

AV RECEIVER

RX-V2065/HTR-6295

SERVICE MANUAL

Note:

When IC513 of GUI P.C.B. or GUI P.C.B. is replaced, the network function of this unit will not operate properly without additional setting.

In such case, report the serial number of this unit to the following e-mail address.

Yamaha Corporation will reply providing the setting procedure to make the network function of this unit operate properly.

E-mail: ycav-ysiss@gmx.yamaha.com

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.

It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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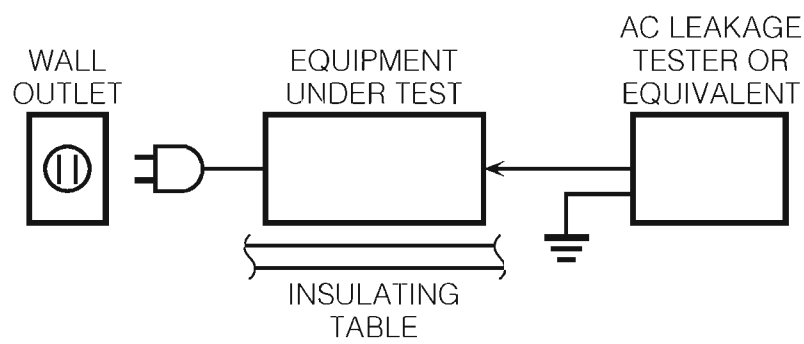
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

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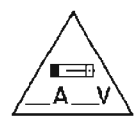
RX-V2065/HTR-6295

■ TO SERVICE PERSONNEL

1. Critical Components Information
- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only)
- When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.
- Meter impedance should be equivalent to 1500 ohms shunted by 0.15 μ F.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



For U model
“CAUTION”

“F6002: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 10A, 125V FUSE.”

For C model
CAUTION

F6002: REPLACE WITH SAME TYPE 10A, 125V FUSE.

ATTENTION

F6002: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 10A, 125V.

WARNING: CHEMICAL CONTENT NOTICE!

This product contains chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About lead free solder

All of the P.C.B.s installed in this unit and solder joints are soldered using the lead free solder.

Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.

WARNING: Lithium batteries

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

WARNING: Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board by soldering, solder using the connection terminals provided on the battery cells. Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

ADVARSEL!

Lithiumbatteri –Eksplodingsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

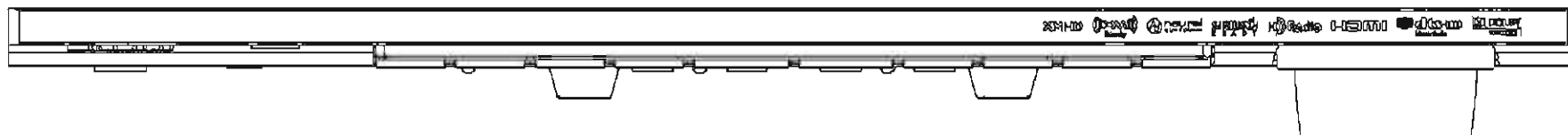
VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

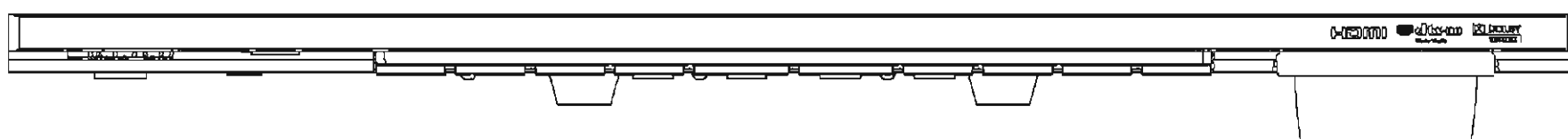
FRONT PANELS

Top view

U model

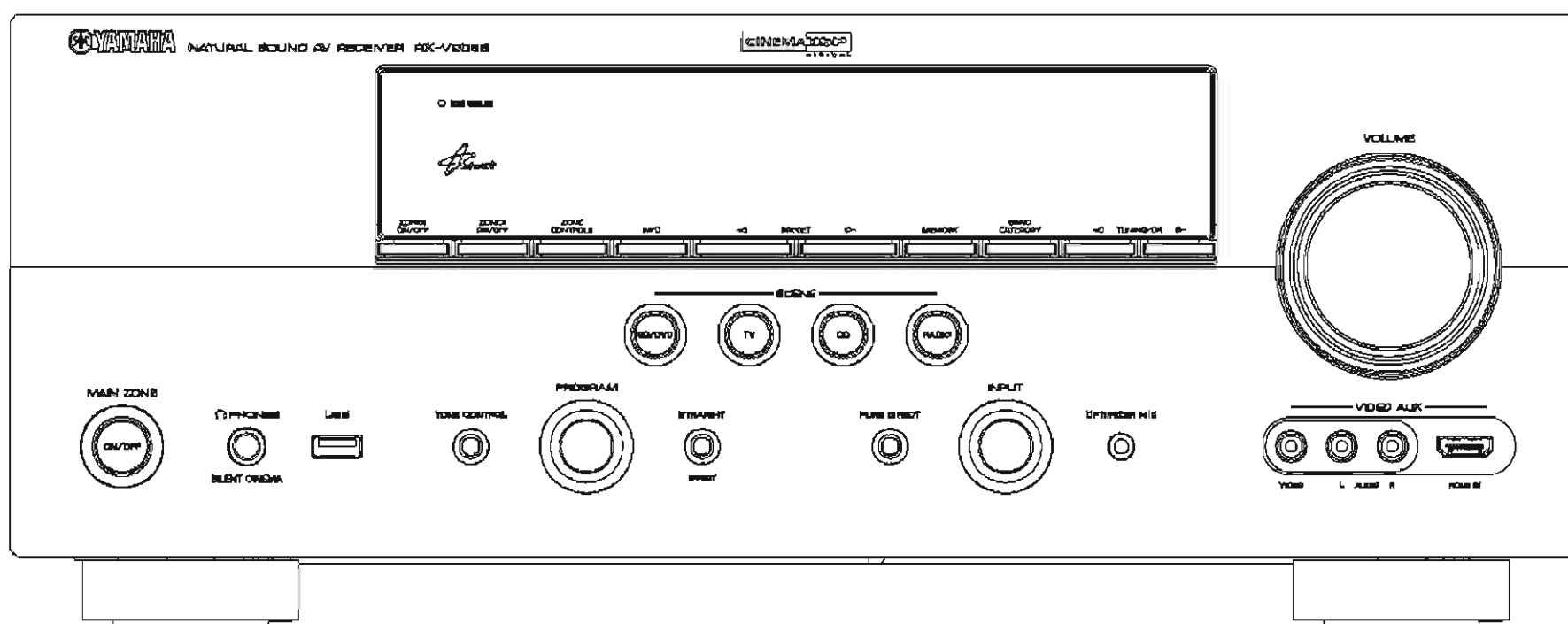


C, R, T, K, A, B, G, E, F, L models



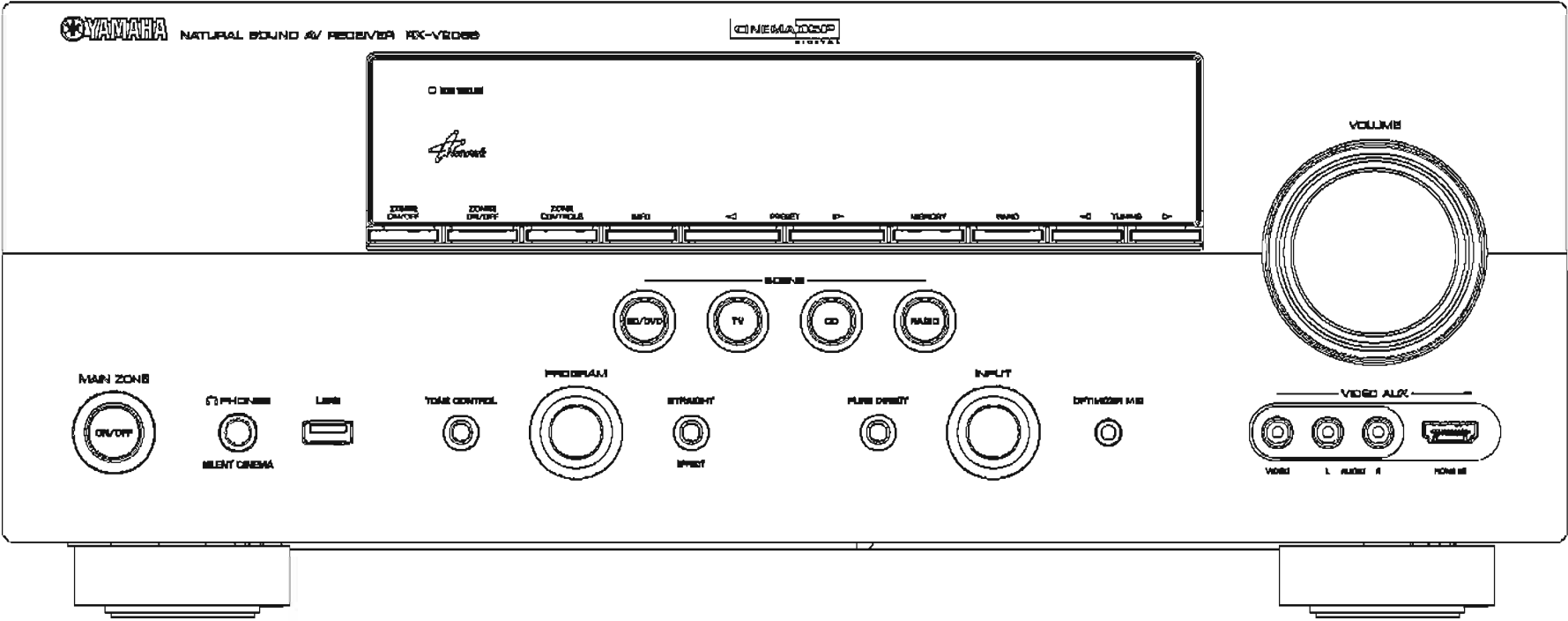
Front view

RX-V2065 (U model)

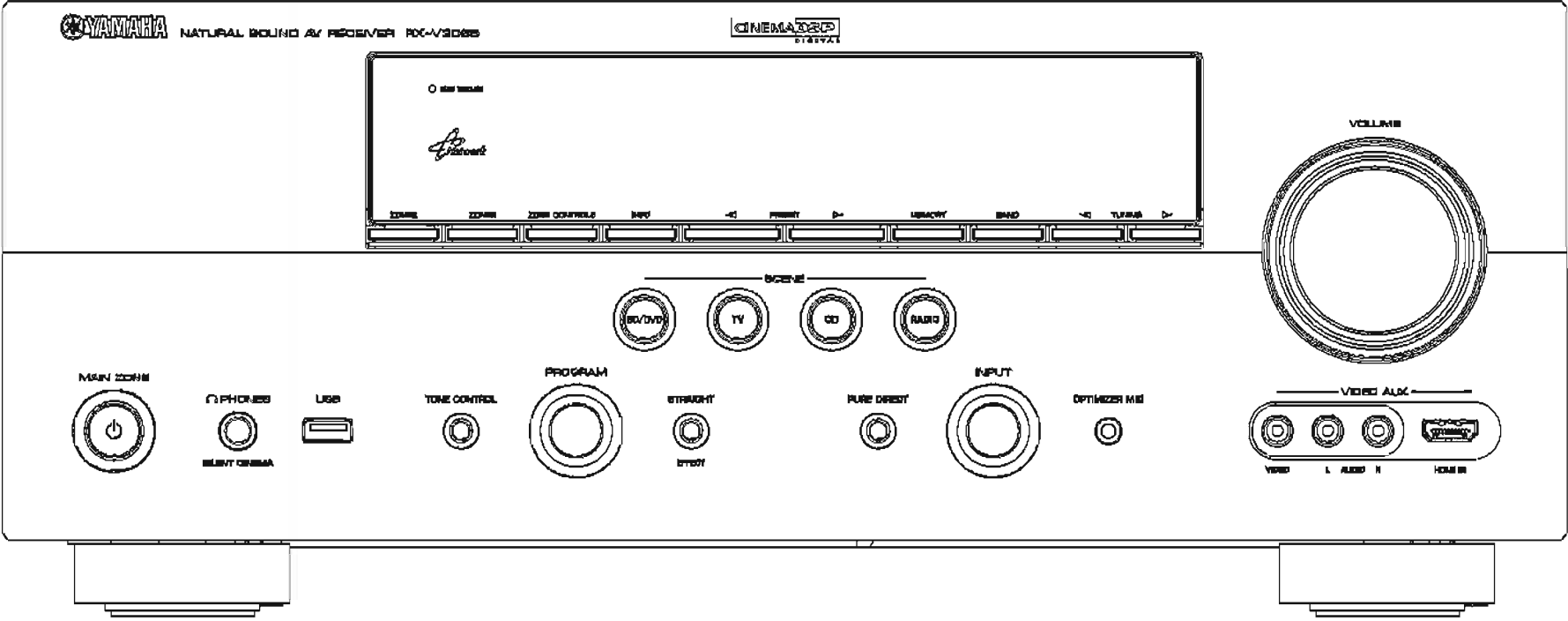


RX-V2065/HTR-6295

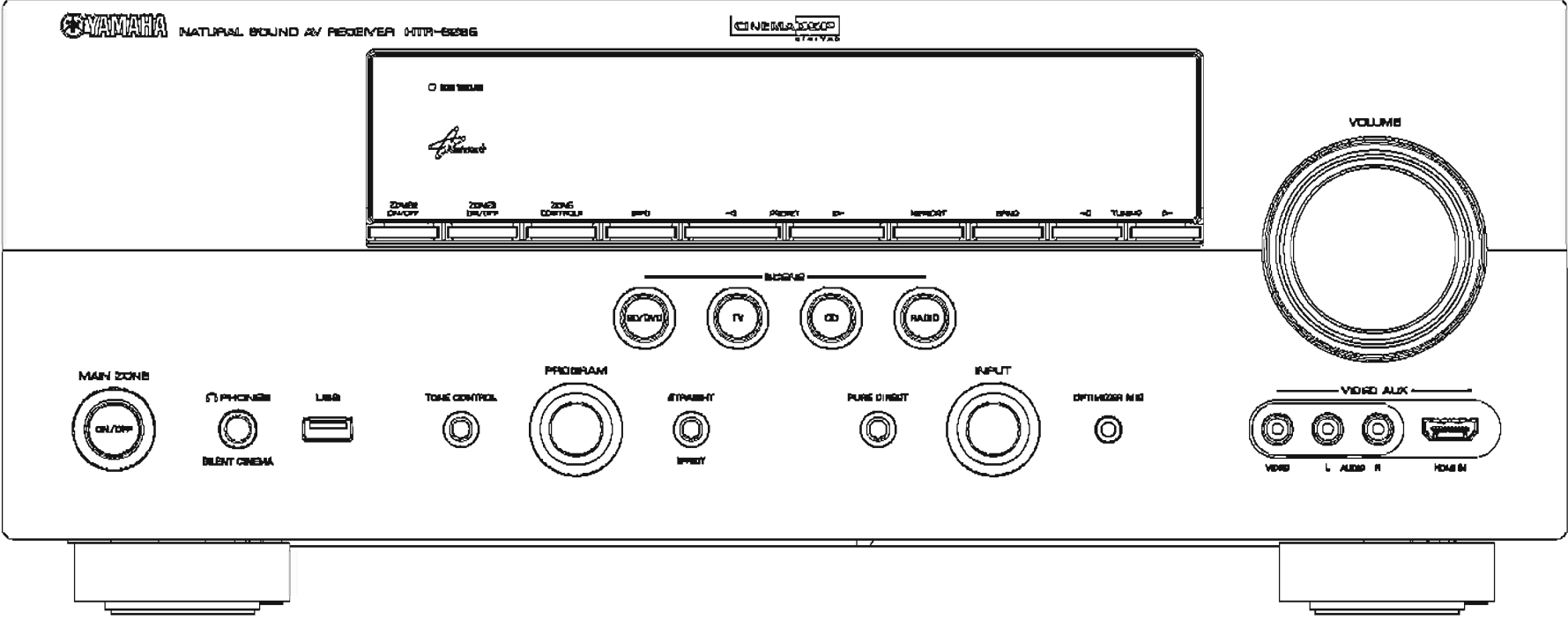
RX-V2065 (C, R, K, A, B, G, E, F, L models)



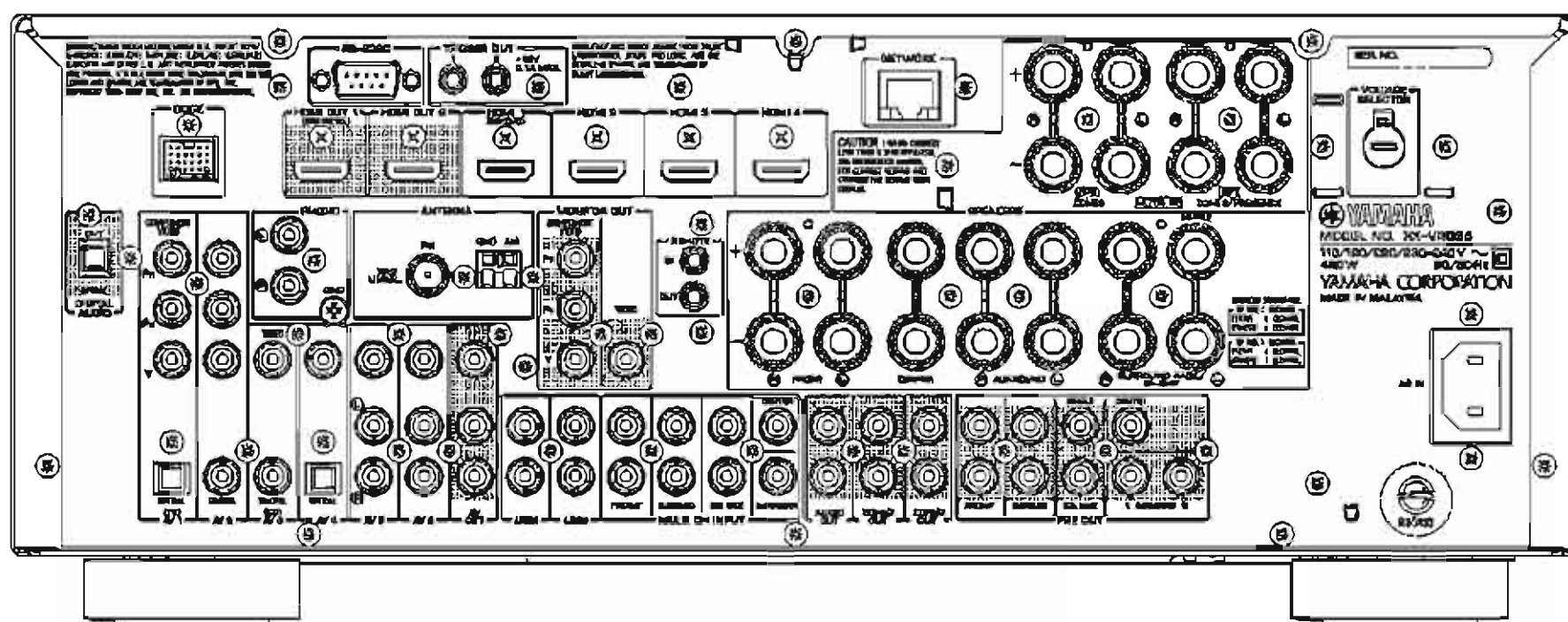
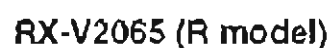
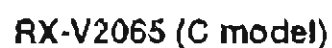
RX-V2065 (T model)



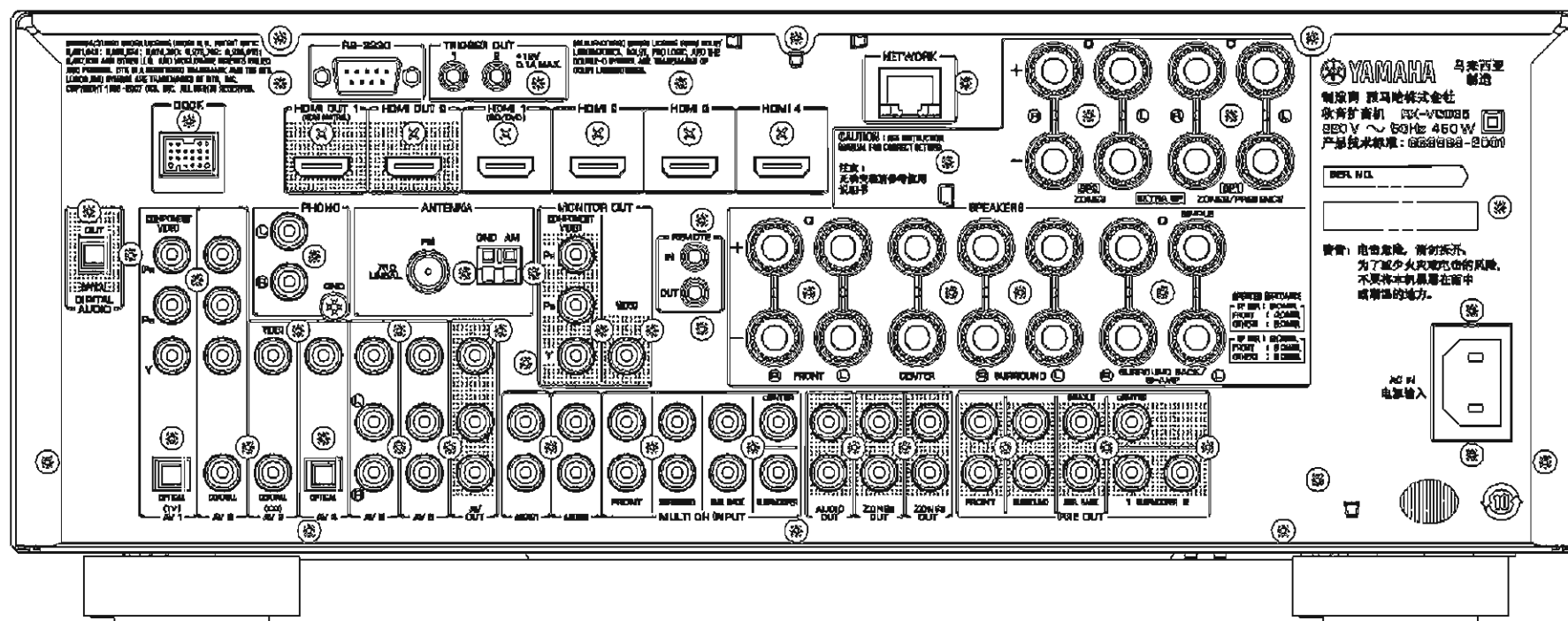
HTR-6295 (C model)



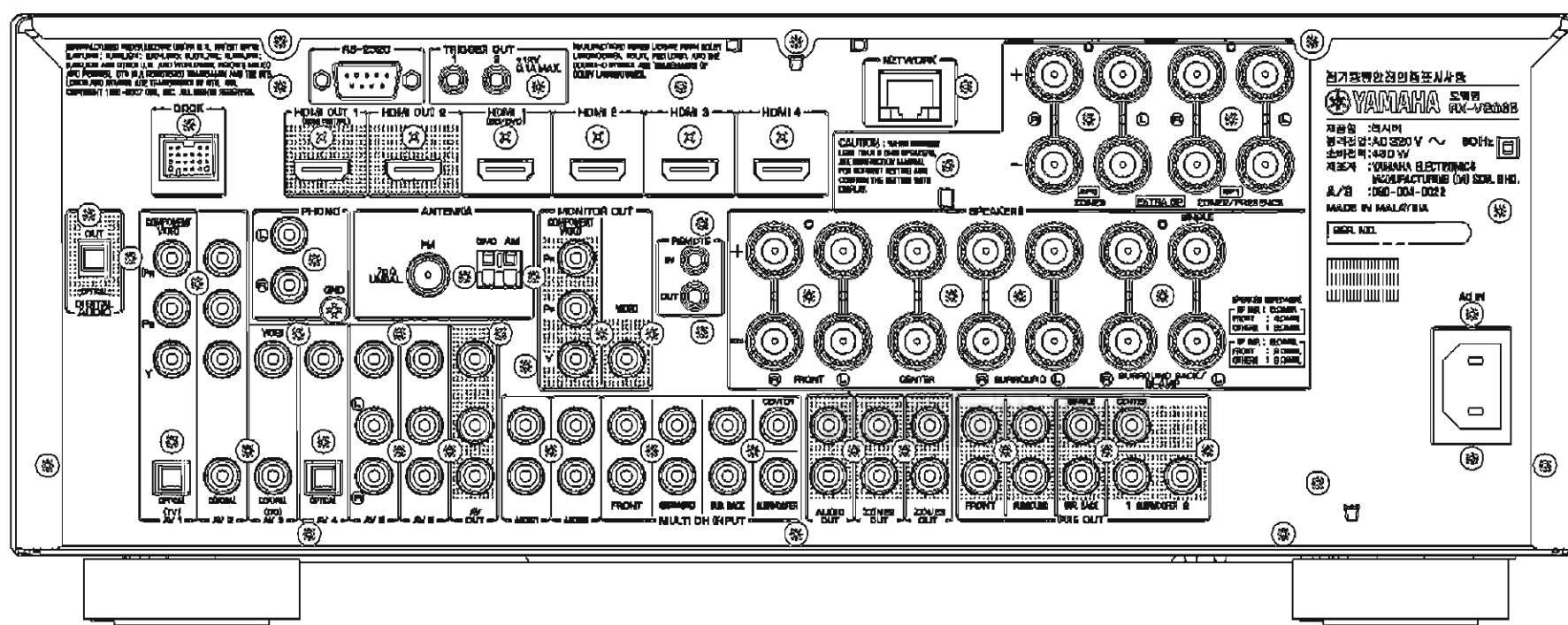
RX-V2065 (U model)



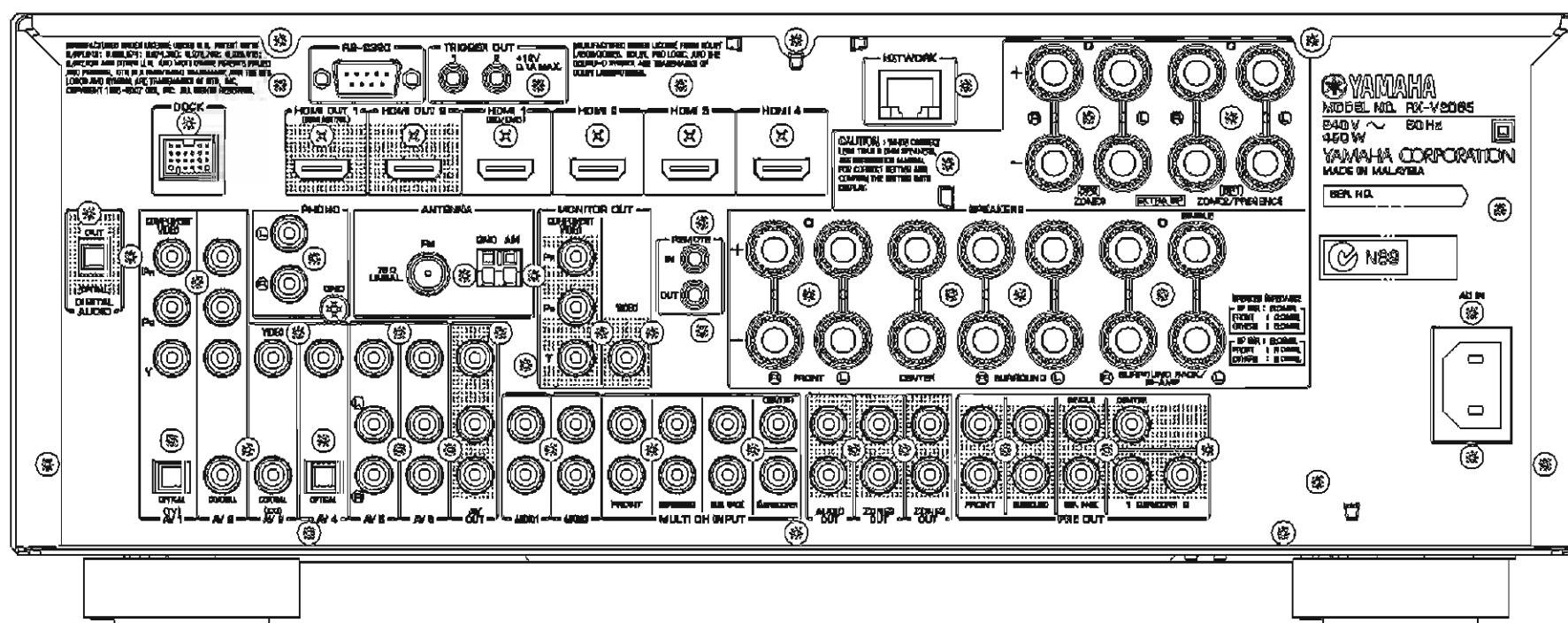
RX-V2065 (T model)



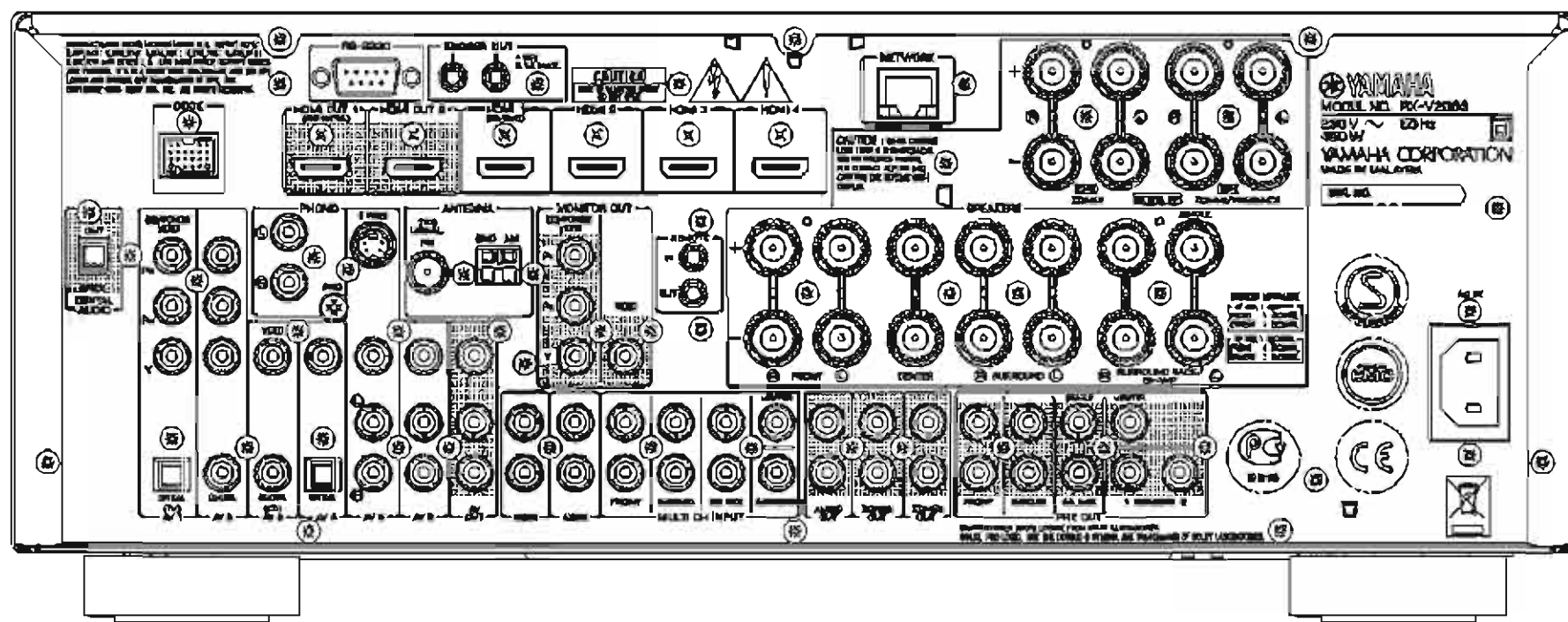
RX-V2065 (K model)



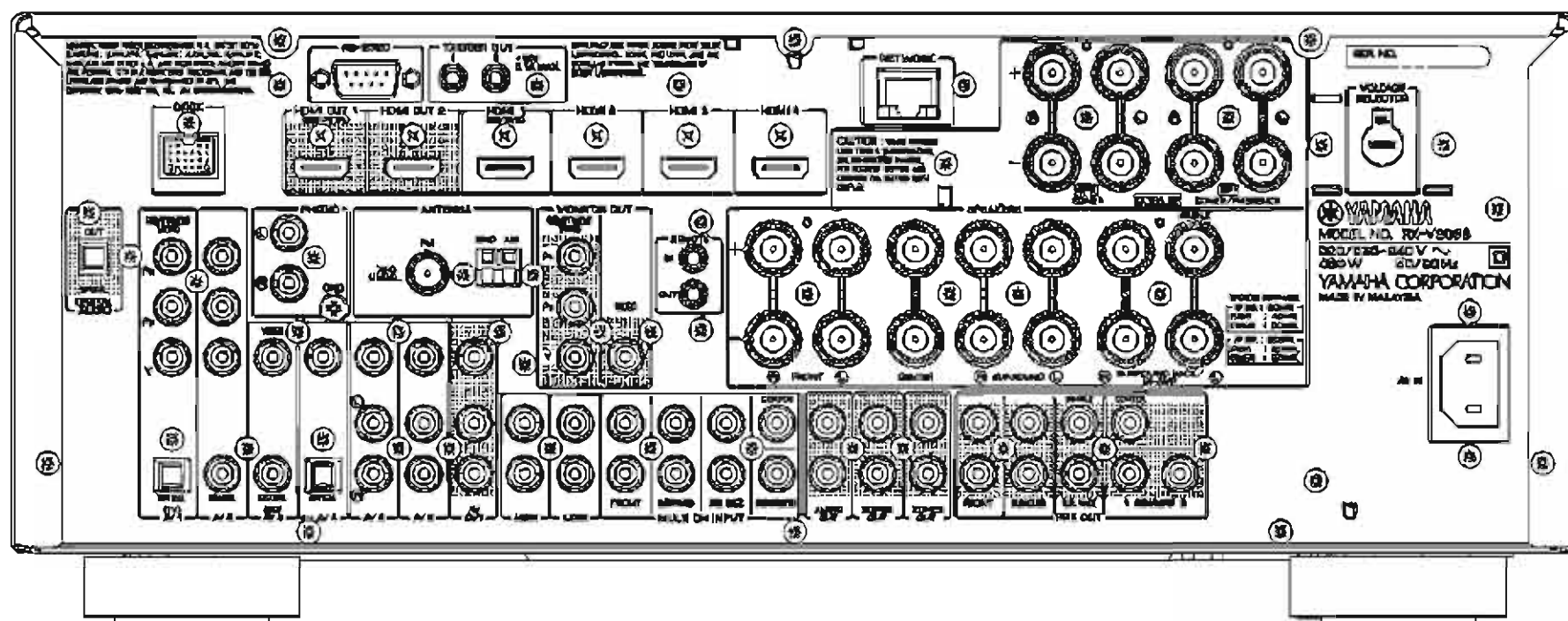
RX-V2065 (A model)



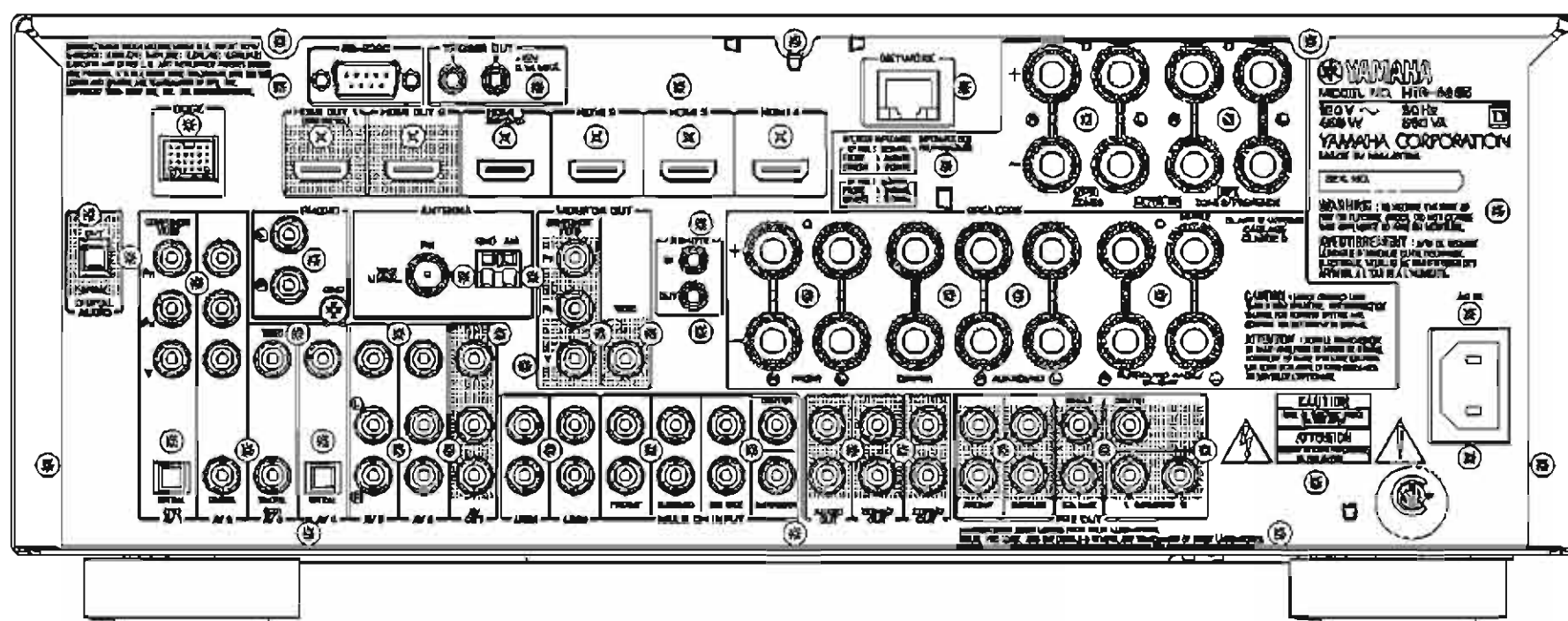
RX-V2065 (B, G, E, F models)



RX-V2065 (L model)

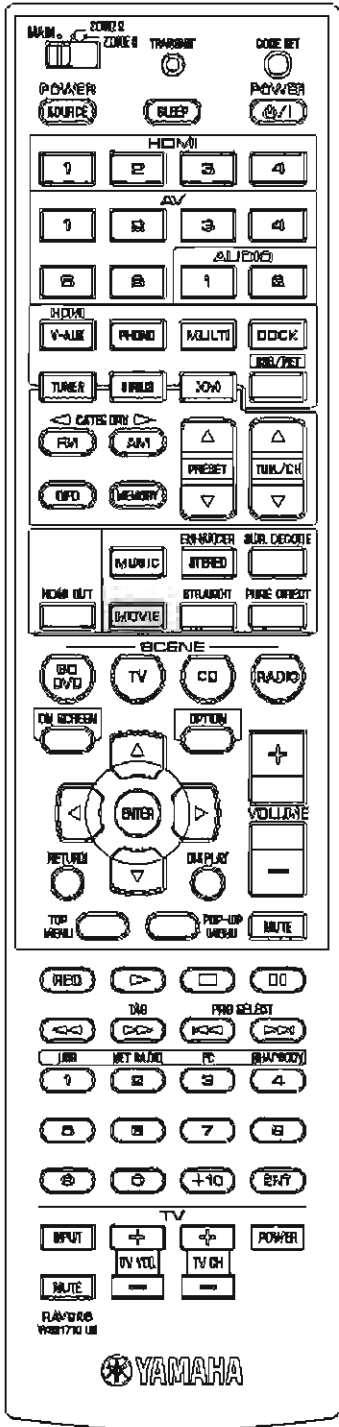


HTR-6295 (C model)

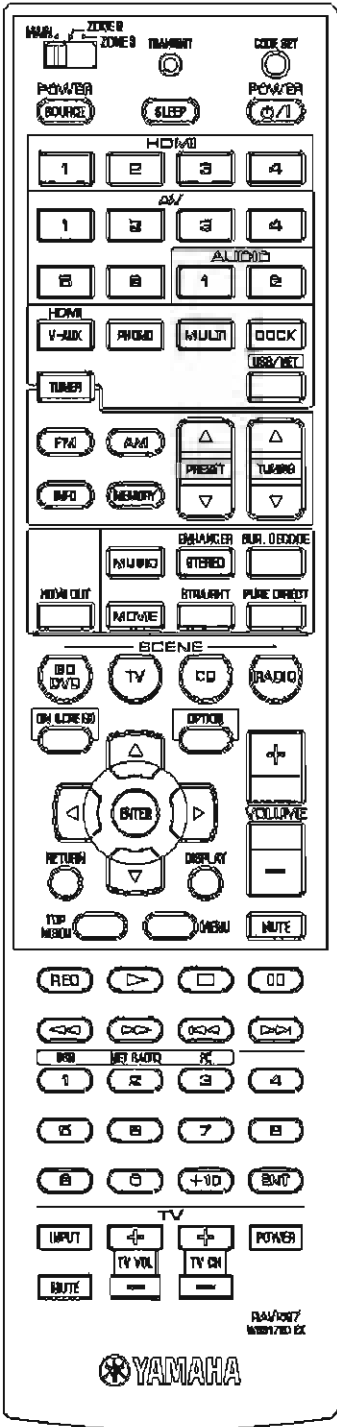


REMOTE CONTROL PANELS

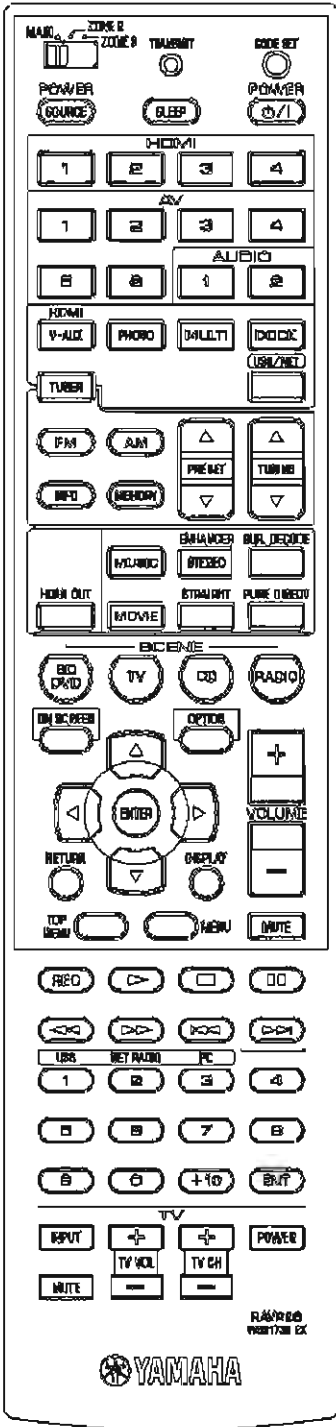
RAV296
(U model)



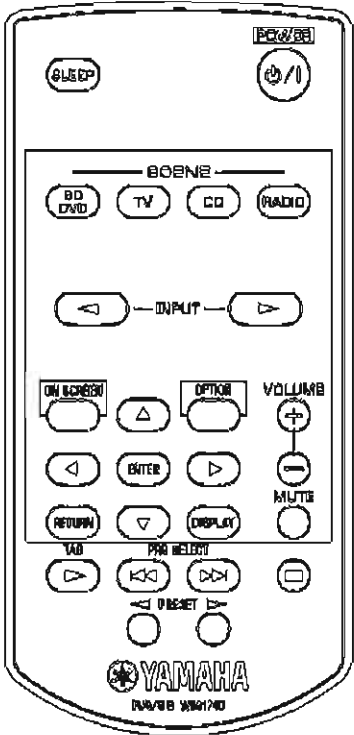
RAV297
(C, R, A, L models)



RAV298
(T, K, B, G, E, F models)



RAV38
(U, C, R, T, K, A, B, G, E, F, L models)



SPECIFICATIONS

■ Audio Section

Minimum RMS Output Power (Power Amp. Section)

(20 Hz to 20 kHz, 0.08 % THD, 8 ohms)

FRONT L/R	130 W + 130 W
CENTER	130 W
SURROUND L/R	130 W + 130 W
SURROUND BACK L/R	130 W + 130 W

Maximum Power (JEITA) (1 kHz, 10 % THD, 8 ohms)

[R, T, K, A, L models]

FRONT L/R	175 W + 175 W
CENTER	175 W
SURROUND L/R	175 W + 175 W
SURROUND BACK L/R	175 W + 175 W

MAX. Power Per Channel (1 kHz, 0.7 % THD, 4 ohms)

[B, G, E, F models]

FRONT L/R	180 W + 180 W
CENTER	180 W
SURROUND L/R	180 W + 180 W
SURROUND BACK L/R	180 W + 180 W

IEC Power (1 kHz, 0.08 % THD, 8 ohms)

[B, G, E, F models]

FRONT L/R	130 W + 130 W
-----------	---------------

Dynamic Power Per Channel (IHF)

FRONT L/R drive

(8 / 6 / 4 / 2 ohms)	160 / 200 / 260 / 330 W
----------------------	-------------------------

Dynamic Headroom [U, C models]

8 ohms	0.9 dB
--------	--------

Damping Factor

(20 Hz to 20 kHz, 8 ohms, SPEAKER-A)

FRONT L/R	100 or more
-----------	-------------

Input Sensitivity/Input Impedance

(1 kHz, 100 W/8 ohms)

PHONO (MM)	3.5 mV / 47 k-ohms
AV5 etc.	200 mV / 47 k-ohms
MULTI CH INPUT	
FRONT L/R, CENTER, SURROUND L/R, SURROUND BACK L/R, SUBWOOFER	200 mV / 47 k-ohms

Maximum Input Signal (1 kHz)

PHONO (MM) (0.1 % THD)	60 mV or more
AV5 etc. (Effect ON) (0.5 % THD)	2.3 V or more

Output Level/Output Impedance

REC OUT	200 mV/1.2 k-ohms
PRE OUT	1 V/1.2 k-ohms
SUBWOOFER (2 ch stereo and FRONT SP: small)	1 V/1.2 k-ohms
ZONE2, 3 OUT	200 mV/1.4 k-ohms

Headphone Jack Rated Output/Output Impedance

AV5 etc. input (1 kHz, 50 mV, 8 ohms)	100 mV/470 ohms
---------------------------------------	-----------------

Frequency Response

AV5 etc., FRONT (10 Hz to 100 kHz)	+0/-3 dB
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RIAA Equalization Deviation

PHONO (MM)	0 ±0.5 dB
------------	-----------

Total Harmonic Distortion

PHONO (MM) to REC OUT (20 Hz to 20 kHz, 1 V)	0.02 % or less
AV5 etc. (PURE DIRECT) to FRONT SP OUT (20 Hz to 20 kHz, 50 W)	
8 ohms	0.06 % or less

Signal to Noise Ratio (IHF-A network)

PHONO (MM) to REC OUT (Input shorted 5 mV)

U, C, R, T models	86 dB or more
K, A, B, G, E, F, L models	81 dB or more

AV5, etc. (PURE DIRECT) to SP OUT (Input shorted 250 mV)

	100 dB or more
--	----------------

Residual Noise (IHF-A network)

FRONT L/R to SP OUT	150 µV or less
---------------------	----------------

Channel Separation (1 kHz / 10 kHz)

PHONO (Input shorted)

	60 dB or more / 55 dB or more
--	-------------------------------

AV5, etc. (Input 5.1 k-ohms shorted)

	60 dB or more / 45 dB or more
--	-------------------------------

Volume Control

	MUTE / -80 dB to +16.5 dB / 0.5 dB step
--	-----------------------------------------

Tone Control Characteristics

FRONT L/R

Bass

Boost/Cut	±10 dB/2 dB, step 50 Hz
Turnover frequency	350 Hz

Treble

Boost/Cut	±10 dB/2 dB, step 20 kHz
Turnover frequency	3.5 kHz

Filter Characteristics

FRONT, CENTER, SURROUND, SURROUND BACK small (H.P.F.)

fc=40/60/80/90/100/110/120/160/200 Hz, 12 dB/oct.	
---------------------------------------------------	--

SUBWOOFER small (L.P.F.)

fc=40/60/80/90/100/110/120/160/200 Hz, 24 dB/oct.	
---------------------------------------------------	--

■ Video Section

Video Signal Type (Gray back)

Gray back

U, C, R, K models	NTSC
T, A, B, G, E, F, L models	PAL

Video conversion

	NTSC/PAL
--	----------

Composite Video Signal Level

	1 Vp-p / 75 ohms
--	------------------

S-Video Signal Level [B, G, E, F models]

Y	1 Vp-p / 75 ohms
C	0.286 Vp-p / 75 ohms

Component Video Signal Level

Y	1 Vp-p / 75 ohms
Cb/Cr	0.7 Vp-p / 75 ohms

Video Maximum Input Level

VIDEO CONVERSION OFF	1.5 Vp-p or more
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Video Signal to Noise Ratio

	50 dB or more
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Monitor Out Frequency Response

(VIDEO CONVERSION OFF)

Component video signal level	5 Hz to 60 MHz, -3 dB
------------------------------	-----------------------

■ FM Section

Tuning Range

U, C models	87.5 to 107.9 MHz
R, L models	87.5 to 108.0 MHz / 87.50 to 108.00 MHz
T, K, A, B, G, E, F models	87.50 to 108.00 MHz

50 dB Quieting Sensitivity (IHF) (1 kHz, 100 % MOD.)

Mono	3 µV (20.8 dBf)
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Signal to Noise Ratio (IHF)	
Mono	74 dB
Stereo	70 dB
HD (U model)	80 dB
Harmonic Distortion (1 kHz)	
Mono	0.3 %
Stereo	0.3 %
HD (U model)	0.03 %
Antenna Input	
	75 ohms unbalanced

■ AM Section

Tuning Range	
U, C models	530 to 1,710 kHz
R, L models	530 to 1,710 kHz / 531 to 1,611 kHz
T, K, A, B, G, E, F models	531 to 1,611 kHz
Antenna	Loop antenna

■ General

Power Supply	
U, C models	AC 120 V, 60 Hz
R model	AC 110/120/220/230–240 V, 50/60 Hz
T model	AC 220 V, 50 Hz
K model	AC 220 V, 60 Hz
A model	AC 240 V, 50 Hz
B, G, E, F models	AC 230 V, 50 Hz
L model	AC 220/230–240 V, 50/60 Hz
Power Consumption	
U, C models	450 W / 560 VA
R, T, K, A, B, G, E, F, L models	450 W

Standby Power Consumption (reference data)	
HDMI control: OFF / Standby through: OFF / RS-232C: OFF	0.2 W or less
HDMI control: ON / Standby through: ON / Network Standby: ON	5.6 W or less
HDMI control: ON / Standby through: ON / Network Standby: ON / Repeat	10.6 W or less

Maximum Power Consumption [R, L models]	
	680 W

Dimensions (W x H x D)	
	435 x 171 x 365 mm (17-1/8" x 6-3/4" x 14-3/8")

Weight	
	12.4 kg (27.4 lbs.)

Finish	
[RX-V2065]	
Black color	U, C, R, T, K, A, B, G, E, F, L models
Titanium color	R, G, E, F, L models
[HTR-6295]	
Black color	C model

Accessories	
Remote control	x 1
Simplified remote control	x 1
Battery (R03, AAA, UM-4)	x 2
Lithium battery (CR2025)	x 1
Indoor FM antenna (1.4 m)	x 1
AM loop antenna	
(1.2 m) (U model)	x 1
(1.0 m) (C, R, T, K, A, B, G, E, F, L models)	x 1
Optimizer microphone (6.0 m)	x 1
VIDEO AUX input cover	x 1
Power cable (2.0 m)	x 1

* Specifications are subject to change without notice due to product improvements.

U	U.S.A. model	B	British model
C	Canadian model	G	European model
R	General model	E	South European model
T	Chinese model	F	Russian model
K	Korean model	L	Singapore model
A	Australian model		



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MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.



This receiver supports network connections.

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HD Radio

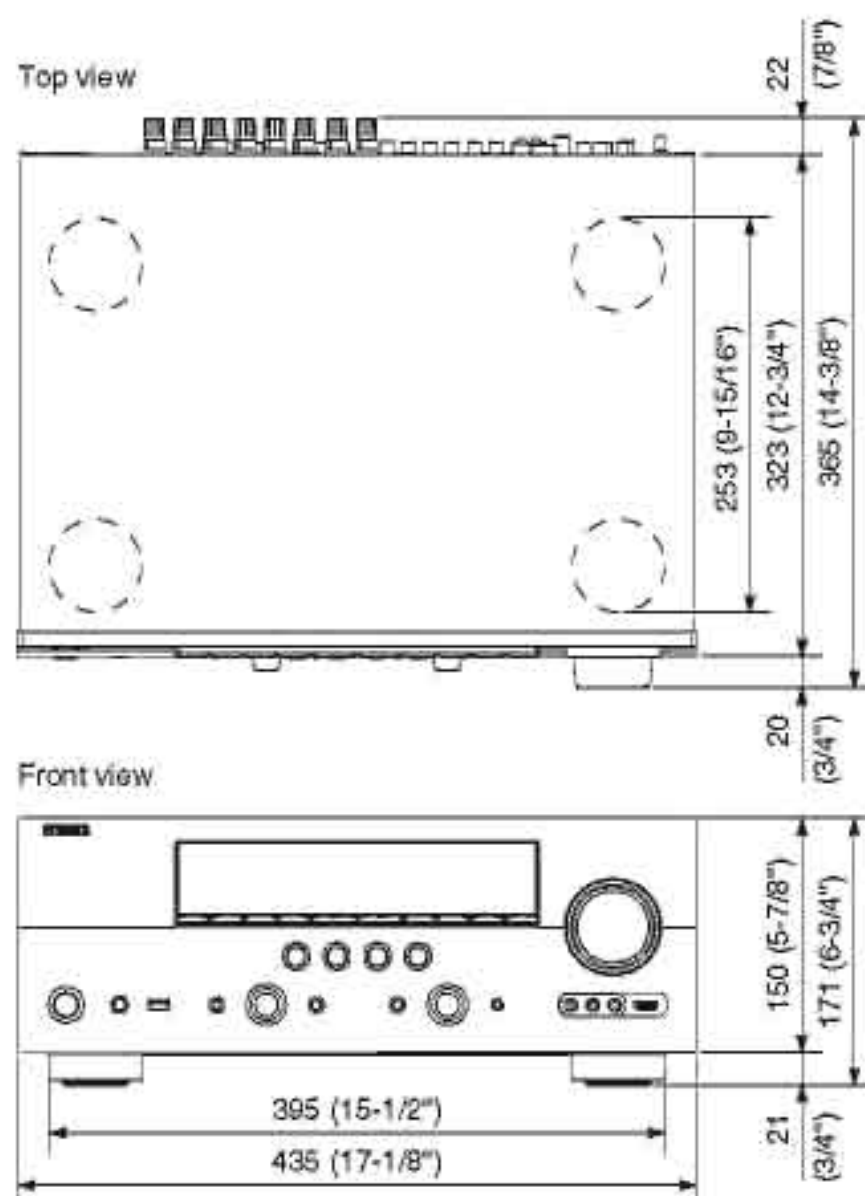
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• DIMENSIONS



Unit: mm (inch)

• SCENE TEMPLATE

Name	BD/DVD	TV	CD	RADIO
INPUT	HDMI1	AV-1 (Component / Optical)	AV-3 (Video / Coaxial)	TUNER
Sound field mode	STRAIGHT	STRAIGHT	STRAIGHT	MUSIC ENHANCER 7ch Enhancer
IR code output	DVD Play	None	CD Power On / Play	None

• SOUND FIELD PARAMETERS

Category	Program	Parameter																																
		Decode Type	3D DSP: ON/OFF	DSP Level: -6dB to +3dB	Init. Delay: 1 to 99ms	Room Size: 0.1 to 2.0	Liveness: 0 to 10	Sur. Init. Delay: 1 to 49ms	Sur. Room Size: 0.1 to 2.0	Sur. Liveness: 0 to 10	SB. Init. Delay: 1 to 49ms	SB. Room Size: 0.1 to 2.0	SB. Liveness: 0 to 10	Rev. Time: 1.0 to 5.0s	Rev. Delay: 0 to 250ms	Rev. Level: 0 to 100%	Dialogue Lift: 0 to 5	Center Level: 0 to 100%	Surround L Level: 0 to 100%	Surround R Level: 0 to 100%	Sur Back Level: 0 to 100%	Presence L Level: 0 to 100%	Presence R Level: 0 to 100%	Direct: Auto/Off	Effect Level: High/Low	Panorama: On/Off	Center Width: 0 to 7	Dimension: -3 to +3	Center Image: 0.0 to 1.0	FOCUS: 0 to 8	TruBass: 0 to 8	Initialize		
MOVIE	Standard	●	●	●				●	●	●	●	●	●				●																●	
	Spectacle	●	●	●	●	●		●	●		●	●					●															●		
	Sci-Fi	●	●	●	●	●		●	●		●	●					●															●		
	Adventure	●	●	●	●	●		●	●		●	●					●															●		
	Drama	●	●	●	●	●		●	●		●	●					●															●		
	Mono Movie		●	●	●	●	●							●	●	●	●															●		
	Sports		●	●	●	●		●	●		●	●					●															●		
	Action Game		●	●	●	●		●	●		●	●					●															●		
	Roleplaying Game		●	●	●	●		●	●		●	●					●															●		
MUSIC	Hall in Munich		●	●	●	●	●										●															●		
	Hall in Vienna		●	●	●	●	●										●															●		
	Chamber		●	●	●		●							●	●	●	●															●		
	Cellar Club		●	●	●	●	●										●															●		
	The Roxy Theatre		●	●	●	●	●							●	●	●	●															●		
	The Bottom Line		●	●	●	●	●										●															●		
	Music Video		●	●	●	●		●	●		●	●					●															●		
STEREO	2ch Stereo																		●	●	●	○	●	●	●							●		
	7ch Stereo																	●	●	●	○	●	●								●			
MUSIC ENHANCER	Straight Enhancer																								●							●		
	7ch Enhancer																							●							●			
SUR. DECODE	Surround Decoder	●																								△	△	△	▲	■	■	●		
STRAIGHT																																●		

○ The parameter to be used varies between when there is one surround peak and when there are two. On the display, the parameter value varies accordingly while the same parameter name appears.

△ Setting is possible only when Pro Logic II x Music (Pro Logic II Music) is selected using decode type

▲ Setting is possible only when Neo:6 Music is selected using decode type

■ Setting is possible only when CS II Cinema/Music is selected using decode type

*1 Decode Type

Decode Type	PL II x Movie	PL II when Surround Back is None
	Neo:6 Cinema	

*2 Decode Type

Decode Type	Pro Logic	PL II when Surround Back is None.
	PL II x Movie	PL II when Surround Back is None.
	PL II x Music	PL II when Surround Back is None.
	PL II x Game	PL II when Surround Back is None.
	Pro Logic II z	
	Neo:6 Cinema	
	Neo:6 Music	
	Neural Sur.	(U model)

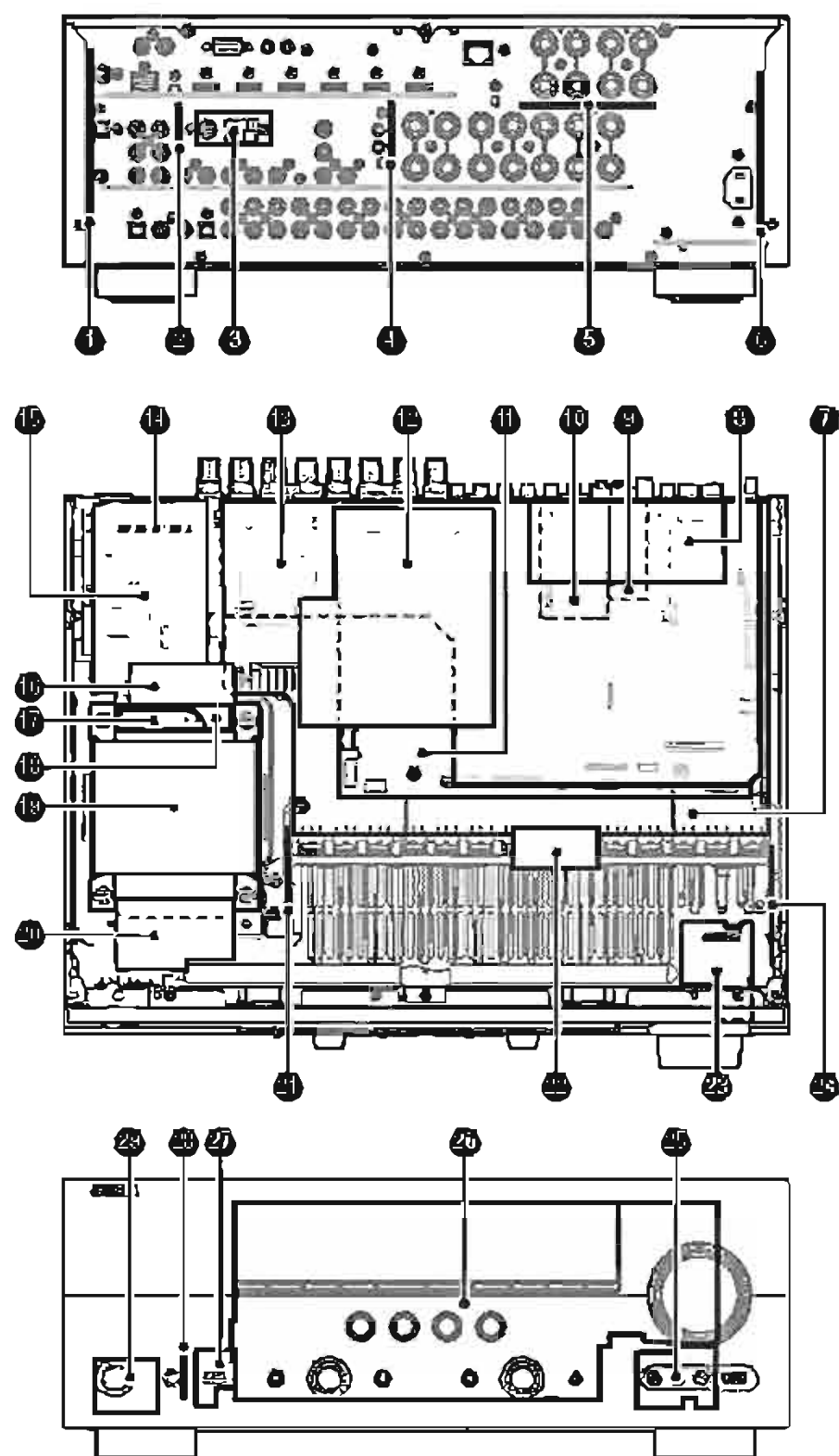
• SET MENU TABLE

MAIN MENU	SUB-MENU	PARAMETER	VALUE [INITIAL VALUE]	
1 • Speaker Setup				
1 Auto Setup (YPAO)	Extra Speaker Assignment		[Zone2] / Zone2 + Zone3 / Presence / None	
	EQ Type		[Natural] / Flat / Front	
	Start		[ENTER]: Start	
2 Manual Setup	A) Speaker Configuration	Extra Speaker Assignment	[Zone2] / Zone2 + Zone3 / Presence / None	
		LFE/Bass Out	Subwoofer / Front / [Both]	
		Front Speaker	Small / [Large]	
		Center Speaker	None / [Small] / Large	
		Surround L/R Speaker	None / [Small] / Large	
		Surround Back L/R Speaker	None / Large x 1 / Small x 1 / Large x 2 / [Small x 2]	
		Bass Crossover Frequency	40 / 60 / [80] / 90 / 100 / 110 / 120 / 160 / 200 Hz	
		Subwoofer Phase	[Normal] / Reverse	
	B) Speaker Level	Front L	-10.0 to +10.0 dB, [0 dB], 0.5 dB step	
		Front R		
		Center	-10.0 to +10.0 dB, [-1.0 dB], 0.5 dB step	
		Surround L		
		Surround R		
		Surround Back L		
		Surround Back R	-10.0 to +10.0 dB, [0 dB], 0.5 dB step	
		Subwoofer		
		Presence L	-10.0 to +10.0 dB, [0 dB], 0.5 dB step	
		Presence R		
	C) Speaker Distance	Unit	meters (m) / [feet (ft)]	
		Front L	0.30 to 24.00 m, [3.00 m]	
		Front R		
		Center	0.30 to 24.00 m, [2.60 m]	
		Surround L	0.30 to 24.00 m, [2.40 m]	
		Surround R		
		Surround Back L		
		Surround Back R		
		Subwoofer	0.30 to 24.00 m, [3.00 m]	
		Presence L		
		Presence R	1.0 to 80.0 ft, [10.0 ft]	
		Front L		
		Front R	1.0 to 80.0 ft, [8.5 ft]	
		Center		
		Surround L	1.0 to 80.0 ft, [8.0 ft]	
		Surround R		
		Surround Back L		
		Surround Back R		
		Subwoofer	1.0 to 80.0 ft, [10.0 ft]	
		Presence L		
	Presence R			
	D) Equalizer	EQ Type Select	Auto PEQ / [GEQ] / Off	
		GEQ		* "GEQ" is available only when "EQ Type Select" is set to "GEQ."
		Front L	63 Hz 0 dB	-6.0 to +6.0 dB, [0 dB], 0.5 dB step
		Front R	160 Hz 0 dB	
		Center	400 Hz 0 dB	
		Sur. L	1 kHz 0 dB	
		Sur. R	2.5 kHz 0 dB	
		SBL	6.3 kHz 0 dB	
		SBR	16 kHz 0 dB	
		E) Test Tone		[Off] / On
2 • Sound Setup				
1 Dynamic Range		Min/Auto / STD / [Max]		
2 Lipsync	HDMI OUT1		0 to 240 ms, [0 ms], 1 ms step	
	HDMI OUT2			
	ANALOG MONITOR OUT			

MAIN MENU	SUB-MENU	PARAMETER	VALUE [INITIAL VALUE]
3 • Function Setup			
1 HDMI	HDMI Control		On / [Off]
	Standby Through		On / [Off] * This menu is available only when "HDMI Control" is set to "Off".
	Audio Output		[Amplifier] / TV / Amplifier + TV * This menu is available only when "HDMI Control" is set to "Off".
	Resolution		[Through] / 480p (576p) / 720p / 1080i / 1080p
	Aspect		[Through] / 16:9 / Smart Zoom
2 Display	Dimmer		-4 to 0, [0]
	Front Panel Display Scroll		[Continuous] / Once
	GUI Position		-5 to +5, [0]
3 Volume	Adaptive DRC		Auto / [Off]
	Max Volume		-30.0 dB to +15.0 dB / [+16.5 dB], 5.0 dB step
	Initial Volume		[Off] / Mute / -80.0 to +16.5 dB, 0.5 dB step
4 Input Rename		Input is possible to 9 characters Input possible Character type Capital : A to Z Small : a to z Figure : 0 to 9 Space Marks : # * + , - . / : < > ? etc.	
5 Zone	Zone2/Zone3 Max. Volume		-30.0 dB to +15.0 dB / [+16.5 dB], 5.0 dB step
	Zone2/Zone3 Initial Volume		[Off] / Mute / -80.0 to +16.5 dB, 0.5 dB step
6 Network	IP Address	DHCP	[On] / Off
		IP Address	xxx.xxx.xxx.xxx * This menu is available only when "IP Address" is set to "DHCP On".
		Subnet Mask	
		Default Gateway	
		DNS Server (Primary)	
		DNS Server (Secondary)	
	MAC Address Filter		[Off] / On
		MAC Address 1-10	xx : xx : xx : xx : xx : xx * This menu is available only when "MAC Address Filter" is set to "On".
	Network Standby		[Off] / On
	Information	MAC Address	xx : xx : xx : xx : xx : xx
		IP Address	xxx.xxx.xxx.xxx
		Subnet Mask	xxx.xxx.xxx.xxx
		Default Gateway	xxx.xxx.xxx.xxx
		DNS Server (Primary)	xxx.xxx.xxx.xxx
		DNS Server (Secondary)	xxx.xxx.xxx.xxx
Link Status		No Link	
	vTuner ID	xxxxxxxxxxxx	
7 Rhapsody Information	Account Status		
	Sign In		
	Rhapsody Free Trial		
	Remove Account		
4 • DSP Parameter			
STEREO	7ch Stereo	Center Level	0 to 100 %
		Surround L Level	
		Surround R Level	
		Surround Back Level	
		Initialize	
MUSIC ENHANCER	Straight Enhancer	Effect Level · High	[High] / Low
		Initialize	
	7ch Enhancer	Effect Level · High	[High] / Low
		Initialize	

MAIN MENU	SUB-MENU	PARAMETER		VALUE [INITIAL VALUE]
SURROUND DECODE	Surround Decoder	Decode Type Pro Logic		Pro Logic / PL Ilx Movie / PL Ilx Music / PL Ilx Game / Neo:6 Cinema / Neo:6 Music / Neural Sur. (U model)
		Pro Logic Initialize		
		PL Ilx Movie Initialize		
		PL Ilx Music	Panorama	[Off] / On
			Center Width	0 to 7, [3]
			Dimension	-3 to [STD] to +3
		Initialize		
		PL Ilx Game Initialize		
		Neo:6 Cinema Initialize		
		Neo:6 Music	Center Image	0.0 to 1.0, [0.3]
			Initialize	
		Neural Sur. Initialize		
MOVIE	Standard	Decode Type PL Ilx Movie		PL Ilx Movie / Neo:6 Cinema
		PL Ilx Movie [1], [4], [8], [11], [16]		
		Neo:6 Cinema [1], [4], [8], [11], [16]		
	Spectacle	Decode Type PL Ilx Movie		PL Ilx Movie / Neo:6 Cinema
		PL Ilx Movie [1], [3], [4], [7], [8], [16]		
		Neo:6 Cinema [1], [4], [8], [11], [16]		
	Sci-Fi	Decode Type PL Ilx Movie		PL Ilx Movie / Neo:6 Cinema
		PL Ilx Movie [1], [3], [4], [7], [8], [16]		
		Neo:6 Cinema [1], [3], [4], [7], [8], [16]		
	Adventure	Decode Type PL Ilx Movie		PL Ilx Movie / Neo:6 Cinema
		PL Ilx Movie [1], [3], [4], [7], [8], [16]		
		Neo:6 Cinema [1], [3], [4], [7], [8], [16]		
	Drama	Decode Type PL Ilx Movie		PL Ilx Movie / Neo:6 Cinema
		PL Ilx Movie [1], [3], [4], [7], [8], [16]		
		Neo:6 Cinema [1], [3], [4], [7], [8], [16]		
	Mono Movie		[1], [2], [6], [10], [13], [14], [15], [16]	
	Sports		[1], [3], [4], [7], [8], [16]	
	Action Game		[1], [3], [4], [7], [8], [16]	
	Roleplaying Game		[1], [3], [4], [7], [8], [16]	
MUSIC	Hall in Munich	[1], [2], [6], [10], [16]		
	Hall in Vienna	[1], [2], [6], [10], [16]		
	Chamber	[1], [2], [10], [13], [14], [15], [16]		
	Cellar Club	[1], [2], [6], [10], [16]		
	The Roxy Theatre	[1], [2], [6], [10], [13], [14], [15], [16]		
	The Bottom Line	[1], [2], [6], [10], [16]		
	Music Video	[1], [3], [4], [7], [8], [16]		
	STEREO	2ch Stereo	Direct	[Auto] / Off
Initialize				
		[1]	DSP Level	-6 to +3 dB, [0 dB]
		[2]	Initial Delay	1 to 99 ms
		[3]	P. Initial Delay	
		[4]	Sur. Initial Delay	1 to 49 ms
		[6]	Room Size	0.1 to 2.0
		[7]	P. Room Size	
		[8]	Sur. Room Size	
		[10]	Liveness	0 to 10
		[11]	S. Liveness	
		[13]	Reverb Time	1.0 to 5.0 s
		[14]	Reverb Delay	0 to 250 ms
		[15]	Reverb Level	0 to 100 %
		[16]	Initialize	
5 • Memory Guard				[Off] / On

INTERNAL VIEW



- ❶ OPERATION (2) P.C.B.
- ❷ OPERATION (9) P.C.B. (R, T, K, A, B, G, E, F, L models)
- ❸ HD RADIO TUNER (U model)
- ❹ VIDEO (4) P.C.B.
- ❺ OPERATION (8) P.C.B.
- ❻ ACDC (1) P.C.B.
- ❼ MAIN (1) P.C.B.
- ❽ DIGITAL (3) P.C.B.
- ❾ VIDEO (9) P.C.B. (B, G, E, F models)
- ❿ AM/FM TUNER (C, R, T, K, A, B, G, E, F, L models)
- ⓫ DIGITAL (1) P.C.B.
- ⓬ GUI P.C.B.
- ⓭ VIDEO (1) P.C.B.
- ⓮ MAIN (3) P.C.B. (R, L models)
- ⓯ VIDEO (3) P.C.B.
- ⓰ MAIN (2) P.C.B.
- ⓱ ACDC (2) P.C.B. (U, C, T, K, A, B, G, E, F models)
- ⓲ MAIN (4) P.C.B.
- ⓳ POWER TRANSFORMER
- ⓴ VIDEO (6) P.C.B.
- ⓵ MAIN (6) P.C.B.
- ⓶ ACDC (3) P.C.B.
- ⓷ DIGITAL (2) P.C.B.
- ⓸ OPERATION (10) P.C.B.
- ⓹ OPERATION (4) P.C.B.
- ⓺ OPERATION (1) P.C.B.
- ⓻ OPERATION (5) P.C.B.
- ⓼ OPERATION (3) P.C.B.
- ⓽ OPERATION (6) P.C.B.

