

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

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

'09.08

■ TO SERVICE PERSONNEL

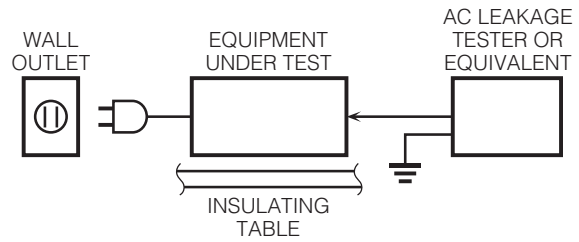
1. Critical Components Information

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.

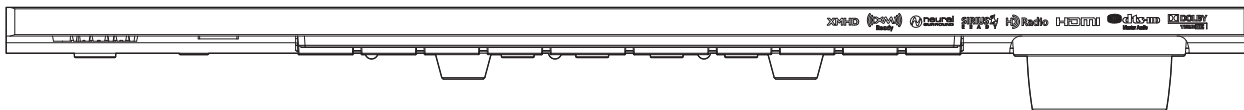
VAROITUS

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

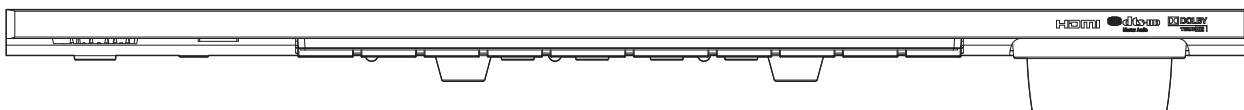
FRONT PANELS

Top view

U model

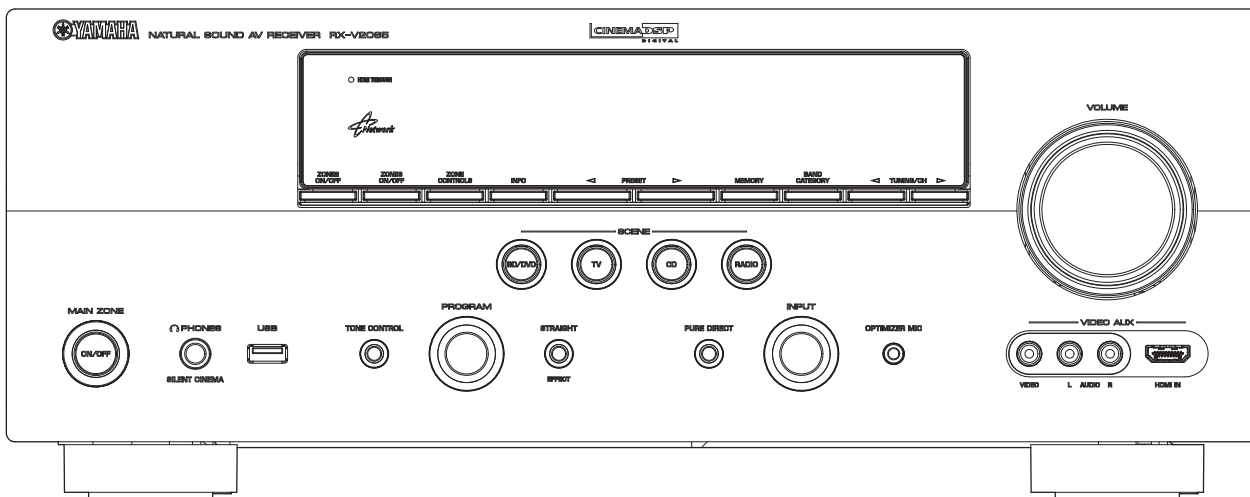


C, R, T, K, A, B, G, E, F, L models



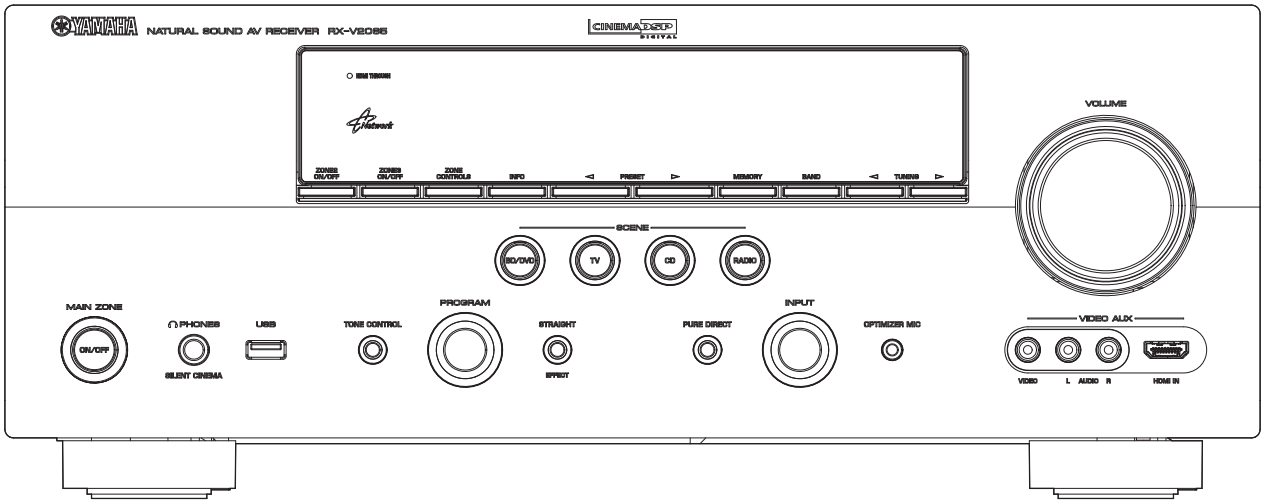
Front view

RX-V2065 (U model)

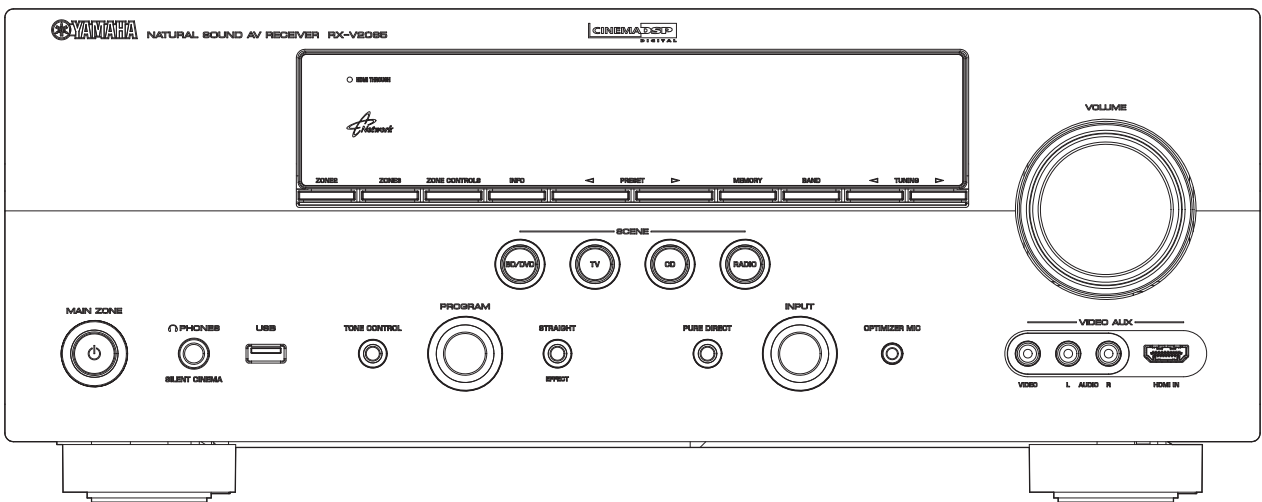


RX-V2065/HTR-6295

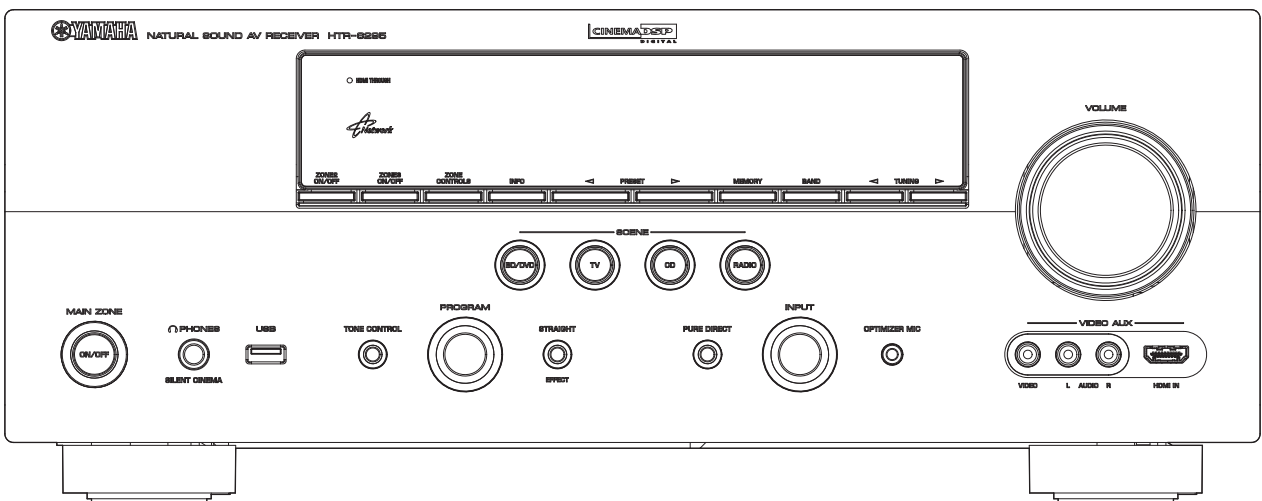
RX-V2065 (C, R, K, A, B, G, E, F, L models)



RX-V2065 (T model)



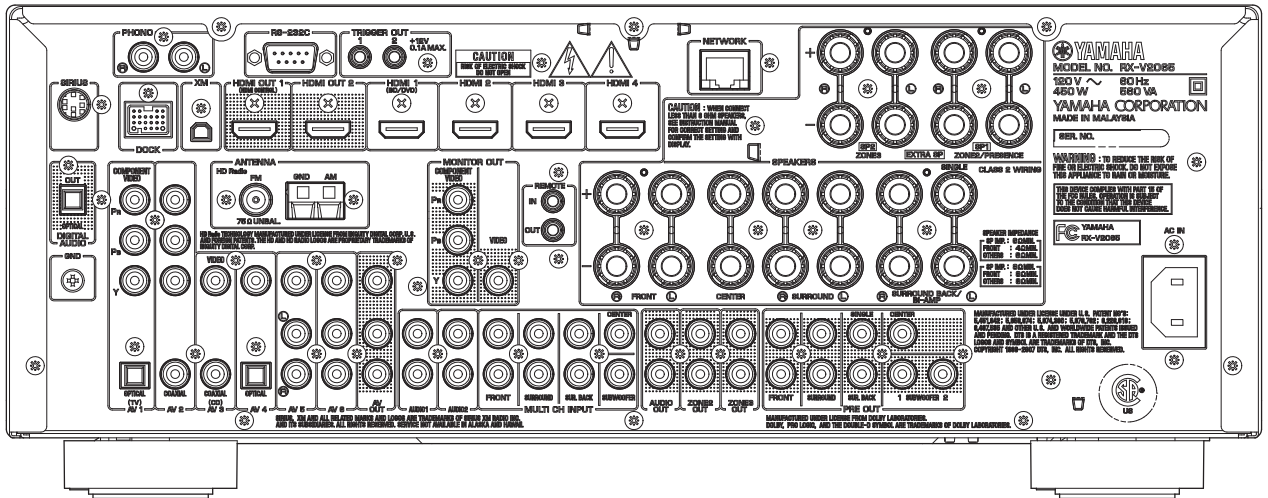
HTR-6295 (C model)



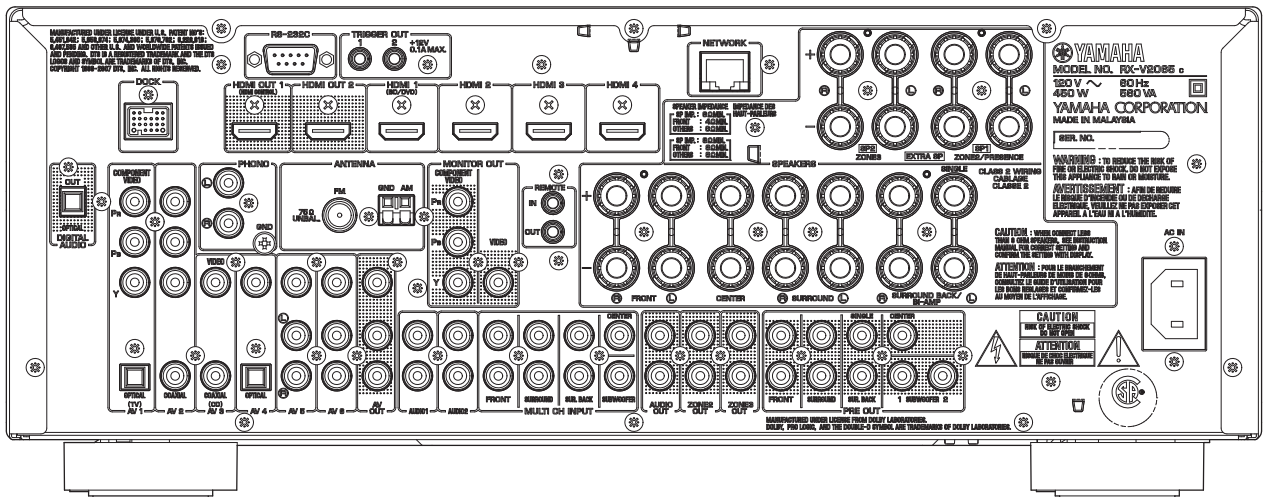
RX-V2065/HTR-6295

REAR PANELS

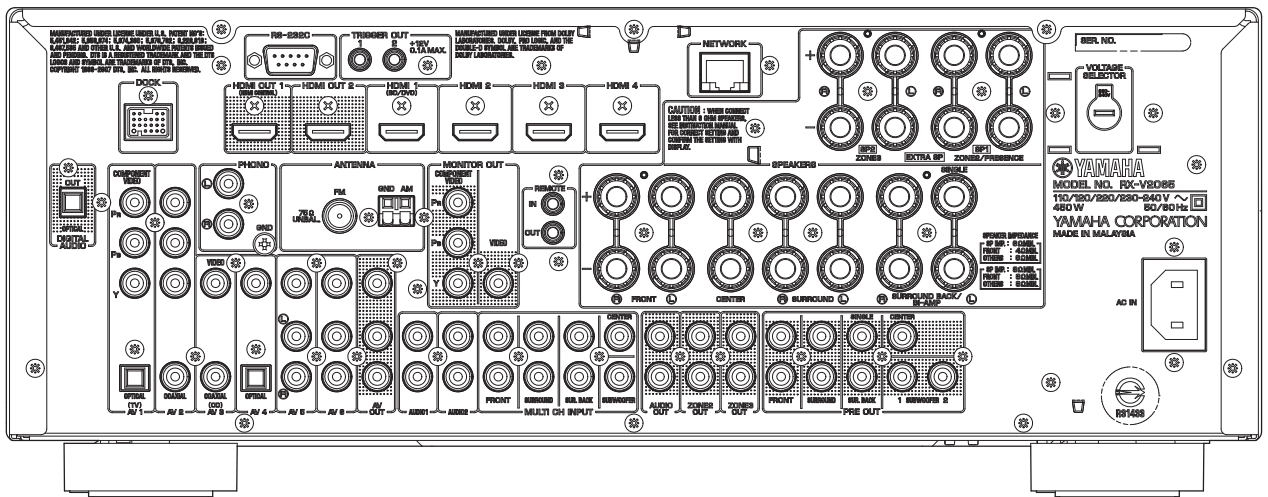
RX-V2065 (U model)



RX-V2065 (C model)

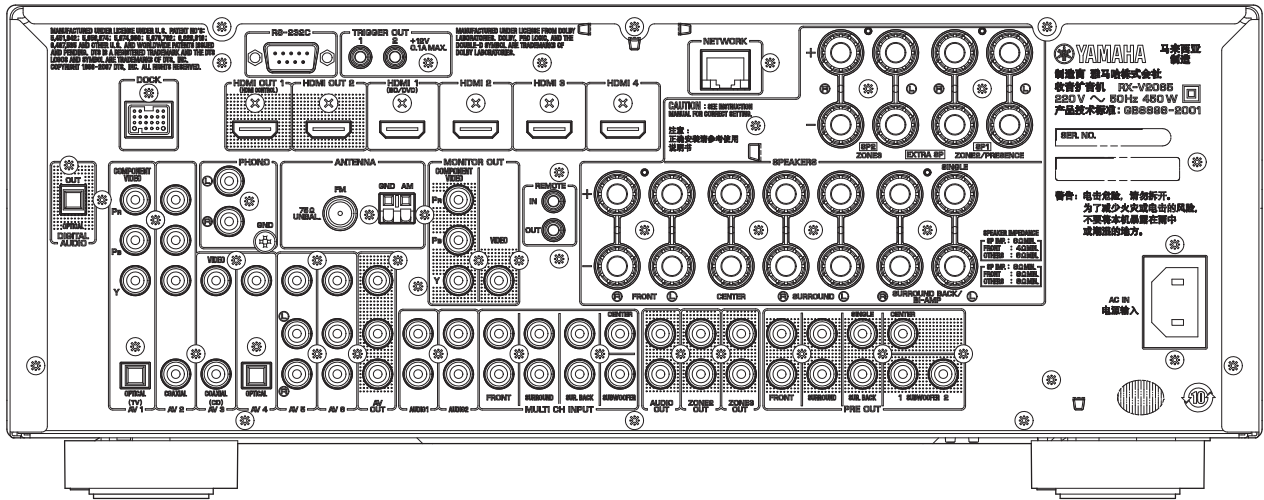


RX-V2065 (R model)

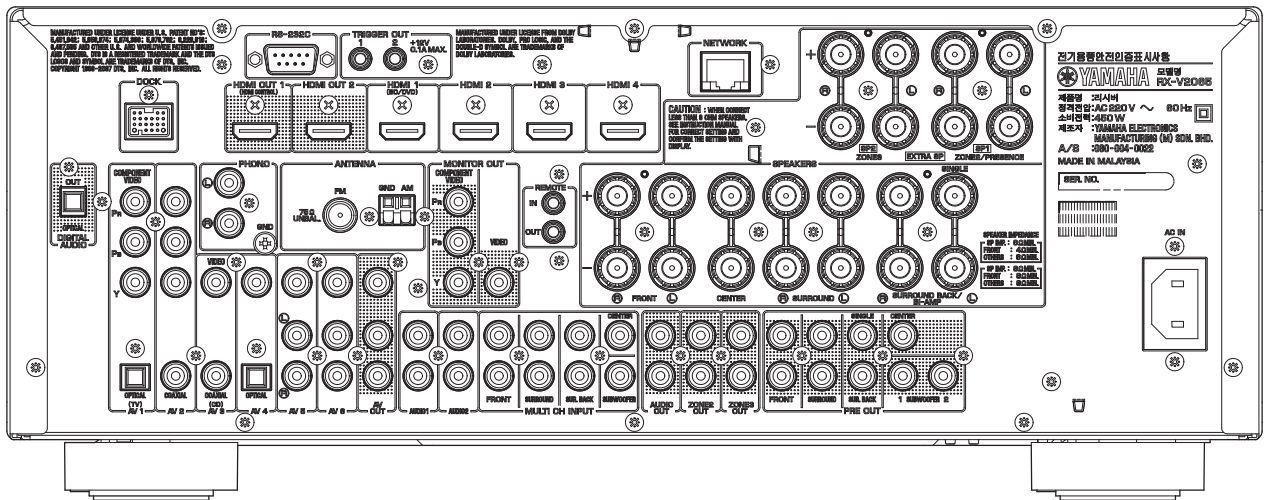


RX-V2065/HTR-6295

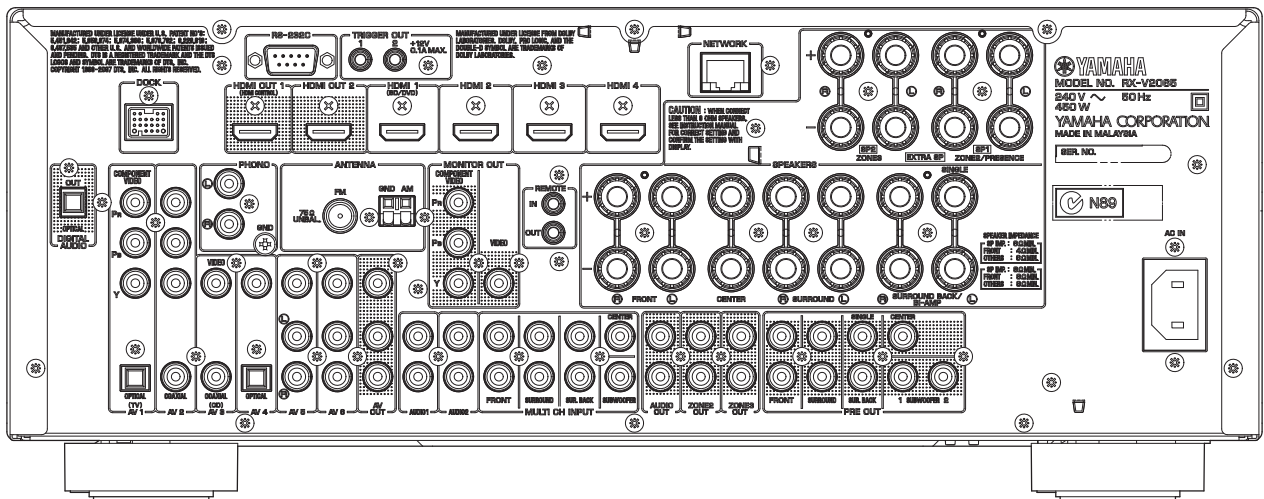
RX-V2065 (T model)



RX-V2065 (K model)



RX-V2065 (A model)

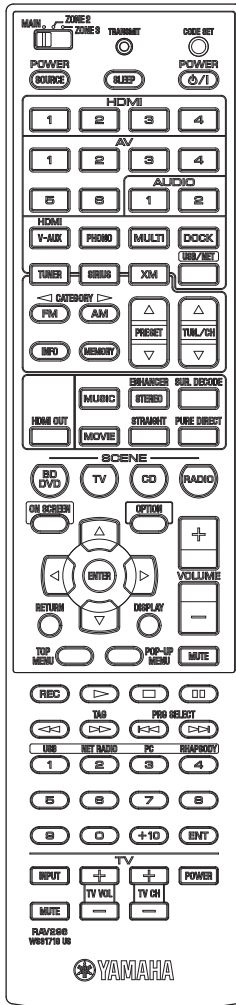


RX-V2065/HTR-6295

■ REMOTE CONTROL PANELS

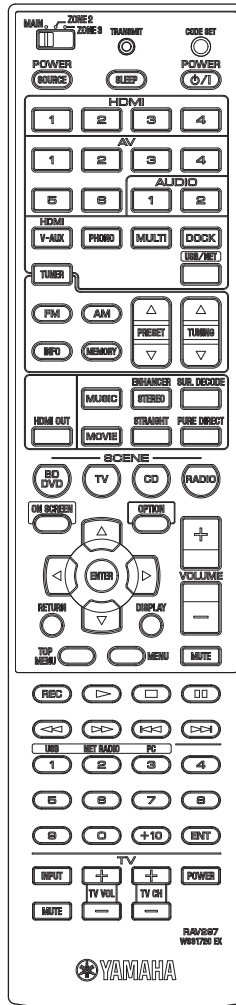
RAV296

(U model)



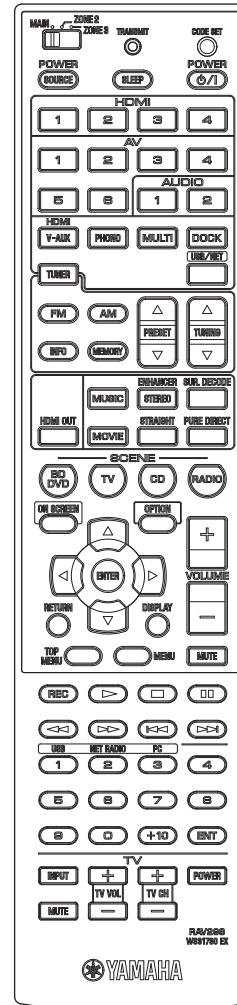
RAV297

(C, R, A, L models)



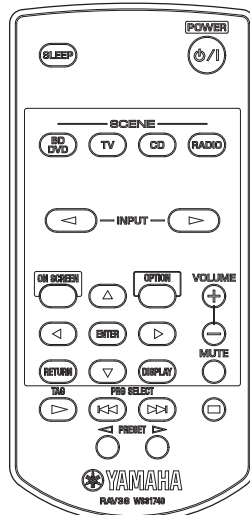
RAV298

(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
--	----------

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
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■ 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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This receiver supports network connections.

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HD Radio

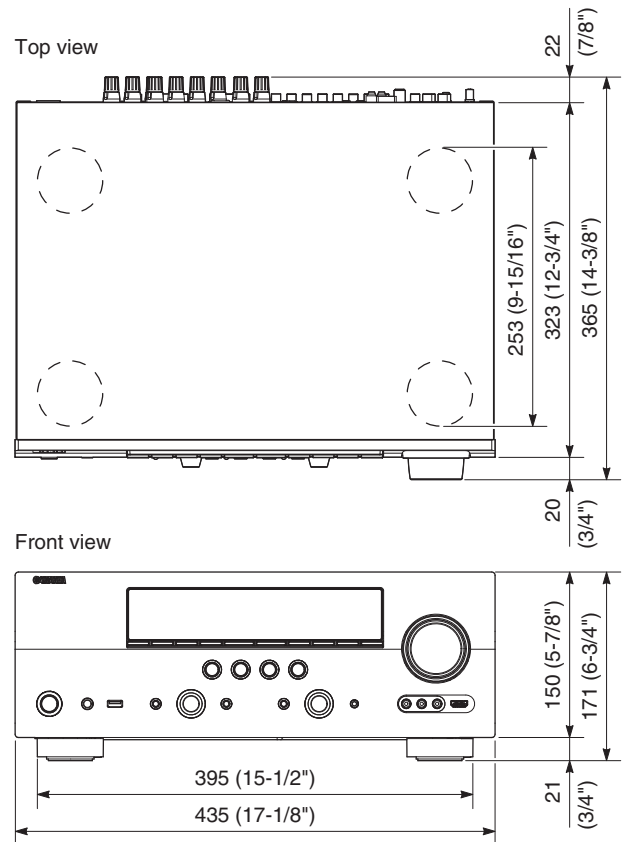
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• **DIMENSIONS**



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	● *1	●	●			●	●	●	●	●	●					●																●
	Spectacle	● *1	●	●	●	●	●	●	●	●	●	●					●															●	
	Sci-Fi	● *1	●	●	●	●		●	●		●	●					●															●	
	Adventure	● *1	●	●	●	●		●	●		●	●					●															●	
	Drama	● *1	●	●	●	●		●	●		●	●					●															●	
	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	● *2																							△	△	△	▲	■	■	●		
STRAIGHT																																	

- : The parameter to be used varies between when there is one surround pack 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 x Music	
	PL II x Game	
	Pro Logic II z	
	Neo:6 Cinema	
	Neo:6 Music	
	Neural Sur.	

• 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 / Large x 1 / Small x 1 / Large x 2 / [Small x 2]	
		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	Front R	-10.0 to +10.0 dB, [0 dB], 0.5 dB step
		Center		
		Surround L		
		Surround R	Surround R	-10.0 to +10.0 dB, [-1.0 dB], 0.5 dB step
		Surround Back L		
		Surround Back R		
		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		Front R	0.30 to 24.00 m, [3.00 m]
	Center			
	Surround L		Surround R	0.30 to 24.00 m, [2.40 m]
	Surround Back L			
	Surround Back R			
	Subwoofer		Presence L	0.30 to 24.00 m, [3.00 m]
	Presence R			
	Front L		Front R	1.0 to 80.0 ft, [10.0 ft]
	Center			
	Surround L		Surround R	1.0 to 80.0 ft, [8.0 ft]
Surround Back L				
Surround Back R				
Subwoofer	Presence L		1.0 to 80.0 ft, [10.0 ft]	
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
	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			

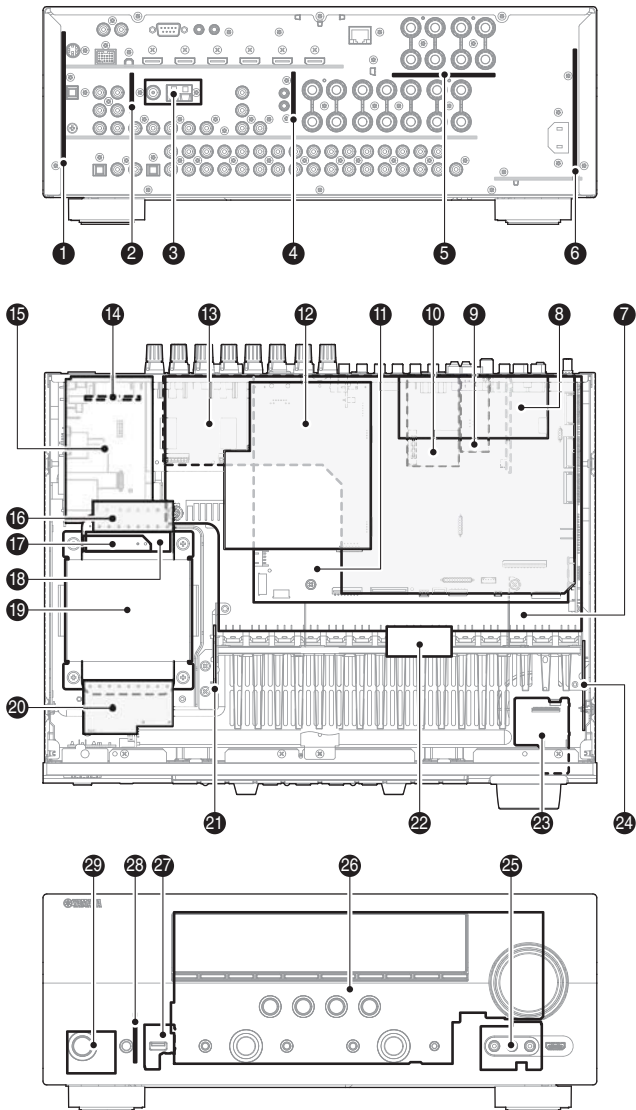
RX-V2065/HTR-6295

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		
		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	
	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		
		Surround L Level		
		Surround R Level		
		Surround Back Level		
		Initialize		0 to 100 %
MUSIC ENHANCER	Straight Enhancer	Effect Level · High		
		Initialize		
	7ch Enhancer	Effect Level · High		
		Initialize		

RX-V2065/HTR-6295

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 [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		
	[7]	P. Room Size	0.1 to 2.0	
	[8]	Sur. Room Size		
	[10]	Liveness		
	[11]	S. Liveness	0 to 10	
	[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)

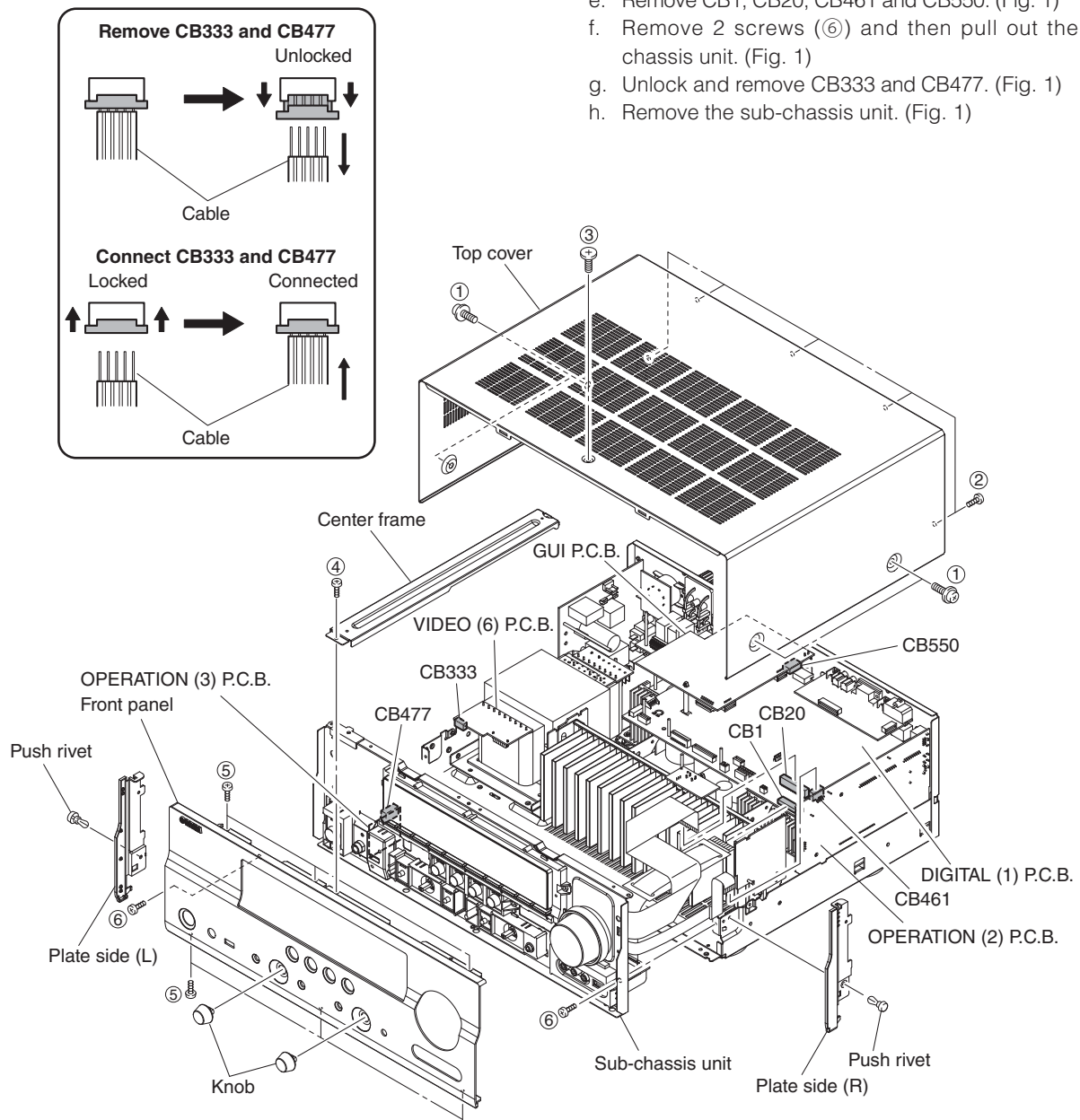


Fig. 1

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

- a. Remove 2 screws (7). (Fig. 2)
- b. Remove CB501. (Fig. 2)
- c. Unlock and remove CB500 and CB503. (Fig. 2)
- d. Release hook, and remove the GUI P.C.B.. (Fig. 2)
- e. Remove 2 screws (8) and 2 jack screws. (Fig. 2)
- f. Remove CB80 (U model). (Fig. 2)
- g. Unlock and remove CB81. (Fig. 2)
- h. Remove the DIGITAL (3) P.C.B.. (Fig. 2)
- i. 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)
- j. Remove screw (11) and 2 screws (12). (Fig. 2)
- k. Remove CB7, CB21, CB25, CB29, CB31, CB71 and CB73 (B, G, E, F models). (Fig. 2)
- l. Unlock and remove CB22–24. (Fig. 2)
- m. 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

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

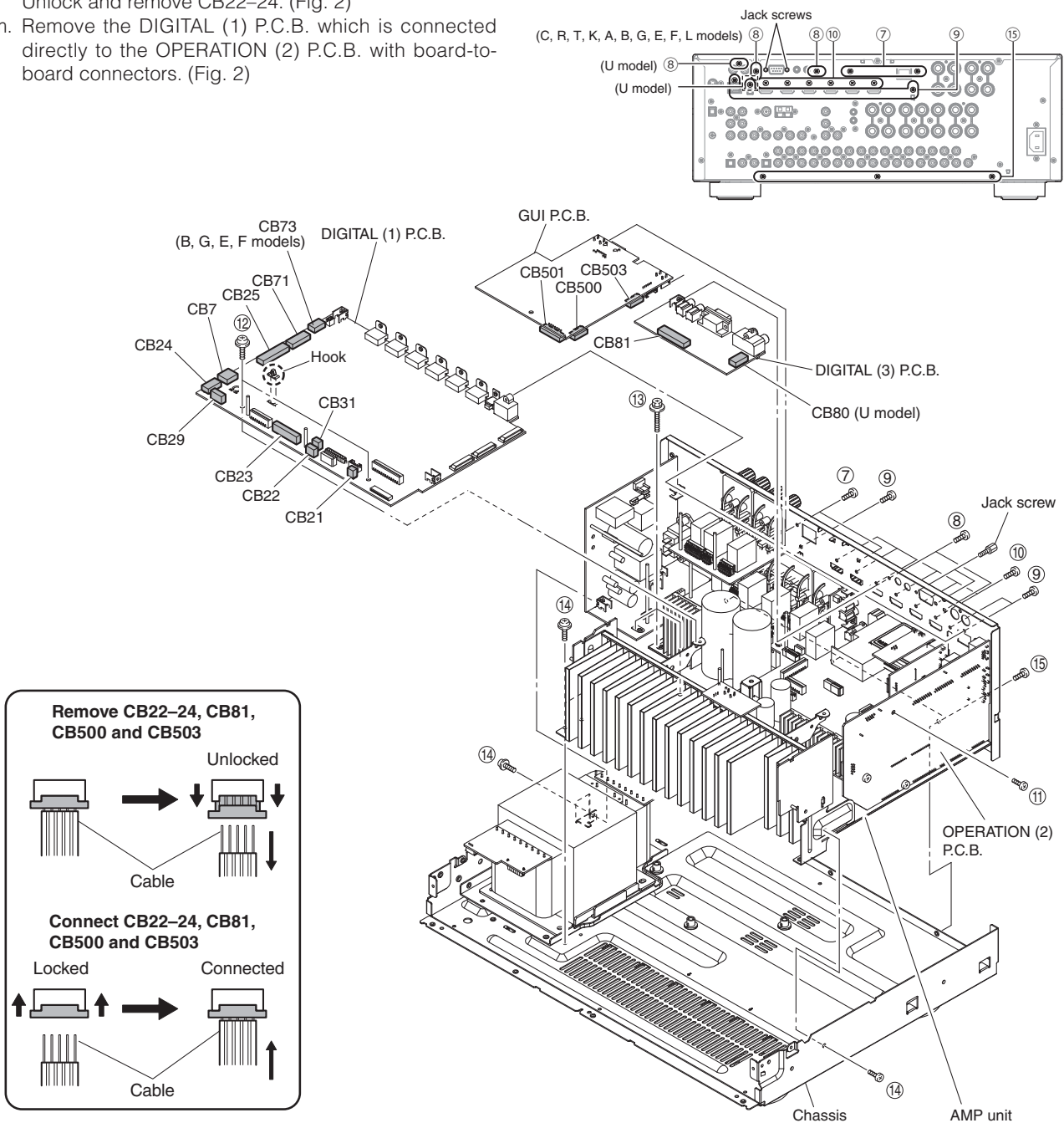


Fig. 2

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)

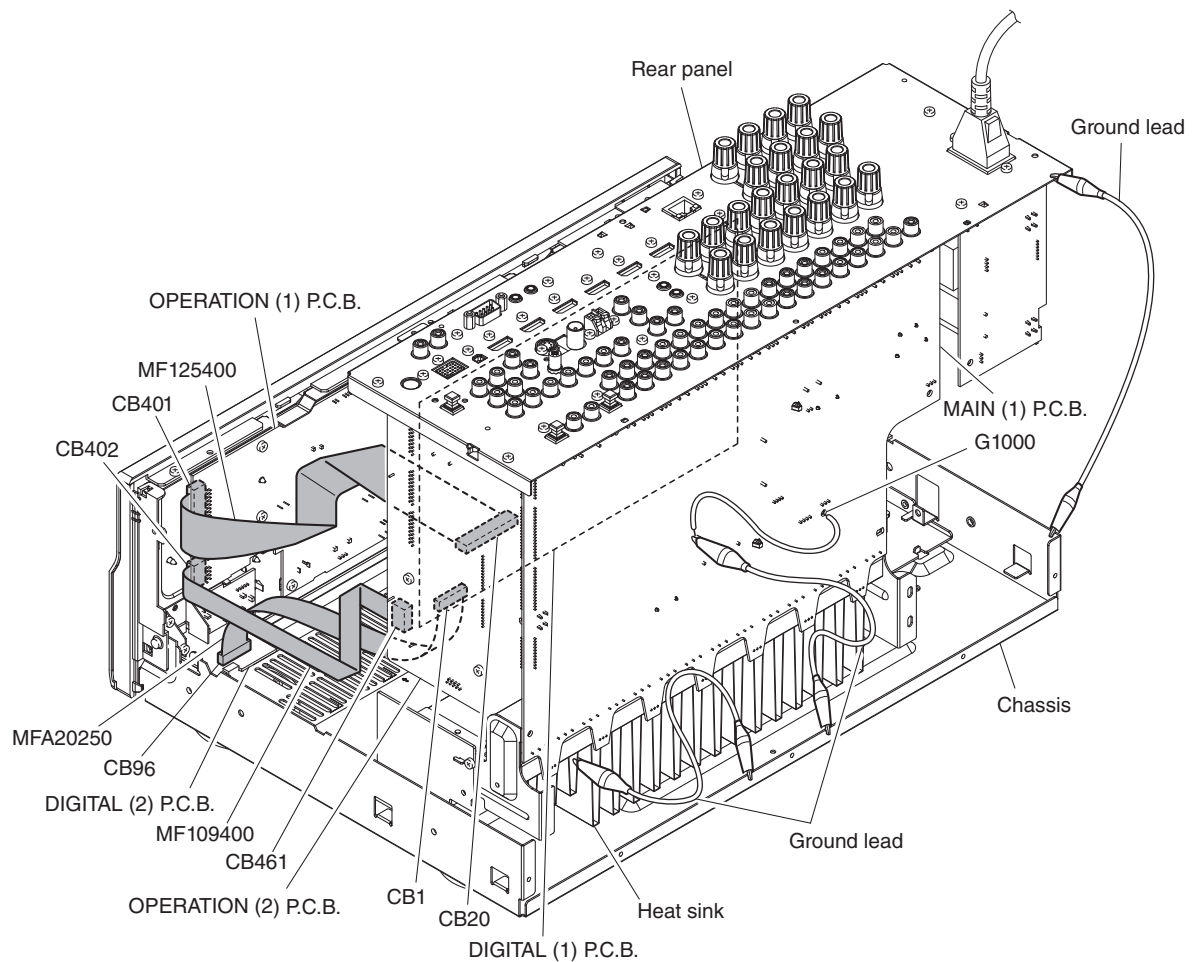


Fig. 3

■ 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

Ver: 0024

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

All checksum

Sum: 5253

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

TI (DSP) FLASH ROM version

TiVer:01.03r1

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

TI (DSP) FLASH ROM checksum

TiSum:F1AD0135A

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

BF version

BF Ver: 0019

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

BF checksum 1 (All/Master boot)

Al:3ED2Ma:0122

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

BF checksum 2 (Application/USB)

Ap:67DAUs:ADBC

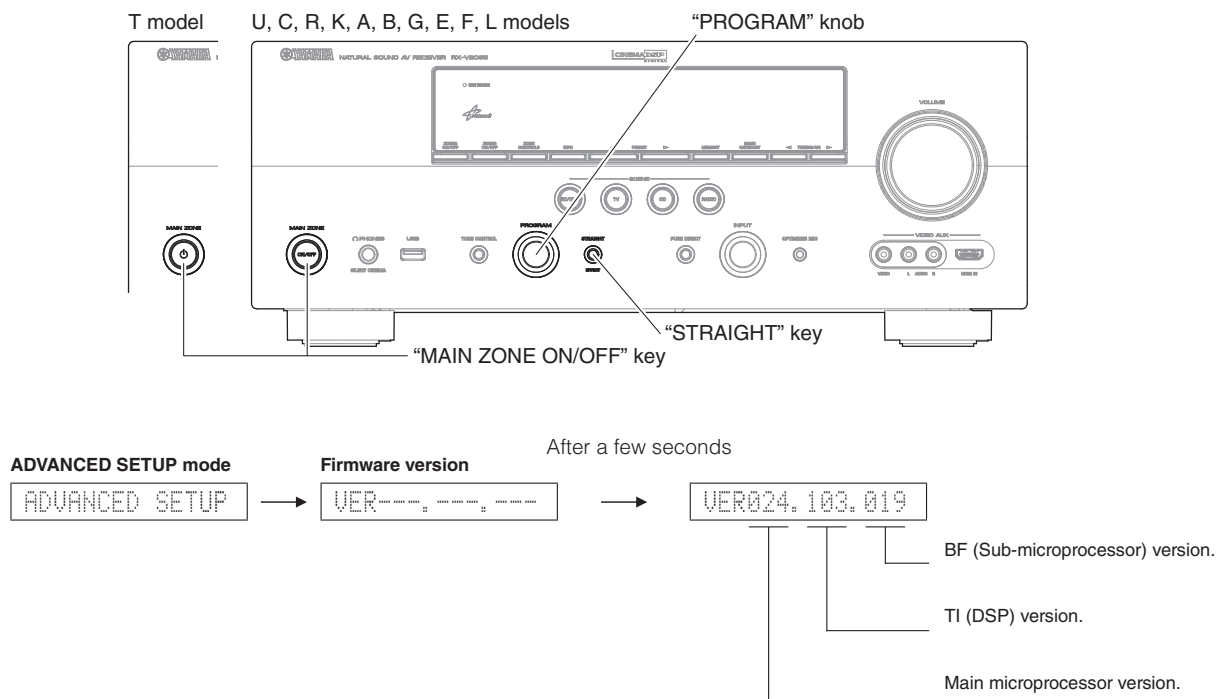
The checksum value (Application/USB) of BF (sub-microprocessor, IC505 GUI P.C.B.) is displayed.

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.



Note) The checksum is not 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.bin
 HTR-6295 : HTR-6295_xxxx.bin

● **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).

