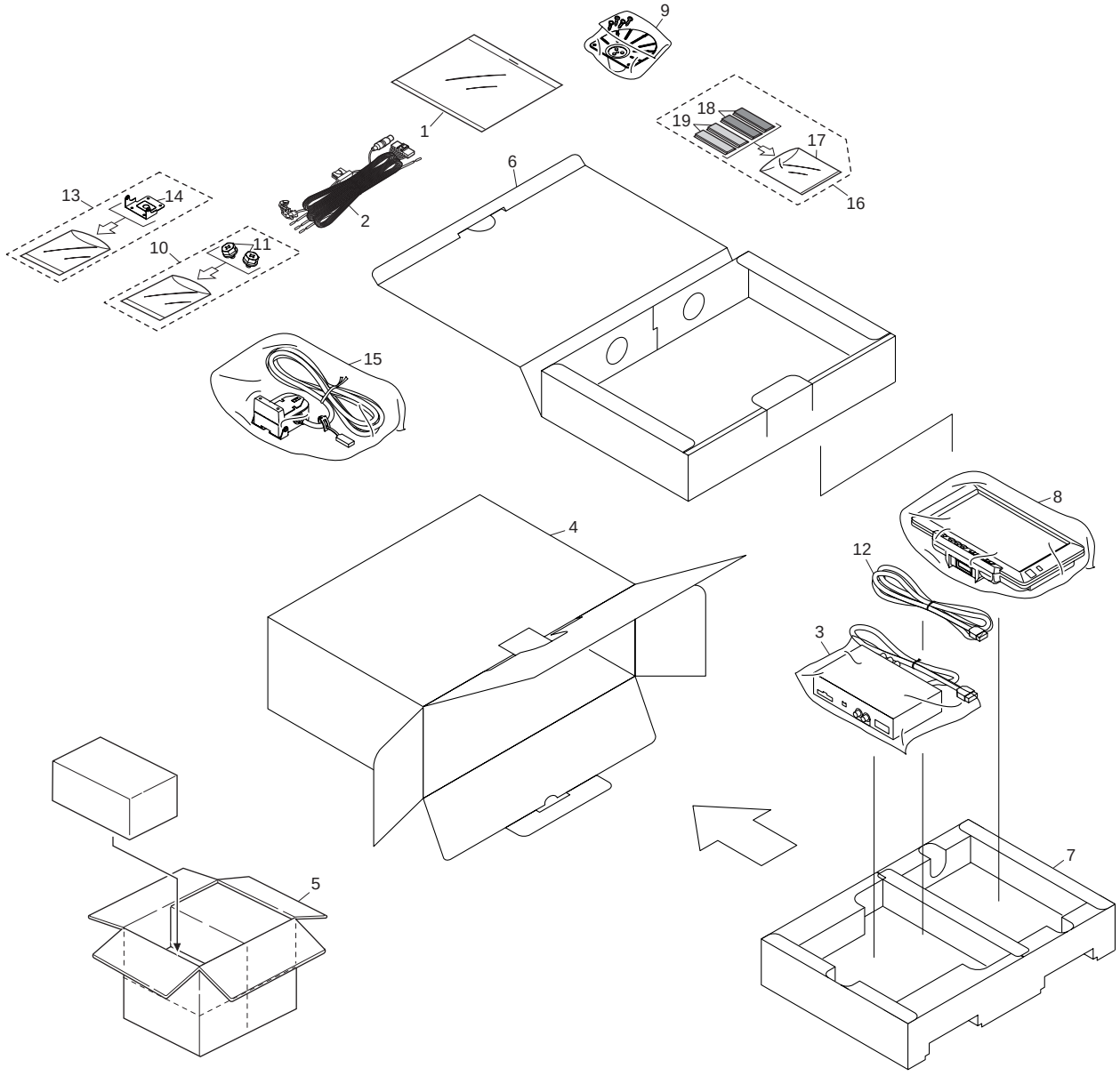
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly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

WARNING

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

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

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

● Screws adjacent to ∇ mark on the product are used for disassembly.

(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
*	1-1	Card	See Contrast table(2)
	1-2	Owner's Manual	See Contrast table(2)
	1-3	Owner's Manual	See Contrast table(2)
	1-4	Owner's Manual	See Contrast table(2)
*	1-5	Warranty Card	See Contrast table(2)
	1-6	Cushion	See Contrast table(2)
*	1-7	Caution Card	CRP1197
	1-8	Polyethylene Bag	CEG1116
	2	Cord Assy	CDE6544
*	3	Packing Cover	CEG-186
	4	Carton	See Contrast table(2)
	5	Contain Box	See Contrast table(2)
	6	Protector	CHP2368
	7	Protector	CHP2369
	8	Polyethylene Bag	CEG1260
	9	Installation Metal Fittings	See Contrast table(2)
*	10	Screw Assy	CEA2826
	11	Screw	HMB40P060FZK
	12	Cord Assy	CDE6613
	13	Bracket Pack Assy	CEA2823
	14	Bracket	CNC7617
*	15	Polyethylene Bag	E36-634
	16	Accessory Assy	CEA2657
*	17	Polyethylene Bag	CEG1101
	18	Fastener(Rough)	CNM6888
	19	Fastener(Soft)	CNM6889

(2) CONTRAST TABLE

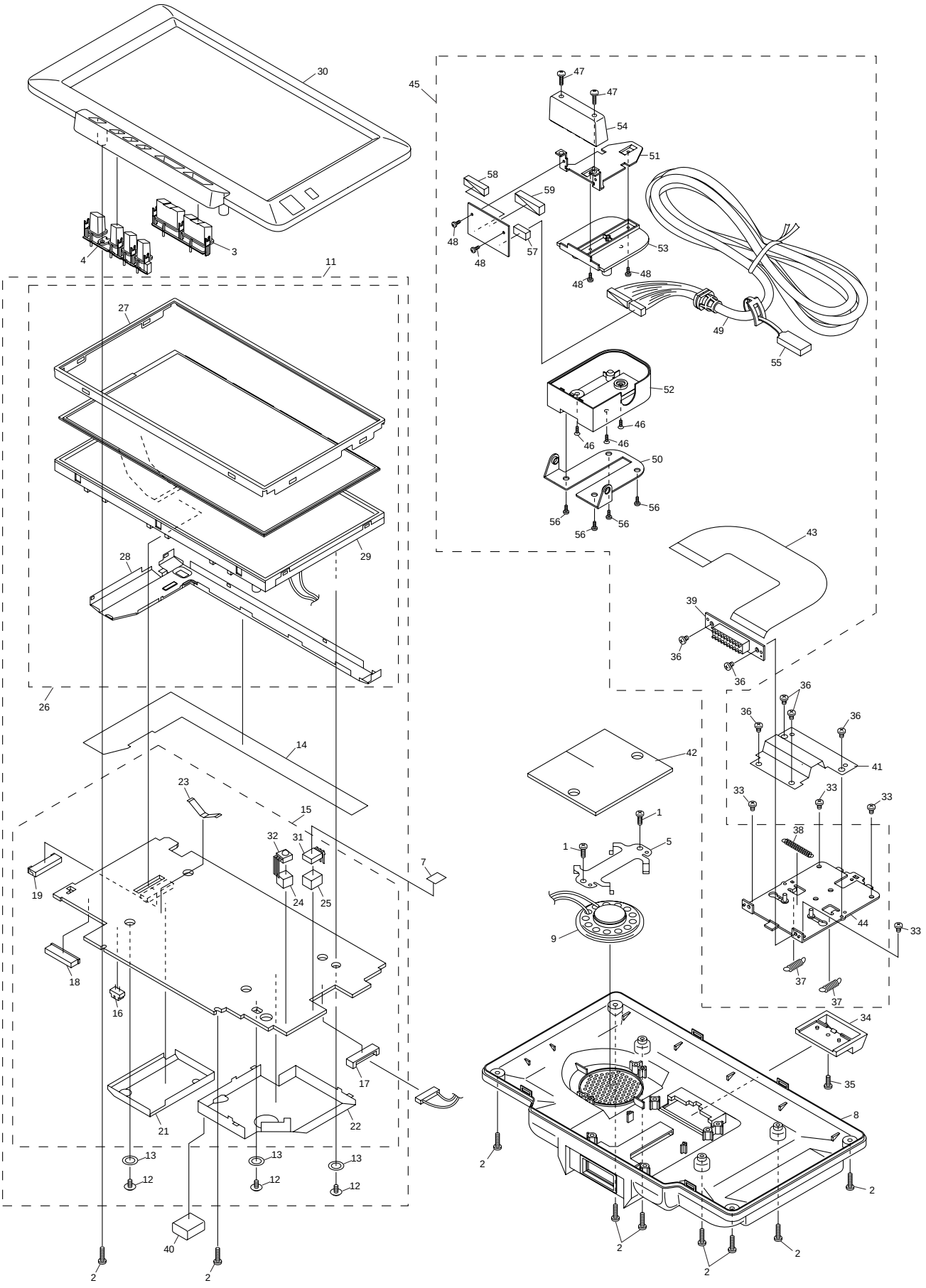
AVD-W6010/UC and AVD-W6010/EW are constructed same except for the following:

Mark	No.	Description	Part No.	
			AVD-W6010/UC	AVD-W6010/EW
*	1-1	Card	ARY1048	Not Used
	1-2	Owner's Manual	CRD3429	Not Used
	1-3	Owner's Manual	Not Used	CRD3477
	1-4	Owner's Manual	Not Used	CRD3478
*	1-5	Warranty Card	Not used	CRY1157
	1-6	Cushion	Not used	CNM4680
	4	Carton	CHG4386	CHG4385
	5	Contain Box	CHL4386	CHL4385
	9	Installation Metal Fittings	Not used	CXB3629

● **Owner's Manual**

Model	Part No.	Language
AVD-W6010/UC	CRD3429	English, French
AVD-W6010/EW	CRD3477	English, Spanish, German
	CRD3478	French, Italian, Dutch

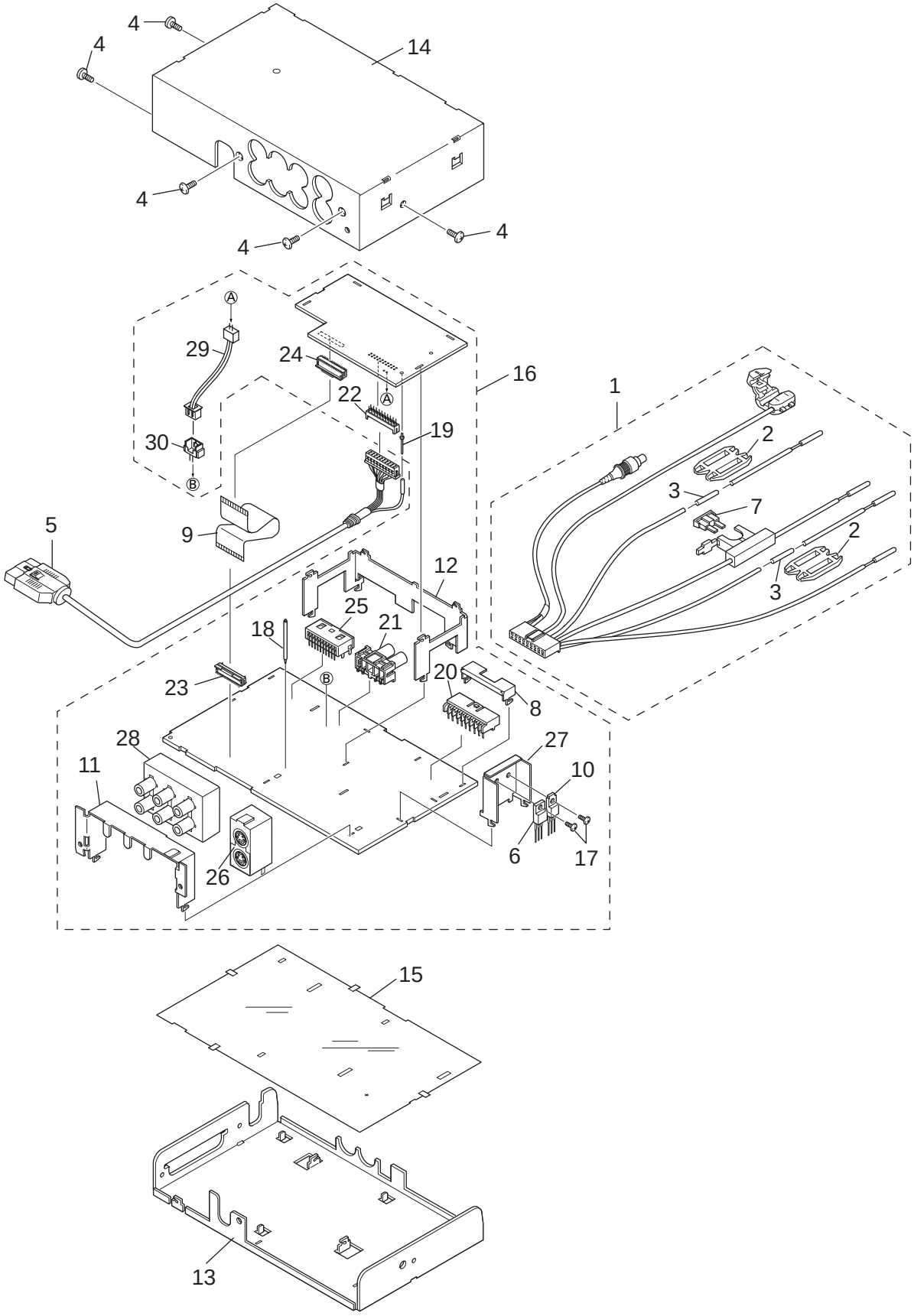
2.2 EXTERIOR(1)



● EXTERIOR(1) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BPZ20P060FMC
	2	Screw	BPZ20P080FZK
	3	Button(POWER,V,SP,W)	CAC7079
	4	Button(▲/▼/◄/►)	CAC7080
	5	Holder	CNC7283
	6	•••••	
	7	Filter	CNM6583
	8	Case	CNS6479
	9	Speaker	CPV1041
	10	•••••	
	11	LCD Assy	CXB6775
	12	Screw(M2x5)	CBA1501
	13	Spacer	CNC8893
	14	Insulator	CNM6458
	15	Monitor Unit	CWM7610
	16	Connector(CN3001)	CKS3124
	17	Connector(CN3251)	CKS3192
	18	Connector(CN3101)	CKS1962
	19	Connector(CN3701)	CKS3991
	20	•••••	
	21	Shield	CNC8486
	22	Shield	CNC8487
	23	Earth	CNC8667
	24	Spacer	CNM6263
	25	Spacer	CNM6618
	26	LCD Module	CWX2460
	27	Front Case	NML55920911
	28	Back Case	NML55923321
	29	Back Light Unit	NML75923311
	30	Grille Unit	CXB6999
	31	IC(IC3051)	PNA4603H00LB
	32	IC(IC3071)	SBX8035-H
	33	Screw	BPZ20P050FMC
	34	Knob	CAC5540
	35	Screw(M2x3)	CBA1082
	36	Screw(M2x3)	CBA1154
	37	Spring	CBH1708
	38	Spring	CBH2094
	39	Connector	CKS3765
	40	Cushion	CNM5905
	41	Cover	CNM7159
	42	Cushion	CNM7207
	43	PCB	CNP6237
	44	Slider Unit	CXB2312
	45	Detach Assy	CXB6966
	46	Screw	BPZ26P080FZK
	47	Screw(M2x3)	CBA1082
	48	Screw	CBA1083
	49	Cord Assy	CDE6542
	50	Bracket	CNC7510
	51	Bracket	CNC7511
	52	Case	CNS4816
	53	Cover	CNS4883
	54	Cover	CNS4884
	55	Cover	CNV5716
	56	Screw	CPZ26P080FZK
	57	Plug(CN2002)	CKS3274
	58	Plug(CN2003)	CKS3282
*	59	Connector(CN2001)	CKS3764

2.3 EXTERIOR(2)

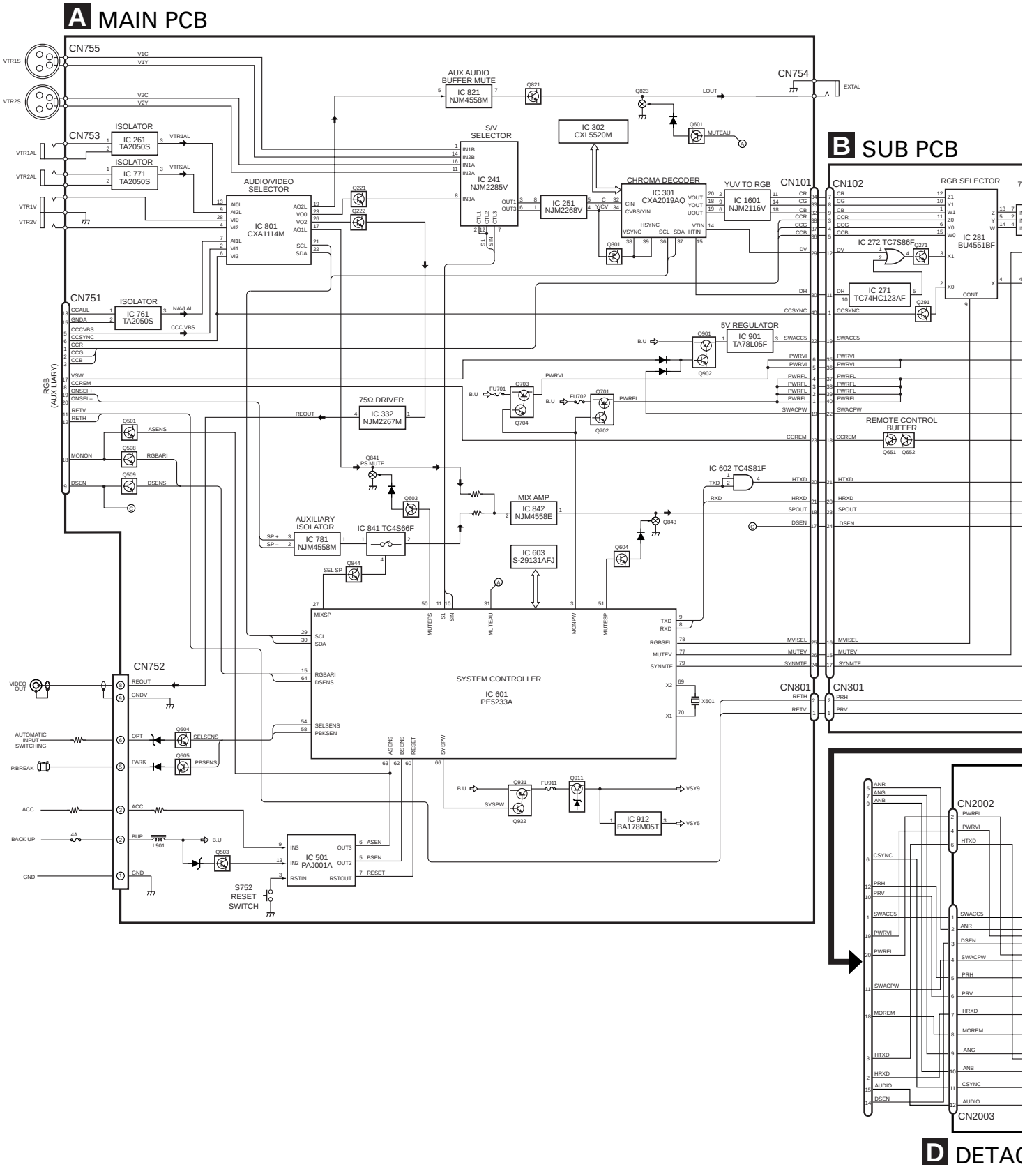


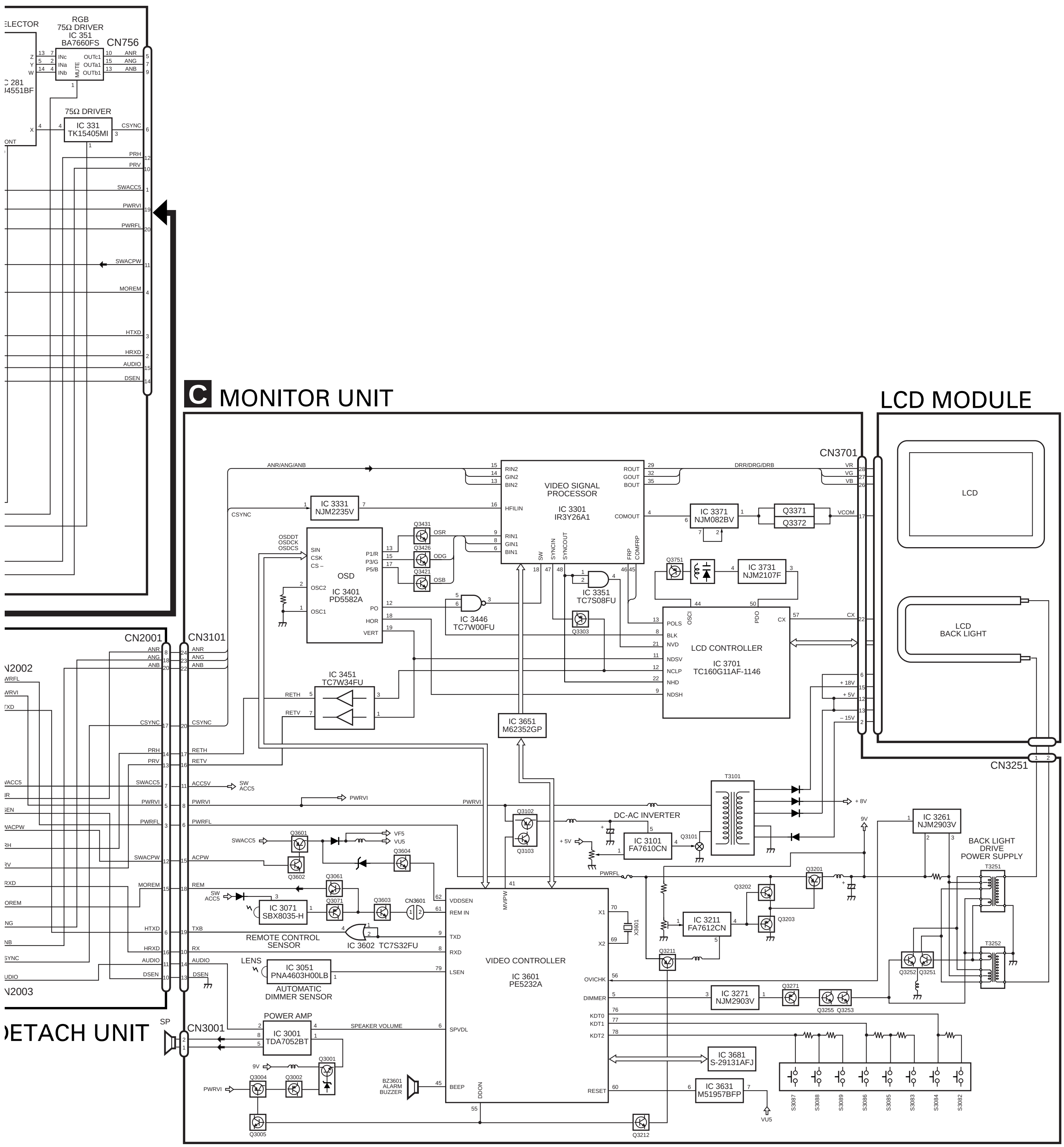
● EXTERIOR(2) SECTION PARTS LIST

Mark No.	Description	Part No.
1	Cord Assy	CDE6544
2	Cap	CNS1472
3	Resistor	RS1/2PMF102J
4	Screw	BSZ30P060FMC
5	Cord Assy	CDE6543
6	Transistor(Q911)	2SD2375
7	Fuse(4A)	CEK1001
8	Holder	CNC8869
9	FFC	CDE6393
10	IC(IC912)	BA178M05T
11	Holder	CNC9129
12	Holder	CNC9012
13	Chassis	CNA2299
14	Case	CNB2585
15	Insulator	CNM6725
16	Mother Unit	CWM7612
17	Screw	BMZ30P060FMC
18	Clamper	CEF1008
19	Terminal(CN757)	CKF-047
20	Plug(CN752)	CKM1136
21	Pin Jack(CN754)	CKS3144
22	Connector(CN756)	CKS3236
23	Connector(CN101)	CKS3751
24	Connector(CN102)	CKS3751
25	Connector(CN751)	CKS4458
26	Connector(CN755)	CKS4405
27	Holder	CNC8868
28	Pin Jack(CN753)	CKB1047
29	Cord Assy(CN301)	CDE6541
30	Connector(CN801)	CKS3124

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

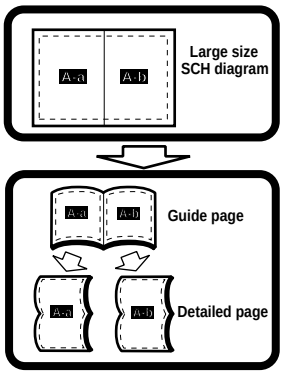
3.1 BLOCK DIAGRAM




RGB
75Ω DRIVER
IC 351
BA7660FS
CN756
75Ω DRIVER
IC 331
TK15405MI
C MONITOR UNIT
LCD MODULE
CN3701
LCD
LCD
BACK LIGHT
CN2001
CN3101
VIDEO SIGNAL
PROCESSOR
IC 3301
IR3Y26A1
IC 3331
NJM2235V
OSD
IC 3401
PD5582A
IC 3446
TC7W00FU
IC 3351
TC7S08FU
IC 3371
NJM082BV
IC 3731
NJM2107F
LCD CONTROLLER
IC 3701
TC160G11AF-1146
IC 3451
TC7W34FU
IC 3651
M62352GP
DC-AC INVERTER
IC 3101
FA7610CN
T3101
IC 3261
NJM2903V
BACK LIGHT
DRIVE
POWER SUPPLY
CN3251
IC 3071
SBX8035-H
REMOTE CONTROL
SENSOR
IC 3602 TC7S32FU
VIDEO CONTROLLER
IC 3601
PE5232A
IC 3211
FA7612CN
LENS
IC 3051
PNA4603H00LB
AUTOMATIC
DIMMER SENSOR
IC 3271
NJM2903V
POWER AMP
IC 3001
TDA7052BT
CN3001
DETACH UNIT
IC 3681
S-29131AFJ
IC 3631
M51957BFP
BZ3601
ALARM
BUZZER

