# AV RECEIVER
# RX-V673/HTR-6065/ RX-A720
# SERVICE MANUAL

**Note:** When the DIGITAL P.C.B. or IC82 on DIGITAL P.C.B. is replaced, this unit will display “Internal Error” and will not operate at all without additional setting.

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

Yamaha Corporation will reply providing the setting procedure to make 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.

RX-V673/HTR-6065/ RX-A720

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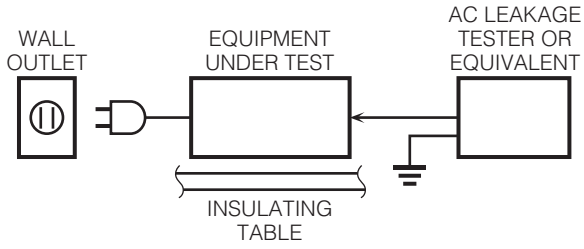
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YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
'12.05

# ■ TO SERVICE PERSONNEL

1. Critical Components Information
   Components having special characteristics are marked ⚠ 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 µF.




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




**For U model**

**"CAUTION"**

"F3702: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 8A, 125V FUSE."

**For C model**

**CAUTION**

F3702: REPLACE WITH SAME TYPE 8A, 125V FUSE.

**ATTENTION**

F3702: UTILISER UN FUSIBLE DE RECHANGE DE MÉME TYPE DE 8A, 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.

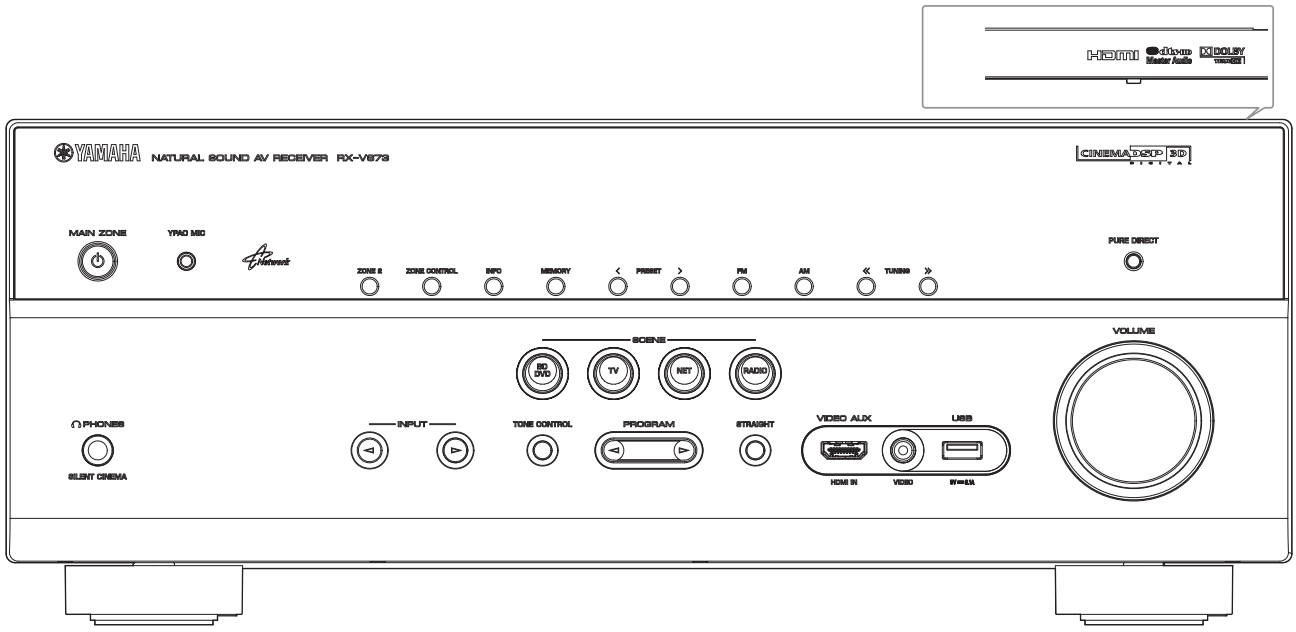
- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

**Caution:**

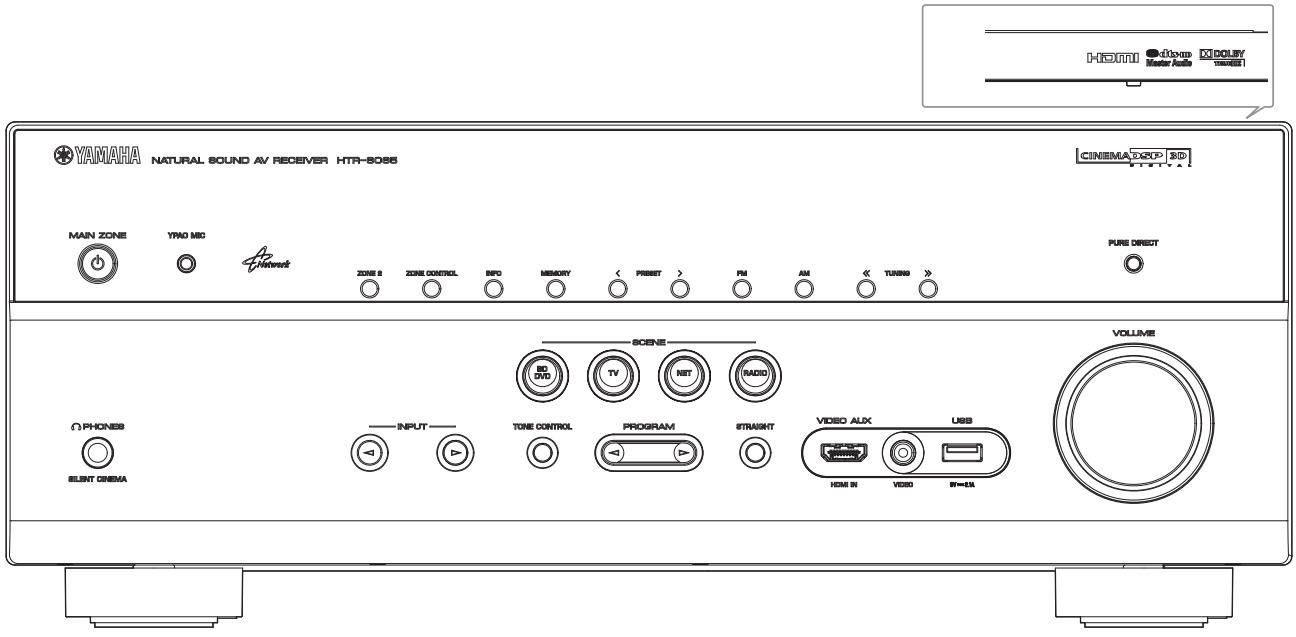
As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.

# ■ FRONT PANELS

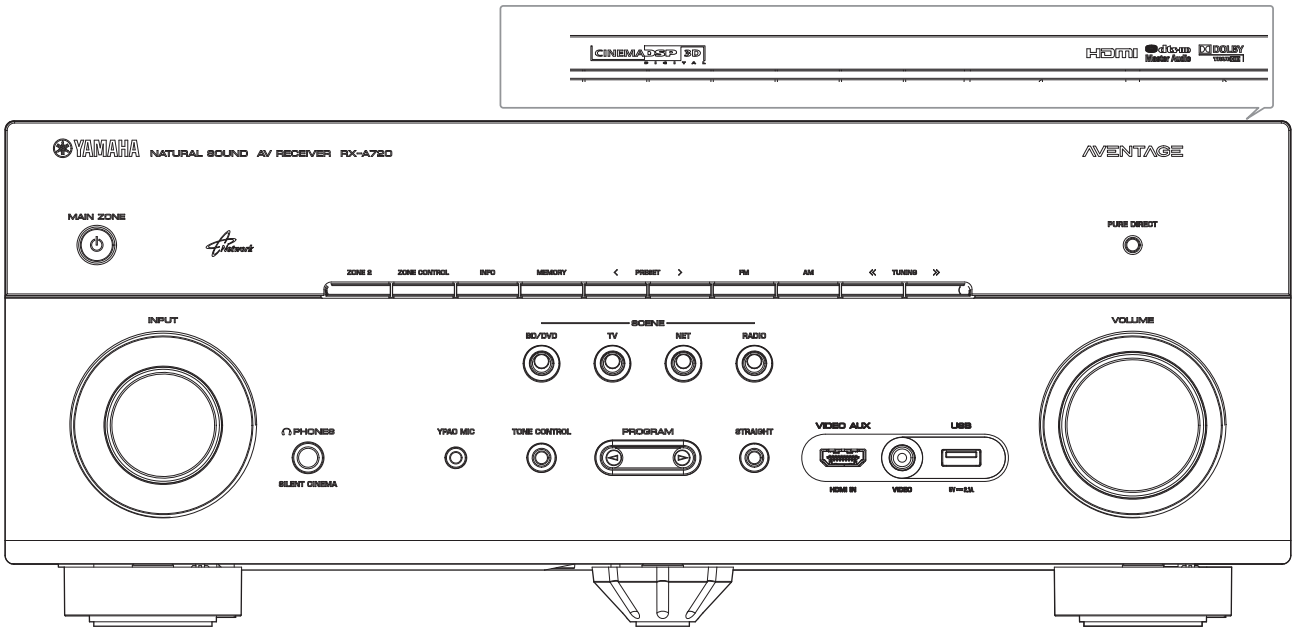
**RX-V673 (U, C, R, T, K, A, B, G, F, L, S, H models)**




**HTR-6065 (A, F models)**

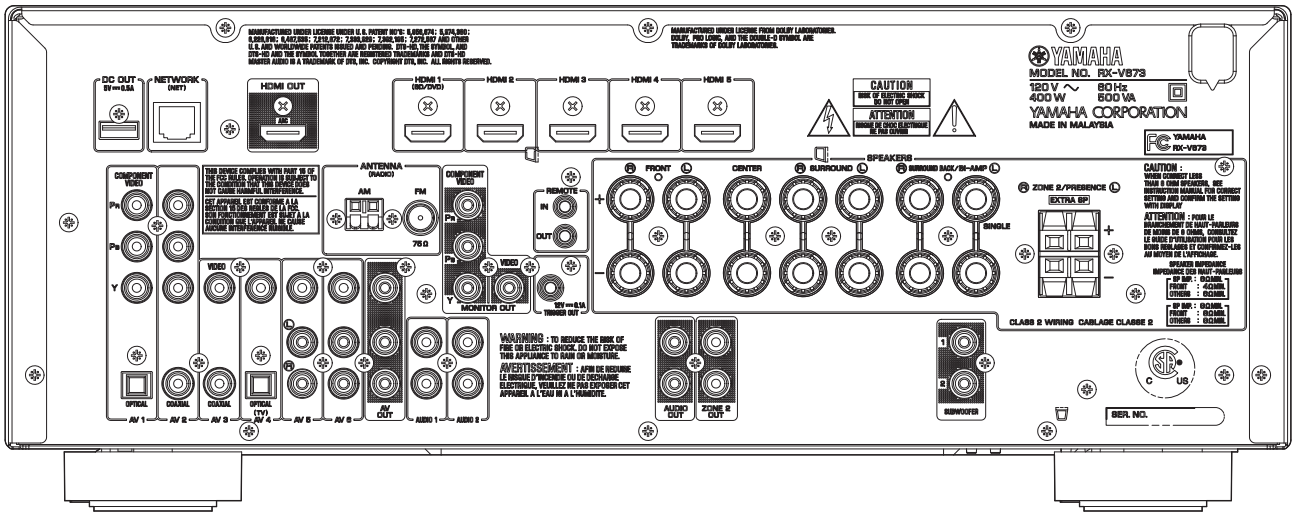


## RX-A720 (U, C, A models)

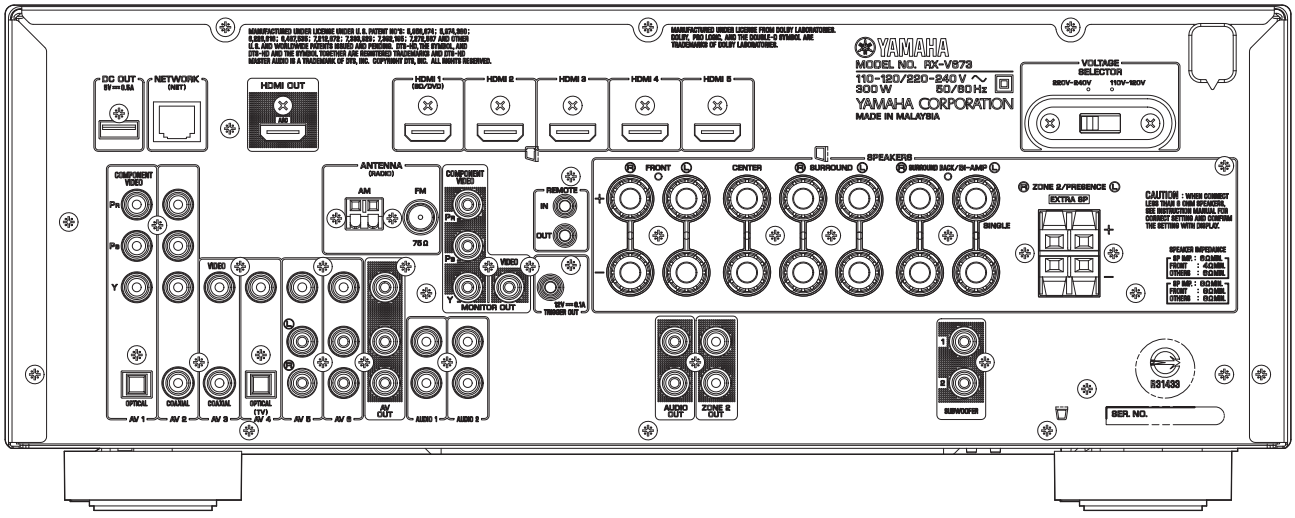


# ■ REAR PANELS

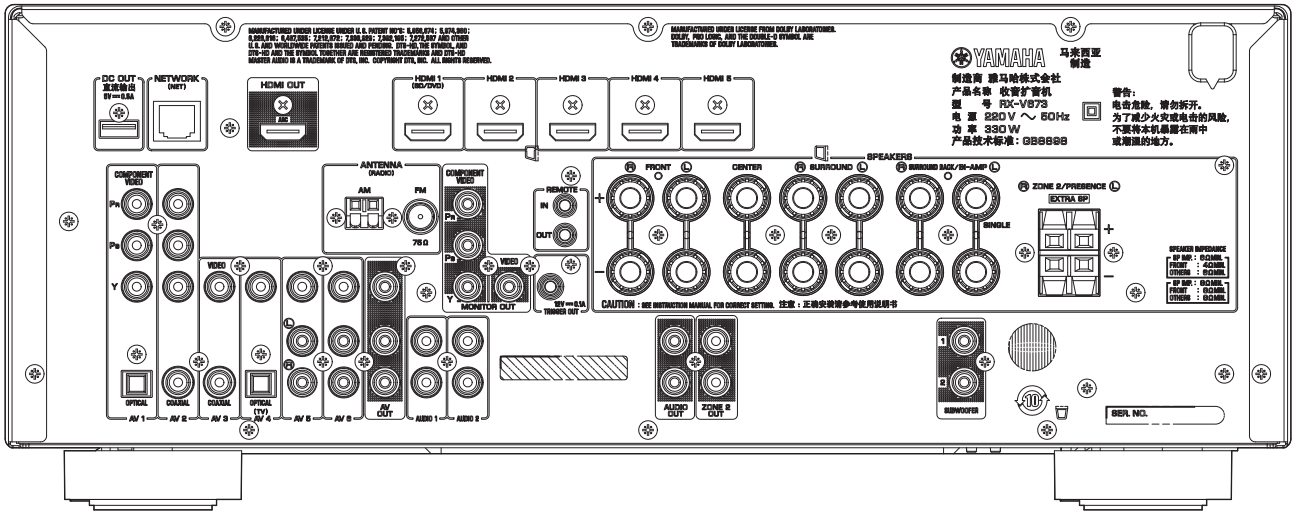
**RX-V673 (U, C models)**



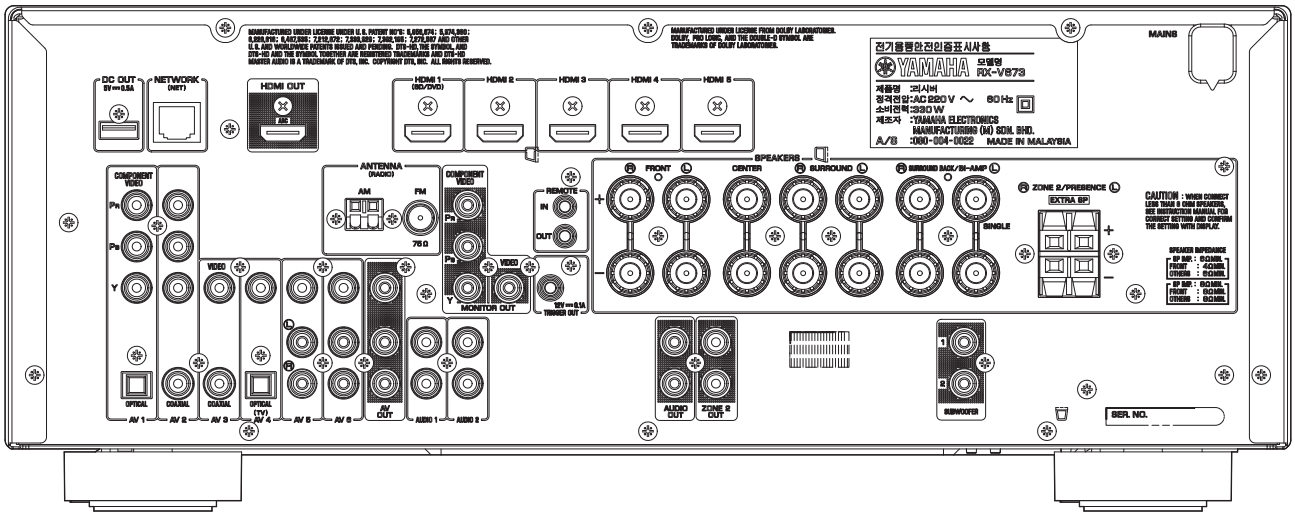

**RX-V673 (R, S models)**



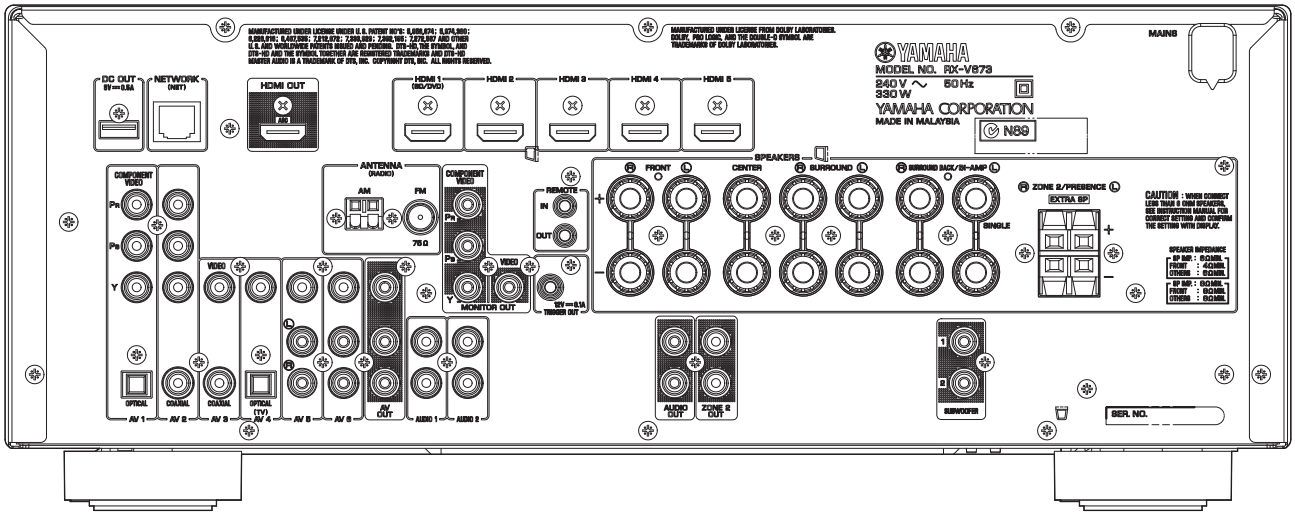

**RX-V673 (T model)**



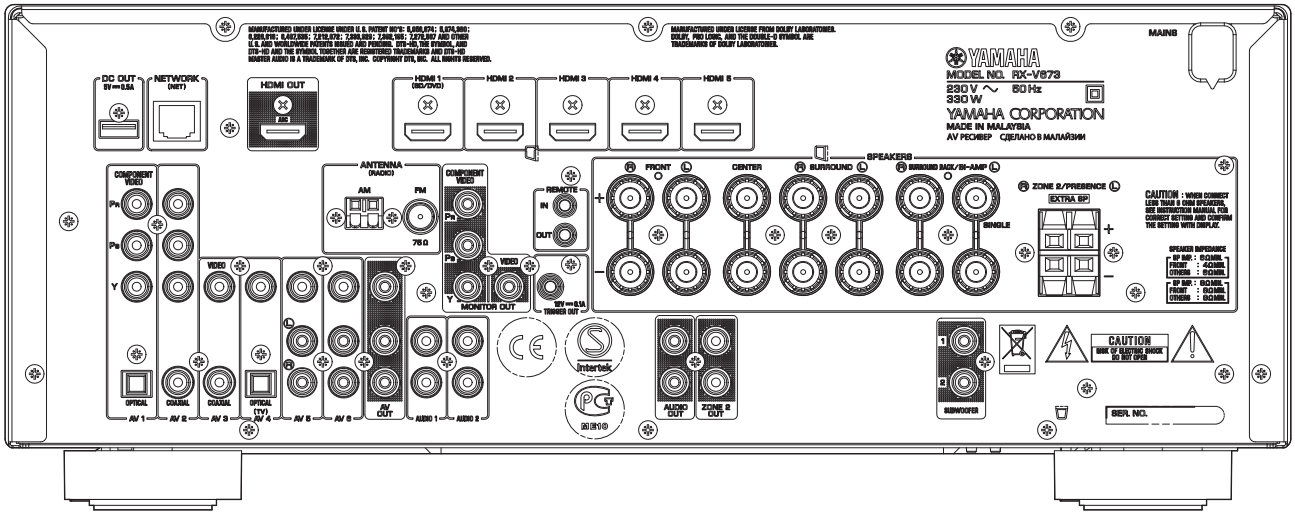
### RX-V673 (K model)



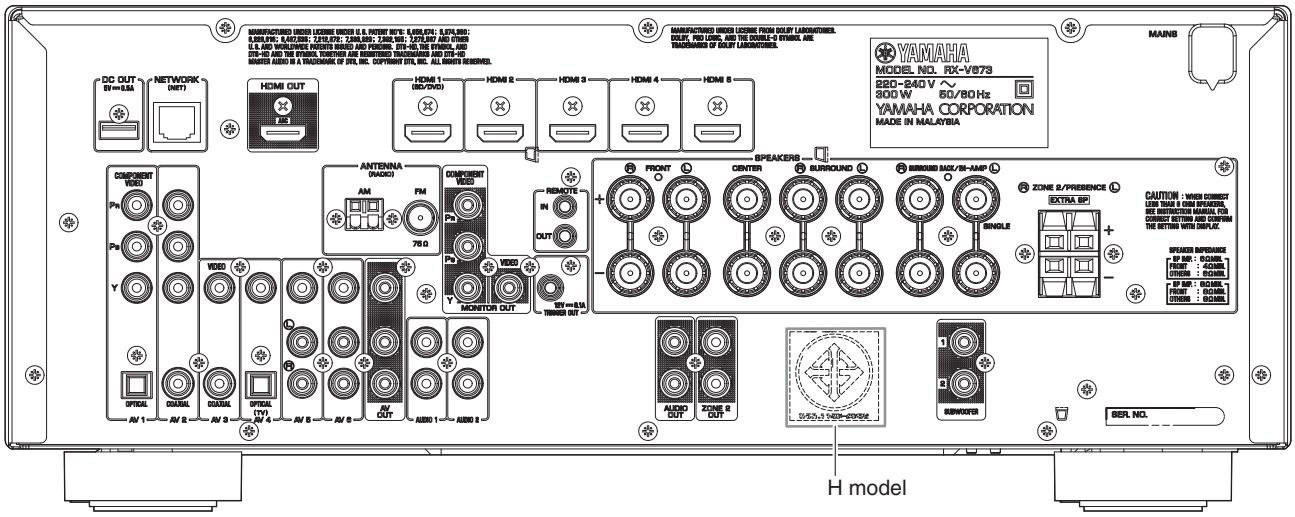

### RX-V673 (A model)



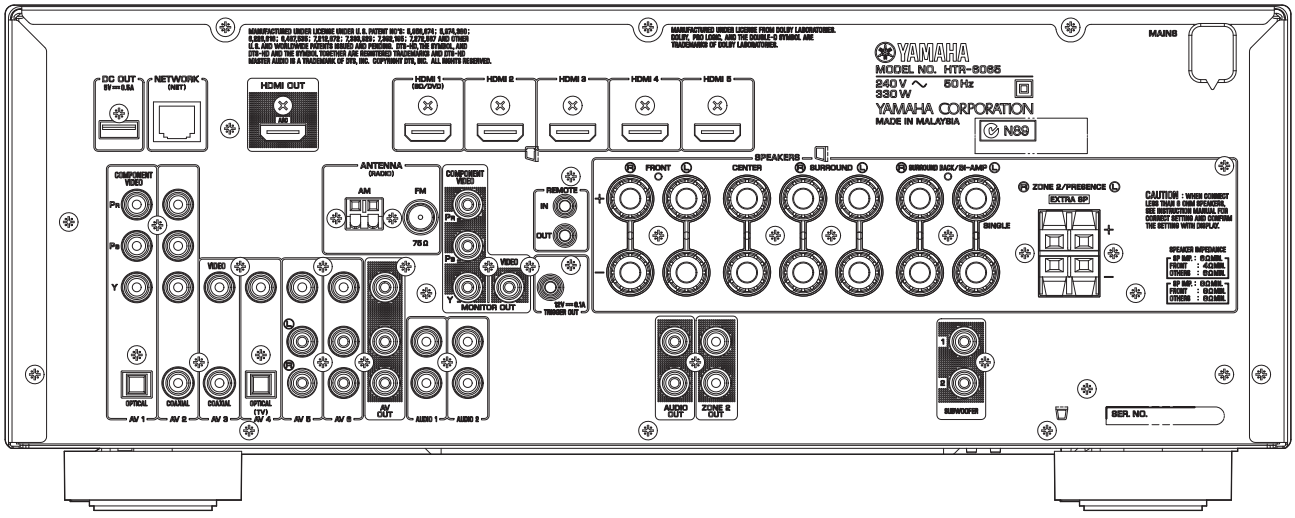

### RX-V673 (B, G, F models)



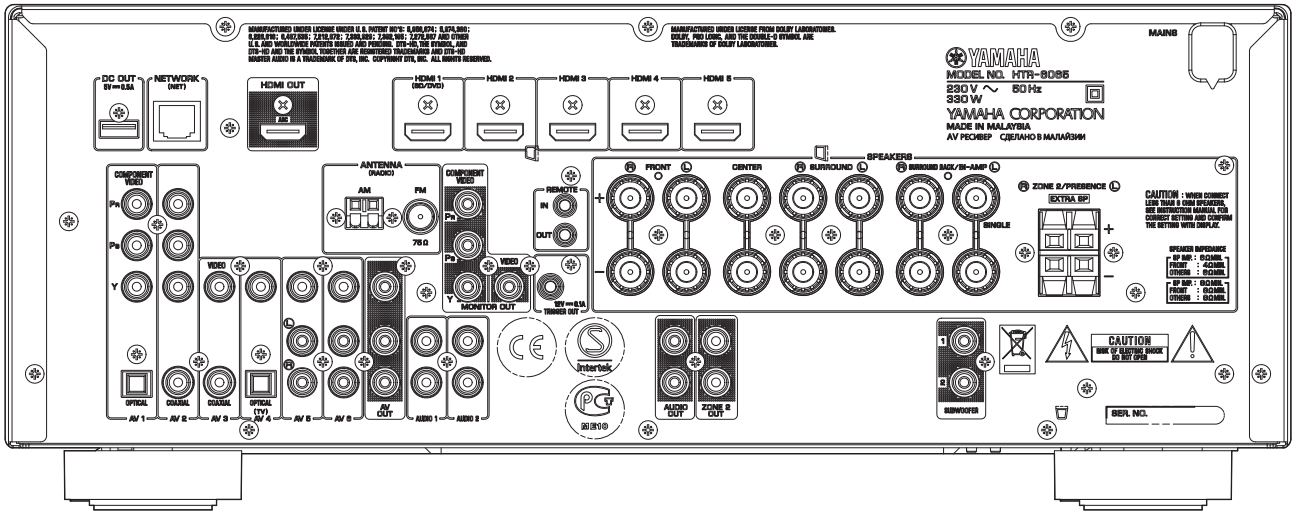
### RX-V673 (L, H models)



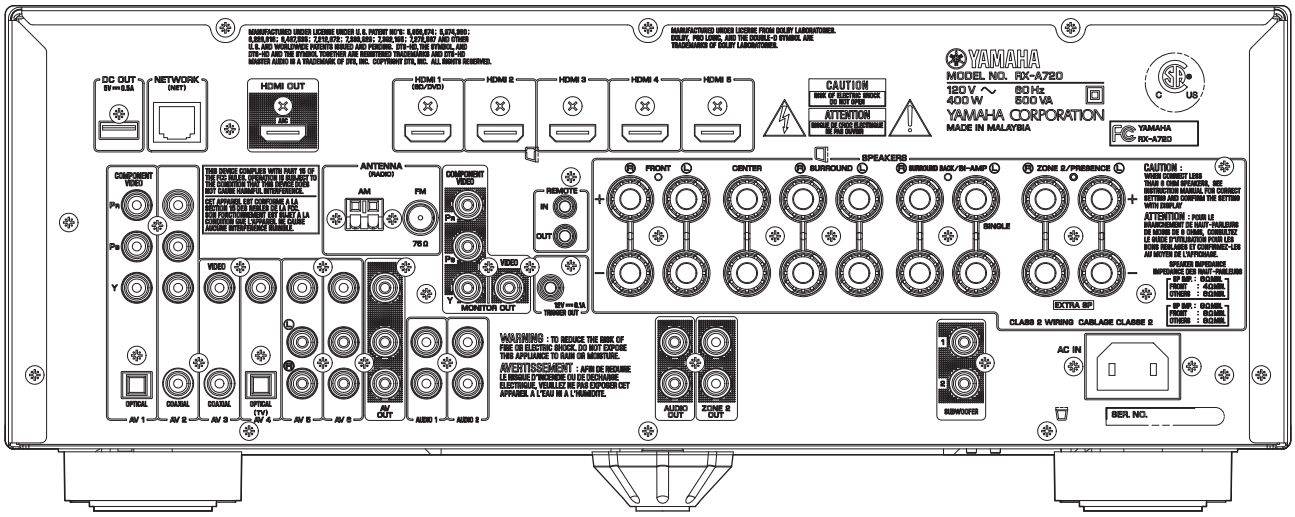

### HTR-6065 (A model)



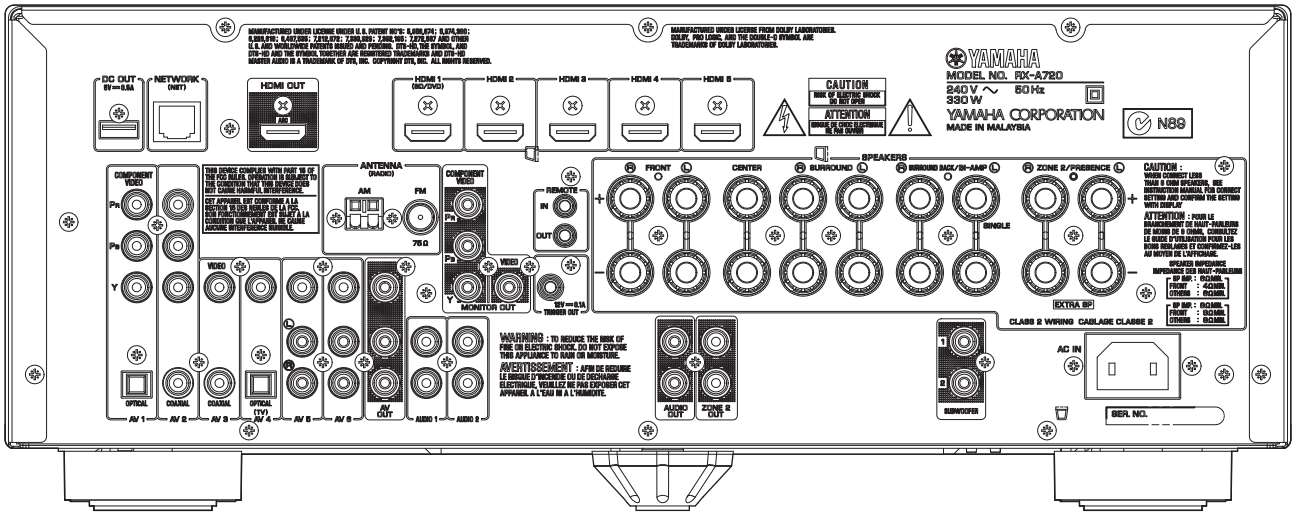

### HTR-6065 (F model)



### RX-A720 (U, C models)

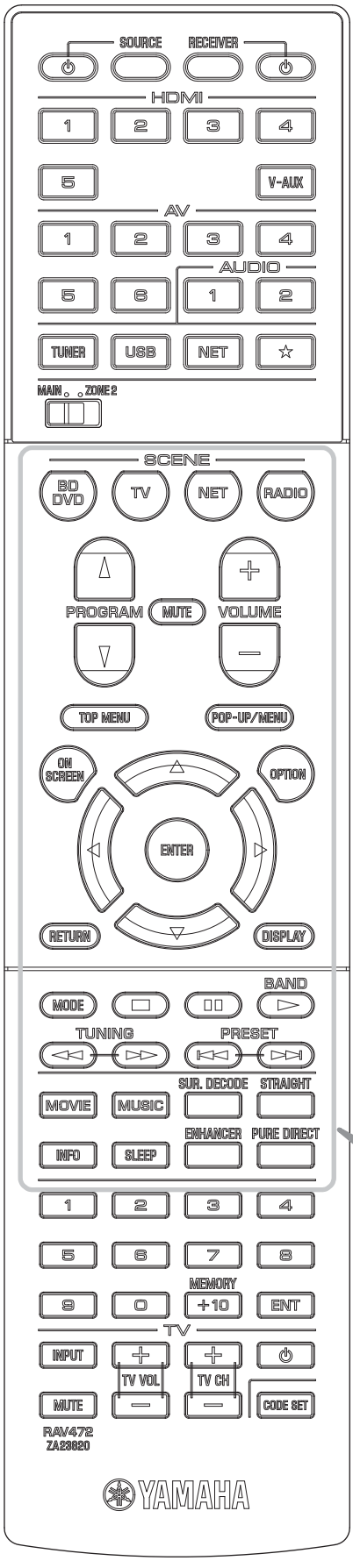



### RX-A720 (A model)

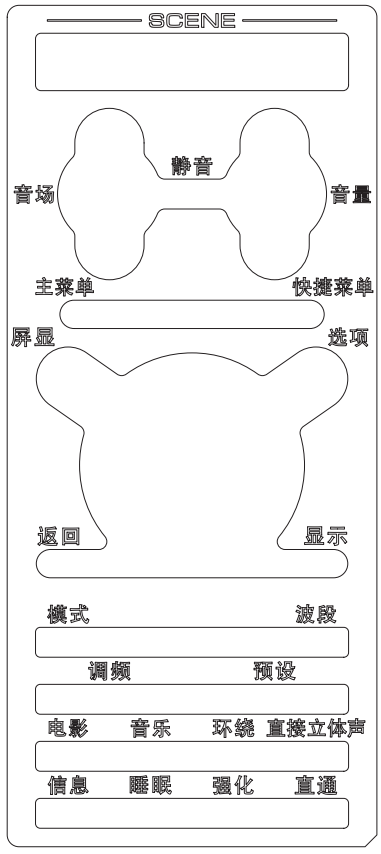


# ■ REMOTE CONTROL PANEL

**RAV472**




**Remote control sheet**
(T model)



# ■ SPECIFICATIONS

## ■ Audio Section

**Rated Output Power (Power Amp. Section)**

(1 kHz, 0.9 % THD)

– 1 channel driven –

U, C, R, T, K, A, B, G, F, L, S, H models (8 ohms)
- FRONT L/R ..... 125 W/ch
- CENTER ..... 125 W
- SURROUND L/R ..... 125 W/ch
- SURROUND BACK L/R ..... 125 W/ch

B, G, F models (4 ohms)
- FRONT L/R ..... 150 W/ch

– 2 channels driven simultaneously –

U, C, R, T, K, A, B, G, F, L, S, H models (8 ohms)
- FRONT L/R .....105 W + 105 W
- CENTER ..... 105 W
- SURROUND L/R .....105 W + 105 W
- SURROUND BACK L/R .....105 W + 105 W

(20 Hz to 20 kHz, 0.09 % THD)

– 2 channels driven simultaneously –

U, C, R, T, K, A, B, G, F, L, S, H models (8 ohms)
- FRONT L/R .....90 W + 90 W

**Maximum Effective Output Power** (JEITA) [R, T, K, L, S, H models]
(1 channel driven, 1 kHz, 10 % THD, 8 ohms)
- FRONT L/R ..... 150 W/ch
- CENTER ..... 150 W
- SURROUND L/R ..... 150 W/ch
- SURROUND BACK L/R ..... 150 W/ch

**Dynamic Power Per Channel** (IHF)
- FRONT L/R (1 channel driven)
  (8 / 6 / 4 / 2 ohms) ..... 130 / 170 / 200 / 240 W

**Damping Factor** (20 Hz to 20 kHz, 8 ohms)
- FRONT L/R to SPEAKER-A ..... 100 or more

**Input Sensitivity/Input Impedance** (1 kHz, 100 W/8 ohms)
- AV5 etc. ..... 200 mV / 47 k-ohms

**Maximum Input Signal** (1 kHz, 0.5 % THD)
- AV5 etc. (EFFECT ON) ..... 2.3 V

**Output Level/Output Impedance**
- AUDIO OUT ..... 200 mV / 1.2 k-ohms
- SUBWOOFER (2 ch stereo and FRONT SP: small)
  ..... 1 V / 1.2 k-ohms
- ZONE2 OUT ..... 200 mV / 1.2 k-ohms

**Headphone Jack Rated Output/Output Impedance**
(1 kHz, 50 mV, 8 ohms)
- AV5 etc. input ..... 100 mV / 560 ohms

**Frequency Response** (10 Hz to 100 kHz)
- AV5 etc., FRONT .....0 / -3 dB

**Total Harmonic Distortion** (20 Hz to 20 kHz, 50 W/8 ohms)
- AV5 etc. (PURE DIRECT) to FRONT SP OUT .....0.06 % or less

**Signal to Noise Ratio (IHF-A Network)** (Input shorted 250 mV)
- AV5 etc. (PURE DIRECT) to SP OUT ..... 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)
- AV5 etc. (Input 5.1 k-ohms shorted)
  ..... 60 dB or more / 45 dB or more

**Volume Control/Step**
..... MUTE / -80 dB to +16.5 dB / 0.5 dB step

**Tone Control Characteristics**

Bass
- Boost/Cut ..... ±6 dB / 0.5 dB step, at 50 Hz
- Turnover frequency .....350 Hz

Treble
- Boost/Cut .....±6 dB / 0.5 dB step, at 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.

**Optical Jack, Coaxial Jack Support Frequencies**
.....32 kHz to 96 kHz

## ■ Video Section

**Video Signal Type**

Monitor out (Wall paper)
- U, C, R, K models .....NTSC
- T, A, B, G, F, L, S, H models .....PAL

Video conversion
.....NTSC/PAL

**Composite Video Signal Level**
.....1 Vp-p / 75 ohms

**Component Video Signal Level**
- Y .....1 Vp-p / 75 ohms
- Pb/Pr .....0.7 Vp-p / 75 ohms

**Video Maximum Input Level (VIDEO Conversion Off)**
..... 1.5 Vp-p or more

**Video Signal to Noise Ratio**
..... 50 dB or more

**Monitor Out Frequency Response (VIDEO Conversion Off)**
- Component video signal level .....5 Hz to 60 MHz, -3 dB

## ■ FM Section

**Tuning Range**
- U, C models .....87.5 to 107.9 MHz
- R, L, S, H models .....87.5 to 108.0 / 87.50 to 108.00 MHz
- T, K, A, B, G, F models .....87.50 to 108.00 MHz

**50 dB Quieting Sensitivity** (IHF) (1 kHz, 100 % MOD.)
- Mono .....3 µV (20.8 dBf)

**Signal to Noise Ratio** (IHF)
- Mono .....71 dB
- Stereo .....69 dB

**Harmonic Distortion** (1 kHz)
- Mono .....0.3 %
- Stereo .....0.5 %

**Antenna Input**
..... 75 ohms unbalanced

## ■ AM Section

**Tuning Range**

U, C models ..... 530 to 1,710 kHz
R, L, S, H models ..... 530 to 1,710 / 531 to 1,611 kHz
T, K, A, B, G, F models ..... 531 to 1,611 kHz

**Antenna**

..... Loop antenna

## ■ General

**Power Supply**

U, C models ..... AC 120 V, 60 Hz
R, S models .....AC 110–120/220–240 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, F models ..... AC 230 V, 50 Hz
L, H models ..... AC 220–240 V, 50/60 Hz

**Power Consumption**

U, C models .....400 W / 500 VA
R, L, S, H models ..... 300 W
T, K, A, B, G, F models ..... 330 W

**Standby Power Consumption (reference data)**

HDMI control: OFF / Standby through: OFF
..... 0.1 W (typical)
HDMI control: ON / Standby through: ON
INPUT: HDMI1 (HDMI no signal)
..... 3.0 W (typical)
Network standby: ON
..... 2.0 W (typical)

**Maximum Power Consumption** [R, L, S, H models]
..... 590 W

**Dimensions (W x H x D)**

[RX-V673/HTR-6065]
..... 435 x 171 x 364 mm (17-1/8" x 6-3/4" x 14-3/8")
[RX-A720]
..... 435 x 171 x 367 mm (17-1/8" x 6-3/4" x 14-1/2")

**Weight**

[RX-V673/HTR-6065]
..... 10.2 kg (22.5 lbs.)
[RX-A720]
..... 10.7 kg (23.6 lbs.)

**Finish**

[RX-V673]
T model .....Gold color
U, C, R, T, K, A, B, G, F, L, S, H models ..... Black color
R, B, G, F, L, H models .....Titanium color
[HTR-6065]
A, F models ..... Black color
[RX-A720]
U, C, A models ..... Black color

**Accessories**

Remote control .....x 1
Batteries (R03, AAA, UM-4) .....x 2
FM antenna (1.4 m) .....x 1
AM antenna (1.0 m) .....x 1
YPAO microphone (6.0 m) .....x 1
Remote control sheet (T model) .....x 1
Power cable (2.0 m) (RX-A720) .....x 1

* **Specifications are subject to change without notice.**

***U*.....*U.S.A. model***
***C*.....*Canadian model***
***R*.....*General model***
***T*.....*Chinese model***
***K*.....*Korean model***
***A*.....*Australian model***
***B*.....*British model***
***G*.....*European model***
***F*..... *Russian model***
***L*.....*Singapore model***
***S*.....*Brazirian model***
***H*.....*Thai model***

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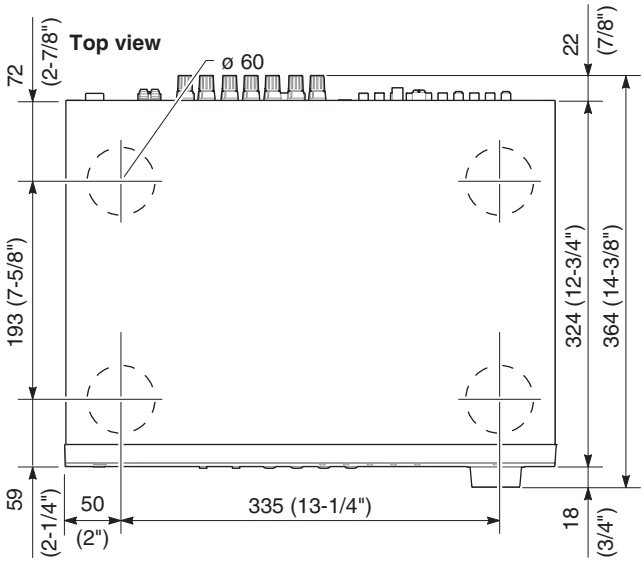
## Windows®

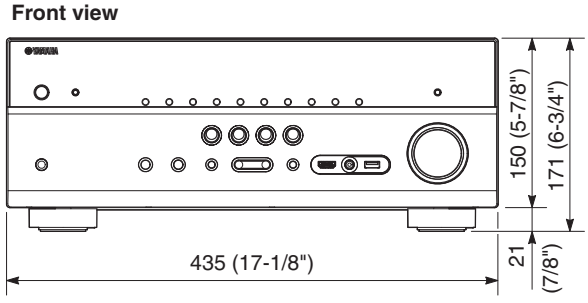
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- **DIMENSIONS**

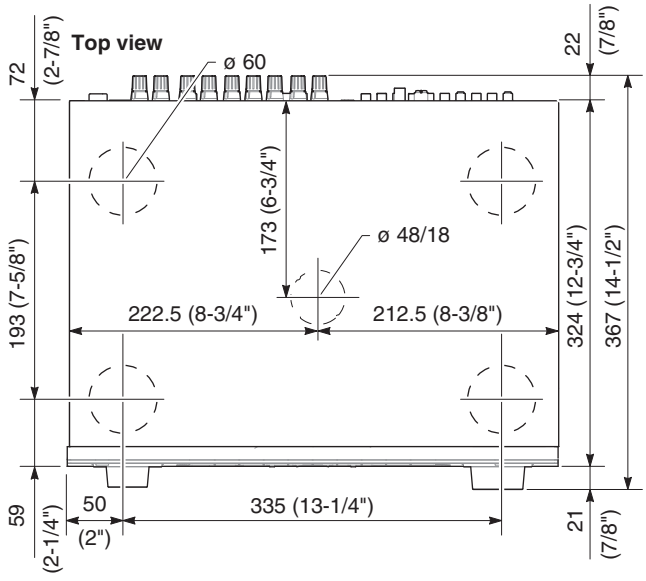
**RX-V673/HTR-6065**

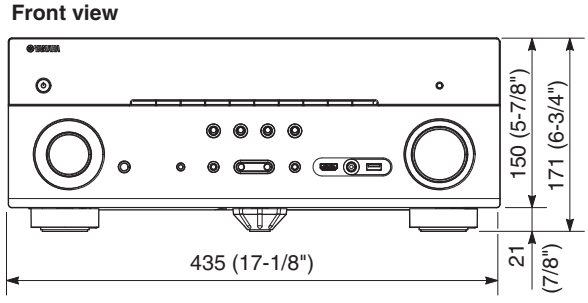



Unit: mm (inch)

**RX-A720**




Unit: mm (inch)

- **SELECT MENU**

Sound field parameters

| Category | Program | Decode Type (*1) | DSP Level: -6 to +3 dB, [0] | Initial Delay: 1 to 99 ms | Surround Initial Delay: 1 to 49 ms | Surround Back Initial Delay: 1 to 49 ms | Room Size: 0.1 to 2.0 | Surround Room Size: 0.1 to 2.0 | Surround Back Room Size: 0.1 to 2.0 | Liveness: 0 to 10 | Surround Liveness: 0 to 10 | Surround Back Liveness: 0 to 10 | Reverb Time: 1.0 to 5.0 s | Reverb Delay: 0 to 250 ms | Reverb Level: 0 to 100 % | Direct: Auto / Off, [Auto] | Level: -5 to +5, [0] | Front/Rear Balance: -5 to +5, [0] | Left/Right Balance: -5 to +5, [0] | Height Balance: 0 to 10, [5] | Monaural Mix: Off / On, [Off] | Reset |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MOVIE THEATER | Standard | ● | ● | | ● | ○ | | ● | ○ | | ● | ○ | | | | | | | | | | ● |
| | Spectacle | ● | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Sci-Fi | ● | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Adventure | ● | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Drama | ● | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Mono Movie | | ● | ● | | | ● | | | ● | | | ● | ● | ● | | | | | | | ● |
| ENTERTAINMENT | Sports | | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Action Game | | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Roleplaying Game | | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| | Music Video | | ● | ● | ● | ○ | ● | ● | ○ | | | | | | | | | | | | | ● |
| CLASSICAL | Hall in Munich | | ● | ● | | | ● | | | ● | | | | | | | | | | | | ● |
| | Hall in Vienna | | ● | ● | | | ● | | | ● | | | | | | | | | | | | ● |
| | Chamber | | ● | ● | | | | | | ● | | | ● | ● | ● | | | | | | | ● |
| LIVE/CLUB | Cellar Club | | ● | ● | | | ● | | | ● | | | | | | | | | | | | ● |
| | The Roxy Theatre | | ● | ● | | | ● | | | ● | | | ● | ● | ● | | | | | | | ● |
| | The Bottom Line | | ● | ● | | | ● | | | ● | | | | | | | | | | | | ● |
| STEREO | 2ch Stereo | | | | | | | | | | | | | | | ● | | | | | | ● |
| | 7ch Stereo | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● |
| SUR. DECODE | SURROUND DECODER | ● | | | | | | | | | | | | | | | | | | | | ● |
| STRAIGHT | | | | | | | | | | | | | | | | | | | | | | |

***1** Surround Decoder

| | | Panorama<br>Off / On, [Off] | Center Width<br>0 to 7, [3] | Dimension<br>-3 to +3, [0] | Center Image<br>0.0 to 1.0, [0.3] |
|---|---|---|---|---|---|
| Decode Type | DD Pro Logic | | | | |
| | DD PL IIx Movie / DD PL II Movie | | | | |
| | DD PL IIx Music / | ● | ● | ● | |
| | DD PL II Music | | | | |
| | DD PL IIx Game / DD PL II Game | | | | |
| | Neo:6 Cinema | | | | |
| | Neo:6 Music | | | | ● |

## • SET MENU TABLE

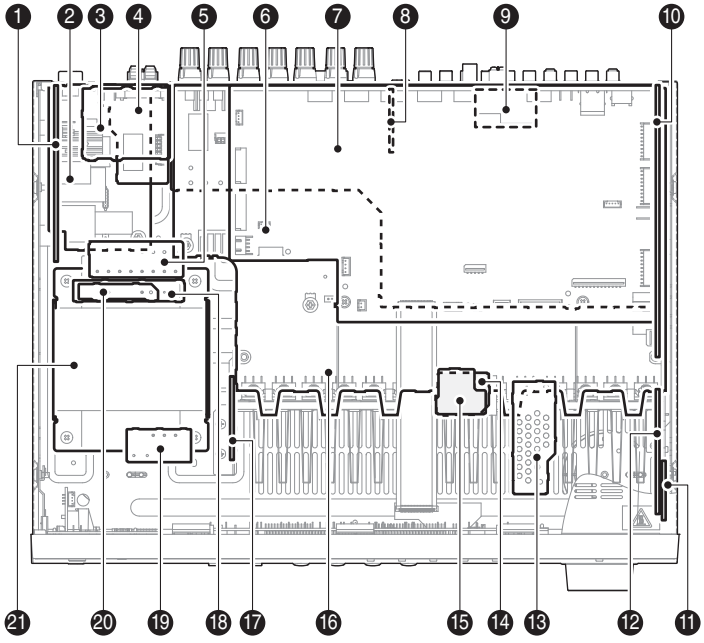
| MAIN MENU | SUB-MENU | PARAMETER | | VALUE [INITIAL VALUE] |
|---|---|---|---|---|
| Speaker Setup | Auto | Measure | | Optimizes the speaker configuration automatically using YPAO. |
| | | Result | | Not Available |
| | Manual | Power Amp Assign | | [Basic] / 7ch +1ZONE / 5ch BI-AMP |
| | | Configuration | Front | Large / [Small]<br>* When “Subwoofer” is set to “None”, “Front” is disabled. |
| | | | Center | Large / [Small] / None |
| | | | Surround | Large / [Small] / None |
| | | | Surround Back | Large x1 / Large x2 / Small x1 / [Small x2] / None |
| | | | Front Presence | [Use] / None |
| | | | Subwoofer | [Use] / None<br>[Normal] / Reverse |
| | | | Extra Bass | Not Available |
| | | | Bass Cross Over | 40 / 60 / [80] / 90 / 100 / 110 / 120 / 160 / 200 Hz |
| | | Distance | | Meter / Feet |
| | | | Front L | 0.30 to 24.00 m, [3.00 m], 0.05 m step<br>1.0 to 80.0 ft, [10.0 ft], 0.2 ft step |
| | | | Front R | |
| | | | Center | |
| | | | Surround L | |
| | | | Surround R | |
| | | | Surround Back L | |
| | | | Surround Back R | |
| | | | Front Presence L | |
| | | | Front Presence R | |
| | | | Subwoofer | |
| | | Level | Front L | -10.0 to +10.0 dB, [0.0 dB], 0.5 dB step |
| | | | Front R | |
| | | | Center | |
| | | | Surround L | |
| | | | Surround R | |
| | | | Surround Back L | |
| | | | Surround Back R | |
| | | | Front Presence L | |
| | | | Front Presence R | |
| | | | Subwoofer | |
| | | Parametric EQ | | Manual / YPAO : Flat / YPAO : Front / YPAO : Natural / [Through]<br>* Select “ENTER” |
| | | | Front L<br>Front R<br>Center | Band / Gain | ▶ Band: #1 to #7<br>▲ Gain: -20.0 to +6.0 dB, [0.0 dB], 0.5 dB step |
| | | | Surround L<br>Surround R<br>Surround Back L | Frequency / Gain | ▶ Frequency: 31.3 Hz to 16.0 kHz, [62.5 Hz]<br>▲ Gain: -20.0 to +6.0 dB, [0.0 dB], 0.5 dB step |
| | | | Surround Back R<br>Front Presence L<br>Front Presence R | Q / Gain | ▶ Q: 0.500 to 10.080, [1.000]<br>▲ Gain: -20.0 to +6.0 dB, [0.0 dB], 0.5 dB step |
| | | | PEQ Data Copy | | Flat > Manual / Front > Manual / Natural > Manual<br>* Select “ENTER” |
| | | | PEQ Data Clear | | OK / CANCEL * Select “ENTER” |
| | | Test Tone | | | [Off] / On |
| Sound Setup | Lipsync | Delay Enable | HDMI1 / HDMI2 / HDMI3 / HDMI4 / HDMI5 / AV1 / AV2 / AV3 / AV4 / AV5 / AV6 / AUDIO1 / AUDIO2 | | Disable / [Enable] |
| | | Auto/Manual Select | | | [Auto] / Manual |
| | | Adjustment | | | 0 to 500 ms, [0 ms], 1 ms step |

| MAIN MENU | SUB-MENU | | PARAMETER | | VALUE [INITIAL VALUE] |
|---|---|---|---|---|---|
| Sound Setup | Dynamic Range | | | | [Maximum] / Standard / Minimum/Auto |
| | Max. Volume | | | | -30.0 to +16.5 dB (Maximum volume), [+16.5 dB], 5.0 dB step |
| | Initial Volume | | | | [Off] / On |
| | | | Select “On” | | Mute, -80 to +16.5 dB, 0.5 dB step |
| | Adaptive DSP Level | | | | Off / [On] |
| Video Setup | Video Mode | | | | [Direct] / Processing |
| | | Select “Processing” | Resolution | | Through / [Auto] / 576p / 720p / 1080i / 1080p / 4K<br>* Select “ENTER” |
| | | | Aspect | | [Through] / 16:9 Normal |
| HDMI Setup | HDMI Control | | | | [Off] / On |
| | | | TV Audio Input | | AV1 / AV2 / AV3 / [AV4] / AV5 / AV6 / AUDIO1 / AUDIO2 |
| | | | ARC (Audio Return Channel) | | Off / [On] |
| | | | Standby Sync | | Off / On / [Auto] |
| | Audio Output | Amp | | | Off / [On] |
| | | HDMI OUT (TV) | | | [Off] / On |
| | Standby Through | | | | [Off] / On<br>* When HDMI Control is set to “On”, “Standby Through” is disabled. |
| Network Setup | IP Address | DHCP | | | [Off] / On |
| | | | IP Address | | xxx.xxx.xxx. x |
| | | | Subnet Mask | | xxx.xxx.xxx. x |
| | | | Default Gateway | | xxx.xxx.xxx. x |
| | | | DNS Server (P) | Primary | x. x. x. x |
| | | | DNS Server (S) | Secondary | x. x. x. x |
| | Network Standby | | | | [Off] / On |
| | MAC Address Filter | Filter | | | [Off] / On |
| | | | MAC Address | 1–5<br>6–10 | xx : xx : xx : xx : xx : xx |
| | Network Name | | | | Input is possible to 15 characters |
| Multi Zone Setup | Main Zone Set | Zone Rename | | | Input is possible to 9 characters |
| | Zone2 Set | Max. Volume | | | -30.0 to +16.5 dB (Maximum volume), [+16.5 dB], 5.0dB step |
| | | Initial Volume | | | [Off] / On |
| | | | Select “On” | | Mute, -80 to +16.5 dB, 0.5 dB step |
| | | Zone Rename | | | Input is possible to 9 characters |
| Function Setup | Display Set | Dimmer (Front Display) | | | -4 to 0 |
| | | Short Message | | | [On] / Off |
| | | Wall Paper | | | Picture1 / Picture2 / Picture3 / Gray |
| | Trigger Output | Trigger Mode | | | [Power] / Source / Manual |
| | | | Select “Source” | | HDMI1–5, AV1–6, V-AUX, AUDIO1–2, TUNER, AirPlay, SERVER, NET RADIO, USB<br>Low / [High] |
| | | Target Zone | | | Main / Zone2 / [All] |
| | Memory Guard | | | | [Off] / On |
| ECO Setup | Auto Power Down | | | | Off / 2 Hours / 4 Hours / 8 Hours / 12 Hours<br>U, C, R, T, K, A, L, S, H models: [Off]<br>B, G, F models: [8 Hours] |
| | ECO Mode | | | | [Off] / On |
| Language Setup | | | | | [English (English)] / 日本語 (Japanese) / Français (French) / Deutsch (German) / Español (Spanish) / Русский (Russian) / 中文 (Chinese) |

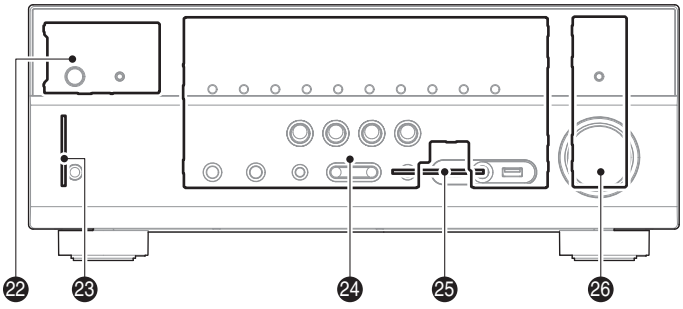
# ■ INTERNAL VIEW

**RX-V673/HTR-6065**

Top view



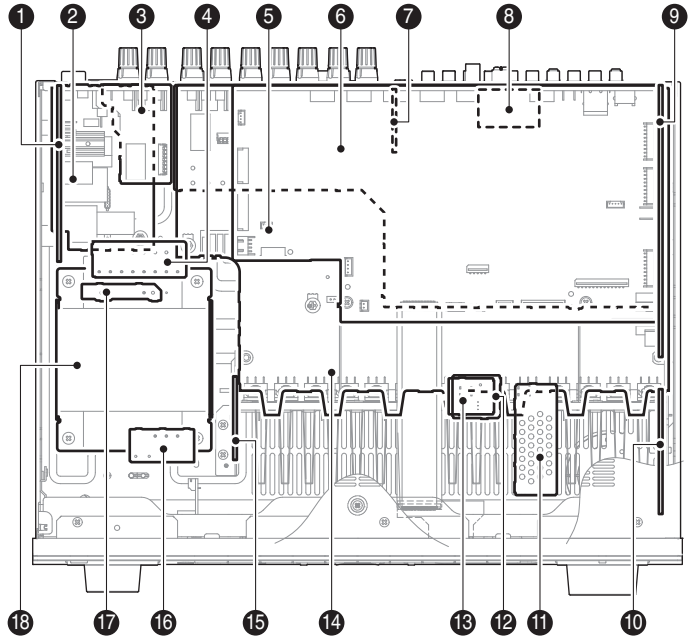

Front view



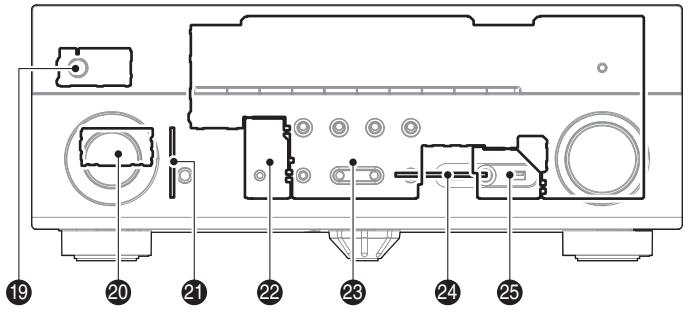

1. VIDEO (2) P.C.B.
2. VIDEO (3) P.C.B.
3. VIDEO (8) P.C.B. (R, S models)
4. OPERATION (8) P.C.B.
5. MAIN (2) P.C.B.
6. DIGITAL (1) P.C.B.
7. VIDEO (1) P.C.B.
8. VIDEO (4) P.C.B.
9. AM/FM TUNER
10. OPERATION (2) P.C.B.
11. OPERATION (12) P.C.B.
12. OPERATION (7) P.C.B.
13. OPERATION (11) P.C.B.
14. OPERATION (9) P.C.B. (U, C models)
15. OPERATION (10) P.C.B. (R, T, K, A, B, G, F, L, S, H models)
16. MAIN (1) P.C.B.
17. MAIN (6) P.C.B.
18. VIDEO (9) P.C.B. (R, S models)
19. VIDEO (7) P.C.B.
20. VIDEO (6) P.C.B. (U, C, T, K, A, B, G, F, L, H models)
21. POWER TRANSFORMER
22. OPERATION (4) P.C.B.
23. OPERATION (3) P.C.B.
24. OPERATION (1) P.C.B.
25. DIGITAL (2) P.C.B.
26. OPERATION (5) P.C.B.