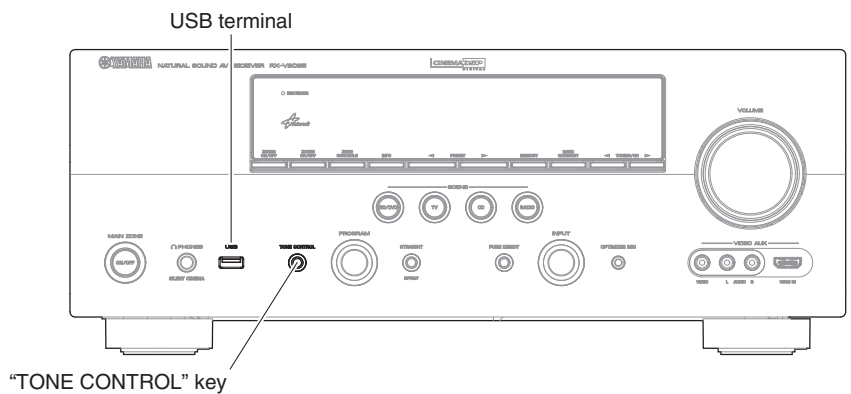


Fig. 2

Writing is started.

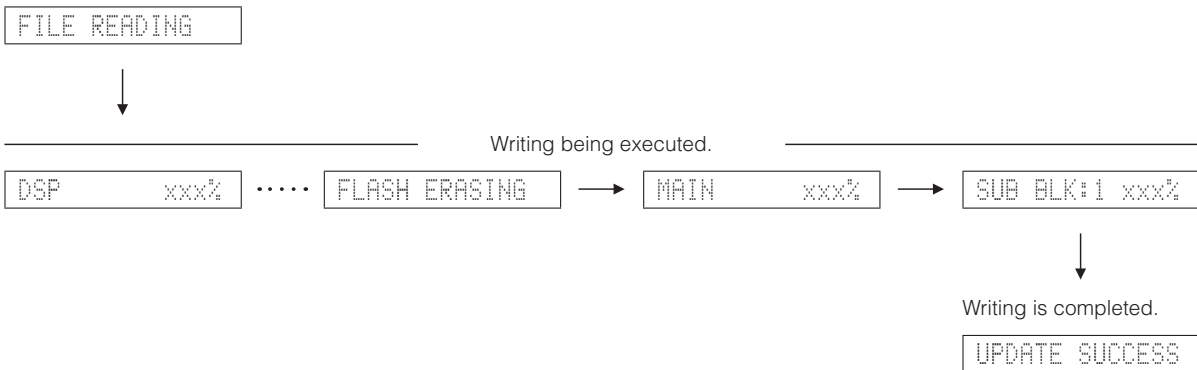


Fig. 3

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.2 RxD |
| Pin No.3 TxD | ————— | Pin No.3 TxD |
| Pin No.5 GND | ————— | Pin No.5 GND |
| Pin No.7 RTS | ————— | Pin No.7 RTS |
| Pin No.8 CTS | ————— | Pin No.8 CTS |
- 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)

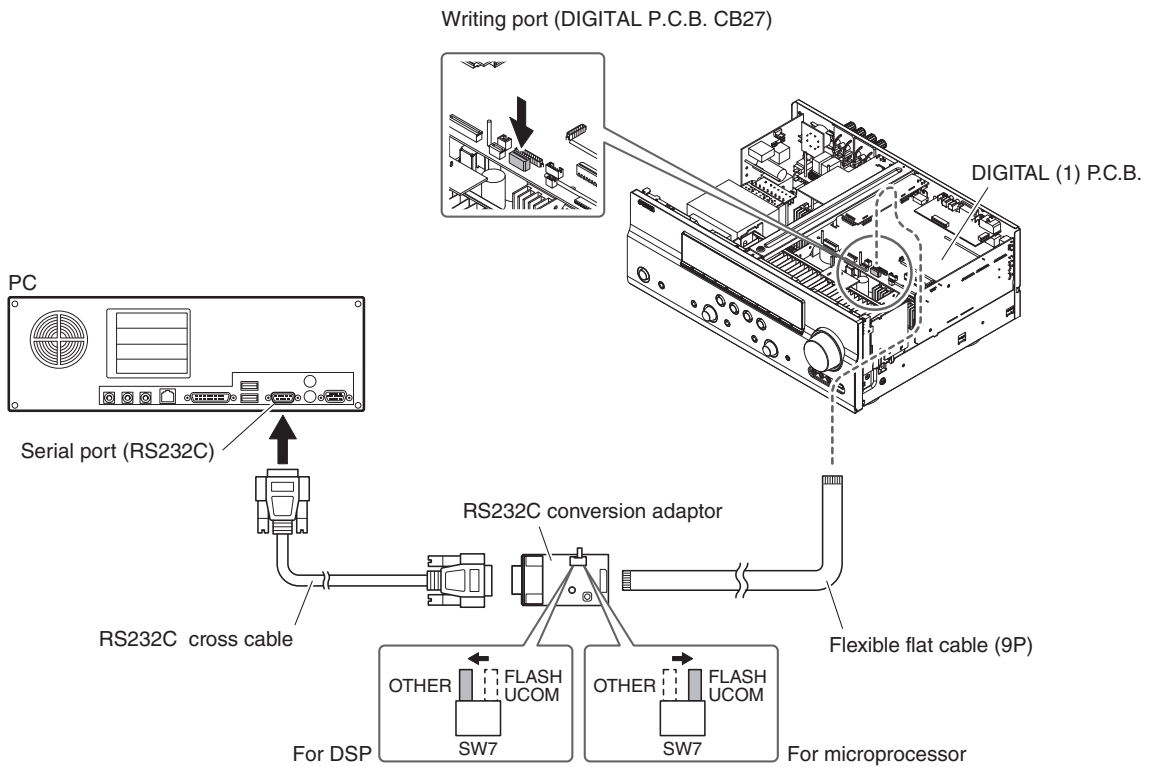


Fig. 1

● 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)

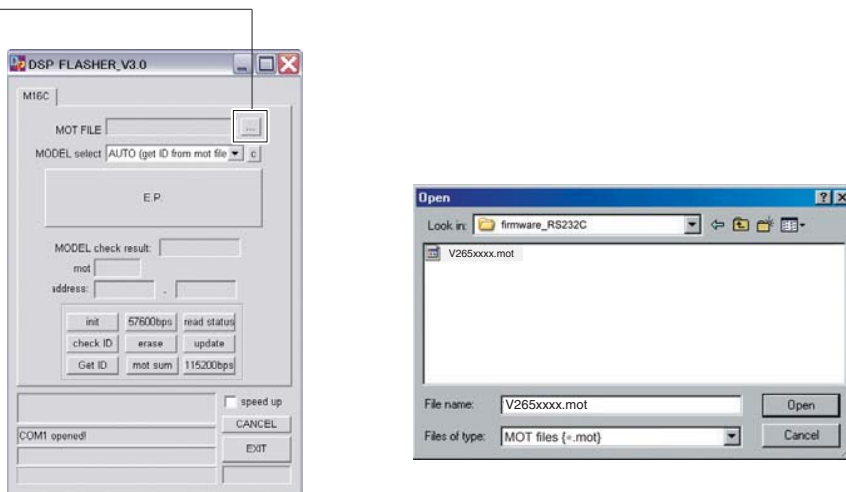


Fig. 2

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)

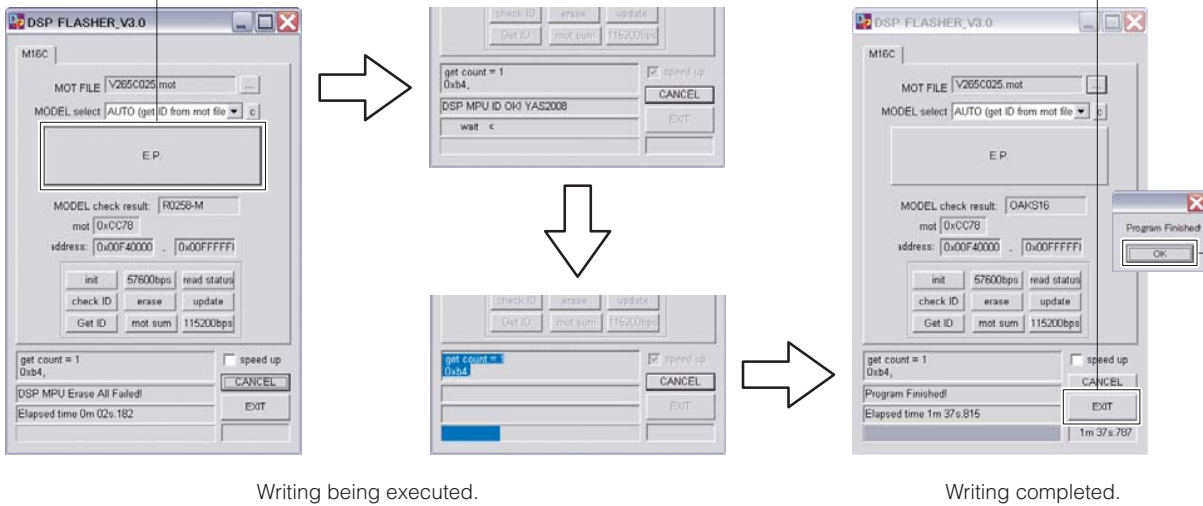


Fig. 3

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)

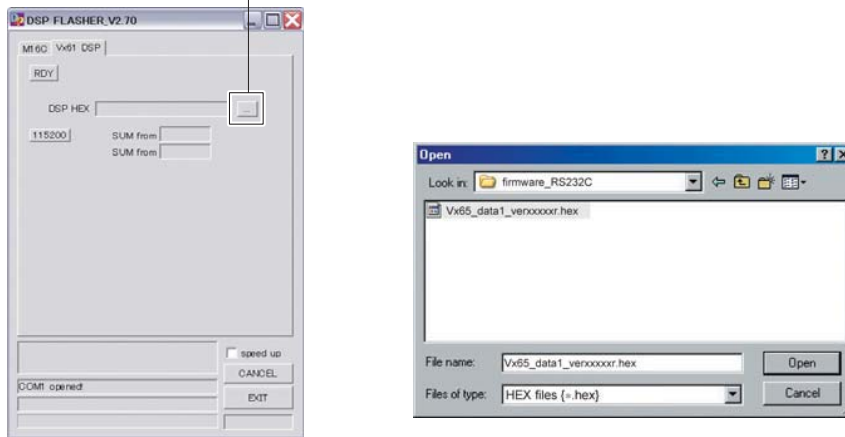


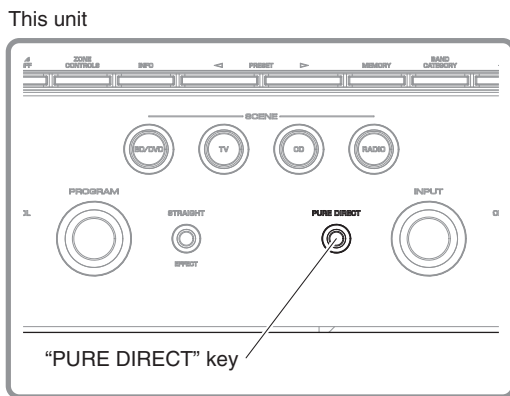
Fig. 5

- 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 6 ohms
5	MULTI CH-INPUT	1	8ch INPUT 6 ohms
		2	8ch 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

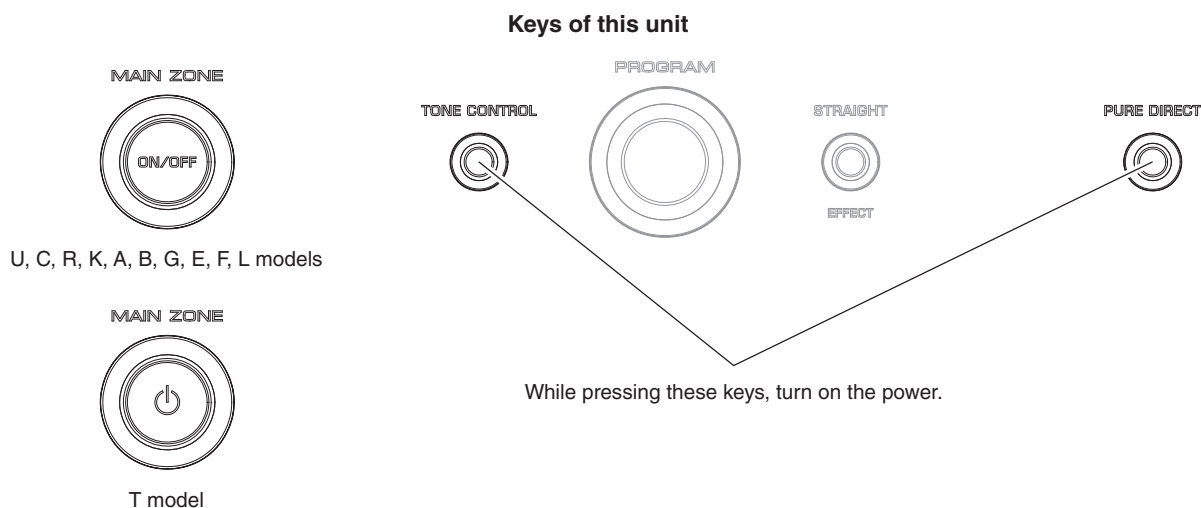
No.	Main menu	Sub-menu	
10	VIDEO CHECK	1	I2C
		2	DIGITAL COMPONENT
		3	DIGITAL CVBS
		4	DIGITAL Y/C (B, G, E, F models)
		5	ANALOG BYPASS
		6	TEST PATTERN
		7	VIDEO INFORMATION
11	XM STATUS (U model)	1	1k -1dB /44kHz
		2	1k -61dB /44kHz
		3	Mute /44kHz
		4	XM Tone /44kHz
		5	ISO Tone /44kHz
		6	1k -1dB /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

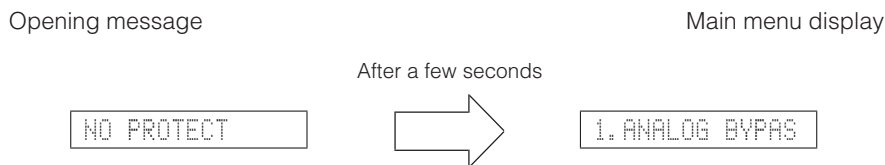
1. Before canceling self-diagnostic function, execute setting for FACTORY PRESET of main menu No. 24 (Memory initialization inhibited or Memory initialized).
 - * In order to keep the user memory stored, be sure to select PRESET INHIBITED (Memory initialization inhibited).
2. Press the “MAIN ZONE ON/OFF”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



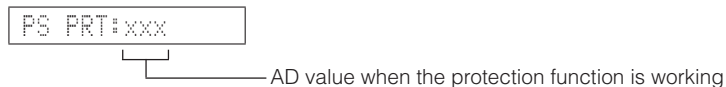
2. When the protection function worked to turn off the power:

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 PRT: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.

PRV PRT:xxx

AD value when the protection function is working

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.

THM PRT:xxx

AD value when the protection function is working

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

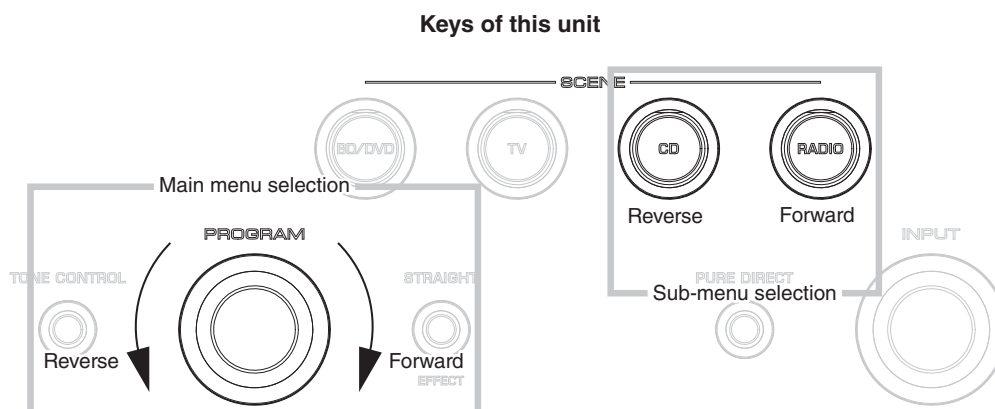
There are 27 main menu items, each of them having sub-menu items.

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.



INPUT: AV5 ANALOG

SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

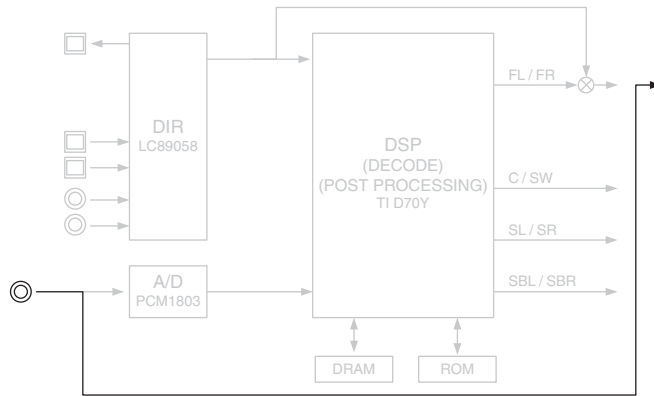
Input level	Volume	SPEAKER OUT							SUB-WOOFER OUTPUT
		FRONT	CENTER	SURROUND	SURROUND BACK	PRESENCE	ZONE2	ZONE3	
Both ch, -20 dBm	+6.5 dB	+13.0 dBm	-∞	-∞	-∞	-∞	-∞	-∞	-∞

DSP BYPASS

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

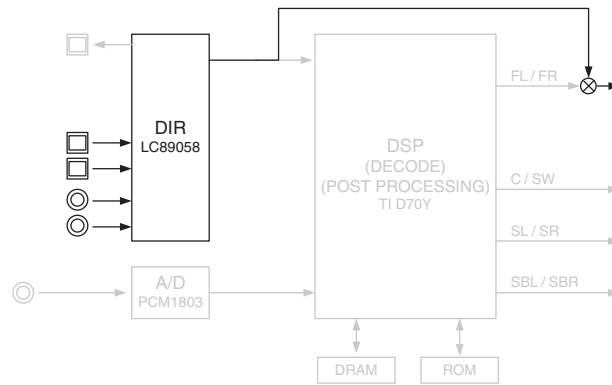


ANALOG BYPASS



(Shaded items not used in this example)

DSP BYPASS



(Shaded items not used in this example)

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

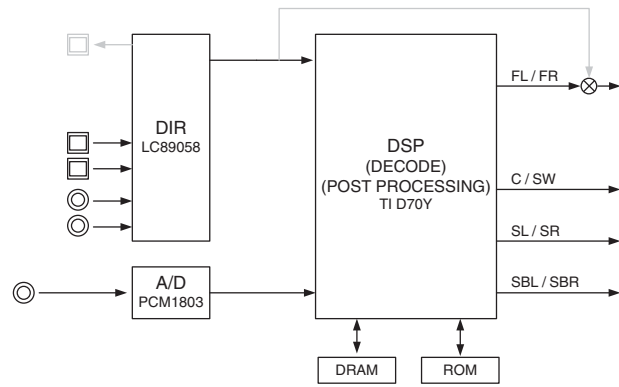
The audio signal is output in digital full bit without including the head margin.
 The SUBWOOFER signal is output but not in digital full bit.

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



(Shaded items not used in this example)

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

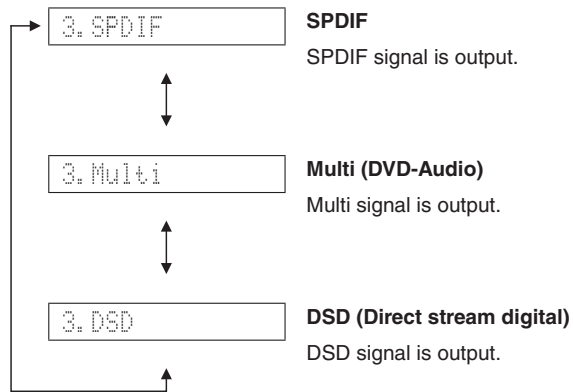
SPEAKER OUT: 1 kHz, SUBWOOFER OUTPUT: 50 Hz

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

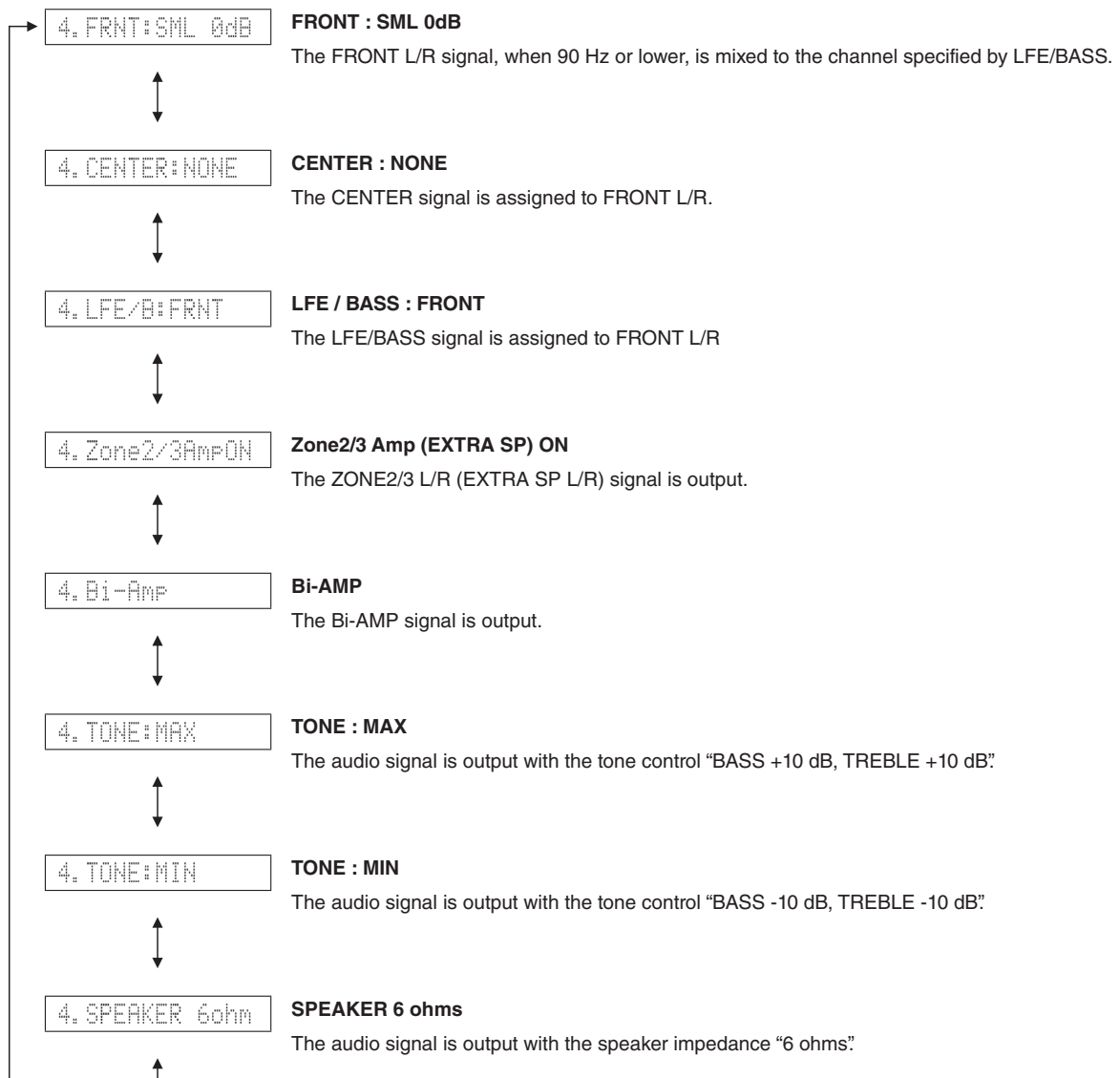
LARGE: This mode is used for a speaker with high bass reproduction performance (a large unit). Full bandwidth signals are output.

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_60

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_80

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)

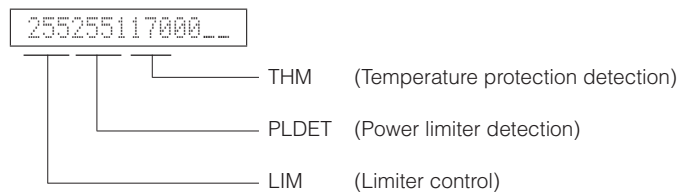
* Do not change the value settings because this menu is only for the use of development staff.

PLDET: Power limiter detection

The A/D conversion value during operation is displayed.
 (Reference voltage: 3.3 V=255)

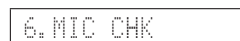
THM: Temperature protection detection

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.

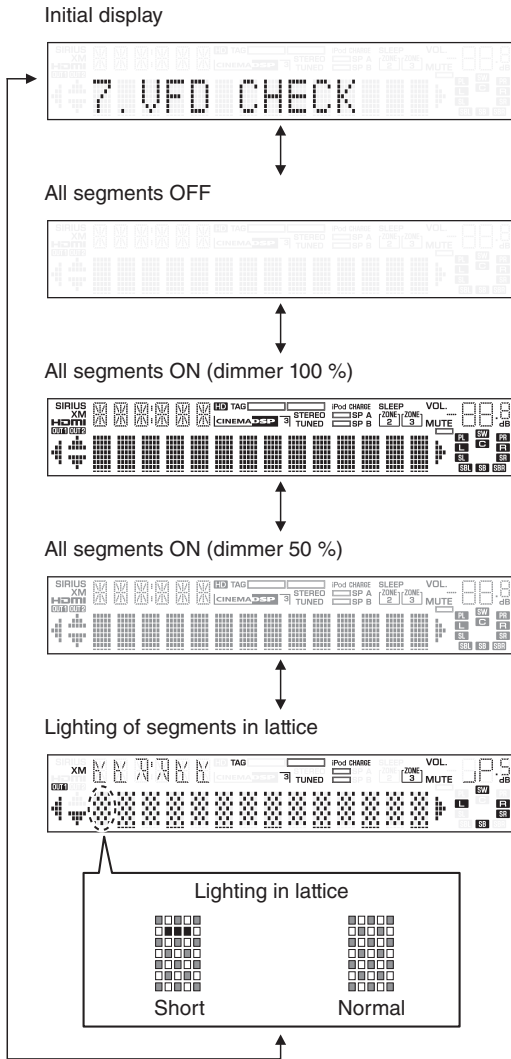


7. FL/GUI CHECK

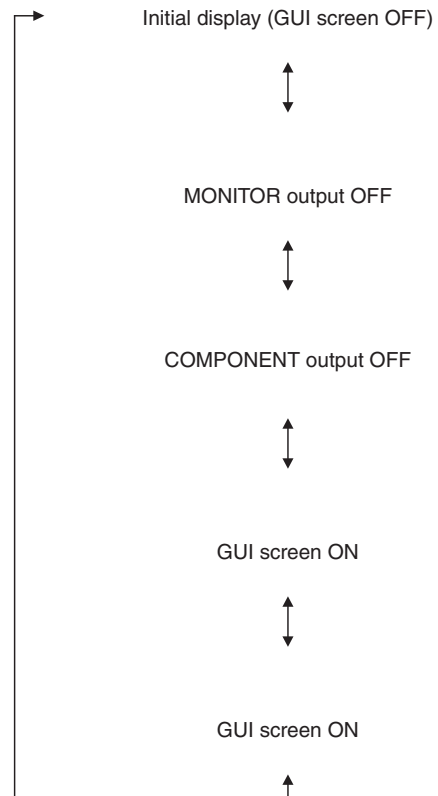
This menu is used to check the FL display and video control sections. When checking the video control section, connect a TV monitor to this unit with a component video cable and video pin cable.

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

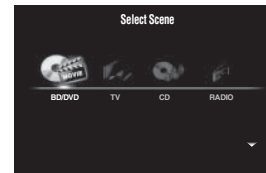
Checking FL display section



Check of the Video control section. (Monitor out)



GUI screen



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.



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.



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

RX-V2065/HTR-6295

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

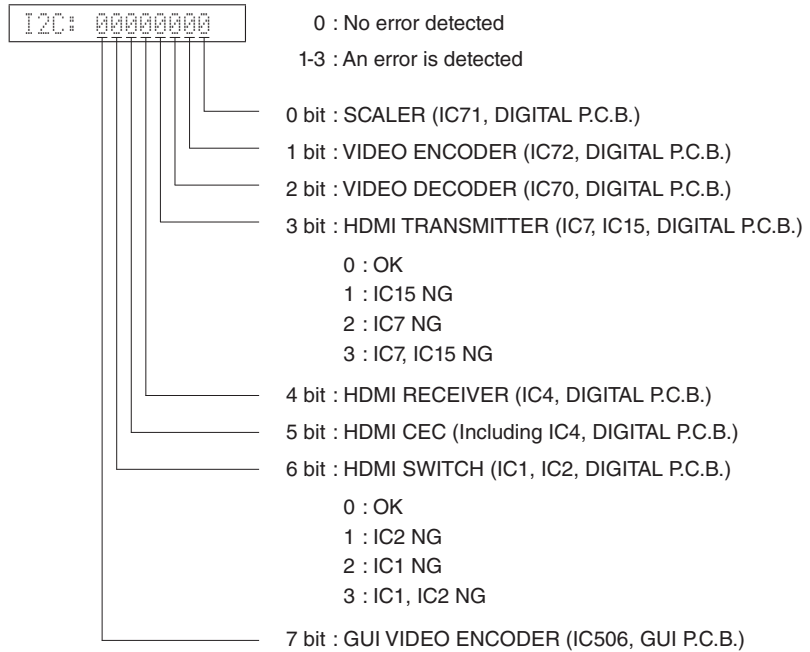
Display	K0
0 – 11	SCENE RADIO
12 – 32	SCENE CD
33 – 54	SCENE TV
55 – 75	SCENE BD/DVD
76 – 95	ZONE2 ON/OFF
96 – 118	ZONE3 ON/OFF
119 – 142	—
143 – 162	—
181 – 197	MAIN ZONE ON/OFF
198 – 229	TONE CONTROL
255	KEY OFF

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

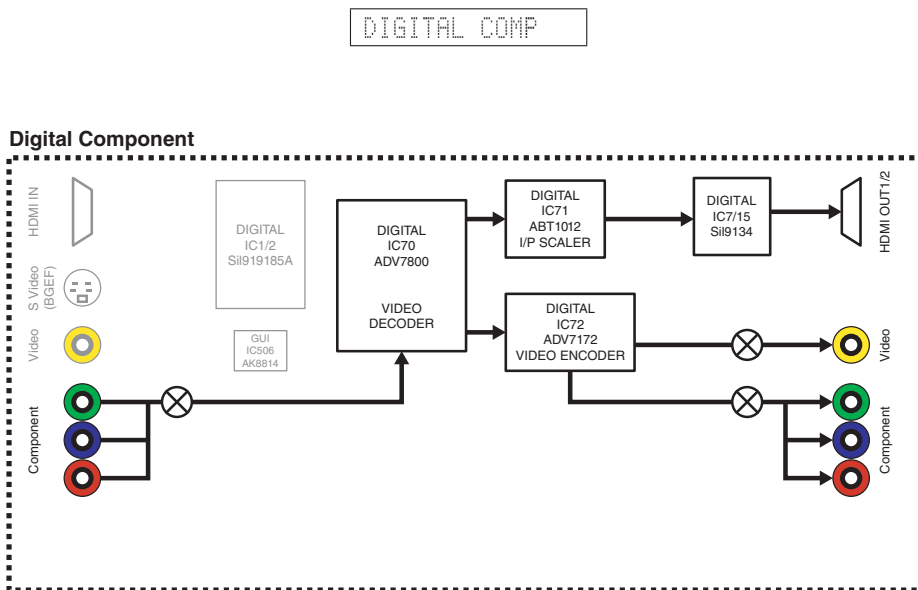
I2C check

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



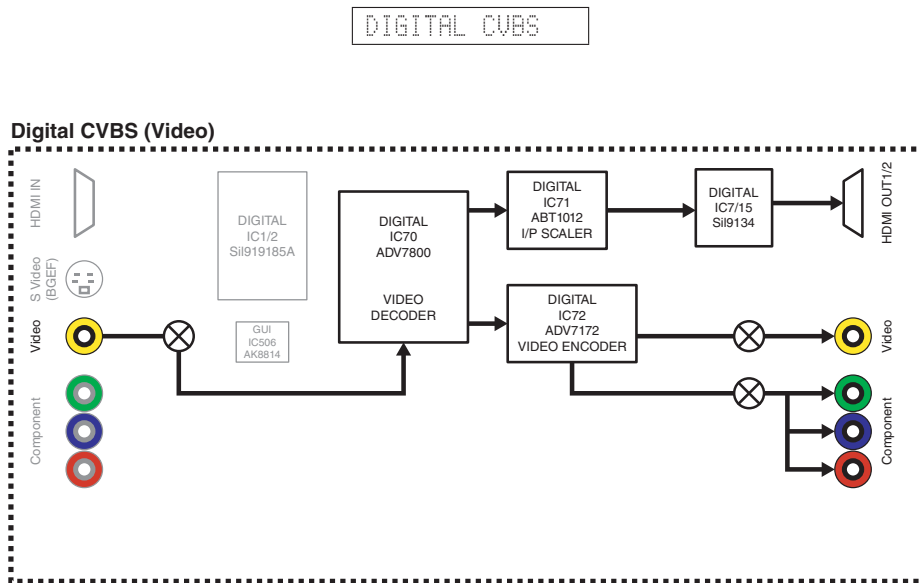
Digital component

The video signal is converted and output as shown below.



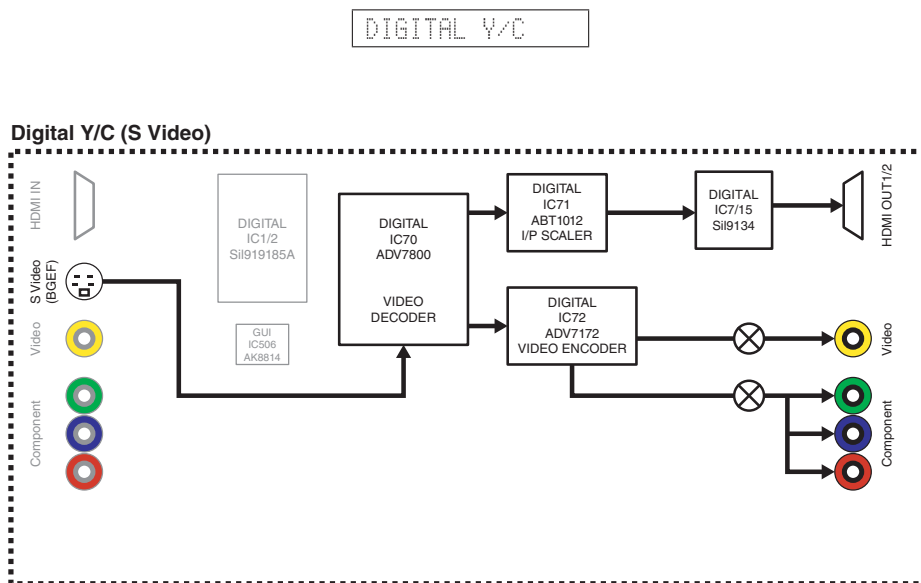
Digital CVBS (Video)

The video signal is converted and output as shown below.



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

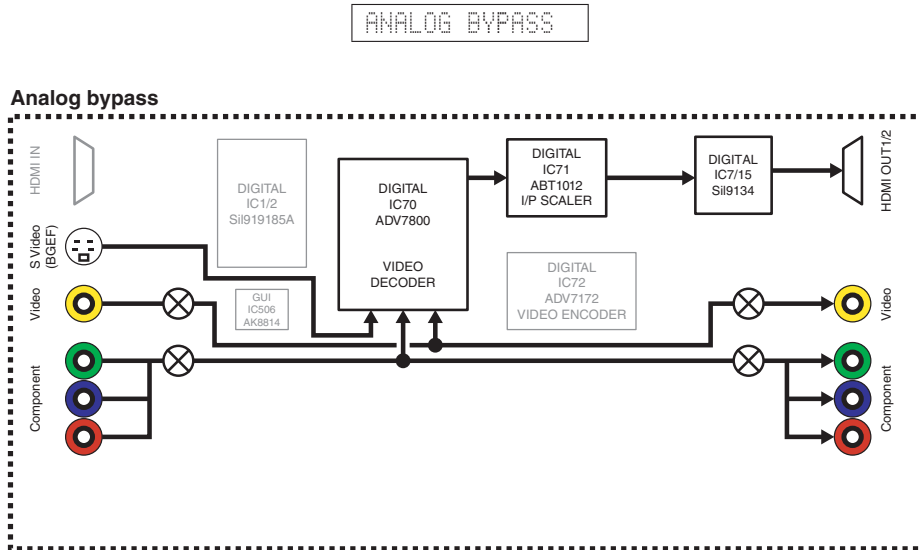
The video signal is converted and output as shown below.



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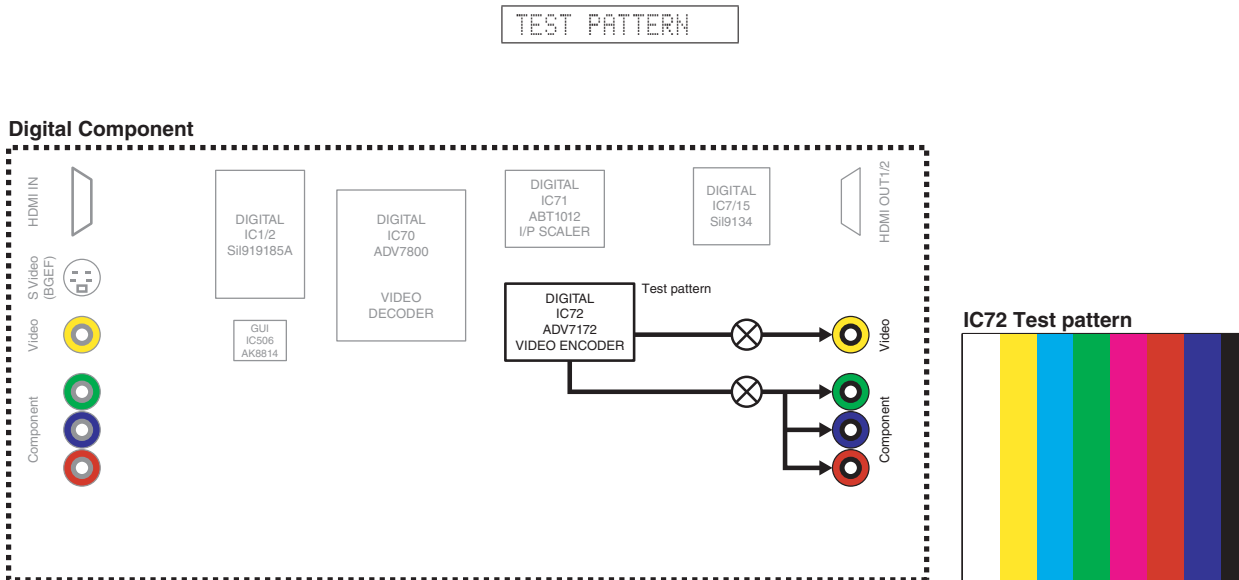
Analog bypass

The video signal is converted and output as shown below.



Test pattern

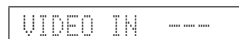
The test pattern is output from IC72 (DIGITAL P.C.B.).



Video information

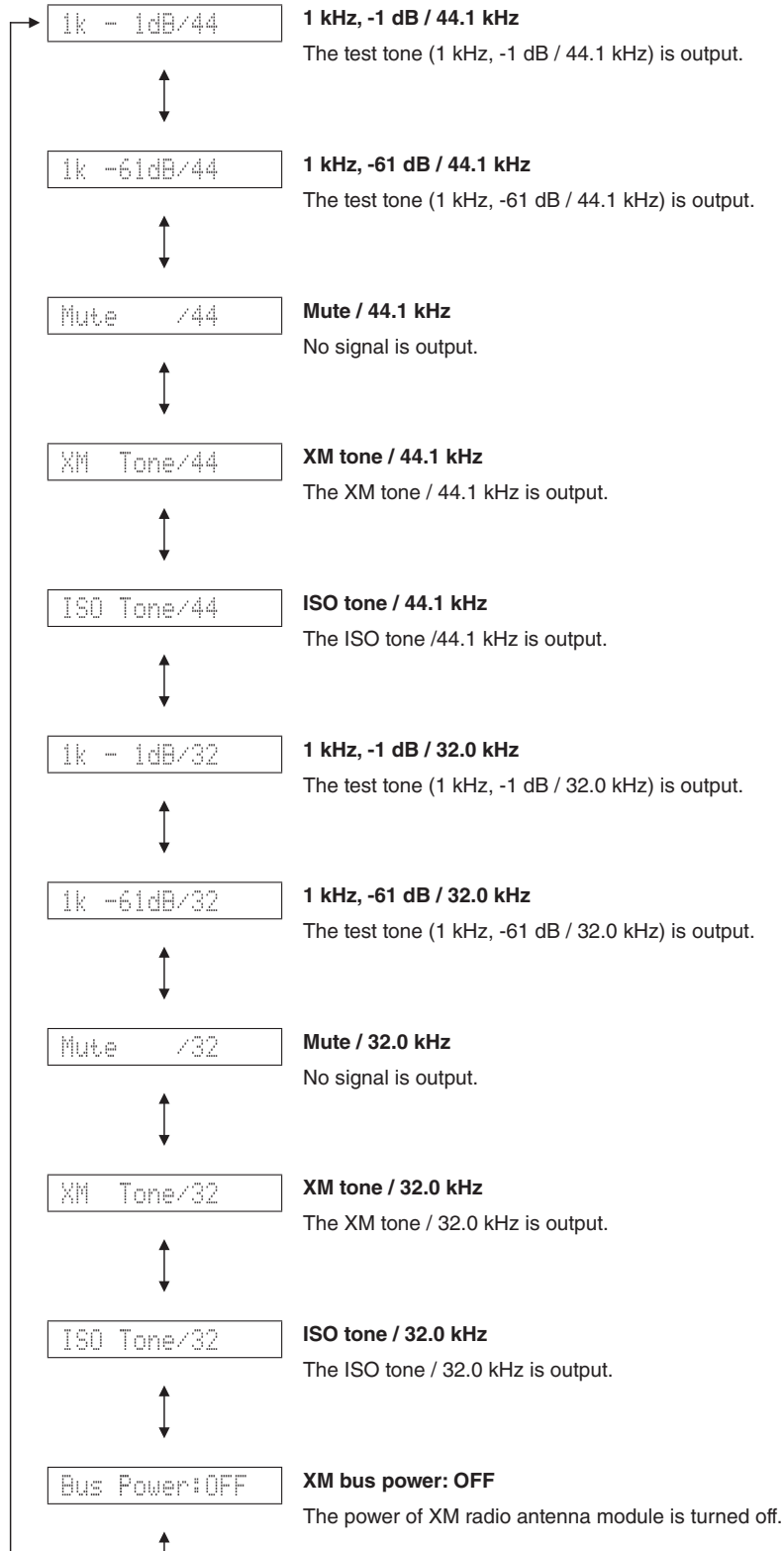
The information of input video signal is displayed.

Example



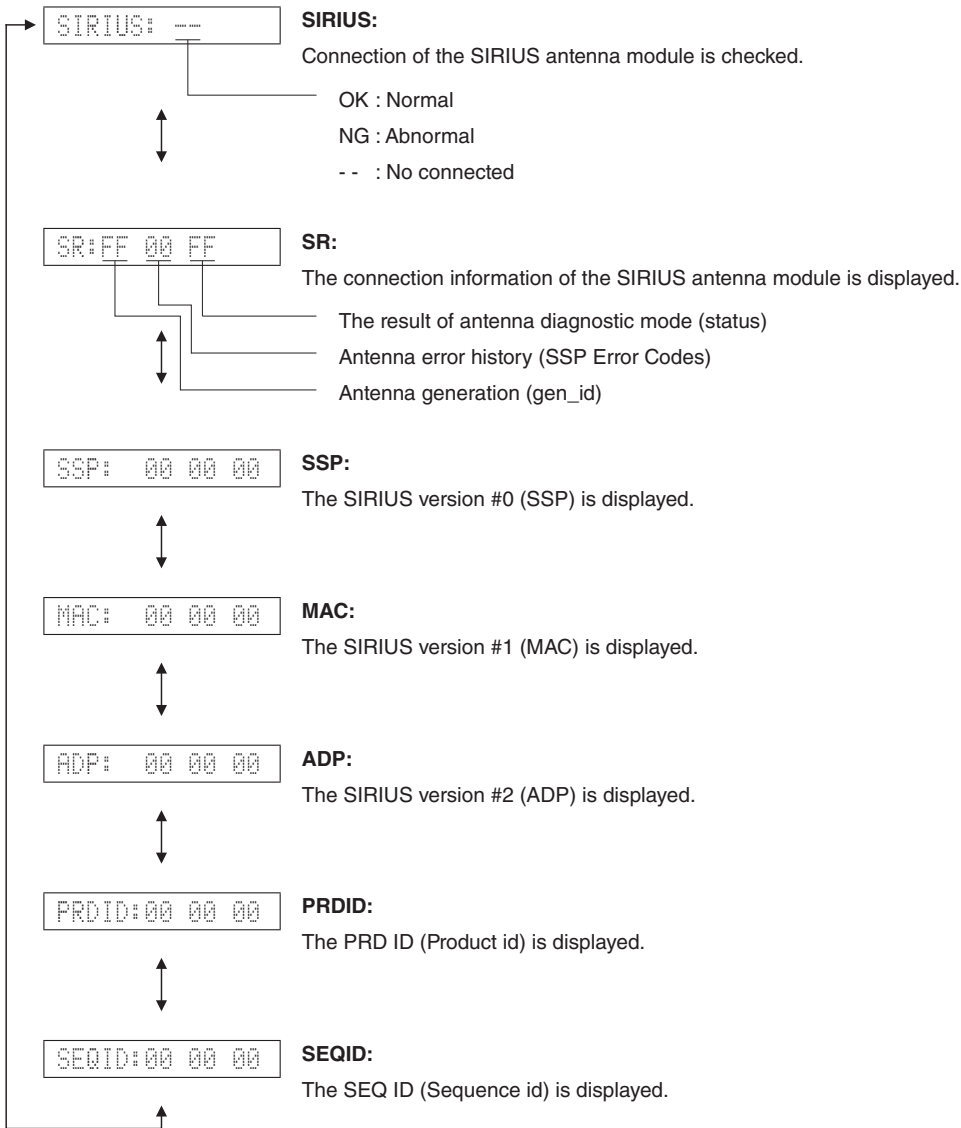
11. XM STATUS (U model)

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:C0003.000

14. DOCK

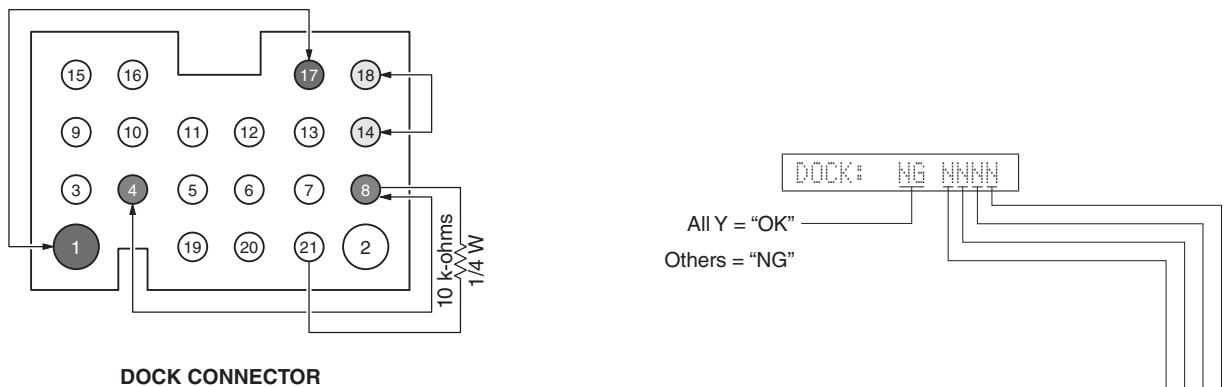
This menu is used to check the DOCK connector without the iPod itself.