3.2 MAIN PCB (GUIDE PAGE)

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



A-a

A MAIN PCB

B CN301

: AUDIO SIGNAL
: Y SIGNAL
: RED SIGNAL

SOURCE SELECTOR

NAVI RGB INPUT

V1 AUDIO ISOLATOR

AUXILIARY AUDIO ISOLATOR

V2 AUDIO ISOLATOR

MONITOR SPEAKER ISOLATOR

SYSTEM POWER SUPPLY

SENSOR

RESET

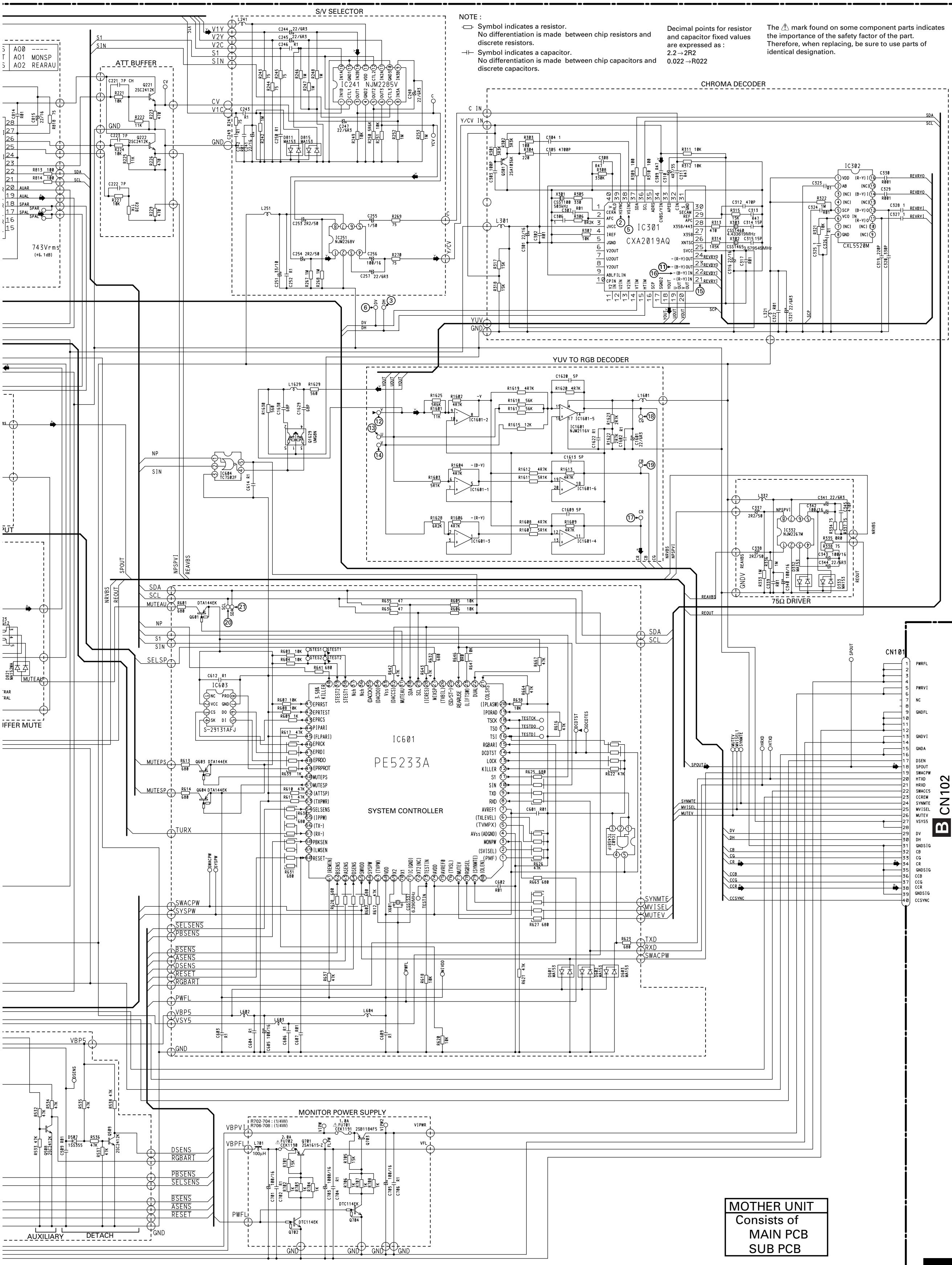
BACK UP AND REMOTE CONTROL POWER SUPPLY

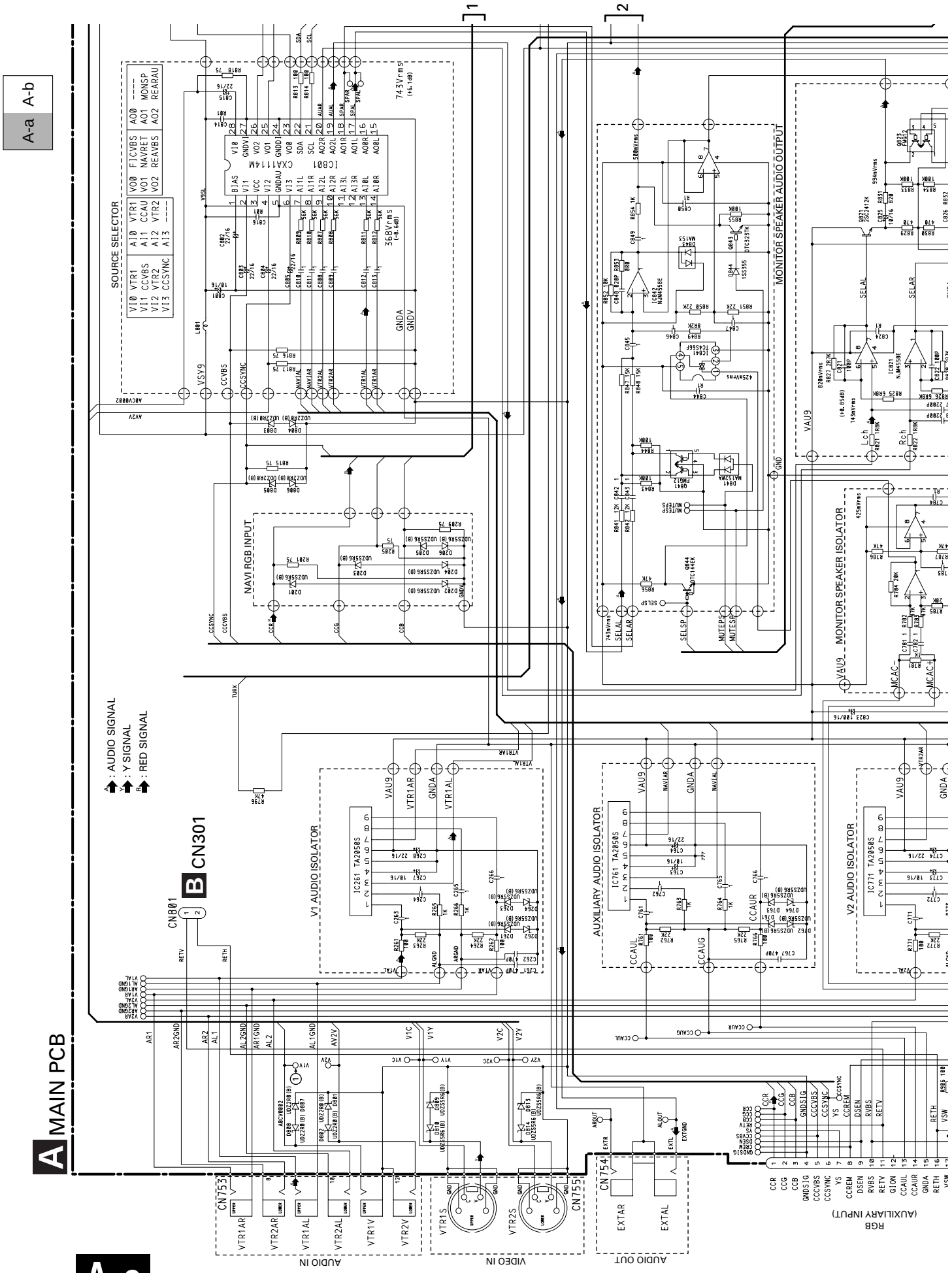
OPTION

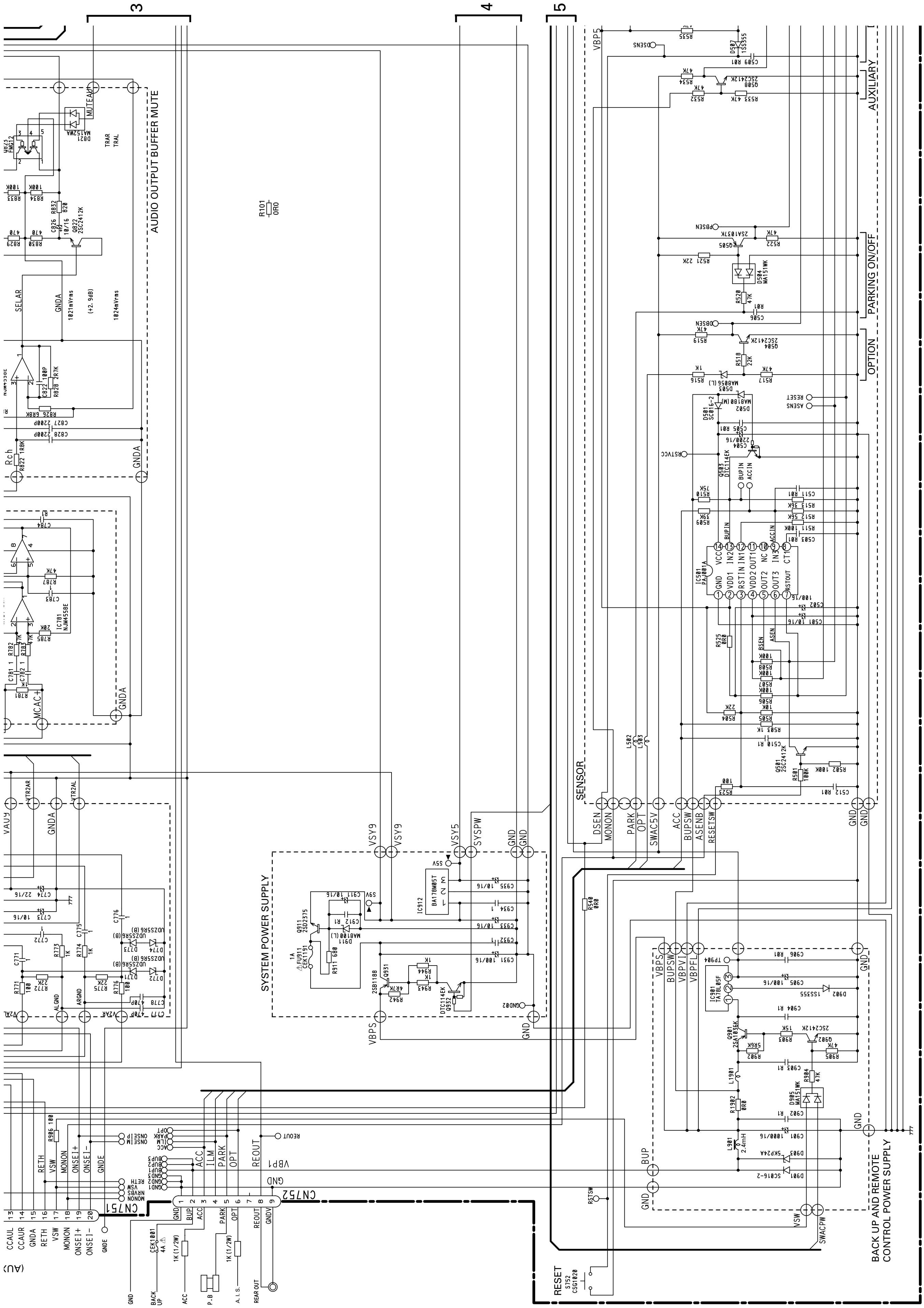
PARKING ON/OFF

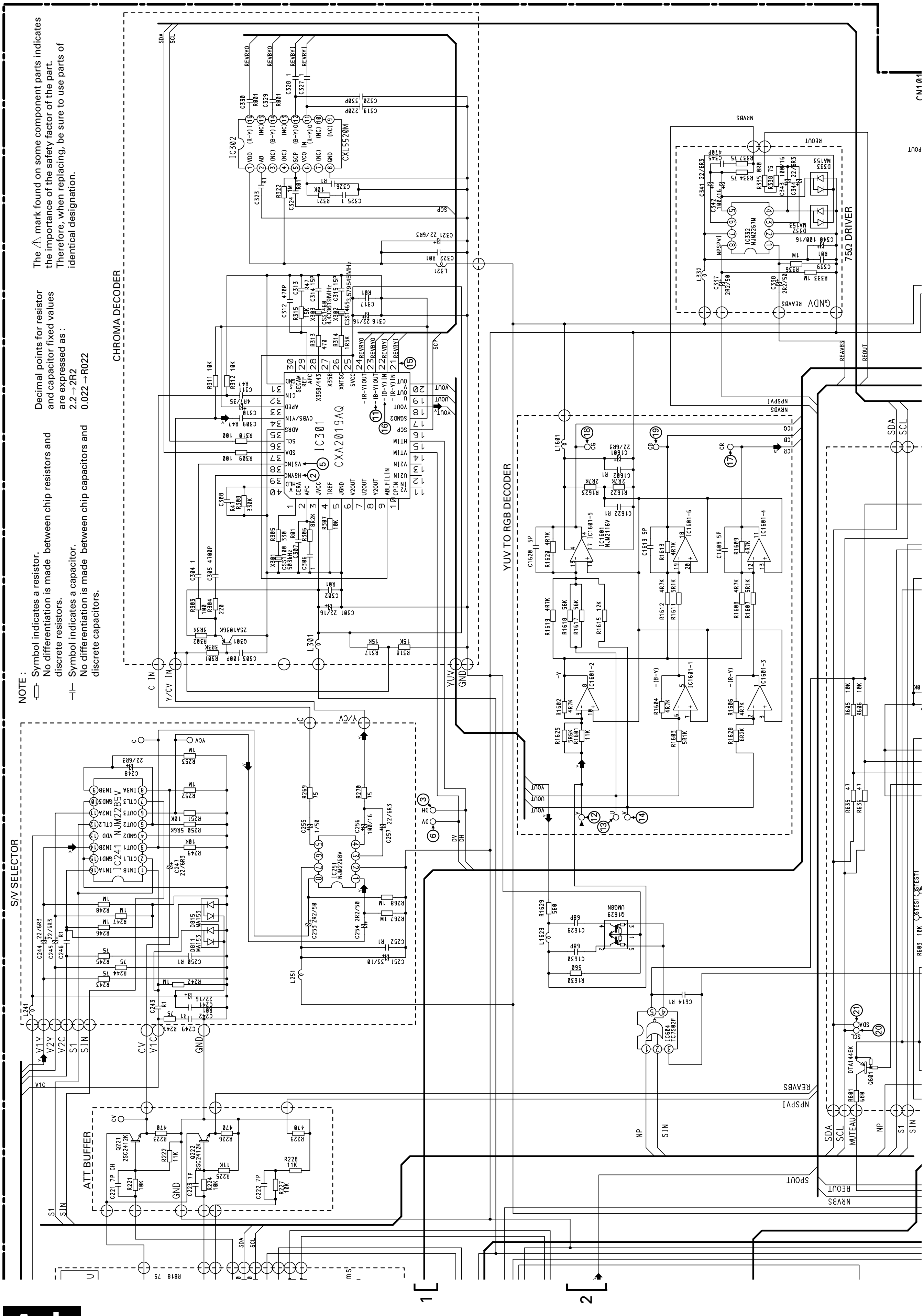
A

A-b


NOTE :
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2 → 2R2
0.022 → R022
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
S/V SELECTOR
ATT BUFFER
IC241 NJM2285V
IC251 NJM2268V
CHROMA DECODER
IC301 CXA2019AQ
IC302 CXL5520M
YUV TO RGB DECODER
75Ω DRIVER
IC352 NJM2267M
IC601 PE5233A
SYSTEM CONTROLLER
IC603 S-29131AFJ
IC604 TC7S02F
MONITOR POWER SUPPLY
AUXILIARY
DETACH
CN101
B CN102
MOTHER UNIT
Consists of
MAIN PCB
SUB PCB


A-a A-b
SOURCE SELECTOR
MONITOR SPEAKER AUDIO OUTPUT
NAVI RGB INPUT
MONITOR SPEAKER ISOLATOR
V1 AUDIO ISOLATOR
AUXILIARY AUDIO ISOLATOR
V2 AUDIO ISOLATOR
: AUDIO SIGNAL
: Y SIGNAL
: RED SIGNAL
A MAIN PCB
B CN301
CN801
CN753
CN755
CN754
VTR1AR
VTR2AR
VTR1AL
VTR2AL
VTR1V
VTR2V
VTR1S
VTR2S
EXTAR
EXTAL
AUDIO IN
VIDEO IN
AUDIO OUT
RGB
(AUXILIARY INPUT)


AUDIO OUTPUT BUFFER MUTE
SYSTEM POWER SUPPLY
SENSOR
AUXILIARY
PARKING ON/OFF
OPTION
BACK UP AND REMOTE CONTROL POWER SUPPLY
IC501 PA0001A
IC912 BA178M05T
IC901 TA78L05F
CN751
CN752
RESET S752 CSG1020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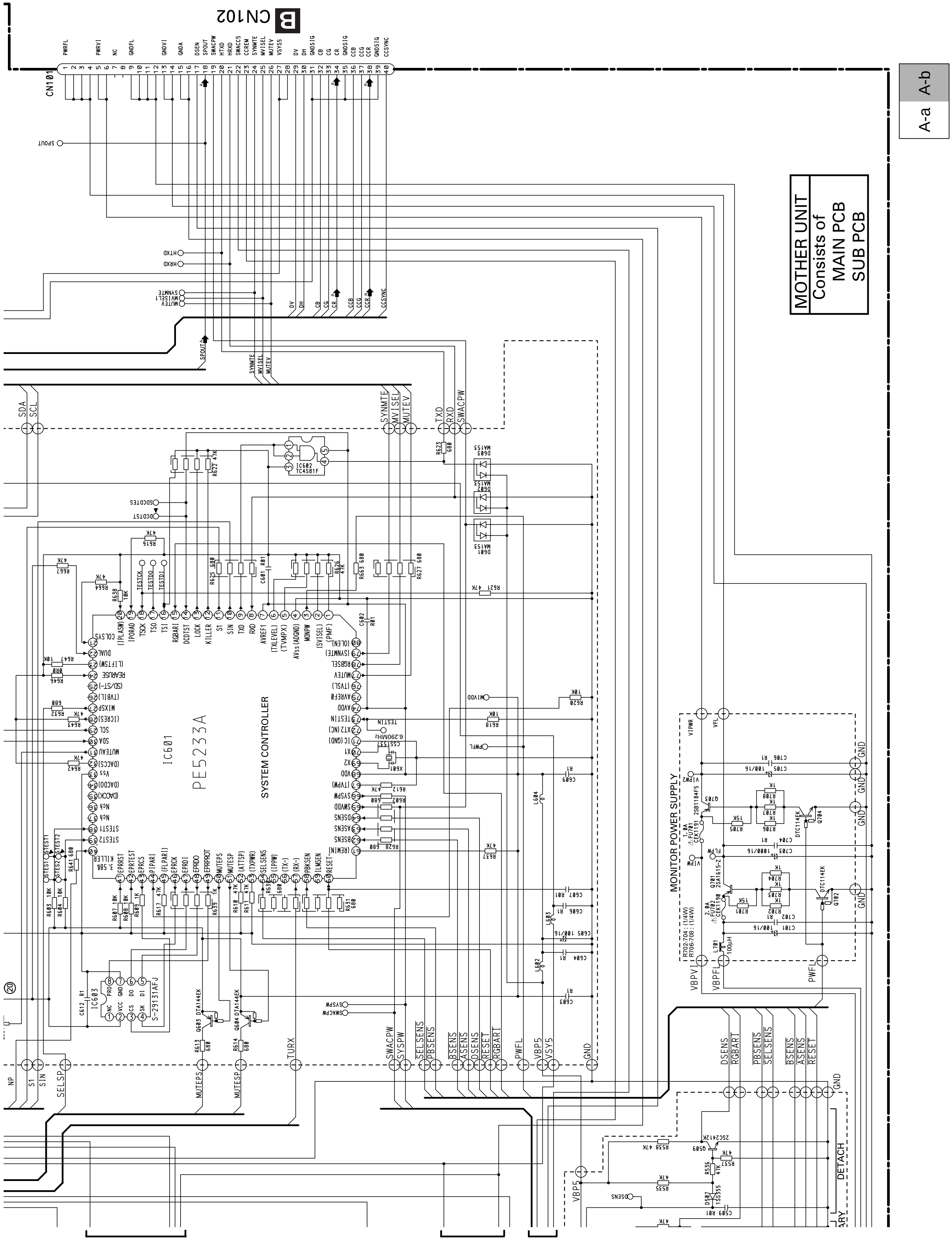
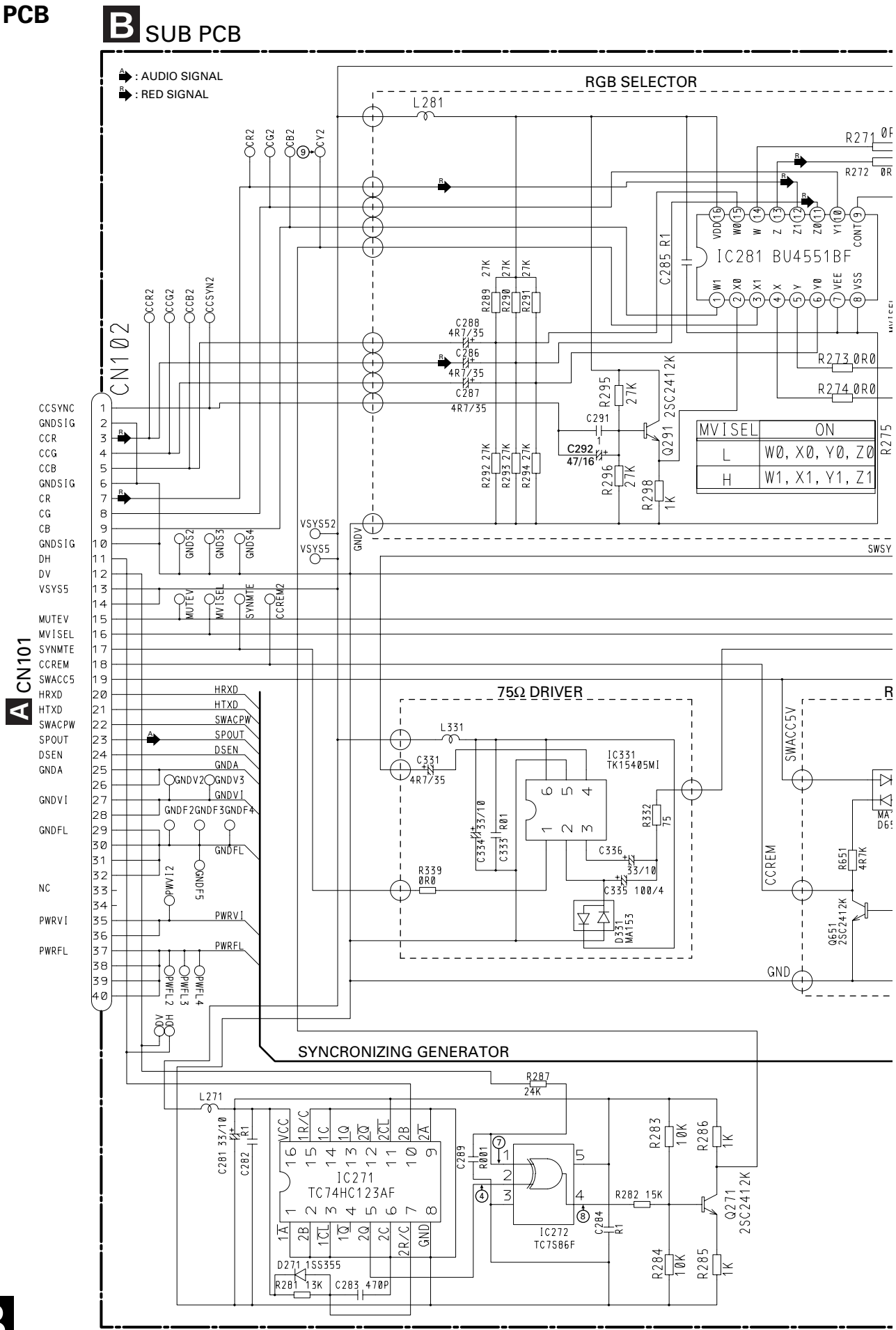
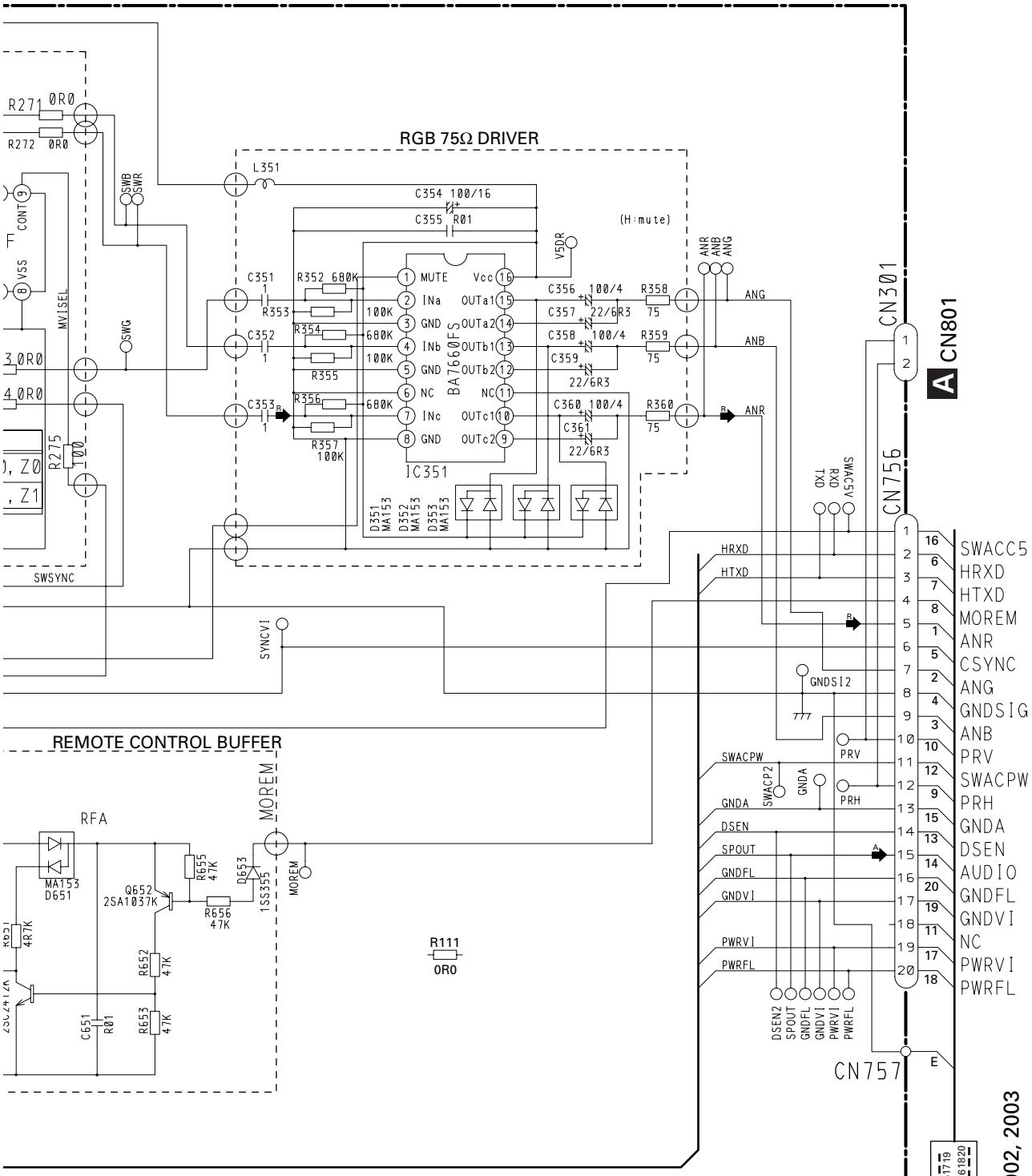
CHROMA DECODER
YUV TO RGB DECODER
S/V SELECTOR
ATT BUFFER
75Ω DRIVER
IC301 CXA2019AQ
IC302 CXL5520M
IC241 NJM2285V
IC251 NJM2268V
IC332 NJM2267M
IC1601 NJM2116V
IC604 TC7S02F


MOTHER UNIT
Consists of
MAIN PCB
SUB PCB
A-a A-b
CN102
CN101
SYSTEM CONTROLLER
IC601
PE5233A
IC602
TC4S81F
IC603
S-29131AFJ
MONITOR POWER SUPPLY
DETACH

A
B
C
D

3.3 SUB PCB

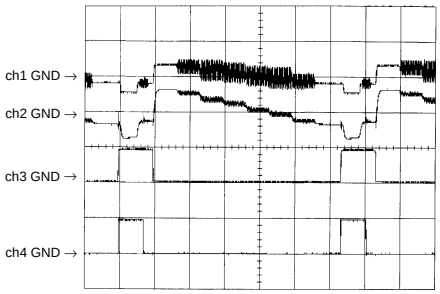

B SUB PCB
A: AUDIO SIGNAL
B: RED SIGNAL
RGB SELECTOR
IC281 BU4551BF
MVISEL ON
L W0, X0, Y0, Z0
H W1, X1, Y1, Z1
CN102
CN101
75Ω DRIVER
IC331 TK15405MI
SYNCRONIZING GENERATOR
IC271 TC74HC123AF
IC272 TC7S86F
Q271 2SC2412K
Q291 2SC2412K
Q651 2SC2412K
GND


RGB 75Ω DRIVER
L351
C354 100/16
C355 R01
(H:mute)
V5DR
IC351
BA7660FS
MUTE
INa
GND
INb
GND
NC
INc
GND
Vcc
OUTa1
OUTa2
OUTb1
OUTb2
NC
OUTc1
OUTc2
ANG
ANB
ANR
CN301
CN801
CN756
CN757
CN2002, 2003
SWACC5
HRXD
HTXD
MOREM
ANR
CSYNC
ANG
GNDSIG
ANB
PRV
SWACPW
PRH
GNDA
DSEN
AUDIO
GNDFL
GNDVI
NC
PWRVI
PWRFL
REMOTE CONTROL BUFFER
RFA
MOREM
MA153
D651
Q652
2SA1037K
D653
1SS355
R111
0R0
SWSYNC
SYNCV1
MOTHER UNIT
Consists of
MAIN PCB
SUB PCB

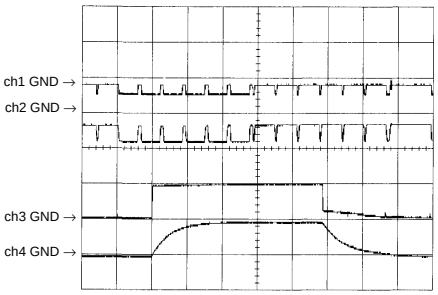
Note: The encircled numbers denote measuring pointes in the circuit diagram.
VC1 input signal : composite color bar signal(NTSC)

● Waveforms

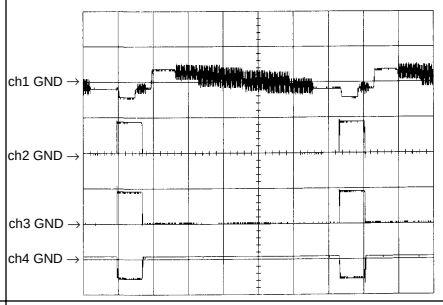
① CH1: TP·V1V 1V/div.
② CH2: IC301·pin39 1V/div.
③ CH3: TP DH 5V/div. 10µs/div.
④ CH4: IC272·pin2 5V/div.



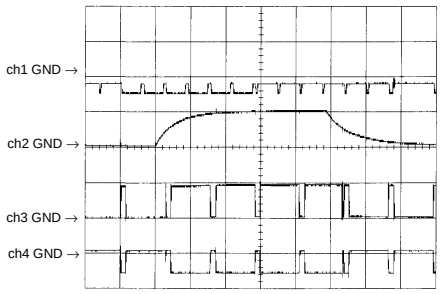
① CH1: TP·V1V 1V/div.
⑤ CH2: IC301·pin38 1V/div.
⑥ CH3: TP DV 5V/div. 50µs/div.
⑦ CH4: IC272·pin1 5V/div.



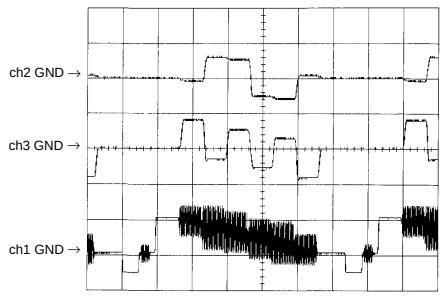
① CH1: TP·V1V 1V/div.
④ CH2: IC272·pin2 5V/div.
⑧ CH3: IC272·pin4 5V/div. 10µs/div.
⑨ CH4: TP·CY2 1V/div.



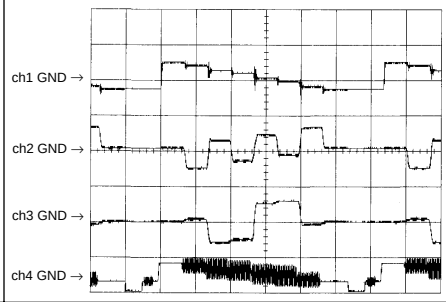
① CH1: TP·V1V 1V/div.
⑦ CH2: IC272·pin1 5V/div. 50µs/div.
⑧ CH3: IC272·pin4 5V/div.
⑨ CH4: TP·CY2 1V/div.



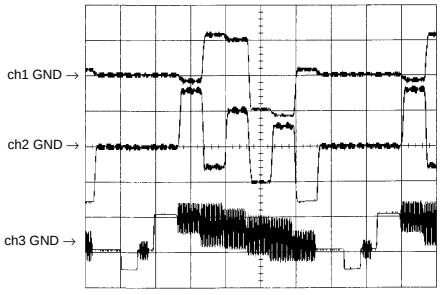
① CH1: TP·V1V 500mV/div.
⑩ CH2: IC301·pin24 500mV/div.
⑪ CH3: IC301·pin23 500mV/div.
10µs/div.



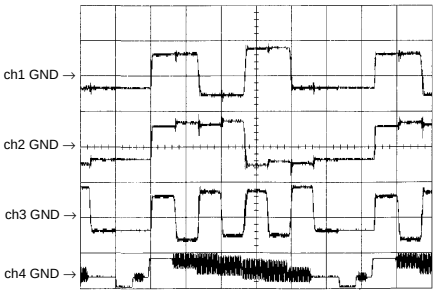
⑫ CH1: TP·Y 1V/div.
⑬ CH2: TP·U 1V/div. 10µs/div.
⑭ CH3: TP·V 1V/div.
① CH4: TP·V1V 1V/div.



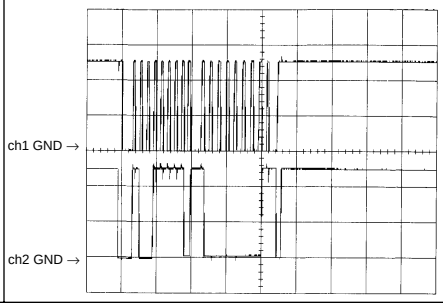
⑮ CH1: IC301·pin21 500mV/div.
⑯ CH2: IC301·pin22 500mV/div.
① CH3: TP·V1V 500mV/div.
10µs/div.



⑰ CH1: TP·CR 500mV/div.
⑱ CH2: TP·CG 500mV/div. 10µs/div.
⑲ CH3: TP·CB 500mV/div.
① CH4: TP·V1V 1V/div.

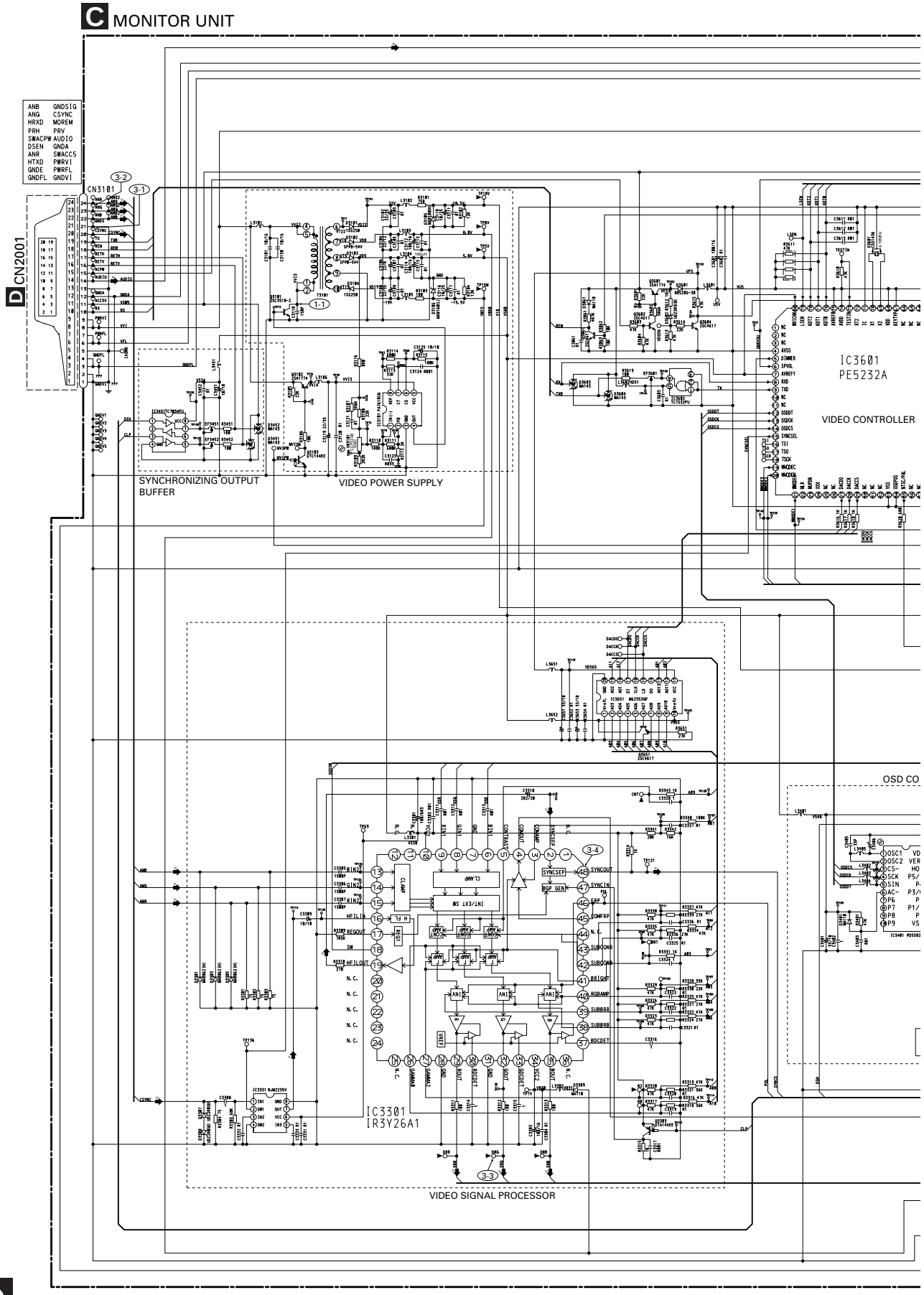


⑳ CH1: TP·SCL 2V/div.
㉑ CH2: TP·SDA 2V/div. 100µs/div.



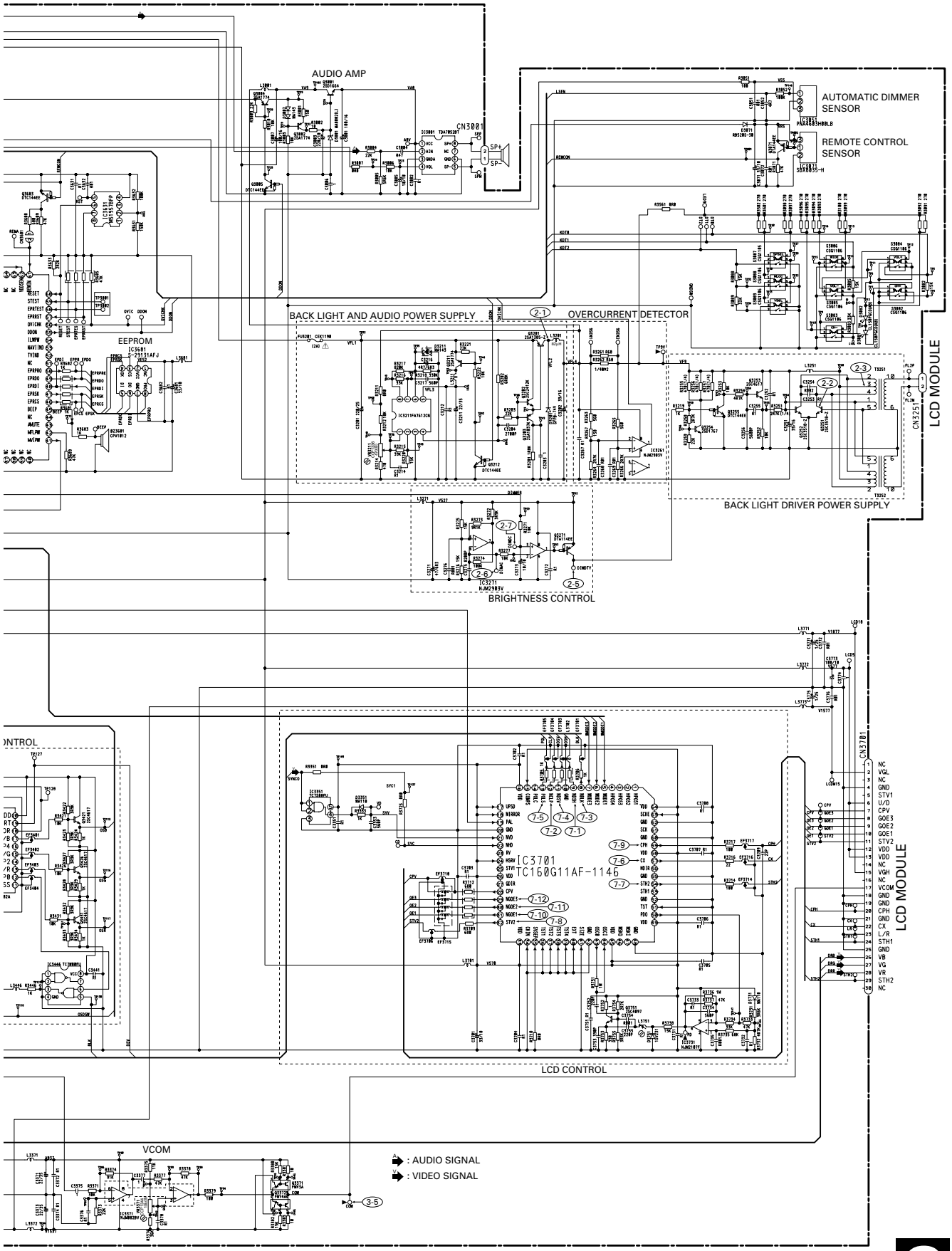
3.4 MONITOR UNIT (GUIDE PAGE)