**RX-A720**

Top view




Front view




❶ VIDEO (2) P.C.B.
❷ VIDEO (3) P.C.B.
❸ OPERATION (8) P.C.B.
❹ MAIN (2) P.C.B.
❺ DIGITAL (1) P.C.B.
❻ VIDEO (1) P.C.B.
❼ VIDEO (4) P.C.B.
❽ AM/FM TUNER
❾ OPERATION (2) P.C.B.
❿ OPERATION (7) P.C.B.
⓫ OPERATION (11) P.C.B.
⓬ OPERATION (9) P.C.B. (U, C models)
⓭ OPERATION (10) P.C.B. (A model)
⓮ MAIN (1) P.C.B.
⓯ MAIN (6) P.C.B.
⓰ VIDEO (7) P.C.B.
⓱ VIDEO (6) P.C.B.
⓲ POWER TRANSFORMER
⓳ OPERATION (5) P.C.B.
⓴ OPERATION (6) P.C.B.
㉑ OPERATION (3) P.C.B.
㉒ OPERATION (4) P.C.B.
㉓ OPERATION (1) P.C.B.
㉔ DIGITAL (2) P.C.B.
㉕ OPERATION (12) 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 the capacitors 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, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity.
  The time required for discharging is about 30 seconds per each.

  C1082–C1085 on MAIN P.C.B.

  C3706 on VIDEO (2) P.C.B.

  For details, refer to “PRINTED CIRCUIT BOARDS”.

# ■ DISASSEMBLY PROCEDURES

**RX-V673/HTR-6065**

(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) and 5 screws (②). (Fig. 1)
b. Lift the rear of the top cover to remove it. (Fig. 1)

### 2. Removal of Front Panel Unit

a. Remove 6 screws (③), and remove W4401 and W4421. (Fig. 1)
b. Remove CB8, CB82, CB458, CB472, CB947 and CB952. (Fig. 1)
c. Release 2 hooks, and remove the front panel unit. (Fig. 1)

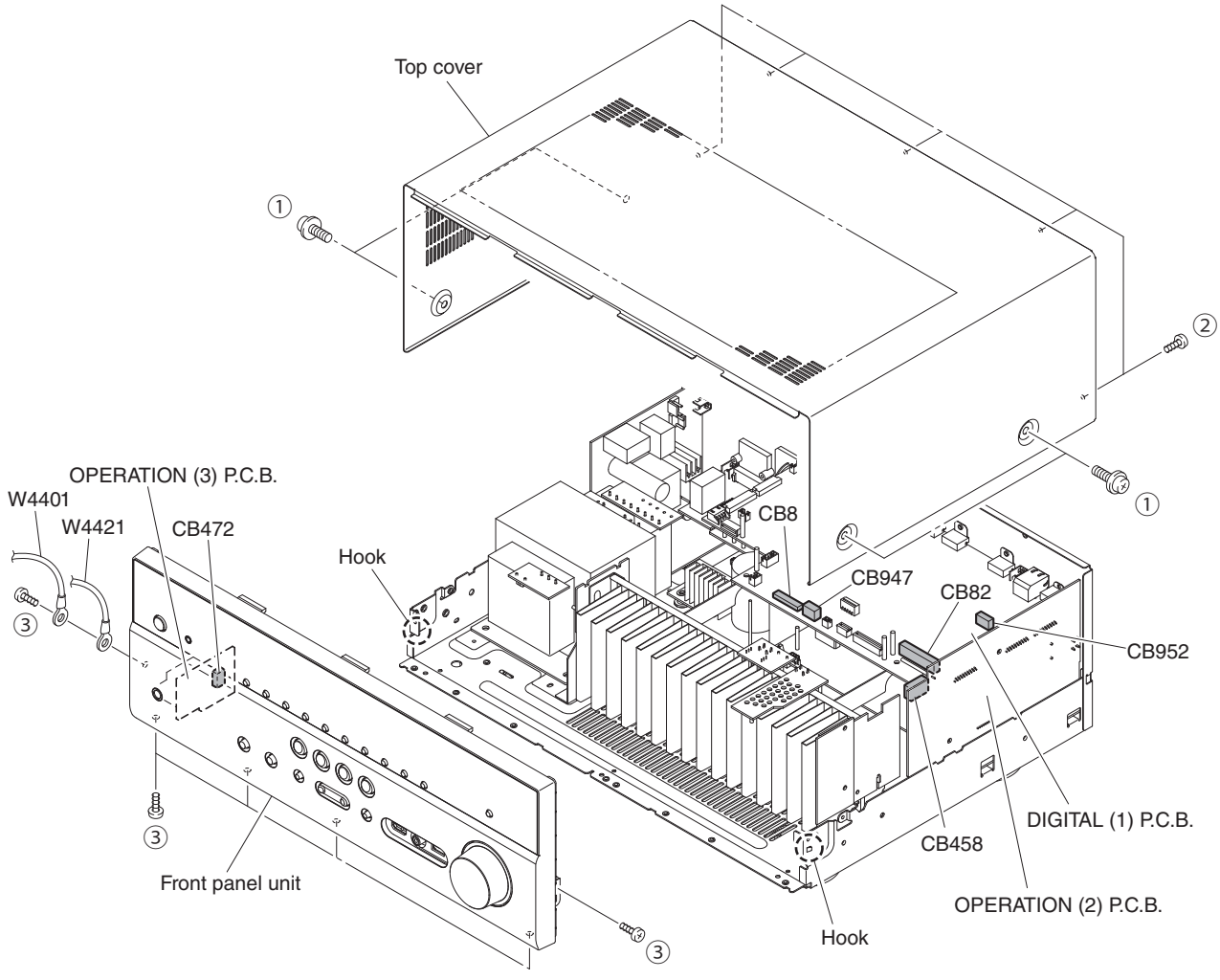



**Fig. 1**

### 3. Removal of DIGITAL (1) P.C.B.

a. Remove screw (④) and 7 screws (⑤). (Fig. 3)
b. Remove 3 screws. (⑥). (Fig. 2)
c. Remove CB21, CB76, CB81 and CB942. (Fig. 2)
d. Unlock and remove CB78, CB79 and CB944. (Fig. 2)
e. 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 and Power Transformer

a. Remove screw (⑦), 3 screws (⑧), 3 screws (⑨) and 4 screws (⑩). (Fig. 2)
b. Remove 3 screws (⑪). (Fig. 3)
c. Remove the AMP unit together with the power transformer. (Fig. 2)

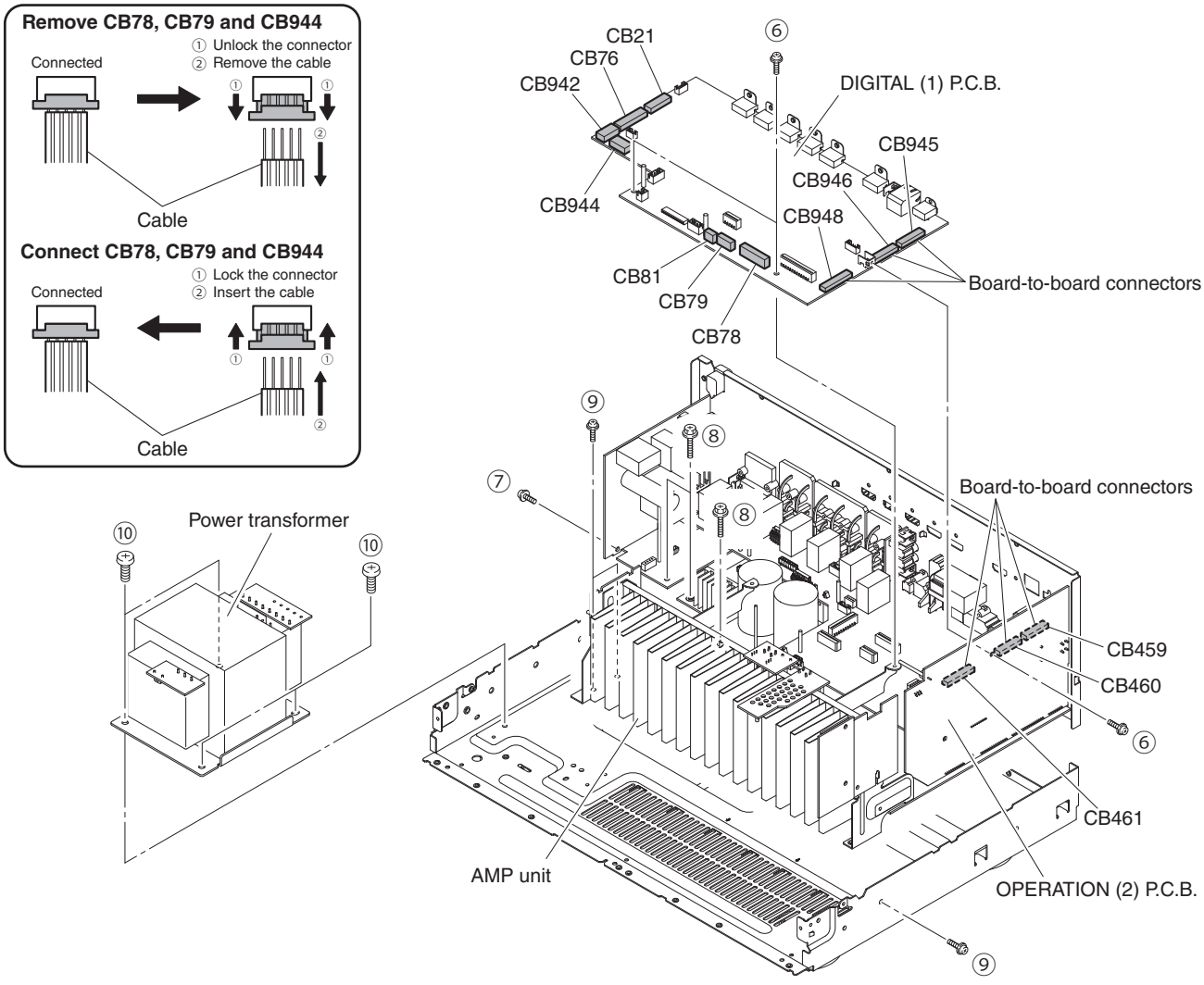



**Fig. 2**

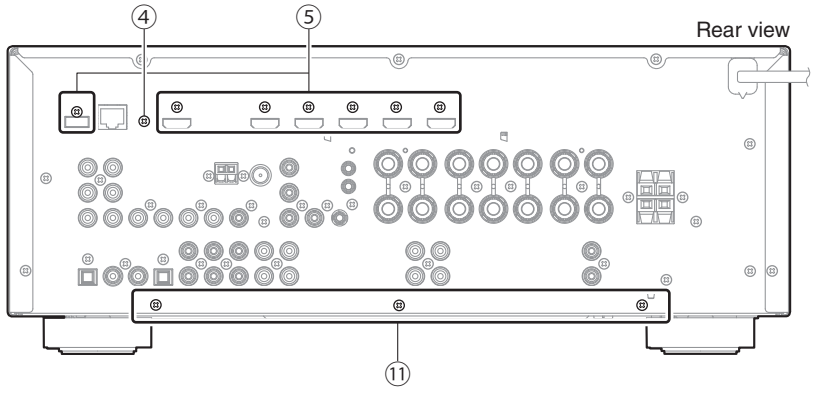



**Fig. 3**

**When checking the P.C.B.s:**

- Place the P.C.B.s (with rear panel) upright. (Fig. 4)
- Connect the heatsink and rear panel to the chassis with a ground lead. (Fig. 4)
- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flexible flat cable, be careful with polarity.

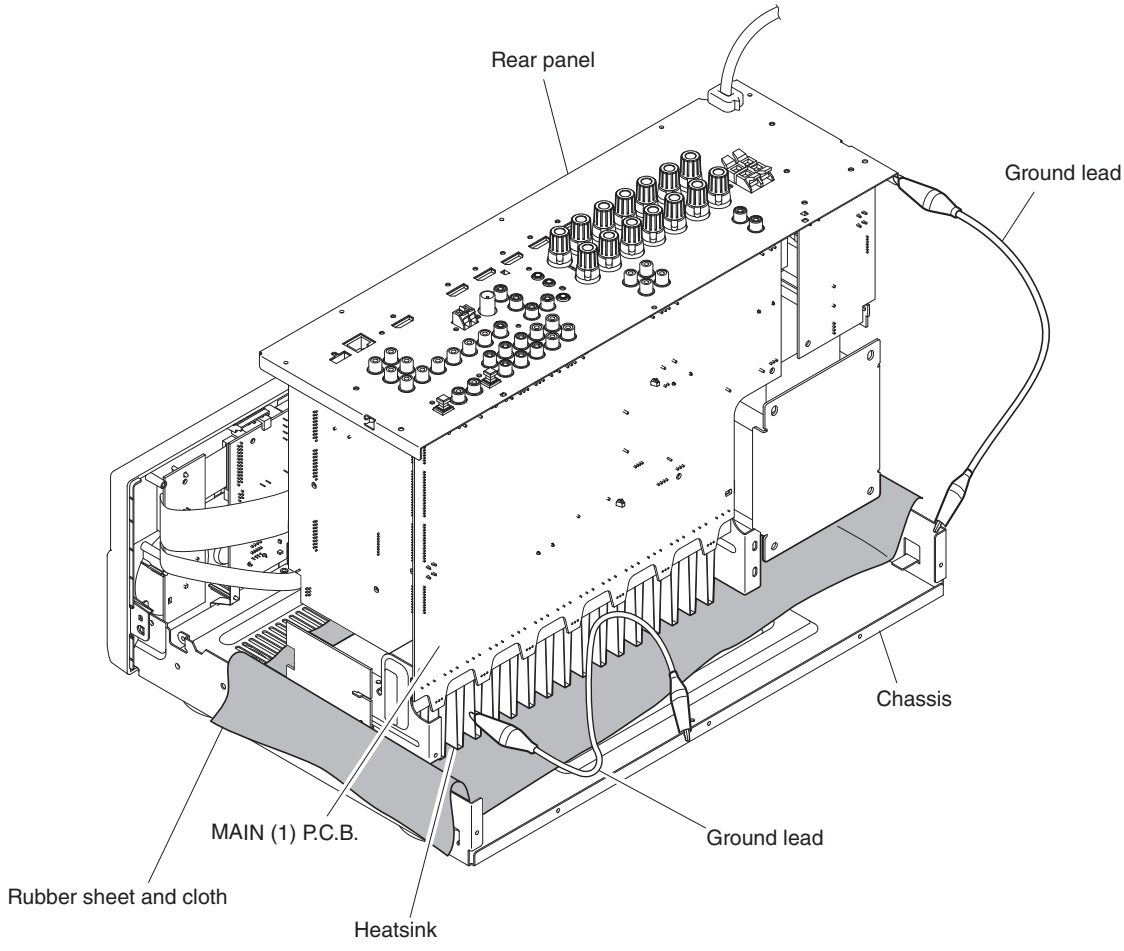



**Fig. 4**

**RX-A720**

(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. Lift the rear of the top cover to remove it. (Fig. 1)

### 2. Removal of Front Panel Unit and Sub-Chassis Unit

a. Remove knob (INPUT) and knob (VOLUME). (Fig. 1)
b. Remove 6 screws (④) and then remove the front panel unit. (Fig. 1)
c. Remove 2 push rivets and then remove the side plate (L) and side plate (R). (Fig. 1)
d. Remove CB8, CB82, CB458, CB471, CB947 and CB952. (Fig. 1)
e. Remove 2 screws (⑤) and then remove the sub-chassis unit. (Fig. 1)

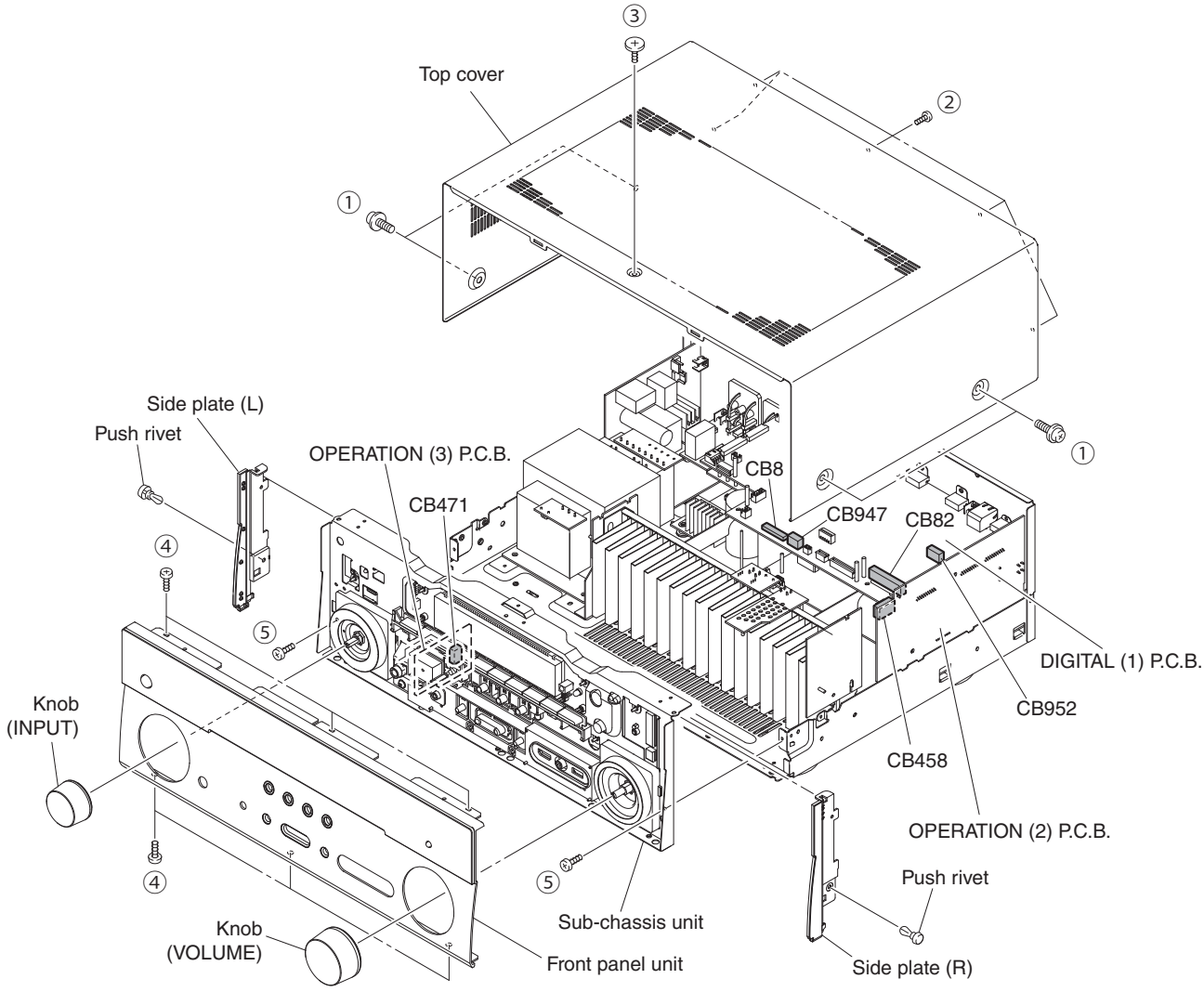



**Fig. 1**

### 3. Removal of DIGITAL (1) P.C.B.

a. Remove screw (⑥) and 7 screws (⑦). (Fig. 3)
b. Remove 3 screws. (⑧). (Fig. 2)
c. Remove CB21, CB76, CB81 and CB942. (Fig. 2)
d. Unlock and remove CB78, CB79 and CB944. (Fig. 2)
e. 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 and Power Transformer

a. Remove screw (⑨), 3 screws (⑩), 3 screws (⑪) and 4 screws (⑫). (Fig. 2)
b. Remove 3 screws (⑬). (Fig. 3)
c. Remove the AMP unit together with the power transformer. (Fig. 2)

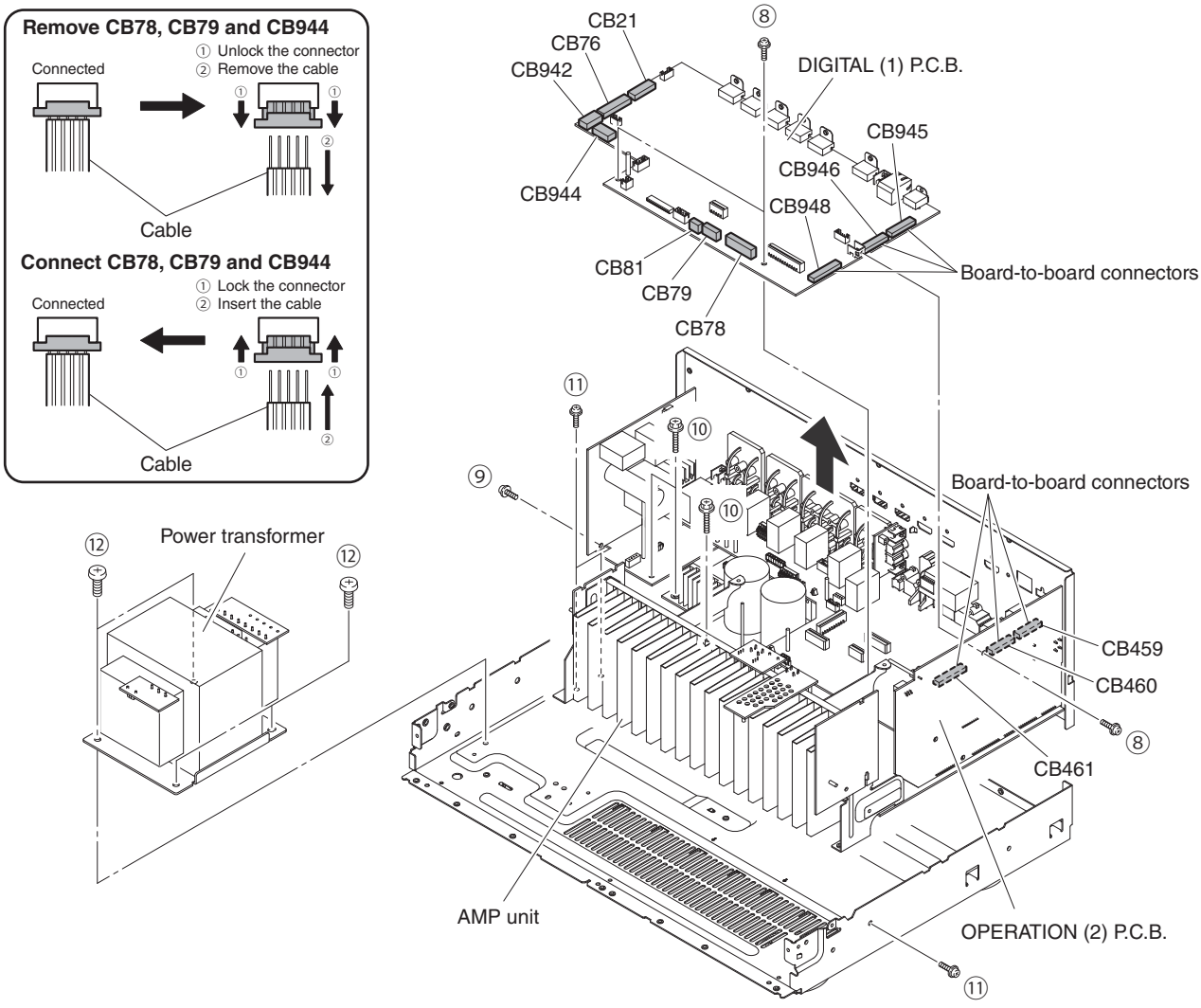



**Fig. 2**

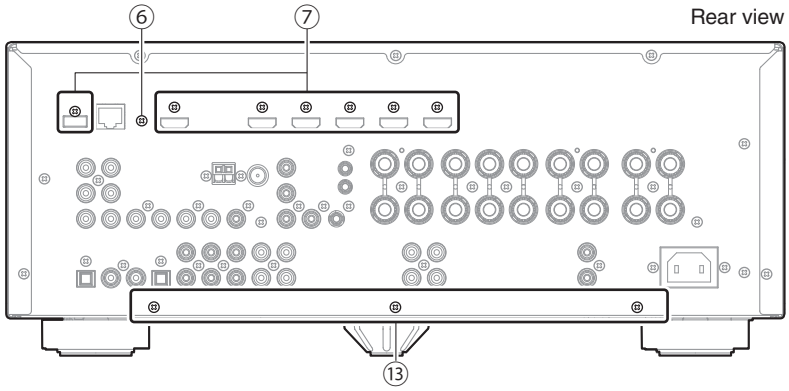



**Fig. 3**

**When checking the P.C.B.s:**

- Place the P.C.B.s (with rear panel) upright. (Fig. 4)
- Connect the heatsink and rear panel to the chassis with a ground lead. (Fig. 4)
- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flexible flat cable, be careful with polarity.

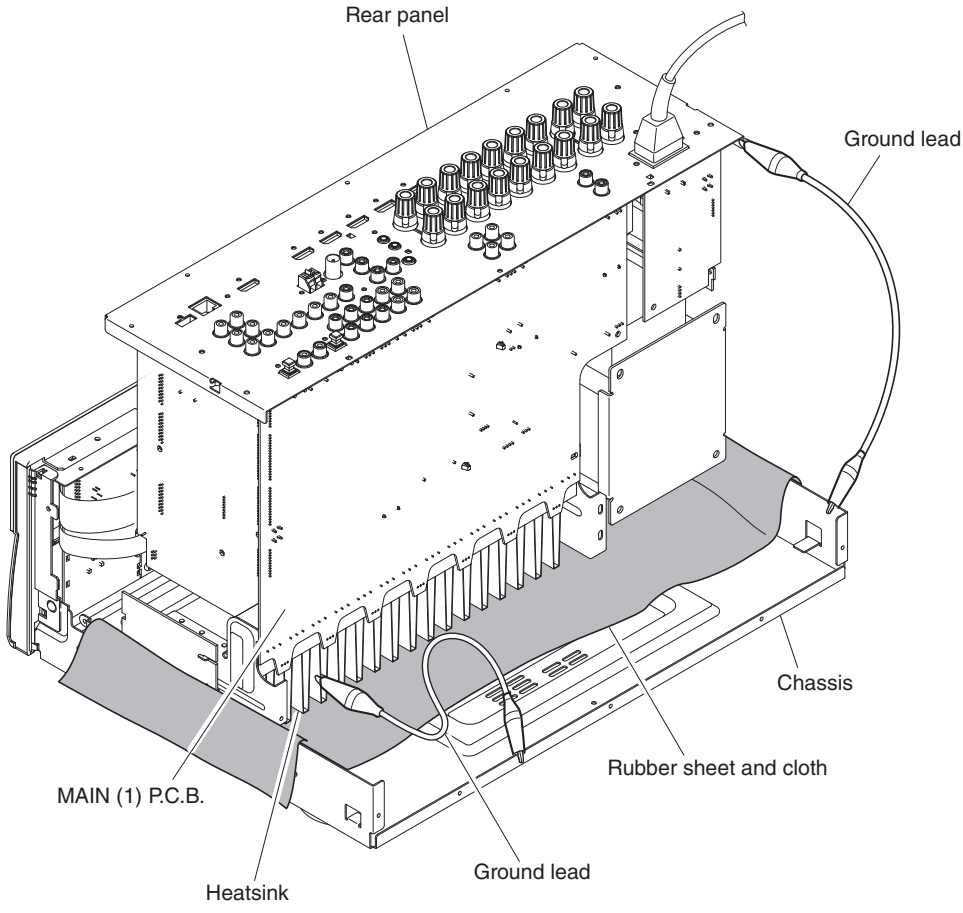



**Fig. 4**

# ■ UPDATING FIRMWARE

When the following parts are replaced, the firmware must be updated to the latest version.

DIGITAL P.C.B.

FPGA Flash ROM: IC77 on DIGITAL P.C.B.

DSP(TI) Flash ROM: IC923 on DIGITAL P.C.B.

NETWORK Flash ROM: IC953 on DIGITAL P.C.B.

## ● Confirmation of firmware version and checksum

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

Start up the self-diagnostic function and select “S4. ROM VERSION/CHECKSUM” menu.

Using the sub-menu, have the firmware version and checksum displayed, and note them down.
(See “SELF-DIAGNOSTIC FUNCTION”)

* When the firmware version is different from written one after updating, perform the updating procedure again from the beginning again.

## ● Initializing the back-up IC (EEPROM: IC82 on DIGITAL P.C.B.)

After updating the firmware, the back-up IC MUST be initialized by the following procedure to store the setting information (soundfield parameters, system memory and tuner presetting, etc.) properly.

Start up the self-diagnostic function and select “S3. FACTORY PRESET” menu. (See “SELF-DIAGNOSTIC FUNCTION”)

Select “PRESET RSRV”, press the “MAIN ZONE ⏻” key to turn off the power once and turn on the power again. Then the back-up IC is initialized.

## ● Required Tools

- USB storage device
- Firmware
  RX-V673/HTR-6065/RX-A720: R0309-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 latest 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 jack. (Fig. 1)
2. While pressing the “PURE DIRECT” key, connect the power cable to the AC outlet. (Fig. 1)

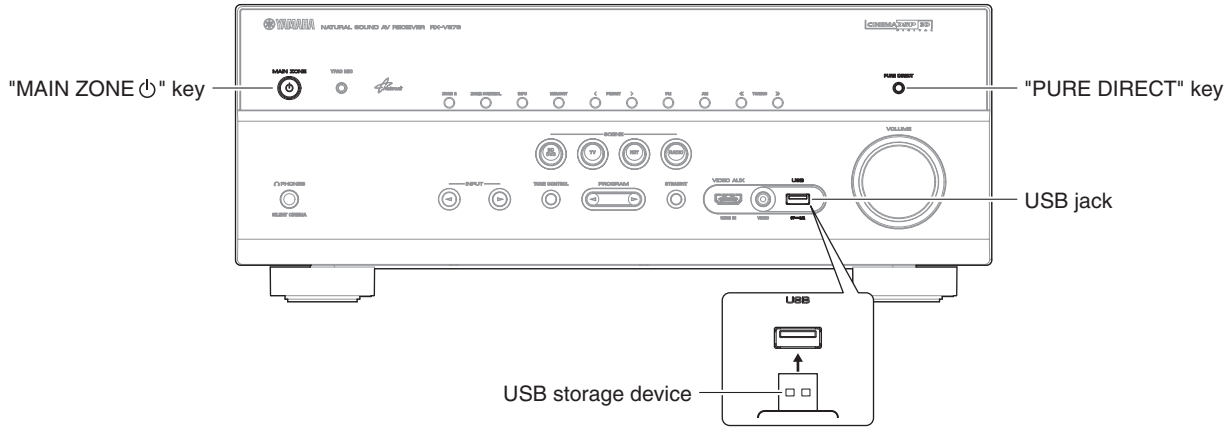



**Fig. 1**

3. The USB UPDATE mode is activated and “USB UPDATE” is displayed. Writing of the firmware starts automatically. (Fig. 2)

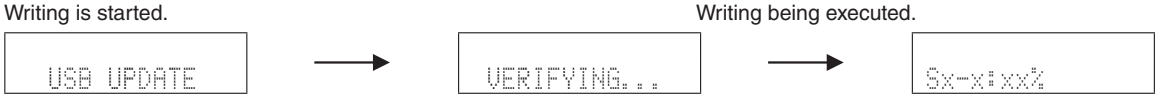



**Fig. 2**

4. When writing of the firmware is completed, “UPDATE SUCCESS”, “PLEASE...” and “POWER OFF!” are displayed repeatedly. (Fig. 3)

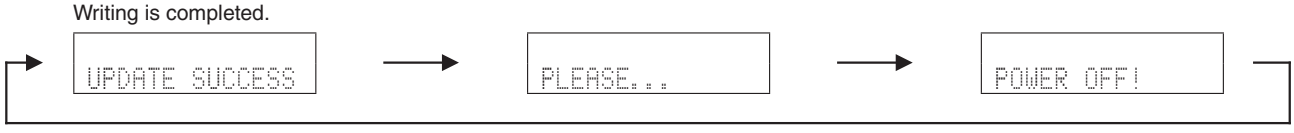



**Fig. 2**

5. Press the “MAIN ZONE ⏻” key to turn off the power. (Fig. 1)
6. Remove the USB storage device from the USB jack. (Fig. 1)
7. Start up the self-diagnostic function and check that the firmware version and checksum are the same as written ones. (See “Confirmation of firmware version and checksum”)

# ■ SELF-DIAGNOSTIC FUNCTION

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

There are 22 main menu items, each of which has sub-menu items.

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

**Note:** Some of the menu items listed below may not apply to the models covered in this service manual.

| No. | Main menu | No. | Sub-menu |
|---|---|---|---|
| **A:** Audio system | | | |
| A1 | DSP AUDIO | 1 | DSP MARGIN |
| | | 2 | DSP NON MARGIN |
| | | 3 | INVALID ITEM (Not for service) |
| | | 4 | DSP FULL CENTER |
| | | 5 | DSP FULL SURROUND |
| | | 6 | DSP FULL SURROUND BACK |
| | | 7 | DSP FULL SUBWOOFER |
| A2 | DIRECT AUDIO | 1 | ANALOG DIRECT VH |
| | | 2 | ANALOG DIRECT VL |
| A3 | HDMI AUDIO | 1 | HDMI AUTO |
| | | 2 | INVALID ITEM (Not for service) |
| | | 3 | ARC1 |
| | | 4 | INVALID ITEM (Not for service) |
| | | 5 | INVALID ITEM (Not for service) |
| A4 | SPEAKERS SET | 1 | BI-AMP |
| | | 2 | ZONE/TONE=MAX |
| | | 3 | ZONE/TONE=MIN |
| | | 4 | INVALID ITEM (Not for service) |
| | | 5 | INVALID ITEM (Not for service) |
| | | 6 | D-PARTY MODE |
| | | 7 | FULL MUTE |
| | | 8 | INVALID ITEM (Not for service) |
| | | 9 | INVALID ITEM (Not for service) |
| | | 10 | INVALID ITEM (Not for service) |
| A5 | MULTI CHANNEL INPUT (Not for service) | 1 | MULTI CHANNEL INPUT 8 ohms |
| | | 2 | MULTI CHANNEL INPUT 6 ohms |
| A6 | MIC CHECK | 1 | MIC ROUTE CHECK |
| A7 | MANUAL TEST | 1 | TEST ALL |
| | | 2 | TEST FRONT L |
| | | 3 | TEST CENTER |
| | | 4 | TEST FRONT R |
| | | 5 | TEST SURROUND R |
| | | 6 | TEST SURROUND BACK R |
| | | 7 | TEST SURROUND BACK L |
| | | 8 | TEST SURROUND L |
| | | 9 | TEST FRONT PRESENCE L |
| | | 10 | TEST FRONT PRESENCE R |
| | | 11 | INVALID ITEM (Not for service) |
| | | 12 | INVALID ITEM (Not for service) |
| | | 13 | TEST LFE 1 |
| | | 14 | INVALID ITEM (Not for service) |

| No. | Main menu | No. | Sub-menu | |
|---|---|---|---|---|
| **D:** Display system | | | | |
| D1 | FL CHECK | 1 | FL CHECK | |
| | | 2 | ALL SEGMENT OFF | |
| | | 3 | ALL SEGMENT ON | |
| | | 4 | CHECK PATTERN 1 | |
| | | 5 | CHECK PATTERN 2 | |
| **Z:** Zone system | | | | |
| Z1 | ZONE TEST | 1 | AV1 | (Not for service) |
| | | 2 | AV2 | (Not for service) |
| | | 3 | AV3 | (Not for service) |
| | | 4 | AV4 | (Not for service) |
| | | 5 | AV5 | |
| | | 6 | AV6 | |
| | | 7 | AUDIO1 | |
| | | 8 | AUDIO2 | |
| | | 9 | V-AUX | (Not for service) |
| | | 10 | PHONO | (Not for service) |
| **U:** Universal system | | | | |
| U1 | USB | 1 | USB FRONT 1 TRACK | |
| | | 2 | USB FRONT 2 TRACK | |
| | | 3 | USB_VBUS HIGH POWER | |
| **N:** Network system | | | | |
| N1 | NETWORK | 1 | IP ADDRESS CHECK | |
| | | 2 | MAC ADDRESS CHECK | |
| | | 3 | LINE NOISE 100 MDI | (Not for service) |
| | | 4 | LINE NOISE 100 MDIX | (Not for service) |
| | | 5 | LINE NOISE 10 MDI | (Not for service) |
| | | 6 | LINE NOISE 10 MDIX | (Not for service) |
| | | 7 | EXT TEST | |
| | | 8 | MAC ADDRESS | |
| **C:** Communication system | | | | |
| C1 | DIGITAL PCB CHECK | 1 | ALL | |
| | | 2 | BUS FLASH ROM | |
| | | 3 | BUS FPGA | |
| | | 4 | I2C | |
| | | 5 | FPGA RAM | |
| | | 6 | BUS DIR1 | |
| | | 7 | BUS DSP1 | |
| | | 8 | EEPROM | |
| | | 9 | INVALID ITEM | (Not for service) |
| | | 10 | INVALID ITEM | (Not for service) |
| | | 11 | INVALID ITEM | (Not for service) |
| C2 | NETWORK IC CHECK | 1 | ALL | |
| | | 2 | LINK CHECK | |
| | | 3 | PHY TEST | |
| | | 4 | BUS RAM | |
| | | 5 | APL ID CHECK | |

| No. | Main menu | No. | Sub-menu |
|---|---|---|---|
| **V:** Video system | | | |
| V1 | ANALOG VIDEO CHECK | 1 | ANALOG BYPASS |
| | | 2 | INVALID ITEM (Not for service) |
| | | 3 | INVALID ITEM (Not for service) |
| | | 4 | MUTE CHECK |
| | | 5 | TEST PATTERN (Not for service) |
| | | 6 | VIDEO IN |
| V2 | DIGITAL VIDEO CHECK | 1 | LOOPBACK TEST 1 |
| | | 2 | LOOPBACK TEST 2 |
| | | 3 | LOOPBACK TEST 3 |
| | | 4 | INVALID ITEM (Not for service) |
| | | 5 | INVALID ITEM (Not for service) |
| | | 6 | INVALID ITEM (Not for service) |
| | | 7 | HDMI REPEAT |
| | | 8 | DIGITAL CVBS |
| | | 9 | INVALID ITEM (Not for service) |
| | | 10 | DIGITAL COMPONENT |
| | | 11 | DIGITAL COMPONENT SC |
| | | 12 | GUI-VIDEO OUT |
| V3 | TEST PATTERN | 1 | 480i |
| | | 2 | 480p |
| | | 3 | 720p 60Hz |
| | | 4 | 1080i 60Hz |
| | | 5 | 1080p 60Hz |
| | | 6 | 576i |
| | | 7 | 576p |
| | | 8 | 720p 50Hz |
| | | 9 | 1080i 50Hz |
| | | 10 | 1080p 50Hz |
| | | 11 | 1080p 24Hz |
| | | 12 | 1080p 24Hz 3D/FP |
| | | 13 | 720p 60Hz 3D/FP |
| | | 14 | 720p 50Hz 3D/FP |
| | | 15 | 1080i 60Hz 3D/FP |
| | | 16 | 1080i 60Hz 3D/SS |
| | | 17 | 1080i 50Hz 3D/SS |
| | | 18 | 720p 60Hz 3D/TB |
| | | 19 | 720p 50Hz 3D/TB |
| | | 20 | 1080p 24Hz 3D/TB |
| | | 21 | 4k 24Hz |

| No. | Main menu | No. | Sub-menu |
|---|---|---|---|
| **P:** Power and protection system | | | |
| P1 | SYSTEM MONITOR | 1 | DC |
| | | 2 | PS1/PS2/PS3 |
| | | 3 | THM |
| | | 4 | INVALID ITEM (Not for service) |
| | | 5 | OUTPUT LEVEL |
| | | 6 | LIMITER CONTROL |
| | | 7 | L3 (J model) (Not for service) |
| | | 8 | KEY1/KEY2 |
| | | 9 | USB-VBUS (Not for service) |
| P2 | PROTECTION HISTORY | 1 | HISTORY 1 |
| | | 2 | HISTORY 2 |
| | | 3 | HISTORY 3 |
| | | 4 | HISTORY 4 |
| **S:** System and version system | | | |
| S1 | FIRMWARE UPDATE | 1 | FIRMWARE UPDATE (Not for service) |
| S2 | SET INFORMATION | 1 | MODEL |
| | | 2 | DESTINATION |
| | | 3 | DEBUG (Not for service) |
| | | 4 | NET RESTART COUNTER (Not for service) |
| S3 | FACTORY PRESET | 1 | PRESET INHIBIT/RESERVE |
| S4 | ROM VERSION/CHECKSUM | 1 | SYSTEM VERSION |
| | | 2 | MICROPROCESSOR VERSION |
| | | 3 | MICROPROCESSOR CHECKSUM |
| | | 4 | FLASH ROM VERSION |
| | | 5 | FLASH ROM CHECKSUM |
| | | 6 | NETWORK MICROPROCESSOR VERSION |
| | | 7 | NETWORK MICROPROCESSOR CHECKSUM |
| | | 8 | DSP1 VERSION |
| | | 9 | DSP1 CHECKSUM |
| | | 10 | INVALID ITEM (Not for service) |
| | | 11 | INVALID ITEM (Not for service) |
| | | 12 | GUI VERSION |
| | | 13 | FPGA GUI VERSION |
| | | 14 | FPGA SD VERSION |
| | | 15 | FPGA HD VERSION |
| | | 16 | INVALID ITEM (Not for service) |
| | | 17 | INVALID ITEM (Not for service) |

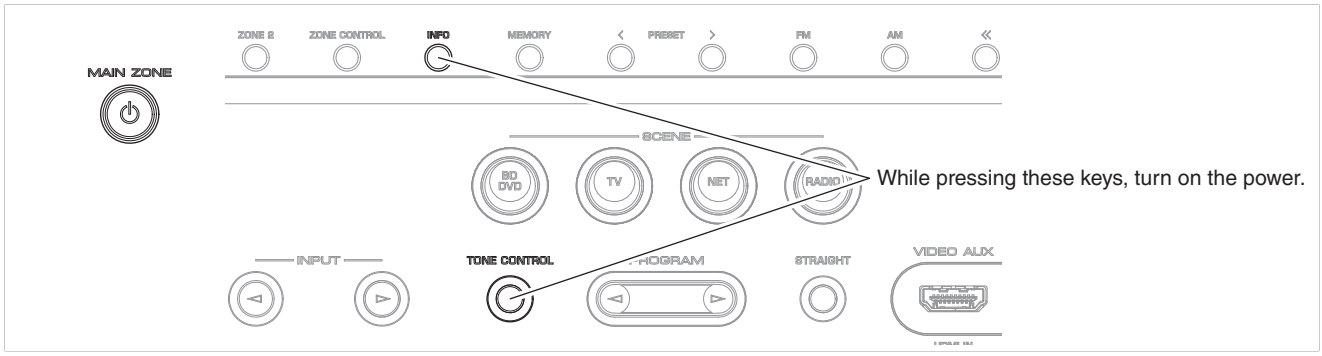
## ● Starting Self-Diagnostic Function

While pressing the “TONE CONTROL” and “INFO” keys, press the “MAIN ZONE ⏻” key to turn on the power, and release those 2 keys.

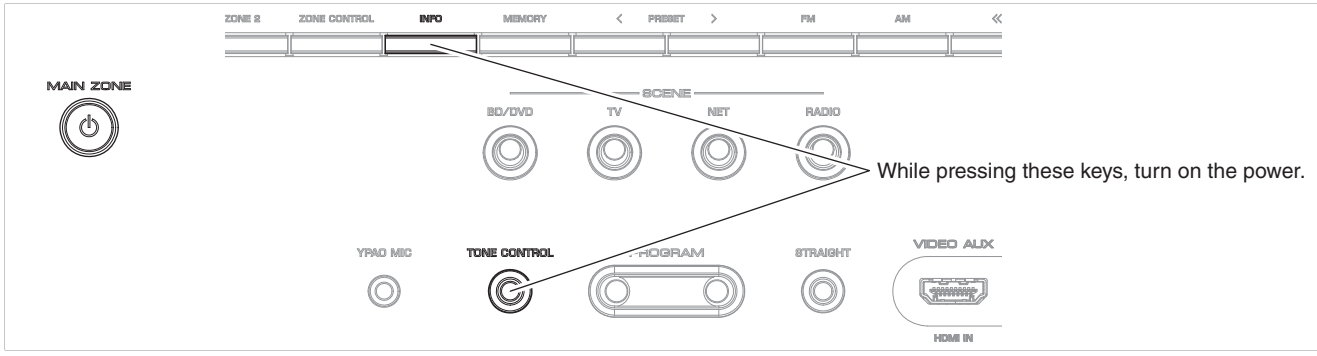
The self-diagnostic function mode is activated.

**Keys of this unit**

**RX-V673/HTR-6065**




**RX-A720**






## ● Starting Self-Diagnostic Function in the protection cancel mode

If the protection function works and causes hindrance to troubleshooting, cancel the protection function by the procedure 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 the “TONE CONTROL” and “INFO” keys, press the “MAIN ZONE ⏻” key to turn on the power and keep pressing those 2 keys and “MAIN ZONE ⏻” 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 flashes to indicate that the mode is self-diagnostic function mode with the protection functions disabled.

**CAUTION!**

Using this unit with the protection function disabled may cause further damage to this unit. Use special care for this point when using this mode.

## ● Canceling Self-Diagnostic Function

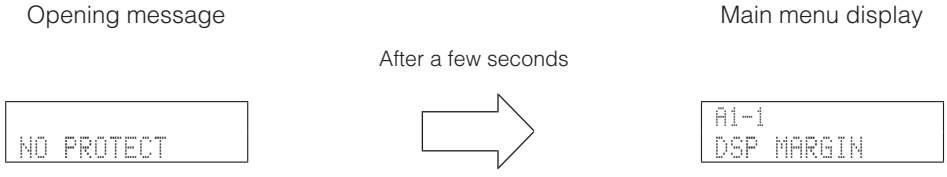
1. Before canceling self-diagnostic function, execute setting for “S3. FACTORY PRESET” menu. (Memory initialization inhibited or Memory initialized).
   * In order to keep the user memory preserved, be sure to select PRESET INHIBIT (Memory initialization inhibited).
2. Press the “MAIN ZONE ⏻” key to turn off the power.

## ● Display provided when Self-Diagnostic Function started

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

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

“NO PROTECT” is displayed. Then “A1-1. DSP MARGIN” is displayed in a few seconds.




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

The information of protection function which worked at that time is displayed. Then “A1-1. DSP MARGIN” is displayed in a few seconds.

Note: At that time if you restart the self-diagnostic function after turning off the power once, “NO PROTECT” will be displayed. That is because that situation is equal to “1. When the power is turned off by usual operation:”.

However history of the protection function is stored in memory as backup data. For details, refer to “P2. PROTECTION HISTORY” menu.

**2-1. When there is a history of protection function due to excess current.**



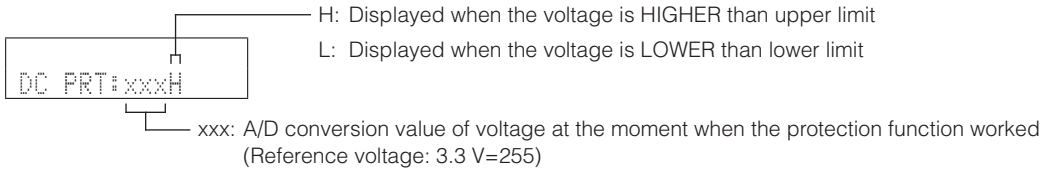

**Cause:** An excessive current flowed through the power amplifier.
**Supplementary information:** As over current of the power amplifier is detected, check condition of each power transistor.

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.

**Notes:**

- **Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if “I PROTECT” protection function works 1 time, the power will not turn on even when the “MAIN ZONE ⏻” key is pressed. In order to turn on the power again, start up the self-diagnostic function.**
- **The output transistors in each amplifier channel should be checked for damage before applying power to this unit.**
- **Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.**

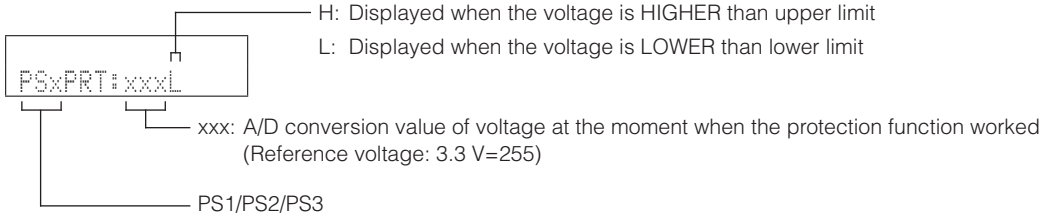
### 2-2. When the protection function worked due to abnormal DC output.