SERVICE PRECAUTIONS

Safety measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that positions indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, perform discharge by connecting a discharge resistor (5k-ohms/10W) between terminals at following positions. The time required for discharging is about 30 seconds.
C6006 on ACDC (1) P.C.B.
Refer to "PRINTED CIRCUIT BOARDS: ACDC (1) P.C.B."

■ DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

Disconnect the power cable from the AC outlet.

1. Removal of Top Cover

- a. Remove 4 screws (①), 5 screws (②) and screw (③). (Fig. 1)
- b. Slide the top cover rearward to remove it. (Fig. 1)

2. Removal of Front Panel and Sub-Chassis Unit

- a. Remove screw (④) and then remove the center frame. (Fig. 1)
- b. Remove 2 knobs. (Fig. 1)
- c. Remove 6 screws (⑤) and then remove the front panel. (Fig. 1)
- d. Remove 2 push rivets and then remove the plate side (L) and (R). (Fig. 1)
- e. Remove CB1, CB20, CB461 and CB550. (Fig. 1)
- f. Remove 2 screws (⑥) and then pull out the sub-chassis unit. (Fig. 1)
- g. Unlock and remove CB333 and CB477. (Fig. 1)
- h. Remove the sub-chassis unit. (Fig. 1)

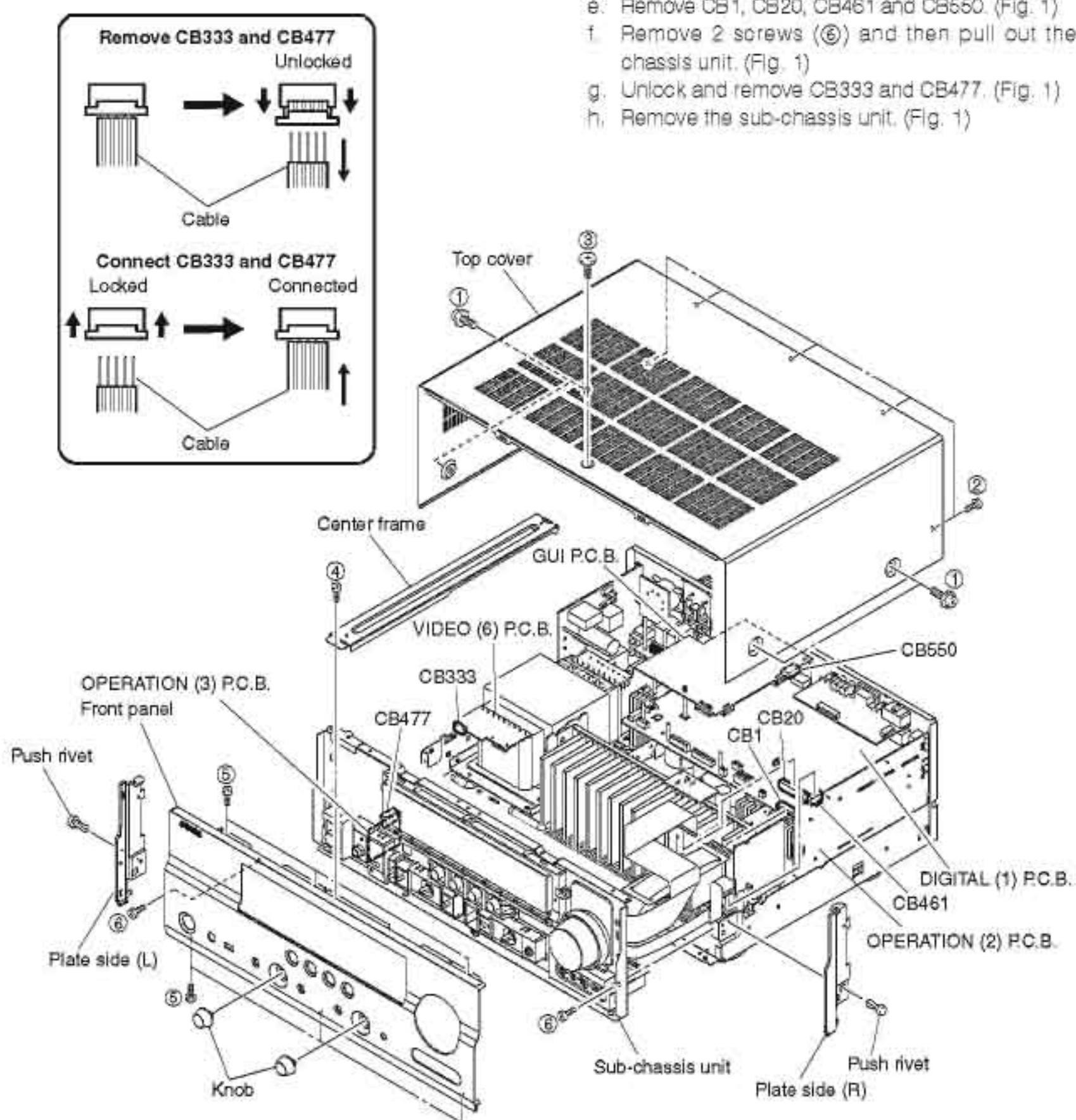


Fig. 1

3. Removal of GUI, DIGITAL (1) and (3) P.C.B.s

- Remove 2 screws (7). (Fig. 2)
- Remove CB501. (Fig. 2)
- Unlock and remove CB500 and CB503. (Fig. 2)
- Release hook, and remove the GUI P.C.B. (Fig. 2)
- Remove 2 screws (8) and 2 jack screws. (Fig. 2)
- Remove CB80 (U model). (Fig. 2)
- Unlock and remove CB81. (Fig. 2)
- Remove the DIGITAL (3) P.C.B. (Fig. 2)
- Remove 3 screws (U model) / 2 screws (C, R, T, K, A, B, G, E, F, L models) (9) and 6 screws (10). (Fig. 2)
- Remove screw (11) and 2 screws (12). (Fig. 2)
- Remove CB7, CB21, CB25, CB29, CB31, CB71 and CB73 (B, G, E, F models). (Fig. 2)
- Unlock and remove CB22-24. (Fig. 2)
- Remove the DIGITAL (1) P.C.B. which is connected directly to the OPERATION (2) P.C.B. with board-to-board connectors. (Fig. 2)

4. Removal of AMP Unit

- Remove 3 screws (13) and 4 screws (14). (Fig. 2)
- Remove 3 screws (15). (Fig. 2)
- Remove the amp unit. (Fig. 2)

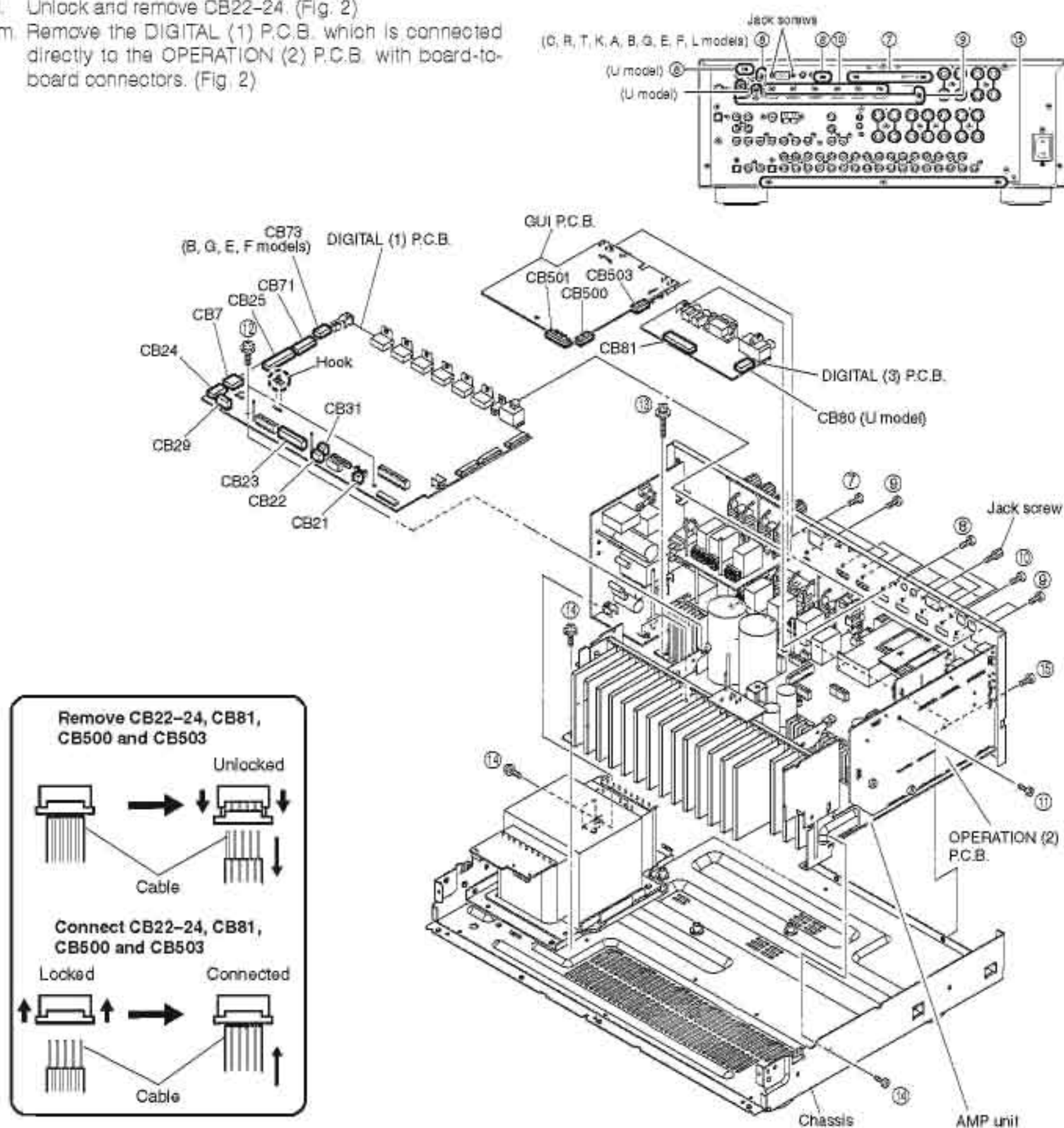


Fig. 2

When checking the P.C.B.s:

- Place the P.C.B.s (with rear panel) upright. (Fig. 3)
 - Connect the ground points of the heatsink, rear panel and MAIN (1) P.C.B. (G1000) to the chassis with a ground lead or the like. (Fig. 3)
 - When connecting the flexible flat cable, be careful with polarity.
 - Reconnect all cables (connectors) that have been disconnected.
- Be sure to use the extension cable for servicing for the following section.

DIGITAL (1) P.C.B. CB20 to OPERATION (1) P.C.B. CB401:

MF125400 (25P, 400mm, P=1.25)

OPERATION (1) P.C.B. CB402 to OPERATION (2) P.C.B. CB461:

MF109400 (9P, 400mm, P=1.25)

DIGITAL (1) P.C.B. CB1 to DIGITAL (2) P.C.B. CB96:

MFA20250 (20P, 250mm, P=1.0)

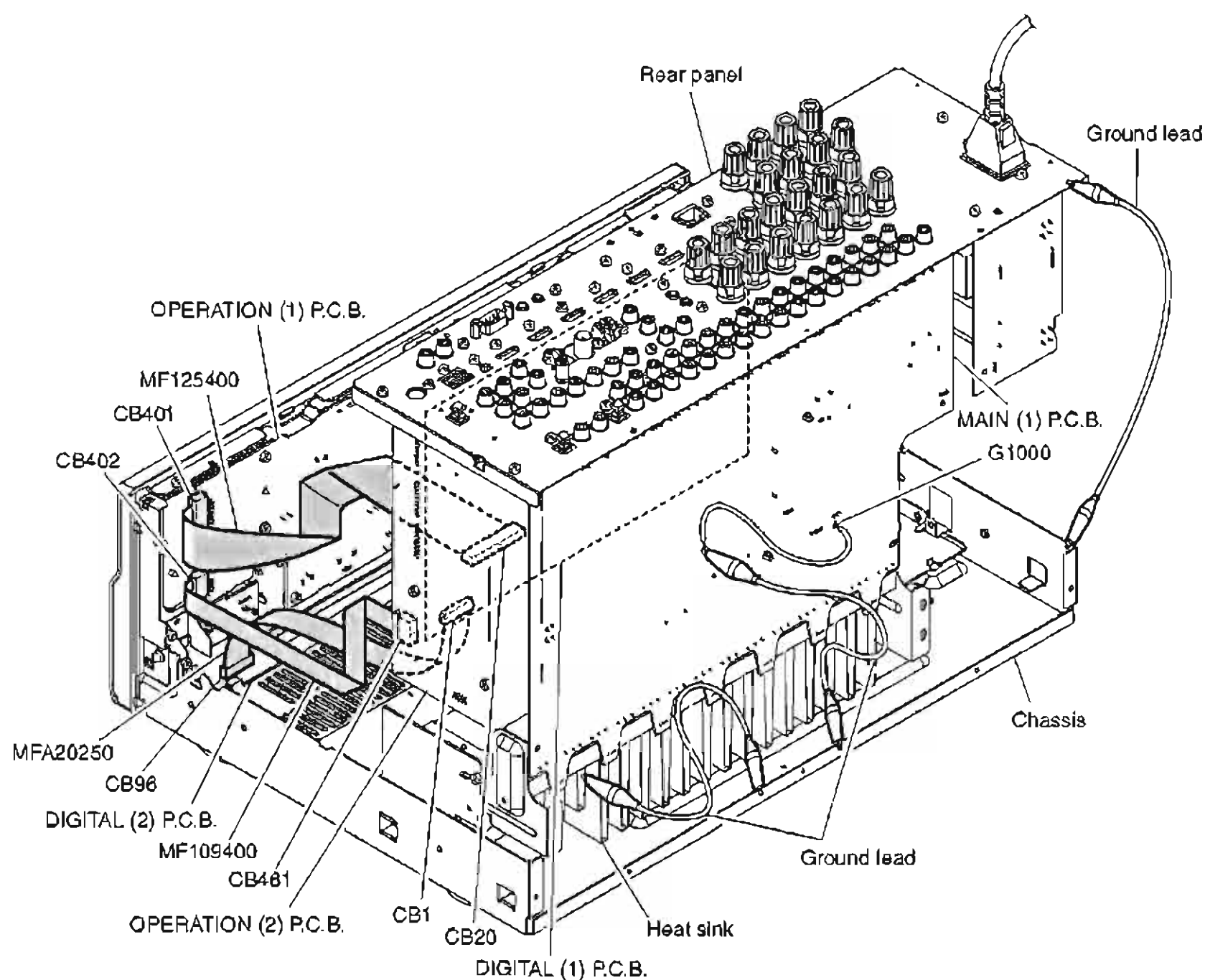


Fig. 3

■ UPDATING FIRMWARE

Note) The user memories (sound field parameters, system memory, tuner presetting, etc.) are preserved even after the firmware is written.

When replacing the following parts, be sure to write the latest firmware.

Replaced parts	Writing method using the USB	Writing method using PC (RS232C)
DIGITAL P.C.B.	yes	yes
IC20 (Main microprocessor) of DIGITAL P.C.B.	no	yes
IC49 (TI (DSP) flash ROM) of DIGITAL P.C.B.	yes	yes
IC513 (BF (Sub-microprocessor) flash ROM) of GUI P.C.B.	yes	no

● Confirmation of firmware version and checksum

Before and after writing firmware, check the firmware version and checksum by using the self-diagnostic function menu.

Start up the self-diagnostic function and select “25. ROM VER/SUM/PORT” menu. (See “SELF-DIAGNOSTIC FUNCTION”)
Using the sub-menu, have the firmware version and checksum displayed, and note down them.

25. ROM VER/SUM/PORT

Firmware version	
<div>Ver# 0024</div>	The firmware version of main microprocessor (IC20 DIGITAL P.C.B.) is displayed.
All checksum	
<div>SUM# 5253</div>	The checksum value of main microprocessor (IC20 DIGITAL P.C.B.) is displayed.
TI (DSP) FLASH ROM version	
<div>TiVer#01.03r1</div>	The firmware version of TI (DSP) FLASH ROM (IC49 DIGITAL P.C.B.) is displayed.
TI (DSP) FLASH ROM checksum	
<div>TiSum#F1AD0135A</div>	The checksum value of TI (DSP) FLASH ROM (IC49 DIGITAL P.C.B.) is displayed.
BF version	
<div>BF Ver# 0019</div>	The firmware version of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.
BF checksum 1 (All/Master boot)	
<div>A1#3ED2Ma#0122</div>	The checksum value (All/Master boot) of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.
BF checksum 2 (Application/USB)	
<div>AF#67DAUs#ADBC</div>	The checksum value (Application/USB) of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.

Supplementary information:

In this unit, it is possible to check the firmware version by using the ADVANCED SETUP menu as well as the self-diagnostic function menu.

Follow the procedures below.

1. While pressing the "STRAIGHT" key of this unit, press the "MAIN ZONE ON/OFF" key of this unit to turn on the power.
The ADVANCED SETUP mode is activated, and "ADVANCED SETUP" is displayed. (Fig. 1)
2. Rotate the "PROGRAM" knob and select the "VER--- -- --". (Fig. 1)
After a few seconds, each firmware version is displayed.

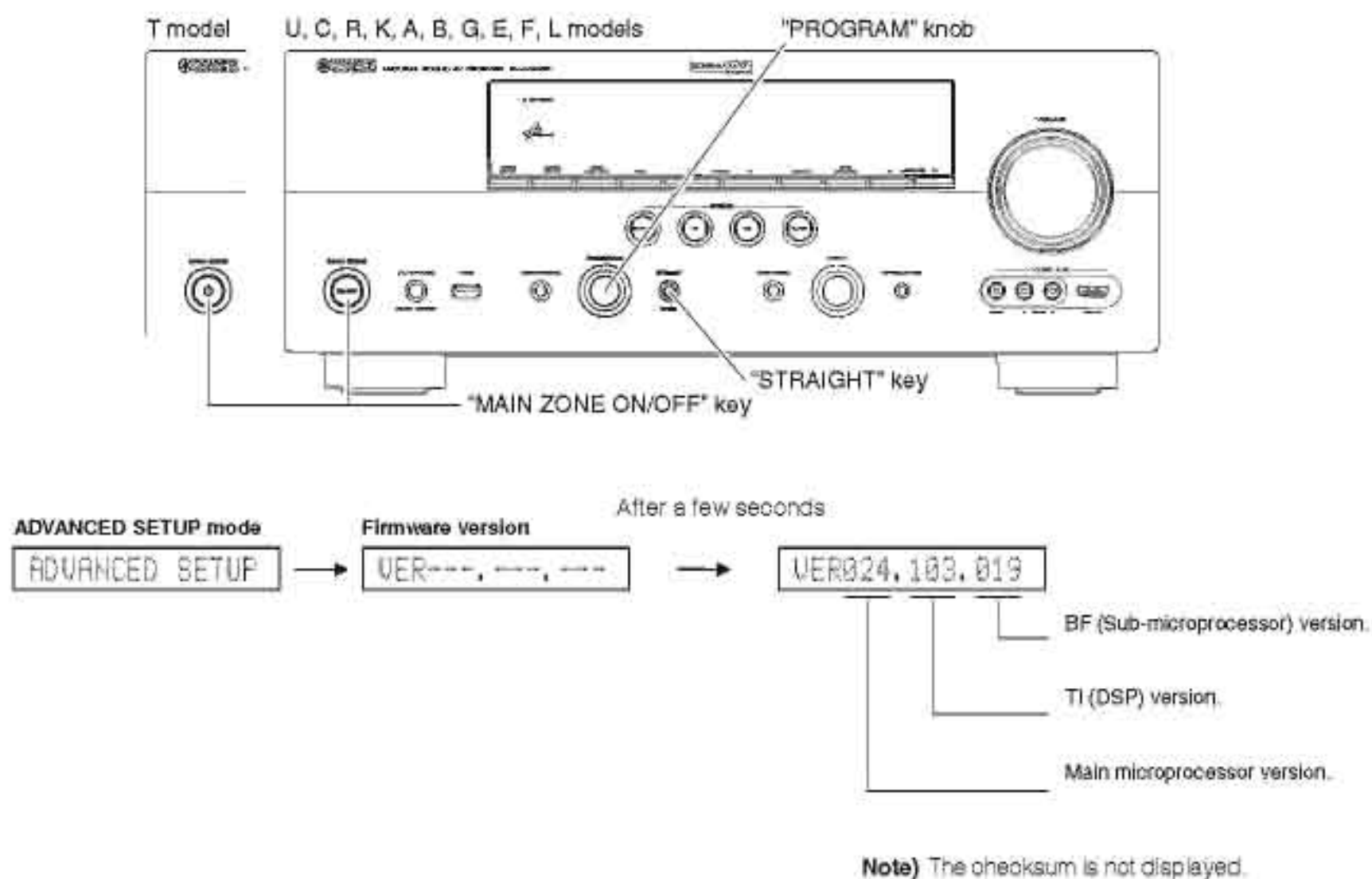


Fig. 1

3. Press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.

Writing method using the USB

● Required Tools

- USB storage device
- Firmware
 - RX-V2065 : RX-V2065_XXXX.bln
 - HTR-6295 : HTR-6295_XXXX.bln

● Preparation

1. Download the latest firmware from the specified download source to the folder of the PC.
2. Copy the latest firmware from the PC to the root folder of the USB storage device.

Note) When the firmware is copied to a sub-folder of the USB storage device, the update will not proceed.

● Operation procedures

1. Insert the USB storage device to the USB terminal located on the front panel of this unit. (Fig. 2)
 2. While pressing the "TONE CONTROL" key of this unit, connect the power cable to the AC outlet. (Fig. 2)
- Writing of the firmware is started and the screen is displayed as shown below. (Fig. 3)

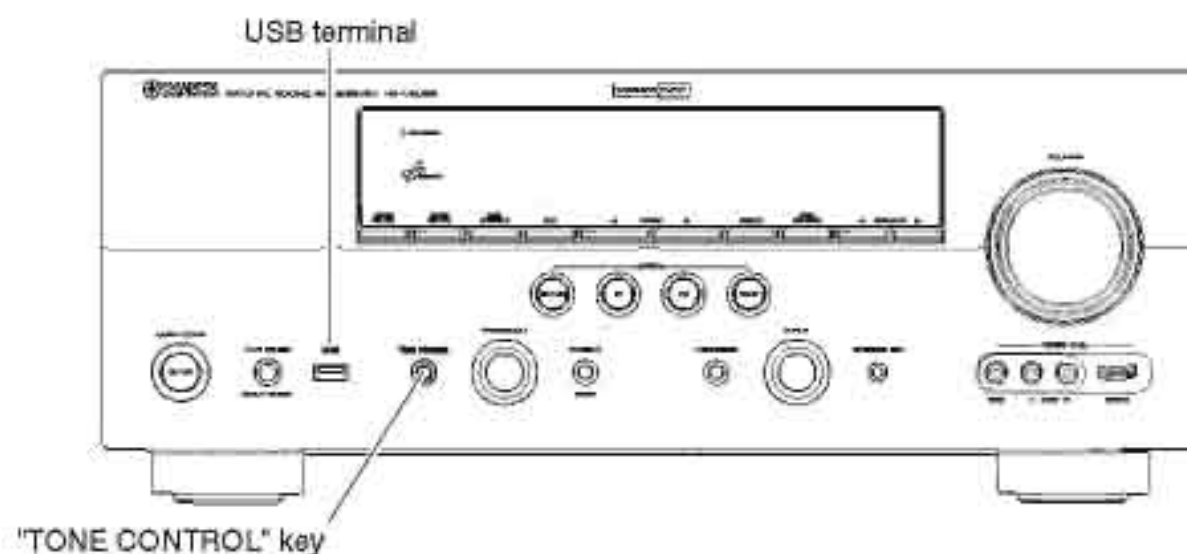


Fig. 2

Writing is started.

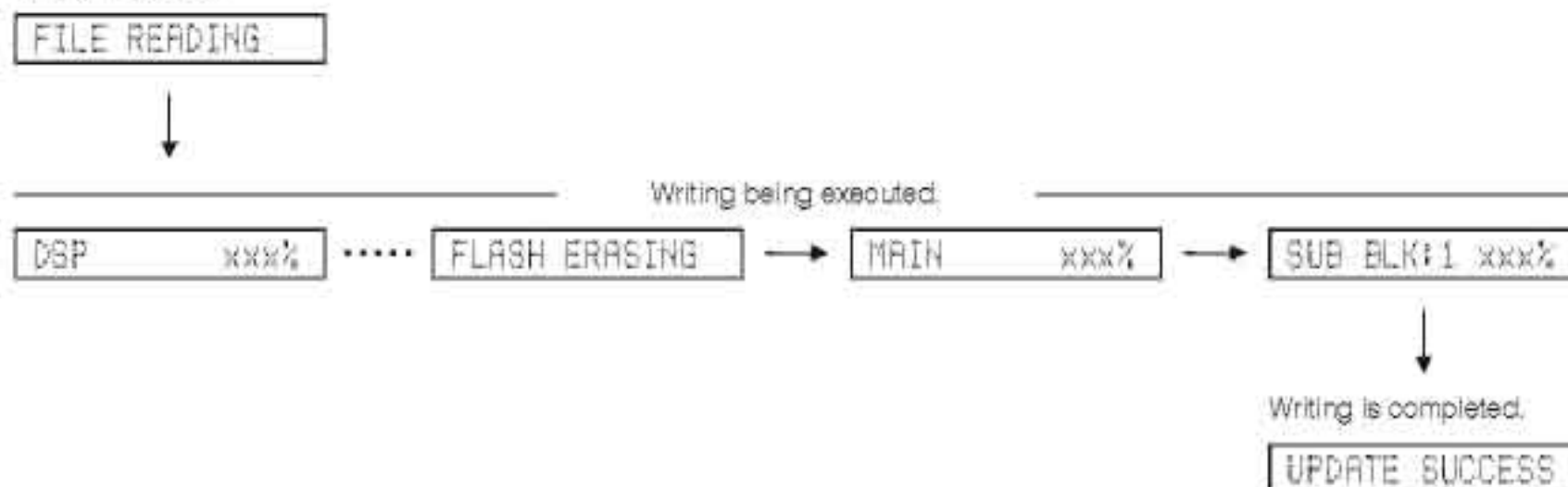


Fig. 3

3. When writing of the firmware is completed, "UPDATE SUCCESS" is displayed.
 - * When "UPDATE FAIL" is displayed before writing is completed, perform the operation procedures from step 1 to 2 again.
4. Press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.
5. Remove the USB storage device from the USB terminal of this unit.
6. Start up the self-diagnostic function and select "25. ROM VER/SUM/PORT" menu.
Using the sub-menu, have the firmware version and checksum displayed, and then check that they are the same as written ones.
 - * When the displayed firmware version and checksum are different from written ones, perform the "Writing the Firmware" procedure all over again.
7. Press the "MAIN ZONE ON/OFF" key to turn off the power.

Writing method using PC (RS232C)

● Required Tools

- Firmware downloader program
For main microprocessor:
DSP_FLASHER_v3.0.exe
For DSP (TI flash ROM):
DSP_FLASHER Ver2.7.exe
- Firmware
For main microprocessor: V265xxxx.mot
For DSP (TI flash ROM):
Vx65_data1_verxxxxr.hex
- RS232C cross cable "D-sub 9 pin female"
(Specifications)

Pin No.2 RxD	Pin No.3 TxD	Pin No.2 RxD	Pin No.3 TxD
Pin No.5 GND	Pin No.7 RTS	Pin No.5 GND	Pin No.7 RTS
Pin No.7 RTS	Pin No.8 CTS	Pin No.8 CTS	Pin No.7 RTS
- RS232C conversion adaptor (Part No.: WR492800)

● Preparation and precautions

- Download the firmware downloader program and the firmware from the specified source to the same folder of the PC.
- Prepare the above specified RS232C cross cable.
- While writing the firmware, keep the other application software on the PC closed.
It is also recommended to keep the software on the task tray closed as well.

● Connection

1. Remove the top cover. (See "DISASSEMBLY PROCEDURES")
2. Connect the writing port (CB27 of DIGITAL P.C.B.) of this unit to the serial port (RS232C) of the PC with RS232C cross cable, RS232C conversion adaptor and flexible flat cable as shown below. (Fig. 1)
3. Set the switch (SW7) of RS232C conversion adaptor as shown below. (Fig. 1)

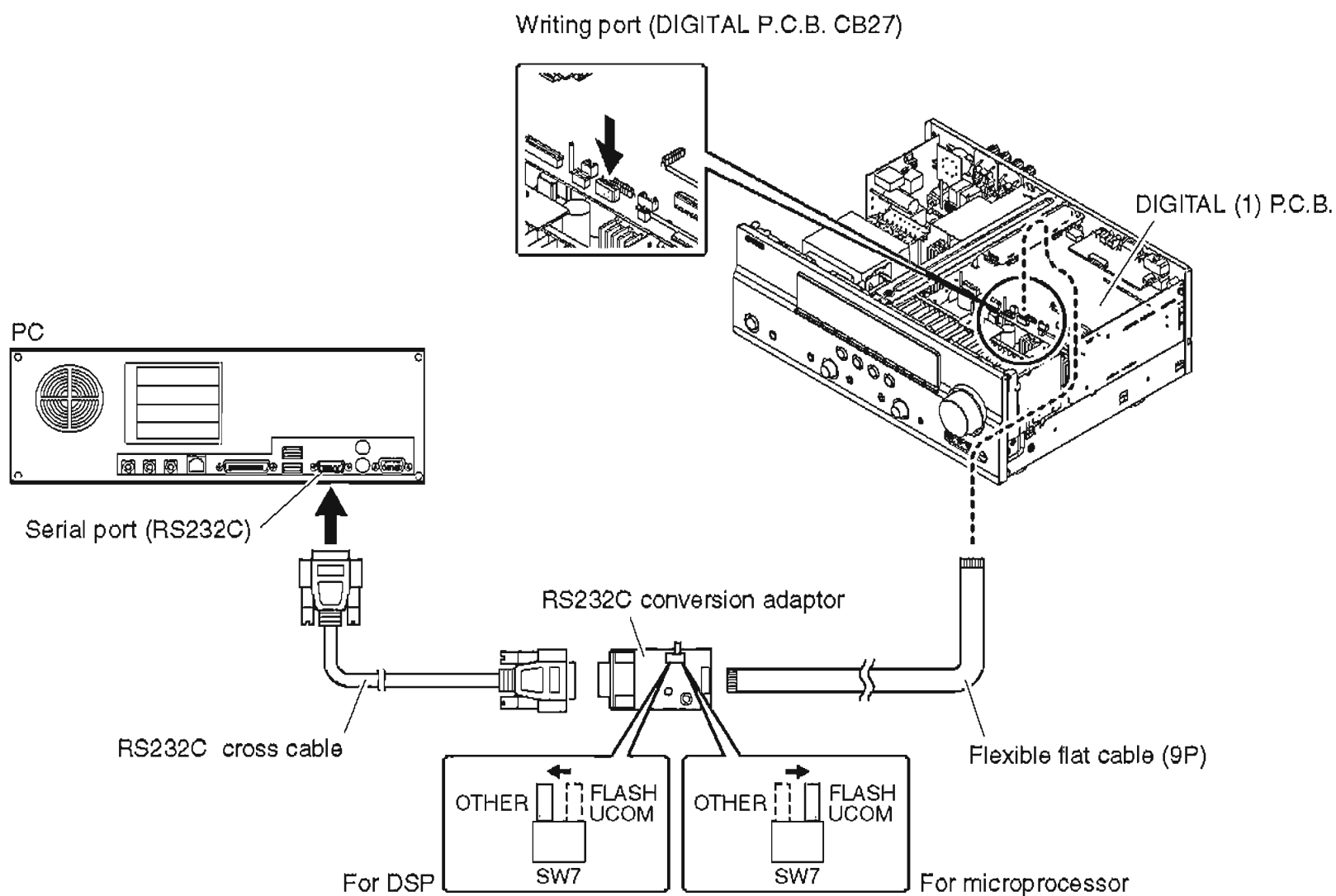


Fig. 1

● Operation Procedures

Writing to the main microprocessor

1. With the power cable of this unit disconnected from the AC outlet, start up DSP_FLASHER_v3.0.exe.
The screen appears as shown below, (Fig. 2)
2. Click [...] and select the firmware name. (Fig. 2)

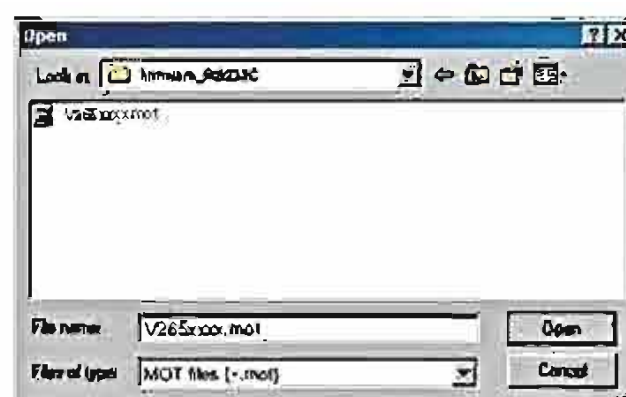
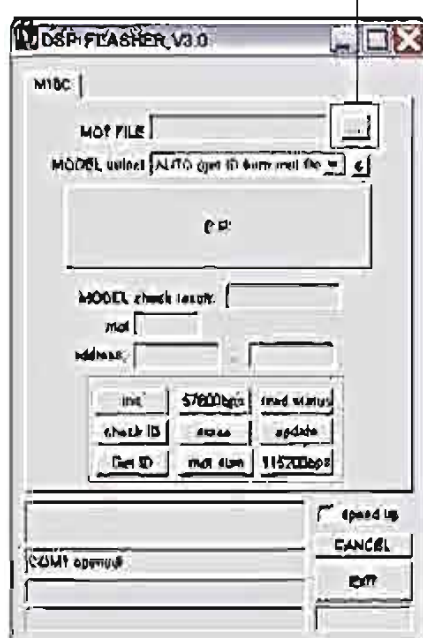


Fig. 2

- 3. Connect the power cable of this unit to the AC outlet.
- 4. Click [E.P.] to start writing. (Fig. 3)
- 5. When writing of the firmware is completed, "Program Finished!" is displayed. (Fig. 3)
Click [OK]. (Fig. 3)
- 6. Click [EXIT] to end DSP_FLASHER_v3.0.exe. (Fig. 3)

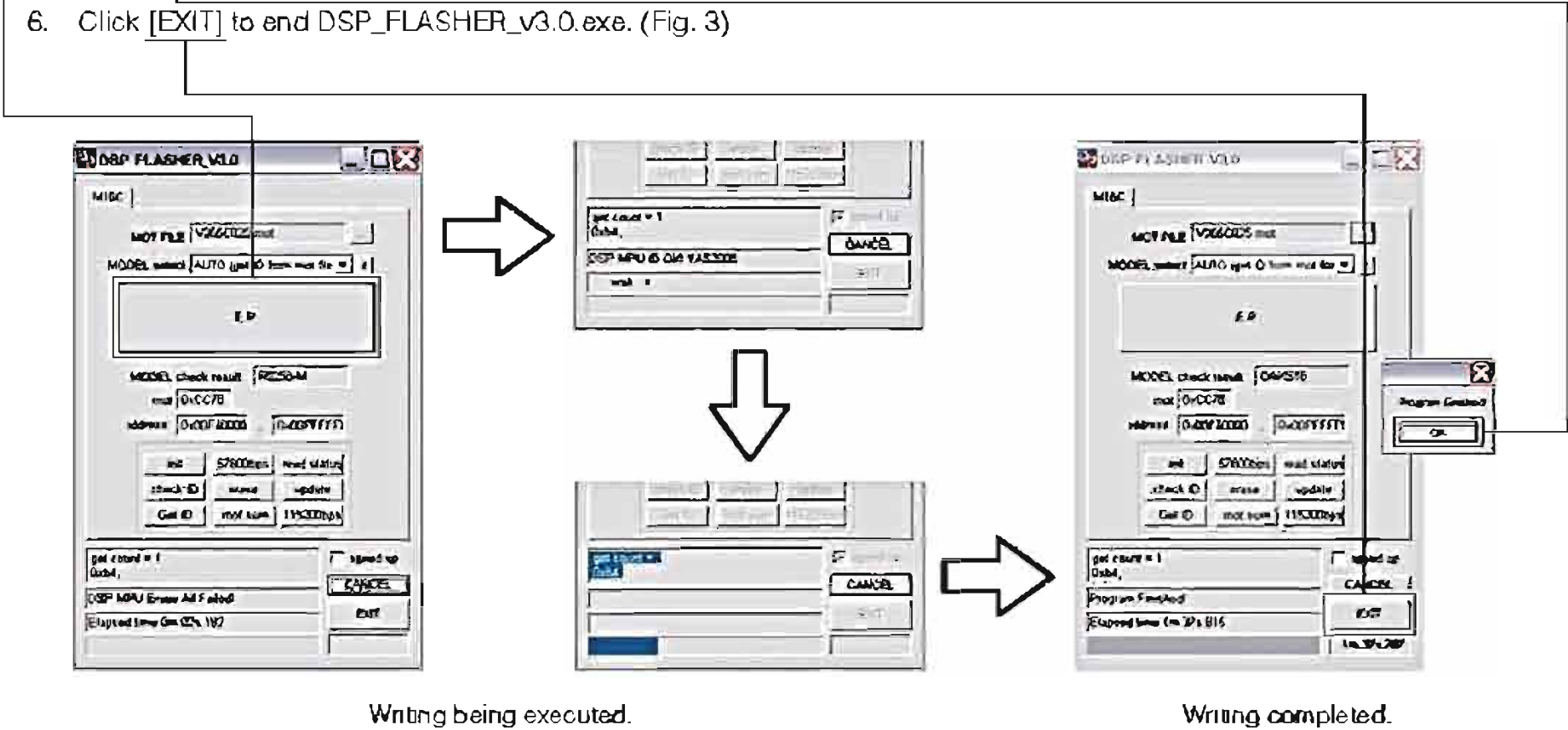


Fig. 3

- 7. Disconnect the power cable of this unit from the AC outlet.
- 8. Remove the RS232C conversion adaptor and flexible flat cable from the writing port (CB27, DIGITAL P.C.B.) of this unit.
- 9. Start up the self-diagnostic function and select "25.ROM VER/SUM/PORT" menu.
Using the sub-menu, have the firmware version and checksum displayed, and then check that they are the same as written ones.
* When the firmware version and checksum are different from written ones, perform the "Writing to the microprocessor" all over again.
- 10. Press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.
- 11. Disconnect the power cable of this unit from the AC outlet.

Writing to DSP

1. With the power cable of this unit disconnected from the AC outlet, start up DSP_FLASHER Ver2.7.exe.
The screen appears as shown below. (Fig. 4)
2. Click [Vx61 DSP]. (Fig. 4)

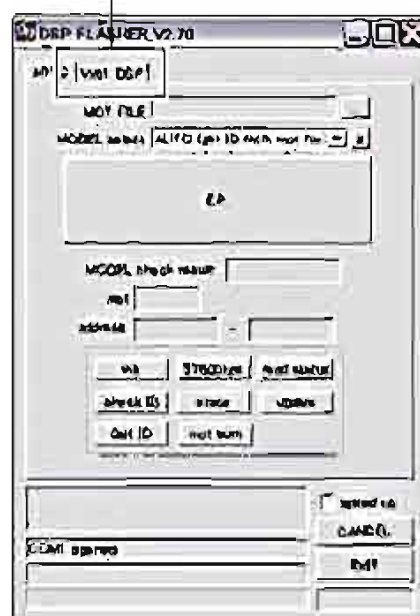


Fig. 4

3. Click [...] and select the firmware name. (Fig. 5)

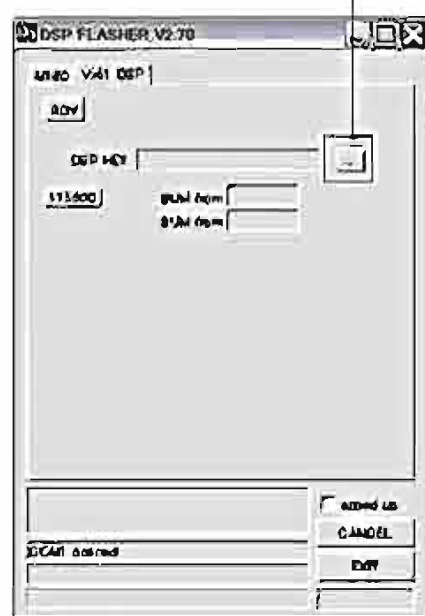


Fig. 5

4. Click [RDY]. (Fig. 6)

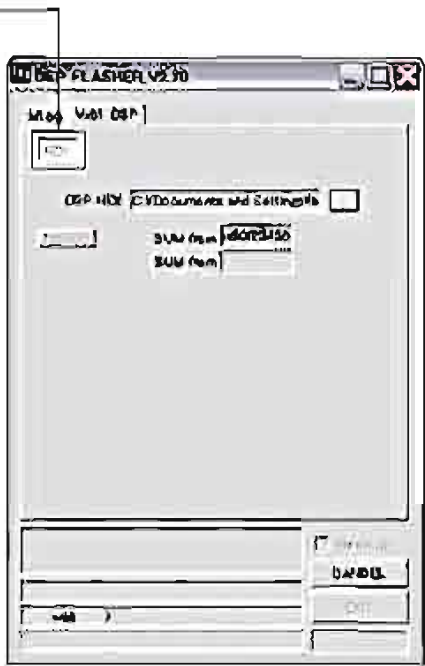
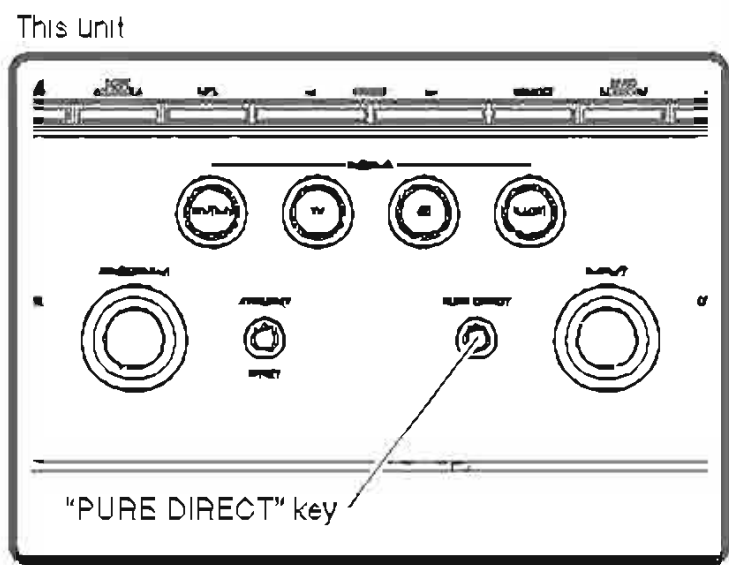


Fig. 6

5. While pressing the “PURE DIRECT” key of this unit, connect the power cable of this unit to the AC outlet. (Fig. 7)
Writing is started automatically. (Fig. 7)



Writing being executed

Fig. 7

6. When writing of the firmware is completed, "Vx61 DSP Flash finished!" is displayed. (Fig. 3)
7. Click [EXIT] to end DSP_FLASHER_v2.7.exe. (Fig. 8)

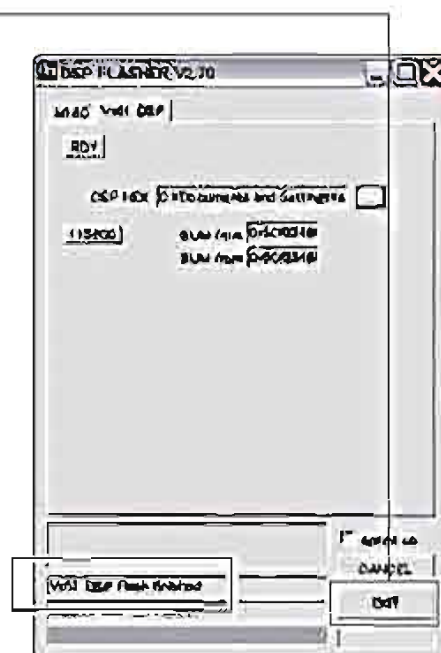


Fig. 8

8. Start up the self-diagnostic function and select "25.ROM VER/SUM/PORT" menu.
Using the sub-menu, have the firmware version and checksum displayed, and then check that they are the same as written ones.
* When the firmware version and checksum are different from written ones, perform the "Writing to DSP" all over again.
9. Press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.
10. Disconnect the power cable of this unit from the AC outlet.
11. Remove the RS232C conversion adaptor and flexible flat cable from the writing port (CB27, DIGITAL P.C B.) of this unit.

■ SELF-DIAGNOSTIC FUNCTION

CAUTION!

Do not disconnect the power cable of this unit from the AC outlet while this unit is in the self-diagnostic function mode, otherwise the user memories (Input rename, sound field parameters, system memory, tuner presetting, etc.) will be initialized.

Therefore, to cancel the self-diagnostic function, be sure to press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.

This unit has self-diagnostic functions that are intended for inspection, measurement and location of faulty point.

There are 27 main menu items, each of which has sub-menu items.

Listed in the table below are main menu items and sub-menu items.

Note that not all menu items listed will apply to the models covered in this service manual.

No.	Main menu	Sub-menu	
1	BYPASS	1	ANALOG BYPASS
		2	DSP BYPASS
2	RAM THROUGH	1	RAM MARGIN
		2	RAM FULL ALL
		3	RAM FULL CENTER
		4	RAM FULL SURROUND
		5	RAM FULL SURROUND BACK
3	HDMI AUDIO	1	SPDIF
		2	Multi
		3	DSD
4	SPEAKERS SET	1	FRNT: SML 0dB
		2	CENTER: NONE
		3	LFE/B: FRNT
		4	Zone2/3 Amp ON
		5	BI-AMP
		6	TONE: MAX
		7	TONE: MIN
		8	SPEAKER 8 ohms
5	MULTI CH-INPUT	1	8oh INPUT 8 ohms
		2	8oh INPUT 8 ohms
		3	LIM/PLDET/THM
6	MIC CHECK	1	MIC CHECK
7	FL/GUI CHECK	1	VFD CHECK
		2	VFD DISP OFF / MONITOR OUTPUT OFF
		3	VFD DISP ALL / COMPONENT OUTPUT OFF
		4	VFD DIMMER / GUI SCREEN ON
		5	CHECK PATTERN / GUI SCREEN ON
8	MANUAL TEST	1	TEST ALL
9	A/D DATA CHECK	1	PS1/PS2
		2	DC/TH
		3	IMP/PL
		4	DST/DK
		5	K0/K1

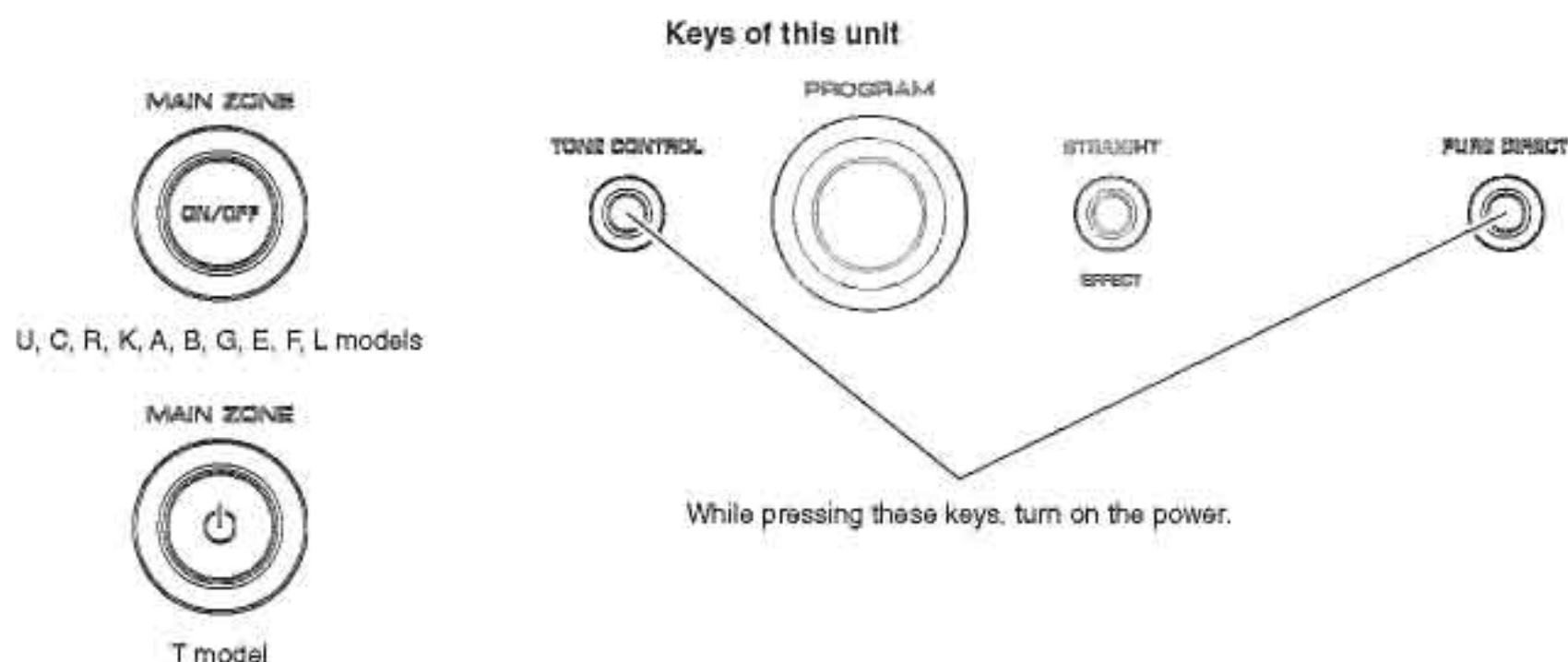
No.	Main menu	Sub-menu	
10	VIDEO CHECK	1	I2C
		2	DIGITAL COMPONENT
		3	DIGITAL CVBS
		4	DIGITAL Y/C (B, G, E, F models)
		5	ANALOG BYPASS
		6	TEST PATTERN
		7	VIDEO INFORMATION
11	XM STATUS (U model)	1	1k -1dB /44kHz
		2	1k -61dB /44kHz
		3	Mute /44kHz
		4	XM Tone /44kHz
		5	ISO Tone /44kHz
		6	1k -1dB /32kHz
		7	1k -61dB /32kHz
		8	Mute /32kHz
		9	XM Tone /32 kHz
		10	ISO Tone /32 kHz
		11	Bus Power: OFF
12	SIRIUS (U model)	1	SIRIUS: OK (NG)
		2	SR
		3	SSP (SIRIUS #0 VERSION)
		4	MAC (SIRIUS #1 VERSION)
		5	ADP (SIRIUS #2 VERSION)
		6	PRDID
		7	SEQID
13	HD RADIO (U model)	1	HD CPU VERSION
		2	HD DSP VERSION
14	DOCK	1	DOCK
		2	BT VERSION
15	HDMI INFO	1	HMN
		2	HPI
		3	HVN
16	HDMI SELECT	1	HDMI NONE
		2	HDMI IN 1
		3	HDMI IN 2
		4	HDMI IN 3
		5	HDMI IN 4
		6	HDMI IN F
		7	HDMI UP CONVERSION
		8	HDMI UP THROUGH
17	USB	1	USB File 1
		2	USB File 2

No.	Main menu	Sub-menu	
18	IF STATUS (Not applied to these models.)	1	DSP STATUS
19	BUS CHECK	1	TI BUS
		2	BF LOOP
20	NO MENU	Invalidity	
21	PROTECTION HISTORY	1	HISTORY 1
		2	HISTORY 2
		3	HISTORY 3
		4	HISTORY 4
22	NO MENU	1	Invalidity
23	UPDATE	1	TI FLASH BOOT (Not applied to these models.)
24	FACTORY PRESET	1	PRESET INHI
		2	PRESET RSRV
25	ROM VER/SUM/PORT	1	VERSION
		2	ALL SUM
		3	TI (DSP) FLASH VERSION
		4	TI (DSP) FLASH SUM
		5	BF VERSION
		6	BF SUM 1 (All/Main)
		7	BF SUM 2 (Application/USB)
		8	XM VERSION (U model)
		9	SIRIUS VERSION (U model)
		10	MODEL/DESTINATION
		11	Verify (Not applied to these models.)
		12	MAC address
26	SERIAL	1	RS-232C loop back check
		2	EEPROM check
27	NETWORK	1	IP Address check
		2	MAC Address check
		3	MAC LABEL No. SET
		4	LINK check
		5	NETWORK loop back check
		6	Line noise measurement 10Mbps
		7	Line noise measurement 100Mbps

● Starting Self-Diagnostic Function

While pressing those 2 keys of this unit as shown in the figure below, press the "MAIN ZONE ON/OFF" key to turn on the power.

The self-diagnostic function mode is activated.



● Starting Self-Diagnostic Function in the protection cancel mode

If the protection function works and causes hindrance to trouble shoot, cancel the protection function as described below, and it will be possible to enter the self-diagnostic function mode.

(The protection functions other than the excess current detect function will be disabled.)

While pressing those 2 keys as shown in the figure above, press the "MAIN ZONE ON/OFF" key to turn on the power and keep pressing those 2 keys and "MAIN ZONE ON/OFF" key for 3 seconds or longer.

The self-diagnostic function mode is activated with the protection functions disabled.

In this mode, the SLEEP segment of the FL display of this unit flashes to indicate that the mode is self-diagnostic function mode with the protection functions disabled.

CAUTION!

Using this product with the protection function disabled may cause damage to itself. Use special care when using this mode.

● Canceling Self-Diagnostic Function

1. Before canceling self-diagnostic function, execute setting for FACTORY PRESET of main menu No. 24 (Memory initialization inhibited or Memory initialized).
 - * In order to keep the user memory stored, be sure to select PRESET INHIBITED (Memory initialization inhibited).
2. Press the "MAIN ZONE ON/OFF" key of this unit to turn off the power.

● Display provided when Self-Diagnostic Function started

The display is as described below depending on the situation when the last time the power to this unit is turned off.

1. When the power is turned off by usual operation:

The FL display of this unit displays "NO PROTECT" then the main menu (sub-menu "1. ANALOG BYPAS" of main menu 1 BYPASS) a few seconds later.



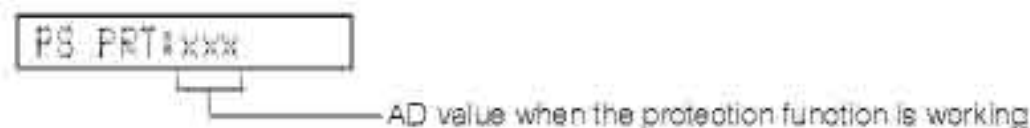
2. When the protection function worked to turn off the power:

The FL display of this unit displays the data of protection function which worked at that time then the main menu (sub-menu "1. ANALOG BYPAS" of main menu 1 BYPASS) a few seconds later.

Note At that time if you reactivate the self-diagnostic function after turning off the power once by pressing the "MAIN ZONE ON/OFF" key, "NO PROTECT" will be displayed because that situation is equal to "1. When the power is turned off by usual operation;" described above.

However the protection function history is stored in a backup memory. For details, refer to main menu 21 PROTECTION HISTORY.

2-1. When the protection function worked due to excess current.



Cause: An excessive current flowed through the power amplifier.

Supplementary Information: As current of the power amplifier is detected, the abnormal channel can be identified by checking the current detect transistor.

Turning on the power without correcting the abnormality will cause the protection function to work immediately and the power supply will instantly be shut off.

Note)

- Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if protection function has been activated 3 times continuously, the power will not turn on even when the "MAIN ZONE ON/OFF" key is pressed. In order to turn on the power again, disconnect the power cable of this unit from the AC outlet once and then reconnect it again.
- The output transistors in each amplifier channel should be checked for damage before applying power of this unit.
- Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.

2-2. When the protection function worked due to a short between speaker terminals.

I PROTECT:xxx

AD value when the protection function is working

Cause: The line between speaker terminals is shorted.

Supplementary Information: As the excess current is detected after operation of the speaker relay, the shorted speaker terminal and the connected speaker can be identified.

Turning on the power without correcting the abnormality will cause the protection function to work immediately and the power supply will instantly be shut off.

2-3. When the protection function worked due to abnormal DC output.

DC FRT:xxx

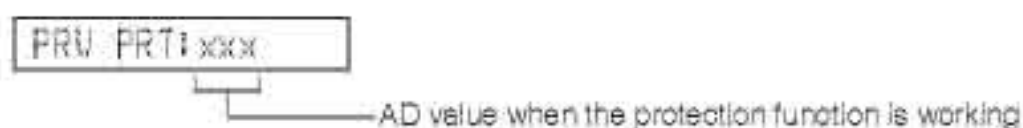
AD value when the protection function is working

Cause: DC output from the power amplifier is abnormal.

Supplementary Information: The protection function worked due to a DC voltage appearing at the speaker terminal. A cause could be a defect in the amplifier.

Turning on the power without correcting the abnormality will cause the protection function to work in 3 seconds and the power supply will be shut off.

2-4. When the protection function worked due to abnormal voltage in the power supply section.

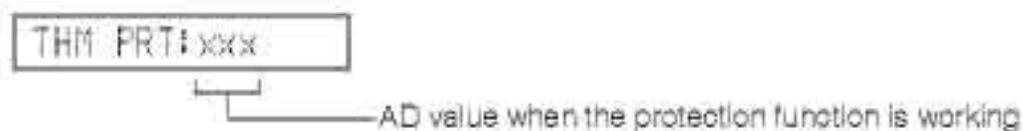


Cause: The voltage in the power supply section is abnormal.

Supplementary Information: The protection function worked due to a defect or overload in the power supply.

Turning on the power without correcting the abnormality will cause the protection function to work in 1 second and the power supply will be shut off.

2-5. When the protection function worked due to excessive heatsink temperature.



Cause: The temperature on the heatsink is excessive.

Supplementary Information: The protection function worked due to the temperature limit being exceeded.

Causes could be poor ventilation or a defect related to the thermal sensor.

Turning on the power without correcting the abnormality will cause the protection function to work in 1 second and the power supply will be shut off.

* For detection of each protection function, refer to main menu described later.

● History of protection function

When the protection function has worked, its history is stored in memory with a backup.

Even if no abnormality is noted while servicing the unit, an abnormality which has occurred previously can be defined as long as the backup data has been stored.

For details of the history of protection function, refer to main menu 21 PROTECTION HISTORY.

The history of the protection function is cleared when self-diagnostic function is cancelled by selecting PRESET RESERVED (Memory Initialized) of main menu 24 or when the backup data is erased.

● Operation procedure of Main menu and Sub-menu

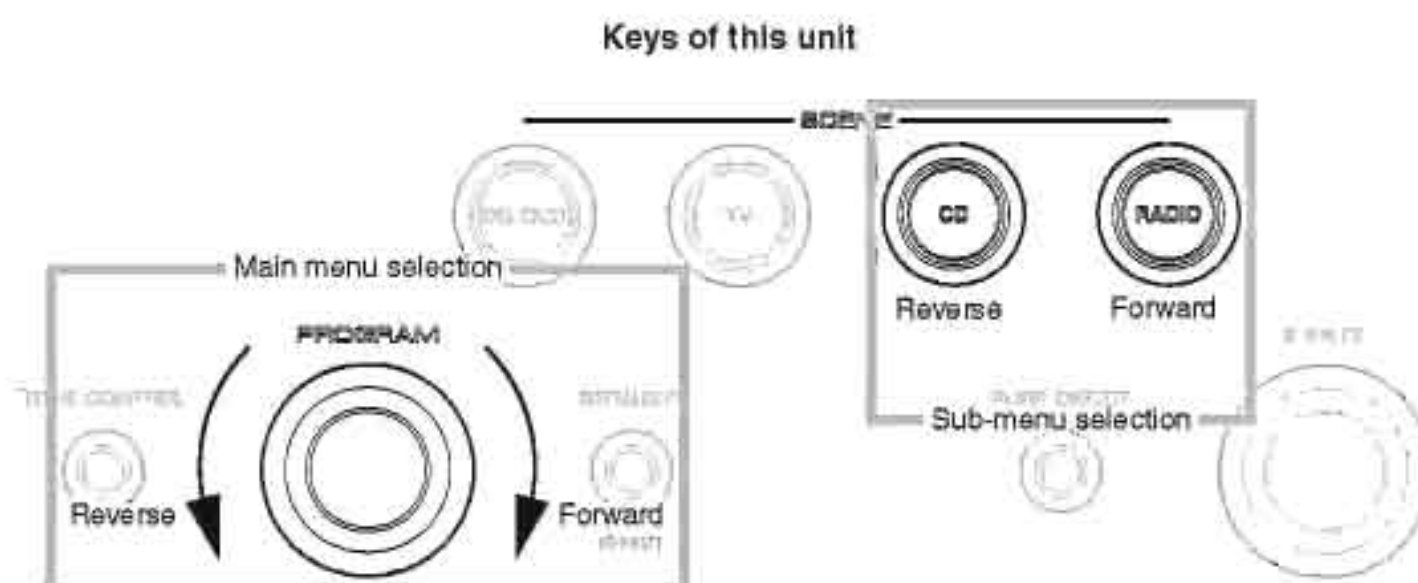
There are 27 main menu items, each of them having sub-menu items.

Main menu selection

Select the main menu using "PROGRAM" knob

Sub-menu selection

Select the sub-menu using "SCENE RADIO" (forward) and "SCENE CD" (reverse) keys.



● Functions in Self-Diagnostic Function mode

In addition to the self-diagnostic function menu items, functions as listed below are available.

- Power ON/OFF
- Master volume
- Muting
- Input select
- Audio select
- PROGRAM select
- Tone control
- PURE DIRECT ON/OFF
- ZONE2 ON/OFF
- ZONE3 ON/OFF
- * Functions related to the tuner and the set menu are not available.

● Initial settings used to start Self-Diagnostic Function

The following initial settings are used when starting self-diagnostic function.

When self-diagnostic function is canceled, these settings are restored to those before starting self-diagnostic function.

- Master volume: -20 dB
- Zone2 Volume: +2.5 dB
- Input: AV5 (MAIN ZONE) / AUDIO1 (ZONE2)
- Main menu: 1. ANALOG BYPASS
- Speaker setting: LARGE, Bass out to SWFR (All channels)
- Speaker impedance: 8 ohms position
- OSD: ON
- XM Power: ON (U model)

● Details of Self-Diagnostic Function menu

1. BYPASS

Using the sub-menu, it is possible to select ANALOG BYPASS output or DSP BYPASS output.

ANALOG BYPASS

The analog input audio signal is output to FRONT L/R in PURE DIRECT.

1. ANALOG BYPASS

INPUT: AV5 ANALOG
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

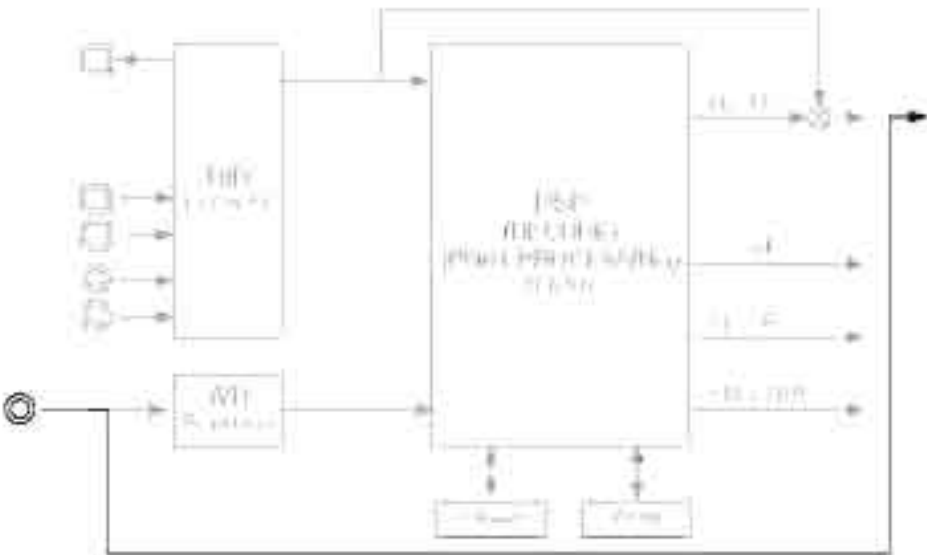
Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	-∞	-∞	-∞	-∞	-∞	-∞	-∞

DSP BYPASS

The digital input audio signal is output to FRONT L/R in PURE DIRECT.

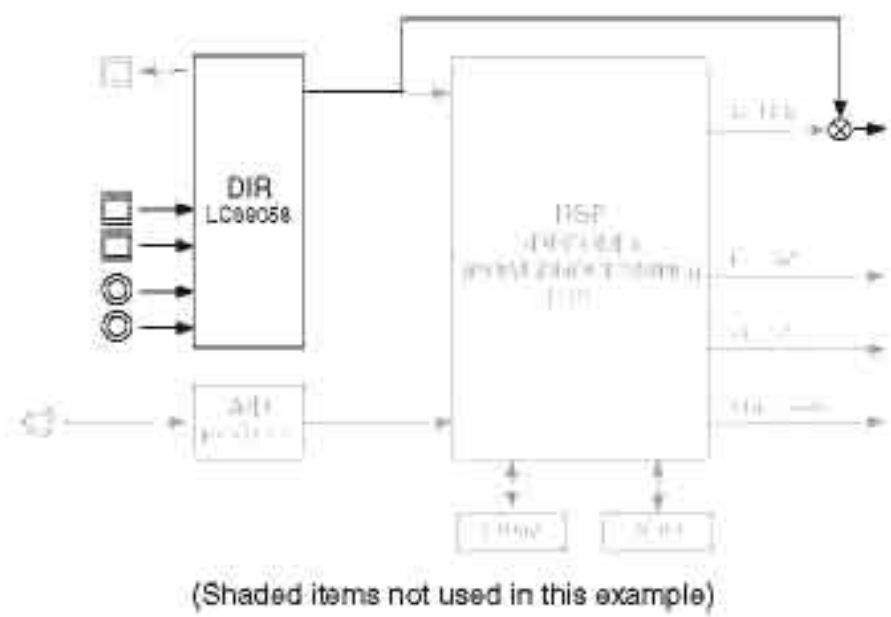
1. DSP BYPASS

ANALOG BYPASS



(Shaded items not used in this example)

DSP BYPASS



2. RAM THROUGH

Using the sub-menu, it is possible to select MARGIN output or FULL BIT output.

RAM MARGIN

The audio signal is output including the head margin.

2. RAM MARGIN

INPUT: AV5 ANALOG
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-∞	-∞	-∞	-6.5 dBm

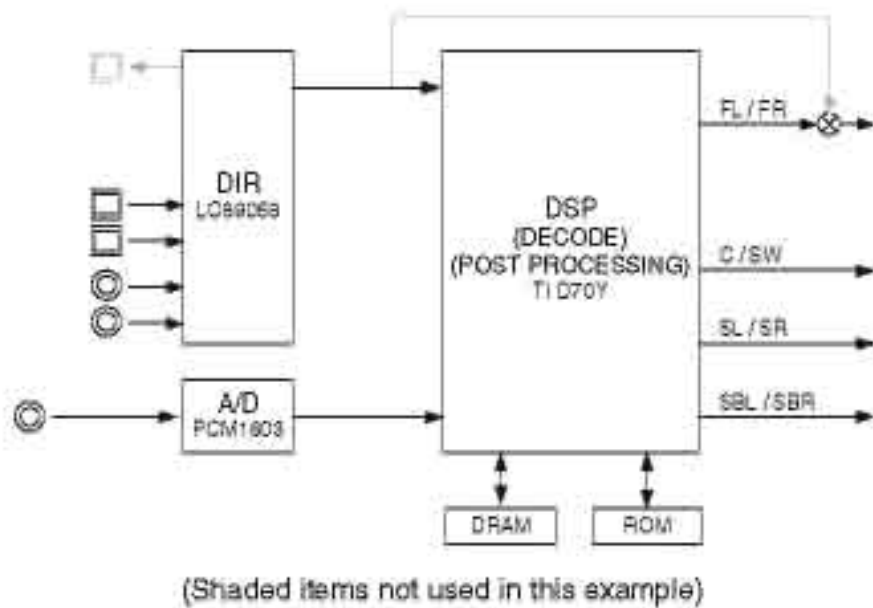
RAM FULL BIT

The audio signal is output in digital full bit without including the head margin.
The SUBWOOFER signal is output but not in digital full bit.

2. RAM FULL ALL

INPUT: AV5 ANALOG
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-∞	-∞	-∞	-6.5 dBm



When input source is stereo, signal is assigned as below.

- Front L → Front L / Center / Surround L / Surround Back L, R
- Front R → Front R / Surround R
- Front L +10 dB → SWFR

RAM FULL CENTER

The audio signal is output to only CENTER in digital full bit without including the head margin.

2. RAM FULL C

INPUT: AV5 ANALOG

SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	-∞	+13.0 dBm	-∞	-∞	-∞	-∞	-∞	-∞

RAM FULL SURROUND

The audio signal is output to only SURROUND L/R in digital full bit without including the head margin.

2. RAM FULL SUR

INPUT: AV5 ANALOG

SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	-∞	-∞	+13.0 dBm	-∞	-∞	-∞	-∞	-∞

RAM FULL SURROUND BACK

The audio signal is output to only SURROUND BACK L/R in digital full bit without including the head margin.

2. RAM FULL SB

INPUT: AV5 ANALOG

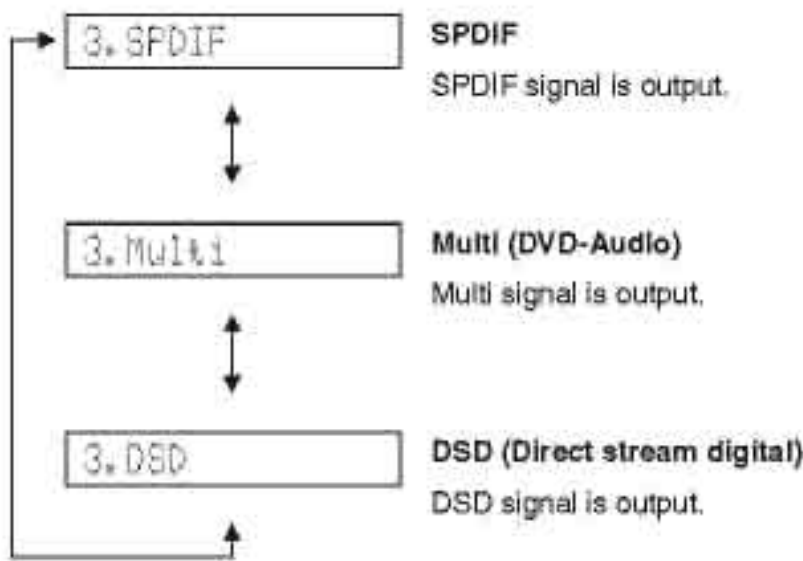
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	-∞	-∞	-∞	+13.0 dBm	-∞	-∞	-∞	-∞

3. HDMI AUDIO

Using the sub-menu, the audio signals input to HDMI IN are selected and output.

* When selecting "DSD", be sure to connect an HDMI unit equipped with DSD output function to this unit.



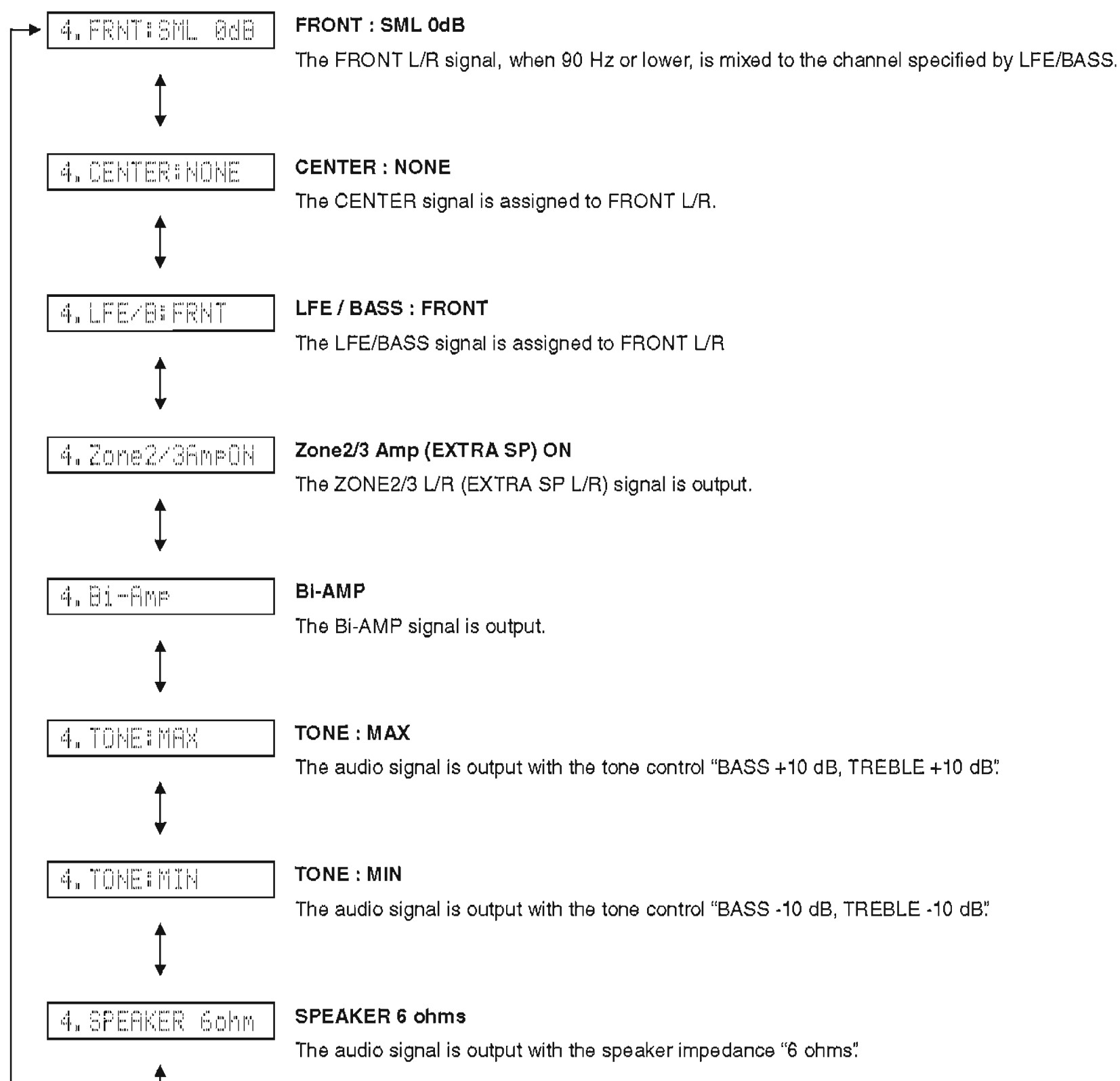
4. SPEAKER SET

The analog switch settings for each sub-menu are as shown in the table below.