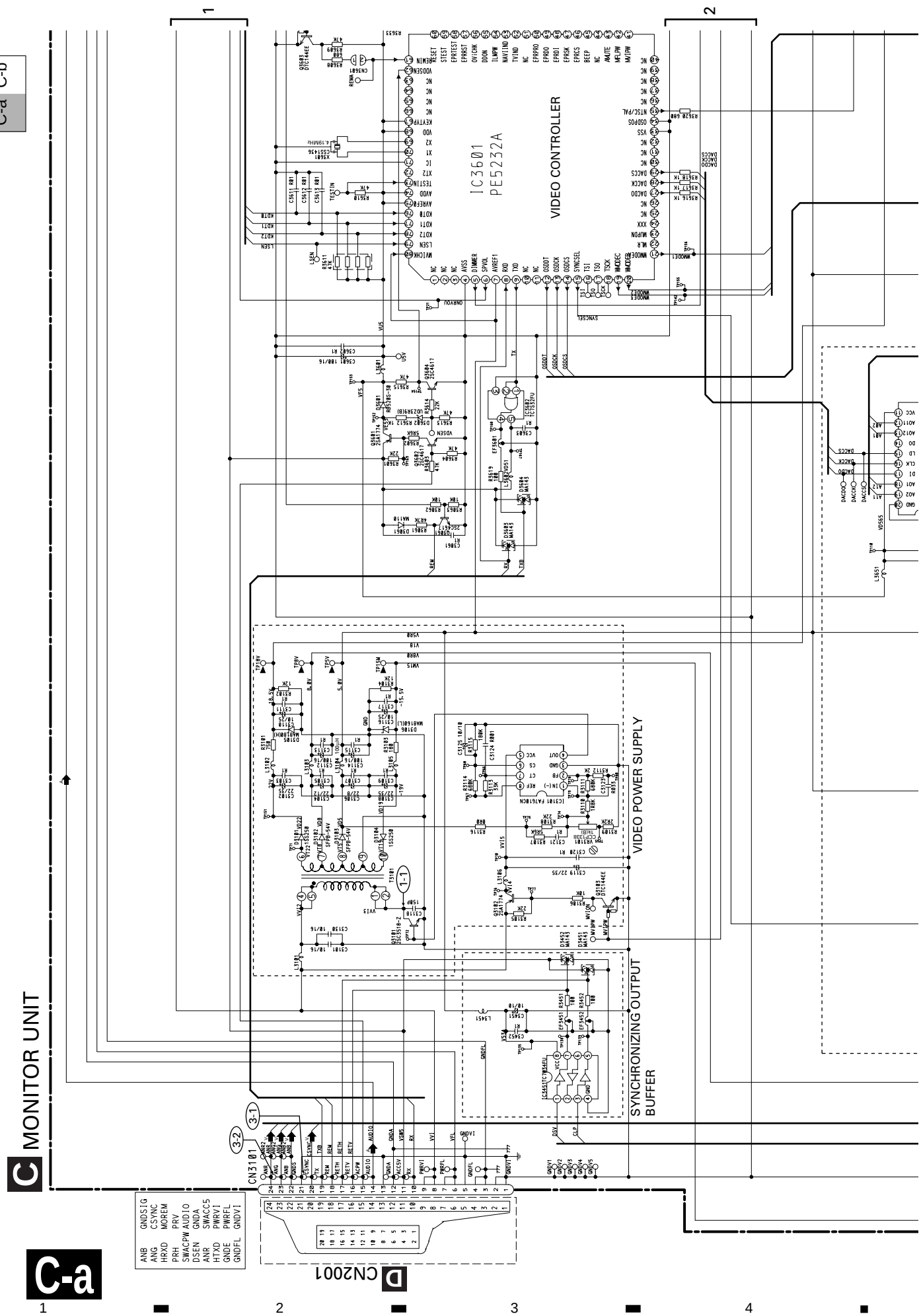
C-a

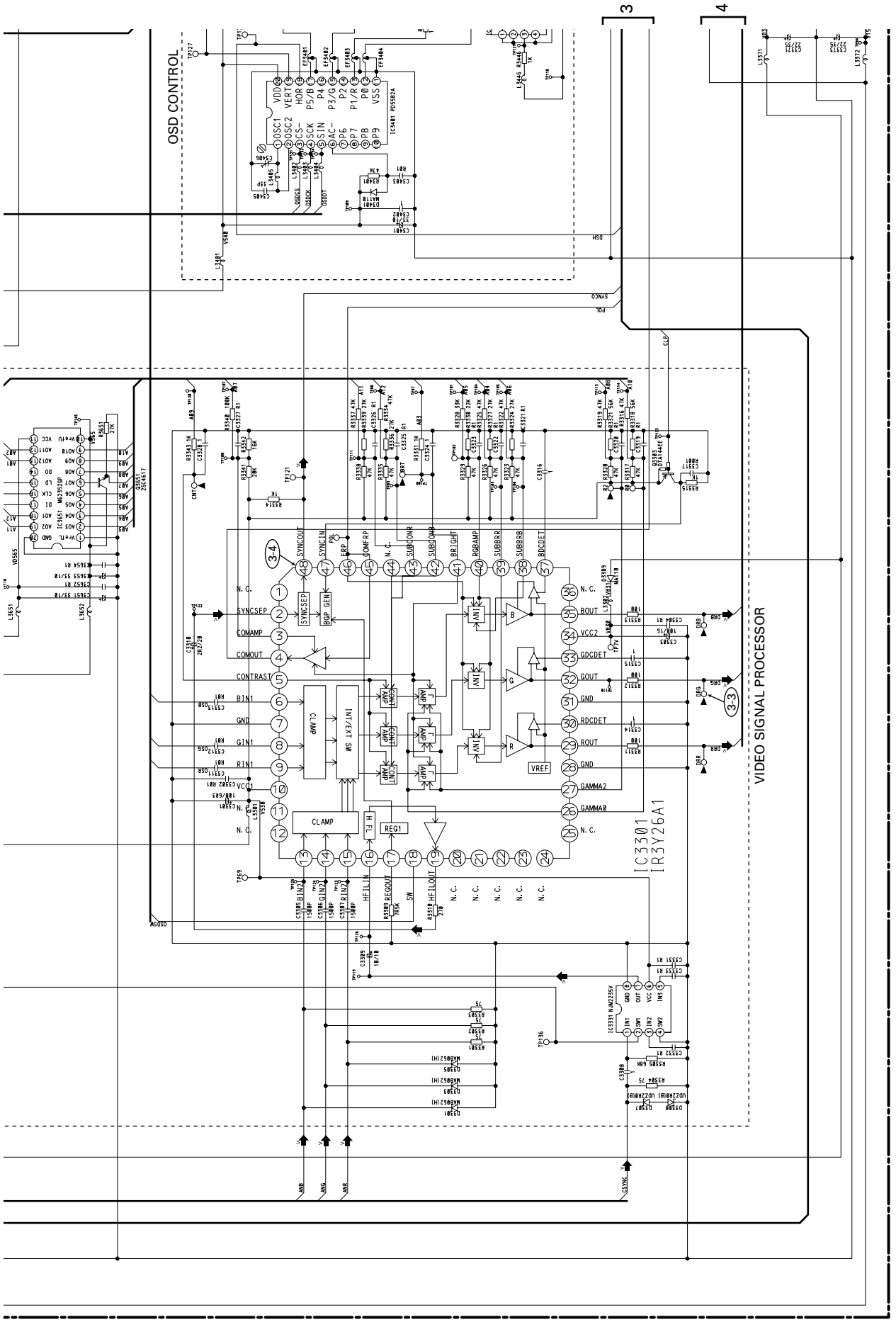


C

C-b

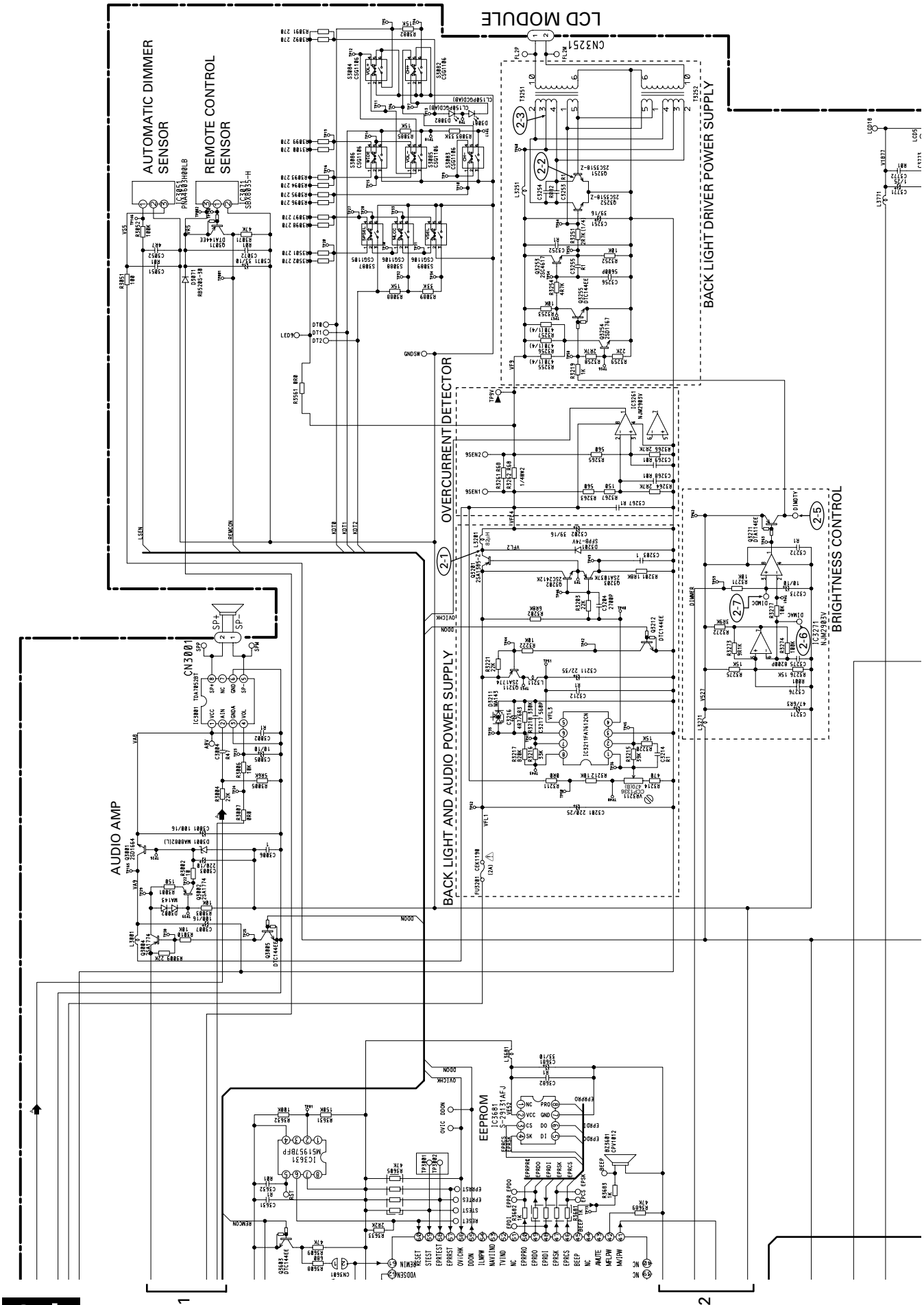

AUDIO AMP
AUTOMATIC DIMMER SENSOR
REMOTE CONTROL SENSOR
BACK LIGHT AND AUDIO POWER SUPPLY
OVERCURRENT DETECTOR
EEPROM
LCD MODULE
BACK LIGHT DRIVER POWER SUPPLY
BRIGHTNESS CONTROL
IC3701
TC160G11AF-1146
LCD CONTROL
VCOM
: AUDIO SIGNAL
: VIDEO SIGNAL

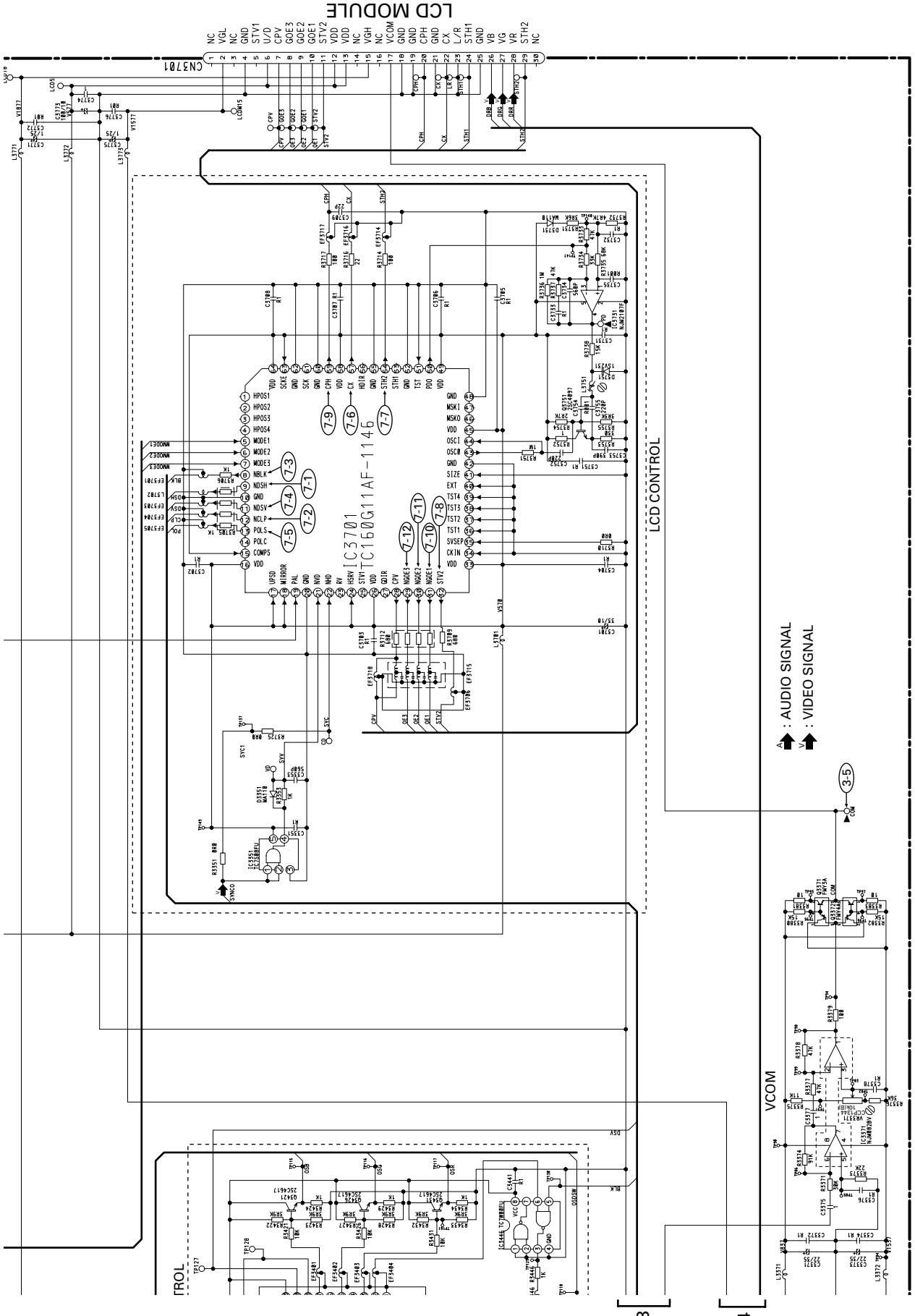

C-a C-b
VIDEO CONTROLLER
IC3601
PE5232A
VIDEO POWER SUPPLY
SYNCHRONIZING OUTPUT BUFFER
C MONITOR UNIT
CN3101
D CN2001
ANB GNDSIG
ANG CSYNC
HRXD MOREM
PRH PRV
SWACPW AUDIO
DSEN GNDA
ANR SWACC5
HTXD PWRV1
GNDE PWRFL
GNDFL GNDV1


OSD CONTROL
VIDEO SIGNAL PROCESSOR
IC3301
IR3Y26A1
SYNCOUT
SYNCIN
ERP
COMFRP
N. C.
SUBCONR
SUBCONB
BRIGHT
RGBAMP
SUBBRR
SUBBRB
BDCDET
SYNCSEP
SYNC SEP
BGP GEN
COMAMP
COMOUT
CONTRAST
BIN1
GND
GIN1
RIN1
VCC1
CLAMP
INT/EXT SW
VREF
REG1
H FIL
HFILIN
HFILOUT
BCGOUT
SW
BOUT
VCC2
GDCDET
GOUT
RDCDET
ROUT
GAMMA2
GAMMA0
3-4
3-3

C-a C-b

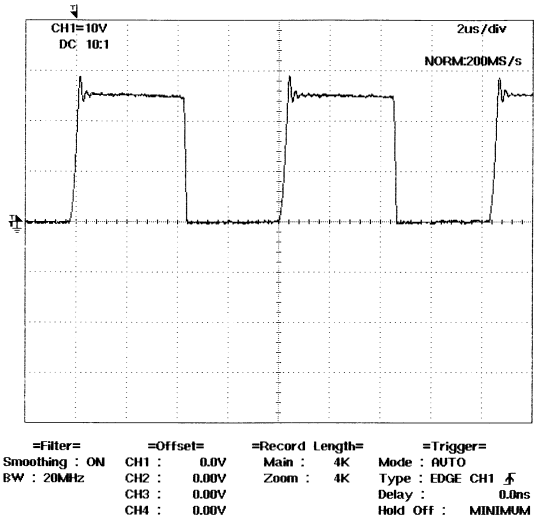
C-a C-b


LCD MODULE
CN3251
BACK LIGHT DRIVER POWER SUPPLY
OVERCURRENT DETECTOR
BACK LIGHT AND AUDIO POWER SUPPLY
BRIGHTNESS CONTROL
AUDIO AMP
EEPROM
AUTOMATIC DIMMER SENSOR
REMOTE CONTROL SENSOR
CN3001


LCD MODULE
CN3701
LCD CONTROL
IC3701
TC160G11AF-1146
: AUDIO SIGNAL
: VIDEO SIGNAL
VCOM

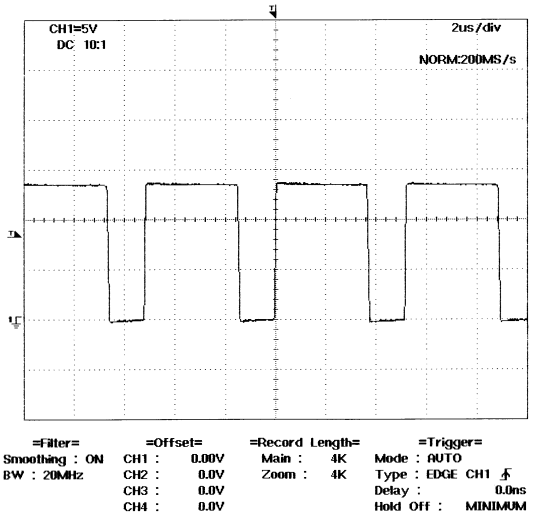
Note: The encircled numbers denote measuring pointes in the circuit diagram.
5 step signal and color bar signal : NTSC type

CH1 : (1-1) Q3101 Collector



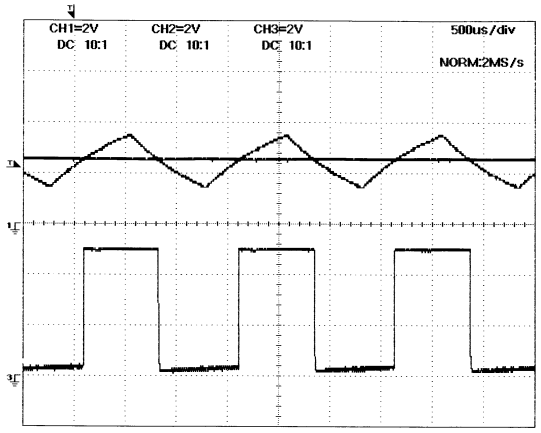
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.0V	Main :	4K	Mode :	AUTO
BW : 20MHz	CH2 :	0.00V	Zoom :	4K	Type :	EDGE CH1
	CH3 :	0.00V			Delay :	0.0ns
	CH4 :	0.00V			Hold Off :	MINIMUM

CH1 : (2-1) Q3201 Collector



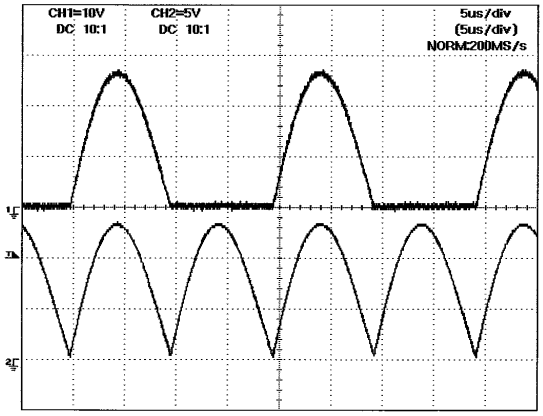
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.00V	Main :	4K	Mode :	AUTO
BW : 20MHz	CH2 :	0.0V	Zoom :	4K	Type :	EDGE CH1
	CH3 :	0.0V			Delay :	0.0ns
	CH4 :	0.0V			Hold Off :	MINIMUM

CH1 : (2-7) TP DIMDC CH3 : (2-5) TP DIMDTY
CH2 : (2-6) TP DIMAC



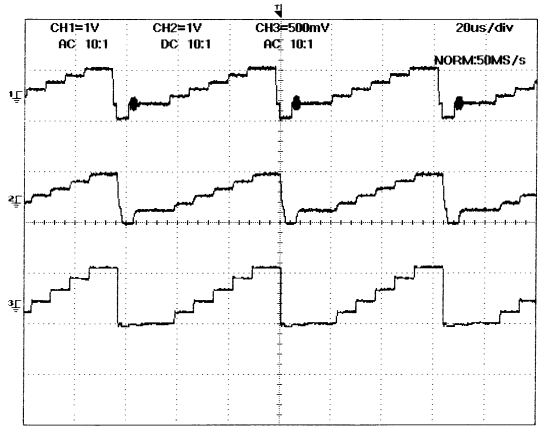
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : OFF	CH1 :	0.00V	Main :	10K	Mode :	AUTO
BW : 20MHz	CH2 :	0.00V	Zoom :	2K	Type :	EDGE CH1
	CH3 :	-0.10V			Delay :	0.0ns
	CH4 :	0.00V			Hold Off :	MINIMUM

CH1 : (2-2) Q3251 Collector
CH2 : (2-3) T3251 Pin 3



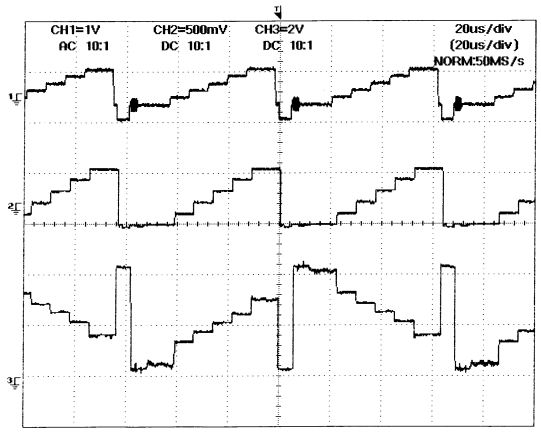
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : OFF	CH1 :	0.0V	Main :	10K	Mode :	AUTO
BW : FULL	CH2 :	0.00V	Zoom :	100	Type :	EDGE CH3
	CH3 :	0.000V			Delay :	0.0ns
	CH4 :	0.000V			Hold Off :	MINIMUM

CH1 : Input (5 Step Signal) CH3 : (3-2) TP ANG
CH2 : (3-1) TP CSYNC



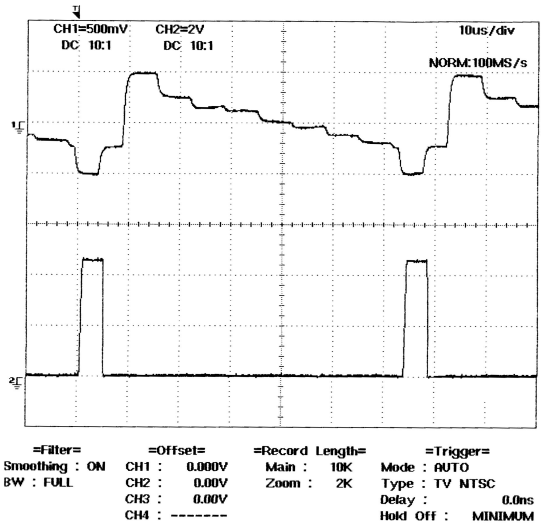
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	-------	Main :	10K	Mode :	AUTO
BW : 20MHz	CH2 :	0.00V	Zoom :	10K	Type :	TV NTSC
	CH3 :	-------			Delay :	0.0ns
	CH4 :	0.0V			Hold Off :	MINIMUM

CH1 : Input (5 Step Signal) CH3 : (3-3) TP DRG
CH2 : (3-2) TP ANG

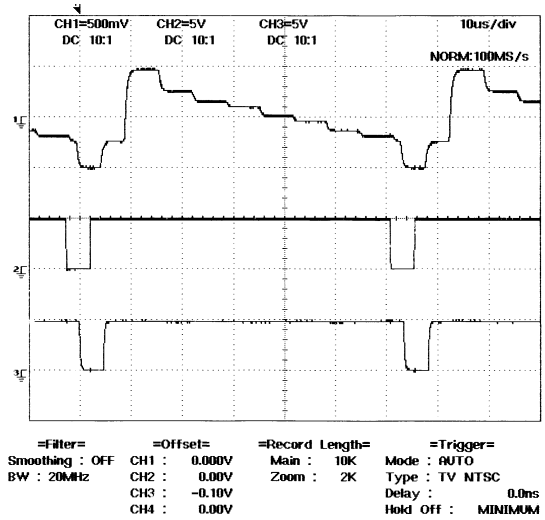


=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	-------	Main :	10K	Mode :	AUTO
BW : 20MHz	CH2 :	0.000V	Zoom :	10K	Type :	TV NTSC
	CH3 :	0.00V			Delay :	0.0ns
	CH4 :	0.0V			Hold Off :	MINIMUM

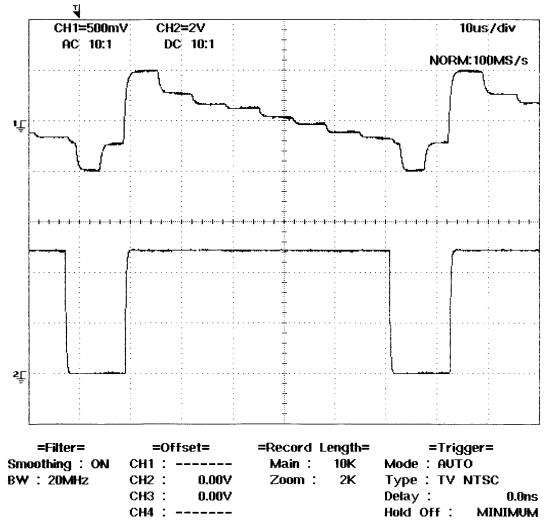
CH1 : ③-1 Input (Color Bar Signal) TP CSYNC
CH2 : ③-4 IC3301 Pin 48



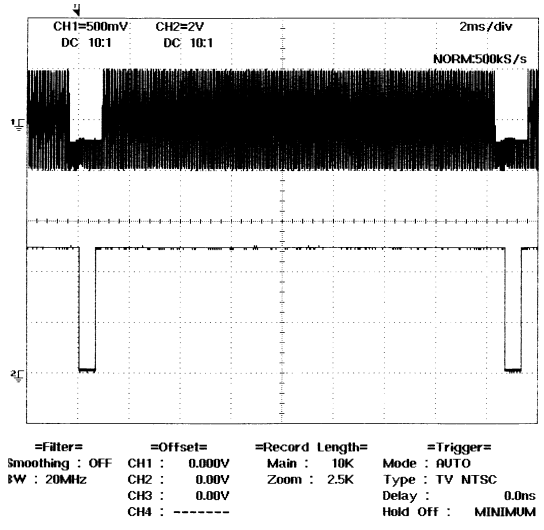
CH1 : ③-1 IN (Color Bar Signal) TP CSYNC
CH2 : ⑦-1 IC3701 Pin 9 CH3 : ⑦-2 IC3701 Pin 12



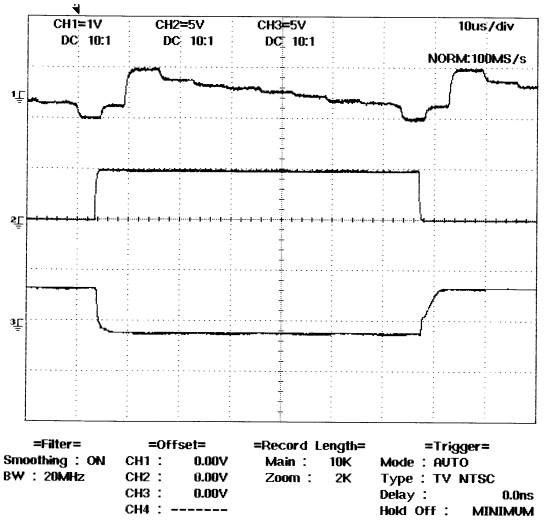
CH1 : ③-1 IN (Color Bar Signal) TP CSYNC
CH2 : ⑦-3 IC3701 Pin 8



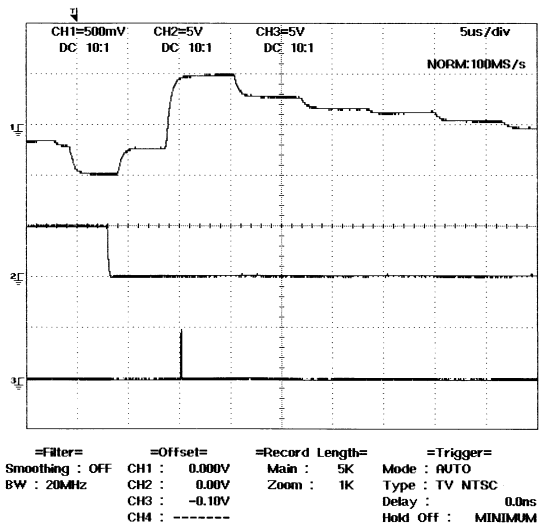
CH1 : ③-1 IN (Color Bar Signal) TP CSYNC
CH2 : ⑦-4 IC3701 Pin 11



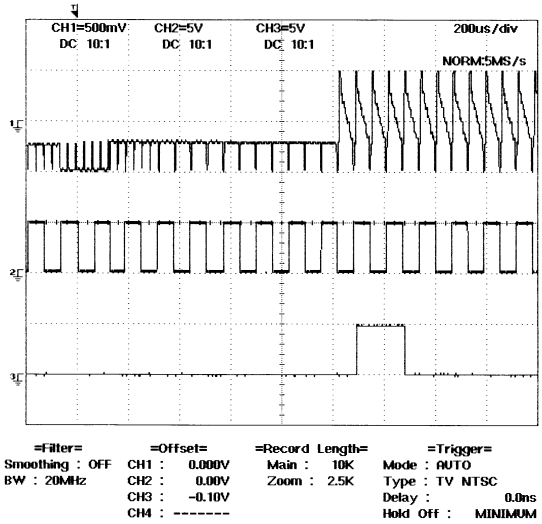
CH1 : ③-1 IN (Color Bar Signal) TP CSYNC
CH2 : ⑦-5 IC3701 Pin 13 CH3 : ③-5 TP COM



CH1 : ③-1 IN (Color Bar Signal) TP CSYNC
CH2 : ⑦-6 IC3701 Pin 57 CH3 : ⑦-7 IC3701 Pin 54

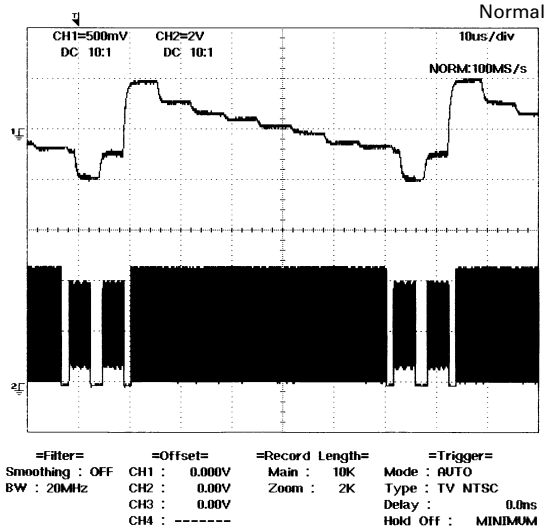


CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-6) IC3701 Pin 57 CH3 : (7-8) IC3701 Pin 32



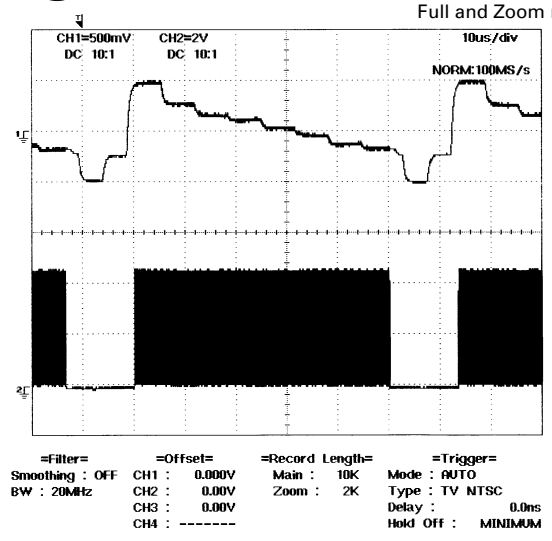
CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-9) IC3701 Pin 59

Normal mode



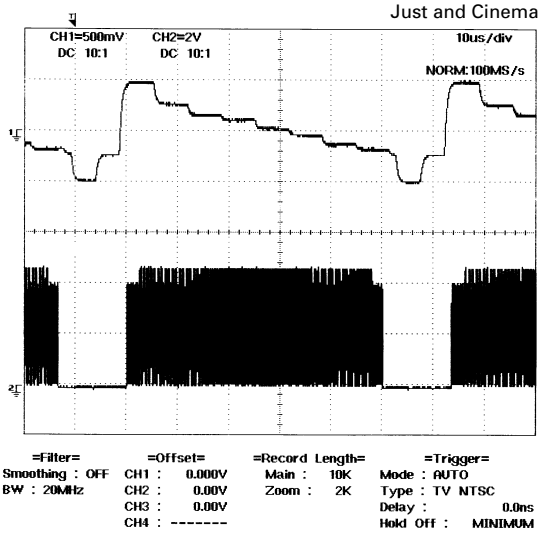
CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-9) IC3701 Pin 59

Full and Zoom mode



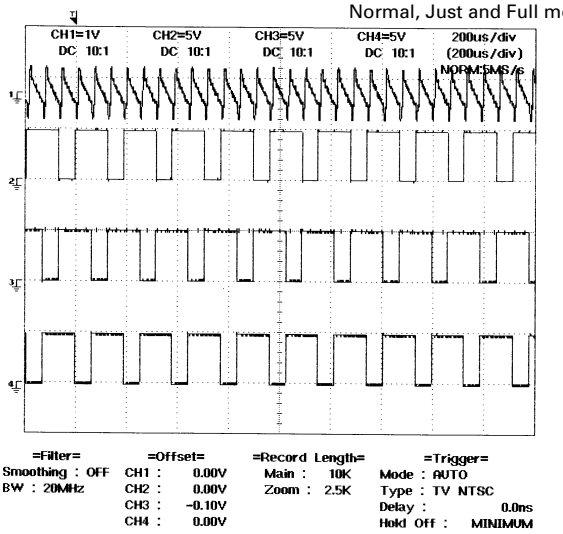
CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-9) IC3701 Pin 59

Just and Cinema mode



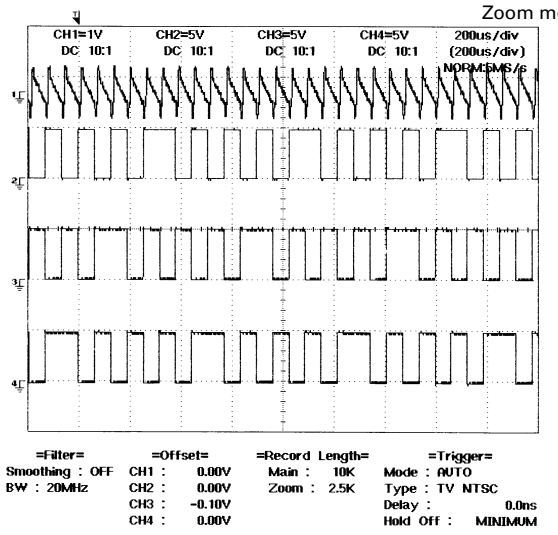
CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-10) IC3701 Pin 31
CH3 : (7-11) IC3701 Pin 30 CH4 : (7-12) IC3701 Pin 29

Normal, Just and Full mode

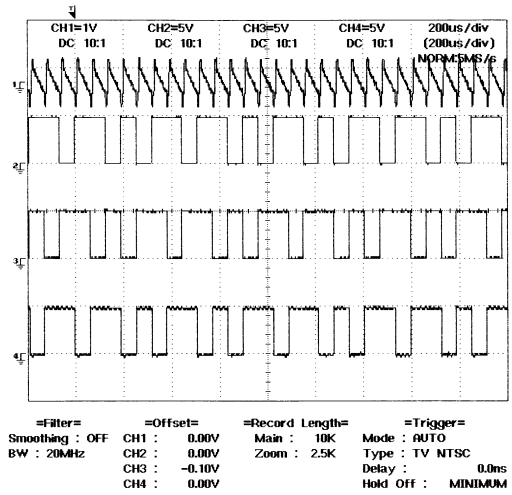


CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-10) IC3701 Pin 31
CH3 : (7-11) IC3701 Pin 30 CH4 : (7-12) IC3701 Pin 29