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.



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

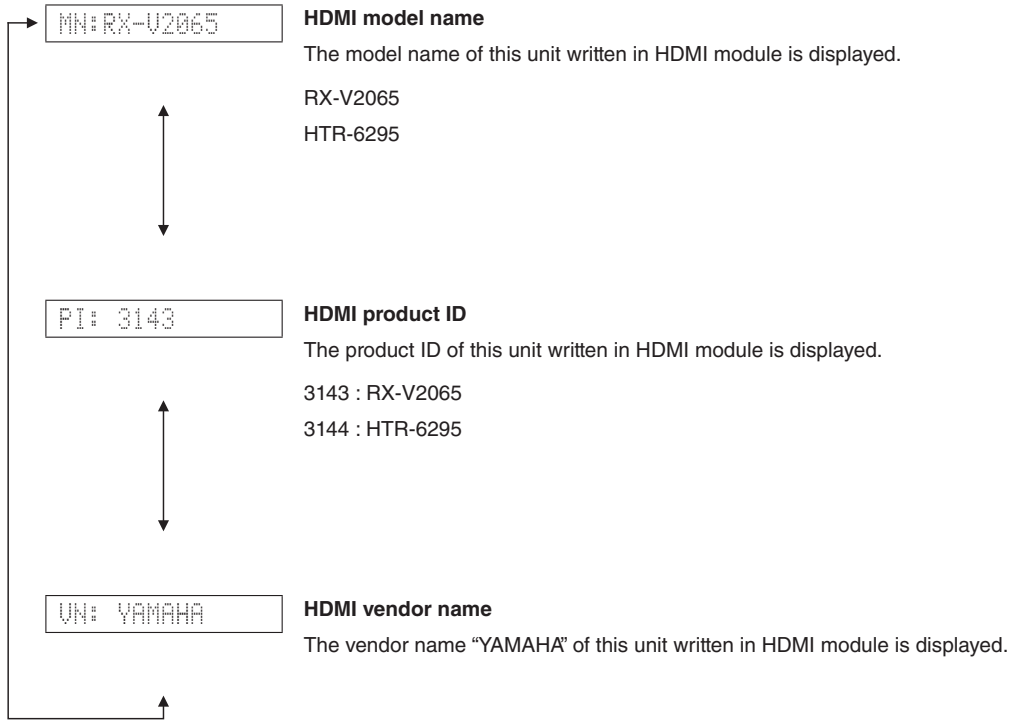
BT VERSION

The DOCK (Bluetooth module) version is displayed.

BT V:xxxxx

15. HDMI INFORMATION

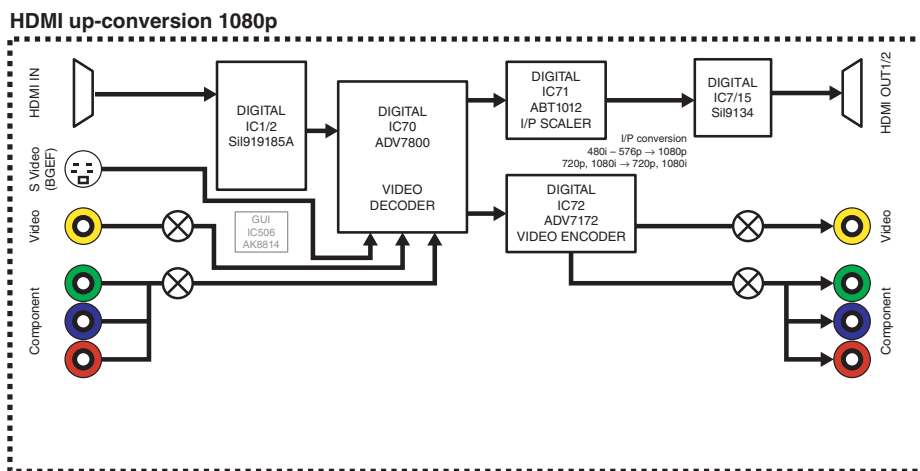
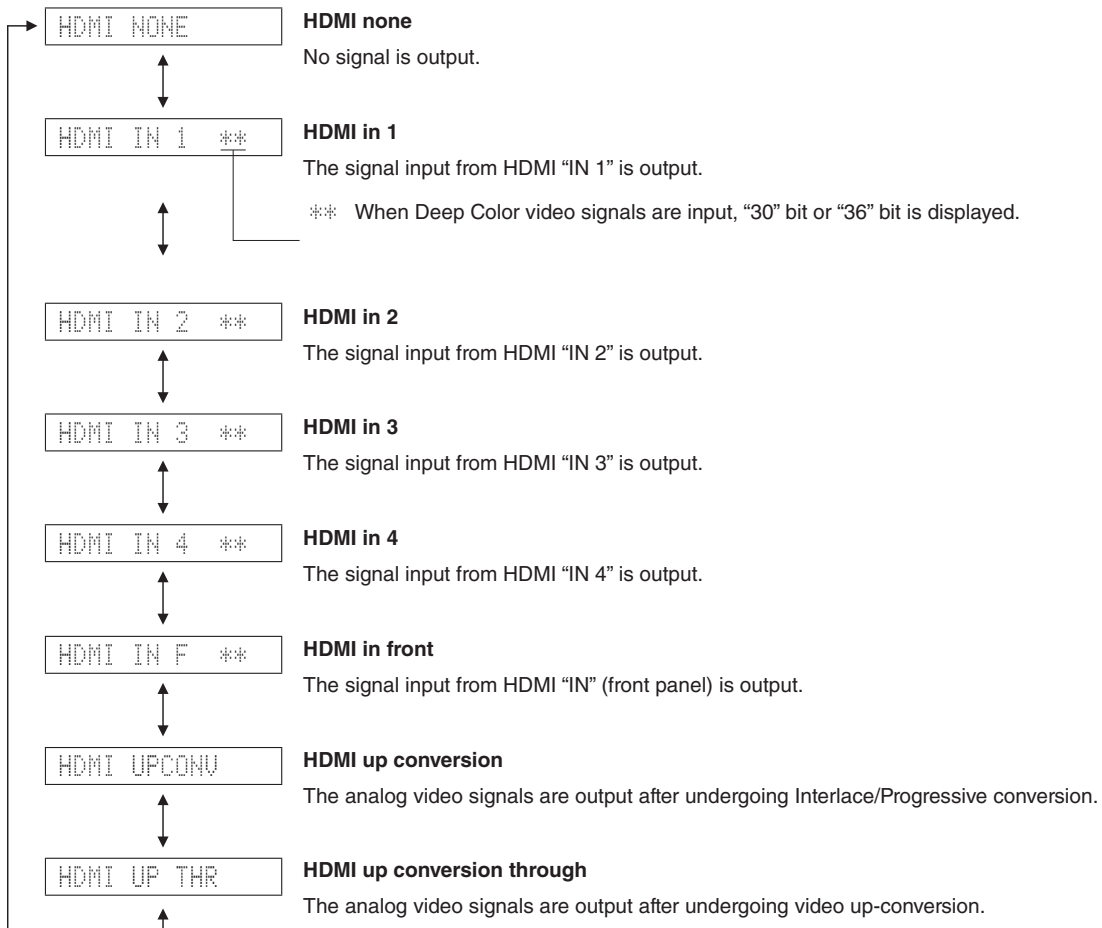
The HDMI informations are displayed.



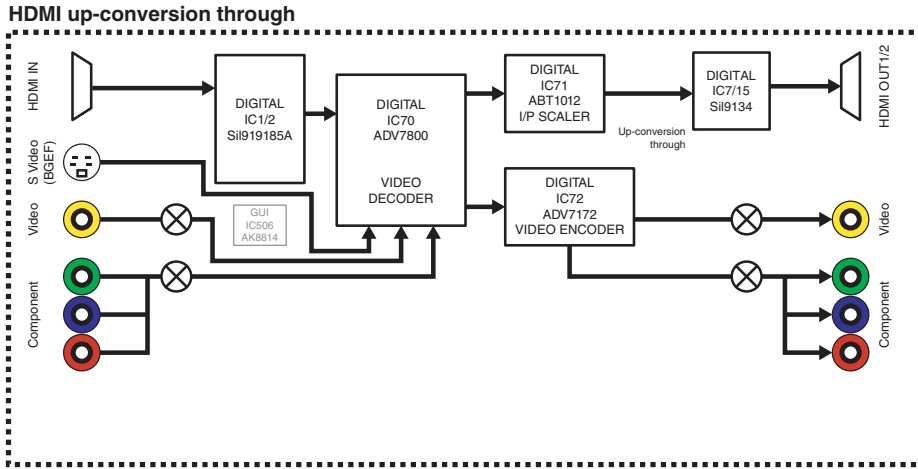
16. HDMI SELECT

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

* Support audio is set to "OTHER".



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17. USB

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

- a. Copy 2 or more music files from PC to the root folder of the USB storage device.
- b. 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

```
DST:710E0F2390
```

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.

```
TI BUS:NoEr
```

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.

```
BF LOOP: OK
```

OK : No error detected.

NG : An error is detected.