	FRONT	CENTER	SURROUND	SURROUND BACK	SUBWOOFER
FRNT : SML 0dB	SMALL	LARGE	LARGE	LARGE	SWFR
CENTER : NONE	LARGE	NONE	LARGE	LARGE	SWFR
LFE/B : FRNT	LARGE	SMALL	SMALL	SMALL	FRONT
Zone2/3 Amp ON	LARGE	LARGE	— (*1) —	— (*1) —	SWFR
BI-AMP	LARGE	LARGE	LARGE	LARGE (*2)	SWFR
TONE : MAX	LARGE	LARGE	LARGE	LARGE	SWFR
TONE : MIN	LARGE	LARGE	LARGE	LARGE	SWFR
SPEAKER 6 ohms	LARGE	LARGE	LARGE	LARGE	SWFR

(*1) ZONE2/3 L/R (EXTRA SP1/2 L/R): LARGE
(*2) BI-AMP: LARGE

- LARGE:** This mode is used for a speaker with high bass reproduction performance (a large unit). Full bandwidth signals are output.
- SMALL:** This mode is used for a speaker with low bass reproduction performance (a small unit). The signals of 90 Hz or less are mixed into the channel specified by LFE/BASS.
- NONE:** This mode is used for no center speaker. The center content is reduced by 3 dB and distributed to FRONT L/R.
- SWFR:** LFE of 5.1 ch signal or LFE/BASS lower than 90 Hz is output through SUBWOOFER OUT.
- FRONT:** LFE of 5.1 ch signal or LFE/BASS lower than 90 Hz is distributed to FRONT L/R.



INPUT: AV5 ANALOG

SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Sub-menu	Input level	Volume	SPEAKER OUT				SUBWOOFER OUTPUT
			FRONT L/R	CENTER	SURROUND L/R	SURROUND BACK L/R	
FRNT : SML 0dB	Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-3.0 dBm
CENTER : NONE	Both ch, -20 dBm	+6.5 dB	+18.0 dBm	-∞	+13.0 dBm	+13.0 dBm	-7.5 dBm
LFE/B : FRNT (50 Hz)	Both ch, -20 dBm	+6.5 dB	-∞	+13.0 dBm	+13.0 dBm	+13.0 dBm	-∞
Zone2/3 Amp ON	Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	-∞ (*)	-∞ (*)	-7.5 dBm
Bi-AMP	Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-7.5 dBm
TONE : MAX	Both ch, -20 dBm	+6.5 dB	+14.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-7.5 dBm
TONE : MIN	Both ch, -20 dBm	+6.5 dB	+12.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-7.5 dBm
SPEAKER 6 ohms	Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-7.5 dBm

(*) ZONE2/3 L/R (EXTRA SP1/2 L/R) SPEAKER OUT: +13.0 dBm

5. MULTI CH-INPUT

The input source “MULTI CHANNEL INPUT” is selected.
Using the sub-menu, it is possible to select the 6 ohms/8 ohms.
When LIM / PLDET / THM menu is selected, keys become non-operable.
However, it is possible to advance to the next main menu by turning the “PROGRAM” knob of this unit.

8 ch INPUT 6 ohms

5.8ch INPUT_6Ω

INPUT: MULTI CH INPUT
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-∞	-∞	-∞	-16.5 dBm

8 ch INPUT 8 ohms

5.8ch INPUT_8Ω

INPUT: MULTI CH INPUT
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	+13.0 dBm	+13.0 dBm	+13.0 dBm	-∞	-∞	-∞	-16.5 dBm

LIM / PLDET / THM

LIM: Setting value of LIM (Limiter control)

* Do not change the value settings because this menu is only for the use of development staff.

PLDET: Power limiter detection

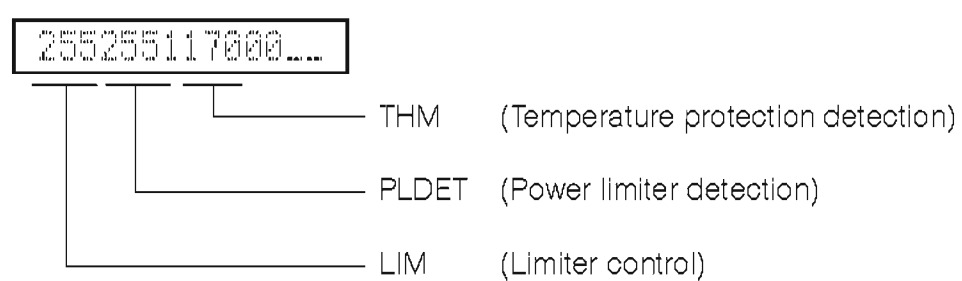
The A/D conversion value during operation is displayed.

(Reference voltage: 3.3 V=255)

THM: Temperature protection detection

The A/D conversion value during operation is displayed.

(Reference voltage: 3.3 V=255)

**6. MIC CHECK**

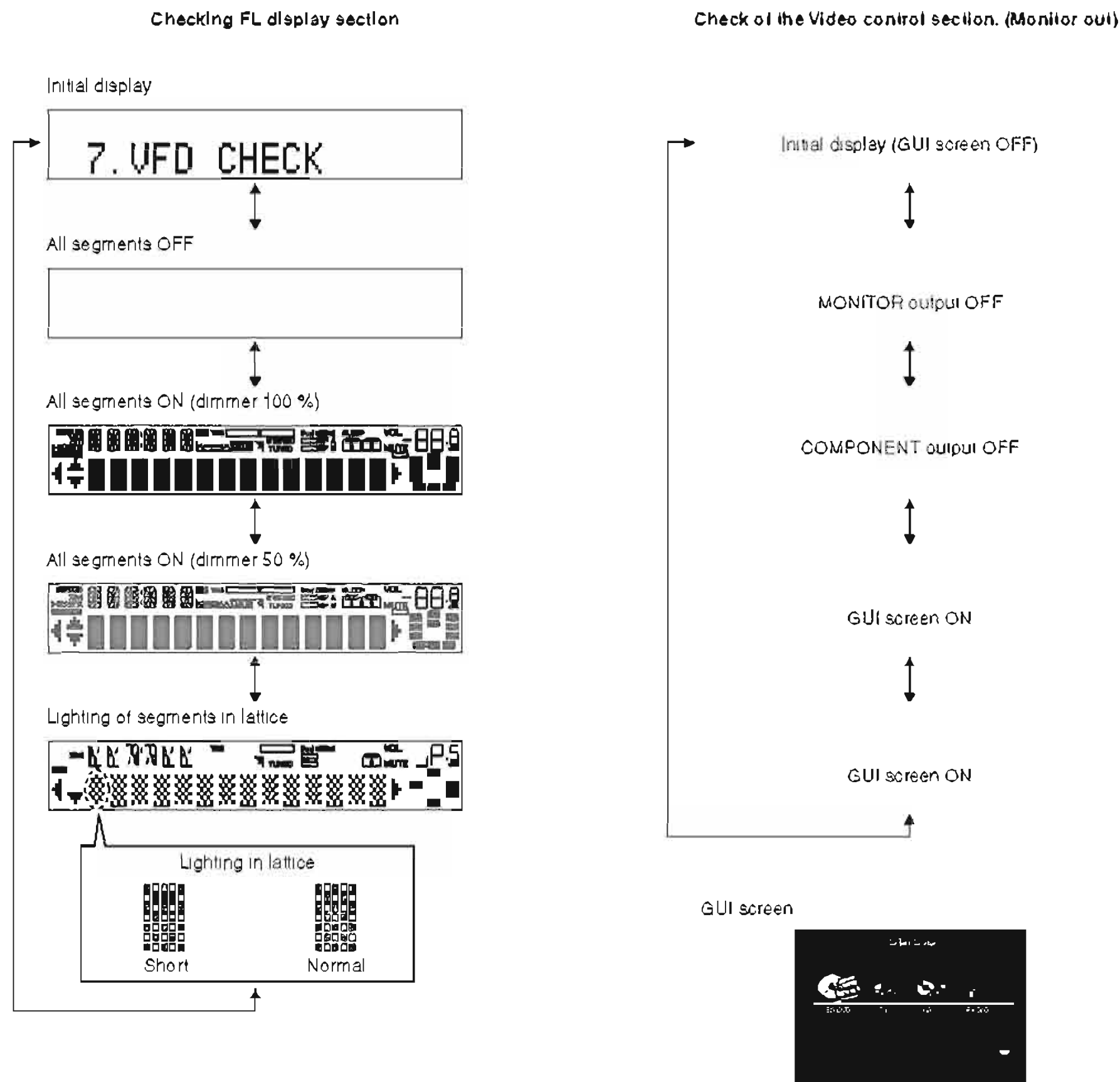
The signals input through the microphone are output to only FRONT L via A/D and D/A.

6. MIC CHK

7. FL/GUI CHECK

This menu is used to check the FL display and video control sections. When checking the video control section, connect a TV monitor to this unit with a component video cable and video pin cable.

Using the sub-menu, the FL display section or video control section switches as shown below.



Segment conditions of the FL driver and the FL tube are checked by turning ON and OFF all segments. Next, the operation of the FL driver is checked by using the dimmer control. Then a short between segments next to each other is checked by turning ON and OFF all segments alternately (in lattice).
(In the above example, the segments in the second row from the top are shorted.)

8. MANUAL TEST

The built-in noise generator of DSP outputs the test noise through the channels specified by using the sub-menu.

The noise frequency for LFE is 30 to 80 Hz. Other than that, the noise frequency is 500 Hz to 2 kHz.

TEST ALL

The test noise is output from all channels.

0.TEST ALL

9. A/D DATA CHECK

This menu is used to display the A/D conversion value of the microprocessor which detects panel keys of this unit and protection functions by using the sub-menu.

When K0/K1 menu is selected, keys become non-operable due to detection of the values of all keys.

However, it is possible to advance to the next main menu by turning the "PROGRAM" knob of this unit.

* The figures in the diagram are given as reference only.

PS1/PS2

PSx: Power supply voltage protection detection

PS1

Voltage detects: AC_BL, AC_12, AC_5, ± 12 and +5V

Normal value: 38 to 128
(Reference voltage: 3.3 V=255)

PS2

Voltage detects: -5 and +5V

Normal value: 31 to 125
(Reference voltage: 3.3 V=255)

* If PS1 or PS2 becomes out of the normal value range, the protection function works to turn off the power.

PS1:087 2:077

DC/TH

DC: Power amplifier DC (DC voltage) output is detected.
Normal value: 32 to 74
(Reference voltage: 3.3 V=255)

TH: Temperature on the heatsink is detected.
Normal value: 0 to 124
(Reference voltage: 3.3 V=255)

* If DC or TH becomes out of the normal value range, the protection function works to turn off the power.

DC:049 TH:117

IMP/PL

IMP: 8 or 6 ohms impedance setup detection
IMP 8: 8 ohms setting
IMP 6: 6 ohms setting

PL: PLDET (Power amplifier output voltage detection)
The power amplifier output voltage is detected and the power amplifier input voltage is controlled according to the detected output voltage.
(Reference voltage: 3.3 V=255)

IMP:8 PL:255

U, C, T, K, A, B, G, E, F models (Reference voltage: 3.3 V=255)

	During normal operation	Value for starting limiter operation	Value for canceling limiter operation
PLDET (8 ohms/6 ohms)	255 / 255	87 / 146	125 / 171
LIM (Limiter control)	H	L	H

R, L models (Reference voltage: 3.3 V=255)

	During normal operation	Value for starting limiter operation	Value for canceling limiter operation
PLDET (8 ohms/6 ohms)	255 / 255	100 / 100	131 / 131
LIM (Limiter control)	H	L	H

DST/DK

DST: Destination detection
(Reference voltage: 3.3 V=255)

DK: DOCK type detection
(Reference voltage: 3.3 V=255)

DST:211 DK:255

Destination detection for AD port
Pull-up resistance 10 k-ohms

Ohm (R3809 VIDEO P.C.B.)	1.2 k	2.7 k	4.7 k	6.8 k	10.0 k	15.0 k	47.0 k	100.0 k
A/D value (3.3 V=255)	15 – 46	46 – 69	69 – 92	92 – 115	115 – 139	139 – 177	185 – 224	224 – 247
DEST (139 pin)	U	C	R	T	K	A	B, G, E, F	L

DOCK detection for AD port (IC20 Microprocessor pin no. 128)
Pull-up resistance 10 k-ohms

DOCK type (DKID 141 pin)	Bluetooth	iPod	No connect
A/D value (3.3 V=255)	5 – 25	120 – 140	255

K0/K1

K0/K1: KEY0/KEY1 (Panel key of this unit)

When the A/D conversion value of the panel key becomes out of the specified range, normal operation will not be available.

In that case, check the constant of voltage dividing resistor, solder condition, etc. Refer to the table below.

(Reference voltage: 3.3 V=255)

K0:255 K1:255

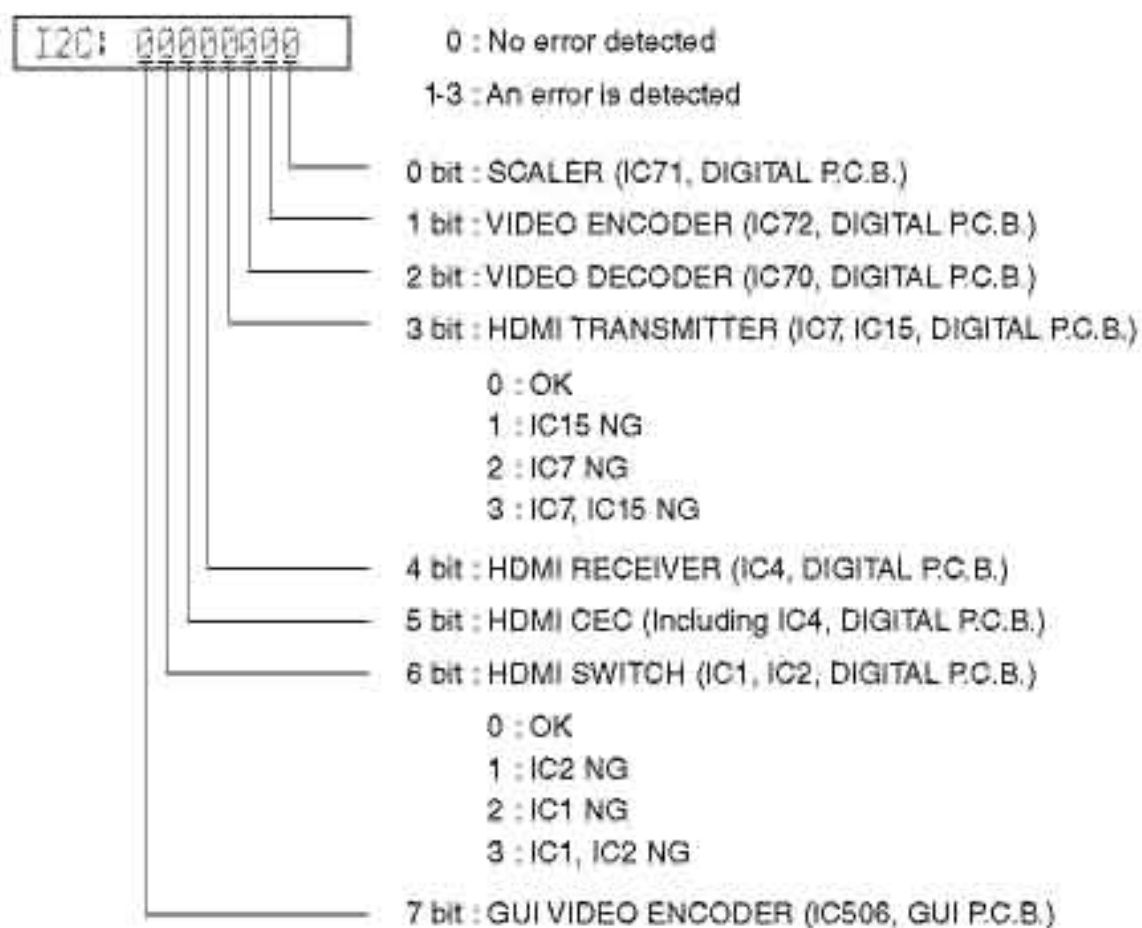
Display	K0
0 – 11	SCENE RADIO
12 – 32	SCENE CD
33 – 54	SCENE TV
55 – 75	SCENE BD/DVD
76 – 95	ZONE2 ON/OFF
96 – 118	ZONE3 ON/OFF
119 – 142	—
143 – 162	—
181 – 197	MAIN ZONE ON/OFF
198 – 229	TONE CONTROL
255	KEY OFF

Display	K1
0 – 11	PURE DIRECT
12 – 32	STRAIGHT / EFFECT
33 – 54	ZONE CONTROLS
55 – 77	INFO
78 – 98	PRESET ◀
99 – 120	PRESET ▶
121 – 143	MEMORY
144 – 165	BAND/CATEGORY
166 – 185	TUNING CH ◀
186 – 205	TUNING CH ▶
255	KEY OFF

10. VIDEO CHECK

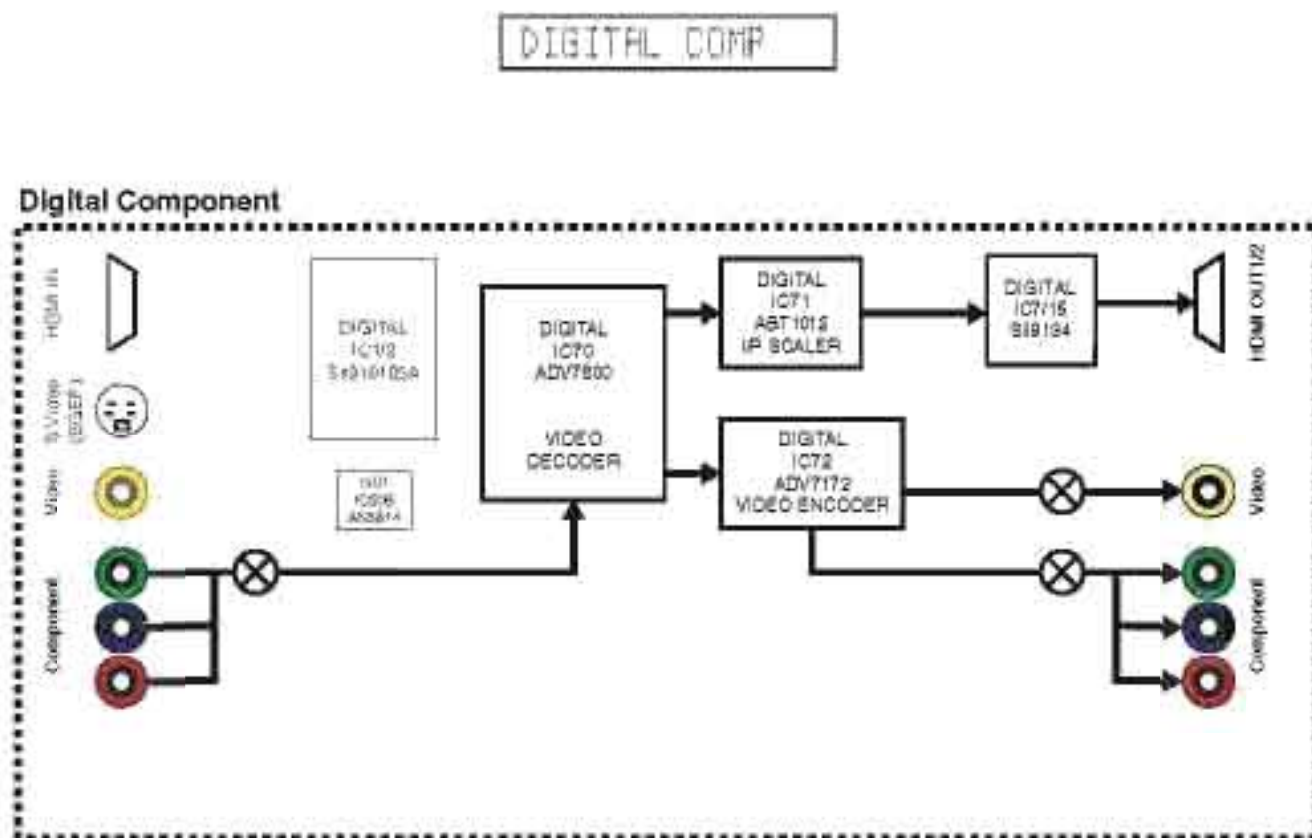
I2C check

The I2C (Inter integrated circuit) bus line connection is checked



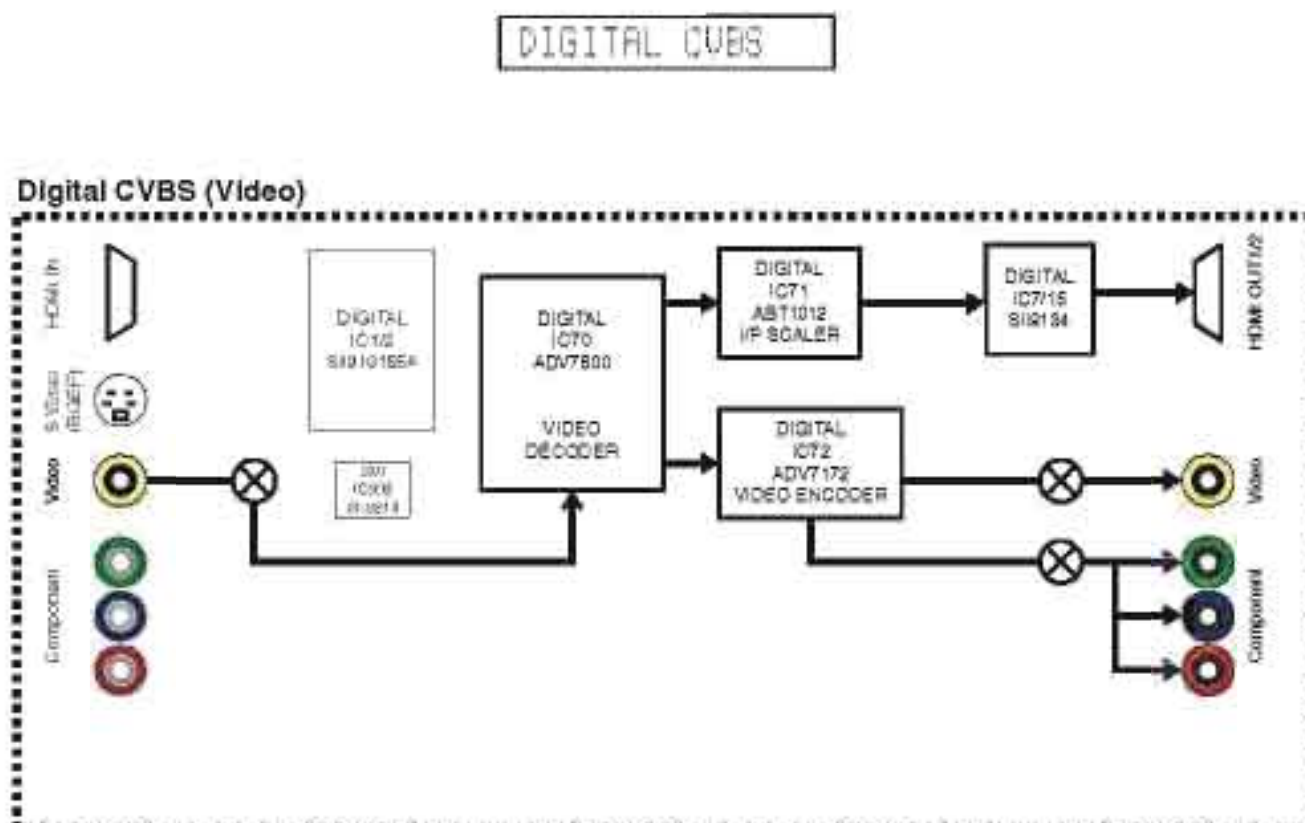
Digital component

The video signal is converted and output as shown below.

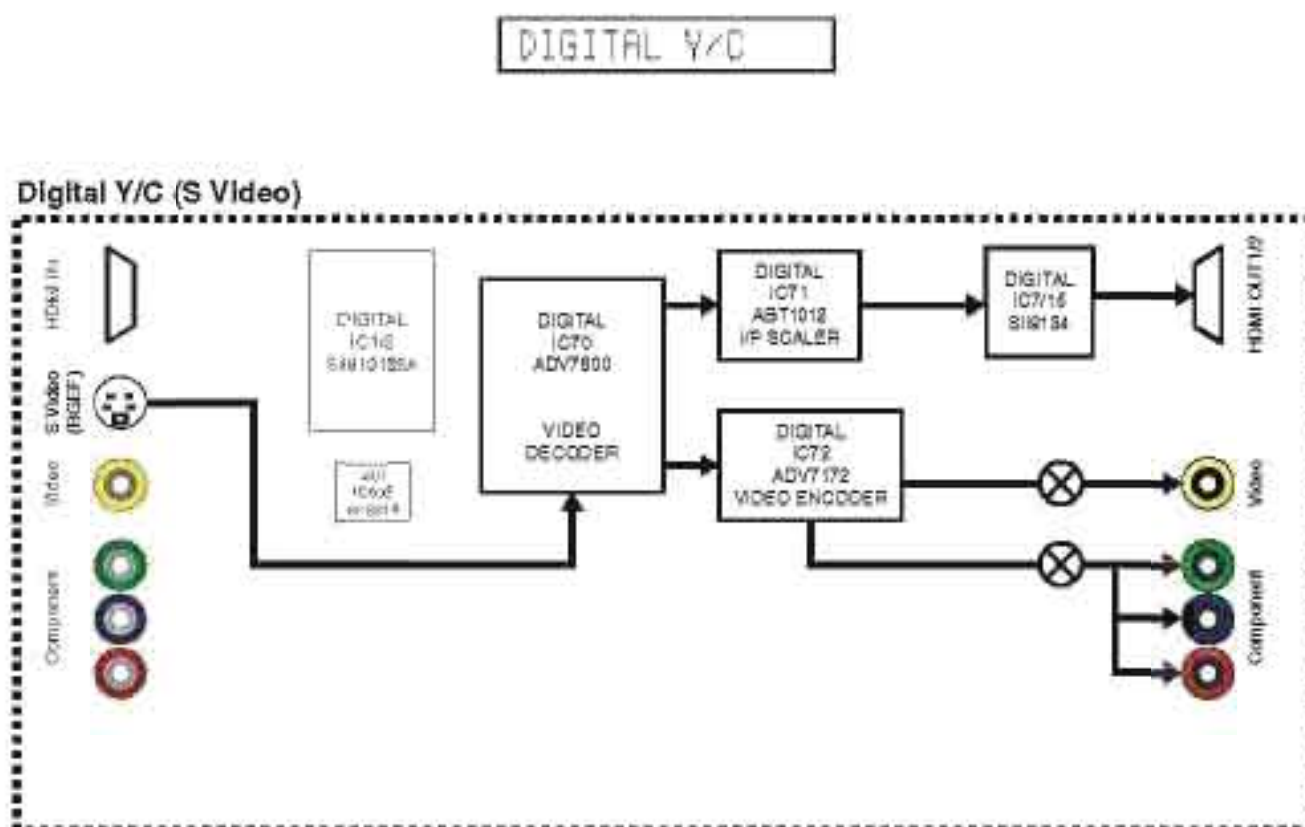


Digital CVBS (Video)

The video signal is converted and output as shown below:

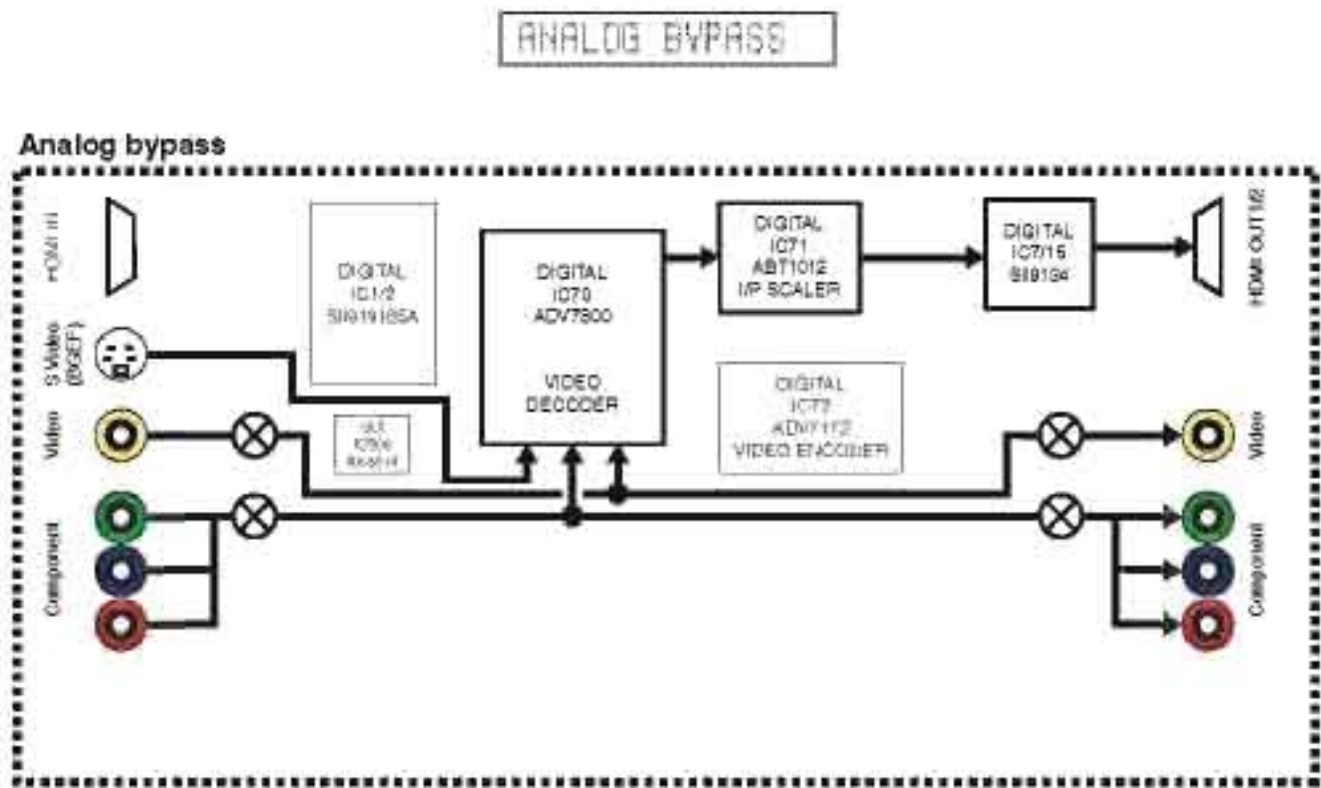
**Digital Y/C (S-Video) (B, G, E, F models)**

The video signal is converted and output as shown below:



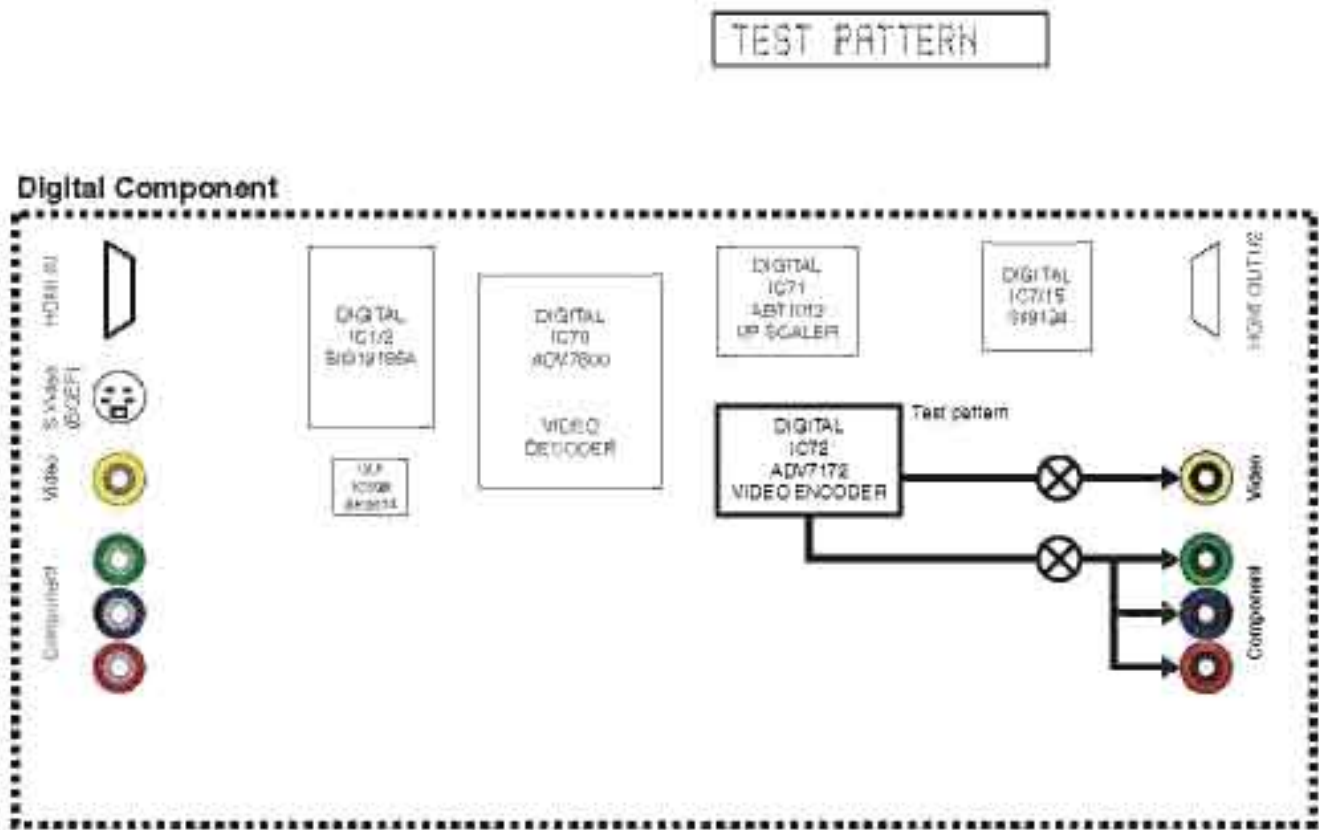
Analog bypass

The video signal is converted and output as shown below.



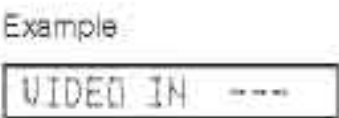
Test pattern

The test pattern is output from IC72 (DIGITAL P.C.B.).



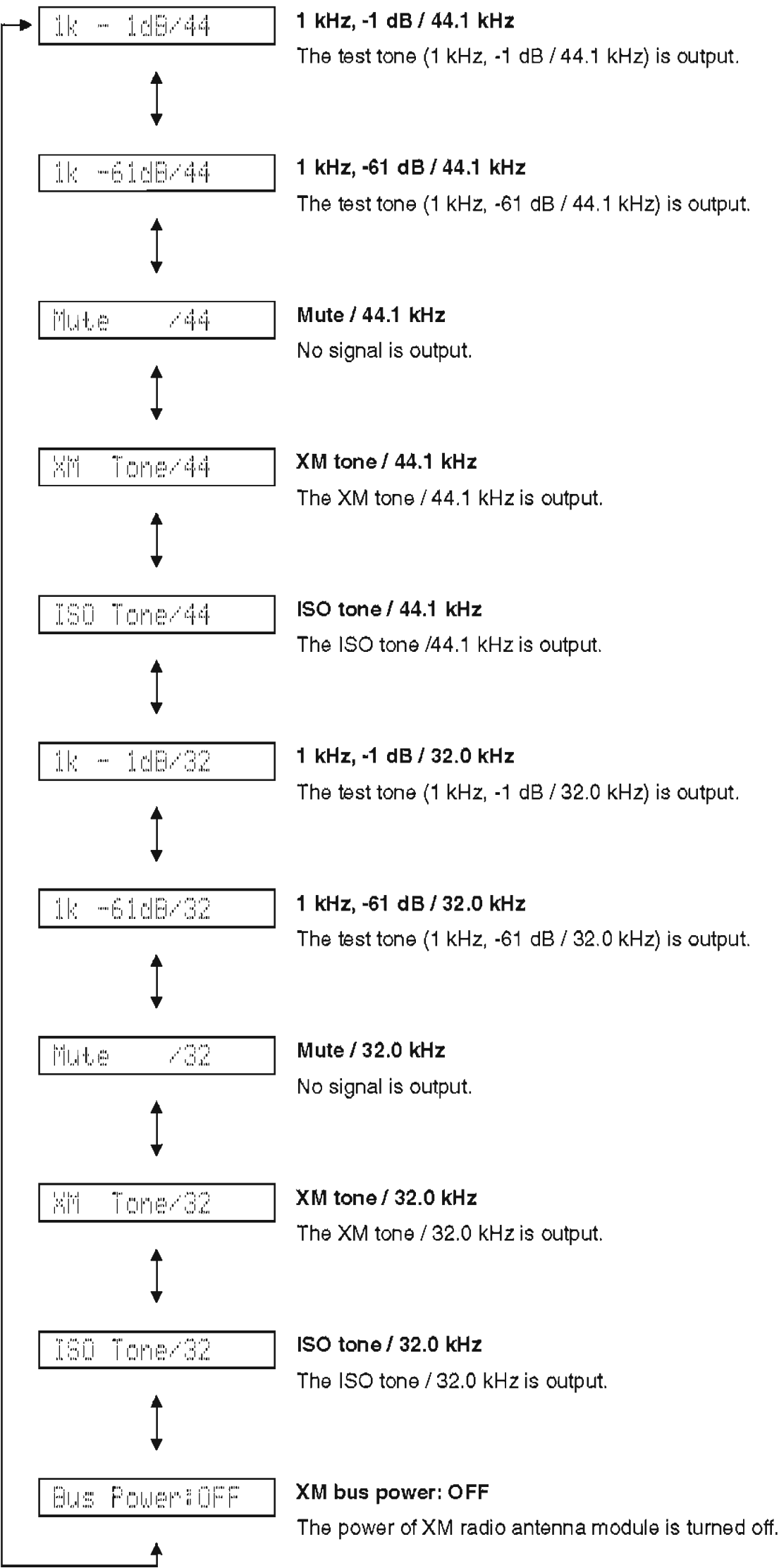
Video Information

The information of input video signal is displayed.



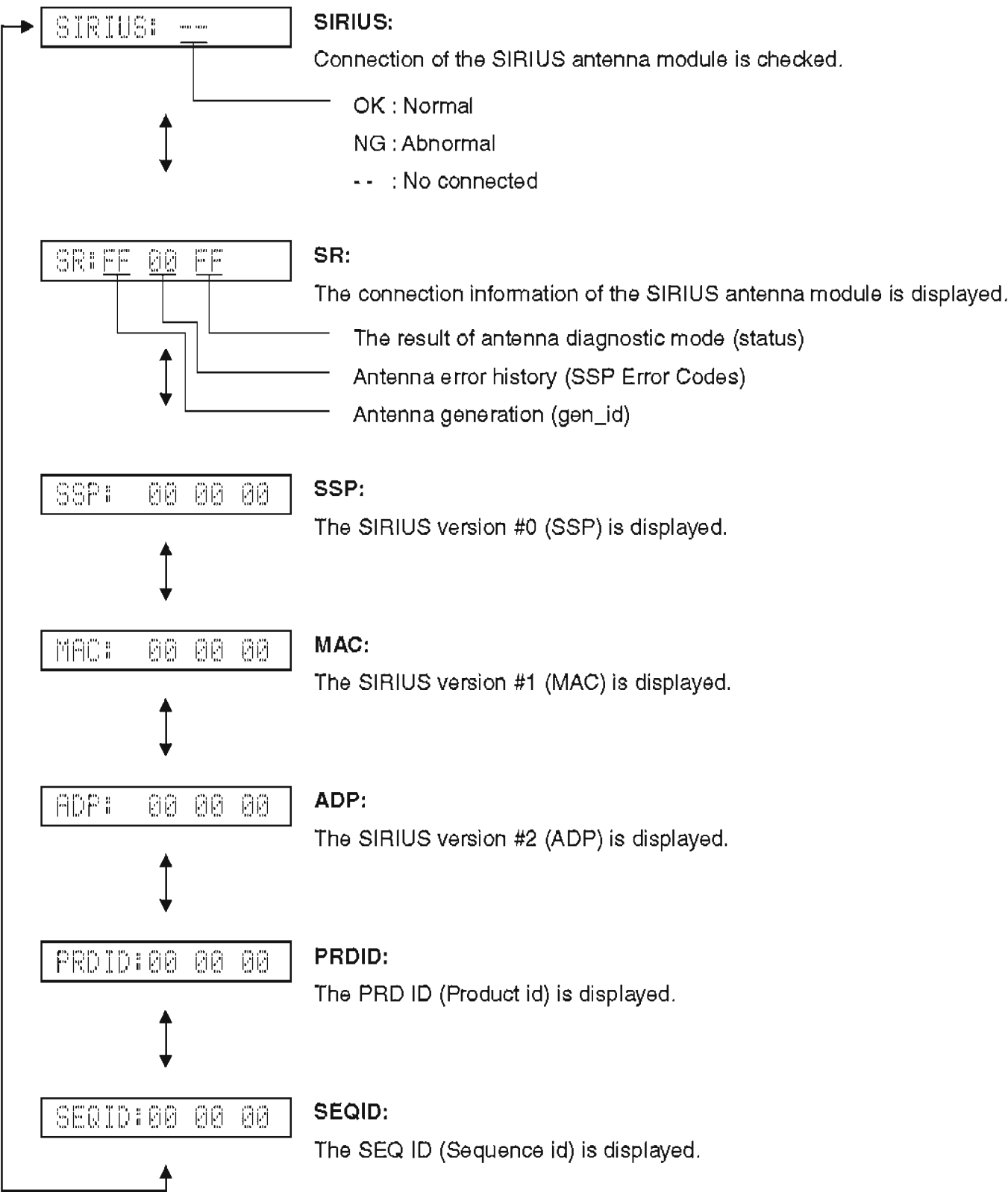
11. XM STATUS (U model)

This menu is used to check the output of XM Radio Antenna.



12. SIRIUS (U model)

The SIRIUS Information are displayed.



13. HD RADIO (U model)

The firmware version is displayed.

CPU version

The firmware version is displayed.

HD CPU V:03.00

DSP version

The DSP version is displayed.

D:00003.000

14. DOCK

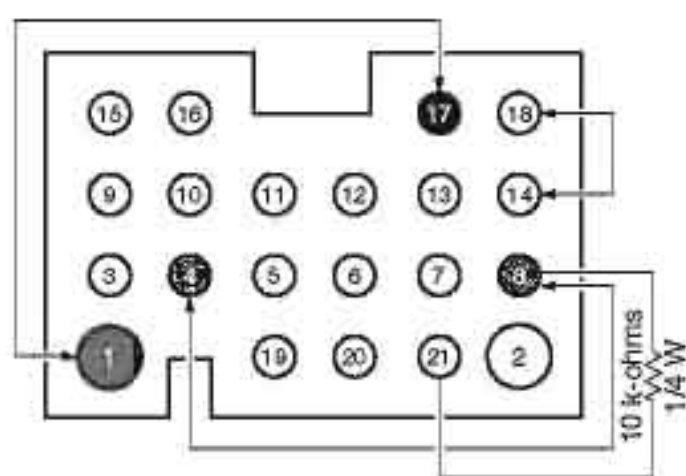
This menu is used to check the DOCK connector without the iPod itself.

With the power to this unit turned off, short between pins No. 14 (TX) and No. 18 (RX), between pins No. 1 (PWR) and No. 17 (ACCPOW), between pins No. 4 (IPDET) and No. 8 (DGND). Also, connect a 10 k-ohms, 1/4 W resistor between pins No. 21 (DKID) and No. 8 (DGND). (Make sure that the power is turned off when shorting pins.)

Start up the self-diagnostic function and select this menu.

The check result is displayed according to the following display specifications.

Note) Be sure to return the shorted pins to their original condition after executing this test.



DOCK CONNECTOR

DOCK: NG NNNN

All Y = "OK"
Others = "NG"

Check Item	Short pins	Result		Display
UART loop back test	Pins No.14 (TX) – No.18 (RX)	OK		Y
		NG		N
iPAP (iPod accessory power) detection	Pins No.1 (PWR) – No.17 (ACCPOW)	IC20 pin No. 114	High = YES	Y
			Low = No	N
IPDET (iPod Installation to DOCK) detection	Pins No.4 (IPDET) – No.8 (DGND)	IC20 pin No. 8	Low = installed	Y
			High = not installed	N
DKID (DOCK ID) detection	Pins No.21 (DKID) – No.8 (DGND) * 10 k-ohms, 1/4 W pull down	IC20 pin No. 141	10 k-ohms, 1/4 W pull down	Y
			Other	N

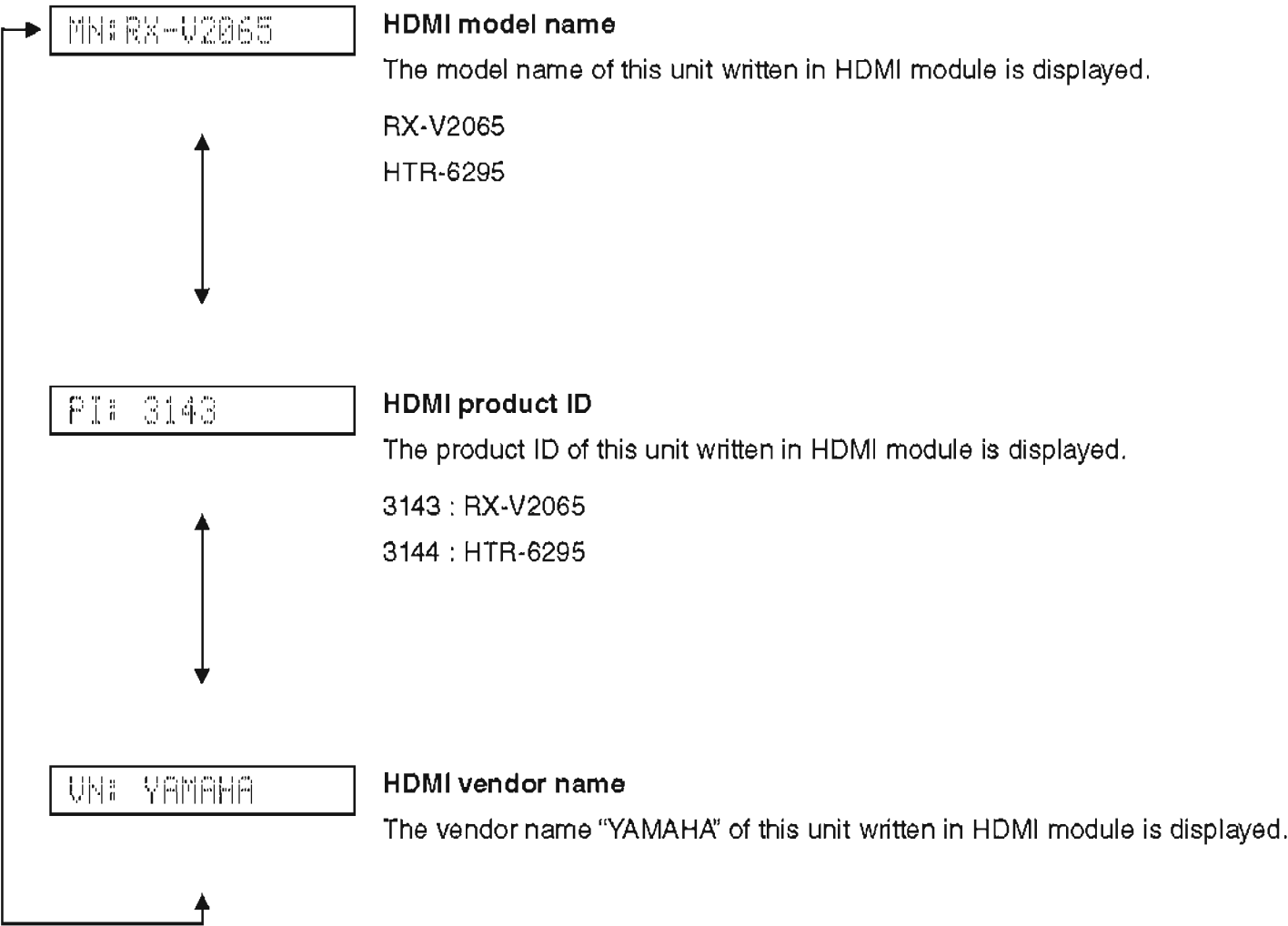
BT VERSION

The DOCK (Bluetooth module) version is displayed.

BT UXXXXXX

15. HDMI INFORMATION

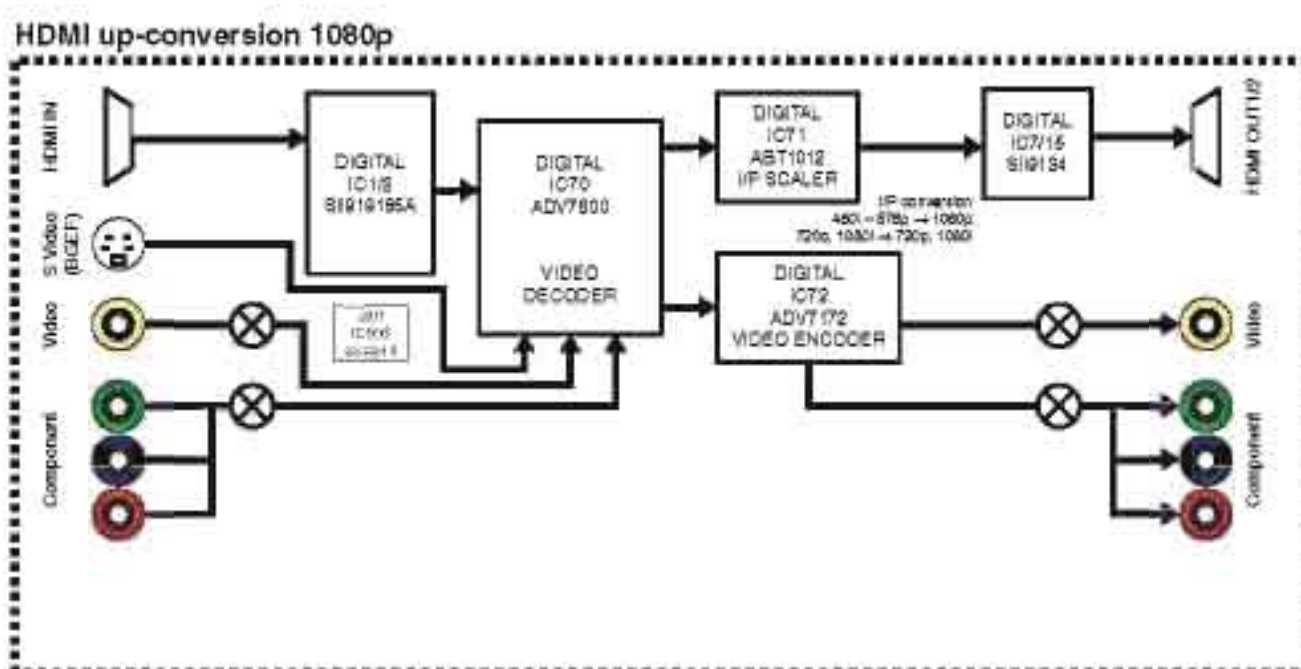
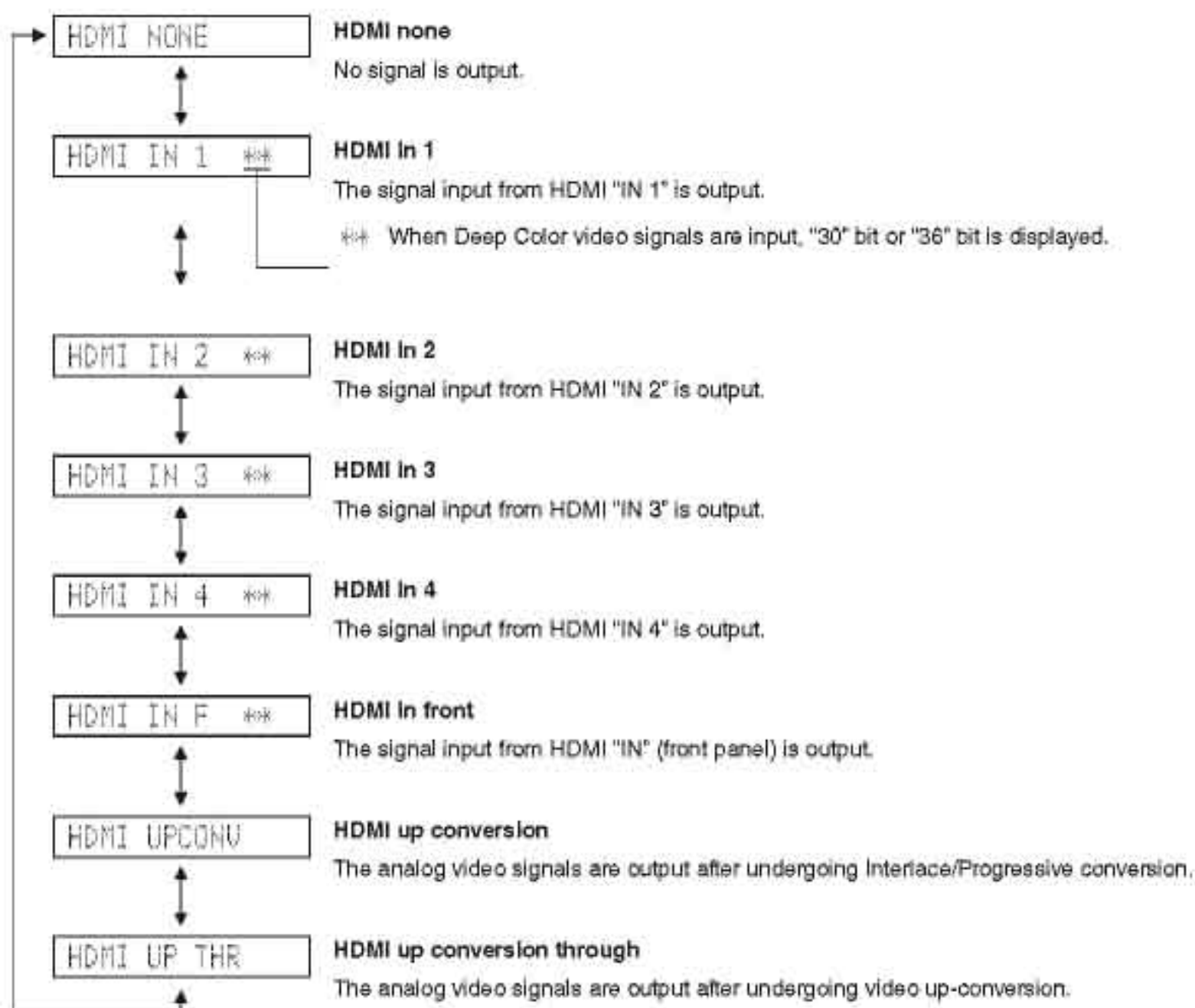
The HDMI informations are displayed.

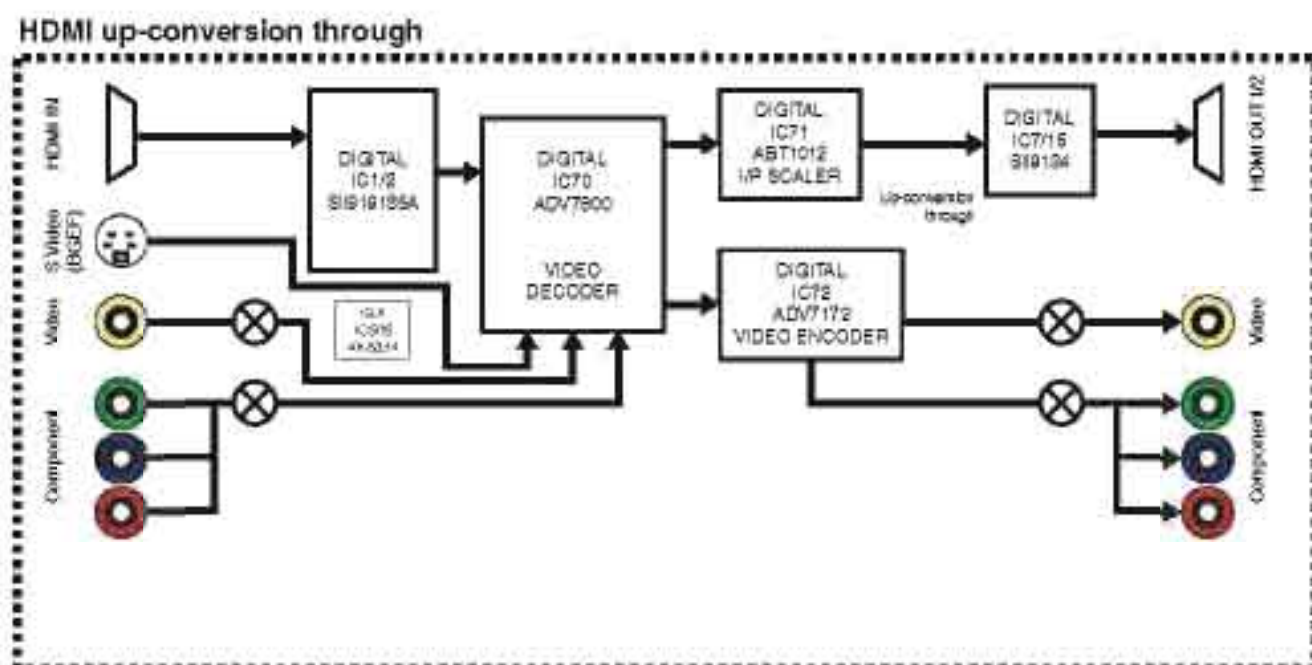


16. HDMI SELECT

Using the sub-menu, the selected input signal is output to HDMI OUT.

- * Support audio is set to "OTHER".





17. USB

The music file stored in the USB storage device is reproduced.

- Copy 2 or more music files from PC to the root folder of the USB storage device
- Insert the USB storage device to the USB terminal of this unit.

USB file 1

The 1st music file stored in the USB storage device connected to the USB terminal is reproduced.

17:USB File 1

USB file 2

The 2nd music file stored in the USB storage device connected to the USB terminal is reproduced.

17:USB File 2

18. IF STATUS (Input function status)

Not applied to these models.

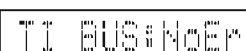
DSP status

19. BUS CHECK

Communication and bus line connection between devices on the DIGITAL P.C.B. are checked.

TI (DSP) BUS check

Communication and bus line connection between microprocessor (IC20) and TI (DSP, IC44) are checked.



NoEr : No error detected.

Boot : When "Boot" is displayed for a few seconds or "Boot" and "NoEr" are displayed alternately, there is a possibility that an error had occurred.

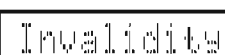
BF LOOP :

Communication and bus line connection between main microprocessor (IC20) and BF (sub-microprocessor, IC505) are checked.



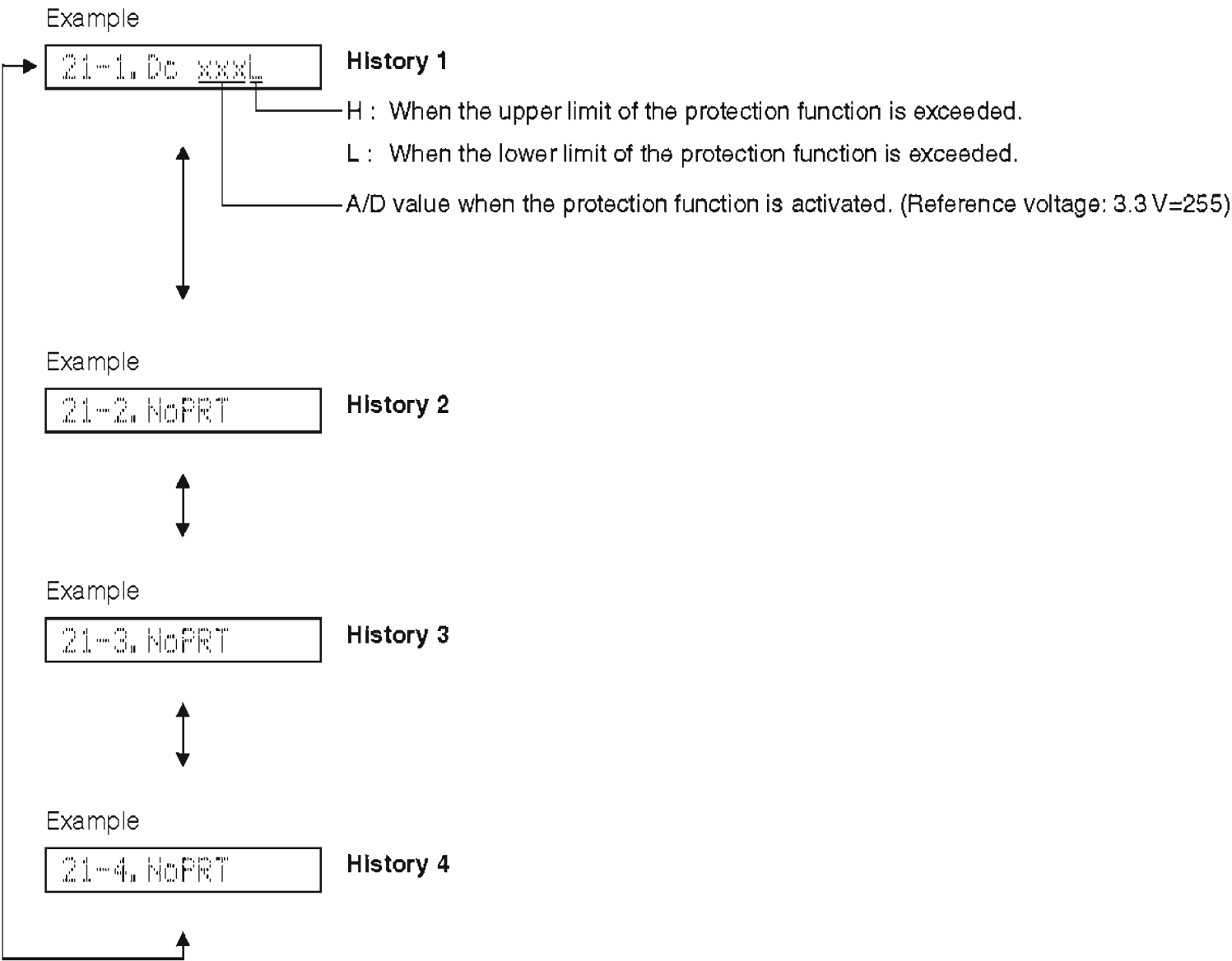
OK : No error detected.

NG : An error is detected.

20. NO MENU (Invalidity)


21. PROTECTION HISTORY

The history of protection function is displayed.
Select this menu and press the “STRAIGHT” key, all history will be erased.



22. NO MENU (Invalidity)

23. UPDATE

Not applied to these models.

UPDATE TI

23.UPDATE TI

24. FACTORY PRESET

This menu is used to reserve/inhibit initialization of the back-up IC.

24.PRESET INHI



24.PRESET RSRV

PRESET INHIBIT (Initialization inhibited) / PRESET INHIBIT

Back-up IC initialization is not executed. Select this sub-menu to protect the values set by the user.

PRESET RESERVED (Initialization reserved)

Initialization of the back-up IC is reserved. (Actually, initialization is executed the next time that the power is turned on.) Select this sub-menu to reset to the original factory settings or to reset the back-up IC. Any protection history will be cleared.

CAUTION: Before setting to the PRESET RESERVED, write down the existing preset memory content of the tuner.
(This is because setting to the PRESET RESERVED will cause the user memory content to be erased.)

25. ROM VER/SUM/PORT

- The firmware version, checksum values, model name and destination are displayed.
- The checksum is obtained by adding the data at every 8-bit for each program area and expressing the result as a 4-figure hexadecimal data.
- * The figures in the diagram are given as reference only.

Firmware version

The firmware version of microprocessor (IC20 DIGITAL P.C.B.) is displayed.

Ver: 0024

All checksum

The checksum value of microprocessor (IC20 DIGITAL P.C.B.) is displayed.

SUM: 5253

TI (DSP) FLASH ROM version

The firmware version of TI (DSP) FLASH ROM (IC49 DIGITAL P.C.B.) is displayed.

TiVer:01.03r1

TI (DSP) FLASH ROM checksum

The checksum value of TI (DSP) FLASH ROM (IC49 DIGITAL P.C.B.) is displayed.

TiSum:F1D0135A

BF version

The firmware version of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.

BF Ver: 0019

BF checksum 1 (All/Master boot)

The checksum value (All/Master boot) of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.

A1:3ED2Ma:0122

BF checksum 2 (Application/USB)

The checksum value (Application/USB) of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.

AP: 67D4US: ADEC

XM version (U model)

The firmware version of XM is displayed.

XM 0010-0001

BF (sub-microprocessor)
Main microprocessor

SIRIUS version (U model)

The firmware version of SIRIUS is displayed.

SR 0001-0001

BF (sub-microprocessor)
Main microprocessor

MODEL/DESTINATION

The model name and destination are displayed.

V2 000 U 027

MODEL detection value

Detection value	0	15 – 46
Model name	V2 (RX-V2065)	H9 (HTR-6295)

DESTINATION detection value

Detection value	15 – 45	46 – 68	69 – 92	92 – 114	115 – 138	139 – 176	185 – 223	224 – 247
Destination	U	C	R	T	K	A	B, G, E, F	L

VERIFY error

Not applied to these models.

Verify 255

MAC address

The MAC address is displayed.

XXXXXXXXXXXX

26. SERIAL

RS-232C loop back check

This menu is used to check transmission and reception of the data, and the flow port of hardware.

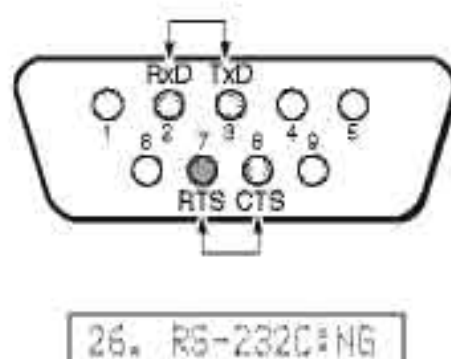
With the power to this unit turned off, short between pins No. 2 (RxD) and No. 3 (TxD), and between pins No. 7 (RTS) and No. 8 (CTS) of the RS232C terminal. (Be sure to turn off the power when shorting the pins.)

Start up the self-diagnostic function and select this menu.

"OK" appears when the data is transmitted and received properly, and "NG" appears when it is not.

In this mode, NULL command transmission is continued after the test command is transmitted.

Note) Be sure to return the shorted pins to their original condition after executing this test.



EEPROM check

Communication and bus line connection between main microprocessor (IC20) and EEPROM (IC22) on the DIGITAL P.C.B are checked.

26. EEPROM: OK

OK: No error detected

NG: An error is detected

27. Network

- * When the network condition varies while sub-menu is displayed (e.g., the network is deactivated once), the correct result will not be displayed.
In that case, once turn off the power to this unit, then start up the self-diagnostic function again and select this menu.

IP Address Check

Whether IP address is obtained or not is checked.

27.NET IP: NG

OK: Connected (IP address obtained)
NG: No traffic / Unconnected

MAC Address Check

MAC address information is checked.

27.NET MAC: OK

OK: Normal
NG: Unwritten

MAC LABEL No SET

This menu is used to change MAC address number.

When IC513 of GUI P.C.B. or GUI P.C.B. is replaced, use this menu to restore the previous MAC address number.

Yamaha Corporation will provide the setting procedure for proper operation.

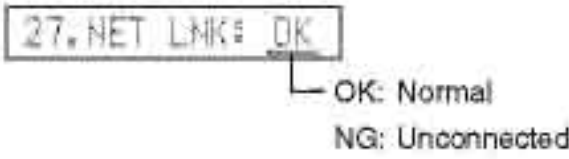
Please report the serial number of this unit to the following e-mail address for further instruction.

E-mail: ycav-ysiss@gmx.yamaha.com

27.NET MAC SET

LINK CHECK

A network cable connection is checked.



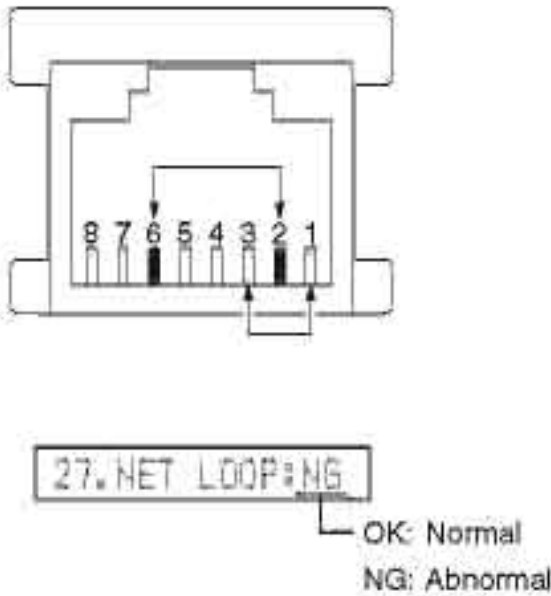
NETWORK loop back check

This menu is used to check the NETWORK connector.

With the power to this unit turned off, short between pins No. 1 (Tx+) and No. 3 (Rx+) and between pins No. 2 (Tx-) and No. 6 (Rx-) of the NETWORK connector. (Be sure to turn off the power to this unit when shorting these pins.)

Start up the self-diagnostic function and select this menu.

Note) Be sure to return the shorted pins to their original condition after executing this test.



Line noise measurement 10Mbps

The line noise 10Mbps is output.



Line noise measurement 100Mbps

The line noise 100Mbps is output.