**Cause:** DC output of 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 5 seconds and the power supply will be shut off.

### 2-3. When the protection function worked due to abnormal voltage in the power supply section.



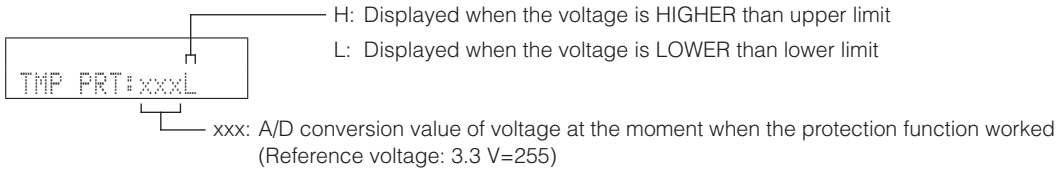

**Cause:** The voltage in the power supply section is abnormal.
**Supplementary information:** The protection function worked due to a defect or overload in the power supply.

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

**Notes:**

- **Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if "PS" and "DC" protection function works 3 times consecutively, the power will not turn on even when the "MAIN ZONE ⏻" key is pressed. In order to turn on the power again, start up the self-diagnostic function.**
- **The output transistors in each amplifier channel should be checked for damage before applying power to this unit.**
- **Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.**

**2-4. When the protection function worked due to excessive heatsink temperature.**




**Cause:** The temperature of 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 seconds and the power supply will be shut off.

● **History of protection function**

When the protection function has worked, its history is stored in memory as backup data.

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, refer to “P2. PROTECTION HISTORY” menu.

## ● Operation procedure of Main menu and Sub-menu

There are 22 main menu items, each of which has sub-menu items.

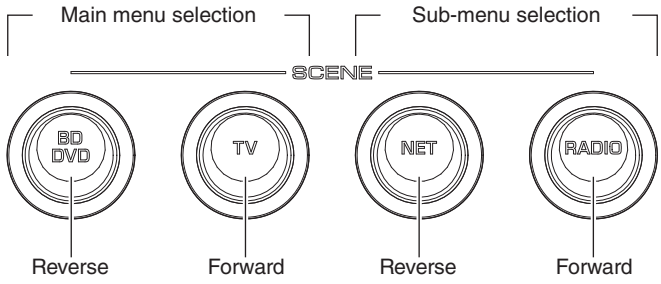
### Main menu selection

Select the main menu using “SCENE TV” (forward) and “SCENE BD/DVD” (reverse) keys.

### Sub-menu selection

Select the sub-menu using “SCENE RADIO” (forward) and “SCENE NET” (reverse) keys.

**Keys of this unit**




## ● Functions in Self-Diagnostic Function mode

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

- Power ON/OFF
- Master volume
- Muting
- Input selection
- Zone control

* Functions related to the tuner and the set menu are not available.



## ● Initial settings when Self-Diagnostic Function started

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

- Master volume: -20 dB / Zone volume: +2.5dB
- Input: HDMI1 / Zone input: AUDIO1
- Main menu: A1-1. DSP MARGIN
- Speaker setting: LARGE, Bass out to SWFR (All channels)
- HDMI Control: Off
- Zone 2: On

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

## ● Details of Self-Diagnostic Function menu

### A1. DSP AUDIO

This menu is used to check audio signal route via DSP.

#### A1-1. DSP MARGIN

The audio signal is output including the head margin via DSP.

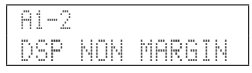
* When input source is stereo, signal is assigned as below.

| | |
|---|---|
| Front L: | Front L, Center, Surround L, Surround Back L |
| Front R: | Front R, Surround R, Surround Back R |
| Front L +10 dB: | Subwoofer |




#### A1-2. DSP NON MARGIN

The SUBWOOFER signal is output including the head margin via DSP.
The audio signal other than SUBWOOFER is output without including the head margin via DSP.




#### A1-3. INVALID ITEM

Not for service.




#### A1-4. DSP FULL CENTER

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




#### A1-5. DSP FULL SURROUND

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



#### A1-6. DSP FULL SURROUND BACK

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




#### A1-7. DSP FULL SUBWOOFER

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




### A2. DIRECT AUDIO

This menu is used to check audio signal route of PURE DIRECT mode.

#### A2-1. DIRECT VH

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

VH: Voltage High, RY101 on MAIN P.C.B.: Off




#### A2-2. DIRECT VL

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

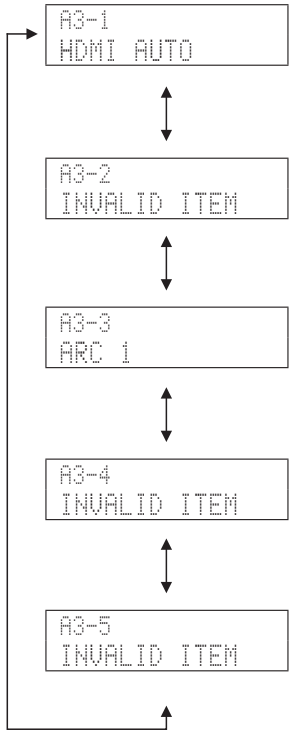
VL: Voltage Low, RY101 on MAIN P.C.B.: On



## A3. HDMI AUDIO

This menu is used to check the route of audio signal input to HDMI IN/OUT jack.

* Before check using “A3-3. ARC 1” menu, be sure to connect a TV monitor equipped with Audio Return Channel function to this unit in advance.




**A3-1. HDMI AUTO**

The audio signal input to selected HDMI IN jack is output.

**A3-2. INVALID ITEM**

Not for service.

**A3-3. ARC 1 (Audio Return Channel function)**

The audio signal input to HDMI OUT jack is output.

**A3-4. INVALID ITEM**

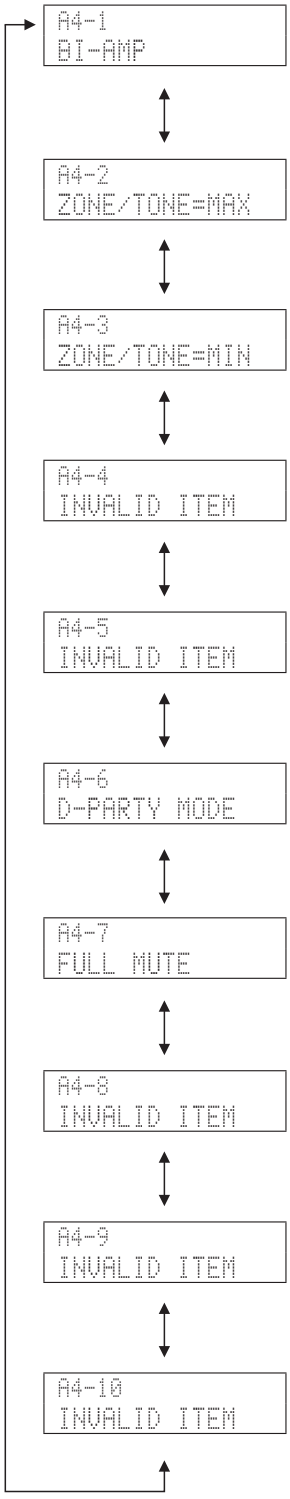
Not for service.

**A3-5. INVALID ITEM**

Not for service.

## A4. SPEAKERS SET

This menu is used to check the speaker output.




**A4-1. BI-AMP**

The FRONT L/R signal is distributed to SURROUND BACK L/R terminals.

**A4-2. ZONE/TONE=MAX**

The audio signal is output to FRONT L/R, CENTER and SURROUND L/R terminals with the tone control "BASS +6 dB", "TREBLE +6 dB".

**A4-3. ZONE/TONE=MIN**

The audio signal is output to FRONT L/R, CENTER and SURROUND L/R terminals with the tone control "BASS -6 dB", "TREBLE -6 dB".

**A4-4. INVALID ITEM**

Not for service.

**A4-5. INVALID ITEM**

Not for service.

**A4-6. D-PARTY MODE**

The FRONT L/R signal is distributed to ZONE2 L/R terminals.

ZONE2 volume: -3.5 dB

**A4-7. FULL MUTE**

The audio signals are muted at all channels.

**A4-8. INVALID ITEM**

Not for service.

**A4-9. INVALID ITEM**

Not for service.

**A4-10. INVALID ITEM**

Not for service.

## A5. MULTI CHANNEL INPUT

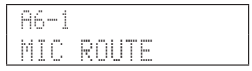
Not for service.




## A6. MIC CHECK

### A6-1. MIC ROUTE CHECK

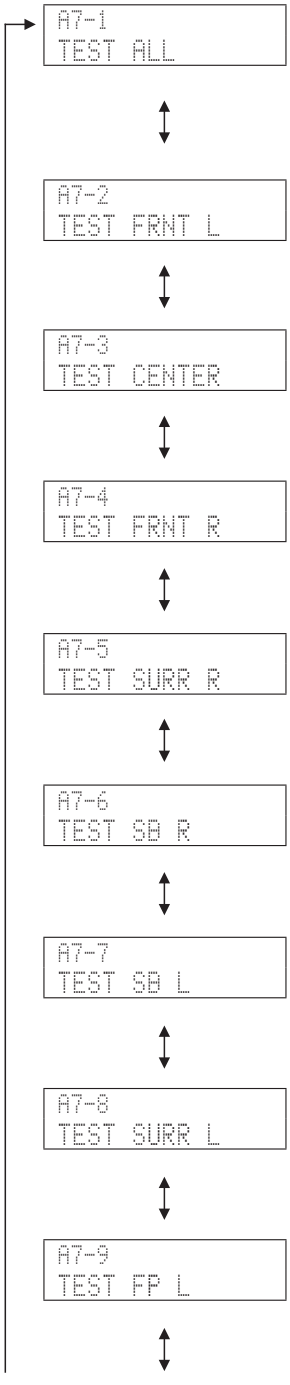
The audio signal input to the YPAO MIC jack is output to FRONT L and FRONT R channels via A/D-D/A.



## A7. MANUAL TEST

The test noise generated by built-in noise generator in DSP is output to the channels specified by the sub-menu.

| | Test noise | Test tone |
|---|---|---|
| for SUBWOOFER | 30 Hz to 80 Hz<br>pink noise | 50 Hz<br>sine wave |
| for other than SUBWOOFER | 500 Hz to 2 kHz<br>pink noise | 1 kHz<br>sine wave |




**A7-1. TEST ALL**

The test noise is output to FRONT L/R, CENTER, SURROUND L/R, SURROUND BACK L/R and LFE 1 channels.

**A7-2. TEST FRONT L**

The test tone is output to FRONT L channel.

**A7-3. TEST CENTER**

The test tone is output to CENTER channel.

**A7-4. TEST FRONT R**

The test tone is output to FRONT R channel.

**A7-5. TEST SURROUND R**

The test tone is output to SURROUND R channel.

**A7-6. TEST SURROUND BACK R**

The test tone is output to SURROUND BACK R channel.

**A7-7. TEST SURROUND BACK L**

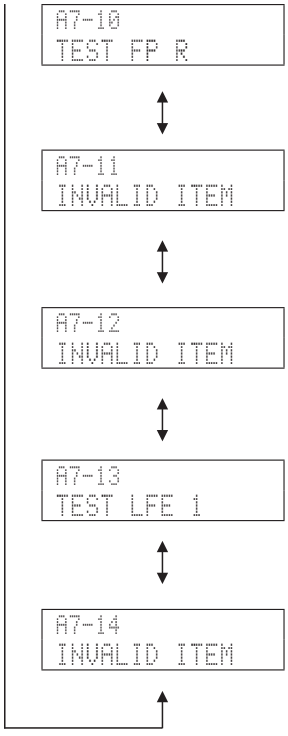
The test tone is output to SURROUND BACK L channel.

**A7-8. TEST SURROUND L**

The test tone is output to SURROUND L channel.

**A7-9. TEST FRONT PRESENCE L**

The test tone is output to FRONT PRESENCE L channel.




**A7-10. TEST FRONT PRESENCE R**

The test tone is output to FRONT PRESENCE R channel.

**A7-11. INVALID ITEM**

Not for service.

**A7-12. INVALID ITEM**

Not for service.

**A7-13. TEST LFE 1 (SUBWOOFER)**

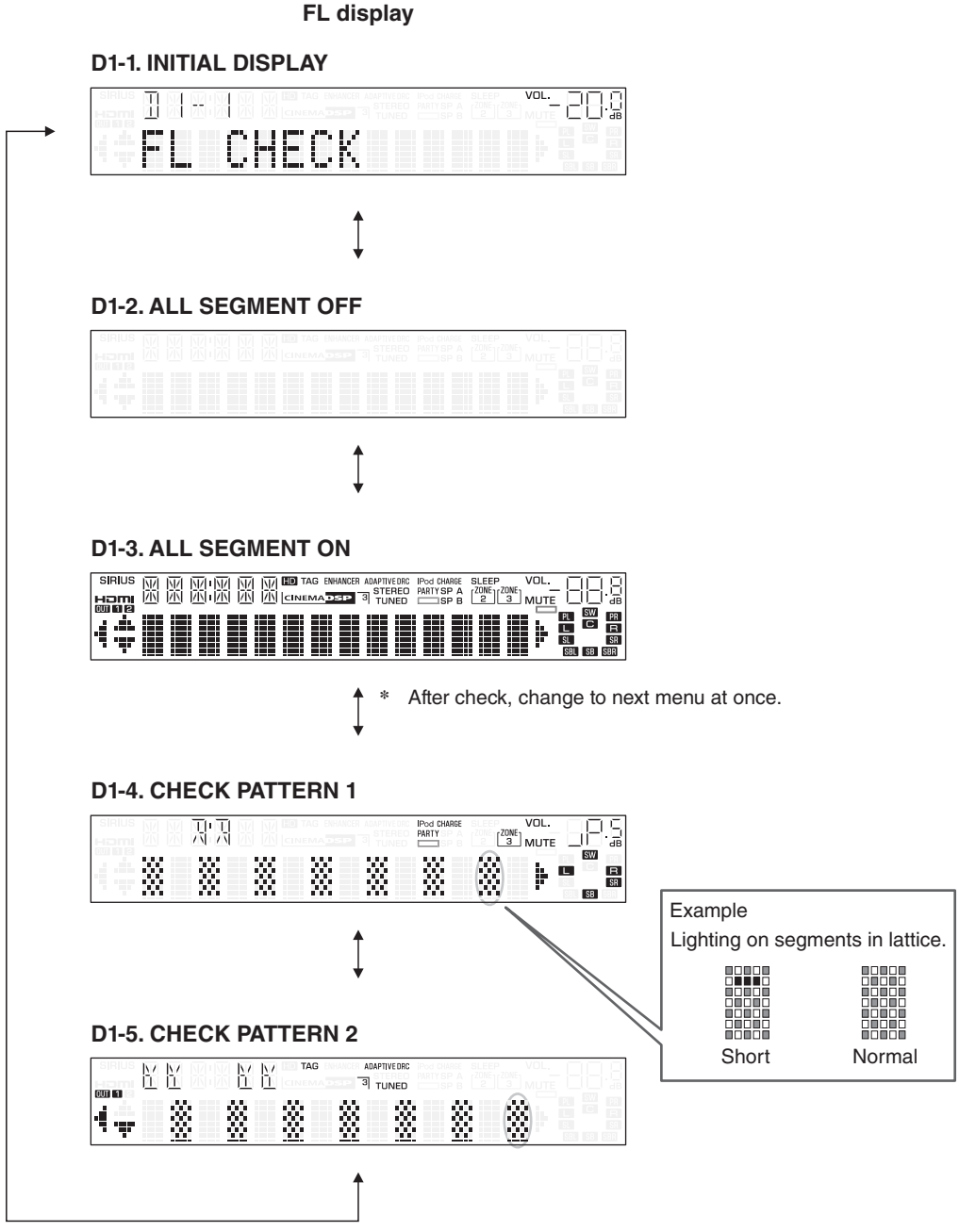
The test tone is output to LFE 1 channel.

**A7-14. INVALID ITEM**

Not for service.

## D1. FL CHECK

This menu is used to check operation of the FL display.



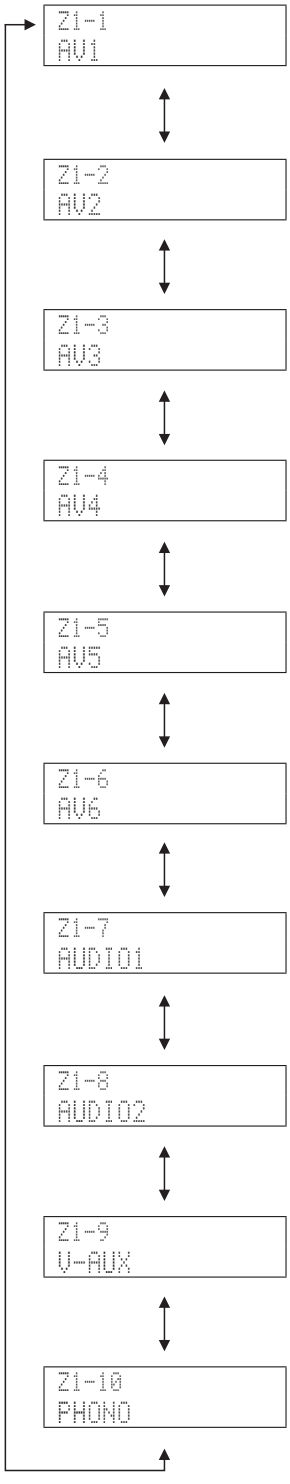

Segment conditions of the FL tube is checked by turning ON and OFF all segments.

Next, 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.)

## Z1. ZONE TEST

This menu is used to check audio signal route to ZONE2 OUT jack.




**Z1-1. AV1**
Not for service.

**Z1-2. AV2**
Not for service.

**Z1-3. AV3**
Not for service.

**Z1-4. AV4**
Not for service.

**Z1-5. AV5**
The audio signal input to AV5 jack is output to ZONE 2 OUT jack.

**Z1-6. AV6**
The audio signal input to AV6 jack is output to ZONE 2 OUT jack.

**Z1-7. AUDIO1**
The audio signal input to AUDIO1 jack is output to ZONE 2 OUT jack.

**Z1-8. AUDIO2**
The audio signal input to AUDIO2 jack is output to ZONE 2 OUT jack.

**Z1-9. V-AUX**
Not for service.

**Z1-10. PHONO**
Not for service.

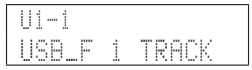
## U1. USB

This menu is used to check the audio signal route from USB storage device.

### U1-1. USB FRONT 1 TRACK

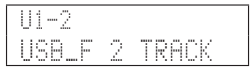
The 1st music file stored in the USB storage device connected to the USB jack is reproduced.

* Copy 2 or more music files from PC to the root folder of the USB storage device in advance.



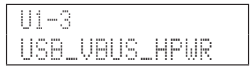

### U1-2. USB FRONT 2 TRACK

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




### U1-3. USB_VBUS HIGH POWER

The output current (USB_VBUS) of USB jack is output at up to 2.1A/5V.




## N1. NETWORK

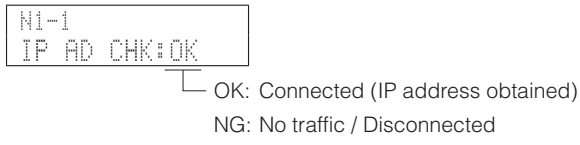
This menu is used to check functions related to NETWORK.

Connect between LAN port of broadband router and NETWORK jack of this unit with a network cable.

* 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.

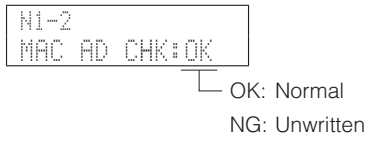
### N1-1. IP ADDRESS CHECK

This menu is used to check that IP address can be obtained.




### N1-2. MAC ADDRESS CHECK

This menu is used to check that MAC address is written.



### N1-3. LINE NOISE 100 MDI

Not for service.

```
N1-3
LN MDI 100
```

### N1-4. LINE NOISE 100 MDIX

Not for service.

```
N1-4
LN MDIX 100
```

### N1-5. LINE NOISE 10 MDI

Not for service.

```
N1-5
LN MDI 10
```

### N1-6. LINE NOISE 10 MDIX

Not for service.

```
N1-6
LN MDIX 10
```

### N1-7. EXT TEST

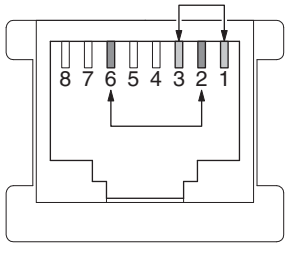
Transmission/reception of the NETWORK jack is checked.

With the power turned off, short the pins of the NETWORK jack as shown in the figure below.

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

Transmission/reception test is executed and its result is displayed.

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




**NETWORK jack**

```
N1-7
EXT TEST:OK
```

OK: Normal
NG: Abnormal
--: Checking

### N1-8. MAC ADDRESS

Written MAC address is displayed.

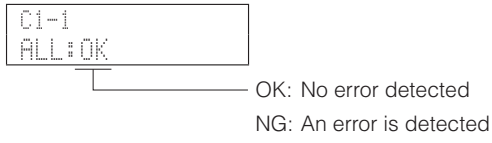
```
N1-8
00A0DExxxxxx
```

## C1. DIGITAL P.C.B. CHECK

This menu is used to check the communication and bus line connection between devices on DIGITAL P.C.B.

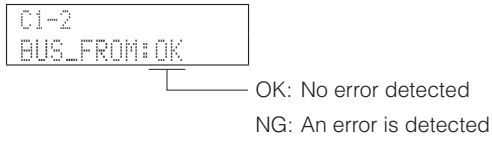
### C1-1. ALL

The synthetic judgment result of sub-menu C1-2 to C1-8 is displayed.



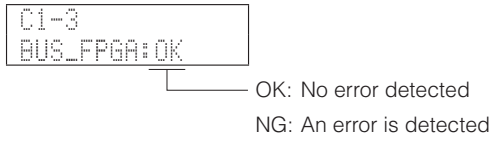

### C1-2. BUS FLASH ROM

FLASH ROM (IC77)'s reading/writing are checked.



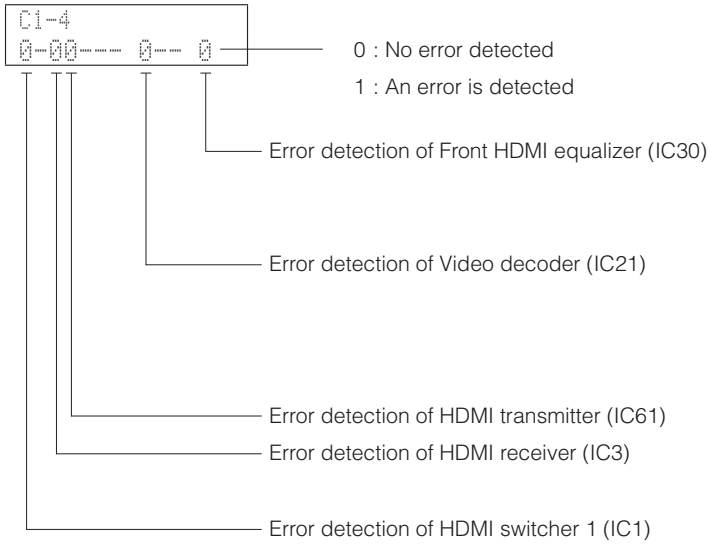

### C1-3. BUS FPGA

Communication and bus line connection between microprocessor (IC83) and FPGA (IC50) are checked.



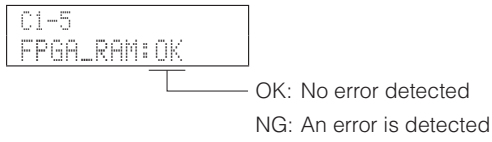

### C1-4. I2C

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



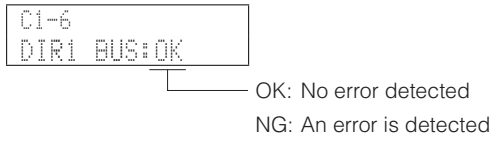
### C1-5. FPGA RAM

SDRAM (IC53)'s reading/writing are checked.



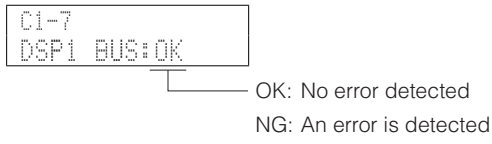

### C1-6. BUS DIR1

Communication and bus line  connection between microprocessor (IC83) and DIR1 (IC924) are checked.



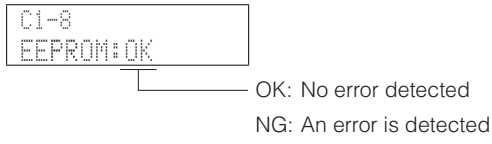

### C1-7. BUS DSP1

Communication and bus line connection between microprocessor (IC83) and DSP1 (IC921) are checked.




### C1-8. EEPROM

EEPROM (IC82)'s reading is checked.



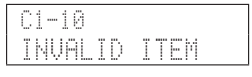

### C1-9. INVALID ITEM

Not for service.



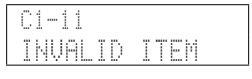

### C1-10. INVALID ITEM

Not for service.




### C1-11. INVALID ITEM

Not for service.

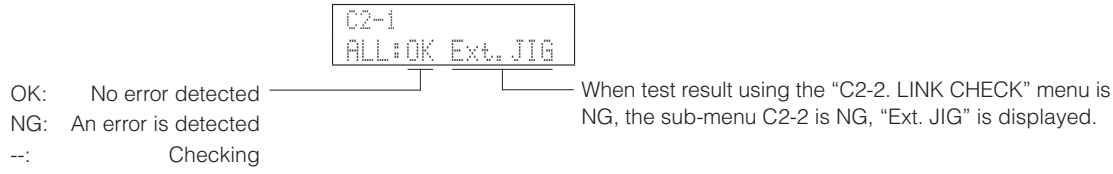


## C2. NETWORK IC CHECK

This menu is used to check the communication and bus line connection between devices related to network.

### C2-1. ALL

The synthetic judgment result of sub-menu C2-2 to C2-5 is displayed.

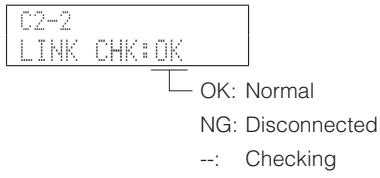



### C2-2. LINK CHECK

LAN cable connection is checked.

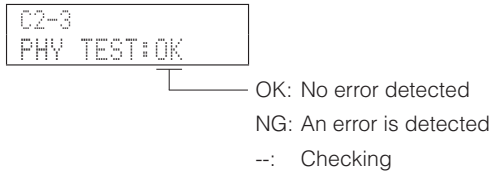
Connect between NETWORK jack of this unit and LAN port of broadband router with a network cable.

* 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.



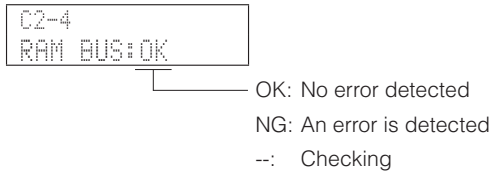

### C2-3. PHY (Ethernet PHYceiver) TEST

Communication and bus line connection between PHY (IC955) and NETWORK microprocessor (IC951) are checked.




### C2-4. BUS RAM

Communication and bus line connection between SDRAM (IC952) and NETWORK microprocessor (IC951) are checked.



### C2-5. APL (Apple) ID CHECK

Apple authentication IC (IC956) device ID is checked.

```
C2-5
APL ID:OK
```

OK: No error detected
NG: An error is detected
--: Checking

## V1. ANALOG VIDEO CHECK

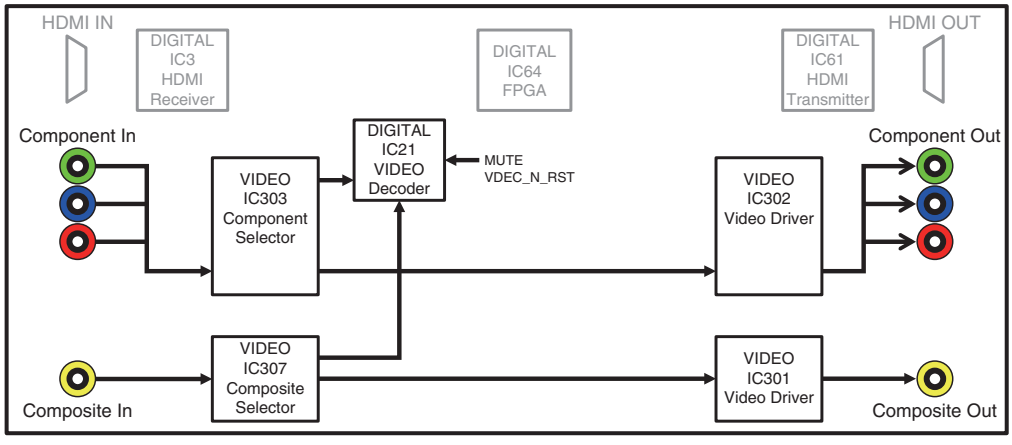
This menu is used to check the analog video signal route.

### V1-1. ANALOG BYPASS

The video signal is converted and output as shown below.

```
V1-1
ANALOG BYPASS
```

ANALOG BYPASS




### V1-2. INVALID ITEM

Not for service.

```
V1-2
INVALID ITEM
```

### V1-3. INVALID ITEM

Not for service.

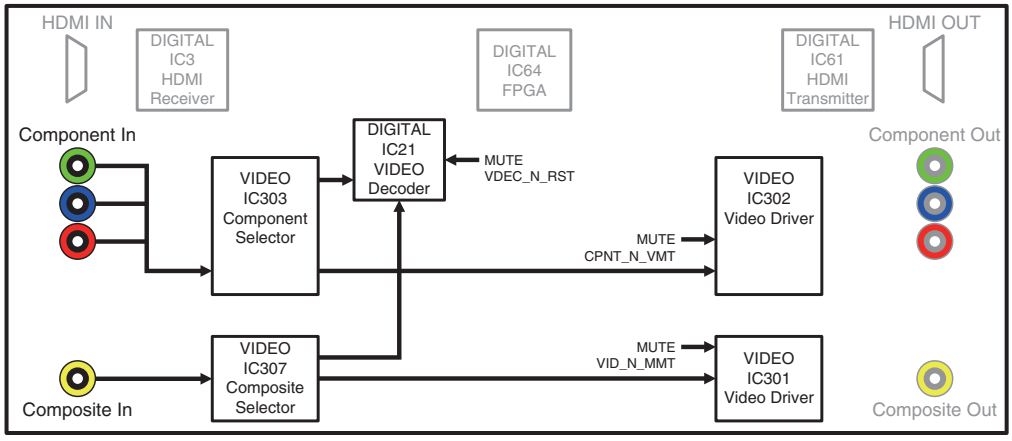
```
V1-3
INVALID ITEM
```

### V1-4. MUTE CHECK

The video signal is muted.

```
V1-4
MUTE CHECK
```

MUTE CHECK




### V1-5. TEST PATTERN

Not for service.

```
V1-5
TEST PATTERN
```

### V1-6. VIDEO INFORMATION

The information of input analog video signals is displayed.

```
V1-6
VID IN:480i60
```

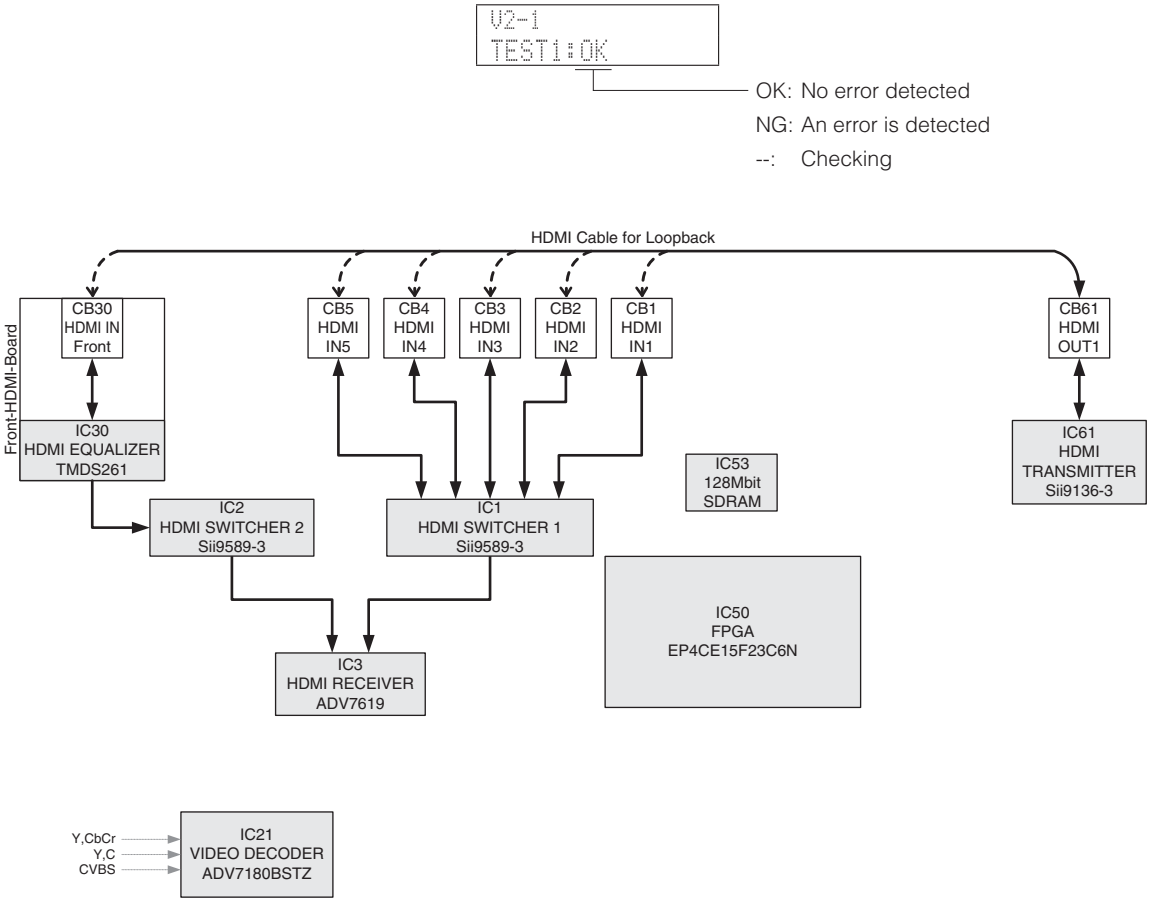
## V2. DIGITAL VIDEO CHECK

This menu is used to check the digital video signal route.

### V2-1. LOOPBACK TEST 1

Execute the test for all HDMI IN jacks by repeating the procedure below.

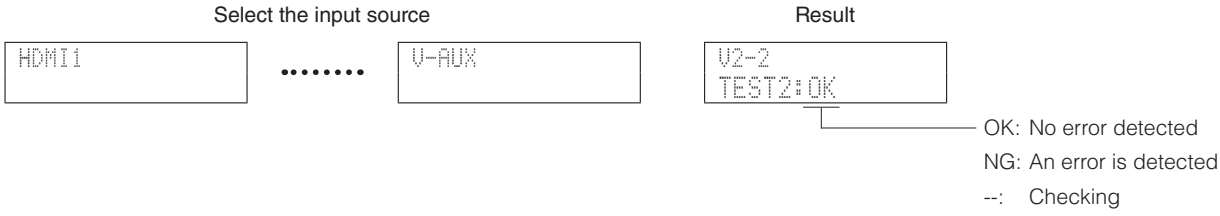
1. Select sub-menu other than V2-1.
2. Connect between any of the HDMI IN jacks and HDMI OUT jack with an HDMI cable.
3. Select V2-1. The test result is displayed in a few seconds.

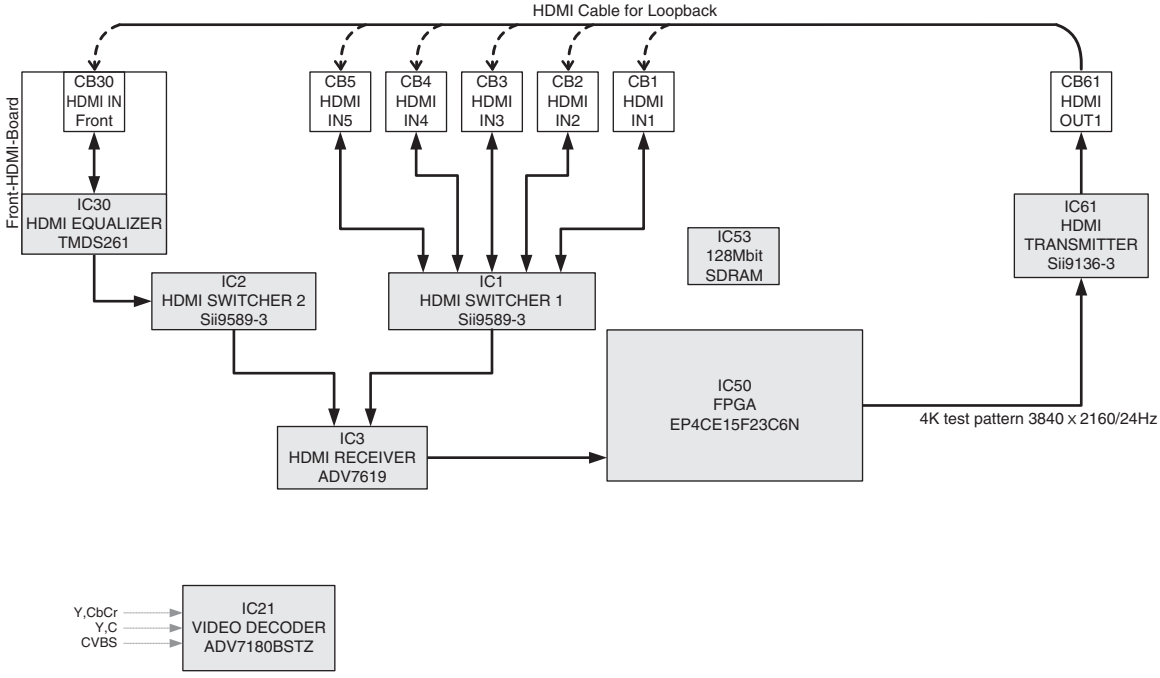


### V2-2. LOOPBACK TEST 2

Execute the test for all HDMI IN jacks by repeating the procedure below.

1. Select sub-menu other than V2-2.
2. Connect between any of the HDMI IN jacks and HDMI OUT jack with an HDMI cable.
3. Select the input source corresponding to the connected HDMI IN jack by using "INPUT ◁" and "INPUT ▷" keys (RX-V673/HTR-6065) / "INPUT" knob (RX-A720).
4. Select V2-2. The test result is displayed in a few seconds.

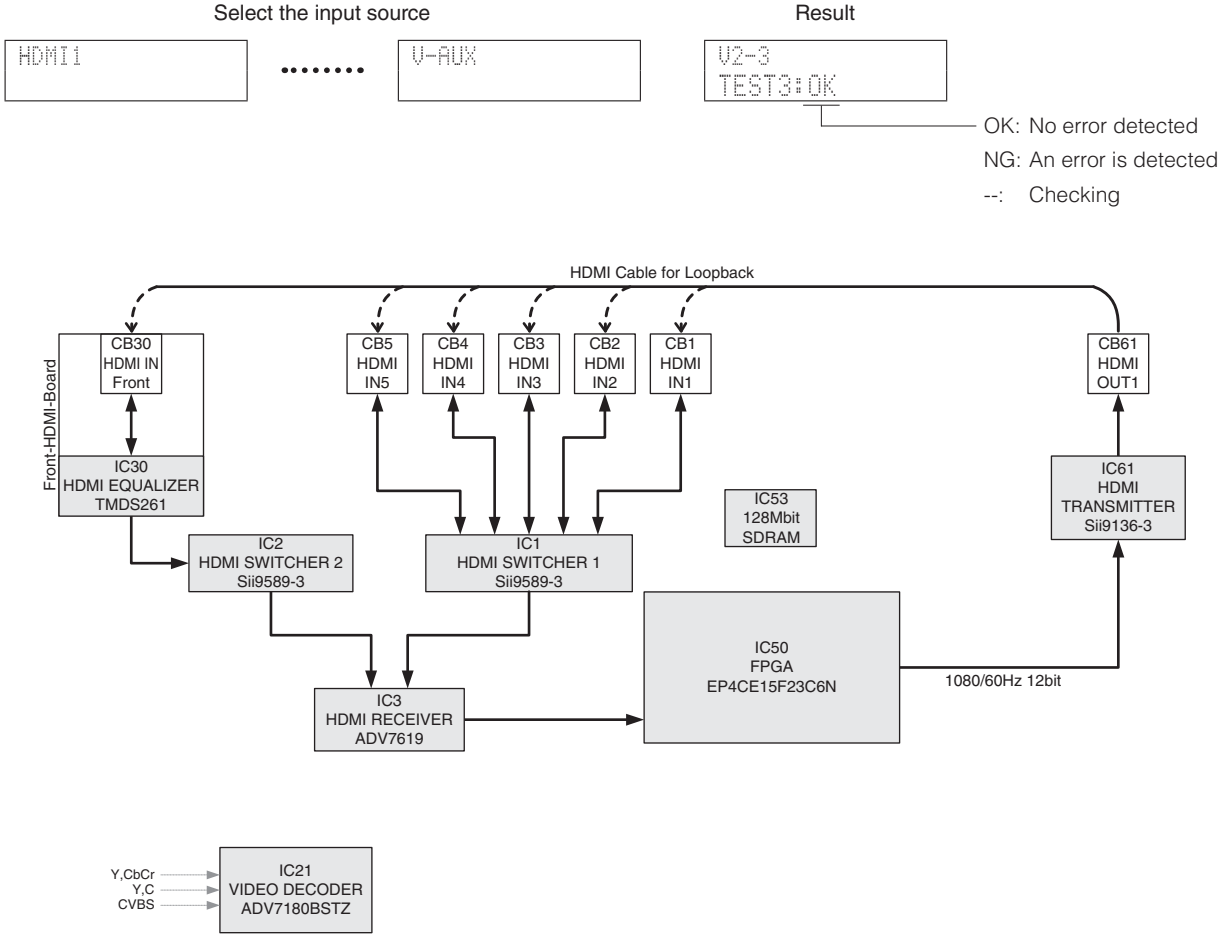


### V2-3. LOOPBACK TEST 3

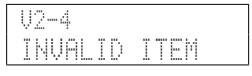
Execute the test for all HDMI IN jacks by repeating the procedure below.

1. Select sub-menu other than V2-3.
2. Connect between any of the HDMI IN jacks and HDMI OUT jack with an HDMI cable.
3. Select the input source corresponding to the connected HDMI IN jack by using "INPUT ◁" and "INPUT ▷" keys (RX-V673/HTR-6065) / "INPUT" knob (RX-A720).
4. Select V2-3. The test result is displayed in a few seconds.



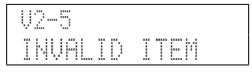

### V2-4. INVALID ITEM

Not for service.



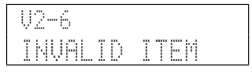

### V2-5. INVALID ITEM

Not for service.



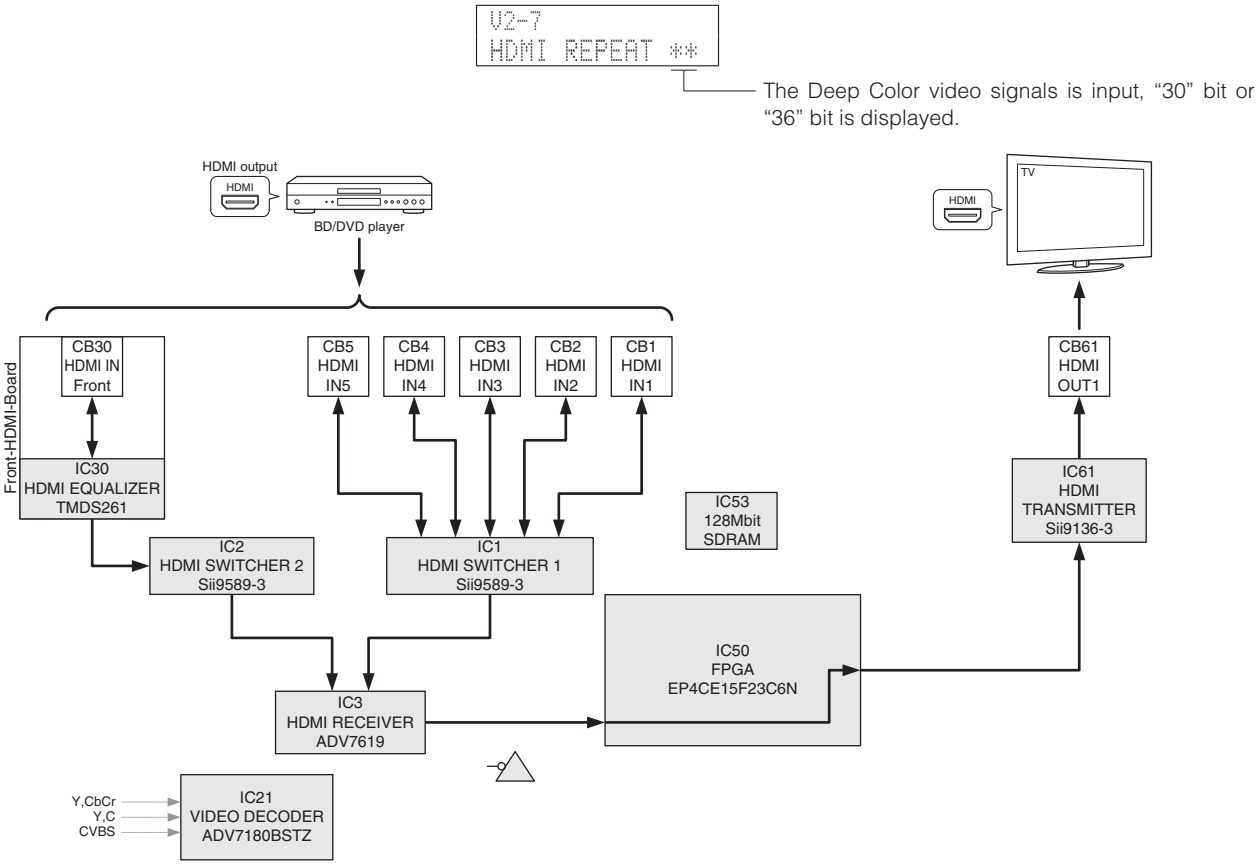

### V2-6. INVALID ITEM

Not for service.



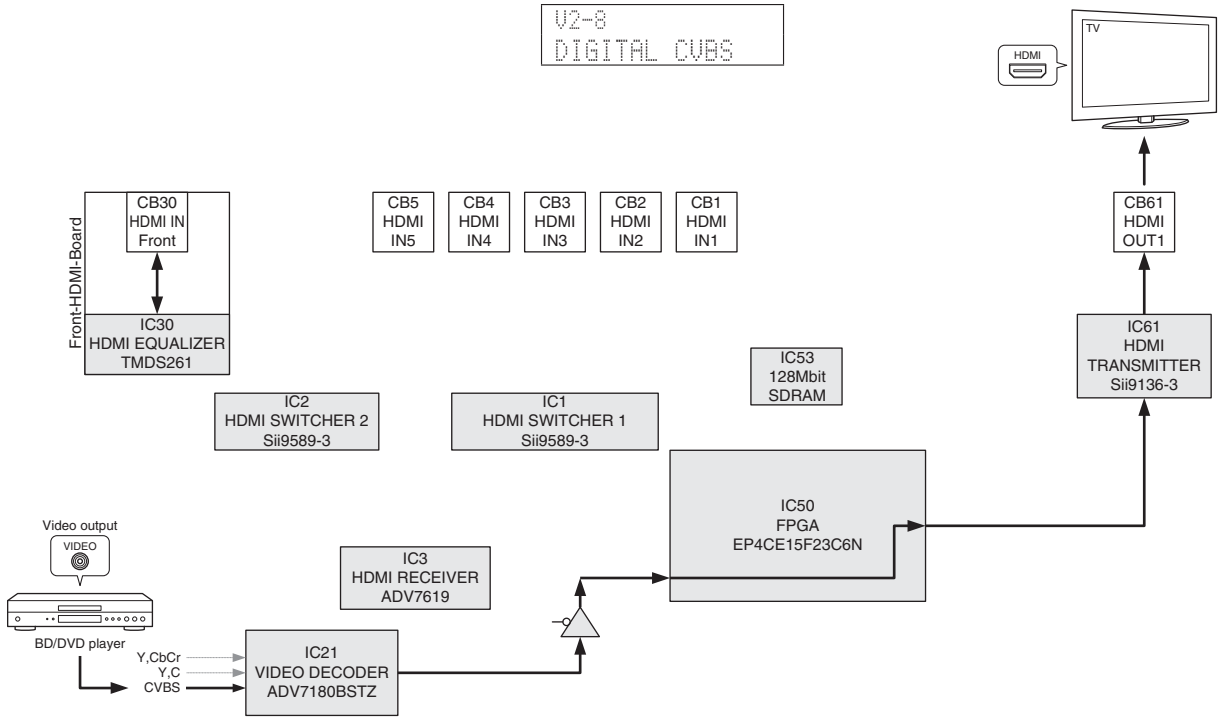
### V2-7. HDMI REPEAT

The video/audio signals input to HDMI IN jack are output to HDMI OUT jack.



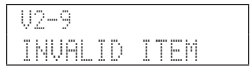

### V2-8. DIGITAL CVBS

The video (CVBS) signal is converted and output as shown below.



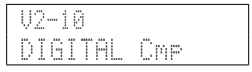
### V2-9. INVALID ITEM

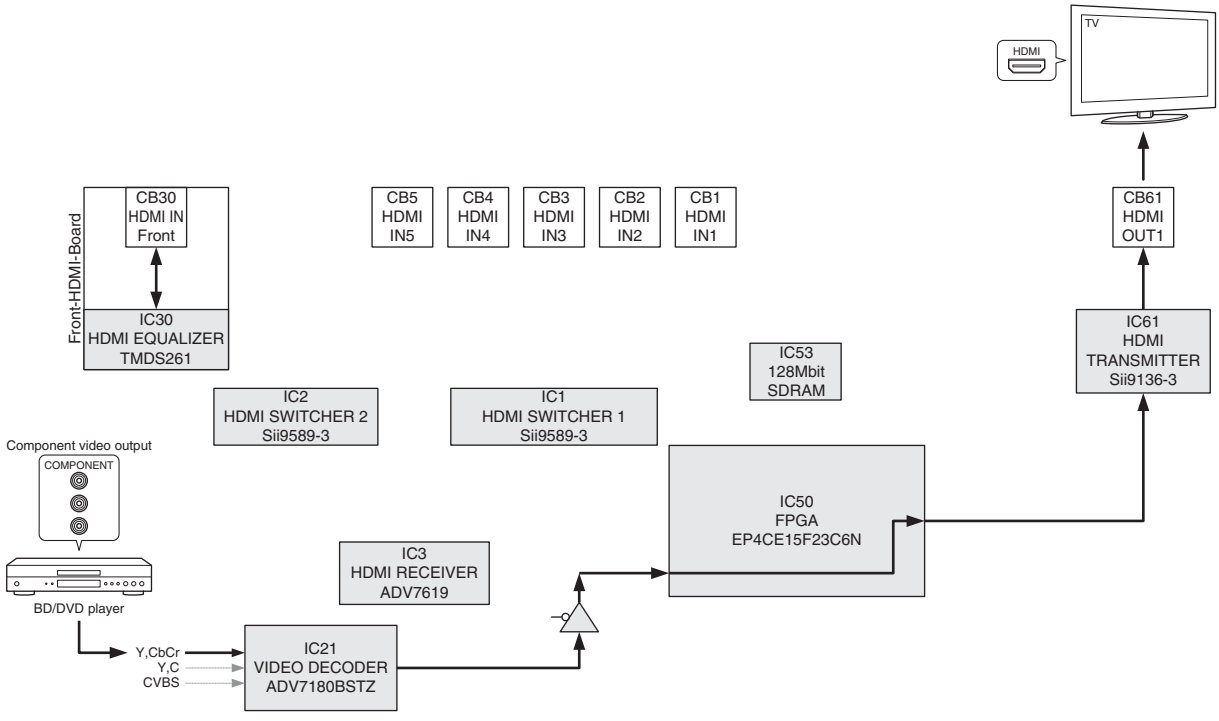
Not for service.




### V2-10. DIGITAL COMPONENT

The component video (Y, Cb, Cr) signal is converted and output as shown below.

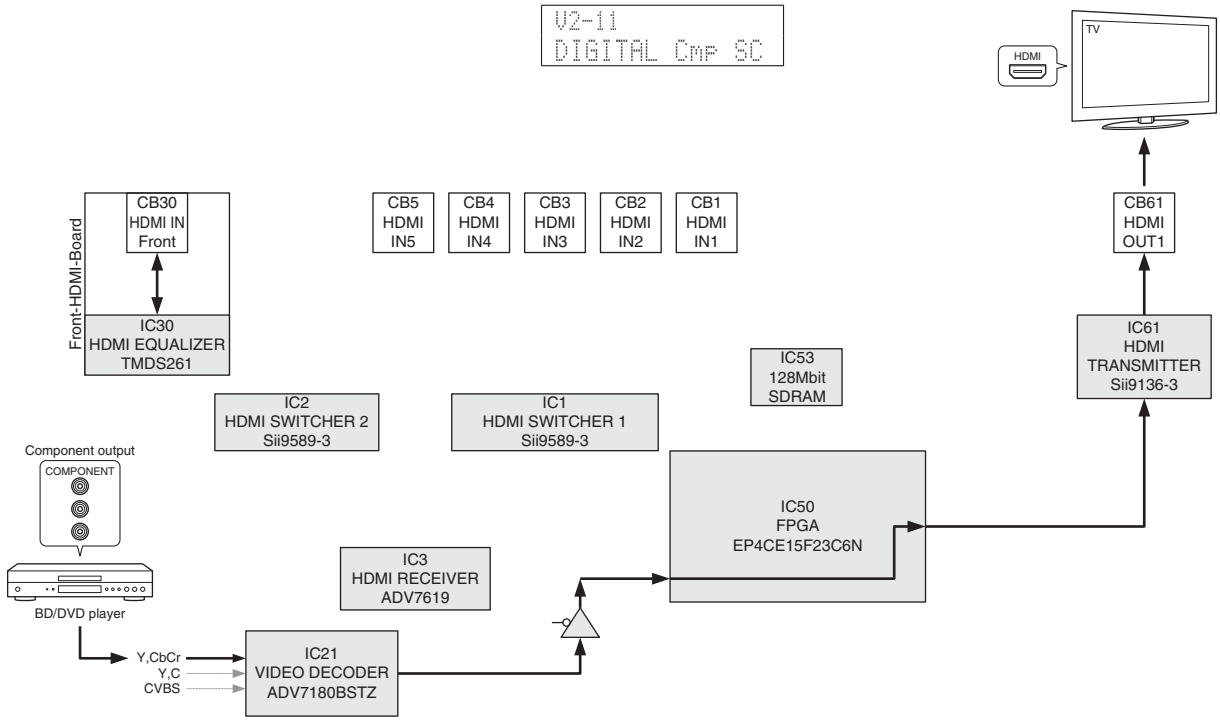


### V2-11. DIGITAL COMPONENT SC

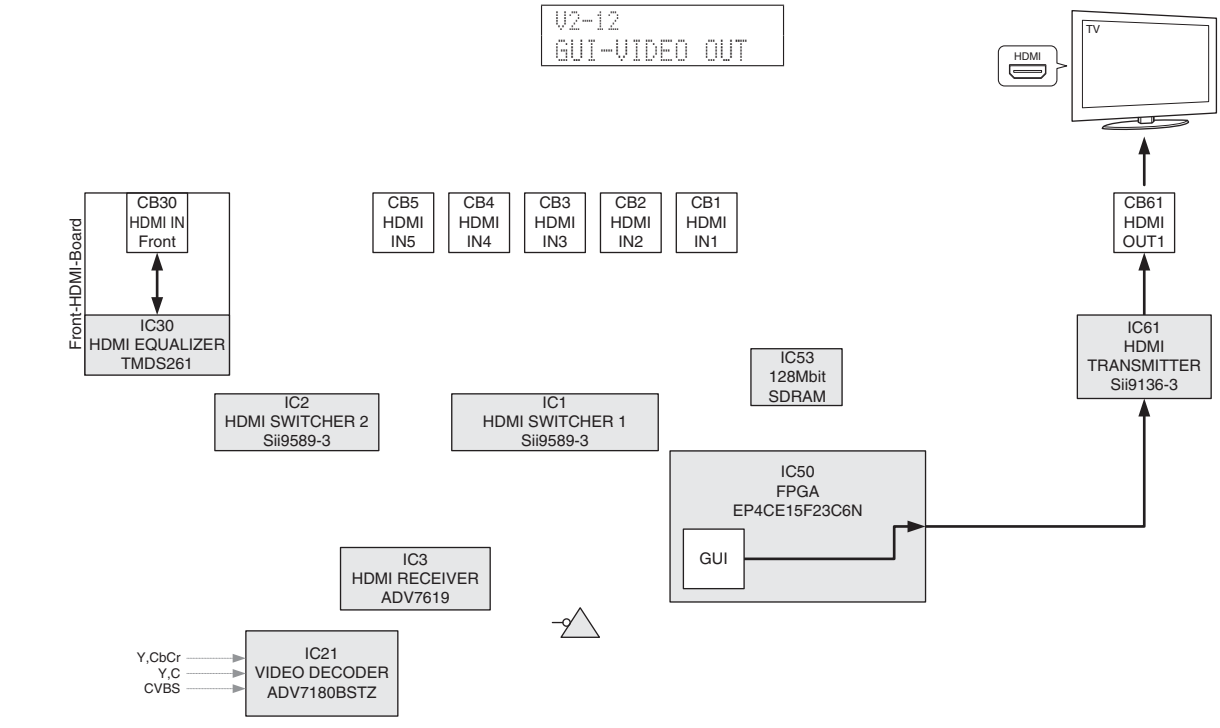
The component video (Y, Cb, Cr) signal is converted and output as shown below.