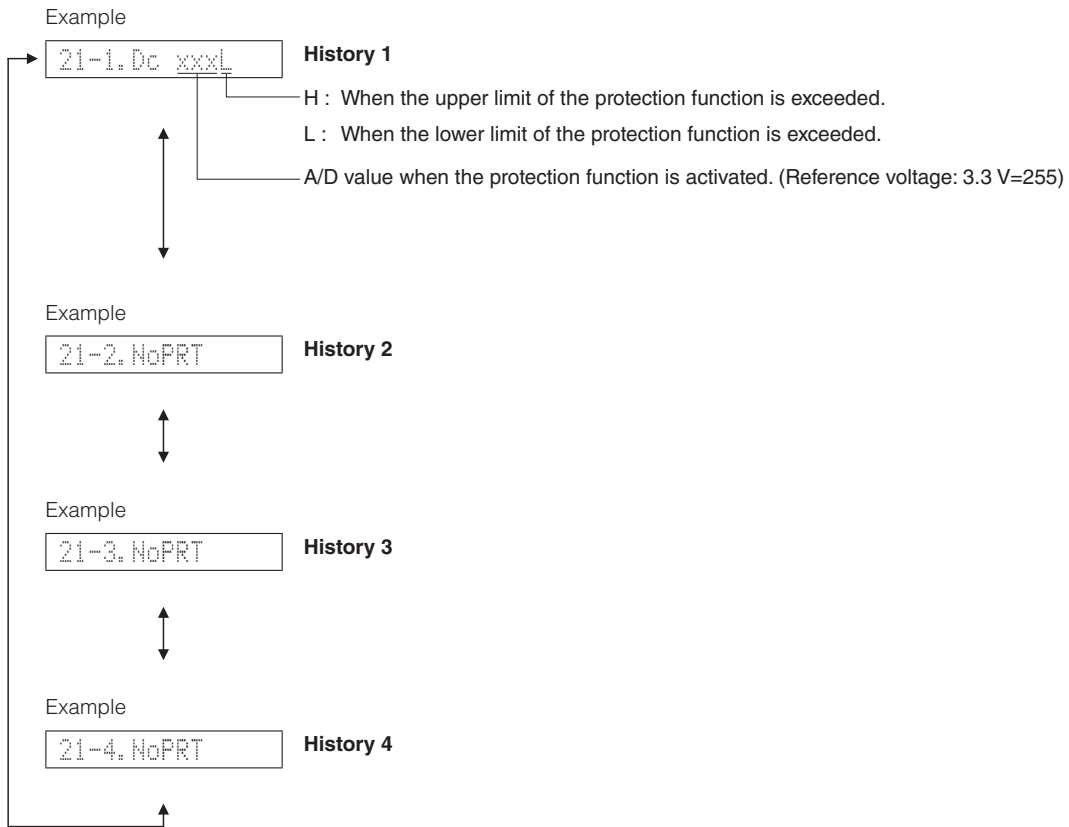
20. NO MENU (Invalidity)

```
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:67DAUs:ADBC

XM version (U model)

The firmware version of XM is displayed.

XM A010-A001

BF (sub-microprocessor)
Main microprocessor

SIRIUS version (U model)

The firmware version of SIRIUS is displayed.

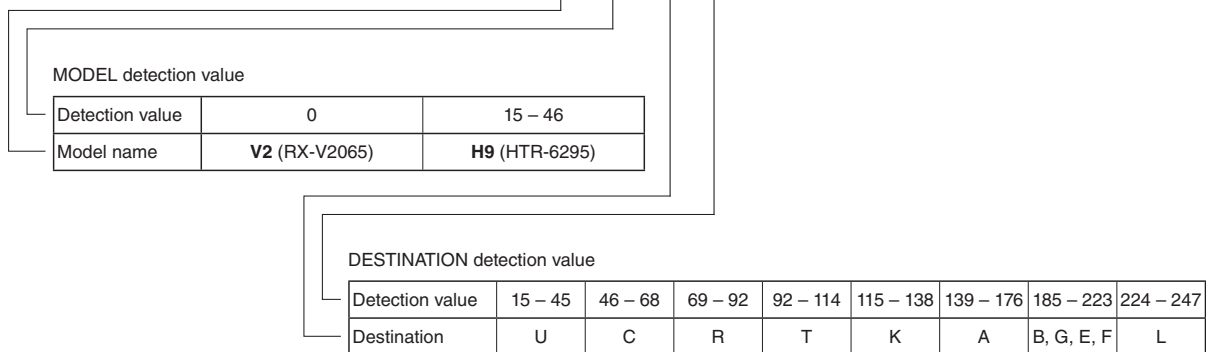
SR A001-A001

BF (sub-microprocessor)
Main microprocessor

MODEL/DESTINATION

The model name and destination are displayed.

V2 000 U 027



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.

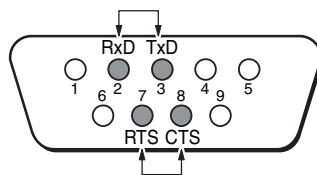
With the power to this unit turned off, short between pins No. 2 (RxD) and No. 3 (TxD), and between pins No. 7 (RTS) and No. 8 (CTS) of the RS232C terminal. (Be sure to turn off the power when shorting the pins.)

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.



26. RS-232C:NG

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.

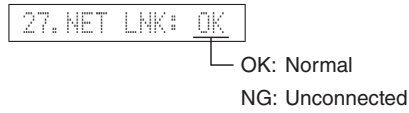
Please report the serial number of this unit to the following e-mail address for further instruction.

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

27.NET MAC SET

LINK CHECK

A network cable connection is checked.



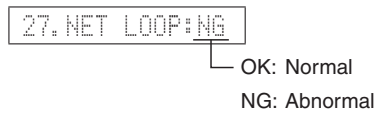
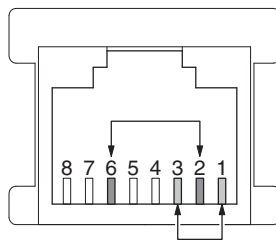
NETWORK loop back check

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.



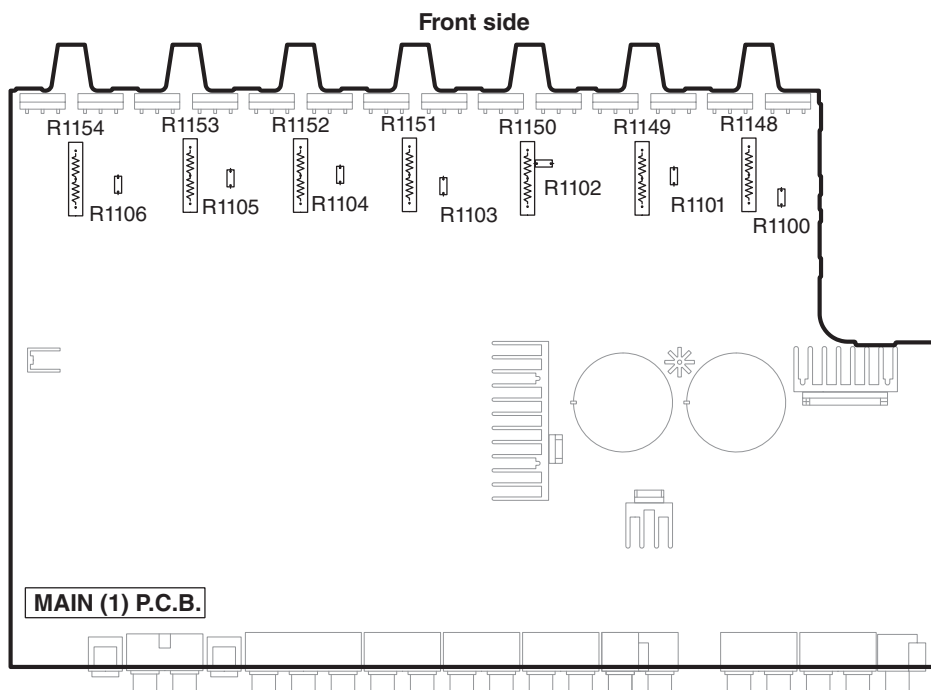
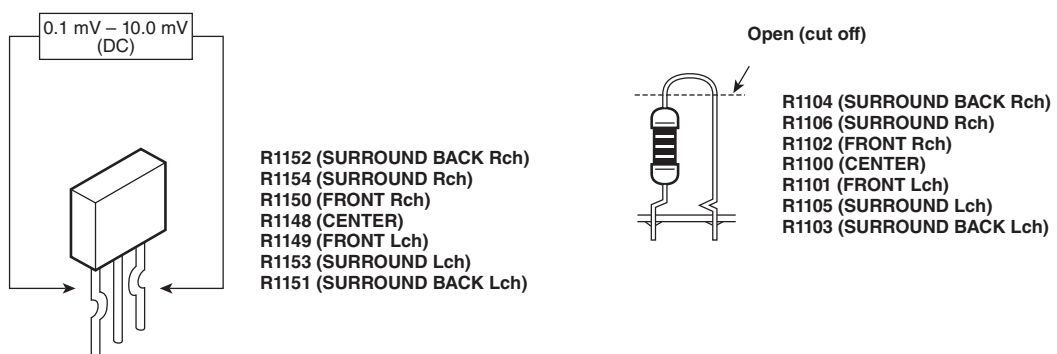
■ CONFIRMATION OF IDLING CURRENT OF AMP UNIT

- 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.

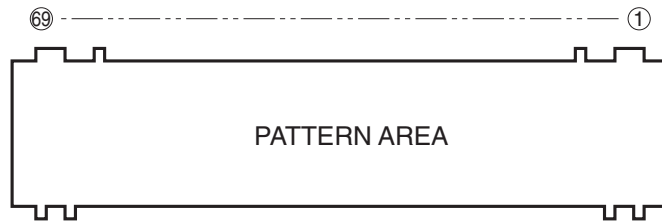
- Confirm that the voltage is 0.2 mV to 15.0 mV after 60 minutes.



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■ DISPLAY DATA

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



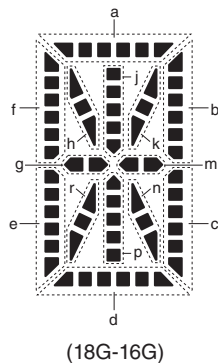
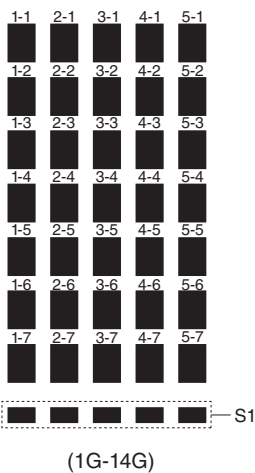
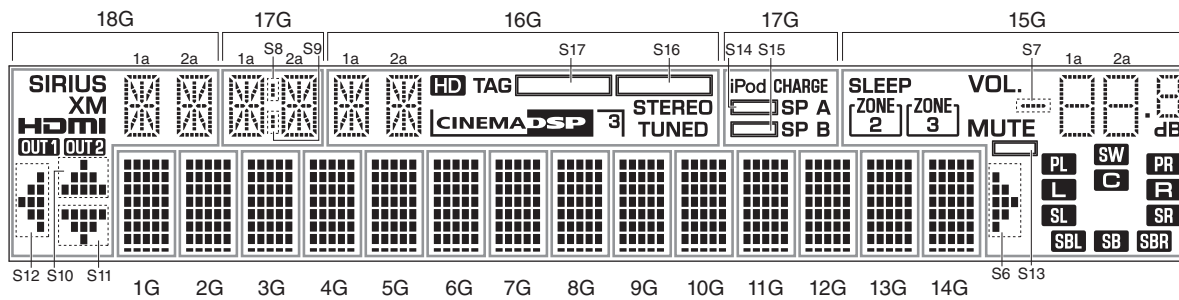
● PIN CONNECTION

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

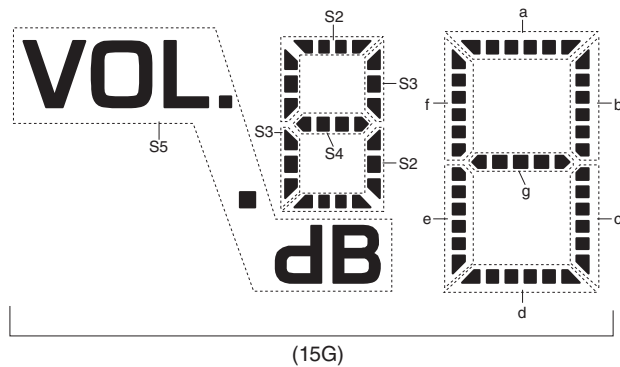
Pin No.	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	P32	P33	P34	P35	P36	NX	NX	NX	NX	NX	NX	NX	18G	17G	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NX	F1

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

● GRID ASSIGNMENT



(18G-16G)



(15G)

● ANODE CONNECTION

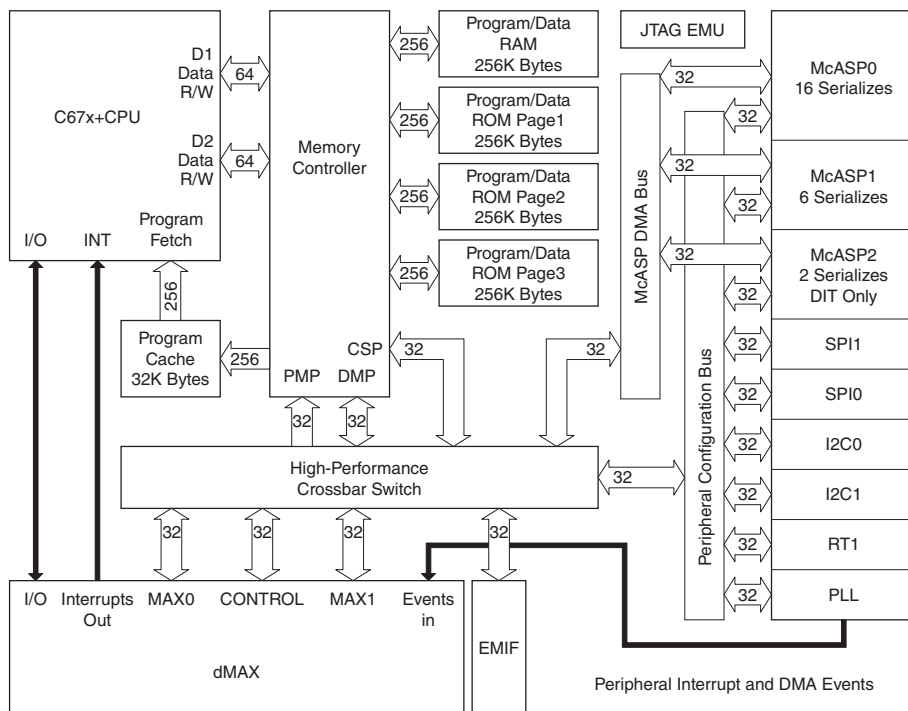
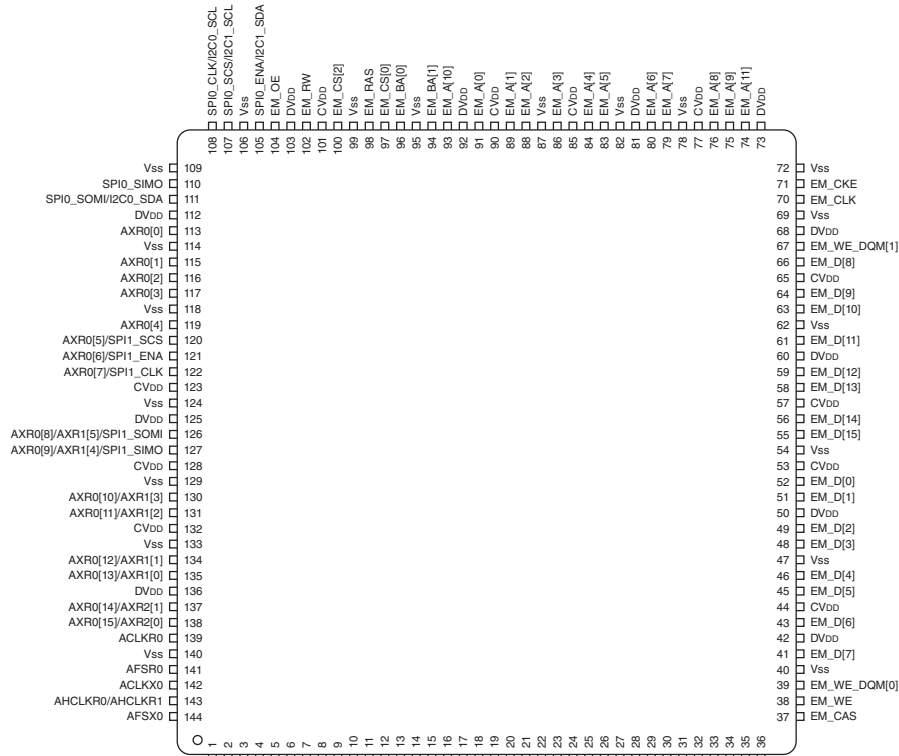
	18G	17G	16G	15G	1G-14G
P1	1a	1a	1a	S5	1-1
P2	1h	1h	1h	S7	2-1
P3	1j	1j	1j	1d	3-1
P4	1k	1k	1k	2d	4-1
P5	1b	1b	1b	S2	5-1
P6	1f	1f	1f	1e	1-2
P7	1m	1m	1m	2e	2-2
P8	1g	1g	1g	S3	3-2
P9	1c	1c	1c	1c	4-2
P10	1e	1e	1e	2c	5-2
P11	1r	1r	1r	S4	1-3
P12	1p	1p	1p	1g	2-3
P13	1n	1n	1n	2g	3-3
P14	1d	1d	1d	1f	4-3
P15	2a	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	PR	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	SBL	3-6
P29	SIRIUS	S8	HD	SB	4-6
P30	XM	S9	TAG	SBR	5-6
P31	HDMI	iPod 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.



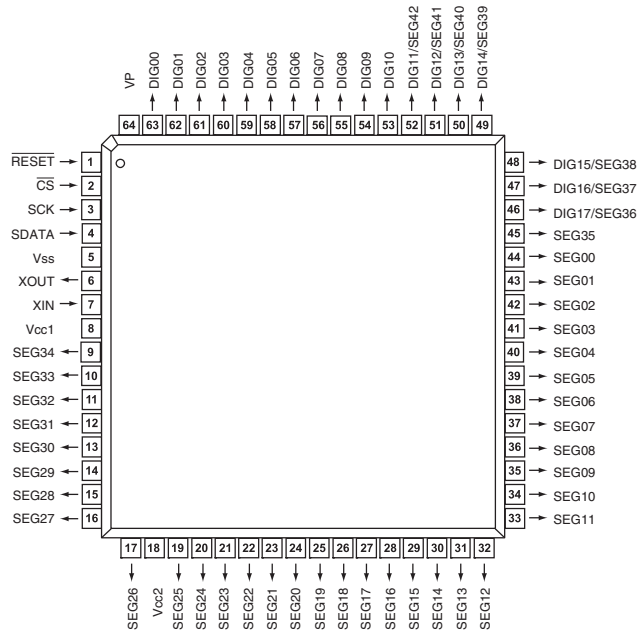
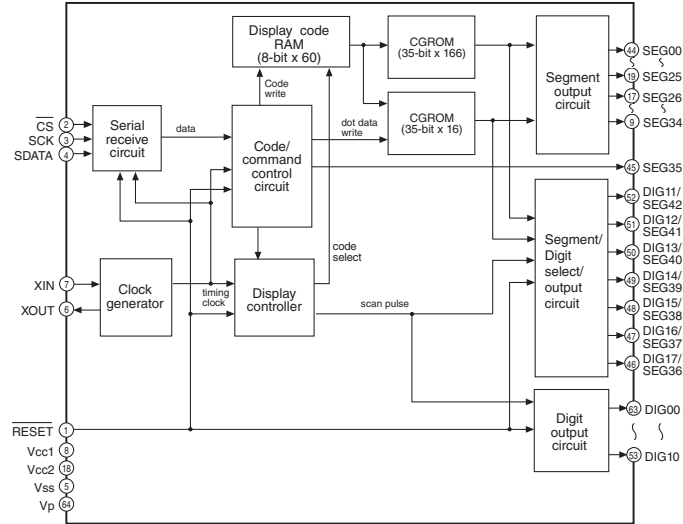
RX-V2065/HTR-6295

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	SPI0_SIMO	IO	–	Y	SPI0 data pin slave in master out
111	SPI0_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)

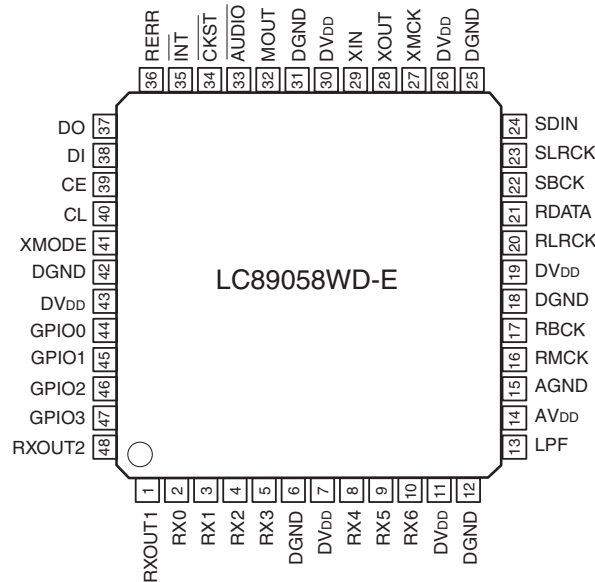
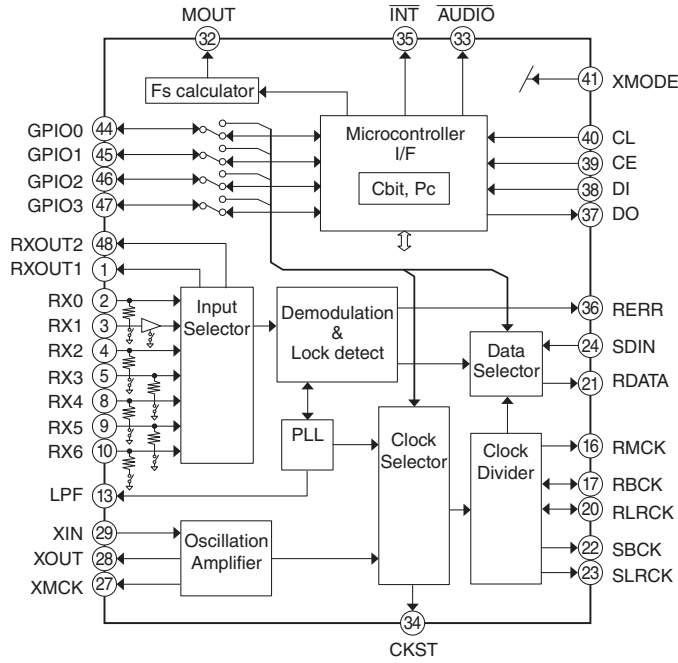
IC402: M66003-0131FP (OPERATION P.C.B.)
FL display driver



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	P11	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 S/PDIF 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	MOU	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	GPIO0	O/I	General-purpose I/O pin II selector input pin (output referred to RMCK pin)
45	GPIO1	O/I	General-purpose I/O pin II selector input pin (output referred to RBCK pin)
46	GPIO2	O/I	General-purpose I/O pin II selector input pin (output referred to RLRCK pin)
47	GPIO3	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.

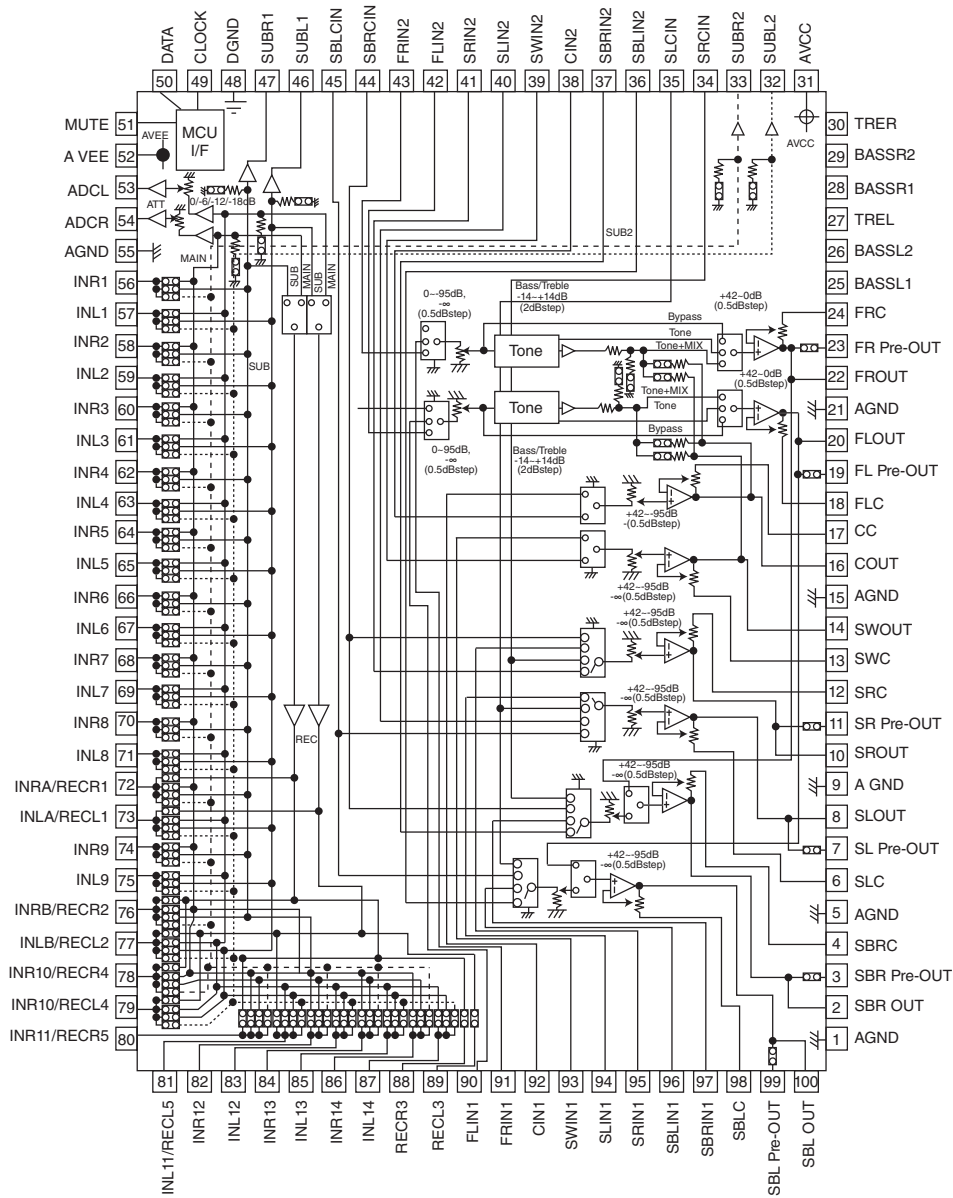
* Pins 32 and 33 are input pins for chip address setting when pin 41 is held at the low level.

* 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

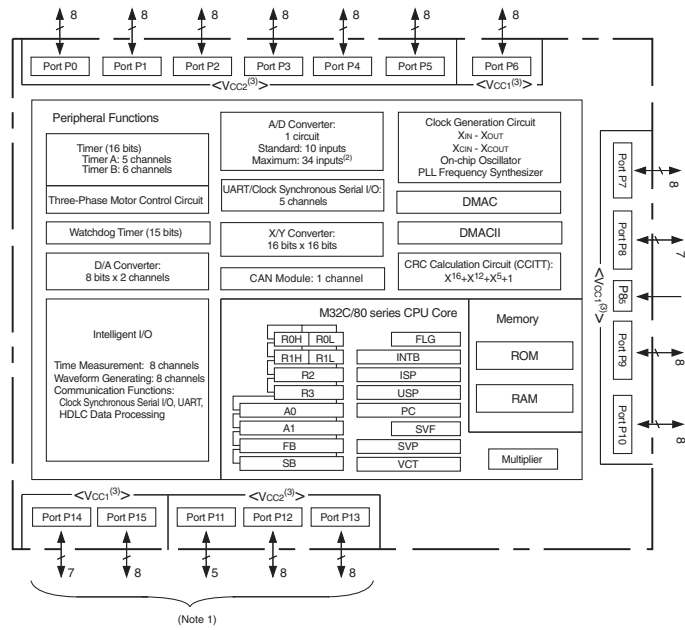


RX-V2065/HTR-6295

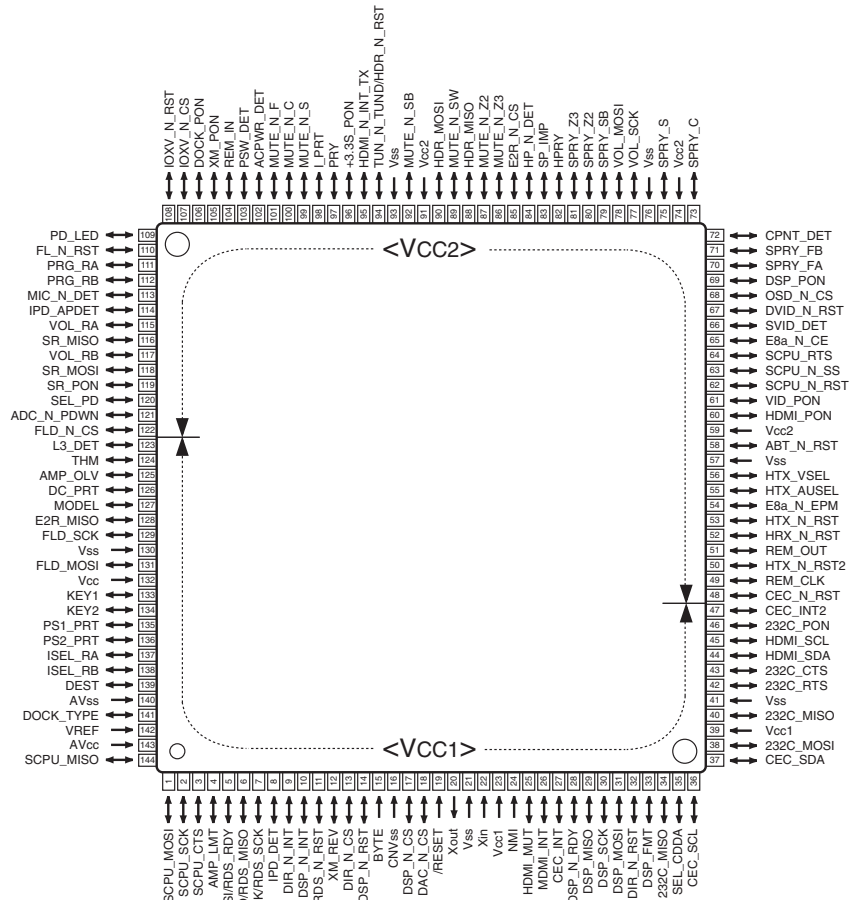
Pin No.	Port name	Function Name	Detail of Function
1	AGND	AE	Analog ground of internal circuit
2	SBROUT	VOSBL	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
3	SBR Pre-OUT	VOPPSBL	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
4	SBRC	AE	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR 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: M3087BFKBBG (DIGITAL P.C.B.)
Main microprocessor



(Note 1)
NOTES:
1. Ports P11 to P15 are provided in the 144-pin package only.
2. Included in the 144-pin package only.
3. The supply voltage of M32C/84T (High-reliability version) must be Vcc1=Vcc2.



NOTES:
1. P70 / TA0OUT / TxD2 / SD2 / SRxD2 / INPC1e / OUTC1e
2. P70 and P71 are ports for the N-channel open drain output.
3. The supply voltage of M32C/84T must be Vcc1=Vcc2.

RX-V2065/HTR-6295

Pin No.	Port Name	Function Name (P.C.B.)	I/O						E8a, ICP	Detail of Function
			PowerOn	Stby Thrft	Standby	Stby Sleep	Sleep [MCU]			
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	O	Asynchronous data output for XM (U model)	
	P92									O
	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	O	Asynchronous data input for XM (U model)	
	P91									O
	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]	O	XM LINK detection (U model)	
	P90									O
	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	O	XM reset (U model)	
	P143									O
	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]	O	XM antenna revision detection H: An compatibility antenna (U model)	
	P142									O
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	CNVss	MCU	MCU	MCU	MCU	[MCU]	O	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									
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	

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Pin No.	Port Name	Function Name (P.C.B.)	I/O						E8a, ICP	Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]			
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						E8a, ICP	Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]			
38	TxD1 P67/TXD1/SDA1/ SRXD1	232C_MOSI	SO	SO	SO	O	[O]		RS232C data output Pull up at 100 k-ohms	
	TxD1	TXD						SO	E8a, ICP (In-Circuit Programmer) data output	
39	Vcc1 Vcc1	Vcc1	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply	
	RxD1 P66/RXD1/SCL1/ STXD1	232C_MISO	SI	SI	SI	I	[I]		RS232C data input Pull up at 100 k-ohms	
40	RxD1	RXD						SI	E8a, ICP (In-Circuit Programmer) data input	
	Vss Vss	Vss	All	MCU	MCU	MCU	[MCU]		Microprocessor GND	
42	P65 P65/CLK1	232C_RTS	SO	SO	SO	O	[O]		RS232C CTS input	
	CLK1	E8a_SCLK						SI	E8a, ICP (In-Circuit Programmer) clock input Pull up at 100 k-ohms	
43	CTS1 P64/CTS1/RTS1/ SS1/OUTC21/ ISCLK2	232C_CTS	SI	SI	SI	I	[I]		RS232C CTS input Pull down at 100 k-ohms	
	RTS1	E8a_BUSY						SO	E8a, ICP (In-Circuit Programmer) BUSY output	
44	SDA0 P63/TXD0/SDA0/ SRXD0/IrDAout	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)	
	SCL0 P62/RXD0/SCL0/ STXD0/IrDAin	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)	
46	P61 P61/CLK0/RTP01	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	
	P60 P60/CTS0/RTS0/ SS0/RTP00	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)	
48	P137 P137/OUTC27	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)	
	ISCLK2 P136/OUTC21/ ISCLK2	REM_CLK	SO	O	O	O	[O]		Clock output for remote control code generation No connection destination	
50	P135 P135/OUTC22/ ISRXD2/IEin	HTX_N_RST2	O	O	O	O	[O]		HDMI TX (OUT2) reset output Pull down at HDMI block L: Reset	
	ISTXD2 P134/OUTC20/ ISTXD2/leout	REM_OUT	SO	O	O	O	[O]		SCENE select DVD control remote control code output	
52	P57 P57/RDY	HRX_N_RST	O	O	O	O	[O]		HDMI TX reset output Pull down at HDMI block L: Reset	
	P56 P56/ALE	HTX_N_RST	O	O	O	O	[O]		HDMI TX (OUT1) reset output Pull down at HDMI block L: Reset	
54	P55 P55/HOLD	E8a_N_EPM	I	I	I	I	[I]		E8a writing mode enable input 10 k-ohms pull down	
	P54 P54/HLDA/ALE	HTX_AUSEL	O	O	O	O	[O]			

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Pin No.	Port Name	Function Name (P.C.B.)	I/O						E8a, ICP	Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]			
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						E8a, ICP	Detail of Function
			PowerOn	Stby Thrft	Standby	Stby Sleep	Sleep [MCU]			
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 P31/A9/(D9)	E2R_N_CS	CS	CS	CS	I	[I]		EEPROM chip select Pull up to EEPROM power at 10 k-ohms	
86	P124 P124	MUTE_N_Z3	O	O	O	O	[O]		Zone3 line out mute control L: Mute	
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 P121/CLK6	MUTE_N_SW	O	O	O	O	[O]		Subwoofer mute control L: Mute All	
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	Vcc2	MCU	MCU	MCU	MCU	[MCU]		Microprocessor power supply	
92	P30 P30/A8/(D8)	MUTE_N_SB	O	O	O	O	[O]		Surround back/Bi-AMP/Zone2 mute control L: Mute	
93	Vss Vss	Vss	MCU	MCU	MCU	MCU	[MCU]		Microprocessor GND	
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 P24/A4/(D4)/AN24	PRY	O	O	O	O	[O]		Power relay ON/OFF control H: ON, L: OFF	
98	P23 P23/A3/(D3)/AN23	L_PRT	I	I	O	O	[O]		Overcurrent protection detection	
99	P22 P22/A2/(D2)/AN22	MUTE_N_S	O	O	O	O	[O]		Surround mute control L: Mute	
100	P21 P21/A1/(D1)/AN21	MUTE_N_C	O	O	O	O	[O]		Center mute control L: Mute	
101	P20 P20/A0/(D0)/AN20	MUTE_N_F	O	O	O	O	[O]		Front (Headphone is contained) mute control L: Mute	
102	INT5 P17/D15/INT5	ACPWR_DET	IRQ	IRQ	IRQ	IRQ	[O]		AC power detection L: Power down	
103	INT4 P16/D14/INT4	PSW_DET	IRQ	IRQ	IRQ	IRQ	[O]		Main/Zone/Input key interrupt KEY1 port distinguishes the pressed keys	
104	INT3 P15/D13/INT3	REM_IN	IRQ	IRQ	IRQ	IRQ	[O]		Remote control pulse input	

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Pin No.	Port Name	Function Name (P.C.B.)	I/O						E8a, ICP	Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]			
105	P14 P14/D12	XM_PON	O	O	O	O	[O]		XM Radio power supply ON/OFF control H: ON, L: OFF (U model)	
	P14		O	O	O	O	[O]		(C, R, T, K, A, B, G, E, F, L, J models)	
106	P13 P13/D11	DOCK_PON	O	O	O	O	[O]		DOCK power supply ON/OFF control H: ON, L: OFF	
107	P12 P12/D10	IOXV_N_CS	CS	O	O	O	[O]		IO extended IC (for video) chip select	
108	P11 P11/D9	IOXV_N_RST	O	O	O	O	[O]		IO extended IC (for video) reset	
109	P10 P10/D8	PD_LED	O	O	O	O	[O]		Pure Direct LED ON/OFF control H: ON, L: OFF	
110	P07 P07/D7/AN07	FLD_N_RST	O	O	O	O	[O]		FL driver reset	
111	P06 P06/D6/AN06	PRG_RA	I	O	O	O	[O]		Program rotary A	
112	P05 P05/D5/AN05	PRG_RB	I	O	O	O	[O]		Program rotary B	
113	P04 P04/D4/AN04	MIC_N_DET	I	O	O	O	[O]		MIC detection L: MIC	
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 P113/INPC13/ OUTC13	VOL_RA	I	O	O	O	[O]		Volume rotary A	
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)	
	P112/INPC12/ OUTC12/ISRXD1								(C, R, T, K, A, B, G, E, F, L, J models)	
117	P111 P111/INPC11/ OUTC11/ISCLK1	VOL_RB	I	O	O	O	[O]		Volume rotary B	
118	ISTXD1	SR_MOSI	SO	O	O	O	[O]		Asynchronous data output for SIRIUS Serial communication is 5V TTL/CMOS logic level (U model)	
	P110/INPC10/ OUTC10/ISTXD1								(C, R, T, K, A, B, G, E, F, L, J models)	
119	P03 P03/D3/AN03	SR_PON	O	O	O	O	[O]		SIRIUS radio power supply ON/OFF control H: Power ON, L: Power OFF (U model)	
	P03		O	O	O	O	[O]		(C, R, T, K, A, B, G, E, F, L, J models)	
120	P02 P02/D2/AN02	SEL_PD	O	O	O	O	[O]		DSP Pure Direct route select H: Pure Direct ON	
121	P01 P01/D1/AN01	ADC_N_ PDWN	O	O	O	O	[O]		ADC power down L: Power down	
122	P00 P00/D0/AN00	FLD_N_CS	CS	O	O	O	[O]		FL driver chip select	
123	AN157	L3_DET	I	I	I	O	[O]		No use Pull down at GND	
	P157/AN157/CTS6/ RTS6									
124	AN156 P156/AN156/CLK6	THM	AD	AD	O	O	[O]		Temperature detection	
125	AN155 P155/AN155/RXD6	AMP_OLV	AD	AD	O	O	[O]		Power AMP output level detection	
126	AN154 P154/AN154/TXD6	DC_PRT	AD	AD	O	O	[O]		Power AMP DC detection	
127	AN153 P153/AN153/CTS5/ RTS5	MODEL	AD	AD	AD	O	[O]		AD destination discrimination Data is taken in when resetting is cancelled	

Pin No.	Port Name	Function Name (P.C.B.)	I/O						E8a, ICP	Detail of Function
			PowerOn	Stby Thrh	Standby	Stby Sleep	Sleep [MCU]			
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	

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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	181 – 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	ZONE 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	47.0 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

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	I/O	Data bus for async access
99	DATA14		
100	DATA13		
101	DATA12		
102	DATA11		
103	DATA10		
104	DATA9		
105	DATA8	I/O	Data bus for async access
108	DATA7		
109	DATA6		
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 through 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		

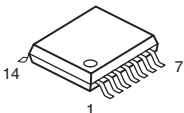
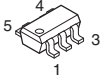
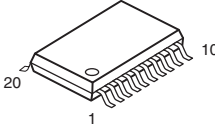
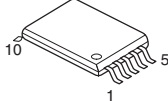
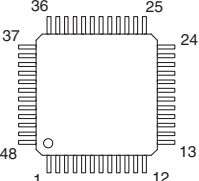
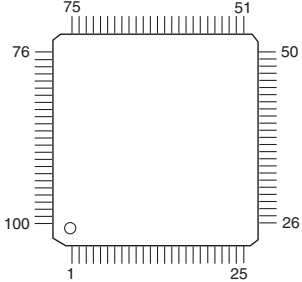
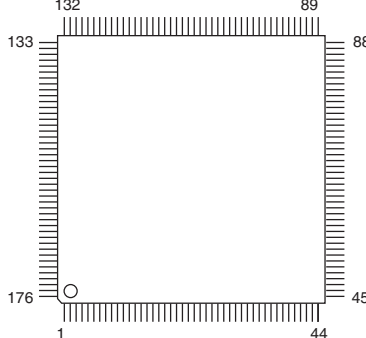
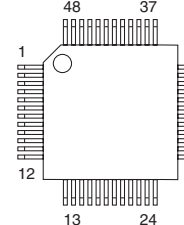
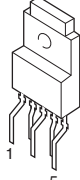
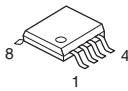
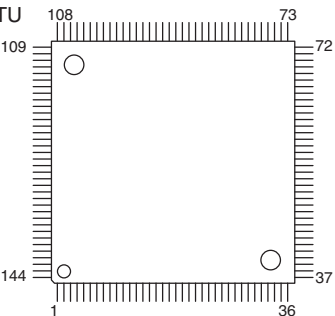
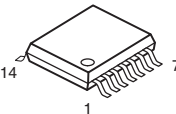
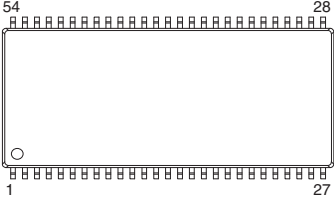
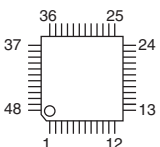
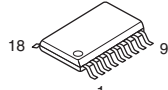
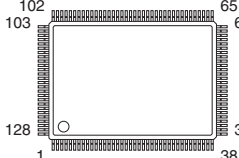
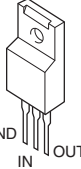
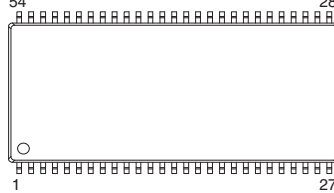
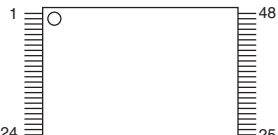
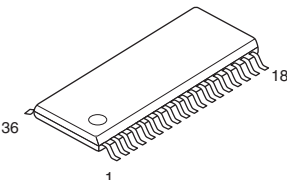
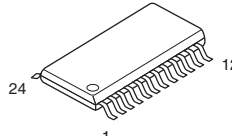
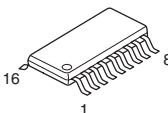
Supplies

Pin No.	Function Name	I/O	Detail of Function
6	VDDEXT	P	I/O power supply
12			
20			
31			
45			
57			
71			
93			
107			
118			
134			
145			
156			
171			
25	VDDINT	P	Core power supply
52			
66			
80			
111			
143			
157			
168			
18	VDDRTC	P	Real-time clock power supply

Pin No.	Function Name	I/O	Detail of Function
1			
2			
3			
7			
8			
9			
15			
19			
30			
39			
40			
41			
42			
43			
44			
56			
70			
88			
89	GND	G	External ground
90			
91			
92			
97			
106			
117			
128			
129			
130			
131			
132			
133			
144			
155			
170			
174			
175			
176			

PIN CONNECTION DIAGRAMS

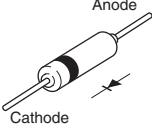
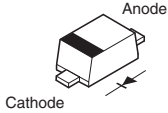
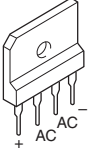
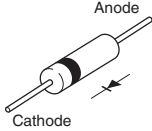
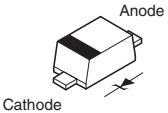
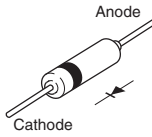
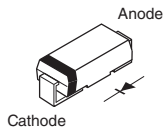
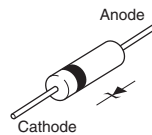
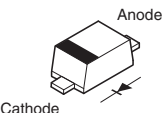
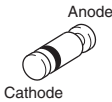
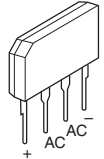
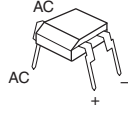
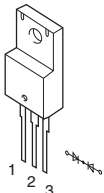
• ICs

<p>74LVC08APW 74LVC32APW</p> 	<p>74LVC1G08GW</p> 	<p>74LVC245APW,118</p> 	<p>CS230003-CZZR</p> 	<p>CXB1442AR-T4</p> 
<p>ABT1012Q100 LAN9217-MT SiI9134CTU</p> 	<p>ADV7800BSTZ-80 AD91089ZSKBC</p> 	<p>ADV7172KST AK8814VQ</p> 	<p>BA00JC5WT-V5</p> 	
<p>BD9323EFJ-E2</p> 	<p>D70YE101BRFP266 M3087BFKBGP SiI9233ACTU</p> 	<p>FHP3350IM14X</p> 	<p>K4S641632N-LC60000</p> 	
<p>F2621E-01-TR</p> 	<p>ISL83385EIBZ-T</p> 	<p>ISP1760BE</p> 	<p>KIA7912PI</p> 	<p>K4S560832J-UC75000</p> 
<p>K8P6415UQB-PI4B000</p> 	<p>LA73050-TLM-E</p> 	<p>LC709004A-TLM-E</p> 	<p>LC72725KM-UY-TLM-E</p> 	

RX-V2065/HTR-6295

<p>LC89058WD-E</p>	<p>LE25LB2562M-TLM-E LE25LB643M-TLM-E NJM4565M (TE1)</p>	<p>LM19CIZ/LF</p>	<p>M66003-0131FP-R</p>	<p>NE5532DR</p>	<p>NJM2068MD-TE2</p>
<p>NJM2388F05</p> <p>1. VIN 2. VOUT 3. GND 4. ON/OFF CONTROL</p>	<p>NJM2396F05</p> <p>1. IN 2. VOUT 3. GND 4. ON/OFF CONTROL</p>	<p>NJM2581M</p>	<p>NJM2867F3-05</p>	<p>NJM7812FA</p> <p>3: IN 2: COM 1: OUT</p>	<p>NJM78M05DL1A (TE1)</p> <p>1: INPUT 2: GND 3: OUTPUT</p>
<p>PCA9517DP</p>	<p>PCM1680DBQR</p>	<p>PCM1781DBQR SN74LV163APWR</p>	<p>PCM1803DBR</p>	<p>R1172H181B-T1-F R1172H331D-T1-F R1172H501D-T1-F</p> <p>1: CE 2: GND 3: NC 4: VDD 5: VOUT</p>	
<p>R1173S001D-E2-F R1172S121D-E2-F R1172S331B-E2-F</p>	<p>R2A15220FP</p>	<p>R5523N001A-TR-F</p>	<p>SN74LVC245APWR SN74LVTH245APW</p>	<p>SN74LV74APWR</p>	
<p>SiI9185ACTU</p>	<p>TC74HC4051AFEL</p>	<p>TC74HC4053AF</p>	<p>TC74VHC157FT</p>	<p>TC74VHCT08AFT TC74VHCU04FT</p>	
<p>TC7SH04FU-TE85L TC7SH08FU</p>	<p>TC7WH14FK TC7WZ32FK (TE85L, F)</p>	<p>TC7WHU04FU</p>	<p>TL431ACLPR</p> <p>1: CATHODE 2: ANODE 3: REF</p>	<p>TOP255MN</p>	

• Diodes

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

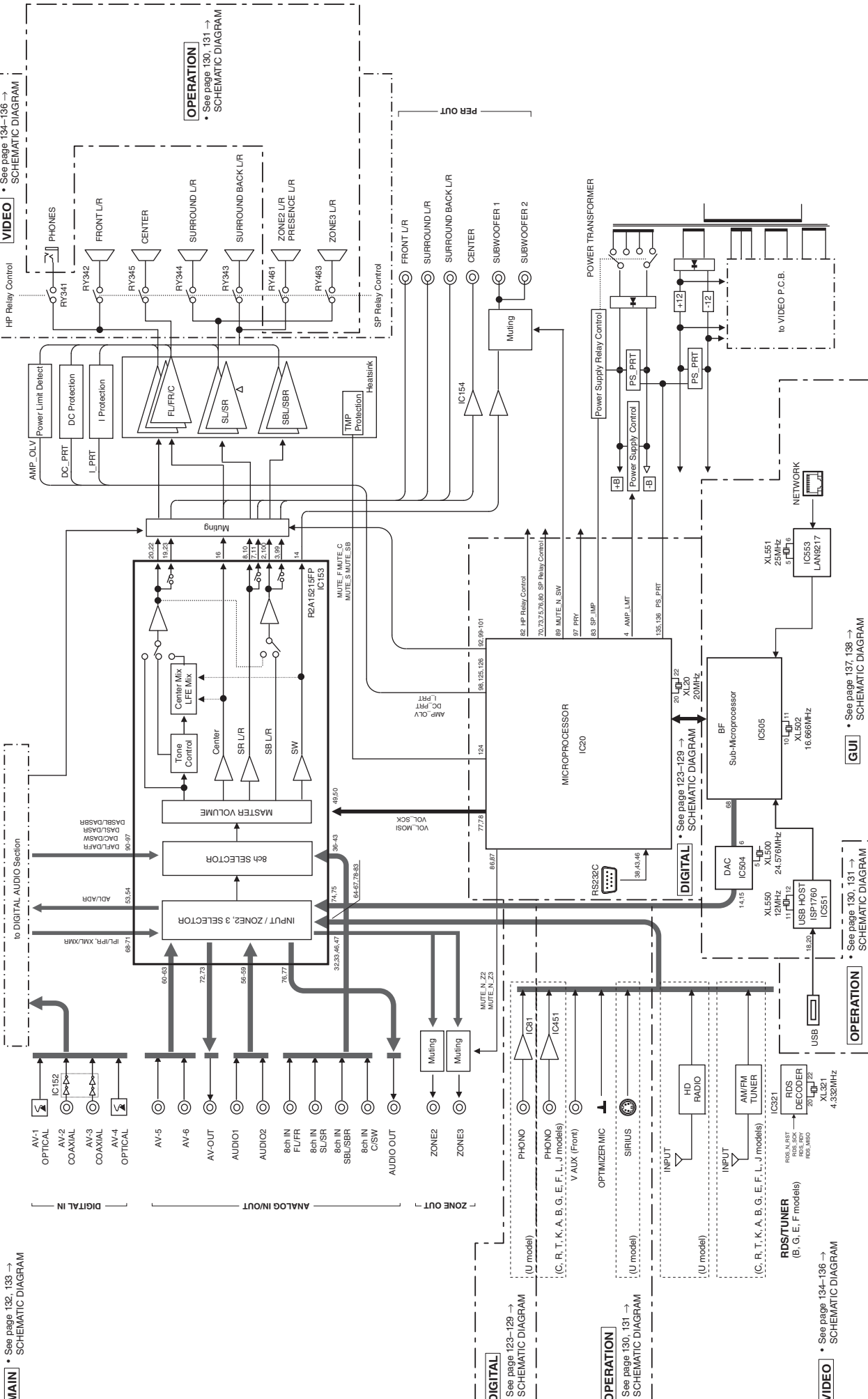
• Transistors

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	KTA1046-Y-U/P KTA1837-U/P	KTA1517S KTC3875S KTC3911S	MCH6336-TL-E	μPA672T-T1-A	