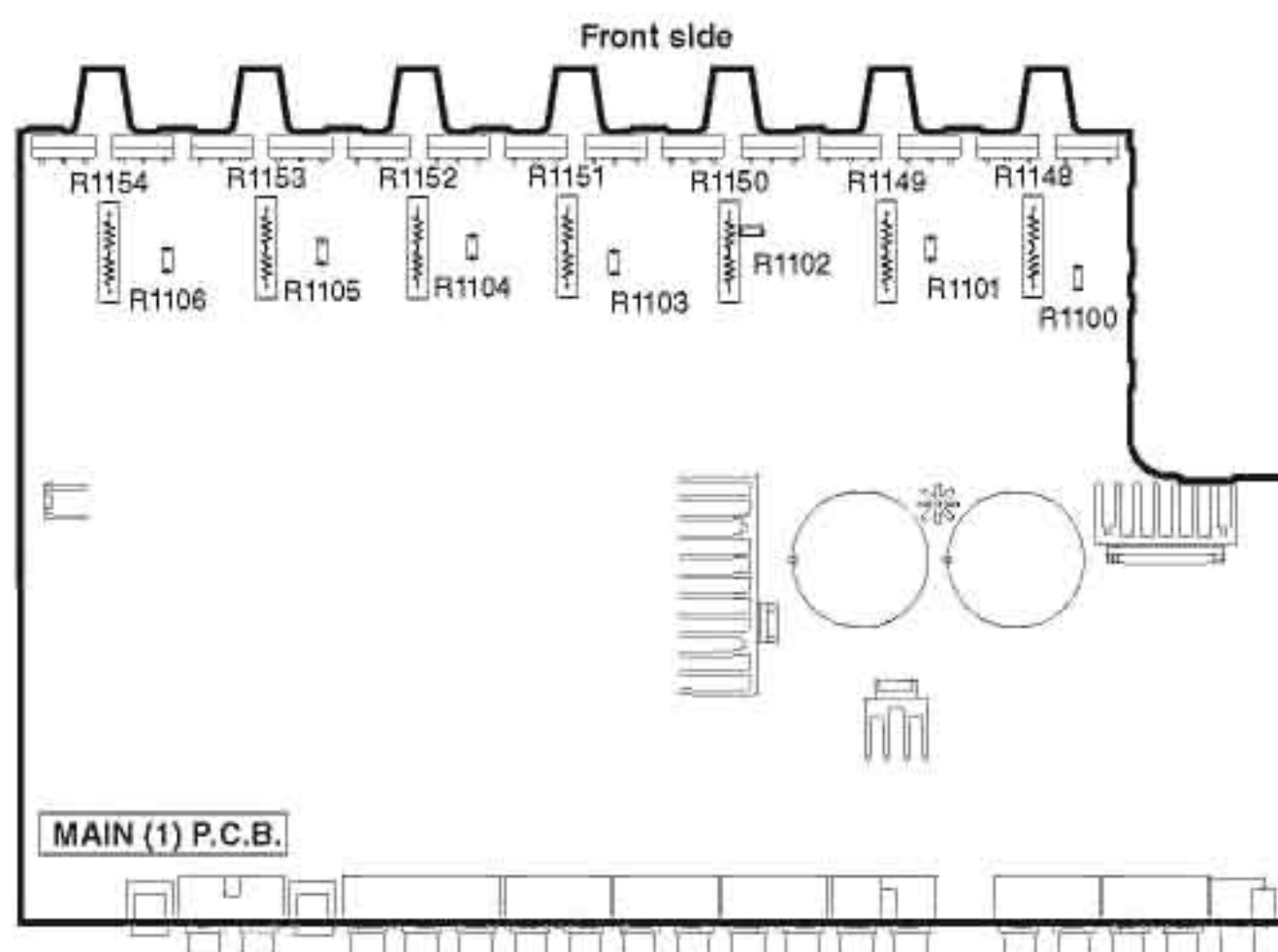
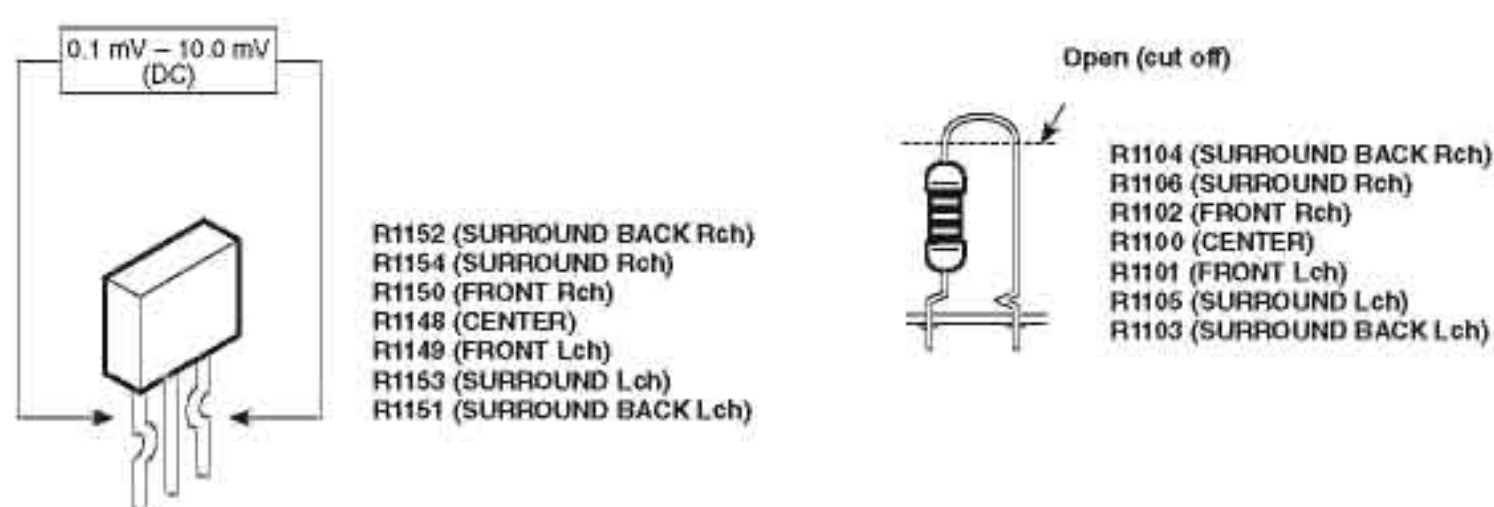
■ CONFIRMATION OF IDLING CURRENT OF AMP UNIT

- Right after power is turned on, confirm that the voltage across the terminals of R1152 (SURROUND BACK Rch), R1154 (SURROUND Rch), R1150 (FRONT Rch), R1148 (CENTER), R1149 (FRONT Lch), R1153 (SURROUND Lch), R1151 (SURROUND BACK Lch) are between 0.1mV and 10.0mV
- If it exceeds 10.0 mV, open (cut off) R1104 (SURROUND BACK Rch), R1106 (SURROUND Rch), R1102 (FRONT Rch), R1100 (CENTER), R1101 (FRONT Lch), R1105 (SURROUND Lch), R1103 (SURROUND BACK Lch) and reconfirm the voltage

Attention

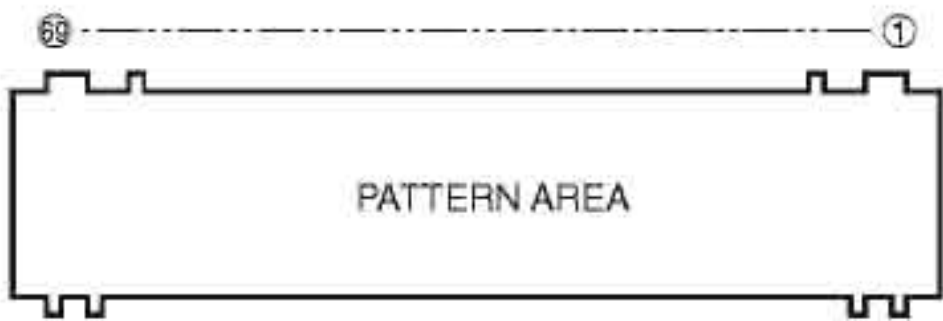
If the measured voltage exceeds 10.0mV after an amplifier repair, first check for a defective component before cutting the bias resistor.

- Confirm that the voltage is 0.2 mV to 15.0 mV after 60 minutes



■ DISPLAY DATA

● V4001 : 18-MT-09GNK (OPERATION P.C.B.)



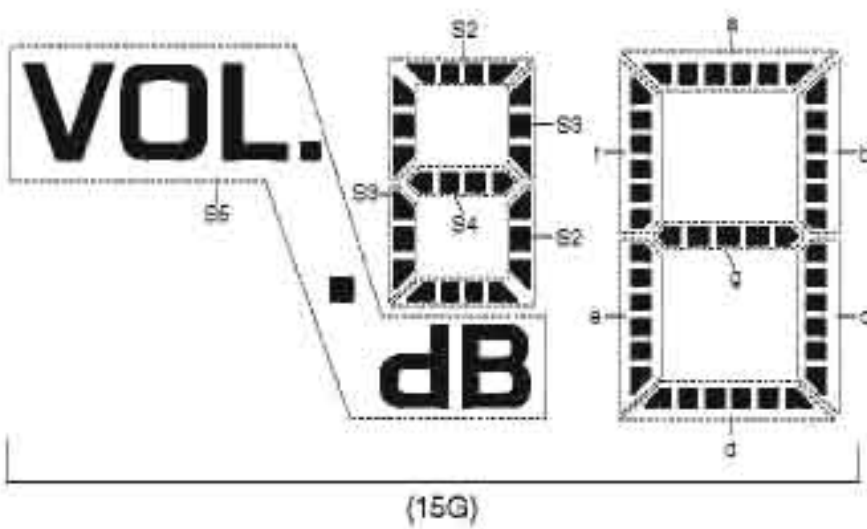
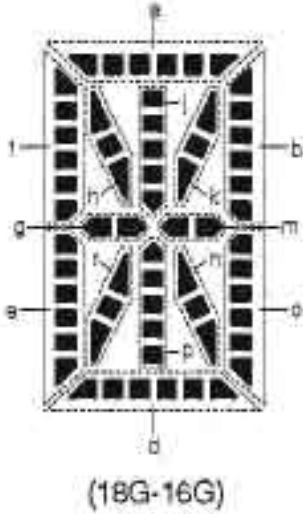
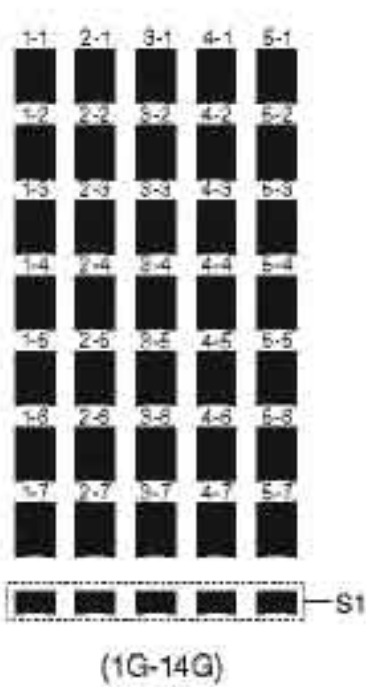
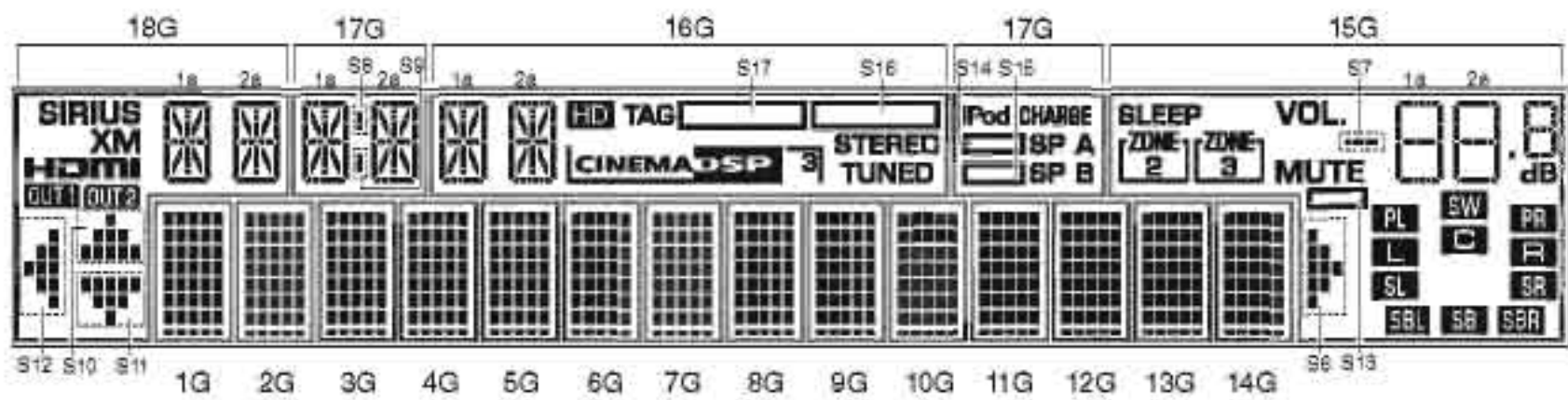
● PIN CONNECTION

Pin No.	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
Connection	F2	NX	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31

Pin No.	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	P32	P33	P34	P35	P36	NX	NX	NX	NX	NX	NX	NX	18G	17G	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NX	F1

Note : 1) F1, F2 Filament pin 2) NP No pin 3) NX No extend pin 4) 1G-18G Grid pin.

● GRID ASSIGNMENT

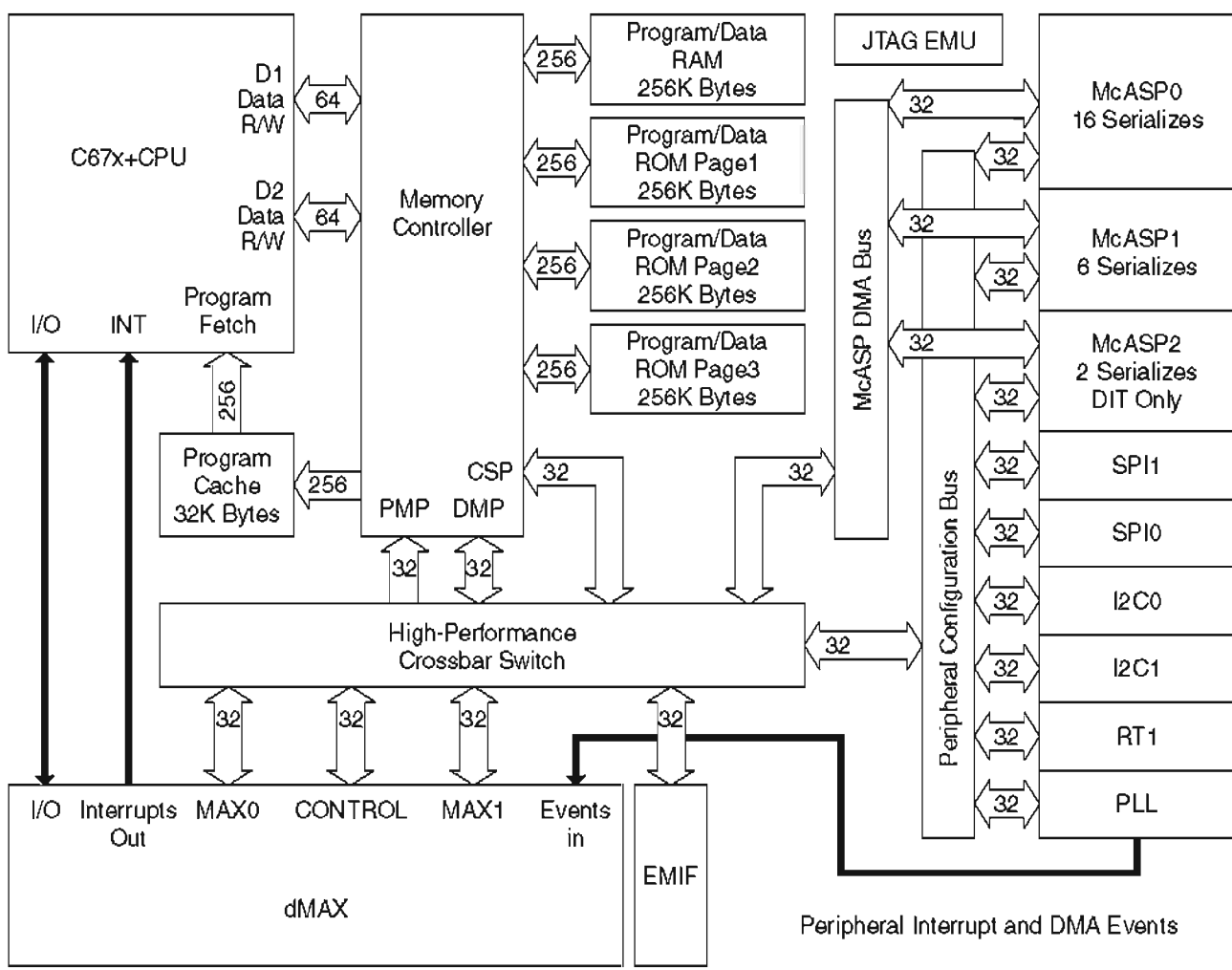
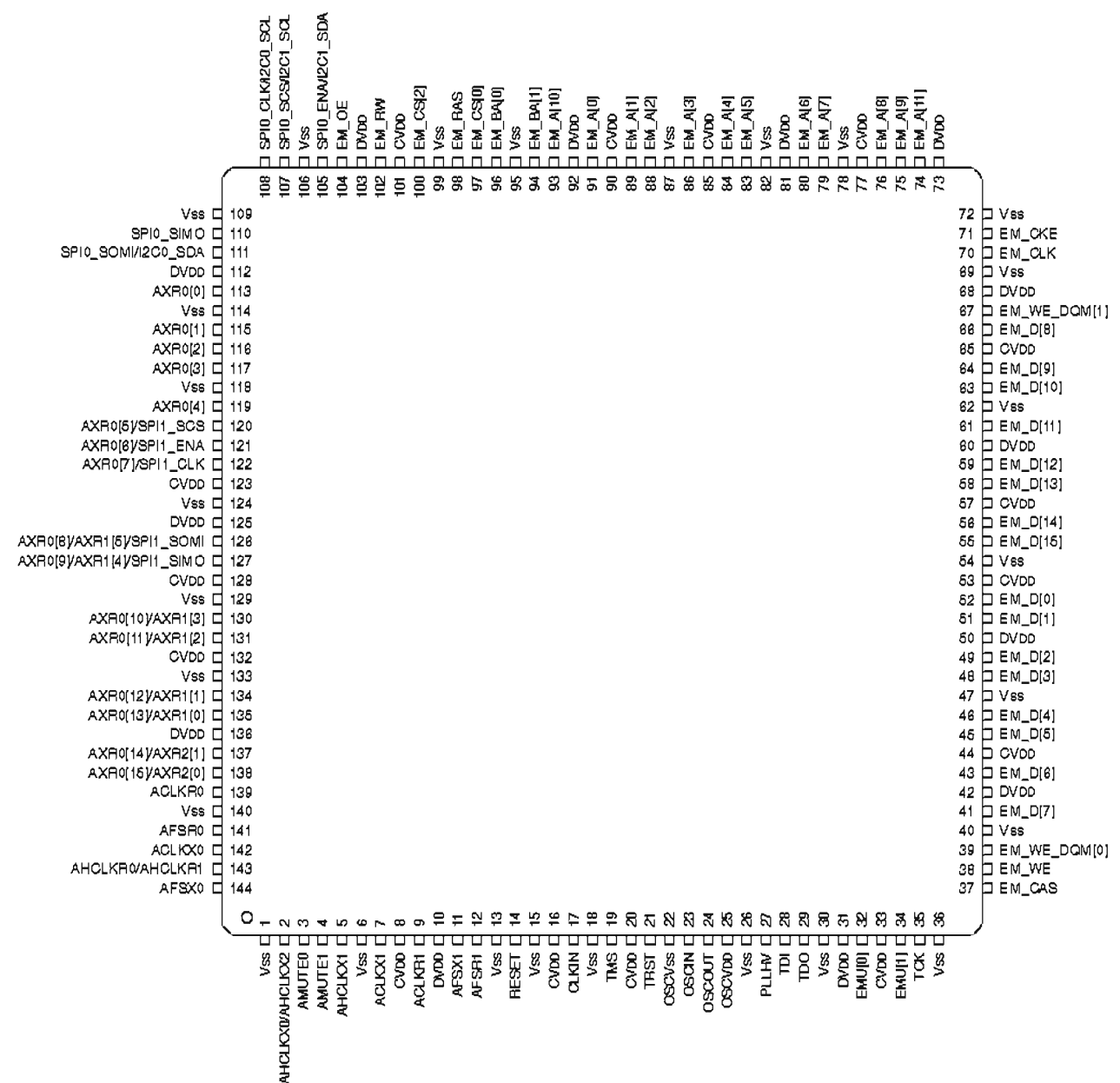


● ANODE CONNECTION

	18G	17G	16G	15G	1G-14G
P1	1a	1a	1a	S5	1-1
P2	1h	1h	1h	S7	2-1
P3	1j	1j	1j	1d	3-1
P4	1k	1k	1k	2d	4-1
P5	1b	1b	1b	S2	5-1
P6	1f	1f	1f	1e	1-2
P7	1m	1m	1m	2e	2-2
P8	1g	1g	1g	S3	3-2
P9	1c	1c	1c	1c	4-2
P10	1e	1e	1e	2c	5-2
P11	1r	1r	1r	S4	1-3
P12	1p	1p	1p	1g	2-3
P13	1n	1n	1n	2g	3-3
P14	1d	1d	1d	1f	4-3
P15	2a	2a	2a	2f	5-3
P16	2h	2h	2h	1b	1-4
P17	2j	2j	2j	2b	2-4
P18	2k	2k	2k	1a	3-4
P19	2b	2b	2b	2a	4-4
P20	2f	2f	2f	PL	5-4
P21	2m	2m	2m	SW	1-5
P22	2g	2g	2g	RI	2-5
P23	2c	2c	2c	L	3-5
P24	2e	2e	2e	C	4-5
P25	2r	2r	2r	R	5-5
P26	2p	2p	2p	SL	1-6
P27	2n	2n	2n	SR	2-6
P28	2d	2d	2d	SEAL	3-6
P29	SIRIUS	S8	HD	BB	4-6
P30	XM	S9	TAG	SBR	5-6
P31	HDMI	Pod CHARGE	CINEMA DSP	S6	1-7
P32	OUT1	SP B	3	S13	2-7
P33	OUT2	S15	STEREO	MUTE	3-7
P34	S12	SP A	TUNED	ZONE 2	4-7
P35	S10	S14	S17	ZONE 3	5-7
P36	S11	—	S16	SLEEP	S1

IC DATA

IC44: D70YE101BRFP266 (DIGITAL P.C.B.)
Decoder/Post processor
* No replacement part available.

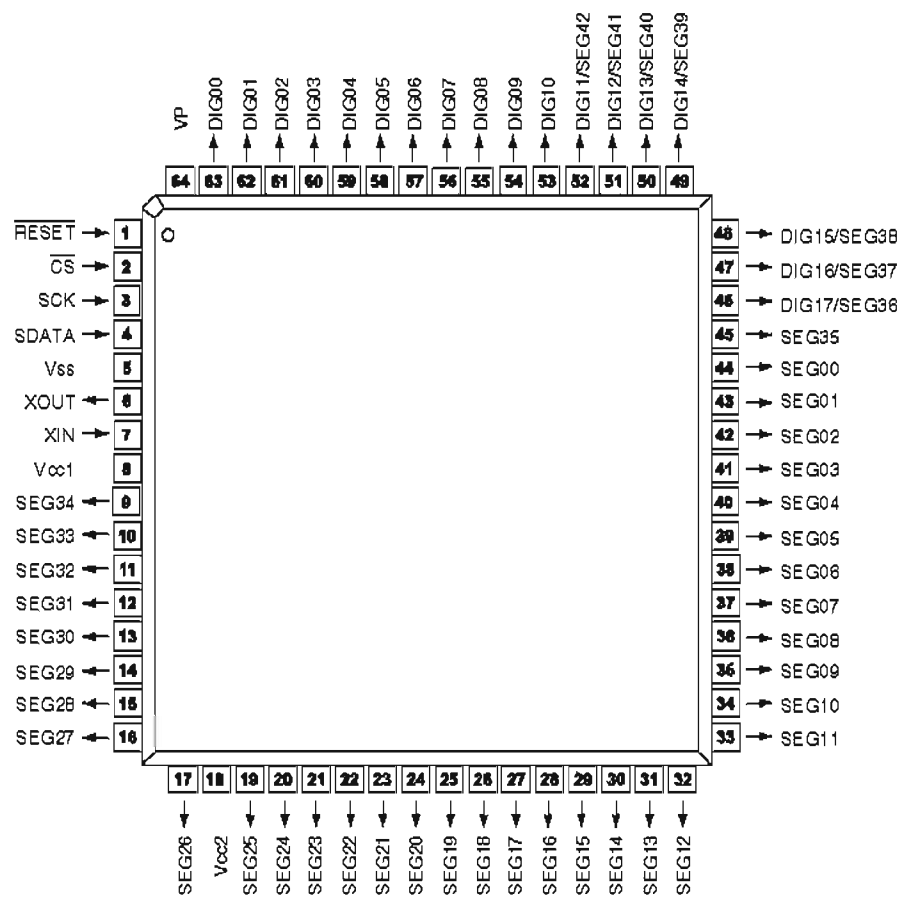
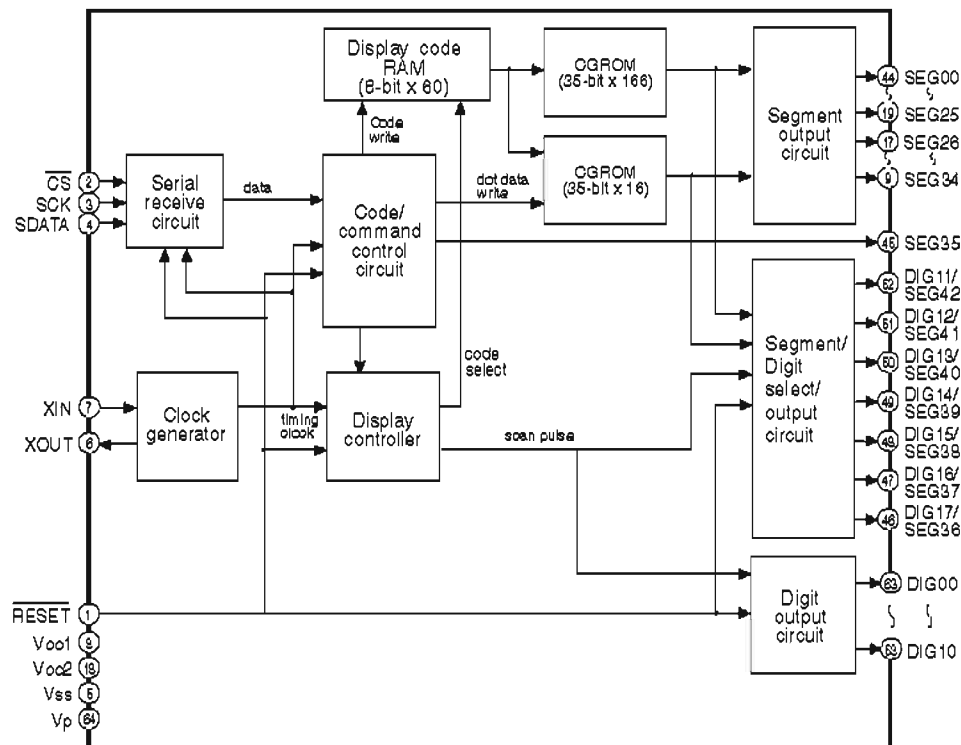


No.	Function Name (P.C.B.)	TYPE ⁽¹⁾	PULL ⁽²⁾	GPIO ⁽³⁾	Detail of Function
1	VSS				
2	AHCLKX0/AHCLKX2	IO	–	Y	McASP0 and McASP2 transmit master clock
3	AMUTE0	IO	–	Y	McASP0 mute output
4	AMUTE1	IO	–	Y	McASP1 mute output
5	AHCLKX1	IO	–	Y	McASP1 transmit master clock
6	VSS				
7	ACLKX1	IO	–	Y	McASP1 transmit bit clock
8	CVDD				
9	ACLKR1	IO	–	Y	McASP1 receive bit clock
10	DVDD				
11	AFSX1	IO	–	Y	McASP1 transmit frame Sync (L/R clock)
12	AFSR1	IO	–	Y	McASP1 receive frame Sync (L/R clock)
13	VSS				
14	RESET	IO	–	N	Device reset pin
15	VSS				
16	CVDD				
17	CLKIN	IO	–	N	Alternate clock input (3.3-V LVCMOS input)
18	VSS				
19	TMS	IO	IPU	N	Test mode select
20	CVDD				
21	TRST	IO	IPU	N	Test reset
22	OSCVSS	PWR	–	N	Oscillator Vss tap point (for filter only)
23	OSCIN	IO	–	N	1.2-V oscillator input
24	NC	O	–	N	
25	OSCVDD	PWR	–	N	Oscillator 1.2-V Vpp tap point (for filter only)
26	VSS				
27	PLLHV	PWR	–	N	PLL 3.3-V supply input (requires external filter)
28	TDI	IO	IPU	N	Test data in
29	TDO	OZ	IPU	N	Test data out
30	VSS				
31	DVDD				
32	EMU[0]	IO	IPU	N	Emulation pin 0
33	CVDD				
34	EMU[1]	IO	IPU	N	Emulation pin 1
35	TCK	IO	IPU	N	Test clock
36	Ground(Vss)				
37	EM_CAS	O	–	N	SDRAM column address strobe
38	EM_WE	O	–	N	SDRAM write enable
39	EM_WE_DQM[0]	O	–	N	Write enable or byte enable for EM_D [7:0]
40	VSS				
41	EM_D[7]	IO	–	N	EMIF data bus [lower 16-bits]
42	DVDD				
43	EM_D[6]	IO	–	N	EMIF data bus [lower 16-bits]
44	CVDD				
45	EM_D[5]	IO	–	N	EMIF data bus [lower 16-bits]
46	EM_D[4]	IO	–	N	EMIF data bus [lower 16-bits]
47	VSS				
48	EM_D[3]	IO	–	N	EMIF data bus [lower 16-bits]
49	EM_D[2]	IO	–	N	EMIF data bus [lower 16-bits]
50	DVDD				
51	EM_D[1]	IO	–	N	EMIF data bus [lower 16-bits]
52	EM_D[0]	IO	–	N	EMIF data bus [lower 16-bits]
53	CVDD				
54	VSS				
55	EM_D[15]	IO	–	N	EMIF data bus [lower 16-bits]
56	EM_D[14]	IO	–	N	EMIF data bus [lower 16-Bits]
57	CVDD				
58	EM_D[13]	IO	–	N	EMIF data bus [lower 16-Bits]
59	EM_D[12]	IO	–	N	EMIF data bus [lower 16-Bits]
60	DVDD				
61	EM_D[11]	IO	–	N	EMIF data bus [lower 16-Bits]

No.	Function Name (P.C.B.)	TYPE ⁽¹⁾	PULL ⁽²⁾	GPIO ⁽³⁾	Detail of Function
62	VSS				
63	EM_D[10]	IO	–	N	EMIF data bus [lower 16-Bits]
64	EM_D[9]	IO	–	N	EMIF data bus [lower 16-Bits]
65	CVDD				
66	EM_D[8]	IO	–	N	EMIF data bus [lower 16-bits]
67	EM_WE_DQM[1]	O	–	N	Write enable or byte enable for EM_D [15:8]
68	DVDD				
69	VSS				
70	EM_CLK	O	–	N	SDRAM clock
71	EM_CKE	O	–	N	SDRAM clock enable
72	VSS				
73	DVDD				
74	EM_A[11]	O	–	N	EMIF address bus
75	EM_A[9]	O	–	N	EMIF address bus
76	EM_A[8]	O	–	N	EMIF address bus
77	CVDD				
78	VSS				
79	EM_A[7]	O	–	N	EMIF address bus
80	EM_A[6]	O	–	N	EMIF address bus
81	DVDD				
82	VSS				
83	EM_A[5]	O	–	N	EMIF address bus
84	EM_A[4]	O	–	N	EMIF address bus
85	CVDD				
86	EM_A[3]	O	–	N	EMIF address bus
87	VSS				
88	EM_A[2]	O	–	N	EMIF address bus
89	EM_A[1]	O	–	N	EMIF address bus
90	CVDD				
91	EM_A[0]	O	–	N	EMIF address bus
92	DVDD				
93	EM_A[10]	O	–	N	EMIF address bus
94	EM_BA[1]	O	–	N	SDRAM bank address and asynchronous memory Low-Order address
95	VSS				
96	EM_BA[0]	O	–	N	SDRAM bank address and asynchronous memory Low-Order address
97	EM_CS[0]	O	–	N	SDRAM chip select
98	EM_RAS	O	–	N	SDRAM row address strobe
99	VSS				
100	EM_CS[2]	O	–	N	Asynchronous memory chip Select
101	CVDD				
102	NC	O	–	N	Asynchronous memory read/not write
103	DVDD				
104	EM_OE	O	–	N	SDRAM output enable
105	SPI0_ENA/I2C1_SDA	IO	–	Y	SPI0 enable (ready) or I2c1 serial data
106	VSS				
107	SPI0_ENA/I2C1_SCL	IO	–	Y	SPI0 enable (ready) or I2c1 serial clock
108	SPI0_CLK/I2C0_SCL	IO	–	Y	SPI0 serial clock or I2c0 serial clock
109	VSS				
110	SPIO_SIMO	IO	–	Y	SPI0 data pin slave in master out
111	SPIO_SOMI/I2C0_SDA	IO	–	Y	SPI0 data pin slave out master in or I2C0 serial data
112	DVDD				
113	AXR0[0]	IO	–	Y	McASP0 serial data 0
114	VSS				
115	AXR0[1]	IO	–	Y	McASP0 serial data 1
116	AXR0[2]	IO	–	Y	McASP0 serial data 2
117	AXR0[3]	IO	–	Y	McASP0 serial data 3
118	VSS				
119	AXR0[4]	IO	–	Y	McASP0 serial data 4
120	SPI1_SCS	IO	–	Y	McASP0 serial data 5 or SPI1 slave chip select
121	SPI1_ENA	IO	–	Y	McASP0 serial data 6 or SPI1 enable (ready)
122	SPI1_CLK	IO	–	Y	McASP0 serial data 7 or SPI1 serial clock

No.	Function Name (P.C.B.)	TYPE ⁽¹⁾	PULL ⁽²⁾	GPIO ⁽³⁾	Detail of Function
123	CVDD				
124	VSS				
125	DVDD				
126	/SPI1_SOMI	IO	–	Y	McASP0 serial data 8 or McASP1 serial data 5 or SPI1 data pin slave out master in
127	/SPI1_SIMO	IO	–	Y	McASP0 serial data 9 or McASP1 serial data 4 or SPI1 data pin slave in master out
128	CVDD				
129	VSS				
130	AXR0[10]	IO	–	Y	McASP0 serial data 10 or McASP1 serial data 3
131	AXR0[11]	IO	–	Y	McASP0 serial data 11 or McASP1 serial data 2
132	CVDD				
133	VSS				
134	AXR0[12]	IO	–	Y	McASP0 serial data 12 or McASP1 serial data 1
135	AXR0[13]	IO	–	Y	McASP0 serial data 13 or McASP1 serial data 0
136	DVDD				
137	AXR0[14]	IO	–	Y	McASP0 serial data 14 or McASP2 serial data 1
138	AXR0[15]	IO	–	Y	McASP0 serial data 15 or McASP2 serial data 0
139	ACLKR0	IO	–	Y	McASP0 receive bit clock
140	VSS				
141	AFSR0	IO	–	Y	McASP0 receive frame Sync (L/R clock)
142	ACLKX0	IO	–	Y	McASP0 transmit bit clock
143	AHCLKR0/AHCLKR1	IO	–	Y	McASP0 and McASP1 receive master clock
144	AFSX0	IO	–	Y	McASP0 transmit frame Sync (L/R clock)

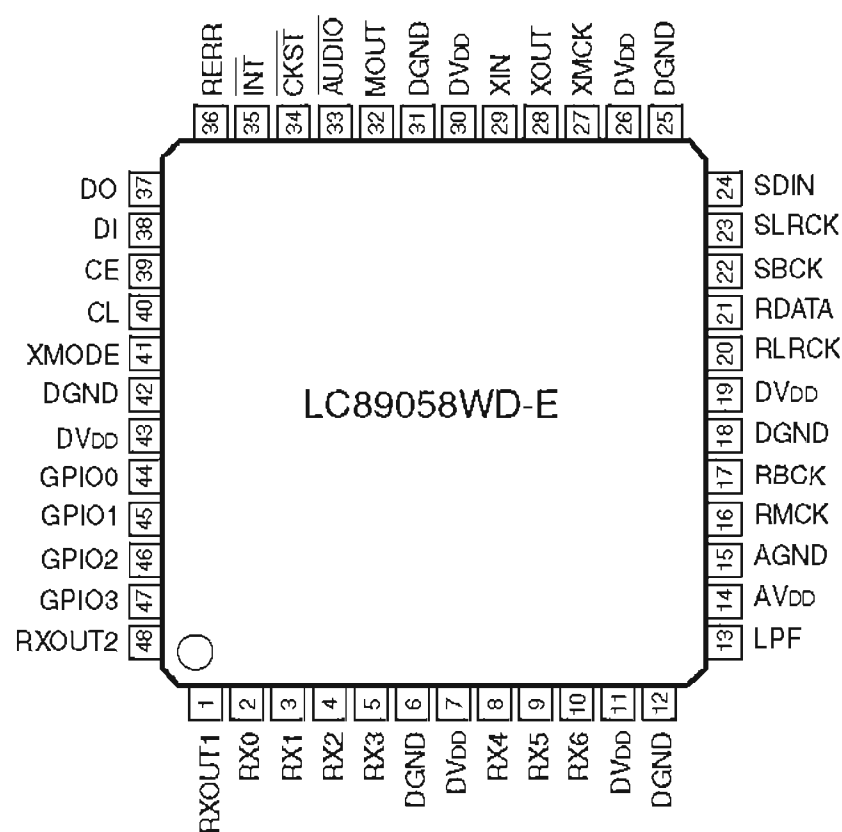
IC402: M66003-0131FP (OPERATION P.C.B.)
FL display driver



Pin No.	Port Name	Function Name	I/O	Detail of Function
1	RESET	/RESET	Reset input	When "L" M66003 is initialized.
2	CS	/CEFL	Chip select input	When "L" communication with the MCU is possible.
3	SCK	CKFL	Shift clock input	When "H", any instruction from the MCU is neglected.
4	SDATA	DTFL	Serial data input	Serial input data is taken and shifted by the positive edge of SCK.
5	Vss	VSS		GND (0V)
6	XOUT	XOUT	Clock out	When use as a CR oscillator, connect external resistor and capacitor.
7	XIN	XIN	Clock in	When use an external clock input external clock to XIN, and XOUT must be opened.

Pin No.	Port Name	Function Name	I/O	Detail of Function
8	Vcc1	VDD		Positive power supply for internal logic.
9	SEG34	P1I	Segment output	Connect to segment (anode) pins of VFD.
10	SEG33	P2		
11	SEG32	P3		
12	SEG31	P4		
13	SEG30	P5		
14	SEG29	P6		
15	SEG28	P7		
16	SEG27	P8		
17	SEG26	P9		
18	Vcc2	VDD		Positive power supply for DIG and SEG outputs.
19	SEG25	P10	Segment output	Connect to segment (anode) pins of VFD.
20	SEG24	P11		
21	SEG23	P12		
22	SEG22	P13		
23	SEG21	P14		
24	SEG20	P15		
25	SEG19	P16		
26	SEG18	P17		
27	SEG17	P18I		
28	SEG16	P19		
29	SEG15	P20		
30	SEG14	P21		
31	SEG13	P22		
32	SEG12	P23		
33	SEG11	P24		
34	SEG10	P25		
35	SEG09	P26		
36	SEG08	P27		
37	SEG07	P28		
38	SEG06	P29		
39	SEG05	P30		
40	SEG04	P31		
41	SEG03	P32		
42	SEG02	P33		
43	SEG01	P34		
44	SEG00	P35		
45	SEG35	P36		
46	SEG36	P37		
47	DIG16/SEG37	G17I	Digital output	Connect to digit (grid) pins of VFD.
48	DIG15/SEG38	G16I		
49	DIG14/SEG39	G15I		
50	DIG13/SEG40	G14		
51	DIG12/SEG41	G13		
52	DIG11/SEG42	G12		
53	DIG10	G11		
54	DIG09	G10		
55	DIG08	G9		
56	DIG07	G8		
57	DIG06	G7		
58	DIG05	G6		
59	DIG04	G5		
60	DIG03	G4		
61	DIG02	G3		
62	DIG01	G2		
63	DIG00	G1		
64	VP	VP		Negative power supply to pull down.

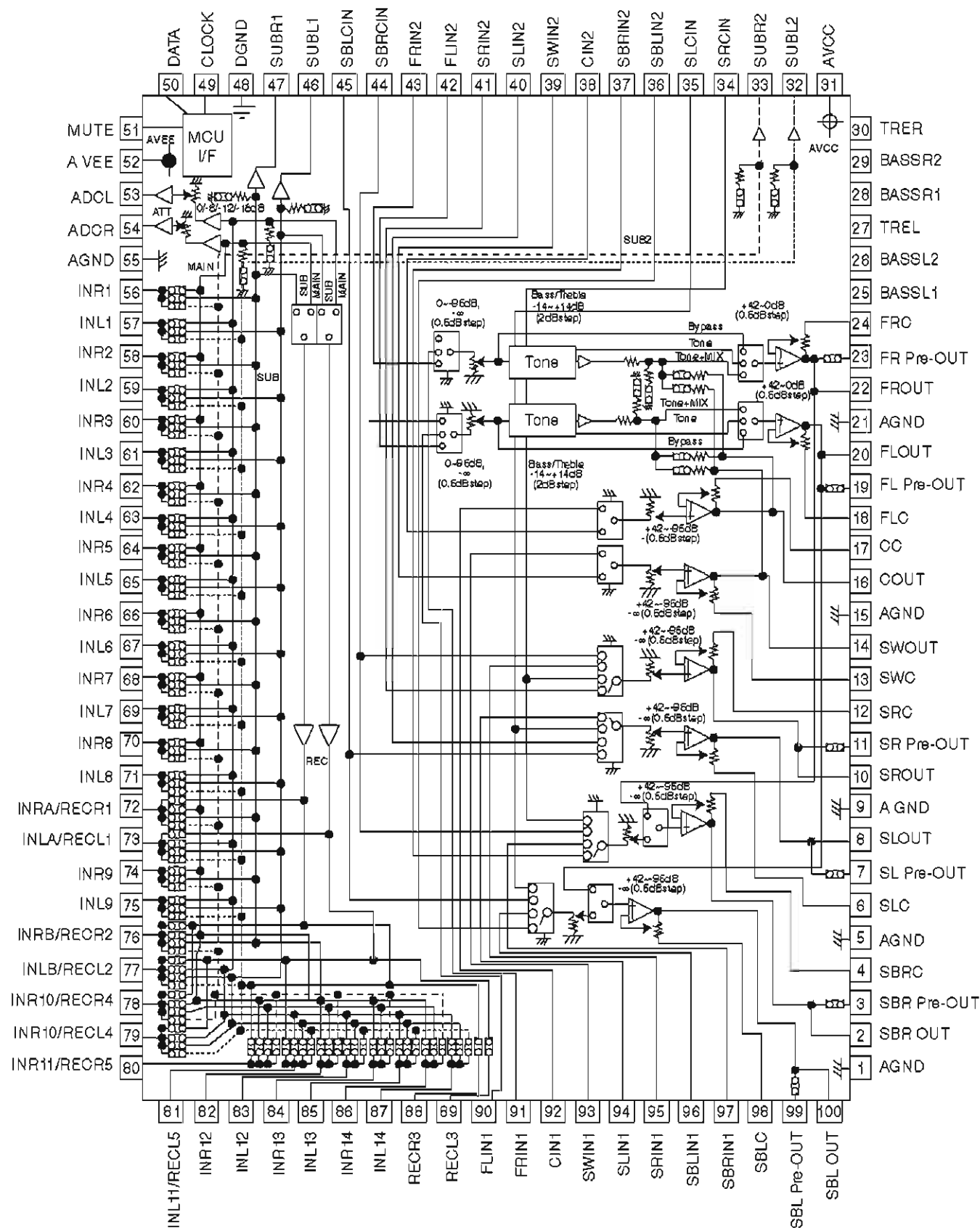
IC41: LC89058WD-E (DIGITAL P.C.B.)
Digital audio interface receiver



Pin No.	Function Name	I/O	Detail of Function
1	RXOUT1	O	RX0-6 input S/PDIF through output pin 1
2	RX0	I _s (pd)	5V withstand voltage TIL input level compatible S/PDIF input pin (connected to GND when RX1 is set)
3	RX1	I(pd)	Co-axial compatible S/PDIF input pin (supported demodulation sampling frequency of up to 96 kHz)
4	RX2	I _s (pd)	5V withstand voltage TIL input level compatible S/PDIF input pin (connected to GND when RX1 is set)
5	RX3	I _s (pd)	5V withstand voltage TIL input level compatible S/PDIF input pin
6	DGND		Digital GND
7	DVDD		Digital power supply (3.3V)
8	RX4	I _s (pd)	5V tolerable TIL input level compatible S/PDIF input pin
9	RX5	I _s (pd)	5V tolerable TIL input level compatible S/PDIF input pin
10	RX6	I _s (pd)	5V tolerable TIL input level compatible SIPDIF input pin
11	DVDD		Digital power supply (3.3V)
12	DGND		Digital GND
13	LPF	O	PLL loop filter connection pin
14	AVDD		Analog power supply (3.3V)
15	AGND		Analog GND
16	RMCK	O	R system clock output pin (VCO, 512fs, XIN)
17	RBCK	O/I	R system bit clock 1/0 pin (64fs)
18	DGND		Digital GND
19	DVDD		Digital power supply (3.3V)
20	RLRCK	O/I	R system LR clock 1/0 pin (fs)
21	RDATA	O	Serial audio data output pin
22	SBCK	O	S system bit clock output pin (16fs, 32fs, 64fs, 128fs)
23	SLRCK	O	S system LR clock output pin (fs/4, fs/2, fs, 2fs)
24	SDIN	I _s	External serial audio data input pin
25	DGND		Digital GND
26	DVDD		Digital power supply (3.3V)
27	XMCK	O	Oscillation amplifier clock output pin
28	XOUT	O	Output pin connected to the resonator
29	XIN	I	External clock input pin, connected to the resonator (12.288 MHz or 24.576 MHz)
30	DVDD		Digital power supply (3.3V)
31	DGND		Digital GND
32	MOUT	I/O	Emphasis information II input fs monitor output II chip address setting input pin
33	AUDIO	I/O	Channel status bit 1 output II chip address setting input pin
34	CKST	I/O	Clock switching transition period signal output II master/slave setting input pin
35	INT	I/O	Microcontroller interrupt signal output II pins 44-48 I/O setting input pin
36	RERR	O	PLL lock error and data error flag output pin
37	DO	O	CCB microcontroller I/F, read data output pin (3-state)
38	DI	I _s	CCB microcontroller I/F, write data input pin
39	CE	I _s	CCB microcontroller I/F, chip enable input pin
40	CL	I _s	CCB microcontroller I/F, clock input pin
41	XMODE	I _s	System reset input pin
42	DGND		Digital GND
43	DVDD		Digital power supply (3.3V)
44	GPI00	O/I	General-purpose I/O pin II selector input pin (output referred to RMCK pin)
45	GPI01	O/I	General-purpose I/O pin II selector input pin (output referred to RBCK pin)
46	GPI02	O/I	General-purpose I/O pin II selector input pin (output referred to RLRCK pin)
47	GPI03	O/I	General-purpose I/O pin II selector input pin (output referred to RDATA pin)
48	RXOUT2	O	RX0-6 input S/PDIF through output pin 2

- * Input voltage: 1= -0.3 to 3.6V, I_s =-0.3 to 5.5V
- * Output voltage: 0= -0.3 to 3.6V
- * Pins 2, 4, 5, 8, 9, 10, 24, 38, 39, 40, and 41 have an internal pull-down resistor (Pd). Their level is fixed when they are unselected.
- * Pins 32 and 33 are input pins for chip address setting when pin 41 is held at the low level.
- * Pin 34 serves as the input pin for designating as the master or slave when pin 41 is held at the low level.
- * Pin 35 serves as the input pin for configuring the I/O of pins 44 to 47 when pin 41 is held at the low level.
- * The DVDD and AVDD pins must be held at the same level and turned on and off at the same timing to preclude latch-up conditions.

IC153: R2A15220FP (MAIN P.C.B.)
8-channel electronic volume with 11 input selector and tone control

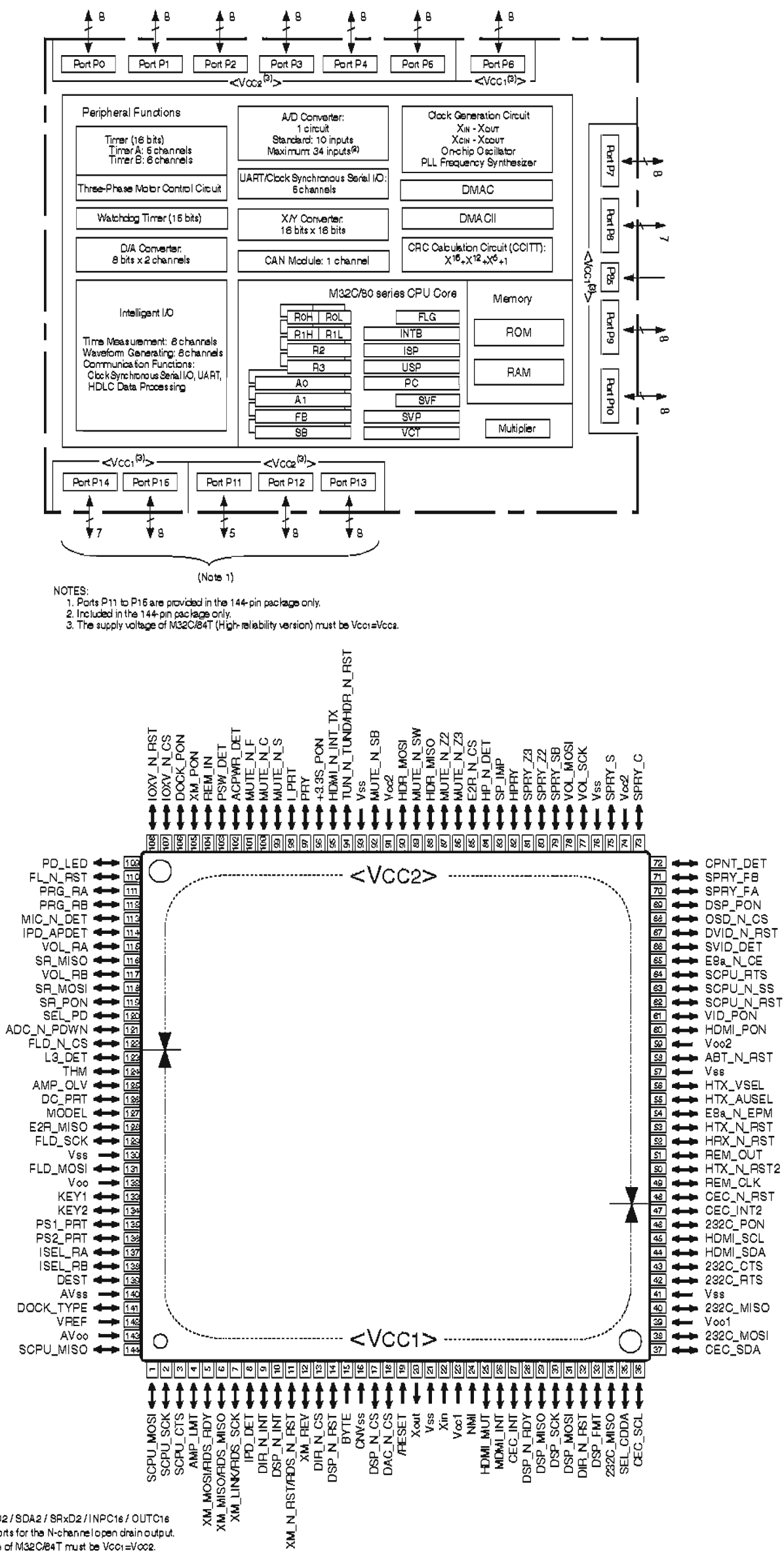


RX-V2065/HTR-6295

Pin No.	Port name	Function Name	Detail of Function
1	AGND	AE	Analog ground of internal circuit
2	SBROUT	VOSBL	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
3	SBR Pre-OUT	VOPSBL	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
4	SBRC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
5	AGND	AE	Analog ground of internal circuit
6	SLC	VOPSR	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
7	SL Pre-OUT	VOSR	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
8	SLOUT	AE	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
9	AGND	AE	Analog ground of internal circuit
10	SROUT	VOSL	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
11	SR Pre-OUT	VOPSL	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
12	SRC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
13	SWC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
14	SWOUT	VOSW	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
15	AGND	AE	Analog ground of internal circuit
16	COUT	VOC	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
17	CC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
18	FLC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
19	FL Pre-OUT	VOPFR	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
20	FLOUT	VOFR	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
21	AGND	POE	Analog ground of internal circuit
22	FROUT	VOFL	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
23	FR Pre-OUT	VOPFL	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
24	FRC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
25	BASSL1	AE	Frequency characteristic setting pin of L/R channel tone control (Bass)
26	BASSL2	AE	Frequency characteristic setting pin of L/R channel tone control (Bass)
27	TREL	AE	Frequency characteristic setting pin of L/R channel tone control (Treble)
28	BASSR1	AE	Frequency characteristic setting pin of L/R channel tone control (Bass)
29	BASSR2	AE	Frequency characteristic setting pin of L/R channel tone control (Bass)
30	TRER	AE	Frequency characteristic setting pin of L/R channel tone control (Treble)
31	AVCC	VCC	Positive power supply to internal circuit
32	SUBL1	N.C.	Output pin for L/R channel SUB1/SUB2 output
33	SUBL2	N.C.	Output pin for L/R channel SUB1/SUB2 output
34	SRCIN	N.C.	3rd multi input pin for SBL/SBR/SL/SR channel volume that is able to swap SBR/SBL with SR/SL
35	SLCIN	N.C.	3rd multi input pin for SBL/SBR/SL/SR channel volume that is able to swap SBR/SBL with SR/SL
36	SBLIN2	8SBR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
37	SBRIN2	8SBL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
38	CIN2	8C	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
39	SWIN2	8SW	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
40	SLIN2	8SR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
41	SRIN2	8SL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
42	FLIN2	8FR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
43	FRIN2	8FL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
44	SBRCIN	Z2L	3rd multi input pin for SBL/SBR/SL/SR channel volume that is able to swap SBR/SBL with SR/SL
45	SBLCIN	Z2R	3rd multi input pin for SBL/SBR/SL/SR channel volume that is able to swap SBR/SBL with SR/SL
46	SUBL1	Z2R	Output pin for L/R channel SUB1/SUB2 output
47	SUBR1	Z2L	Output pin for L/R channel SUB1/SUB2 output
48	DGND	MG	Digital ground of internal circuit
49	DATA	VOL_SCK	Input pin of control data
50	CLOCK	VOL_MOSI	Input pin of control clock
51	MUTE	AE	Outside mute control pin
52	AVEE	–	Negative power supply to internal circuit
53	ADCL	ADR	Output pin for L/R channel ADC
54	ADCR	ADL	Output pin for L/R channel ADC
55	AGND	AE	Analog ground of internal circuit
56	INR1	AU2L	Input pin of L/R channel (Input selector)
57	INL1	AU2R	Input pin of L/R channel (Input selector)

Pin No.	Port name	Function Name	Detail of Function
58	INR2	AU1L	Input pin of L/R channel (Input selector)
59	INL2	AU1R	Input pin of L/R channel (Input selector)
60	INR3	AV-6L	Input pin of L/R channel (Input selector)
61	INL3	AV-6R	Input pin of L/R channel (Input selector)
62	INR4	AV-5L	Input pin of L/R channel (Input selector)
63	INL4	AV-5R	Input pin of L/R channel (Input selector)
64	INR5	PHL	Input pin of L/R channel (Input selector)
65	INL5	PHR	Input pin of L/R channel (Input selector)
66	INR6	SRL	Input pin of L/R channel (Input selector)
67	INL6	SRR	Input pin of L/R channel (Input selector)
68	INR7	IPL	Input pin of L/R channel (Input selector)
69	INL7	IPR	Input pin of L/R channel (Input selector)
70	INR8	XML	Input pin of L/R channel (Input selector)
71	INL8	XMR	Input pin of L/R channel (Input selector)
72	INRA/RECR1	AV-OUT_L	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
73	INLA/RECL1	AV-OUT_R	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
74	INR9	USBL	Input pin of L/R channel (Input selector)
75	INL9	USBR	Input pin of L/R channel (Input selector)
76	INRB/RECR2	AOL	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
77	INLB/RECL2	AOR	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
78	INR10/RECR4	TUL	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
79	INL10/RECL4	TUR	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
80	INR11/RECR5	MIC	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
81	INL11/RECL5	AE	Output pin for L/R channel (input selector)/Output pin for L/R channel REC output
82	INR12	AUXL	Input pin of L/R channel (Input selector)
83	INL12	AUXR	Input pin of L/R channel (Input selector)
84	INR13	AE	Input pin of L/R channel (Input selector)
85	INL13	AE	Input pin of L/R channel (Input selector)
86	INR14	AE	Input pin of L/R channel (Input selector)
87	INL14	AE	Input pin of L/R channel (Input selector)
88	RECR3	N.C.	Output pin for L/R channel REC output
89	RECL3	N.C.	Output pin for L/R channel REC output
90	FLIN1	DAFR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
91	FRIN1	DAFL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
92	CIN1	DAC	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
93	SWIN1	DASW	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
94	SLIN1	DASR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
95	SEIN1	DASL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
96	SBLIN1	DASBR	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
97	SBRIN1	DASBL	Multi input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
98	SBLC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
99	SBL Pre-OUT	VOPSBR	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
100	SBL OUT	VOSBR	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel

IC20: M3087BFKBGP (DIGITAL P.C.B.)
Main microprocessor



Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
1	TXD4	SCPU_MOSI	SO	O	O	O	[O]		Synchronous data output for SubCPU
2	CLK4 P95/ANEX0/CLK4	SCPU_SCK	SO	O	O	O	[O]		Synchronous clock output for SubCPU
3	P94 P94/DA1/TB4in/ CTS4/RTS4/SS4	SCPU_CTS	SI	I	I	O	[O]		Input for transmission control for SubCPU (clear to send)
4	DA0 P93/DA0/TB3in/ CTS3/RTS3/SS3	AMP_LMT	DA	I	I	I	[I]		Limiter control output
5	TXD3 P92/TB2in/TXD3/ SDA3/SRXD3/ OUTC20/IEout/ ISTXD2	XM_MOSI	SO	O	O	O	O		Asynchronous data output for XM (U model)
	P92		O	O	O	O	O		(C, R, T, K, A, L models)
	TB2in	RDS_RDY	TMR	O	O	O	O		RDS READY input
6	RXD3 P91/TB1in/RXD3/ SCL3/STXD3/IEin/ ISRXD2	XM_MISO	SI	O	O	O	O		Asynchronous data input for XM (U model)
	P91		O	O	O	O	[O]		(C, R, T, K, A, L models)
	RXD3	RDS_MISO	SI	O	O	O	[O]		Synchronous data input for RDS (B, G, E, F model)
7	P90 P90/TB0in/CLK3	XM_LINK	I	I	O	O	[O]		XM LINK detection (U model)
	P90		O	O	O	O	[O]		(C, R, T, K, A, L models)
	CLK3	RDS_SCK	SO	O	O	O	[O]		Synchronous clock output for RDS IC Low level should stand by (B, G, E, F model)
8	INT8 P146/INT8	IPD_DET	IRQ	IRQ	IRQ	IRQ	[O]		iPod detection Restriction of port: INT is high edge or low edge only When inserting an iPod into the DOCK H → L
9	P145 P145/INT7	DIR_N_INT	IRQ	I	O	O	[O]		DIR interrupt Restriction of port: INT is high edge or low edge only
10	P144 P144/INT6	DSP_N_INT	IRQ	I	O	O	[O]		DA70Y interrupt Restriction of port: INT is high edge or low edge only
11	P143 P143/INPC17/ OUTC17	XM_N_RST	O	O	O	O	O		XM reset (U model)
	P143		O	O	O	O	O		(C, R, T, K, A, L models)
	P143	RDS_N_RST	O	O	O	O	O		RDS reset (B, G, E, F model)
12	P142 P142/INPC16/ OUTC16	XM_REV	I	I	O	O	[O]		XM antenna revision detection H: An compatibility antenna (U model)
	P142		O	O	O	O	[O]		(C, R, T, K, A, B, G, E, F, L models)
13	P141 P141/INPC15/ OUTC15	DIR_N_CS	CS	O	O	O	[O]		DIR chip select
14	P140 P140/INPC14/ OUTC14	DSP_N_RST	O	O	O	O	[O]		DA70Y reset
15	BYTE BYTE	BYTE	MCU	MCU	MCU	MCU	[MCU]		Switch of width of data bus input When set to single chip mode: L (16 bit)
16	CNVss								Processor mode select Low: Single chip mode High: To Flash included boot mode To boot mode with hardware resetting of P50=H, P55=L, CNVss=H, and a standard serial. Input/output mode
	CNVss	CNVss	MCU	MCU	MCU	MCU	[MCU]		
17	P87 P87/Xcin	DSP_N_CS	CS	O	O	O	[O]		DA70Y chip select
18	P86 P86/Xcout	DAC_N_CS	CS	O	O	O	[O]		DAC chip select

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
19	/RESET /RESET	/RESET	MCU	MCU	MCU	MCU	[MCU]		Reset
20	Xout Xout	Xout	MCU	MCU	MCU	MCU	[MCU]		20 MHz ceramic resonator
21	Vss Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		GND
22	Xin Xin	Xin	MCU	MCU	MCU	MCU	[MCU]		20 MHz ceramic resonator
23	Vcc1 Vcc1	Vcc1	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
24	/NMI P85/NMI	/NMI	MCU	MCU	MCU	MCU	[MCU]		Unused, pull up to Vcc
25	INT2 P84/INT2	HDMI_MUT	IRQ	IRQ	O	O	[O]		HDMI mute input H: Mute
26	INT1 P83/INT1	HDMI_INT	IRQ	IRQ	O	O	[O]		Interrupt from HDMI RX
27	INT0 P82/INT0	HEQ_N_INT	IRQ	IRQ	O	O	O		Interrupt from HDMI INPUT EQ While CEC microprocessor is in use, interruptive CEC microprocessor may be used
28	P81 P81/TA4in/U/ INPC15/OUTC15/ CTS5/RTS5/RTP23	DSP_N_RDY	I	I	O	O	[O]		DA70Y RDY
29	RXD5 P80/TA4out/U/ ISRXD0/RXD5	DSP_MISO	SI	I	O	O	[O]		Synchronous data input for DIR, DA70Y, DAC
30	CLK5 P77/TA3in/INPC14/ OUTC14/ISCLK0/ CLK5/RTP22	DSP_SCK	SO	O	O	O	[O]		Synchronous clock output for DIR, DA70Y, DAC
31	TXD5 P76/TA3out/INPC13/ OUTC13/ISTXD0/ TXD5	DSP_MOSI	SO	O	O	O	[O]		Synchronous data output for DIR, DA70Y, DAC
32	P75 P75/TA2in/W/ INPC12/OUTC12/ ISRXD1/RTP21	DIR_N_RST	O	O	O	O	[O]		DIR reset
33	P74 P74/TA2out/W/ INPC11/OUTC11/ ISCLK1/RTP20	DSP_FMT	O	O	O	O	[O]		DA70Y full mute output H: Mute
34	TA1in P73/TA1in/V/CTS2/ RTS2/SS2/INPC10/ OUTC10/ISTXD1	232C_MISO	TMR	TMR	TMR	TMR	[O]		RS232C reception detection Uses for the return trigger from stop mode (MCUSleep)
35	P72 P72/TA1out/V/CLK2	SEL_CDDA	O	O	O	O	[O]		CDDA writing route select H: CDDA writing mode L: Operational mode usually
36	SCL2 P71/TA0in/TB5in/ RXD2/SCL2/STXD2/ INPC17/OUTC17/ OUTC22/ISRXD2/ IEin/RTP03	CEC_SCL	SO	SO	O	O	[O]		CEC microprocessor, Tuner, HDMI_EQ (SiI9185A) I2C SCL output U-com block then +3.3S, 3.3k then pull up (100 kHz device)
37	SDA2 P70/TA0out/TXD2/ SDA2/SRXD2/ INPC16/OUTC16/ OUTC20/ISTXD2/ IEout/RTP02	CEC_SDA	SIO	SIO	O	O	[O]		CEC microprocessor, Tuner, HDMI_EQ (SiI9185A) I2C SDA input U-com block then +3.3S, 3.3k then pull up (100 kHz device)

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
38	TxD1	232C_MOSI	SO	SO	SO	O	[O]		RS232C data output Pull up at 100 k-ohms
	P67/TXD1/SDA1/SRXD1								
	TxD1	TXD						SO	E8a, ICP (In-Circuit Programmer) data output
39	Vcc1	Vcc1	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
	Vcc1								
40	RxD1	232C_MISO	SI	SI	SI	I	[I]		RS232C data input Pull up at 100 k-ohms
	P66/RXD1/SCL1/STXD1								
	RxD1	RXD						SI	E8a, ICP (In-Circuit Programmer) data input
41	Vss	Vss	All	MCU	MCU	MCU	[MCU]		Microprocessor GND
	Vss								
42	P65	232C_RTS	SO	SO	SO	O	[O]		RS232C CTS input
	P65/CLK1								
	CLK1	E8a_SCLK						SI	E8a, ICP (In-Circuit Programmer) clock input Pull up at 100 k-ohms
43	CTS1	232C_CTS	SI	SI	SI	I	[I]		RS232C CTS input Pull down at 100 k-ohms
	P64/CTS1/RTS1/SS1/OUTC21/ISCLK2								
	RTS1	E8a_BUSY						SO	E8a, ICP (In-Circuit Programmer) BUSY output
44	SDA0	HDMI_SDA	SIO	SIO	O	O	[O]		HDMI RX/TX, Video Enc/Dec I2C SCL output Pull up at HDMI block HDMI RX/TX: 5V tolerant (400 kHz device)
	P63/TXD0/SDA0/SRXD0/IrDAout								
45	SCL0	HDMI_SCL	SIO	SIO	O	O	[O]		HDMI RX/TX, Video Enc/Dec I2C SDA input/output Pull up at HDMI block HDMI RX/TX: 5V tolerant (400 kHz device)
	P62/RXD0/SCL0/STXD0/IrDAin								
46	P61	232C_PON	O	O	O	O	[O]		RS232C driver power supply ON/OFF control H: ON, L: OFF Default at standby U, C models: H (232C ON) R, T, K, A, B, G, E, F, L models: L
	P61/CLK0/RTP01								
47	P60	CXB1442_CE	O	O	O	O	[O]		FRONT HDMI EQ chip enable output Pull down at FRONT HDMI block H: enable When CEC microprocessor is used, it substitutes it with HDMI_PON (Pin 60)
	P60/CTS0/RTS0/SS0/RTP00								
48	P137	HEQ_N_RST	O	O	O	O	[O]	O	HDMI INPUT EQ reset output Pull up at HDMI EQ block L: Reset When CEC microprocessor is used, it substitutes it with HDMI_PON (Pin 60)
	P137/OUTC27								
49	ISCLK2	REM_CLK	SO	O	O	O	[O]		Clock output for remote control code generation No connection destination
	P136/OUTC21/ISCLK2								
50	P135	HTX_N_RST2	O	O	O	O	[O]		HDMI TX (OUT2) reset output Pull down at HDMI block L: Reset
	P135/OUTC22/ISRXD2/Iein								
51	ISTXD2	REM_OUT	SO	O	O	O	[O]		SCENE select DVD control remote control code output
	P134/OUTC20/ISTXD2/Ieout								
52	P57	HRX_N_RST	O	O	O	O	[O]		HDMI TX reset output Pull down at HDMI block L: Reset
	P57/RDY								
53	P56	HTX_N_RST	O	O	O	O	[O]		HDMI TX (OUT1) reset output Pull down at HDMI block L: Reset
	P56/ALE								
54	P55	E8a_N_EPM	I	I	I	I	[I]		E8a writing mode enable input 10 k-ohms pull down
	P55/HOLD								
55	P54	HTX_AUSEL	O	O	O	O	[O]		
	P54/HLDA/ALE								

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
56	P133 P133/OUTC23	HTX_VSEL	O	O	O	O	[O]		
57	Vss Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND
58	P132 P132/OUTC26	ABT_N_RST	O	O	O	O	[O]		Video I/P & Scaler IC reset VID_PON=L: Low fix L: reset
59	Vcc2 Vcc2	Vcc2	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
60	P131 P131/OUTC25	HDMI_PON	O	O	O	O	[O]		HDMI power supply ON/OFF control When uses CEC microprocessor, HDMI EQ (CXB1442, Sil9185A) reset may be used H: ON, L: OFF
61	P130 P130/OUTC24	VID_PON	O	O	O	O	[O]		Video power supply ON/OFF control Configured based on the Pure Direct specification H: ON, L: OFF
62	P53 P53/CLKout/BCLK/ ALE	SCPU_N_RST	O	O	O	O	[O]		SubCPU reset Because the delay circuit of 2 ms is passed so that it may discriminate against reset of Flash and BlackFin, it is necessary to secure the change time of 5 ms or more
63	P52 P52/RD	SCPU_N_SS	O	O	O	O	[O]		SubCPU slave select
64	P51 P51/WRH/BHE	SCPU_RTS	SO	O	O	O	[O]		Output for SubCPU reception control (request to send)
65	P50 P50/WRL/WR	E8a_N_CE	I	I	I	I	[I]		E8a enable input 10 k-ohms pull up
66	P127 P127	SVID_DET	I	O	O	O	[O]		S video detection VID_PON = L: Low fix
67	P126 P126	DVID_N_RST	O	O	O	O	[O]		Video Enc/Dec reset VID_PON = L: Low fix
68	P125 P125	OSD_N_CS	CS	O	O	O	[O]		OSD chip select VID_PON = L: Low fix
69	P47 P47/SC0/A23	DSP_PON	O	O	O	O	[O]		DSP power supply ON/OFF control H: ON, L: OFF
70	P46 P46/SC1/A22	SPRY_FA	O	O	O	O	[O]		Front A speaker relay control H: ON, L: OFF
71	P45 P45/SC2/A21	SPRY_FB	O	O	O	O	[O]		Front B speaker relay control H: ON, L: OFF
72	P44 P44/SC3/A20	CPNT_DET	O	O	O	O	[O]		No use
73	P43 P43/A19	SPRY_C	O	O	O	O	[O]		Center speaker relay control
74	Vcc2 Vcc2	Vcc2	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
75	P42 P42/A18	SPRY_S	O	O	O	O	[O]		Surround speaker relay control
76	Vss Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND
77	P41 P41/A17	VOL_SCK	O	O	O	O	[O]		Electronic volume Flip-flop synchronous clock output
78	P40 P40/A16	VOL_MOSI	O	O	O	O	[O]		Electronic volume Flip-flop synchronous data output
79	P37 P37/A15(/D15)	SPRY_SB	O	O	O	O	[O]		Surround back/Bi-AMP relay control
80	P36 P36/A14(/D14)	SPRY_Z2	O	O	O	O	[O]		Zone2/Presence Speaker relay control SPRY_Z2 and SPRY_FB do not become High at the same time
81	P35 P35/A13(/D13)	SPRY_Z3	O	O	O	O	[O]		Zone3 speaker relay control
82	P34 P34/A12(/D12)	HPRY	O	O	O	O	[O]		Head phone relay control

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
83	P33	SP_IMP	O	HiZ	HiZ	HiZ	[HiZ]		Speaker impedance relay control GND pull down Set to 8 ohms: Hi-Z (Relay OFF, B voltage High) Set to 6 ohms plus during rising temperature: High (Relay ON, B voltage Low)
	P33/A11/(D11)								
84	P32	HP_N_DET	I	O	O	O	[O]		Headphone detection +3.3S pull up L: Headphone
	P32/A10/(D10)								
85	P31	E2R_N_CS	CS	CS	CS	I	[I]		EEPROM chip select Pull up to EEPROM power at 10 k-ohms
	P31/A9/(D9)								
86	P124	MUTE_N_Z3	O	O	O	O	[O]		Zone3 line out mute control L: Mute
	P124								
87	P123	MUTE_N_Z2	O	O	O	O	[O]		Zone2 line out mute control L: Mute
	P123/CTS6/RTS6								
88	RXD6	HDR_MISO	SI	I	I	I	[I]		Asynchronous data input for HD Radio To prevent pulling of HD Radio's High output and microprocessor's Low Fix output, switch to constant input (U model)
	P122/RXD6								
	P122	TUN_N_ST	I	O	O	O	[O]		FM/AM tuner STEREO detection input +3.3S to 47k then pull up
89	P121	MUTE_N_SW	O	O	O	O	[O]		Subwoofer mute control L: Mute All
	P121/CLK6								
90	TXD6	HDR_MOSI	SO	O	O	O	[O]		HD Radio asynchronous data output (U model)
	P120/TXD6								
	P120	HDR_MOSI (TUNCEC_N_EN)	O	O	O	O	[O]		FM/AM tuner CEC enable output Pull up at +3.3SDSP L: Enable, H: Disable (C, R, T, K, A, B, G, E, F, L, J models)
91	Vcc2	Vcc2	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
	Vcc2								
92	P30	MUTE_N_SB	O	O	O	O	[O]		Surround back/Bi-AMP/Zone2 mute control L: Mute
	P30/A8/(D8)								
93	Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND
	Vss								
94	P27	HDR_N_RST	O	O	O	O	[O]		HD Radio reset (U model)
	P27	TUN_N_TUND	I	O	O	O	[O]		FM/AM tuner TUNED input +3.3S to 47k then pull up (C, R, T, K, A, B, G, E, F, L, J models)
	P27/A7/(D7)/AN27								
95	P26	HDMI_N_INT_TX	I	I	O	O	O		HDMI TX1,2 interrupts (receive with polling) TUN_N_ST is received by pin 88
	P26/A6/(D6)/AN26								
96	P25	+3.3S_PON	O	O	O	O	[I]		+3.3S power supply ON/OFF control H: ON, L: OFF At standby sleep, becomes L [to avoid unnecessary power consumption (Mute, pull Up)] Input (HiZ) then mechanically +3.3S power switches on (to function Mute, when power down is detected)
	P25/A5/(D5)/AN25								
97	P24	PRY	O	O	O	O	[O]		Power relay ON/OFF control H: ON, L: OFF
	P24/A4/(D4)/AN24								
98	P23	I_PRT	I	I	O	O	[O]		Overcurrent protection detection
	P23/A3/(D3)/AN23								
99	P22	MUTE_N_S	O	O	O	O	[O]		Surround mute control L: Mute
	P22/A2/(D2)/AN22								
100	P21	MUTE_N_C	O	O	O	O	[O]		Center mute control L: Mute
	P21/A1/(D1)/AN21								
101	P20	MUTE_N_F	O	O	O	O	[O]		Front (Headphone is contained) mute control L: Mute
	P20/A0/(D0)/AN20								
102	INT5	ACPWR_DET	IRQ	IRQ	IRQ	IRQ	[O]		AC power detection L: Power down
	P17/D15/INT5								
103	INT4	PSW_DET	IRQ	IRQ	IRQ	IRQ	[O]		Main/Zone/Input key interrupt KEY1 port distinguishes the pressed keys
	P16/D14/INT4								
104	INT3	REM_IN	IRQ	IRQ	IRQ	IRQ	[O]		Remote control pulse input
	P15/D13/INT3								