HDMI video output up-scaling: 480i/p, 576i/p only => 1080p



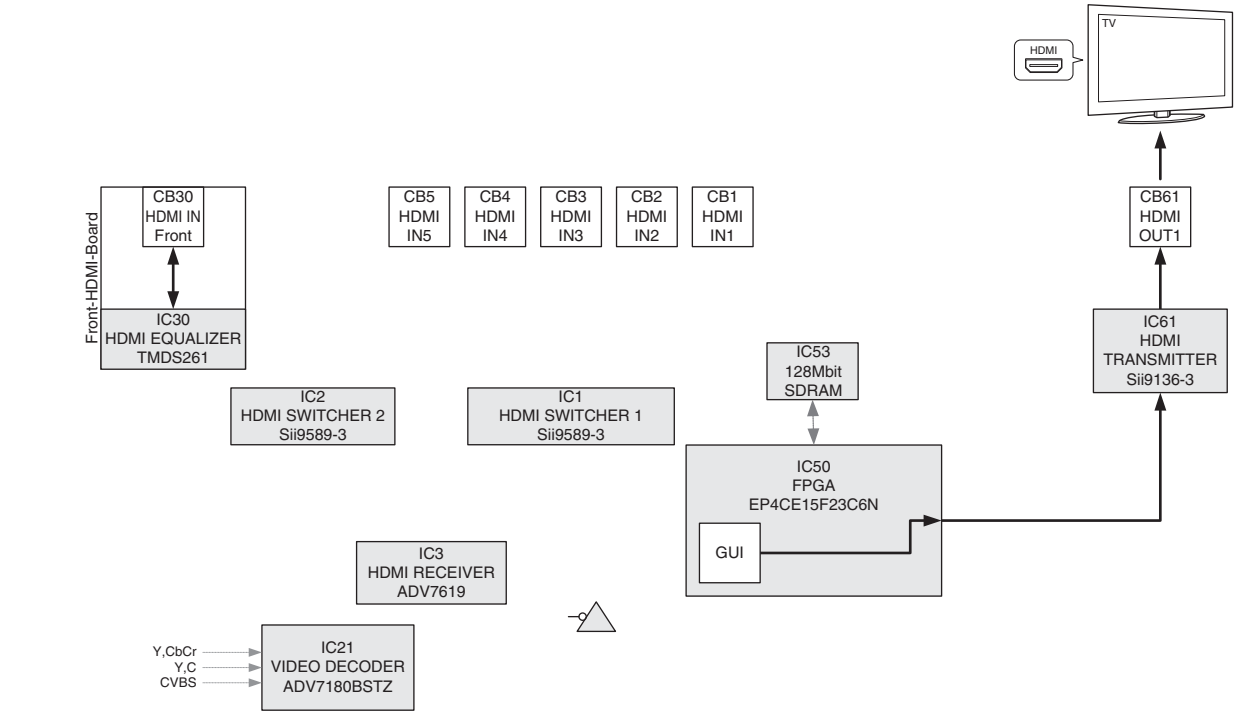

### V2-12. GUI (Graphical User Interface)-VIDEO OUT

The GUI is output from FPGA (IC50 on DIGITAL P.C.B.).



## V3. TEST PATTERN

The video signal is output to HDMI OUT jack with its resolution converted as shown below.




**V3-1. 480i**

V3-1
480i

**V3-2. 480p**

V3-2
480p

**V3-3. 720p 60Hz**

V3-3
720p 60

**V3-4. 1080i 60Hz**

V3-4
1080i 60

**V3-5. 1080p 60Hz**

V3-5
1080p 60

**V3-6. 576i**

V3-6
576i

**V3-7. 576p**

V3-7
576p

**V3-8. 720p 50Hz**

V3-8
720p 50

**V3-9. 1080i 50Hz**

V3-9
1080i 50

**V3-10. 1080p 50Hz**

V3-10
1080p 50

**V3-11. 1080p 24Hz**

V3-11
1080p 24

**V3-12. 1080p 24Hz 3D/FP**

V3-12
1080p 24 3D/FP

(FP: Frame Packing)

**V3-13. 720p 60Hz 3D/FP**

V3-13
720p 60 3D/FP

**V3-14. 720p 50Hz 3D/FP**

V3-14
720p 50 3D/FP

**V3-15. 1080i 60Hz 3D/FP**

V3-15
1080i 60 3D/FP

**V3-16. 1080i 60Hz 3D/SS**

V3-16
1080i 60 3D/SS

(SS: Side-by-Side)

**V3-17. 1080i 50Hz 3D/SS**

V3-17
1080i 50 3D/SS

**V3-18. 720p 60Hz 3D/TB**

V3-18
720p 60 3D/TB

**V3-19. 720p 50Hz 3D/TB**

V3-19
720p 50 3D/TB

**V3-20. 1080p 24Hz 3D/TB**

V3-20
1080p 24 3D/TB

(TB: Top-and-Bottom)

**V3-21. 4k 24Hz**

V3-21
4k 24

(4k: Digital cinema 4K, Resolution 3996 × 2160p)

## P1. SYSTEM MONITOR

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

When “P1-7. KEY1/KEY2” sub-menu is selected, keys become inoperable due to detection of the values of all keys.

However, it is possible to advance to the next menu by pressing the “SCENE RADIO” (forward) key or “SCENE NET” (reverse) key on the remote control.

* Numeric values in the figure are given as reference only.

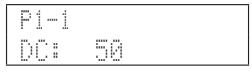
### P1-1. DC

Power amplifier DC (DC voltage) output is detected.

The voltage at 5 pin (DC_PRT) of IC78 is displayed.

Normal value: 32 to 74
(Reference voltage: 3.3 V=255)

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




### P1-2. PS1/PS2/PS3

Power supply voltage (PS) protection detection.

The voltage at 2 pin (PS1_PRT)/1 pin (PS2_PRT)/13 pin (PS3_PRT) of IC78 are displayed.

Voltage detects

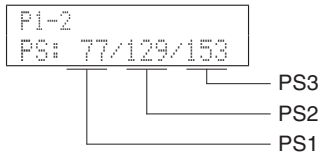
**PS1:** ACBL, AC12, AC5, ±7
**PS2:** -VP, +5T, ±5V
**PS3:** +5.5V

Normal value

**PS1:** 12 to 100
**PS2:** 90 to 166 (PURE DIRECT mode: 143 to 220)
**PS3:** 132 to 168

(Reference voltage: 3.3 V=255)

* If PS1, PS2 or PS3 becomes out of the normal value range, the protection function works to turn off the power.



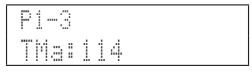

### P1-3. THM

Temperature of the heatsink (THM) is detected.

The voltage at 12 pin (THM1) of IC78 is displayed.

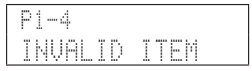
Normal value: 116 to 255 (U, C models)
42 to 255 (R, T, K, A, B, G, F, L, S, H models)
(Reference voltage: 3.3 V=255)

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



### P1-4. INVALID ITEM

Not for service.




### P1-5. OUTPUT LEVEL

Output level of speaker output is detected.

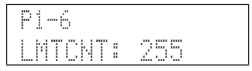
The voltage at 4 pin (AMP_OLV) of IC78 is displayed.
(Reference voltage: 3.3 V=255)




### P1-6. LIMITER CONTROL

Power limitter control is detected.

The voltage at 4 pin (AMP_LMT) of IC83 is displayed.
(Reference voltage: 3.3 V=255)




### P1-7. L3 (J model)

Not for service.



### P1-8. KEY1/KEY2

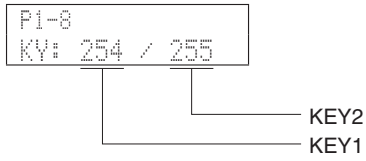
Panel key is detected.

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 table.

* When “P1-8. KEY1/KEY2” menu is selected, keys become inoperable due to detection of the values of all keys. However, it is possible to advance to the next menu by pressing the “SCENE RADIO” (forward) key or “SCENE NET” (reverse) key on the remote control.

(Reference voltage: 3.3 V=255)




| Display | KEY1 |
|---|---|
| 0 – 11 | RADIO (SCENE4) |
| 12 – 32 | NET (SCENE3) |
| 33 – 54 | TV (SCENE2) |
| 55 – 75 | BD/DVD (SCENE1) |
| 76 – 96 | ZONE CONTROL |
| 97 – 119 | ZONE2 |
| 120 – 142 | INPUT > (RX-V673/HTR-6065 models) |
| 143 – 172 | INPUT < (RX-V673/HTR-6065 models) |
| 173 – 202 | MAIN ZONE ⏻ |
| 203 – 235 | TONE CONTROL |
| 255 | Key off |

| Display | KEY2 |
|---|---|
| 0 – 11 | PURE DIRECT |
| 12 – 32 | TUNING >> |
| 33 – 54 | TUNING << |
| 55 – 77 | AM |
| 78 – 99 | FM |
| 100 – 121 | PRESET > |
| 122 – 144 | PRESET < |
| 145 – 166 | MEMORY |
| 167 – 186 | INFO |
| 187 – 205 | STRAIGHT |
| 206 – 226 | PROGRAM > |
| 227 – 246 | PROGRAM < |
| 255 | Key off |

### P1-9. USB-VBUS

Not for service.

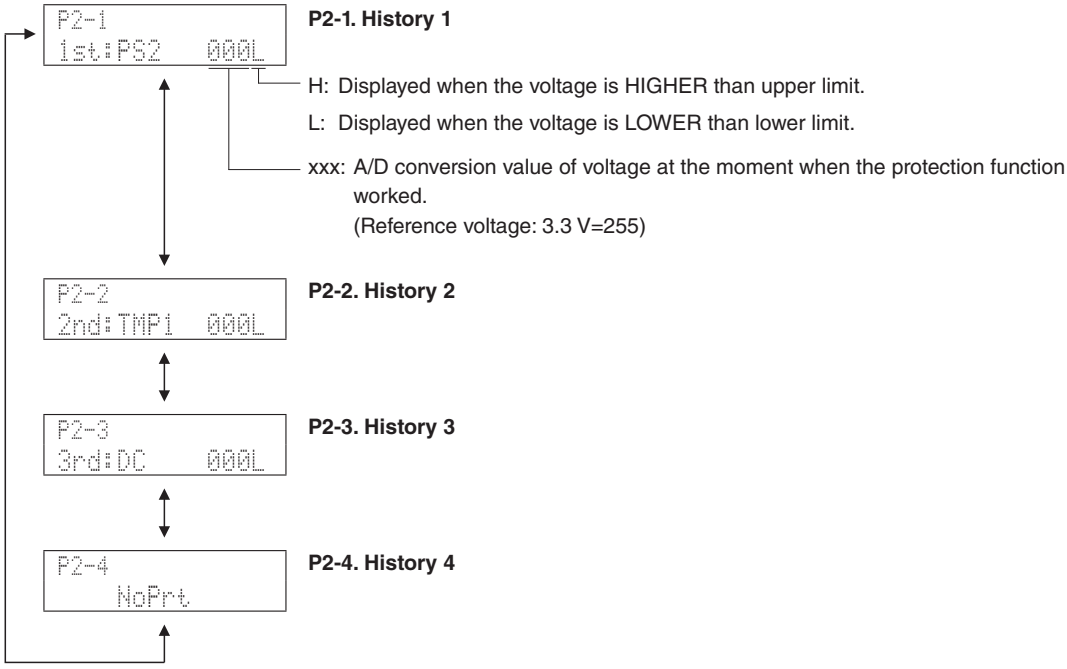


## P2. PROTECTION HISTORY

This menu is used to display the history of protection function.

All history of protection function will be erased by pressing the “STRAIGHT” key.

* Numeric values in the figure are given as reference only.




## S1. FIRMWARE UPDATE

Not for service.

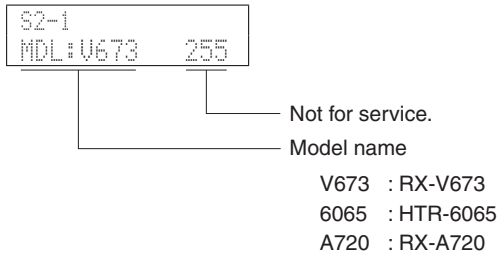



## S2. SET INFORMATION

The model name and destination of this unit are displayed.

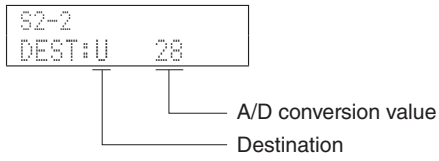
### S2-1. MODEL

The model name of this unit is displayed.



### S2-2. DESTINATION

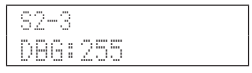
The destination of this unit is displayed.




| Destination | J | U | C | R (R, S) | T | K | A | BG (B, G, F) | L (L, H) |
|---|---|---|---|---|---|---|---|---|---|
| A/D conversion value (3.3 V=255) | 0 – 12 | 13 – 39 | 40 – 67 | 68 – 92 | 93 – 115 | 116 – 140 | 141 – 169 | 199 – 221 | 222 – 244 |

### S2-3. DEBUG

Not for service.




### S2-4. NET RESTART COUNTER

Not for service.




## S3. FACTORY PRESET

This menu is used to reserve/inhibit initialization of the back-up IC (EEPROM: IC82 on DIGITAL P.C.B.).




**S3-1. PRESET INHIBIT** (Initialization inhibited)

Initialization of the back-up IC is not executed. Select this sub-menu to protect the values set by the user.






**S3-1. PRESET RESERVED** (Initialization reserved)

Initialization of the back-up IC is reserved. (Actual initialization is executed when the power is turned on next.) To reset to the original factory settings or to reset the backup IC, select this sub-menu and press the "MAIN ZONE ⏻" key to turn off the power.

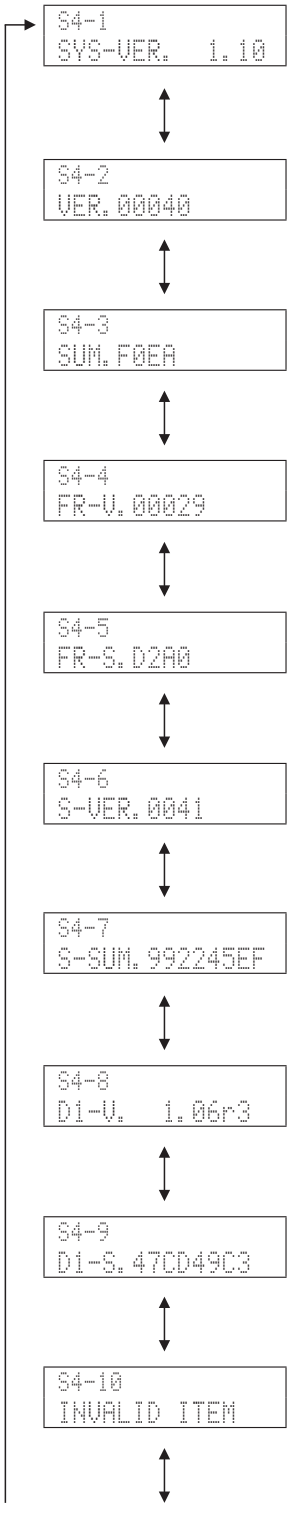
**CAUTION:** Before setting to the PRESET RESERVED, write down the existing preset memory content of the tuner. (This is because setting to the PRESET RESERVED will cause the user memory content to be erased.)

## S4. ROM VERSION/CHECKSUM

The firmware version and checksum values are displayed.

The checksum is obtained by adding the data at every 8-bit and expressing the result as a hexadecimal notation.

* Numeric values in the figure are given as reference only.




**S4-1. SYSTEM VERSION**

The firmware version is displayed.

**S4-2. MICROPROCESSOR VERSION**

The firmware version of MICROPROCESSOR (IC83 on DIGITAL P.C.B.) is displayed.

**S4-3. MICROPROCESSOR CHECKSUM**

The checksum value of MICROPROCESSOR (IC83 on DIGITAL P.C.B.) is displayed.

**S4-4. FLASH ROM VERSION**

The firmware version of FLASH ROM (IC77 on DIGITAL P.C.B.) is displayed.

**S4-5. FLASH ROM CHECKSUM**

The checksum value of FLASH ROM (IC77 on DIGITAL P.C.B.) is displayed.

**S4-6. NETWORK MICROPROCESSOR VERSION**

The firmware version of Network microprocessor (IC951 on DIGITAL P.C.B.) is displayed.

**S4-7. NETWORK MICROPROCESSOR CHECKSUM**

The checksum value of Network microprocessor (IC951 on DIGITAL P.C.B.) is displayed.

**S4-8. DSP1 VERSION**

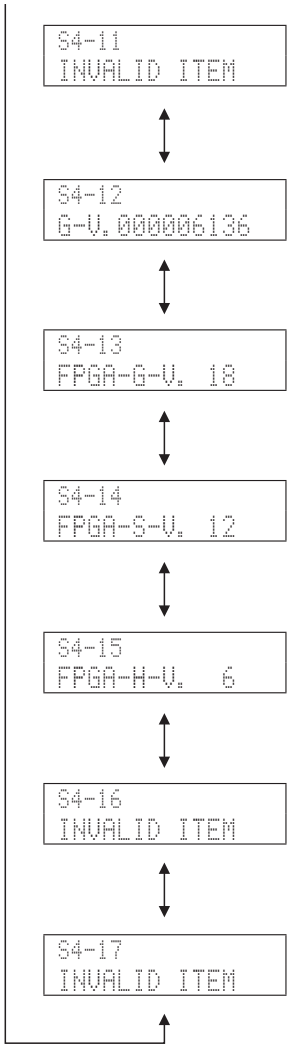
The firmware version of DSP1 (IC921 on DIGITAL P.C.B.) is displayed.

**S4-9. DSP1 CHECKSUM**

The checksum value of DSP1 (IC921 on DIGITAL P.C.B.) is displayed.

**S4-10. INVALID ITEM**

Not for service.




**S4-11. INVALID ITEM**

Not for service.

**S4-12. GUI VERSION**

The firmware version of GUI data is displayed.

**S4-13. FPGA GUI VERSION**

The firmware version of GUI section in FPGA (IC50 on DIGITAL P.C.B.) is displayed.

**S4-14. FPGA SD (Standard Definition) VERSION**

The firmware version of SD I/P scaler section in FPGA (IC50 on DIGITAL P.C.B.) is displayed.

**S4-15. FPGA HD (High Definition) VERSION**

The firmware version of HD I/P scaler section in FPGA (IC50 on DIGITAL P.C.B.) is displayed.

**S4-16. INVALID ITEM**

Not for service.

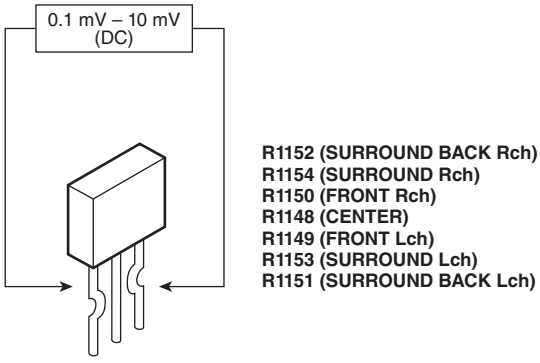
**S4-17. INVALID ITEM**

Not for service.

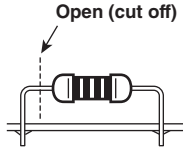
# ■ POWER AMPLIFIER ADJUSTMENT

1. 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) and R1151 (SURROUND BACK Lch) are within the confines of 0.1 mV to 10 mV.
2. If measured voltage exceeds 10 mV, open (cut off) R1104 (SURROUND BACK Rch), R1106 (SURROUND Rch), R1102 (FRONT Rch), R1100 (CENTER), R1101 (FRONT Lch), R1105 (SURROUND Lch) and R1103 (SURROUND BACK Lch), and then reconfirm the voltage.

   **Attention**
   If the measured voltage exceeds 10 mV after repairing the power amplifier, check other parts again for any possible defect before cutting the resistor.
3. Confirm that the voltage is within the confines of 0.2 mV to 15 mV after 60 minutes.

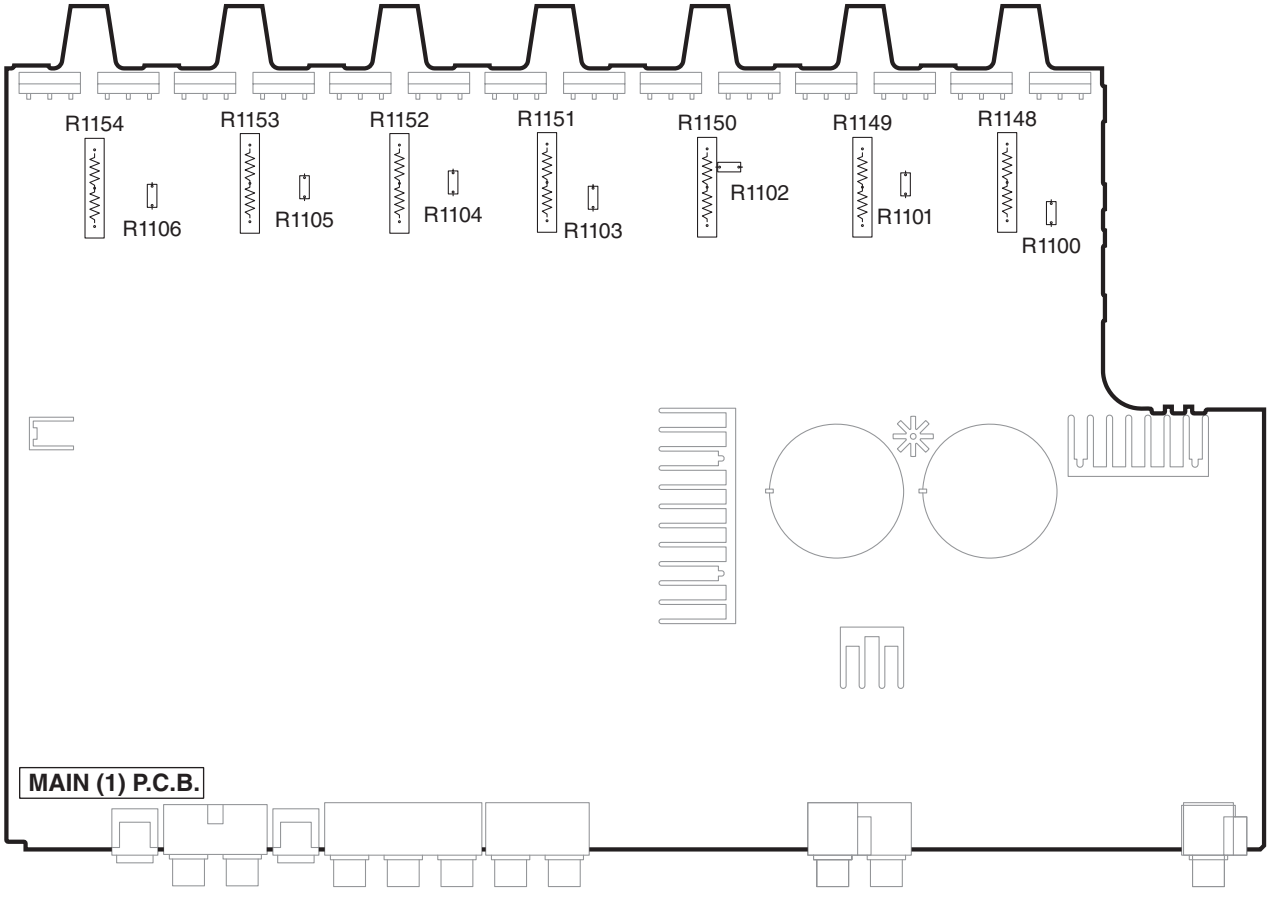



**R1152 (SURROUND BACK Rch)**
**R1154 (SURROUND Rch)**
**R1150 (FRONT Rch)**
**R1148 (CENTER)**
**R1149 (FRONT Lch)**
**R1153 (SURROUND Lch)**
**R1151 (SURROUND BACK Lch)**




**R1104 (SURROUND BACK Rch)**
**R1106 (SURROUND Rch)**
**R1102 (FRONT Rch)**
**R1100 (CENTER)**
**R1101 (FRONT Lch)**
**R1105 (SURROUND Lch)**
**R1103 (SURROUND BACK Lch)**

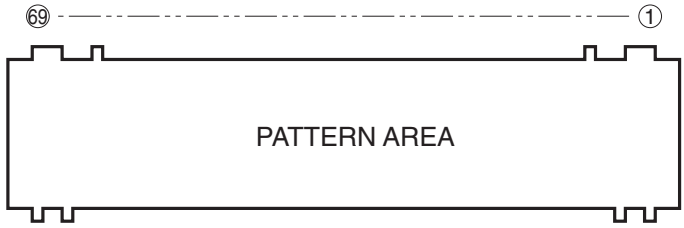
**Front side**



# ■ DISPLAY DATA

**RX-V673/HTR-6065**

**● V4001 : 18-MT-11GNK (OPERATION P.C.B.)**



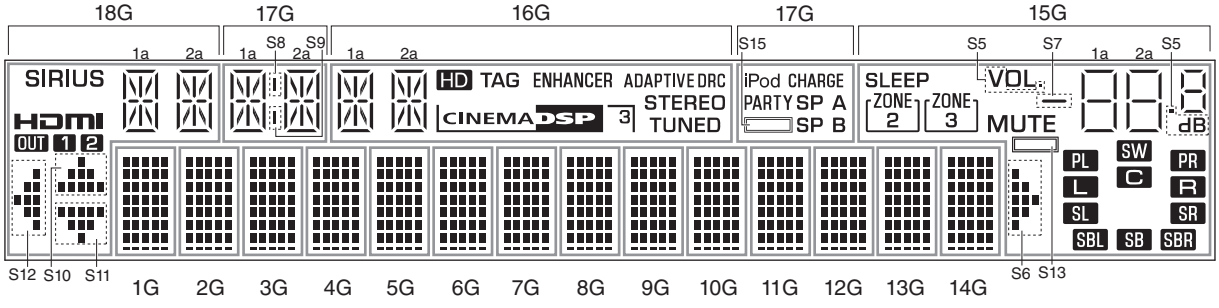

**● PIN CONNECTION**

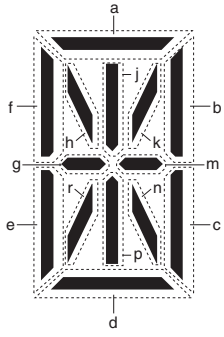
| Pin No. | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

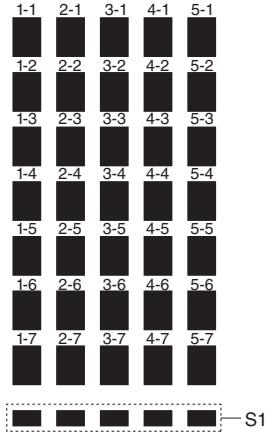
**Note** : 1) F1, F2 ..... Filament pin 2) NP ..... No pin 3) NX ..... No extend pin 4) 1G-18G ..... Grid pin

**● GRID ASSIGNMENT**

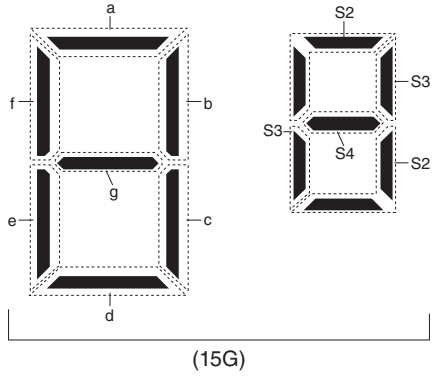



(18G–16G)




(1G–14G)




(15G)

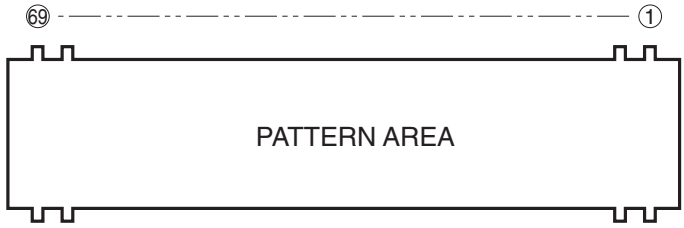
## RX-V673/HTR-6065

● **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 | OUT | S9 | TAG | SBR | 5-6 |
| P31 | HDMI | iPod CHARGE | CINEMA DSP | S6 | 1-7 |
| P32 | 1 | SP B | 3 | S13 | 2-7 |
| P33 | 2 | S15 | STEREO | MUTE | 3-7 |
| P34 | S12 | SP A | TUNED | ZONE 2 | 4-7 |
| P35 | S10 | PARTY | ENHANCER | ZONE 3 | 5-7 |
| P36 | S11 | – | ADAPTIVE DRC | SLEEP | S1 |

**RX-A720**

## ● V4001 : HNA-18MM03T (OPERATION P.C.B.)



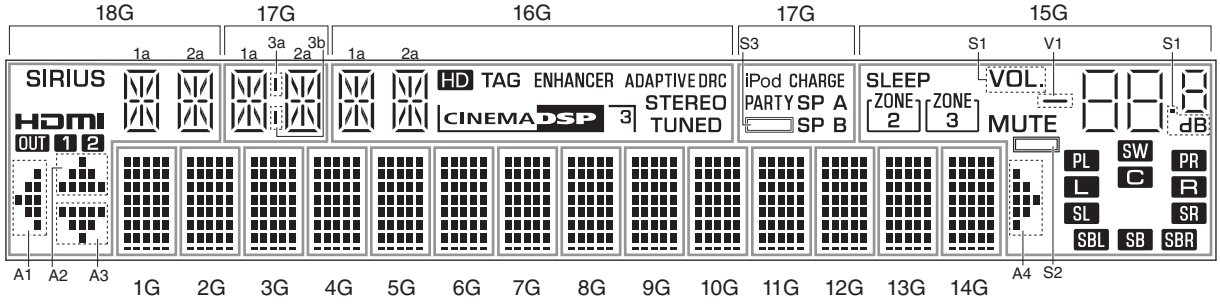

## ● PIN CONNECTION

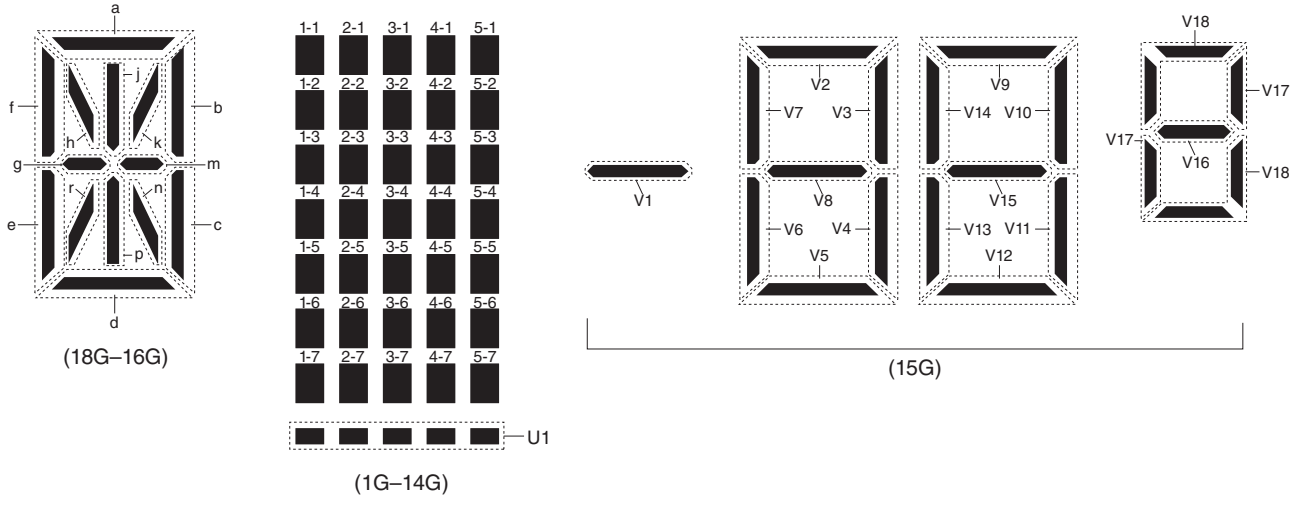
| Pin No. | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Connection | F2 | F2 | 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 | F1 | F1 |

**Note** : 1) F1, F2 ..... Filament pin 2) 1G–18G ..... Grid pin 3) P1–P36 ..... Anode pin 4) NP ..... No pin 5) NX ..... No extended pin

## ● GRID ASSIGNMENT



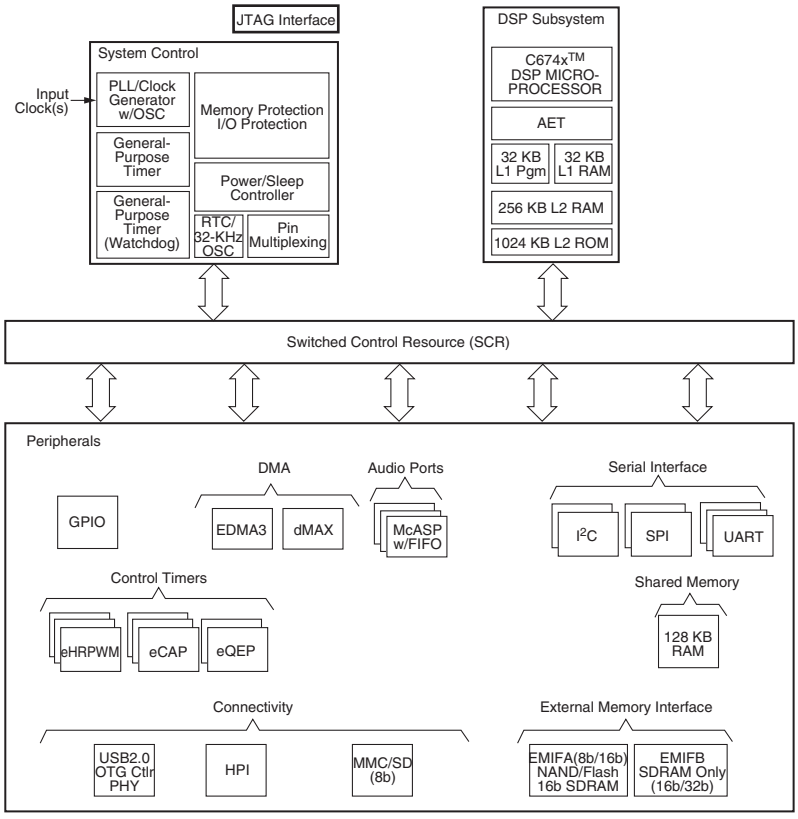
## RX-A720

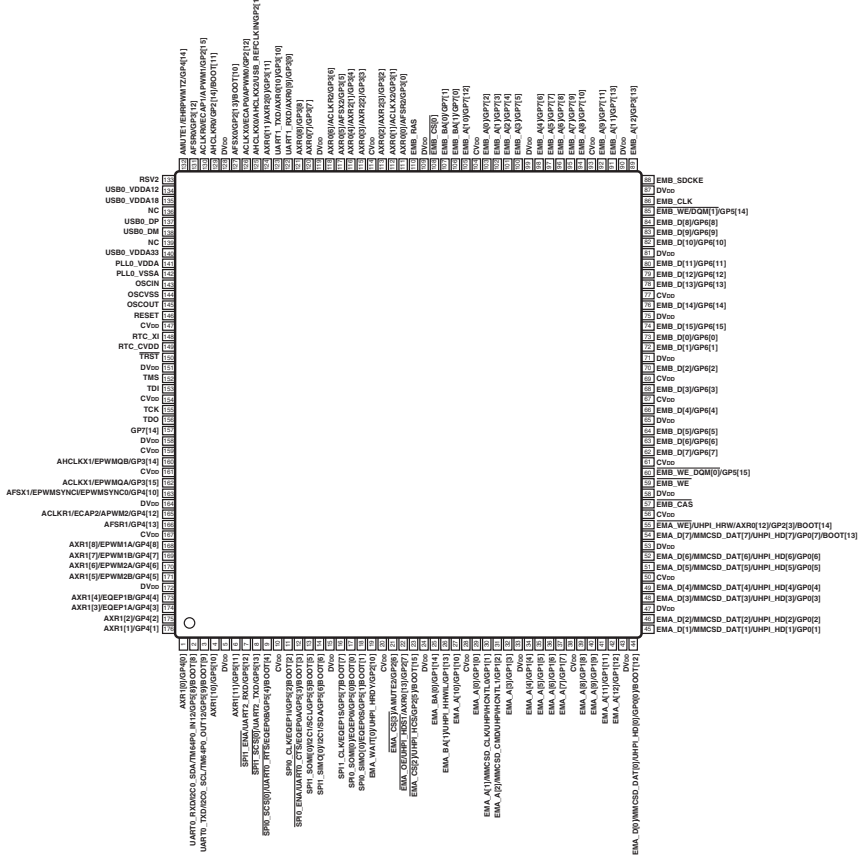
● **ANODE CONNECTION**

| | 18G | 17G | 16G | 15G | 1G–14G |
|---|---|---|---|---|---|
| P1 | 1a | 1a | 1a | S1 | 1-1 |
| P2 | 1h | 1h | 1h | V1 | 2-1 |
| P3 | 1j | 1j | 1j | V5 | 3-1 |
| P4 | 1k | 1k | 1k | V12 | 4-1 |
| P5 | 1b | 1b | 1b | V18 | 5-1 |
| P6 | 1f | 1f | 1f | V6 | 1-2 |
| P7 | 1m | 1m | 1m | V13 | 2-2 |
| P8 | 1g | 1g | 1g | V17 | 3-2 |
| P9 | 1c | 1c | 1c | V4 | 4-2 |
| P10 | 1e | 1e | 1e | V11 | 5-2 |
| P11 | 1r | 1r | 1r | V16 | 1-3 |
| P12 | 1p | 1p | 1p | V8 | 2-3 |
| P13 | 1n | 1n | 1n | V15 | 3-3 |
| P14 | 1d | 1d | 1d | V7 | 4-3 |
| P15 | 2a | 2a | 2a | V14 | 5-3 |
| P16 | 2h | 2h | 2h | V3 | 1-4 |
| P17 | 2j | 2j | 2j | V10 | 2-4 |
| P18 | 2k | 2k | 2k | V2 | 3-4 |
| P19 | 2b | 2b | 2b | V9 | 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 | 3a | HD | SB | 4-6 |
| P30 | OUT | 3b | TAG | SBR | 5-6 |
| P31 | HDMI | iPod CHARGE | CINEMA DSP | A4 | 1-7 |
| P32 | 1 | SP B | 3 | S2 | 2-7 |
| P33 | 2 | S3 | STEREO | MUTE | 3-7 |
| P34 | A1 | SP A | TUNED | ZONE 2 | 4-7 |
| P35 | A2 | PARTY | ENHANCER | ZONE 3 | 5-7 |
| P36 | A3 | – | ADAPTIVE DRC | SLEEP | U1 |

# ■ IC DATA

**IC921:** D80YK113CPTP400 (DIGITAL P.C.B.)
Digital signal processor



| Pin No. | Function Name | TYPE (1) | PULL (2) | Detail of Function |
|---|---|---|---|---|
| 1 | AXR1[0]/GP4[0] | I/O | IPD | McASP1 serial data |
| 2 | UART0_RXD/I2C0_SDA/TM64P0_IN12/GP5[8]/ BOOT[8] | I | IPU | BOOT[8] |
| | | I | IPU | UART0 receive data |
| | | I/O | IPU | I2C0 serial data |
| | | I | IPU | Timer0 lower input |
| 3 | UART0_TXD/I2C0_SCL/TM64P0_OUT12/GP5[9]/ BOOT[9] | I | IPU | BOOT[9] |
| | | O | IPU | UART0 transmit data |
| | | I/O | IPU | I2C0 serial clock |
| | | O | IPU | Timer0 lower output |
| 4 | AXR1[10]/GP5[10] | I/O | IPU | McASP1 serial data |
| 5 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 6 | AXR1[11]/GP5[11] | I/O | IPU | McASP1 serial data |
| 7 | SPI1_ENA /UART2_RXD/GP5[12] | I/O | IPU | SPI1 enable |
| | | I | IPU | UART2 receive data |
| 8 | SPI1_SCS[0] /UART2_TXD/GP5[13] | I/O | IPU | SPI1 chip select |
| | | O | IPU | UART2 transmit data |
| 9 | SPI0_SCS[0] /UART0_RTS/EQEP0B/GP5[4]/BOOT[4] | I/O | IPU | SPI0 chip select |
| | | I | IPU | eQEP0B quadrature input |
| | | I | IPU | BOOT[4] |
| | | O | IPU | UART0 ready-to-send output |
| 10 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 11 | SPI0_CLK/EQEP1I/GP5[2]/BOOT[2] | I/O | IPD | SPI0 clock |
| | | I | IPD | eQEP1 index |
| | | I | IPD | BOOT[2] |
| 12 | SPI0_ENA /UART0_CTS/EQEP0A/GP5[3]/BOOT[3] | I/O | IPU | SPI0 enable |
| | | I | IPU | eQEP0A quadrature input |
| | | I | IPU | BOOT[3] |
| | | I | IPU | UART0 clear-to-send input |
| 13 | SPI1_SOMI[0]/I2C1_SCL/GP5[5]/BOOT[5] | I/O | IPU | SPI1 data/slave-out-master-in |
| | | I | IPU | BOOT[5] |
| | | I/O | IPU | I2C1 serial clock |
| 14 | SPI1_SIMO[0]/I2C1_SDA/GP5[6]/BOOT[6] | I/O | IPU | SPI1 data/slave-in-master-out |
| | | I | IPU | BOOT[6] |
| | | I/O | IPU | I2C1 serial Data |
| 15 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 16 | SPI1_CLK/EQEP1S/GP5[7]/BOOT[7] | I/O | IPD | SPI1 clock |
| | | I | IPD | eQEP1 strobe |
| | | I | IPD | BOOT[7] |
| 17 | SPI0_SOMI[0]/EQEP0I/GP5[0]/BOOT[0] | I/O | IPD | SPI0 data/slave-out-master-in |
| | | I | IPD | eQEP0 index |
| | | I | IPD | BOOT[0] |
| 18 | SPI0_SIMO[0]/EQEP0S/GP5[1]/BOOT[1] | I/O | IPD | SPI0 data/slave-in-master-out |
| | | I | IPD | eQEP0 strobe |
| | | I | IPD | BOOT[1] |
| 19 | EMA_WAIT[0]/ UHPI_HRDY/GP2[10] | I | IPU | EMIFA wait input/interrupt |
| | | I/O | IPU | UHPI ready |
| 20 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 21 | EMA_CS[3] /AMUTE2/GP2[6] | O | IPU | EMIFA Async chip select |
| | | O | IPU | McASP2 mute output |
| 22 | EMA_OE /UHPI_HDS1/AXR0[13]/GP2[7] | O | IPU | EMIFA output enable |
| | | I/O | IPU | UHPI data strobe |
| 23 | EMA_CS[2] /UHPI_HCS/GP2[5]/BOOT[15] | O | IPU | EMIFA Async chip select |
| | | I | IPU | BOOT[15] |
| | | I/O | IPU | UHPI chip select |
| 24 | EMA_OE/UHPI_HDS1/AXR0[13]/GP2[7] | I/O | IPU | McASP0 serial data |
| | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 25 | EMA_BA[0]/ GP1[14] | O | IPU | EMIFA bank address |
| 26 | EMA_BA[1]/ UHPI_HHWIL/GP1[13] | O | IPU | EMIFA bank address |
| | | I/O | IPU | UHPI half-word identification control |

| Pin No. | Function Name | TYPE (1) | PULL (2) | Detail of Function |
|---|---|---|---|---|
| 27 | EMA_A[10]/ GP1[10] | O | IPU | EMIFA address bus |
| 28 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 29 | EMA_A[0]/ GP1[0] | O | IPD | EMIFA address bus |
| 30 | EMA_A[1]/MMCSD_CLK/UHPI_HCNTL0/GP1[1] | O | IPU | EMIFA address bus |
| | | I/O | IPU | UHPI access control |
| | | O | IPU | MMCSD_CLK |
| 31 | EMA_A[2]/MMCSD_CMD/UHPI_HCNTL1/GP1[2] | O | IPU | EMIFA address bus |
| | | I/O | IPU | UHPI access control |
| | | I/O | IPU | MMCSD_CMD |
| 32 | EMA_A[3]/ GP1[3] | O | IPD | EMIFA address bus |
| 33 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 34 | EMA_A[4]/ GP1[4] | O | IPD | EMIFA address bus |
| 35 | EMA_A[5]/ GP1[5] | O | IPD | EMIFA address bus |
| 36 | EMA_A[6]/ GP1[6] | O | IPD | EMIFA address bus |
| 37 | EMA_A[7]/ GP1[7] | O | IPD | EMIFA address bus |
| 38 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 39 | EMA_A[8]/ GP1[8] | O | IPU | EMIFA address bus |
| 40 | EMA_A[9]/ GP1[9] | O | IPU | EMIFA address bus |
| 41 | EMA_A[11]/ GP1[11] | O | IPU | EMIFA address bus |
| 42 | EMA_A[12]/ GP1[12] | O | IPU | EMIFA address bus |
| 43 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 44 | EMA_D[0]/MMCSD_DAT[0]/UHPI_HD[0]/GP0[0]/ BOOT[12] | I/O | IPU | EMIFA data bus |
| | | I | IPU | BOOT[12] |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 45 | EMA_D[1]/MMCSD_DAT[1]/UHPI_HD[1]/GP0[1] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 46 | EMA_D[2]/MMCSD_DAT[2]/UHPI_HD[2]/GP0[2] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 47 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 48 | EMA_D[3]/MMCSD_DAT[3]/UHPI_HD[3]/GP0[3] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 49 | EMA_D[4]/MMCSD_DAT[4]/UHPI_HD[4]/GP0[4] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 50 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 51 | EMA_D[5]/MMCSD_DAT[5]/UHPI_HD[5]/GP0[5] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 52 | EMA_D[6]/MMCSD_DAT[6]/UHPI_HD[6]/GP0[6] | I/O | IPU | EMIFA data bus |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 53 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 54 | EMA_D[7]/MMCSD_DAT[7]/UHPI_HD[7]/GP0[7]/ BOOT[13] | I/O | IPU | EMIFA data bus |
| | | I | IPU | BOOT[13] |
| | | I/O | IPU | UHPI data bus |
| | | I/O | IPU | MMC/SD data |
| 55 | EMA_WE /UHPI_HRW/AXR0[12]/GP2[3]/BOOT[14] | O | IPU | EMIFA SDRAM write enable |
| | | I | IPU | BOOT[14] |
| | | I/O | IPU | UHPI read/write |
| | | I/O | IPU | McASP0 serial data |
| 56 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 57 | EMB_CAS | O | IPU | EMIFB column address strobe |
| 58 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 59 | EMB_WE | O | IPU | EMIFB write enable |
| 60 | EMB_WE_DQM[0] /GP5[15] | O | IPU | EMIFB write enable/data mask for EMB_D. |

| Pin No. | Function Name | TYPE (1) | PULL (2) | Detail of Function |
|---|---|---|---|---|
| 61 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 62 | EMB_D[7]/GP6[7] | I/O | IPD | EMIFB SDRAM data bus |
| 63 | EMB_D[6]/GP6[6] | I/O | IPD | EMIFB SDRAM data bus |
| 64 | EMB_D[5]/GP6[5] | I/O | IPD | EMIFB SDRAM data bus |
| 65 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 66 | EMB_D[4]/GP6[4] | I/O | IPD | EMIFB SDRAM data bus |
| 67 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 68 | EMB_D[3]/GP6[3] | I/O | IPD | EMIFB SDRAM data bus |
| 69 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 70 | EMB_D[2]/GP6[2] | I/O | IPD | EMIFB SDRAM data bus |
| 71 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 72 | EMB_D[1]/GP6[1] | I/O | IPD | EMIFB SDRAM data bus |
| 73 | EMB_D[0]/GP6[0] | I/O | IPD | EMIFB SDRAM data bus |
| 74 | EMB_D[15]/GP6[15] | I/O | IPD | EMIFB SDRAM data bus |
| 75 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 76 | EMB_D[14]/GP6[14] | I/O | IPD | EMIFB SDRAM data bus |
| 77 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 78 | EMB_D[13]/GP6[13] | I/O | IPD | EMIFB SDRAM data bus |
| 79 | EMB_D[12]/GP6[12] | I/O | IPD | EMIFB SDRAM data bus |
| 80 | EMB_D[11]/GP6[11] | I/O | IPD | EMIFB SDRAM data bus |
| 81 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 82 | EMB_D[10]/GP6[10] | I/O | IPD | EMIFB SDRAM data bus |
| 83 | EMB_D[9]/GP6[9] | I/O | IPD | EMIFB SDRAM data bus |
| 84 | EMB_D[8]/GP6[8] | I/O | IPD | EMIFB SDRAM data bus |
| 85 | EMB_WE_DQM[1] /GP5[14] | O | IPU | EMIFB write enable/data mask for EMB_D |
| 86 | EMB_CLK | O | IPU | EMIF SDRAM clock |
| 87 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 88 | EMB_SDCKE | I/O | IPU | EMIFB SDRAM clock enable |
| 89 | EMB_A[12]/GP3[13] | O | IPD | EMIFB SDRAM row/column address bus |
| 90 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 91 | EMB_A[11]/GP7[13] | O | IPD | EMIFB SDRAM row/column address bus |
| 92 | EMB_A[9]/GP7[11] | O | IPD | EMIFB SDRAM row/column address bus |
| 93 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 94 | EMB_A[8]/GP7[10] | O | IPD | EMIFB SDRAM row/column address bus |
| 95 | EMB_A[7]/GP7[9] | O | IPD | EMIFB SDRAM row/column address bus |
| 96 | EMB_A[6]/GP7[8] | O | IPD | EMIFB SDRAM row/column address bus |
| 97 | EMB_A[5]/GP7[7] | O | IPD | EMIFB SDRAM row/column address bus |
| 98 | EMB_A[4]/GP7[6] | O | IPD | EMIFB SDRAM row/column address |
| 99 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 100 | EMB_A[3]/GP7[5] | O | IPD | EMIFB SDRAM row/column address |
| 101 | EMB_A[2]/GP7[4] | O | IPD | EMIFB SDRAM row/column address |
| 102 | EMB_A[1]/GP7[3] | O | IPD | EMIFB SDRAM row/column address |
| 103 | EMB_A[0]/GP7[2] | O | IPD | EMIFB SDRAM row/column address |
| 104 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 105 | EMB_A[10]/GP7[12] | O | IPD | EMIFB SDRAM row/column address bus |
| 106 | EMB_BA[1]/GP7[0] | O | IPU | EMIFB SDRAM bank address |
| 107 | EMB_BA[0]/GP7[1] | O | IPU | EMIFB SDRAM bank address |
| 108 | EMB_CS[0] | O | IPU | EMIFB SDRAM chip select 0 |
| 109 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 110 | EMB_RAS | O | IPU | EMIFB SDRAM row address strobe |
| 111 | AXR0[0]/AFSR2/GP3[0] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 serial data |
| 112 | AXR0[1]/ACLKX2/GP3[1] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 transmit bit clock |
| 113 | AXR0[2]/AXR2[3]/GP3[2] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 serial data |
| 114 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 115 | AXR0[3]/AXR2[2]/GP3[3] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 serial data |

| Pin No. | Function Name | TYPE (1) | PULL (2) | Detail of Function |
|---|---|---|---|---|
| 116 | AXR0[4]/ AXR2[1]/GP3[4] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 serial data |
| 117 | AXR0[5]/AFSX2/GP3[5] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 transmit frame sync |
| 118 | AXR0[6]/ACLKR2/GP3[6] | I/O | IPD | McASP0 serial data |
| | | I/O | IPD | McASP2 receive bit clock |
| 119 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 120 | AXR0[7]/GP3[7] | I/O | IPD | McASP0 serial data |
| 121 | AXR0[8]/GP3[8] | I/O | IPU | McASP0 serial data |
| 122 | UART1_RXD/AXR0[9]/GP3[9] | I | IPD | UART1 receive data |
| | (3) | I/O | IPD | McASP0 serial data |
| 123 | UART1_TXD/AXR0[10]/GP3[10] | O | IPD | UART1 transmit data |
| | (3) | I/O | IPD | McASP0 serial data |
| 124 | AXR0[11]/ AXR2[0]/GP3[11] | I/O | IPD | McASP0 serial data |
| | | O | IPD | McASP2 serial data |
| 125 | AHCLKX0/AHCLKX2/USB_REFCLKIN/GP2[11] | I/O | IPD | McASP0 transmit master clock |
| | | O | IPD | McASP2 transmit master clock |
| | | I | IPD | USB_REFCLKIN. Optional 48 MHz clock input |
| 126 | ACLKX0/ECAP0/APWM0/GP2[12] | I/O | IPD | Enhanced capture 0/input or auxiliary PWM 0 output |
| | | I/O | IPD | McASP0 transmit bit clock |
| 127 | AFSX0/GP2[13]/BOOT[10] | I | IPD | BOOT[10] |
| | | I/O | IPD | McASP0 transmit frame sync |
| 128 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 129 | AHCLKR0/GP2[14]/BOOT[11] | I | IPD | BOOT[11] |
| | | I/O | IPD | McASP0 receive master clock |
| 130 | ACLKR0/ECAP1/APWM1/GP2[15] | I/O | IPD | Enhanced capture 1/input or auxiliary PWM 1 output |
| | | I/O | IPD | McASP0 receive bit clock |
| 131 | AFSR0/GP3[12] | I/O | IPD | McASP0 receive frame sync |
| 132 | AMUTE1/EPWMTZ/GP4[14] | I/O | IPD | eHRPWM0 trip zone input |
| | | I/O | IPD | eHRPWM1 trip zone input |
| | | I/O | IPD | eHRPWM2 trip zone input |
| | | O | IPD | McASP1 mute output |
| 133 | RSV2 | PWR | | Reserved. For proper device operation, this pin must be tied directly to CVDD |
| 134 | USB0_VDDA12 (4) | PWR | | USB0 PHY 1.2-V LDO output for bypass cap |
| 135 | USB0_VDDA18 | PWR | | USB0 PHY 1.8-V supply input |
| 136 | NC | – | | – |
| 137 | USB0_DP | A | | USB0 PHY data plus |
| 138 | USB0_DM | A | | USB0 PHY data minus |
| 139 | NC | – | | – |
| 140 | USB0_VDDA33 | PWR | | USB0 PHY 3.3-V supply |
| 141 | PLL0_VDDA | PWR | | PLL analog VDD (1.2-V filtered supply) |
| 142 | PLL0_VSSA | GND | | PLL analog VSS (for filter) |
| 143 | OSCIN | I | | Oscillator input |
| 144 | OSCVSS | GND | | Oscillator ground (for filter only) |
| 145 | OSCOUT | O | | Oscillator output |
| 146 | RESET | I | | Device reset input |
| 147 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 148 | RTC_XI | I | | Low-frequency (32-kHz) oscillator receiver for real-time clock |
| 149 | RTC_CVDD | PWR | | RTC module core power ( isolated from rest of chip CVDD) |
| 150 | TRST | I | IPD | JTAG test reset |
| 151 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 152 | TMS | I | IPU | JTAG test mode select |
| 153 | TDI | I | IPU | JTAG test data input |
| 154 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 155 | TCK | I | IPU | JTAG test clock |
| 156 | TDO | O | IPD | JTAG test data output |
| 157 | GP7[14] (5) | I/O | IPD | General-Purpose IO signal |
| 158 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 159 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |

| Pin No. | Function Name | TYPE (1) | PULL (2) | Detail of Function |
|---|---|---|---|---|
| 160 | AHCLKX1/EPWM0B/GP3[14] | I/O | IPD | eHRPWM0 B output |
| | | I/O | IPD | McASP1 transmit master clock |
| 161 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 162 | ACLKX1/EPWM0A/GP3[15] | I/O | IPD | eHRPWM0 A output |
| | | I/O | IPD | McASP1transmit bit clock |
| 163 | AFSX1/EPWMSYNCI/EPWMSYNCO/GP4[10] | I/O | IPD | Sync input to eHRPWM0 module or sync output to external PWM |
| | | I/O | IPD | McASP1 transmit frame sync |
| 164 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 165 | ACLKR1/ECAP2/APWM2/GP4[12] | I/O | IPD | enhanced capture 2/input or auxiliary PWM 2 output |
| | | I/O | IPD | McASP1 receive bit clock |
| 166 | AFSR1/GP4[13] | I/O | IPD | McASP1 receive frame sync |
| 167 | CVDD (Core supply) | PWR | | 1.2-V core supply voltage pins |
| 168 | AXR1[8]/EPWM1A/GP4[8] | I/O | IPD | eHRPWM1 A (with high-resolution) |
| | | I/O | IPD | McASP1 serial data |
| 169 | AXR1[7]/EPWM1B/GP4[7] | I/O | IPD | eHRPWM1 B |
| | | I/O | IPD | McASP1 serial data |
| 170 | AXR1[6]/EPWM2A/GP4[6] | I/O | IPD | eHRPWM2 A (with high-resolution) |
| | | I/O | IPD | McASP1 serial data |
| 171 | AXR1[5]/EPWM2B/GP4[5] | I/O | IPD | eHRPWM2 B |
| | | I/O | IPD | McASP1 serial data |
| 172 | DVDD (I/O supply) | PWR | | 3.3-V I/O supply voltage pins |
| 173 | AXR1[4]/EQEP1B/GP4[4] | I | IPD | eQEP1B quadrature input |
| | | I/O | IPD | McASP1 serial data |
| 174 | AXR1[3]/EQEP1A/GP4[3] | I | IPD | eQEP1A quadrature input |
| | | I/O | IPD | McASP1 serial data |
| 175 | AXR1[2]/GP4[2] | I/O | IPD | McASP1 serial data |
| 176 | AXR1[1]/GP4[1] | I/O | IPD | McASP1 serial data |

(1) I = Input, O = Output, I/O = Bidirectional, Z = High impedance, PWR = Supply voltage, GND = Ground, A = Analog signal.