					<ul style="list-style-type: none">1. Source 1 (S1)2. Gate 1 (G1)3. Drain 1 (D2)4. Source 2 (S2)5. Gate 2 (G2)6. Drain 1 (D1)

■ BLOCK DIAGRAMS

MAIN • See page 132, 133 → SCHEMATIC DIAGRAM

ANALOG AUDIO Section Block Diagram



VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

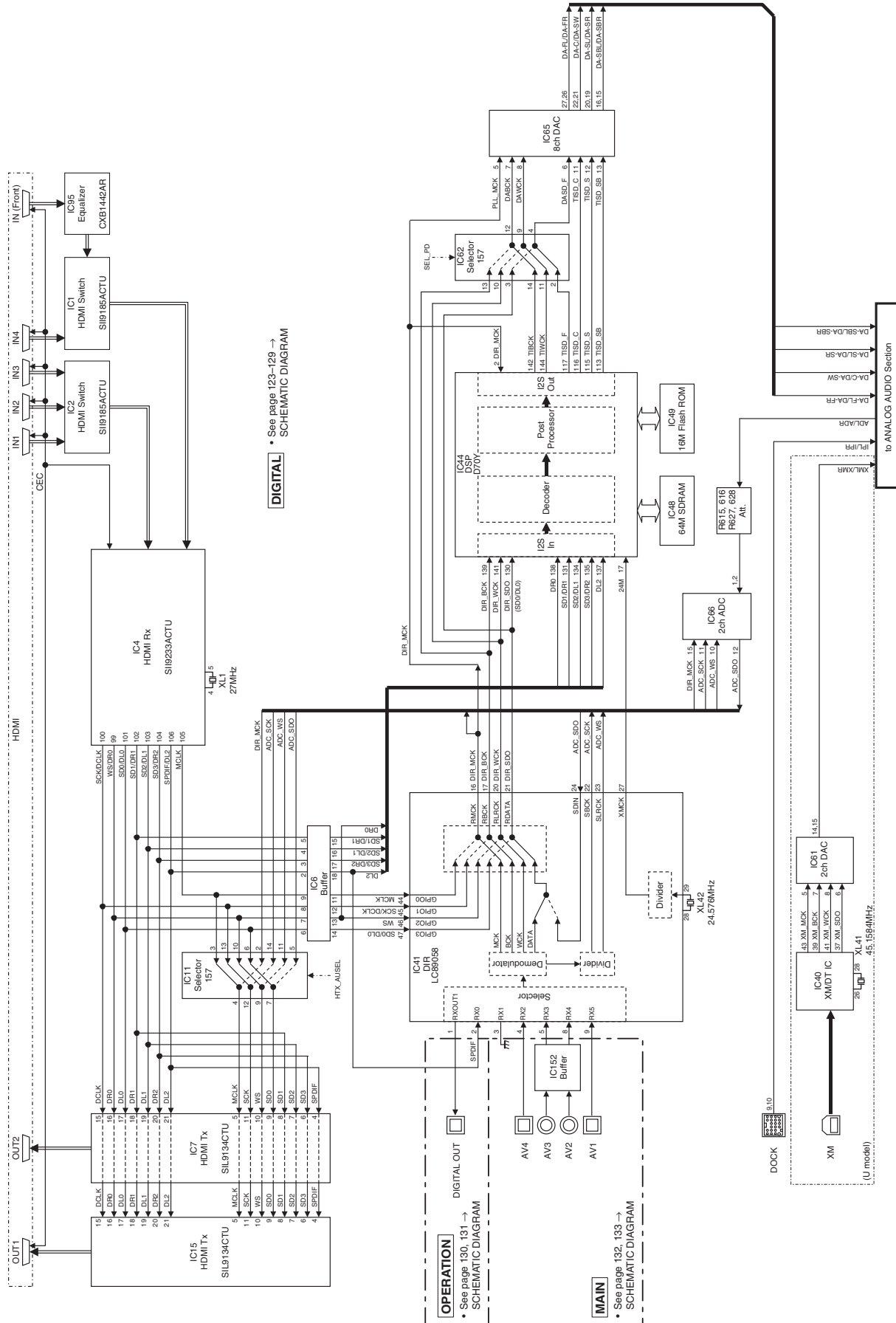
OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

DIGITAL AUDIO Section Block Diagram

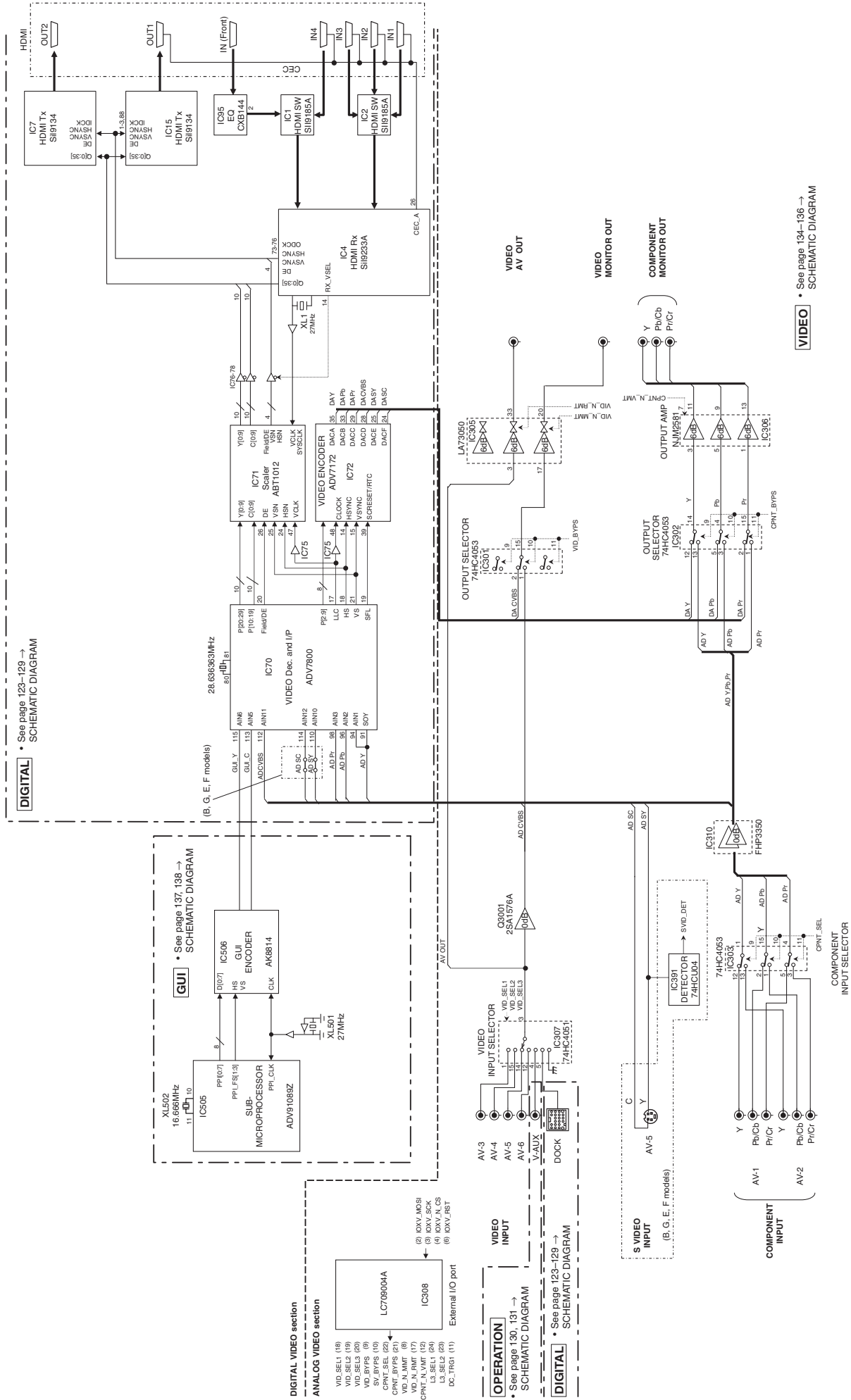


DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

MAIN • See page 132, 133 → SCHEMATIC DIAGRAM

VIDEO Section Block Diagram



DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

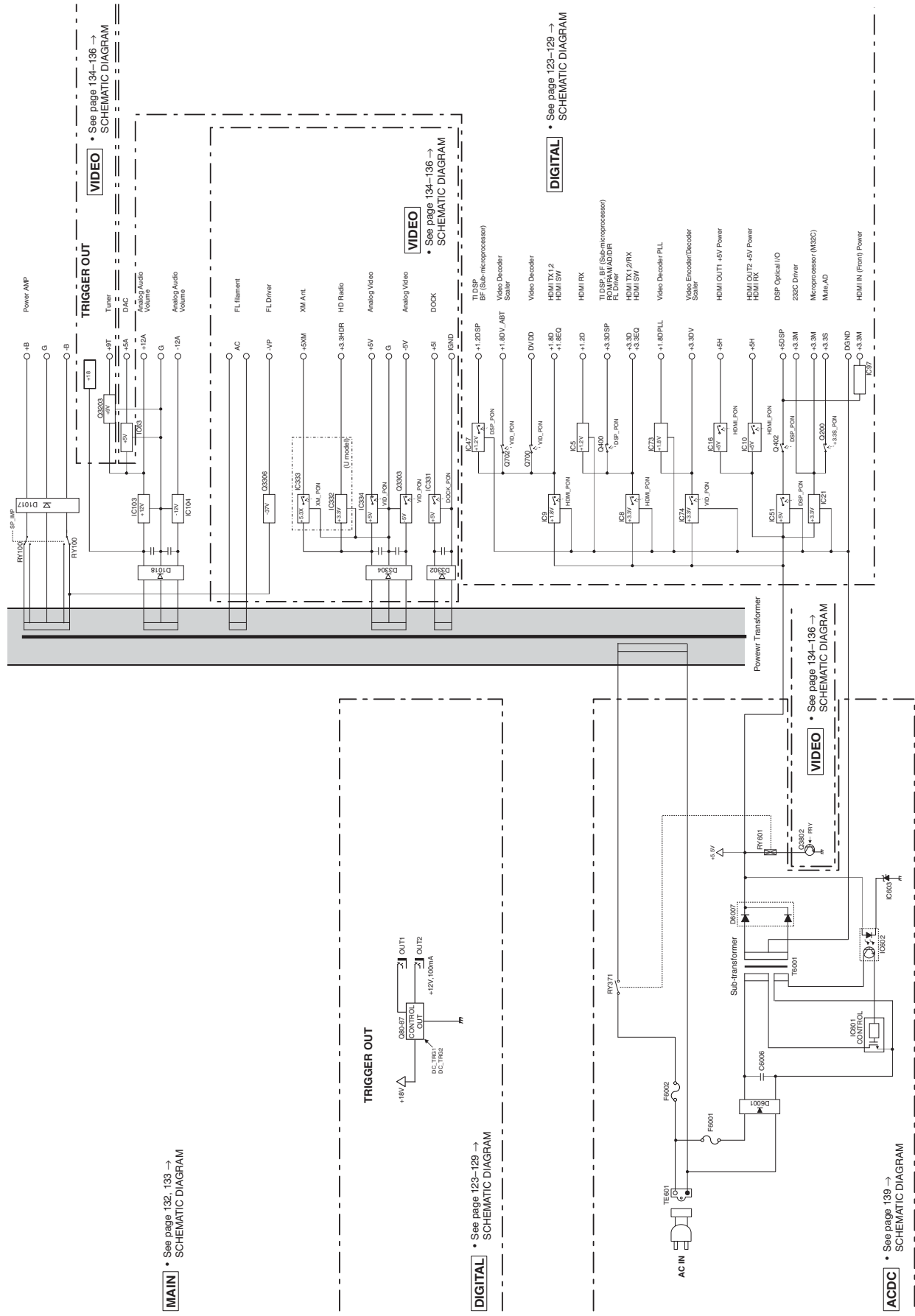
GUI • See page 137, 138 → SCHEMATIC DIAGRAM

OPERATION • See page 130, 131 → SCHEMATIC DIAGRAM

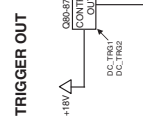
DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

Power Supply Section Block Diagram



MAIN • See page 132-133 → SCHEMATIC DIAGRAM



DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

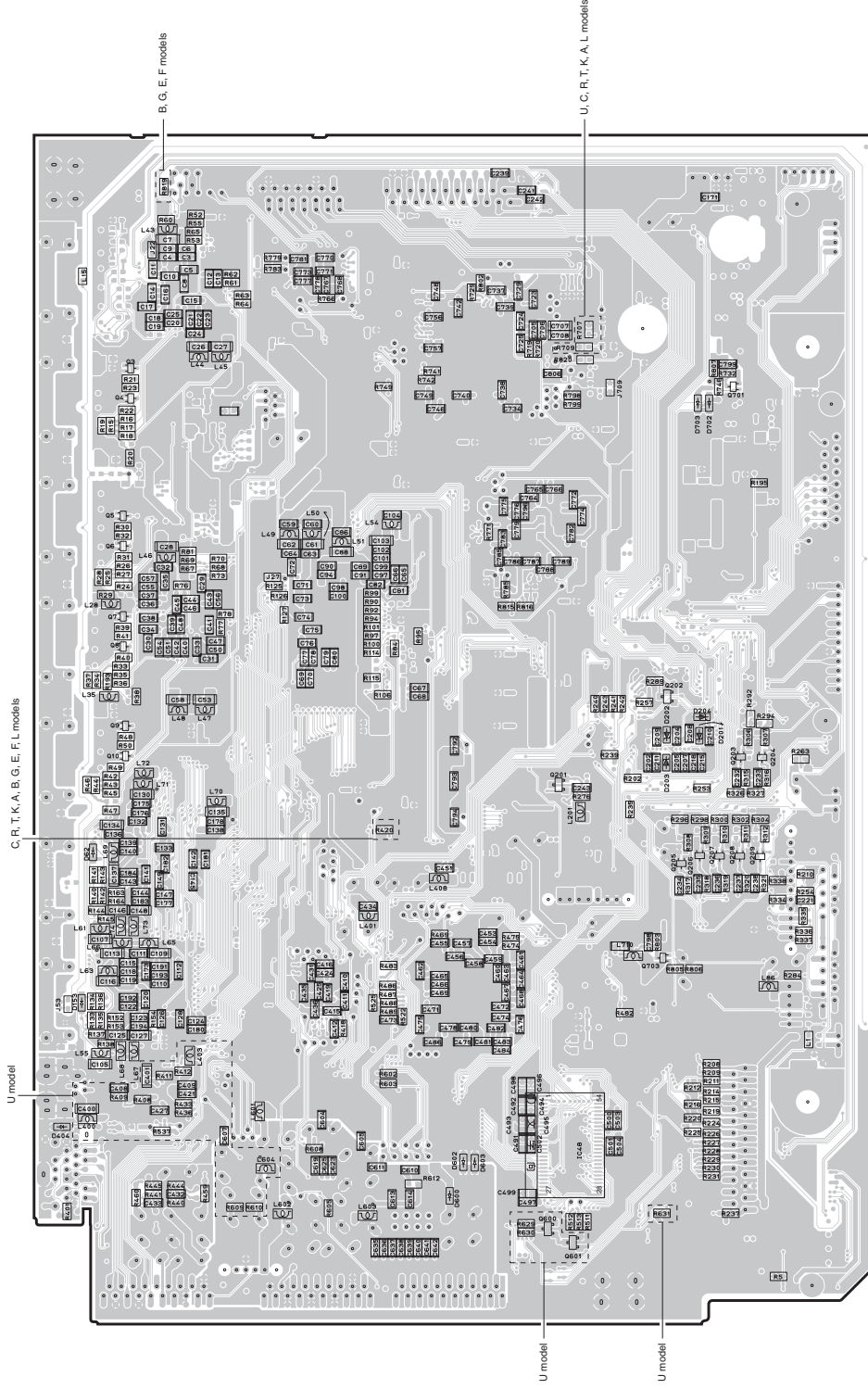
ACDC • See page 139 → SCHEMATIC DIAGRAM

DIGITAL • See page 123-129 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

VIDEO • See page 134-136 → SCHEMATIC DIAGRAM

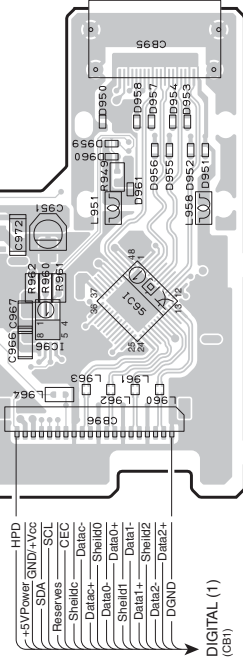
DIGITAL (1) P.C.B. (Side B)



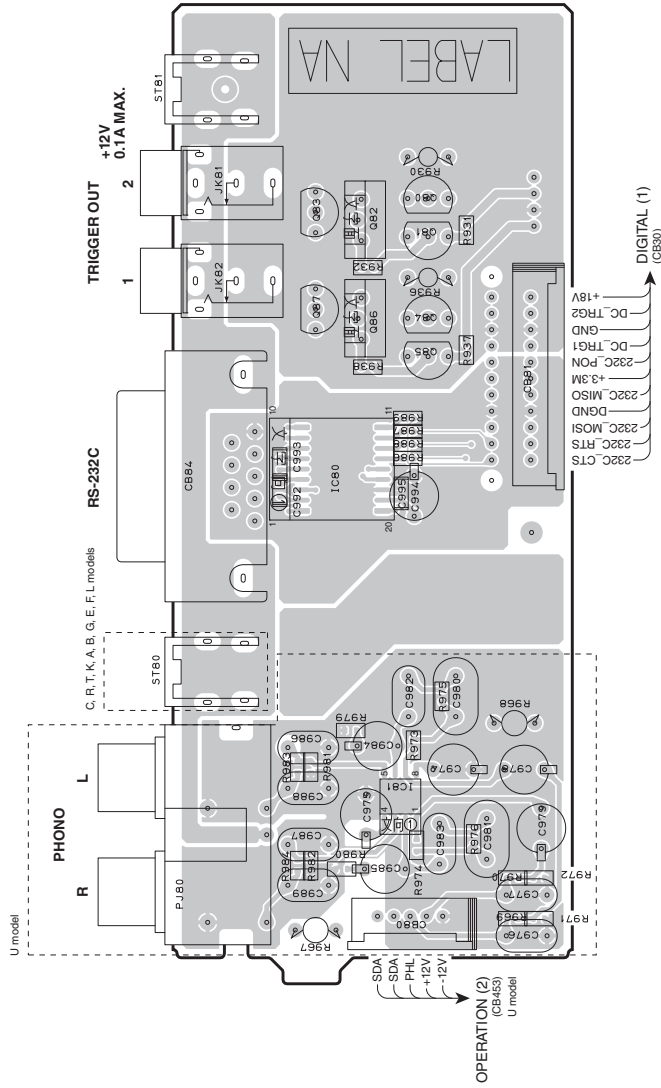
• Semiconductor Location

Ref no.	Location
D62	D2
D153	D2
D201	E5
D202	E5
D203	E5
D204	E6
D404	C2
D600	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	E6
Q205	D5
Q206	D5
Q207	D6
Q208	D6
Q209	D6
Q600	B5
Q601	B5
Q701	G6
Q703	B5

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



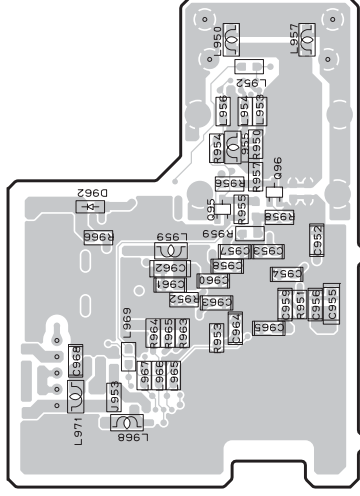
DIGITAL (3) P.C.B. (Side A)



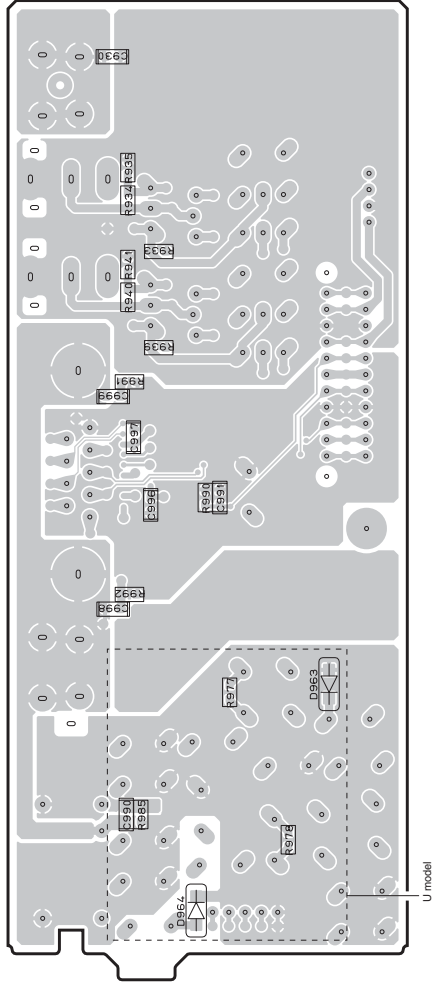
• Semiconductor Location

Ref no.	Location	Ref no.	Location
D950	D4	IC81	F4
D951	D4	IC95	C4
D952	D4	IC96	C4
D953	D4	IC97	D3
D954	D4	Q80	I4
D955	D4	Q81	I4
D956	D4	Q82	I4
D957	D4	Q83	I4
D958	D4	Q84	I4
D959	D4	Q85	I4
D960	D4	Q86	I4
D961	D4	Q87	I4
IC80	H4		

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



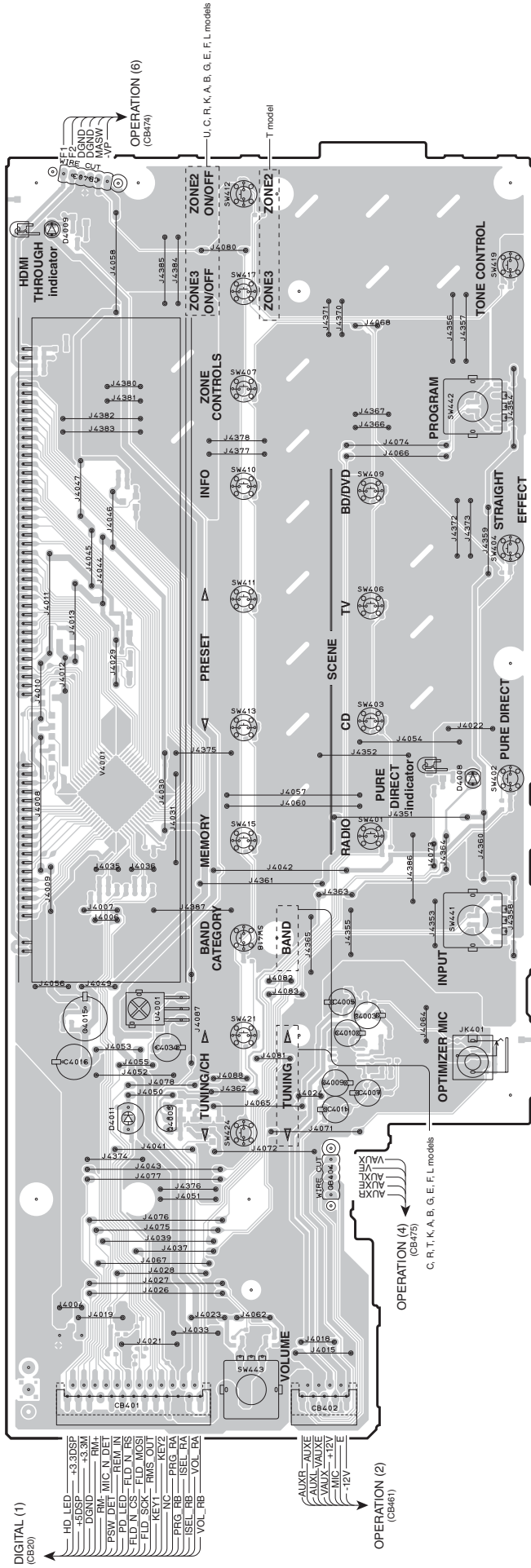
DIGITAL (3) P.C.B. (Side B)



• Semiconductor Location

Ref.no.	Location
D962	C3
D963	G4
D964	F4
Q95	C4
Q96	C4

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

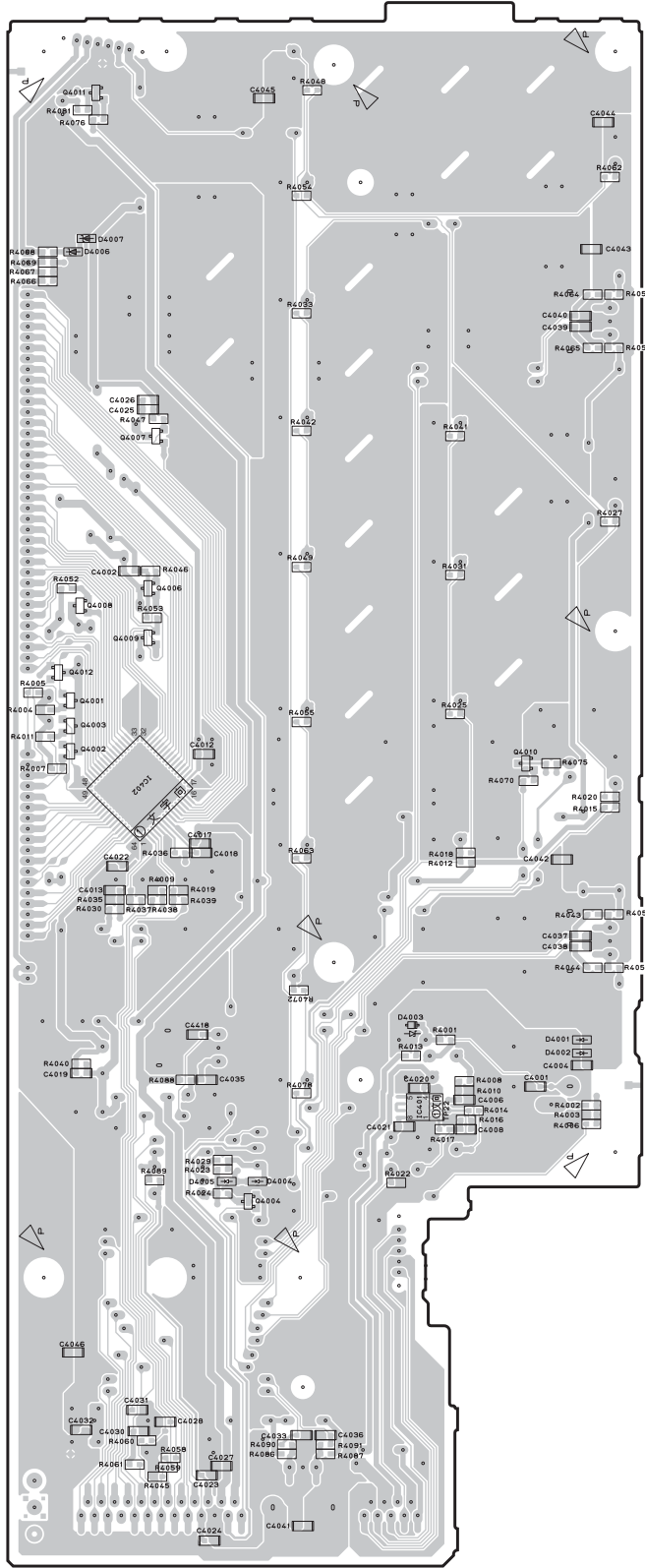


• Semiconductor Location

Ref no.	Location
D4008	F5
D4009	I3
D4011	D3
C4005	D3

A B C D E F G H I J

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

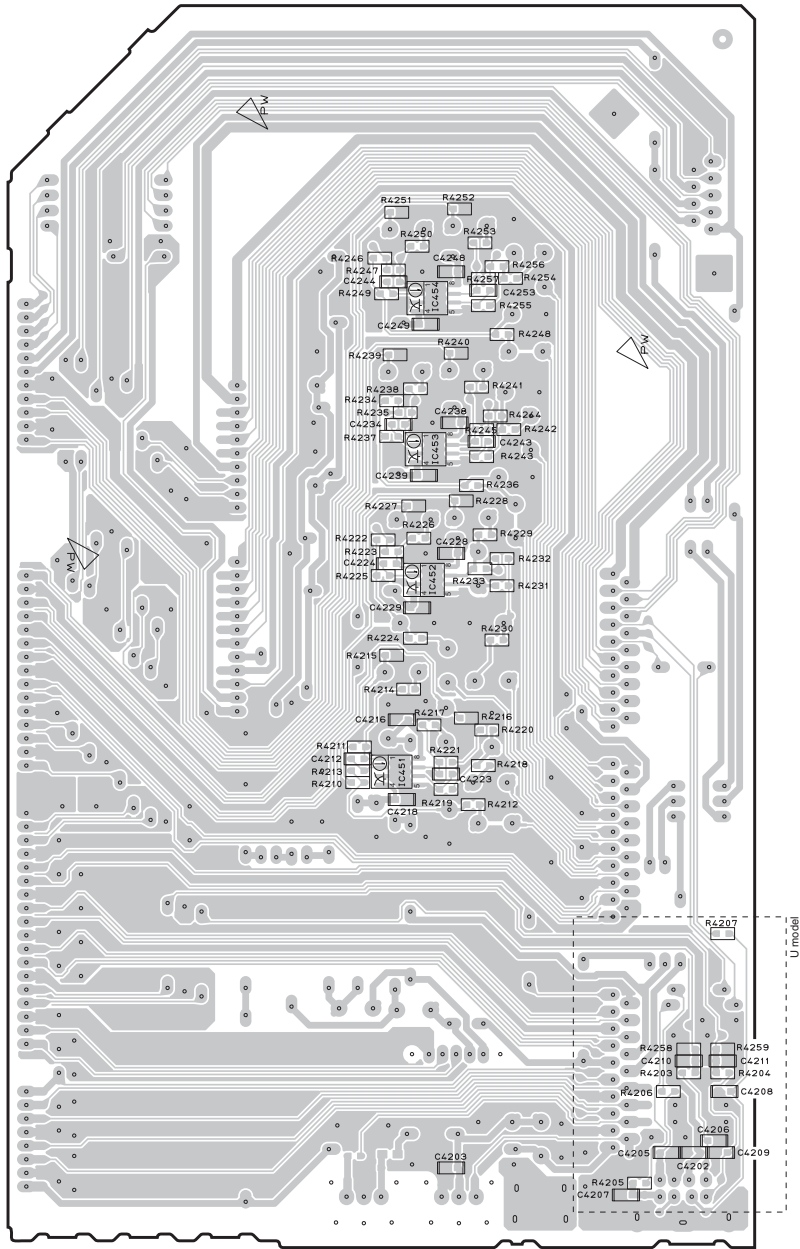


• Semiconductor Location

Ref no.	Location
D4001	D5
D4002	D5
D4003	D4
D4004	C4
D4005	C4
D4006	H3
D4007	H3
IC401	D5
IC402	E3
Q4001	F3
Q4002	F3
Q4003	F3
Q4004	C4
Q4006	F3
Q4007	G3
Q4008	F3
Q4009	F3
Q4010	E5
Q4011	I3
Q4012	F3

J I H G F E D C B A

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

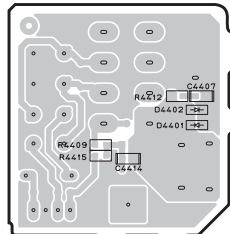


• Semiconductor Location

Ref. no.	Location
IC451	E4
IC452	F4
IC453	F4
IC454	G4

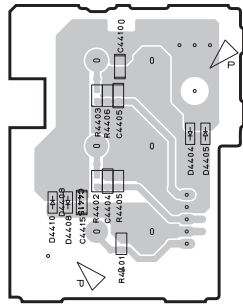
1

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



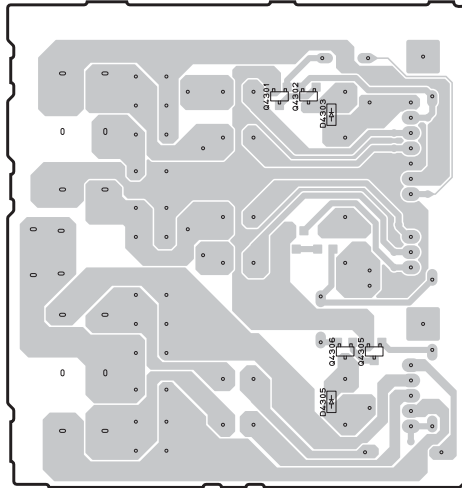
2

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



3

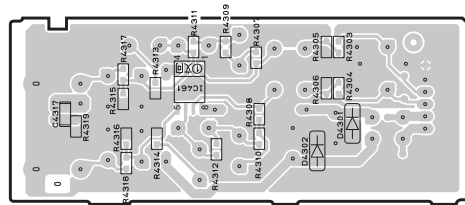
OPERATION (8) P.C.B. (Side B)



4

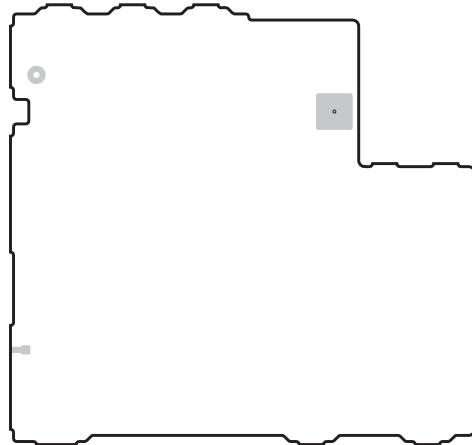
OPERATION (9) P.C.B. (Side B)

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



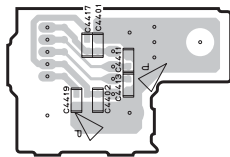
5

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



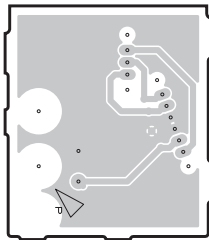
6

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



7

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

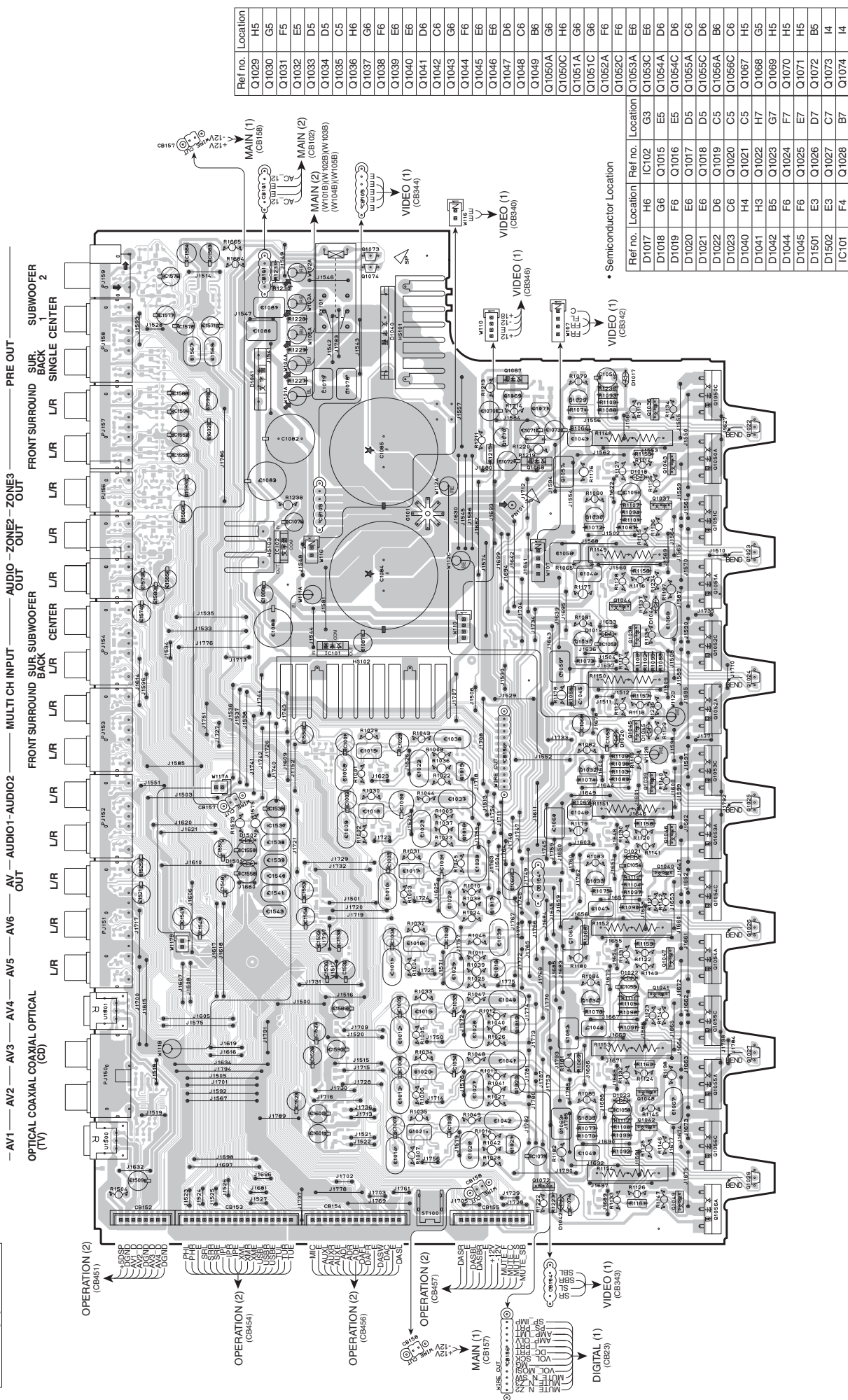


• Semiconductor Location

Ref no.	Location
D4301	D6
D4302	D6
D4303	C6
D4305	A6
D4401	B2
D4402	B2
D4404	D3
D4405	D3
D4408	D2
D4410	D2
IC461	D5
Q4301	C6
Q4302	C6
Q4305	A6
C4506	A6

A B C D E F G H I J

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

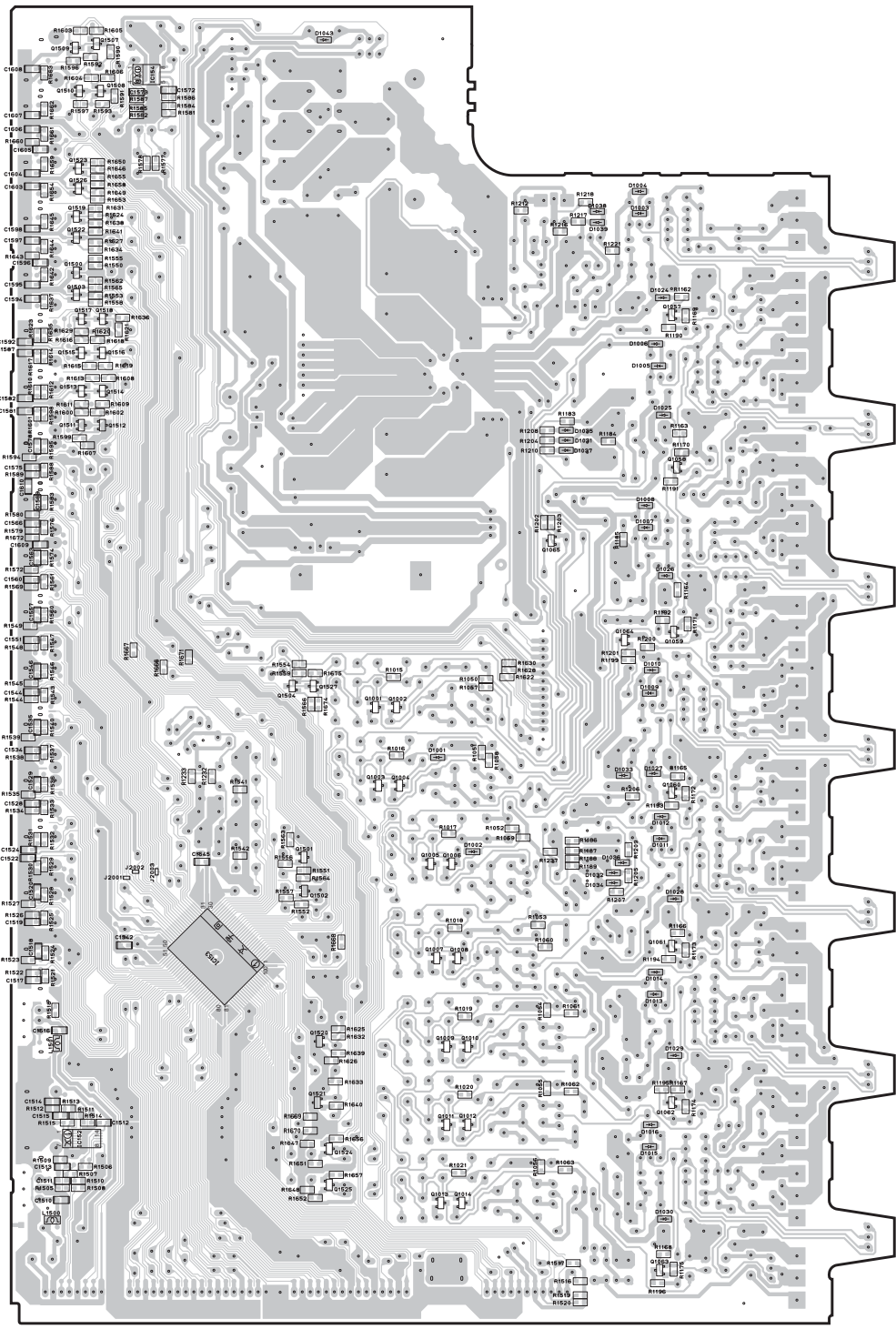


Ref no.	Location	Ref no.	Location
Q1029	H5	Q1053A	E6
Q1030	G5	Q1053C	E6
Q1031	F5	Q1054A	D6
Q1032	E5	Q1054C	D6
Q1033	D5	Q1055A	C6
Q1034	D5	Q1055C	D6
Q1035	C5	Q1056A	B6
Q1036	H6	Q1056C	C6
Q1037	G6	Q1067	H5
Q1038	F6	Q1069	H5
Q1039	E6	Q1070	H5
Q1040	D6	Q1071	H5
Q1041	D6	Q1072	B5
Q1042	C6	Q1073	I4
Q1043	G6	Q1074	I4
Q1044	F6		
Q1045	E6		
Q1046	E6		
Q1048	C6		
Q1049	B6		
Q1050A	G6		
Q1050C	H6		
Q1051A	G6		
Q1051C	G6		
Q1052A	F6		
Q1052C	F6		
Q1053A	E6		
Q1053C	E6		
Q1054A	D6		
Q1054C	D6		
Q1055A	C6		
Q1055C	D6		
Q1056A	B6		
Q1056C	C6		
Q1067	H5		
Q1069	H5		
Q1070	H5		
Q1071	H5		
Q1072	B5		
Q1073	I4		
Q1074	I4		

• Semiconductor Location

Ref no.	Location	Ref no.	Location
D1017	H6	IC102	G3
D1018	G6	Q1015	E5
D1019	F6	Q1016	E5
D1020	E6	Q1017	D5
D1021	E6	Q1018	D5
D1022	D6	Q1019	C5
D1023	C6	Q1020	C5
D1040	H4	Q1021	C5
D1041	H3	Q1022	H7
D1042	B5	Q1023	G7
D1044	F6	Q1024	F7
D1045	F6	Q1025	E7
D1501	E3	Q1026	D7
D1502	E3	Q1027	C7
IC101	F4	Q1028	B7

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	G6
D1009	E5	Q1058	F6
D1010	E5	Q1059	F6
D1011	E5	Q1060	E6
D1012	E5	Q1061	D6
D1013	D5	Q1062	C6
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	D6	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	D5	Q1513	G2
D1036	D5	Q1514	G3
D1037	G5	Q1515	G2
D1038	H5	Q1516	G3
D1039	H5	Q1517	G2
D1043	I4	Q1518	G3
IC152	C2	Q1519	H2
IC153	D3	Q1520	C4
IC154	I3	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		

A

B

C

D

E

F

G

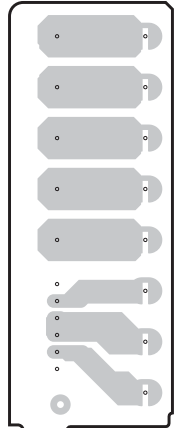
H

I

J

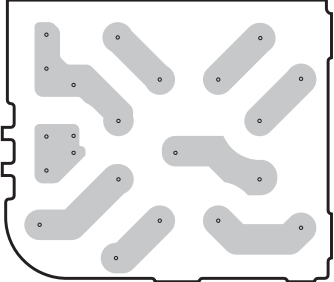
1

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



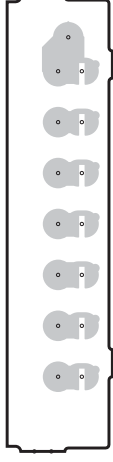
2

MAIN (3) P.C.B. (Side B)
R, L, models



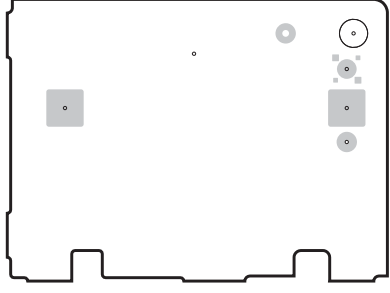
3

MAIN (4) P.C.B. (Side B)
R, L, models



4

MAIN (6) P.C.B. (Side B)



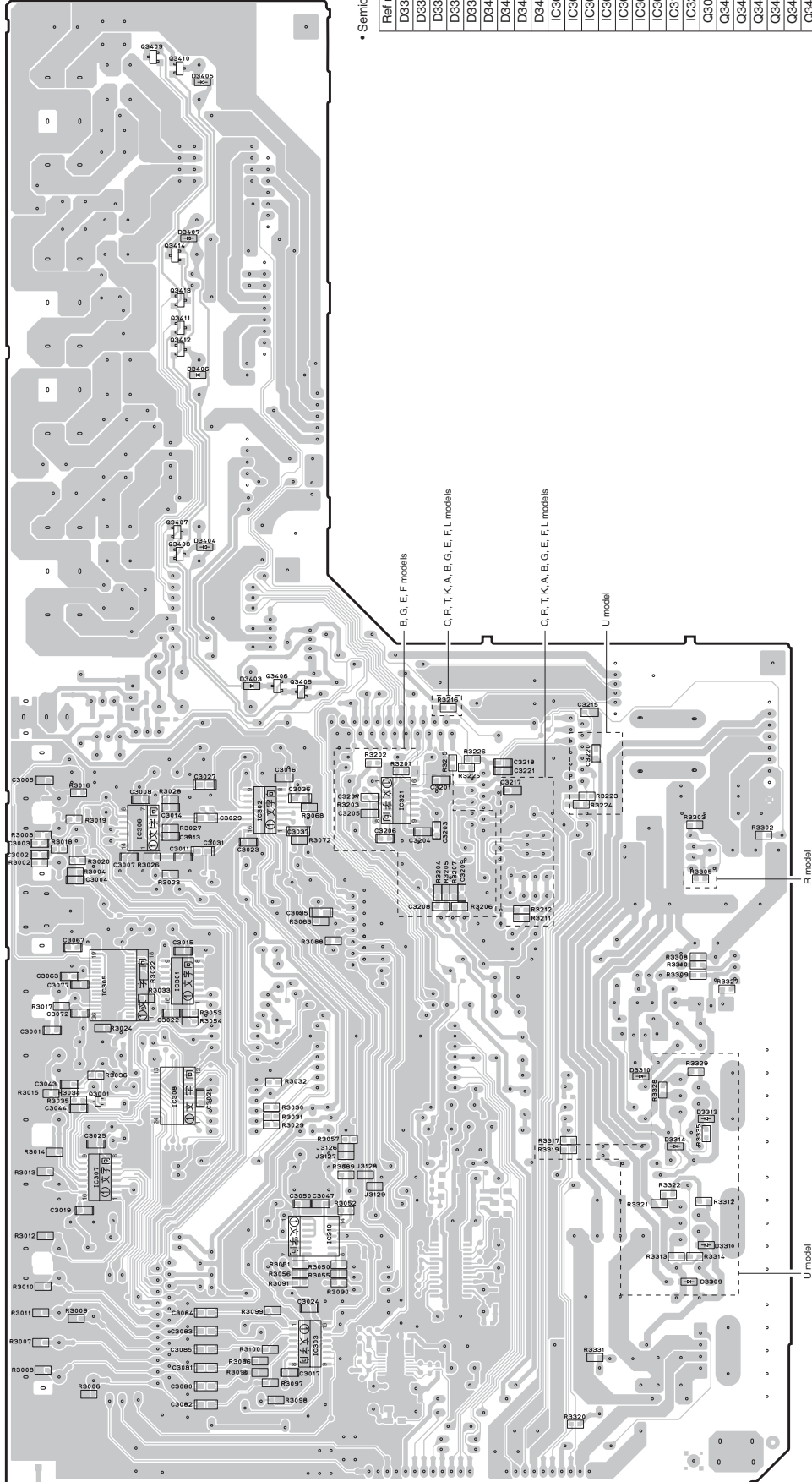
5

6

7

A B C D E F G H I J

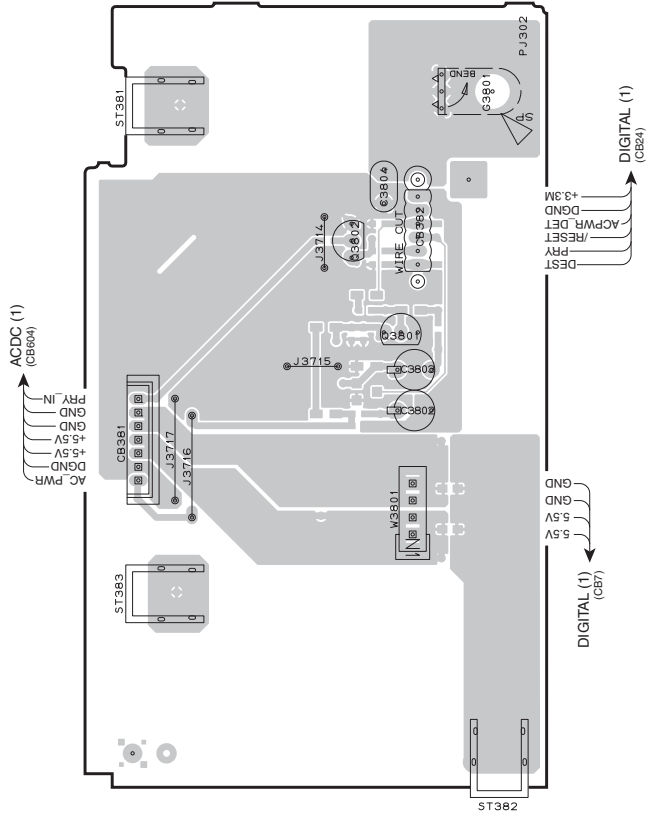
VIDEO (1) P.C.B. (Side B)



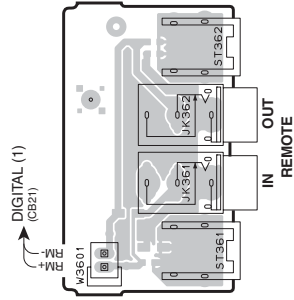
• Semiconductor Location

Ref no.	Location
D3309	B6
D3310	D6
D3311	C6
D3313	C6
D3320	F4
D3403	G3
D3404	I3
D3405	H3
D3406	H3
IC301	D3
IC302	E4
IC303	B4
IC305	D3
IC306	E3
IC307	C3
IC308	C3
IC310	C4
IC321	E4
Q3001	C3
Q3405	F4
Q3406	F4
Q3407	G3
Q3408	G3
Q3409	I3
Q3410	I3
Q3411	H3
Q3412	H3
Q3413	H3
Q3414	H3

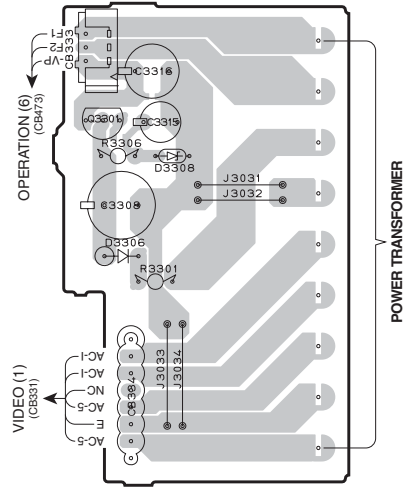
VIDEO (3) P.C.B. (Side A)



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

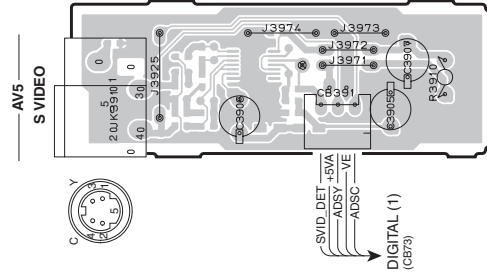


VIDEO (6) P.C.B. (Side A)



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

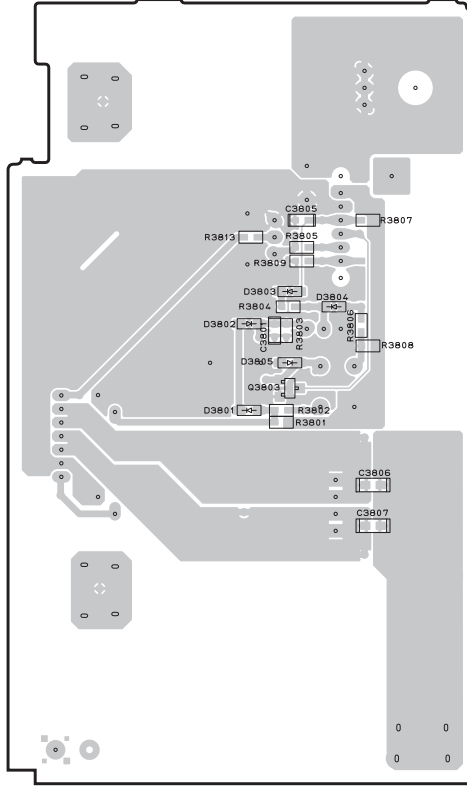
B, G, E, F models



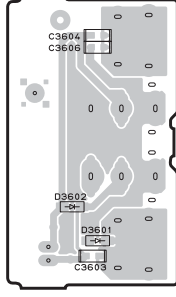
• Semiconductor Location

Ref no.	Location
D3306	C6
D3308	C6
Q3301	D6
Q3801	D3
Q3802	E3

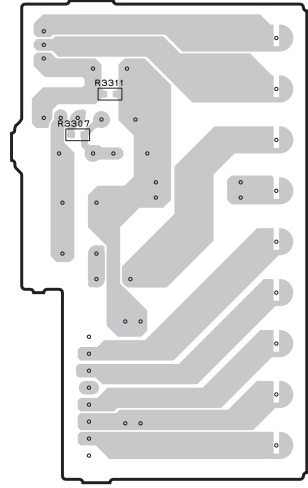
VIDEO (3) P.C.B. (Side B)



VIDEO (4) P.C.B. (Side B)

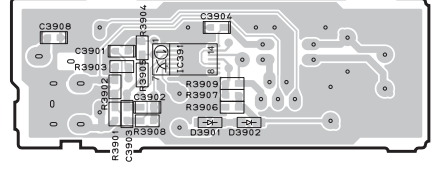


VIDEO (6) P.C.B. (Side B)



VIDEO (9) P.C.B. (Side B)

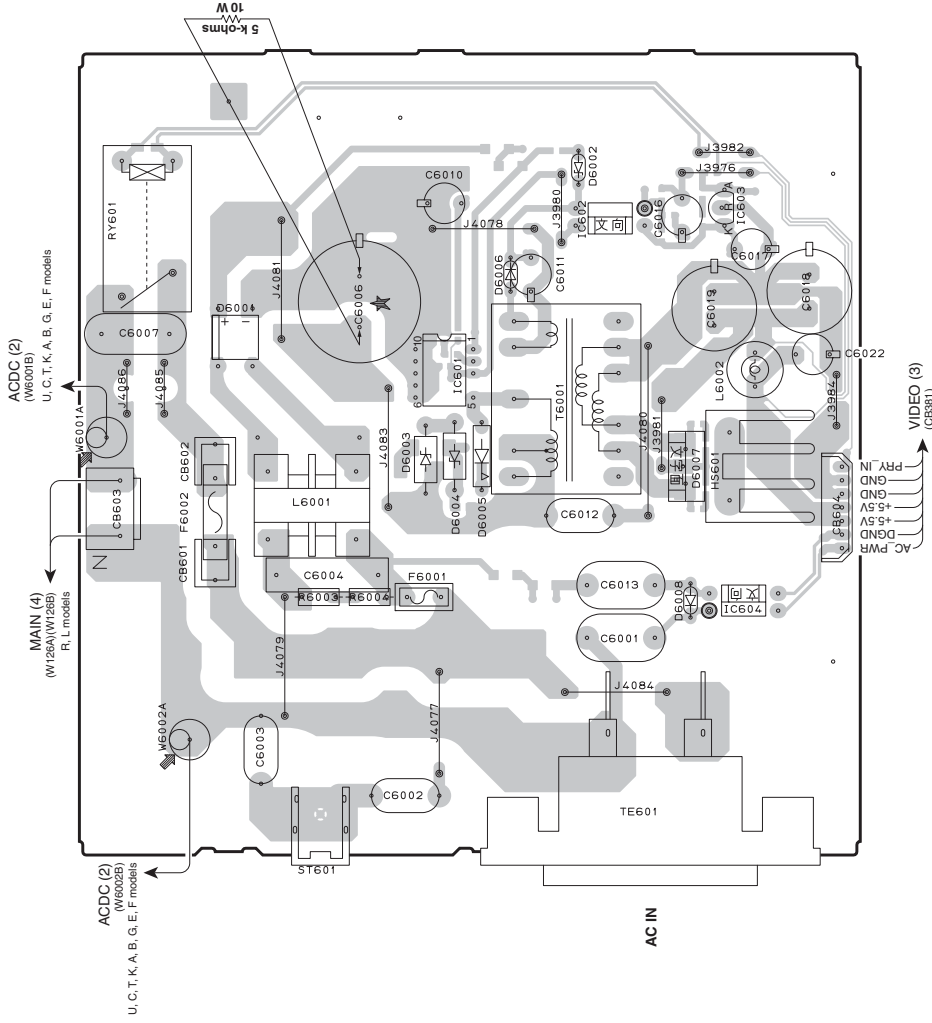
B, G, E, F models



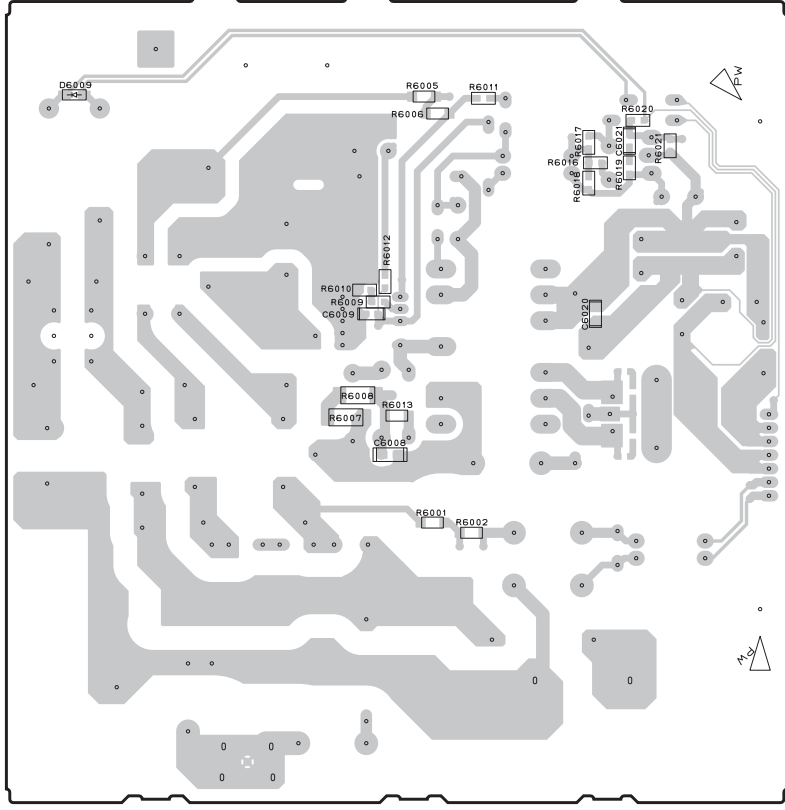
• Semiconductor Location

Ref. no.	Location
D3601	H2
D3602	H2
D3801	D3
D3802	D3
D3803	D3
D3804	D3
D3805	D3
D3901	H6
D3902	H6
IC391	H6
C3803	D3

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



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



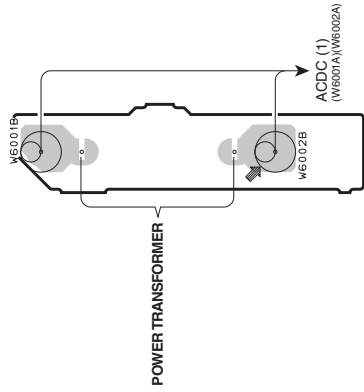
• Semiconductor Location

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 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.

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

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

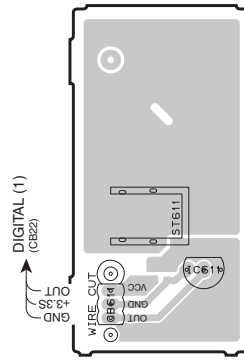


ACDC (2) P.C.B. (Side B)

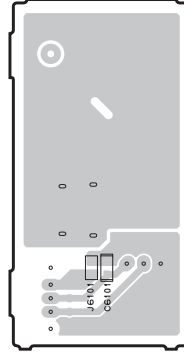
U, C, T, K, A, B, G, E, F models



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

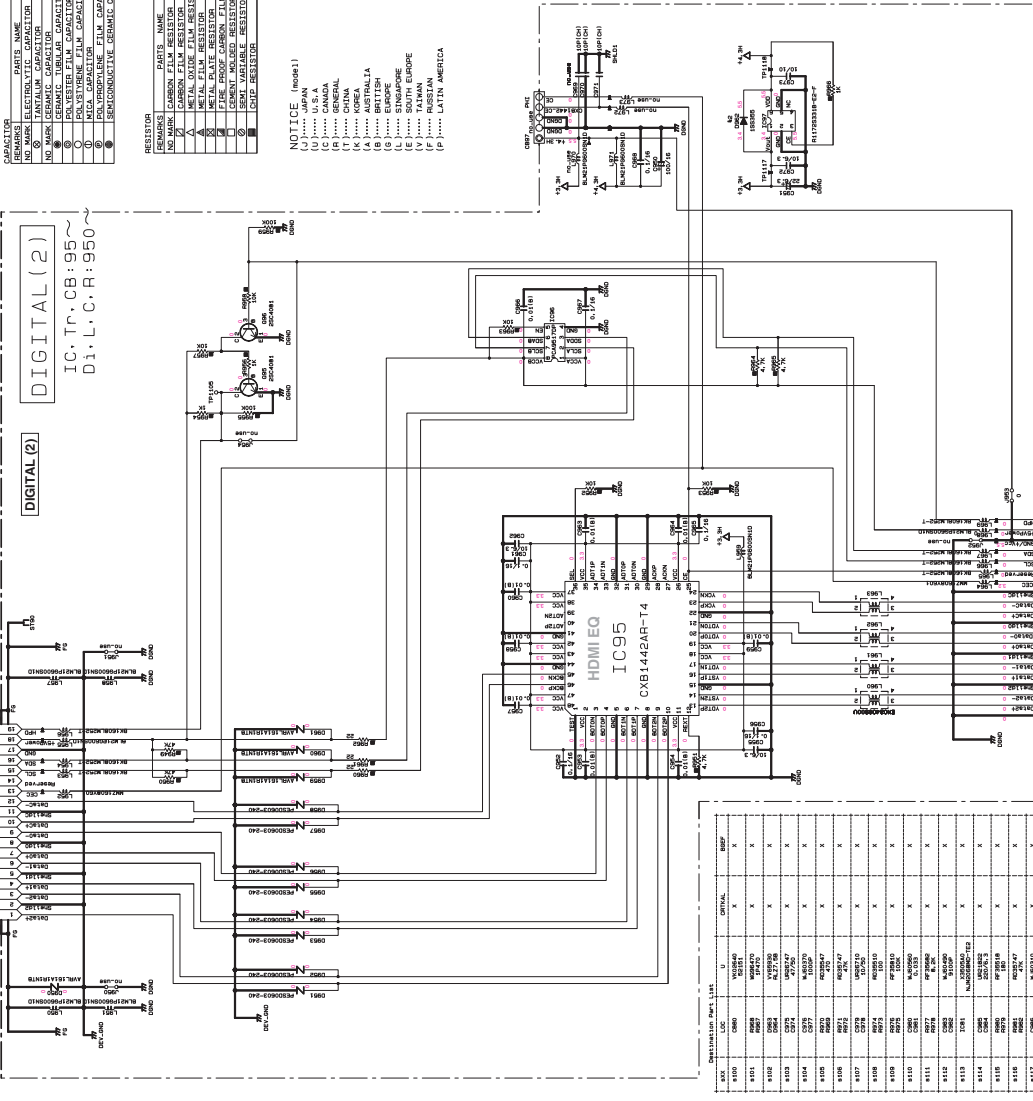
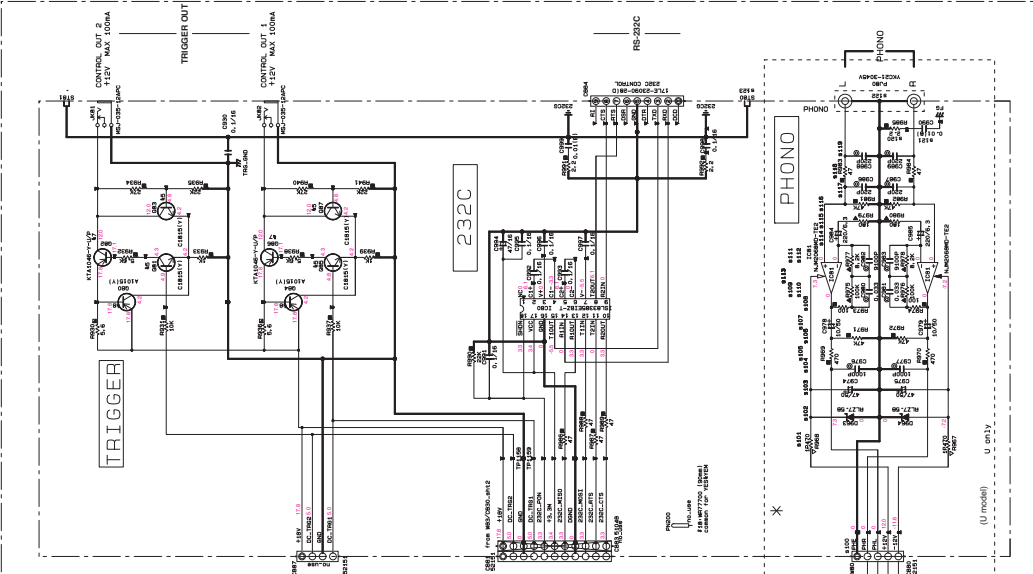
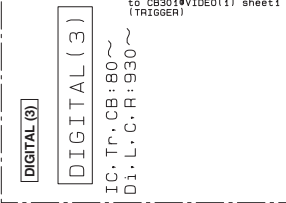


ACDC (3) P.C.B. (Side B)



• Semiconductor Location

Ref no.	Location
IC611	C6



CAPACITOR

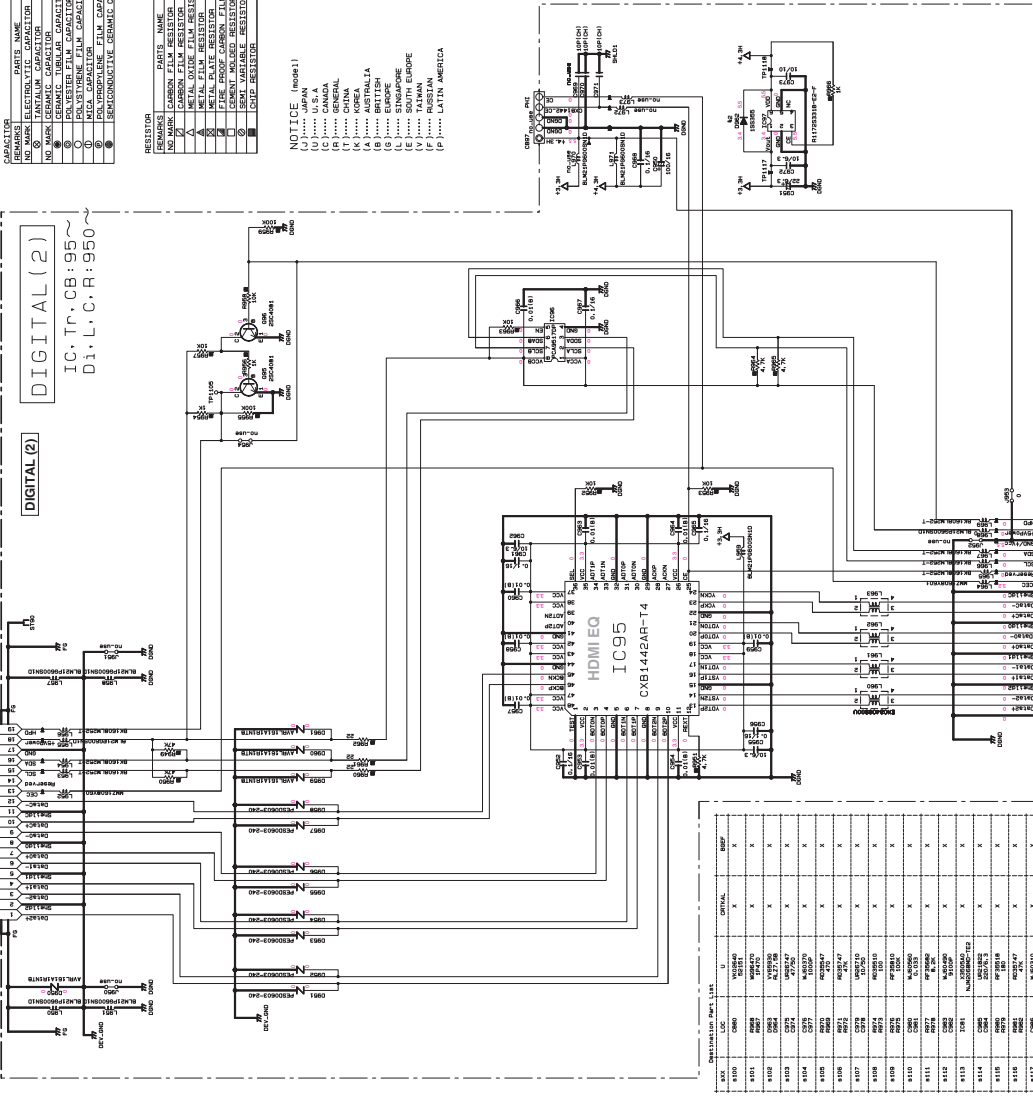
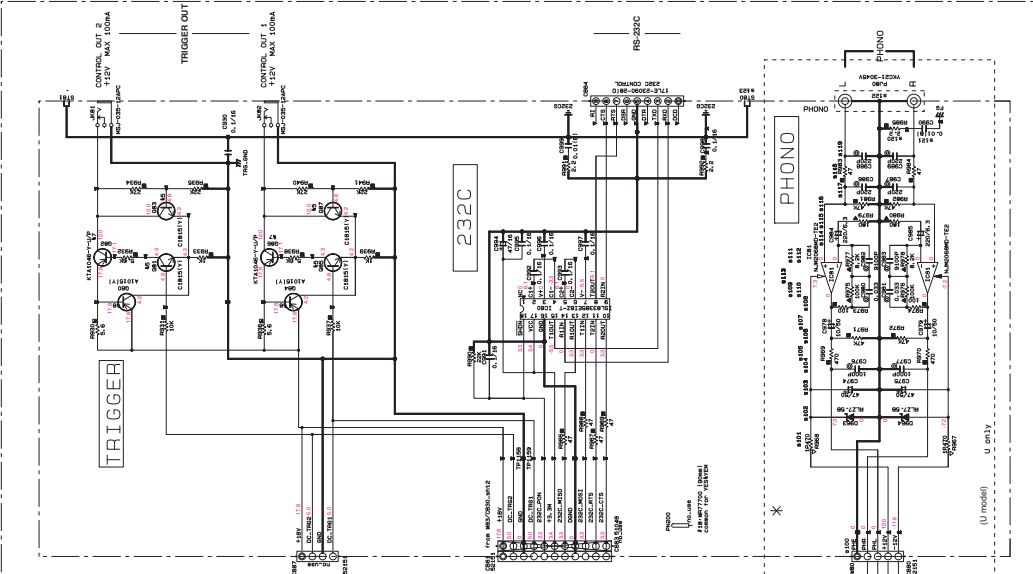
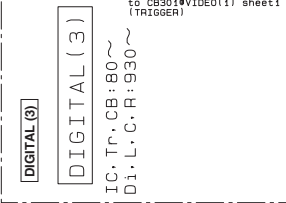
1	NEO MARK ELECTROLYTIC CAPACITOR
2	TANTALUM CAPACITOR
3	NEO MARK CERAMIC SUBSTRATE CAPACITOR
4	POLYESTER FILM CAPACITOR
5	MICA CAPACITOR
6	POLYPROPYLENE FILM CAPACITOR
7	POLYBENZOTRIAZOLE PAPER CAPACITOR

RESISTOR

1	DATE	NAME
2	NEO MARK CARBON FILM RESISTOR (F=40)	
3	CARBON FILM RESISTOR (F=40)	
4	METAL FILM RESISTOR	
5	METAL PASTE RESISTOR	
6	CEMENT MOUNTED RESISTOR	
7	CHIP VARIABLE RESISTOR	
8	CHIP RESISTOR	

NOTICE (note1)

- (U)..... U.S.A.
- (C)..... CANADA
- (K)..... KOREA
- (S)..... SOUTH KOREA
- (J)..... JAPAN
- (E)..... EUROPE
- (V)..... TAIWAN
- (P)..... LATIN AMERICA



CAPACITOR

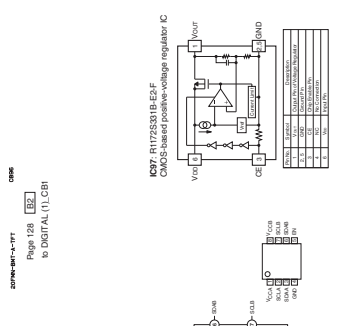
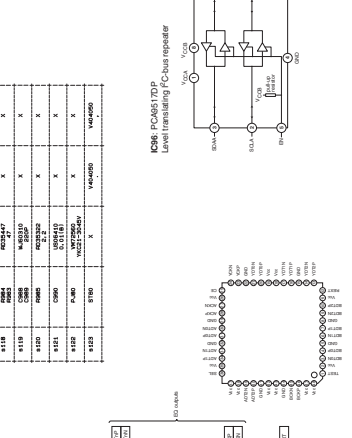
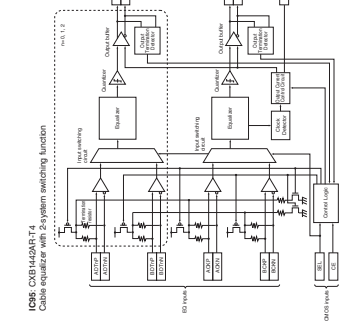
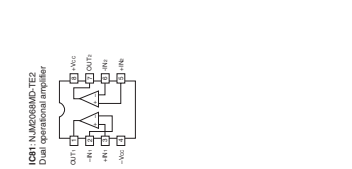
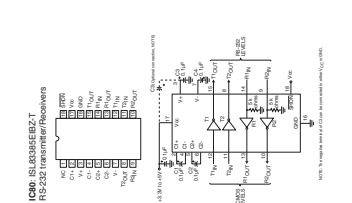
1	NEO MARK ELECTROLYTIC CAPACITOR
2	TANTALUM CAPACITOR
3	NEO MARK CERAMIC SUBSTRATE CAPACITOR
4	POLYESTER FILM CAPACITOR
5	MICA CAPACITOR
6	POLYPROPYLENE FILM CAPACITOR
7	POLYBENZOTRIAZOLE PAPER CAPACITOR

RESISTOR

1	DATE	NAME
2	NEO MARK CARBON FILM RESISTOR (F=40)	
3	CARBON FILM RESISTOR (F=40)	
4	METAL FILM RESISTOR	
5	METAL PASTE RESISTOR	
6	CEMENT MOUNTED RESISTOR	
7	CHIP VARIABLE RESISTOR	
8	CHIP RESISTOR	

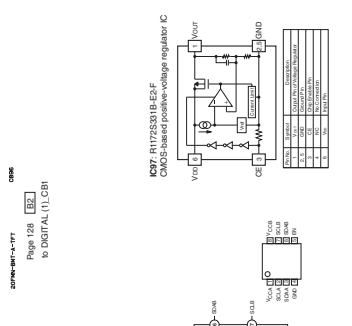
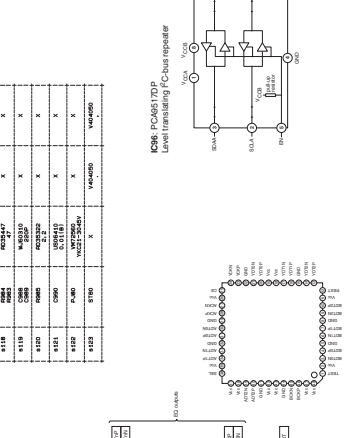
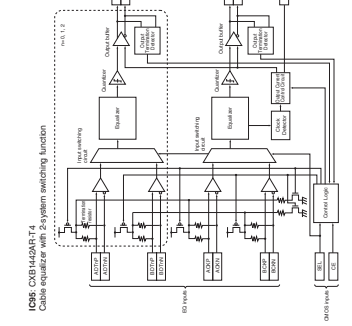
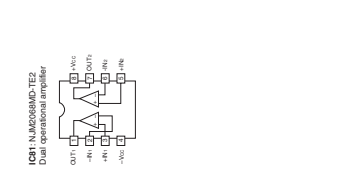
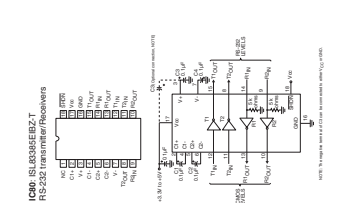
NOTICE (note1)

- (U)..... U.S.A.
- (C)..... CANADA
- (K)..... KOREA
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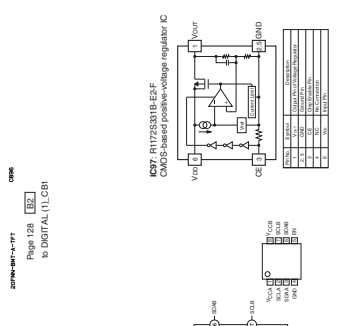
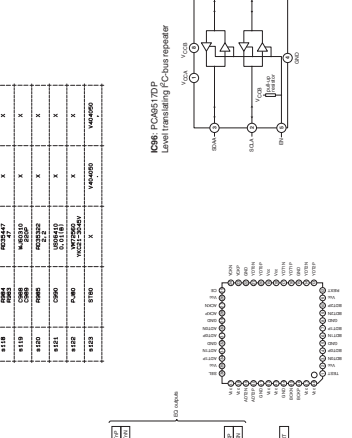
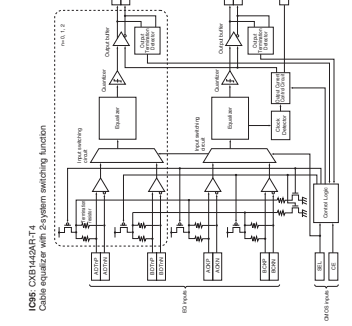
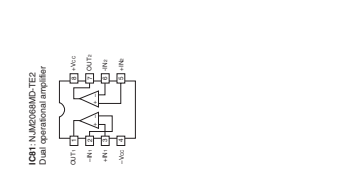
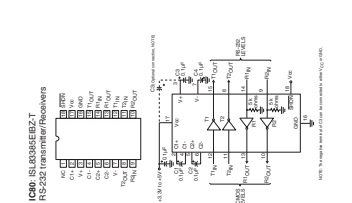
OPTIONAL PART LIST

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801	8001	1	IC81: N1608AND12Z	X	X
802	8002	1	IC86: CXB1442AR-T4	X	X
803	8003	1	IC87: R1172533B-E2F	X	X
804	8004	1	IC88: PCA857DP	X	X
805	8005	1	IC89: R1172533B-E2F	X	X
806	8006	1	IC90: R1172533B-E2F	X	X
807	8007	1	IC91: R1172533B-E2F	X	X
808	8008	1	IC92: R1172533B-E2F	X	X
809	8009	1	IC93: R1172533B-E2F	X	X
810	8010	1	IC94: R1172533B-E2F	X	X
811	8011	1	IC95: R1172533B-E2F	X	X
812	8012	1	IC96: R1172533B-E2F	X	X
813	8013	1	IC97: R1172533B-E2F	X	X
814	8014	1	IC98: R1172533B-E2F	X	X
815	8015	1	IC99: R1172533B-E2F	X	X
816	8016	1	IC100: R1172533B-E2F	X	X
817	8017	1	IC101: R1172533B-E2F	X	X
818	8018	1	IC102: R1172533B-E2F	X	X
819	8019	1	IC103: R1172533B-E2F	X	X
820	8020	1	IC104: R1172533B-E2F	X	X
821	8021	1	IC105: R1172533B-E2F	X	X
822	8022	1	IC106: R1172533B-E2F	X	X
823	8023	1	IC107: R1172533B-E2F	X	X
824	8024	1	IC108: R1172533B-E2F	X	X
825	8025	1	IC109: R1172533B-E2F	X	X
826	8026	1	IC110: R1172533B-E2F	X	X
827	8027	1	IC111: R1172533B-E2F	X	X
828	8028	1	IC112: R1172533B-E2F	X	X
829	8029	1	IC113: R1172533B-E2F	X	X
830	8030	1	IC114: R1172533B-E2F	X	X
831	8031	1	IC115: R1172533B-E2F	X	X
832	8032	1	IC116: R1172533B-E2F	X	X
833	8033	1	IC117: R1172533B-E2F	X	X
834	8034	1	IC118: R1172533B-E2F	X	X
835	8035	1	IC119: R1172533B-E2F	X	X
836	8036	1	IC120: R1172533B-E2F	X	X
837	8037	1	IC121: R1172533B-E2F	X	X
838	8038	1	IC122: R1172533B-E2F	X	X
839	8039	1	IC123: R1172533B-E2F	X	X
840	8040	1	IC124: R1172533B-E2F	X	X
841	8041	1	IC125: R1172533B-E2F	X	X
842	8042	1	IC126: R1172533B-E2F	X	X
843	8043	1	IC127: R1172533B-E2F	X	X
844	8044	1	IC128: R1172533B-E2F	X	X
845	8045	1	IC129: R1172533B-E2F	X	X
846	8046	1	IC130: R1172533B-E2F	X	X
847	8047	1	IC131: R1172533B-E2F	X	X
848	8048	1	IC132: R1172533B-E2F	X	X
849	8049	1	IC133: R1172533B-E2F	X	X
850	8050	1	IC134: R1172533B-E2F	X	X



OPTIONAL PART LIST

NO.	LOC.	QTY.	DESCRIPTION	U	OPTIONAL
800	8000	1	IC80: R12333E2Z	X	X
801	8001	1	IC81: N1608AND12Z	X	X
802	8002	1	IC86: CXB1442AR-T4	X	X
803	8003	1	IC87: R1172533B-E2F	X	X
804	8004	1	IC88: PCA857DP	X	X
805	8005	1	IC89: R1172533B-E2F	X	X
806	8006	1	IC90: R1172533B-E2F	X	X
807	8007	1	IC91: R1172533B-E2F	X	X
808	8008	1	IC92: R1172533B-E2F	X	X
809	8009	1	IC93: R1172533B-E2F	X	X
810	8010	1	IC94: R1172533B-E2F	X	X
811	8011	1	IC95: R1172533B-E2F	X	X
812	8012	1	IC96: R1172533B-E2F	X	X
813	8013	1	IC97: R1172533B-E2F	X	X
814	8014	1	IC98: R1172533B-E2F	X	X
815	8015	1	IC99: R1172533B-E2F	X	X
816	8016	1	IC100: R1172533B-E2F	X	X
817	8017	1	IC101: R1172533B-E2F	X	X
818	8018	1	IC102: R1172533B-E2F	X	X
819	8019	1	IC103: R1172533B-E2F	X	X
820	8020	1	IC104: R1172533B-E2F	X	X
821	8021	1	IC105: R1172533B-E2F	X	X
822	8022	1	IC106: R1172533B-E2F	X	X
823	8023	1	IC107: R1172533B-E2F	X	X
824	8024	1	IC108: R1172533B-E2F	X	X
825	8025	1	IC109: R1172533B-E2F	X	X
826	8026	1	IC110: R1172533B-E2F	X	X
827	8027	1	IC111: R1172533B-E2F	X	X
828	8028	1	IC112: R1172533B-E2F	X	X
829	8029	1	IC113: R1172533B-E2F	X	X
830	8030	1	IC114: R1172533B-E2F	X	X
831	8031	1	IC115: R1172533B-E2F	X	X
832	8032	1	IC116: R1172533B-E2F	X	X
833	8033	1	IC117: R1172533B-E2F	X	X
834	8034	1	IC118: R1172533B-E2F	X	X
835	8035	1	IC119: R1172533B-E2F	X	X
836	8036	1	IC120: R1172533B-E2F	X	X
837	8037	1	IC121: R1172533B-E2F	X	X
838	8038	1	IC122: R1172533B-E2F	X	X
839	8039	1	IC123: R1172533B-E2F	X	X
840	8040	1	IC124: R1172533B-E2F	X	X
841	8041	1	IC125: R1172533B-E2F	X	X
842	8042	1	IC126: R1172533B-E2F	X	X
843	8043	1	IC127: R1172533B-E2F	X	X
844	8044	1	IC128: R1172533B-E2F	X	X
845	8045	1	IC129: R1172533B-E2F	X	X
846	8046	1	IC130: R1172533B-E2F	X	X
847	8047	1	IC131: R1172533B-E2F	X	X
848	8048	1	IC132: R1172533B-E2F	X	X
849	8049	1	IC133: R1172533B-E2F	X	X
850	8050	1	IC134: R1172533B-E2F	X	X



OPTIONAL PART LIST

NO.	LOC.	QTY.	DESCRIPTION	U	OPTIONAL
800	8000	1	IC80: R12333E2Z	X	X
801	8001	1	IC81: N1608AND12Z	X	X
802	8002	1	IC86: CXB1442AR-T4	X	X
803	8003	1	IC87: R1172533B-E2F	X	X
804	8004	1	IC88: PCA857DP	X	X
805	8005	1	IC89: R1172533B-E2F	X	X
806	8006	1	IC90: R1172533B-E2F	X	X
807	8007	1	IC91: R1172533B-E2F	X	X
808	8008	1	IC92: R1172533B-E2F	X	X
809	8009	1	IC93: R1172533B-E2F	X	X
810	8010	1	IC94: R1172533B-E2F	X	X
811	8011	1	IC95: R1172533B-E2F	X	X
812	8012	1	IC96: R1172533B-E2F	X	X
813	8013	1	IC97: R1172533B-E2F	X	X
814	8014	1	IC98: R1172533B-E2F	X	X
815	8015	1	IC99: R1172533B-E2F	X	X
816	8016	1	IC100: R1172533B-E2F	X	X
817	8017	1	IC101: R1172533B-E2F	X	X
818	8018	1	IC102: R1172533B-E2F	X	X
819	8019	1	IC103: R1172533B-E2F	X	X
820	8020	1	IC104: R1172533B-E2F	X	X
821	8021	1	IC105: R1172533B-E2F	X	X
822	8022	1	IC106: R1172533B-E2F	X	X
823	8023	1	IC107: R1172533B-E2F	X	X
824	8024	1	IC108: R1172533B-E2F	X	X
825	8025	1	IC109: R1172533B-E2F	X	X
826	8026	1	IC110: R1172533B-E2F	X	X
827	8027	1	IC111: R1172533B-E2F	X	X
828	8028	1	IC112: R1172533B-E2F	X	X
829	8029	1	IC113: R1172533B-E2F	X	X
830	8030	1	IC114: R1172533B-E2F	X	X
831	8031	1	IC115: R1172533B-E2F	X	X
832	8032	1	IC116: R1172533B-E2F	X	X
833	8033	1	IC117: R1172533B-E2F	X	X
834	8034	1	IC118: R1172533B-E2F	X	X
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836	8036	1	IC120: R1172533B-E2F	X	X
837	8037	1	IC121: R1172533B-E2F	X	X
838	8038	1	IC122: R1172533B-E2F	X	X
839	8039	1	IC123: R1172533B-E2F	X	X
840	8040	1	IC124: R1172533B-E2F	X	X
841	8041	1	IC125: R1172533B-E2F	X	X
842	8042	1	IC126: R1172533B-E2F	X	X
843	8043	1	IC127: R1172533B-E2F	X	X
844	8044	1	IC128: R1172533B-E2F	X	X
845	8045	1	IC129: R1172533B-E2F	X	X
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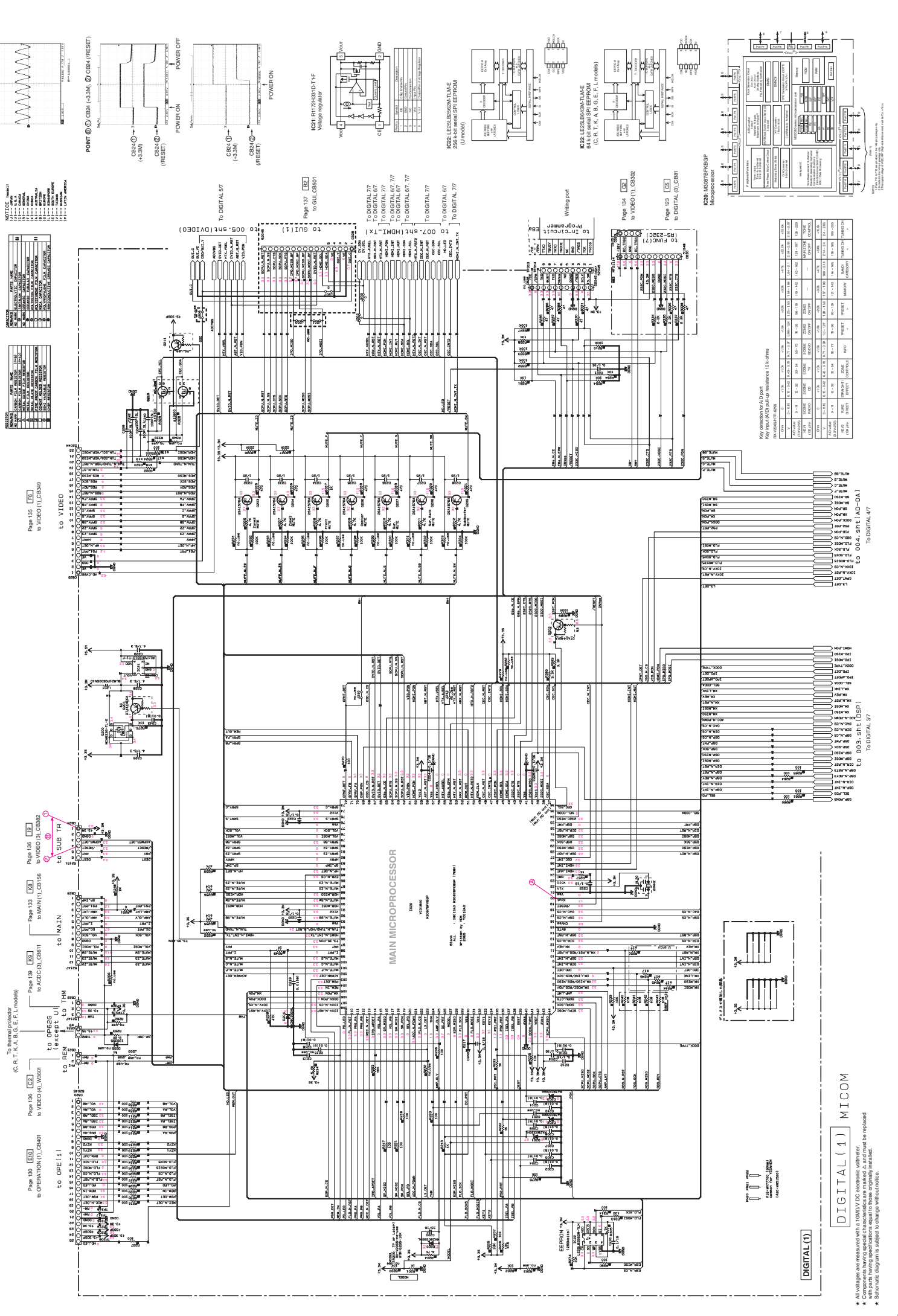


Table 1: Component Values

Part No.	Value	Notes
1	100k	
2	10k	
3	1k	
4	100Ω	
5	10k	
6	100k	
7	10k	
8	100Ω	
9	10k	
10	100k	
11	10k	
12	100Ω	
13	10k	
14	100k	
15	10k	
16	100Ω	
17	10k	
18	100k	
19	10k	
20	100Ω	

Page 138 [138] to VIDEO (1) (U8)

Page 139 [139] to MAIN (1) (U3) & SUB TR

Page 133 [133] to ACDC (1) (U1)

Page 136 [136] to OP62G (U4) & OP62G (U5)

Page 137 [137] to OP62G (U6) & OP62G (U7)

Page 134 [134] to VIDEO (1) (U8)

Page 135 [135] to DIGITAL (1) (U9)

Page 132 [132] to DIGITAL (1) (U9)

Page 131 [131] to DIGITAL (1) (U9)

Page 130 [130] to DIGITAL (1) (U9)

Page 129 [129] to DIGITAL (1) (U9)

Page 128 [128] to DIGITAL (1) (U9)

Page 127 [127] to DIGITAL (1) (U9)

Page 126 [126] to DIGITAL (1) (U9)

Page 125 [125] to DIGITAL (1) (U9)

Page 124 [124] to DIGITAL (1) (U9)

Page 123 [123] to DIGITAL (1) (U9)

Page 122 [122] to DIGITAL (1) (U9)

Page 121 [121] to DIGITAL (1) (U9)

Page 120 [120] to DIGITAL (1) (U9)

Page 119 [119] to DIGITAL (1) (U9)

Page 118 [118] to DIGITAL (1) (U9)

Page 117 [117] to DIGITAL (1) (U9)

Page 116 [116] to DIGITAL (1) (U9)

Page 115 [115] to DIGITAL (1) (U9)

Page 114 [114] to DIGITAL (1) (U9)

Page 113 [113] to DIGITAL (1) (U9)

Page 112 [112] to DIGITAL (1) (U9)

Page 111 [111] to DIGITAL (1) (U9)

Page 110 [110] to DIGITAL (1) (U9)

Page 109 [109] to DIGITAL (1) (U9)