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
105	P14	XM_PON	O	O	O	O	[O]		XM Radio power supply ON/OFF control H: ON, L: OFF (U model) (C, R, T, K, A, B, G, E, F, L, J models)
	P14/D12								
	P14		O	O	O	O	[O]		
106	P13	DOCK_PON	O	O	O	O	[O]		DOCK power supply ON/OFF control H: ON, L: OFF
	P13/D11								
107	P12	IOXV_N_CS	CS	O	O	O	[O]		IO extended IC (for video) chip select
	P12/D10								
108	P11	IOXV_N_RST	O	O	O	O	[O]		IO extended IC (for video) reset
	P11/D9								
109	P10	PD_LED	O	O	O	O	[O]		Pure Direct LED ON/OFF control H: ON, L: OFF
	P10/D8								
110	P07	FLD_N_RST	O	O	O	O	[O]		FL driver reset
	P07/D7/AN07								
111	P06	PRG_RA	I	O	O	O	[O]		Program rotary A
	P06/D6/AN06								
112	P05	PRG_RB	I	O	O	O	[O]		Program rotary B
	P05/D5/AN05								
113	P04	MIC_N_DET	I	O	O	O	[O]		MIC detection L: MIC
	P04/D4/AN04								
114	P114	IPD_APDET	I	I	I	I	[I]		iPod accessory power detection While iPod boots up (about two seconds) it is set at Low after the boot, it identifies To prevent pulling of iPod High output and microprocessor Low Fix output, switch to constant input
	P114								
115	P113	VOL_RA	I	O	O	O	[O]		Volume rotary A
	P113/INPC13/OUTC13								
116	ISRXD1	SR_MISO	SI	I	I	I	[I]		Asynchronous data input for SIRIUS Pull up at 100 k-ohms Serial communication is 5V TTL/CMOS logic level To prevent pulling of SIRIUS tuner's High output and microprocessor's Low Fix output, switch to constant input (U model) (C, R, T, K, A, B, G, E, F, L, J models)
	P112/INPC12/OUTC12/ISRXD1								
	P112		O	O	O	O	[O]		
117	P111	VOL_RB	I	O	O	O	[O]		Volume rotary B
	P111/INPC11/OUTC11/ISCLK1								
118	ISTXD1	SR_MOSI	SO	O	O	O	[O]		Asynchronous data output for SIRIUS Serial communication is 5V TTL/CMOS logic level (U model) (C, R, T, K, A, B, G, E, F, L, J models)
	P110/INPC10/OUTC10/ISTXD1								
	P110		O	O	O	O	[O]		
119	P03	SR_PON	O	O	O	O	[O]		SIRIUS radio power supply ON/OFF control H: Power ON, L: Power OFF (U model) (C, R, T, K, A, B, G, E, F, L, J models)
	P03/D3/AN03								
120	P02	SEL_PD	O	O	O	O	[O]		DSP Pure Direct route select H: Pure Direct ON
	P02/D2/AN02								
121	P01	ADC_N_PDWN	O	O	O	O	[O]		ADC power down L: Power down
	P01/D1/AN01								
122	P00	FLD_N_CS	CS	O	O	O	[O]		FL driver chip select
	P00/D0/AN00								
123	AN157	L3_DET	I	I	I	O	[O]		No use Pull down at GND
	P157/AN157/CTS6/RTS6								
124	AN156	THM	AD	AD	O	O	[O]		Temperature detection
	P156/AN156/CLK6								
125	AN155	AMP_OLV	AD	AD	O	O	[O]		Power AMP output level detection
	P155/AN155/RXD6								
126	AN154	DC_PRT	AD	AD	O	O	[O]		Power AMP DC detection
	P154/AN154/TXD6								
127	AN153	MODEL	AD	AD	AD	O	[O]		AD destination discrimination Data is taken in when resetting is cancelled
	P153/AN153/CTS5/RTS5								

Pin No.	Port Name	Function Name (P.C.B.)	I/O						Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]	E8a, ICP	
128	ISRXD0 P152/AN152/ ISRXD0/RXD5	E2R_MISO	SI	SI	SI	O	[O]		Synchronous data input for EEPROM
129	ISCLK0 P151/AN151/ ISCLK0/CLK5	FLD_SCK	SO	SO	SO	O	[O]		FL driver, OSD, IO extended IC (Video), EEPROM synchronous clock output Inhalation attention of power supply off device
130	Vss Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND
131	ISTXD0 P150/AN150/ ISTXD0/TXD5	FLD_MOSI	SO	SO	SO	O	[O]		FL driver, OSD, IO extended IC (Video), EEPROM synchronous data output Inhalation attention of power supply off device
132	Vcc1 Vcc1	Vcc1	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
133	AN7 P107/AN7/KI3/ RTP33	KEY1	AD	AD	AD	I	[O]		KEY1 AD value taken in During PSW_DET interruption, distinguishes the used keys which are switched to AD
134	AN6 P106/AN6/KI2/ RTP32	KEY2	AD	AD	AD	I	[O]		KEY2 AD value taken in During PSW_DET interruption, distinguishes the used keys which are switched to AD
135	AN5 P105/AN5/KI1/ RTP31	PS1_PRT	AD	AD	O	O	[O]		PS protection detection 1
136	AN4 P104/AN4/KI0/ RTP30	PS2_PRT	AD	AD	O	O	[O]		PS protection detection 2
137	P103 P103/AN3/RTP13	ISEL_RA	I	O	O	O	[O]		Input selector rotary A
138	P102 P102/AN2/RTP12	ISEL_RB	I	O	O	O	[O]		Input selector rotary B
139	AN1 P101/AN1/RTP11	DEST	AD	AD	AD	O	[O]		AD destination discrimination Data is taken in when resetting is cancelled
140	AVss AVss	AVss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND
141	AN0 P100/AN0/RTP10	DOCK_TYPE	AD	AD	AD	I	[O]		DOCK discriminate Make a distinction from IPD_DET Low edge through post-10ms A/D value Identifies the connected DOCK type, then switches the action During IPD_DET interruption, switches to AD, make a distinction based on post-10 ms A/D value
142	Vref Vref	VREF	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
143	AVcc AVcc	AVcc	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply
144	RXD4 P97/ADTRG/RXD4/ SCL4/STXD4	SCPU_MISO	SO	I	I	I	[O]		Synchronous data input for SubCPU

Key detection for A/D port

Key input (A/D) pull-up resistance 10 k-ohms

Ohm	0	+1.0k	+1.0k	+1.5k	+1.5k	+2.2k	+3.3k	+4.7k	+22.0k	+33.0k
V	0 – 0.15	0.15 – 0.42	0.43 – 0.70	0.71 – 0.97	0.98 – 1.24	1.25 – 1.53	1.54 – 1.84	1.84 – 2.1	2.34 – 2.55	2.55 – 2.97
A/D value (3.3 V=255)	0 – 11	12 – 32	33 – 54	55 – 75	76 – 95	96 – 118	119 – 142	143 – 162	161 – 197	198 – 229
KEY1 (133 pin)	SCENE RADIO	SCENE CD	SCENE TV	SCENE BD/DVD	ZONE2 ON/OFF	ZONE3 ON/OFF	—	—	MAIN ZONE ON/OFF	TONE CONTROL

Ohm	0	+1.0k	+1.0k	+1.5k	+1.8k	+2.2k	+3.3k	+4.7k	+6.8k	+10.0k
V	0 – 0.15	0.15 – 0.42	0.43 – 0.70	0.71 – 0.99	1.0 – 1.27	1.28 – 1.56	1.57 – 1.86	1.86 – 2.14	2.14 – 2.4	2.4 – 2.65
A/D value (3.3 V=255)	0 – 11	12 – 32	33 – 54	55 – 77	78 – 98	99 – 120	121 – 143	144 – 165	166 – 185	186 – 205
KEY2 (134 pin)	PURE DIRECT	STRAIGHT / EFFECT	ZONE CONTROLS	INFO	PRESET <	PRESET >	MEMORY	BAND/ CATEGORY	TUNING CH <	TUNING CH >

Destination detection for A/D port

Destination input (A/D) pull-up resistance 10 k-ohms

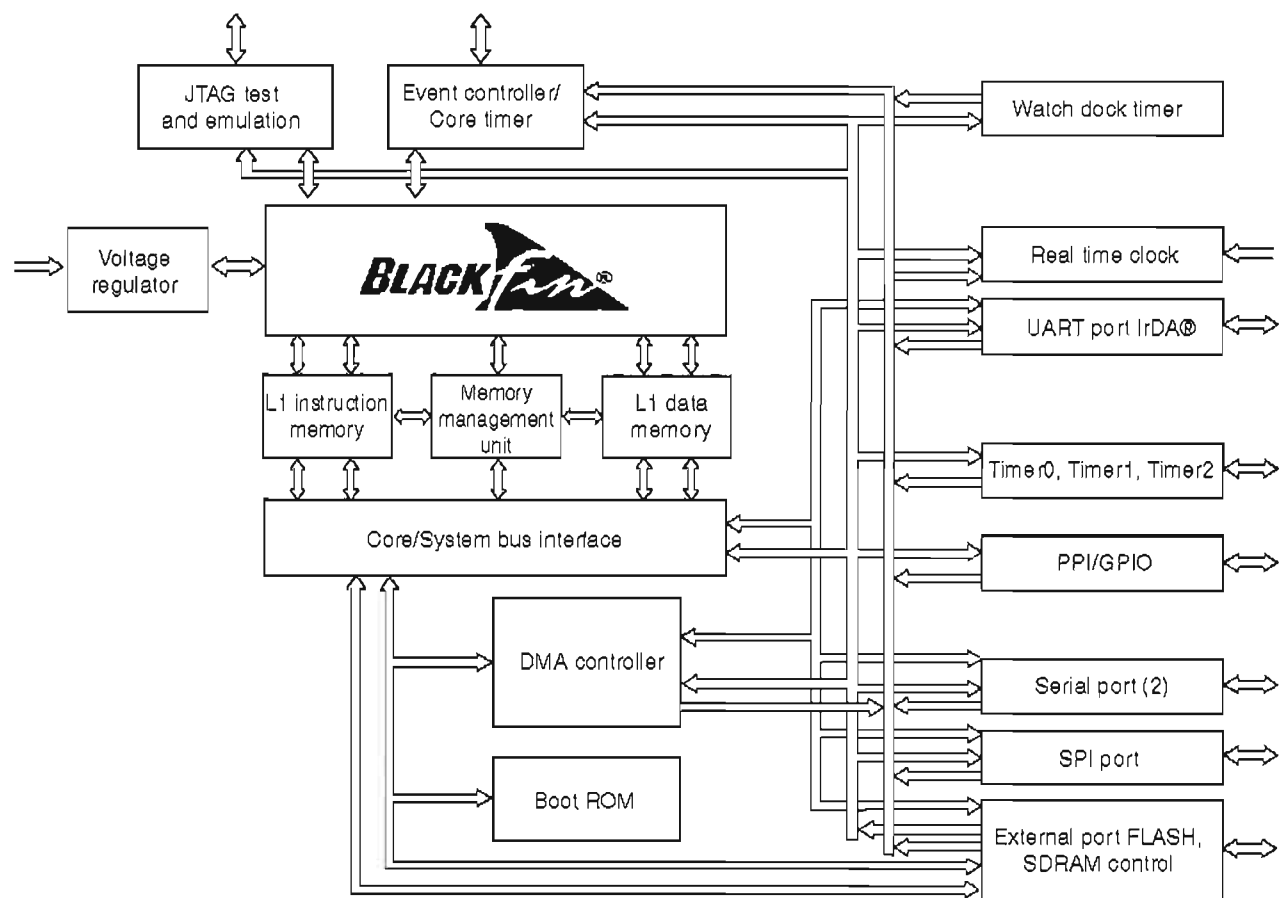
Ohm (R3809 VIDEO P.C.B.)	1.2 k	2.7 k	4.7 k	6.8 k	10.0 k	15.0 k	470 k	100.0 k
V	0.2 – 0.6	0.6 – 0.9	0.9 – 1.2	1.2 – 1.5	1.5 – 1.8	1.8 – 2.3	2.4 – 2.9	2.9 – 3.2
A/D value (3.3V=255)	15 – 46	46 – 69	69 – 92	92 – 115	115 – 139	139 – 177	185 – 224	224 – 247
DEST (139 pin)	U	C	R	T	K	A	B, G, E, F	L

Model detection for A/D port

Ohm (R200 DIGITAL P.C.B.)	—	10 k
Ohm (R201 DIGITAL P.C.B.)	1 k	1 k
V	0	0.2 – 0.6
A/D value (3.3 V=255)	0	15 – 46
MODEL (127 pin)	RX-V2065	HTR-6295

IC505: AD91089ZSKBC (GUI P.C.B.)
Sub-microprocessor

* No replacement part available.



Memory Interface

Pin No.	Function Name	I/O	Detail of Function
121	ADDR19	O	Address bus for async/Sync access
122	ADDR18		
123	ADDR17		
124	ADDR16		
125	ADDR15		
126	ADDR14		
127	ADDR13		
135	ADDR12	O	Address bus for async/Sync access
136	ADDR11		
137	ADDR10		
138	ADDR9		
139	ADDR8		
140	ADDR7		
141	ADDR6		
142	ADDR5	O	Address bus for async/Sync access
146	ADDR4		
147	ADDR3		
148	ADDR2		
149	ADDR1		
98	DATA15		
99	DATA14		
100	DATA13	I/O	Data bus for async access
101	DATA12		
102	DATA11		
103	DATA10		
104	DATA9		
105	DATA8		
108	DATA7		
109	DATA6	I/O	Data bus for async access
110	DATA5		
112	DATA4	I/O	Data bus for async access
113	DATA3		
114	DATA2		
115	DATA1		
116	DATA0		
150	ABE1	O	Byte enables/Data masks for async/Sync access
151	ABE0		
163	BR	I	Bus request (This pin should be pulled HIGH if not used.)
119	BG	O	Bus grant
120	BGH	O	Bus grant hang

Asynchronous memory control

Pin No.	Function Name	I/O	Detail of Function
158	AMS3	O	Banks select
159	AMS2		
160	AMS1		
161	AMS0		
162	ARDY	I	Hardware ready control (This pin should be pulled HIGH if not used.)
154	AOE	O	Output enable
153	ARE	O	Read enable
152	AWE	O	Write enable

Synchronous memory control

Pin No.	Function Name	I/O	Detail of Function
167	SRAS	O	Row address strobe
166	SCAS	O	Column address strobe
165	SWE	O	Write enable
173	SCKE	O	Clock enable
169	CLKOUT	O	Clock output
164	SA10	O	A10 pin
172	SMS	O	Bank select

Timers

Pin No.	Function Name	I/O	Detail of Function
79	TMR0	I/O	Timer0
78	PPI_FS1	I/O	Timer1/PPI frame sync1
77	PPI_FS2	I/O	Timer2/PPI frame sync2

PPI port

Pin No.	Function Name	I/O	Detail of Function
22	PP10	I/O	PPI3-0
23	PP11		
24	PP12		
26	PP13		
21	PPI_CLK	I	PPI clock/External timer reference

Port F: GPIO/Parallel peripheral Interface port/SPI/Timers

Pin No.	Function Name	I/O	Detail of Function
51	N_SPISS	I/O	GPIO/SPI slave select input
50	PF1	I/O	GPIO/SPI slave select enable 1/ Timer alternate clock input
49	PF2	I/O	GPIO/SPI slave select enable 2
48	PPI_PS3	I/O	GPIO/SPI slave select enable 3/ PPI frame sync 3
47	PF4	I/O	GPIO/SPI slave select enable 4/ PPI 15
46	PF5	I/O	GPIO/SPI slave select enable 5/ PPI 14
38	PF6	I/O	GPIO/SPI slave select enable 6/ PPI 13
37	PF7	I/O	GPIO/SPI slave select enable 7/ PPI 12
36	PF8	I/O	GPIO/PPI 11
35	PF9	I/O	GPIO/PPI 10
34	PF10	I/O	GPIO/PPI 9
33	PF11	I/O	GPIO/PPI 8
32	PPI7	I/O	GPIO/PPI 7
29	PPI6	I/O	GPIO/PPI 6
28	PPI5	I/O	GPIO/PPI 5
27	PPI4	I/O	GPIO/PPI 4

JTAG port

Pin No.	Function Name	I/O	Detail of Function
94	TCK	I	JTAG clock
87	TDO	O	JTAG serial data out
86	TDI	I	JTAG serial data in
85	TMS	I	JTAG mode select
84	TRST	I	JTAG reset (This pin is should be pulled LOW if JTAG is not used.)
83	EMU	O	Emulation output

SPI port

Pin No.	Function Name	I/O	Detail of Function
55	MOSI	I/O	Master out slave in
54	MISO	I/O	Master in slave out (This pin is should be pulled HIGH throug a 4.7 k-ohms resistor if booting via the SPI port.)
53	SCK	I/O	SPI clock

Serial ports

Pin No.	Function Name	I/O	Detail of Function
76	RSCLK0	I/O	SPORT0 receive serial clock
75	RFS0	I/O	SPORT0 receive frame sync
74	DR0PRI	I	SPORT0 receive data primary
73	DR0SEC	I	SPORT0 receive data secondary
72	TSCLK0	I/O	SPORT0 transmit serial clock
69	TFS0	I/O	SPORT0 transmit frame sync
68	DT0PRI	O	SPORT0 transmit data primary
67	DT0SEC	O	SPORT0 transmit data secondary
65	RSCLK1	I/O	SPORT1 receive serial clock
64	RFS1	I/O	SPORT1 receive frame sync
63	DR1PRI	I	SPORT1 receive data primary
62	DR1SEC	I	SPORT1 receive data secondary
61	TSCLK1	I/O	SPORT1 transmit serial clock
60	TFS1	I/O	SPORT1 transmit frame sync
59	DT1PRI	O	SPORT1 transmit data primary
58	DT1SEC	O	SPORT1 transmit data secondary

UART port

Pin No.	Function Name	I/O	Detail of Function
82	RX	I	UART receive
81	TX	O	UART transmit

Real-time clock

Pin No.	Function Name	I/O	Detail of Function
17	RTXI	I	RTC crystal input (This pin should be pulled LOW when not used.)
16	RTXO	O	RTC crystal output

Clock

Pin No.	Function Name	I/O	Detail of Function
10	CLKIN	I	Clock/Crystal input (This pin needs to be at a level or clocking.)
11	XTAL	O	Crystal output

Mode controls

Pin No.	Function Name	I/O	Detail of Function
13	RESET	I	Reset (This pin is always active during core power-on.)
14	NMI	I	Nonmaskable interrupt (This pin should be pulled LOW when not used.)
95	BMODE1	I	Boot mode strap (These pins must be pulled to the state required for the desired boot mode.)
96	BMODE0		

Voltage regulator

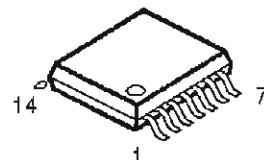
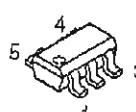
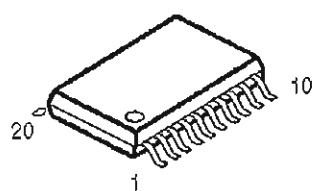
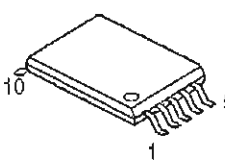
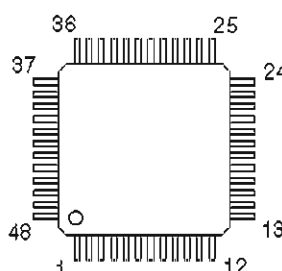
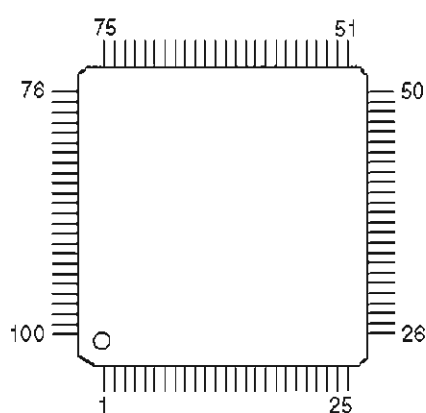
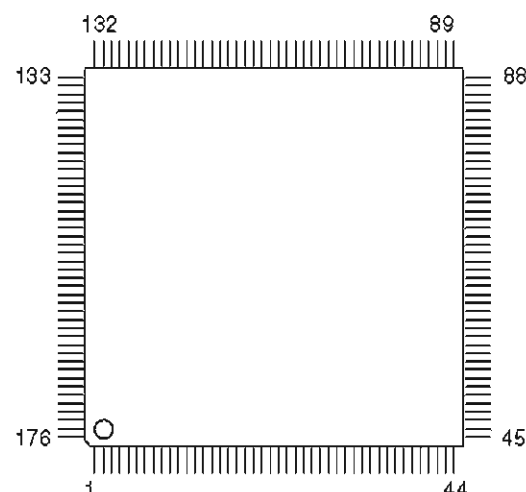
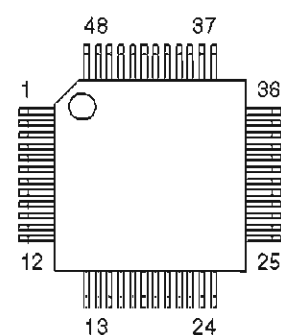
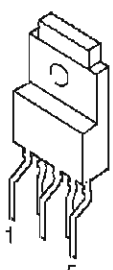
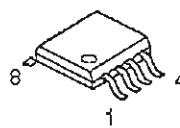
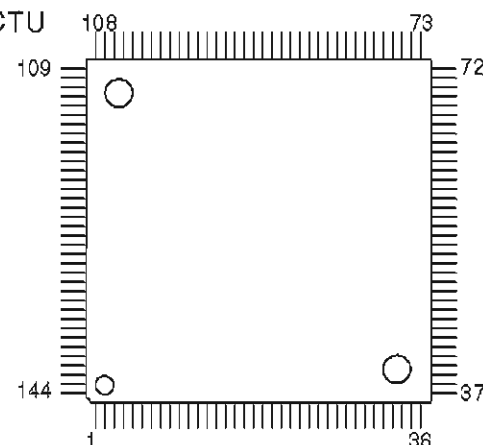
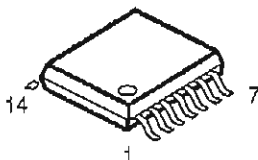

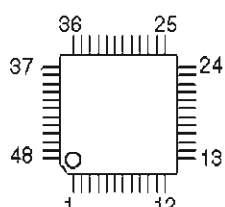
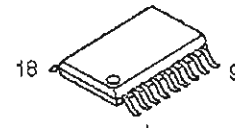
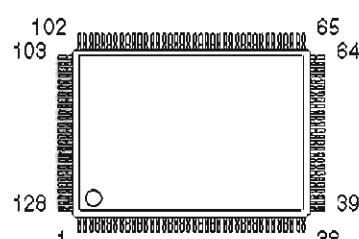
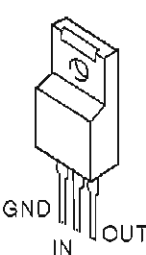
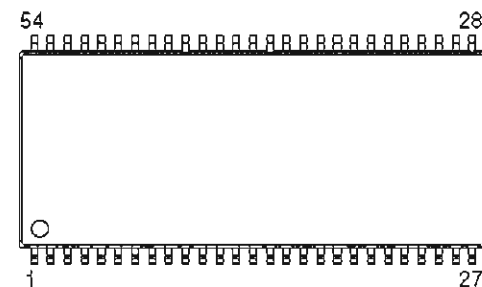

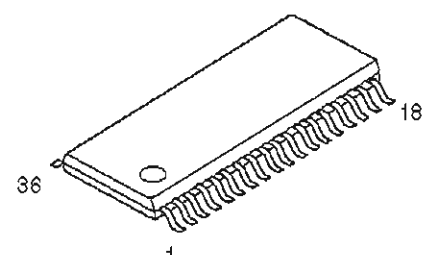
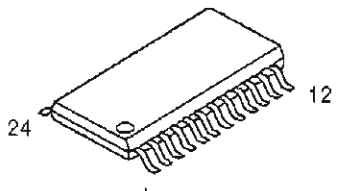
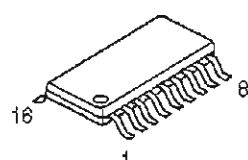
Pin No.	Function Name	I/O	Detail of Function
4	VROUT1	O	External FET drive
5	VROUT0		

Supplies

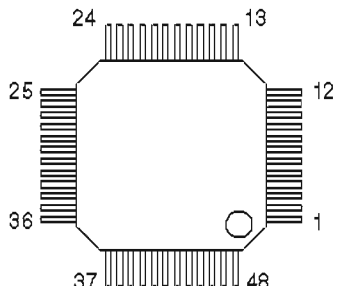
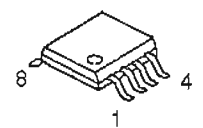
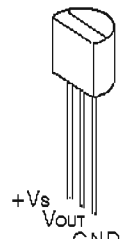
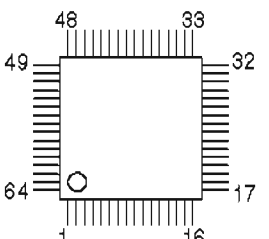
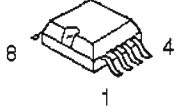
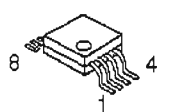
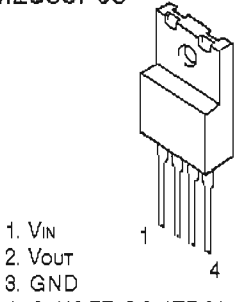
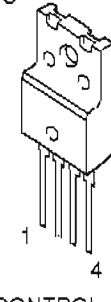
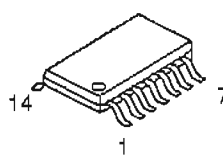
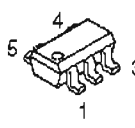
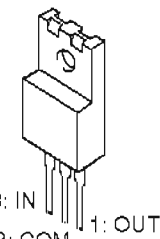
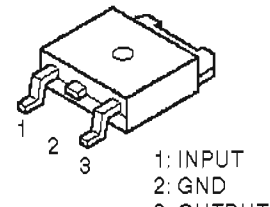
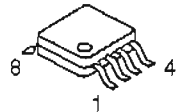
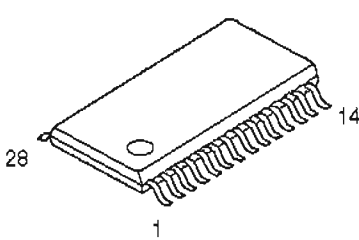
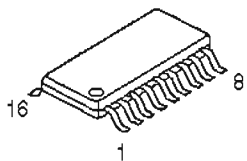
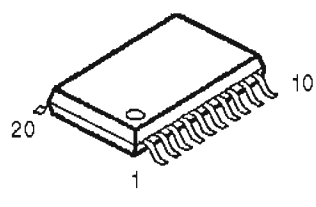
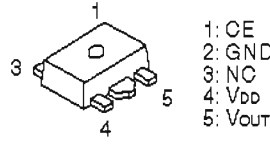
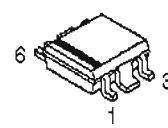
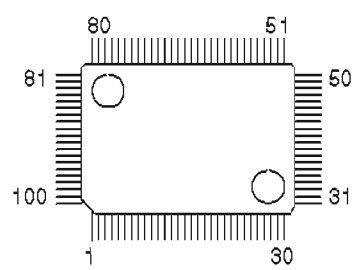
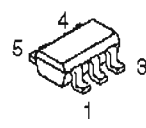
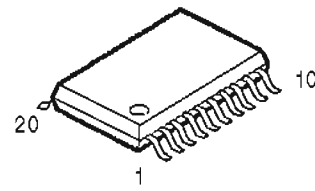
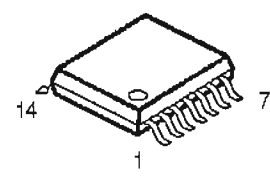
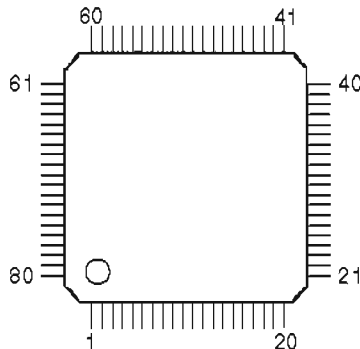
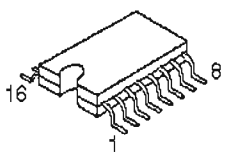
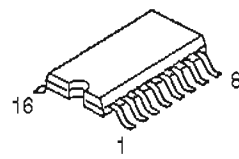
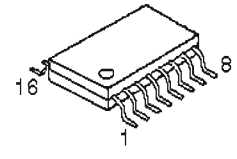
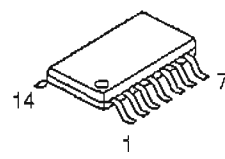
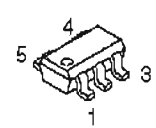
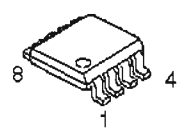
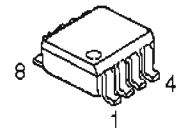
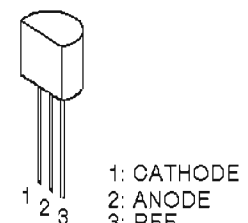
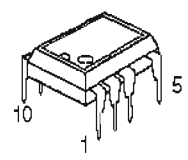
Pin No.	Function Name	I/O	Detail of Function	Pin No.	Function Name	I/O	Detail of Function
6	VDDEXT	P	I/O power supply	1	GND	G	External ground
12				2			
20				3			
31				7			
45				8			
57				9			
71				15			
93				19			
107				30			
118				39			
134				40			
145				41			
156				42			
171				43			
25	VDDINT	P	Core power supply	44			
52				56			
66				70			
80				88			
111				89			
143				90			
157				91			
168	VDDRTC	P	Real-time clock power supply	92			
18				97			
				106			
				117			
				128			
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				130			
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				176			

PIN CONNECTION DIAGRAMS

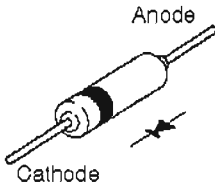
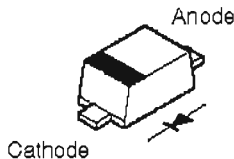
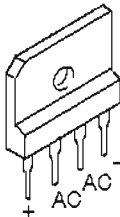
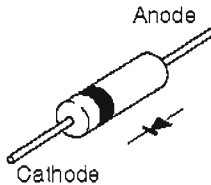
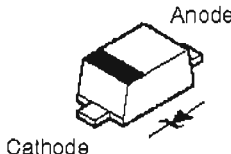
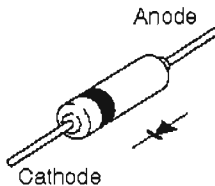
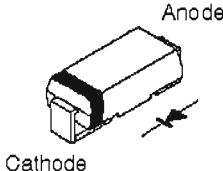
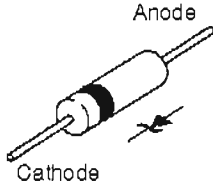
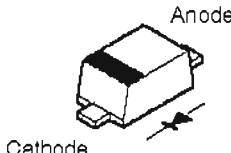
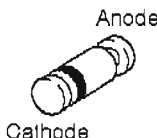
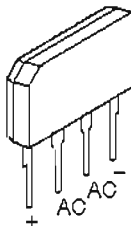
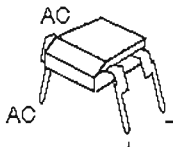
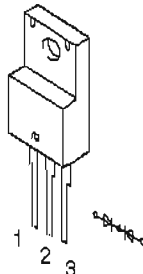
ICs

74LVC08APW 74LVC32APW 	74LVC1G08GW 	74LVC245APW,118 	CS230003-CZZR 	CXB1442AR-T4 
ABT1012Q100 LAN9217-MT Sii9134CTU 	ADV7800BSTZ-80 AD91089ZSKBC 	ADV7172KST AK8814VQ 	BA00JC5WT-V5 	
BD9323EFJ-E2 	D70YE101BRFP266 M3087BFKBGP Sii9233ACTU 	FHP3350IM14X 	K4S641632N-LC60000 	
F2621E-01-TR 	ISL83385EIBZ-T 	ISP1760BE 	KIA7912PI 	K4S560832J-UC75000 
K8P6415UQB-PI4B000 	LA73050-TLM-E 	LC709004A-TLM-E 	LC72725KM-UY-TLM-E 	












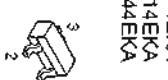





RX-V2065/HTR-6295

LC89058WD-E 	LE25LB2562M-TLM-E LE25LB643M-TLM-E NJM4565M (TE1) 	LM19CIZ/LF 	M66003-0131FP-R 	NE5532DR 	NJM2068MD-TE2 
NJM2388F05 	NJM2396F05 	NJM2581M 	NJM2867F3-05 	NJM7812FA 	NJM78M05DL1A (TE1) 
PCA9517DP 	PCM1680DBQR 	PCM1781DBQR SN74LV163APWR 	PCM1803DBR 	R1172H181B-T1-F R1172H331D-T1-F R1172H501D-T1-F 	
R1173S001D-E2-F R1172S121D-E2-F R1172S331B-E2-F 	R2A15220FP 	R5523N001A-TR-F 	SN74LVC245APWR SN74LVTH245APW 	SN74LV74APWR 	
Sii9185ACTU 	TC74HC4051AFEL 	TC74HC4053AF 	TC74VHC157FT 	TC74VHCT08AFT TC74VHCU04FT 	
TC7SH04FU-TE85L TC7SH08FU 	TC7WH14FK TC7WZ32FK (TE85L, F) 	TC7WHU04FU 	TL431ACLPR 	TOP255MN 	

• Diodes

1N4002S 1SS133 1SS176 	1SS355 	D15XBN20-7001 15A 	HT18G 	
MAZ8033GHL 3.4V MAZ8036GLL 3.5V 	MTZJ10B MTZJ12B MTZJ13B MTZJ2.4B MTZJ22C MTZJ3.3B MTZJ39D MTZJ5.1B MTZJ5.1C MTZJ6.8C 	RB051L-40 UDZ5.1B 	P6KE100A 	
MA111 RB501V-40 	RLZ7.5B 7.5V 	RS203M-B-C-J80 	S1NBC60 1A 600V 	SG10SC4M 

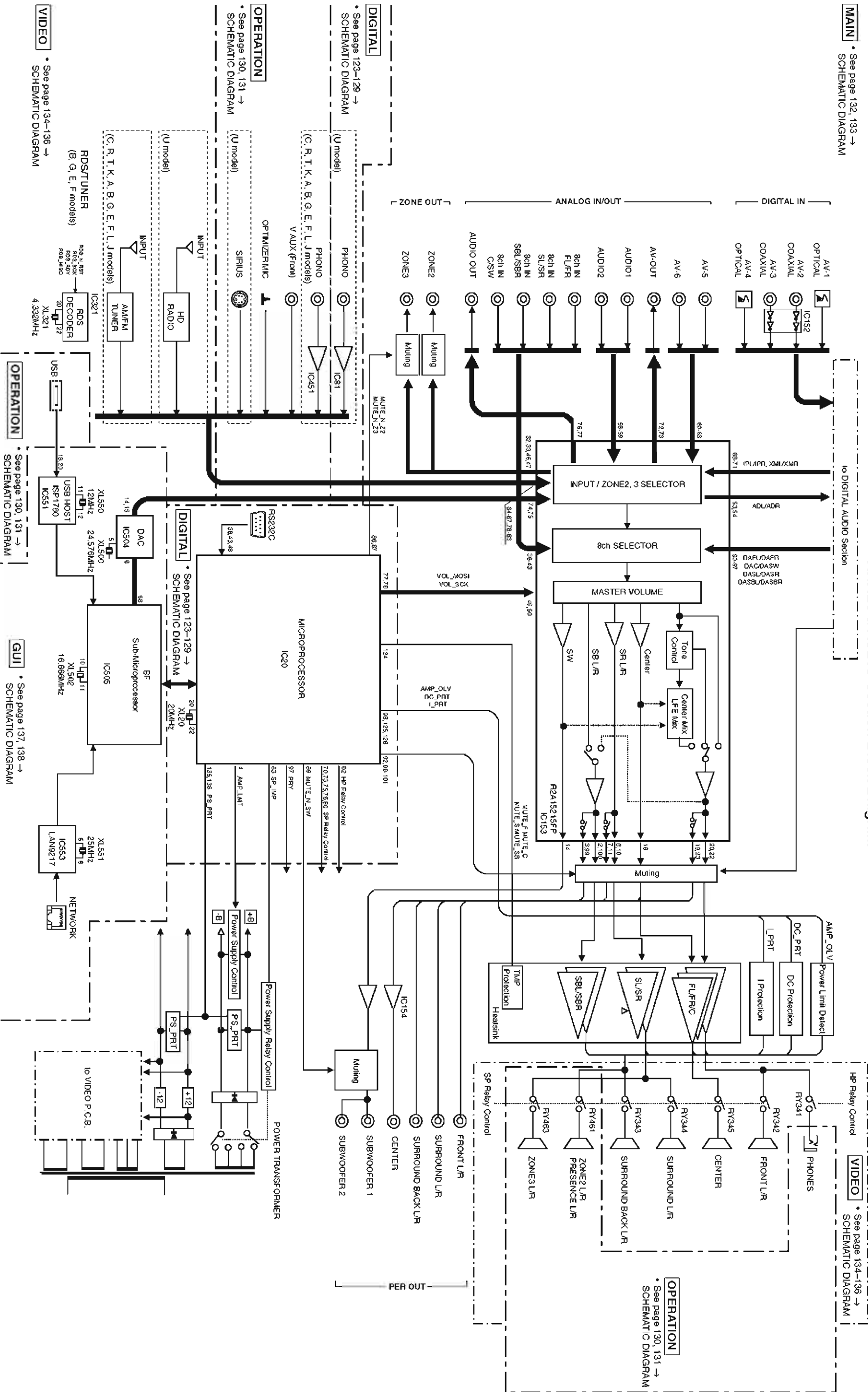
• Transistors

2N5401C-AT/P 2SA1015-Y	2SA1145 2SC2705 2N5551C-AT	2SA1576A	2SA1708	2SA2168 2SC5291	2SC6011/2SA2151
					
2SC1815 Y	2SC1740S	2SC4081 T106	2SD1938F 2SC3906K	2SD1915F	DTA114EKA DTA143EKA DTA144EKA DTC114EKA DTC144EKA
					
KRA102M-AT/P KRC105M-AT	KT A1046-Y-U/P KT A1837-U/P	KT A1517S KTC3875S KTC3911S	MCH6336-TL-E	μPA672T-T1-A	
					

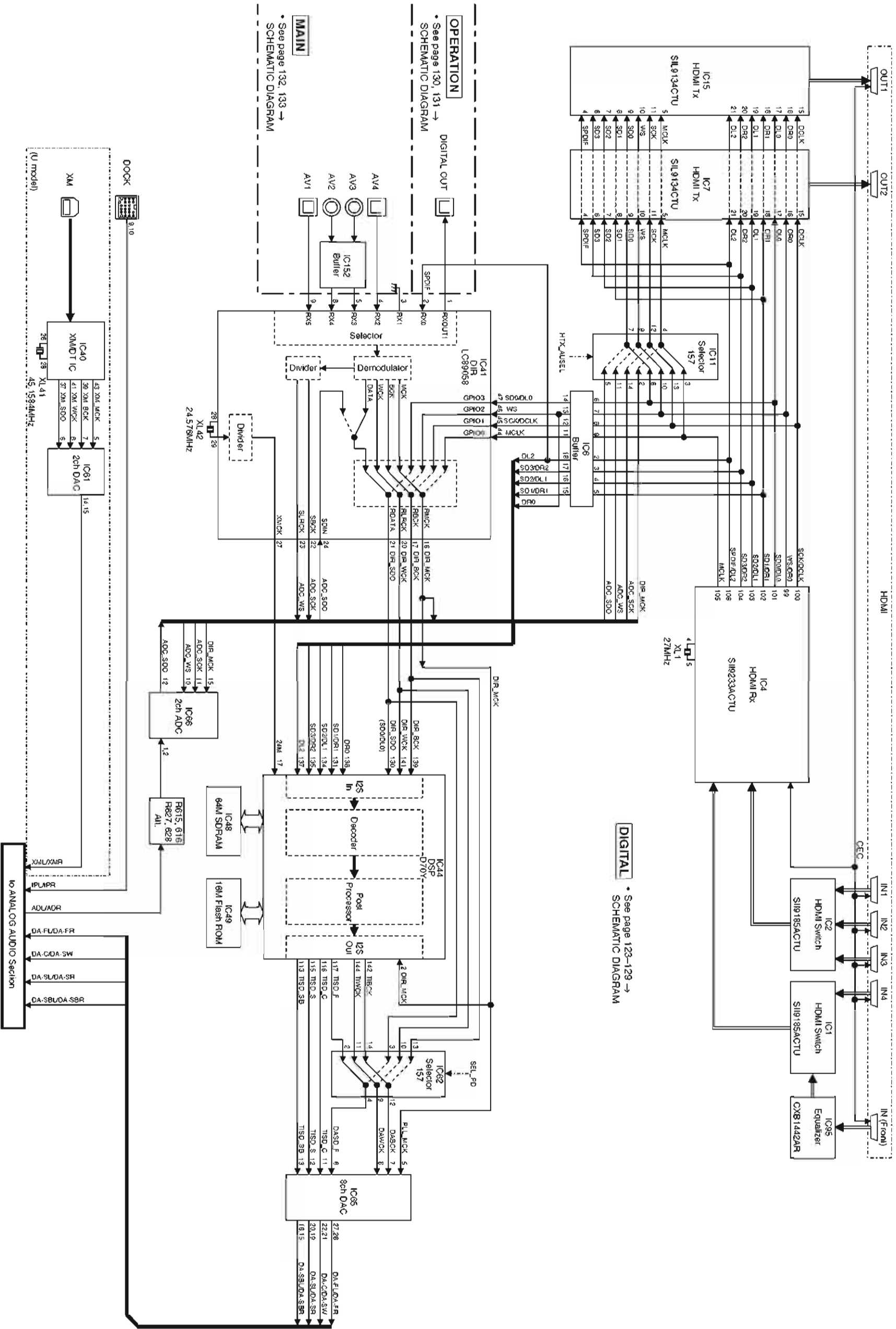
■ BLOCK DIAGRAMS

MAIN • See page 132, 133 →
SCHEMATIC DIAGRAM

ANALOG AUDIO Section Block Diagram



DIGITAL AUDIO Section Block Diagram

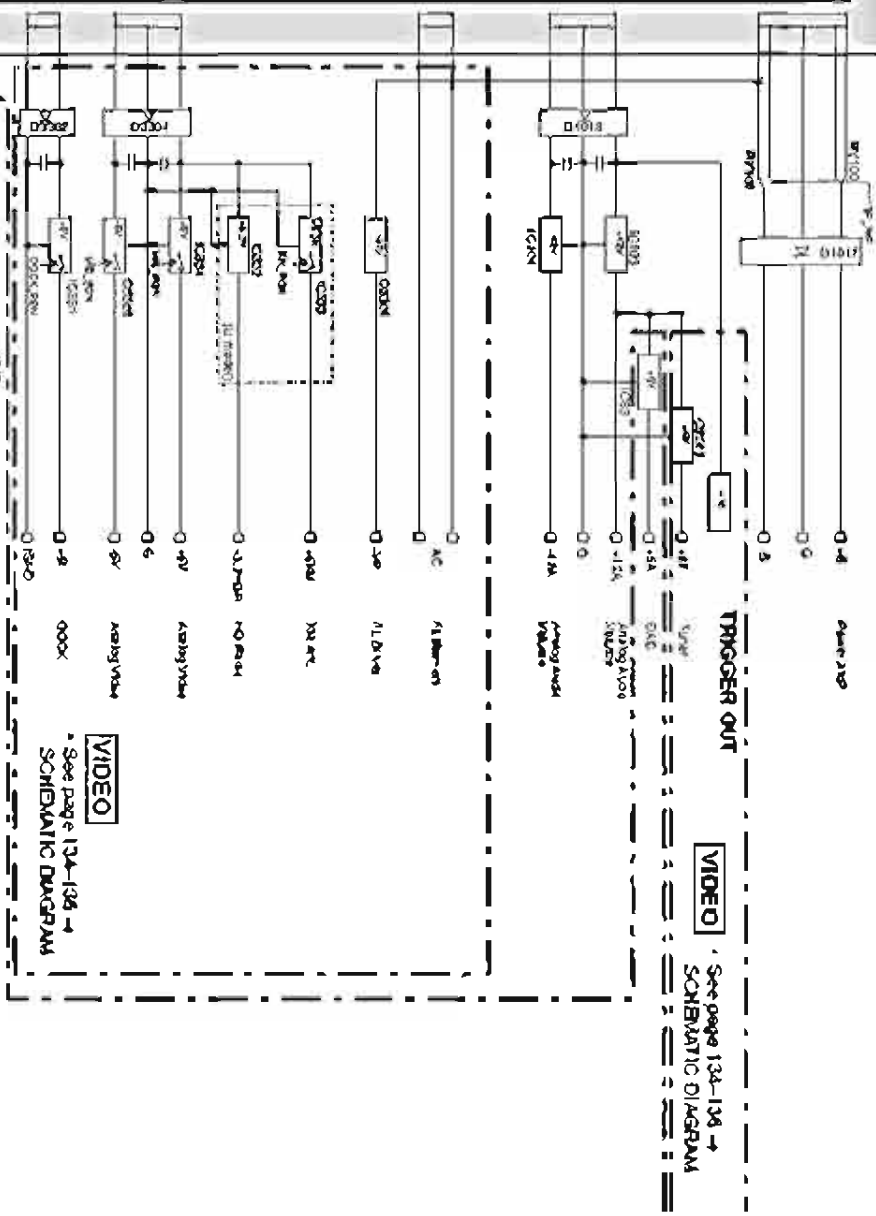
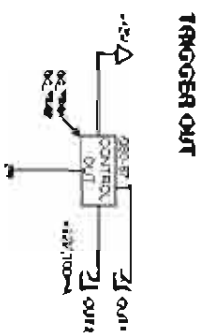


Power Supply Section Block Diagram

MAIN - See page 132-133 ->
SCHEMATIC DIAGRAM

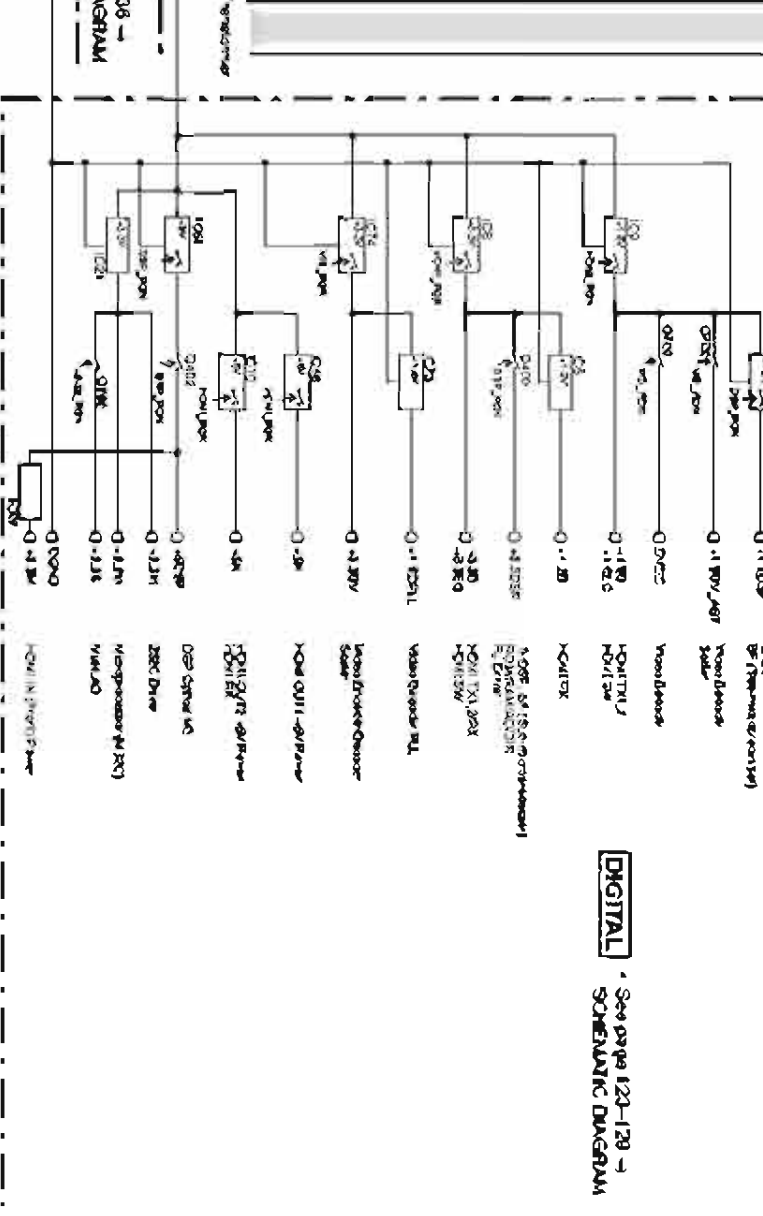
DIGITAL - See page 123-129 ->
SCHEMATIC DIAGRAM

ACDC - See page 134 ->
SCHEMATIC DIAGRAM



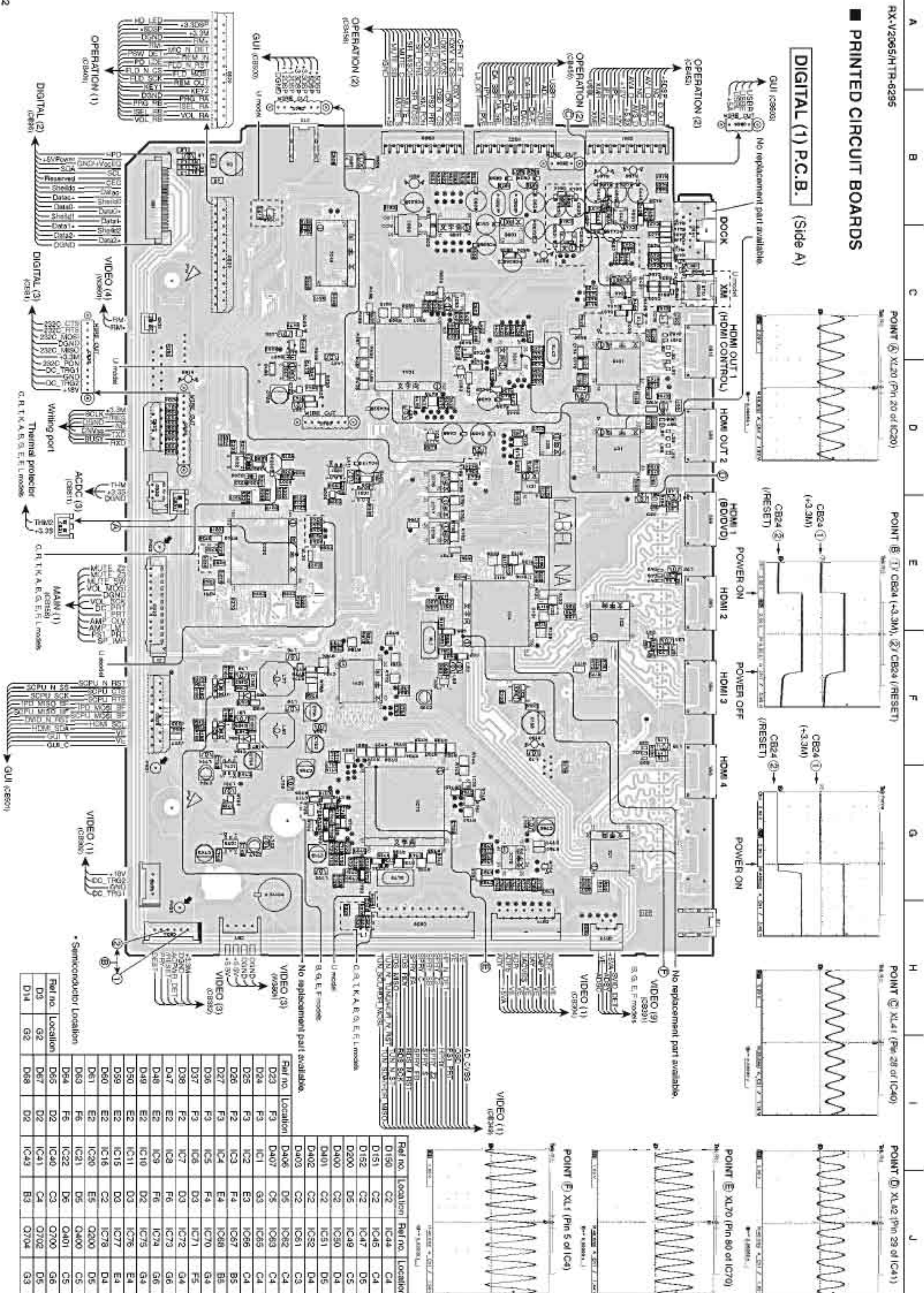
DIGITAL - See page 123-129 ->
SCHEMATIC DIAGRAM

VIDEO - See page 134-136 ->
SCHEMATIC DIAGRAM



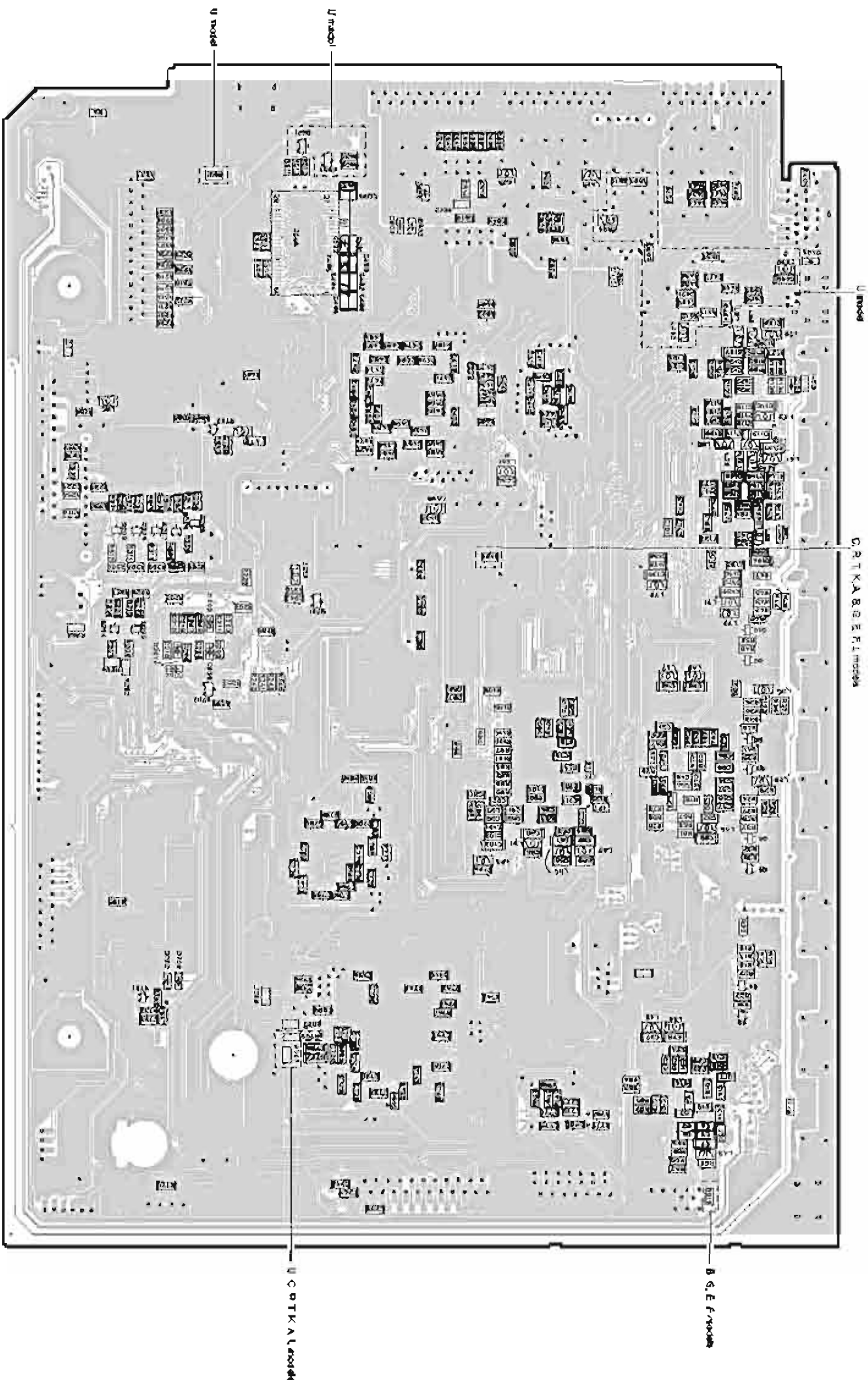
PRINTED CIRCUIT BOARDS

DIGITAL (1) P.C.B. (Side A)



Ref. no.	Location	Ref. no.	Location
D150	C2	IC45	C4
D151	C2	IC47	D5
D152	C2	IC49	C5
D200	D5	IC50	D4
D400	C2	IC51	D5
D401	C2	IC52	D4
D402	C2	IC53	C3
D403	C2	IC54	C4
D404	C2	IC55	C4
D405	C2	IC56	C4
D406	C2	IC57	C4
D407	C2	IC58	C4
D408	C2	IC59	C4
D409	C2	IC60	C4
D410	C2	IC61	C4
D411	C2	IC62	C4
D412	C2	IC63	C4
D413	C2	IC64	C4
D414	C2	IC65	C4
D415	C2	IC66	C4
D416	C2	IC67	C4
D417	C2	IC68	C4
D418	C2	IC69	C4
D419	C2	IC70	C4
D420	C2	IC71	C4
D421	C2	IC72	C4
D422	C2	IC73	C4
D423	C2	IC74	C4
D424	C2	IC75	C4
D425	C2	IC76	C4
D426	C2	IC77	C4
D427	C2	IC78	C4
D428	C2	IC79	C4
D429	C2	IC80	C4
D430	C2	IC81	C4
D431	C2	IC82	C4
D432	C2	IC83	C4
D433	C2	IC84	C4
D434	C2	IC85	C4
D435	C2	IC86	C4
D436	C2	IC87	C4
D437	C2	IC88	C4
D438	C2	IC89	C4
D439	C2	IC90	C4
D440	C2	IC91	C4
D441	C2	IC92	C4
D442	C2	IC93	C4
D443	C2	IC94	C4
D444	C2	IC95	C4
D445	C2	IC96	C4
D446	C2	IC97	C4
D447	C2	IC98	C4
D448	C2	IC99	C4
D449	C2	IC100	C4

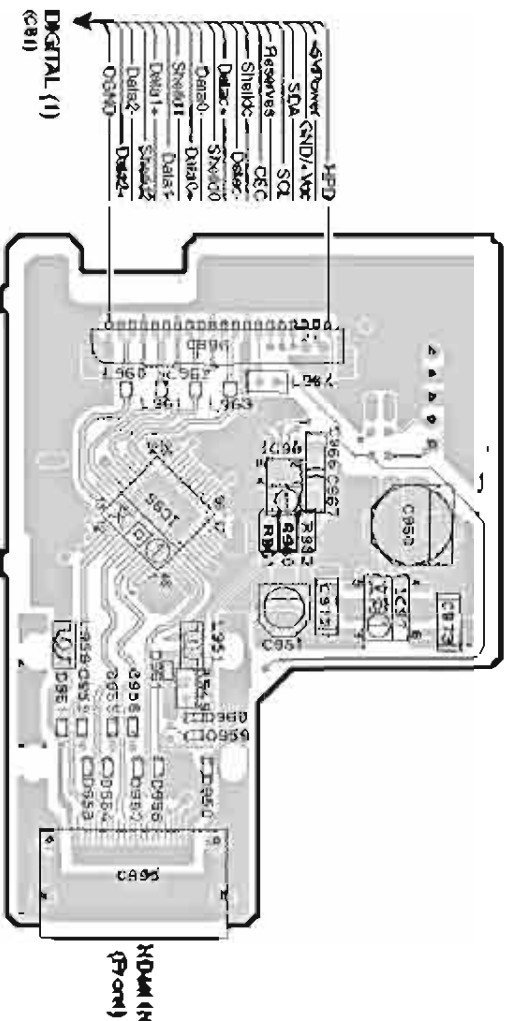
DIGITAL (1) P.C.B. (Side B)



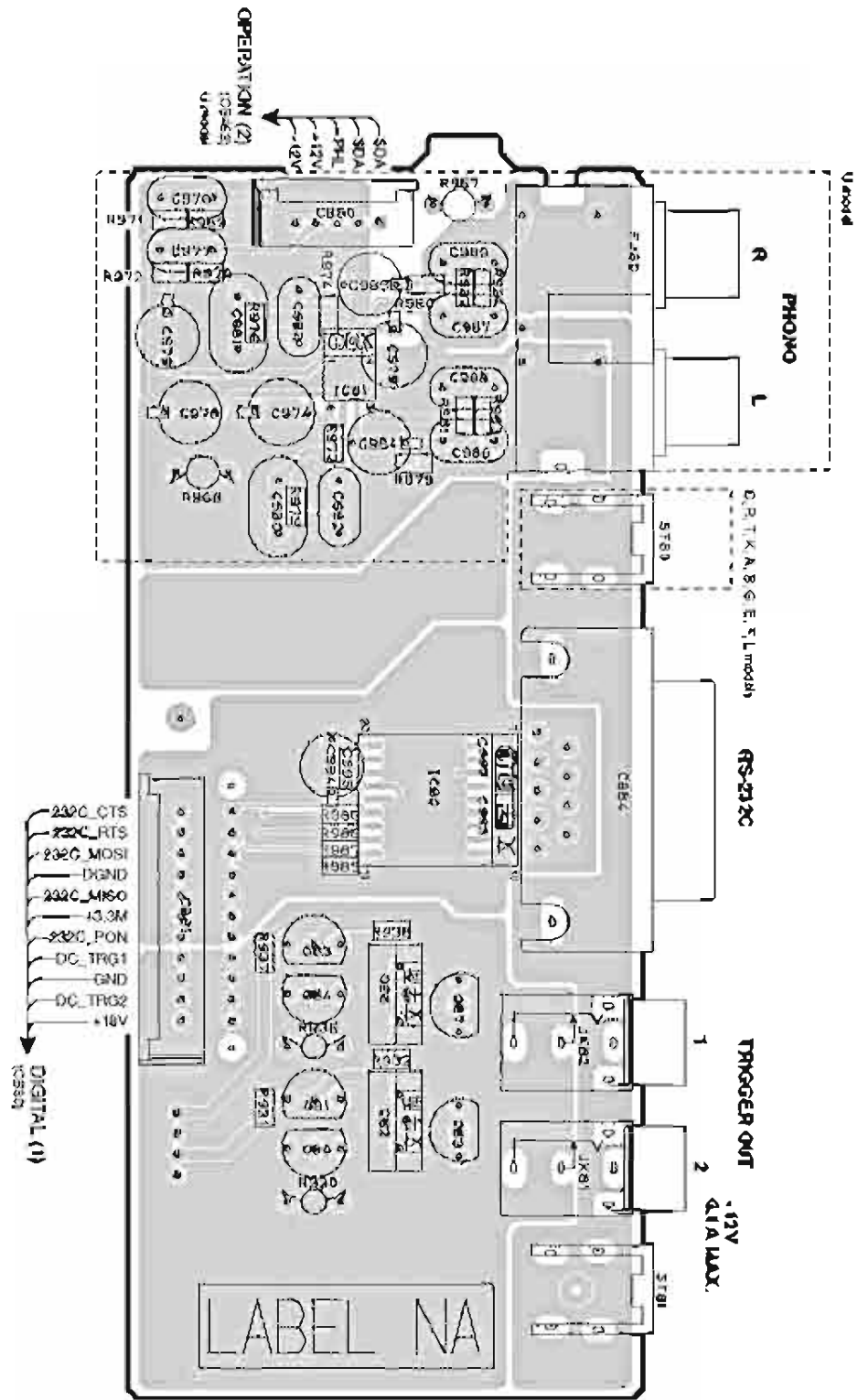
*, Semiconductor Location

Ref no	Location
D42	D2
D158	D2
D201	E5
D202	E5
D203	E5
D204	E6
D404	C2
D600	C4
D602	C4
D603	C4
D702	G6
D703	G5
IC48	C5
Q3	G3
Q4	G3
Q5	F3
Q6	F3
Q7	F3
Q8	E3
Q9	E3
Q10	E3
Q201	E5
Q202	E5
Q203	E6
Q204	E8
Q205	D5
Q206	D5
Q207	D8
Q208	D8
Q600	B5
Q601	B5
Q701	G6
Q703	B5

DIGITAL (2) P.C.B. (Side A)



DIGITAL (3) P.C.B. (Side A)



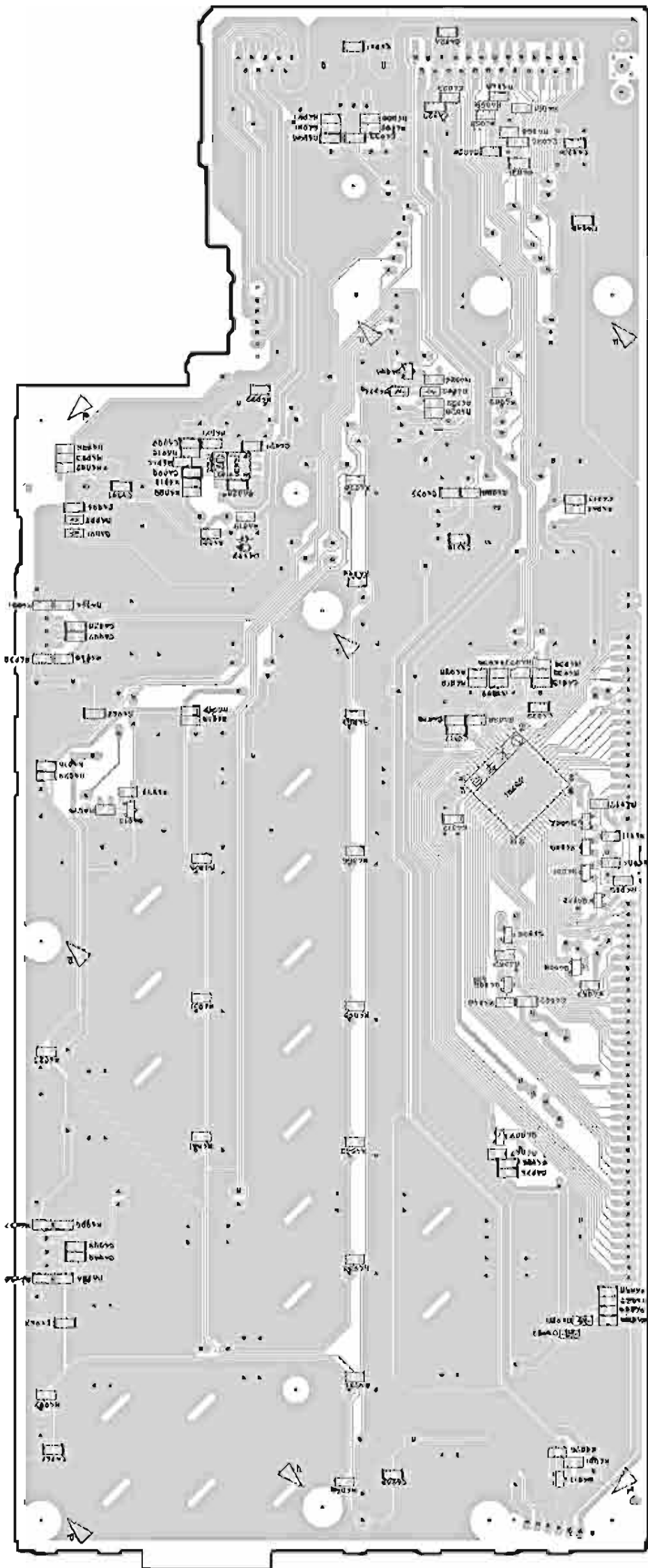
Semi-conductor Location			
Ref no	Location	Ref no	Location
D650	D4	K081	F4
D651	D4	K085	C4
D652	D4	K086	C4
D653	D4	K097	D3
D654	D4	K080	I4
D655	D4	K081	I4
D656	D4	K082	I4
D657	D4	K083	I4
D658	D4	K084	I4
D659	D4	K085	I4
D660	D4	K086	I4
D661	D4	K087	I4
K080	H4		

(Side A)



- Seminar Instructor Location

OPERATION (1) P.C.B. (Side B)



• Semiconductor Location

Part no	Location
D4001	D5
D4002	D6
D4003	D4
D4004	C4
D4005	C4
D4006	H3
D4007	H3
IC401	D5
IC402	E8
Q4001	F3
Q4002	F3
Q4003	F3
Q4004	C4
Q4006	F3
Q4007	G3
Q4008	F3
Q4009	F3
Q4010	E5
Q4011	J3
Q4012	F3

(Side A)

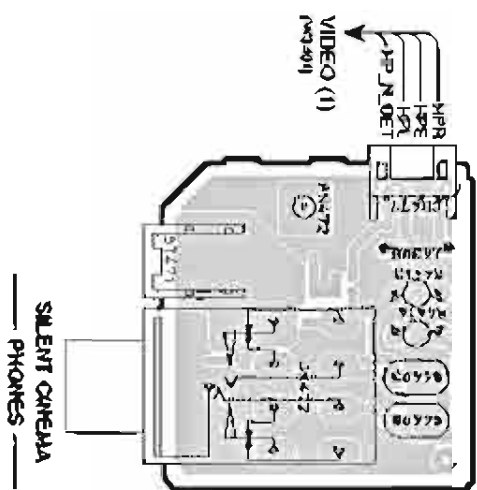


2

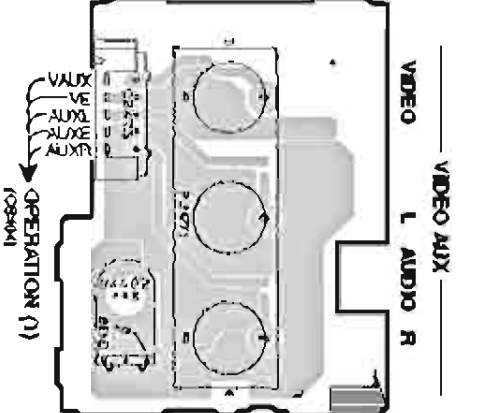


• Set Up Your Location

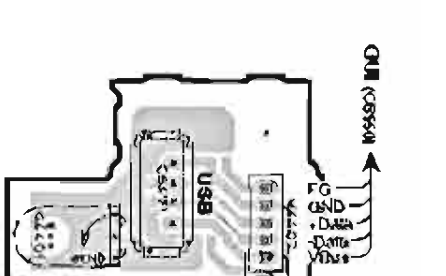
OPERATION (3) P.C.B. (Side A)



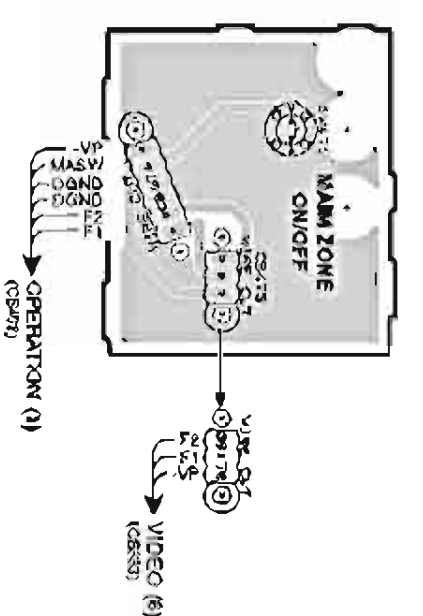
OPERATION (4) P.C.B. (Side A)



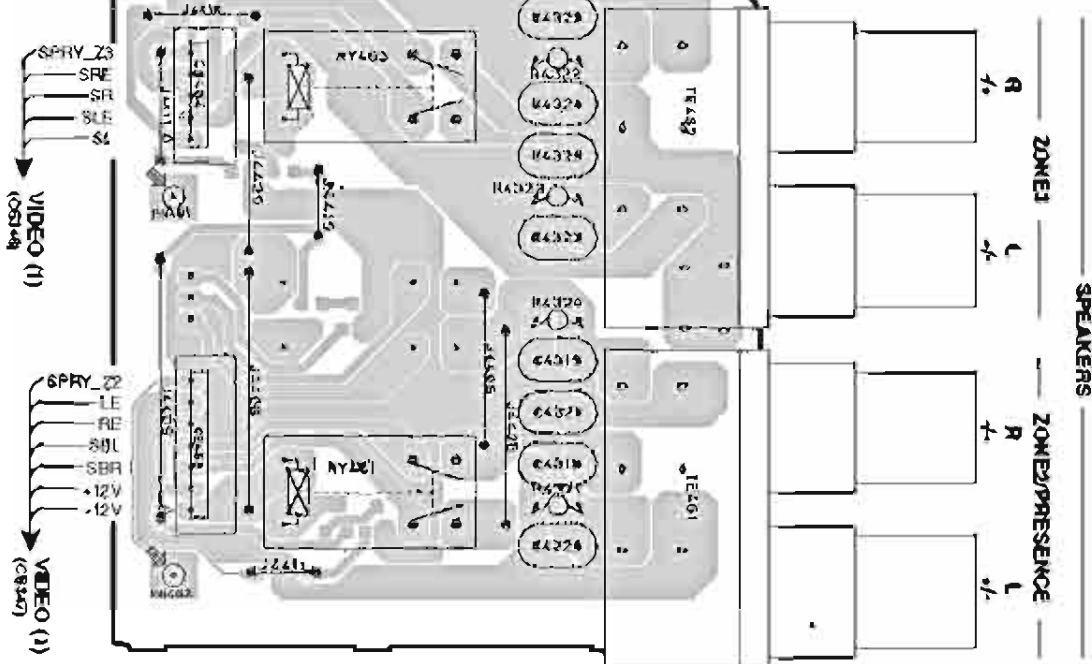
OPERATION (5) P.C.B. (Side A)



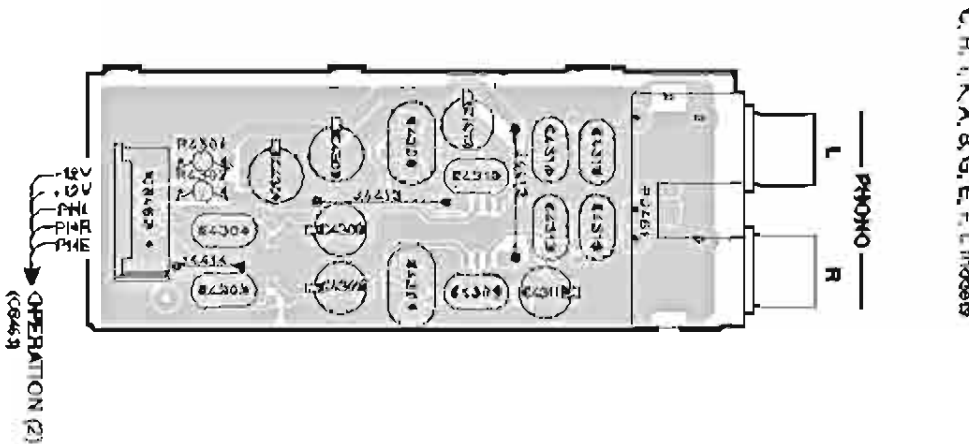
OPERATION (6) P.C.B. (Side A)