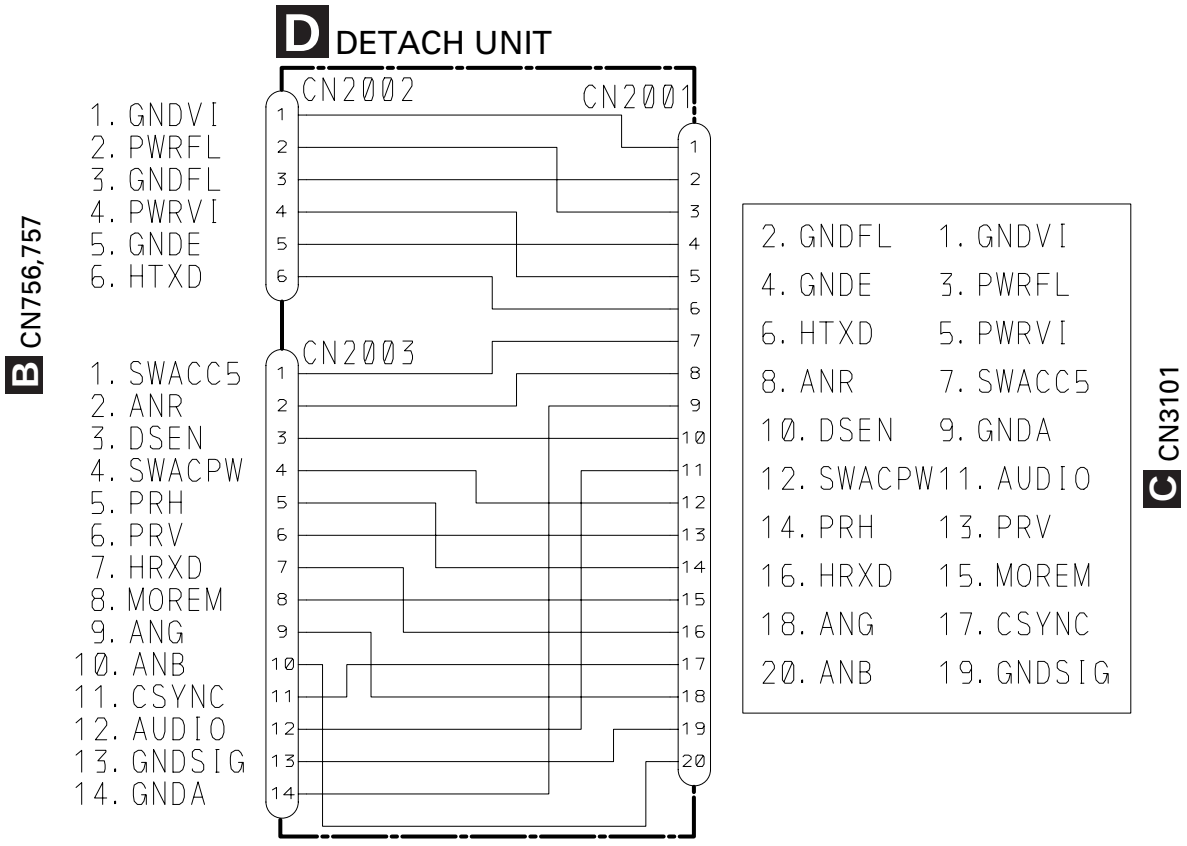
Zoom mode



CH1 : (3-1) IN (Color Bar Signal) TP CSYNC
CH2 : (7-10) IC3701 Pin 31
CH3 : (7-11) IC3701 Pin 30
CH4 : (7-12) IC3701 Pin 29



3.5 DETACH UNIT

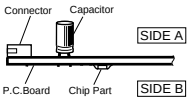


4. PCB CONNECTION DIAGRAM

4.1 MAIN PCB

NOTE FOR PCB DIAGRAMS

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



IC, Q

IC603

IC781
Q604 Q603
IC501
IC761

IC912

IC332 IC601
IC301 IC604

Q823 Q911
IC821

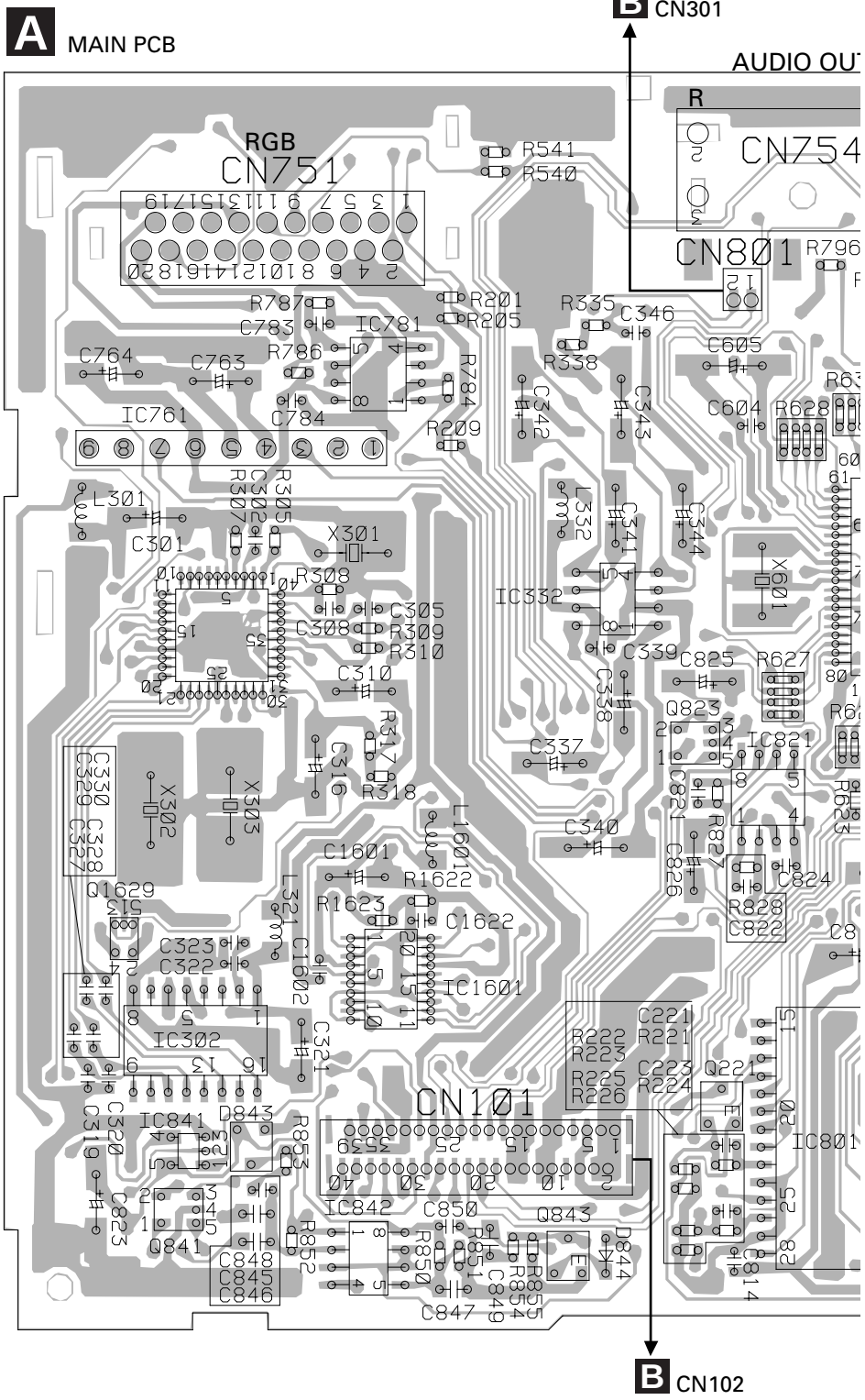
IC602 IC251
IC241

Q1629

IC1601
IC771 IC261
IC302
Q221

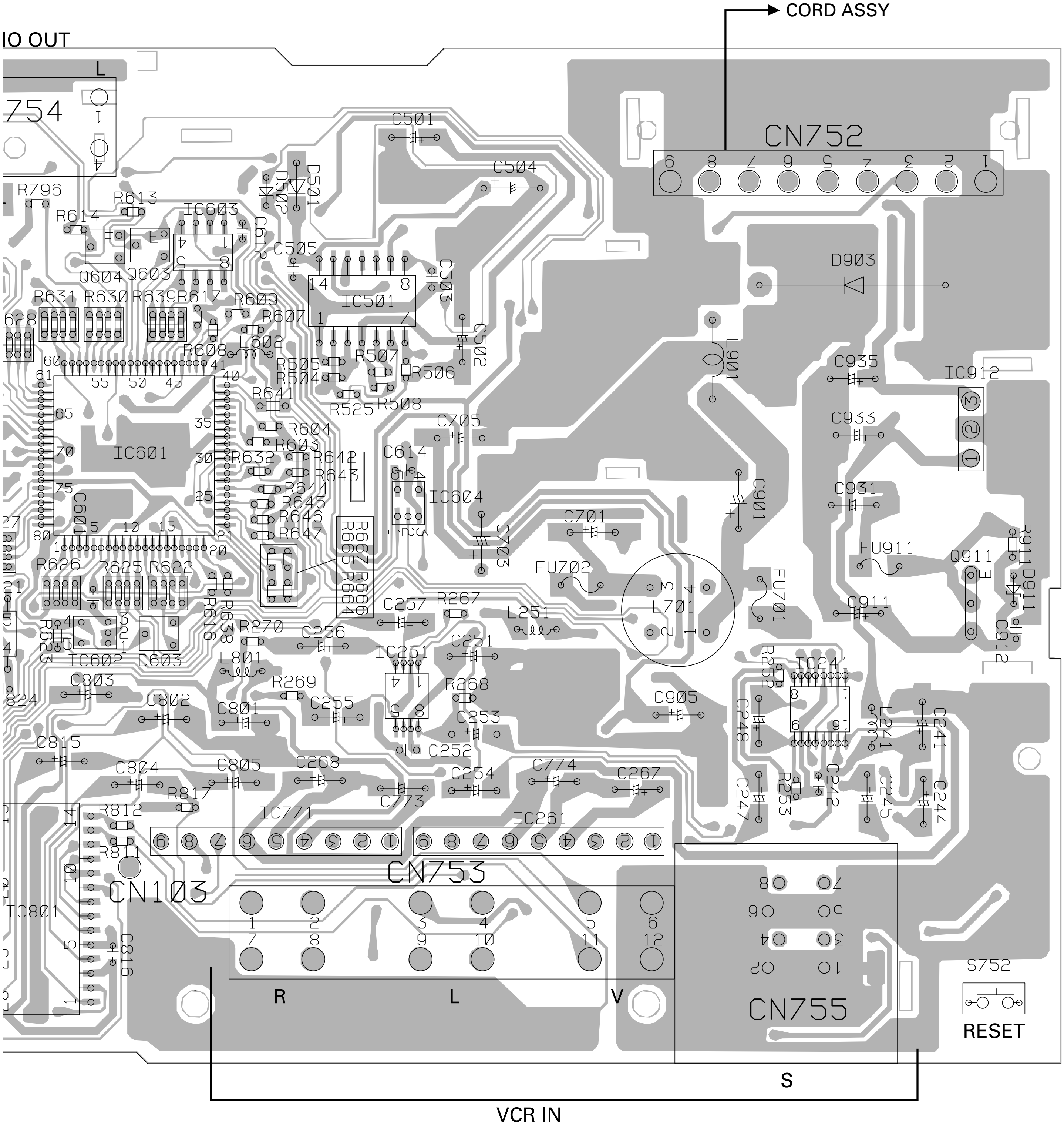
IC841 IC801

IC842 Q843
Q841



SIDE A

A

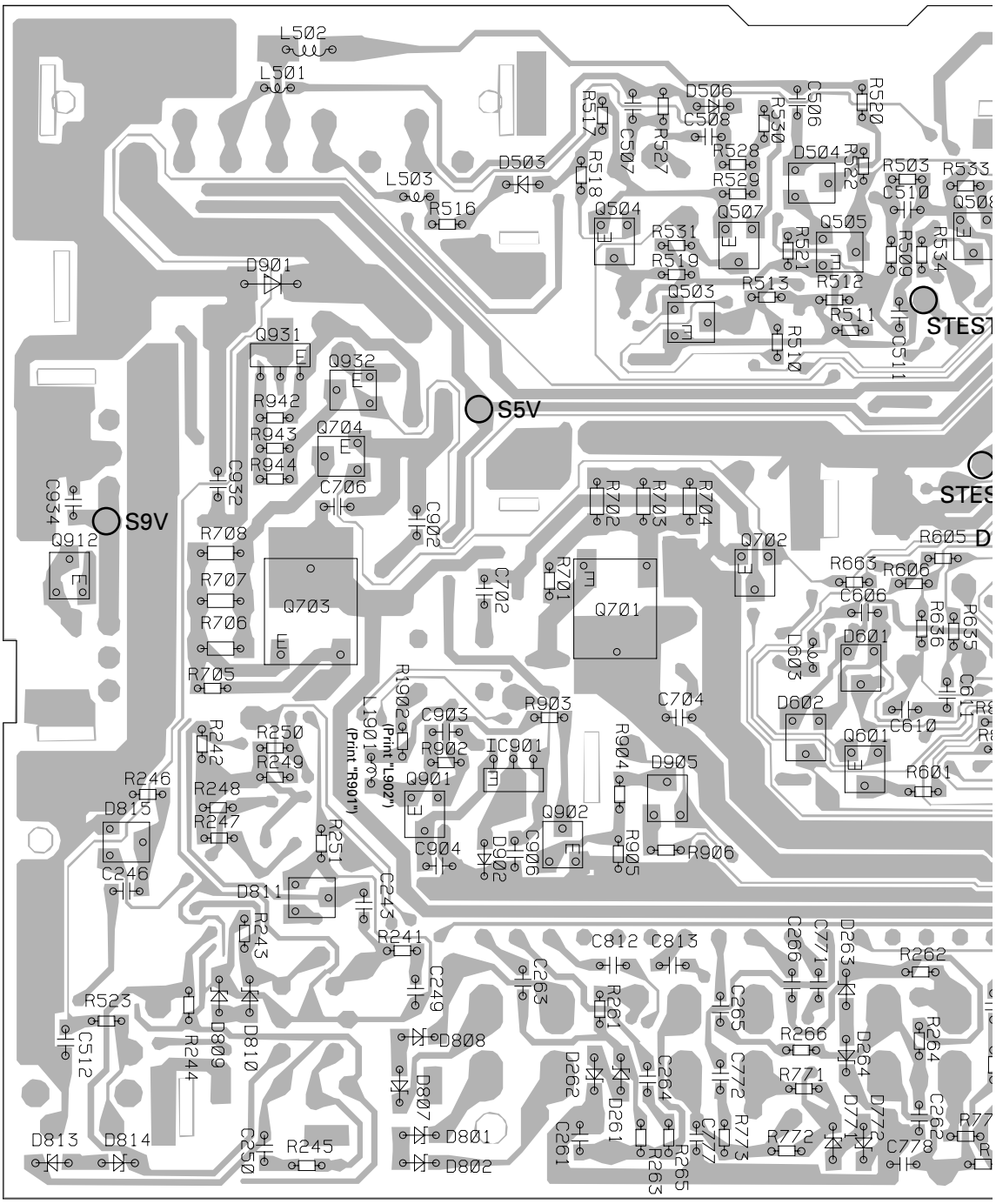

CORD ASSY
IO OUT
L
754
CN752
9 8 7 6 5 4 3 2 1
R796
R613
R614
IC603
C612
D501
D502
C501
C504
C505
C503
Q604
Q603
IC501
D903
R631 R630 R639 R617
R609
R607
628
L602
R608
C502
L901
C935
IC912
R505
R504
R507
R506
R641
R525
R508
IC601
C705
C933
R604
R603
R632
R642
R643
R644
R645
R646
R647
C614
IC604
C901
C931
C601
C701
C703
R911
R667 R666 R665 R664
FU702
FU911
Q911
D911
R626 R625 R622
R616
R638
FU701
L701
C257
R267
L251
C911
C912
R623
IC602
D603
R270
C256
IC251
C251
R252
IC241
L801
C803
R269
R268
824
C802
C801
C255
C253
C905
C248
L241
C241
C815
C252
C804
C805
C268
C254
C774
C267
C247
R253
C242
C245
C244
C773
R817
R812
IC771
IC261
R811
CN753
CN103
IC801
C816
1 2 3 4 5 6
7 8 9 10 11 12
CN755
S752
RESET
R
L
V
S
VCR IN

B

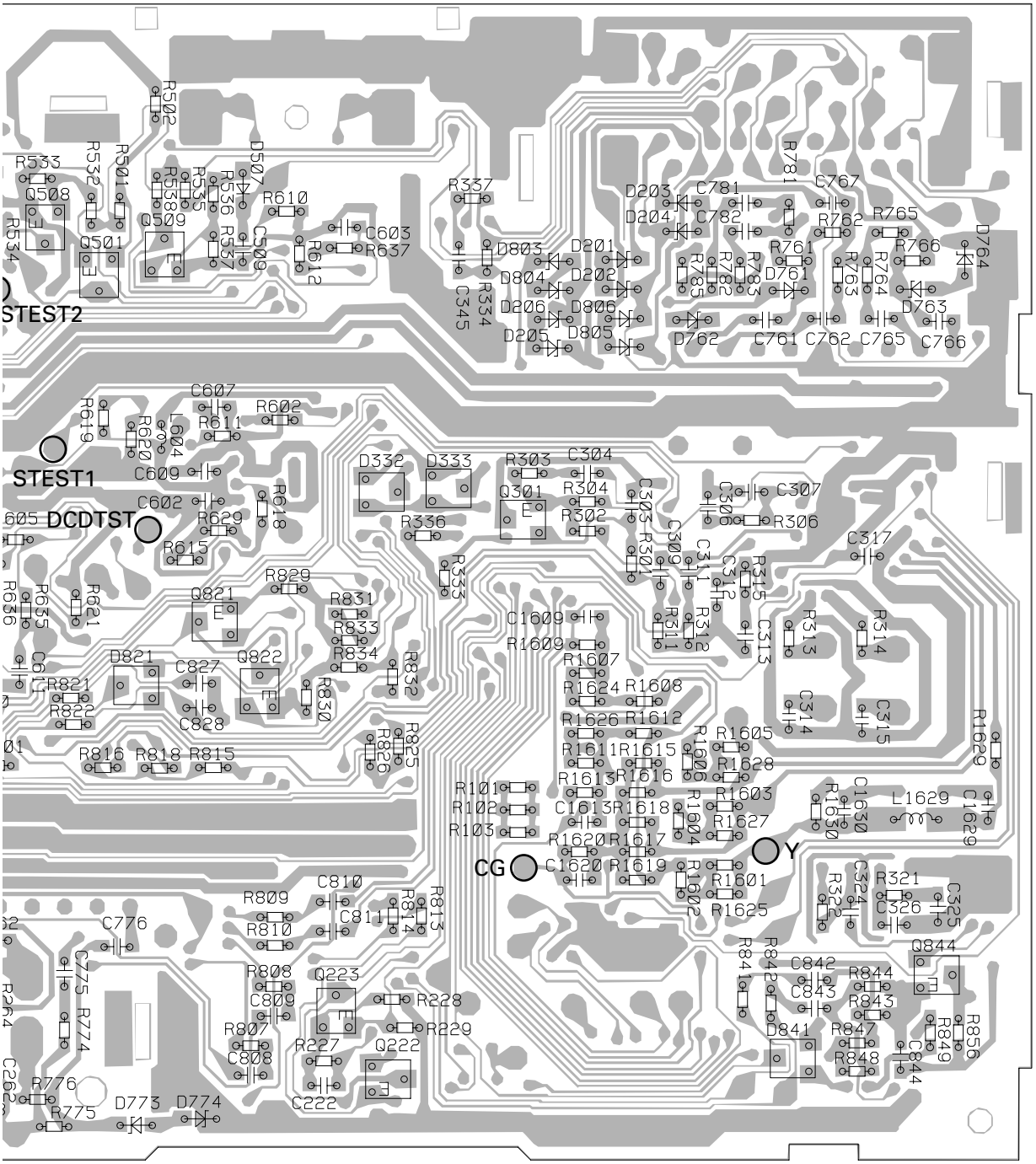
C

D

A MAIN PCB

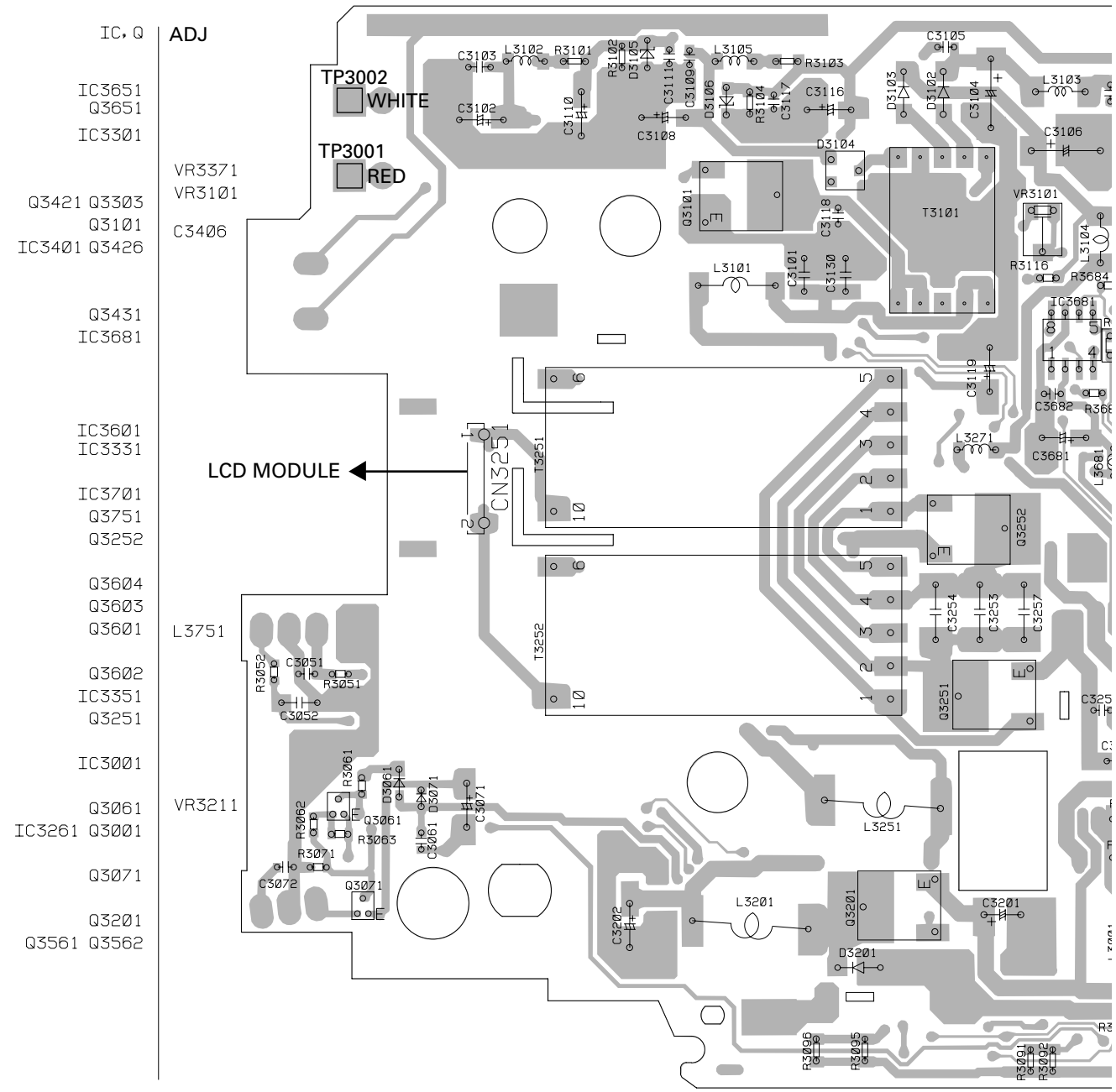

L502
L501
L503
D503
R516
D506
C508
R517
C507
R527
R518
R528
R529
D504
R530
C506
R520
R522
R503
R533
C510
Q504
Q507
Q505
R531
R519
R521
R509
R534
R513
R512
R511
R510
C511
Q503
STEST
D901
Q931
Q932
R942
R943
R944
Q704
C706
C932
C934
S9V
S5V
C902
R708
R707
R706
R705
Q703
R702
R703
R704
Q702
R701
C702
Q701
R605
R606
R663
C606
R636
R635
D601
C603
C611
C610
D602
Q601
R601
R1902
L1901
(Print "L902")
(Print "R901")
C903
R902
IC901
Q901
Q902
C904
C905
D902
R903
R904
D905
R905
R906
C704
R242
R250
R249
R246
R248
R247
D815
C246
R251
D811
C243
R241
R243
C249
D808
D807
D801
D802
C812
C813
C263
R261
C265
C266
C771
D263
R262
R266
R771
R264
D264
D771
D772
C262
C778
R772
R773
C772
C264
D262
D261
C261
R263
R265
C777
R523
C512
D809
D810
R244
D813
D814
C250
R245

SIDE B

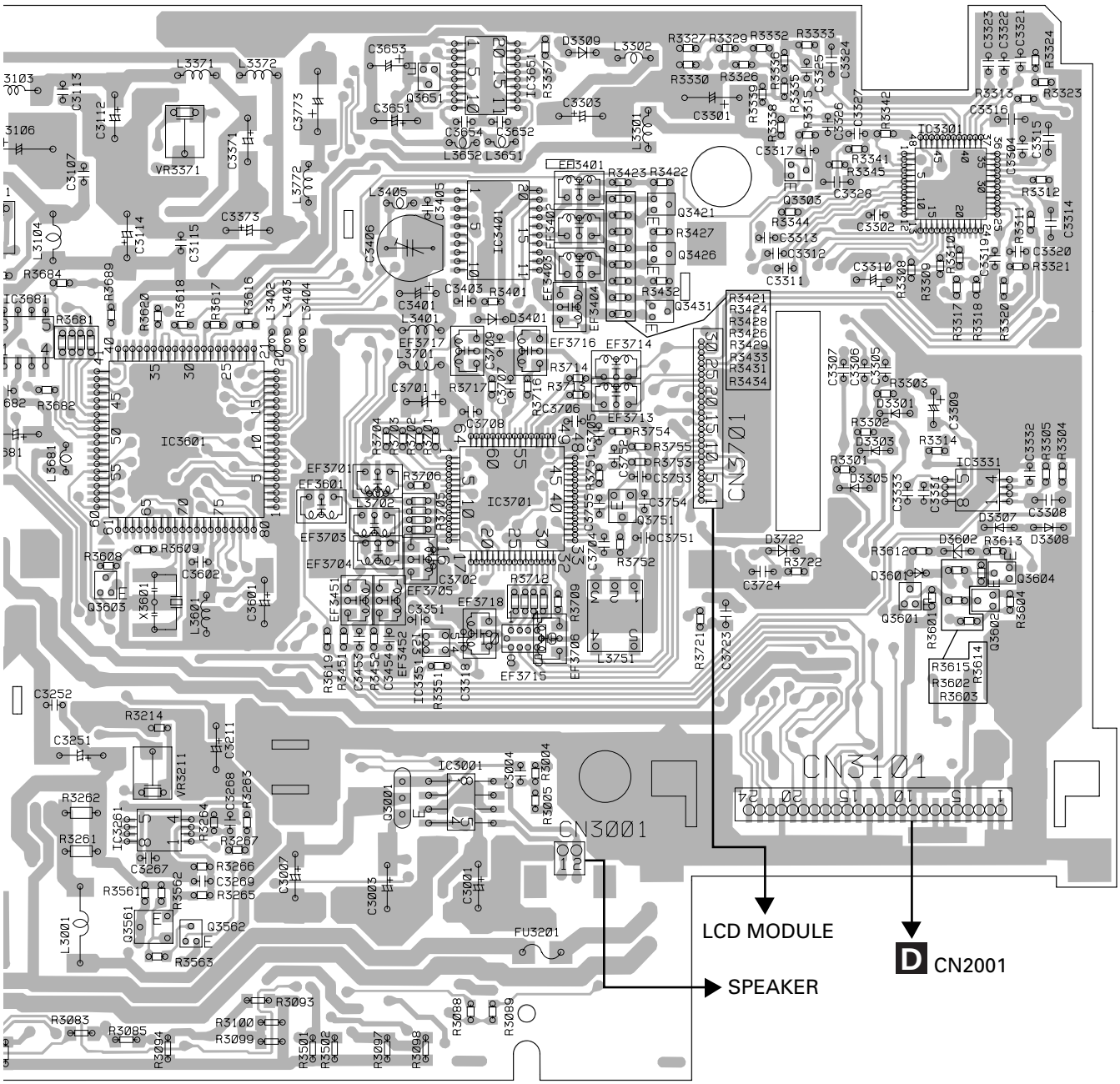

STEST2
STEST1
DCDTST
CG
Y
IC, Q
Q508
Q504 Q507
Q505 Q509
Q501
Q503
Q931
Q932
Q704
Q301
Q912 Q702
Q703 Q701
Q821
Q822
IC901 Q601
Q901
Q902
Q844
Q223
Q222