Page 108 [108] to DIGITAL (1) (U9)

Page 107 [107] to DIGITAL (1) (U9)

Page 106 [106] to DIGITAL (1) (U9)

Page 105 [105] to DIGITAL (1) (U9)

Page 104 [104] to DIGITAL (1) (U9)

Page 103 [103] to DIGITAL (1) (U9)

Page 102 [102] to DIGITAL (1) (U9)

Page 101 [101] to DIGITAL (1) (U9)

Page 100 [100] to DIGITAL (1) (U9)

Page 99 [99] to DIGITAL (1) (U9)

Page 98 [98] to DIGITAL (1) (U9)

Page 97 [97] to DIGITAL (1) (U9)

Page 96 [96] to DIGITAL (1) (U9)

DIGITAL (1) MICOM

DIGITAL (1)

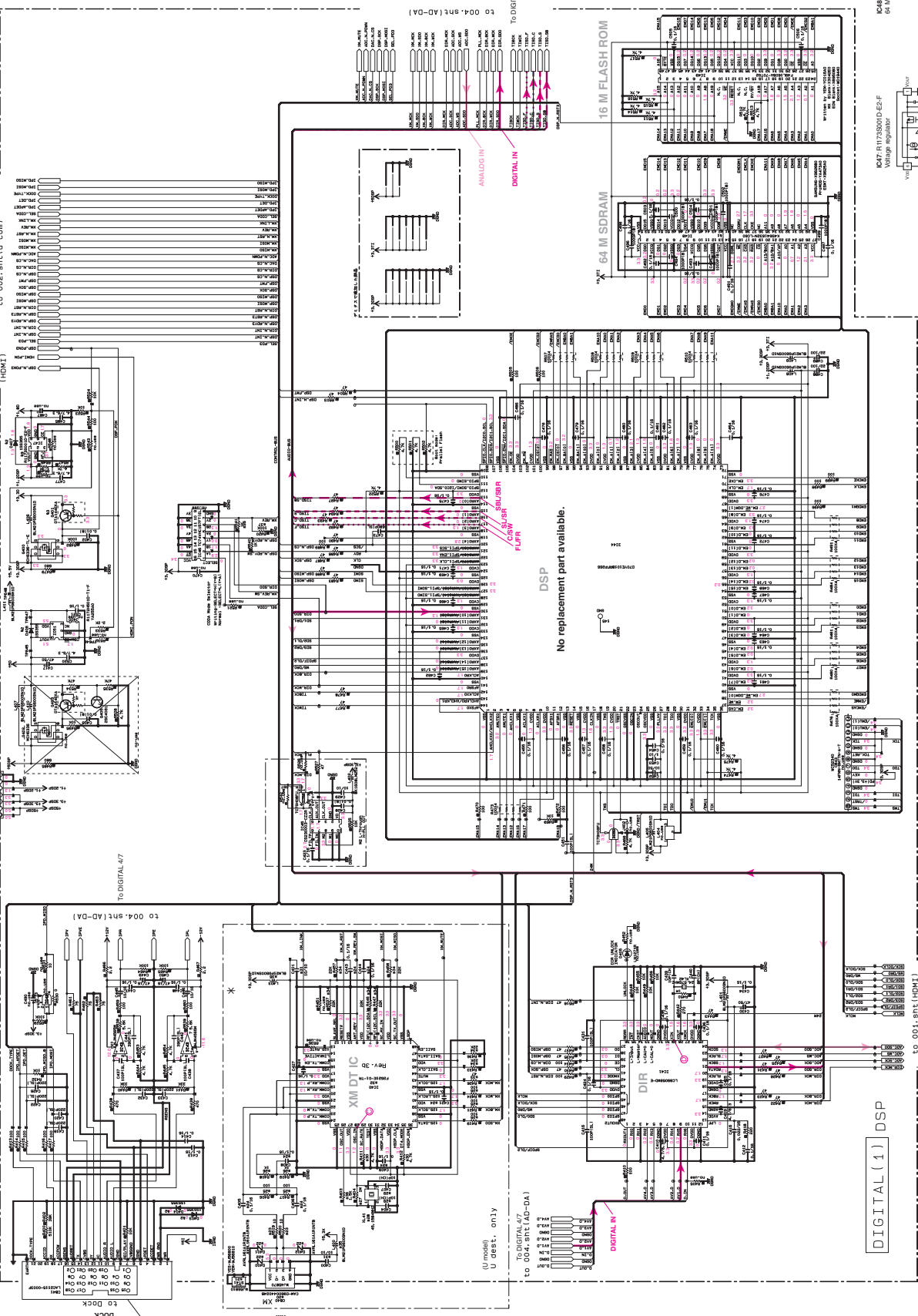
* All voltages are measured with a 100kV DC electronic voltmeter.
 † Components having special characteristics are marked A, and must be replaced with components having the same characteristics.
 ‡ Schematic diagram is subject to change without notice.

Page 137

TO GULC0800

TO DIGITAL 77
to 002.snt(u-com)
[DOKA]

TO DIGITAL 27
to 004.snt(AD-DA)



No replacement part available.

No replacement part available.

DIGITAL (1) DSP

TO DIGITAL 77

TO 001.snt(INDH1)

TO 004.snt(AD-DA)

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

TO DIGITAL 47

POINT XL42 (Pin 28 of IC41)

POINT XL41 (Pin 28 of IC40)

POINT XL40 (Pin 28 of IC40)

POINT XL39 (Pin 28 of IC40)

POINT XL38 (Pin 28 of IC40)

POINT XL37 (Pin 28 of IC40)

POINT XL36 (Pin 28 of IC40)

POINT XL35 (Pin 28 of IC40)

POINT XL34 (Pin 28 of IC40)

POINT XL33 (Pin 28 of IC40)

POINT XL32 (Pin 28 of IC40)

POINT XL31 (Pin 28 of IC40)

POINT XL30 (Pin 28 of IC40)

POINT XL29 (Pin 28 of IC40)

POINT XL28 (Pin 28 of IC40)

POINT XL27 (Pin 28 of IC40)

POINT XL26 (Pin 28 of IC40)

POINT XL25 (Pin 28 of IC40)

POINT XL24 (Pin 28 of IC40)

POINT XL23 (Pin 28 of IC40)

POINT XL22 (Pin 28 of IC40)

POINT XL21 (Pin 28 of IC40)

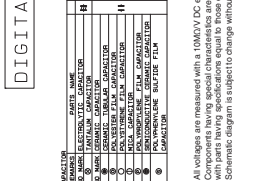
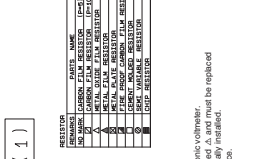
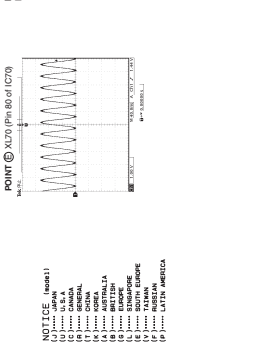
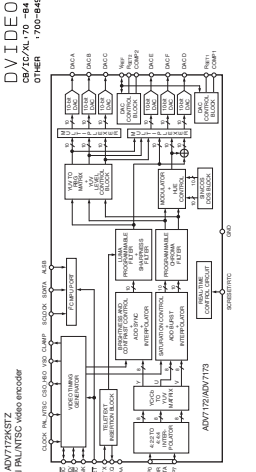
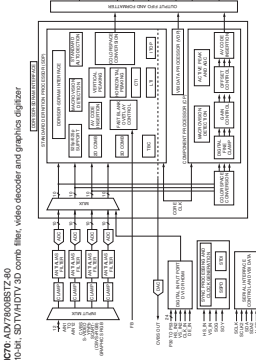
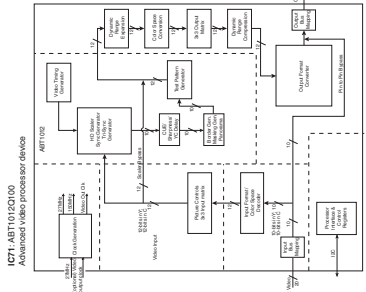
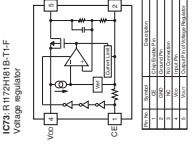
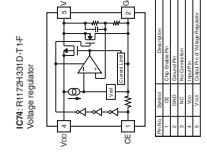
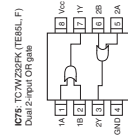
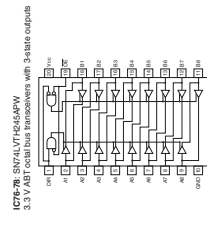
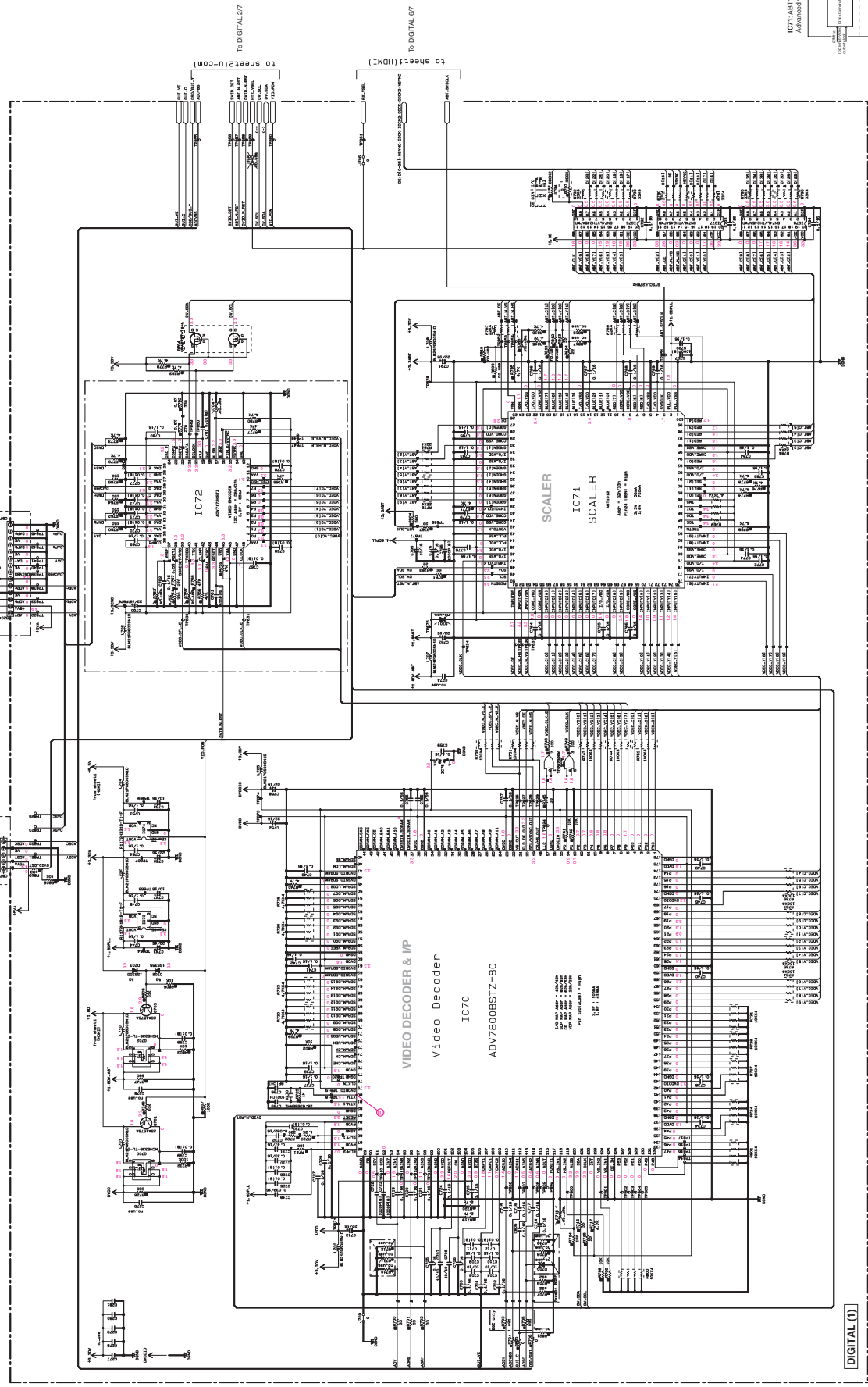
IC	Part Number	Description
IC11	LC8065WD-E	Digital audio interface receiver
IC18	R1735001D-EF	Range regulator
IC19	R1728501D-T-F	Cook multiplier
IC20	TS790FU	2 input AND gate
IC21	CS23003-CZFR	Cook multiplier
IC22	XL42	Pin 28 of IC41
IC23	XL41	Pin 28 of IC40
IC24	XL40	Pin 28 of IC40
IC25	XL39	Pin 28 of IC40
IC26	XL38	Pin 28 of IC40
IC27	XL37	Pin 28 of IC40
IC28	XL36	Pin 28 of IC40
IC29	XL35	Pin 28 of IC40
IC30	XL34	Pin 28 of IC40
IC31	XL33	Pin 28 of IC40
IC32	XL32	Pin 28 of IC40
IC33	XL31	Pin 28 of IC40

NOTE: 1. All voltages are measured with a 10MΩV DC electronic voltmeter.
2. Components having special characteristics are marked with an asterisk (*).
3. Components having special characteristics are marked with a triangle (Δ) and must be replaced immediately after repair.
4. Schematic diagram is subject to change without notice.

Page 134 30
to VIDEO(1), CR304

to VIDEO(10)

to VIDEO(11)



NOTICE (REV. 11/01)

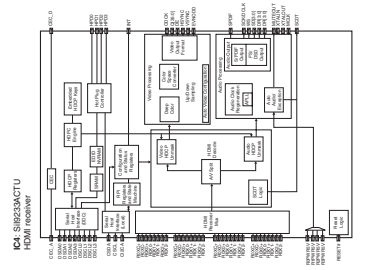
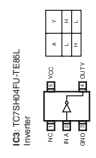
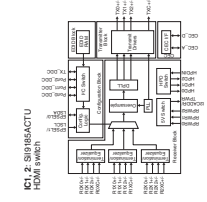
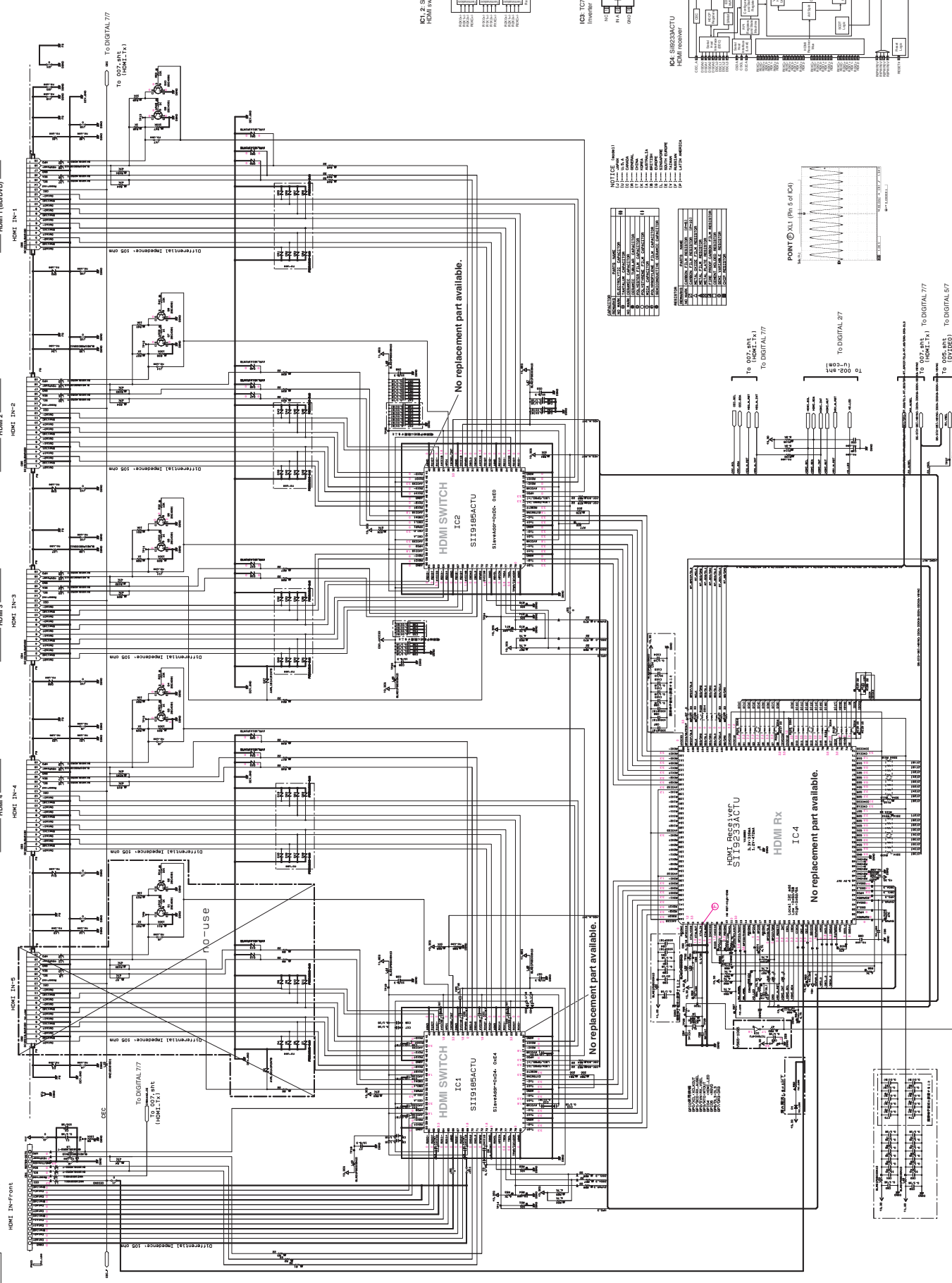
1. All voltages are measured with a 10MΩV DC electronic voltmeter.
 2. Components having special characteristics are marked A, and must be replaced with components having the same special characteristics to be readily installed.
 3. Schematic diagrams are subject to change without notice.

RESISTOR	VALUE	NAME
1	10K	RESISTOR
2	10K	RESISTOR
3	10K	RESISTOR
4	10K	RESISTOR
5	10K	RESISTOR
6	10K	RESISTOR
7	10K	RESISTOR
8	10K	RESISTOR
9	10K	RESISTOR
10	10K	RESISTOR
11	10K	RESISTOR
12	10K	RESISTOR
13	10K	RESISTOR
14	10K	RESISTOR
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37	10K	RESISTOR
38	10K	RESISTOR
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41	10K	RESISTOR
42	10K	RESISTOR
43	10K	RESISTOR
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78	10K	RESISTOR
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87	10K	RESISTOR
88	10K	RESISTOR
89	10K	RESISTOR
90	10K	RESISTOR
91	10K	RESISTOR
92	10K	RESISTOR
93	10K	RESISTOR
94	10K	RESISTOR
95	10K	RESISTOR
96	10K	RESISTOR
97	10K	RESISTOR
98	10K	RESISTOR
99	10K	RESISTOR
100	10K	RESISTOR

DIGITAL (1)

Page 123
to DIGITAL 6/7

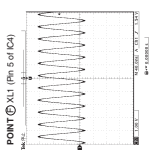
DREAR



NOTICE (Rev. 1)

1. All voltages are measured with a 10MΩV DC electronic voltmeter.
2. Components having special characteristics are marked with a star.
3. Components having special characteristics are marked with a star and must be replaced with the same type and manufacturer's part.
4. Schematic diagram is subject to change without notice.

REF. DESIGNATOR	VALUE	DESCRIPTION	FOOTPRINT
R101	100k	RESISTOR	0603
R102	100k	RESISTOR	0603
R103	100k	RESISTOR	0603
R104	100k	RESISTOR	0603
R105	100k	RESISTOR	0603
R106	100k	RESISTOR	0603
R107	100k	RESISTOR	0603
R108	100k	RESISTOR	0603
R109	100k	RESISTOR	0603
R110	100k	RESISTOR	0603
R111	100k	RESISTOR	0603
R112	100k	RESISTOR	0603
R113	100k	RESISTOR	0603
R114	100k	RESISTOR	0603
R115	100k	RESISTOR	0603
R116	100k	RESISTOR	0603
R117	100k	RESISTOR	0603
R118	100k	RESISTOR	0603
R119	100k	RESISTOR	0603
R120	100k	RESISTOR	0603
R121	100k	RESISTOR	0603
R122	100k	RESISTOR	0603
R123	100k	RESISTOR	0603
R124	100k	RESISTOR	0603
R125	100k	RESISTOR	0603
R126	100k	RESISTOR	0603
R127	100k	RESISTOR	0603
R128	100k	RESISTOR	0603
R129	100k	RESISTOR	0603
R130	100k	RESISTOR	0603
R131	100k	RESISTOR	0603
R132	100k	RESISTOR	0603
R133	100k	RESISTOR	0603
R134	100k	RESISTOR	0603
R135	100k	RESISTOR	0603
R136	100k	RESISTOR	0603
R137	100k	RESISTOR	0603
R138	100k	RESISTOR	0603
R139	100k	RESISTOR	0603
R140	100k	RESISTOR	0603
R141	100k	RESISTOR	0603
R142	100k	RESISTOR	0603
R143	100k	RESISTOR	0603
R144	100k	RESISTOR	0603
R145	100k	RESISTOR	0603
R146	100k	RESISTOR	0603
R147	100k	RESISTOR	0603
R148	100k	RESISTOR	0603
R149	100k	RESISTOR	0603
R150	100k	RESISTOR	0603
R151	100k	RESISTOR	0603
R152	100k	RESISTOR	0603
R153	100k	RESISTOR	0603
R154	100k	RESISTOR	0603
R155	100k	RESISTOR	0603
R156	100k	RESISTOR	0603
R157	100k	RESISTOR	0603
R158	100k	RESISTOR	0603
R159	100k	RESISTOR	0603
R160	100k	RESISTOR	0603
R161	100k	RESISTOR	0603
R162	100k	RESISTOR	0603
R163	100k	RESISTOR	0603
R164	100k	RESISTOR	0603
R165	100k	RESISTOR	0603
R166	100k	RESISTOR	0603
R167	100k	RESISTOR	0603
R168	100k	RESISTOR	0603
R169	100k	RESISTOR	0603
R170	100k	RESISTOR	0603
R171	100k	RESISTOR	0603
R172	100k	RESISTOR	0603
R173	100k	RESISTOR	0603
R174	100k	RESISTOR	0603
R175	100k	RESISTOR	0603
R176	100k	RESISTOR	0603
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R183	100k	RESISTOR	0603
R184	100k	RESISTOR	0603
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R187	100k	RESISTOR	0603
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R189	100k	RESISTOR	0603
R190	100k	RESISTOR	0603
R191	100k	RESISTOR	0603
R192	100k	RESISTOR	0603
R193	100k	RESISTOR	0603
R194	100k	RESISTOR	0603
R195	100k	RESISTOR	0603
R196	100k	RESISTOR	0603
R197	100k	RESISTOR	0603
R198	100k	RESISTOR	0603
R199	100k	RESISTOR	0603
R200	100k	RESISTOR	0603



DIGITAL (1)

DIGITAL (1)

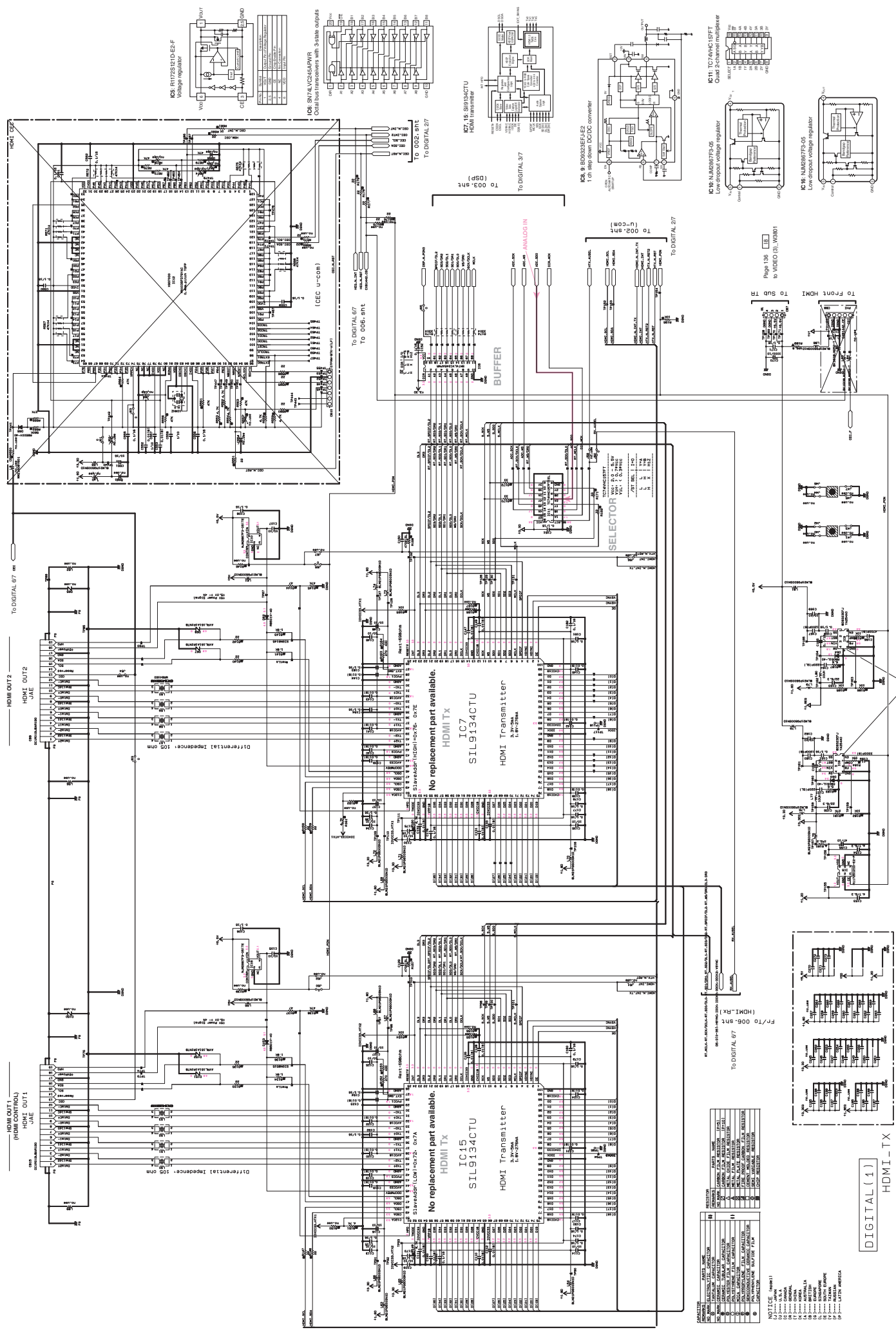
DIGITAL (1)

DIGITAL (1)

DIGITAL (1)

DIGITAL (1)

DIGITAL (1)



No replacement part available
 HDMI Tx
 IC7
 SIL9134CTU
 HDMI Transmitter
 3.3V 20MA
 1.5V 20MA

No replacement part available
 HDMI Tx
 IC15
 SIL9134CTU
 HDMI Transmitter
 3.3V 20MA
 1.5V 20MA

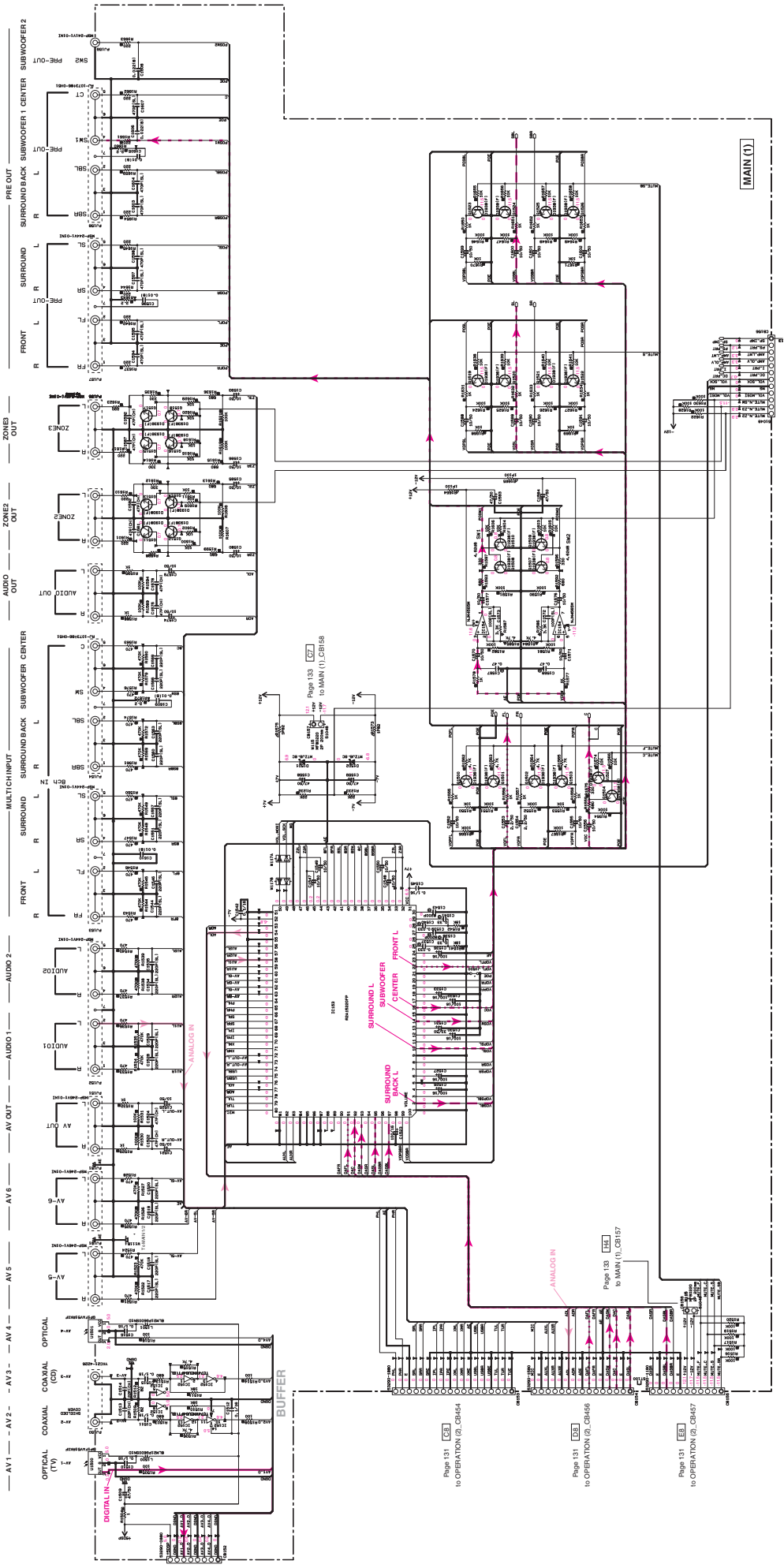
No replacement part available.

REV	DESCRIPTION
1	INITIAL RELEASE
2	REVISION 1: ADDITIONAL PARTS
3	REVISION 2: ADDITIONAL PARTS
4	REVISION 3: ADDITIONAL PARTS
5	REVISION 4: ADDITIONAL PARTS
6	REVISION 5: ADDITIONAL PARTS
7	REVISION 6: ADDITIONAL PARTS
8	REVISION 7: ADDITIONAL PARTS
9	REVISION 8: ADDITIONAL PARTS
10	REVISION 9: ADDITIONAL PARTS
11	REVISION 10: ADDITIONAL PARTS
12	REVISION 11: ADDITIONAL PARTS
13	REVISION 12: ADDITIONAL PARTS
14	REVISION 13: ADDITIONAL PARTS
15	REVISION 14: ADDITIONAL PARTS
16	REVISION 15: ADDITIONAL PARTS
17	REVISION 16: ADDITIONAL PARTS
18	REVISION 17: ADDITIONAL PARTS
19	REVISION 18: ADDITIONAL PARTS
20	REVISION 19: ADDITIONAL PARTS
21	REVISION 20: ADDITIONAL PARTS

NOTICE (cont.)
 10. ...
 11. ...
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 21. ...

DIGITAL (1)
 HDMI_TX

Page 196
 to VIDEO (3, V080)



Page 134 [E3] to DIGITAL (1)_CB33

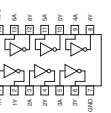
Page 133 [E2] to MAIN (1)_CB158

Page 133 [E2] to MAIN (1)_CB157

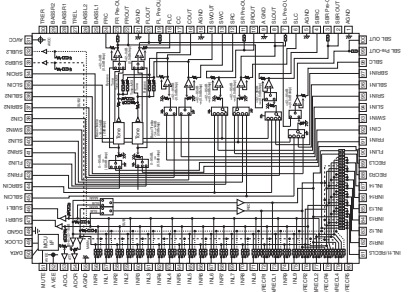
Page 131 [E1] to OPERATION (2)_CB457

Page 131 [E2] to OPERATION (2)_CB456

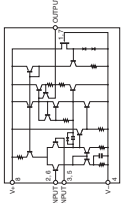
Page 131 [E3] to OPERATION (2)_CB455



IC183: 5SA 02282PFP Stereo selector volume with 11 input selector and tone control



IC184: NJM4955M Dual operational amplifier

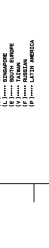
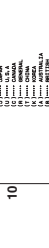
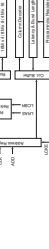
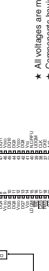
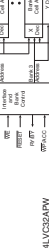
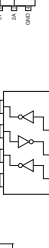
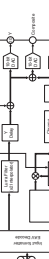
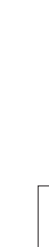
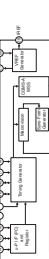
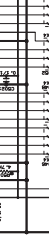
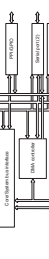
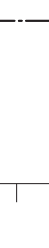
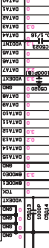
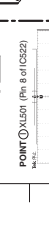
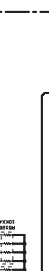
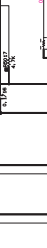
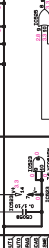
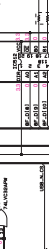
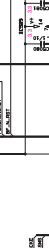
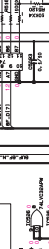
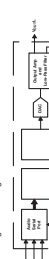
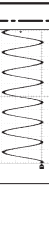
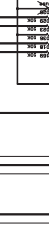
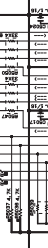
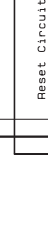
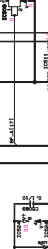
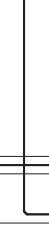
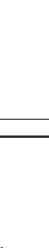
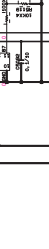
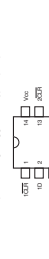
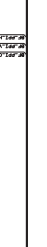
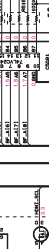
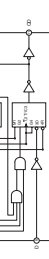
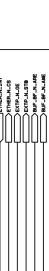
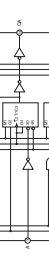


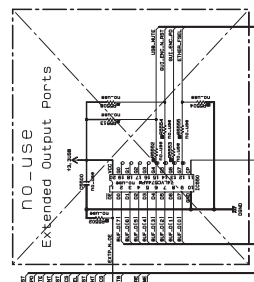
- NOTICE (Notes)
- (1) U.S.A.
 - (2) JAPAN
 - (3) GERMANY
 - (4) KOREA
 - (5) MALAYSIA
 - (6) BRITAIN
 - (7) SWITZERLAND
 - (8) STRASBOURG
 - (9) INDIA
 - (10) MEXICO

RESISTOR	TYPE	VALUE	CODE
1	1/4W	10K	103
2	1/4W	10K	103
3	1/4W	10K	103
4	1/4W	10K	103
5	1/4W	10K	103
6	1/4W	10K	103
7	1/4W	10K	103
8	1/4W	10K	103
9	1/4W	10K	103
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39	1/4W	10K	103
40	1/4W	10K	103
41	1/4W	10K	103
42	1/4W	10K	103
43	1/4W	10K	103
44	1/4W	10K	103
45	1/4W	10K	103
46	1/4W	10K	103
47	1/4W	10K	103
48	1/4W	10K	103
49	1/4W	10K	103
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51	1/4W	10K	103
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57	1/4W	10K	103
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70	1/4W	10K	103
71	1/4W	10K	103
72	1/4W	10K	103
73	1/4W	10K	103
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75	1/4W	10K	103
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77	1/4W	10K	103
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79	1/4W	10K	103
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82	1/4W	10K	103
83	1/4W	10K	103
84	1/4W	10K	103
85	1/4W	10K	103
86	1/4W	10K	103
87	1/4W	10K	103
88	1/4W	10K	103
89	1/4W	10K	103
90	1/4W	10K	103
91	1/4W	10K	103
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95	1/4W	10K	103
96	1/4W	10K	103
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99	1/4W	10K	103
100	1/4W	10K	103

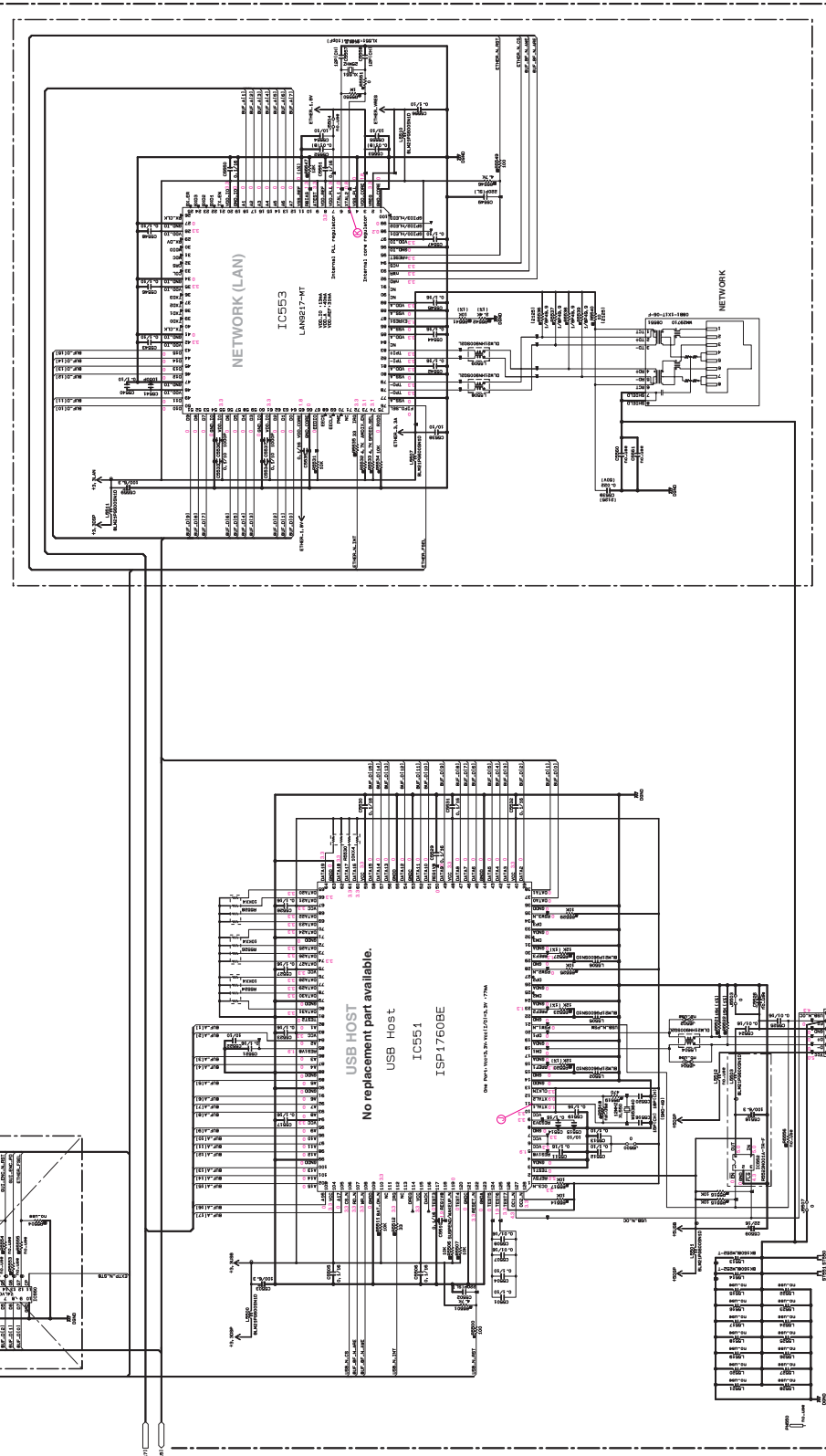
CAPACITOR	TYPE	VALUE	CODE
1	100V	100nF	101
2	100V	100nF	101
3	100V	100nF	101
4	100V	100nF	101
5	100V	100nF	101
6	100V	100nF	101
7	100V	100nF	101
8	100V	100nF	101
9	100V	100nF	101
10	100V	100nF	101
11	100V	100nF	101
12	100V	100nF	101
13	100V	100nF	101
14	100V	100nF	101
15	100V	100nF	101
16	100V	100nF	101
17	100V	100nF	101
18	100V	100nF	101
19	100V	100nF	101
20	100V	100nF	101
21	100V	100nF	101
22	100V	100nF	101
23	100V	100nF	101
24	100V	100nF	101
25	100V	100nF	101
26	100V	100nF	101
27	100V	100nF	101
28	100V	100nF	101
29	100V	100nF	101
30	100V	100nF	101
31	100V	100nF	101
32	100V	100nF	101
33	100V	100nF	101
34	100V	100nF	101
35	100V	100nF	101
36	100V	100nF	101
37	100V	100nF	101
38	100V	100nF	101
39	100V	100nF	101
40	100V	100nF	101
41	100V	100nF	101
42	100V	100nF	101
43	100V	100nF	101
44	100V	100nF	101
45	100V	100nF	101
46	100V	100nF	101
47	100V	100nF	101
48	100V	100nF	101
49	100V	100nF	101
50	100V	100nF	101
51	100V	100nF	101
52	100V	100nF	101
53	100V	100nF	101
54	100V	100nF	101
55	100V	100nF	101
56	100V	100nF	101
57	100V	100nF	101
58	100V	100nF	101
59	100V	100nF	101
60	100V	100nF	101
61	100V	100nF	101
62	100V	100nF	101
63	100V	100nF	101
64	100V	100nF	101
65	100V	100nF	101
66	100V	100nF	101
67	100V	100nF	101
68	100V	100nF	101
69	100V	100nF	101
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74	100V	100nF	101
75	100V	100nF	101
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86	100V	100nF	101
87	100V	100nF	101
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91	100V	100nF	101
92	100V	100nF	101
93	100V	100nF	101
94	100V	100nF	101
95	100V	100nF	101
96	100V	100nF	101
97	100V	100nF	101
98	100V	100nF	101
99	100V	100nF	101
100	100V	100nF	101

- * All voltages are measured with a 100V DC electronic voltmeter.
- * Components having special characteristics are marked A and must be replaced in same polarity. Special requirements are marked B and must be replaced in same polarity.
- * Schematic design is subject to change without notice.

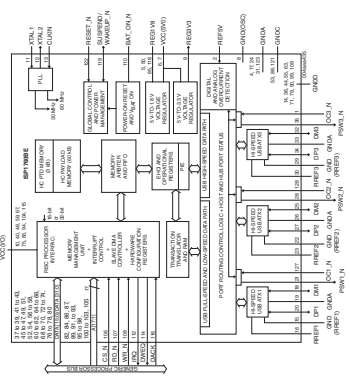




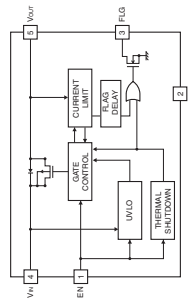
TO GUI 1/2



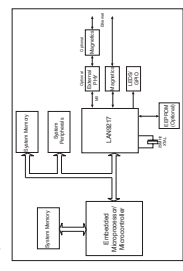
IC551 ISP1760BE Embedded In-Signal USB Host Controller



IC552 RS52C001A1R-F High side switch IC



IC553 LAN8217-MT Digital IC



USB, ETHER

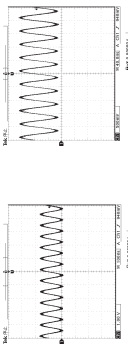
09/20/2009 (Rev. 1.0)

From OPE (1) USB

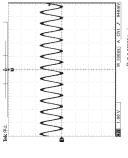
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OPERATION (6) V4407

POINT (A) V1550 (Pin 11 of IC551)



POINT (B) V1551 (Pin 6 of IC553)



NOTICE (keep 1)

(1) ... U.S.A.

(2) ... CANADA

(3) ... MEXICO

(4) ... SOUTH AMERICA

(5) ... EUROPE

(6) ... AFRICA

(7) ... ASIA

(8) ... AUSTRALIA

REVISION	DATE	DESCRIPTION
1	09/20/09	Initial Release
2	09/20/09	Update to match the latest version of the schematic
3	09/20/09	Update to match the latest version of the schematic
4	09/20/09	Update to match the latest version of the schematic
5	09/20/09	Update to match the latest version of the schematic
6	09/20/09	Update to match the latest version of the schematic
7	09/20/09	Update to match the latest version of the schematic
8	09/20/09	Update to match the latest version of the schematic
9	09/20/09	Update to match the latest version of the schematic
10	09/20/09	Update to match the latest version of the schematic

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6	09/20/09	Update to match the latest version of the schematic
7	09/20/09	Update to match the latest version of the schematic
8	09/20/09	Update to match the latest version of the schematic
9	09/20/09	Update to match the latest version of the schematic
10	09/20/09	Update to match the latest version of the schematic

* All voltages are measured with a 10MΩ VDC electronic voltmeter.

* Components having special characteristics are marked Δ, and must be replaced with components having the same characteristics as the original components.

* Schematic diagrams are subject to change without notice.

ACDC

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
NO MARK	CARBON FILM RESISTOR (P=10)
NO MARK	METAL FILM RESISTOR
NO MARK	METAL FILM RESISTOR
NO MARK	METAL FILM RESISTOR
NO MARK	CEMENT-MOLDED RESISTOR
NO MARK	SEMI-VARIABLE RESISTOR
NO MARK	CHIP RESISTOR

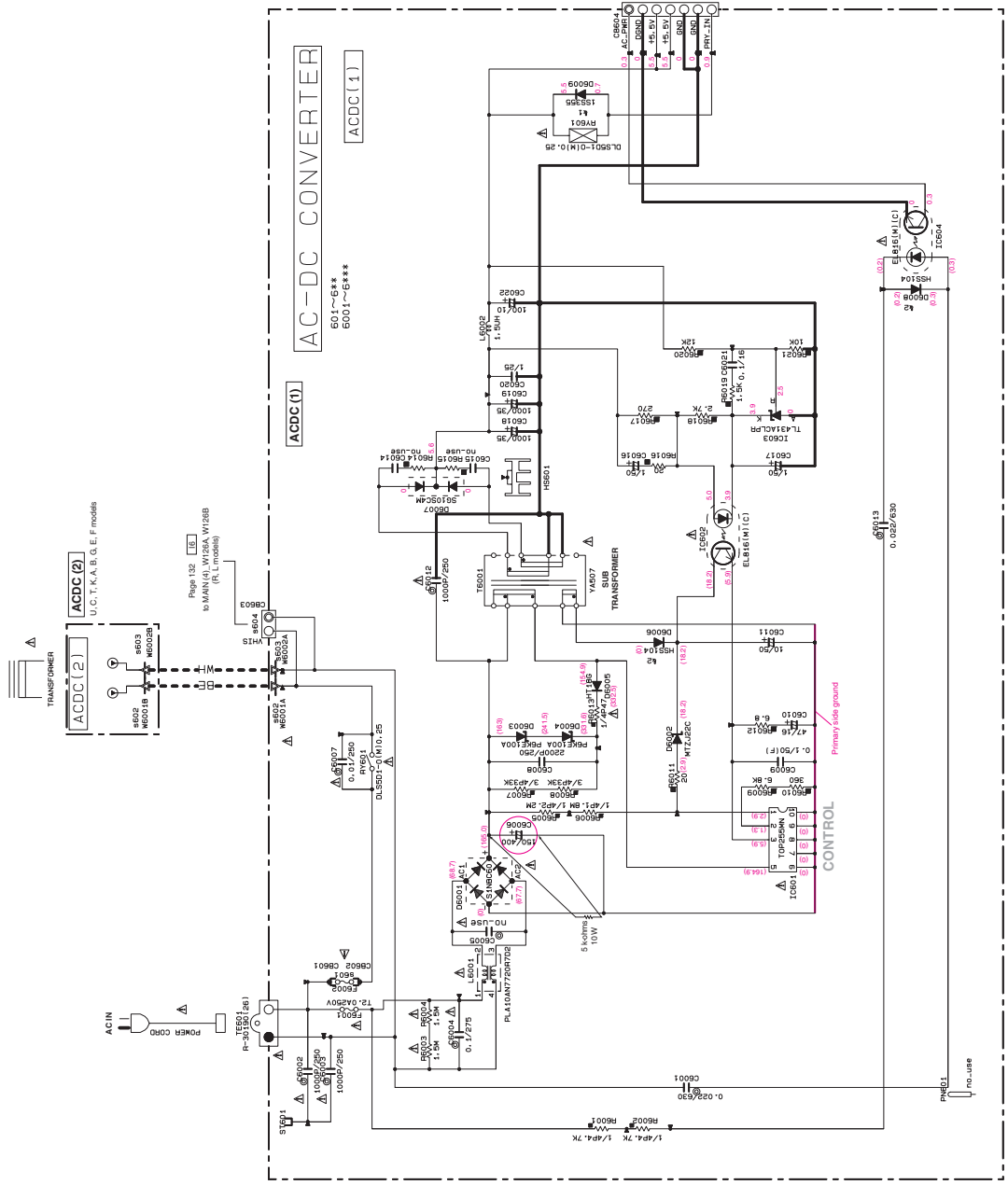
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
NO MARK	CERAMIC TUBULAR CAPACITOR
NO MARK	POLYESTER FILM CAPACITOR
NO MARK	POLYPROPYLENE FILM CAPACITOR
NO MARK	MIC CAPACITOR
NO MARK	POLYPROPYLENE FILM CAPACITOR
NO MARK	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (mode1)
 (J)..... JAPAN
 (U)..... U.S.A
 (C)..... CANADA
 (R)..... GENERAL
 (T)..... CHINA
 (K)..... KOREA
 (A)..... AUSTRALIA
 (O)..... OTHER
 (G)..... EUROPE
 (L)..... SINGAPORE
 (E)..... SOUTH EUROPE
 (V)..... TAIWAN
 (F)..... RUSSIAN
 (P)..... LATIN AMERICA

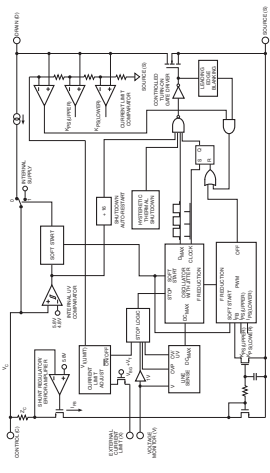
98XX	LOC	UC	R	TRABSEF	L
9801	F6002	M021120 10.00A125V	X	M093310 15.0AL250V	X
9802	M0001A M0002A M0003A	M00020 M00020 M00020	X X X	M00020 M00020 M00020	X X X