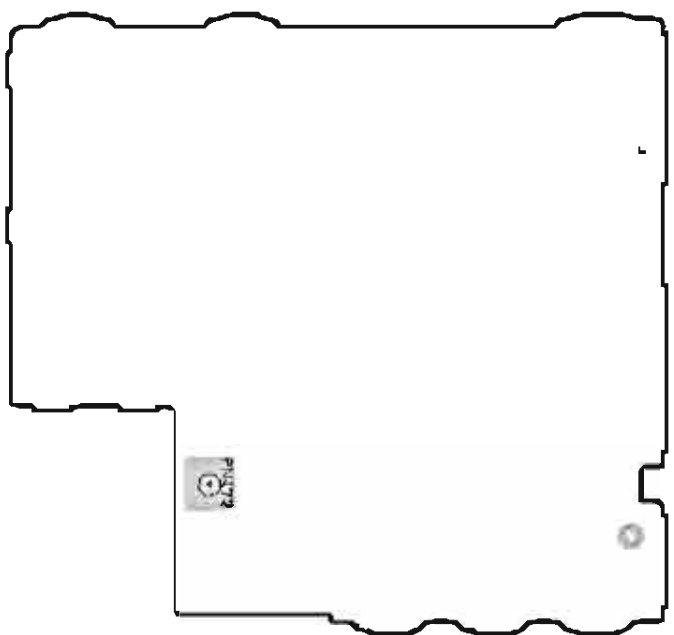
OPERATION (8) P.C.B. (Side A)



OPERATION (9) P.C.B. (Side A)

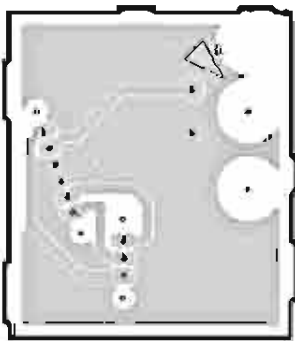
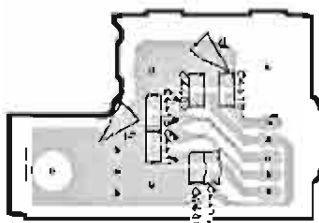
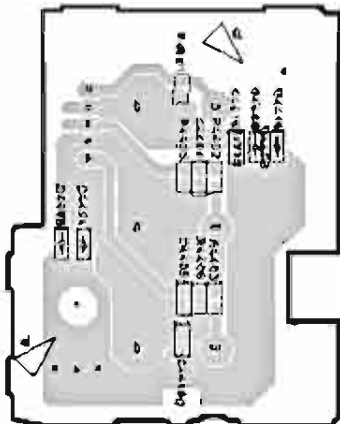


OPERATION (10) P.C.B. (Side A)



A B C D E F G H I J

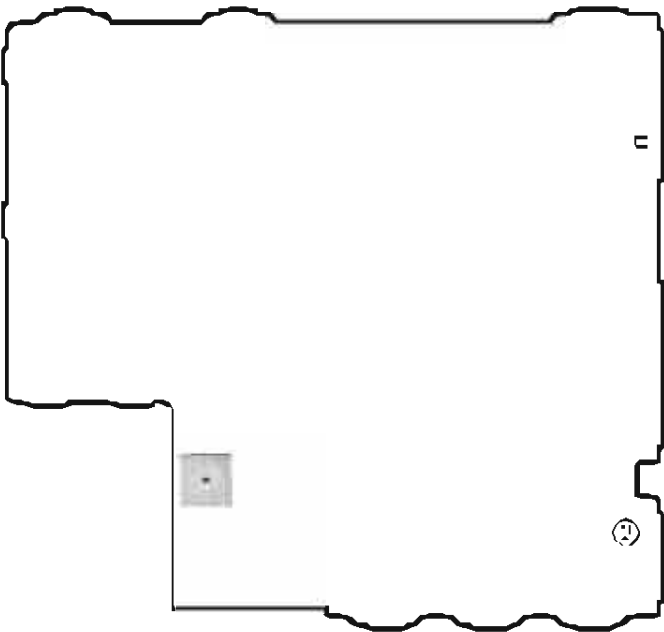
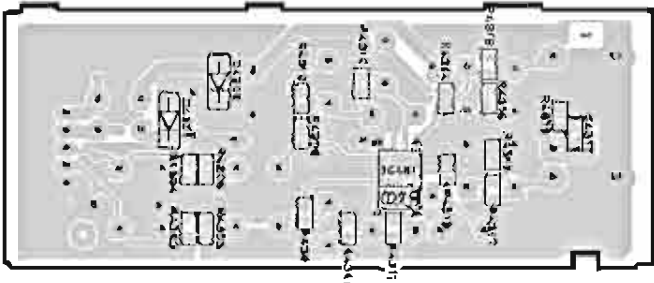
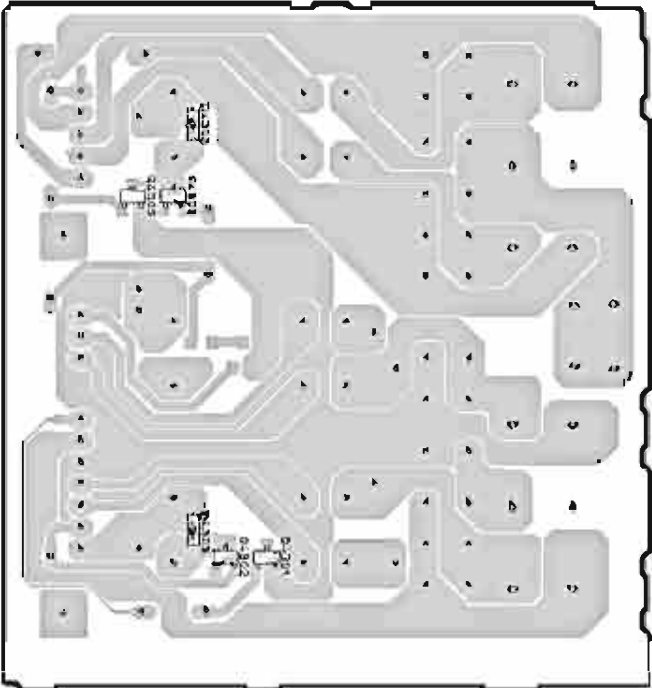
OPERATION (3) P.C.B. (Side B) OPERATION (4) P.C.B. (Side B) OPERATION (5) P.C.B. (Side B) OPERATION (6) P.C.B. (Side B)



OPERATION (8) P.C.B. (Side B)

OPERATION (9) P.C.B. (Side B)
C, R, T, K, A, B, G, E, F, L, PROOKS

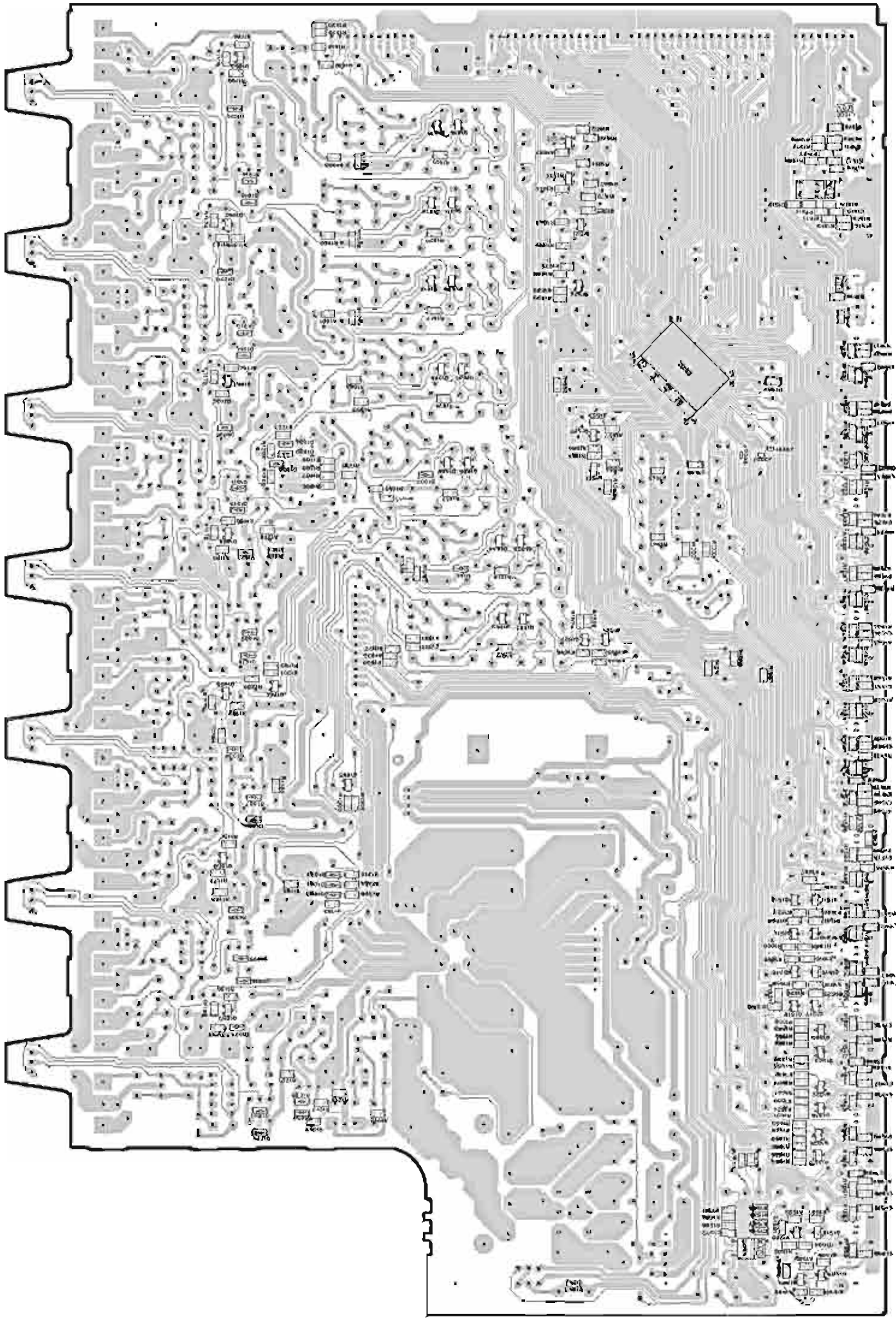
OPERATION (10) P.C.B. (Side B)



* Semiconductor Location

Ref.no.	Location
D4301	D6
D4302	D8
D4303	C6
D4305	A6
D4401	B2
D4402	B2
D4404	D3
D4405	D3
D4408	D2
D4410	D2
K461	D6
Q4302	C6
Q4306	A8
Q4306	A8

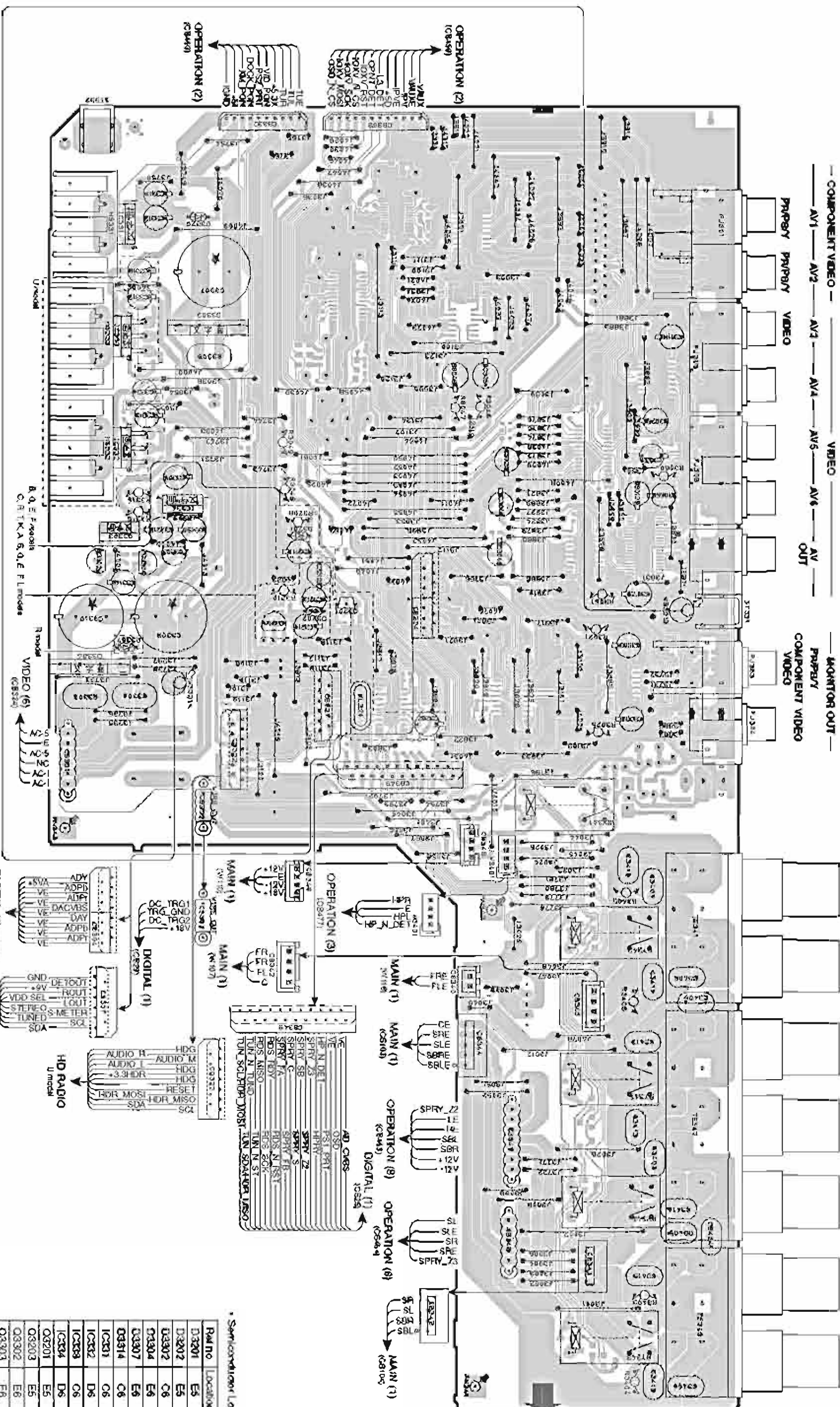
MAIN (1) P.C.B. (Side B)



• Semiconductor Location

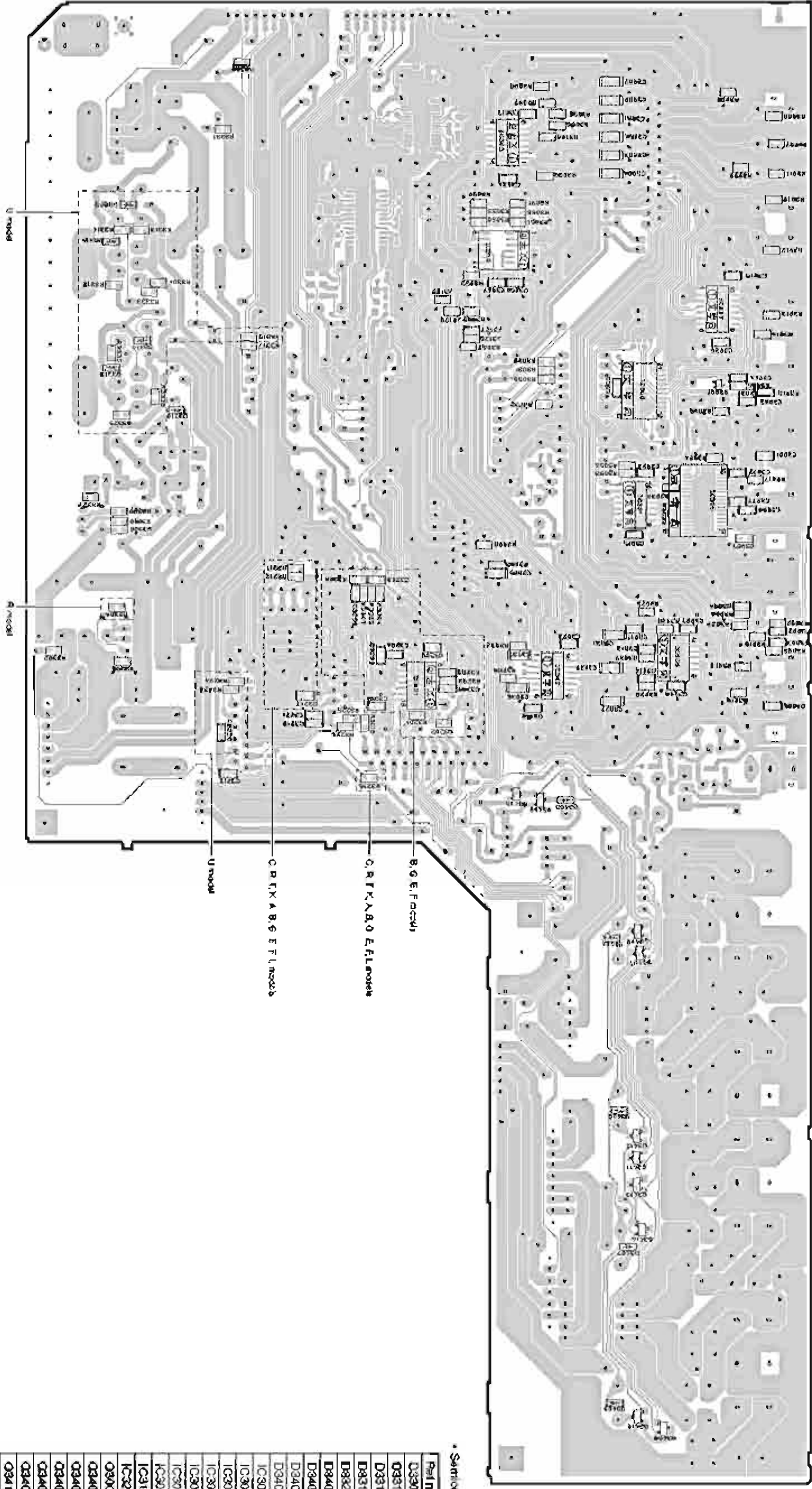
Ref no	Location	Ref no	Location
D1001	E4	Q1008	D4
D1002	D4	Q1009	C4
D1003	H5	Q1010	C4
D1004	H5	Q1011	C4
D1005	G5	Q1012	C4
D1006	G5	Q1013	C4
D1007	F5	Q1014	C4
D1008	F5	Q1057	G8
D1009	E5	Q1058	F6
D1010	E5	Q1059	F6
D1011	E5	Q1060	E8
D1012	E5	Q1061	D6
D1013	D5	Q1062	D6
D1014	D5	Q1063	B5
D1015	C5	Q1064	F5
D1016	C5	Q1065	F5
D1024	G5	Q1500	G2
D1025	G5	Q1501	D4
D1026	F5	Q1502	D4
D1027	E5	Q1503	G2
D1028	D5	Q1504	E4
D1029	C6	Q1507	I2
D1030	C5	Q1508	H3
D1031	G5	Q1509	I2
D1032	D5	Q1510	H2
D1033	E5	Q1511	G2
D1034	D5	Q1512	G3
D1035	G5	Q1513	G2
D1036	D5	Q1514	G3
D1037	G5	Q1515	G2
D1038	H5	Q1516	G3
D1039	H5	Q1517	G3
D1043	M	Q1518	G3
IC152	C2	Q1519	H2
IC153	D3	Q1520	C4
IC154	B3	Q1521	C4
Q1001	E4	Q1522	H2
Q1002	E4	Q1523	H2
Q1003	E4	Q1524	C4
Q1004	E4	Q1525	C4
Q1005	D4	Q1526	H2
Q1006	D4	Q1527	E4
Q1007	D4		

VIDEO (1) P.C.B., (Side A)



Ref No	Location
D3201	E5
D3202	E5
D3202	C6
D3304	E6
D3307	E6
D3314	C6
IC331	C6
IC332	D6
IC333	C6
IC334	D6
Q3201	E5
Q3303	E5
Q3302	E6
Q3303	E6
Q3304	E6
Q3305	E6

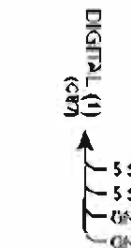
VIDEO (1) P.C.B. (Side B)



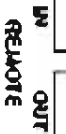
* Semiconductor Location

Part No	Location
D3309	B6
D3310	D6
D3311	C6
D3313	O6
D3403	G3
D3404	B
D3405	H3
D3406	H3
IC301	D3
IC302	E4
IC303	B4
IC305	D3
IC306	E3
IC307	C3
IC308	G3
IC310	C4
IC321	E4
IC321	C3
IC3405	F4
IC3406	F4
IC3407	G3
IC3408	G3
IC3409	B
IC3410	B
IC3411	H3
IC3412	H3
IC3413	H3
IC3414	H3

(Side A)



(Side A)



(Side A)



(Side A)

B, G, E, F models

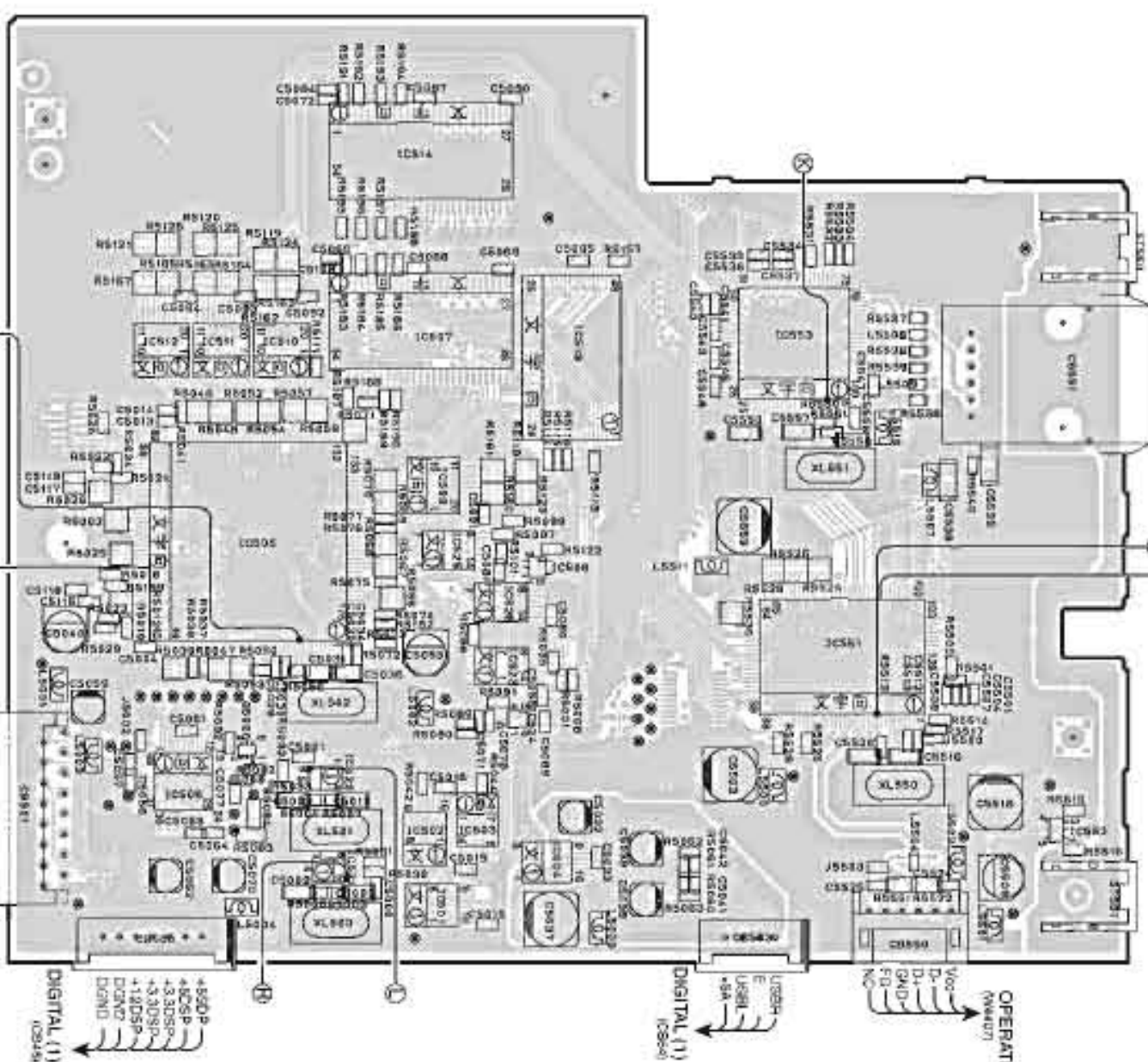


• Sentencing on the occasion

GUI P.C.B. (Side A)

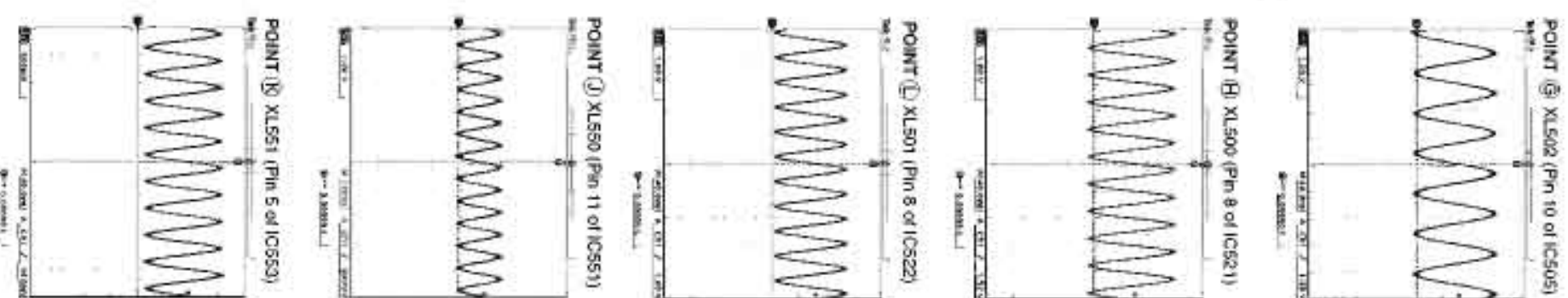
NETWORK

No replacement part available.



- No replacement part available.
- DIGITAL (1)
- VE GUI_SC
- VE GUI_CVBS_SV
- HDMI_SCI HDMI_BOX
- SCPU_MOSI_BF DVC_N_RST
- SCPU_MISO_BF SCPU_MISO_BF
- SCPU_RST SCPU_RST
- SCPU_CTS SCPU_RST
- SCPU_N_RST SCPU_N_RST

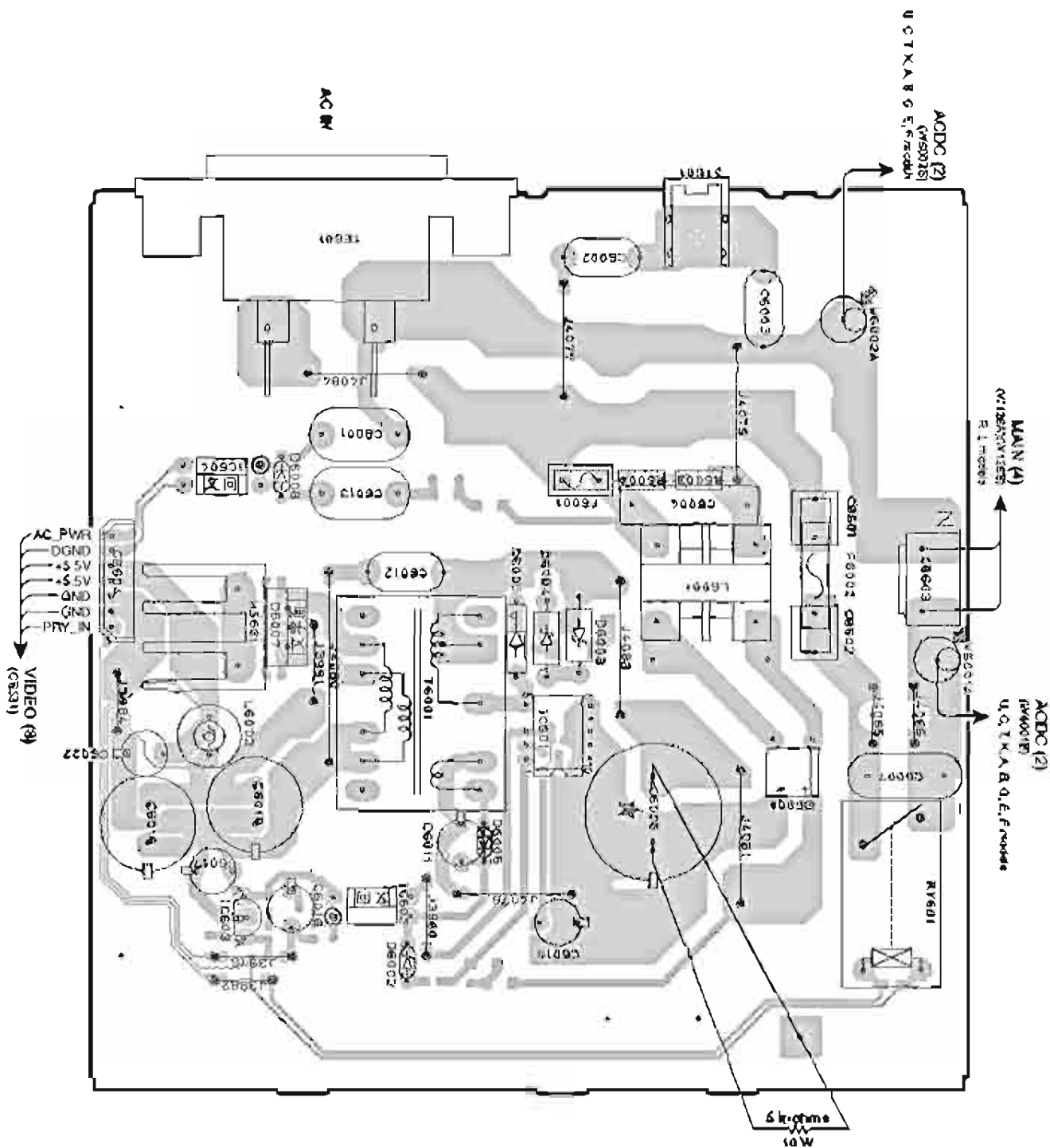
GUI P.C.B. (Side B)



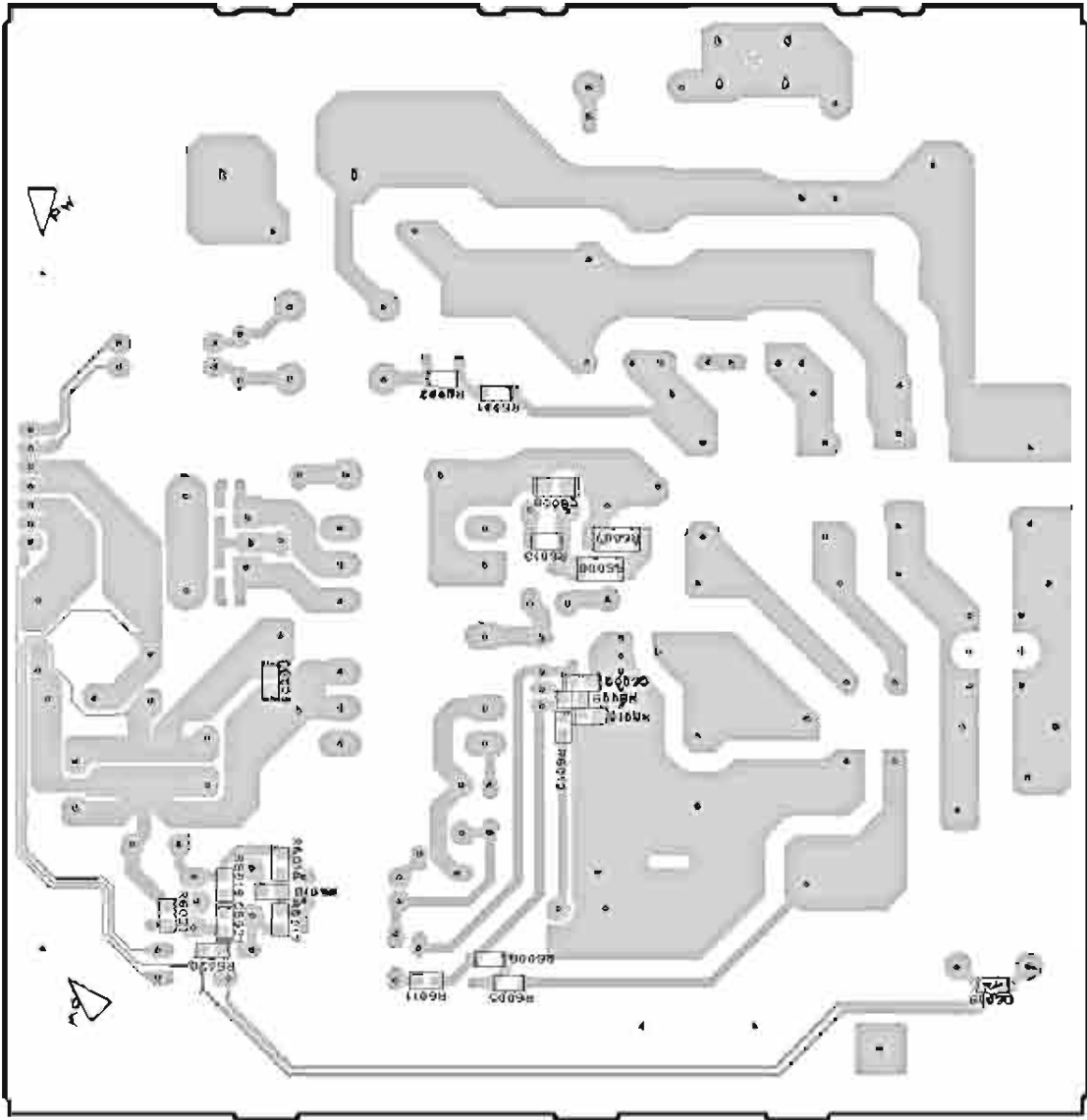
• Semiconductor Location

Ref. no.	Location	Ref. no.	Location	Ref. no.	Location
IC501	D4	IC509	C4	IC523	C4
IC502	D4	IC510	B5	IC524	D4
IC503	D4	IC511	B5	IC525	C4
IC504	D4	IC512	B5	IC526	C4
IC505	C5	IC513	B4	IC551	C3
IC506	D5	IC514	A4	IC582	D2
IC507	B4	IC521	D5	IC583	B3
IC508	C4	IC522	D5	Q5000	D5

ACDC (1) P.C.B. (Side A)



ACDC (1) P.C.B. (Side B)



Semiconductor Location

Ref no	Location
D6001	D3
D6002	E4
D6003	C4
D6004	D4
D6005	C4
D6006	D4
D6007	C5
D6008	C5
D6009	J2
IC601	D4
IC602	E4
IC603	E5
IC604	C5

(Notes)

• Safety measure

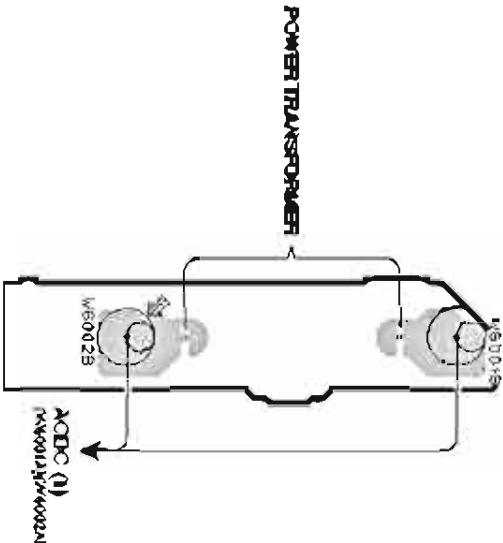
• Some internal part(s) in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.

• Note that positions indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist. **Before starting any repair work, perform discharge by connecting a discharge resistor (5k-ohms/10W) between terminals at following positions. The time required for discharging is about 30 seconds.**

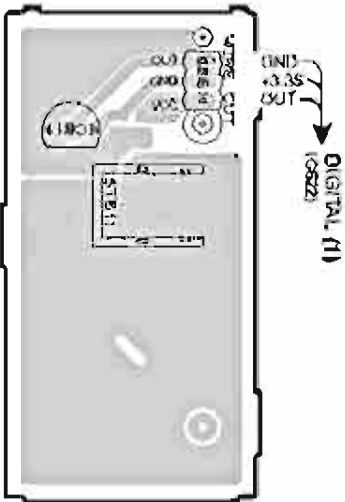
On/Off on ACDC (1) P.C.B.

ACDC (2) P.C.B. (Side A)

U, C, T, K, A, B, Q, E, F models



ACDC (3) P.C.B. (Side A)

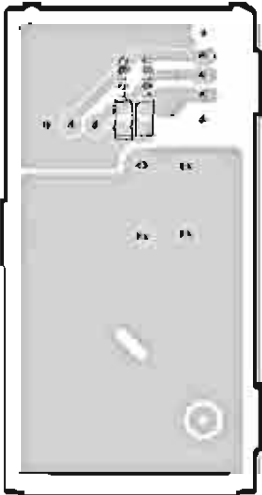


ACDC (2) P.C.B. (Side B)

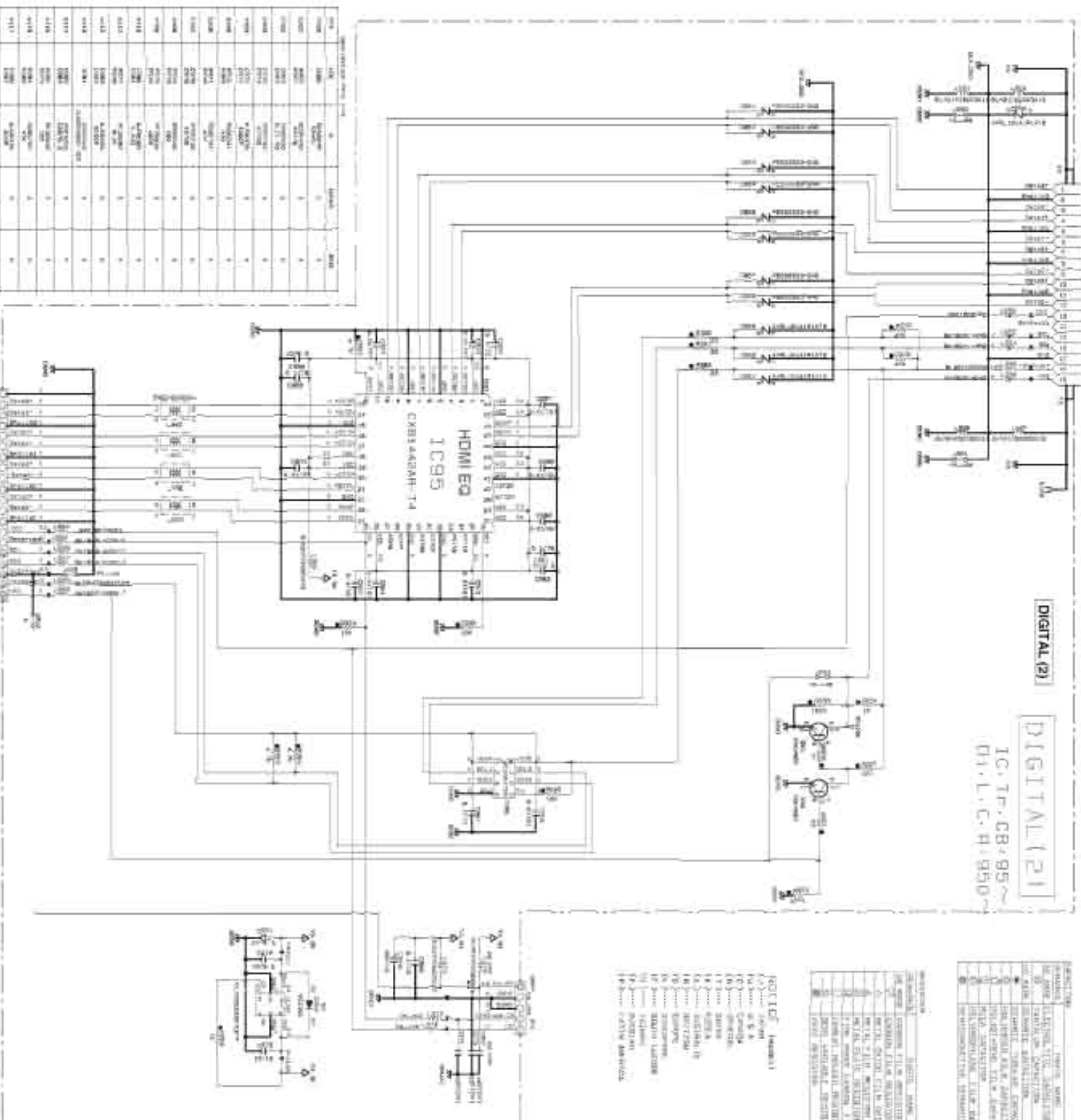
U, C, T, K, A, B, Q, E, F models



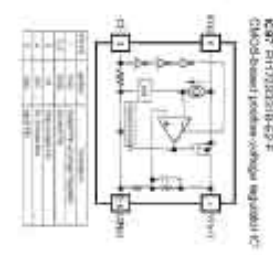
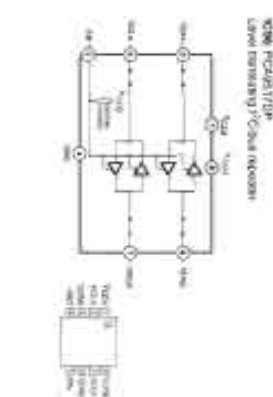
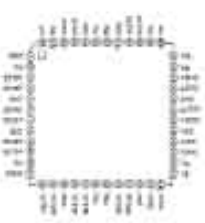
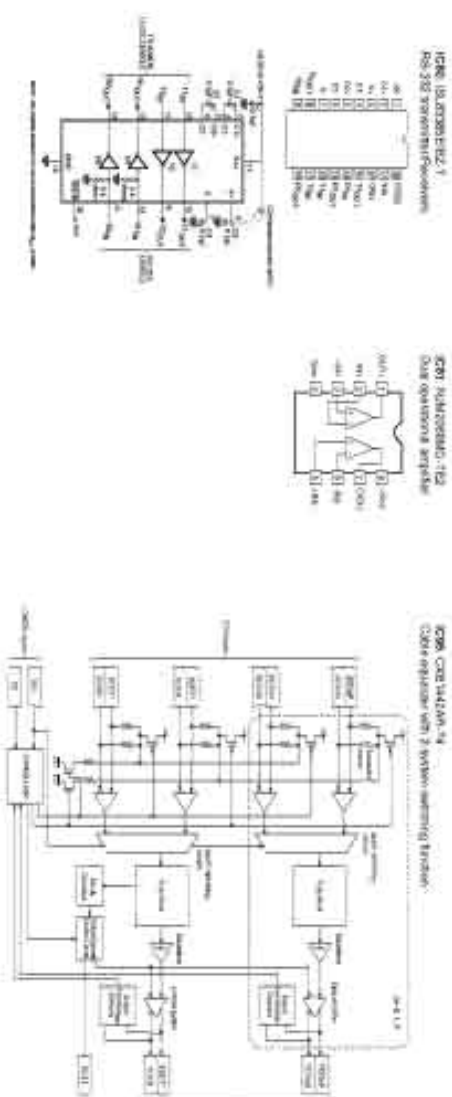
ACDC (3) P.C.B. (Side B)



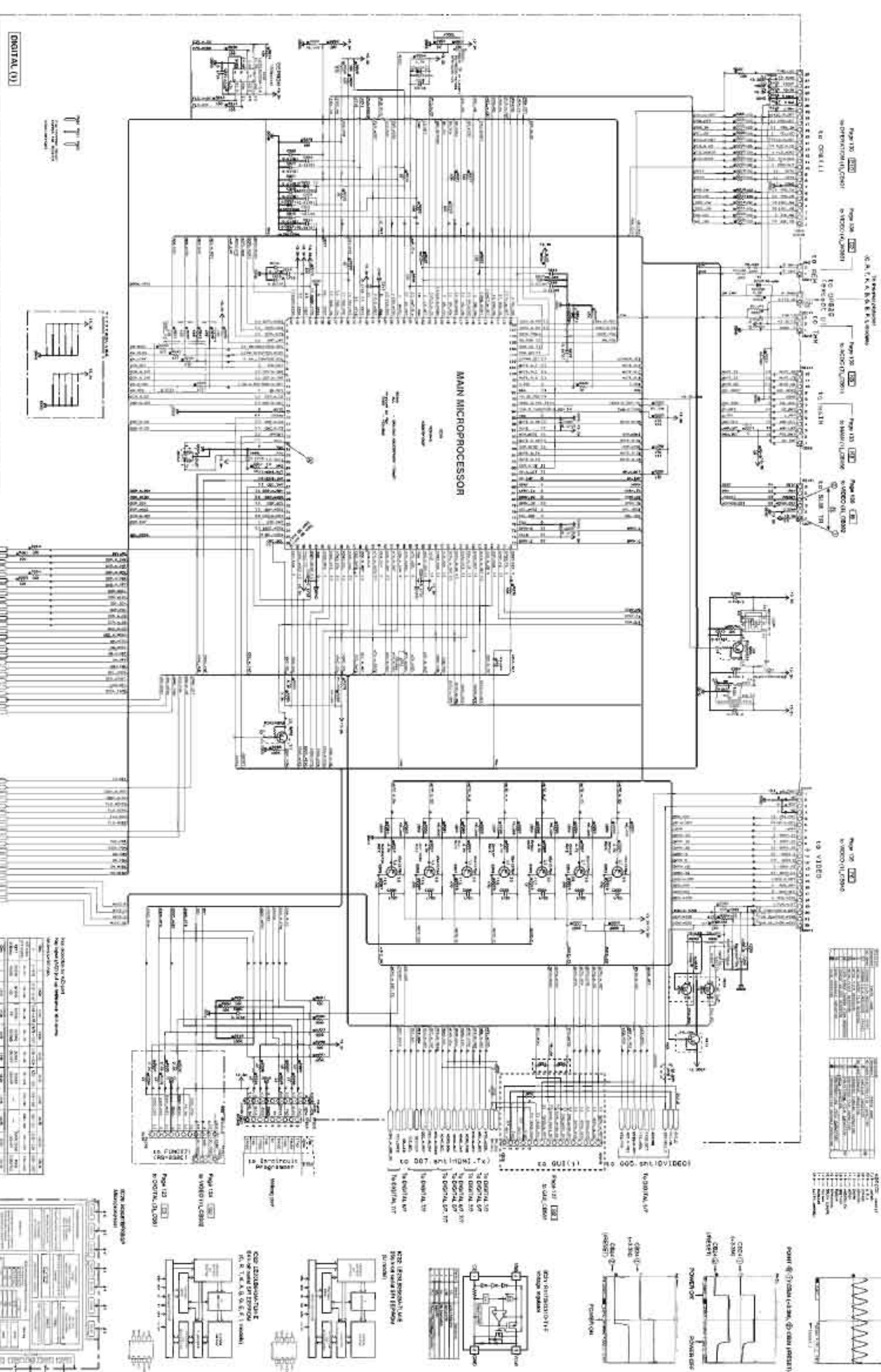
N



Sl. No.	Project Name	Location	Year	Value (Rs. Lakhs)	Remarks
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- All subjects were treated with a 100/20 DQ electronic vibrator
- Compartment housing neuronal communication are marked as and must be improved with pain having specifications equal to those of the previous
- duration of duration is marked by the number of hours



DIGITAL 1/7 MICON

As shown in the diagram, the MICON system is connected to the main microprocessor via a series of control and data lines. The diagram shows the internal structure of the MICON, including its own microprocessor and associated logic.

DIGITAL 0/7

The diagram shows the connection of the MICON to the main system, including the power supply and ground connections.

POWER SUPPLY

The power supply section shows the connection of the MICON to the main power supply, including the power and ground lines.

GROUND

The ground section shows the connection of the MICON to the main ground, including the ground lines.

DATA BUS

The data bus section shows the connection of the MICON to the main data bus, including the data lines.

ADDRESS BUS

The address bus section shows the connection of the MICON to the main address bus, including the address lines.

CONTROL BUS

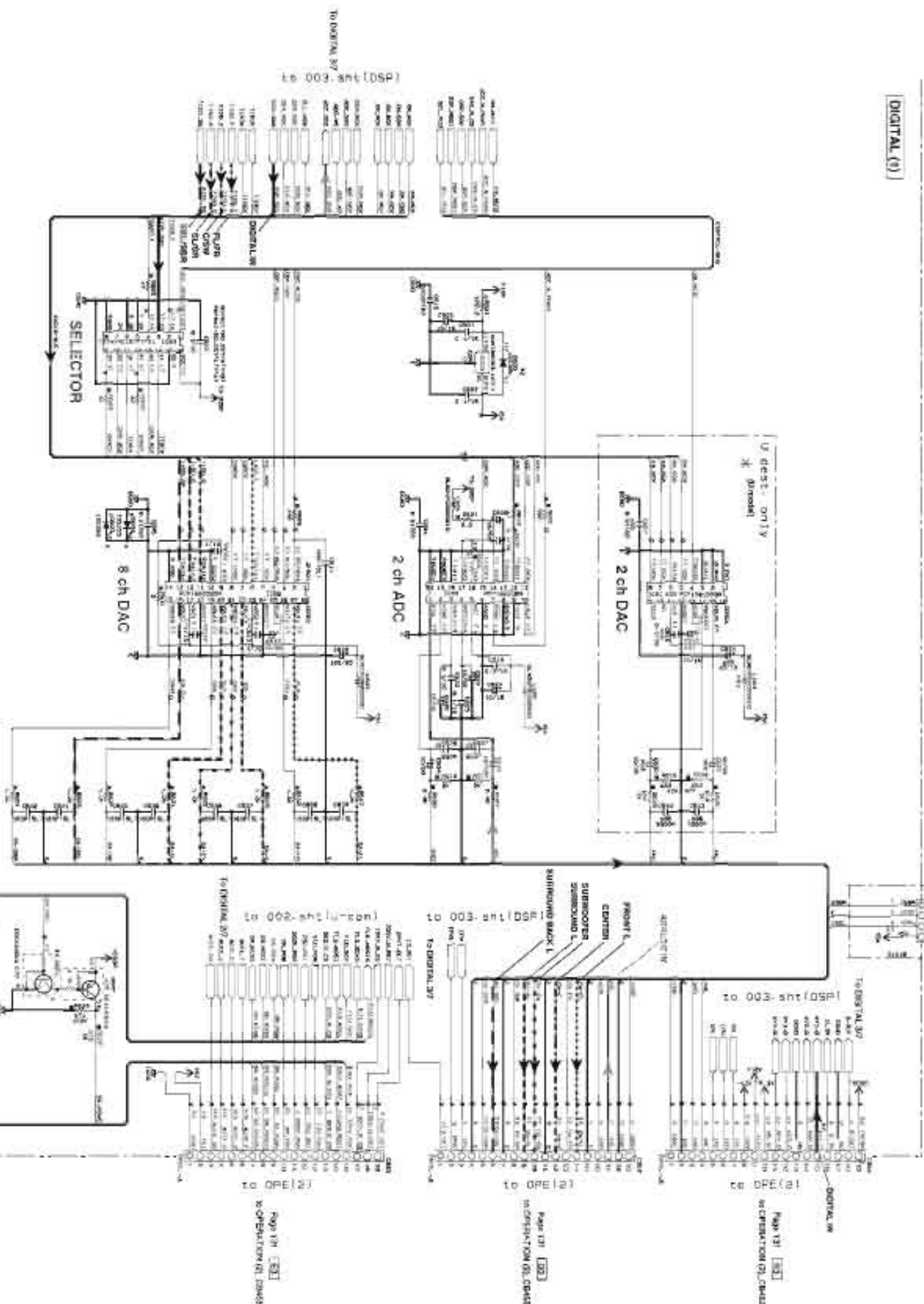
The control bus section shows the connection of the MICON to the main control bus, including the control lines.

Timing Diagrams: Several timing diagrams are provided, showing the relationship between the MICON's internal signals and the main system's signals.

Legend: A legend is provided to explain the symbols and abbreviations used in the diagram.



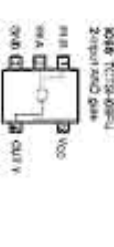
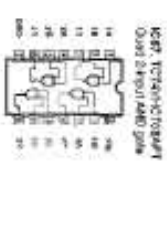
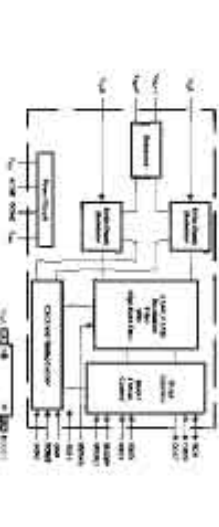
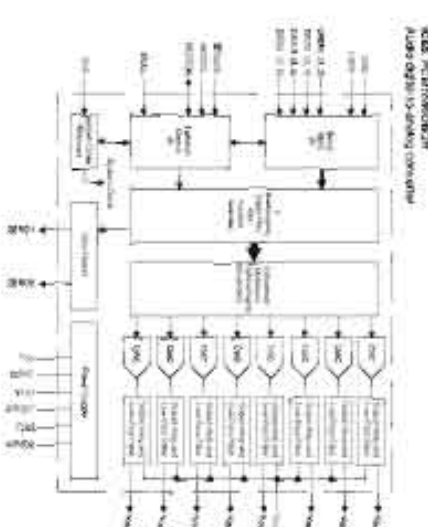
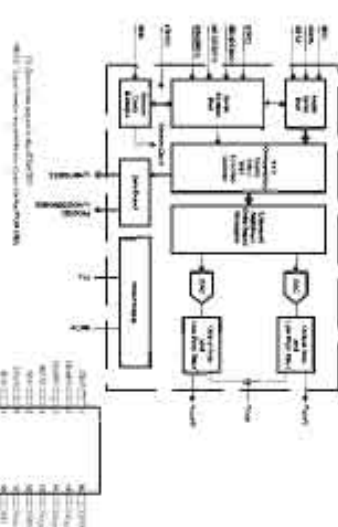
DIGITAL (°)

[illegible]

no	name	category	gender
1	ganesan	with	male
2	gokulnath	with	male
3	ganesan	with	male
4	ganesan	with	male
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99	ganesan	with	male
100	ganesan	with	male

DIGITAL (1) ADC/DAC

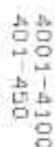
NOTICE American
The Journal of Law and Economics

[illegible]



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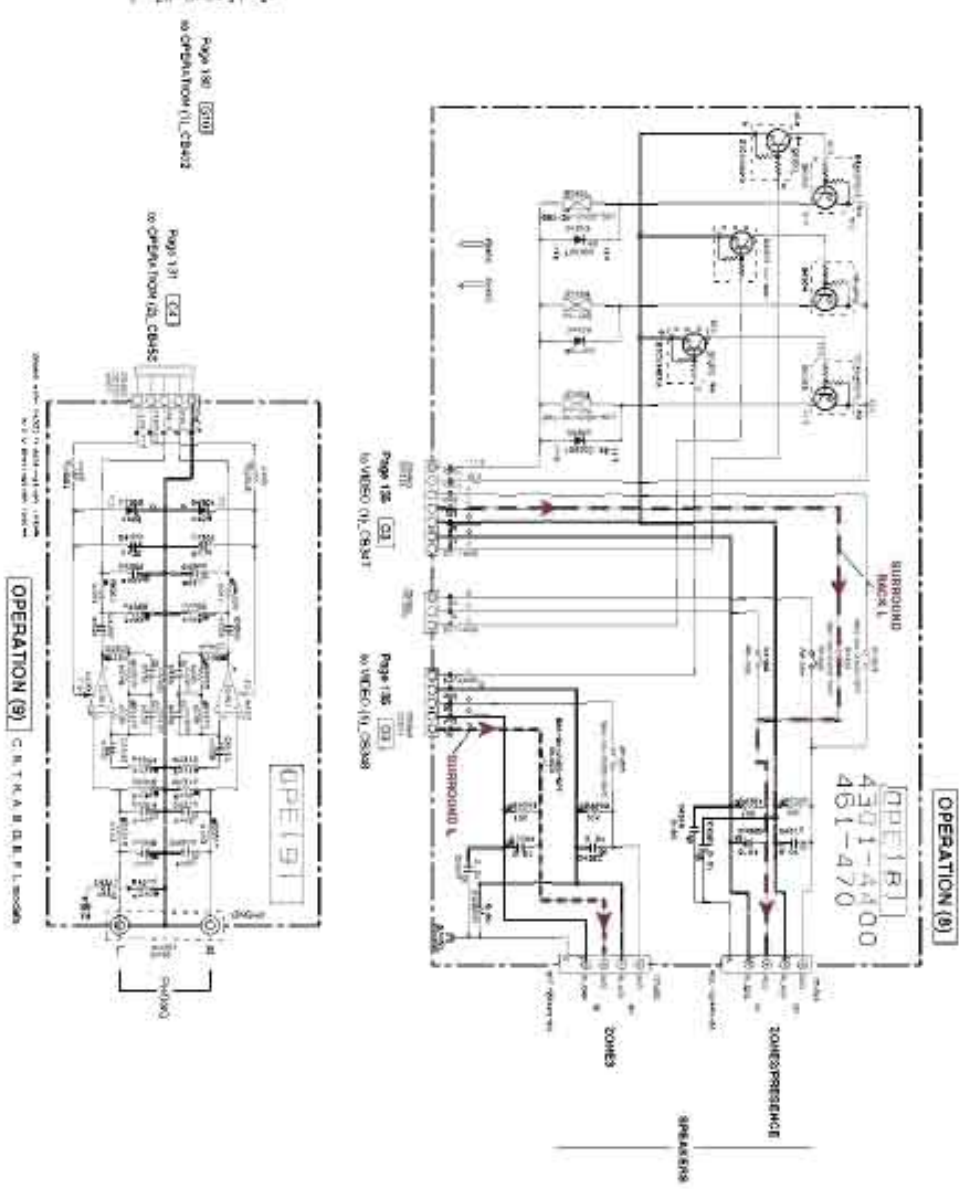
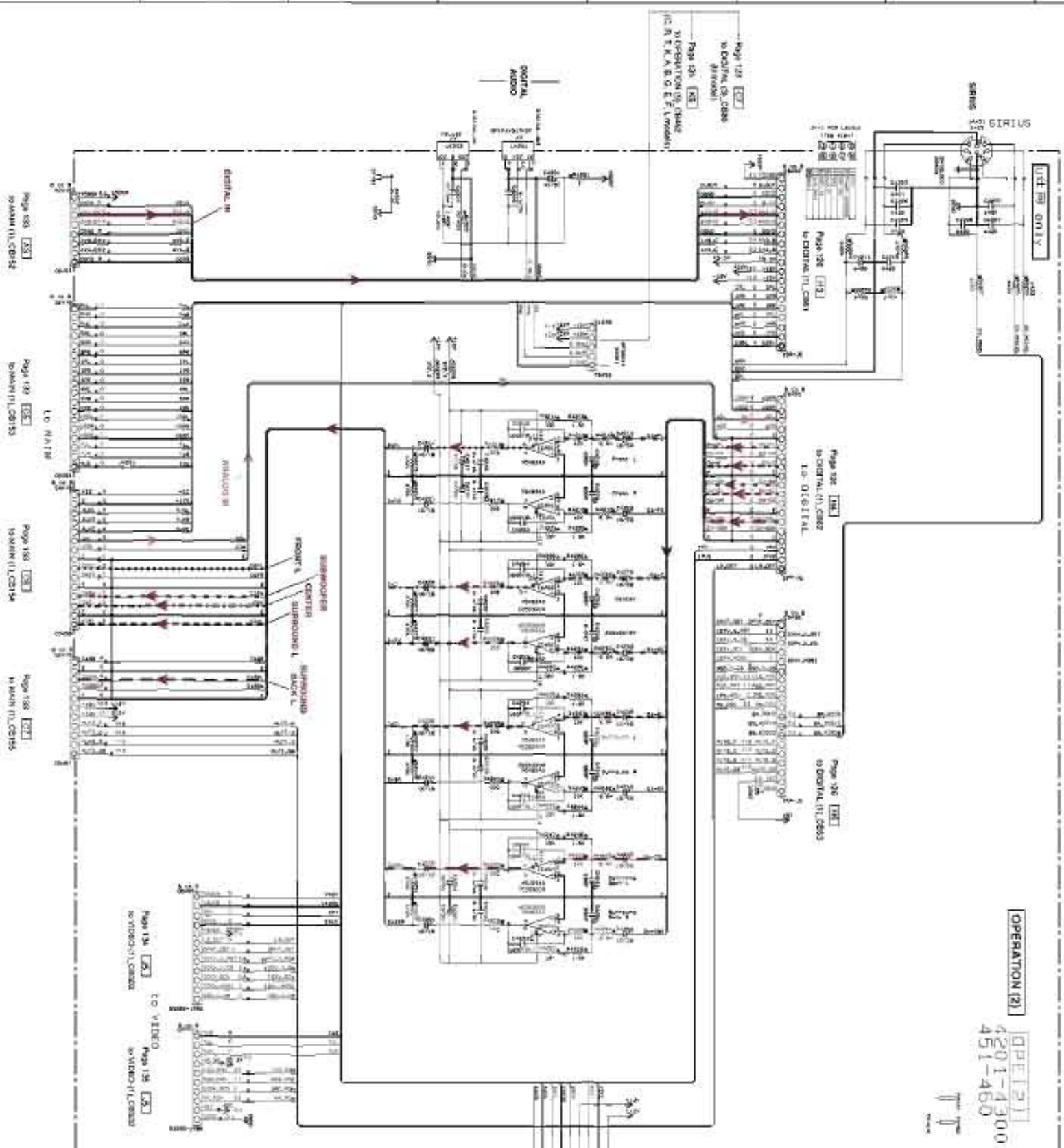
[illegible]

Case	Case description	Case outcome
1	Case 1: A 45-year-old male with a history of chronic alcoholism and liver disease presented with a 2-week history of progressive weakness and fatigue. He had no fever, weight loss, or other symptoms. Physical examination was unremarkable. Laboratory tests showed a hemoglobin of 10 g/dL, hematocrit of 30%, and a reticulocyte count of 1.5%. A peripheral blood smear showed normochromic, normocytic red blood cells. A bone marrow biopsy showed a hypercellular marrow with a normal myeloid-to-erythroid ratio. A liver biopsy showed mild chronic hepatitis. The patient was treated with folic acid and vitamin B12, and his symptoms improved.	Improved
2	Case 2: A 60-year-old female with a history of rheumatoid arthritis and long-term use of low-dose prednisone presented with a 3-week history of progressive weakness and fatigue. She had no fever, weight loss, or other symptoms. Physical examination was unremarkable. Laboratory tests showed a hemoglobin of 9 g/dL, hematocrit of 28%, and a reticulocyte count of 1.2%. A peripheral blood smear showed normochromic, normocytic red blood cells. A bone marrow biopsy showed a hypercellular marrow with a normal myeloid-to-erythroid ratio. A liver biopsy showed mild chronic hepatitis. The patient was treated with folic acid and vitamin B12, and her symptoms improved.	Improved
3	Case 3: A 55-year-old male with a history of chronic alcoholism and liver disease presented with a 2-week history of progressive weakness and fatigue. He had no fever, weight loss, or other symptoms. Physical examination was unremarkable. Laboratory tests showed a hemoglobin of 10 g/dL, hematocrit of 30%, and a reticulocyte count of 1.5%. A peripheral blood smear showed normochromic, normocytic red blood cells. A bone marrow biopsy showed a hypercellular marrow with a normal myeloid-to-erythroid ratio. A liver biopsy showed mild chronic hepatitis. The patient was treated with folic acid and vitamin B12, and his symptoms improved.	Improved

Observed

100

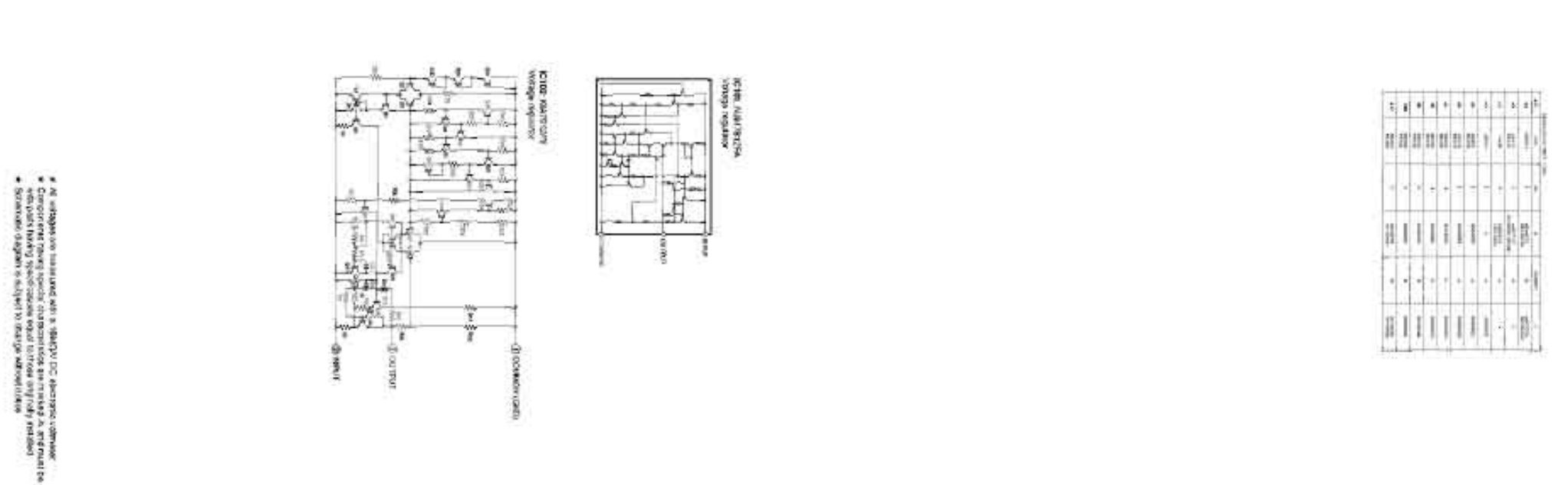
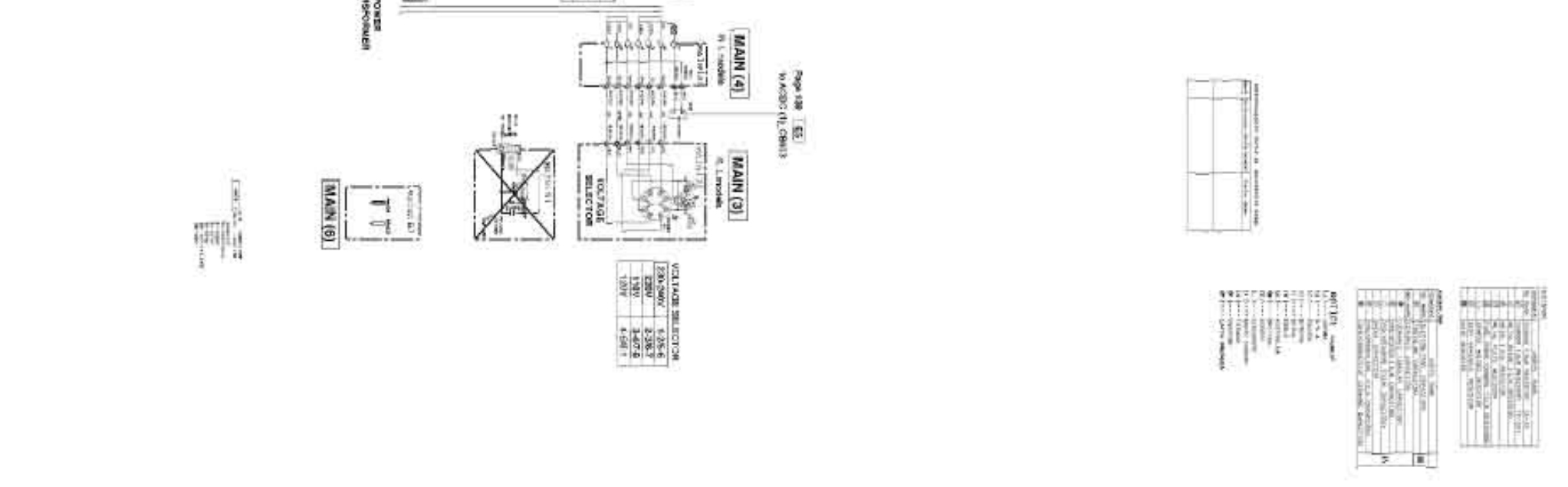
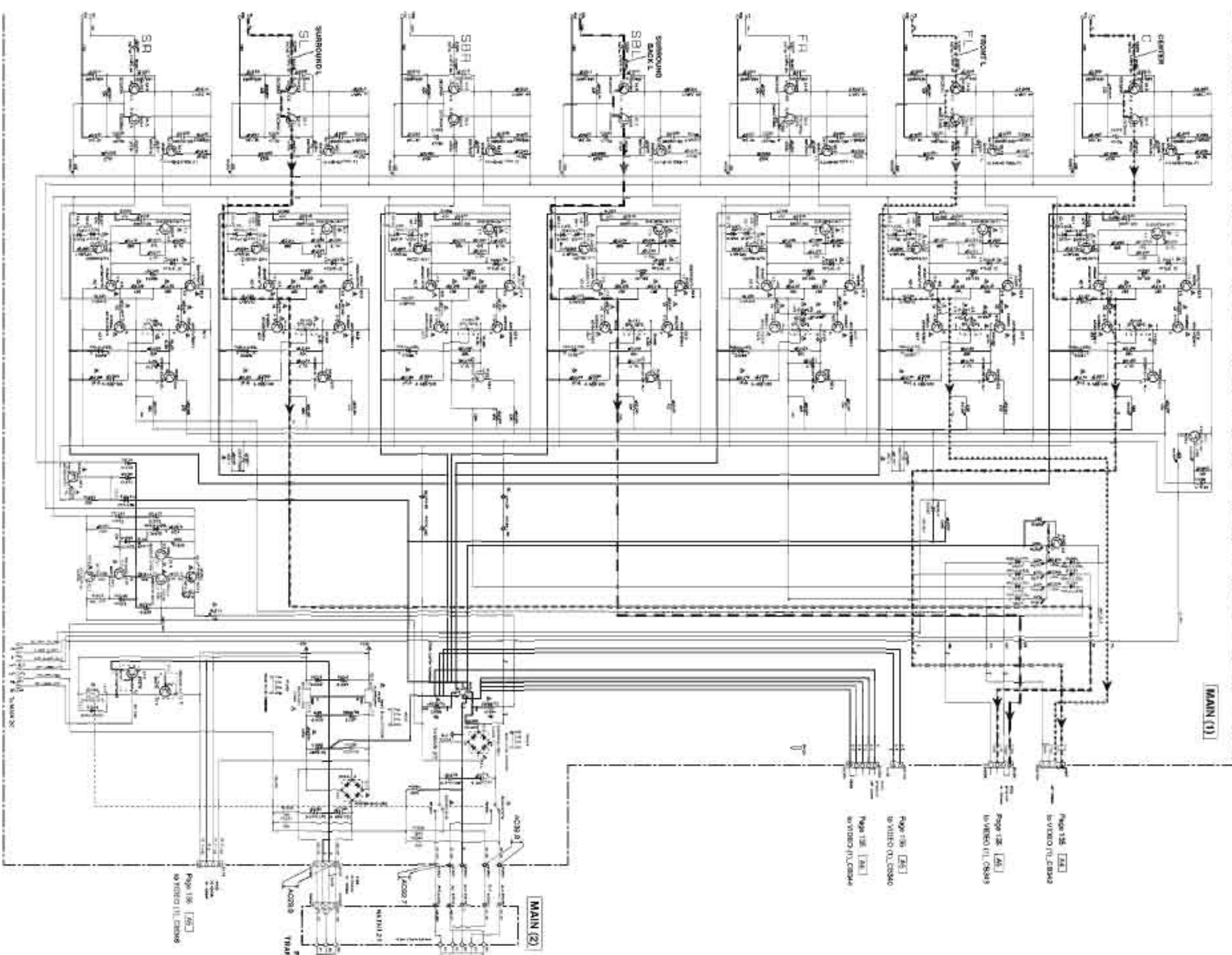
1000