4.2 MONITOR UNIT

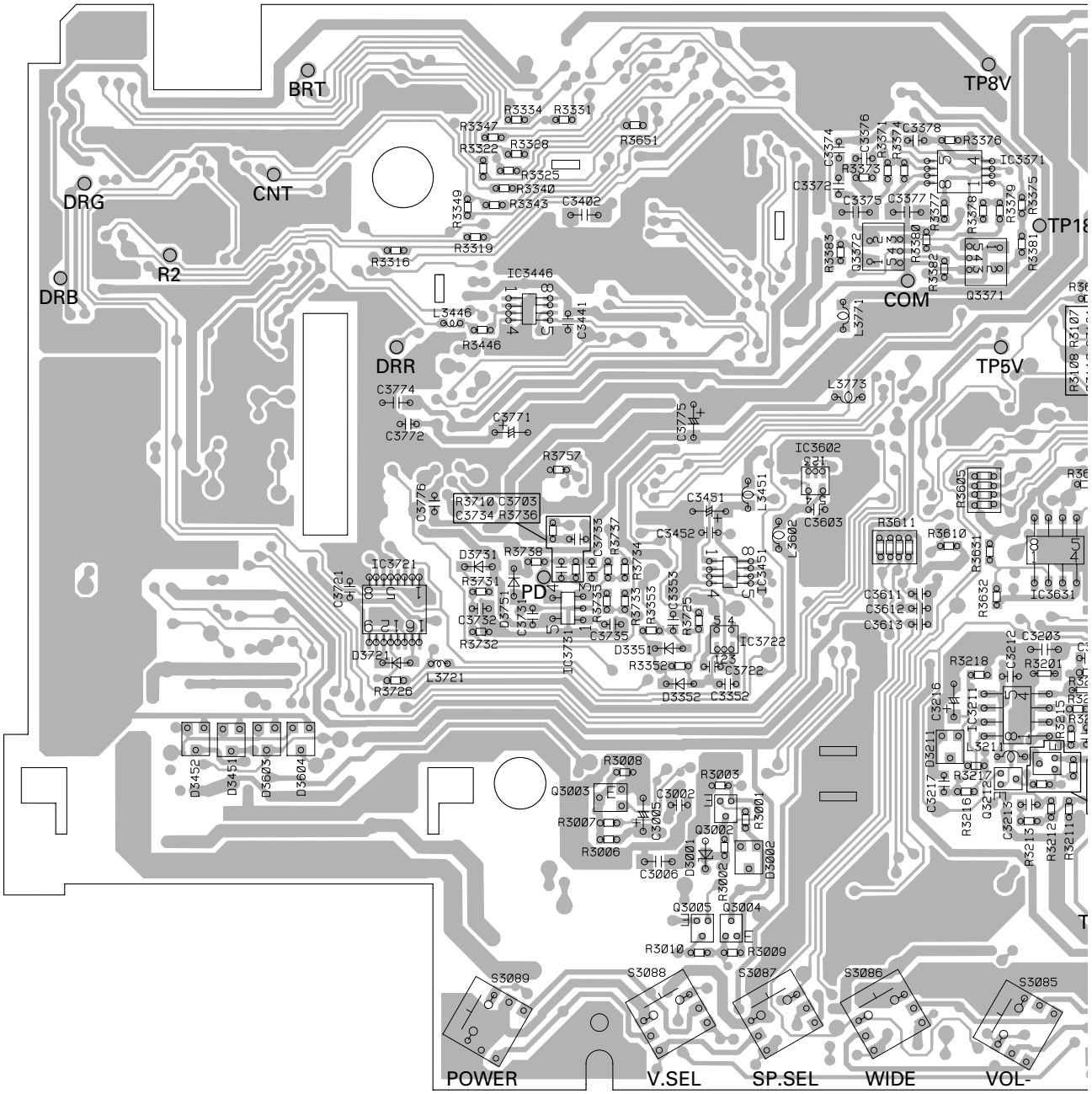
C MONITOR UNIT



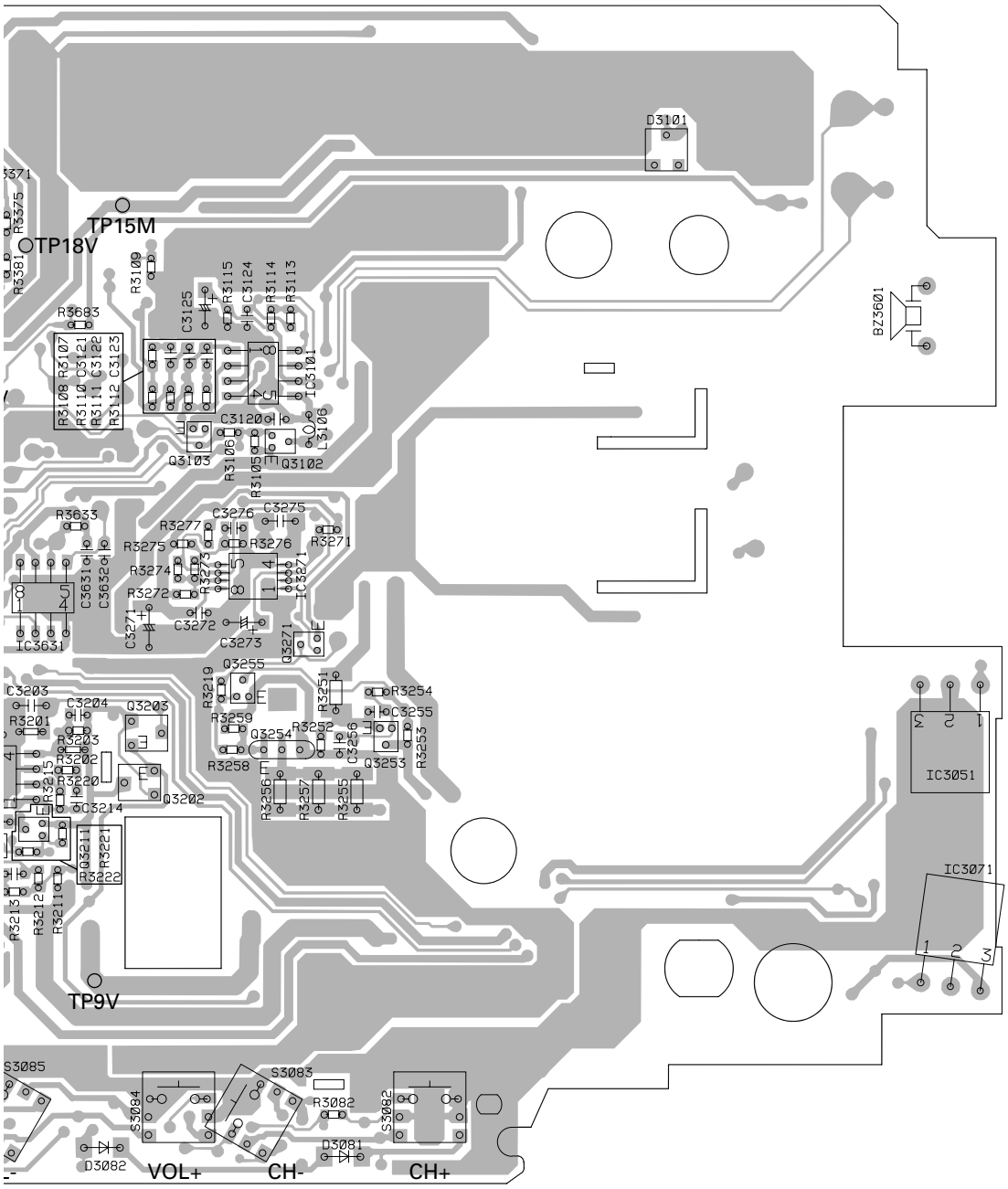
SIDE A



C MONITOR UNIT



SIDE B



IC, Q

IC3371

Q3372 IC3446
Q3371

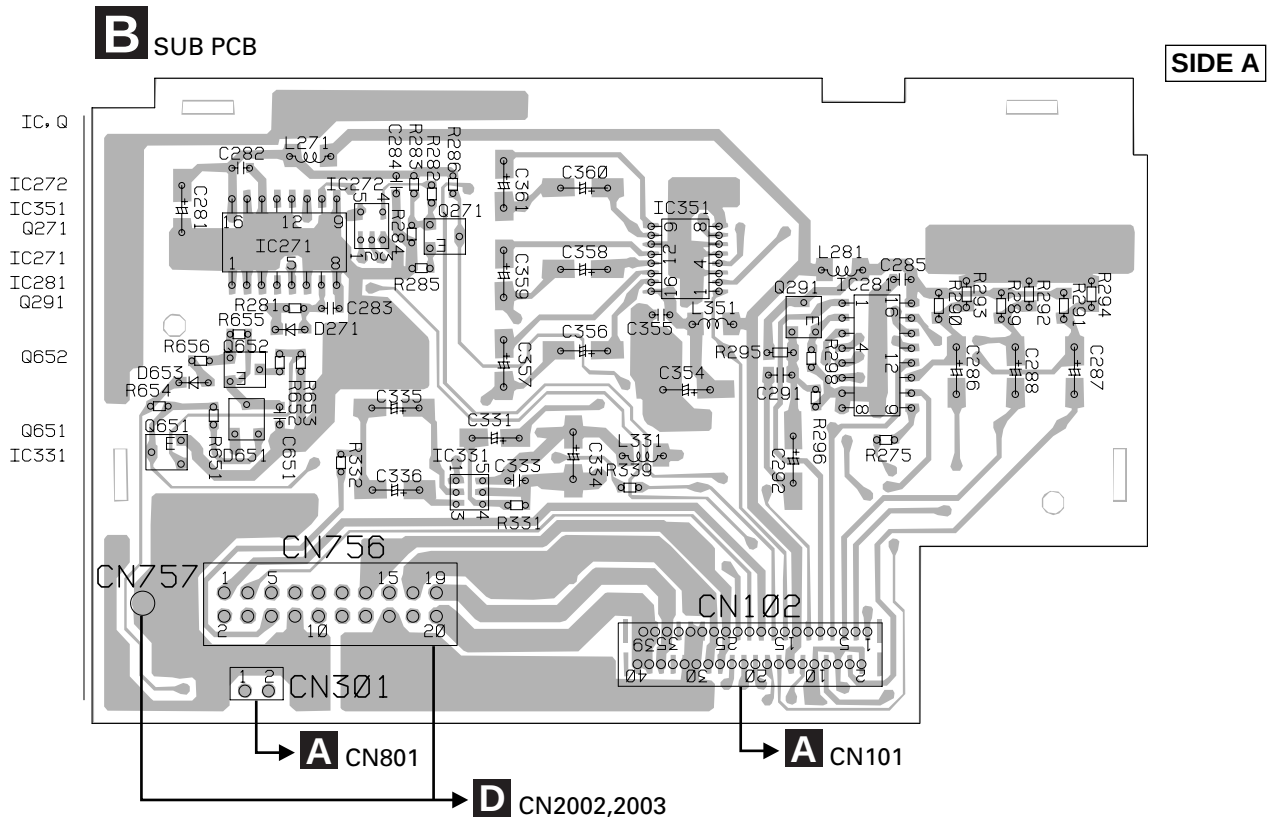
IC3101

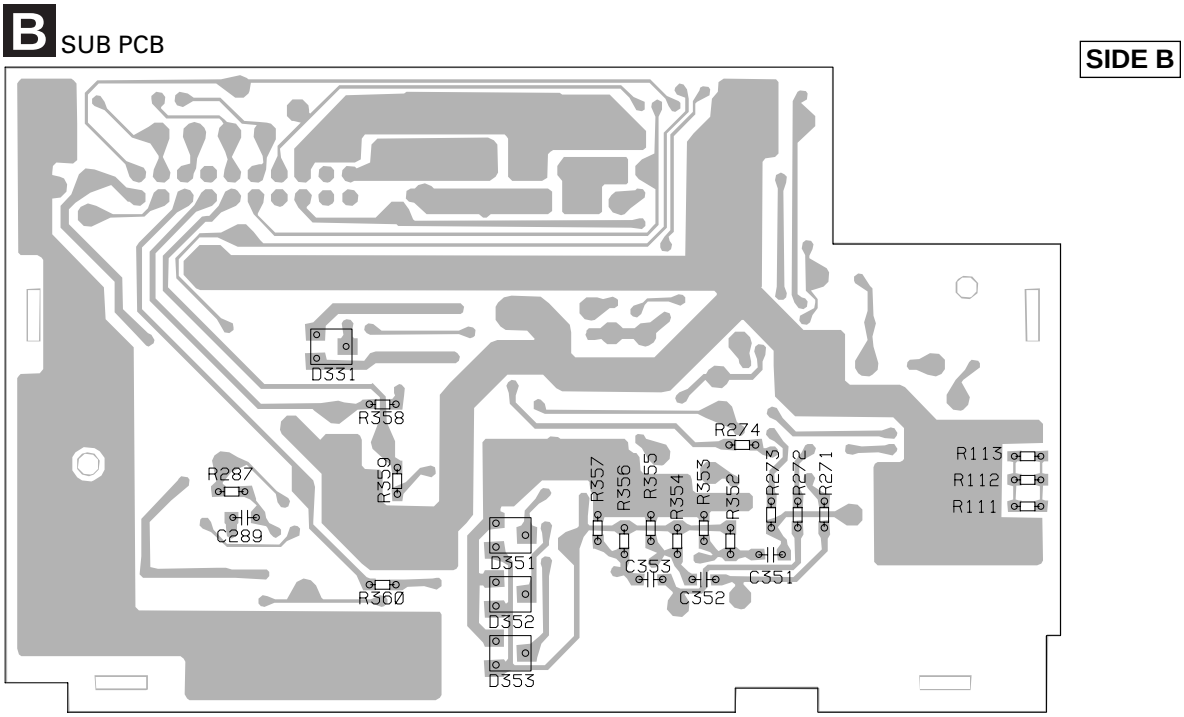
Q3103
Q3102
IC3602

IC3271
IC3721
IC3631 IC3451
Q3271 Q3255
IC3722
Q3203
IC3731
IC3051 Q3253
Q3202 IC3211
Q3254
Q3211
Q3003
IC3071
Q3212 Q3002

Q3004 Q3005

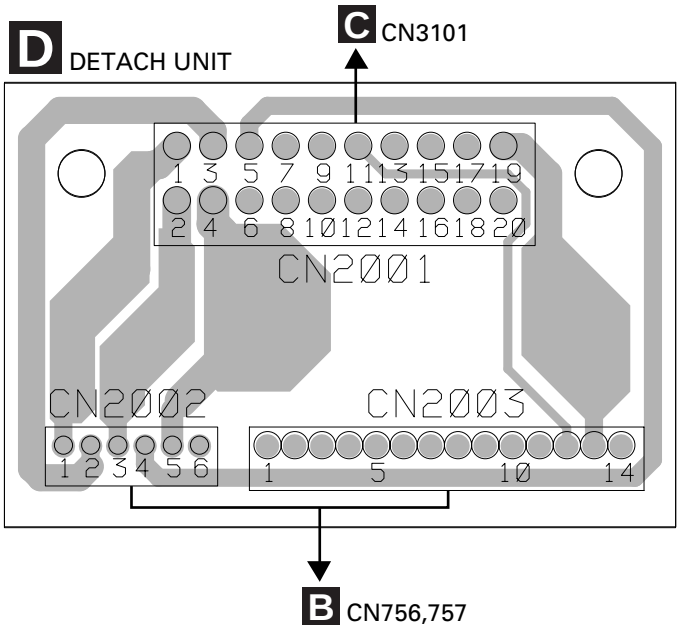
4.3 SUB PCB


B SUB PCB
SIDE A
IC, Q
IC272
IC351
Q271
IC271
IC281
Q291
Q652
Q651
IC331
CN756
CN757
CN102
CN301
A CN801
A CN101
D CN2002,2003

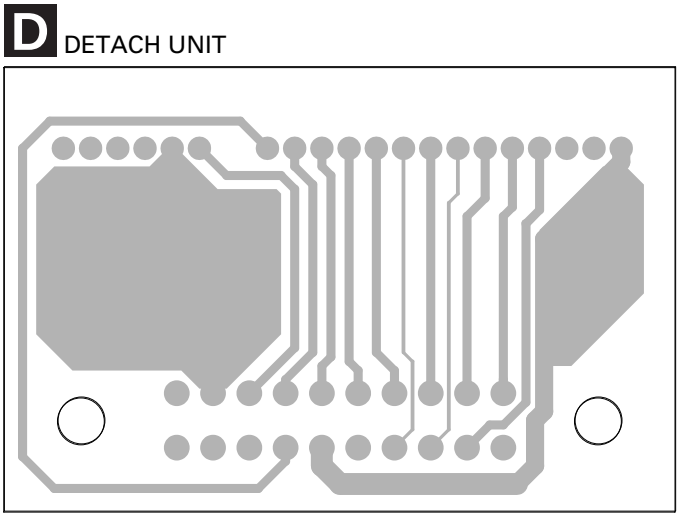

B SUB PCB
SIDE B

4.4 DETACH UNIT

SIDE A



SIDE B



5. ELECTRICAL PARTS LIST

NOTES:

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

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

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

CKS....., CCS....., CSZS.....

Mother Unit
Consists of
Main PCB
Sub PCB

A B Unit Number : CWM7612
Unit Name : Mother Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	241	IC	NJM2285V
IC	251	IC	NJM2268V
IC	261	IC	TA2050S
IC	271	IC	TC74HC123AF
IC	272	IC	TC7S86F
IC	281	IC	BU4551BF
IC	301	IC	CXA2019AQ
IC	302	IC	CXL5520M
IC	331	IC	TK15405MI
IC	332	IC	NJM2267M
IC	351	IC	BA7660FS
IC	501	IC	PAJ001A
IC	601	IC	PE5233A
IC	602	IC	TC4S81F
IC	603	IC	S-29131AFJ
IC	604	IC	TC7S02F
IC	761	IC	TA2050S
IC	771	IC	TA2050S
IC	781	IC	NJM4558E
IC	801	IC	CXA1114M
IC	821	IC	NJM4558E
IC	841	IC	TC4S66F
IC	842	IC	NJM4558E
IC	901	IC	TA78L05F
IC	912	IC	BA178M05T
IC	1601	IC	NJM2116V
Q	221	Transistor	2SC2412K
Q	222	Transistor	2SC2412K
Q	271	Transistor	2SC2412K
Q	291	Transistor	2SC2412K
Q	301	Transistor	2SA1036K
Q	501	Transistor	2SC2412K
Q	503	Transistor	DTC114EK
Q	504	Transistor	2SC2412K
Q	505	Transistor	2SA1037K
Q	508	Transistor	2SC2412K
Q	509	Transistor	2SC2412K
Q	601	Transistor	DTA144EK
Q	603	Transistor	DTA144EK
Q	604	Transistor	DTA144EK
Q	651	Transistor	2SC2412K
Q	652	Transistor	2SA1037K
Q	701	Transistor	2SA1615-Z
Q	702	Transistor	DTC114EK
Q	703	Transistor	2SB1184F5
Q	704	Transistor	DTC114EK
Q	821	Transistor	2SC2412K
Q	822	Transistor	2SC2412K
Q	823	Transistor	FMG12
Q	841	Transistor	FMG12
Q	843	Transistor	DTC323TK
Q	844	Transistor	DTC144EK
Q	901	Transistor	2SA1036K
Q	902	Transistor	2SC2412K
Q	911	Transistor	2SD2375
Q	931	Transistor	2SB1188
Q	932	Transistor	DTC114EK
Q	1629	Transistor	UMG8N
D	201	Diode	UDZS5R6(B)
D	202	Diode	UDZS5R6(B)
D	203	Diode	UDZS5R6(B)
D	204	Diode	UDZS5R6(B)
D	205	Diode	UDZS5R6(B)
D	206	Diode	UDZS5R6(B)
D	261	Diode	UDZS5R6(B)
D	262	Diode	UDZS5R6(B)
D	263	Diode	UDZS5R6(B)
D	264	Diode	UDZS5R6(B)
D	271	Diode	1SS355
D	331	Diode	MA153
D	332	Diode	MA153
D	333	Diode	MA153
D	351	Diode	MA153
D	352	Diode	MA153
D	353	Diode	MA153
D	501	Diode	SC016-2
D	502	Diode	MA8180(M)
D	503	Diode	MA8056(L)
D	504	Chip Diode	MA151WK
D	507	Diode	1SS355
D	601	Diode	MA153
D	602	Diode	MA153
D	603	Diode	MA153
D	651	Diode	MA153
D	653	Diode	1SS355
D	761	Diode	UDZS5R6(B)
D	762	Diode	UDZS5R6(B)
D	763	Diode	UDZS5R6(B)
D	764	Diode	UDZS5R6(B)
D	771	Diode	UDZS5R6(B)
D	772	Diode	UDZS5R6(B)
D	773	Diode	UDZS5R6(B)
D	774	Diode	UDZS5R6(B)
D	801	Diode	UDZ2R0(B)
D	802	Diode	UDZ2R0(B)
D	803	Diode	UDZ2R0(B)
D	804	Diode	UDZ2R0(B)
D	805	Diode	UDZ2R0(B)
D	806	Diode	UDZ2R0(B)
D	807	Diode	UDZ2R0(B)

=====Circuit Symbol and No.		===Part Name	Part No.
D	808	Diode	UDZ2R0(B)
D	809	Diode	UDZS5R6(B)
D	810	Diode	UDZS5R6(B)
D	811	Diode	MA153
D	813	Diode	UDZS5R6(B)
D	814	Diode	UDZS5R6(B)
D	815	Diode	MA153
D	821	Diode	MA152WA
D	841	Diode	MA152WA
D	843	Diode	MA153
D	844	Diode	1SS355
D	901	Diode	SC016-2
D	902	Diode	1SS355
D	903	Diode	5KP24A
D	905	Chip Diode	MA151WK
D	911	Diode	MA8100(L)
L	241	Inductor	LCTA150J3225
L	251	Inductor	LCTA150J3225
L	271	Inductor	LCTA150J3225
L	281	Inductor	LCTA150J3225
L	301	Inductor	LCTA150J3225
L	321	Inductor	LCTA150J3225
L	331	Inductor	LCTA150J3225
L	332	Inductor	LCTA150J3225
L	351	Inductor	LCTA150J3225
L	502	Chip-Inductor	LCTA2R2J3225
L	503	Inductor	CTF1295
L	602	Inductor	LCTA150J3225
L	603	Inductor	LCYC150K2125
L	604	Inductor	LCYC2R2K2125
L	701	Choke Coil 100µH	CTH1140
L	801	Inductor	LCTA150J3225
L	901	Choke Coil 2.4mH	CTH1101
L	1601	Inductor	LCTA100J3225
L	1629	Inductor	LCTA390J3225
L	1901	Inductor	CTF1295
X	301	Ceramic Resonator 503kHz	CSS1100
X	302	Crystal Resonator 3.579545MHz	CSS1465
X	303	Crystal Resonator 4.433619MHz	CSS1460
X	601	Ceramic Resonator 6.290MHz	CSS1537
S	752	Switch(RESET)	CSG1020
FU	701	Fuse 1A	CEK1191
FU	702	Fuse 2A	CEK1190
FU	911	Fuse 1A	CEK1191

RESISTORS

R	101		RS1/10S0R0J
R	111		RS1/10S0R0J
R	201		RS1/16S750J
R	205		RS1/16S750J
R	209		RS1/16S750J
R	221		RN1/16SE1002D
R	222		RN1/16SE1102D
R	223		RS1/16S471J
R	224		RS1/16S103J
R	225		RS1/16S113J
R	226		RS1/16S471J
R	227		RS1/10S103J
R	228		RS1/10S113J
R	229		RS1/10S471J
R	241		RS1/10S750J
R	242		RS1/10S105J
R	243		RS1/10S750J
R	244		RS1/10S750J
R	245		RS1/10S750J
R	246		RS1/10S105J
R	247		RS1/10S105J
R	248		RS1/10S105J
R	249		RS1/10S103J
R	250		RS1/10S562J
R	251		RS1/10S103J
R	252		RS1/16S105J
R	253		RS1/16S105J
R	261		RS1/10S101J
R	262		RS1/10S101J
R	263		RS1/10S223J
R	264		RS1/10S223J
R	265		RS1/10S102J
R	266		RS1/10S102J
R	267		RS1/16S105J
R	268		RS1/16S105J
R	269		RS1/16S750J
R	270		RS1/16S750J
R	271		RS1/10S0R0J
R	272		RS1/10S0R0J
R	273		RS1/10S0R0J
R	274		RS1/10S0R0J
R	275		RS1/16S101J
R	281		RS1/16S133J
R	282		RS1/16S153J
R	283		RS1/16S103J
R	284		RS1/16S103J
R	285		RS1/16S102J
R	286		RS1/16S102J
R	287		RS1/10S2402F
R	289		RS1/10S273J
R	290		RS1/10S273J
R	291		RS1/10S273J
R	292		RS1/10S273J
R	293		RS1/10S273J
R	294		RS1/10S273J
R	295		RS1/10S273J
R	296		RS1/16S273J
R	298		RS1/16S102J
R	301		RS1/10S332J
R	302		RS1/10S332J
R	303		RS1/10S101J
R	304		RS1/10S221J
R	305		RS1/16S331J
R	306		RS1/10S822J
R	307		RN1/16SE1002D
R	308		RS1/16S334J
R	309		RS1/16S101J
R	310		RS1/16S101J
R	311		RS1/10S103J
R	312		RS1/10S103J
R	313		RN1/10SE4700D
R	314		RN1/10SE1501D
R	315		RS1/10S153J
R	317		RS1/16S153J
R	318		RS1/16S153J
R	321		RS1/10S103J
R	322		RS1/10S105J
R	332		RS1/16S750J
R	333		RS1/10S105J
R	334		RS1/10S750J
R	335		RS1/16S0R0J
R	336		RS1/10S105J
R	337		RS1/10S750J
R	338		RS1/16S750J
R	339		RS1/16S0R0J

Circuit Symbol and No.	Part Name	Part No.
R 352		RS1/10S684J
R 353		RS1/10S104J
R 354		RS1/10S684J
R 355		RS1/10S104J
R 356		RS1/10S684J
R 357		RS1/10S104J
R 358		RS1/10S750J
R 359		RS1/10S750J
R 360		RS1/10S750J
R 501		RS1/10S104J
R 502		RS1/10S104J
R 503		RN1/10SE1001D
R 504		RS1/16S223J
R 505		RS1/16S103J
R 506		RS1/16S104J
R 507		RS1/16S104J
R 508		RS1/16S104J
R 509		RS1/10S393J
R 510		RS1/10S753J
R 511		RS1/10S104J
R 512		RS1/10S563J
R 513		RS1/10S363J
R 516		RS1/10S102J
R 517		RS1/10S473J
R 518		RS1/10S223J
R 519		RS1/10S473J
R 520		RS1/10S473J
R 521		RS1/10S223J
R 522		RS1/10S473J
R 523		RS1/10S101J
R 525		RS1/16S0R0J
R 532		RS1/10S473J
R 533		RS1/10S473J
R 534		RS1/10S473J
R 535		RS1/10S473J
R 536		RS1/10S473J
R 537		RS1/10S473J
R 538		RS1/10S473J
R 540		RS1/16S0R0J
R 601		RS1/10S681J
R 602		RS1/10S681J
R 603		RS1/16S103J
R 604		RS1/16S103J
R 605		RS1/10S103J
R 606		RS1/10S103J
R 607		RS1/16S103J
R 608		RS1/16S103J
R 609		RS1/16S102J
R 610		RS1/10S473J
R 611		RS1/10S473J
R 612		RS1/10S473J
R 613		RS1/16S681J
R 614		RS1/16S681J
R 616		RS1/16S473J
R 617		RS1/16S473J
R 618		RS1/10S103J
R 620		RS1/10S103J
R 621		RS1/10S473J
R 622		RAB4C473J
R 623		RS1/10S681J
R 625		RAB4C681J
R 626		RAB4C473J
R 627		RAB4C681J
R 628		RAB4C681J
R 630		RAB4C681J
R 631		RAB4C681J
R 632		RS1/16S681J
R 635		RS1/10S470J
R 636		RS1/10S470J
R 637		RS1/10S473J
R 638		RS1/16S103J
R 639		RAB4C102J
R 641		RS1/10S681J
R 642		RS1/16S473J
R 643		RS1/16S473J
R 646		RS1/16S0R0J
R 647		RS1/16S103J
R 651		RS1/16S472J
R 652		RS1/16S473J
R 653		RS1/16S473J
R 655		RS1/16S473J
R 656		RS1/16S473J
R 663		RS1/10S681J
R 664		RS1/16S473J
R 667		RS1/16S473J
R 701		RS1/10S153J
R 702		RS1/4S102J
R 703		RS1/4S102J
R 704		RS1/4S102J
R 705		RS1/10S153J
R 706		RS1/4S102J
R 707		RS1/4S102J
R 708		RS1/4S102J
R 761		RS1/10S101J
R 762		RS1/10S223J
R 763		RS1/10S102J
R 764		RS1/10S102J
R 765		RS1/10S223J
R 766		RS1/10S101J
R 771		RS1/10S101J
R 772		RS1/10S223J
R 773		RS1/10S102J
R 774		RS1/10S102J
R 775		RS1/10S223J
R 776		RS1/10S101J
R 781		RS1/10S102J
R 782		RS1/10S473J
R 783		RS1/10S473J
R 784		RS1/16S203J
R 785		RS1/10S203J
R 786		RS1/16S473J
R 787		RS1/16S473J
R 796		RS1/16S473J
R 807		RS1/10S563J
R 808		RS1/10S563J
R 809		RS1/10S563J
R 810		RS1/10S563J
R 811		RS1/16S563J
R 812		RS1/16S563J
R 813		RS1/10S101J
R 814		RS1/10S101J
R 815		RS1/10S750J
R 816		RS1/10S750J
R 817		RS1/16S750J
R 818		RS1/10S750J
R 821		RS1/10S182J
R 822		RS1/10S182J
R 825		RS1/10S682J
R 826		RS1/10S682J
R 827		RS1/16S272J

=====Circuit Symbol and No.	Part Name	Part No.
R 828		RS1/16S272J
R 829		RS1/10S471J
R 830		RS1/10S471J
R 831		RS1/10S821J
R 832		RS1/10S821J
R 833		RS1/10S104J
R 834		RS1/10S104J
R 841		RS1/10S123J
R 842		RS1/10S123J
R 843		RS1/10S104J
R 844		RS1/10S104J
R 847		RS1/10S153J
R 848		RS1/10S153J
R 849		RS1/10S822J
R 850		RS1/16S223J
R 851		RS1/16S223J
R 852		RS1/16S103J
R 853		RS1/16S0R0J
R 854		RS1/16S102J
R 855		RS1/16S104J
R 856		RS1/10S473J
R 902		RS1/10S562J
R 903		RS1/10S153J
R 904		RS1/10S473J
R 905		RS1/10S473J
R 906		RS1/10S101J
R 911		RS1/10S681J
R 942		RS1/10S472J
R 943		RS1/10S102J
R 944		RS1/10S102J
R 1601		RN1/10SE1102D
R 1602		RN1/10SE4701D
R 1603		RN1/10SE5101D
R 1604		RN1/10SE4701D
R 1606		RN1/10SE4701D
R 1607		RN1/10SE5101D
R 1608		RN1/10SE4701D
R 1609		RN1/10SE4701D
R 1611		RN1/10SE5101D
R 1612		RN1/10SE4701D
R 1613		RN1/10SE4701D
R 1615		RN1/10SE1202D
R 1617		RN1/10SE5602D
R 1618		RN1/10SE5602D
R 1619		RN1/10SE4701D
R 1620		RN1/10SE4701D
R 1622		RS1/16S2701F
R 1623		RS1/16S2701F
R 1625		RN1/10SE5601D
R 1628		RN1/10SE6201D
R 1629		RS1/10S561J
R 1630		RS1/10S561J
R 1902		RS1/10S0R0J

CAPACITORS

=====Circuit Symbol and No.	Part Name	Part No.
C 221		CCSRCH7R0D50
C 222		CCSQCH7R0D50
C 223		CCSRCH7R0D50
C 241		CEV220M16
C 242		CKSRYB103K25
C 243		CKSQYB104K25
C 244		CEV220M6R3
C 245		CEV220M6R3
C 246		CKSQYB104K25
C 247		CEV220M6R3
C 248		CEV220M6R3
C 249		CKSQYB104K25
C 250		CKSQYB104K25
C 251		CEV330M10
C 252		CKSRYB104K16
C 253		CEV2R2M50
C 254		CEV2R2M50
C 255		CEV1R0M50
C 256		CEV101M16
C 257		CEV220M6R3
C 261		CKSQYB471K50
C 262		CKSQYB471K50
C 263		CKSQYB105K16
C 264		CKSQYB105K16
C 265		CKSQYB105K16
C 266		CKSQYB105K16
C 267		CEV100M16
C 268		CEV220M16
C 281		CEV330M10
C 282		CKSRYB104K16
C 283		CCSRCH471J50
C 284		CKSRYB104K16
C 285		CKSRYB104K16
C 286		CEV4R7M35
C 287		CEV4R7M35
C 288		CEV4R7M35
C 289		CCSQCH102J50
C 291		CKSQYB105K16
C 292		CEV470M16
C 301		CEV220M16
C 302		CKSRYB103K50
C 303		CCSQCH101J50
C 304		CKSQYB105K16
C 305		CKSRYB472K50
C 306		CKSQYB105K16
C 307		CKSQYB103K50
C 308		CKSRYB474K10
C 309		CKSQYB474K25
C 310		CEV4R7M35
C 311		CKSQYB474K25
C 312		CCSQCH471J50
C 313		CKSQYB474K25
C 314		CCSQCH150J50
C 315		CCSQCH150J50
C 316		CEV220M16
C 317		CKSQYB103K50
C 319		CCSRCH221J50
C 320		CCSRCH331J50
C 321		CEV220M6R3
C 322		CKSRYB103K50
C 323		CKSRYB104K16
C 324		CKSQYB103K50
C 325		CKSQYB105K16
C 326		CKSQYB104K25
C 327		CKSRYB105K6R3
C 328		CKSRYB105K6R3
C 329		CKSRYB102K50
C 330		CKSRYB102K50
C 331		CEV4R7M35
C 333		CKSRYB103K50
C 334		CEV330M10
C 335		CEV101M4
C 336		CEV330M10
C 337		CEV2R2M50
C 338		CEV2R2M50

=====Circuit Symbol and No.	===Part Name	Part No.
C 339		CKSRYB103K50
C 340		CEV101M16
C 341		CEV220M6R3
C 342		CEV101M16
C 343		CEV101M16
C 344		CEV220M6R3
C 345		CCSQCH471J50
C 351		CKSQYB105K16
C 352		CKSQYB105K16
C 353		CKSQYB105K16
C 354		CEV101M16
C 355		CKSRYB103K50
C 356		CEV101M4
C 357		CEV220M6R3
C 358		CEV101M4
C 359		CEV220M6R3
C 360		CEV101M4
C 361		CEV220M6R3
C 501		CEV100M16
C 502		CEV101M16
C 503		CKSRYB103K50
C 504		CEAT222M16
C 505		CKSRYB103K50
C 506		CKSQYF103Z50
C 509		CKSQYB103K50
C 510		CKSQYB104K25
C 511		CKSQYB103K50
C 512		CKSQYB103K50
C 601		CKSRYB103K50
C 602		CKSQYB103K50
C 603		CKSQYF104Z25
C 604		CKSRYB104K16
C 605		CEV101M16
C 606		CKSQYB104K25
C 607		CKSQYB103K50
C 609		CKSQYF104Z25
C 612		CKSRYB104K16
C 614		CKSRYB104K16
C 651		CKSRYB103K50
C 701		CEV101M16
C 702		CKSQYB104K25
C 703		CEAT102M16
C 704		CKSQYB104K25
C 705		CEV101M16
C 706		CKSQYB104K25
C 761		CKSQYB105K16
C 762		CKSQYB105K16
C 763		CEV100M16
C 764		CEV220M16
C 765		CKSQYB105K16
C 766		CKSQYB105K16
C 767		CKSQYB471K50
C 771		CKSQYB105K16
C 772		CKSQYB105K16
C 773		CEV100M16
C 774		CEV220M16
C 775		CKSQYB105K16
C 776		CKSQYB105K16
C 777		CKSQYB471K50
C 778		CKSQYB471K50
C 781		CKSQYB105K16
C 782		CKSQYB105K16
C 783		CKSRYB105K6R3
C 784		CKSRYB104K16
C 801		CEV100M16

=====Circuit Symbol and No.	===Part Name	Part No.
C 802		CEV220M16
C 803		CEV220M16
C 804		CEV220M16
C 805		CEV220M16
C 808		CKSQYB105K16
C 809		CKSQYB105K16
C 810		CKSQYB105K16
C 811		CKSQYB105K16
C 812		CKSQYB105K16
C 813		CKSQYB105K16
C 814		CKSRYB103K50
C 815		CEV220M16
C 816		CKSRYB103K50
C 821		CCSRCH101J50
C 822		CCSRCH101J50
C 823		CEV101M16
C 824		CKSRYB104K16
C 825		CEV100M16
C 826		CEV100M16
C 827		CKSQYB222K50
C 828		CKSQYB222K50
C 842		CKSQYB105K16
C 843		CKSQYB105K16
C 844		CKSQYB104K25
C 845		CKSQYB105K16
C 846		CKSQYB105K16
C 847		CKSQYB105K16
C 848		CKSRYB821K50
C 849		CKSQYB105K16
C 850		CKSRYB104K16
C 901		CEAT102M16
C 902		CKSQYB104K25
C 903		CKSQYB104K25
C 904		CKSQYB104K25
C 905		CEV101M16
C 906		CKSQYB103K50
C 911		CEV100M16
C 912		CKSRYB104K16
C 931		CEV101M16
C 932		CKSQYB105K16
C 933		CEV100M16
C 934		CKSQYB105K16
C 935		CEV100M16
C 1601		CEV220M6R3
C 1602		CKSRYB104K16
C 1609		CCSQCH5R0C50
C 1613		CCSQCH5R0C50
C 1620		CCSQCH5R0C50
C 1622		CKSRYB104K16
C 1629		CCSQCH680J50
C 1630		CCSQCH680J50

C Unit Number : CWM7610
Unit Name : Monitor Unit

MISCELLANEOUS

IC	3001	IC	TDA7052BT
IC	3051	IC	PNA4603H00LB
IC	3071	IC	SBX8035-H
IC	3101	IC	FA7610CN
IC	3211	IC	FA7612CN
IC	3261	IC	NJM2903V
IC	3271	IC	NJM2903V
IC	3301	IC	IR3Y26A1
IC	3331	IC	NJM2235V
IC	3351	IC	TC7S08FU

=====Circuit Symbol and No.		===Part Name	Part No.
IC	3371	IC	NJM082BV
IC	3401	IC	PD5582A
IC	3446	IC	TC7W00FU
IC	3451	IC	TC7W34FU
IC	3601	IC	PE5232A
IC	3602	IC	TC7S32FU
IC	3631	IC	M51957BFP
IC	3651	IC	M62352GP
IC	3681	IC	S-29131AFJ
IC	3701	IC	TC160G11AF-1146
IC	3731	IC	NJM2107F
Q	3001	Transistor	2SD1664
Q	3002	Transistor	2SA1774
Q	3004	Transistor	2SA1774
Q	3005	Transistor	DTC144EE
Q	3061	Transistor	2SC4617
Q	3071	Transistor	DTA144EE
Q	3101	Transistor	2SC3518-Z
Q	3102	Transistor	2SA1774
Q	3103	Transistor	DTC144EE
Q	3201	Transistor	2SA1385-Z
Q	3202	Transistor	2SC2412K
Q	3203	Transistor	2SA1037K
Q	3211	Transistor	2SA1774
Q	3212	Transistor	DTC144EE
Q	3251	Transistor	2SC3518-Z
Q	3252	Transistor	2SC3518-Z
Q	3253	Transistor	2SC4617
Q	3254	Transistor	2SD1767
Q	3255	Transistor	DTC144EE
Q	3271	Transistor	DTA114EE
Q	3303	Transistor	DTA144EE
Q	3371	Transistor	FMY3A
Q	3372	Transistor	FMY4A
Q	3421	Transistor	2SC4617
Q	3426	Transistor	2SC4617
Q	3431	Transistor	2SC4617
Q	3601	Transistor	2SA1774
Q	3602	Transistor	2SC4617
Q	3603	Transistor	DTC144EE
Q	3604	Transistor	2SC4617
Q	3651	Transistor	2SC4617
Q	3751	Transistor	2SC4097
D	3001	Diode	MA8082(L)
D	3002	Diode	MA143
D	3061	Diode	MA110
D	3071	Diode	RB520S-30
D	3081	LED	CL150PGCD(AB)
D	3082	LED	CL150PGCD(AB)
D	3101	Diode	1SS250
D	3102	Diode	SFPB-54V
D	3103	Diode	SFPB-54V
D	3104	Diode	1SS250
D	3105	Diode	MA8180(H)
D	3106	Diode	MA8160(L)
D	3201	Diode	SFPB-74VL
D	3211	Diode	MA143
D	3301	Diode	MA8062(H)
D	3303	Diode	MA8062(H)
D	3305	Diode	MA8062(H)
D	3307	Diode	UDZ2R0(B)
D	3308	Diode	UDZ2R0(B)
D	3309	Diode	MA110
D	3351	Diode	MA110
D	3401	Diode	MA110

=====Circuit Symbol and No.		===Part Name	Part No.
D	3451	Diode	MA143
D	3452	Diode	MA143
D	3601	Diode	RB520S-30
D	3602	Diode	UDZ3R9(B)
D	3603	Diode	MA143
D	3604	Diode	MA143
D	3731	Diode	MA110
D	3751	Diode	1SV231
L	3001	Coil	CTH1195
L	3101	Coil	CTH1195
L	3102	Inductor	LCTA101J3225
L	3103	Inductor	CTF1311
L	3104	Choke Coil 100µH	CTH1196
L	3105	Inductor	LCTA101J3225
L	3106	Inductor	LCTB100K2125
L	3201	Choke Coil 82µH	CTH1200
L	3211	Inductor	LCTB100K2125
L	3251	Choke Coil 100µH	CTH1179
L	3271	Inductor	LCTA221J3225
L	3301	Inductor	LCTA680J3225
L	3302	Coil	LCTB150K3216
L	3371	Inductor	LCTA101J3225
L	3372	Inductor	LCTA101J3225
L	3401	Inductor	LCTA101J3225
L	3402	Inductor	CTF1306
L	3403	Inductor	CTF1306
L	3404	Inductor	CTF1306
L	3405	Inductor	LCTB150K2125
L	3446	Inductor	CTF1306
L	3451	Inductor	LCTB100K2125
L	3601	Inductor	LCTA101J3225
L	3602	Inductor	LCTB100K2125
L	3651	Inductor	LCTB100K2125
L	3652	Inductor	LCTB100K2125
L	3681	Inductor	LCTB100K2125
L	3701	Inductor	LCTA150J3225
L	3702	Inductor	CTF1306
L	3751	Coil	CTE1140
L	3771	Inductor	LCTB100K2125
L	3772	Chip-Inductor	LCTA2R2J3225
L	3773	Inductor	LCTB100K2125
T	3101	Transformer	CTT1092
T	3251	Trans Inverter	CTT1093
T	3252	Trans Inverter	CTT1093
X	3601	Radiator 4.19MHz	CSS1436
S	3082	Switch	CSG1106
S	3083	Switch	CSG1106
S	3084	Switch	CSG1106
S	3085	Switch	CSG1106
S	3086	Switch	CSG1106
S	3087	Switch	CSG1105
S	3088	Switch	CSG1106
S	3089	Switch	CSG1106
VR	3101	Semi-fixed 1kΩ(B)	CCP1338
VR	3211	Semi-fixed 470Ω(B)	CCP1336
VR	3371	Semi-fixed 10kΩ(B)	CCP1344
FU	3201	Fuse 2A	CEK1190
EF	3401	EMI Filter	CCG1067
EF	3402	EMI Filter	CCG1067
EF	3403	EMI Filter	CCG1067
EF	3404	EMI Filter	CCG1067
EF	3451	EMI Filter	CCG1067
EF	3452	EMI Filter	CCG1067
EF	3601	EMI Filter	CCG1067
EF	3701	EMI Filter	CCG1067