Note: The pin type shown refers to the input, output or high-impedance state of the pin function when configured as the the signal name highlighted in bold. All multiplexed signals may enter a high-impedance state when the configured function is input-only or the configured function supports high-Z operation. All GPIO signals can be used as input or output. For multiplexed pins where functions have different types (ie., input versus output), the table reflects the pin function direction for that particular peripheral.

(2) IPD = Internal Pulldown resistor, IPU = Internal Pullup resistor

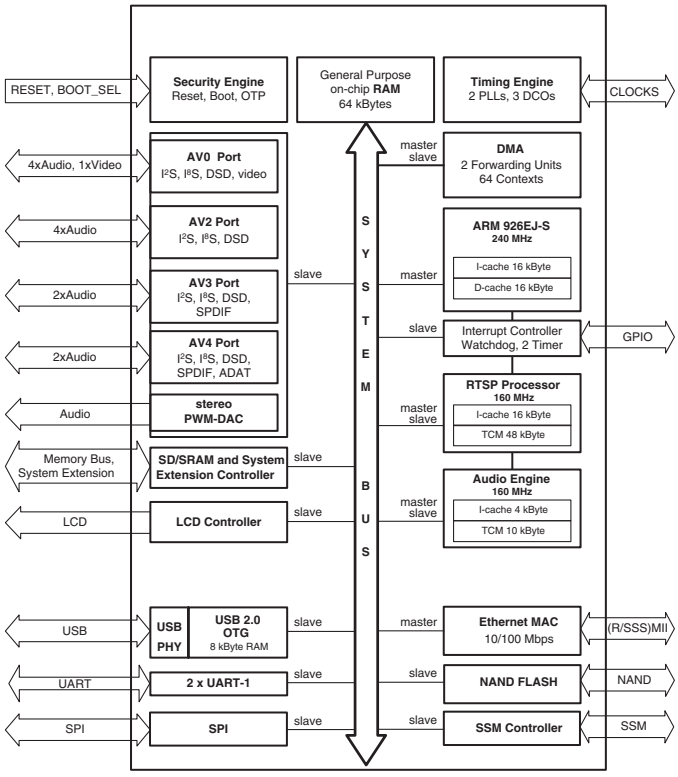
(3) 122, 123 pin: As these signals are internally pulled down while the device is in reset, it is necessary to externally pull them high with resistors if UART1 boot mode is used.

(4) 134 pin: Core power supply LDO output for USB PHY. This pin must be connected via a 0.22-mF capacitor to VSS. When the USB peripheral is not used, the USB_VDDA12 signal should still be connected via a 1-mF capacitor to VSS.

(5) 157 pin: GP7[14] is initially configured as a reserved function after reset and will not be in a predictable state. This signal will only be stable after the GPIO configuration for this pin has been completed. Users should carefully consider the system implications of this pin being in an unknown state after reset.

**IC951:** DM860A (DIGITAL P.C.B.)
Network microprocessor

* **No replacement part available.**




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | USBDN | VDD33 USBC | VSS33 USBC | n.c. | n.c. | VDD33 | RFCLKP | RFRXQP | RFRXIP | HIGHZ | SSMD0 | SSMD4 | SSMCMD | RXD1 | TDO | TDI | A0 | A1 | A |
| B | USBDP | VDD33 USBT | VSS33 USBT | n.c. | n.c. | VSS | RFCLKN | RFRXQN | RFRXIN | TEST1 | SSMD1 | SSMD5 | TXD1 | RXD0 | TMS | SPICLK | SPINCS1 | A2 | B |
| C | VSS12 USB | USBREXT | USBXO | USBXI | NRES12 OUT | VSS | RREF | n.c. | n.c. | SSMCLK | SSMD2 | SSMD6 | TXD0 | TCK | SPINCS0 | A3 | A4 | A5 | C |
| D | VDD12 USB | USBVBUS | USBATST | NRES33 OUT | NRES33 REF | NRES12 REF | VDD33 | VDD12 | SSMWP | SSMCP | SSMD3 | SSMD7 | NRESET | SPIDI | SPIDO | A6 | A7 | A8 | D |
| E | VSS33 RTC | USBID | USBVB USDRV | NC | | VDD12 CORE | VDD12 CORE | VDD33IO | VDD33IO | VDD12 CORE | VDD12 CORE | VDD33IO | VDD33IO | | A9 | A10 | A11 | A12 | E |
| F | VDD33 RTC | RTCXIN | VDD33 PLL | NC | VDD33IO | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD12 CORE | A13_RAS | A14_CAS | A15_BA0 | A16_BA1 | F |
| G | VDD12 DCO | RTCXOUT | VSS33 PLL | NC | VDD33IO | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD12 CORE | A17_DQ M0 | A18_DQ M1 | A19 | A20 | G |
| H | VSS12 DCO | VSS12 PLL | VDD12 PLL | NC | VDD12 CORE | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD33IO | A21 | A22 | A23 | NCS3 | H |
| J | PDOUT1 | VCO1 | XTALO | NC | VDD12 CORE | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD33IO | NCS0 | NCS1 | NCS2 | MEMCKE | J |
| K | PDOUT0 | VCO0 | XTALI | AOUTLP | VDD33IO | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD12 CORE | MEMCLK | NWE | NOE | NWAIT | K |
| L | AV0CLK | AOUTLN | AOUTRN | AOUTRP | VDD33IO | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD12 CORE | D3 | D2 | D1 | D0 | L |
| M | AV0 CTRL0 | AV0 CTRL1 | AV0 CTRL2 | AV0 DATA3 | VDD12 CORE | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD33IO | D7 | D6 | D5 | D4 | M |
| N | AV0 DATA2 | AV0 DATA1 | AV0 DATA0 | AV1 DATA3 | VDD12 CORE | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VDD33IO | D11 | D10 | D9 | D8 | N |
| P | AV1 DATA2 | AV1 DATA1 | AV1 DATA0 | AV2 DATA3 | | VDD33IO | VDD33IO | VDD12 CORE | VDD12 CORE | VDD33IO | VDD33IO | VDD12 CORE | VDD12 CORE | | FD0 | FD1 | D13 | D12 | P |
| R | AV2CLK | AV2 CTRL1 | AV2 DATA2 | AV3CLK | AV3 DATA1 | LCDD11 | LCDD7 | LCDD3 | LCD CTRL0 | VPP | MIITXEN | MIITXCLK | MIIRXER | MIICRS | FD2 | FD3 | FD4 | D14 | R |
| T | AV2 CTRL0 | AV2 DATA1 | AV3 CTRL1 | AV3 DATA0 | LCDD14 | LCDD10 | LCDD6 | LCDD2 | LCD CTRL1 | LCDCLK | MIIITXER | MIIRXCLK | MIICOL | MII RXDV | FD5 | FD6 | FD7 | D15 | T |
| U | AV2 DATA0 | AV3 CTRL0 | AV4 DATA1 | LCDD16 | LCDD13 | LCDD9 | LCDD5 | LCDD1 | LCD CTRL2 | MIITXD0 | MIITXD2 | MIIRXD0 | MIIRXD2 | MIIMDIO | NFCE0 | FCLE | NFWE | NFRB | U |
| V | NC | AV4 DATA0 | LCDD17 | LCDD15 | LCDD12 | LCDD8 | LCDD4 | LCDD0 | LCD CTRL3 | MIITXD1 | MIITXD3 | MIIRXD1 | MIIRXD3 | MIIMDC | MIIPHY CLK | NFWP | NFRE | FALE | V |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |

**AV-Port 0**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| M4 | AV0DATA[3:0] | I/O | Audio/video data.<br>Several formats are supported. |
| N1 | | | |
| N2 | | | |
| N3 | | | |
| N4 | AV1DATA[3:0] | I/O | Video data, together with AV0DATA[3:0]:<br>AV0DATA[3:0] = video[3:0]<br>AV1DATA[3:0] = video[7:4] |
| P1 | | | |
| P2 | | | |
| P3 | | | |
| L1 | AV0CLK | I/O | Data clock. Depending on the AV-Port 0 configuration, this clock is a bit- or byte-clock which is used to transmit or receive the AV0DATA[*] synchronously. |
| M1 | AV0CTRL0 | I/O | Configurable sync signal:<br>• Serial audio formats: LRCK input or output.<br>• Video formats: PSYNC input or output. |
| M2 | AV0CTRL1 | I/O | Configurable sync signal:<br>• Serial audio formats: Master clock output.<br>• Video formats: DVALID input or output. |
| M3 | AV0CTRL2 | I/O | Configurable sync signal:<br>• Video formats: FSYNC input or output. |

**AV-Port 2**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| P4 | AV2DATA[3:0] | I/O | Audio data.<br>Several formats are supported. |
| R3 | | | |
| T2 | | | |
| U1 | | | |
| R1 | AV2CLK | I/O | Data clock. Depending on the AV-Port 2 configuration this clock is a bit-clock which is used to transmit or receive the AV2DATA[*] synchronously. |
| T1 | AV2CTRL0 | I/O | Configurable sync signal:<br>Serial audio formats: LRCK input or output. |
| R2 | AV2CTRL1 | I/O | Configurable sync signal:<br>Serial audio formats: Master clock output. |

**AV-Port 3**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| R5 | AV3DATA[1:0] | I/O | Audio data.<br>Several formats are supported. |
| T4 | | | |
| R4 | AV3CLK | I/O | Data clock. Depending on the AV-Port 3 configuration this clock is a bit-clock which is used to transmit or receive the AV3DATA[*] synchronously. |
| U2 | AV3CTRL0 | I/O | Configurable sync signal:<br>Serial audio formats: LRCK input or output. |
| T3 | AV3CTRL1 | I/O | Configurable sync signal:<br>Serial audio formats: Master clock output. |

**AV-Port 4**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| U3 | AV4DATA[1:0] | I/O | Audio data.<br>Several formats are supported. |
| V2 | | | |

**PWM-DAC**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| K4 | AOUTLP | O | Left channel PWM output (positive). |
| L2 | AOUTLN | O | Left channel PWM output (negative). |
| L4 | AOUTRP | O | Right channel PWM output (positive). |
| L3 | AOUTRN | O | Right channel PWM output (negative). |

**UART Interface**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| B14 | RXD0 | I | UART-0 receive signal. |
| C13 | TXD0 | O | UART-0 transmit signal. |
| A14 | RXD1 | I | UART-1 receive signal. |
| B13 | TXD1 | O | UART-1 transmit signal. |

**Serial Peripheral Interface (SPI)**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| D14 | SPIDIN | I | SPI data receive. |
| D15 | SPIDOUT | O | SPI data transmit. |
| B16 | SPICLK | I/O | SPI clock. |
| C15 | SPINCS0 | I/O | Multi-master mode: Chip-select input (used to detect bus conflict).<br>Master only mode: Chip-select 1 output.<br>Slave mode: Chip-select input. |
| B17 | SPINCS1 | I/O | Multi-master mode: Chip-select 2 output.<br>Master only mode: Chip-select 2 output.<br>Slave mode: Not used. |

**External Memory Interface**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| T18<br>R18<br>P17<br>P18<br>N15<br>N16<br>N17<br>N18<br>M15<br>M16<br>M17<br>M18<br>L15<br>L16<br>L17<br>L18 | D[15:0] | I/O | Data bus for external memory and peripheral access. |
| E18<br>E17<br>E16<br>E15<br>D18<br>D17<br>D16<br>C18<br>C17<br>C16<br>B18<br>A18<br>A17 | A[12:0] | O | Address bus for external memory and peripheral access. |
| F15 | A13_RAS | O | SRAM: Address output<br>SDRAM: Row access strobe |
| F16 | A14_CAS | O | SRAM: Address output<br>SDRAM: Column access strobe |
| F17 | A15_BA0 | O | SRAM: Address output<br>SDRAM: Bank select |
| F18 | A16_BA1 | O | SRAM: Address output<br>SDRAM: Bank select |
| G15 | A17_DQM0 | O | SRAM: Address output<br>SDRAM: Data mask |
| G16 | A18_DQM1 | O | SRAM: Address output<br>SDRAM: Data mask |
| H17<br>H16<br>H15<br>G18<br>G17 | A[23:19] | O | Address bus for external memory and peripheral access. |

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| H18 | NCS[3:0] | O | Chip select signals. The active memory range for NCS[n] (active low) can be configured.<br>• NCS[0] supports SRAM, can be used for booting.<br>• NCS[1] supports SDRAM or SRAM.<br>• NCS[2] supports SRAM.<br>• NCS[3] supports SRAM. |
| J17 | | | |
| J16 | | | |
| J15 | | | |
| K17 | NOE | O | Output enable, asserted (low) for read operations. |
| K16 | NWE | O | Write enable, asserted (low) for write operations. |
| K18 | NWAIT | I | External wait line. If NWAIT is asserted, memory access will be stalled. Can be configured as either low-active (default) or high-active. |
| K15 | MEMCLK | O | SDRAM system clock. |
| J18 | MEMCKE | O | SDRAM clock enable. |

**NAND-Flash Interface**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| T17 | FD[7:0] | I/O | Bi-directional data bus. |
| T16 | | | |
| T15 | | | |
| R17 | | | |
| R16 | | | |
| R15 | | | |
| P16 | | | |
| P15 | | | |
| V18 | FALE | O | Address latch enable; pull-up/down defines boot mode. |
| U16 | FCLE | O | Command latch enable; pull-up/down defines boot mode. |
| U15 | NFCE0 | O | Chip-enable, low-active. |
| U18 | NFRB | I | Ready/busy. NAND flash is busy when NFRB is low. |
| V17 | NFRE | O | Read enable, low-active. |
| U17 | NFWE | O | Write enable, low-active. |
| V16 | NFWP | O | Write protect, low-active. |

**Ethernet MAC-Phy Interface (MII)**

| Pin No. | Function Name | I/O | MII | RMII | SMII |
|---|---|---|---|---|---|
| U14 | MIIDIO | I/O | Management data | Management data | |
| V14 | MIIMDC | O | Management clock | Management clock | |
| V13 | MIIRXD[3] | I | RxD 3 | RxD 1 | |
| U13 | MIIRXD[2] | I | RxD 2 | RxD 0 | |
| V12 | MIIRXD[1] | I | RxD 1 | | Rx-Sync |
| U12 | MIIRXD[0] | I | RxD 0 | | RxD |
| T12 | MIIRXCLK | I | Receive clock | | Receive clock |
| R13 | MIIRXER | I | Receive error | Receive error | |
| T14 | MIIRXDV | I | Receive data valid | Carrier sense/data valid | |
| V11 | MIITXD[3] | O | TxD 3 | TxD 1 | |
| U11 | MIITXD[2] | O | TxD 2 | TxD 0 | |
| V10 | MIITXD[1] | O | TxD 1 | | Tx-Sync |
| U10 | MIITXD[0] | O | TxD 0 | | TxD |
| R12 | MIITXCLK | I | Transmit clock | | Transmit clock |
| T11 | MIITXER | O | Transmit error | | |
| R11 | MIITXEN | O | Transmit data enable | Transmit data enable | |
| T13 | MIICOL | I | MII ethernet collision | | |
| R14 | MIICRS | I | MII carrier sense | | |
| V15 | MIIPHYCLK | O | 25.000 MHz clock | 50.000 MHz clock | 125.000 MHz clock |

**USB 2.0 OTG**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| B1 | USBD+ | I/O | Positive data line that is connected to the serial USB cable. |
| A1 | USBD– | I/O | Negative data line that is connected to the serial USB cable. |
| E2 | USBID | I | USB ID pin of mini-AB receptacle. |
| C2 | USBREXT | I | External bias resistor (2K7, 1%); connect resistor to VSSUSB. |
| D2 | USBVBUS | I | VBUS voltage sense. |
| E3 | USBVBUSDRV | O | Control signal to control VBUS 5V voltage source. |
| C4 | USBXTALI | I | Oscillator circuit input for a 24.000 MHz crystal (optional).<br>Without external crystal, pull this pin to GND. |
| C3 | USBXTALO | O | Oscillator circuit output for a 24.000 MHz crystal (optional).<br>Without external crystal, leave this pin open. |
| D3 | USBATST | – | Do not connect. |

**Power-on Reset Pins**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| D6 | NRES12REF | I | Voltage reference input. NRES12OUT is release when this input voltage exceeds VTH12. |
| C5 | NRES12OUT | O | Open-drain reset (active low) for 1.2V core power supply. |
| D5 | NRES33REF | I | Voltage reference input. NRES33OUT is release when this input voltage exceeds VTH33. |
| D4 | NRES33OUT | O | Open-drain reset (active low) for 3.3V core power supply |

**Real-Time Clock (RTC) Pins (RTC is Not Supported)**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| F2 | RTCXIN | I | No connection. Leave this pin open circuit. |
| G2 | RTCXOUT | O | No connection. Leave this pin open circuit. |
| F1 | VDD33RTC | Power | No connection. Leave this pin open circuit. |
| E1 | VSS33RTC | Power | Ground (0 V) for RTC |

**LCD Interface**

| Pin No. | Function Name | I/O | TFT Mode | LCD STN monochr. | LCD STN monochr. (double) | LCD STN color | LCD STN color (bias) |
|---|---|---|---|---|---|---|---|
| V3 | LCDD[17] | O | RED5 | | | | |
| U4 | LCDD[16] | O | RED4 | | | | |
| V4 | LCDD[15] | O | RED3 | | | | |
| T5 | LCDD[14] | O | RED2 | | | | |
| U5 | LCDD[13] | O | RED1 | | | | |
| V5 | LCDD[12] | O | (RED0) | | | | |
| R6 | LCDD[11] | O | GREEN5 | | | | |
| T6 | LCDD[10] | O | GREEN4 | | | | |
| U6 | LCDD[9] | O | GREEN3 | | | | |
| V6 | LCDD[8] | O | GREEN2 | | | | |
| R7 | LCDD[7] | O | GREEN1 | | DATAHIGH3 | DATA7 | DATA7 |
| T7 | LCDD[6] | O | GREEN0 | | DATAHIGH2 | DATA6 | DATA6 |
| U7 | LCDD[5] | O | BLUE5 | | DATAHIGH1 | DATA5 | DATA5 |
| V7 | LCDD[4] | O | BLUE4 | | DATAHIGH0 | DATA4 | DATA4 |
| R8 | LCDD[3] | O | BLUE3 | DATA3 | DATALOW3 | DATA3 | DATA3 |
| T8 | LCDD[2] | O | BLUE2 | DATA2 | DATALOW2 | DATA2 | DATA2 |
| U8 | LCDD[1] | O | BLUE1 | DATA1 | DATALOW1 | DATA1 | DATA1 |
| V8 | LCDD[0] | O | (BLUE0) | DATA0 | DATALOW0 | DATA0 | DATA0 |
| T10 | LCDCLK | O | Byte clock | CL2 | CL2 | CL2 | CL2 |
| V9 | LCDCTRL[3] | O | Display off | Display off | Display off | Display off | Display off |
| U9 | LCDCTRL[2] | O | Vsync | FLM | FLM | FLM | FLM |
| T9 | LCDCTRL[1] | O | HSync | CL1 | CL1 | CL1 | CL1 |
| R9 | LCDCTRL[0] | O | DVALID | | | M/Bias | |

**SSM Interface**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| D12 | SSMD[7:0] | I/O | Data lines. |
| C12 | | | |
| B12 | | | |
| A12 | | | |
| D11 | | | |
| C11 | | | |
| B11 | | | |
| A11 | | | |
| C10 | SSMCLK | O | Clock output. |
| A13 | SSMCMD | O | Command output. |
| D10 | SSMCP | I | Card power input (high = off). |
| D9 | SSMWP | I | Write protect input (low = protect). |

**External PLL Pins**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| J2 | VCO[1:0] | I | External oscillator inputs, typically coming from an external VCO. Together with the external loop-filter and the internal clock dividers, each PDOUT/VCO pair can form a complete PLL. |
| K2 | | | |
| J1 | PDOUT[1:0] | O | Phase discriminator outputs. These signals are charge-pump type outputs. |
| K1 | | | Each of them can be used to feed the loop-filter of a PLL structure. |

**Global Pins**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| D13 | NRESET | I | Reset (active low). When asserted, the chip is placed in the reset state and the peripheral pins are configured as inputs. After deassertion of NRESET, the chip is clocked by XTALI and starts booting from the port configured by the FCLE, FALE pins.<br>The NRESET signal must be asserted after power-up. |
| K3 | XTALI | I | Oscillator circuit input. Internal system clock will be derived from XTALI (internal clock multiplier). |
| J3 | XTALO | O | Oscillator circuit output. |
| C7 | RREF | I | Reference current. Connect a 3.0 k-ohms ±1% resistor to GND. |
| B10 | TEST1 | I | Reserved. Connect to VDD for normal operation. |
| A10 | HIGHZ | I | Reserved. Connect to VDD for normal operation. |
| E4 | n.c. | – | Pins must be left unconnected (18x). |
| F4 | | | |
| G4 | | | |
| H4 | | | |
| J4 | | | |
| V1 | | | |
| A4 | | | |
| A5 | | | |
| B4 | | | |
| B5 | | | |
| C8 | | | |
| C9 | | | |

**JTAG Interface**

| Pin No. | Function Name | I/O | Detail of Function |
|---|---|---|---|
| B15 | TMS | I | JTAG mode select. |
| C14 | TCK | I | JTAG clock. |
| A16 | TDI | I | JTAG serial data input. |
| A15 | TDO | O | JTAG serial data output. |

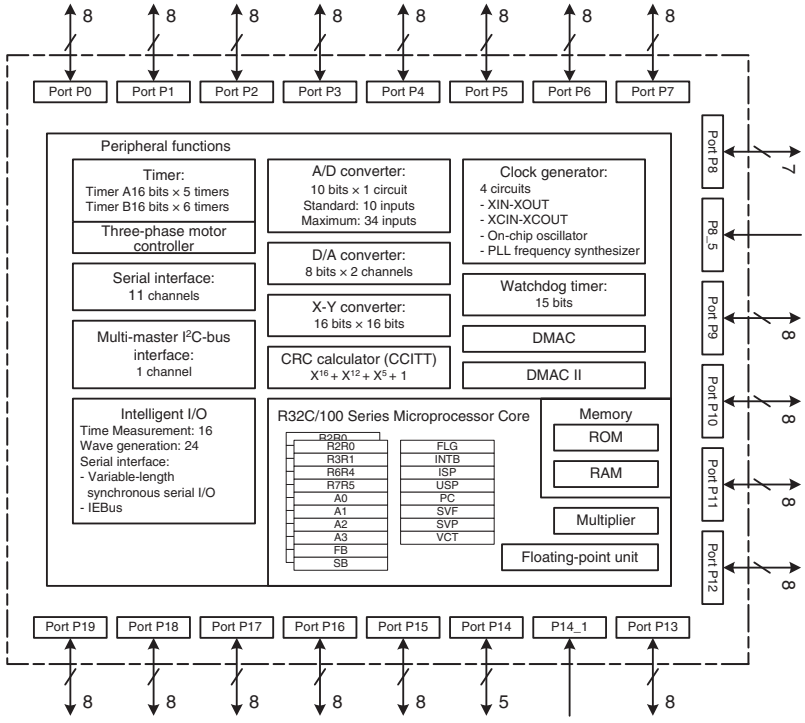
**Power Supply Pins**

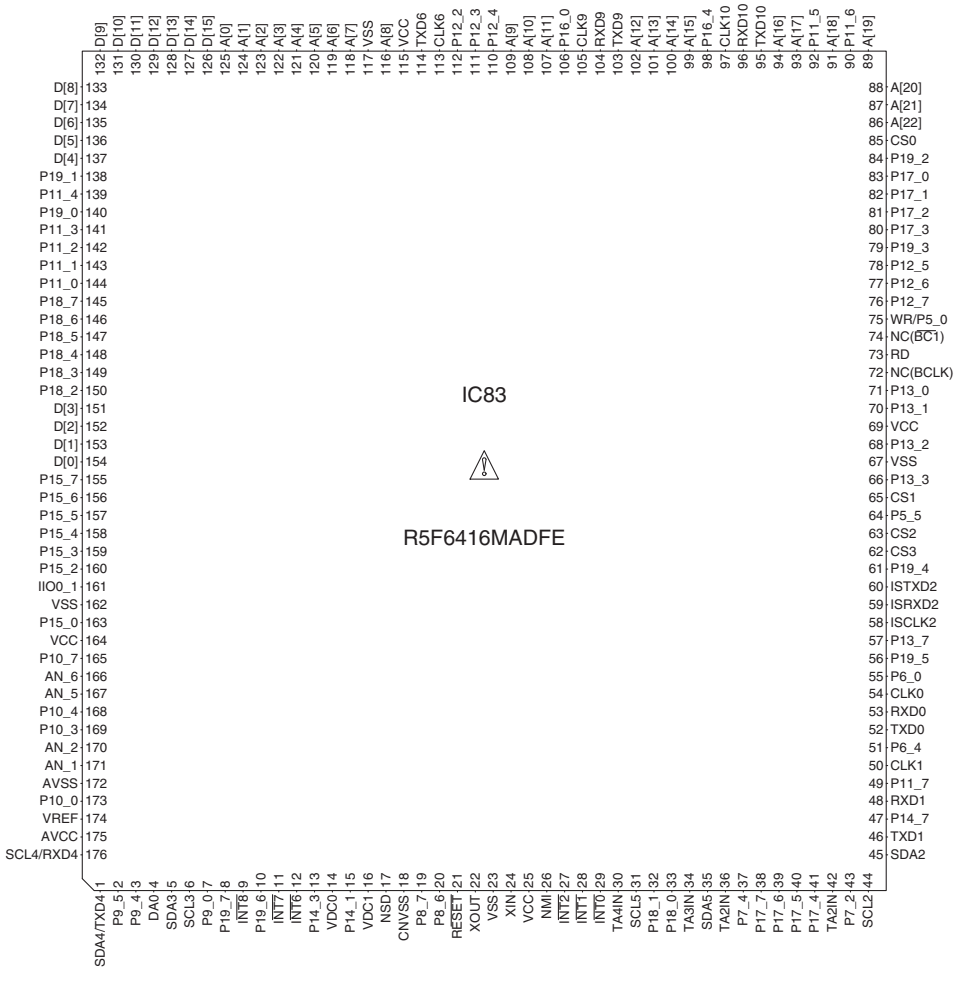
| Pin No. | Function Name | Detail of Function |
|---|---|---|
| A6 | VDD33 | I/O power supply (+3.3 V). |
| E8 | | |
| E9 | | |
| E12 | | |
| E13 | | |
| F5 | | |
| G5 | | |
| H14 | | |
| J14 | | |
| K5 | | |
| L5 | | |
| M14 | | |
| N14 | | |
| P6 | | |
| P7 | | |
| P10 | | |
| P11 | | |
| D7 | | |
| F6 | VSS | Ground (0 V). |
| F7 | | |
| F8 | | |
| F9 | | |
| F10 | | |
| F11 | | |
| F12 | | |
| F13 | | |
| G6 | | |
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| J7 | | |
| J8 | | |
| J9 | | |
| J10 | | |
| J11 | | |
| J12 | | |
| J13 | | |
| K6 | | |
| K7 | | |
| K8 | | |
| K9 | | |
| K10 | | |
| K11 | | |
| K12 | | |

| Pin No. | Function Name | Detail of Function |
|---|---|---|
| K13 | VSS | Ground (0 V). |
| L6 | | |
| L7 | | |
| L8 | | |
| L9 | | |
| L10 | | |
| L11 | | |
| L12 | | |
| L13 | | |
| M6 | | |
| M7 | | |
| M8 | | |
| M9 | | |
| M10 | | |
| M11 | | |
| M12 | | |
| M13 | | |
| N6 | | |
| N7 | | |
| N8 | | |
| N9 | | |
| N10 | | |
| N11 | | |
| N12 | | |
| N13 | | |
| B6 | | |
| C6 | | |
| R10 | VPP | |
| A2 | VDD33USB | Power supply (+3.3 V) for USB interface. |
| B2 | | |
| A3 | VSS33USB | Ground (0 V). |
| B3 | | |
| F3 | VDD33PLL | Power supply (+3.3V) for PLL. |
| G3 | VSS33PLL | Ground (0 V). |
| E6 | VDD12 | Power supply (+1.2V). |
| E7 | | |
| E10 | | |
| E11 | | |
| F14 | | |
| G14 | | |
| H5 | | |
| J5 | | |
| K14 | | |
| L14 | | |
| M5 | | |
| N5 | | |
| P8 | | |
| P9 | | |
| P12 | | |
| P13 | | |
| D8 | | |
| D1 | VDD12USB | Power supply (+1.2V) for USB interface. |
| C1 | VSS12USB | Ground (0 V). |
| H3 | VDD12PLL | Power supply (+1.2V) for PLL. |
| H2 | VSS12PLL | Ground (0 V). |
| G1 | VDD12DCO | Power supply (+1.2V) for DCO. |
| H1 | VSS12DCO | Ground (0 V). |

**IC83:** R5F6416MADFE (DIGITAL P.C.B.)
Microprocessor

*** No replacement part available.**



| Pin No. | Port Name | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 1 | SRXD4/SDA4/TXD4/ANEX1/P9_6 | TUN_SDA | I/O | O | Tuner I2C data |
| | | HDR_MOSI | O | O | HD Radio transmission data |
| 2 | CLK4/ANEX0/P9_5 | VOL1_SCK | O | O | VOL1 (R2A15220FP #1) communication clock |
| 3 | N_CTS4/N_N_RTS4/N_SS4/TB4IN/DA1/P9_4 | VOL_MOSI | O | O | VOL1/VOL2/VOL3 communication data |
| 4 | N_CTS3/N_N_RTS3/N_SS3/TB3IN/DA0/P9_3 | AMP_LMT | O | I | Limiter control |
| 5 | IEOUT/ISTXD2/OUTC2_0/SRXD3/SDA3/TXD3/TB2IN/P9_2 | HDMI_SDA | I/O | O | HDMI 400k I2C data |
| 6 | IEIN/ISRXD2/STXD3/SCL3/RXD3/TB1IN/P9_1 | HDMI_SCL | O | O | HDMI 400k I2C clock |
| 7 | CLK3/TB0IN/P9_0 | SPRY_5CH | O | O | SP relay 5CH (L, C, R, SRL, SRR) |
| 8 | P19_7 | PA_B_RY | O | O | Power amplifier B power supply control |
| 9 | N_INT8/P14_6 | HAU_N_INT | I | O | Mute signal from HDMI, RX1 and RX2 |
| 10 | P19_6 | FLD_N_RST | O | O | FLD reset |
| 11 | N_INT7/P14_5 | HTX1_N_INT | I | O | HDMI TX CEC interrupt |
| 12 | N_INT6/P14_4 | PWR_DET | I | I | AC power detect |
| 13 | P14_3 | FLD_N_CS | O | O | FLD chip select |
| 14 | VDC0 | VDC0 | | | --- |
| 15 | P14_1 (for exclusive use of the input) | I_PRT | I | I | Current protection |
| 16 | VDC1 | VDC1 | | | --- |
| 17 | NSD | NSD | | | Debugger |
| 18 | CNVSS | DBG_CNVSS | | | --- |
| 19 | XCIN/P8_7 | MIC_N_DET | I | O | Microphone detection |
| 20 | XCOUT/P8_6 | PD_LED | O | O | Pure direct LED |
| 21 | RESET | MCPU_N_RST | | | --- |
| 22 | XOUT | XOUT | | | --- |
| 23 | VSS | VSS | | | --- |
| 24 | XIN | XIN | | | --- |
| 25 | VCC | VCC | | | --- |
| 26 | NMI/P8_5 | NMI | | | --- |
| 27 | N_INT2/P8_4 | WAKEUP_INT | I | O | Power switch, MISO interrupt of RS-232C (Sleep return) |
| 28 | N_INT1/P8_3 | REM_IN2 | I | O | Remote control pulse input 2 |
| 29 | N_INT0/P8_2 | REM_IN1 | I | O | Remote control pulse input 1 |
| 30 | UD0B/UD1B/IIO1_5/N_RTS5/N_CTS5/N_SS5/U/TA4IN/P8_1 | TUN_N_INT | I | O | Interrupt from TUNER |
| 31 | UD0A/UD1A/RXD5/SCL5/STXD5/U/TA4OUT/P8_0 | FHDMI_SCL | O | O | HDMI switcher 100k I2C clock |
| 32 | P18_1 | FLD_PON | O | O | FL driver +3.3V power supply control |
| 33 | P18_0 | STBY_LED | O | O | Standby LED control |
| 34 | UD0B/UD1B/IIO1_4/CLK5/TA3IN/P7_7 | HSW_N_INT | I | O | Sii9589 1, 2 interrupt |
| 35 | UD0A/UD1A/IIO1_3/N_RTS8/N_CTS8/TXD5/SDA5/SRXD5/TA3OUT/P7_6 | FHDMI_SDA | I/O | O | HDMI switcher 100k I2C data |
| 36 | IIO1_2/RXD8/W/TA2IN/P7_5 | DAU_N_INT | I | O | Interrupt from DIR1, DIR2 and DSP |
| 37 | IIO1_1/CLK8/W/TA2OUT/P7_4 | – | O | O | No used |
| 38 | P17_7 | ISEL_RA | I | I | Input selector A |
| 39 | P17_6 | ISEL_RB | I | I | Input selector B |
| 40 | P17_5 | VOL_RA | I | I | Volume A |
| 41 | P17_4 | VOL_RB | I | I | Volume B |
| 42 | IIO1_0/TXD8/N_SS2/N_RTS2/N_CTS2/V/TA1IN/P7_3 | HRX_N_INT | I | O | HDMI RX (ADV7619) interrupt |
| 43 | CLK2/V/TA1OUT/P7_2 | R32C_N_INT | O | O | Interrupt of R32C to Blackfin |
| | | NCPU_SPI_REQ | I | O | BridgeCO request |
| 44 | MSCL/IEIN/ISRXD2/OUTC2_2/IIO1_7/STXD2/SCL2/RXD2/TA0IN/TB5IN/P7_1 | DV_SCL | O | O | D-VIDEO 400k I2C clock |
| 45 | TA0OUT/TXD2/SDA2/SRXD2/IIO1_6/OUTC2_0/ISTXD2/IEOUT/MSDA/P7_0 | DV_SDA | I/O | O | D-VIDEO 400k I2C data |
| 46 | TXD1/SDA1/SRXD1/P6_7 | 232C_DBG_MOSI | O | O | RS-232C transmission data / Debug / E8a |
| 47 | P14_7 | DSP_PON | O | O | DSP power supply |
| 48 | RXD1/SCL1/STXD1/P6_6 | 232C_DBG_MISO | I | O | RS-232C reception data / Debug / E8a |
| 49 | P11_7 | DAC_N_CS | O | O | DAC chip select (SW of V3071, FP DAC is D-FF) |
| 50 | CLK1/P6_5 | DBG_SCK | I | O | E8a |

| Pin No. | Port Name | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 51 | N_CTS1/N_RTS1/N_SS1/OUTC2_1/ISCLK2/ P6_4 | DBG_BUSY | O | O | E8a |
| 52 | TXD0/SDA0/SRXD0/P6_3 | DSP_MOSI | O | O | DSP/DIR/DAC transmission data |
| 53 | TB2IN/RXD0/SCL0/STXD0/P6_2 | DSP_MISO | I | I | DSP/DIR/DAC reception data |
| 54 | TB1IN/CLK0/P6_1 | DSP_SCK | O | O | DSP/DIR/DAC communication clock |
| 55 | TB0IN/N_CTS0/N_RTS0/N_SS0/P6_0 | NCPU_N_INT | I | O | Network microprocessor interrupt |
| | | NCPU_SPI_RDY | I | O | BridgeCO data ready |
| 56 | P19_5 | – | I | I | No used (+3.3DSP is applied, input port setting) |
| 57 | D31/OUTC2_7/P13_7 | DSP1_N_RST | O | O | DSP1 reset |
| 58 | D30/OUTC2_1/ISCLK2/P13_6 | Space | | | |
| 59 | D29/OUTC2_2/ISRXD2/IEIN/P13_5 | Space | | | |
| 60 | D28/OUTC2_0/ISTXD2/IEOUT/P13_4 | Space | | | |
| 61 | P19_4 | EEP_N_CS | O | O | EEPROM chip select |
| 62 | RDY/CS3/N_CTS7/N_RTS7/P5_7 | FPGA_N_CS | B | O | External bus FPGA chip select |
| 63 | ALE/CS2/RXD7/P5_6 | DFF2_N_CS | B | O | External bus DFF2 chip select |
| 64 | HOLD/CLK7/P5_5 | DBG_EPM | I | I | E8a |
| 65 | HLDA/CS1/TXD7/P5_4 | DFF1_N_CS | B | O | External bus DFF1 chip select |
| 66 | D27/OUTC2_3/P13_3 | – | O | O | No used |
| 67 | VSS | VSS | | | --- |
| 68 | D26/OUTC2_6/P13_2 | DSP1_N_SPIRDY | I | O | DSP1 SPI ready |
| 69 | VCC | VCC | | | --- |
| 70 | D25/OUTC2_5/P13_1 | – | O | O | No used |
| 71 | D24/OUTC2_4/P13_0 | DSP1_N_CS | O | O | DSP1 chip select |
| 72 | CLKOUT/BCLK/P5_3 | NC(BCLK) | B | O | External bus |
| 73 | RD/P5_2 | MCBUS_N_RD | B | O | External bus |
| 74 | WR1/BC1/P5_1 | NC(BC1) | B | O | External bus |
| 75 | WR0/WR/P5_0 | MCBUS_N_WR | B | I | External bus |
| | | DBG_N_CE | I | I | E8a |
| 76 | D23/P12_7 | MT_DA | O | O | Mute Digital Audio |
| 77 | D22/P12_6 | DIR1_N_CS | O | O | DIR1 chip select |
| 78 | D21/P12_5 | DIR_N_RST | O | O | DIR reset |
| 79 | P19_3 | – | O | O | No used |
| 80 | P17_3 | HPA_PU | O | O | HDMI RX HPA_B terminal pull-up presence control |
| | | – | O | O | No used |
| 81 | P17_2 | HSW_N_CS | O | O | HDMI SW chip select / L=SW1, H=SW2 |
| 82 | P17_1 | NCPU_PON | O | O | NET / USB power supply |
| 83 | P17_0 | NCPU_VBUSDRV | I | O | USB VBUS drive |
| 84 | P19_2 | USB_VBUS_PON | O | O | USB VBUS power supply control |
| 85 | CS0/A23/TXD6/SDA6/SRXD6/P4_7 | FLASH_N_CS | O | O | External bus Flash ROM chip select |
| 86 | CS1/A22/RXD6/SCL6/STXD6/P4_6 | A[22] | B | O | External bus |
| 87 | CS2/A21/CLK6/P4_5 | A[21] | B | O | External bus |
| 88 | CS3/A20/N_CTS6/N_RTS6/N_SS6/P4_4 | A[20] | B | O | External bus |
| 89 | A19/TXD3/SDA3/SRXD3/OUTC2_0/ISTXD2/ IEOUT/P4_3 | A[19] | B | O | External bus |
| 90 | P11_6 | – | O | O | No used |
| 91 | A18/RXD3/SCL3/STXD3/ISRXD2/IEIN/P4_2 | A[18] | B | O | External bus |
| 92 | P11_5 | DFF_FROM_N_RST | O | O | Reset of DFF |
| 93 | A17/CLK3/P4_1 | A[17] | B | O | External bus |
| 94 | A16/N_CTS3/N_RTS3/N_SS3/P4_0 | A[16] | B | O | External bus |
| 95 | P16_7/TXD10 | EX_MOSI | O | O | FL / EEPROM / Expansion IO transmission data |
| 96 | P16_6/RXD10 | EEP_MISO | I | O | EEPROM reception data |
| 97 | P16_5/CLK10 | EX_SCK | O | O | FL / EEPROM / Expansion IO communication clock |
| 98 | P16_4/N_CTS10/N_RTS10 | BF_MT | I | O | Mute signal from Blackfin (for NCPU_N_INT distinction) |
| | | NCPU_AMUTE | I | O | Mute signal from BridgeCO |
| 99 | A15/[A15/D15]/TA4IN/U/P3_7 | A[15] | B | O | External bus |
| 100 | A14/[A14/D14]/TA4OUT/U/P3_6 | A[14] | B | O | External bus |
| 101 | A13/[A13/D13]/TA2IN/W/P3_5 | A[13] | B | O | External bus |
| 102 | A12/[A12/D12]/TA2OUT/W/P3_4 | A[12] | B | O | External bus |

| Pin No. | Port Name | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 103 | P16_3/TXD9 | NCPU_PIC_MISO | O | O | Network microprocessor SPI transmission data |
| | | NCPU_SPI_MOSI | O | O | Data (Master out slave in) |
| 104 | P16_2/RXD9 | NCPU_PIC_MOSI | I | O | Network microprocessor SPI reception data |
| | | NCPU_SPI_MISO | I | O | Data (Master in slave out) |
| 105 | P16_1/CLK9 | NCPU_PIC_SCK | I | O | Network microprocessor SPI communication clock |
| | | NCPU_SPI_SCK | O | O | Clock (Master out slave in) |
| 106 | P16_0/N_CTS9/N_RTS9 | NCPU_N_RST | O | O | Network microprocessor reset |
| 107 | A11/[A11/D11]/TA1IN/V/P3_3 | A[11] | B | O | External bus |
| 108 | A10/[A10/D10]/TA1OUT/V/P3_2 | A[10] | B | O | External bus |
| 109 | A9/[A9/D9]/TA3OUT/UD0B/UD1B/P3_1 | A[9] | B | O | External bus |
| 110 | D20/P12_4 | AD_SEL_A | O | O | AD select A |
| 111 | D19/N_CTS6/N_RTS6/N_SS6/P12_3 | AD_SEL_B | O | O | AD select B |
| 112 | D18/RXD6/SCL6/STXD6/P12_2 | AD_SEL_C | O | O | AD select C |
| 113 | D17/CLK6/P12_1 | FPGA_SCK | O | O | FPGA clock (at Boot) |
| 114 | D16/TXD6/SDA6/SRXD6/P12_0 | FPGA_MOSI | O | O | FPGA transmission data (at Boot) |
| 115 | VCC | VCC | | | --- |
| 116 | A8/[A8/D8]/TA0OUT/UD0A/UD1A/P3_0 | A[8] | B | O | External bus |
| 117 | VSS | VSS | | | --- |
| 118 | A7/[A7/D7]/AN2_7/P2_7/TXD10 | A[7] | B | O | External bus |
| 119 | A6/[A6/D6]/AN2_6/P2_6/RXD10 | A[6] | B | O | External bus |
| 120 | A5/[A5/D5]/AN2_5/P2_5/CLK10 | A[5] | B | O | External bus |
| 121 | A4/[A4/D4]/AN2_4/P2_4/N_CTS10/N_RTS10 | A[4] | B | O | External bus |
| 122 | A3/[A3/D3]/AN2_3/P2_3/TXD9 | A[3] | B | O | External bus |
| 123 | A2/[A2/D2]/AN2_2/P2_2/RXD9 | A[2] | B | O | External bus |
| 124 | A1/[A1/D1]/BC2/[BC2/D1]/AN2_1/P2_1/CLK9 | A[1] | B | O | External bus |
| 125 | A0/[A0/D0]/BC0/[BC0/D0]/AN2_0/P2_0/N_CTS9/N_RTS9 | A[0] | B | O | External bus |
| 126 | D15/N_INT5/IIO0_7/IIO1_7/P1_7 | D[15] | B | I | External bus |
| 127 | D14/N_INT4/IIO0_6/IIO1_6/P1_6 | D[14] | B | I | External bus |
| 128 | D13/N_INT3/IIO0_5/IIO1_5/P1_5 | D[13] | B | I | External bus |
| 129 | D12/IIO0_4/IIO1_4/P1_4 | D[12] | B | I | External bus |
| 130 | D11/IIO0_3/IIO1_3/P1_3 | D[11] | B | I | External bus |
| 131 | D10/IIO0_2/IIO1_2/P1_2 | D[10] | B | I | External bus |
| 132 | D9/IIO0_1/IIO1_1/P1_1 | D[9] | B | I | External bus |
| 133 | IIO0_0/IIO1_0/D8/P1_0 | D[8] | B | I | External bus |
| 134 | AN0_7/D7/P0_7 | D[7] | B | I | External bus |
| 135 | AN0_6/D6/P0_6 | D[6] | B | I | External bus |
| 136 | AN0_5/D5/P0_5 | D[5] | B | I | External bus |
| 137 | AN0_4/D4/P0_4 | D[4] | B | I | External bus |
| 138 | P19_1 | FPGA_N_CFG | O | O | FPGA nCONF |
| 139 | WR3/BC3/P11_4 | FPGA_N_STA | I | I | FPGA nSTATUS |
| 140 | P19_0 | FPGA_CDONE | I | I | FPGA CONF DONE |
| 141 | IIO1_3/N_RTS8/N_CTS8/WR2/CS3/P11_3 | DIAG_CHECK | O | O | Diag inspection result output / OK=High, NG=Low |
| 142 | IIO1_2/RXD8/CS2/P11_2 | NCPU_MISO | I | O | Network microprocessor UART reception data |
| | | NDAC_N_MT | O | O | Net zone DAC mute |
| 143 | IIO1_1/CLK8/CS1/P11_1 | SPRY_Z2&FP | O | O | SP relay Zone2 and Front Presence |
| 144 | IIO1_0/TXD8/CS0/P11_0 | NCPU_MOSI | O | O | Network microprocessor UART transmission data |
| | | NCPU_SPI_N_CS | O | O | Network microprocessor SPI chip select |
| 145 | P18_7 | HPRY | O | O | HP relay |
| 146 | P18_6 | MT_N_Z2 | O | O | Mute Zone2 (Line out) |
| 147 | P18_5 | SPRY_SB&BA | O | O | SP relay surround back and Bi-Amp |
| 148 | P18_4 | MT_N_5CH | O | O | Mute 5ch (L, C, R, SRL, SRR Preout/Main amplifier input) |
| 149 | P18_3 | MT_N_SW | O | O | Mute Subwoofer (Preout) |
| 150 | P18_2 | MT_N_SB | O | O | Mute SB/BA/Z2/FP (Preout/Main amplifier input) |
| 151 | AN0_3/D3/P0_3 | D[3] | B | I | External bus |
| 152 | AN0_2/D2/P0_2 | D[2] | B | I | External bus |
| 153 | AN0_1/D1/P0_1 | D[1] | B | I | External bus |
| 154 | AN0_0/D0/P0_0 | D[0] | B | I | External bus |

| Pin No. | Port Name | Function Name | I/O Related Power Supply ON | I/O Related Power Supply OFF | Detail of Function |
|---|---|---|---|---|---|
| 155 | IIO0_7/N_RTS6/N_CTS6/N_SS6/AN15_7/P15_7 | SVID_DET | I | I | S-video detect |
| 156 | IIO0_6/CLK6/AN15_6/P15_6 | HP_N_DET | I | O | Headphone detection |
| 157 | IIO0_5/RXD6/SCL6/STXD6/AN15_5/P15_5 | EX1_N_CS | O | O | Expansion IO 1 chip select |
| 158 | IIO0_4/TXD6/SDA6/SRXD6/AN15_4/P15_4 | EX1_N_RST | O | O | Expansion IO 1 reset |
| 159 | IIO0_3/N_RTS7/N_CTS7/AN15_3/P15_3 | DSP1_N_INT | I | O | Interrupt from DSP1 (for DAU_N_INT distinction) |
| 160 | IIO0_2/RXD7/AN15_2/P15_2 | DIR1_N_INT | I | O | Interrupt from DIR1 (for DAU_N_INT distinction) |
| 161 | IIO0_1/CLK7/AN15_1/P15_1 | IR_OUT | O | O | Remote control cord output |
| 162 | VSS | VSS | | | --- |
| 163 | IIO0_0/TXD7/AN15_0/P15_0 | HRX1_N_MT | I | O | |
| 164 | VCC | VCC | | | --- |
| 165 | KI3/AN_7/P10_7 | +3.3S_PON | O | O | +3.3S power supply |
| 166 | KI2/AN_6/P10_6 | AD2_COM | I | O | AD selector 2 COM input |
| 167 | KI1/AN_5/P10_5 | AD1_COM | I | O | AD selector 1 COM input |
| 168 | KI0/AN_4/P10_4 | HSW_2CHIP | I | I | HDMI SW number distinction |
| 169 | AN_3/P10_3 | – | O | O | No used |
| 170 | AN_2/P10_2 | KY_AD2 | I | O | Key 2 |
| 171 | AN_1/P10_1 | KY_AD1 | I | O | Key 1 |
| 172 | AVSS | AVSS | | | --- |
| 173 | AN_0/P10_0 | TUN_N_RST | O | O | Tuner reset |
| 174 | VREF | VREF | | | --- |
| 175 | AVCC | AVCC | | | --- |
| 176 | STXD4/SCL4/RXD4/ADTRG/P9_7 | TUN_SCL | O | O | Tuner I2C clock |

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

| | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.5 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | 22 kΩ | 33 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 171 pin | 0 – 0.15 V | 0.15 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.97 V | 0.98 – 1.24 V | 1.25 – 1.53 V | 1.54 – 1.84 V | 1.85 – 2.22 V | 2.23 – 2.62 V | 2.63 – 3.04 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 75 | 76 – 96 | 97 – 119 | 120 – 142 | 143 – 163 | 182 – 197 | 198 – 209 |
| KEY1 | RADIO (SCENE4) | NET (SCENE3) | TV (SCENE2) | BD/DVD (SCENE1) | ZONE CONTROL | ZONE2 | INPUT > (RX-V673/HTR-6065 models) | INPUT < (RX-V673/HTR-6065 models) | MAIN ZONE ⏻ (power) | TONE CONTROL |

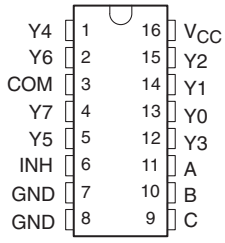
| | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.8 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | + 6.8 kΩ | + 10 kΩ | + 22 kΩ | + 68 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 170 pin | 0 – 0.15 V | 0.16 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.99 V | 1.00 – 1.27 V | 1.28 – 1.56 V | 1.57 – 1.86 V | 1.87 – 2.14 V | 2.15 – 2.39 V | 2.40 – 2.65 V | 2.66 – 2.91 V | 2.92 – 3.17 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 77 | 78 – 99 | 100 – 121 | 122 – 144 | 145 – 166 | 167 – 186 | 187 – 205 | 206 – 226 | 227 – 246 |
| KEY2 | PURE DIRECT | TUNING >> | TUNING << | AM | FM | PRESET > | PRESET < | MEMORY | INFO | STRAIGHT | PROGRAM > | PROGRAM < |