Case No.	Case Name	Case Type	Case Status	Case Date	Case Time	Case Location	Case Description	Case Details	Case Notes	Case Comments
1001	John Doe	Case 1001	Open	2023-10-01	10:00	New York	Case 1001: John Doe	Case 1001: John Doe	Case 1001: John Doe	Case 1001: John Doe
1002	Jane Smith	Case 1002	Open	2023-10-02	11:00	Los Angeles	Case 1002: Jane Smith	Case 1002: Jane Smith	Case 1002: Jane Smith	Case 1002: Jane Smith
1003	Bob Johnson	Case 1003	Open	2023-10-03	12:00	Chicago	Case 1003: Bob Johnson	Case 1003: Bob Johnson	Case 1003: Bob Johnson	Case 1003: Bob Johnson
1004	Alice Brown	Case 1004	Open	2023-10-04	13:00	San Francisco	Case 1004: Alice Brown	Case 1004: Alice Brown	Case 1004: Alice Brown	Case 1004: Alice Brown
1005	Charlie Davis	Case 1005	Open	2023-10-05	14:00	Seattle	Case 1005: Charlie Davis	Case 1005: Charlie Davis	Case 1005: Charlie Davis	Case 1005: Charlie Davis
1006	Diana White	Case 1006	Open	2023-10-06	15:00	Portland	Case 1006: Diana White	Case 1006: Diana White	Case 1006: Diana White	Case 1006: Diana White
1007	Frank Green	Case 1007	Open	2023-10-07	16:00	San Diego	Case 1007: Frank Green	Case 1007: Frank Green	Case 1007: Frank Green	Case 1007: Frank Green
1008	Grace Black	Case 1008	Open	2023-10-08	17:00	Phoenix	Case 1008: Grace Black	Case 1008: Grace Black	Case 1008: Grace Black	Case 1008: Grace Black
1009	Henry Blue	Case 1009	Open	2023-10-09	18:00	San Jose	Case 1009: Henry Blue	Case 1009: Henry Blue	Case 1009: Henry Blue	Case 1009: Henry Blue
1010	Ivy Gold	Case 1010	Open	2023-10-10	19:00	San Antonio	Case 1010: Ivy Gold	Case 1010: Ivy Gold	Case 1010: Ivy Gold	Case 1010: Ivy Gold
1011	Jack Silver	Case 1011	Open	2023-10-11	20:00	San Marcos	Case 1011: Jack Silver	Case 1011: Jack Silver	Case 1011: Jack Silver	Case 1011: Jack Silver
1012	Karen Bronze	Case 1012	Open	2023-10-12	21:00	San Luis Obispo	Case 1012: Karen Bronze	Case 1012: Karen Bronze	Case 1012: Karen Bronze	Case 1012: Karen Bronze
1013	Leo Copper	Case 1013	Open	2023-10-13	22:00	San Bernardino	Case 1013: Leo Copper	Case 1013: Leo Copper	Case 1013: Leo Copper	Case 1013: Leo Copper
1014	Mia Iron	Case 1014	Open	2023-10-14	23:00	San Clemente	Case 1014: Mia Iron	Case 1014: Mia Iron	Case 1014: Mia Iron	Case 1014: Mia Iron
1015	Noah Steel	Case 1015	Open	2023-10-15	00:00	San Juan Capistrano	Case 1015: Noah Steel	Case 1015: Noah Steel	Case 1015: Noah Steel	Case 1015: Noah Steel
1016	Olivia Tin	Case 1016	Open	2023-10-16	01:00	San Ramon	Case 1016: Olivia Tin	Case 1016: Olivia Tin	Case 1016: Olivia Tin	Case 1016: Olivia Tin
1017	Peter Lead	Case 1017	Open	2023-10-17	02:00	San Mateo	Case 1017: Peter Lead	Case 1017: Peter Lead	Case 1017: Peter Lead	Case 1017: Peter Lead
1018	Quinn Zinc	Case 1018	Open	2023-10-18	03:00	San Carlos	Case 1018: Quinn Zinc	Case 1018: Quinn Zinc	Case 1018: Quinn Zinc	Case 1018: Quinn Zinc
1019	Rachel Nickel	Case 1019	Open	2023-10-19	04:00	San Gabriel	Case 1019: Rachel Nickel	Case 1019: Rachel Nickel	Case 1019: Rachel Nickel	Case 1019: Rachel Nickel
1020	Sam Copper	Case 1020	Open	2023-10-20	05:00	San Dimas	Case 1020: Sam Copper	Case 1020: Sam Copper	Case 1020: Sam Copper	Case 1020: Sam Copper
1021	Tina Silver	Case 1021	Open	2023-10-21	06:00	San Jacinto	Case 1021: Tina Silver	Case 1021: Tina Silver	Case 1021: Tina Silver	Case 1021: Tina Silver
1022	Uma Gold	Case 1022	Open	2023-10-22	07:00	San Juan	Case 1022: Uma Gold	Case 1022: Uma Gold	Case 1022: Uma Gold	Case 1022: Uma Gold
1023	Victor Bronze	Case 1023	Open	2023-10-23	08:00	San Marcos	Case 1023: Victor Bronze	Case 1023: Victor Bronze	Case 1023: Victor Bronze	Case 1023: Victor Bronze
1024	Wendy Copper	Case 1024	Open	2023-10-24	09:00	San Luis Obispo	Case 1024: Wendy Copper	Case 1024: Wendy Copper	Case 1024: Wendy Copper	Case 1024: Wendy Copper
1025	Xavier Iron	Case 1025	Open	2023-10-25	10:00	San Bernardino	Case 1025: Xavier Iron	Case 1025: Xavier Iron	Case 1025: Xavier Iron	Case 1025: Xavier Iron
1026	Yara Steel	Case 1026	Open	2023-10-26	11:00	San Clemente	Case 1026: Yara Steel	Case 1026: Yara Steel	Case 1026: Yara Steel	Case 1026: Yara Steel
1027	Zoe Tin	Case 1027	Open	2023-10-27	12:00	San Juan Capistrano	Case 1027: Zoe Tin	Case 1027: Zoe Tin	Case 1027: Zoe Tin	Case 1027: Zoe Tin
1028	Adam Lead	Case 1028	Open	2023-10-28	13:00	San Ramon	Case 1028: Adam Lead	Case 1028: Adam Lead	Case 1028: Adam Lead	Case 1028: Adam Lead
1029	Bella Zinc	Case 1029	Open	2023-10-29	14:00	San Mateo	Case 1029: Bella Zinc	Case 1029: Bella Zinc	Case 1029: Bella Zinc	Case 1029: Bella Zinc
1030	Carl Nickel	Case 1030	Open	2023-10-30	15:00	San Carlos	Case 1030: Carl Nickel	Case 1030: Carl Nickel	Case 1030: Carl Nickel	Case 1030: Carl Nickel
1031	Dora Copper	Case 1031	Open	2023-10-31	16:00	San Gabriel	Case 1031: Dora Copper	Case 1031: Dora Copper	Case 1031: Dora Copper	Case 1031: Dora Copper
1032	Ethan Silver	Case 1032	Open	2023-11-01	17:00	San Dimas	Case 1032: Ethan Silver	Case 1032: Ethan Silver	Case 1032: Ethan Silver	Case 1032: Ethan Silver
1033	Fiona Gold	Case 1033	Open	2023-11-02	18:00	San Jacinto	Case 1033: Fiona Gold	Case 1033: Fiona Gold	Case 1033: Fiona Gold	Case 1033: Fiona Gold
1034	George Bronze	Case 1034	Open	2023-11-03	19:00	San Juan	Case 1034: George Bronze	Case 1034: George Bronze	Case 1034: George Bronze	Case 1034: George Bronze
1035	Helen Copper	Case 1035	Open	2023-11-04	20:00	San Marcos	Case 1035: Helen Copper	Case 1035: Helen Copper	Case 1035: Helen Copper	Case 1035: Helen Copper
1036	Ian Silver	Case 1036	Open	2023-11-05	21:00	San Luis Obispo	Case 1036: Ian Silver	Case 1036: Ian Silver	Case 1036: Ian Silver	Case 1036: Ian Silver
1037	Jane Gold	Case 1037	Open	2023-11-06	22:00	San Bernardino	Case 1037: Jane Gold	Case 1037: Jane Gold	Case 1037: Jane Gold	Case 1037: Jane Gold
1038	Karl Bronze	Case 1038	Open	2023-11-07	23:00	San Clemente	Case 1038: Karl Bronze	Case 1038: Karl Bronze	Case 1038: Karl Bronze	Case 1038: Karl Bronze
1039	Laura Copper	Case 1039	Open	2023-11-08	00:00	San Juan Capistrano	Case 1039: Laura Copper	Case 1039: Laura Copper	Case 1039: Laura Copper	Case 1039: Laura Copper
1040	Mike Silver	Case 1040	Open	2023-11-09	01:00	San Ramon	Case 1040: Mike Silver	Case 1040: Mike Silver	Case 1040: Mike Silver	Case 1040: Mike Silver
1041	Nora Gold	Case 1041	Open	2023-11-10	02:00	San Mateo	Case 1041: Nora Gold	Case 1041: Nora Gold	Case 1041: Nora Gold	Case 1041: Nora Gold
1042	Oscar Bronze	Case 1042	Open	2023-11-11	03:00	San Carlos	Case 1042: Oscar Bronze	Case 1042: Oscar Bronze	Case 1042: Oscar Bronze	Case 1042: Oscar Bronze
1043	Peter Copper	Case 1043	Open	2023-11-12	04:00	San Gabriel	Case 1043: Peter Copper	Case 1043: Peter Copper	Case 1043: Peter Copper	Case 1043: Peter Copper
1044	Quinn Silver	Case 1044	Open	2023-11-13	05:00	San Dimas	Case 1044: Quinn Silver	Case 1044: Quinn Silver	Case 1044: Quinn Silver	Case 1044: Quinn Silver
1045	Rachel Gold	Case 1045	Open	2023-11-14	06:00	San Jacinto	Case 1045: Rachel Gold	Case 1045: Rachel Gold	Case 1045: Rachel Gold	Case 1045: Rachel Gold
1046	Sam Bronze	Case 1046	Open	2023-11-15	07:00	San Juan	Case 1046: Sam Bronze	Case 1046: Sam Bronze	Case 1046: Sam Bronze	Case 1046: Sam Bronze
1047	Tina Copper	Case 1047	Open	2023-11-16	08:00	San Marcos	Case 1047: Tina Copper	Case 1047: Tina Copper	Case 1047: Tina Copper	Case 1047: Tina Copper
1048	Uma Silver	Case 1048	Open	2023-11-17	09:00	San Luis Obispo	Case 1048: Uma Silver	Case 1048: Uma Silver	Case 1048: Uma Silver	Case 1048: Uma Silver
1049	Victor Gold	Case 1049	Open	2023-11-18	10:00	San Bernardino	Case 1049: Victor Gold	Case 1049: Victor Gold	Case 1049: Victor Gold	Case 1049: Victor Gold
1050	Wendy Bronze	Case 1050	Open	2023-11-19	11:00	San Clemente	Case 1050: Wendy Bronze	Case 1050: Wendy Bronze	Case 1050: Wendy Bronze	Case 1050: Wendy Bronze
1051	Xavier Copper	Case 1051	Open	2023-11-20	12:00	San Juan Capistrano	Case 1051: Xavier Copper	Case 1051: Xavier Copper	Case 1051: Xavier Copper	Case 1051: Xavier Copper
1052	Yara Silver	Case 1052	Open	2023-11-21	13:00	San Ramon	Case 1052: Yara Silver	Case 1052: Yara Silver	Case 1052: Yara Silver	Case 1052: Yara Silver
1053	Zoe Gold	Case 1053	Open	2023-11-22	14:00	San Mateo	Case 1053: Zoe Gold	Case 1053: Zoe Gold	Case 1053: Zoe Gold	Case 1053: Zoe Gold
1054	Adam Bronze	Case 1054	Open	2023-11-23	15:00	San Carlos	Case 1054: Adam Bronze	Case 1054: Adam Bronze	Case 1054: Adam Bronze	Case 1054: Adam Bronze
1055	Bella Copper	Case 1055	Open	2023-11-24	16:00	San Gabriel	Case 1055: Bella Copper	Case 1055: Bella Copper	Case 1055: Bella Copper	Case 1055: Bella Copper
1056	Carl Silver	Case 1056	Open	2023-11-25	17:00	San Dimas	Case 1056: Carl Silver	Case 1056: Carl Silver	Case 1056: Carl Silver	Case 1056: Carl Silver
1057	Dora Gold	Case 1057	Open	2023-11-26	18:00	San Jacinto	Case 1057: Dora Gold	Case 1057: Dora Gold	Case 1057: Dora Gold	Case 1057: Dora Gold
1058	Ethan Bronze	Case 1058	Open	2023-11-27	19:00	San Juan	Case 1058: Ethan Bronze	Case 1058: Ethan Bronze	Case 1058: Ethan Bronze	Case 1058: Ethan Bronze
1059	Fiona Copper	Case 1059	Open	2023-11-28	20:00	San Marcos	Case 1059: Fiona Copper	Case 1059: Fiona Copper	Case 1059: Fiona Copper	Case 1059: Fiona Copper
1060	George Silver	Case 1060	Open	2023-11-29	21:00	San Luis Obispo	Case 1060: George Silver	Case 1060: George Silver	Case 1060: George Silver	Case 1060: George Silver
1061	Helen Gold	Case 1061	Open	2023-11-30	22:00	San Bernardino	Case 1061: Helen Gold	Case 1061: Helen Gold	Case 1061: Helen Gold	Case 1061: Helen Gold
1062	Ian Bronze	Case 1062	Open	2023-12-01	23:00	San Clemente	Case 1062: Ian Bronze	Case 1062: Ian Bronze	Case 1062: Ian Bronze	Case 1062: Ian Bronze
1063	Jane Copper	Case 1063	Open	2023-12-02	00:00	San Juan Capistrano	Case 1063: Jane Copper	Case 1063: Jane Copper	Case 1063: Jane Copper	Case 1063: Jane Copper
1064	Karl Silver	Case 1064	Open	2023-12-03	01:00	San Ramon	Case 1064: Karl Silver	Case 1064: Karl Silver	Case 1064: Karl Silver	Case 1064: Karl Silver
1065	Laura Gold	Case 1065	Open	2023-12-04	02:00	San Mateo	Case 1065: Laura Gold	Case 1065: Laura Gold	Case 1065: Laura Gold	Case 1065: Laura Gold
1066	Mike Bronze	Case 1066	Open	2023-12-05	03:00	San Carlos	Case 1066: Mike Bronze	Case 1066: Mike Bronze	Case 1066: Mike Bronze	Case 1066: Mike Bronze
1067	Nora Copper	Case 1067	Open	2023-12-06	04:00	San Gabriel	Case 1067: Nora Copper	Case 1067: Nora Copper	Case 1067: Nora Copper	Case 1067: Nora Copper
1068	Oscar Silver	Case 1068	Open	2023-12-07	05:00	San Dimas	Case 1068: Oscar Silver	Case 1068: Oscar Silver	Case 1068: Oscar Silver	Case 1068: Oscar Silver
1069	Peter Gold	Case 1069	Open	2023-12-08	06:00	San Jacinto	Case 1069: Peter Gold	Case 1069: Peter Gold	Case 1069: Peter Gold	Case 1069: Peter Gold
1070	Quinn Bronze	Case 1070	Open	2023-12-09	07:00	San Juan	Case 1070: Quinn Bronze	Case 1070: Quinn Bronze	Case 1070: Quinn Bronze	Case 1070: Quinn Bronze
1071	Rachel Copper	Case 1071	Open	2023-12-10	08:00	San Marcos	Case 1071: Rachel Copper	Case 1071: Rachel Copper	Case 1071: Rachel Copper	Case 1071: Rachel Copper
1072	Sam Silver	Case 1072	Open	2023-12-11	09:00	San Luis Obispo	Case 1072: Sam Silver	Case 1072: Sam Silver	Case 1072: Sam Silver	Case 1072: Sam Silver
1073	Tina Gold	Case 1073	Open	2023-12-12	10:00	San Bernardino	Case 1073: Tina Gold	Case 1073: Tina Gold	Case 1073: Tina Gold	Case 1073: Tina Gold
1074	Uma Bronze	Case 1074	Open	2023-12-13	11:00	San Clemente	Case 1074: Uma Bronze	Case 1074: Uma Bronze	Case 1074: Uma Bronze	Case 1074: Uma Bronze
1075	Victor Copper	Case 1075	Open	2023-12-14	12:00	San Juan Capistrano	Case 1075: Victor Copper	Case 1075: Victor Copper	Case 1075: Victor Copper	Case 1075: Victor Copper
1076	Wendy Silver	Case 1076	Open	2023-12-15	13:00	San Ramon	Case 1076: Wendy Silver	Case 1076: Wendy Silver	Case 1076: Wendy Silver	Case 1076: Wendy Silver
1077	Xavier Gold	Case 1077	Open	2023-12-16	14:00	San Mateo	Case 1077: Xavier Gold	Case 1077: Xavier Gold	Case 1077: Xavier Gold	Case 1077: Xavier Gold
1078	Yara Bronze	Case 1078	Open	2023-12-17	15:00	San Carlos	Case 1078: Yara Bronze	Case 1078: Yara Bronze	Case 1078: Yara Bronze	Case 1078: Yara Bronze
1079	Zoe Copper	Case 1079	Open	2023-12-18	16:00	San Gabriel	Case 1079: Zoe Copper	Case 1079: Zoe Copper	Case 1079: Zoe Copper	Case 1079: Zoe Copper
1080	Adam Silver	Case 1080	Open	2023-12-19	17:00	San Dimas	Case 1080: Adam Silver	Case 1080: Adam Silver	Case 1080: Adam Silver	Case 1080: Adam Silver
1081	Bella Gold	Case 1081	Open	2023-12-20	18:00	San Jacinto	Case 1081: Bella Gold	Case 1081: Bella Gold	Case 1081: Bella Gold	Case 1081: Bella Gold
1082	Carl Bronze	Case 1082	Open	2023-12-21	19:00	San Juan	Case 1082: Carl Bronze	Case 1082: Carl Bronze	Case 1082: Carl Bronze	Case 1082: Carl Bronze
1083	Dora Copper	Case 1083	Open	2023-12-22	20:00	San Marcos	Case 1083: Dora Copper	Case 1083: Dora Copper	Case 1083: Dora Copper	Case 1083: Dora Copper
1084	Ethan Silver	Case 1084	Open	2023-12-23	21:00	San Luis Obispo	Case 1084: Ethan Silver	Case 1084: Ethan Silver	Case 1084: Ethan Silver	Case 1084: Ethan Silver
1085	Fiona Gold	Case 1085	Open	2023-12-24	22:00	San Bernardino	Case 1085: Fiona Gold	Case 1085: Fiona Gold	Case 1085: Fiona Gold	Case 1085: Fiona Gold
1086	George Bronze	Case 1086	Open	2023-12-25	23:00	San Clemente	Case 1086: George Bronze	Case 1086: George Bronze	Case 1086: George Bronze	Case 1086: George Bronze
1087	Helen Copper	Case 1087	Open	2023-12-26	00:00	San Juan Capistrano	Case 1087: Helen Copper	Case 1087: Helen Copper	Case 1087: Helen Copper	Case 1087: Helen Copper
1088	Ian Silver	Case 1088	Open	2023-12-27	01:00	San Ramon	Case 1088: Ian Silver	Case 1088: Ian Silver	Case 1088: Ian Silver	Case 1088: Ian Silver
1089	Jane Gold	Case 1089	Open	2023-12-28	02:00	San Mateo	Case 1089: Jane Gold	Case 1089: Jane Gold	Case 1089: Jane Gold	Case 1089: Jane Gold
1090	Karl Bronze	Case 1090	Open	2023-12-29	03:00	San Carlos	Case 1090: Karl Bronze	Case 1090: Karl Bronze	Case 1090: Karl Bronze	Case 1090: Karl Bronze
1091	Laura Copper	Case 1091	Open	2023-12-30	04:00	San Gabriel	Case 1091: Laura Copper	Case 1091: Laura Copper	Case 1091: Laura Copper	Case 1091: Laura Copper
1092	Mike Silver	Case 1092	Open	2023-12-31	05:00	San Dimas	Case 1092: Mike Silver	Case 1092: Mike Silver	Case 1092: Mike Silver	Case 1092: Mike Silver
1093	Nora Gold	Case 1093	Open	2024-01-01	06:00	San Jacinto	Case 1093: Nora Gold	Case 1093: Nora Gold	Case 1093: Nora Gold	Case 1093: Nora Gold
1094	Oscar Bronze	Case 1094	Open	2024-01-02	07:00	San Juan	Case 1094: Oscar Bronze	Case 1094: Oscar Bronze	Case 1094: Oscar Bronze	Case 1094: Oscar Bronze
1095	Peter Copper	Case 1095	Open	2024-01-03	08:00	San Marcos	Case 1095: Peter Copper	Case 1095: Peter Copper	Case 1095: Peter Copper	Case 1095: Peter Copper
1096	Quinn Silver	Case 1096	Open	2024-01-04	09:00	San Luis Obispo	Case 1096: Quinn Silver	Case 1096: Quinn Silver	Case 1096: Quinn Silver	Case 1096: Quinn Silver
1097	Rachel Gold	Case 1097	Open	2024-01-05	10:00	San Bernardino	Case 1097: Rachel Gold	Case 1097: Rachel Gold	Case 1097: Rachel Gold	Case 1097: Rachel Gold
1098	Sam Bronze	Case 1098	Open	2024-01-06	11:00	San Clemente				

[illegible]

- All electrodes are measured with a voltmeter DC electrode response
- Components having special characteristics are marked, and must be replaced with parts having specifications equal to those originally installed.
- Severe abuse diagnosis is subject to change without notice



NOTE: 1. All components are standard unless otherwise specified.
2. Component values are given in parentheses after the component symbol.
3. Component values are given in parentheses after the component symbol.
4. Component values are given in parentheses after the component symbol.
5. Component values are given in parentheses after the component symbol.



HOSPITALITY, 171, 19629



K. C. CHEN, J. H. CHEN, AND C. C. CHANG



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8. External oblique muscle

[illegible]

1070701

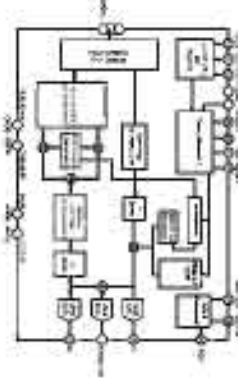
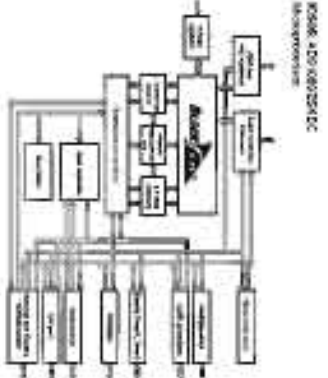
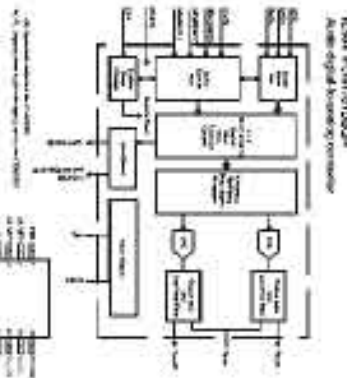
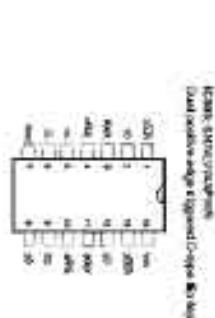
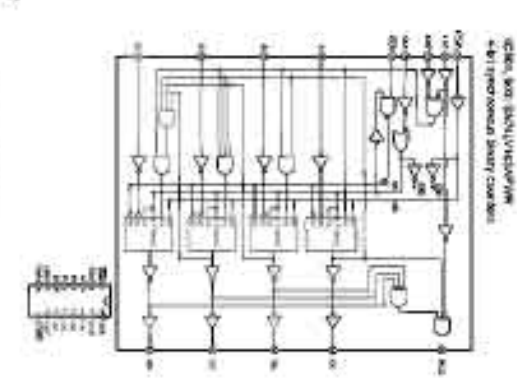


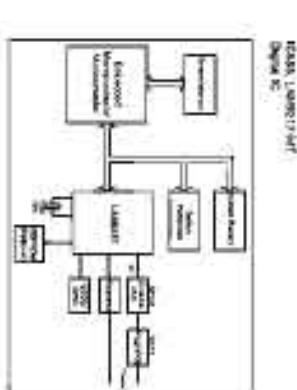
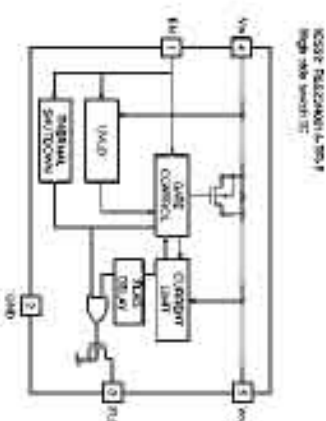
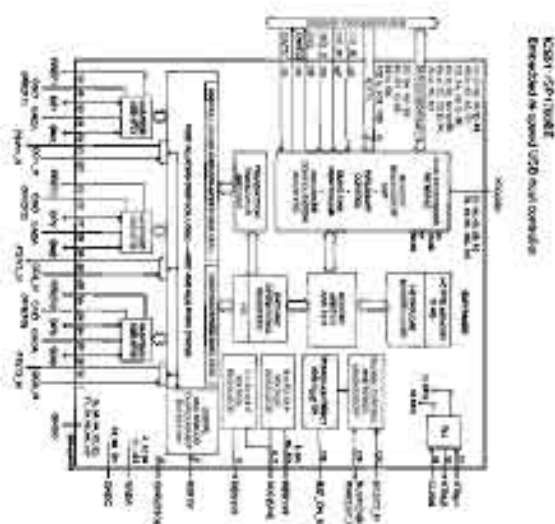
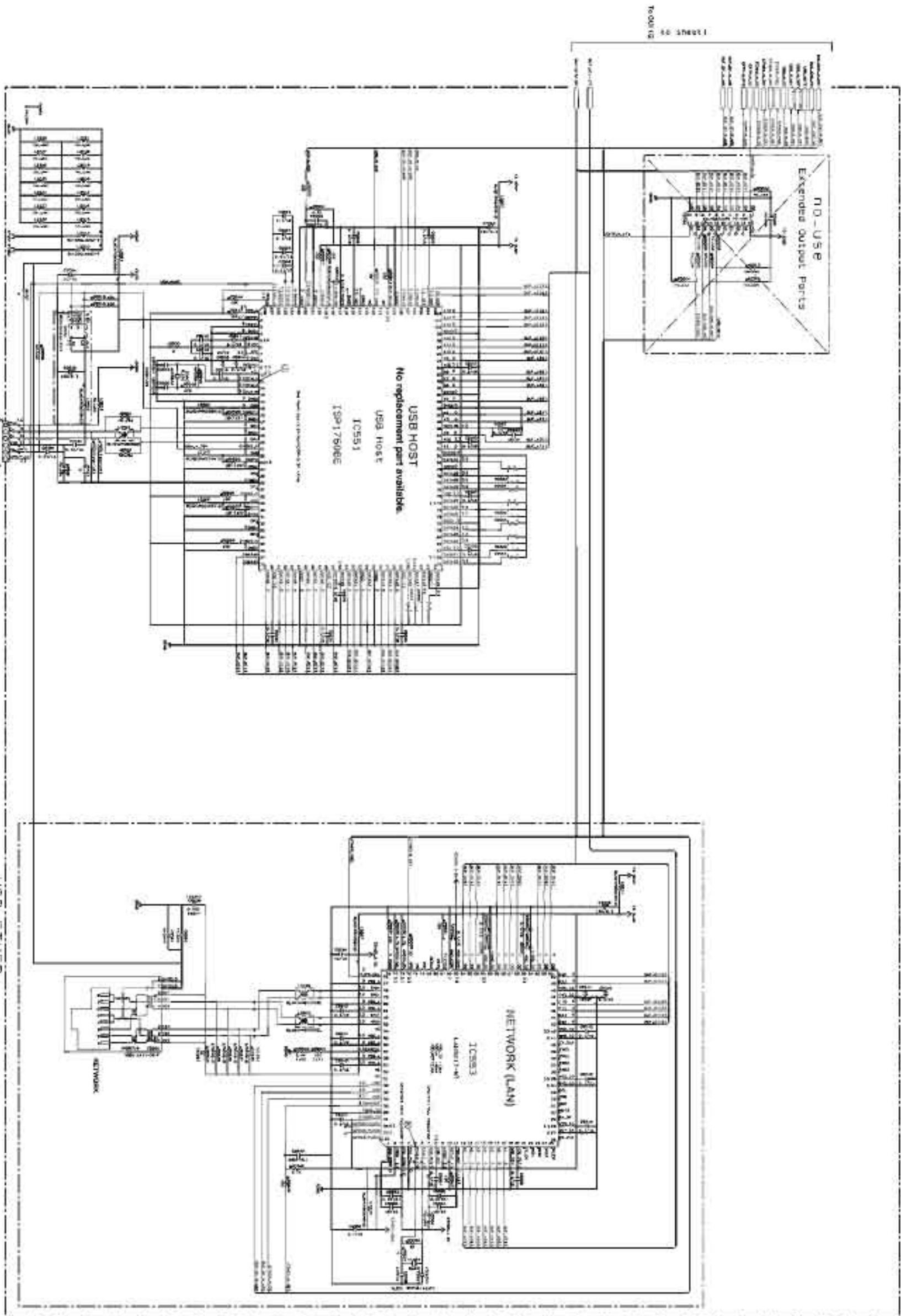
- All wirings are installed with a 100kV DC electronic equipment.
- Components and/or electrical cables are marked & are marked in exposed with parts having special colors used to trace original installed.
- Schematic diagram is subject to change without notice.

016-420651111-6295

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* All original and replacement parts are subject to change without notice.
* All original and replacement parts are subject to change without notice.
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800-4-A-2065/HT10-62965

CAPACITOR		
NO	NAME	
1	100K OHM 5% 0.1W 0805	13
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(A) JAPAN
(B) U.S.A.
(C) CANADA
(D) CENTRAL
(E) CHINA
(F) KOREA
(G) AUSTRALIA
(H) BRITISH
(I) EUROPE
(J) SINGAPORE
(K) SOUTH EUROPE
(L) TAIWAN
(M) RUSSIA
(N) LATIN AMERICA



Information from the American Psychological Association

Identi- ficator	Product	Year
41	09009	1953-1954 44.2 M + 100. 67.1 M + 173.0 M
42	09006 - 09008	1953-1954 188.1 M + 252.1 M



- All vintage gear is insured with a 100,000-€ electronic upper limit.
- Customers having special transport needs are met by a special service provided with tools, loading and unloading support to those originally intended.
- Specialized insurance is added to those who are not covered.

■ REPLACEMENT PARTS LIST

• ELECTRICAL COMPONENT PARTS

WARNING

- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED,INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR,RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN,TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR.	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIP RESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.CEMENT	: CEMENT RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TIGHT SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR,BASE PIN	SCR.CUP	: CUP TIGHT SCREW
CN.CANNON	: CONNECTOR,CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR,DIN	SCR.TR	: SCREW,TRANSISTOR
CN.FLAT	: CONNECTOR,FLAT CABLE	SUPRT.PCB	: SUPPORT,P.C.B.
CN.POST	: CONNECTOR,BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL,AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL,FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL,FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL,FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWER TRANSFORMER ASS'Y
FLTR.LC.RF	: LC FILTER,EMI	TUNER.AM	: TUNER PACK,AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK,FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-ENDTUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER,TEST POINT	VR.SLIDE	: SLIDE POTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

P.C.B. DIGITAL

Ref No.	Part No.	Description	Markets
* * * * *	WS305800 WS305900 WS306700 WS306000	P. C. B. P. C. B. P. C. B. P. C. B.	DIGITAL DIGITAL DIGITAL DIGITAL
			U CRTKAL (V2065) C (6295) BGEF
* CB1	WD295600	CN. BS. PIN	20P SE
CB3-6	WH641400	CN. HDMI	19P SE
CB7	LB919040	CN. BS. PIN	4P
CB9	WH641400	CN. HDMI	19P SE
CB15	WH641400	CN. HDMI	19P SE
CB20	VPO82900	CN. BS. PIN	25P
CB21	VB389800	CN. BS. PIN	2P
CB22	VK024700	CN. BS. PIN	3P
CB23	VK025600	CN. BS. PIN	12P
CB24	VK026500	CN. BS. PIN	6P
CB25	VQ045200	CN. BS. PIN	22P
CB27	VQ047200	CN. BS. PIN	9P
CB28	VM859700	CN. BS. PIN	16P
CB29	VK026300	CN. BS. PIN	4P
CB31	LB918020	CN. BS. PIN	2P
CB31	LB918020	CN. BS. PIN	2P
CB40	WJ458700	CN. XM	4P, CAM-D96
CB61-63	V9356900	CN. JE	19P SE
CB71	VF982200	CN. BS. PIN	14P
CB73	VQ044100	CN. BS. PIN	5P
CB80	VK026400	CN. BS. PIN	5P
CB81	VK027000	CN. BS. PIN	11P
CB84	V3768800	SOCKET	17LE-23090-28
CB95	WH641400	CN. HDMI	19P SE
CB96	WC197000	CN. FMN	20P TE
C1	US135100	C. CE. CHP	0. 1uF 16V
C2	UF438100	C. EL. CHP	100uF 16V
C3	US135100	C. CE. CHP	0. 1uF 16V
C4-6	US064100	C. CE. CHP	0. 01uF 50V B
C7	WG888300	C. CE. M. CHP	10uF 6. 3V
C8-9	US135100	C. CE. CHP	0. 1uF 16V
C10-12	US064100	C. CE. CHP	0. 01uF 50V B
C13	US135100	C. CE. CHP	0. 1uF 16V
C14-16	US064100	C. CE. CHP	0. 01uF 50V B
C17-18	US135100	C. CE. CHP	0. 1uF 16V
C19-22	US064100	C. CE. CHP	0. 01uF 50V B
C23-25	US135100	C. CE. CHP	0. 1uF 16V
C26-28	WG888300	C. CE. M. CHP	10uF 6. 3V
C29-32	US135100	C. CE. CHP	0. 1uF 16V
C33-45	US064100	C. CE. CHP	0. 01uF 50V B
C46-48	US135100	C. CE. CHP	0. 1uF 16V
C50-51	US135100	C. CE. CHP	0. 1uF 16V
C53	WG888300	C. CE. M. CHP	10uF 6. 3V
C54-57	US135100	C. CE. CHP	0. 1uF 16V
C58	WG888300	C. CE. M. CHP	10uF 6. 3V
C59-60	US135100	C. CE. CHP	0. 1uF 16V
C61-62	WD758300	C. CE. CHP	10uF 10V
C63-72	US135100	C. CE. CHP	0. 1uF 16V
C73-82	US064100	C. CE. CHP	0. 01uF 50V B
C83	US135100	C. CE. CHP	0. 1uF 16V
C84	US060700	C. CE. CHP	7pF 50V B
C85	US060500	C. CE. CHP	5pF 50V B
C86	US135100	C. CE. CHP	0. 1uF 16V

* New Parts

Ref No.	Part No.	Description	Markets
C87	US062470	C. CE. CHP	470pF 50V B
C88	WD758300	C. CE. CHP	10uF 10V
C89-90	US135100	C. CE. CHP	0. 1uF 16V
C91	US063100	C. CE. CHP	1000pF 50V B
C92-93	US135100	C. CE. CHP	0. 1uF 16V
C94	US063100	C. CE. CHP	1000pF 50V B
C97-99	US063100	C. CE. CHP	1000pF 50V B
C100-102	US135100	C. CE. CHP	0. 1uF 16V
C103	WD758300	C. CE. CHP	10uF 10V
C104	US135100	C. CE. CHP	0. 1uF 16V
C105	WD758300	C. CE. CHP	10uF 10V
C106	US135100	C. CE. CHP	0. 1uF 16V
C107	WD758300	C. CE. CHP	10uF 10V
C108	US135100	C. CE. CHP	0. 1uF 16V
C109	WD758300	C. CE. CHP	10uF 10V
C110-112	US064100	C. CE. CHP	0. 01uF 50V B
C113-114	WD758300	C. CE. CHP	10uF 10V
C115	US135100	C. CE. CHP	0. 1uF 16V
C116	WD758300	C. CE. CHP	10uF 10V
C117-124	US064100	C. CE. CHP	0. 01uF 50V B
C125	WD758300	C. CE. CHP	10uF 10V
C126	US064100	C. CE. CHP	0. 01uF 50V B
C127	WD758300	C. CE. CHP	10uF 10V
C128	US064100	C. CE. CHP	0. 01uF 50V B
C129	US062470	C. CE. CHP	470pF 50V B
C130	WD758300	C. CE. CHP	10uF 10V
C131-133	US064100	C. CE. CHP	0. 01uF 50V B
C134-135	WD758300	C. CE. CHP	10uF 10V
C136	US135100	C. CE. CHP	0. 1uF 16V
C137	WD758300	C. CE. CHP	10uF 10V
C138-145	US064100	C. CE. CHP	0. 01uF 50V B
C146	WD758300	C. CE. CHP	10uF 10V
C147	US064100	C. CE. CHP	0. 01uF 50V B
C148	WD758300	C. CE. CHP	10uF 10V
C149	US064100	C. CE. CHP	0. 01uF 50V B
C150	US062470	C. CE. CHP	470pF 50V B
C151-152	US135100	C. CE. CHP	0. 1uF 16V
C153-154	WG251600	C. CE. CHP	4. 7uF 6. 3V
* C155	UF027470	C. EL. CHP	47uF 10V
C156	WJ344400	C. CE. CHP	22uF 6. 3V
C157	US062220	C. CE. CHP	220pF 50V B
C158	US135100	C. CE. CHP	0. 1uF 16V
C159	US063330	C. CE. CHP	3300pF 50V B
C160	US063120	C. CE. CHP	1200pF 50V B
C161	US135100	C. CE. CHP	0. 1uF 16V
C162	WD758300	C. CE. CHP	10uF 10V
C163	WJ344400	C. CE. CHP	22uF 6. 3V
C164	US062220	C. CE. CHP	220pF 50V B
C165	US135100	C. CE. CHP	0. 1uF 16V
C166	US063470	C. CE. CHP	4700pF 50V B
C167	US063120	C. CE. CHP	1200pF 50V B
C168	US135100	C. CE. CHP	0. 1uF 16V
C169	WD758300	C. CE. CHP	10uF 10V
C170	WH772100	C. EL	1000uF 10V
C171	US135100	C. CE. CHP	0. 1uF 16V
C173-184	US135100	C. CE. CHP	0. 1uF 16V
C190-192	US135100	C. CE. CHP	0. 1uF 16V

* New Parts

P.C.B. DIGITAL

Ref No.	Part No.	Description	Markets
C193	US064100	C. CE. CHP 0.01uF 50V B	
C194	US135100	C. CE. CHP 0.1uF 16V	
C200	UR837330	C. EL 33uF 16V	
C202	US064100	C. CE. CHP 0.01uF 50V B	
C204-205	US064100	C. CE. CHP 0.01uF 50V B	
C207-211	US064100	C. CE. CHP 0.01uF 50V B	
C212	US135100	C. CE. CHP 0.1uF 16V	
C214	US135100	C. CE. CHP 0.1uF 16V	
C215-216	US064100	C. CE. CHP 0.01uF 50V B	
C217	US135100	C. CE. CHP 0.1uF 16V	
C218-219	US064100	C. CE. CHP 0.01uF 50V B	
C220-225	US135100	C. CE. CHP 0.1uF 16V	
C226	WG251600	C. CE. CHP 4.7uF 6.3V	
C228-229	WG251600	C. CE. CHP 4.7uF 6.3V	
C231	US135100	C. CE. CHP 0.1uF 16V	
C232-238	US046100	C. CE. CHP 1uF 25V	
C239-242	US062100	C. CE. CHP 100pF 50V B	
C243	US064100	C. CE. CHP 0.01uF 50V B	
C400-401	WD758300	C. CE. CHP 10uF 10V	U
C402	US064100	C. CE. CHP 0.01uF 50V B	
C404	US061100	C. CE. CHP 10pF 50V B	U
C405-406	US035100	C. CE. CHP 0.1uF 16V B	U
C407	US061100	C. CE. CHP 10pF 50V B	U
C408-409	US035100	C. CE. CHP 0.1uF 16V B	U
C410	WG251600	C. CE. CHP 4.7uF 6.3V	
C411	US135100	C. CE. CHP 0.1uF 16V	
C412	US035100	C. CE. CHP 0.1uF 16V B	
C413-414	US135100	C. CE. CHP 0.1uF 16V	
C415	US044220	C. CE. CHP 0.022uF 25V B	
C416	US062100	C. CE. CHP 100pF 50V B	
C417	UR267470	C. EL 47uF 50V	
C418	US062220	C. CE. CHP 220pF 50V B	
C419	WG251600	C. CE. CHP 4.7uF 6.3V	
C420	US062220	C. CE. CHP 220pF 50V B	
C421	US035100	C. CE. CHP 0.1uF 16V B	U
C422	US062220	C. CE. CHP 220pF 50V B	
C423	US035100	C. CE. CHP 0.1uF 16V B	
C424-425	US135100	C. CE. CHP 0.1uF 16V	
C426	US062220	C. CE. CHP 220pF 50V B	
C427	US035100	C. CE. CHP 0.1uF 16V B	U
C428	US064100	C. CE. CHP 0.01uF 50V B	
C429	WD758300	C. CE. CHP 10uF 10V	
C430	UR067470	C. EL 47uF 50V	
C431	US062100	C. CE. CHP 100pF 50V B	
C432-433	US062220	C. CE. CHP 220pF 50V B	
C434-436	US135100	C. CE. CHP 0.1uF 16V	
C437-438	US062100	C. CE. CHP 100pF 50V B	
C439	US061100	C. CE. CHP 10pF 50V B	
C440	US060800	C. CE. CHP 8pF 50V B	
C441-442	US062390	C. CE. CHP 390pF 50V B	
C443-444	US035100	C. CE. CHP 0.1uF 16V B	U
C445-446	UR837100	C. EL 10uF 16V	
C447-448	US135100	C. CE. CHP 0.1uF 16V	
C449-450	UR237470	C. EL 47uF 16V	
C451	US062100	C. CE. CHP 100pF 50V B	
C452	UR067100	C. EL 10uF 50V	
C453	US126100	C. CE. CHP 1uF 10V	

* New Parts

Ref No.	Part No.	Description	Markets
C454-469	US135100	C. CE. CHP 0.1uF 16V	
C471-472	US135100	C. CE. CHP 0.1uF 16V	
C473	US062680	C. CE. CHP 680pF 50V B	
C474-476	US135100	C. CE. CHP 0.1uF 16V	
C477	WG251600	C. CE. CHP 4.7uF 6.3V	
C478-484	US135100	C. CE. CHP 0.1uF 16V	
C485	WG251600	C. CE. CHP 4.7uF 6.3V	
C486	US135100	C. CE. CHP 0.1uF 16V	
C488-489	UU297220	C. EL 22uF 100V	
C491-493	US135100	C. CE. CHP 0.1uF 16V	
C494-496	US063100	C. CE. CHP 1000pF 50V B	
C497-498	US135100	C. CE. CHP 0.1uF 16V	
C499-502	US063100	C. CE. CHP 1000pF 50V B	
C503-506	US135100	C. CE. CHP 0.1uF 16V	
C520	WG251600	C. CE. CHP 4.7uF 6.3V	
C521	US135100	C. CE. CHP 0.1uF 16V	
C600	WK041800	C. EL 10uF 16V	
C601-603	US135100	C. CE. CHP 0.1uF 16V	
C604-605	US064100	C. CE. CHP 0.01uF 50V B	
C606	UR067100	C. EL 10uF 50V	
C607	US064100	C. CE. CHP 0.01uF 50V B	U
C608-609	US135100	C. CE. CHP 0.1uF 16V	
C610	US126100	C. CE. CHP 1uF 10V	
C611	US062100	C. CE. CHP 100pF 50V B	
C612	UR067100	C. EL 10uF 50V	
C613-614	US126100	C. CE. CHP 1uF 10V	
C615	UR237100	C. EL 10uF 16V	U
C616-617	US135100	C. CE. CHP 0.1uF 16V	U
C618	US063100	C. CE. CHP 1000pF 50V B	
C619	US135100	C. CE. CHP 0.1uF 16V	
C620	UR348100	C. EL 100uF 25V	
C621	UR237470	C. EL 47uF 16V	U
C622	UR067100	C. EL 10uF 50V	
C623	US135100	C. CE. CHP 0.1uF 16V	
C624	WK041800	C. EL 10uF 16V	
C625	US135100	C. CE. CHP 0.1uF 16V	
C626	UR067100	C. EL 10uF 50V	
C627-628	WJ603600	C. MYLAR 820pF 50V J	
C629-630	UR837100	C. EL 10uF 16V	U
C633-634	UR067100	C. EL 10uF 50V	
C635-642	US062100	C. CE. CHP 100pF 50V B	
* C643-644	US663330	C. CE. CHP 3300pF 50V	U
C700-702	US135100	C. CE. CHP 0.1uF 16V	
C703-704	WD758300	C. CE. CHP 10uF 10V	
C705-706	US135100	C. CE. CHP 0.1uF 16V	
C707-708	WD758300	C. CE. CHP 10uF 10V	
C709-710	US135100	C. CE. CHP 0.1uF 16V	
C711-712	US064100	C. CE. CHP 0.01uF 50V B	
C713	UF037220	C. EL. CHP 22uF 16V	
C714-717	US135100	C. CE. CHP 0.1uF 16V	
C718	US034390	C. CE. CHP 0.039uF 16V B	
C719-721	US135100	C. CE. CHP 0.1uF 16V	
C722-723	US063100	C. CE. CHP 1000pF 50V B	
C724-725	US135100	C. CE. CHP 0.1uF 16V	
C726	US064100	C. CE. CHP 0.01uF 50V B	
C727	US135100	C. CE. CHP 0.1uF 16V	
C728	US064100	C. CE. CHP 0.01uF 50V B	

* New Parts

P.C.B. DIGITAL

Ref No.	Part No.	Description	Markets
C729	US135100	C. CE. CHP 0.1uF 16V	
C730	V2243400	C. CE. CHP 0.33uF 16V	
C731	V2281900	C. CE. CHP 0.47uF 16V K	
C732	US034820	C. CE. CHP 0.082uF 16V K	
C733	US064100	C. CE. CHP 0.01uF 50V B	
C734	US135100	C. CE. CHP 0.1uF 16V	
C735	US061100	C. CE. CHP 10uF 50V B	
C736	US060800	C. CE. CHP 8uF 50V B	
C737-742	US135100	C. CE. CHP 0.1uF 16V	
C743	UF037220	C. EL. CHP 22uF 16V	
C744-746	US135100	C. CE. CHP 0.1uF 16V	
C747	UF037100	C. EL. CHP 10uF 16V	
C748-749	US135100	C. CE. CHP 0.1uF 16V	
* C750	WP092800	C. EL. CHP 22uF 16V	
C751	US135100	C. CE. CHP 0.1uF 16V	
* C752	WP092800	C. EL. CHP 22uF 16V	
C753	US135100	C. CE. CHP 0.1uF 16V	
C754	UF037100	C. EL. CHP 10uF 16V	
C755-757	US135100	C. CE. CHP 0.1uF 16V	
* C758	WP092800	C. EL. CHP 22uF 16V	
C759	US135100	C. CE. CHP 0.1uF 16V	
C760	UF037220	C. EL. CHP 22uF 16V	
C761	US062100	C. CE. CHP 100uF 50V B	
C762	US135100	C. CE. CHP 0.1uF 16V	
C763	UF037220	C. EL. CHP 22uF 16V	
C764-766	US135100	C. CE. CHP 0.1uF 16V	
C767-768	US064100	C. CE. CHP 0.01uF 50V B	
C769	US135100	C. CE. CHP 0.1uF 16V	
C770-771	US064100	C. CE. CHP 0.01uF 50V B	
C772	US135100	C. CE. CHP 0.1uF 16V	
C773	US064100	C. CE. CHP 0.01uF 50V B	
C774-776	US135100	C. CE. CHP 0.1uF 16V	
C777-778	US064100	C. CE. CHP 0.01uF 50V B	
C779-780	US135100	C. CE. CHP 0.1uF 16V	
C781	US064100	C. CE. CHP 0.01uF 50V B	
C782-790	US135100	C. CE. CHP 0.1uF 16V	
* C791	WP092800	C. EL. CHP 22uF 16V	
C792-794	US135100	C. CE. CHP 0.1uF 16V	
C795	UF037100	C. EL. CHP 10uF 16V	
C796-797	US063100	C. CE. CHP 1000uF 50V B	
C798-799	US064100	C. CE. CHP 0.01uF 50V B	
C806	US135100	C. CE. CHP 0.1uF 16V	
C930	US135100	C. CE. CHP 0.1uF 16V	
C950	UF438100	C. EL. CHP 100uF 16V	
C951	UF417220	C. EL. CHP 22uF 6.3V	
C952	US135100	C. CE. CHP 0.1uF 16V	
C953-954	US064100	C. CE. CHP 0.01uF 50V B	
C955	WG888300	C. CE. M. CHP 10uF 6.3V	
C956	US135100	C. CE. CHP 0.1uF 16V	
C957-960	US064100	C. CE. CHP 0.01uF 50V B	
C961	US135100	C. CE. CHP 0.1uF 16V	
C962	WG888300	C. CE. M. CHP 10uF 6.3V	
C963-964	US064100	C. CE. CHP 0.01uF 50V B	
C965	US135100	C. CE. CHP 0.1uF 16V	
C966	US064100	C. CE. CHP 0.01uF 50V B	
C967-968	US135100	C. CE. CHP 0.1uF 16V	
C972	WG888300	C. CE. M. CHP 10uF 6.3V	

* New Parts

Ref No.	Part No.	Description	Markets
C973	WD758300	C. CE. CHP 10uF 10V	
C974-975	UR267470	C. EL 47uF 50V	U
* C976-977	WJ603700	C. MYLAR 1000uF 50V	U
C978-979	UR267100	C. EL 10uF 50V	U
* C980-981	WJ605600	C. MYLAR 0.033uF 50V	U
* C982-983	WJ604900	C. MYLAR 9100uF 50V	U
C984-985	UR218220	C. EL 220uF 6.3V	U
C986-989	WJ603100	C. MYLAR 220uF 50V	U
C990	US064100	C. CE. CHP 0.01uF 50V B	U
C991-993	US135100	C. CE. CHP 0.1uF 16V	
C994	UR237470	C. EL 47uF 16V	
C995-998	US135100	C. CE. CHP 0.1uF 16V	
C999	US064100	C. CE. CHP 0.01uF 50V B	
D23-25	WE674800	DIODE AVR161A1R1NTB	
D27	WE674800	DIODE AVR161A1R1NTB	
D36-37	WE674800	DIODE AVR161A1R1NTB	
D47-49	WE674800	DIODE AVR161A1R1NTB	
D59-61	WE674800	DIODE AVR161A1R1NTB	
D62	VV220700	DIODE SHOT RB501V-40	
D63-64	V6267600	DIODE RB051L-40	
D67-68	WE674800	DIODE AVR161A1R1NTB	
D151-152	WE674800	DIODE AVR161A1R1NTB	
D153	VV220700	DIODE SHOT RB501V-40	
D200-204	VU990900	DIODE ZENR MA28033GHL 3.4V	
D400-402	WE674800	DIODE AVR161A1R1NTB	U
D403-404	VT332900	DIODE 1SS355	
D406-407	VT332900	DIODE 1SS355	
D600	VT332900	DIODE 1SS355	
D602-603	VT332900	DIODE 1SS355	
D702-703	VT332900	DIODE 1SS355	
D950	WE674800	DIODE AVR161A1R1NTB	
* D951-958	WP385600	PESD PESD0603-240	
D959-961	WE674800	DIODE AVR161A1R1NTB	
D962	VT332900	DIODE 1SS355	
D963-964	VV659300	DIODE ZENR RL27.5B 7.5V	U
IC3	XS775A00	IC TC7SHD4FU	
IC5	X7195A00	IC R1172S121D-E2-F	
IC6	X2287A00	IC SN74LVC245APWR	
IC10	X7741A00	IC NJM2867F3-05(TE1)	
IC11	X0199B00	IC TC74VHC157FT(EL. K)	
IC16	X7741A00	IC NJM2867F3-05(TE1)	
IC20	X8013A00	IC CPU M3087BFKBP CPU	(unwritten)
IC21	X8194A00	IC R1172H331D-T1-F	
* IC22	YA739A00	IC MEMORY LE25LB2562M-TLM-E	U
* IC22	YC035A00	IC LE25LB643M-TLM-E	ORTKABGEFL
IC40	X8192A00	IC F2621E-01-TR	U
* IC41	YA399A00	IC LC89058WD-E	
IC43	X7378A00	IC NJM4565M(TE1)	
* IC45	X9798B00	IC CS230003-CZZR	
* IC47	YC008A00	IC R1173S001D-E2-F	
* IC48	X9626B00	IC MEMORY K4S841632N-LC60000	
* IC49	YC016C00	IC MEMORY F49L160BA-70TG2N	(written)
IC50	XR680A00	IC TC7SHD8FU(TE85L JF	
* IC51	YA255A00	IC R1172H501D-T1-F	
IC52	XR680A00	IC TC7SHD8FU(TE85L JF	
IC61	X7375A00	IC PCN1781DBQR	U
IC62	X0199B00	IC TC74VHC157FT(EL. K)	

* New Parts

P.C.B. DIGITAL and P.C.B. OPERATION

Ref No.	Part No.	Description	Markets
IC63	XS534A00	IC	NJN78M05DL1A
IC65	X7355A00	IC	PCM1680DBOR
IC66	X7357A00	IC	PCM1803DBR
IC67	X3586B00	IC	TC74VHC08AFT EL. X
IC68	XR680A00	IC	TC7SH08FU (TE85L, JF
IC70	X9393A00	IC	ADV7800BSTZ-80
* IC71	YA215A00	IC	ABT1012
IC72	X6671A00	IC	ADV7172KSTZ
IC73	X9460A00	IC	R1172H181B-T1-F
IC74	X8194A00	IC	R1172H331D-T1-F
IC75	X8531A00	IC	TC7W232FK
IC76-78	XZ283A00	IC	SN74LVTH245APW BUS
* IC80	YA844A00	IC	ISL83385E1BZ-T
IC81	X3505A00	IC	NJN20682D-TE2
IC95	X8900A00	IC	CXB1442AR-T4
IC96	X8368A00	IC	PCA9517DP
IC97	X8897A00	IC	R1172S331B-E2-F
JK81-82	V9435700	JACK. PIN	MSJ-035-12APC
PJ80	VW725600	JACK. PIN	2P
Q3-10	VQ986700	TR	2SC4081 T106
Q80	TA101510	TR	2SA1015 Y
Q81	TC181510	TR	2SC1815 Y
Q82	WG538600	TR	KTA1046-Y-U/P
Q83	TC181510	TR	2SC1815 Y
Q84	TA101510	TR	2SA1015 Y
Q85	TC181510	TR	2SC1815 Y
Q86	WG538600	TR	KTA1046-Y-U/P
Q87	TC181510	TR	2SC1815 Y
Q95-96	VQ986700	TR	2SC4081 T106
* Q200	WQ381000	FET	MCH6336-TL-E
Q201-202	VV655300	TR. DGT	DTA144EKA
Q203-209	VR936300	TR	2SA1576A T106
* Q400	WQ381000	FET	MCH6336-TL-E
Q401	VV655300	TR. DGT	DTA144EKA
Q600	VV655200	TR. DGT	DTA143EKA
Q601	VV655700	TR. DGT	DTC144EKA
* Q700	WQ381000	FET	MCH6336-TL-E
Q701	VR936300	TR	2SA1576A T106
* Q702	WQ381000	FET	MCH6336-TL-E
Q703	VR936300	TR	2SA1576A T106
Q704	WE834500	FET	UPA672T-T1-A
R180	V8070100	R. MTL. FLN	2.2Ω 1W
R189	W8784700	R. MTL. FLN	6.8Ω 1W
R200	RD357100	R. CHP	10KΩ 1/16W
R466-467	HV753220	R. CAR. FP	2.2Ω 1/4W
* R601	WQ072300	R. MTL. OXD	2.2Ω 1W
R607	HV753220	R. CAR. FP	2.2Ω 1/4W
R930	HV753560	R. CAR. FP	5.6Ω 1/4W
R936	HV753560	R. CAR. FP	5.6Ω 1/4W
* R967-968	WQ964700	R. MTL. OXD	470Ω 1W
ST1-2	V4040500	SCR. TERM	M3
ST80	V4040500	SCR. TERM	M3
ST80	V4040500	SCR. TERM	M3
ST81	V4040500	SCR. TERM	M3
* XL1	WR725300	RSNR. CRYST	27MHz SMD-49
XL20	WF997400	RSNR. CE	20MHz
* XL41	WR845900	RSNR. CRYST	45.1984MHz DSX321G

* New Parts

Ref No.	Part No.	Description	Markets
XL42	V3625700	RSNR. CRYST	24.576MHz
XL70	VZ772700	RSNR. CRYST	28.63636MHz
*	WS305600	P. C. B.	OPERATION
*	WS305600	P. C. B.	OPERATION
*	WS305700	P. C. B.	OPERATION
CB401	VQ045400	CN. BS. PIN	25P
CB402	VQ044400	CN. BS. PIN	9P
CB451	VQ961100	CN. BS. PIN	8P
CB452	V9357000	CN	19P TE
CB454	VQ962100	CN. BS. PIN	18P
CB455	V9357000	CN	19P TE
CB456	VQ961800	CN. BS. PIN	15P
CB457	VQ961400	CN. BS. PIN	11P
CB458	V9357000	CN	19P TE
CB459	VQ963300	CN. BS. PIN	12P
CB460	VQ963100	CN. BS. PIN	10P
CB461	VQ044400	CN. BS. PIN	9P
CB462	VK026400	CN. BS. PIN	5P
CB463	VQ585700	CN. JUMPER	7P
CB464	VQ585500	CN. JUMPER	5P
* CB471	WQ680200	CN. USB	4P TE AAPVA00400
CB475	VK024900	CN. BS. PIN	5P TE
CB477	V8858300	CN. BS. PIN	4P
C4001	US063100	C. CE. CHP	1000pF 50V B
C4002	US065100	C. CE. CHP	0.1uF 50V B
C4003	UR067100	C. EL	10uF 50V
C4004	US064100	C. CE. CHP	0.01uF 50V B
C4005	UR837220	C. EL	22uF 16V
C4006	US062100	C. CE. CHP	100pF 50V B
C4007	UR257470	C. EL	47uF 35V
C4008	US061330	C. CE. CHP	33pF 50V B
C4009-4010	UR267220	C. EL	22uF 50V
C4011	UR067100	C. EL	10uF 50V
C4012-4013	US135100	C. CE. CHP	0.1uF 16V
C4015	UR268220	C. EL	220uF 50V
C4016	UM388330	C. EL	330uF 6.3V
C4017	US135100	C. CE. CHP	0.1uF 16V
C4018	US061680	C. CE. CHP	68pF 50V B
C4019	US065100	C. CE. CHP	0.1uF 50V B
C4020-4021	US135100	C. CE. CHP	0.1uF 16V
C4022	US064100	C. CE. CHP	0.01uF 50V B
C4023-4024	US063100	C. CE. CHP	1000pF 50V B
C4025-4026	US065100	C. CE. CHP	0.1uF 50V B
C4027	US135100	C. CE. CHP	0.1uF 16V
C4028	US062100	C. CE. CHP	100pF 50V B
C4030	US062100	C. CE. CHP	100pF 50V B
C4031	US062470	C. CE. CHP	470pF 50V B
C4032	US135100	C. CE. CHP	0.1uF 16V
C4033	US063100	C. CE. CHP	1000pF 50V B
C4034	UM417100	C. EL	10uF 50V
C4035	US135100	C. CE. CHP	0.1uF 16V
C4036-4040	US063100	C. CE. CHP	1000pF 50V B
C4041-4046	US135100	C. CE. CHP	0.1uF 16V
C4201	UR067470	C. EL	47uF 50V

* New Parts

P.C.B. OPERATION

Ref No.	Part No.	Description	Markets
C4202	US063100	C. CE. CHP 1000pF 50V B	U
C4203	US135100	C. CE. CHP 0. 1uF 16V	
C4205-4211	US062220	C. CE. CHP 220pF 50V B	U
C4212	US062100	C. CE. CHP 100pF 50V B	
C4213	UR267100	C. EL 10uF 50V	
C4214	WK041800	C. EL 10uF 16V	
* C4215	WJ603500	C. MYLAR 680pF 50V	
C4216	US135100	C. CE. CHP 0. 1uF 16V	
C4217	UR267470	C. EL 47uF 50V	
C4218	US135100	C. CE. CHP 0. 1uF 16V	
C4219	UR267470	C. EL 47uF 50V	
* C4220	WJ603500	C. MYLAR 680pF 50V	
C4221	WK041800	C. EL 10uF 16V	
C4222	UR267100	C. EL 10uF 50V	
C4223-4224	US062100	C. CE. CHP 100pF 50V B	
C4225	UR267100	C. EL 10uF 50V	
C4226	WK041800	C. EL 10uF 16V	
* C4227	WJ603500	C. MYLAR 680pF 50V	
C4228-4229	US135100	C. CE. CHP 0. 1uF 16V	
C4230	WJ605800	C. MYLAR 0. 047uF 50V J	
C4231-4232	UR267100	C. EL 10uF 50V	
* C4233	WJ604700	C. MYLAR 6800pF 50V	
C4234	US062100	C. CE. CHP 100pF 50V B	
C4235	UR267100	C. EL 10uF 50V	
C4236	WK041800	C. EL 10uF 16V	
* C4237	WJ603500	C. MYLAR 680pF 50V	
C4238-4239	US135100	C. CE. CHP 0. 1uF 16V	
* C4240	WJ603500	C. MYLAR 680pF 50V	
C4241	WK041800	C. EL 10uF 16V	
C4242	UR267100	C. EL 10uF 50V	
C4243-4244	US062100	C. CE. CHP 100pF 50V B	
C4245	UR267100	C. EL 10uF 50V	
C4246	WK041800	C. EL 10uF 16V	
* C4247	WJ603500	C. MYLAR 680pF 50V	
C4248-4249	US135100	C. CE. CHP 0. 1uF 16V	
* C4250	WJ603500	C. MYLAR 680pF 50V	
C4251	WK041800	C. EL 10uF 16V	
C4252	UR267100	C. EL 10uF 50V	
C4253	US062100	C. CE. CHP 100pF 50V B	
C4254-4255	UR067100	C. EL 10uF 50V	
C4301	UR267470	C. EL 47uF 50V	CRTKABGEFL
C4302	UR267470	C. EL 47uF 50V	CRTKABGEFL
* C4303-4304	WJ603700	C. MYLAR 1000pF 50V	CRTKABGEFL
C4305	UR267100	C. EL 10uF 50V	CRTKABGEFL
C4306	UR267100	C. EL 10uF 50V	CRTKABGEFL
* C4307-4308	WJ605600	C. MYLAR 0. 033uF 50V	CRTKABGEFL
* C4309	WJ604900	C. MYLAR 9100pF 50V	CRTKABGEFL
* C4310	WJ604900	C. MYLAR 9100pF 50V	CRTKABGEFL
C4311	UR218220	C. EL 220uF 6. 3V	CRTKABGEFL
C4312	UR218220	C. EL 220uF 6. 3V	CRTKABGEFL
C4313	WJ603100	C. MYLAR 220pF 50V	CRTKABGEFL
C4314	WJ603100	C. MYLAR 220pF 50V	CRTKABGEFL
C4315	WJ603100	C. MYLAR 220pF 50V	CRTKABGEFL
C4316	WJ603100	C. MYLAR 220pF 50V	CRTKABGEFL
C4317	US064100	C. CE. CHP 0. 01uF 50V B	CRTKABGEFL
C4318-4325	WJ605000	C. MYLAR 0. 01uF 50V J	
C4401	US062100	C. CE. CHP 100pF 50V B	

* New Parts

Ref No.	Part No.	Description	Markets
C4402	US063100	C. CE. CHP 1000pF 50V B	
* C4403	WJ604300	C. MYLAR 3300pF 50V	
C4404-4405	US062220	C. CE. CHP 220pF 50V B	
* C4406	WJ604300	C. MYLAR 3300pF 50V	
C4407	US064100	C. CE. CHP 0. 01uF 50V B	
C4410	US135100	C. CE. CHP 0. 1uF 16V	
C4411	US060500	C. CE. CHP 5pF 50V B	
C4413	US060500	C. CE. CHP 5pF 50V B	
C4414	US063100	C. CE. CHP 1000pF 50V B	
C4415	US135100	C. CE. CHP 0. 1uF 16V	
C4417	US126100	C. CE. CHP 1uF 10V	
C4418	US062220	C. CE. CHP 220pF 50V B	
C4419	US063100	C. CE. CHP 1000pF 50V B	
D4001-4002	VT332900	DIODE 1SS355	
D4003	VU171900	DIODE. ZENR UDZ5. 1B 5. 1V	
D4004-4005	VT332900	DIODE 1SS355	
D4006-4007	VU991000	DIODE. ZENR MAZ8036GLL 3. 5V	
D4008	WG760400	LED SELK6E10C BLUE	
* D4009	WR095700	LED 8224-10SDRD/S530A3	
D4011	V2598200	LED SIR-505ST	
D4301	VV659300	DIODE. ZENR RLZ7. 5B 7. 5V	CRTKABGEFL
D4302	VV659300	DIODE. ZENR RLZ7. 5B 7. 5V	CRTKABGEFL
D4303	VT332900	DIODE 1SS355	
D4305	VT332900	DIODE 1SS355	
D4401-4402	VT332900	DIODE 1SS355	
D4404-4405	VT332900	DIODE 1SS355	
D4408	VT332900	DIODE 1SS355	
D4410	VT332900	DIODE 1SS355	
IC401	X7378A00	IC NJM4565M(Te1)	
IC402	X6386A00	IC M66003-0131FP	
IC451-454	X5482A00	IC NE5532DR OP AMP	
IC461	X3505A00	IC NJM2068MD-TE2	CRTKABGEFL
JK401	WC814400	JACK. MNI JY-3554-01-130	
JK451	VV269500	CN 8P DIN	U
JK472	V9408200	JACK. PHONE MSJ-064-05B GR	
PJ461	WD599600	JACK. PIN 2P MSP-252V2-06 NI	CRTKABGEFL
PJ471	WJ117500	JACK. PIN 3P	
Q4001-4003	WC529400	TR KTC3875S Y GR RTK	
Q4004	VV655400	TR. DGT DTC114EKA	
Q4005	WC397700	TR 2N5401C-AT	
Q4006-4012	WC529400	TR KTC3875S Y GR RTK	
Q4301	VV655400	TR. DGT DTC114EKA	
Q4302	VV655000	TR. DGT DTA114EKA	
Q4305	VV655400	TR. DGT DTC114EKA	
Q4306	VV655000	TR. DGT DTA114EKA	
R4201	HV753100	R. CAR. FP 1Ω 1/4W	
* R4208-4209	WQ072300	R. MTL. OXD 2. 2Ω 1W	
* R4301	WQ964700	R. MTL. OXD 470Ω 1W	CRTKABGEFL
* R4302	WQ964700	R. MTL. OXD 470Ω 1W	CRTKABGEFL
R4320-4323	HV757100	R. CAR. FP 10KΩ 1/4W	
R4413-4414	V8071300	R. MTL. FLM 470Ω 1W	
RY461	WJ122400	RELAY 981-2A-24DS-SP7	
RY463	WJ122400	RELAY 981-2A-24DS-SP7	
ST451	V4040500	SCR. TERM M3	
ST471	V4040500	SCR. TERM M3	
SW401-404	WD483100	SW. TACT SKRGAAD010	
SW406-407	WD483100	SW. TACT SKRGAAD010	

* New Parts

P.C.B. OPERATION and P.C.B. MAIN

	Ref No.	Part No.	Description	Markets	
	SW409-413	WD483100	SM. TACT	SKRGAAD010	
	SW415	WD483100	SM. TACT	SKRGAAD010	
	SW417-419	WD483100	SM. TACT	SKRGAAD010	
	SW421	WD483100	SM. TACT	SKRGAAD010	
	SW424	WD483100	SM. TACT	SKRGAAD010	
	SW441-442	V9266400	SM. RT. ENC	XREB12105PVB25F	
	SW443	V9597100	SM. RT. ENC	EC12E2460802	
	SW471	WD483100	SM. TACT	SKRGAAD010	
	TE461	WK560800	TERM. SP	4P MST-204V1-01 NC	UCRTA
	TE461	WK560900	TERM. SP	4P MST-204V1-01 NC	KBGEFL
	TE462	WK560800	TERM. SP	4P MST-204V1-01 NC	UCRTA
	TE462	WK560900	TERM. SP	4P MST-204V1-01 NC	KBGEFL
*	U4001	WD600700	L. DTCT	SM3385VMH6	
	U4201	WH536900	CN. PHOTO. T	1P GP1FAV51TK0F	
*	V4001	WG842100	FL. DSPLY	18-WT-09GNK	
		V6007100	SPACER. FL.	4 6/10/32	
*		WR912900	P. C. B.	MAIN	UC
*		WR913000	P. C. B.	MAIN	R
*		WR913100	P. C. B.	MAIN	TKABGEF
*		WR913200	P. C. B.	MAIN	L
	CB111-112	WM077700	CLIP. FUSE	CLIP PFG5000-0202F	R
	CB152	V0962900	CN. BS. PIN	8P	
	CB153	V0963900	CN. BS. PIN	18P	
	CB154	V0963600	CN. BS. PIN	15P	
	CB155	V0963200	CN. BS. PIN	11P	
	C1001-1007	WK041800	C. EL.	10uF 16V	
	C1008-1014	WE100900	C. PP	220pF 630V	
*	C1015-1021	WE100600	C. PP	120pF 630V	
*	C1022-1028	WE102300	C. PP	3300pF 100V	
	C1029	UR067470	C. EL.	47uF 50V	
	C1030-1031	UR068100	C. EL.	100uF 50V	
	C1032-1035	UR067470	C. EL.	47uF 50V	
Δ	C1036-1042	WE100200	C. PP	22pF 630V	
	C1043-1049	WN164300	C. PP	330pF 100V	
Δ	C1050-1056	UR397100	C. EL.	10uF 100V	
	C1057-1063	WN165500	C. PP	0.022uF 100V	
	C1066-1067	WN156000	C. PP	1000pF 250V	
	C1068	UR866470	C. EL.	4.7uF 50V	
	C1069	UR218220	C. EL.	220uF 6.3V	
	C1070-1073	UR297100	C. EL.	10uF 100V	
	C1074	UR267330	C. EL.	33uF 50V	
	C1075	WK041800	C. EL.	10uF 16V	
	C1076	UR266100	C. EL.	1uF 50V	
*	C1078-1079	WP421000	C. PP	0.047uF 100V	
	C1080-1081	WN165500	C. PP	0.022uF 100V	
	C1082	UR049330	C. EL.	3300uF 25V	
	C1083	UR049220	C. EL.	2200uF 25V	
Δ #	C1084-1085	WJ788600	C. EL.	12000uF 71V	
	C1086	UR049220	C. EL.	2200uF 25V	
	C1087-1088	WK041800	C. EL.	10uF 16V	
	C1509	UR067470	C. EL.	47uF 50V	
	C1510-1512	US135100	C. OE. CHP	0.1uF 16V	
	C1513-1514	US061220	C. OE. CHP	22pF 50V B	
	C1515-1516	US135100	C. OE. CHP	0.1uF 16V	

* New Parts

Note) Those parts marked with "*" are not included in the P.C.B. ass'y

Ref No.	Part No.	Description	Markets
C1517-1520	US062220	C. CE. CHP	220pF 50V B
C1521	UR267100	C. EL	10uF 50V
C1522	US061470	C. CE. CHP	47pF 50V B
C1523	UR238100	C. EL	100uF 16V
C1524	US061470	C. CE. CHP	47pF 50V B
C1525	UR267100	C. EL	10uF 50V
C1526-1527	UR238100	C. EL	100uF 16V
C1528-1529	US062220	C. CE. CHP	220pF 50V B
C1530	UR238100	C. EL	100uF 16V
C1531	UR267330	C. EL	33uF 50V
C1532-1533	UR238100	C. EL	100uF 16V
C1534-1535	US062220	C. CE. CHP	220pF 50V B
C1536	UR238100	C. EL	100uF 16V
* C1537	WJ605600	C. MYLAR	0.033uF 50V
C1538	VR169000	C. MYLAR	0.33uF 50V
* C1539	WJ604800	C. MYLAR	8200pF 50V
* C1540	WJ605600	C. MYLAR	0.033uF 50V
C1541	VR169000	C. MYLAR	0.33uF 50V
C1542	US135100	C. CE. CHP	0.1uF 16V
* C1543	WJ604800	C. MYLAR	8200pF 50V
C1544	US062220	C. CE. CHP	220pF 50V B
C1545	US135100	C. CE. CHP	0.1uF 16V
C1546	US062220	C. CE. CHP	220pF 50V B
C1547-1550	UR267100	C. EL	10uF 50V
C1551	US062220	C. CE. CHP	220pF 50V B
C1552	UR267100	C. EL	10uF 50V
C1553-1554	UR266220	C. EL	2.2uF 50V
C1555-1556	UR267100	C. EL	10uF 50V
C1557	US062220	C. CE. CHP	220pF 50V B
C1558-1559	UR267470	C. EL	47uF 50V
C1560	US062220	C. CE. CHP	220pF 50V B
C1563	US062220	C. CE. CHP	220pF 50V B
C1566	US062220	C. CE. CHP	220pF 50V B
C1567-1568	VR169200	C. MYLAR	0.47uF 50V
C1569	US062220	C. CE. CHP	220pF 50V B
C1570-1571	UR267100	C. EL	10uF 50V
C1572-1573	US062100	C. CE. CHP	100pF 50V B
C1574	UR267100	C. EL	10uF 50V
C1576	US061470	C. CE. CHP	47pF 50V B
C1576-1577	UR267100	C. EL	10uF 50V
C1578	US061470	C. CE. CHP	47pF 50V B
C1579-1580	UR267100	C. EL	10uF 50V
C1581-1582	US061470	C. CE. CHP	47pF 50V B
C1583-1584	UR267470	C. EL	47uF 50V
C1585-1586	UR267100	C. EL	10uF 50V
C1587	US061470	C. CE. CHP	47pF 50V B
C1588-1591	UR267100	C. EL	10uF 50V
C1592	US061470	C. CE. CHP	47pF 50V B
C1593	UR267100	C. EL	10uF 50V
C1594-1595	US062470	C. CE. CHP	470pF 50V B
C1596	US064100	C. CE. CHP	0.01uF 50V B
C1597-1598	US062470	C. CE. CHP	470pF 50V B
C1599-1602	UR267100	C. EL	10uF 50V
C1603-1604	US062470	C. CE. CHP	470pF 50V B
C1605	US064100	C. CE. CHP	0.01uF 50V B
C1606	US044220	C. CE. CHP	0.022uF 25V
C1607	US062470	C. CE. CHP	470pF 50V B