Circuit Symbol and No.	Part Name	Part No.
EF 3703	EMI Filter	CCG1067
EF 3704	EMI Filter	CCG1067
EF 3705	EMI Filter	CCG1067
EF 3706	EMI Filter	CCG1067
EF 3714	EMI Filter	CCG1060
EF 3715	EMI Filter	CCG1097
EF 3716	EMI Filter	CCG1067
EF 3717	EMI Filter	CCG1060
BZ 3601	Buzzer	CPV1050

RESISTORS

R 3001		RS1/16S151J
R 3002		RS1/16S100J
R 3003		RS1/16S103J
R 3004		RS1/16S223J
R 3005		RS1/16S562J
R 3006		RS1/16S103J
R 3007		RS1/16S0R0J
R 3009		RS1/16S223J
R 3010		RS1/16S103J
R 3051		RS1/16S101J
R 3052		RS1/16S104J
R 3061		RS1/16S472J
R 3062		RS1/16S103J
R 3063		RS1/16S103J
R 3071		RS1/16S473J
R 3082		RS1/16S153J
R 3083		RS1/10S333J
R 3085		RS1/10S153J
R 3088		RS1/16S153J
R 3089		RS1/16S333J
R 3091		RS1/10S271J
R 3092		RS1/10S271J
R 3093		RS1/10S271J
R 3094		RS1/10S271J
R 3095		RS1/10S271J
R 3096		RS1/10S271J
R 3097		RS1/10S271J
R 3098		RS1/10S271J
R 3099		RS1/10S271J
R 3100		RS1/10S271J
R 3101		RS1/10S751J
R 3102		RS1/10S123J
R 3103		RS1/10S181J
R 3104		RS1/10S123J
R 3105		RS1/16S223J
R 3106		RS1/16S103J
R 3107		RS1/16S562J
R 3108		RS1/16S223J
R 3109		RS1/16S222J
R 3110		RS1/16S182J
R 3111		RS1/16S684J
R 3112		RS1/16S202J
R 3113		RS1/16S333J
R 3114		RS1/16S684J
R 3115		RS1/16S184J
R 3116		RS1/16S0R0J
R 3201		RS1/10S182J
R 3202		RS1/10S682J
R 3203		RS1/16S223J
R 3211		RS1/16S0R0J
R 3212		RS1/16S103J
R 3214		RS1/16S471J
R 3215		RS1/16S393J
R 3216		RS1/16S333J
R 3217		RS1/16S824J
R 3218		RS1/16S334J
R 3219		RS1/16S102J
R 3220		RS1/16S153J
R 3221		RS1/16S223J
R 3222		RS1/16S103J
R 3251		RS1/4S272J
R 3252		RS1/16S103J
R 3253		RS1/16S103J
R 3254		RS1/16S472J
R 3255		RS1/4S471J
R 3256		RS1/4S471J
R 3257		RS1/4S471J
R 3258		RS1/16S272J
R 3259		RS1/16S223J
R 3261		RS1/4SR68J
R 3262		RS1/4SR68J
R 3263		RS1/16S5600F
R 3264		RS1/16S2701F
R 3265		RS1/16S5600F
R 3266		RS1/16S2701F
R 3267		RS1/16S1500F
R 3271		RS1/16S103J
R 3272		RS1/16S392J
R 3273		RS1/16S912J
R 3274		RS1/16S104J
R 3275		RS1/16S153J
R 3276		RS1/16S153J
R 3277		RS1/16S103J
R 3301		RS1/16S750J
R 3302		RS1/16S750J
R 3303		RS1/16S750J
R 3304		RS1/16S750J
R 3305		RS1/16S683J
R 3309		RS1/16S752J
R 3310		RS1/16S271J
R 3311		RS1/16S101J
R 3312		RS1/16S101J
R 3313		RS1/16S101J
R 3314		RS1/16S102J
R 3315		RS1/16S102J
R 3316		RS1/16S473J
R 3317		RS1/16S473J
R 3318		RS1/16S563J
R 3319		RS1/16S473J
R 3320		RS1/16S473J
R 3321		RS1/16S563J
R 3322		RS1/16S473J
R 3323		RS1/16S473J
R 3324		RS1/16S273J
R 3325		RS1/16S473J
R 3326		RS1/16S473J
R 3327		RS1/16S273J
R 3328		RS1/16S333J
R 3329		RS1/16S473J
R 3330		RS1/16S223J
R 3331		RS1/16S102J
R 3334		RS1/16S473J
R 3335		RS1/16S473J
R 3336		RS1/16S273J
R 3337		RS1/16S473J
R 3338		RS1/16S473J
R 3339		RS1/16S273J
R 3340		RS1/16S104J
R 3341		RS1/16S203J
R 3342		RS1/16S163J

=====Circuit Symbol and No.	Part Name	Part No.
R 3343		RS1/16S102J
R 3351		RS1/16S0R0J
R 3353		RS1/16S102J
R 3371		RS1/16S303J
R 3373		RS1/16S223J
R 3374		RS1/16S913J
R 3375		RS1/16S113J
R 3376		RS1/16S363J
R 3377		RS1/16S473J
R 3378		RS1/16S473J
R 3379		RS1/16S101J
R 3380		RS1/16S153J
R 3381		RS1/16S100J
R 3382		RS1/16S153J
R 3383		RS1/16S100J
R 3401		RS1/16S473J
R 3421		RS1/16S103J
R 3422		RS1/16S392J
R 3423		RS1/16S392J
R 3424		RS1/16S102J
R 3426		RS1/16S103J
R 3427		RS1/16S392J
R 3428		RS1/16S392J
R 3429		RS1/16S102J
R 3431		RS1/16S103J
R 3432		RS1/16S392J
R 3433		RS1/16S392J
R 3434		RS1/16S102J
R 3446		RS1/16S102J
R 3451		RS1/16S101J
R 3452		RS1/16S101J
R 3501		RS1/10S271J
R 3502		RS1/10S271J
R 3561		RS1/16S0R0J
R 3601		RS1/16S223J
R 3602		RS1/16S562J
R 3603		RS1/16S473J
R 3604		RS1/16S473J
R 3605		RAB4C473J
R 3608		RS1/16S681J
R 3609		RS1/16S473J
R 3610		RS1/16S473J
R 3611		RAB4C473J
R 3612		RS1/16S102J
R 3613		RS1/16S473J
R 3614		RS1/16S223J
R 3615		RS1/16S473J
R 3616		RS1/16S102J
R 3617		RS1/16S102J
R 3618		RS1/16S102J
R 3619		RS1/16S101J
R 3620		RS1/16S681J
R 3631		RS1/16S154J
R 3632		RS1/16S104J
R 3633		RS1/16S222J
R 3651		RS1/16S273J
R 3681		RAB4C102J
R 3682		RS1/16S102J
R 3683		RS1/16S102J
R 3689		RS1/16S473J
R 3705		RAB4C102J
R 3706		RS1/16S102J
R 3709		RS1/16S681J
R 3710		RS1/16S0R0J
R 3712		RAB4C681J

=====Circuit Symbol and No.	Part Name	Part No.
R 3714		RS1/16S101J
R 3716		RS1/16S220J
R 3717		RS1/16S101J
R 3725		RS1/16S0R0J
R 3731		RS1/16S362J
R 3732		RS1/16S472J
R 3733		RS1/16S473J
R 3734		RS1/16S333J
R 3735		RS1/16S683J
R 3736		RS1/16S105J
R 3737		RS1/16S473J
R 3738		RS1/16S153J
R 3751		RS1/16S105J
R 3752		RS1/16S1R0J
R 3753		RS1/16S331J
R 3754		RS1/16S272J
R 3755		RS1/16S332J

CAPACITORS

C 3001		CEV101M16
C 3002		CKSRYF104Z25
C 3003	220µF/10V	CCH1148
C 3004		CKSRYB474K10
C 3005		CSZS100M10
C 3006		CKSQYB105K16
C 3007		CEV101M16
C 3051		CKSRYB103K25
C 3052		CKSYB475K10
C 3061		CKSRYF104Z25
C 3071		CEV330M10
C 3072		CKSRYB103K25
C 3101	10µF/16V	CCG1138
C 3102		CEV220M35
C 3103		CKSRYF104Z25
C 3104	22µF/12V	CCH1359
C 3105		CKSRYF104Z25
C 3106	22µF/8V	CCH1360
C 3107		CKSRYF104Z25
C 3108		CEV220M35
C 3109		CKSRYF104Z25
C 3110		CEV100M25
C 3111		CKSRYF104Z25
C 3112		CEV101M16
C 3113		CKSRYF104Z25
C 3114		CEV101M16
C 3115		CKSRYF104Z25
C 3116		CEV100M25
C 3117		CKSRYF104Z25
C 3118		CCSRCH151J50
C 3119		CEV220M35
C 3120		CKSRYF104Z25
C 3121		CKSRYB104K16
C 3123		CKSRYB333K16
C 3124		CCSRCH102J50
C 3125		CSZS100M10
C 3130	10µF/16V	CCG1138
C 3201	220µF/25V	CCH1356
C 3202	39µF/16V	CCH1347
C 3203		CKSQYB105K16
C 3204		CKSRYB272K50
C 3211		CEV220M35
C 3212		CKSRYF104Z25
C 3214		CKSRYB104K16
C 3216		CSZS4R7M6R3

=====Circuit Symbol and No.		===Part Name	Part No.
C	3217		CCSRCH561J50
C	3251	39µF/16V	CCH1347
C	3252		CKSRYF104Z25
C	3253		CFHSN104J50
C	3254		CFHSN823J50
C	3255		CKSRYF104Z25
C	3256		CKSRYB562K50
C	3267		CKSRYF104Z25
C	3268		CKSRYB103K25
C	3269		CKSRYB103K25
C	3271		CSZSR470M6R3
C	3272		CKSRYF104Z25
C	3273		CSZS100M10
C	3275		CFHSQ822J16
C	3276		CCSRCH102J50
C	3301		CSZSC101M6R3
C	3302		CKSRYB103K25
C	3303		CEV101M16
C	3304		CKSRYF104Z25
C	3305		CKSRYB152K50
C	3306		CKSRYB152K50
C	3307		CKSRYB152K50
C	3308		CKSQYB105K16
C	3309		CSZS100M10
C	3310		CSZS2R2M20
C	3311		CKSRYB103K25
C	3312		CKSRYB103K25
C	3313		CKSRYB103K25
C	3314		CKSQYB105K16
C	3315		CKSQYB105K16
C	3316		CKSQYB105K16
C	3317		CCSRCH102J50
C	3319		CKSRYF104Z25
C	3320		CKSRYF104Z25
C	3321		CKSRYF104Z25
C	3322		CKSRYF104Z25
C	3323		CKSRYF104Z25
C	3324		CKSQYF105Z16
C	3325		CKSRYF104Z25
C	3326		CKSRYF104Z25
C	3327		CKSRYF104Z25
C	3328		CKSQYF105Z16
C	3331		CKSRYF104Z25
C	3332		CKSRYF104Z25
C	3333		CKSRYF104Z25
C	3351		CKSRYF104Z25
C	3353		CCSRCH561J50
C	3371		CEV220M35
C	3372		CKSRYF104Z25
C	3373		CEV220M35
C	3374		CKSRYF104Z25
C	3375		CKSQYB105K16
C	3376		CKSRYF104Z25
C	3377		CKSQYB105K16
C	3378		CKSRYF104Z25
C	3401		CSZSR330M10
C	3402		CKSQYB105K16
C	3403		CKSRYB103K25
C	3405		CCSRCH330J50
C	3406	Trimmer	CCG1039
C	3441		CKSRYF104Z25
C	3451		CSZS100M10
C	3452		CKSRYF104Z25
C	3601		CEV101M16
C	3602		CKSRYF104Z25

=====Circuit Symbol and No.		===Part Name	Part No.
C	3603		CKSRYF104Z25
C	3611		CKSRYB103K25
C	3612		CKSRYB103K25
C	3613		CKSRYB103K25
C	3631		CKSRYF104Z25
C	3632		CKSRYB103K25
C	3651		CEV330M10
C	3652		CKSRYF104Z25
C	3653		CSZSR330M10
C	3654		CKSRYF104Z25
C	3681		CEV330M10
C	3682		CKSRYF104Z25
C	3701		CSZSR330M10
C	3702		CKSRYF104Z25
C	3703		CKSRYF104Z25
C	3704		CKSRYF104Z25
C	3705		CKSRYF104Z25
C	3706		CKSRYF104Z25
C	3707		CKSRYF104Z25
C	3708		CKSRYF104Z25
C	3709		CCSRCH220J50
C	3731		CKSRYF104Z25
C	3732		CKSRYF104Z25
C	3733		CKSRYF104Z25
C	3734		CKSRYB561K50
C	3735		CKSRYB102K50
C	3751		CKSRYF104Z25
C	3752		CKSRYB221K50
C	3753		CCSRCH391J50
C	3754		CKSRYB102K50
C	3755		CCSRCH221J50
C	3771		CSZS1R0M25
C	3772		CKSRYB103K25
C	3773	100µF/10V	CCH1332
C	3774		CKSQYF105Z16
C	3775		CSZS1R0M25
C	3776		CKSRYB103K25

Miscellaneous Parts List

Speaker	CPV1041
LCD Module	CWX2460

6. ADJUSTMENT

6.1 JIG CONNECTION DIAGRAM

● Method of singly operating the monitor section using GGW1010

Preparations for jigs

1. GGW1010
2. Equipment having composite image outputs (power generator, VTR, etc.)
3. RCA video cable
4. GGD1211 (20P RGB cable)

Setting of GGW1010

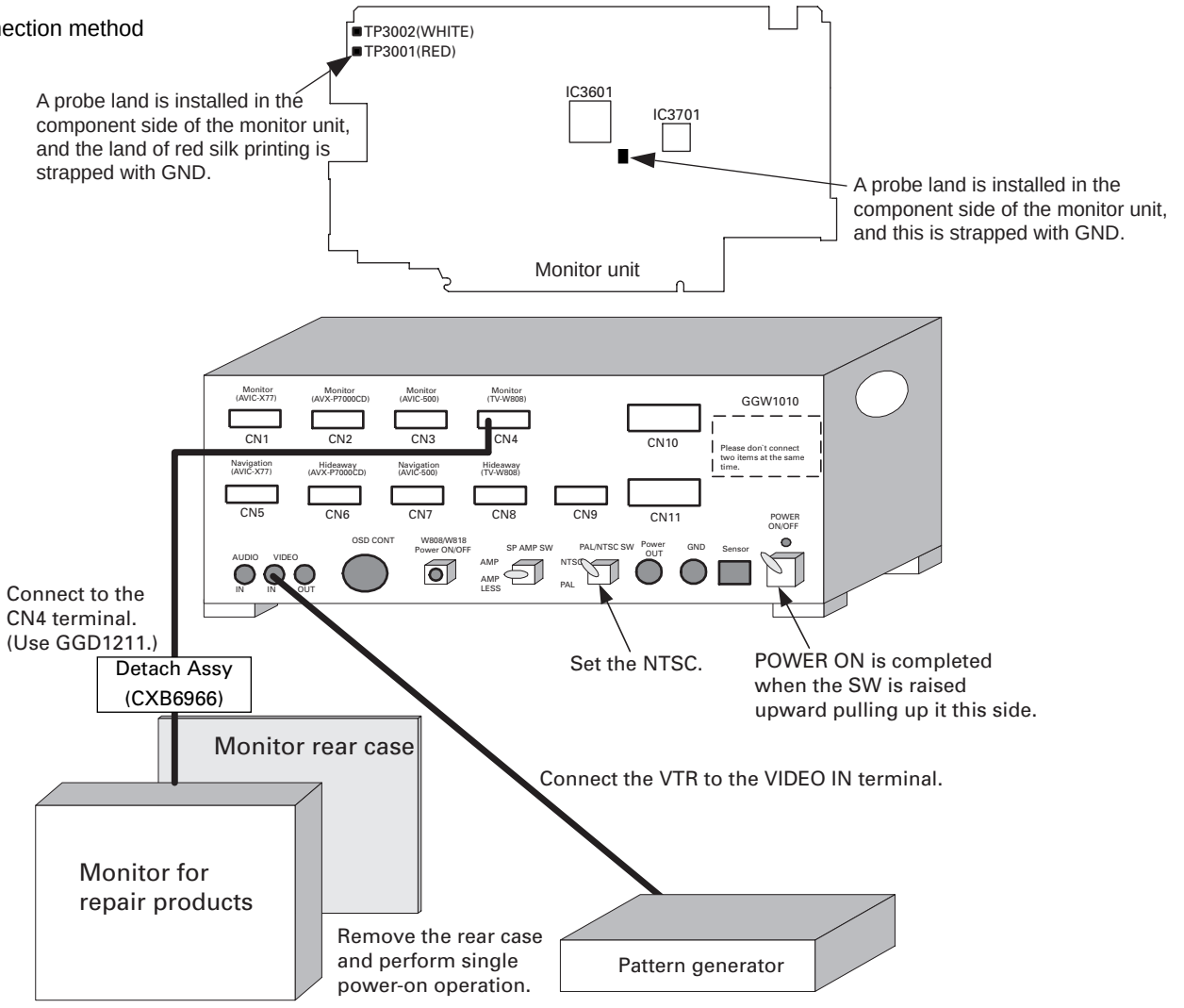
1. Connecting connector number: Connect to CN4.
2. PAL/NTSC SW: Set the NTSC side.
3. VIDEO IN terminal: Connect with a pattern generator.

Power-on method

1) Open the rear case of the monitor.
2) Strap the probe land (right side) of the monitor unit with GND.
3) Strap the TEST land (lower left/red silk printing) on the monitor base plate with GND.
4) Connect the monitor with jigs and turn on the power supply of the jigs.

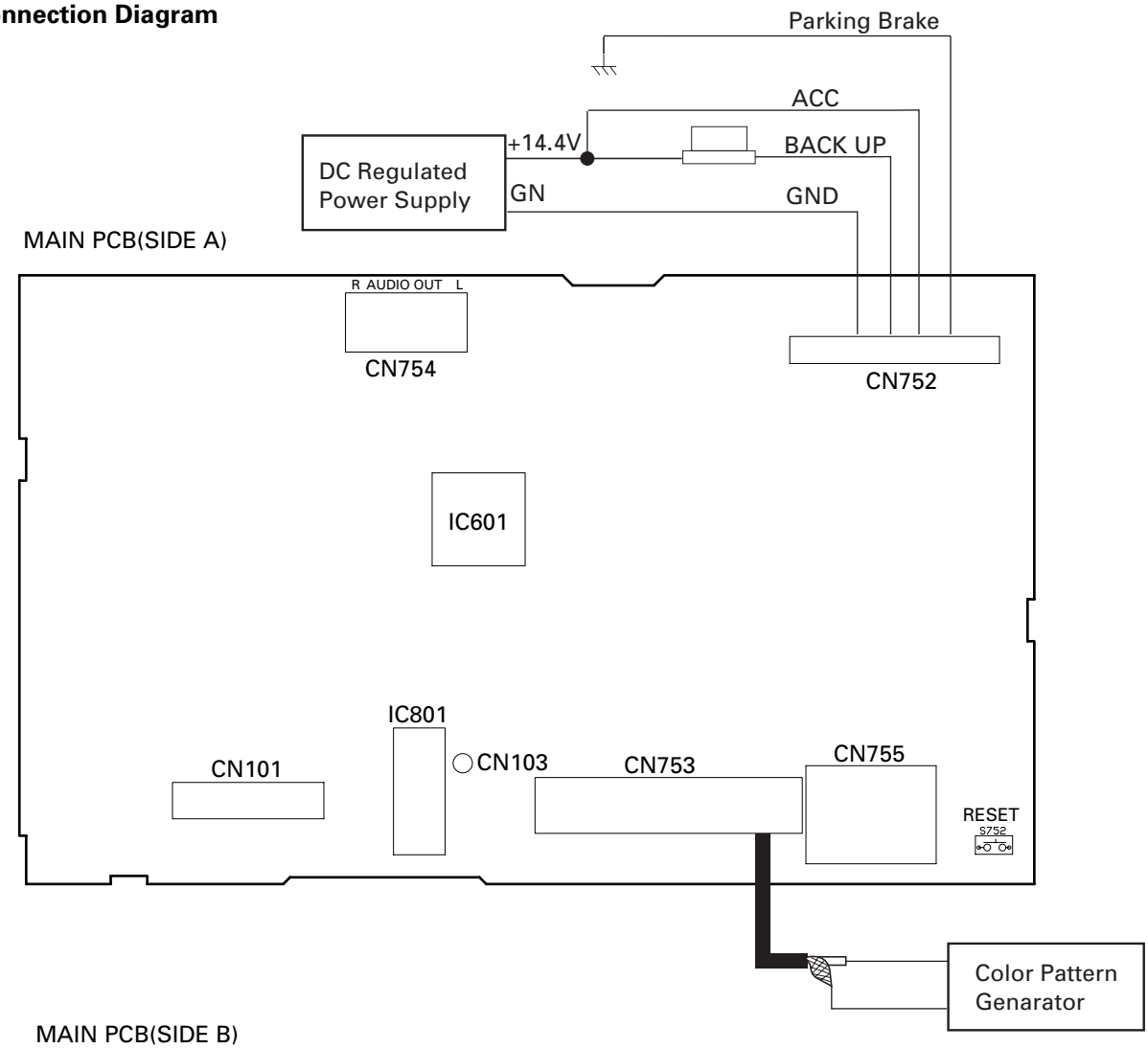
Note) When the power could not be turned on, turn off the power supply of the jigs and perform the aforementioned operation after about one minute.

Connection method

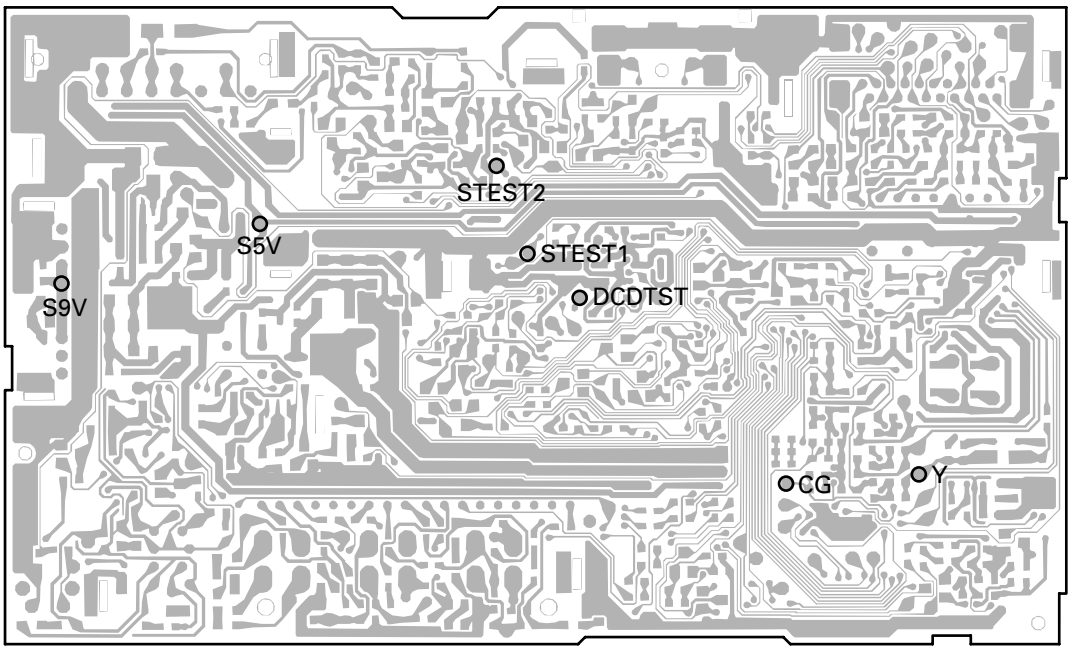


6.2 HIDEAWAY SECTION ADJUSTMENT

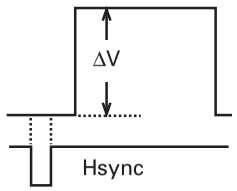
● **Connection Diagram**



MAIN PCB(SIDE B)



Hideaway Section Adjustment (Power Supply Assy)

No.	Adjustment Item	Video System	Input Signal	Measuring Point	Adjusting Point	Output Signal Specification	Remarks
1	9V power supply check	-	No signal	TP · S9V		9.0±0.5V DC	
2	5V power supply check	-	No signal	TP · S5V		5.0±0.5V DC	
3	Y drive check	NTSC	100% white	Value displayed on register	CXA2019AQ Y_DRIVE (Register)	Y_DRIVE=F	
4	Sub contrast	NTSC	100% white	TP · CG	CXA2019AQ S_CONT (Register)	ΔV=0.70±0.03V 	Measure the voltage from the black to white peak. Make adjustments in the "Decoder test mode(*1).
5	U pedestal check	NTSC	NTSC/ black	Value displayed on register	CXA2019AQ U_PED (Register)	U_PED=7	
6	V pedestal check	NTSC	NTSC/ black	Value displayed on register	CXA2019AQ V_PED (Register)	V_PED=7	
7	NTSC trap adjustment	NTSC	NTSC/ red raster	TP · Y	CXA2019AQ CT_ADJ (Register)	Adjustments shall be made so as to minimize the 3.58 MHz component which is output.	Make adjustments in the "Decoder test mode".
8	PAL trap adjustment	PAL	PAL/ red raster	TP · Y	CXA2019AQ CT_ADJ (Register)	Adjustments shall be made so as to minimize the 4.43 MHz component which is output.	Make adjustments in the "Decoder test mode".

*1 ··· Decoder test mode
This mode starts reset in the TP/DCDTST = Low state.
Each register of CXA2019AQ is displayed on the monitor and its contents can be adjusted using the arrow view key of the TV remote controller.
*2 ··· Service test mode
After the L/H setting of TP/STEST1 or TP/STEST2 has been performed, the I/O setting of the selector is enabled by reset start.

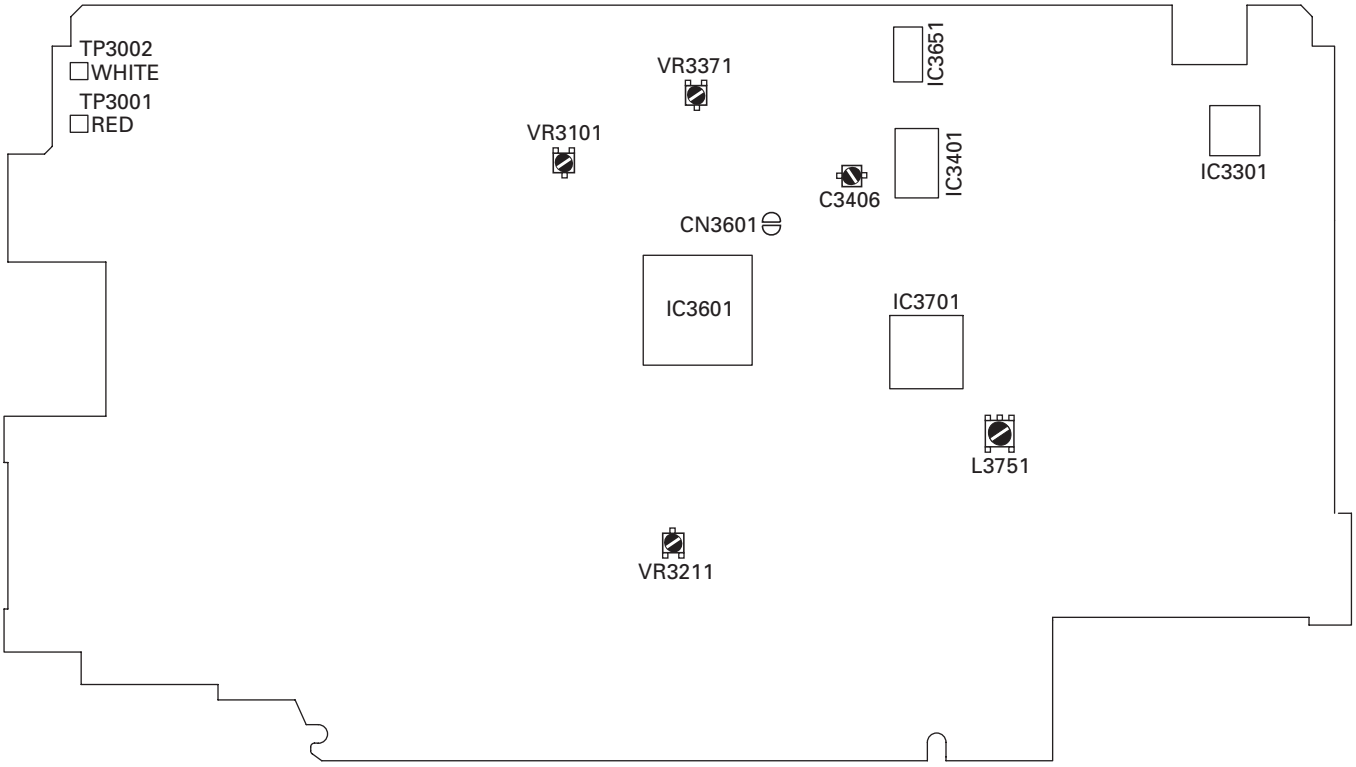
	STEST1/2=L/L	STEST1/2=L/H	STEST1/2=H/L	STEST1/2=H/H
Screen	VCR1 (composite input)	VCR2 (S input)	RGB	Normal operation (= product state)
Speaker	VCR1 (MIX on)	VCR2 (MIX off)	RGB (MIX off)	
Monitor output	VCR1	VCR2	RGB	
RGB return	VCR1	VCR1	VCR1	

When entering the service test mode without connecting any monitor, connect TP/MUTEV to GND and TP/SVNMTE to 5 V.
When resetting the service test mode, hold the power-on state [STEST1/2 = H/H] and press the reset button,
and then turn off the power supply after having returned to the product operating state.
(This is because the source selection contents set in STEST1/2 are stored last if the power supply is turned off in the service test mode.)

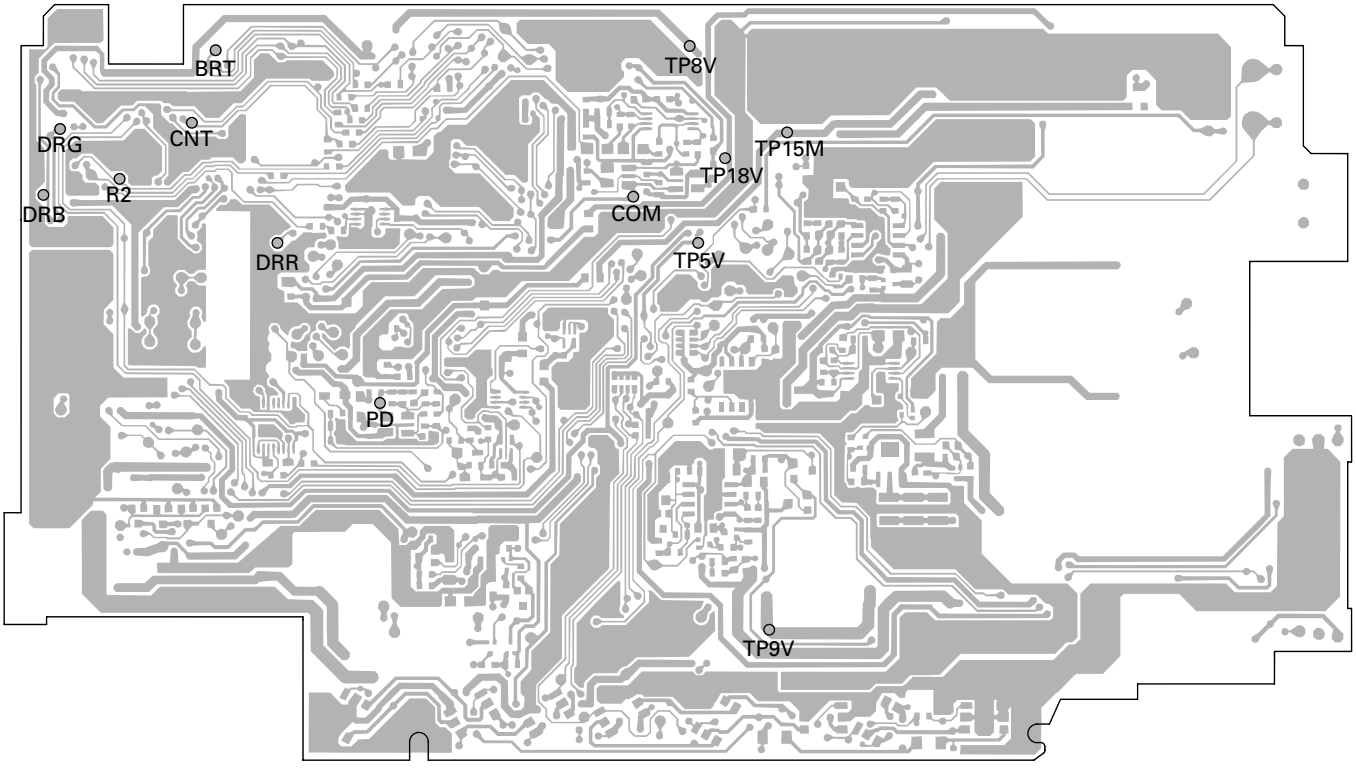
6.3 MONITOR SECTION ADJUSTMENT

● **Connection diagram**

Monitor unit (Side A)



Monitor unit (Side B)



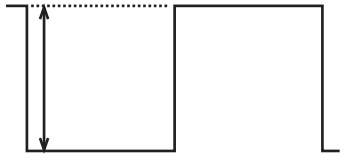
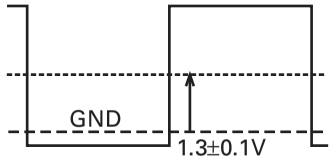
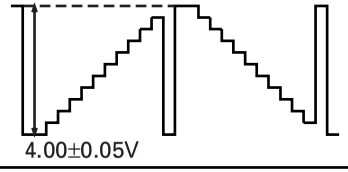
Monitor Section Adjustment (Power Supply Voltage)

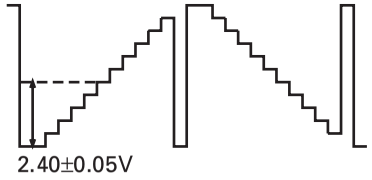
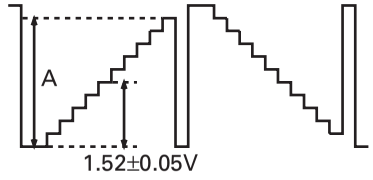
No.	Item	Measuring Point	Adjusting Point	Adjustment Contents	Remarks
1	Power on				For a single monitor (without hideaway), connect the land TP3001 and TP3002 to GND and turn on the power. If a hideaway is provided, connect the land TP3002 to GND and press the POWER button(S3089) to turn on the power.
2	5V adjustment	5V line (TP · TP5V)	VR3101	5.0V±0.1V DC	
3	8V check	8V line (TP · TP8V)		8.0V±0.5V DC	
4	18.5V check	18V line (TP · TP18V)		18.5V±1.0V DC	
5	-15V check	-15V line (TP · TP15M)		-15.5V±1.0V DC	
6	Backlight 8.5V check	9 V line (TP · TP9V)	VR3211	8.5V±0.1V DC	

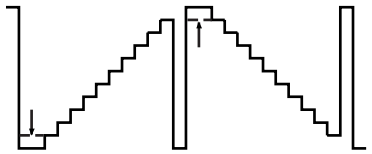
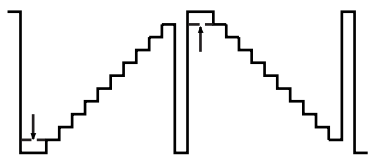
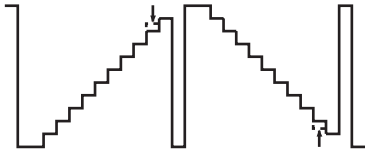
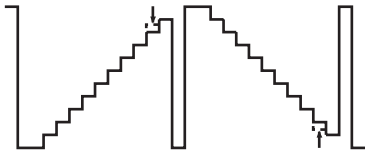
Monitor Section Adjustment (PLL)

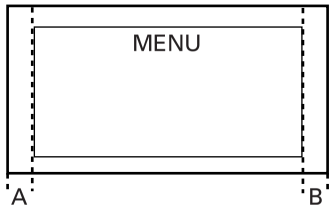
No.	Item	Measuring Point	Adjusting Point	Adjustment Contents	Remarks
1	Free running PD voltage check	IC3731 4pins (TP · PD)		No synchronous signal input Check the TP or PD voltage.	Check the voltage for a single monitor which is not connected to hideaway. (Hideaway makes synchronous signal.)
2	PD voltage adjustment	IC3731 4pins (TP · PD)	L3751	Synchronous signal input (Checker signal or test disk signal) Voltage checked in No. 1 is ±0.01 V DC.	