Destination detection for A/D port
Pull-up resistance 10 k-ohms

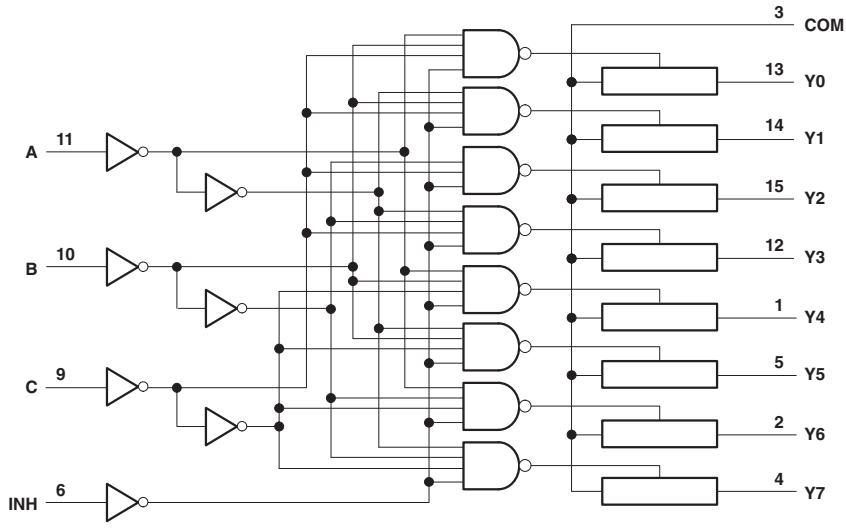
| R753 on DIGITAL P.C.B. | 0 Ω | 1.2 kΩ | 2.7 kΩ | 4.7 kΩ | 6.8 kΩ | 10 kΩ | 15 kΩ | 47 kΩ | 100 kΩ |
|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 111 pin | 0 – 0.16 V | 0.17 – 0.51 V | 0.52 – 0.87 V | 0.88 – 1.92 V | 1.93 – 1.49 V | 1.50 – 1.81 V | 1.82 – 2.35 V | 2.36 – 2.86 V | 2.87 – 3.15 V |
| A/D value (3.3 V=255) | 0 – 12 | 13 – 39 | 40 – 67 | 68 – 92 | 93 – 115 | 116 – 140 | 141 – 169 | 199 – 221 | 222 – 244 |
| Destination | J | U | C | R, S | T | K | A | B, G, F | L, H |

- **Microprocessor extended port**

**IC76, 78:** SN74LV4051APWR (DIGITAL P.C.B.)
8-channel analog multiplexers/demultiplexers




| INPUTS | | | | ON CHANNEL |
|---|---|---|---|---|
| INH | C | B | A | |
| L | L | L | L | Y0 |
| L | L | L | H | Y1 |
| L | L | H | L | Y2 |
| L | L | H | H | Y3 |
| L | H | L | L | Y4 |
| L | H | L | H | Y5 |
| L | H | H | L | Y6 |
| L | H | H | H | Y7 |
| H | X | X | X | None |



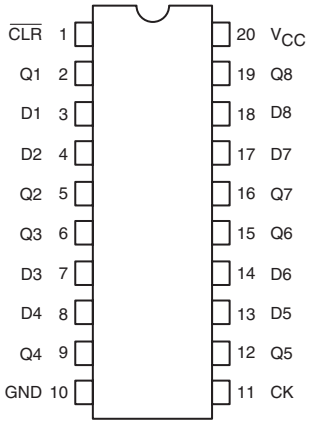

**IC76**

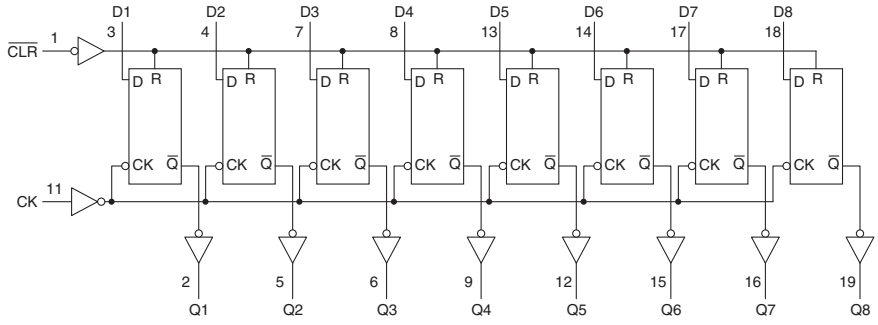
| Pin No. | Port Name | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 1 | Y4 | THM2 | I | I | Temperature detection 2 |
| 2 | Y6 | THM3 | I | I | Temperature detection 3 |
| 4 | Y7 | THM4 | I | I | Temperature detection 4 |
| 5 | Y5 | DEST | I | I | Destination distinction |
| 12 | Y3 | MODEL | I | I | Model distinction |
| 13 | Y0 | Space | I | I | – |
| 14 | Y1 | USB_VBUS_PRT | I | I | Front USB overcurrent detection |
| 15 | Y2 | Space | I | I | – |

**IC78**

| Pin No. | Port Name | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| AD selector 1 (AD1_COM signal is input into AN_5 of R32C) | | | | | |
| 1 | Y4 | PS2_PRT | I | I | Power supply protection 2 |
| 2 | Y6 | PS1_PRT | I | I | Power supply protection 1 |
| 4 | Y7 | AMP_OLV | I | I | Amplifier output level detection |
| 5 | Y5 | DC_PRT | I | I | DC protection |
| 12 | Y3 | THM1 | I | I | Temperature detection 1 |
| 13 | Y0 | PS3_PRT | I | I | Power supply protection 3 |
| 14 | Y1 | L3_DET | I | I | D terminal L3 detection |
| 15 | Y2 | MODE | I | I | Special mode distinction |

**IC79, 81:** TC74VHC273FT (EL,K) (DIGITAL P.C.B.)
Octal D-type flip-flop with clear




| Inputs | | | Output | Function |
|---|---|---|---|---|
| $\overline{CLR}$ | D | CK | Q | |
| L | X | X | L | Clear |
| H | L | ↑ | L | – |
| H | H | ↑ | H | – |
| H | X | ↓ | $Q_n$ | No Change |

**IC79**

| Pin No. | R32C external bus data | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 2 | D[8] | HDMI_PON | O | O | HDMI power supply (Necessary for DSP, A-VIDEO drive) |
| 5 | D[9] | HRX1_N_RST | O | O | HDMI receiver reset |
| 6 | D[10] | HTX1_N_RST | O | O | HDMI transmitter reset |
| 9 | D[11] | HTX2_N_RST | O | O | HDMI transmitter 2 reset |
| 12 | D[12] | CEC_EN | O | O | CEC function ON/OFF of HDMI TX1 |
| 15 | D[13] | HTX_AUSEL | O | O | HDMI transmitter sound select |
| 16 | D[14] | HAU_N_OE | O | O | HDMI to DIR sound output enable |
| 19 | D[15] | ZTX_AUSEL2 | O | O | Switching of the HDMI sound and except HDMI |

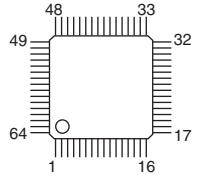
**IC81 (D-FF11)**

| Pin No. | R32C external bus data | Function Name | I/O Related Power Supply | | Detail of Function |
|---|---|---|---|---|---|
| | | | ON | OFF | |
| 2 | D[0] | HSW_N_RST | O | O | HDMI switcher reset |
| 5 | D[1] | VDEC_N_RST | O | O | Video decoder reset |
| 6 | D[2] | WIFI_PON | O | O | WiFi adaptor power supply control (spare) |
| 9 | D[3] | HRX_VSEL | O | O | Video decoder to scaler line enable |
| 12 | D[4] | F_HEQ_CE | O | O | Front HDMI + 3.3HF power supply:<br>Interlocking movement with HDMI_PON |
| 15 | D[5] | VID_PON | O | O | Video power supply |
| 16 | D[6] | +3.3D_PON | O | O | OR of HDMI_PON, DSP_PON, NET_USB_PON |
| 19 | D[7] | PRY | O | O | Power relay |

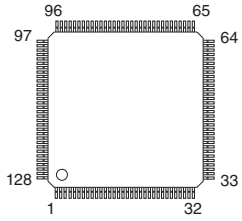
# ■ PIN CONNECTION DIAGRAMS

**• ICs**

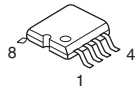
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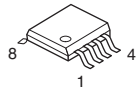

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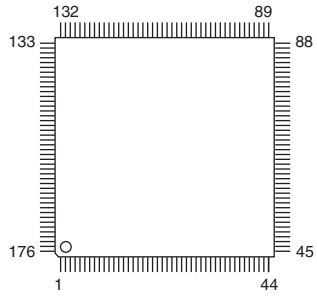

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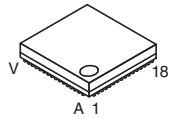

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BD9329AEFJ-E2

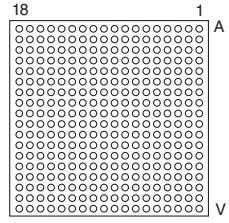



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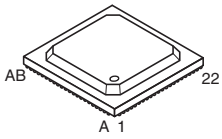


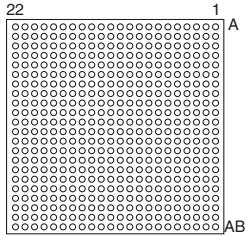

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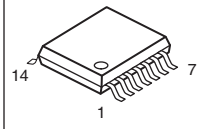




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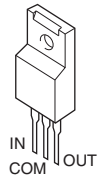


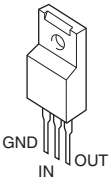

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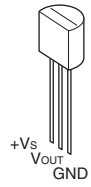

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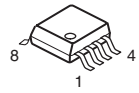

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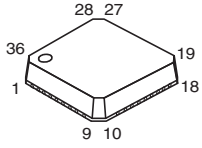

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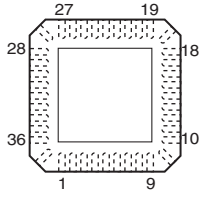



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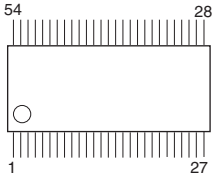



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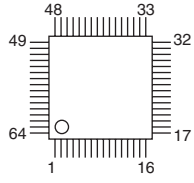


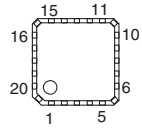

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M12L64164A-5TG



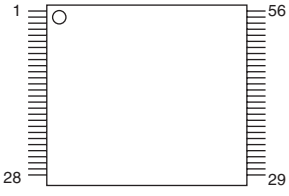

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MFI341S2162



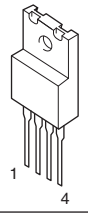

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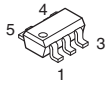



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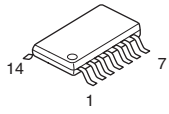



1. VIN
2. VOUT
3. GND
4. ON/OFF CONTROL

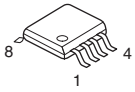
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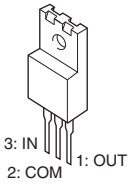

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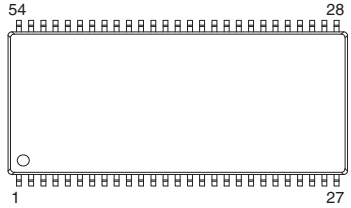

NJM4565M (TE1)



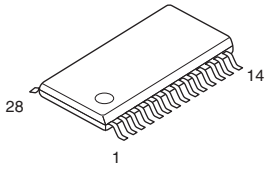

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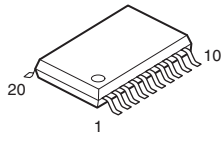

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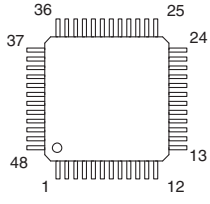

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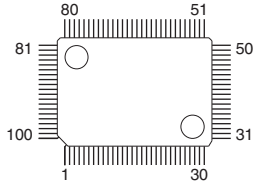

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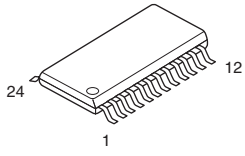

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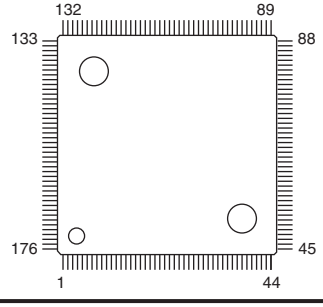

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R5F213G1DN400SP#W4




R5F6416MADFE

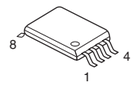


## • ICs

R1163N501B-TR-FE
R1172N301D-TR-F



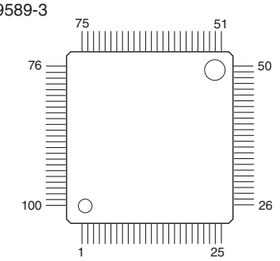

R1EX25512ATA00A



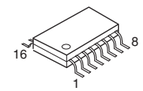

RP130Q121D-TR-F
RP130Q181D-TR-F
RP130Q251D-TR-FE
RP130Q331D-TR-F
RP130Q501D-TR-F



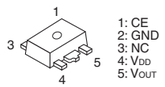

SiI9136CTU-3
SiI9589-3




SN74LV4051APWR




R1172H121D-T1-F
R1172H501D-T1-F
RP132H331D-T1-FE

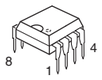



1: CE
2: GND
3: NC
4: $V_{DD}$
5: $V_{OUT}$

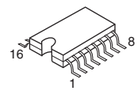
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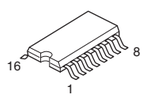

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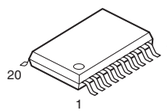

TC74HC4051AFEL



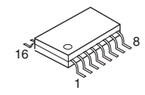

TC74HC4053AF



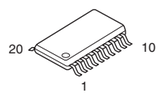

TC74LCX245FT



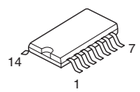

TC74VHC157FT



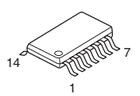

TC74VHC273FT (EL,K)




TC74VHCT08AF



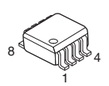

TC74VHCU04FT



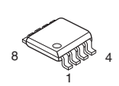

TC7SH08FU
TC7SH32FU
TC7SH86FU
TC7SH125FU



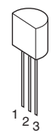

TC7WH126FU




TC7WZ32FK (TE85L, F)

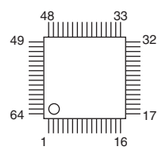



TL431ACLPR

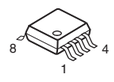



1: CATHODE
2: ANODE
3: REF

TMDS261BPAGR

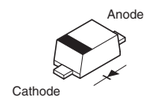



W25Q80BVSSIG

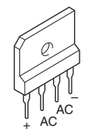



## • Diodes

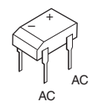
1SS355
1SS355VMTE-17



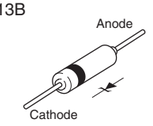

D6SBN20



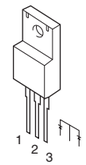

DBL155G



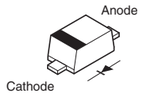

MTZJ5.1C
MTZJ6.8C
MTZJ13B



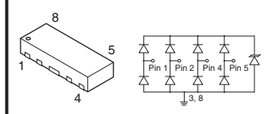

RB215T-90



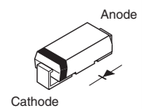

RB501V-40
RB521S-30



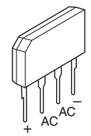

RCLAMP0584J



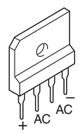

RF101L2STE25



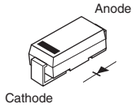

RS203M-B-C-J80



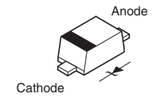

RS603M-B-C-J80




SARS05

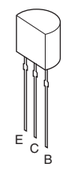



UDZS12B 12V
UDZV4.3B
UDZV5.1B
UDZV36B

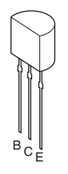



## • Transistors

2N5401C-AT/P




2N5551C-AT



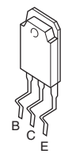

2SA1312-GR,BL



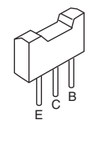

2SA1576A
2SA1576UBTLR



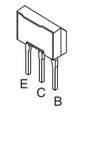

2SA1695 O,P,Y
2SC4468 O,P,Y



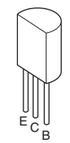

2SA1708




2SA1770S/T-AN




2SA949
2SC2229




2SC3324-GR,BL
2SC3906K



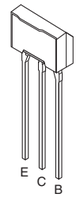

2SC4081 T106




2SC4081UBTLR




2SC4614S/T-AN



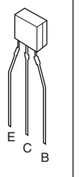

2SC5964-TD-E




2SD2704 K




2SD2705S TP




DTA044EUBTL
DTC014EUBTL




1: IN
2: GND
3: OUT

DTA114EKA
DTC114EKA
DTC144EKA



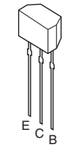

1: GND
2: IN
3: OUT

HN4B01JE

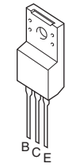



1. BASE 1 (B1)
2. EMITTER (E)
3. BASE 2 (B2)
4. COLLECTOR 2 (C2)
5. COLLECTOR 1 (G2)

KRA102M-AT/P
KRC102M-AT




KTA1046-Y-U/PFY
KTA1837-U/P




KTA1504S
KTC3875S




MCH6336-TL-E




1. Drain
2. Drain
3. Gate
4. Source
5. Drain
6. Drain

RAL035P01




1. DRAIN
2. DRAIN
3. GATE
4. SOURCE
5. DRAIN
6. DRAIN

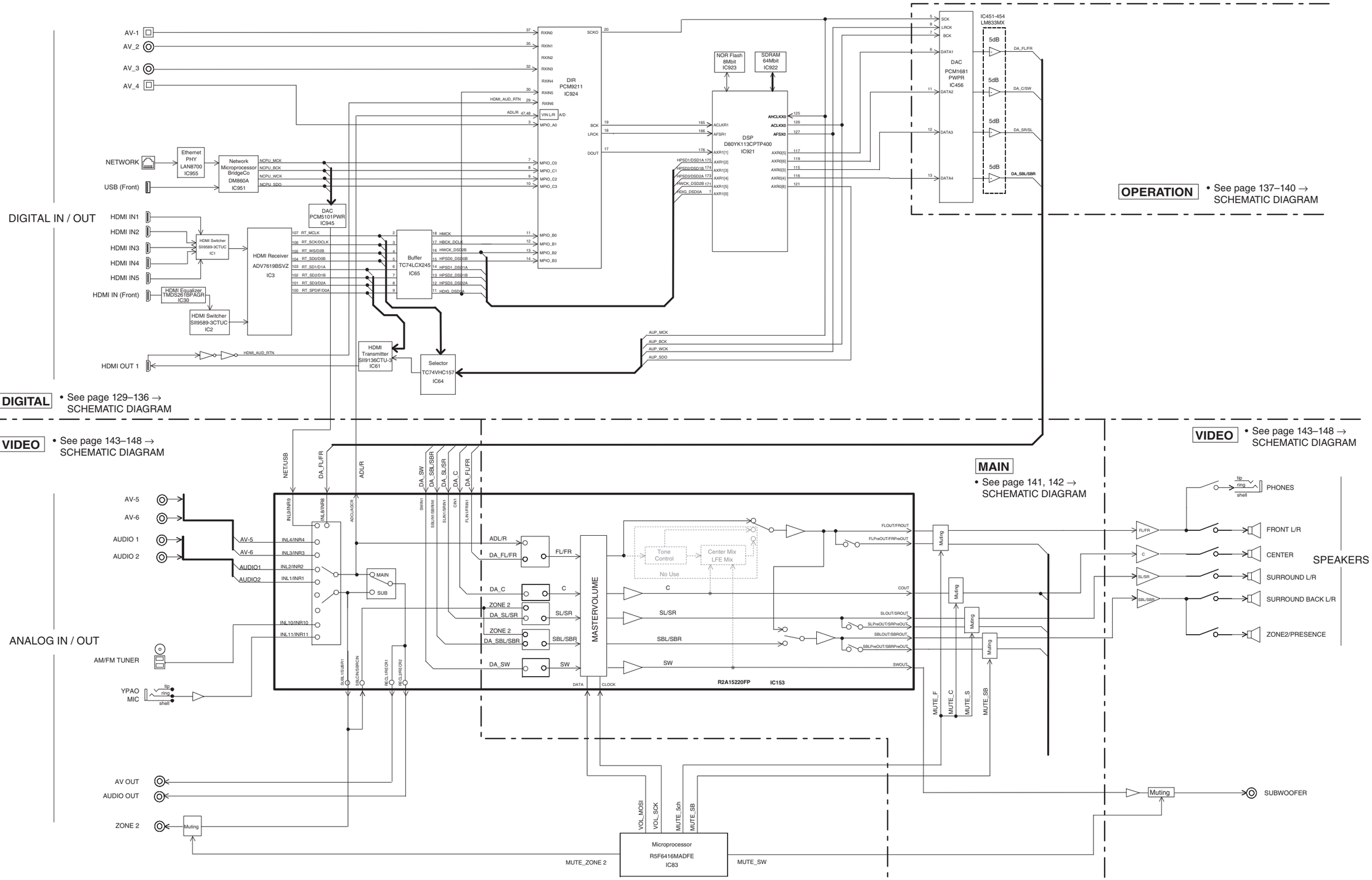
µPA672T-T1-A



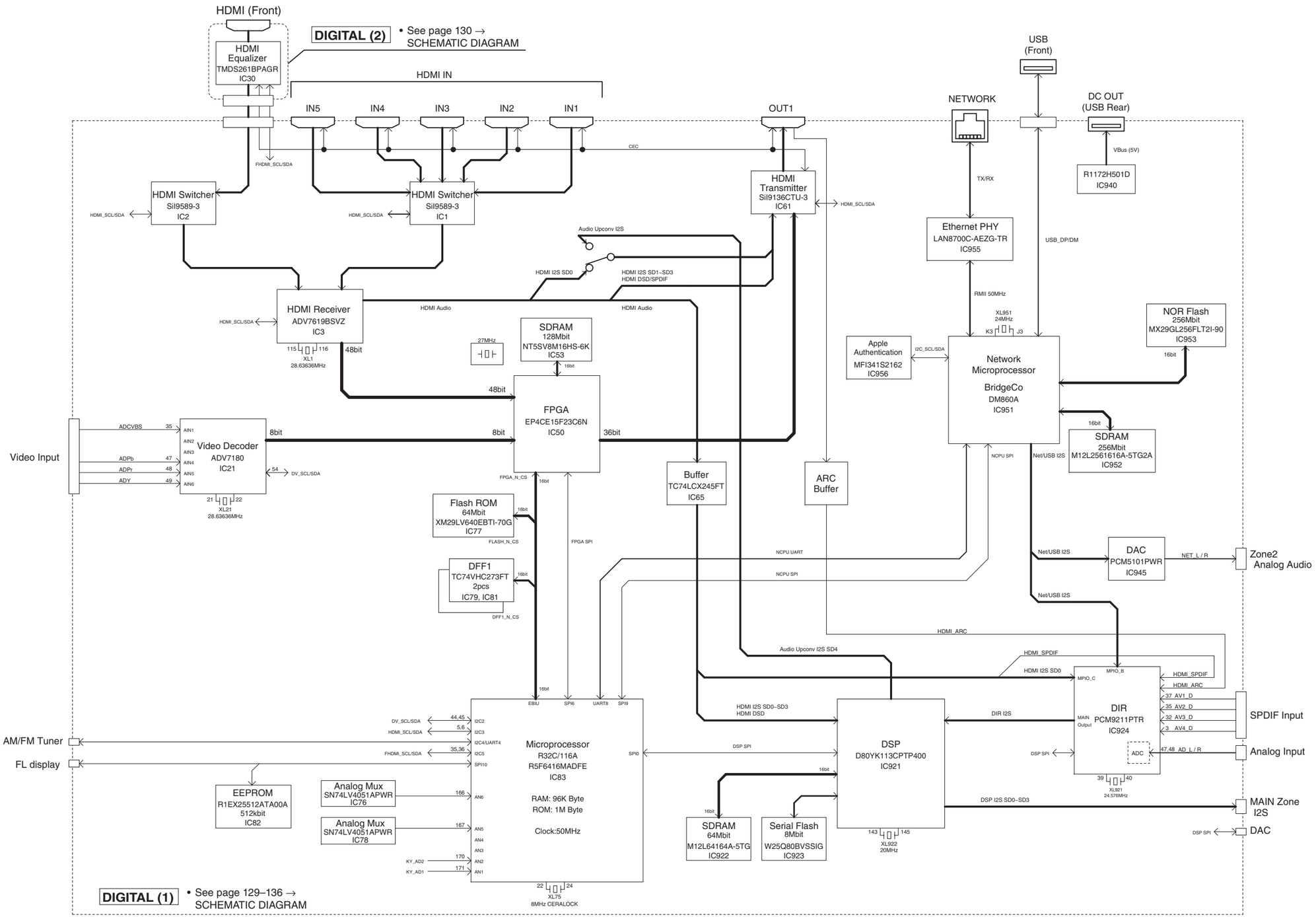

1. Source 1 (S1)
2. Gate 1 (G1)
3. Drain 2 (D2)
4. Source 2 (S2)
5. Gate 2 (G2)
6. Drain 1 (D1)

# ■ BLOCK DIAGRAMS

## AUDIO Section Block Diagram



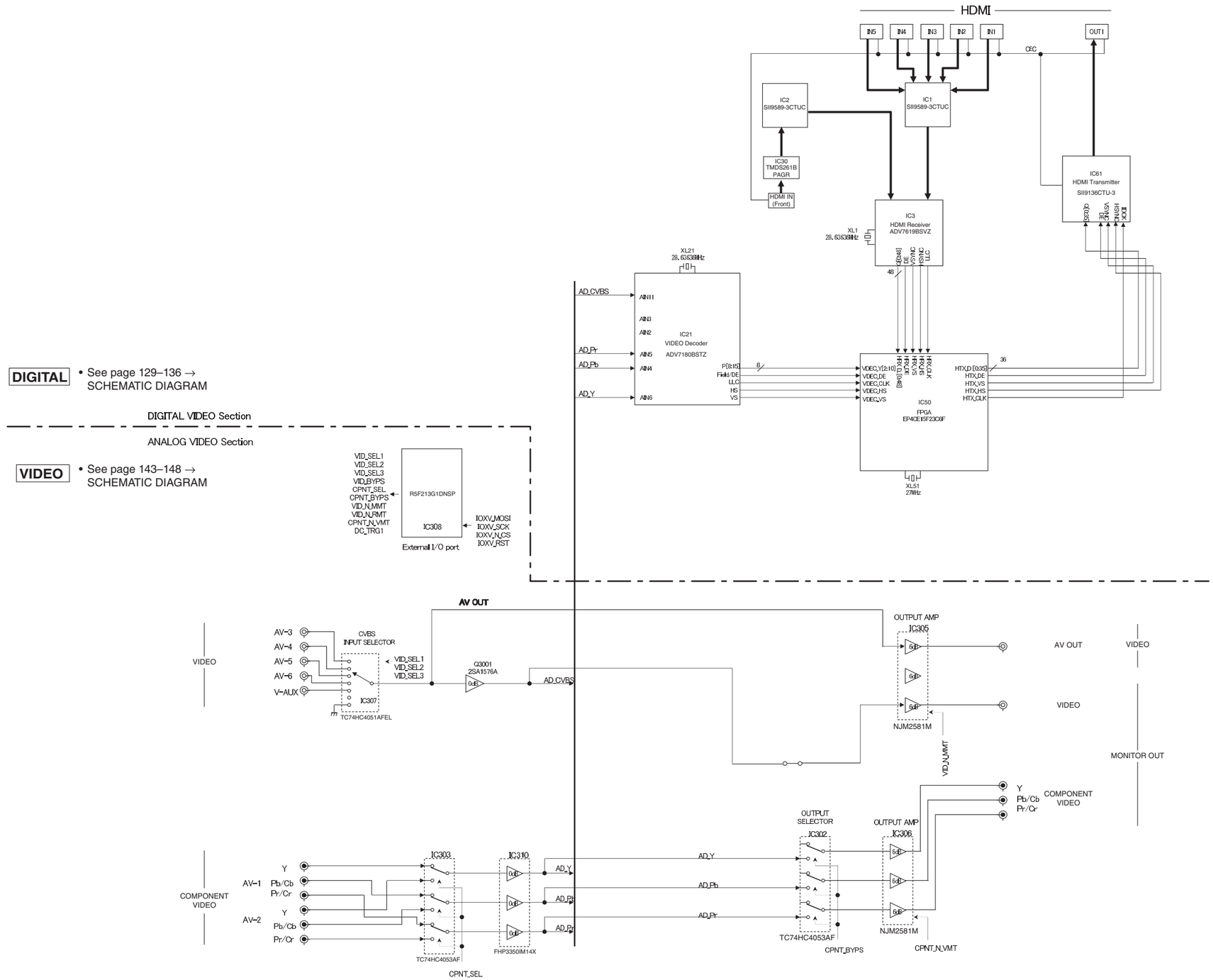
# DIGITAL P.C.B. Section Block Diagram



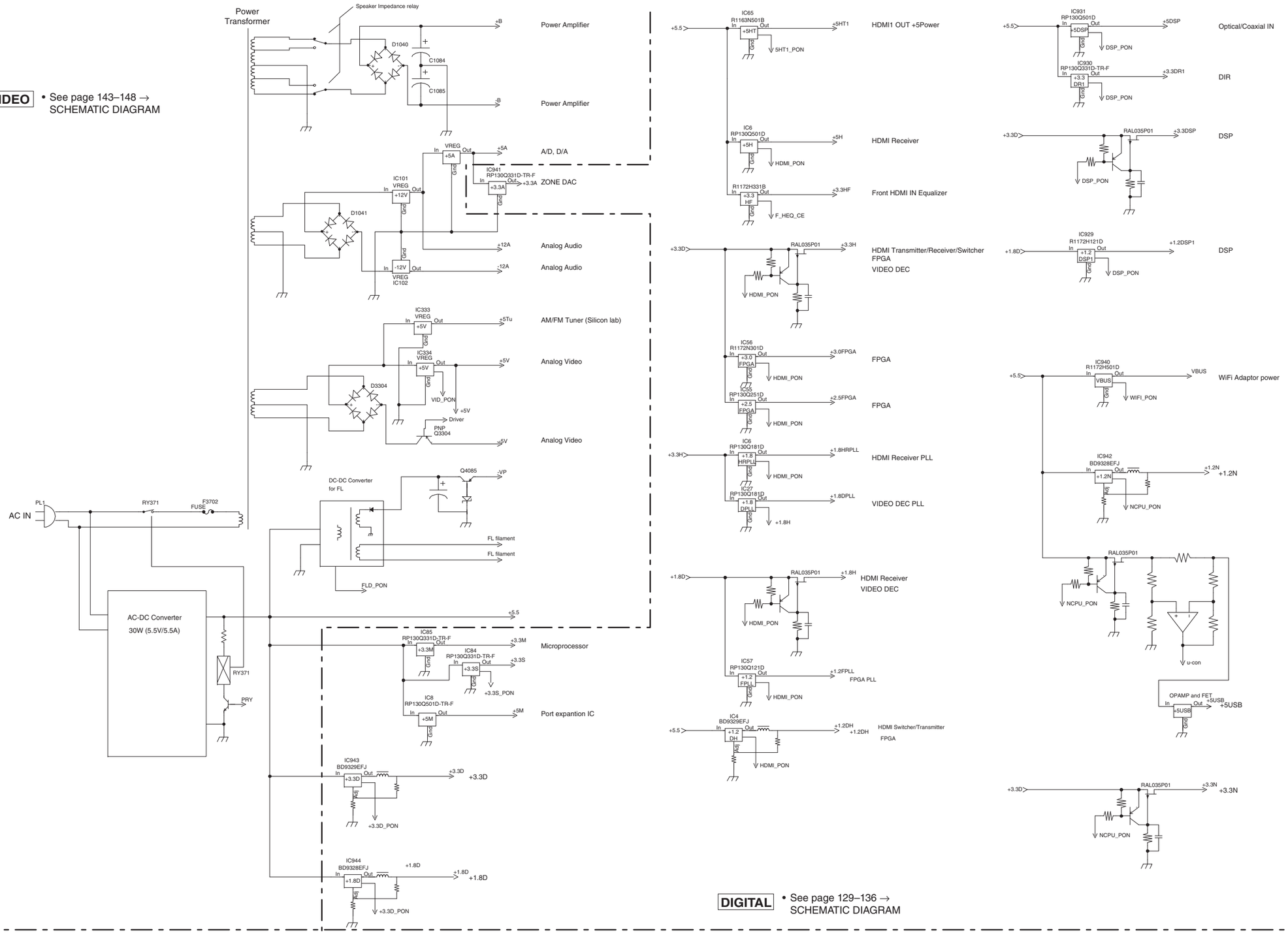
# DIGITAL / VIDEO Section Block Diagram

**DIGITAL** • See page 129–136 →
SCHEMATIC DIAGRAM

**VIDEO** • See page 143–148 →
SCHEMATIC DIAGRAM



# Power Supply Section Block Diagram




**VIDEO** • See page 143–148 → SCHEMATIC DIAGRAM

**DIGITAL** • See page 129–136 → SCHEMATIC DIAGRAM

# ■ PRINTED CIRCUIT BOARDS

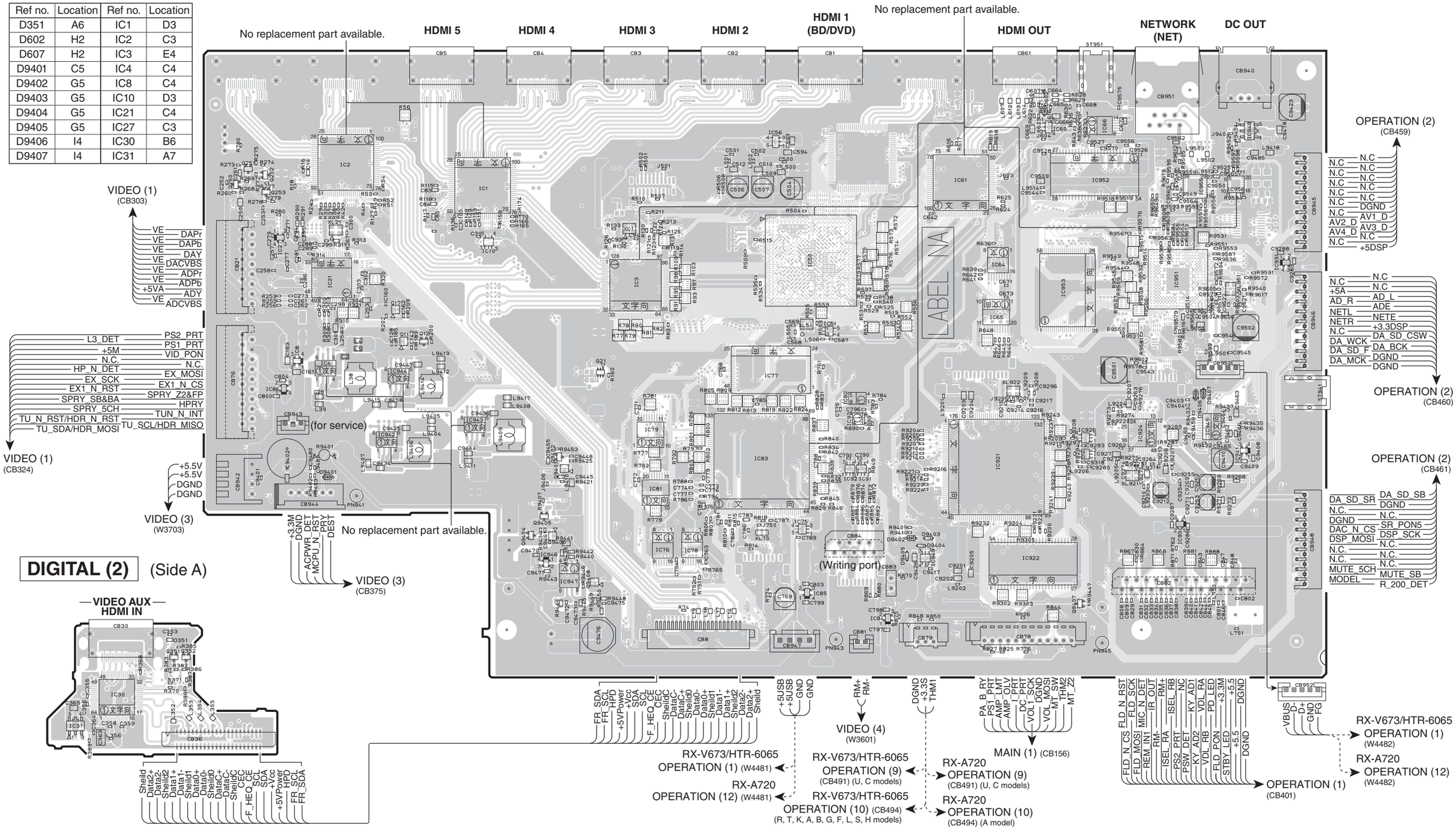
**RX-V673/HTR-6065** | **RX-A720**

## DIGITAL (1) (Side A)

| Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IC50 | F3 | IC65 | G4 | IC79 | E5 | IC86 | C4 | IC924 | H5 | IC941 | I5 | IC947 | E6 | IC956 | I3 | Q251 | B3 | Q9402 | E5 |
| IC51 | F4 | IC66 | H3 | IC81 | E5 | IC91 | F5 | IC926 | H5 | IC942 | C5 | IC949 | G5 | Q11 | C4 | Q252 | C3 | Q9404 | D5 |
| IC56 | F3 | IC75 | F5 | IC82 | F4 | IC92 | F5 | IC927 | H5 | IC943 | D5 | IC951 | I4 | Q12 | D4 | Q253 | C3 | Q9405 | D5 |
| IC60 | H3 | IC76 | E5 | IC83 | F5 | IC93 | F5 | IC930 | I5 | IC944 | C4 | IC952 | H3 | Q17 | C4 | Q351 | B6 | Q9406 | D5 |
| IC61 | G3 | IC77 | F4 | IC84 | G6 | IC921 | G5 | IC931 | I4 | IC945 | I5 | IC953 | H4 | Q21 | E4 | Q352 | B6 | Q9407 | H6 |
| IC64 | G3 | IC78 | E5 | IC85 | F6 | IC922 | H5 | IC940 | I3 | IC946 | D5 | IC955 | I3 | Q250 | B3 | Q9401 | E5 | Q9408 | E6 |

• Semiconductor Location

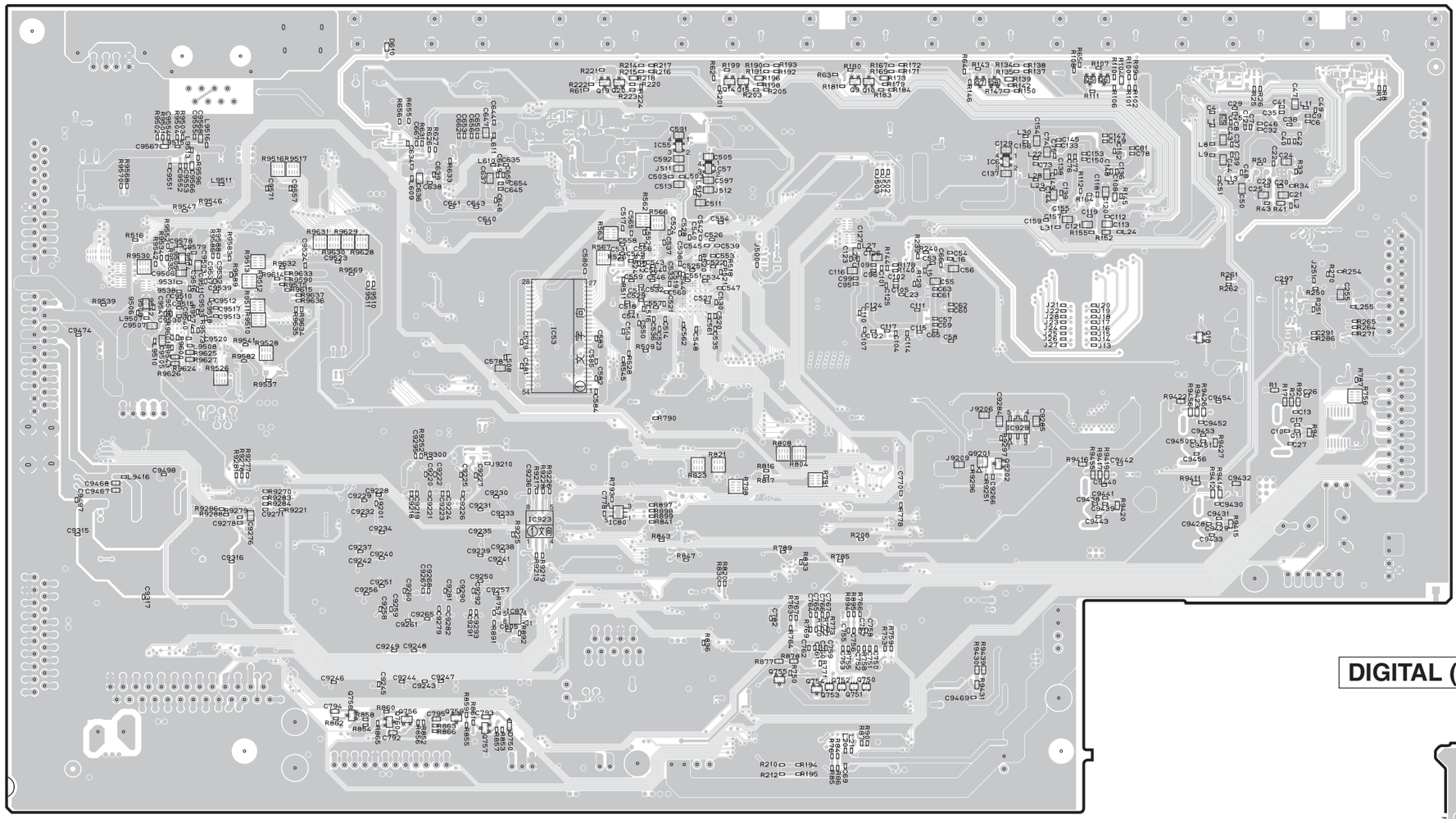
| Ref no. | Location | Ref no. | Location |
|---|---|---|---|
| D351 | A6 | IC1 | D3 |
| D602 | H2 | IC2 | C3 |
| D607 | H2 | IC3 | E4 |
| D9401 | C5 | IC4 | C4 |
| D9402 | G5 | IC8 | C4 |
| D9403 | G5 | IC10 | D3 |
| D9404 | G5 | IC21 | C4 |
| D9405 | G5 | IC27 | C3 |
| D9406 | I4 | IC30 | B6 |
| D9407 | I4 | IC31 | A7 |




## DIGITAL (2) (Side A)

**RX-V673/HTR-6065** | **RX-A720**

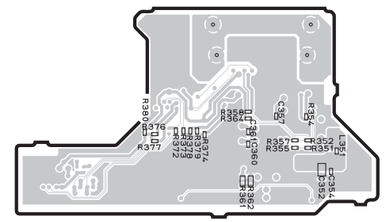
## DIGITAL (1) (Side B)



• Semiconductor Location

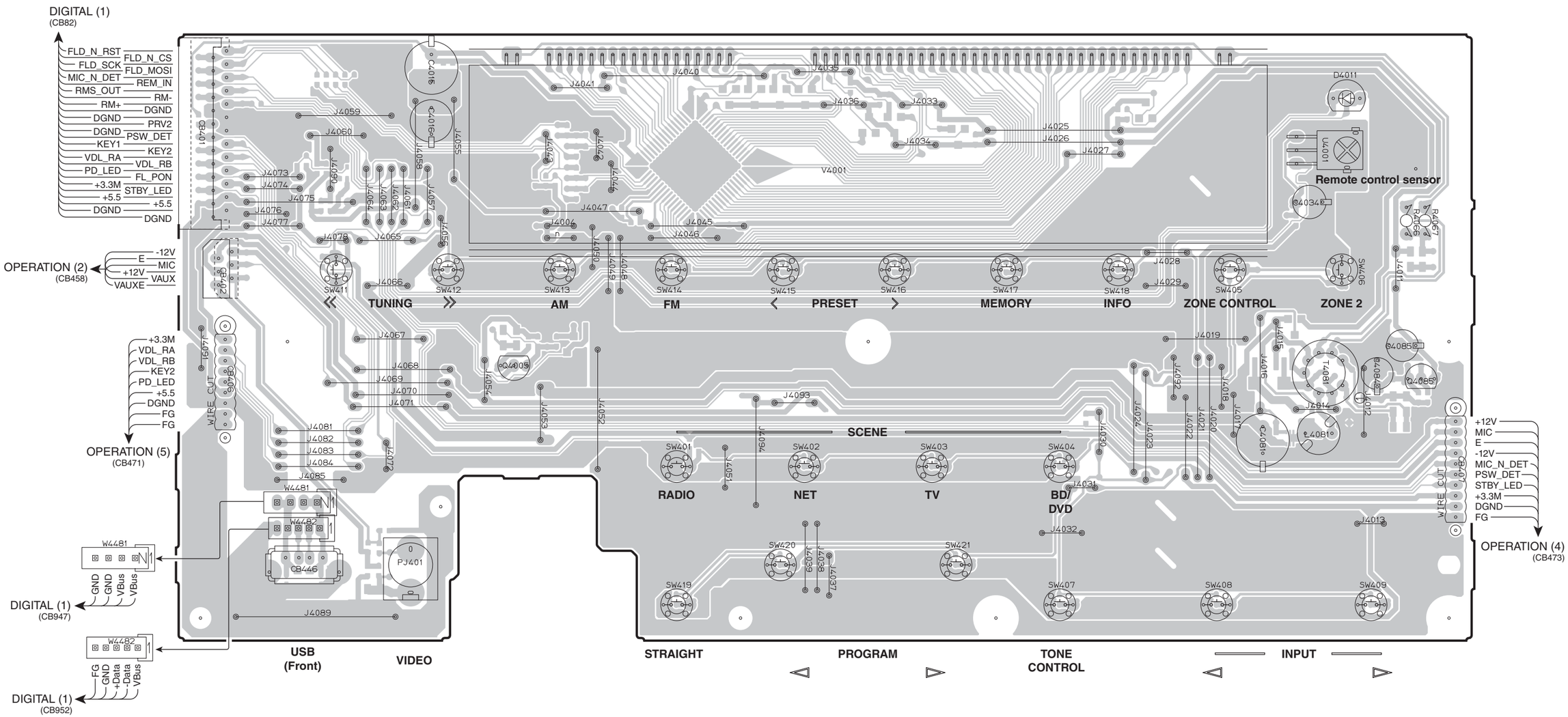
| Ref no. | Location | Ref no. | Location |
|---|---|---|---|
| D610 | D2 | Q15 | E3 |
| D750 | D6 | Q18 | H4 |
| IC6 | G3 | Q19 | E3 |
| IC53 | D4 | Q20 | E3 |
| IC55 | E3 | Q750 | F6 |
| IC57 | E3 | Q751 | F6 |
| IC80 | E5 | Q752 | F6 |
| IC87 | D5 | Q753 | F6 |
| IC923 | D5 | Q754 | F6 |
| IC929 | G4 | Q755 | F6 |
| Q5 | G3 | Q756 | D6 |
| Q6 | G3 | Q757 | D6 |
| Q7 | G3 | Q758 | C6 |
| Q8 | G3 | Q759 | D6 |
| Q9 | F3 | Q760 | D6 |
| Q10 | F3 | Q9201 | G4 |
| Q14 | E3 | Q9202 | G4 |

## DIGITAL (2) (Side B)



RX-V673/HTR-6065

# OPERATION (1) (Side A)

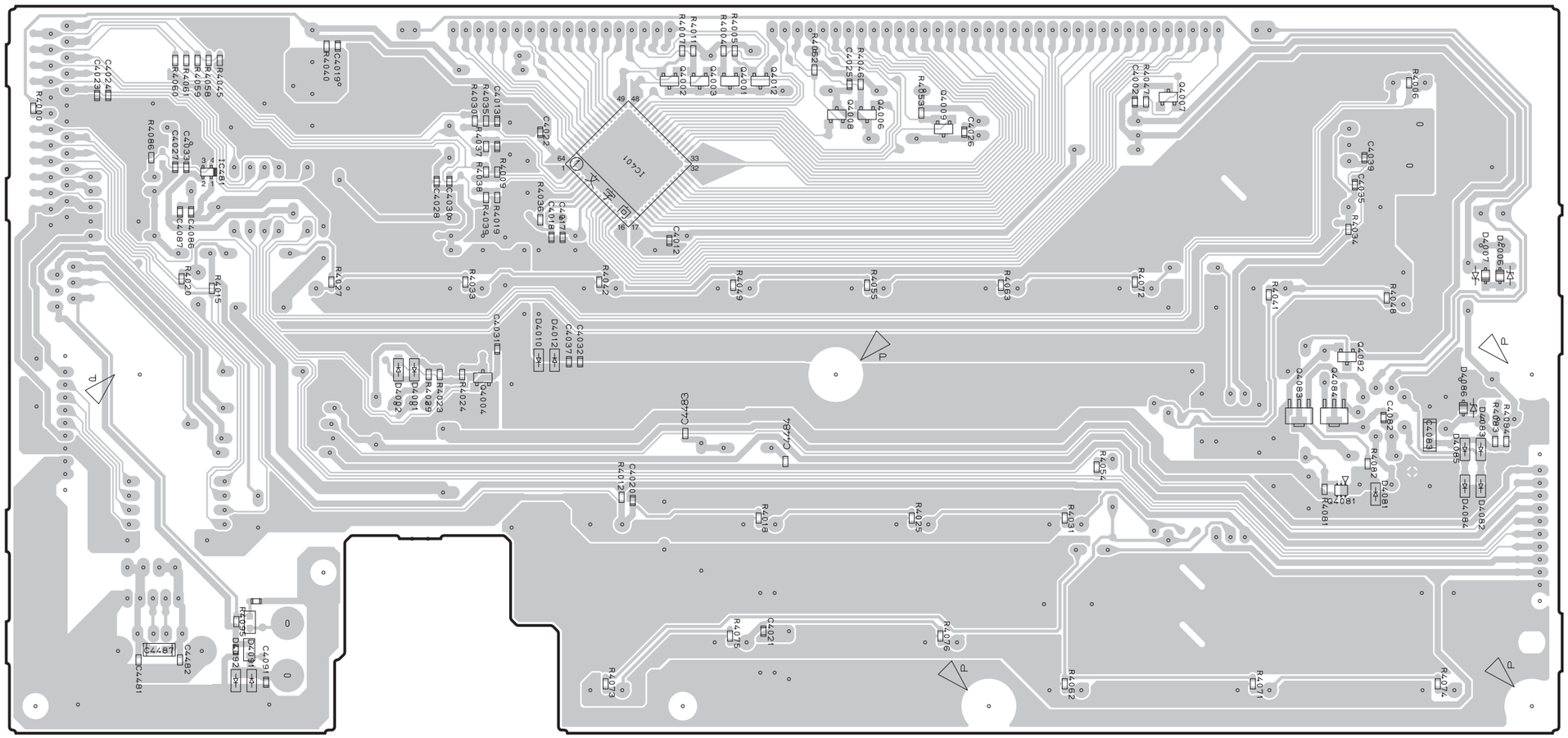



• Semiconductor Location

| Ref no. | Location |
|---|---|
| D4011 | I3 |
| Q4005 | D4 |
| Q4085 | J4 |

RX-V673/HTR-6065

## OPERATION (1) (Side B)

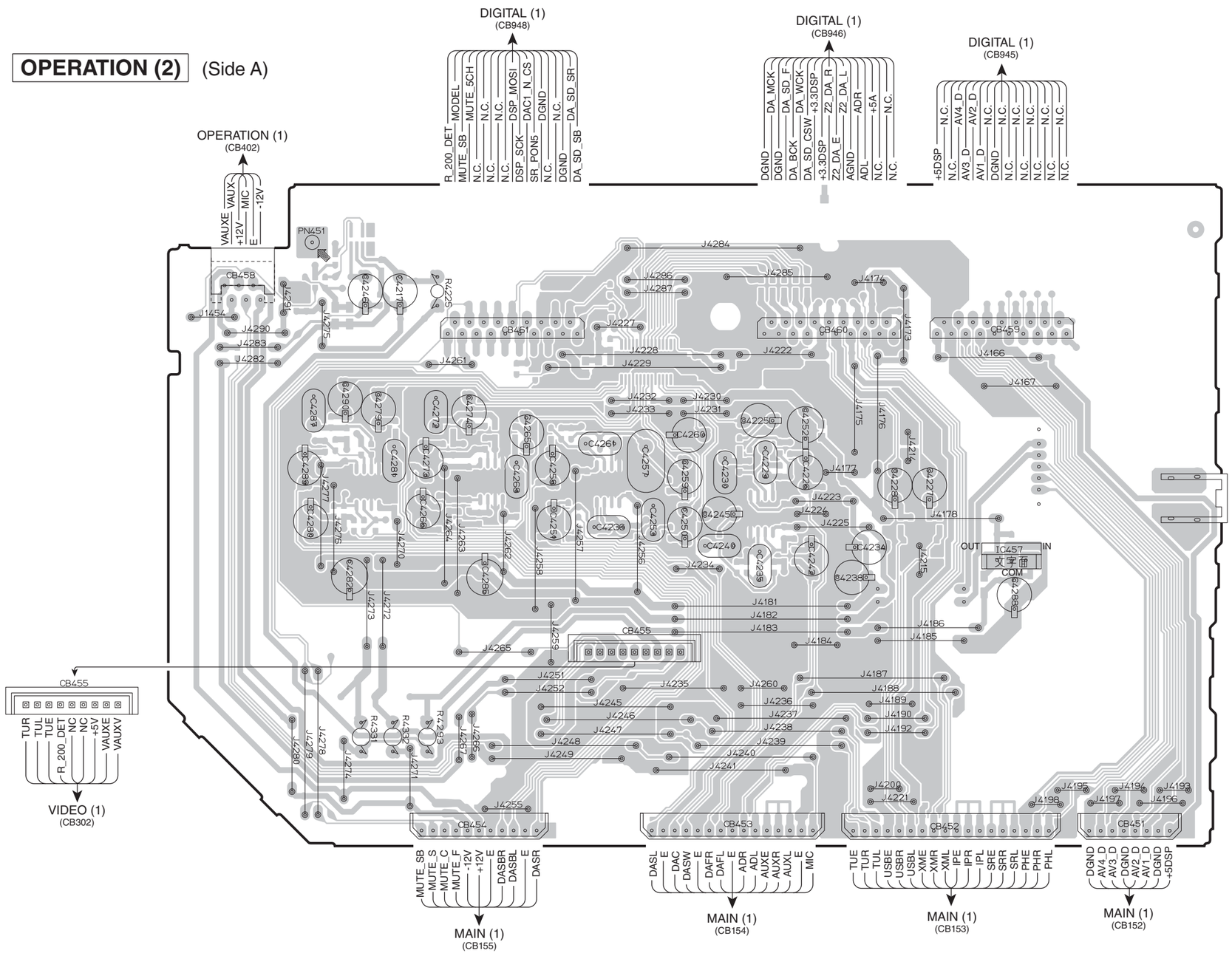


• Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---|---|---|---|---|---|---|---|
| D4001 | C4 | D4083 | I4 | Q4001 | E3 | Q4012 | E3 |
| D4002 | C4 | D4084 | I5 | Q4002 | E3 | Q4081 | H5 |
| D4006 | I4 | D4085 | I4 | Q4003 | E3 | Q4082 | H4 |
| D4007 | I4 | D4086 | I4 | Q4004 | D4 | Q4083 | H4 |
| D4010 | D4 | D4091 | C6 | Q4006 | F3 | Q4084 | H4 |
| D4012 | D4 | D4092 | C6 | Q4007 | G3 | | |
| D4081 | H5 | IC401 | E3 | Q4008 | F3 | | |
| D4082 | I5 | IC481 | B3 | Q4009 | F3 | | |