9804	CB003	X	VER7990 W15	X	VER7990 W15

Mark	Reference	Part Number	Part Name
41		RS3395 K02102-PTK/P	
42		RS1330 HS104	

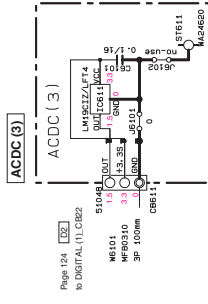
Interchangeable Parts at Manufacture-Stage



Notes)
Safety measure
 • 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.
 • After the power supply is disconnected, the capacitor (C0002) may remain charged for a long time. Be sure to discharge the capacitor before working.
 • Before starting any repair work, perform discharge by connecting a discharge resistor (50kΩ/10W) between terminals at following products. This time required for discharging is about 30 seconds.
 C0002 on ACDC(1) PCB.



IC603 TL431ACPR Adjustable precision shunt regulators



Page 124 [32] to DIGITAL (1) CB22

■ 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	P. C. B. DIGITAL	U
*	WS305900	P. C. B. DIGITAL	CRTKAL (V2065)
*	WS306700	P. C. B. DIGITAL	C (6295)
*	WS306000	P. C. B. DIGITAL	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	VP082900	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	C (V2065)
CB31	LB918020	CN. BS. PIN 2P	RTKABGEFL
CB40	WJ458700	CN. XM 4P, CAM-D96	U
CB61-63	V9356900	CN. JE 19P SE	
CB71	VF982200	CN. BS. PIN 14P	
CB73	VQ044100	CN. BS. PIN 5P	BGEF
CB80	VK026400	CN. BS. PIN 5P	U
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
C402	US064100	C. CE. CHP	0.01uF 50V B
C404	US061100	C. CE. CHP	10pF 50V B
C405-406	US035100	C. CE. CHP	0.1uF 16V B
C407	US061100	C. CE. CHP	10pF 50V B
C408-409	US035100	C. CE. CHP	0.1uF 16V B
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
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
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
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	WKO41800	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
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
C616-617	US135100	C. CE. CHP	0.1uF 16V
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
C622	UR067100	C. EL	10uF 50V
C623	US135100	C. CE. CHP	0.1uF 16V
C624	WKO41800	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
C633-634	UR067100	C. EL	10uF 50V
C635-642	US062100	C. CE. CHP	100pF 50V B
* C643-644	US663330	C. CE. CHP	3300pF 50V
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	VZ243400	C. CE. CHP 0. 33uF 16V	
C731	VZ281900	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 10pF 50V B	
C736	US060800	C. CE. CHP 8pF 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	WPO92800	C. EL. CHP 22uF 16V	
C751	US135100	C. CE. CHP 0. 1uF 16V	
* C752	WPO92800	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	WPO92800	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 100pF 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	WPO92800	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 1000pF 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 1000pF 50V	U
C978-979	UR267100	C. EL 10uF 50V	U
* C980-981	WJ605600	C. MYLAR 0. 033uF 50V	U
* C982-983	WJ604900	C. MYLAR 9100pF 50V	U
C984-985	UR218220	C. EL 220uF 6. 3V	U
C986-989	WJ603100	C. MYLAR 220pF 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 AVRL161A1R1NTB	
D27	WE674800	DIODE AVRL161A1R1NTB	
D36-37	WE674800	DIODE AVRL161A1R1NTB	
D47-49	WE674800	DIODE AVRL161A1R1NTB	
D59-61	WE674800	DIODE AVRL161A1R1NTB	
D62	VV220700	DIODE. SHOT RB501V-40	
D63-64	V6267600	DIODE RB051L-40	
D67-68	WE674800	DIODE AVRL161A1R1NTB	
D151-152	WE674800	DIODE AVRL161A1R1NTB	
D153	VV220700	DIODE. SHOT RB501V-40	
D200-204	VU990900	DIODE. ZENR MAZ8033GHL 3. 4V	
D400-402	WE674800	DIODE AVRL161A1R1NTB	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 AVRL161A1R1NTB	
* D951-958	WP385600	PESD PESD0603-240	
D959-961	WE674800	DIODE AVRL161A1R1NTB	
D962	VT332900	DIODE 1SS355	
D963-964	VV659300	DIODE. ZENR RLZ7. 5B 7. 5V	U
IC3	XS775A00	IC TC7SH04FU	
IC5	X7195A00	IC R1172S121D-E2-F	
IC6	XZ287A00	IC SN74LVC245APWR	
IC10	X7741A00	IC NJM2867F3-05 (TE1)	
IC11	X0199B00	IC TC74VHC157FT (EL, K)	
IC16	X7741A00	IC NJM2867F3-05 (TE1)	
IC20	X8013A00	IC. CPU M3087BFKBGP CPU	(unwritten)
IC21	X8194A00	IC R1172H331D-T1-F	
* IC22	YA739A00	IC. MEMORY LE25LB2562M-TLM-E	U
* IC22	YC035A00	IC LE25LB643M-TLM-E	CRTKABGEFL
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 K45641632N-LC60000	
* IC49	YC016C00	IC. MEMORY F49L160BA-70TG2N	(written)
IC50	XR680A00	IC TC7SH08FU (TE85L, JF)	
* IC51	YA255A00	IC R1172H501D-T1-F	
IC52	XR680A00	IC TC7SH08FU (TE85L, JF)	
IC61	X7375A00	IC PCM1781DBQR	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	NJM78M05DL1A
IC65	X7355A00	IC	PCM1680DBQR
IC66	X7357A00	IC	PCM1803DBR
IC67	X3586B00	IC	TC74VHCT08AFT EL, K
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	TC7WZ32FK
IC76-78	XZ283A00	IC	SN74LVTH245APW BUS
* IC80	YA844A00	IC	1SL83385E1BZ-T
IC81	X3505A00	IC	NJM2068MD-TE2
IC95	X8900A00	IC	CXB1442AR-T4
IC96	X8368A00	IC	PCA9517DP
IC97	X8897A00	IC	R1172S331B-E2-F
JK81-82	V9435700	JACK. MNI	MSJ-035-12APC
PJ80	VM725600	JACK. PIN	2P
Q3-10	VQ986700	TR	2SC4081 T106
Q80	iA101510	TR	2SA1015 Y
Q81	iC181510	TR	2SC1815 Y
Q82	WG538600	TR	KTA1046-Y-U/P
Q83	iC181510	TR	2SC1815 Y
Q84	iA101510	TR	2SA1015 Y
Q85	iC181510	TR	2SC1815 Y
Q86	WG538600	TR	KTA1046-Y-U/P
Q87	iC181510	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. FLM	2. 2Ω 1W
R189	WB784700	R. MTL. FLM	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	WR846900	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
* WS305500	P. C. B.	OPERATION	U
* WS305600	P. C. B.	OPERATION	CRTA
* WS305700	P. C. B.	OPERATION	KBGEFL
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 AAPVA004C0
CB475	VK024900	CN. BS. PIN	5P TE
CB477	VB858300	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

RX-V2065/HTR-6295

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	S1R-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	R8071300	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

RX-V2065/HTR-6295

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

Ref No.	Part No.	Description	Markets
SW409-413	WD483100	SW. TACT	SKRGAAD010
SW415	WD483100	SW. TACT	SKRGAAD010
SW417-419	WD483100	SW. TACT	SKRGAAD010
SW421	WD483100	SW. TACT	SKRGAAD010
SW424	WD483100	SW. TACT	SKRGAAD010
SW441-442	V9266400	SW. RT. ENC	XREB12105PVB25F
SW443	V9597100	SW. RT. ENC	EC12E2460802
SW471	WD483100	SW. TACT	SKRGAAD010
TE461	WK560800	TERM. SP	4P MST-204V1-01 NC
TE461	WK560900	TERM. SP	4P MST-204V1-01 WC
TE462	WK560800	TERM. SP	4P MST-204V1-01 NC
TE462	WK560900	TERM. SP	4P MST-204V1-01 WC
* U4001	WQ600700	L. DTCT	SM3385VMH6
U4201	WH536900	CN. PHOTO. T	1P GP1FAV51TKOF
* V4001	WQ842100	FL. DSPLY	18-MT-09GNK
	V6007100	SPACER. FL	4. 6/10/32
*	WR912900	P. C. B.	MAIN
*	WR913000	P. C. B.	MAIN
*	WR913100	P. C. B.	MAIN
*	WR913200	P. C. B.	MAIN
CB111-112	WN077700	CLIP. FUSE	CLIP PFC5000-0202F
CB152	VQ962900	CN. BS. PIN	8P
CB153	VQ963900	CN. BS. PIN	18P
CB154	VQ963600	CN. BS. PIN	15P
CB155	VQ963200	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	URO67470	C. EL	47uF 50V
C1030-1031	URO68100	C. EL	100uF 50V
C1032-1035	URO67470	C. EL	47uF 50V
△ C1036-1042	WE100200	C. PP	22pF 630V
△ C1043-1049	WN164300	C. PP	330pF 100V
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	URO49330	C. EL	3300uF 25V
C1083	URO49220	C. EL	2200uF 25V
△ # C1084-1085	WJ788600	C. EL	12000uF 71V
C1086	URO49220	C. EL	2200uF 25V
C1087-1088	WK041800	C. EL	10uF 16V
C1509	URO67470	C. EL	47uF 50V
C1510-1512	US135100	C. CE. CHP	0. 1uF 16V
C1513-1514	US061220	C. CE. CHP	22pF 50V B
C1515-1516	US135100	C. CE. CHP	0. 1uF 16V

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
C1575	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

* New Parts

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

RX-V2065/HTR-6295

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	D1ODE. CHP	MA111 FLAT TP
Δ D1017-1023	VG437500	D1ODE. ZENR	MTZJ5. 1C 5. 1V
D1024-1039	VR496500	D1ODE. CHP	MA111 FLAT TP
Δ D1040	WK878000	D1ODE. BRG	D15XBN20-7001 15A
Δ D1041	WH487300	D1ODE. BRG	RS203M 2.0A 200V
D1042	VG440500	D1ODE. ZENR	MTZJ13B 13V
D1043	VR496500	D1ODE. CHP	MA111 FLAT TP
Δ D1044-1045	VG435500	D1ODE. ZENR	MTZJ2. 4B 2. 4V
D1501-1502	VG438400	D1ODE. ZENR	MTZJ6. 8C 6. 8V
Δ F100	KB000780	FUSE	T5A 250V
G101	V5995800	PLATE. GND	
Δ IC101	XJ608A00	IC	NJM7812FA
Δ IC102	X4154A00	IC	K1A7912P1
IC152	XZ509A00	IC	TC74VHCU04FT 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
Δ Q1022-1028	VK432900	TR	2SD1915F S, T
Δ Q1029-1035	VE198800	TR	2SC2705 O, Y
Q1036-1042	WG408900	TR	2SC5291 S, T
Δ Q1043-1049	WG408800	TR	2SA2168 S, T
Q1050-1056	WD281200	TR. PAIR	AZ151/C6011 O, P, Y
Q1057-1063	WC139600	TR	KTC3911S GR BL
Q1064	WH372100	TR	KTA1517S GR TP
Q1065	WC139600	TR	KTC3911S GR BL
Δ * Q1067-1068	WC292600	TR	KTA1837-U
Δ Q1069-1070	WC398400	TR	2N5551C-AT
Δ Q1071	WC397700	TR	2N5401C-AT
Δ 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	HL006180	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. FLM	100Ω 1W
R1043-1049	V8072600	R. MTL. OXD	33KΩ 1W
R1079-1085	HL005120	R. MTL. OXD	120Ω 1/2W
R1086-1092	WG727400	R. MTL. FLM	2.7KΩ 1/4W
R1093-1099	WG725600	R. MTL. FLM	470Ω 1/4W
R1100-1106	WG726400	R. MTL. FLM	1KΩ 1/4W
R1107-1112	WG726200	R. MTL. FLM	820Ω 1/4W
Δ 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
Δ R1134-1147	HV754100	R. CAR. FP	10Ω 1/4W
Δ * R1148-1154	WP839400	R. WW	0.22+0.22 3W
Δ R1176-1182	V8070300	R. MTL. FLM	10Ω 1W
Δ R1197-1198	V8070200	R. MTL. FLM	4.7Ω 1W
Δ 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
Δ R1222	HV756100	R. CAR. FP	1KΩ 1/4W
Δ R1234-1235	HV754100	R. CAR. FP	10Ω 1/4W
R1236	WG726200	R. MTL. FLM	820Ω 1/4W
Δ R1238	V8070300	R. MTL. FLM	10Ω 1W
R1504	HV753100	R. CAR. FP	1Ω 1/4W
* R1573	WQ835700	R. MTL. OXD	82Ω 1W
* R1575	WQ835700	R. MTL. OXD	82Ω 1W
* R1664-1665	WQ835800	R. MTL. OXD	100Ω 1W
Δ RY101	WE648700	RELAY	DC DH24D2-0-Q
ST100	V4040500	SCR. TERM	M3
Δ SW101	WB493700	VOLT. SELCT	R8140246
Δ SW101	WD073700	VOLT. SELCT	R8140254
U1500-1501	WH169900	CN. PHOTO. R	1P GP1FAV51RKOF
	WE774200	SCR. BND. HD	3x10 MFZN2W3
* 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	VB390000	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

RX-V2065/HTR-6295

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

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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	HV753100	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	HV754180	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	M3
ST361-362	V4040500	SCR. TERM	M3
ST381-383	V4040500	SCR. TERM	M3
TE341	WK560800	TERM. SP	4P MST-204V1-01 NC
TE341	WK560900	TERM. SP	4P MST-204V1-01 WC
TE342	WK561000	TERM. SP	6P MST-207V1-01 NC
TE342	WK561100	TERM. SP	6P MST-207V1-01 WC
TE343	WK560800	TERM. SP	4P MST-204V1-01 NC
TE343	WK560900	TERM. SP	4P MST-204V1-01 WC
XL321	V2731100	RSNR. CRYST	4.332M HC-49/U
	WE774200	SCR. BND. HD	3x10 MFZN2W3
*	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. CHP	0.100uF 10V
C5002-5003	US061120	C. CE. CHP	12pF 50V B
* C5004	US625100	C. CE. CHP	0.100uF 10V
C5005-5008	US135100	C. CE. CHP	0.1uF 16V
C5009-5010	US061180	C. CE. CHP	18pF 50V B
C5012	US135100	C. CE. CHP	0.1uF 16V
C5013	US663100	C. CE. CHP	1000pF 50V
* C5014-5016	US625100	C. CE. CHP	0.100uF 10V
C5017	US135100	C. CE. CHP	0.1uF 16V
C5018	US063100	C. CE. CHP	1000pF 50V B

* New Parts

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

* New Parts

RX-V2065/HTR-6295

P.C.B. GUI

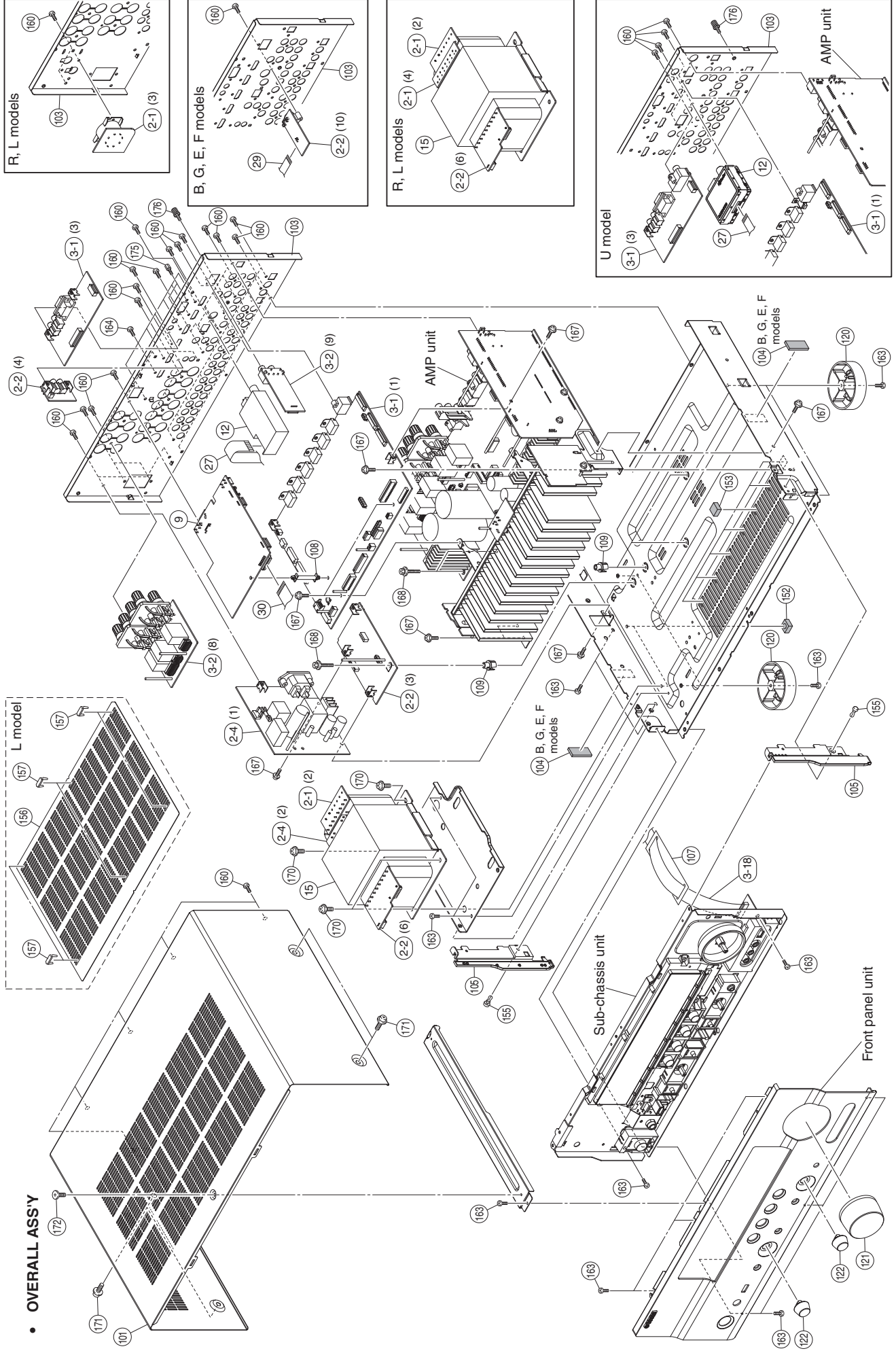
Ref No.	Part No.	Description	Markets
C5510-5511	US35100	C.CE.CHP	16V
C5512-5513	US625100	C.CE.CHP	10V
C5514	US135100	C.CE.CHP	10V
C5515	WD59300	C.CE.CHP	10V
C5516	US061150	C.CE.CHP	150F
C5517	US135100	C.CE.CHP	10V
C5518	UF018100	C.CE.CHP	100F
C5519	US135100	C.CE.CHP	10V
C5520	US061180	C.CE.CHP	180F
C5521	US135100	C.CE.CHP	10V
C5522	WD75800	C.CE.CHP	100F
C5523	US135100	C.CE.CHP	10V
C5524-5525	US634100	C.CE.CHP	0.01uF
C5527-5532	US135100	C.CE.CHP	10V
C5533-5534	US625100	C.CE.CHP	10V
C5535	US135100	C.CE.CHP	10V
C5536-5537	US663100	C.CE.CHP	1000pF
C5538	WD75800	C.CE.CHP	100F
C5539	UD04220	C.CE.CHP	0.02uF
C5540	US625100	C.CE.CHP	10V
C5541	US663100	C.CE.CHP	1000pF
C5542	US135100	C.CE.CHP	10V
C5543	US625100	C.CE.CHP	10V
C5544-5545	US135100	C.CE.CHP	10V
C5546-5548	US625100	C.CE.CHP	10V
C5549	US66220	C.CE.CHP	220pF
C5550-5551	US135100	C.CE.CHP	10V
C5552-5553	US064100	C.CE.CHP	0.01uF
C5554-5555	WD75800	C.CE.CHP	100F
C5556	US625100	C.CE.CHP	10V
C5557-5558	US061120	C.CE.CHP	120F
C5559	UF018100	C.CE.CHP	100F
C5561-5562	X767800	IC	SN74LV163APWR CNT
C5563	A553400	IC	SN74LV74APWR D+FF
C5564	X737500	IC	PCN171810BR
C5566	Y432200	IC	A68814VQ
C5567	Y447800	IC	K45560832-UC75000
C5568	Y435000	IC	74LV16386W AND
C5569-512	XZ26800	IC	74LV2654PW18
C5570	Y0017000	IC	MEMORY
C5571	Y447800	IC	K896415006-P1
C5572-522	X406300	IC	TC7WH04UFU
C5573	Y435400	IC	74LV16386W AND
C5574	X638600	IC	TC7WH14EFK (TE85L, F)
C5575-526	Y435600	IC	74LV1632APWR OR
C5576	X608600	IC	R5329001A-TR-F
C5577	Y447700	IC	LAN9217-MT
C5578	WE64500	FET	UPJ672T-11-A
C5579-551	Y4040500	SCR	TERM
C5580	XL500	RSNR	CRYS
C5581	WE62500	RSNR	CRYS
C5582	WE51700	RSNR	CRYS
C5583	WE53800	RSNR	CRYS
C5584	WR86400	RSNR	CRYS

*: New Parts

P.C.B. ACDC

Ref No.	Part No.	Description	Markets
C6001	WS306200	P.C.B.	UC
C6002	WS306300	P.C.B.	R
C6003	WS306400	P.C.B.	TK48REF
C6004	WS306500	P.C.B.	L
C6005	WNI03000	CLIP.FUSE	TP00351-31
C6006	V697900	CM BS P1M	7P
C6007	V0961000	CM BS P1M	7P
C6008	W0852400	C.POL.MTL	0.02uF
C6009	W0902300	C.CE.SAFETY	630V
C6010	W0902300	C.CE.SAFETY	250V
C6011	W0902300	C.CE.SAFETY	275V
C6012	W0902300	C.CE.SAFETY	400V
C6013	W0902300	C.CE.SAFETY	250V
C6014	W0902300	C.CE.SAFETY	250V
C6015	W0902300	C.CE.SAFETY	250V
C6016	W0902300	C.CE.SAFETY	250V
C6017	W0902300	C.CE.SAFETY	250V
C6018	W0902300	C.CE.SAFETY	250V
C6019	W0902300	C.CE.SAFETY	250V
C6020	W0902300	C.CE.SAFETY	250V
C6021	W0902300	C.CE.SAFETY	250V
C6022	W0902300	C.CE.SAFETY	250V
C6023	W0902300	C.CE.SAFETY	250V
C6024	W0902300	C.CE.SAFETY	250V
C6025	W0902300	C.CE.SAFETY	250V
C6026	W0902300	C.CE.SAFETY	250V
C6027	W0902300	C.CE.SAFETY	250V
C6028	W0902300	C.CE.SAFETY	250V
C6029	W0902300	C.CE.SAFETY	250V
C6030	W0902300	C.CE.SAFETY	250V
C6031	W0902300	C.CE.SAFETY	250V
C6032	W0902300	C.CE.SAFETY	250V
C6033	W0902300	C.CE.SAFETY	250V
C6034	W0902300	C.CE.SAFETY	250V
C6035	W0902300	C.CE.SAFETY	250V
C6036	W0902300	C.CE.SAFETY	250V
C6037	W0902300	C.CE.SAFETY	250V
C6038	W0902300	C.CE.SAFETY	250V
C6039	W0902300	C.CE.SAFETY	250V
C6040	W0902300	C.CE.SAFETY	250V
C6041	W0902300	C.CE.SAFETY	250V
C6042	W0902300	C.CE.SAFETY	250V
C6043	W0902300	C.CE.SAFETY	250V
C6044	W0902300	C.CE.SAFETY	250V
C6045	W0902300	C.CE.SAFETY	250V
C6046	W0902300	C.CE.SAFETY	250V
C6047	W0902300	C.CE.SAFETY	250V
C6048	W0902300	C.CE.SAFETY	250V
C6049	W0902300	C.CE.SAFETY	250V
C6050	W0902300	C.CE.SAFETY	250V
C6051	W0902300	C.CE.SAFETY	250V
C6052	W0902300	C.CE.SAFETY	250V
C6053	W0902300	C.CE.SAFETY	250V
C6054	W0902300	C.CE.SAFETY	250V
C6055	W0902300	C.CE.SAFETY	250V
C6056	W0902300	C.CE.SAFETY	250V
C6057	W0902300	C.CE.SAFETY	250V
C6058	W0902300	C.CE.SAFETY	250V
C6059	W0902300	C.CE.SAFETY	250V
C6060	W0902300	C.CE.SAFETY	250V
C6061	W0902300	C.CE.SAFETY	250V
C6062	W0902300	C.CE.SAFETY	250V
C6063	W0902300	C.CE.SAFETY	250V
C6064	W0902300	C.CE.SAFETY	250V
C6065	W0902300	C.CE.SAFETY	250V
C6066	W0902300	C.CE.SAFETY	250V
C6067	W0902300	C.CE.SAFETY	250V
C6068	W0902300	C.CE.SAFETY	250V
C6069	W0902300	C.CE.SAFETY	250V
C6070	W0902300	C.CE.SAFETY	250V
C6071	W0902300	C.CE.SAFETY	250V
C6072	W0902300	C.CE.SAFETY	250V
C6073	W0902300	C.CE.SAFETY	250V
C6074	W0902300	C.CE.SAFETY	250V
C6075	W0902300	C.CE.SAFETY	250V
C6076	W0902300	C.CE.SAFETY	250V
C6077	W0902300	C.CE.SAFETY	250V
C6078	W0902300	C.CE.SAFETY	250V
C6079	W0902300	C.CE.SAFETY	250V
C6080	W0902300	C.CE.SAFETY	250V
C6081	W0902300	C.CE.SAFETY	250V
C6082	W0902300	C.CE.SAFETY	250V
C6083	W0902300	C.CE.SAFETY	250V
C6084	W0902300	C.CE.SAFETY	250V
C6085	W0902300	C.CE.SAFETY	250V
C6086	W0902300	C.CE.SAFETY	250V
C6087	W0902300	C.CE.SAFETY	250V
C6088	W0902300	C.CE.SAFETY	250V
C6089	W0902300	C.CE.SAFETY	250V
C6090	W0902300	C.CE.SAFETY	250V
C6091	W0902300	C.CE.SAFETY	250V
C6092	W0902300	C.CE.SAFETY	250V
C6093	W0902300	C.CE.SAFETY	250V
C6094	W0902300	C.CE.SAFETY	250V
C6095	W0902300	C.CE.SAFETY	250V
C6096	W0902300	C.CE.SAFETY	250V
C6097	W0902300	C.CE.SAFETY	250V
C6098	W0902300	C.CE.SAFETY	250V
C6099	W0902300	C.CE.SAFETY	250V
C6100	W0902300	C.CE.SAFETY	250V
C6101	W0902300	C.CE.SAFETY	250V
C6102	W0902300	C.CE.SAFETY	250V
C6103	W0902300	C.CE.SAFETY	250V
C6104	W0902300	C.CE.SAFETY	250V
C6105	W0902300	C.CE.SAFETY	250V
C6106	W0902300	C.CE.SAFETY	250V
C6107	W0902300	C.CE.SAFETY	250V
C6108	W0902300	C.CE.SAFETY	250V
C6109	W0902300	C.CE.SAFETY	250V
C6110	W0902300	C.CE.SAFETY	250V
C6111	W0902300	C.CE.SAFETY	250V
C6112	W0902300	C.CE.SAFETY	250V
C6113	W0902300	C.CE.SAFETY	250V
C6114	W0902300	C.CE.SAFETY	250V
C6115	W0902300	C.CE.SAFETY	250V
C6116	W0902300	C.CE.SAFETY	250V
C6117	W0902300	C.CE.SAFETY	250V