Monitor Section Adjustment (Visual)

No.	Item	Measuring Point	Adjusting Point	Adjustment Contents	Remarks
1	Adjustment preparation		CN3601	When using the remote controller for the visual adjustment, solder CN3601 up.	After the adjustment, never forget to remove the soldering connection.
2	Brightness voltage	IC3301 41pins (TP · BRT)	DAC output	2.10V±0.05(0.02)V DC	Even TEST MODE (BRIGHT) = 6Bh will be acceptable.
3	Gamma 2	IC3301 27pins (TP · R2)	DAC output	3.0V±0.1V DC	Even TEST MODE (GAMMA2) = E5h will be acceptable.
4	Contrast voltage 1	IC3301 5pins (TP · CNT)	DAC output	2.30V±0.05(0.02)V DC	Even TEST MODE (CONTRAST) = 76h will be acceptable.
5	COM amp	CN3701 17pins (TP · COM)	DAC output		TEST MODE (COMAMP)
6	Coarse adjustment of the VCOM	CN3701 17pins (TP · COM)	VR3371		The DC value of the Vcom center voltage is measured.
7	RGB amp	IC3301 32pins (TP · DRG)	DAC output	Ten-step signal (Checker signal or test disk signal) 	TEST MODE (RGBAMP)

8	Brightness voltage	IC3301 41pins (TP · BRT)	DAC output	1.27V±0.05(0.02)V DC	Even TEST MODE (BRIGHT) = 40h will be acceptable.
9	Gamma 0	IC3301 32pins (TP · DRG)	DAC output	Ten-step signal (Checker signal or test disk signal)  	TEST MODE (GAMMA0) Fifth scale of ten steps
10	Brightness voltage	IC3301 41pins (TP · BRT)	DAC output	2.40V±0.05V DC	Even TEST MODE (BRIGHT) = 79h will be acceptable.
11	Contrast voltage	IC3301 5pins (TP · CNT)	DAC output	2.47V±0.2V DC	Even TEST MODE (CONTRAST) = 7Eh will be acceptable.
12	Gamma2	IC3301 32pins (TP · DRG)	DAC output	Ten-step signal (Checker signal or test disk signal)  	TEST MODE (GAMMA0) Due to dispersion of components, adjustment may be able to be obtained at two points. At that case, select the adjustment position near by the volume center position and check that the voltage value of A (black to white peak) exceeds 2.40 V. A ≧ 2.40V Fifth scale of ten steps
13	Brightness voltage	IC3301 41pins (TP · BRT)	DAC output	2.10V±0.05(0.02)V DC	Even TEST MODE (BRIGHT) = 6Bh will be acceptable.

14	Contrast voltage	IC3301 5pins (TP · CNT)	DAC output	2.44V±0.05V DC	Even TEST MODE (CONTRAST) = 7Dh will be acceptable.
15	B sub brightness matching	IC3301 32pins (TP · DRG) and IC3301 35pins (TP · DRB)	DAC output	 Match the black level portions of waveforms G and B.	TEST MODE (SUB_BRIGHT_BLUE) Ten steps
16	R sub brightness matching	IC3301 32pins (TP · DRG) and IC3301 29pins (TP · DRR)	DAC output	 Match the black level portions of waveforms G and R.	TEST MODE (SUB_BGRIGHT_RED) Ten steps
17	B sub contrast matching	IC3301 32pins (TP · DRG) and IC3301 35pins (TP · DRB)	DAC output	 Match the 9th scale portions of waveforms G and B.	TEST MODE (SUB_CONTRAST_BLUE) Ninth scale of ten steps
18	R sub contrast matching	IC3301 32pins (TP · DRG) and IC3301 29pins (TP · DRR)	DAC output	 Match the ninth scale portions of waveforms G and R.	TEST MODE (SUB_CONTRAST_RED) Ninth scale of ten steps

19	OSD position adjustment	Screen	C3406	 Adjust A and B in the same width.	
20	Aging			Input all screen white signals (or moving pictures) and leave them alone in the operating state beyond 30 minutes.	
21	Flicker adjustment	Screen	VR3371	Input a black and white inverse signal and make adjustments so that the flicker of the screen can be minimized.	Because adjustment is made observing the screen, no test point is necessary. Adverse effect: A flicker is generated.
22	CN3601 check		CN3601	When using the remote controller has been used for the visual adjustment, remove the CN3601 soldering connection.	

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

● **Method of using test modes**

1) Connect TP3001 (Silk printing Red of the Monitor Unit) and TP3002 (Silk printing White of the Monitor Unit) to GND.
2) Turn on BACKUP and ACC at the same time.
3) The following screen is displayed (See TEST modes (1) and (2).)
4) Perform item selection, numeric value change and mode switching (from TEST mode (1) to (2) or from TEST mode (2) to (1)) by the AVX-P7700W/ES remote controller.

Note) The item selection, numeric value change and mode switching in the TEST modes can be performed only by the remote controller.

● **TEST mode (1)**

BRIGHT	65			LINE
CONTRAST	65			
SUB_BRIGHT_RED	65	65		
SUB_BRIGHT_BLUE	65	65		
SUB_CONTRAST_RED	65	65		
SUB_CONTRAST_BLUE	65	65		
GAMMA0	65	65		
GAMMA2	65	65		
RGB_AMP	65	65	CS_C 65	
COM_AMP	65	65	CS_R 65	

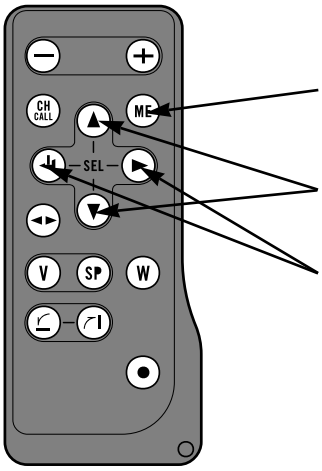
Value (65) differs from a practical one.

● **TEST mode (2)**

Backlight output MAX	BL_MAX	C4	C4	DIMMER
Backlight output MIN	BL_MIN	58	58	
External light threshold HIGH	REF_HIGH	80	80	
External light threshold LOW	REF_LOW	40	40	
External light point HIGH	LUM_HIGH	C2	C2	
External light point MID	LUM_MID	67	67	
External light point LOW	LUM_LOW	32	32	
Backlight point HIGH	BL_HIGH	C4	C4	
Backlight point MID	BL_MID	C4	C4	CS_C C4
Backlight point LOW	BL_LOW	80	80	CS_R C4

If EEPROM data is damaged due to a fault, adjust and write it in TEST mode (1) and enter the aforementioned data as the data of TEST mode (2).

● **Operation procedure by AVX-P7700W/ES accessory remote controller**

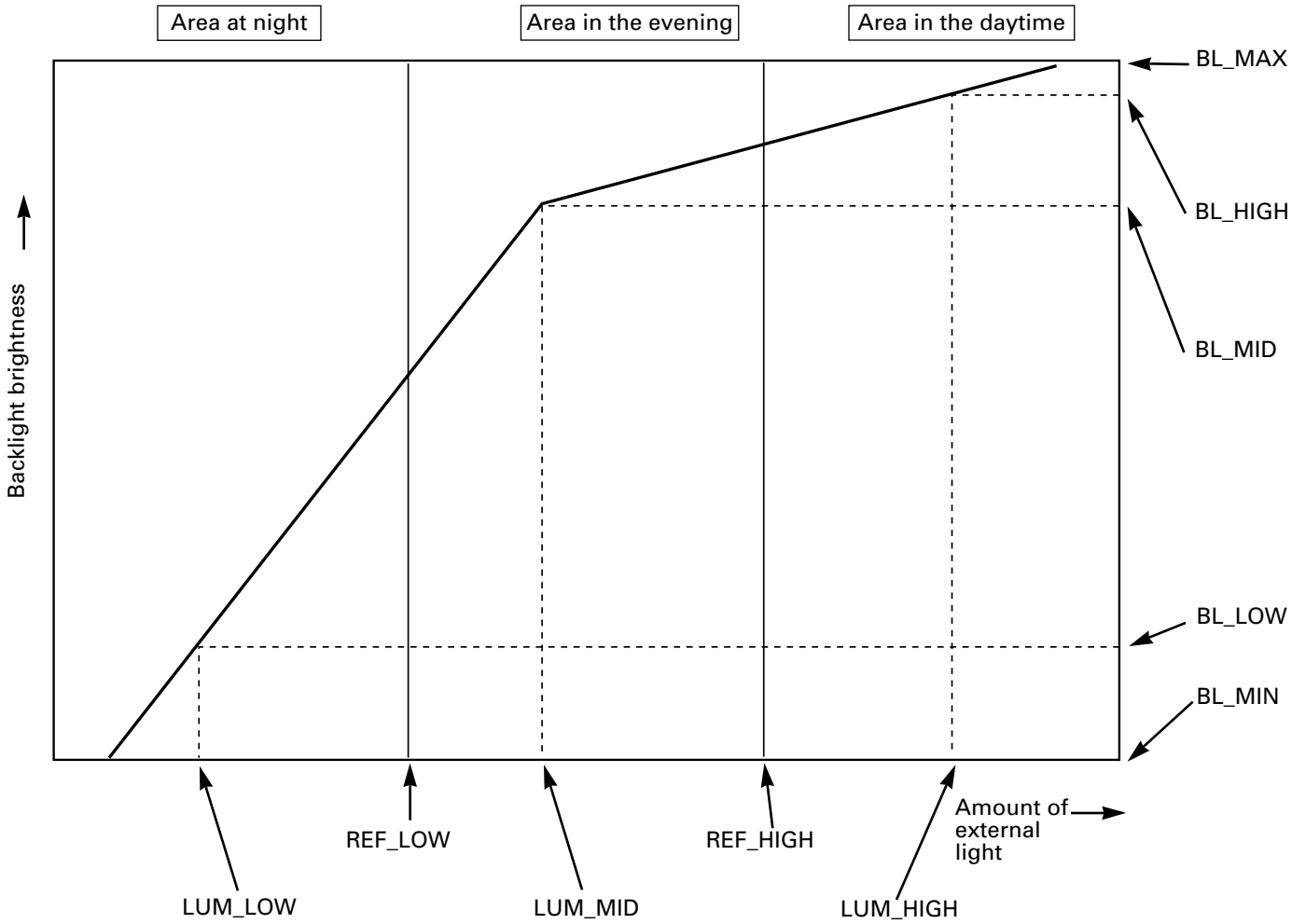


Mode switching
(The aforementioned MODES (1) and (2) are toggle-operated.)

Item selection (The cursor on the screen moves up and down.)

Adjustment value selection
(The numeric value indicated by the cursor on the screen fluctuates.)

● **Reference diagram**



7.1.2 DISASSEMBLY

● **MONITOR SECTION**

● **Removing the Case (Fig.1)**

1 Remove the seven screws.

Disconnect the connector and then remove the Case.

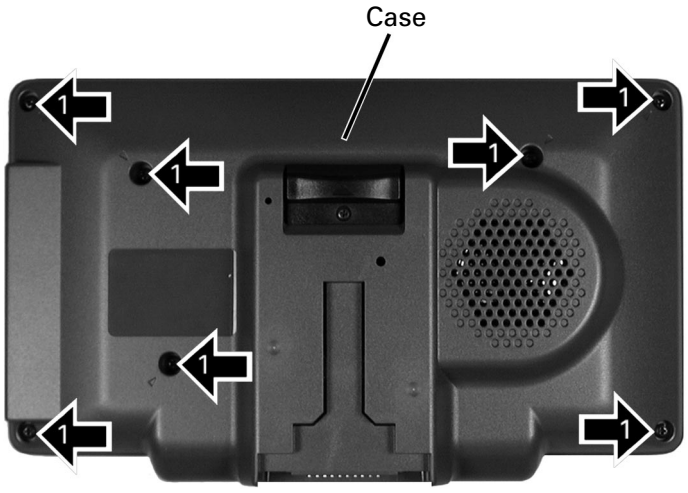


Fig.1

● **Removing the Monitor Unit (Fig.2)**

1 Remove the three screws.

*(Use the spacer when installing the monitor unit, take care not to forget to install it.)

2 Remove the two screws.

Disconnect the connector and then remove the Monitor Unit.

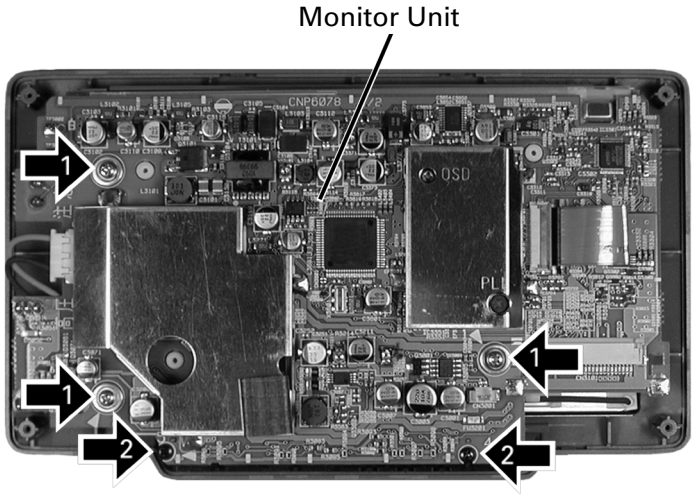


Fig.2

● HIDEAWAY SECTION

● Removing the Case (not shown)

1. Remove the five screws and then remove the Case.

● Removing the Sub PCB (Fig.3)

1 Remove the solder and then straight the tabs at fore locations indicated.

Disconnect the connector and then remove the Sub PCB.

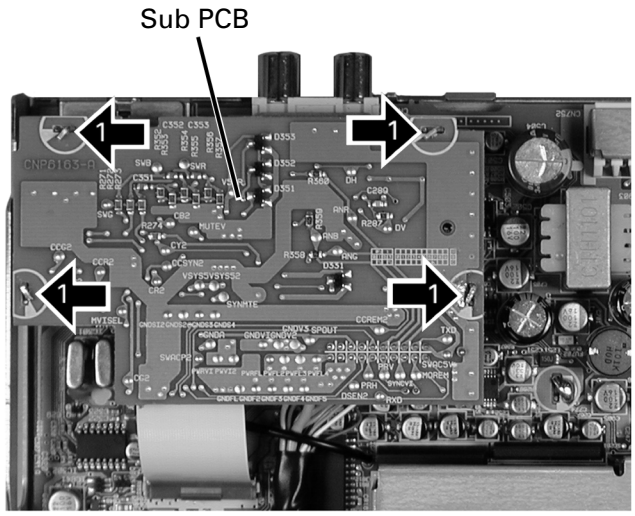


Fig.3

● Removing the Main PCB (Fig.4)

1 Remove the solder and then straight the tabs at four locations indicated.

Remove the Main PCB.

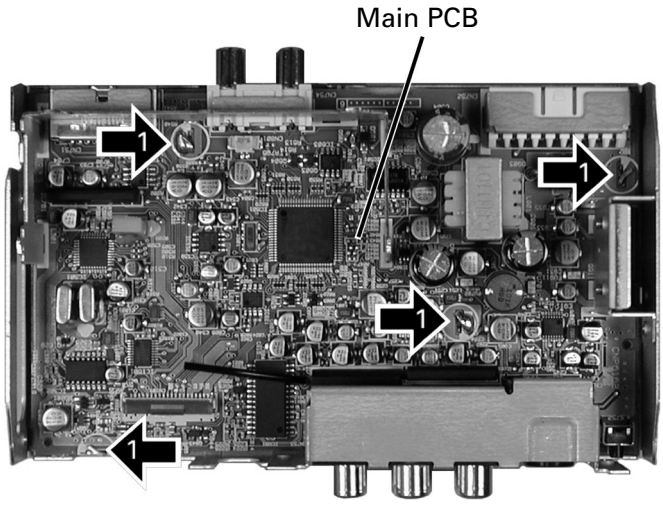
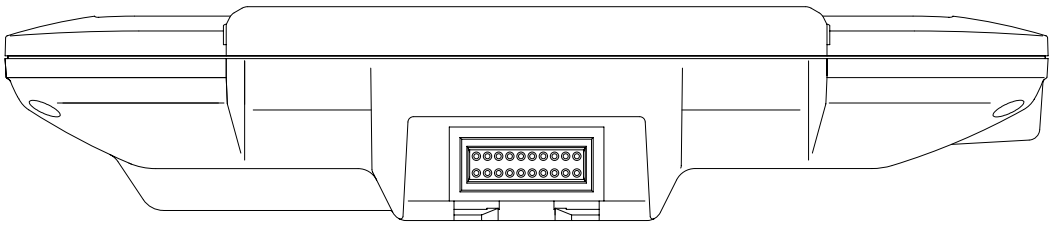
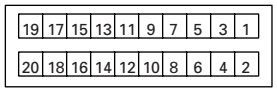


Fig.4

7.1.3 CONNECTOR FUNCTION DESCRIPTION

MONITOR

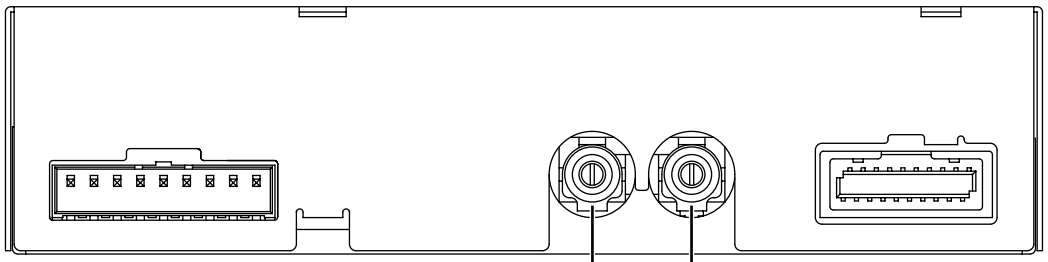


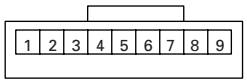


1 : GNDVI
2 : GNDFL
3 : PWRFL
4 : GNDE
5 : PWRVI
6 : HTXD
7 : SWACC5
8 : ANR
9 : GNDA
10 : DSEN
11 : AUDIO
12 : SWACPW
13 : PRV
14 : PRH
15 : MOREM
16 : HRXD
17 : CSYNC
18 : ANG
19 : GNDSIG
20 : ANB

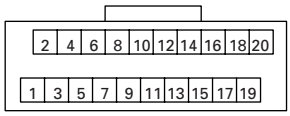
HIDEAWAY

REAR



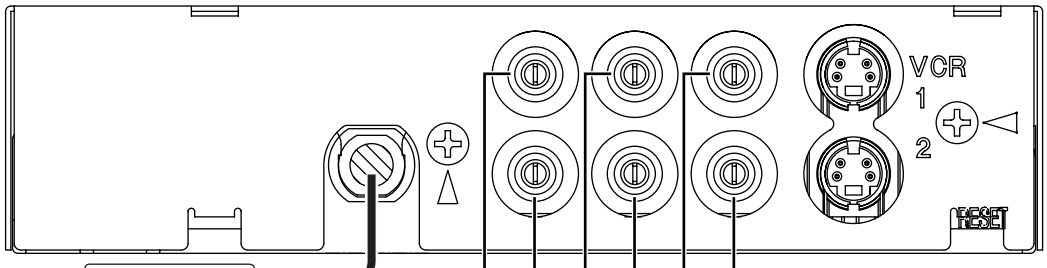


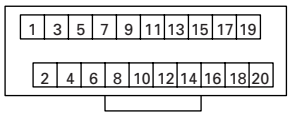
1 : GND
2 : BUP
3 : ACC
4 : NC
5 : PACK
6 : BACK
7 : NC
8 : REOUT
9 : GNDV



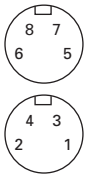
1 : CCR
2 : CCG
3 : CCB
4 : GNDSIG
5 : CCVBS
6 : CCSYNC
7 : YS
8 : CCREM
9 : DSEN
10 : RVBS
11 : RETV
12 : GION
13 : CCAUL
14 : CCAUR
15 : GNDA
16 : RETH
17 : VSW
18 : MONON
19 : ONSEI+
20 : ONSEI-

FRONT





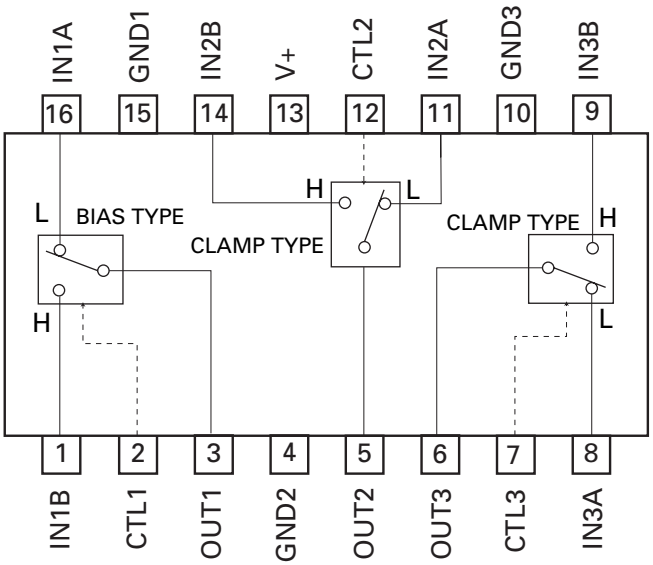
1 : ANR
2 : ANG
3 : ANB
4 : GNDSIG
5 : CSYNC
6 : HRXD
7 : HTXD
8 : MOREM
9 : PRH
10 : PRV
11 : NC
12 : SWACPW
13 : DSEN
14 : AUDIO
15 : GNDA
16 : SWACC5
17 : PWRVI
18 : PWRFL
19 : GNDVI
20 : GNDFL



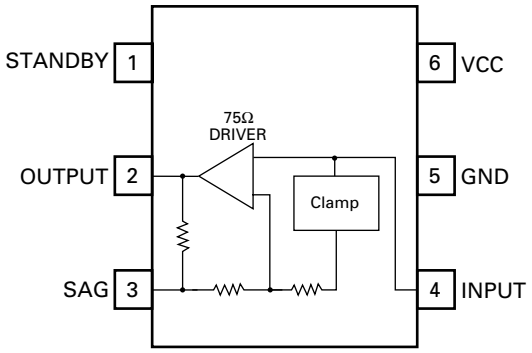
1 : GND
2 : GND
3 : V2Y
4 : V2C
5 : GND
6 : GND
7 : V1Y
8 : V1C

7.2 IC

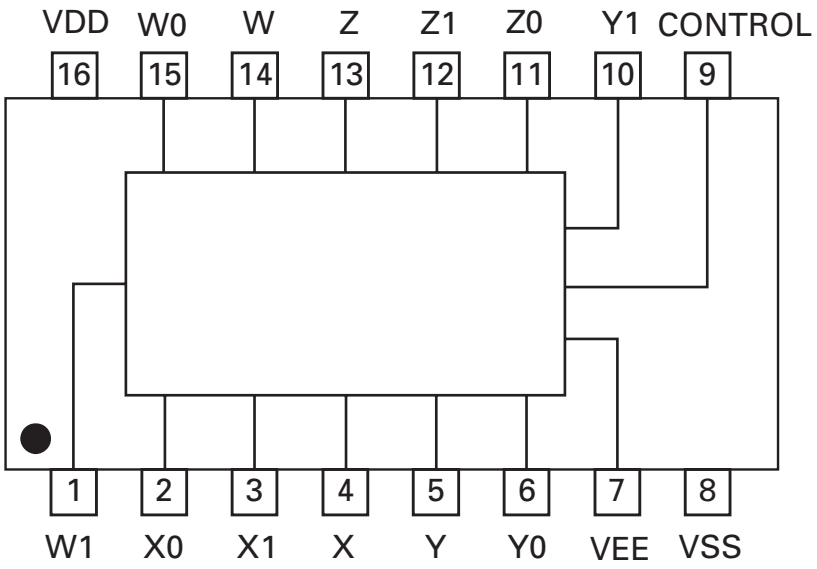
NJM2285V



TK15405MI

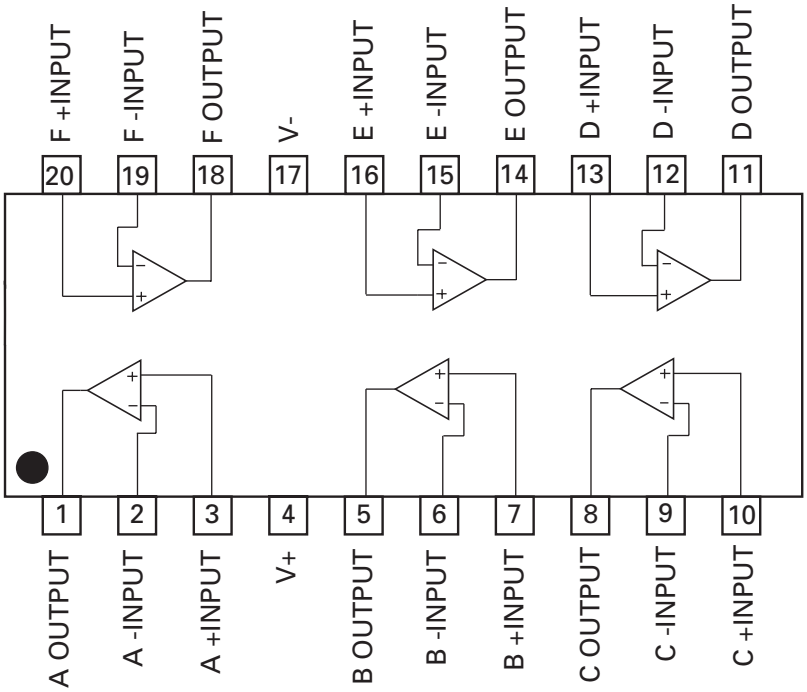


*BU4551BF

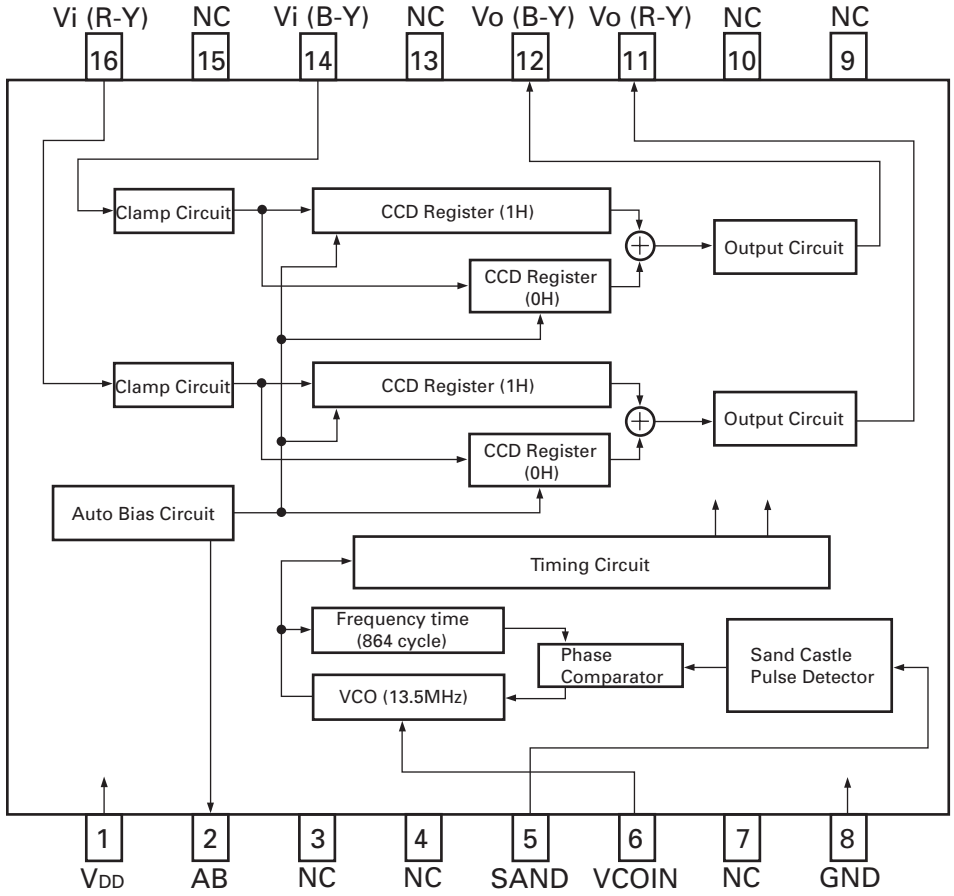


IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

NJM2116V



*CXL5520M

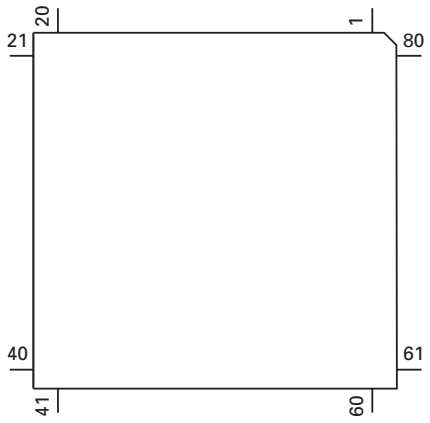


● **Pin Functions(PE5233A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	PMF			Not used
2	SVISEL			Not used
3	MONPW	O	C	Monitor power supply output
4	AVSS			GND potential for A/D converter
5	TVMPX			Not used
6	TXLEVEL			Not used
7	AVREF1			Reference voltage input for D/A converter
8	RXD	I		Data input from monitor microcomputer (UART)
9	TXD	O	C	Data output to monitor microcomputer (UART)
10	SIN	O	C	Output at S input setting
11	S1	O	C	VTR1 / VTR2 switching output
12	KILLER	O	C	Image decoder IC, color killer output
13	LOCK	O	C	Image decoder IC, PLL locked output
14	DCDTST	I		Image decoder IC, data setting mode input
15	RGBARI	I		RGB navi (navigator) ON detection input (ASENB from navigator for IP-BUS master)
16	TSI	I		Test mode data input
17	TSO	O	C	Test mode data output
18	TSCK	I		Test mode clock input
19	IPORAD	I		Operation mode changeover SW input (H = IP, L = add-on) Fixed to L
20	IPLASW	I		IP-BUS slave/logical address changeover SW input (Unused: fixed to L)
21	COLSYS	I		Color system automatic judgment invalid input
22	DUAL	I		PAL/NTSC manual switching valid input
23	LIFTSW			Not used
24	REARUSE	I		Rear mode ON/OFF input
25	SD/ST-			Not used
26	TVBIL			Not used
27	MIXSP	O	C	Monitor speaker voice output mixing SW output
28	ICRES	O	C	Image decoder IC, VCO-F decision result output
29	SCL	O	C	I2C-bus clock output
30	SDA	I		I2C-bus data output/ACC input
31	MUTEAU	O	C	Stereophonic voice output overall muting output
32	DACCS			Not used
33	VSS			GND potential
34	DACDO			Not used
35	DACCK			Not used
36,37	Nch			Not used
38	STEST1	I		Hideaway single operation test mode input 1
39	STEST2	I		Hideaway single operation test mode input 2
40	KILLER	O	C	BYPASS output
41	EPRRST	I		EEPROM data initialization mode input
42	EPRTEST	I		EEPROM data setting mode input (Unused: L output fixed)
43	EPRCS	O	C	EEPROM chip select output
44	PIPARI	I		Model sense input (Existence or absence of PIP substrate) (H: provided, L: not provided) Fixed to L
45	FLPARI			Not used
46	EPRCK	O	C	EEPROM serial clock output
47	EPRDI	I		EEPROM serial data input
48	EPRDO	O	C	EEPROM serial data output
49	EPRPROT	O	C	EEPROM memory protection output
50	MUTEPS	O	C	Monitor speaker voice output mixing front stage muting
51	MUTESP	O	C	Monitor speaker voice output overall muting
52	ATTSP			Not used
53	TXPWR			Not used
54	SELSENS	I		Reverse gear sense input

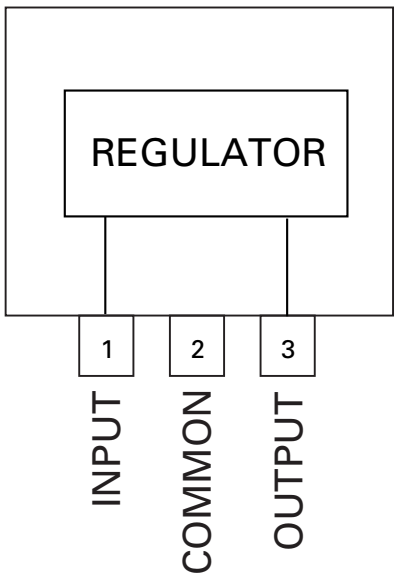
Pin No.	Pin Name	I/O	Format	Function and Operation
55	IPPW			Not used
56	TX-			Not used
57	RX-	I		IP-BUS data input (Unused: pull-down)
58	PBKSEN	I		Parking brake sense input (H: parking, L: driving)
59	ILMSEN			Not used
60	RESET	I		Reset input
61	REMIN			Not used
62	BSENS	I		Backup sense input
63	ASENS	I		Acc sense input
64	DSENS	I		Monitor detachment sense input
65	SWVDD	O	C	Monitor microcomputer power supply output
66	SYSPW	O	C	System power output (Image or voice system power)
67	TVPW			Not used
68	VDD			Positive power supply
69	X2			Connection of crystal for oscillating main system clock
70	X1			Connection of crystal for oscillating main system clock
71	IC			Connected to GND (Directly coupled with GND)
72	XT2			Not used
73	TESTIN	I		Chip test input/test data enable input
74	AVDD			Analog power supply for A/D converter
75	AVREF0			Reference voltage input for A/D converter (Connected to Avdd in microcomputer)
76	TVSL			Not used
77	MUTEV	O	C	Image muting output
78	RGBSEL	O	C	Main image input selection output (L: RGB, H: selector)
79	SYNMTE	O	C	Image synchronous signal muting output
80	OLEN			Not used