* New Parts

P.C.B. MAIN and P.C.B. VIDEO

Ref No.	Part No.	Description	Markets
C1608	US044220	C. CE. CHP	0.022uF 25V
C1609-1610	US064100	C. CE. CHP	0.01uF 50V B
D1001-1016	VR496500	DIODE. CHP	MA111 FLAT TP
△ D1017-1023	VG437500	DIODE. ZENR	MTZJ5. 1C 5.1V
D1024-1039	VR496500	DIODE. CHP	MA111 FLAT TP
△ D1040	WK878000	DIODE. BRG	D15XBN20-7001 15A
△ D1041	WH487300	DIODE. BRG	RS203M 2.0A 200V
D1042	VG440500	DIODE. ZENR	MTZJ13B 13V
D1043	VR496500	DIODE. CHP	MA111 FLAT TP
△ D1044-1045	VG435500	DIODE. ZENR	MTZJ2. 4B 2.4V
D1501-1502	VG438400	DIODE. ZENR	MTZJ6. 8C 6.8V
△ F100	KB000780	FUSE	T5A 250V
G101	V5995800	PLATE. GND	
△ IC101	XJ608A00	IC	NJM7812FA
△ IC102	X4154A00	IC	K1A7912PI
IC152	XZ509A00	IC	TC74VHC004FT INVER
* IC153	YA361A00	IC	R2A15220FP
IC154	X7378A00	IC	NJM4565M(TE1)
PJ150	V5715300	JACK. PIN	2P OR/OR
PJ151	V7046800	JACK. PIN	6P MSP-246V1-01NI
PJ152-153	V7046700	JACK. PIN	4P MSP-244V1-01NI
PJ154	WG674900	JACK. PIN	4P
PJ156	V7046800	JACK. PIN	6P MSP-246V1-01NI
PJ157	V7046700	JACK. PIN	4P MSP-244V1-01NI
PJ158	WG674900	JACK. PIN	4P
PJ159	V7189700	JACK. PIN	1P
Q1001-1014	WF549900	TR	2SC3906K T146 R, S
Q1015-1021	VE198700	TR	2SA1145 O, Y
△ Q1022-1028	VK432900	TR	2SD1915F S, T
△ Q1029-1035	VE198800	TR	2SC2705 O, Y
Q1036-1042	WG408900	TR	2SC5291 S, T
△ Q1043-1049	WG408800	TR	2SA2168 S, T
Q1050-1056	WD281200	TR. PAIR	A2151/C6011 O, P, Y
Q1057-1063	WC139600	TR	KTC3911S GR BL
Q1064	WH372100	TR	KTA1517S GR TP
Q1065	WC139600	TR	KTC3911S GR BL
△ * Q1067-1068	WC292600	TR	KTA1837-U
△ Q1069-1070	WC398400	TR	2N5551C-AT
△ Q1071	WC397700	TR	2N5401C-AT
△ Q1072	VP872600	TR	2SA1708 S, T
Q1073	WC398500	TR. DGT	KRA102M-AT
* Q1074	WS512800	TR. DGT	KRC105M-AT/P
Q1500-1504	VZ725900	TR	2SD1938F S, T
Q1507-1527	VZ725900	TR	2SD1938F S, T
R1001-1007	HF356100	R. CAR	1KΩ 1/2W
R1008-1010	HF356180	R. CAR	1.8KΩ 1/2W
R1011-1014	HLD06180	R. MTL. OXD	1.8KΩ 1/2W
R1022-1028	HF355330	R. CAR	330Ω 1/2W
* R1029-1035	WA622000	R. MTL. OXD	1.2KΩ 1W
R1036-1042	V8070900	R. MTL. FLN	100Ω 1W
R1043-1049	V8072600	R. MTL. OXD	33KΩ 1W
R1078-1085	HLD005120	R. MTL. OXD	120Ω 1/2W
R1086-1092	WG727400	R. MTL. FLN	2.7KΩ 1/4W
R1093-1099	WG725600	R. MTL. FLN	470Ω 1/4W
R1100-1106	WG726400	R. MTL. FLN	1KΩ 1/4W
R1107-1112	WG726200	R. MTL. FLN	820Ω 1/4W
△ R1113-1126	HV755120	R. CAR. FP	120Ω 1/4W

* New Parts

Ref No.	Part No.	Description	Markets
R1127-1133	HF355470	R. CAR	470Ω 1/2W
△ R1134-1147	HV754100	R. CAR. FP	10Ω 1/4W
△ * R1148-1154	WF839400	R. WH	0.22+0.22 3W
△ R1176-1182	V8070300	R. MTL. FLN	10Ω 1W
△ R1197-1198	V8070200	R. MTL. FLN	4.7Ω 1W
△ R1211	HV754100	R. CAR. FP	10Ω 1/4W
R1213	V8072100	R. MTL. OXD	5.6KΩ 1W
R1214	HV755560	R. CAR. FP	560Ω 1/4W
R1219	V8072000	R. MTL. OXD	4.7KΩ 1W
△ R1222	HV756100	R. CAR. FP	1KΩ 1/4W
△ R1234-1235	HV754100	R. CAR. FP	10Ω 1/4W
R1236	WG726200	R. MTL. FLN	820Ω 1/4W
△ R1238	V8070300	R. MTL. FLN	10Ω 1W
R1504	HV753100	R. CAR. FP	1Ω 1/4W
* R1573	WG835700	R. MTL. OXD	82Ω 1W
* R1575	WG835700	R. MTL. OXD	82Ω 1W
* R1664-1665	WG835800	R. MTL. OXD	100Ω 1W
△ RY101	WE648700	RELAY	DC 0H2402-0-0
ST100	V4040500	SCR. TERM	X3
△ SW101	WB493700	VOLT. SELCT	R8140246
△ SW101	WD073700	VOLT. SELCT	R8140264
U1500-1501	WH169900	CN. PHOTO. R	1P GP1FAV51RKOF
	WE774200	SCR. BND. HD	3x10 MFZM2W3
* WS304700	P. C. B.	VIDEO	U
* WS304800	P. C. B.	VIDEO	C
* WS304900	P. C. B.	VIDEO	R
* WS305000	P. C. B.	VIDEO	T
* WS305100	P. C. B.	VIDEO	K
* WS305200	P. C. B.	VIDEO	A
* WS305300	P. C. B.	VIDEO	BGEF
* WS305400	P. C. B.	VIDEO	L
CB303	VQ961500	CN. BS. PIN	12P
CB304	VN394900	CN. BS. PIN	14P
CB321	VM859500	CN. BS. PIN	11P
CB322	VM923600	CN. BS. PIN	13P
CB332	VQ961300	CN. BS. PIN	10P
CB333	VK024700	CN. BS. PIN	3P
CB340	LB918020	CN. BS. PIN	2P
CB342	LB918040	CN. BS. PIN	4P
CB343	VZ130900	CN. JUMPER	4P
CB344	VQ585500	CN. JUMPER	5P
CB346	VB380000	CN. BS. PIN	4P
* CB349	VQ047700	CN. BS. PIN	22P
CB381	VQ962800	CN. BS. PIN	7P
CB391	VQ044100	CN. BS. PIN	5P
C3001	US062100	C. CE. CHP	100pF 50V B
C3002-3004	US060800	C. CE. CHP	8pF 50V B
C3005	US062100	C. CE. CHP	100pF 50V B
C3006	UR237470	C. EL	47uF 16V
C3007-3008	US135100	C. CE. CHP	0.1uF 16V
C3009	UR237470	C. EL	47uF 16V
C3011	US060300	C. CE. CHP	3pF 50V B
C3012	UR837470	C. EL	47uF 16V
C3013-3014	US060300	C. CE. CHP	3pF 50V B

* New Parts

P.C.B. VIDEO

Ref No.	Part No.	Description	Markets
C3015-3017	US135100	C. CE. CHP	0. 1uF 16V
C3018	UR267100	C. EL	10uF 50V
C3019	US135100	C. CE. CHP	0. 1uF 16V
C3020	UR267100	C. EL	10uF 50V
C3021-3025	US135100	C. CE. CHP	0. 1uF 16V
C3026	UR267100	C. EL	10uF 50V
C3027	WD758300	C. CE. CHP	10uF 10V
C3029	WD758300	C. CE. CHP	10uF 10V
C3031	WD758300	C. CE. CHP	10uF 10V
C3033	UR837470	C. EL	47uF 16V
C3035-3037	WD758300	C. CE. CHP	10uF 10V
C3043-3044	US135100	C. CE. CHP	0. 1uF 16V
C3045	UR837470	C. EL	47uF 16V
C3047	US135100	C. CE. CHP	0. 1uF 16V
C3048	UR238220	C. EL	220uF 16V
C3049	UR837470	C. EL	47uF 16V
C3050	US135100	C. CE. CHP	0. 1uF 16V
C3051	UR238220	C. EL	220uF 16V
C3063	US135100	C. CE. CHP	0. 1uF 16V
C3065	UR237470	C. EL	47uF 16V
C3067	US135100	C. CE. CHP	0. 1uF 16V
C3072	US135100	C. CE. CHP	0. 1uF 16V
C3073	UR238220	C. EL	220uF 16V
C3077	US135100	C. CE. CHP	0. 1uF 16V
C3080-3085	WD758300	C. CE. CHP	10uF 10V
C3201	US061270	C. CE. CHP	27pF 50V B
C3202	UR237100	C. EL	10uF 16V
C3203	US061270	C. CE. CHP	27pF 50V B
C3204-3205	US135100	C. CE. CHP	0. 1uF 16V
C3206	US062560	C. CE. CHP	560pF 50V B
C3207-3208	US062330	C. CE. CHP	330pF 50V B
C3209	US135100	C. CE. CHP	0. 1uF 16V
C3211	UR237470	C. EL	47uF 16V
C3212	UR237470	C. EL	47uF 16V
C3213	UR237470	C. EL	47uF 16V
C3214	UR237470	C. EL	47uF 16V
C3215	US062100	C. CE. CHP	100pF 50V B
C3217	US062100	C. CE. CHP	100pF 50V B
C3218	US062100	C. CE. CHP	100pF 50V B
C3220	US064100	C. CE. CHP	0. 01uF 50V B
C3221	US062100	C. CE. CHP	100pF 50V B
C3303-3305	VR324900	C. MYLAR	0. 1uF 100V
C3307	WG601900	C. EL	10000uF 16V
C3308	UR278100	C. EL	100uF 63V
C3309	UR03A100	C. EL	10000uF 16V
C3310	UR039470	C. EL	4700uF 16V
C3311	UR266100	C. EL	1uF 50V
C3312	UR267220	C. EL	22uF 50V
C3313	UR266100	C. EL	1uF 50V
C3314	UR266100	C. EL	1uF 50V
C3315	UR267100	C. EL	10uF 50V
C3316	UR268100	C. EL	100uF 50V
C3317	UR266100	C. EL	1uF 50V
C3318	UR237470	C. EL	47uF 16V
C3319	UR266100	C. EL	1uF 50V
C3320-3321	UR267330	C. EL	33uF 50V
C3324	UR237470	C. EL	47uF 16V

* New Parts

Ref No.	Part No.	Description	Markets
C3403-3409	WJ605000	C. MYLAR	0. 01uF 50V J
* C3410-3416	WJ605200	C. MYLAR	0. 015uF 50V
C3603-3604	US063100	C. CE. CHP	1000pF 50V B
C3606	US064100	C. CE. CHP	0. 01uF 50V B
C3801	US064100	C. CE. CHP	0. 01uF 50V B
C3802	V7887800	C. EL	1uF 50V
C3803	WJ335500	C. EL	2. 2uF 50V
* C3804	WJ603700	C. MYLAR	1000pF 50V
C3805	US064100	C. CE. CHP	0. 01uF 50V B
C3806-3807	WD758300	C. CE. CHP	10uF 10V
C3901	US064100	C. CE. CHP	0. 01uF 50V B
C3902	US062120	C. CE. CHP	120pF 50V B
C3903	US062220	C. CE. CHP	220pF 50V B
C3904	US135100	C. CE. CHP	0. 1uF 16V
C3905	UR837470	C. EL	47uF 16V
C3906	UR837100	C. EL	10uF 16V
C3907	UR818470	C. EL	470uF 6. 3V
C3908	US064100	C. CE. CHP	0. 01uF 50V B
D3201	VG436100	DIODE. ZENR	MTZJ3. 3B 3. 3V
△ D3202	VG439500	DIODE. ZENR	MTZJ10B 10V
△ D3302	WH487300	DIODE. BRG	RS203M 2. 0A 200V
△ D3304	WH487300	DIODE. BRG	RS203M 2. 0A 200V
D3306	VV307700	DIODE	1N4002S
D3307	VG440200	DIODE. ZENR	MTZJ12B 12V
* D3308	VG444700	DIODE. ZENR	MTZ J 39D 39. 0V TP
D3309	VT332900	DIODE	1SS355
D3310	VT332900	DIODE	1SS355
D3311	VT332900	DIODE	1SS355
D3313-3314	VT332900	DIODE	1SS355
D3320	VG437400	DIODE. ZENR	MTZJ5. 1B 5. 1V
D3403-3407	VT332900	DIODE	1SS355
D3601-3602	VT332900	DIODE	1SS355
D3801-3805	VT332900	DIODE	1SS355
D3901-3902	VT332900	DIODE	1SS355
IC301-303	XY879A00	IC	TC74HC4053AF (EL)
IC305	X6742A00	IC	LA73050-TLM-E
IC306	X2904A00	IC	NJM2581M VIDEO AMP
IC307	XY549A00	IC	TC74HC4051AFEL
IC308	X7779A00	IC	LC709004A-TLM-E
IC310	X8875A00	IC	FHP33501M14X
IC321	X8235A00	IC	LC72725KM
IC331	X8276A00	IC	NJM2396F05
IC332-333	X8035A00	IC	BA00JC5WT-V5
IC334	X6143A00	IC	NJM2388F05 5. 0V
IC391	XZ509A00	IC	TC74VHC04FT INVER
JK361-362	V9435700	JACK. MNI	MSJ-035-12APC
JK391	V6931000	CN. DIN	1P YKF51-5506
PJ301	WG505100	JACK. PIN	6P
PJ302	V7189800	JACK. PIN	1P
* PJ303	WH381400	JACK. PIN	3P JACK G, B, R
PJ304	V7189800	JACK. PIN	1P
PJ305-306	V7190000	JACK. PIN	2P
Q3001	VR936300	TR	2SA1576A T106
Q3201	IC174020	TR	2SC1740S QRS
Q3203	IC181510	TR	2SC1815 Y
△ Q3301	VP872600	TR	2SA1708 S, T
Q3302	IA101510	TR	2SA1015 Y

* New Parts

P.C.B. VIDEO and P.C.B. GUI

Ref No.	Part No.	Description	Markets
Q3303	WG538600	TR	KTA1046-Y-U/P
Q3304	iA101510	TR	2SA1015 Y
Q3305	iC181510	TR	2SC1815 Y
Q3405	VV655400	TR. DGT	DTC114EKA
Q3406	VV655000	TR. DGT	DTA114EKA
Q3407	VV655400	TR. DGT	DTC114EKA
Q3408	VV655000	TR. DGT	DTA114EKA
Q3409	VV655400	TR. DGT	DTC114EKA
Q3410	VV655000	TR. DGT	DTA114EKA
Q3411	VV655400	TR. DGT	DTC114EKA
Q3412	VV655000	TR. DGT	DTA114EKA
Q3413	VV655400	TR. DGT	DTC114EKA
Q3414	VV655000	TR. DGT	DTA114EKA
Q3801-3802	iC181510	TR	2SC1815 Y
Q3803	VV655700	TR. DGT	DTC144EKA
R3021	HV753100	R. CAR. FP	1Ω 1/4W
R3025	IV753100	R. CAR. FP	1Ω 1/4W
R3046-3049	HV753100	R. CAR. FP	1Ω 1/4W
R3060-3061	HV753100	R. CAR. FP	1Ω 1/4W
R3208	HV755680	R. CAR. FP	680Ω 1/4W
R3210	IV754180	R. CAR. FP	18Ω 1/4W
△ R3301	HV753220	R. CAR. FP	2.2Ω 1/4W
R3306	HV756100	R. CAR. FP	1KΩ 1/4W
R3315-3316	HV756470	R. CAR. FP	4.7KΩ 1/4W
R3403-3406	HV757100	R. CAR. FP	10KΩ 1/4W
R3910	HV753220	R. CAR. FP	2.2Ω 1/4W
RY341-345	WJ122400	RELAY	981-2A-24DS-SP7
ST331-332	V4040500	SCR. TERM	NO
ST361-362	V4040500	SCR. TERM	NO
ST381-383	V4040500	SCR. TERM	NO
TE341	WK560800	TERM. SP	4P MST-204V1-01 NO
TE341	WK560900	TERM. SP	4P MST-204V1-01 NO
TE342	WK561000	TERM. SP	6P MST-207V1-01 NO
TE342	WK561100	TERM. SP	6P MST-207V1-01 NO
TE343	WK560800	TERM. SP	4P MST-204V1-01 NO
TE343	WK560900	TERM. SP	4P MST-204V1-01 NO
XL321	V2731100	RSNR. CRYST	4.332MHz HC-49/U
	WE774200	SCR. BND. HD	3x10 MF2N2Y3
*	WS306800	P.C.B.	GUI
CB500	VK026600	CN. BS. PIN	7P
CB501	VQ044700	CN. BS. PIN	16P
CB503	VK026300	CN. BS. PIN	4P
CB550	VB858500	CN. BS. PIN	6P
* CB551	WM297100	CN. LAN	6P 08B1-1X1T-06-F
* C5000-5001	US625100	C. CE. CHIP	0.100uF 10V
C5002-5003	US061120	C. CE. CHIP	12pF 50V B
* C5004	US625100	C. CE. CHIP	0.100uF 10V
C5005-5008	US135100	C. CE. CHIP	0.1uF 16V
C5009-5010	US061180	C. CE. CHIP	18pF 50V B
C5012	US135100	C. CE. CHIP	0.1uF 16V
C5013	US663100	C. CE. CHIP	1000pF 50V
* C5014-5016	US625100	C. CE. CHIP	0.100uF 10V
C5017	US135100	C. CE. CHIP	0.1uF 16V
C5018	US063100	C. CE. CHIP	1000pF 50V B

* New Parts

Ref No.	Part No.	Description	Markets
* C5019	US625100	C. CE. CHIP	0.100uF 10V
C5020	US063100	C. CE. CHIP	1000pF 50V B
C5021-5024	US135100	C. CE. CHIP	0.1uF 16V
C5025	US063100	C. CE. CHIP	1000pF 50V B
C5026	US064100	C. CE. CHIP	0.01uF 50V B
C5027	US063100	C. CE. CHIP	1000pF 50V B
C5028	US135100	C. CE. CHIP	0.1uF 16V
* C5029	US625100	C. CE. CHIP	0.100uF 10V
C5030	US663100	C. CE. CHIP	1000pF 50V
C5031	US061220	C. CE. CHIP	22pF 50V B
C5032	UF037100	C. EL. CHIP	10uF 16V
* C5033-5034	US625100	C. CE. CHIP	0.100uF 10V
C5035	US663100	C. CE. CHIP	1000pF 50V
C5036	US061220	C. CE. CHIP	22pF 50V B
C5037	UF018100	C. EL. CHIP	100uF 6.3V
C5038-5039	UF037100	C. EL. CHIP	10uF 16V
C5040	UF037220	C. EL. CHIP	22uF 16V
* C5041-5042	US663330	C. CE. CHIP	3300pF 50V
C5043	US135100	C. CE. CHIP	0.1uF 16V
C5044-5049	US063100	C. CE. CHIP	1000pF 50V B
C5050-5054	US135100	C. CE. CHIP	0.1uF 16V
C5055	UF037220	C. EL. CHIP	22uF 16V
* C5056-5058	US625100	C. CE. CHIP	0.100uF 10V
C5059	UF037100	C. EL. CHIP	10uF 16V
C5060	US135100	C. CE. CHIP	0.1uF 16V
* C5061	US625100	C. CE. CHIP	0.100uF 10V
C5062	UF037100	C. EL. CHIP	10uF 16V
* C5063-5065	US625100	C. CE. CHIP	0.100uF 10V
C5066-5067	US135100	C. CE. CHIP	0.1uF 16V
* C5068-5069	US625100	C. CE. CHIP	0.100uF 10V
C5070	UF037100	C. EL. CHIP	10uF 16V
* C5071	US625100	C. CE. CHIP	0.100uF 10V
C5072	US663100	C. CE. CHIP	1000pF 50V
C5073-5076	US063100	C. CE. CHIP	1000pF 50V B
* C5077-5078	US625100	C. CE. CHIP	0.100uF 10V
C5079	US135100	C. CE. CHIP	0.1uF 16V
* C5080-5081	US625100	C. CE. CHIP	0.100uF 10V
C5082	US135100	C. CE. CHIP	0.1uF 16V
* C5083	WP882000	C. CE. CHIP	10uF 6.3V
* C5084	US625100	C. CE. CHIP	0.100uF 10V
C5085-5086	US135100	C. CE. CHIP	0.1uF 16V
* C5087	US625100	C. CE. CHIP	0.100uF 10V
C5088	US062220	C. CE. CHIP	220pF 50V B
* C5089-5095	US625100	C. CE. CHIP	0.100uF 10V
C5096-5107	US135100	C. CE. CHIP	0.1uF 16V
C5108	US663100	C. CE. CHIP	1000pF 50V
C5109-5112	US063100	C. CE. CHIP	1000pF 50V B
C5113-5114	US135100	C. CE. CHIP	0.1uF 16V
* C5115	WP882000	C. CE. CHIP	10uF 6.3V
C5116-5119	US662100	C. CE. CHIP	100pF 50V
* C5501	US625100	C. CE. CHIP	0.100uF 10V
C5502	US062220	C. CE. CHIP	220pF 50V B
C5503	UF018100	C. EL. CHIP	100uF 6.3V
* C5504	US625100	C. CE. CHIP	0.100uF 10V
C5505-5506	US135100	C. CE. CHIP	0.1uF 16V
C5507-5508	US634100	C. CE. CHIP	0.01uF 16V
C5509	UF037220	C. EL. CHIP	22uF 16V

* New Parts

P.C.B. GUI

Ref No.	Part No.	Description	Notes
* C5610-6511	US131100 C DE CHP	10 uF 16V	
* C5612-6513	US621100 C DE CHP	0 100uF 10V	
C5614	US135100 C DE CHP	0 uF 16V	
C5615	ND158300 C DE CHP	10uF 10V	
C5616	US061150 C DE CHP	15uF 50V B	
C5617	US135100 C DE CHP	0 uF 16V	
C5618	UF018100 C EL CHP	100uF 6.3V	
C5619	US135100 C DE CHP	0 uF 16V	
C5620	US061150 C DE CHP	18uF 50V B	
C5621	US135100 C DE CHP	0 uF 16V	
C5622	ND158300 C DE CHP	10uF 10V	
C5623	US135100 C DE CHP	0 uF 16V	
C5624-6525	US061100 C DE CHP	0 01uF 16V	
C5627-6532	US135100 C DE CHP	0 10uF 16V	
* C5633-6534	US621100 C DE CHP	0 100uF 10V	
C5635	US135100 C DE CHP	0 uF 16V	
C5636-6637	US061100 C DE CHP	1000uF 60V	
C5638	ND158300 C DE CHP	10uF 10V	
C5639	UB044200 C DE CHP	0 022uF 50V	
* C5640	US061100 C DE CHP	0 100uF 10V	
C5641	US061100 C DE CHP	1000uF 50V	
C5642	US135100 C DE CHP	0 uF 16V	
* C5643	US621100 C DE CHP	0 100uF 10V	
C5644-6546	US135100 C DE CHP	0 uF 16V	
* C5646-6548	US621100 C DE CHP	0 100uF 10V	
C5649	US061220 C DE CHP	22uF 50V B	
C5650-6561	US135100 C DE CHP	0 uF 16V	
C5652-6563	US061100 C DE CHP	0 01uF 50V B	
C5654-6565	ND158300 C DE CHP	10uF 10V	
* C5656	US621100 C DE CHP	0 100uF 10V	
C5657-6568	US061120 C DE CHP	12uF 50V B	
C5659	UF018100 C EL CHP	100uF 6.3V	
IC601-602	X7818A00 IC	SN74V163/PR-Q1T	
IC603	X5534A00 IC	SN74V144/PR-D-F	
IC604	X7315A00 IC	PCN18100CR	
* IC606	YA22A00 IC	AX881400	
* IC607	YA27A00 IC	KAS60832-LC75000	
* IC608	YA350A00 IC	74VHC065C AND	
* IC609-612	X2286A00 IC	74VHC244/PR118	
* IC613	YC017000 IC	K886415008-P1	
* IC614	YA418A00 IC	KAS60832-LC75000	
IC621-622	X406A00 IC	TC7MHL04FU	
* IC623	YA354A00 IC	74VHC084/PR AND	
IC624	X036A00 IC	TC7MHL04FX (TE89L F)	
* IC625-626	YA356A00 IC	74VHC024/PR DR	
* IC652	X036A00 IC	R6323001A-TR-F	
* IC653	YA417A00 IC	LA88217-41	
C6100	FE834500 FEI	UP6121-11-A	
S1560-651	V43X0600 SCR TERN	X1	
XL500	V3625730 KSIR CRYS	24.57MHz	
XL501	TH675000 KSIR CRYS	27MHz	
XL502	TH651700 KSIR CRYS	16.866MHz SMD-49	
XL550	TH638400 KSIR CRYS	12MHz	
* XL551	TH644600 KSIR CRYS	25MHz SMD-41	

* New Parts

P.C.B. ACDC

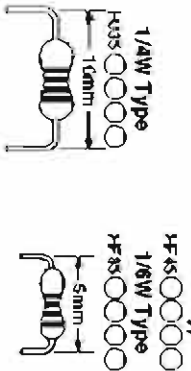
Ref No.	Part No.	Description	Notes
* D6100-6092	MS3095700 P C B	ACDC	LC
* D6101	MS3065000 P C B	ACDC	R
* D6102	MS3064000 P C B	ACDC	TH656F
* D6103	MS3065000 P C B	ACDC	L
D6104-6092	ML1030000 CLIP FUSE	TP00061-31	
D6105	V0879500 CM BS PIN	2P	
D6106	V0981000 CM BS PIN	7P	
* D6107	W0852400 C PCL WTL	0 002uF 630V	
* D6108-6093	W0302300 C DE SAFETY	1000uF 250V	
* D6109	ME256400 C DE SAFETY	0 1uF 275V	
* D6110	MS308500 C EL	150uF 400V	
* D6111	W0394400 C DE SAFETY	0 01uF 250V	
* D6112	W0182500 C DE CHP	2200uF 250V	
D6113	US065100 C DE CHP	0 1uF 50V B	
D6114	UB017470 C EL	47uF 16V	
D6115	UB067100 C EL	10uF 50V	
* D6116-6017	W0302300 C DE SAFETY	1000uF 250V	
* D6117-6019	W0852400 C PCL WTL	0 002uF 630V	
D6118	UB066100 C EL	1uF 50V	
D6119	MM77500 C EL	1000uF 35V	
D6120	US046100 C DE CHP	1uF 25V	
D6121	US135100 C DE CHP	0 1uF 16V	
D6122	MM771300 C EL	100uF 10V	
D6123	US135100 C DE CHP	0 1uF 16V	
D6124	MS071800 C100E B88	SM8200 1A 60V	
D6125	W0442200 C100E ZEM	MT2420 22V	
* D6126-6004	MS071200 C100E ZEM	PERKE100A 100V	
* D6127	W0647500 C100E	HT185	
D6128	W0671600 C100E	ISS131 175	
D6129	W0007000 C100E S640	10A 40V S01824M	
D6130	W0671600 C100E	ISS182 175	
D6131	VT332500 C100E	ISS185	
D6132	W0944000 FUSE	2A 250V	
* D6133	W2211200 FUSE	10A 125V	
* D6134	W0833100 FUSE	TEA 250V	
* D6135	YA651A00 IC	10P155AN	
* D6136	W0887100 P40T CPL	EL816(N) (Q)	
* D6137	YA275A00 IC	TL431AC 2.5-30V	
* D6138	W0887100 P40T CPL	EL816(N) (Q)	
* D6139	YA381A00 IC	LM1901Z-AT THERMAL	
* D6140	W0804100 DELAY	DC RL5501-0-0V 0.25	
D6141	W0406500 SCR TERN	X1	
ST611	W0246500 SCR TERN	3.5	
ST611	YA507A00 TRMS PWR	R-301100 (25)	
TE601	W0782500 AC INLET	3x10 1772N13	

* New Parts

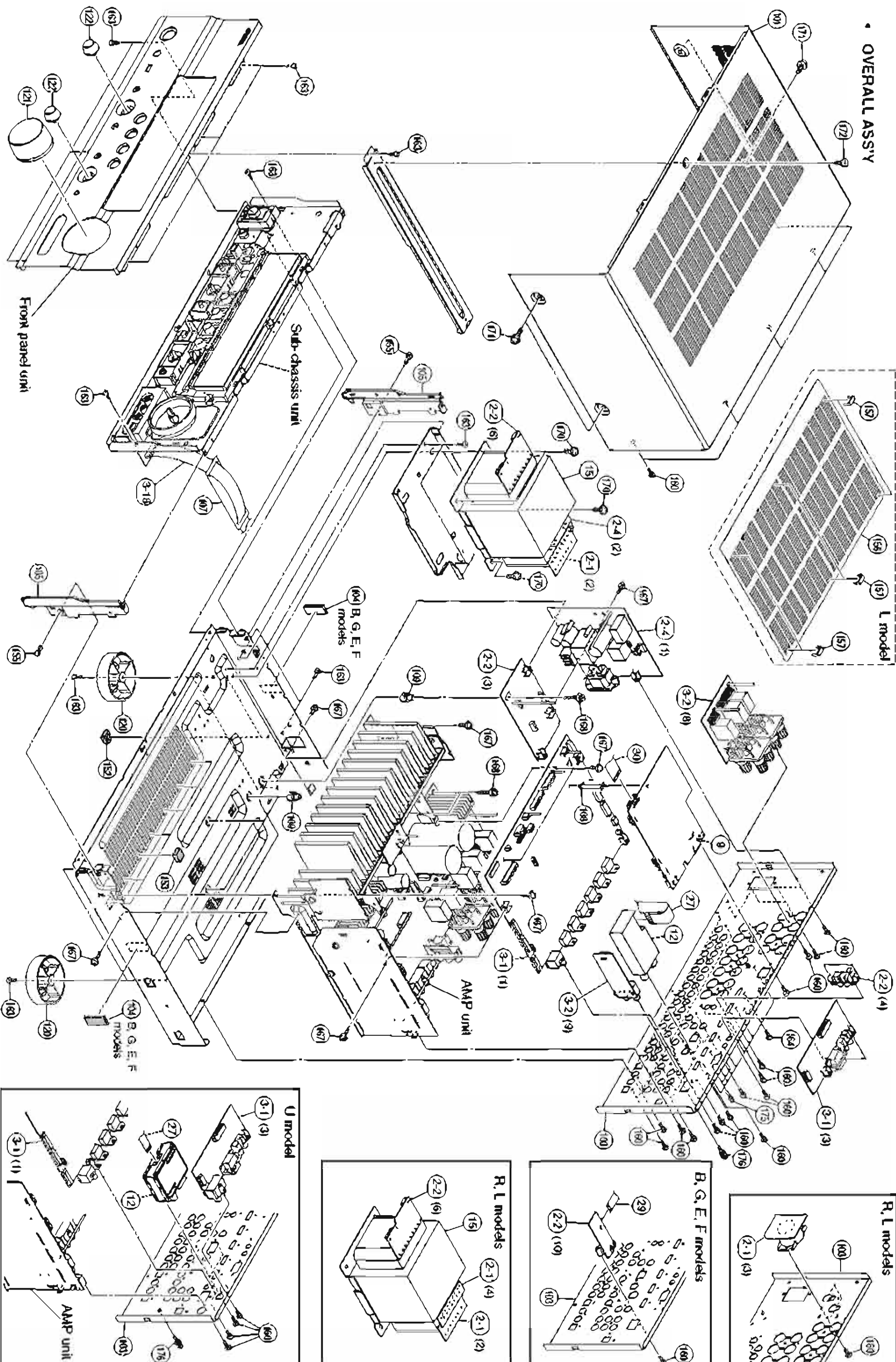
Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
10 Ω	H435 3100	H885 3100	11 kΩ	HF45 7110	HF45 7110
18 Ω	H435 3180	*	12 kΩ	H435 7120	HF85 7120
2.2 Ω	H435 3220	H885 3220	13 kΩ	HF45 7130	HF45 7130
3.3 Ω	H435 3330	H885 3330	15 kΩ	HF45 7150	HF45 7150
4.7 Ω	H435 3470	H885 3470	19 kΩ	HF45 7180	HF45 7180
5.6 Ω	H435 3560	H885 3560	22 kΩ	HF45 7220	HF45 7220
10 Ω	H435 4100	HF45 4100	24 kΩ	HF45 7240	HF45 7240
15 Ω	H435 4150	H885 4150	27 kΩ	H435 7270	HF85 7270
22 Ω	HF45 4220	HF45 4220	30 kΩ	HF45 7300	HF45 7300
27 Ω	H435 4270	H885 4270	33 kΩ	HF45 7330	HF45 7330
33 Ω	HF45 4330	HF45 4330	36 kΩ	HF45 7360	HF45 7360
39 Ω	H435 4370	H885 4390	39 kΩ	HF45 7390	HF45 7390
47 Ω	HF45 4470	HF45 4470	47 kΩ	HF45 7470	HF45 7470
56 Ω	HF45 4560	HF45 4560	51 kΩ	HF45 7510	HF45 7510
68 Ω	HF45 4680	HF45 4680	56 kΩ	HF45 7560	HF45 7560
75 Ω	HF45 4750	HF45 4750	62 kΩ	HF45 7620	HF45 7620
82 Ω	HF45 4820	HF45 4820	68 kΩ	HF45 7680	HF45 7680
91 Ω	HF45 4910	HF45 4910	82 kΩ	HF45 7820	HF45 7820
100 Ω	HF45 5100	HF45 5100	81 kΩ	HF45 7910	HF45 7910
110 Ω	H435 5110	HF85 5110	100 kΩ	HF45 8100	HF45 8100
120 Ω	HF45 5120	HF45 5120	110 kΩ	HF45 8110	HF45 8110
150 Ω	HF45 5150	HF45 5150	120 kΩ	HF45 8120	HF45 8120
160 Ω	H435 5160	*	130 kΩ	HF45 8130	*
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	H435 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	H435 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	H435 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	H435 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	H435 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	H435 9120	*
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	H435 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	H435 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	H435 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	H435 9330	HF85 9330
2.0 kΩ	H435 6200	HF85 6200	3.9 MΩ	H435 9390	*
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	H435 9470	HF85 9470
2.4 kΩ	H435 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF85 6330			
3.6 kΩ	H435 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			
10 kΩ	HF45 7100	HF45 7100			

*. Not available



• OVERALL ASS'Y



Ref No.	Part No.	Description	Remarks	Markets
* 2-1	HR913000	P. C. B. ASS' Y	MAIN	R
* 2-1	HR913200	P. C. B. ASS' Y	MAIN	L
* 2-2	KS304700	P. C. B. ASS' Y	VIDEO	U
* 2-2	KS304800	P. C. B. ASS' Y	VIDEO	C
* 2-2	KS304900	P. C. B. ASS' Y	VIDEO	R
* 2-2	KS305000	P. C. B. ASS' Y	VIDEO	T
* 2-2	KS305100	P. C. B. ASS' Y	VIDEO	K
* 2-2	KS305200	P. C. B. ASS' Y	VIDEO	A
* 2-2	KS305300	P. C. B. ASS' Y	VIDEO	BGEF
* 2-2	KS305400	P. C. B. ASS' Y	VIDEO	L
* 2-4	KS306200	P. C. B. ASS' Y	ACDC	UC
* 2-4	KS306300	P. C. B. ASS' Y	ACDC	R
* 2-4	KS306400	P. C. B. ASS' Y	ACDC	TKABGEF
* 2-4	KS306500	P. C. B. ASS' Y	ACDC	L
* 3-1	KS305800	P. C. B. ASS' Y	DIGITAL	U
* 3-1	KS305900	P. C. B. ASS' Y	DIGITAL	CRTAKL
* 3-1	KS306700	P. C. B. ASS' Y	DIGITAL	6295
* 3-1	KS306000	P. C. B. ASS' Y	DIGITAL	V2065
* 3-2	KS305500	P. C. B. ASS' Y	OPERATION	U
* 3-2	KS305600	P. C. B. ASS' Y	OPERATION	CRTA
* 3-2	KS305700	P. C. B. ASS' Y	OPERATION	KBGEFL
* 3-18	HD083500	FLEXIBLE FLAT CABLE	20P 180mm P=1.0	
* 9	KS306800	P. C. B. ASS' Y	GUI	U
* 12	HT510100	HD RADIO TUNER	2023-CRA	CRTL
* 12	HD756600	AM/FM TUNER	FAEH06-A	KABGEF
* 12	HD756700	AM/FM TUNER	FAEH06-E	UC
Δ * 15	YC001A00	POWER TRANSFORMER		RL
Δ * 15	YA955A00	POWER TRANSFORMER		TK
Δ * 15	YA956A00	POWER TRANSFORMER		A
Δ * 15	YA957A00	POWER TRANSFORMER		BGEF
Δ * 15	HF113180	FLEXIBLE FLAT CABLE	13P 180mm P=1.25	U
* 27	HR284900	FLEXIBLE FLAT CABLE	11P 100mm P=1.25	CRTKABGEFL
* 29	KS162400	FLEXIBLE FLAT CABLE	5P 250mm P=1.25	BGEF
* 30	KS162500	FLEXIBLE FLAT CABLE	16P 60mm P=1.25	
* 101	HD665500	TOP COVER		BL
* 101	HD665700	TOP COVER		TI
* 103	KS042200	REAR PANEL		U
* 103	KS042300	REAR PANEL		C
* 103	KS043000	REAR PANEL		6295
* 103	KS042400	REAR PANEL		R
* 103	KS042500	REAR PANEL		T
* 103	KS042600	REAR PANEL		K
* 103	KS042700	REAR PANEL		A
* 103	KS042800	REAR PANEL		BGEF
* 103	KS042900	REAR PANEL		L
104	HB870100	DAMPER		BGEF
* 105	HR004900	PLATE SIDE		BL
* 105	HR005000	PLATE SIDE		TI
* 107	HR946700	BARRIER FFC		
* 108	KS000800	SPACER SUPPORT	LOA4-29M PIN	
* 109	HD664500	SUPPORT H8		
120	VS025000	LEG	D60xH21 HS	

* New Parts

Ref No.	Part No.	Description	Remarks	Markets
121	HU181300	KNOB	D50	BL
121	HU181500	KNOB	D50	TI
* 122	KS039800	KNOB	D21	BL
* 122	KS039900	KNOB	D21	TI
152	HC879000	DAMPER	SOREW MASK	
* 153	HR377400	DAMPER	14X10x10	
155	V0368600	PUSH RIVET	P3555-B	
156	HK667900	SHEET TOP		L
157	HU053800	RIVET TOP		L
160	HE774100	BIND HEAD BOUNDING B-T. SCREW	3x8 HFZLN2B3	
163	HE774300	BIND HEAD B-TIGHT SCREW	3x8 HFZLN2K3	
164	HE877900	BIND HEAD S-TIGHT SCREW	3x6 HFZLN2K3	
167	HE002600	PW HEAD B-TIGHT SCREW	3x8 HFZLN2K3	
168	HE774600	SCREW 1G	3x18 HFZLN2K3	
170	HE774700	BIND HEAD S-TIGHT SCREW	4x10 HFZLN2K3	
171	VH313200	PW HEAD S-TIGHT SCREW	4x8-10 HFNI3BL	BL
171	V0069600	PW HEAD S-TIGHT SCREW	4x8-10 HFNI33	TI
172	HE200500	DISH HEAD B-TIGHT SCREW	3x6 HFNI3BL	BL
172	HE200400	DISH HEAD B-TIGHT SCREW	3x6 HFNI33	TI
175	V6509600	JACK SCREW		
176	AA627310	GROUND TERMINAL	SS6-A47511 848	
		SERVICE TOOLS		
	HR492800	RS232C CONVERSION ADAPTOR	3.3Vtype with FFC9P	
	HF125400	FLEXIBLE FLAT CABLE	25P 400mm P=1.25	
	HF109400	FLEXIBLE FLAT CABLE	9P 400mm P=1.25	
	HF A20250	FLEXIBLE FLAT CABLE	20P 250mm P=1.0	

* New Parts



1-1	W0845400	FRONT PANEL		Y206BL	U
1-1	W0845500	FRONT PANEL		Y206BL	CRTX08BL
1-1	W0845600	FRONT PANEL		6235L	C
1-1	W0845900	FRONT PANEL		Y206G1	NEFL
1-5	W0005200	ESOLICHEM		BL	
1-5	W0005300	ESOLICHEM		TI	
1-10	W0004100	EMBLEM	black		
2-1	W0305800	P.C.B. ASS'Y	D1617L	Y206	U
2-1	W0305900	P.C.B. ASS'Y	D1617L	Y206	CRTX08
2-1	W0306100	P.C.B. ASS'Y	D1617L	6235	C
2-1	W0306200	P.C.B. ASS'Y	D1617L	Y206	BOEF
2-2	W0305500	P.C.B. ASS'Y	OPERATION		U
2-2	W0306600	P.C.B. ASS'Y	OPERATION		CRTA
2-2	W0306100	P.C.B. ASS'Y	OPERATION		NOOTL
2-5	W0482100	FLEXIBLE FLAT CABLE	25P 250mm P=1.25		
2-6	W0204800	FLEXIBLE FLAT CABLE	5P 250mm P=1.25		
2-12	W0006800	SUB PANEL			
2-13	W0044600	BUTTON CASE		BL	U03X08BL
2-13	W0075400	BUTTON CASE		BL	T
2-13	W0844700	BUTTON CASE		TI	
2-14	W0006100	ESOLICHEM VOL		BL	
2-14	W0006200	ESOLICHEM VOL		TI	
2-15	W0160200	SHEET WINDOW			U
2-15	W0160400	SHEET WINDOW			CR05BL
2-15	W0160300	SHEET WINDOW			T
2-16	W0006400	LENS BUTTON			
2-17	W0846200	ESOLICHEM CASE		BL	
2-17	W0846300	ESOLICHEM CASE		TI	
2-18	W0083500	FLEXIBLE FLAT CABLE	20P 180mm P=1.0		
2-20	W0471400	SPACER	8x8x1		
2-101	W0774300	BLIND HEAD B-1(GH) SORBS	3x8	W7X23	
2-102	W0774500	BLIND HEAD P-1(GH) SORBS	3x2	W7X23	
2-103	W0769900	FOUR RIVER	P1355-B		

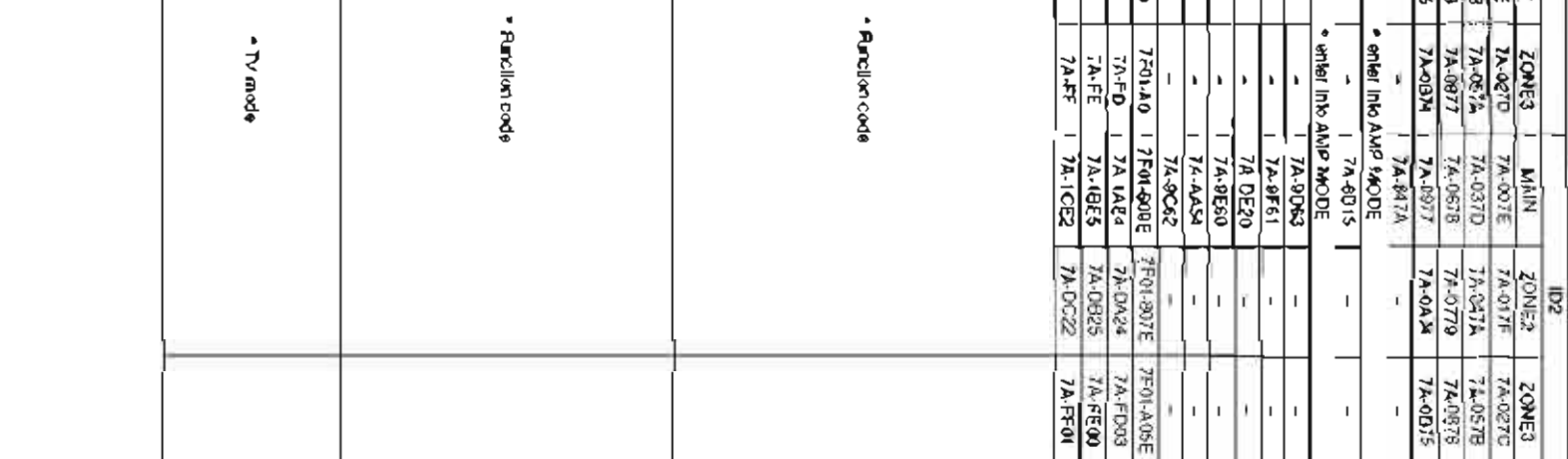
- RAV296: U model / RAV297: C, R, A, L models / RAV298: T, K, B, G, E, F models

The diagram illustrates a control system for a motor. It includes a power supply section with a transformer (T) connected to a switch (S1) and a fuse (F). A stop button (B1) is connected to the main circuit. A forward start button (SB1) is connected to a forward relay (K1) through a thermal relay (JR) and a fuse (F). A reverse start button (SB2) is connected to a reverse relay (K2) through a thermal relay (JR) and a fuse (F). A stop button (B2) is connected to both K1 and K2. A limit switch (X1) is connected to the main circuit. A fuse (F) is connected to the main circuit. A terminal block (U1) is shown at the bottom with connections for various components.

[illegible]

The image shows the front panel of a Pioneer hi-fi stereo system. At the top left is a turntable with a clear dust cover. Below it is a cassette slot. To the right of the cassette slot is a tuner display and a 'TUNER' button. Further right is a 'MEMORY' button and a 'RECALL' button. Below these are buttons for 'FM', 'AM', 'PRESET', and 'TUNE'. At the bottom left are buttons for 'BASS', 'TREBLE', 'BALANCE', and 'FADER'. On the right side, there are two large knobs for volume and balance, and a 'PIONEER' logo. The overall design is sleek and functional, typical of high-quality hi-fi equipment from the late 20th century.

KEY CODE



KEY CODE

GROUP	PRE SET	COM	Key No.	FUNCTION	ID1			ID2		
					MAIN	ZONE2	ZONE3	MAIN	ZONE2	ZONE3
-	-	-	SW1	MAIN / ZONE2 / ZONE3	MAIN	ZONE2	ZONE3	MAIN	ZONE2	ZONE3
	-	-	D2	TRANSMIT	-	-	-	-	-	-
	-	-	SW2	CODE SET	-	-	-	-	-	-
	-	-	K2	SLEEP	7A-30	7A-31	7A-32	7A-30E	7A-31E	7A-32E
POWER	-	-	K3	POWER / ON	7E-2A	7A-45A	7E-2A	7A-45B	7A-45C	7A-45D
	-	-	K4	HDMI-1 (Default setting)	7A-4738	7A-4837	7A-4838	7A-4739	7A-4838	7A-4837
	-	-	K5	HDMI-2	7A-4A35	7A-4B34	7A-4C33	7A-4A34	7A-4B35	7A-4C32
	-	-	K6	HDMI-3	7A-4D32	7A-4E31	7A-4F30	7A-4D33	7A-4E30	7A-4F31
INPUT 1	-	-	K7	HDMI-4	7A-502F	7A-512E	7A-522D	7A-502E	7A-512F	7A-522C
	-	-	K8	AV-1	7A-532C	7A-542B	7A-552A	7A-532D	7A-542A	7A-552B
	-	-	K9	AV-2	7A-5629	7A-5728	7A-5827	7A-5628	7A-5729	7A-5826
	-	-	K10	AV-3	7A-5926	7A-5A25	7A-5B24	7A-5927	7A-5A24	7A-5B25
INPUT 2	-	-	K11	AV-4	7A-5C23	7A-5D22	7A-5E21	7A-5C22	7A-5D23	7A-5E20
	-	-	K12	AV-5	7A-5F20	7A-601F	7A-611E	7A-5F21	7A-601E	7A-611F
	-	-	K13	AV-6	7A-621D	7A-631C	7A-641B	7A-621C	7A-631D	7A-641A
	-	-	K14	AUDIO-1	7A-651A	7A-6619	7A-6718	7A-651B	7A-6618	7A-6719
INPUT 3	-	-	K15	AUDIO-2	7A-6817	7A-6916	7A-6A15	7A-6816	7A-6917	7A-6A14
	-	-	K16	MMI/V-AUX	7A-6B15	7A-6C14	7A-6D13	7A-6B14	7A-6C13	7A-6D12
	-	-	K17	PHONE	7A-6E11	7A-6F10	7A-6G09	7A-6E10	7A-6F09	7A-6G08
	-	-	K18	MULTI	7A-6H07	7A-6I06	7A-6J05	7A-6H06	7A-6I05	7A-6J04
INPUT 4	-	-	K19	DOCK	7F01-4A	7F01-4B	7F01-4C	7F01-4AB4	7F01-4B55	7F01-4CB2
	-	-	K20	TUNER	7A-16	7A-02	7A-F3	7A-16E8	7A-022C	7A-F3AD
	-	-	K21	SIRIUS	7A-39	7A-3A	7A-3B	7A-39C7	7A-3AC4	7A-3BC5
	-	-	K22	XM	7A-B4	7A-B9	7A-B3	7A-B4A4	7A-B946	7A-B947
RADIO	-	-	K23	USBNET	7F01-3F	7F01-4D	7F01-41	7F01-3FC1	7F01-40BE	7F01-41BF
	-	-	K24	CATEGORY < / FM (FAV296)	7F01-5827	7F01-5926	7F01-5A25	7F01-5826	7F01-5927	7F01-5A24
	-	-	K25	CATEGORY > / AM (FAV296)	7F01-552A	7F01-5629	7F01-5728	7F01-552B	7F01-5628	7F01-5729
	-	-	K26	PRESET Δ	7F01-5B24	7F01-5C23	7F01-5D22	7F01-5B25	7F01-5C22	7F01-5D23
DSP	-	-	K27	TUNING Δ (FAV296)	7F01-611E	7F01-621D	7F01-631C	7F01-611F	7F01-621C	7F01-631D
	-	-	K28	INFO	7A-2758	7A-2857	7A-2956	7A-2759	7A-2856	7A-2957
	-	-	K29	MEMORY	7F01-6718	7F01-6817	7F01-6916	7F01-6719	7F01-6816	7F01-6917
	-	-	K30	PRESET ∇	7F01-5E21	7F01-5F20	7F01-601F	7F01-5E20	7F01-5F21	7F01-601E
OTHER	-	-	K31	TUNING ∇	7F01-641B	7F01-651A	7F01-6619	7F01-641A	7F01-651B	7F01-6618
	-	-	K32	MUSIC	7A-88	7A-89	7A-8A	7A-887	7A-897	7A-8A7
	-	-	K33	ENHANCER / STEREO	7A-94	7A-95	7A-96	7A-94B	7A-95B	7A-96B
	-	-	K34	SUR DECODE	7A-9D	7A-9E	7A-9F	7A-9D7	7A-9E7	7A-9F7
OTHER	-	-	K35	HDMI OUT	7A-88	7A-89	7A-8A	7A-887	7A-897	7A-8A7
	-	-	K36	MOVIE	7A-56	7A-57	7A-58	7A-56B	7A-57B	7A-58B
	-	-	K37	STRAIGHT	7A-56	7A-57	7A-58	7A-56B	7A-57B	7A-58B
	-	-	K38	PURE DIRECT	7A-00	7A-00	7A-00	7A-00	7A-00	7A-00

GROUP	PRE SET	COM	Key No.	FUNCTION	ID1			ID2		
					MAIN	ZONE2	ZONE3	MAIN	ZONE2	ZONE3
SCENE	-	-	K40	BO-ON/O	7A-007F	7A-017E	7A-027D	7A-007E	7A-017F	7A-027C
	-	-	K41	TV	7A-057C	7A-067B	7A-077A	7A-057D	7A-067B	7A-077A
	-	-	K42	CD	7A-0879	7A-0978	7A-0A77	7A-0878	7A-0977	7A-0A76
	-	-	K43	RADIO	7A-0B74	7A-0C73	7A-0D72	7A-0B73	7A-0C72	7A-0D71
MENU	-	-	K44	CIN SCREEN	7A-0E74	7A-0F73	7A-1072	7A-0E73	7A-0F72	7A-1071
	-	-	K45	OPTION	7A-1174	7A-1273	7A-1372	7A-1173	7A-1272	7A-1371
	-	-	K46	▲ (UP)	7A-1474	7A-1573	7A-1672	7A-1473	7A-1572	7A-1671
	-	-	K47	◀ (LEFT)	7A-1774	7A-1873	7A-1972	7A-1773	7A-1872	7A-1971
VOLUME	-	-	K48	ENTER	7A-1A74	7A-1B73	7A-1C72	7A-1A73	7A-1B72	7A-1C71
	-	-	K49	▶ (RIGHT)	7A-1D74	7A-1E73	7A-1F72	7A-1D73	7A-1E72	7A-1F71
	-	-	K50	RETURN	7A-2074	7A-2173	7A-2272	7A-2073	7A-2172	7A-2271
	-	-	K51	RECALL	7A-2374	7A-2473	7A-2572	7A-2373	7A-2472	7A-2571
SOURCE	-	-	K52	DISPLAY	7A-2674	7A-2773	7A-2872	7A-2673	7A-2772	7A-2871
	-	-	K53	VOLUME +	7A-2974	7A-3073	7A-3172	7A-2973	7A-3072	7A-3171
	-	-	K54	VOLUME -	7A-3274	7A-3373	7A-3472	7A-3273	7A-3372	7A-3471
	-	-	K55	MUTE	7A-3574	7A-3673	7A-3772	7A-3573	7A-3672	7A-3771
POWER / SOURCE	-	-	K56	POWER / SOURCE	7A-3874	7A-3973	7A-4072	7A-3873	7A-3972	7A-4071
	-	-	K57	TOP MENU	7A-4174	7A-4273	7A-4372	7A-4173	7A-4272	7A-4371
	-	-	K58	POPUP MENU (FAV296)	7A-4474	7A-4573	7A-4672	7A-4473	7A-4572	7A-4671
	-	-	K59	MENU (FAV297, FAV298)	7A-4774	7A-4873	7A-4972	7A-4773	7A-4872	7A-4971
FUNCTION CODE	-	-	K60	▶ (PLAY)	7A-5074	7A-5173	7A-5272	7A-5073	7A-5172	7A-5271
	-	-	K61	◀ (STOP)	7A-5374	7A-5473	7A-5572	7A-5373	7A-5472	7A-5571
	-	-	K62	⏸ (PAUSE)	7A-5674	7A-5773	7A-5872	7A-5673	7A-5772	7A-5871
	-	-	K63	⏮ (REW)	7A-5974	7A-6073	7A-6172	7A-5973	7A-6072	7A-6171
FUNCTION CODE	-	-	K64	⏭ (FF) (FAV296)	7A-6274	7A-6373	7A-6472	7A-6273	7A-6372	7A-6471
	-	-	K65	⏮ (REW) (FAV297, FAV298)	7A-6574	7A-6673	7A-6772	7A-6573	7A-6672	7A-6771
	-	-	K66	⏭ (FF) (FAV297, FAV298)	7A-6874	7A-6973	7A-7072	7A-6873	7A-6972	7A-7071
	-	-	K67	⏮ (REW) (FAV297, FAV298)	7A-7174	7A-7273	7A-7372	7A-7173	7A-7272	7A-7371
FUNCTION CODE	-	-	K68	NET RADIO / 2	7A-7474	7A-7573	7A-7672	7A-7473	7A-7572	7A-7671
	-	-	K69	PC / 3	7A-7774	7A-7873	7A-7972	7A-7773	7A-7872	7A-7971
	-	-	K70	FM / 4 (FAV296)	7A-8074	7A-8173	7A-8272	7A-8073	7A-8172	7A-8271
	-	-	K71	5	7A-8374	7A-8473	7A-8572	7A-8373	7A-8472	7A-8571
FUNCTION CODE	-	-	K72	6	7A-8674	7A-8773	7A-8872	7A-8673	7A-8772	7A-8871
	-	-	K73	7	7A-8974	7A-9073	7A-9172	7A-8973	7A-9072	7A-9171
	-	-	K74	8	7A-9274	7A-9373	7A-9472	7A-9273	7A-9372	7A-9471
	-	-	K75	9	7A-9574	7A-9673	7A-9772	7A-9573	7A-9672	7A-9771
FUNCTION CODE	-	-	K76	0	7A-9874	7A-9973	7A-0072	7A-9873	7A-9972	7A-0071
	-	-	K77	10	7A-0174	7A-0273	7A-0372	7A-0173	7A-0272	7A-0371
	-	-	K78	ENT	7A-0474	7A-0573	7A-0672	7A-0473	7A-0572	7A-0671
	-	-	K79	INPUT	7A-0774	7A-0873	7A-0972	7A-0773	7A-0872	7A-0971
FUNCTION CODE	-	-	K80	TV VOL +	7A-1074	7A-1173	7A-1272	7A-1073	7A-1172	7A-1271
	-	-	K81	TV CH +	7A-1374	7A-1473	7A-1572	7A-1373	7A-1472	7A-1571
	-	-	K82	POWER	7A-1674	7A-1773	7A-1872	7A-1673	7A-1772	7A-1871
	-	-	K83	MUTE	7A-1974	7A-2073	7A-2172	7A-1973	7A-2072	7A-2171
FUNCTION CODE	-	-	K84	TV VOL -	7A-2274	7A-2373	7A-2472	7A-2273	7A-2372	7A-2471
	-	-	K85	TV CH -	7A-2574	7A-2673	7A-2772	7A-2573	7A-2672	7A-2771
	-	-	K86	TV CH -	7A-2874	7A-2973	7A-3072	7A-2873	7A-2972	7A-3071
	-	-	K87	TV CH -	7A-3174	7A-3273	7A-3372	7A-3173	7A-3272	7A-3371

FUNCTION CODE

Key No.	BD				DVP				LD				CD				DD-R				DD			
	Serial Number	Year/Mod	Project Number	Code	Serial Number	Year/Mod	Project Number	Code	Serial Number	Year/Mod	Project Number	Code	Serial Number	Year/Mod	Project Number	Code	Serial Number	Year/Mod	Project Number	Code	Serial Number	Year/Mod	Project Number	Code
K01	UP	TC-84	UP	TC-84	2002	2002	2002	TC-84	2002	2002	2002	TC-84	2002	2002	2002	TC-84	2002	2002	2002	TC-84	2002	2002	2002	TC-84
K02	LEFT	TC-85	LEFT	TC-85	2002	2002	2002	TC-85	2002	2002	2002	TC-85	2002	2002	2002	TC-85	2002	2002	2002	TC-85	2002	2002	2002	TC-85
K03	RIGHT	TC-86	RIGHT	TC-86	2002	2002	2002	TC-86	2002	2002	2002	TC-86	2002	2002	2002	TC-86	2002	2002	2002	TC-86	2002	2002	2002	TC-86
K04	RETURN	TC-87	RETURN	TC-87	2002	2002	2002	TC-87	2002	2002	2002	TC-87	2002	2002	2002	TC-87	2002	2002	2002	TC-87	2002	2002	2002	TC-87
K05	DOWN	TC-88	DOWN	TC-88	2002	2002	2002	TC-88	2002	2002	2002	TC-88	2002	2002	2002	TC-88	2002	2002	2002	TC-88	2002	2002	2002	TC-88
K06	DISPLAY	TC-89	DISPLAY	TC-89	2002	2002	2002	TC-89	2002	2002	2002	TC-89	2002	2002	2002	TC-89	2002	2002	2002	TC-89	2002	2002	2002	TC-89
K07	SOURCE POWER	TC-90	SOURCE POWER	TC-90	2002	2002	2002	TC-90	2002	2002	2002	TC-90	2002	2002	2002	TC-90	2002	2002	2002	TC-90	2002	2002	2002	TC-90
K08	MENU	TC-91	MENU	TC-91	2002	2002	2002	TC-91	2002	2002	2002	TC-91	2002	2002	2002	TC-91	2002	2002	2002	TC-91	2002	2002	2002	TC-91
K09	DISC SKIP	TC-92	DISC SKIP	TC-92	2002	2002	2002	TC-92	2002	2002	2002	TC-92	2002	2002	2002	TC-92	2002	2002	2002	TC-92	2002	2002	2002	TC-92
K10	PLAY	TC-93	PLAY	TC-93	2002	2002	2002	TC-93	2002	2002	2002	TC-93	2002	2002	2002	TC-93	2002	2002	2002	TC-93	2002	2002	2002	TC-93
K11	STOP	TC-94	STOP	TC-94	2002	2002	2002	TC-94	2002	2002	2002	TC-94	2002	2002	2002	TC-94	2002	2002	2002	TC-94	2002	2002	2002	TC-94
K12	PAUSE	TC-95	PAUSE	TC-95	2002	2002	2002	TC-95	2002	2002	2002	TC-95	2002	2002	2002	TC-95	2002	2002	2002	TC-95	2002	2002	2002	TC-95
K13	REW	TC-96	REW	TC-96	2002	2002	2002	TC-96	2002	2002	2002	TC-96	2002	2002	2002	TC-96	2002	2002	2002	TC-96	2002	2002	2002	TC-96
K14	FF	TC-97	FF	TC-97	2002	2002	2002	TC-97	2002	2002	2002	TC-97	2002	2002	2002	TC-97	2002	2002	2002	TC-97	2002	2002	2002	TC-97
K15	SKIP (-)	TC-98	SKIP (-)	TC-98	2002	2002	2002	TC-98	2002	2002	2002	TC-98	2002	2002	2002	TC-98	2002	2002	2002	TC-98	2002	2002	2002	TC-98
K16	SKIP (+)	TC-99	SKIP (+)	TC-99	2002	2002	2002	TC-99	2002	2002	2002	TC-99	2002	2002	2002	TC-99	2002	2002	2002	TC-99	2002	2002	2002	TC-99
K17	1	TC-00	1	TC-00	2002	2002	2002	TC-00	2002	2002	2002	TC-00	2002	2002	2002	TC-00	2002	2002	2002	TC-00	2002	2002	2002	TC-00
K18	2	TC-01	2	TC-01	2002	2002	2002	TC-01	2002	2002	2002	TC-01	2002	2002	2002	TC-01	2002	2002	2002	TC-01	2002	2002	2002	TC-01
K19	3	TC-02	3	TC-02	2002	2002	2002	TC-02	2002	2002	2002	TC-02	2002	2002	2002	TC-02	2002	2002	2002	TC-02	2002	2002	2002	TC-02
K20	4	TC-03	4	TC-03	2002	2002	2002	TC-03	2002	2002	2002	TC-03	2002	2002	2002	TC-03	2002	2002	2002	TC-03	2002	2002	2002	TC-03
K21	5	TC-04	5	TC-04	2002	2002	2002	TC-04	2002	2002	2002	TC-04	2002	2002	2002	TC-04	2002	2002	2002	TC-04	2002	2002	2002	TC-04
K22	6	TC-05	6	TC-05	2002	2002	2002	TC-05	2002	2002	2002	TC-05	2002	2002	2002	TC-05	2002	2002	2002	TC-05	2002	2002	2002	TC-05
K23	7	TC-06	7	TC-06	2002	2002	2002	TC-06	2002	2002	2002	TC-06	2002	2002	2002	TC-06	2002	2002	2002	TC-06	2002	2002	2002	TC-06
K24	8	TC-07	8	TC-07	2002	2002	2002	TC-07	2002	2002	2002	TC-07	2002	2002	2002	TC-07	2002	2002	2002	TC-07	2002	2002	2002	TC-07
K25	9	TC-08	9	TC-08	2002	2002	2002	TC-08	2002	2002	2002	TC-08	2002	2002	2002	TC-08	2002	2002	2002	TC-08	2002	2002	2002	TC-08
K26	10	TC-09	10	TC-09	2002	2002	2002	TC-09	2002	2002	2002	TC-09	2002	2002	2002	TC-09	2002	2002	2002	TC-09	2002	2002	2002	TC-09
K27	11	TC-10	11	TC-10	2002	2002	2002	TC-10	2002	2002	2002	TC-10	2002	2002	2002	TC-10	2002	2002	2002	TC-10	2002	2002	2002	TC-10
K28	12	TC-11	12	TC-11	2002	2002	2002	TC-11	2002	2002	2002	TC-11	2002	2002	2002	TC-11	2002	2002	2002	TC-11	2002	2002	2002	TC-11
K29	13	TC-12	13	TC-12	2002	2002	2002	TC-12	2002	2002	2002	TC-12	2002	2002	2002	TC-12	2002	2002	2002	TC-12	2002	2002	2002	TC-12
K30	14	TC-13	14	TC-13	2002	2002	2002	TC-13	2002	2002	2002	TC-13	2002	2002	2002	TC-13	2002	2002	2002	TC-13	2002	2002	2002	TC-13
K31	15	TC-14	15	TC-14	2002	2002	2002	TC-14	2002	2002	2002	TC-14	2002	2002	2002	TC-14	2002	2002	2002	TC-14	2002	2002	2002	TC-14
K32	16	TC-15	16	TC-15	2002	2002	2002	TC-15	2002	2002	2002	TC-15	2002	2002	2002	TC-15	2002	2002	2002	TC-15	2002	2002	2002	TC-15
K33	17	TC-16	17	TC-16	2002	2002	2002	TC-16	2002	2002	2002	TC-16	2002	2002	2002	TC-16	2002	2002	2002	TC-16	2002	2002	2002	TC-16
K34	18	TC-17	18	TC-17	2002	2002	2002	TC-17	2002	2002	2002	TC-17	2002	2002	2002	TC-17	2002	2002	2002	TC-17	2002	2002	2002	TC-17
K35	19	TC-18	19	TC-18	2002	2002	2002	TC-18	2002	2002	2002	TC-18	2002	2002	2002	TC-18	2002	2002	2002	TC-18	2002	2002	2002	TC-18
K36	20	TC-19	20	TC-19	2002	2002	2002	TC-19	2002	2002	2002	TC-19	2002	2002	2002	TC-19	2002	2002	2002	TC-19	2002	2002	2002	TC-19
K37	21	TC-20	21	TC-20	2002	2002	2002	TC-20	2002	2002	2002	TC-20	2002	2002	2002	TC-20	2002	2002	2002	TC-20	2002	2002	2002	TC-20
K38	22	TC-21	22	TC-21	2002	2002	2002	TC-21	2002	2002	2002	TC-21	2002	2002	2002	TC-21	2002	2002	2002	TC-21	2002	2002	2002	TC-21
K39	23	TC-22	23	TC-22	2002	2002	2002	TC-22	2002	2002	2002	TC-22	2002	2002	2002	TC-22	2002	2002	2002	TC-22	2002	2002	2002	TC-22
K40	24	TC-23	24	TC-23	2002	2002	2002	TC-23	2002	2002	2002	TC-23	2002	2002	2002	TC-23	2002	2002	2002	TC-23	2002	2002	2002	TC-23
K41	25	TC-24	25	TC-24	2002	2002	2002	TC-24	2002	2002	2002	TC-24	2002	2002	2002	TC-24	2002	2002	2002	TC-24	2002	2002	2002	TC-24
K42	26	TC-25	26	TC-25	2002	2002	2002	TC-25	2002	2002	2002	TC-25	2002	2002	2002	TC-25	2002	2002	2002	TC-25	2002	2002	2002	TC-25
K43	27	TC-26	27	TC-26	2002	2002	2002	TC-26	2002	2002	2002	TC-26	2002	2002	2002	TC-26	2002	2002	2002	TC-26	2002	2002	2002	TC-26
K44	28	TC-27	28	TC-27	2002	2002	2002	TC-27	2002	2002	2002	TC-27	2002	2002	2002	TC-27	2002	2002	2002	TC-27	2002	2002	2002	TC-27
K45	29	TC-28	29	TC-28	2002	2002	2002	TC-28	2002	2002	2002	TC-28	2002	2002	2002	TC-28	2002	2002	2002	TC-28	2002	2002	2002	TC-28
K46	30	TC-29	30	TC-29	2002	2002	2002	TC-29	2002	2002	2002	TC-29	2002	2002	2002	TC-29	2002	2002	2002	TC-29	2002	2002	2002	TC-29
K47	31	TC-30	31	TC-30	2002	2002	2002	TC-30	2002	2002	2002	TC-30	2002	2002	2002	TC-30	2002	2002	2002	TC-30	2002	2002	2002	TC-30
K48	32	TC-31	32	TC-31	2002	2002	2002	TC-31	2002	2002	2002	TC-31	2002	2002	2002	TC-31	2002	2002	2002	TC-31	2002	2002	2002	TC-31
K49	33	TC-32	33	TC-32	2002	2002	2002	TC-32	2002	2002	2002	TC-32	2002	2002	2002	TC-32	2002	2002	2002	TC-32	2002	2002	2002	TC-32
K50	34	TC-33	34	TC-33	2002	2002	2002	TC-33	2002	2002	2002	TC-33	2002	2002	2002	TC-33	2002	2002	2002	TC-33	2002	2002	2002	TC-33
K51	35	TC-34	35	TC-34	2002	2002	2002	TC-34	2002	2002	2002	TC-34	2002	2002	2002	TC-34	2002	2002	2002	TC-34	2002	2002	2002	TC-34
K52	36	TC-35	36	TC-35	2002	2002	2002	TC-35	2002	2002	2002	TC-35	2002	2002	2002	TC-35	2002	2002	2002	TC-35	2002	2002	2002	TC-35
K53	37	TC-36	37	TC-36	2002	2002	2002	TC-36	2002	2002	2002	TC-36	2002	2002	2002	TC-36	2002	2002	2002	TC-36	2002	2002	2002	TC-36
K54	38	TC-37	38	TC-37	2002	2002	2002	TC-37	2002	2002	2002	TC-37	2002	2002	2002	TC-37	2002	2002	2002	TC-37	2002	2002	2002	TC-37
K55	39	TC-38	39	TC-38	2002	2002	2002	TC-38	2002	2002	2002	TC-38	2002	2002	200									

[illegible]

■ ADVANCED SETUP

In the advanced setup menu, you can set basic operations of this unit, such as on and off of a bi-amp connection, or initialize user settings.

1 Set this unit to standby.

- 2 While holding down **Ⓢ**STRAIGHT on the front panel, press **Ⓜ**MAIN ZONE ON/OFF. Keep holding down **Ⓢ**STRAIGHT until “ADVANCED SETUP” appears on the front panel display.



3 Rotate the **Ⓟ**PROGRAM selector to select the parameter you want to change.

The default setting are marked with “*”.



- Set values are placed in XXX of the following parameters on an actual display screen.

SP IMP. -XXX

Choices: 6ΩMIN, 8ΩMIN*

Selects output impedance of this unit according to connected speakers. When you connect 4-ohm speakers to the FRONT speaker terminals, set “SP IMP.” to “6ΩMIN.”.

RS232C STBY -X

Choices: Y (Yes)*, N (No)

Selects whether or not to transmit data via the RS-232C terminal when this unit is in the standby mode.

REMOTE ID -XXX

Choices: ID1*, ID2

Sets a remote control ID. When using multiple Yamaha AV receivers, you can operate them with a single remote control by setting the receiver IDs to the same setting.

SR PIN -XXX

Choices: RESET, CANCEL*

Resets Parental lock cord when using SIRIUS Satellite tuner.

BI AMP - XXX

Choices: ON, OFF*

Switches on and off of bi-amp connection of main speakers.

SCENE IR -XXX

Choices: ON*, OFF

Selects whether or not to transmit the control signals to an external component connected to the REMOTE OUT jack on this unit when BD/DVD or CD SCENE function is selected.

MON. CHK - XXXX

Choices: YES*, SKIP

Adds upscaling limitation on output signals to a video monitor connected to this unit via the HDMI OUT jack.

INIT-XXXXXXXXXX

Choices: DSP PARAM, VIDEO, NETWORK, ALL, CANCEL*

Initializes various settings stored in this unit. You can select an initialization method from the following.

DSP PARAM: All parameters of sound field

programs

VIDEO Video conversion settings (resolution/aspect) in the Setup menu and the GUI display position

NETWORK Network settings in the Setup menu

ALL All

CANCEL Cancellation of initialization

USB FirmUpdate

NET FirmUpdate

Updates the firmware of this unit. For details on how to update the firmware, refer to information supplied with updates.

Notes

- Do not use this feature unless you need to update the firmware.
- Be sure to read information supplied with updates before updating the firmware.

VERXXX.XXX.XXX

Displays the firmware of this unit.

4 Press **Ⓢ**STRAIGHT repeatedly to change the selected parameter setting.

To change other settings, repeat steps 3 and 4.

5 Press **Ⓜ**MAIN ZONE ON/OFF to set this unit to standby.

The settings you made are reflected next time you turn on this unit.

Setting a remote control ID

Two IDs are provided for the remote control of this unit. If another Yamaha amplifier is in the same room, setting a different remote control ID to this unit prevents unwanted operation of the other amplifier.

“ID1” is set for both the main unit and remote control by default. If you have changed the remote control ID, make sure that you select the same ID for the main unit in the the advanced setup menu.



- For details on how to set the remote control ID of the simplified remote control.

1 Press [15]CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.
[14]TRANSMIT blinks twice.

2 Press [9]ON SCREEN.

3 Enter the desired remote control ID code.
To switch to ID1, press [12]Numeric keys to enter “5019”.
To switch to ID2, press [12]Numeric keys to enter “5020”.

Once the remote control code is registered,
[14]TRANSMIT blinks twice.
If it fails, [14]TRANSMIT blinks six times. Repeat from step 1.



- If you initialize the settings of this unit, “REMOTE ID” (remote control code of this unit) is set to “ID1”.

MEMO

RX-V2065/HTR-6295