C6118	W0902300	C.CE.SAFETY	250V
C6119	W0902300	C.CE.SAFETY	250V
C6120	W0902300	C.CE.SAFETY	250V
C6121	W0902300	C.CE.SAFETY	250V
C6122	W0902300	C.CE.SAFETY	250V
C6123	W0902300	C.CE.SAFETY	250V
C6124	W0902300	C.CE.SAFETY	250V
C6125	W0902300	C.CE.SAFETY	250V
C6126	W0902300	C.CE.SAFETY	250V
C6127	W0902300	C.CE.SAFETY	250V
C6128	W0902300	C.CE.SAFETY	250V
C6129	W0902300	C.CE.SAFETY	250V
C6130	W0902300	C.CE.SAFETY	250V
C6131	W0902300	C.CE.SAFETY	250V
C6132	W0902300	C.CE.SAFETY	250V
C6133	W0902300	C.CE.SAFETY	250V
C6134	W0902300	C.CE.SAFETY	250V
C6135	W0902300	C.CE.SAFETY	250V
C6136	W0902300	C.CE.SAFETY	250V
C6137	W0902300	C.CE.SAFETY	250V
C6138	W0902300	C.CE.SAFETY	250V
C6139	W0902300	C.CE.SAFETY	250V
C6140	W0902300	C.CE.SAFETY	250V
C6141	W0902300	C.CE.SAFETY	250V
C6142	W0902300	C.CE.SAFETY	250V
C6143	W0902300	C.CE.SAFETY	250V
C6144	W0902300	C.CE.SAFETY	250V
C6145	W0902300	C.CE.SAFETY	250V
C6146	W0902300	C.CE.SAFETY	250V
C6147	W0902300	C.CE.SAFETY	250V
C6148	W0902300	C.CE.SAFETY	250V
C6149	W0902300	C.CE.SAFETY	250V
C6150	W0902300	C.CE.SAFETY	250V
C6151	W0902300	C.CE.SAFETY	250V
C6152	W0902300	C.CE.SAFETY	250V
C6153	W0902300	C.CE.SAFETY	250V
C6154	W0902300	C.CE.SAFETY	250V
C6155	W0902300	C.CE.SAFETY	250V
C6156	W0902300	C.CE.SAFETY	250V
C6157	W0902300	C.CE.SAFETY	250V
C6158	W0902300	C.CE.SAFETY	250V
C6159	W0902300	C.CE.SAFETY	250V
C6160	W0902300	C.CE.SAFETY	250V
C6161	W0902300	C.CE.SAFETY	250V
C6162	W0902300	C.CE.SAFETY	250V
C6163	W0902300	C.CE.SAFETY	250V
C6164	W0902300	C.CE.SAFETY	250V
C6165	W0902300	C.CE.SAFETY	250V
C6166	W0902300	C.CE.SAFETY	250V
C6167	W0902300	C.CE.SAFETY	250V
C6168	W0902300	C.CE.SAFETY	250V
C6169	W0902300	C.CE.SAFETY	250V
C6170	W0902300	C.CE.SAFETY	250V
C6171	W0902300	C.CE.SAFETY	250V
C6172	W0902300	C.CE.SAFETY	250V
C6173	W0902300	C.CE.SAFETY	250V
C6174	W0902300	C.CE.SAFETY	250V
C6175	W0902300	C.CE.SAFETY	250V
C6176	W0902300	C.CE.SAFETY	250V
C6177	W0902300	C.CE.SAFETY	250V
C6178	W0902300	C.CE.SAFETY	250V
C6179	W0902300	C.CE.SAFETY	

• OVERALL ASSY



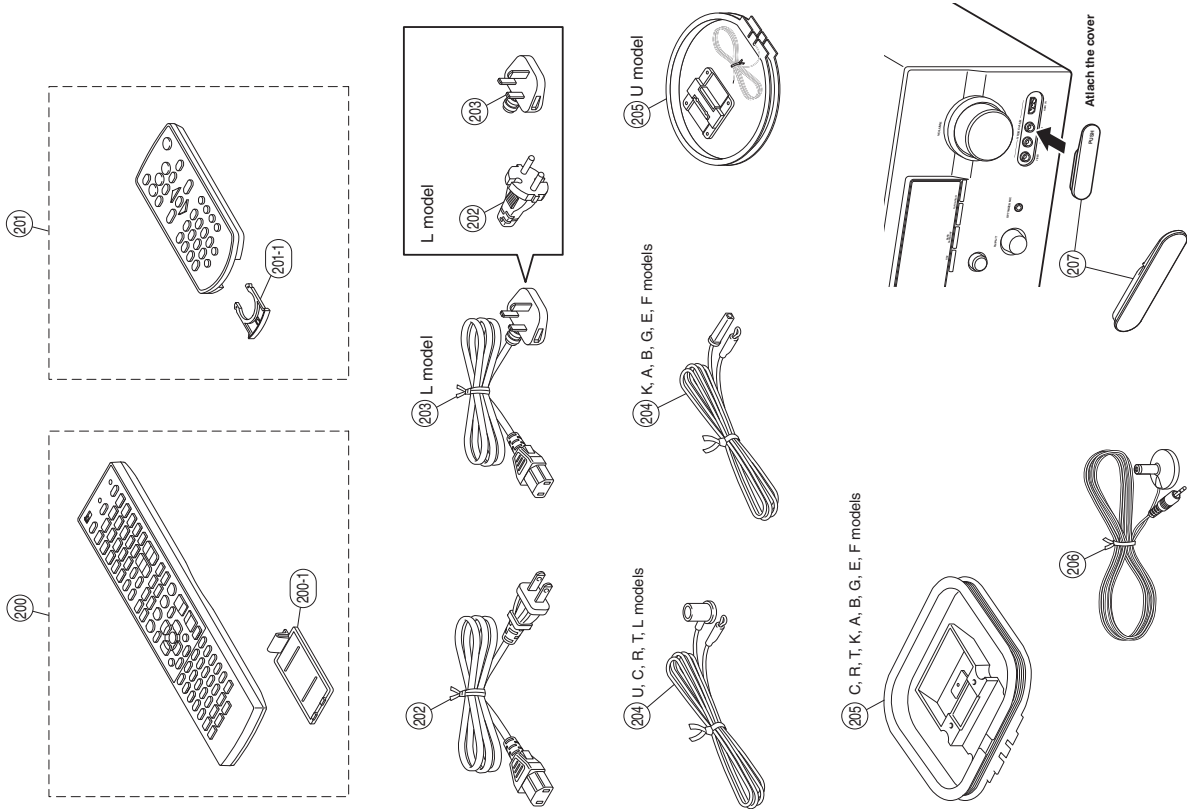
Ref No.	Part No.	Description	Remarks	Markets
* 2-1	WR913000	P. C. B. ASS'Y		R
* 2-1	WR913200	P. C. B. ASS'Y		L
* 2-2	NS304700	P. C. B. ASS'Y		U
* 2-2	NS304800	P. C. B. ASS'Y		C
* 2-2	NS304900	P. C. B. ASS'Y		R
* 2-2	NS305000	P. C. B. ASS'Y		T
* 2-2	NS305100	P. C. B. ASS'Y		K
* 2-2	NS305200	P. C. B. ASS'Y		A
* 2-2	NS305300	P. C. B. ASS'Y		BGEF
* 2-2	NS305400	P. C. B. ASS'Y		L
* 2-4	NS306300	P. C. B. ASS'Y		UC
* 2-4	NS306400	P. C. B. ASS'Y		R
* 2-4	NS306500	P. C. B. ASS'Y		TKABGEF
* 3-1	NS305600	P. C. B. ASS'Y		L
* 3-1	NS305900	P. C. B. ASS'Y	V2065	U
* 3-1	NS306700	P. C. B. ASS'Y	V2065	CRTAKL
* 3-1	NS306800	P. C. B. ASS'Y	6295	C
* 3-2	NS305500	P. C. B. ASS'Y	V2065	BGEF
* 3-2	NS305600	P. C. B. ASS'Y		U
* 3-2	NS305700	P. C. B. ASS'Y		CRTA
* 3-18	WD083500	FLEXIBLE FLAT CABLE		KBGEFL
* 9	NS306800	P. C. B. ASS'Y		U
* 12	WT510100	HD RADIO TUNER	2023-ORA	CRTL
* 12	WD756600	AM/FM TUNER	FAEH06-A	KABGEF
* 12	WD756700	AM/FM TUNER	FAEH06-E	UC
* 15	Y0001A00	POWER TRANSFORMER		RL
* 15	YAB55A00	POWER TRANSFORMER		TK
* 15	YAB56A00	POWER TRANSFORMER		A
* 15	YAB57A00	POWER TRANSFORMER		BGEF
* 15	YAB58A00	POWER TRANSFORMER		U
* 27	MF113180	FLEXIBLE FLAT CABLE	13P 180mm P=1.25	CRTKABGEFL
* 29	WR284900	FLEXIBLE FLAT CABLE	11P 100mm P=1.25	BGEF
* 30	WS162400	FLEXIBLE FLAT CABLE	5P 250mm P=1.25	
* 101	WS162500	FLEXIBLE FLAT CABLE	16P 60mm P=1.25	
* 101	WD665500	TOP COVER		BL
* 101	WD665700	TOP COVER		TI
* 103	NS042200	REAR PANEL		U
* 103	NS042300	REAR PANEL		C
* 103	NS043000	REAR PANEL	V2065	C
* 103	NS042400	REAR PANEL	6295	R
* 103	NS042500	REAR PANEL		T
* 103	NS042600	REAR PANEL		K
* 103	NS042700	REAR PANEL		A
* 103	NS042800	REAR PANEL		BGEF
* 103	NS042900	REAR PANEL		L
* 104	WB870100	DAMPER		BGEF
* 105	WR004900	PLATE SIDE		BL
* 105	WR005000	PLATE SIDE		TI
* 107	WR946700	BARRIER FFC		
* 108	NS000800	SPACER SUPPORT	LG44-29M PIN	
* 109	WD664500	SUPPORT H8		
* 120	VS025000	LEG	D60xH21 HS	

::: New Parts

Ref No.	Part No.	Description	Remarks	Markets
121	WJ181300	KNOB		BL
121	WJ181500	KNOB		TI
* 122	NS039800	KNOB		BL
* 122	NS039900	KNOB		TI
152	WC879000	DAMPER		
153	WR377400	DAMPER		
155	VG368600	PUSH RIVET	SCREW MASK	
156	WK667900	SHEET TOP	14x10x10	
157	WJ053800	RIVET TOP	P3555-B	L
160	WE774100	BIND HEAD BONDING B-T SCREW		L
163	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZ12B3	
164	WE877900	BIND HEAD S-TIGHT SCREW	3x8 MFZ12W3	
167	WF002600	PM HEAD B-TIGHT SCREW	3x8 MFZ12W3	
168	WE774600	SCREW IC	3x18 MFZ12W3	
170	WE774700	BIND HEAD S-TIGHT SCREW	4x10 MFZ12W3	
171	VH313200	PM HEAD S-TIGHT SCREW	4x8-10 MFN13BL	BL
171	VD069600	PM HEAD S-TIGHT SCREW	4x8-10 MFN133	TI
172	WE200500	DISH HEAD B-TIGHT SCREW	3x6 MFN13BL	BL
172	WE200400	DISH HEAD B-TIGHT SCREW	3x6 MFN133	TI
175	V6509600	JACK SCREW	SS6-447511848	
176	AA627310	GROUND TERMINAL		
		SERVICE TOOLS		
	WR492800	RS232C CONVERSION ADAPTOR	3.3Vtype with FFC9P	
	MF125400	FLEXIBLE FLAT CABLE	25P 400mm P=1.25	
	MF109400	FLEXIBLE FLAT CABLE	9P 400mm P=1.25	
	MF242050	FLEXIBLE FLAT CABLE	20P 250mm P=1.0	

::: New Parts

• ACCESSORIES



Ref No.	Part No.	Description	Remarks	Markets
* 200	WS317100	REMOTE CONTROL	RAV296	U
* 200	WS317200	REMOTE CONTROL	RAV297	CRAL
* 200	WS317300	REMOTE CONTROL	RAV298	TK6GEF
200-1	AA82380	BATTERY COVER	CG-2209	
* 201	WS317400	SIMPLIFIED REMOTE CONTROL	RAV38	
201-1	AA71770	BATTERY HOLDER	CG-4335 Black	UC
202	V7704800	POWER CABLE	2m 1pc	R
202	WK391000	POWER CABLE	2m 1pc	T
202	V93569400	POWER CABLE	2m 1pc	K
202	WH641300	POWER CABLE	2m 1pc	A
202	WB750900	POWER CABLE	2m 1pc	B
202	WB751000	POWER CABLE	2m 1pc	GEFL
202	V7704900	POWER CABLE	2m 1pc	L
203	WB751000	POWER CABLE	1.4m 1pc	UORTL
204	V6267000	INDOOR FM ANTENNA	1.4m 1pc	KABEEF
204	V0147100	INDOOR FM ANTENNA	1.4m 1pc	U
205	WE746800	AM LOOP ANTENNA	1.2m 1pc	CRTKABGEFL
205	VP246600	AM LOOP ANTENNA	1.0m 1pc	
206	WH649600	OPTIMIZER MICROPHONE	6.0m 1pc	
* 207	MS039400	VIDEO AUX INPUT COVER	1pc	BL
* 207	MS039500	BATTERY	1pc	TI
		LITHIUM BATTERY	RC3 AAA, UM-4 2pcs	
			CR2025 1pc	

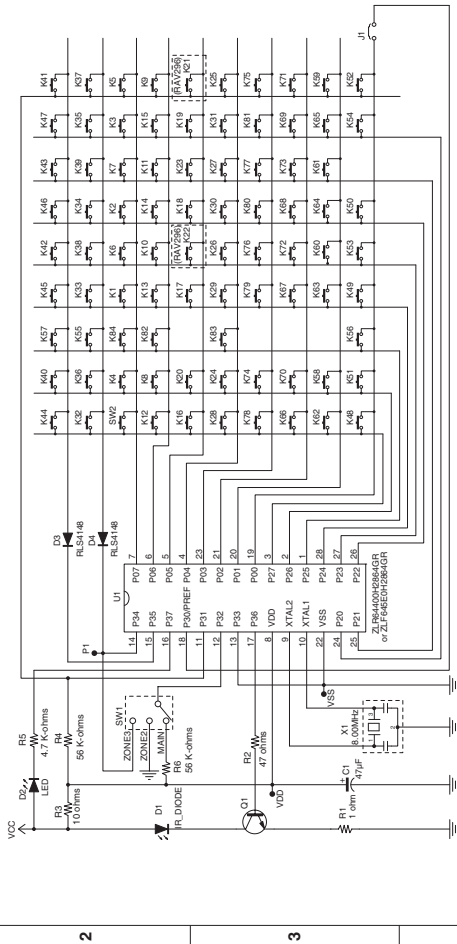
*: New Parts

1 ■ REMOTE CONTROL

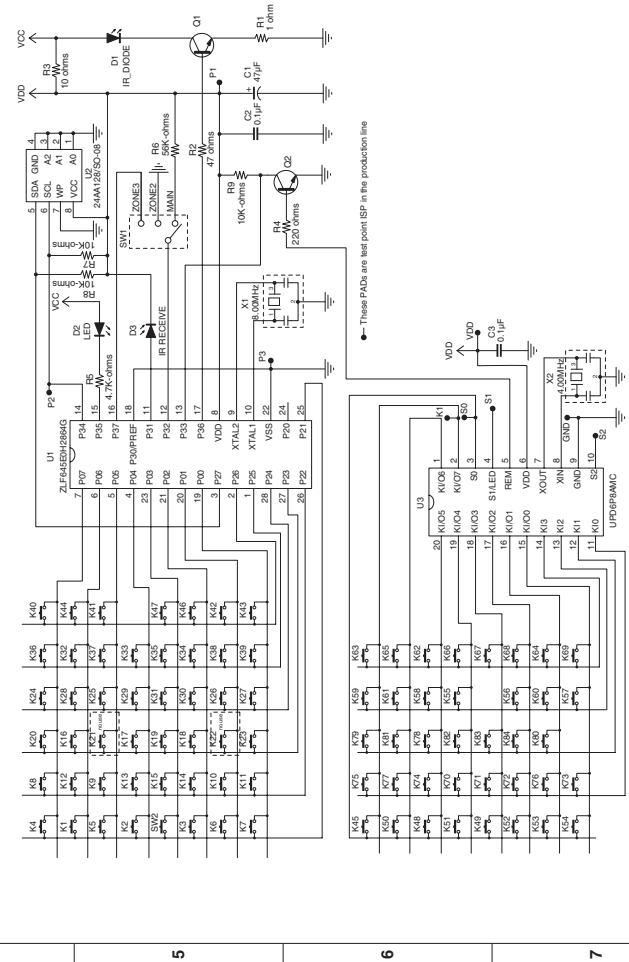
- RAV296: U model / RAV297: C, R, A, L models / RAV298: T, K, B, G, E, F models

SCHEMATIC DIAGRAMS

RAV296/RAV297

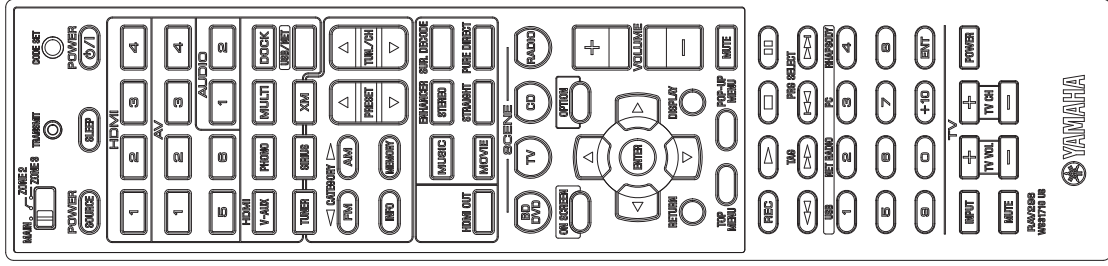


RAV298

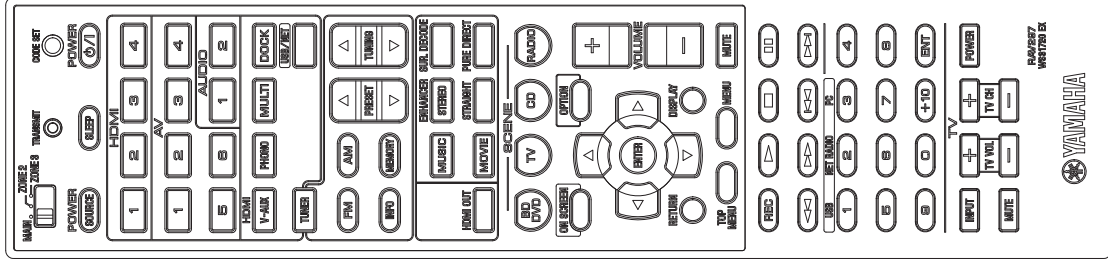


PANELS

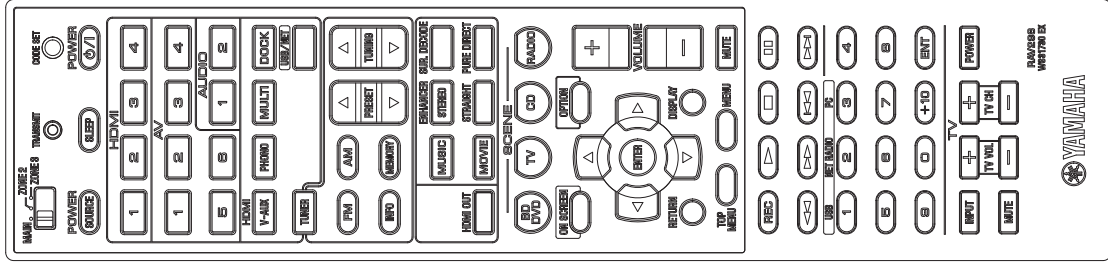
RAV296
(U model)



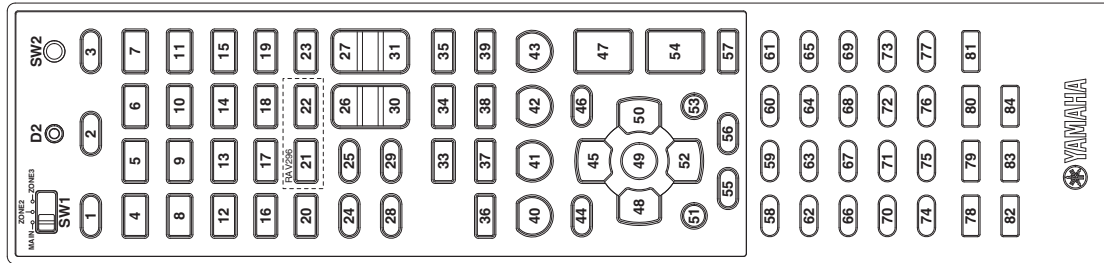
RAV297
(C, R, A, L models)



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



KEY NO. LAYOUT



KEY CODE

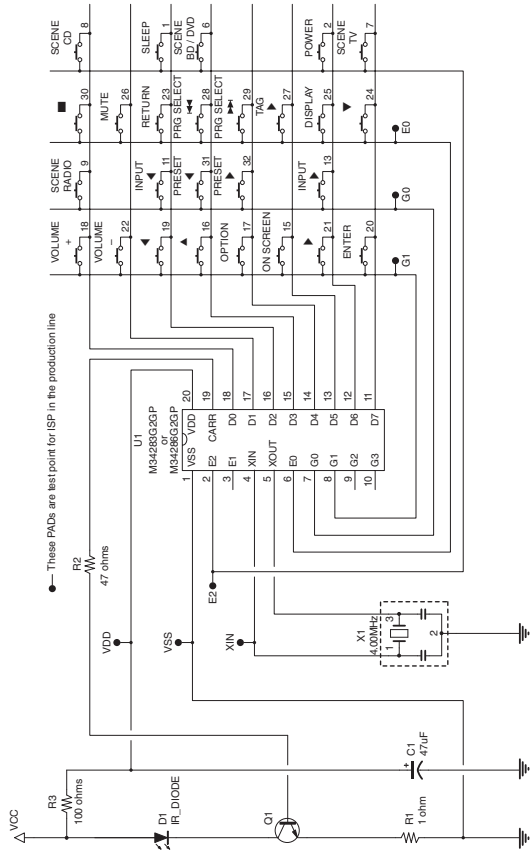
GROUP	PRE SET	Key No.	FUNCTION	ID1	ID2	ZONE3	ZONE2	ZONE1	ZONE3
POWER	-	SW1	MAIN / ZONE3 / ZONE3	MAIN [MAIN]	ZONE2 [ZONE2]	ZONE3 [ZONE3]	-	-	-
	-	D2	TRANSMIT CODE SET	-	-	-	-	-	-
	-	SW2	CODE SET	-	-	-	-	-	-
	-	K2	SLEEP	7A-30	7A-31	7A-30CE	7A-31CF	7A-32CC	7A-32CC
	-	K3	POWER /	7E-5A	7A-453A	7E-2AD4	7A-453B	7A-4638	7A-4638
	-	K4	HDMI-1 (Default setting)	7A-4738	7A-4837	7A-4936	7A-4739	7A-4836	7A-4937
	-	K5	HDMI-2	7A-4A35	7A-4B34	* enter into HDMI-1 MODE	7A-4834	7A-4B35	7A-4C32
	-	K6	HDMI-3	7A-4D32	7A-4E31	* enter into HDMI-2 MODE	7A-4D33	7A-4E30	7A-4F31
	-	K7	HDMI-4	7A-502F	7A-512E	* enter into HDMI-3 MODE	7A-502D	7A-512F	7A-522C
	-	K8	AV-1	7A-532C	7A-542B	* enter into HDMI-4 MODE	7A-532D	7A-542A	7A-552B
INPUT 1	-	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
	-	K11	AV-4	7A-5C23	7A-5D22	* enter into AV-3 MODE	7A-5C22	7A-5D23	7A-5E20
	-	K12	AV-5	7A-5F20	7A-601F	* enter into AV-4 MODE	7A-611E	7A-601E	7A-611F
	-	K13	AV-6	7A-621D	7A-631C	* enter into AV-5 MODE	7A-641B	7A-631D	7A-641A
	-	K14	AUDIO-1	7A-651A	7A-6619	* enter into AV-6 MODE	7A-6718	7A-6618	7A-6719
	-	K15	AUDIO-2	7A-6817	7A-6916	* enter into AUDIO-1 MODE	7A-6A15	7A-6917	7A-6A14
	-	K16	HDMI / V-AUX	7A-65	7A-D8	* enter into AUDIO-2 MODE	7A-6415	7A-6816	7A-6917
	-	K17	PHONO	7A-14	7A-D0	7A-F0	7A-55AB	7A-D826	7A-F00E
	-	K18	MULTI	7A-87	-	* enter into V-AUX MODE	7A-F1	7A-14EA	7A-F10F
INPUT 2	-	K19	DOCK	7F01-4A	7F01-4B	* enter into PHONO MODE	7A-8779	-	-
	-	K20	TUNER	7A-16	7A-D2	* enter into MULTI CH MODE	7F01-4C	7F01-4B44	7F01-4BB5
	-	K21	SIRIUS (U model, RAV296)	7A-39	7A-3A	* enter into DOCK MODE	7F01-4D	7F01-4BB5	7F01-4CB2
	-	K22	XMI (U model, RAV296)	7A-84	7A-B8	* enter into TUNER MODE	7A-F3	7A-16E8	7A-D22C
	-	K23	USB/NET	7F01-3F	7F01-40	* enter into SIRIUS MODE	7A-3B	7A-39C7	7A-3AC4
	-	K24	CATEGORY < / FM (RAV296)	7F01-3E	7F01-3F	* enter into XMI MODE	7A-84	7A-B44A	7A-8846
	-	K25	CATEGORY > / AM (RAV296)	7F01-3D	7F01-3E	* enter into USB/NET MODE	7F01-41	7F01-3FC1	7F01-40BE
	-	K26	PRESET	7F01-3B	7F01-3C	* enter into TUNER MODE	7F01-42	7F01-3E25	7F01-41BF
	-	K27	TUNING	7F01-3A	7F01-3B	* enter into FM (RAV296)	7F01-43	7F01-3E25	7F01-4223
	-	K28	INFO	7A-2758	7A-2857	* enter into AM (RAV296)	7F01-44	7F01-3E25	7F01-431D
RADIO	-	K29	MEMORY	7F01-6718	7F01-6817	7A-2956	7A-2759	7A-2856	7A-2957
	-	K30	PRESET	7F01-5E21	7F01-5F20	7F01-6916	7F01-6719	7F01-6816	7F01-6917
	-	K31	TUNING/CH	7F01-641B	7F01-651A	7F01-601F	7F01-5E20	7F01-5F21	7F01-601E
	-	K33	MUSIC	7A-89	-	* enter into AM (RAV296)	7F01-641A	7F01-651B	7F01-6618
	-	K34	ENHANCER / STEREO	7A-84	-	* enter into FM (RAV296)	7A-89	7A-8977	-
	-	K35	SUR. DECODE	7A-8D	-	* enter into FM (RAV296)	7A-84	7A-846A	-
	-	K36	HDMI OUT	7A-35	-	* enter into FM (RAV296)	7A-8D	7A-8D73	-
	-	K37	MOVIE	7A-88	-	* enter into FM (RAV296)	7A-35	7A-35CB	-
	-	K38	STRAIGHT	7A-56	-	* enter into FM (RAV296)	7A-88	7A-8876	-
	-	K39	PURE DIRECT	7A-DD	-	* enter into FM (RAV296)	7A-56	7A-56A8	-
TV	-	K40	NET RADIO / 2	-	-	* enter into FM (RAV296)	7A-DD	7A-DD23	-
	-	K68	NET RADIO / 2	-	-	* enter into FM (RAV296)	-	-	-
	-	K69	PC / 3	-	-	* enter into FM (RAV296)	-	-	-
	-	K70	4 (RAV297, RAV298)	-	-	* enter into FM (RAV296)	-	-	-
	-	K71	5	-	-	* enter into FM (RAV296)	-	-	-
	-	K72	6	-	-	* enter into FM (RAV296)	-	-	-
	-	K73	7	-	-	* enter into FM (RAV296)	-	-	-
	-	K74	8	-	-	* enter into FM (RAV296)	-	-	-
	-	K75	9	-	-	* enter into FM (RAV296)	-	-	-
	-	K76	0	-	-	* enter into FM (RAV296)	-	-	-
TV mode	-	K77	ENT	-	-	* enter into FM (RAV296)	-	-	-
	-	K78	INPUT	-	-	* enter into FM (RAV296)	-	-	-
	-	K79	TV VOL +	-	-	* enter into FM (RAV296)	-	-	-
	-	K80	TV CH +	-	-	* enter into FM (RAV296)	-	-	-
	-	K81	POWER	-	-	* enter into FM (RAV296)	-	-	-
	-	K82	MUTE	-	-	* enter into FM (RAV296)	-	-	-
	-	K83	TV VOL -	-	-	* enter into FM (RAV296)	-	-	-
	-	K84	TV CH -	-	-	* enter into FM (RAV296)	-	-	-

GROUP	PRE SET	Key No.	FUNCTION	ID1	ID2	ZONE3	ZONE2	ZONE1	ZONE3
SCENE	-	K40	BD/DVD	MAIN	ZONE2	ZONE3	MAIN	ZONE2	ZONE3
	-	K41	TV	7A-007F	7A-017E	7A-027D	7A-007E	7A-017F	7A-027C
	-	K42	CD	7A-037C	7A-047B	7A-057A	7A-037D	7A-047A	7A-057B
	-	K43	RADIO	7A-0679	7A-0778	7A-0877	7A-0678	7A-0779	7A-0876
	-	K44	ON SCREEN	7A-0976	7A-0A75	7A-0B74	7A-0977	7A-0A74	7A-0B75
	-	K46	OPTION	7A-84	-	* enter into AMP MODE	7A-847A	-	-
	-	K45	▲ (UP)	7A-8B14	-	* enter into AMP MODE	7A-8B15	-	-
	-	K48	◀ (LEFT)	7A-9D	-	* enter into AMP MODE	7A-9D63	-	-
	-	K49	ENTER	7A-9F	-	* enter into AMP MODE	7A-9F61	-	-
	-	K50	▶ (RIGHT)	7A-DE	-	* enter into AMP MODE	7A-DE20	-	-
VOLUME	-	K51	RETURN	7A-9E	-	* enter into AMP MODE	7A-9E60	-	-
	-	K52	▼ (DOWN)	7A-AA	-	* enter into AMP MODE	7A-AA54	-	-
	-	K53	DISPLAY	7A-9C	-	* enter into AMP MODE	7A-9C62	-	-
	-	K47	VOLUME +	7F01-80	7F01-80	7F01-A0	7F01-609E	7F01-807E	7F01-A05E
	-	K54	VOLUME -	7A-1A	7A-DA	7A-FA	7A-1AE4	7A-DA24	7A-FD03
	-	K57	MUTE	7A-1B	7A-DB	7A-FE	7A-1BE5	7A-DB25	7A-FE00
	-	K1	POWER / SOURCE	7A-1C	7A-DC	7A-FF	7A-1CE2	7A-DC22	7A-FF01
	-	K55	TOP MENU	-	-	-	-	-	-
	-	K56	POP-UP MENU (RAV296)	-	-	-	-	-	-
	-	K58	MENU (RAV297, RAV298)	-	-	-	-	-	-
SOURCE	-	K59	REC	-	-	-	-	-	-
	-	K60	▶ (PLAY)	-	-	-	-	-	-
	-	K61	□ (STOP)	-	-	-	-	-	-
	-	K62	■ (PAUSE)	-	-	-	-	-	-
	-	K63	◀ (REW)	-	-	-	-	-	-
	-	K64	▶ (FF) (RAV296)	-	-	-	-	-	-
	-	K65	▶ (FF) (RAV297, RAV298)	-	-	-	-	-	-
	-	K66	▶ (FF) (RAV299)	-	-	-	-	-	-
	-	K67	▶ (FF) (RAV296)	-	-	-	-	-	-
	-	K68	▶ (FF) (RAV297, RAV298)	-	-	-	-	-	-

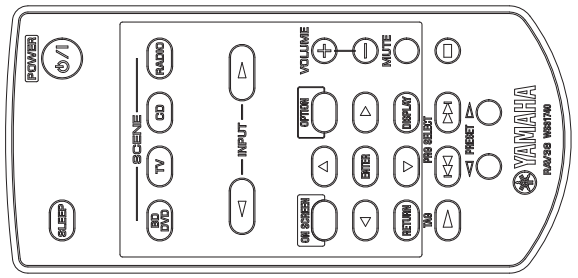
REMOTE CONTROL

● RAV38

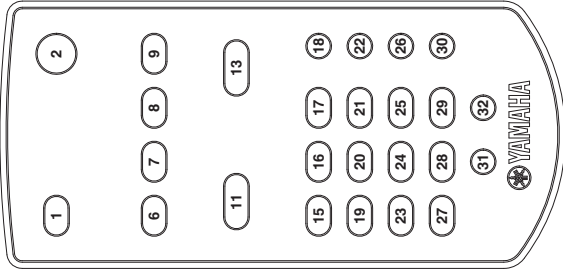
SCHEMATIC DIAGRAM



PANEL



KEY NO. LAYOUT



KEY CODE

Key No.	Key name	Code														
		ID1			ID2			ID3			ID4					
		MAIN	ZONE1	ZONE2	ZONE3	ZONE4	MAIN	ZONE1	ZONE2	ZONE3	ZONE4	MAIN	ZONE1	ZONE2	ZONE3	ZONE4
1	SLEEP	7A-31	7A-32	7A-33	7A-30CC	7A-33CD	7E-2A	7A-4E39	7A-6F10	7E-2ADD	7A-4E3B	7A-6F11	7A-007F	7A-017E	7A-027C	7A-1B86
2	POWER / ϕ /I	7E-2A	7A-4E39	7A-6F10	7E-2ADD	7A-4E3B	7A-007F	7A-017E	7A-027C	7A-1B86	7A-037C	7A-047B	7A-057A	7A-067D	7A-077A	7A-1B87
6	SCENE / BD/DVD	7A-037C	7A-047B	7A-057A	7A-067D	7A-077A	7A-0879	7A-0977	7A-1A65	7A-0678	7A-0779	7A-0876	7A-0975	7A-1B85	7A-1B86	7A-1B87
7	SCENE / TV	7A-0879	7A-0977	7A-1A65	7A-0678	7A-0779	7A-0876	7A-0975	7A-1B85	7A-1B86	7A-1B87	7A-235C	7A-245B	7A-255A	7A-2658	7A-2B58
8	SCENE / CD	7A-235C	7A-245B	7A-255A	7A-2658	7A-2B58	7A-2C5D	7A-2D5D	7A-2E5D	7A-2F5E	7A-305E	7A-315F	7A-325C	7A-335D	7A-345A	7A-355B
9	SCENE / RADIO	7A-315F	7A-325C	7A-335D	7A-345A	7A-355B	7A-3658	7A-3749	7A-3847	7A-3946	7A-4044	7A-413F	7A-423C	7A-4334	7A-443A	7A-4538
11	INPUT \triangle	7A-3658	7A-3749	7A-3847	7A-3946	7A-4044	7A-413F	7A-423C	7A-4334	7A-443A	7A-4538	7A-4630	7A-472F	7A-482E	7A-492D	7A-502C
13	INPUT \triangle	7A-4630	7A-472F	7A-482E	7A-492D	7A-502C	7A-512B	7A-522A	7A-5329	7A-5428	7A-5527	7A-5626	7A-5725	7A-5824	7A-5923	7A-6022
15	ON SCREEN	7A-512B	7A-522A	7A-5329	7A-5428	7A-5527	7A-5626	7A-5725	7A-5824	7A-5923	7A-6022	7A-6121	7A-6220	7A-631F	7A-641E	7A-651D
16	\blacktriangle (UP)	7A-6121	7A-6220	7A-631F	7A-641E	7A-651D	7A-661C	7A-671B	7A-681A	7A-6919	7A-7018	7A-7117	7A-7216	7A-7315	7A-7414	7A-7513
17	OPTION	7A-661C	7A-671B	7A-681A	7A-6919	7A-7018	7A-7117	7A-7216	7A-7315	7A-7414	7A-7513	7A-7612	7A-7711	7A-7810	7A-790F	7A-800E
19	VOLUME +	7A-7117	7A-7216	7A-7315	7A-7414	7A-7513	7A-7612	7A-7711	7A-7810	7A-790F	7A-800E	7A-810D	7A-820C	7A-830B	7A-840A	7A-8509
20	\blacktriangle (LEFT)	7A-810D	7A-820C	7A-830B	7A-840A	7A-8509	7A-8608	7A-8707	7A-8806	7A-8905	7A-9004	7A-9103	7A-9202	7A-9301	7A-9400	7A-9500
21	ENTER	7A-8608	7A-8707	7A-8806	7A-8905	7A-9004	7A-9103	7A-9202	7A-9301	7A-9400	7A-9500	7A-9600	7A-9700	7A-9800	7A-9900	7A-0000
22	\blacktriangleright (RIGHT)	7A-9103	7A-9202	7A-9301	7A-9400	7A-9500	7A-9600	7A-9700	7A-9800	7A-9900	7A-0000	7A-0100	7A-0200	7A-0300	7A-0400	7A-0500
23	VOLUME -	7A-9600	7A-9700	7A-9800	7A-9900	7A-0000	7A-0100	7A-0200	7A-0300	7A-0400	7A-0500	7A-0600	7A-0700	7A-0800	7A-0900	7A-1000
24	RETURN	7A-0100	7A-0200	7A-0300	7A-0400	7A-0500	7A-0600	7A-0700	7A-0800	7A-0900	7A-1000	7A-1100	7A-1200	7A-1300	7A-1400	7A-1500
25	\blacktriangledown (DOWN)	7A-0600	7A-0700	7A-0800	7A-0900	7A-1000	7A-1100	7A-1200	7A-1300	7A-1400	7A-1500	7A-1600	7A-1700	7A-1800	7A-1900	7A-2000
26	DISPLAY	7A-1100	7A-1200	7A-1300	7A-1400	7A-1500	7A-1600	7A-1700	7A-1800	7A-1900	7A-2000	7A-2100	7A-2200	7A-2300	7A-2400	7A-2500
27	MUTE	7A-1600	7A-1700	7A-1800	7A-1900	7A-2000	7A-2100	7A-2200	7A-2300	7A-2400	7A-2500	7A-2600	7A-2700	7A-2800	7A-2900	7A-3000
28	TAG / \triangle	7A-2100	7A-2200	7A-2300	7A-2400	7A-2500	7A-2600	7A-2700	7A-2800	7A-2900	7A-3000	7A-3100	7A-3200	7A-3300	7A-3400	7A-3500
29	PRG SELECT / \blacktriangle	7A-2600	7A-2700	7A-2800	7A-2900	7A-3000	7A-3100	7A-3200	7A-3300	7A-3400	7A-3500	7A-3600	7A-3700	7A-3800	7A-3900	7A-4000
30	PRG SELECT / \blacktriangle	7A-3100	7A-3200	7A-3300	7A-3400	7A-3500	7A-3600	7A-3700	7A-3800	7A-3900	7A-4000	7A-4100	7A-4200	7A-4300	7A-4400	7A-4500
31	PRESET \triangleleft	7A-3600	7A-3700	7A-3800	7A-3900	7A-4000	7A-4100	7A-4200	7A-4300	7A-4400	7A-4500	7A-4600	7A-4700	7A-4800	7A-4900	7A-5000
32	PRESET \triangleleft	7A-4100	7A-4200	7A-4300	7A-4400	7A-4500	7A-4600	7A-4700	7A-4800	7A-4900	7A-5000	7A-5100	7A-5200	7A-5300	7A-5400	7A-5500

Default: ID1/MAIN

ID setting	[K19] + [K6]	[K19] + [K7]							
	= ID1	= ID2							
ID setting	[K21] + [K6]	[K21] + [K7]	[K21] + [K8]	[K21] + [K9]	[K21] + [K6]	[K21] + [K7]	[K21] + [K8]	[K21] + [K9]	
	= MAIN	= ZONE1	= ZONE2	= ZONE3	= MAIN	= ZONE1	= ZONE2	= ZONE3	= ZONE4

■ 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.

ADVANCED SETUP

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 advanced setup menu.



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

1 Press  CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.

 **TRANSMIT** blinks twice.

2 Press  ON SCREEN.

3 Enter the desired remote control ID code.

To switch to ID1, press  **Numeric keys** to enter “5019”.

To switch to ID2, press  **Numeric keys** to enter “5020”.

Once the remote control code is registered,

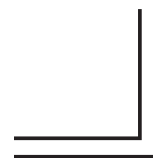
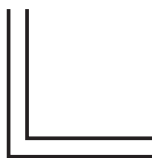
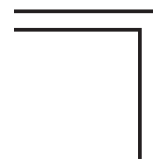
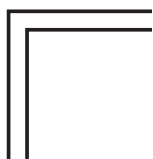
 **TRANSMIT** blinks twice.

If it fails,  **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