*PE5233A

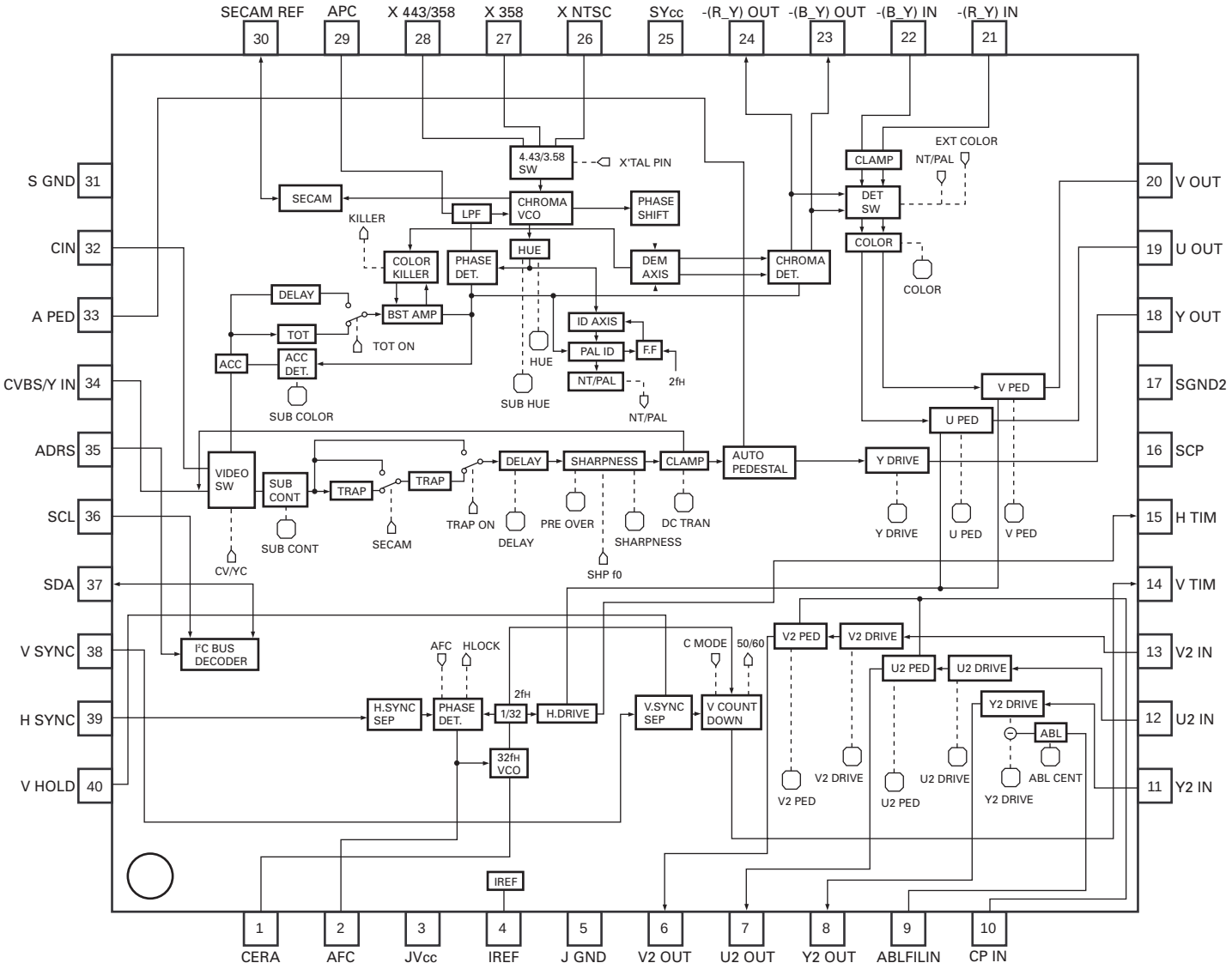


Format	Meaning
C	C MOS

BA178M05T



CXA2019AQ

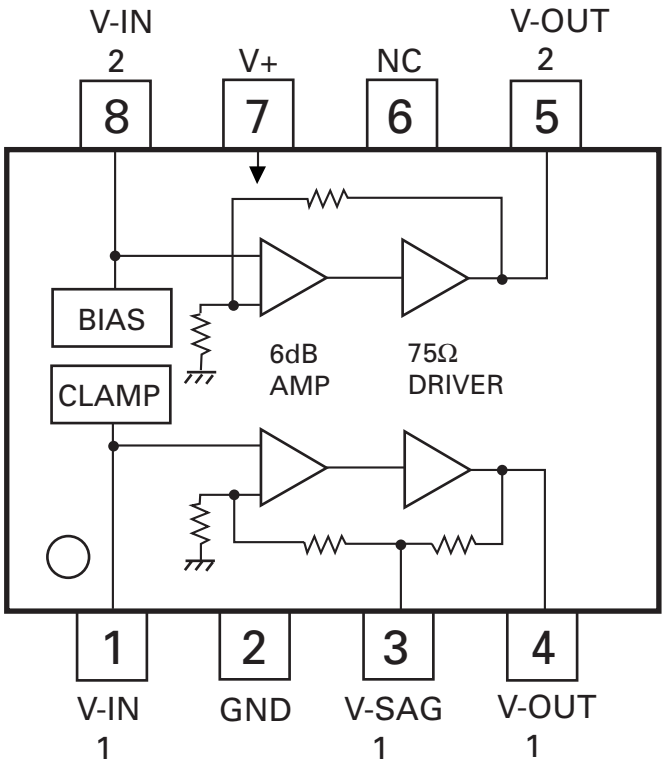

SECAM REF 30
APC 29
X 443/358 28
X 358 27
X NTSC 26
SYcc 25
-(R_Y) OUT 24
-(B_Y) OUT 23
-(B_Y) IN 22
-(R_Y) IN 21
S GND 31
CIN 32
A PED 33
CVBS/Y IN 34
ADRS 35
SCL 36
SDA 37
V SYNC 38
H SYNC 39
V HOLD 40
20 V OUT
19 U OUT
18 Y OUT
17 SGND2
16 SCP
15 H TIM
14 V TIM
13 V2 IN
12 U2 IN
11 Y2 IN
1 CERA
2 AFC
3 JVcc
4 IREF
5 J GND
6 V2 OUT
7 U2 OUT
8 Y2 OUT
9 ABLFILIN
10 CP IN
4.43/3.58 SW
X'TAL PIN
SECAM
CHROMA VCO
LPF
PHASE SHIFT
KILLER
COLOR KILLER
PHASE DET.
HUE
DEM AXIS
CHROMA DET.
CLAMP
EXT COLOR
NT/PAL
DET SW
COLOR
DELAY
BST AMP
TOT
TOT ON
ACC
ACC DET.
SUB COLOR
SUB HUE
ID AXIS
PAL ID
F.F
NT/PAL
2fH
V PED
U PED
VIDEO SW
SUB CONT
TRAP
DELAY
SHARPNESS
CLAMP
AUTO PEDESTAL
Y DRIVE
TRAP ON
PRE OVER
DC TRAN
SHP f0
CV/YC
I²C BUS DECODER
AFC
HLOCK
C MODE
50/60
V2 PED
V2 DRIVE
U2 PED
U2 DRIVE
Y2 DRIVE
ABL
ABL CENT
H.SYNC SEP
PHASE DET.
1/32
2fH
H.DRIVE
V.SYNC SEP
V COUNT DOWN
32fH VCO
IREF

● **Pin Functions(PD5582A)**

Pin No.	Pin Name	I/O	Function and Operation
1	OSC1	I	External terminal of oscillator circuit for display
2	OSC2	O	External terminal of oscillator circuit for display
3	$\overline{CS}$	I	Chip select input
4	SCK	I	Serial clock input
5	SI	I	Serial data input
6	$\overline{AC}$	I	Auto clear input
7-10	P6-P9	O	Port output
11	VSS		GND
12	P0	O	Port output
13	P1/R	O	Port output or R output
14	P2	O	Port output
15	P3/G	O	Port output or G output
16	P4	O	Port output
17	P5/B	O	Port output or B output
18	HOR	I	Horizontal synchronous signal input
19	VERT	I	Vertical synchronous signal input
20	VDD		Positive power supply terminal

PD5582A

NJM2268V

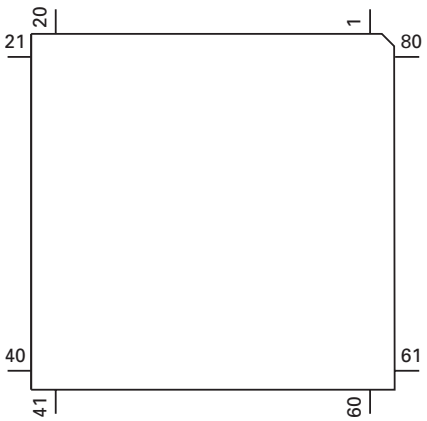


● **Pin Functions(PE5232A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1-3	NC			Not used
4	AVSS			Ground potential for A/D converter
5	DIMMER	O		Dimmer analog output
6	SPVOL	O		Monitor speaker volume analog output
7	AVREF1			D/A converter reference voltage
8	RXD	I		Data input (UART) from hideaway microcomputer
9	TXD	O	C	Data output (UART) to hideaway microcomputer
10,11	NC			Not used
12	OSDDT	O	C	OSD data output
13	OSDCK	O	C	OSD clock output
14	OSDCS	O	C	OSD chip select output
15	SYNCSEL	O	C	OSD internal/external synchronous select output
16	TSI	I		Test program data input
17	TSO	O	C	Test program data output
18	TSCK	I		Test program clock input
19	WMODEC	O	C	Wide mode switching output C
20	WMODEB	O	C	Wide mode switching output B
21	WMODEA	O	C	Wide mode switching output A
22	MLR			Not used
23	MUPDN			Not used
24-26	NC			Not used
27	DACDO	O	C	D/A converter data output
28	DACCK	O	C	D/A converter clock output
29	DACCS	O	C	D/A converter chip select output
30-32	NC			Not used
33	VSS			GND
34	OSDPOS			Connect to GND
35	NTSC/PAL	O	C	NTSC/PAL select output L : NTSC H : PAL
36-40	NC			Not used
41	MVIPW	O	C	Image power supply control output
42	MFLPW			Connect to GND
43	AMUTE			Not used
44	NC			Not used
45	BEEP	O	C	BEEP sound output
46	EPRCS	O	C	EEPROM chip select output
47	EPRSK	O	C	EEPROM serial clock output
48	EPRDI	I		EEPROM serial data input
49	EPRDO	O	C	EEPROM serial data output
50	EPRPRO	O	C	EEPROM memory protection output
51	NC			Not used
52	TVIND			Not used
53	NAVIIND			Not used
54	ILMPW			Not used
55	DDON	O	C	Backlight power supply control output
56	OVICHK	I		Backlight system power supply overcurrent detection input
57	EPRRST	I		EEPROM data initialization mode input
58	EPRTEST	I		EEPROM data setting mode input
59	STEST	I		Monitor single operation mode for aging
60	RESET	I		Reset input
61	REMIN	I		Remote controller data input
62	VDDSENS	I		Monitor microcomputer/EEPROM power sense
63-66	NC			Not used
67	KEYTYP			Connect to VDD
68	VDD			Positive power supply
69	X2			Crystal connection for oscillating main system clock
70	X1			Crystal connection for oscillating main system clock
71	IC			Connect to GND

Pin No.	Pin Name	I/O	Format	Function and Operation
72	XT2			Not used
73	TESTIN	I		Chip test input
74	AVDD			Analog power for A/D converter
75	AVREF0			Reference voltage input for A/D converter
76	KDT0	I		Analog key data 0
77	KDT1	I		Analog key data 1
78	KDT2	I		Analog key data 2
79	LSEN	I		External light sense analog input
80	MVICHK	I		Image system power supply voltage monitoring input

*PE5232A



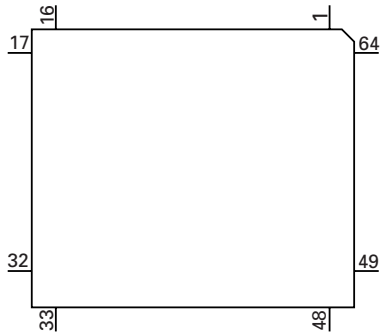
Format	Meaning
C	C MOS

● Pin Functions(TC160G11AF-1146)

Pin No.	Pin Name	I/O	Function and Operation
1	HPOS1	I	Horizontal position switching setting 1
2	HPOS2	I	Horizontal position switching setting 2
3	HPOS3	I	Horizontal position switching setting 3
4	HPOS4	I	Horizontal position switching setting 4
5	MODE1	I	Display mode switching setting 1
6	MODE2	I	Display mode switching setting 2
7	MODE3	I	Display mode switching setting 3
8	NBLK	O	Blanking mask signal output
9	NDSH	O	Horizontal synchronous output
10	VSS		GND
11	NDSV	O	Vertical synchronous output
12	NCLP	O	Clamp signal output
13	POLS	O	Image inverse signal output
14	POLC	O	Common inverse signal output
15	COMPS	I	Synchronous input switching setting
16	VDD		Power supply +5V
17	UPSD	I	Vertical reversal switching setting
18	MIRROR	I	Horizontal reversal switching setting
19	PAL	I	Number of scanning lines switching setting
20	VSS		GND
21	NVD	I	Vertical synchronous input
22	NHD	I	Horizontal synchronous input
23	RV	I	Mode setting and NBLK signal output reverse setting
24	HSRV	I	NDSH phase and NHD signal polarity switching setting
25	STV1	O	Gate driver scanning start signal 1
26	VDD		Power supply +5V
27	GDIR	O	Gate driver scanning direction control signal

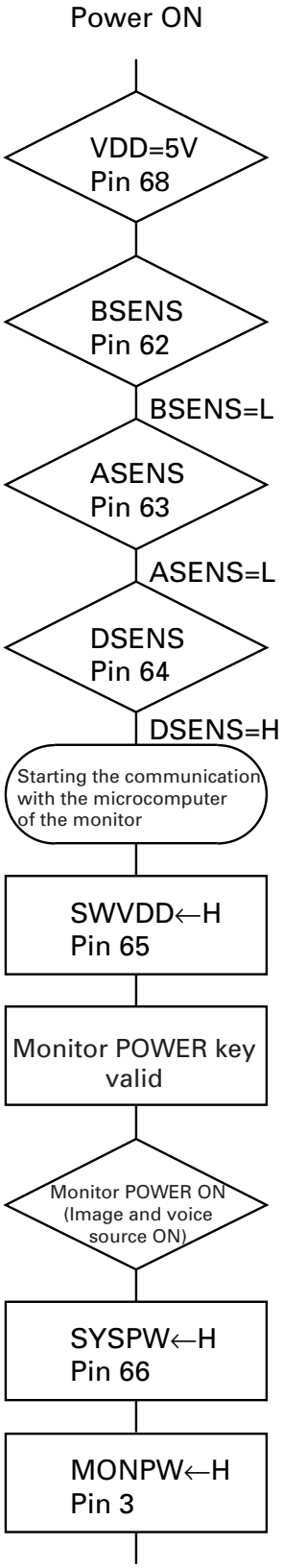
Pin No.	Pin Name	I/O	Function and Operation
28	CPV	O	Gate driver clock signal
29	NGOE3	O	Gate driver enable signal 3
30	NGOE2	O	Gate driver enable signal 2
31	NGOE1	O	Gate driver enable signal 1
32	STV2	O	Gate driver scanning start signal 2
33	VDD		Power supply +5V
34	XCKE	I	Forced nonstandard switching setting
35	SVSEP	I	Vertical synchronization switching
36	TST1	I	Test terminal 1
37	TST2	I	Test terminal 2
38	TST3	I	Test terminal 3
39	TST4	I	Test terminal 4
40	XCKI	I	Test terminal 5
41	SIZE	I	Number of horizontal pixels switching setting
42	VSS		GND
43	OSCO	O	Oscillation output
44	OSCI	I	Oscillation input
45	VDD		Power supply +5V
46	LPFO	O	Test output terminal
47	LPFI	I	Mask switching terminal
48	GND		GND
49	VDD		Power supply +5V
50	PDOS	O	Phase comparison signal output
51	TSTD	I	Vertical sequence switching setting
52	VSS		GND
53	STH1	O	Horizontal sampling start signal 1
54	STH2	O	Horizontal sampling start signal 2
55	VSS		GND
56	HDIR	O	Horizontal sampling direction control signal
57	CX	O	Horizontal sampling latch switching signal
58	VDD		Power supply +5V
59	CPH	O	Horizontal sampling clock signal
60	VSS		GND
61	SCK	O	External output horizontal clock signal
62	VSS		GND
63	SCKE	I	External output horizontal clock control signal
64	VDD		Power supply +5V

TC160G11AF-1146

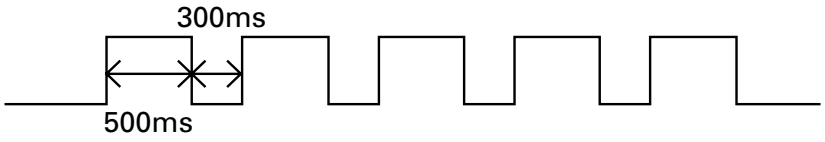


7.3. OPERATIONAL FLOW CHART

● **Mother Unit**

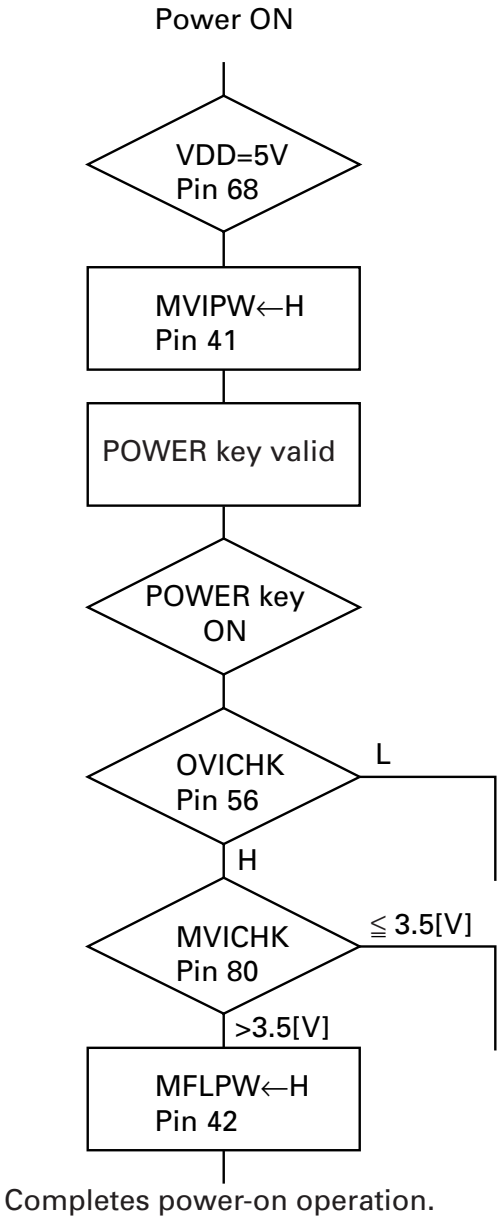


Completes power-on operation.



When the timing is according to the above chart,
there is a possibility of a monitor communication failure.
When the timing is not according to the above chart,
there is a possibility of occurrence of a vibrator failure.

● **Monitor Unit**



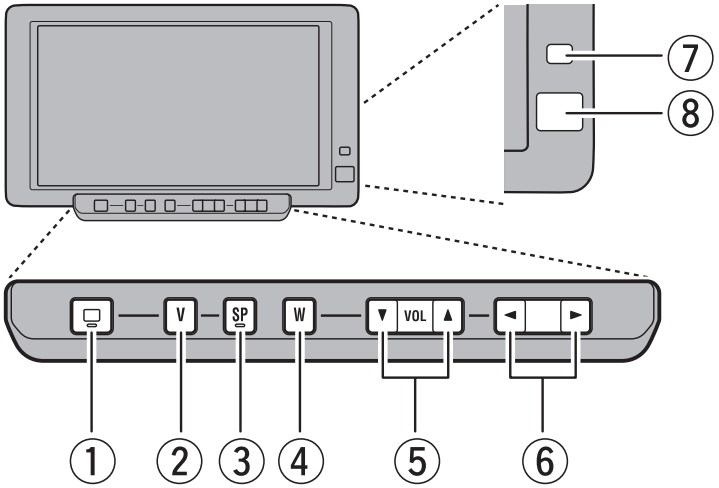
If the MPLPW signal does not rise to "MPLPW = H" when the POWER key is turned on, there is a possibility of occurrence of "OVICHK = L" or "MVICHK ≦ 3.5[V]".

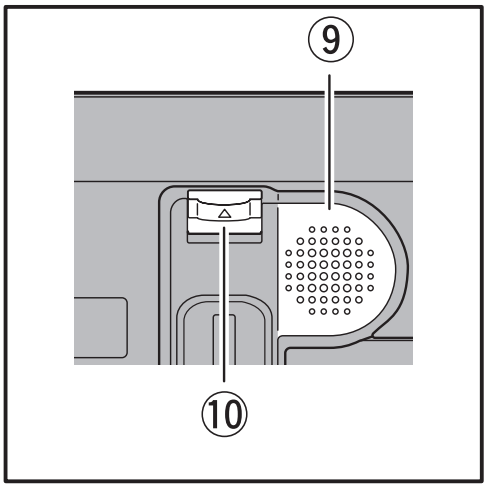
8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

Key Finder

Component Parts and Features





① **SEL/POWER button**
Selects the system's audio and video simultaneously. If AV equipment is connected to the system's RCA audio and video output terminals, the audio and video of the source selected with this button are generated.
Pressing this button for 2 seconds also switches power ON/OFF.

② **V.SEL button**
Selects only the display's video.

③ **SP.SEL button**
Selects only the built-in speaker's audio.

④ **WIDE/MENU button**
Changes the method of enlarging 4:3 video to 16:9 video. Pressing this button for 2 seconds, and displayed the setup menu. Once the setup menu is displayed, its menu is switched each time the button is pressed.

⑤ **Volume control (▼/▲) buttons**
Adjust the volume of the built-in speaker ⑨, or change setup items when the setup menu is displayed.

Note:
- Never set the volume so high that you cannot hear outside traffic and emergency vehicles.

⑥ **◄/► buttons**
Adjust the item when the setup menu is displayed.

⑦ **Ambient light sensor**
Senses ambient light. This system automatically adjusts the brightness of the display to compensate for ambient light.

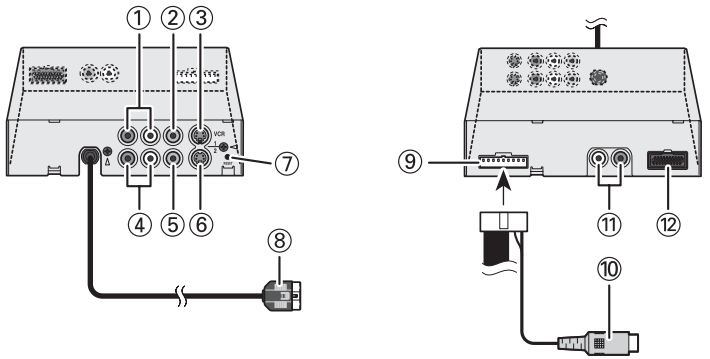
⑧ **Signal receptor**
This receiver receives signals from the remote controller supplied with the mobile navigation unit and other AV equipment.

⑨ **Built-in speaker**
Outputs sound from audio equipment connected to this product.

⑩ **Lock release lever**

Names and Functions of Connection Terminals

■ Hide-away Unit



① **VCR1 RCA audio input (white, red)**
Receive stereo audio, as from a VCR, DVD or other AV equipment.

② **VCR1 RCA video input (yellow)**
Receives video, as from a VCR, DVD or other AV equipment.

③ **VCR1 S-VIDEO input (black)**
Receives S-VIDEO output video when the display is teamed up with AV equipment supporting an S-VIDEO output terminal.

④ **VCR2 RCA audio input (white, red)**
Receive stereo audio, as from a VCR, DVD or other AV equipment.

⑤ **VCR2 RCA video input (yellow)**
Receives video, as from a VCR, DVD or other AV equipment.

⑥ **VCR2 S-VIDEO input (black)**
Receives S-VIDEO output video when the display is teamed up with AV equipment supporting an S-VIDEO output terminal.

⑦ **RESET button**
Resets the display microprocessor. Press with the tip of a ballpoint pen or similar object.

⑧ **Display RGB output (white)**
Connects to the display unit.

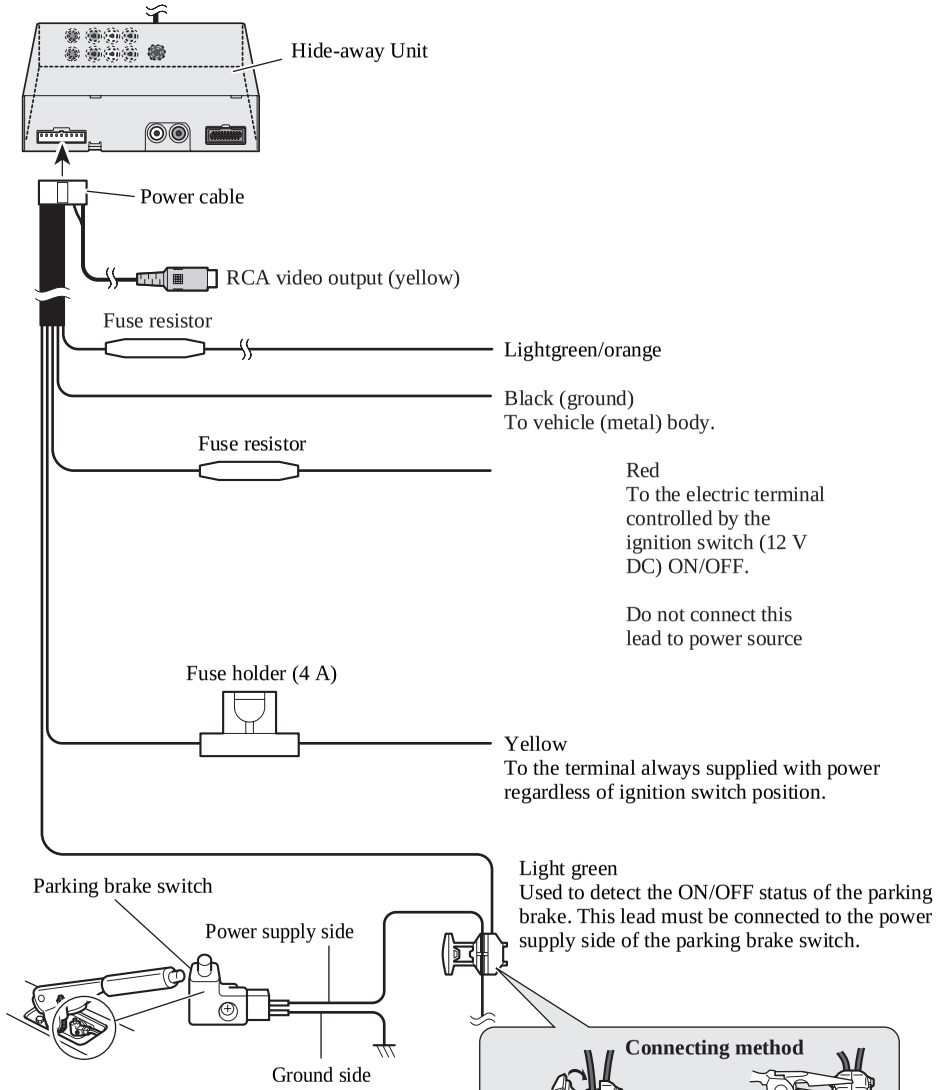
⑨ **Power Supply**
Receives the power cable supplied.

⑩ **RCA video output (yellow)**
Connects to other AV equipment. Video selected with this display is directed to this terminal.

⑪ **RCA audio output (white, red)**
Connect to other AV equipment. Audio selected with this display is directed to these terminals.

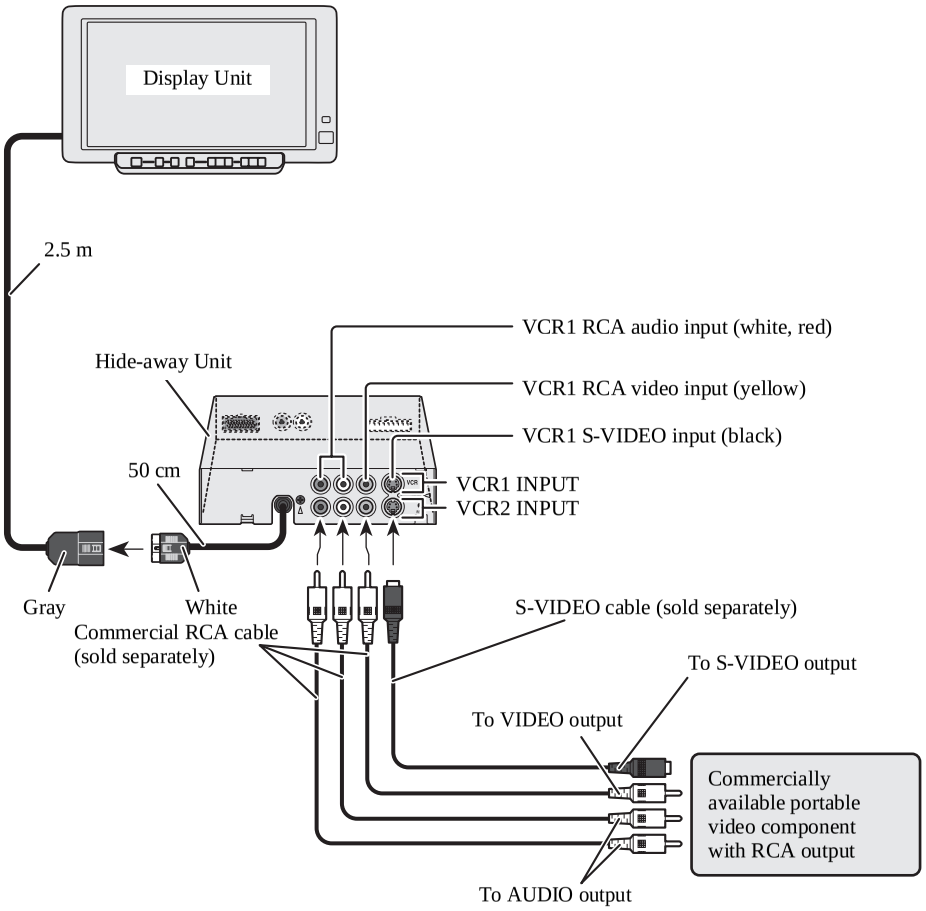
⑫ **RGB input (purple)**
Use to connect a navigation unit or other Pioneer AV equipment.

Connecting the Power Cable



Note:
- The position of the parking brake switch depends on the vehicle model. For details, consult the vehicle Owner's Manual or dealer.

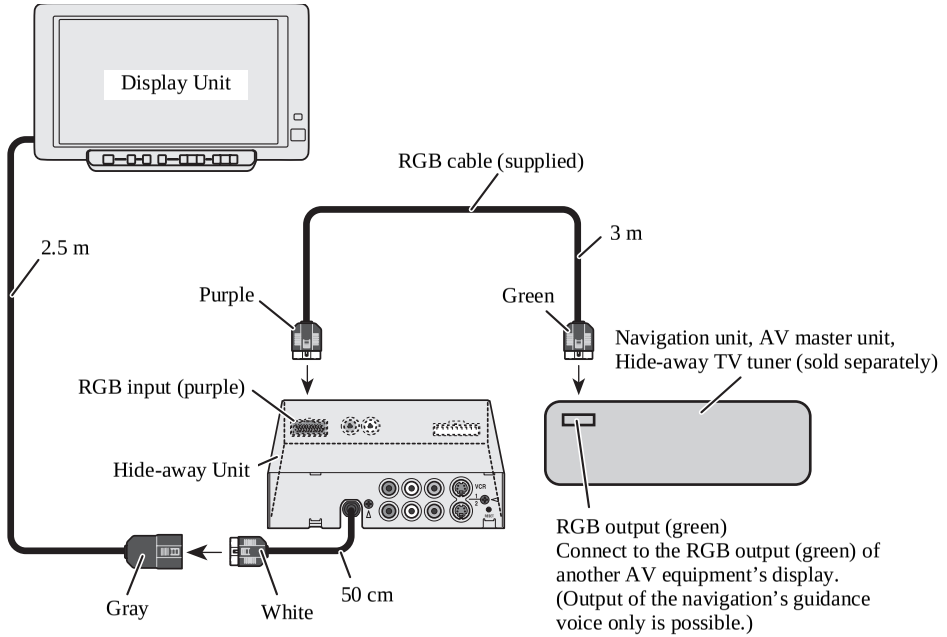
Connection Diagram (VCR input)



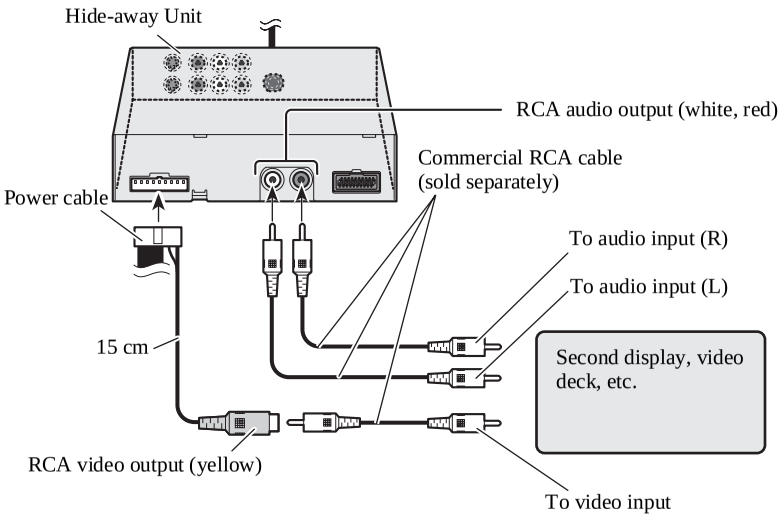
Note:
- When other AV equipment is connected to the VCR1 or VCR2 input, setting may be required.
- Even when an S-VIDEO signal is input to this unit, also input the RCA video signal (yellow) at the same time; otherwise, video will not be output from the video output jack of this unit.

Connection Diagram (RGB input)

You can connect a separately sold Pioneer unit.

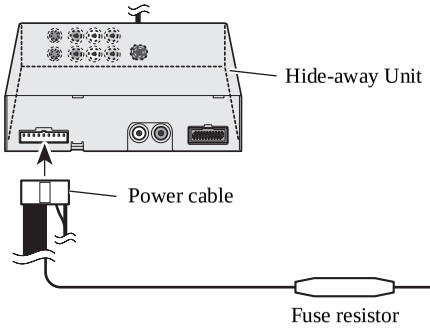


Connecting the RCA Audio and Video Output



Connecting "AUTOMATIC INPUT SWITCHING" Lead

When using this product with a back-up camera, automatic switching to VCR1 video when the gear shift is moved to the REVERSE (R) position is possible.
Connect the back-up camera to the VTR1 input.



Note:
- When you have completed lead wire connection, perform the appropriate settings for the connection method.

Light green/Orange
Of the two lead wires connected to the back lamp, connect the one in which the voltage changes when the gear shift is in the REVERSE (R) position. This connection enables the unit to sense whether the car is moving forwards or backwards.

⚠ CAUTION

This function is designed for use with a back-up camera only. Users may connect the VTR 1 input with "AUTOMATIC INPUT SWITCHING" only to such a back-up camera. Users must not connect any other devices to the VTR 1 input with "AUTOMATIC INPUT SWITCHING".

8.2 SPECIFICATIONS

Specifications

General

Power source	14.4 V DC (10.8 — 15.1 V allowed)
Grounding system	Negative type
Max. current consumption	1.6 A
Backup current	1 mA or less

Display Unit

Screen size/Aspect ratio	6.5 inch wide/16:9 (effective display area: 144 × 80 mm) [5–5/8 × 3–1/8 in]
Pixels	280,800 (234 × 1,200)
Type	TFT active matrix, transmissive type
Color system	NTSC
Operating temperature range	–10 — +50 °C [+14 to 122 ºF]
Storage temperature range	–20 — +80 °C [–4 to +176 ºF]
Built-in Speaker	ø 36 mm [1–3/8 in]
Dimensions	187 (W) × 111 (H) × 37 (D) mm [7–3/8 (W) × 4–3/8 (H) × 1–1/2 (D) in]
Weight	399 g (0.9 lbs)

Hide-away Unit

External video input level	1 Vp-p/75 Ω
External audio input level	1 V/22 kΩ
Max. output impedance	1 Vp-p/75 Ω
External audio max. output level	1 V/1 kΩ
Dimensions	156 (W) × 95 (H) × 37 (D) mm [6–1/8 (W) × 3–3/4 (H) × 1–1/2 (D) in]
Weight	720 g (1.6 lbs)

Note:

- The specifications and design are subject to change without prior notice. Products purchased may differ in details from illustrations in this manual.