## RX-V673/HTR-6065

## OPERATION (2) (Side A)

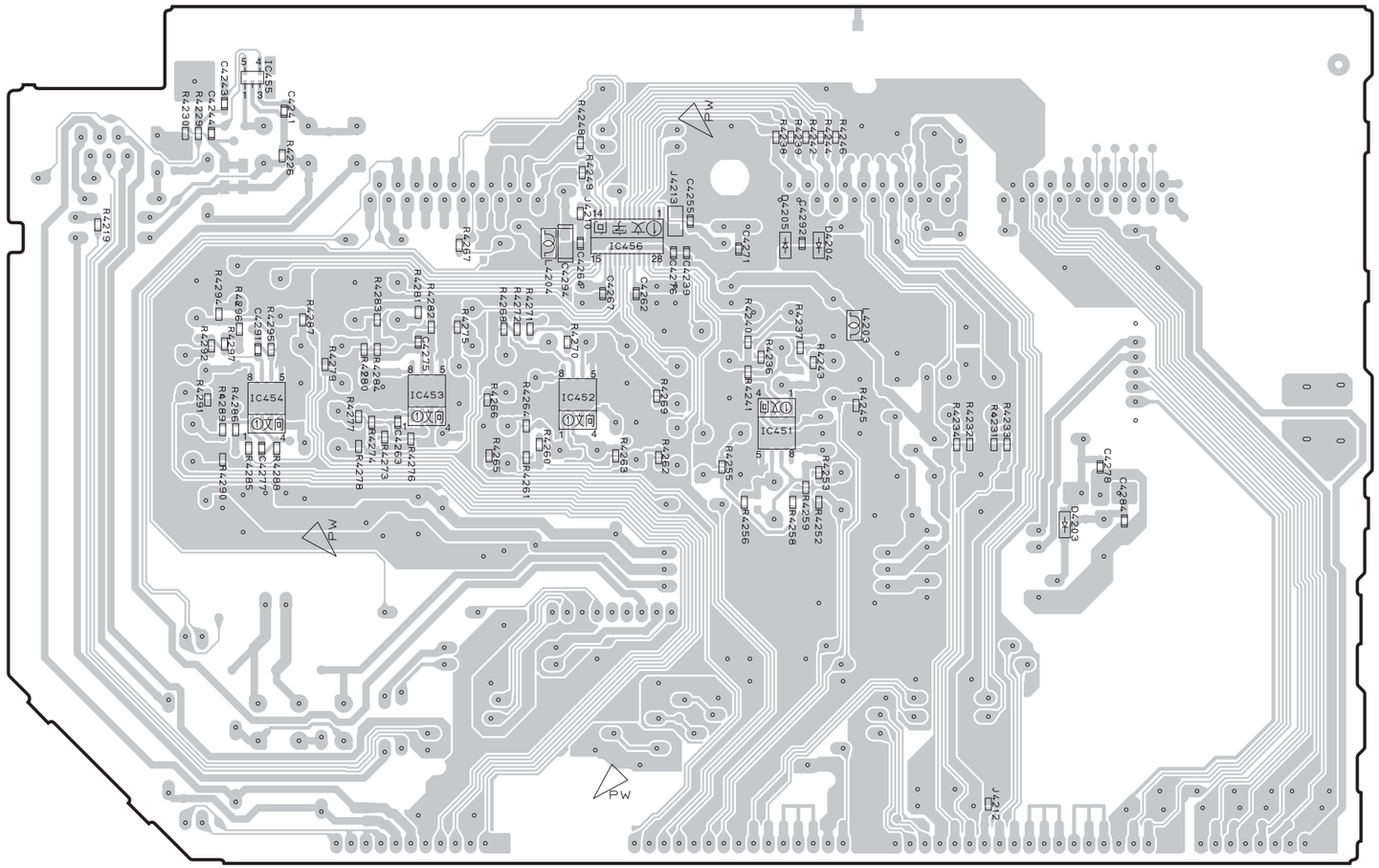



• Semiconductor Location

| Ref no. | Location |
|---|---|
| IC457 | G4 |

RX-V673/HTR-6065

## OPERATION (2) (Side B)

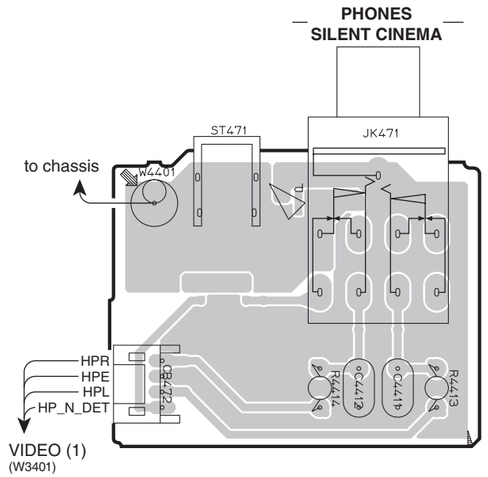



• Semiconductor Location

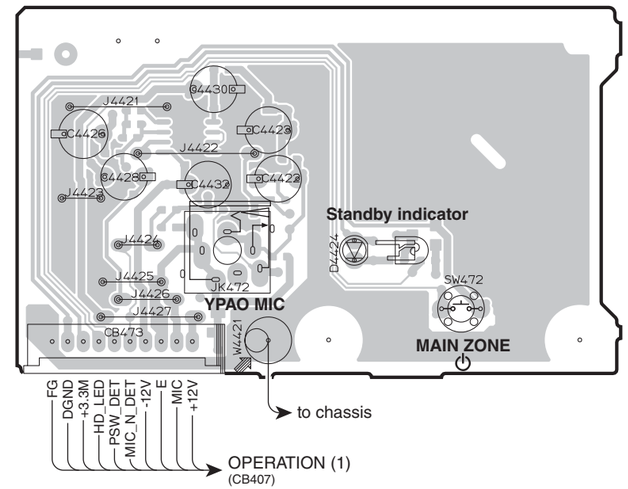
| Ref no. | Location |
|---|---|
| D4203 | G4 |
| D4204 | F3 |
| D4205 | E3 |
| IC451 | E4 |
| IC452 | E4 |
| IC453 | D4 |
| IC454 | C4 |
| IC455 | C2 |
| IC456 | E3 |

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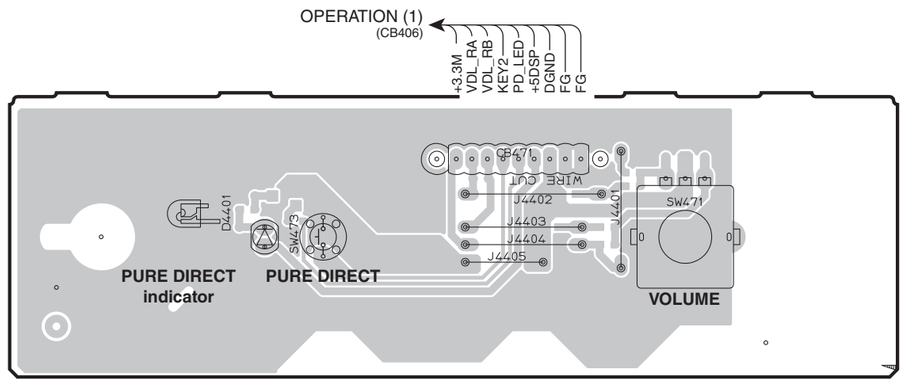
## OPERATION (3) (Side A)




## OPERATION (4) (Side A)




## OPERATION (5) (Side A)

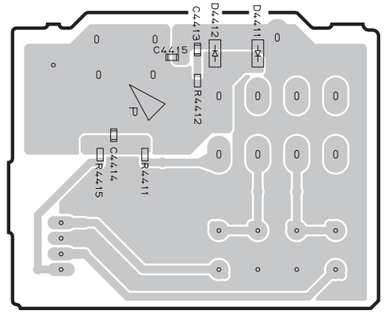



• Semiconductor Location

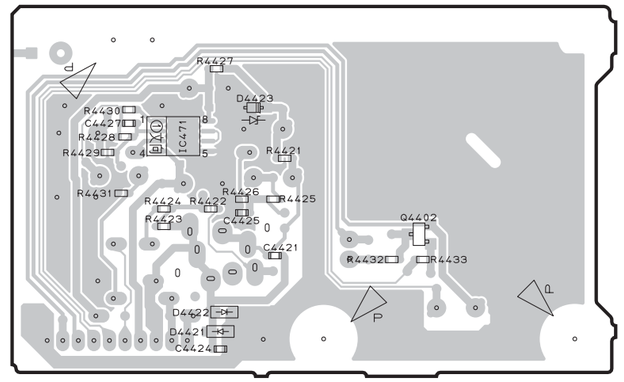
| Ref no. | Location |
|---|---|
| D4401 | C6 |
| D4424 | H3 |

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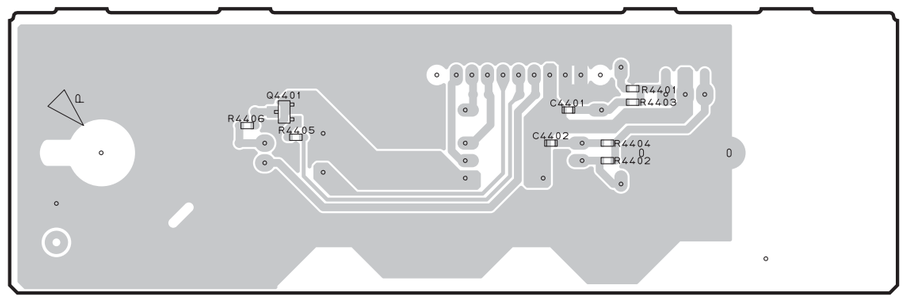
## OPERATION (3) (Side B)




## OPERATION (4) (Side B)




## OPERATION (5) (Side B)

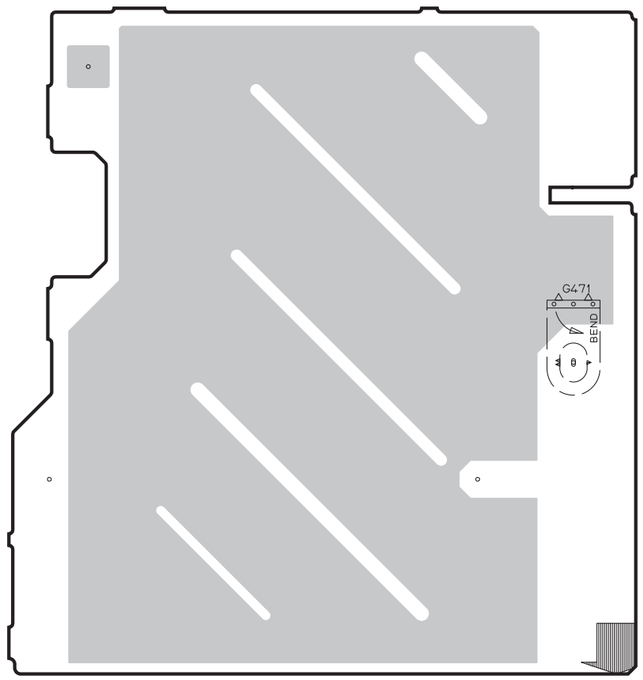



• Semiconductor Location

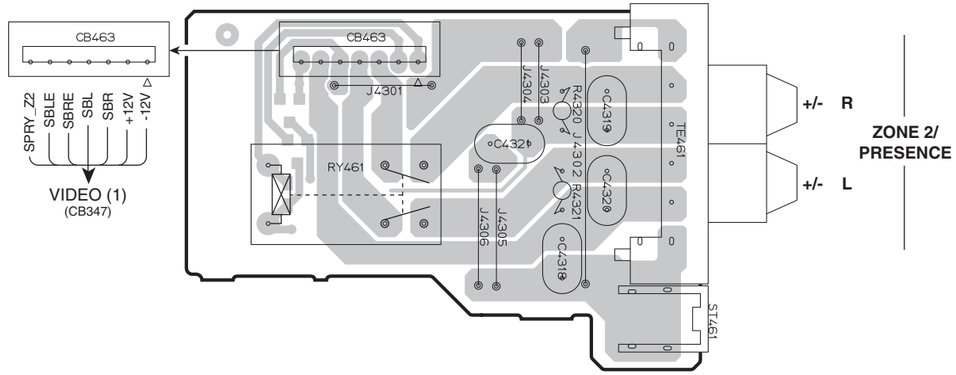
| Ref no. | Location |
|---|---|
| D4411 | C3 |
| D4412 | C3 |
| D4421 | G3 |
| D4422 | G3 |
| D4423 | H3 |
| IC471 | G3 |
| Q4001 | C6 |
| Q4401 | C6 |
| Q4402 | H3 |

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## OPERATION (7) (Side A)

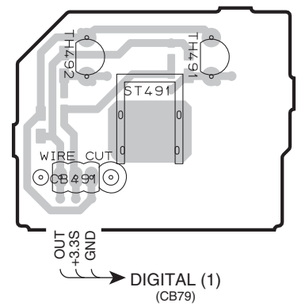



## OPERATION (8) (Side A)



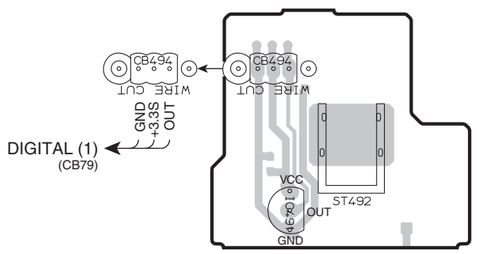

## OPERATION (9) (Side A)

U, C models




## OPERATION (10) (Side A)

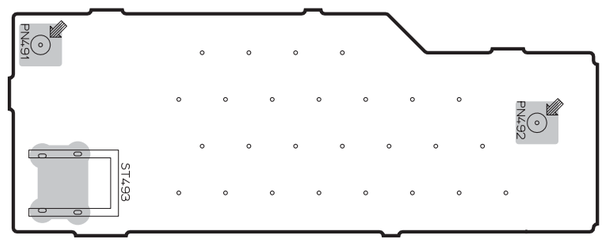
R, T, K, A, B, G, F, L, S, H models



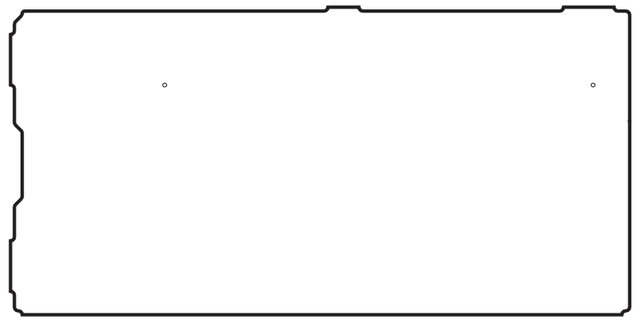

• Semiconductor Location

| Ref no. | Location |
|---|---|
| IC491 | B7 |

## OPERATION (11) (Side A)

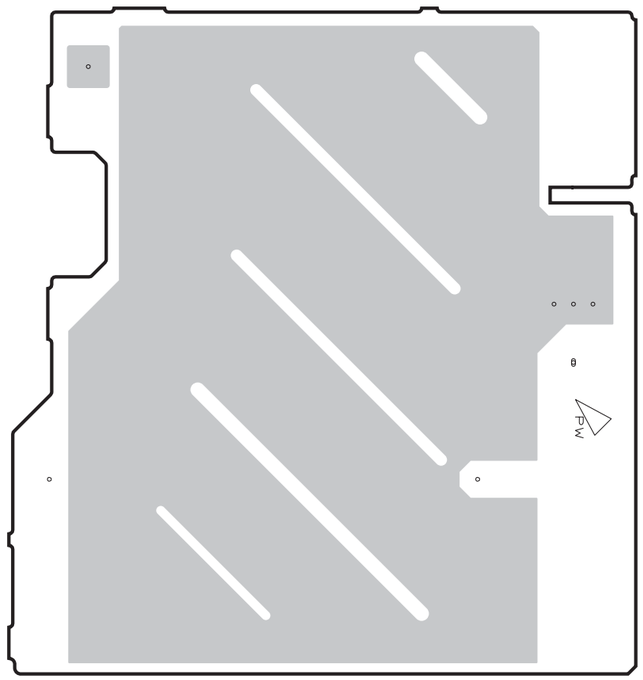



## OPERATION (12) (Side A)

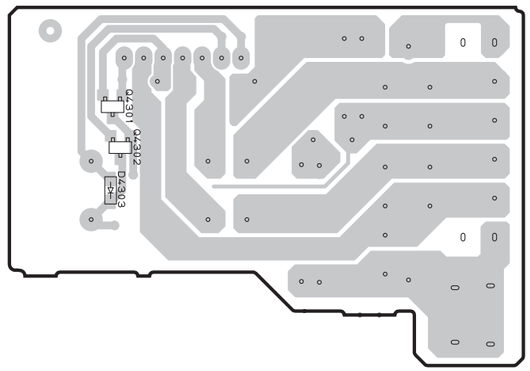


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## OPERATION (7) (Side B)

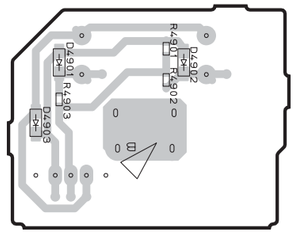



## OPERATION (8) (Side B)




## OPERATION (9) (Side B)

U, C models

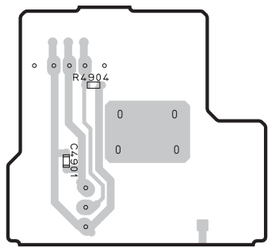



• Semiconductor Location

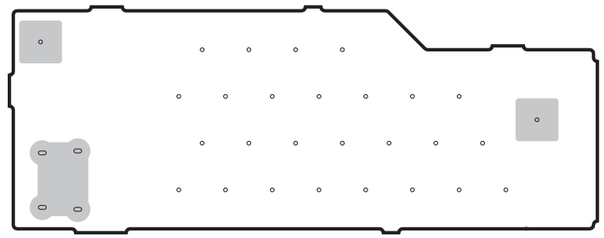
| Ref no. | Location |
|---|---|
| D4303 | E3 |
| D4901 | I3 |
| D4902 | I3 |
| D4903 | H3 |
| Q4301 | E3 |
| Q4302 | E3 |

## OPERATION (10) (Side B)

R, T, K, A, B, G, F, L, S, H models




## OPERATION (11) (Side B)

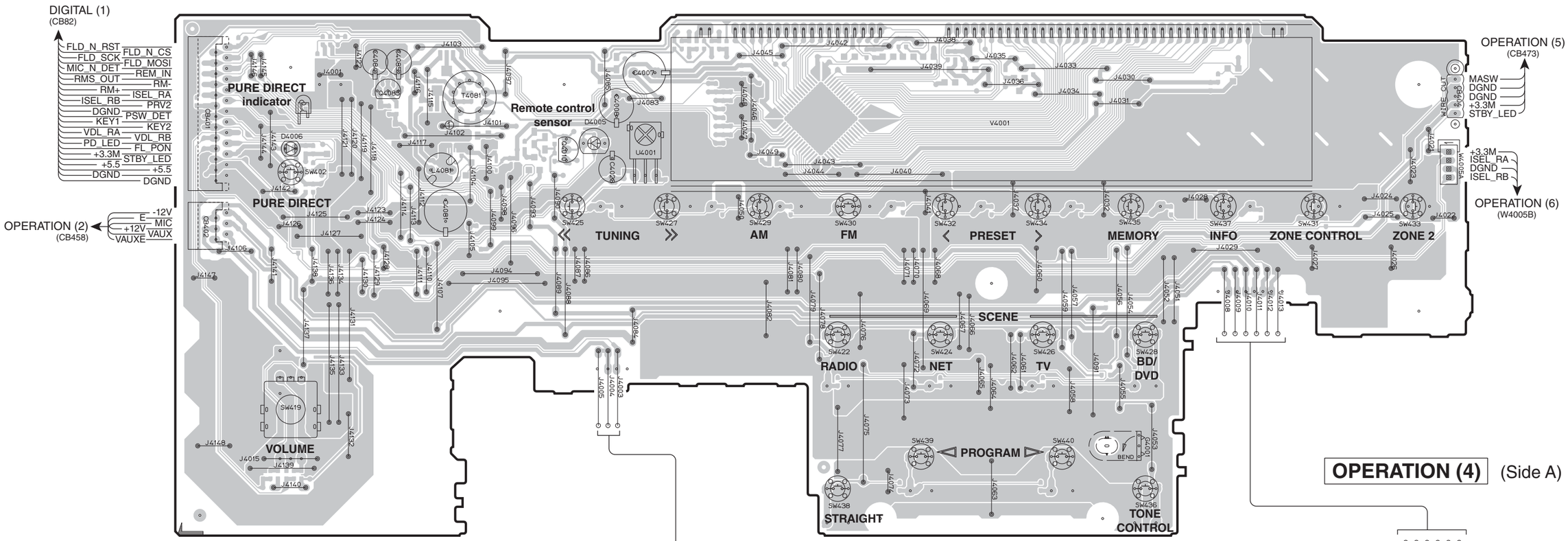


## OPERATION (12) (Side B)

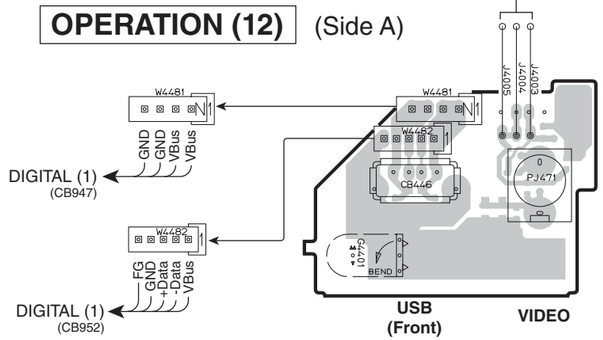


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## OPERATION (1) (Side A)



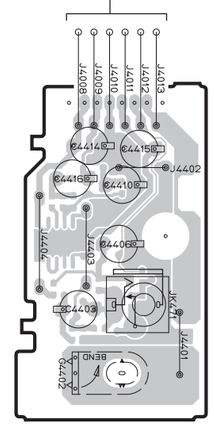

## OPERATION (12) (Side A)




• Semiconductor Location

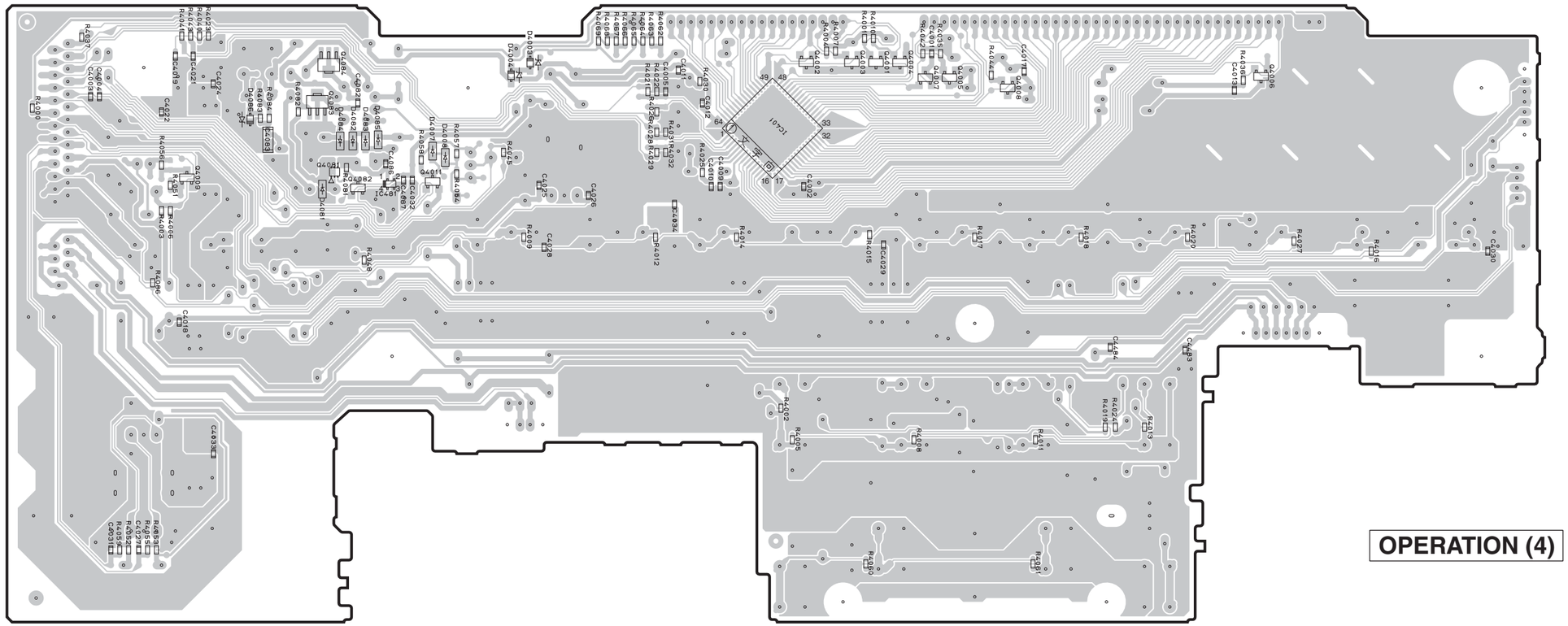
| Ref no. | Location |
|---|---|
| D4005 | D3 |
| D4006 | C3 |
| Q4010 | D3 |
| Q4085 | C3 |

## OPERATION (4) (Side A)

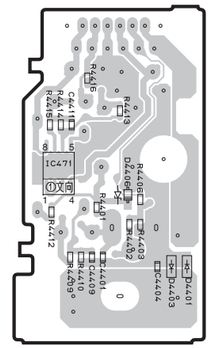


RX-A720

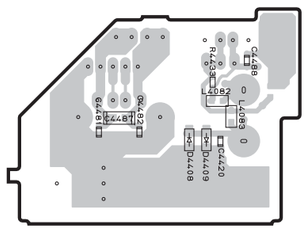
## OPERATION (1) (Side B)



## OPERATION (4) (Side B)



## OPERATION (12) (Side B)

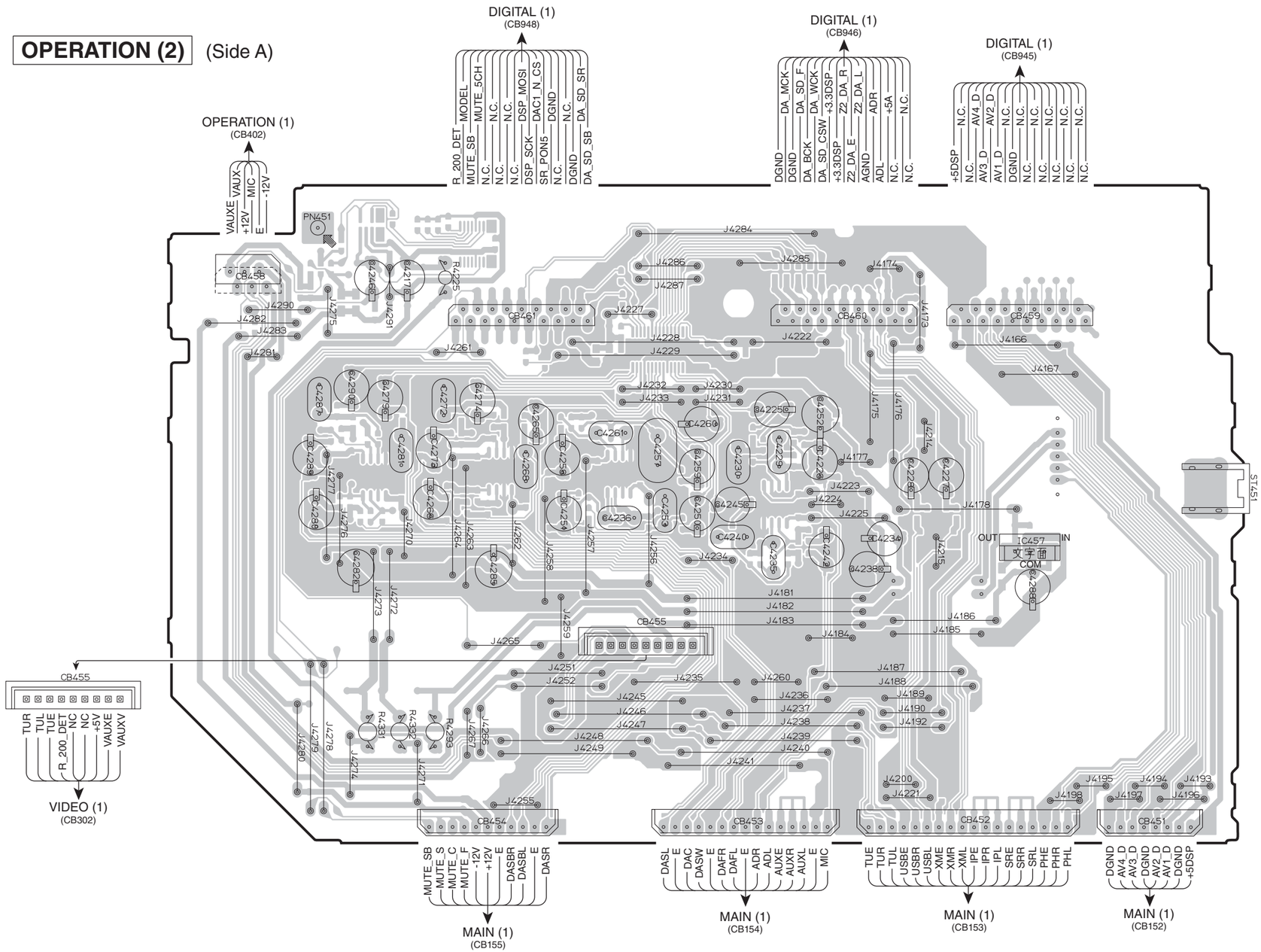


• Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---|---|---|---|---|---|---|---|
| D4003 | D3 | D4086 | C3 | Q4001 | F3 | Q4011 | D3 |
| D4004 | D3 | D4401 | I6 | Q4002 | E3 | Q4081 | C3 |
| D4007 | D3 | D4403 | I6 | Q4003 | F3 | Q4082 | C3 |
| D4008 | D3 | D4406 | I6 | Q4004 | F3 | Q4083 | C3 |
| D4081 | C3 | D4408 | D7 | Q4005 | F3 | Q4084 | C3 |
| D4082 | C3 | D4409 | D7 | Q4006 | H3 | | |
| D4083 | C3 | IC401 | E3 | Q4007 | F3 | | |
| D4084 | C3 | IC471 | I6 | Q4008 | G3 | | |
| D4085 | C3 | IC481 | C3 | Q4009 | B3 | | |

RX-A720

## OPERATION (2) (Side A)

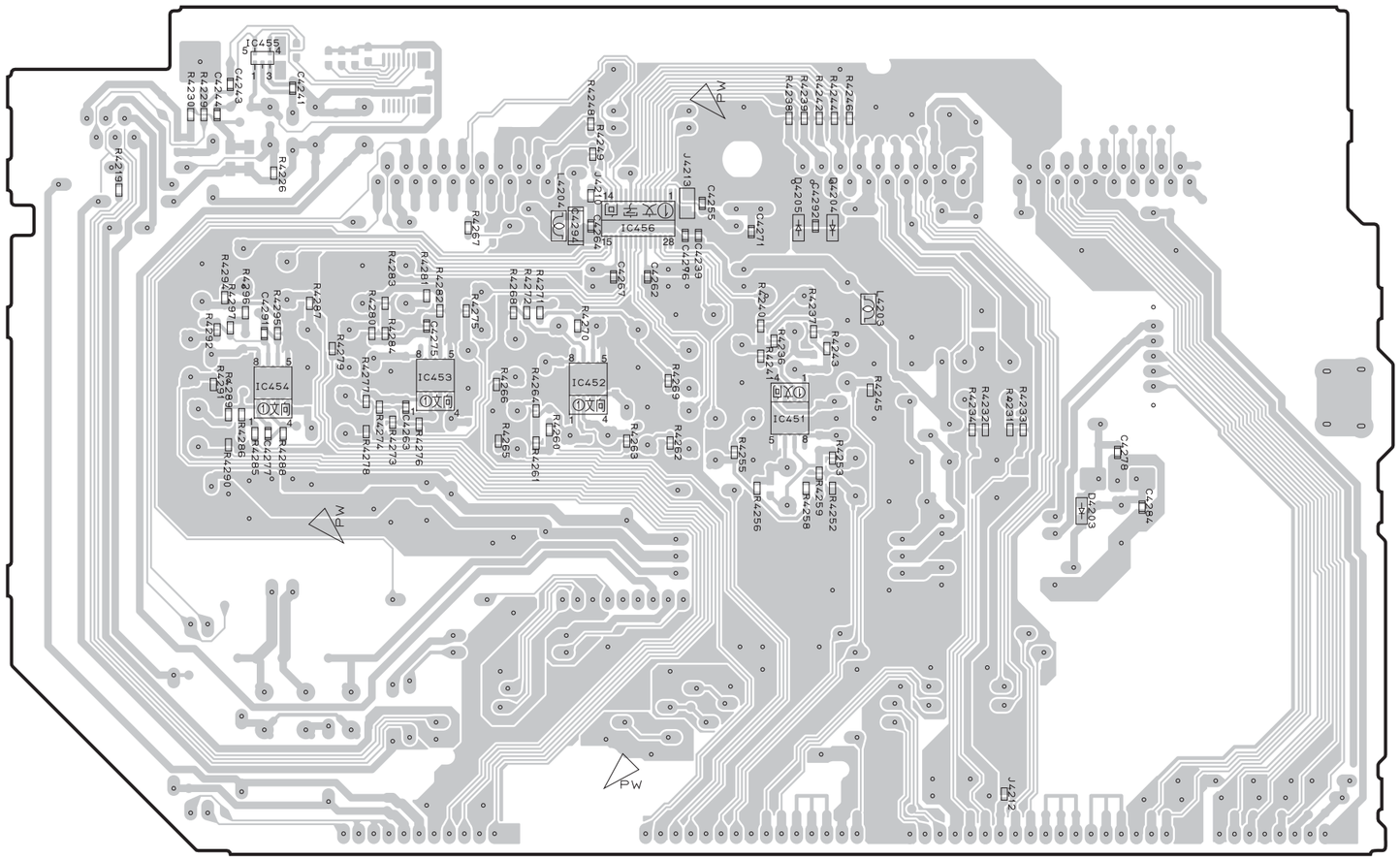



• Semiconductor Location

| Ref no. | Location |
|---|---|
| IC457 | G4 |

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## OPERATION (2) (Side B)

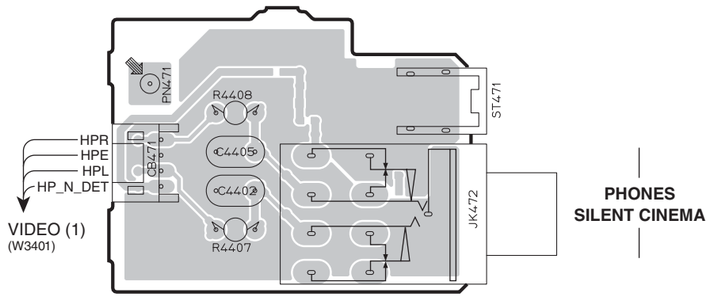



• Semiconductor Location

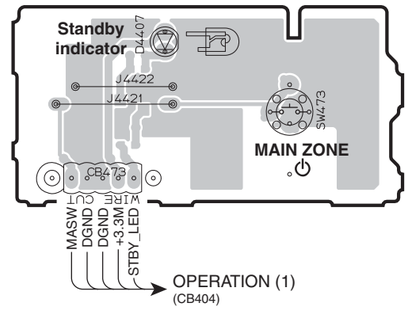
| Ref no. | Location |
|---|---|
| D4203 | G4 |
| D4204 | F3 |
| D4205 | E3 |
| IC451 | E4 |
| IC452 | E4 |
| IC453 | D4 |
| IC454 | C4 |
| IC455 | C2 |
| IC456 | E3 |

RX-A720

## OPERATION (3) (Side A)



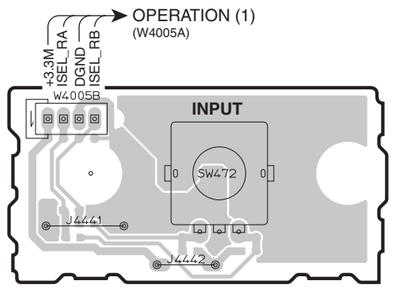

## OPERATION (5) (Side A)



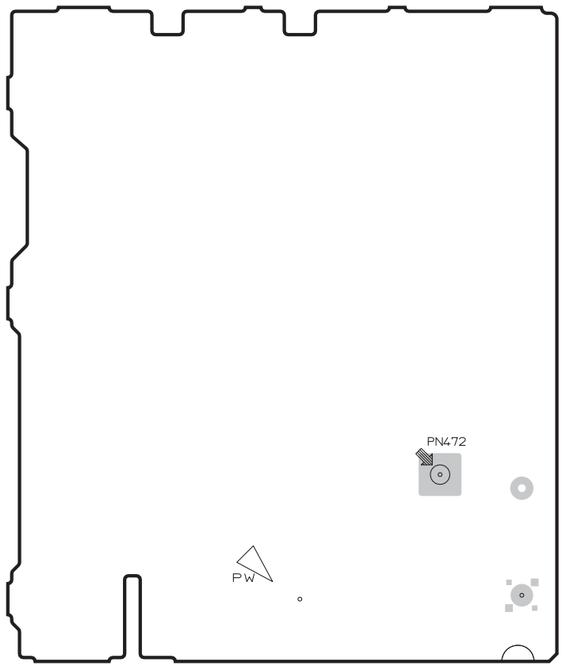

• Semiconductor Location

| Ref no. | Location |
|---|---|
| D4407 | H2 |

## OPERATION (6) (Side A)

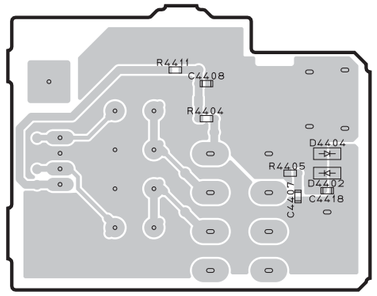



## OPERATION (7) (Side A)

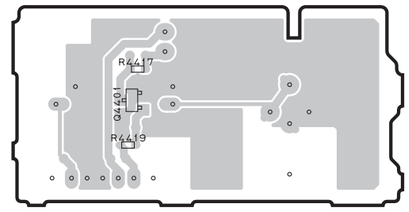


RX-A720

## OPERATION (3) (Side B)



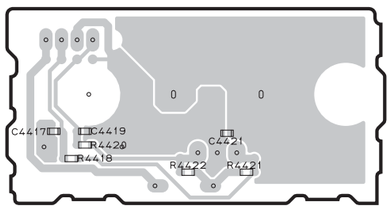

## OPERATION (5) (Side B)



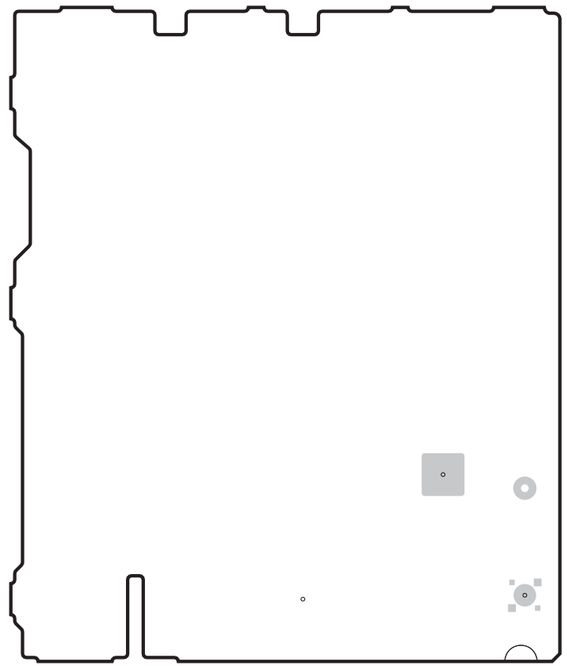

• Semiconductor Location

| Ref no. | Location |
|---|---|
| D4402 | C3 |
| D4404 | C3 |
| Q4401 | G3 |

## OPERATION (6) (Side B)

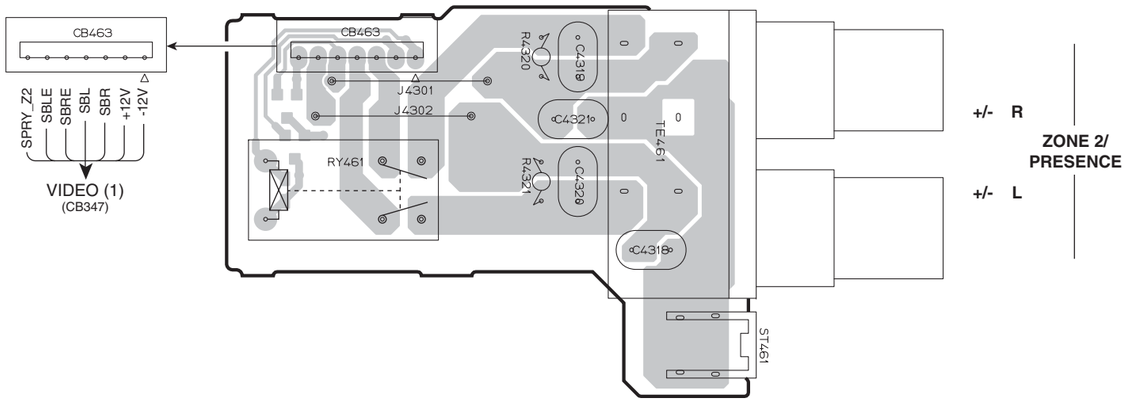



## OPERATION (7) (Side B)



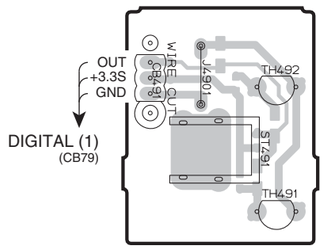
RX-A720

## OPERATION (8) (Side A)



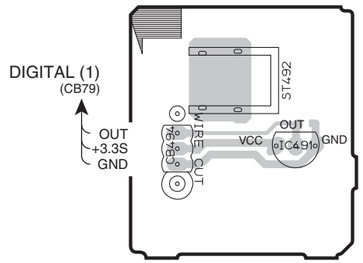

## OPERATION (9) (Side A)

U, C models




## OPERATION (10) (Side A)

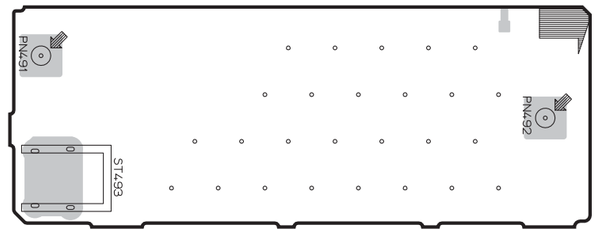
A model




• Semiconductor Location

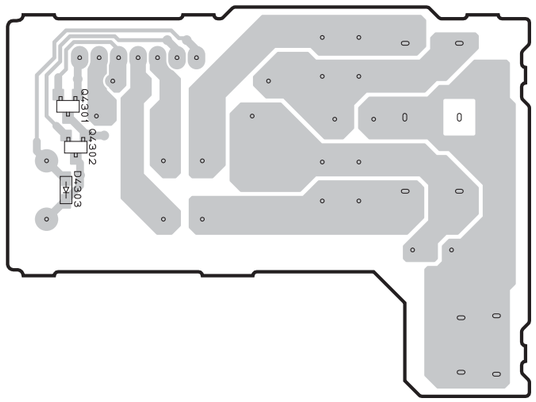
| Ref no. | Location |
|---|---|
| IC491 | D6 |

## OPERATION (11) (Side A)



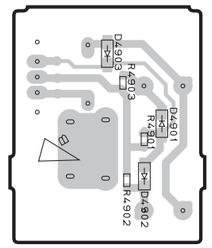
RX-A720

## OPERATION (8) (Side B)




## OPERATION (9) (Side B)

U, C models

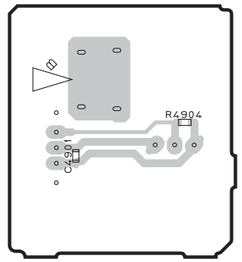



• Semiconductor Location

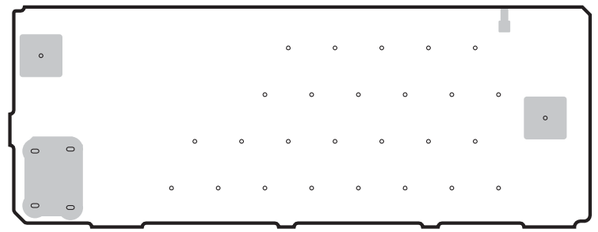
| Ref no. | Location |
|---|---|
| D4303 | B3 |
| D4901 | G3 |
| D4902 | G3 |
| D4903 | G2 |
| Q4301 | B2 |
| Q4302 | B3 |

## OPERATION (10) (Side B)

A model

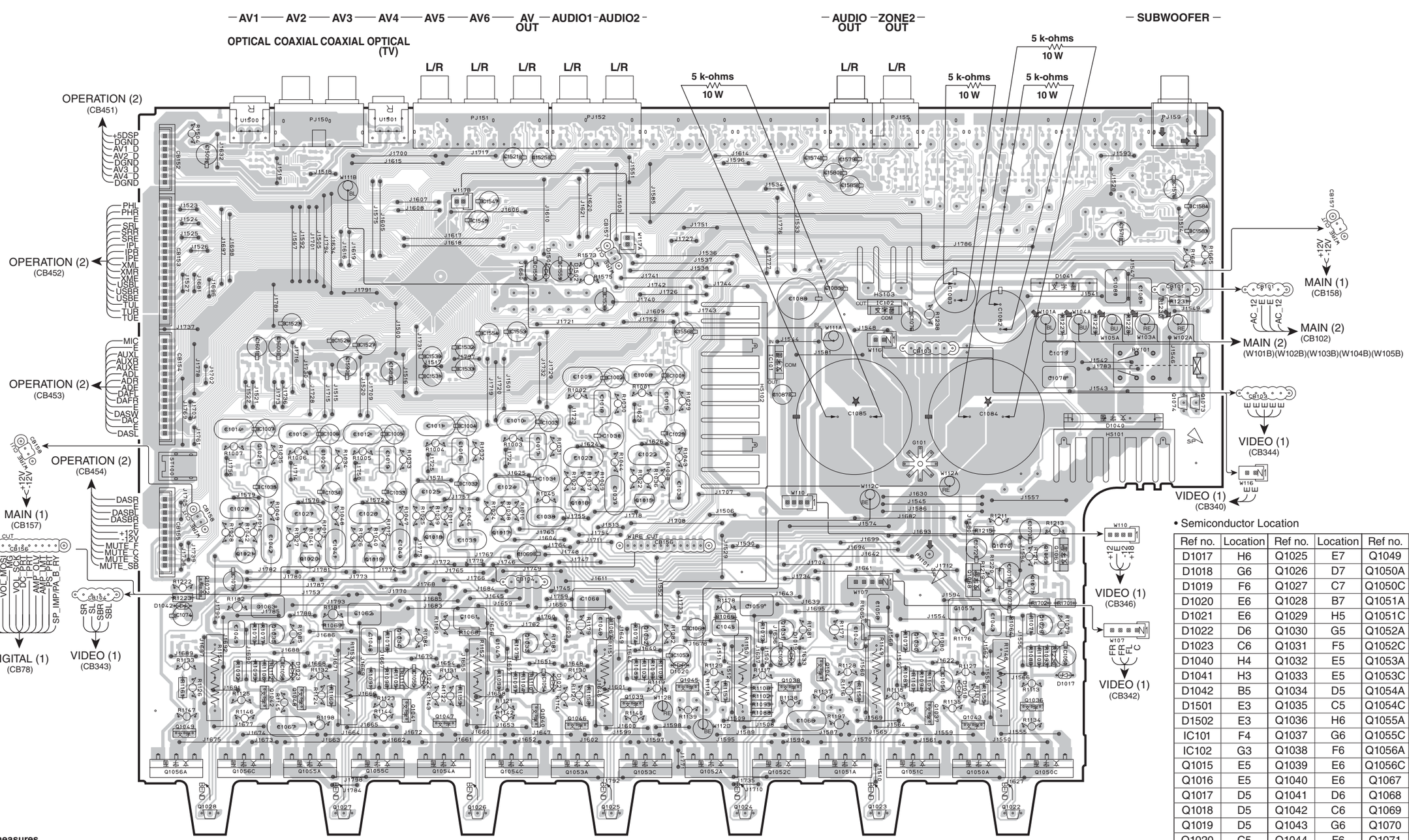



## OPERATION (11) (Side B)



**RX-V673/HTR-6065** | **RX-A720**

# MAIN (1) (Side A)




**Safety measures**

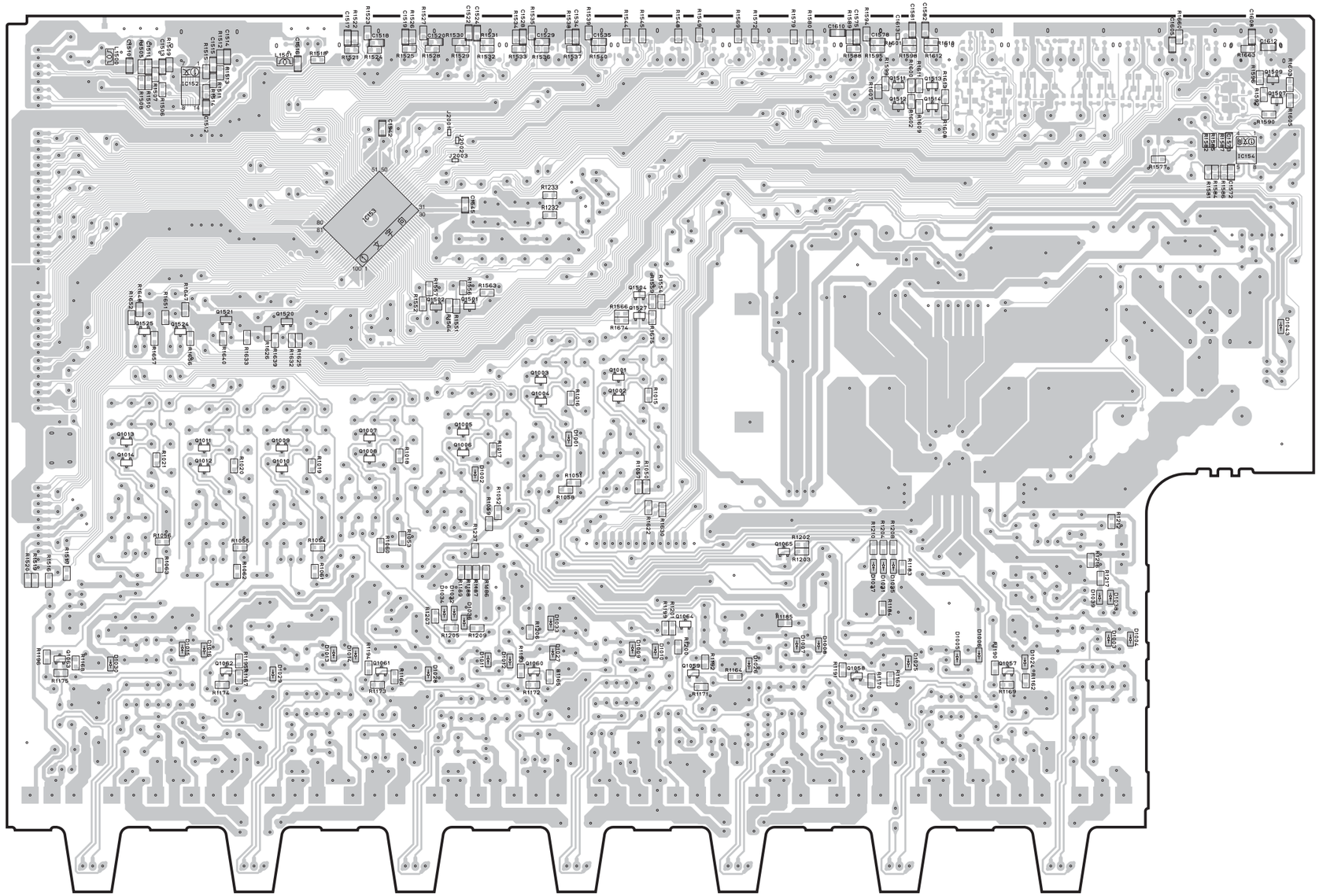
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
  C1082–C1085 on MAIN (1) P.C.B.

- Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---|---|---|---|---|---|
| D1017 | H6 | Q1025 | E7 | Q1049 | B6 |
| D1018 | G6 | Q1026 | D7 | Q1050A | G6 |
| D1019 | F6 | Q1027 | C7 | Q1050C | H6 |
| D1020 | E6 | Q1028 | B7 | Q1051A | G6 |
| D1021 | E6 | Q1029 | H5 | Q1051C | G6 |
| D1022 | D6 | Q1030 | G5 | Q1052A | F6 |
| D1023 | C6 | Q1031 | F5 | Q1052C | F6 |
| D1040 | H4 | Q1032 | E5 | Q1053A | E6 |
| D1041 | H3 | Q1033 | E5 | Q1053C | E6 |
| D1042 | B5 | Q1034 | D5 | Q1054A | D6 |
| D1501 | E3 | Q1035 | C5 | Q1054C | D6 |
| D1502 | E3 | Q1036 | H6 | Q1055A | C6 |
| IC101 | F4 | Q1037 | G6 | Q1055C | D6 |
| IC102 | G3 | Q1038 | F6 | Q1056A | B6 |
| Q1015 | E5 | Q1039 | E6 | Q1056C | C6 |
| Q1016 | E5 | Q1040 | E6 | Q1067 | H5 |
| Q1017 | D5 | Q1041 | D6 | Q1068 | G5 |
| Q1018 | D5 | Q1042 | C6 | Q1069 | H5 |
| Q1019 | D5 | Q1043 | G6 | Q1070 | H5 |
| Q1020 | C5 | Q1044 | F6 | Q1071 | H5 |
| Q1021 | C5 | Q1045 | F6 | Q1072 | B5 |
| Q1022 | H7 | Q1046 | E6 | Q1073 | I4 |
| Q1023 | G7 | Q1047 | D6 | Q1074 | I4 |
| Q1024 | F7 | Q1048 | C6 | | |

**RX-V673/HTR-6065** | **RX-A720**

## MAIN (1) (Side B)

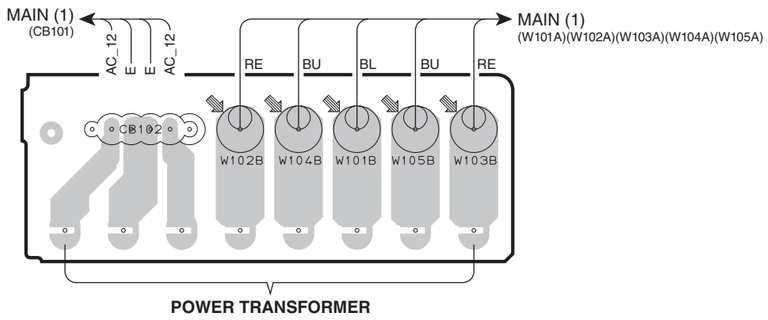


• Semiconductor Location

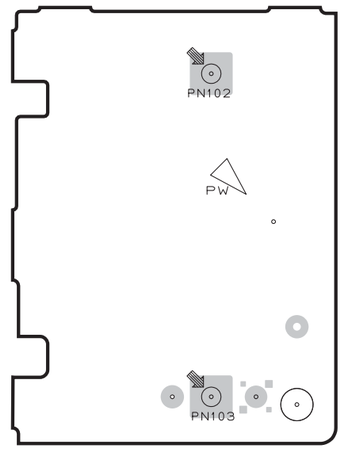
| Ref no. | Location | Ref no. | Location |
|---|---|---|---|
| D1001 | D4 | Q1002 | E4 |
| D1002 | D4 | Q1003 | D4 |
| D1003 | G5 | Q1004 | D4 |
| D1004 | G5 | Q1005 | D4 |
| D1005 | G5 | Q1006 | D4 |
| D1006 | G5 | Q1007 | C4 |
| D1007 | F5 | Q1008 | C4 |
| D1008 | F5 | Q1009 | C4 |
| D1009 | E5 | Q1010 | C4 |
| D1010 | E5 | Q1011 | C4 |
| D1011 | D5 | Q1012 | C4 |
| D1012 | D5 | Q1013 | B4 |
| D1013 | C5 | Q1014 | B4 |
| D1014 | C5 | Q1057 | G5 |
| D1015 | B5 | Q1058 | F6 |
| D1016 | C5 | Q1059 | E6 |
| D1024 | G5 | Q1060 | D6 |
| D1025 | F5 | Q1061 | C6 |
| D1026 | E5 | Q1062 | C6 |
| D1027 | D5 | Q1063 | B5 |
| D1028 | D6 | Q1064 | E5 |
| D1029 | C6 | Q1065 | F5 |
| D1030 | B5 | Q1501 | D4 |
| D1031 | F5 | Q1502 | D4 |
| D1032 | D5 | Q1504 | E4 |
| D1033 | D5 | Q1507 | H2 |
| D1034 | D5 | Q1509 | H2 |
| D1035 | F5 | Q1511 | F2 |
| D1036 | D5 | Q1512 | F2 |
| D1037 | F5 | Q1513 | F2 |
| D1038 | G5 | Q1514 | F2 |
| D1039 | G5 | Q1520 | C4 |
| D1043 | H4 | Q1521 | C4 |
| IC152 | B2 | Q1524 | B4 |
| IC153 | C3 | Q1525 | B4 |
| IC154 | H3 | Q1527 | E4 |
| Q1001 | E4 | | |

**RX-V673/HTR-6065** | **RX-A720**

## MAIN (2) (Side A)

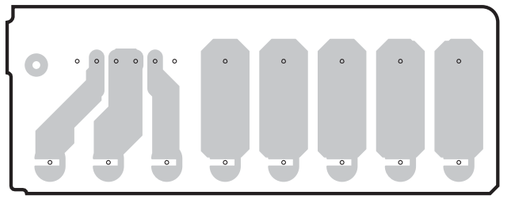



## MAIN (6) (Side A)

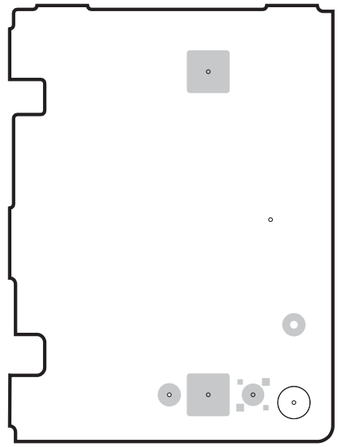


**RX-V673/HTR-6065** | **RX-A720**

## MAIN (2) (Side B)

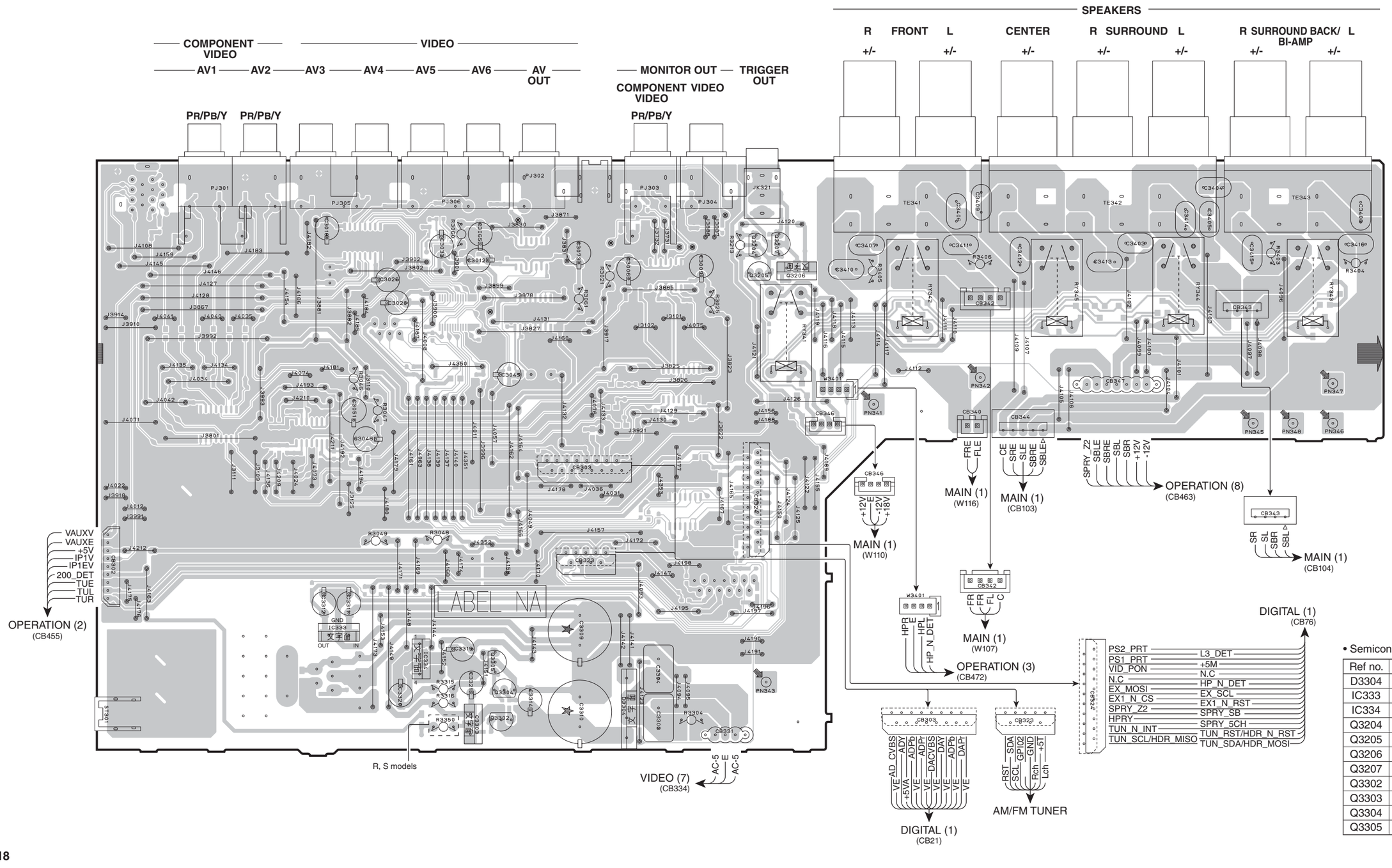


## MAIN (6) (Side B)



RX-V673/HTR-6065

## VIDEO (1) (Side A)



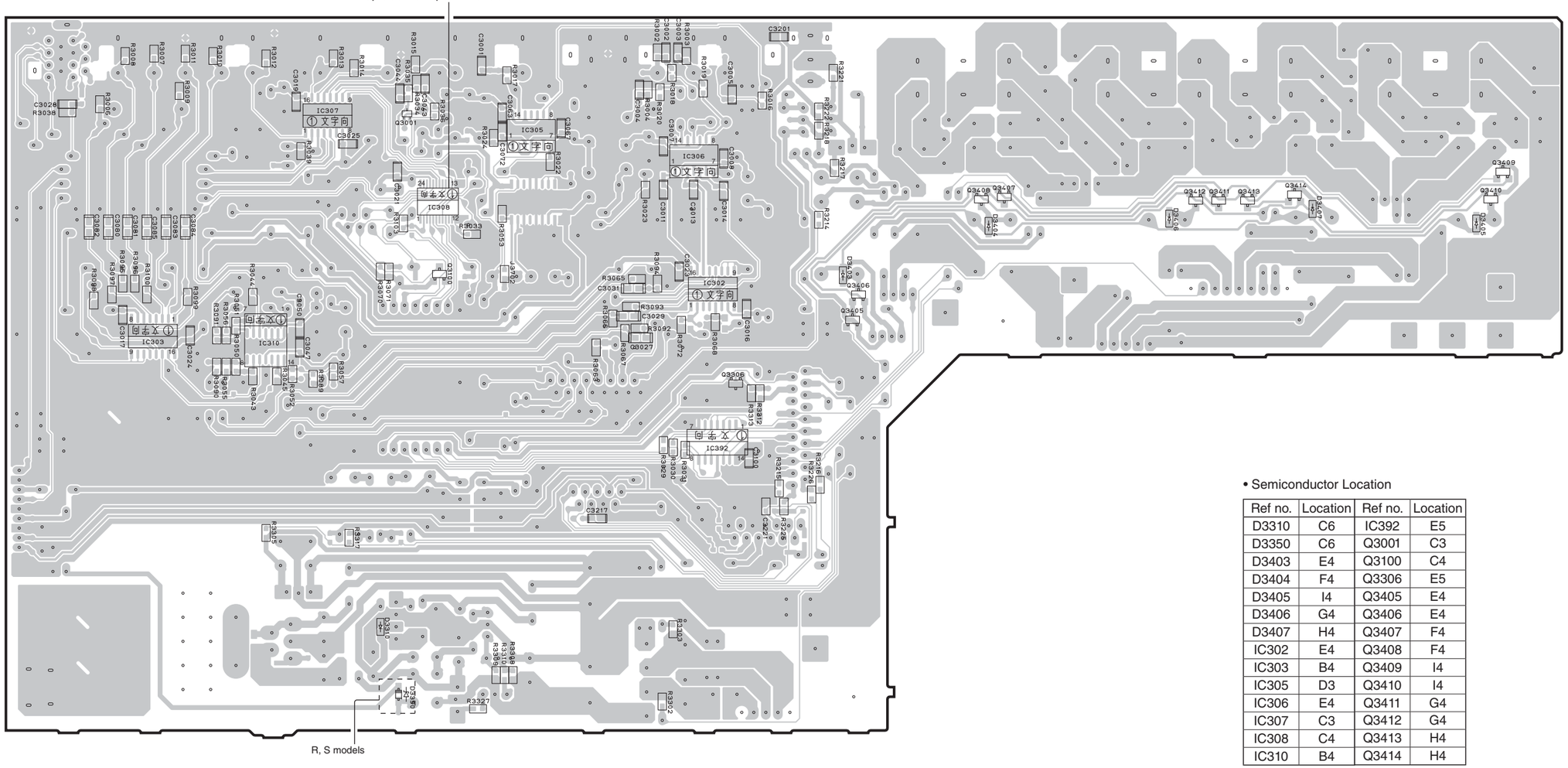

• Semiconductor Location

| Ref no. | Location |
|---|---|
| D3304 | E6 |
| IC333 | C6 |
| IC334 | D6 |
| Q3204 | F3 |
| Q3205 | F3 |
| Q3206 | F3 |
| Q3207 | F3 |
| Q3302 | D6 |
| Q3303 | D6 |
| Q3304 | D6 |
| Q3305 | D6 |

RX-V673/HTR-6065

## VIDEO (1) (Side B)

No replacement part available.

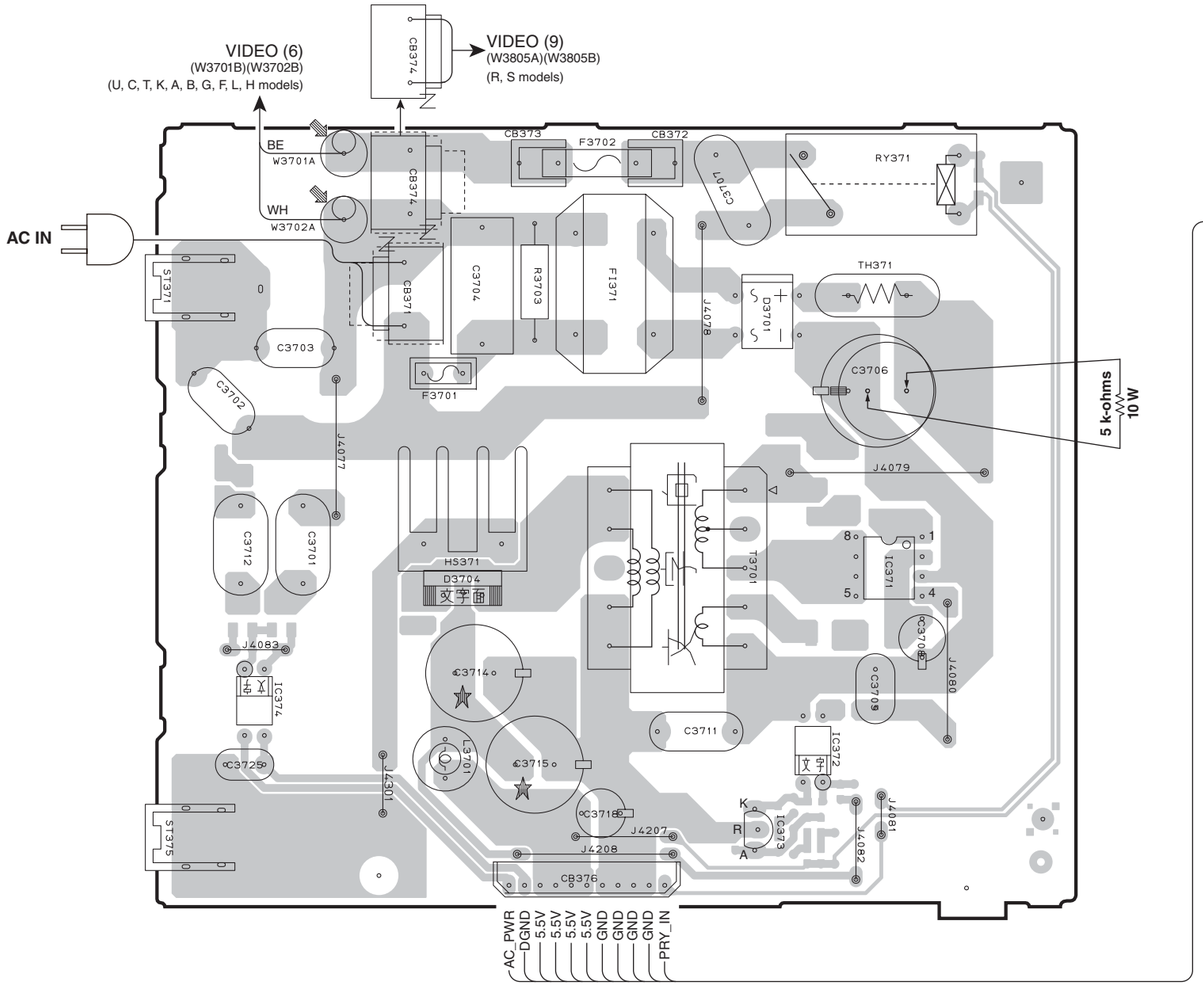



• Semiconductor Location

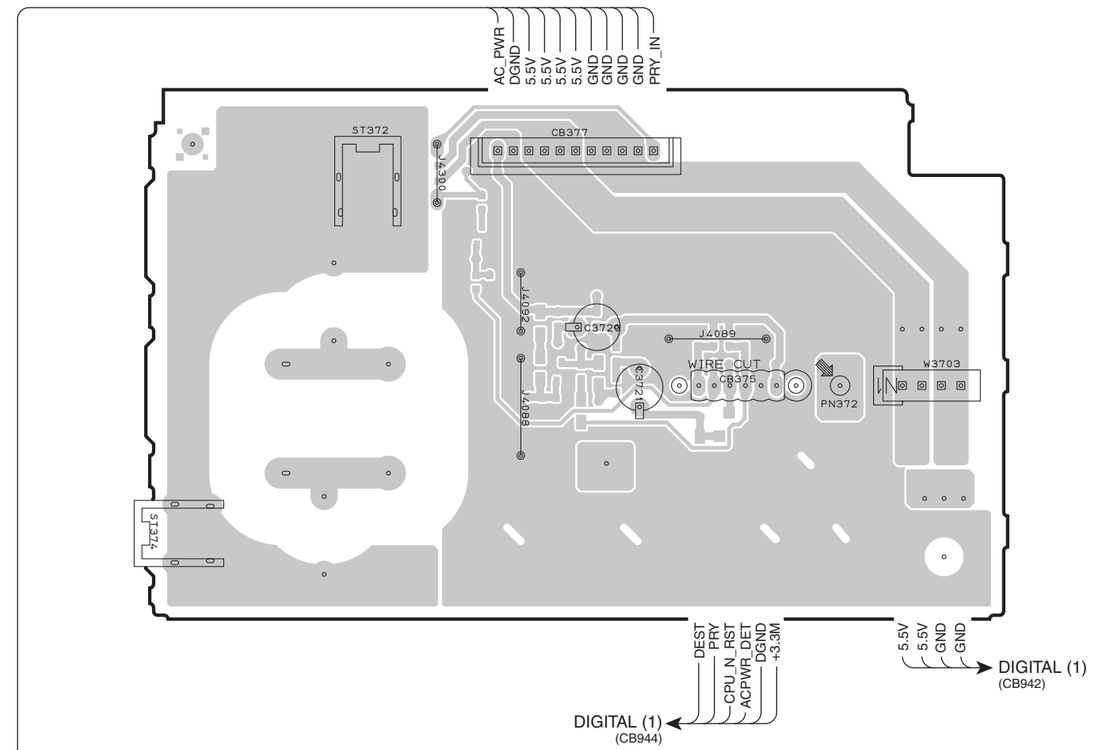
| Ref no. | Location | Ref no. | Location |
|---|---|---|---|
| D3310 | C6 | IC392 | E5 |
| D3350 | C6 | Q3001 | C3 |
| D3403 | E4 | Q3100 | C4 |
| D3404 | F4 | Q3306 | E5 |
| D3405 | I4 | Q3405 | E4 |
| D3406 | G4 | Q3406 | E4 |
| D3407 | H4 | Q3407 | F4 |
| IC302 | E4 | Q3408 | F4 |
| IC303 | B4 | Q3409 | I4 |
| IC305 | D3 | Q3410 | I4 |
| IC306 | E4 | Q3411 | G4 |
| IC307 | C3 | Q3412 | G4 |
| IC308 | C4 | Q3413 | H4 |
| IC310 | B4 | Q3414 | H4 |

**RX-V673/HTR-6065**

## VIDEO (2) (Side A)




## VIDEO (3) (Side A)




**Safety measures**

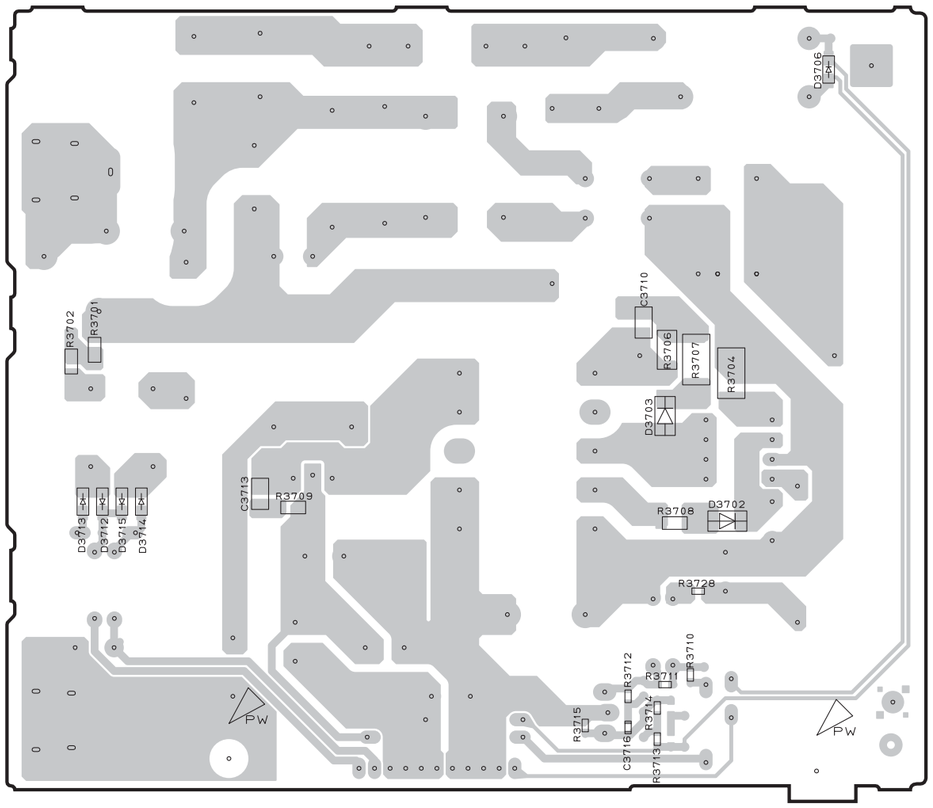
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
  C3706 on VIDEO (2) P.C.B.

• Semiconductor Location

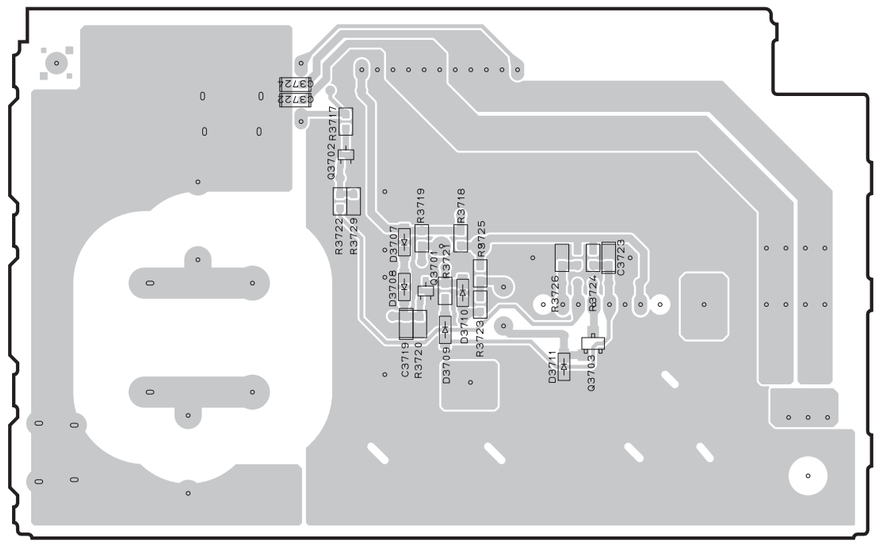
| Ref no. | Location |
|---|---|
| D3701 | D3 |
| D3704 | C4 |
| IC371 | E4 |
| IC372 | D5 |
| IC373 | D5 |
| IC374 | B4 |

RX-V673/HTR-6065

## VIDEO (2) (Side B)




## VIDEO (3) (Side B)

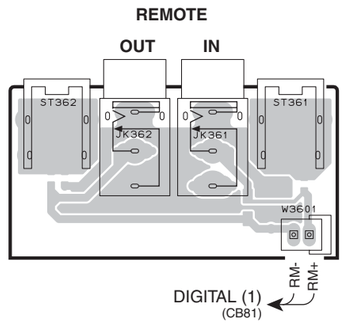



• Semiconductor Location

| Ref no. | Location |
|---|---|
| D3702 | D4 |
| D3703 | D4 |
| D3706 | E2 |
| D3707 | H4 |
| D3708 | H4 |
| D3709 | H4 |
| D3710 | H4 |
| D3711 | H4 |
| D3712 | B4 |
| D3713 | A4 |
| D3714 | B4 |
| D3715 | B4 |
| Q3701 | H4 |
| Q3702 | G3 |
| Q3703 | H4 |

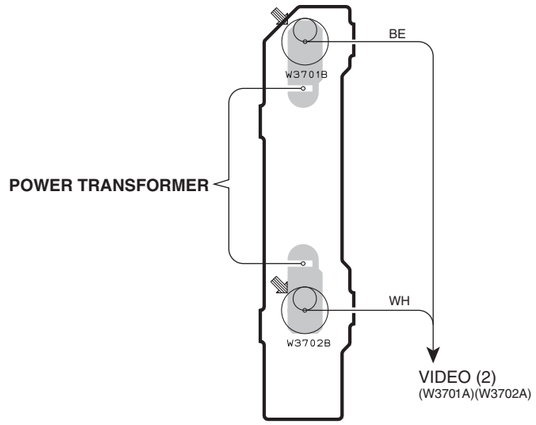
RX-V673/HTR-6065

## VIDEO (4) (Side A)

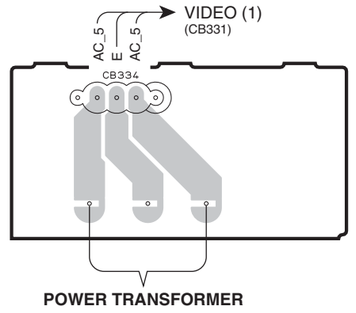



## VIDEO (6) (Side A)

U, C, T, K, A, B, G, F, L, H models

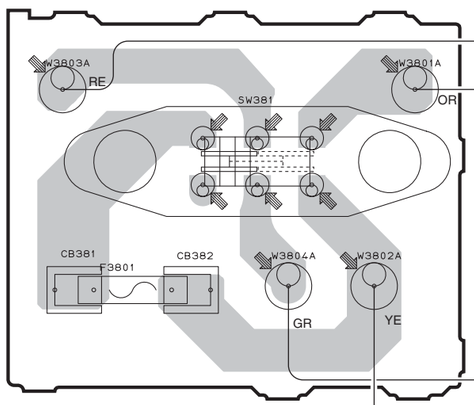



## VIDEO (7) (Side A)



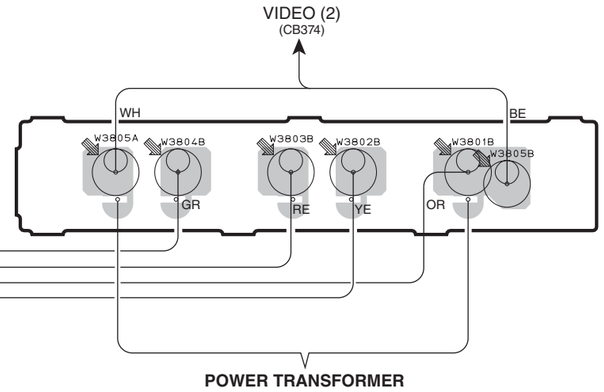

## VIDEO (8) (Side A)

R, S models



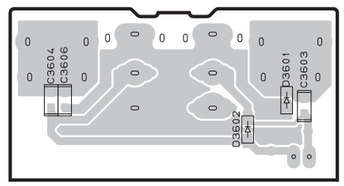

## VIDEO (9) (Side A)

R, S models



RX-V673/HTR-6065

## VIDEO (4) (Side B)

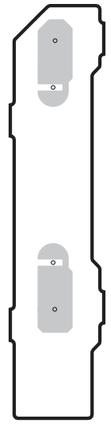



• Semiconductor Location

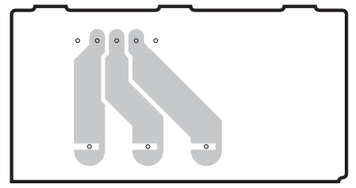
| Ref no. | Location |
|---|---|
| D3601 | B3 |
| D3602 | B3 |

## VIDEO (6) (Side B)

U, C, T, K, A, B, G, F, L, H models

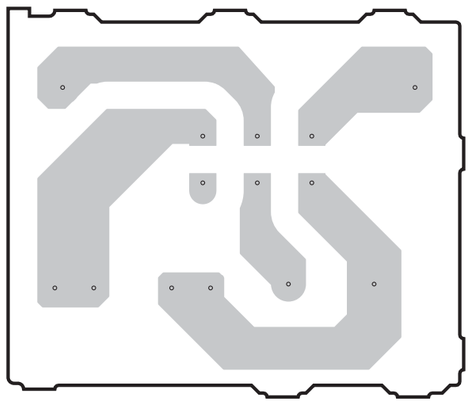


## VIDEO (7) (Side B)



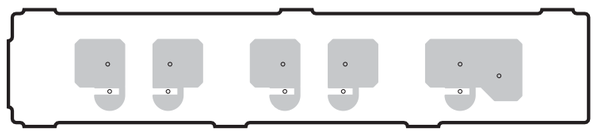
## VIDEO (8) (Side B)

R, S models



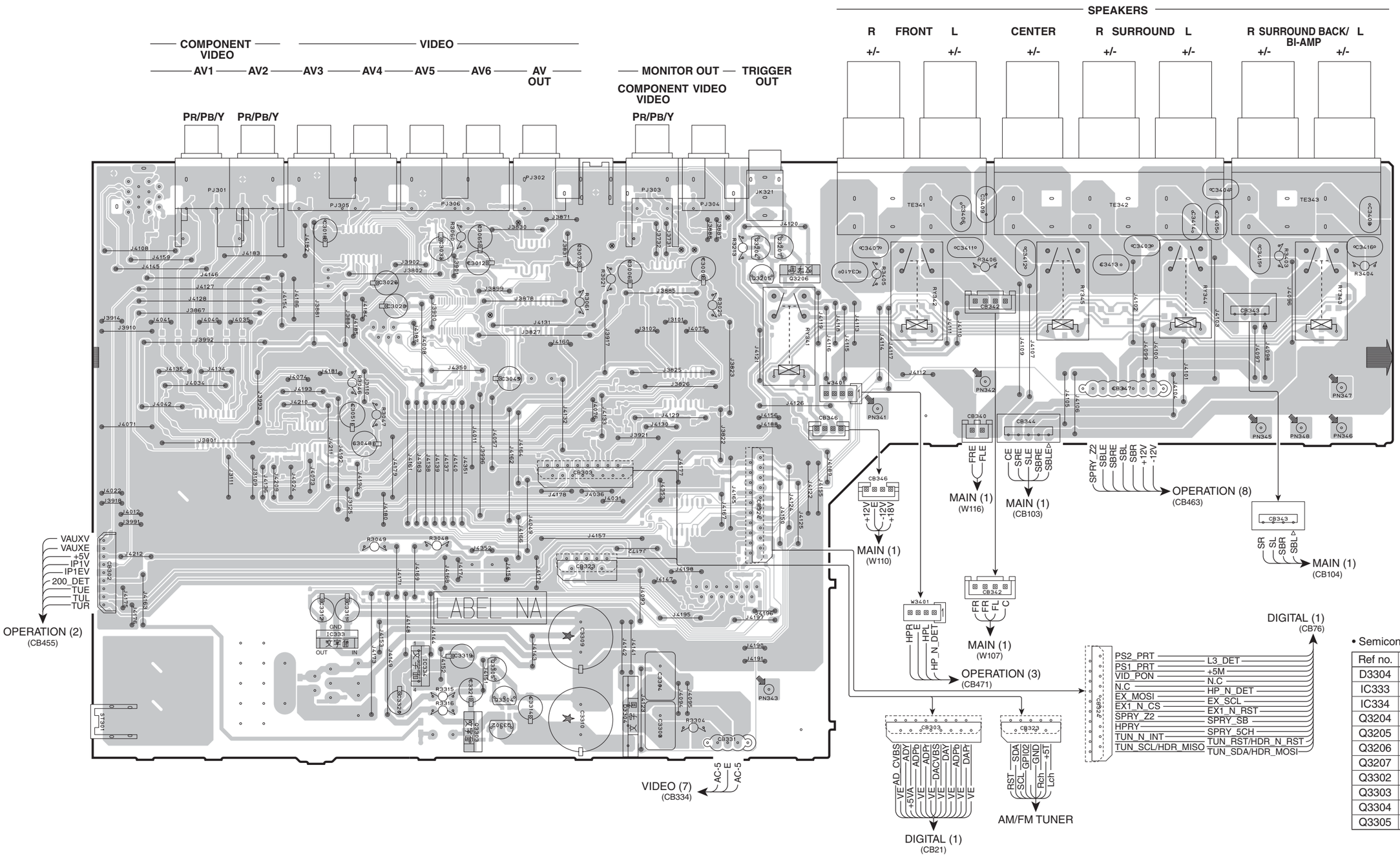
## VIDEO (9) (Side B)

R, S models



RX-A720

## VIDEO (1) (Side A)



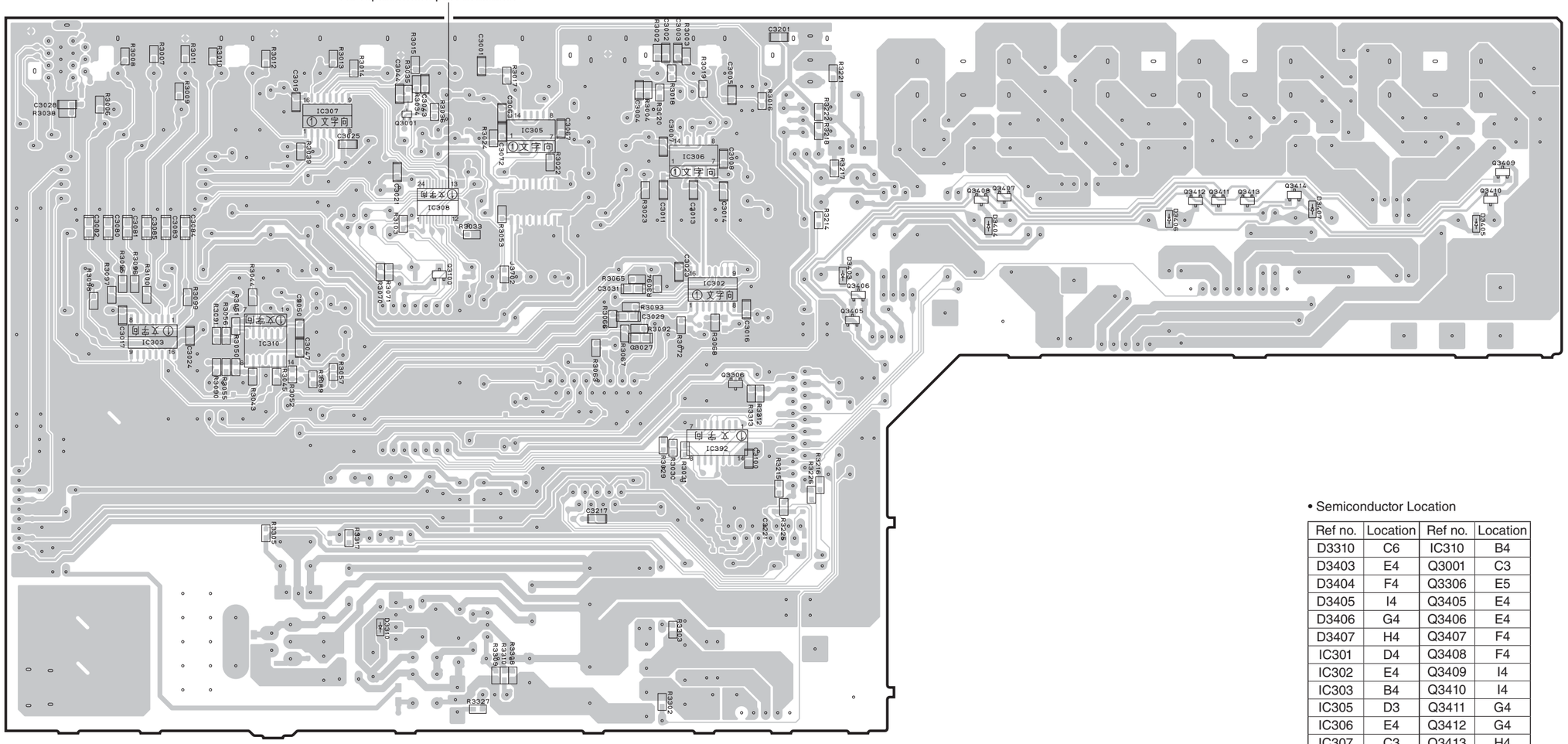

• Semiconductor Location

| Ref no. | Location |
|---|---|
| D3304 | E6 |
| IC333 | C6 |
| IC334 | D6 |
| Q3204 | F3 |
| Q3205 | F3 |
| Q3206 | F3 |
| Q3207 | F3 |
| Q3302 | D6 |
| Q3303 | D6 |
| Q3304 | D6 |
| Q3305 | D6 |

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## VIDEO (1) (Side B)

No replacement part available.

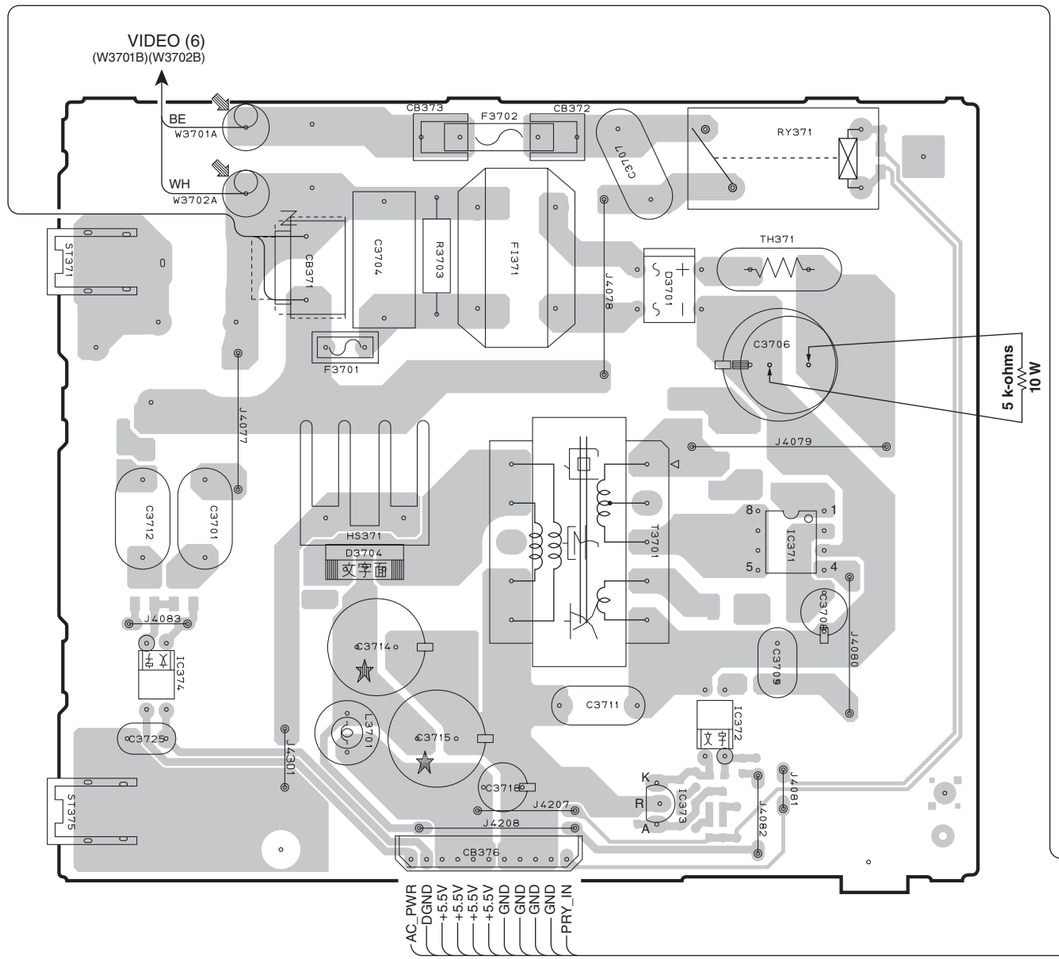


• Semiconductor Location

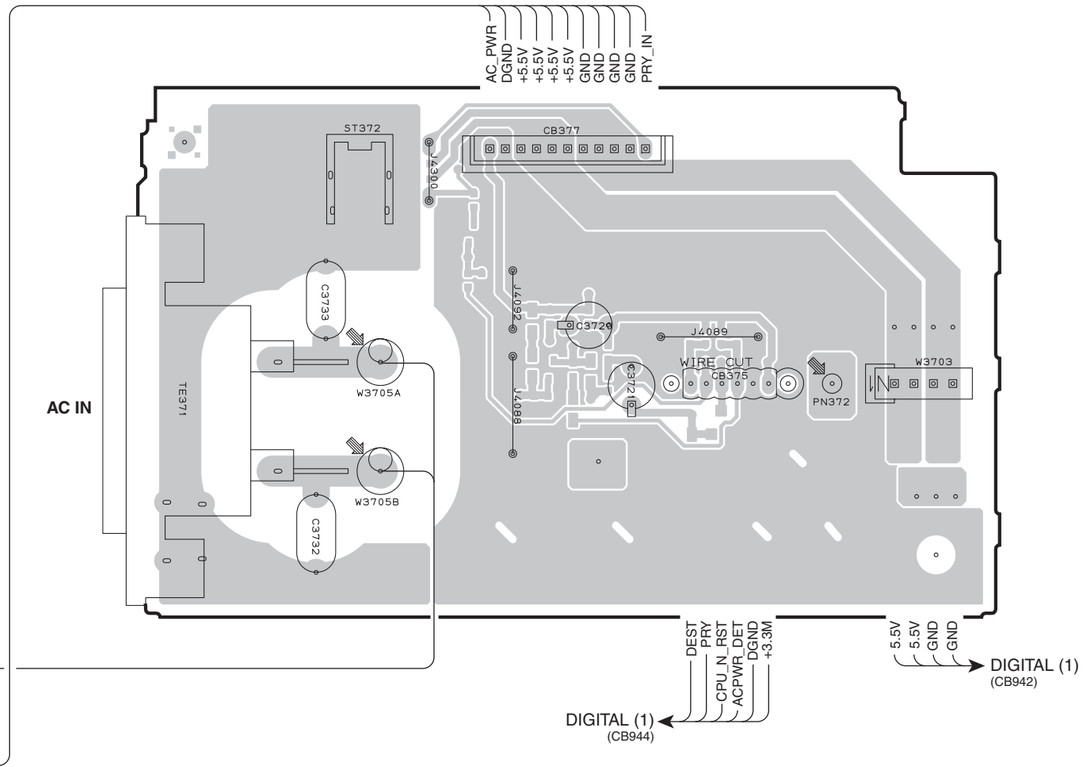
| Ref no. | Location | Ref no. | Location |
|---|---|---|---|
| D3310 | C6 | IC310 | B4 |
| D3403 | E4 | Q3001 | C3 |
| D3404 | F4 | Q3306 | E5 |
| D3405 | I4 | Q3405 | E4 |
| D3406 | G4 | Q3406 | E4 |
| D3407 | H4 | Q3407 | F4 |
| IC301 | D4 | Q3408 | F4 |
| IC302 | E4 | Q3409 | I4 |
| IC303 | B4 | Q3410 | I4 |
| IC305 | D3 | Q3411 | G4 |
| IC306 | E4 | Q3412 | G4 |
| IC307 | C3 | Q3413 | H4 |
| IC308 | C4 | Q3414 | H4 |

RX-A720

## VIDEO (2) (Side A)




## VIDEO (3) (Side A)




• Semiconductor Location

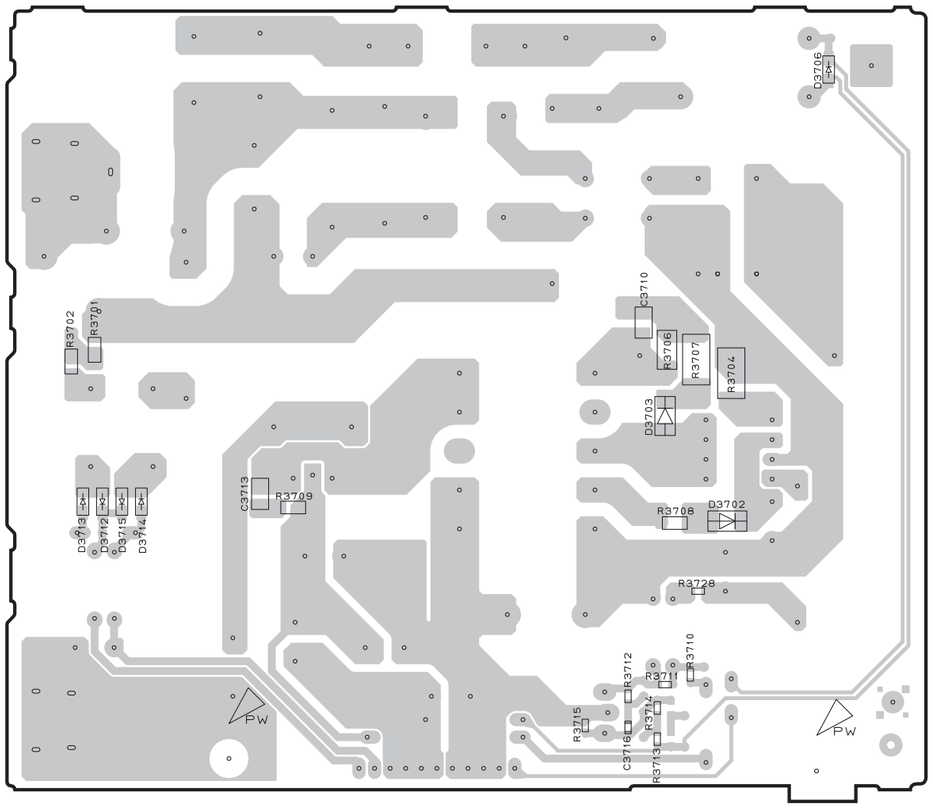
| Ref no. | Location |
|---|---|
| D3701 | D3 |
| D3704 | C4 |
| IC371 | E4 |
| IC372 | D5 |
| IC373 | D5 |
| IC374 | B4 |

**Safety measures**

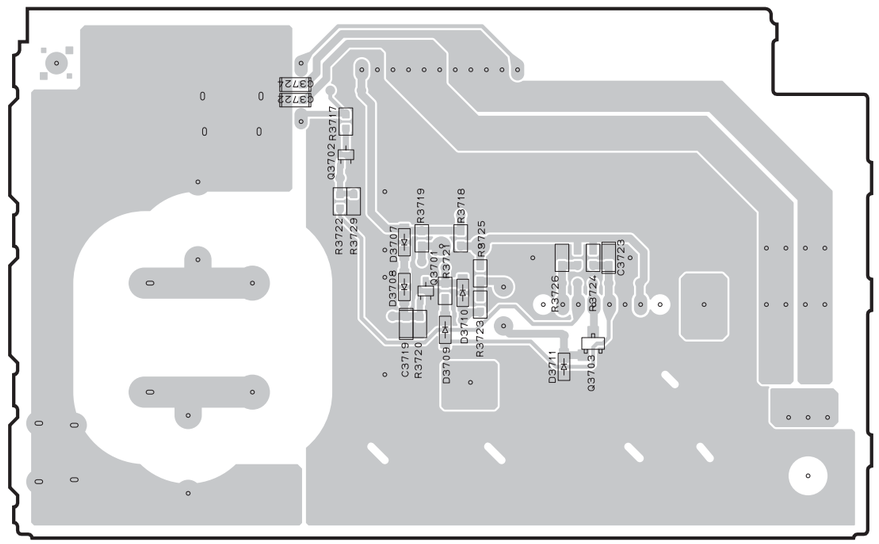
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
  C3706 on VIDEO (2) P.C.B.

RX-A720

## VIDEO (2) (Side B)




## VIDEO (3) (Side B)

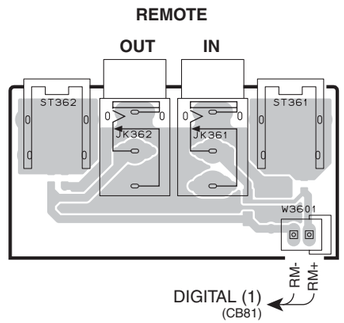



• Semiconductor Location

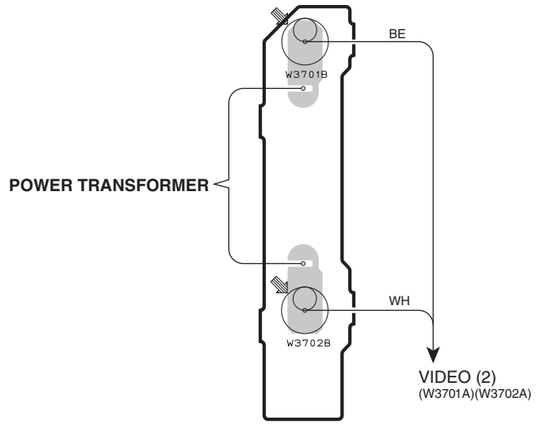
| Ref no. | Location |
|---|---|
| D3702 | D4 |
| D3703 | D4 |
| D3706 | E2 |
| D3707 | H4 |
| D3708 | H4 |
| D3709 | H4 |
| D3710 | H4 |
| D3711 | H4 |
| D3712 | B4 |
| D3713 | A4 |
| D3714 | B4 |
| D3715 | B4 |
| Q3701 | H4 |
| Q3702 | G3 |
| Q3703 | H4 |

RX-A720

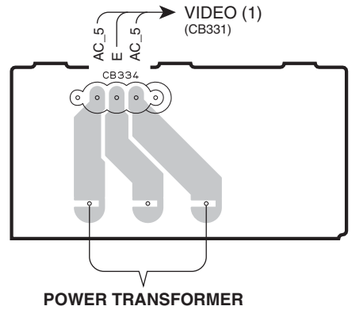
## VIDEO (4) (Side A)



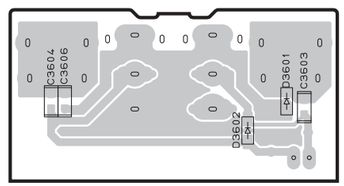

## VIDEO (6) (Side A)




## VIDEO (7) (Side A)



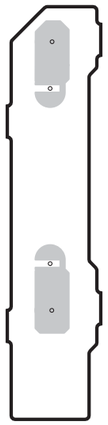

## VIDEO (4) (Side B)



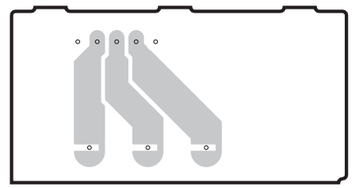

• Semiconductor Location

| Ref no. | Location |
|---|---|
| D3601 | C6 |
| D3602 | C6 |

## VIDEO (6) (Side B)



## VIDEO (7) (Side B)



# ■ SCHEMATIC DIAGRAMS RX-V673/HTR-6065 RX-A720

## DIGITAL 1/8

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to DIGITAL (2)_CB36

HDMI IN-7 HDMI IN-6 A820 only FRONT IN

HDMI 5 HDMI IN-5 | HDMI 4 HDMI IN-4 | HDMI 3 HDMI IN-3 | HDMI 2 HDMI IN-2 | HDMI 1 (BD/DVD) HDMI IN-1

105 Ω

2PP

I2C add:0xB2

**HDMI SWITCHER**

YD940A0

IC2

SII9589-3CTUC

**No replacement part available.**

5V :12mA
3.3V:239mA
1.2V:374mA

I2C add:0xB0

**HDMI SWITCHER**

YD940A0

IC1

SII9589-3CTUC

**No replacement part available.**

5V :12mA
3.3V:239mA
1.2V:374mA

| RESISTOR | | |
|---|---|---|
| REMARKS | PARTS NAME | |
| NO MARK | CARBON FILM RESISTOR | (P=5) |
| ⚠ | CARBON FILM RESISTOR | (P=10) |
| △ | METAL OXIDE FILM RESISTOR | |
| ▲ | METAL FILM RESISTOR | |
| ⊠ | METAL PLATE RESISTOR | |
| ◪ | FIRE PROOF CARBON FILM RESISTOR | |
| □ | CEMENT MOLDED RESISTOR | |
| ⊘ | SEMI VARIABLE RESISTOR | |
| ■ | CHIP RESISTOR | |

| CAPACITOR | | |
|---|---|---|
| REMARKS | PARTS NAME | |
| NO MARK | ELECTROLYTIC CAPACITOR | ⊟ |
| ⊗ | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | ⊣⊢ |
| ◉ | CERAMIC TUBULAR CAPACITOR | |
| ◎ | POLYESTER FILM CAPACITOR | |
| ○ | POLYSTYRENE FILM CAPACITOR | |
| ⓘ | MICA CAPACITOR | |
| ⓒ | POLYPROPYLENE FILM CAPACITOR | |
| ⊛ | SEMICONDUCTIVE CERAMIC CAPACITOR | |
| ⊙ | POLYPHENYLENE SULFIDE FILM CAPACITOR | |

NOTICE (model)
(J)····· JAPAN
(U)····· U.S.A
(C)····· CANADA
(E)····· GENERAL
(T)····· CHINA
(K)····· KOREA
(A)····· AUSTRALIA
(B)····· BRITISH
(G)····· EUROPE
(L)····· SINGAPORE
(E)····· SOUTH EUROPE
(V)····· TAIWAN
(P)····· RUSSIAN
(P)····· LATIN AMERICA
(S)····· BRAZIL
(H)····· THAI

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

空きスペースに置くもの

ALSB:L
I2C add:0x98

**HDMI RECEIVER**

YD893A0

IC3

ADV7619BSVZ

**No replacement part available.**

DVDDIO,TVDD:3.3V
DVDD,PVDD,CVDD:1.8V

3.3V:101mA
1.8V:475mA

**No replacement part available.**

to 004.aht (HDMI Tx) to DIGITAL 4/8

to 005.aht (u-Com) to DIGITAL 5/8

to DIGITAL 3/8

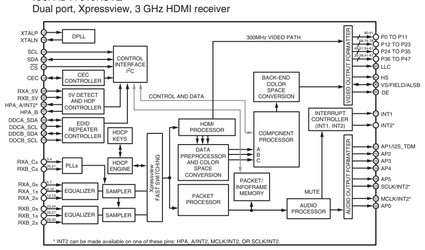
to 003.aht (FPGA)

**DIGITAL (1)**

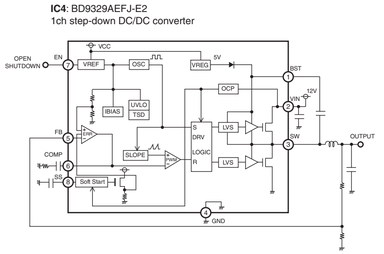
Sheet1:HDMI Rx

IC/CB/XL:1-19,40-44
OHTER :1-249,400-449

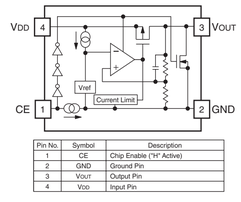
**IC3**: ADV7619KSVZ
Dual port, Xpressview, 3 GHz HDMI receiver




**IC4**: BD9329AEFJ-E2
1ch step-down DC/DC converter

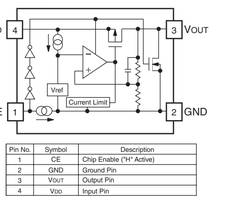



**IC6**: RP130Q181D-TR-F
Voltage regulator



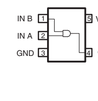

| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

**IC8**: RP130Q501D-TR-F
Voltage regulator

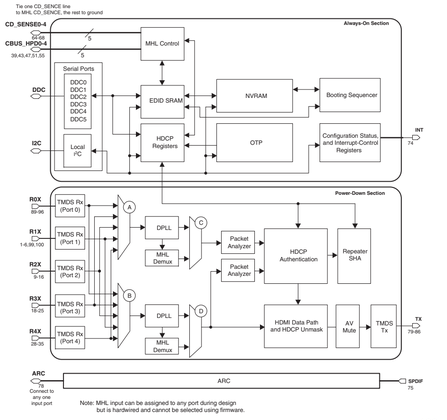



| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

**IC10**: TC7SH08FU
2-input AND gate




**IC1, 2**: SII9589-3
HDMI port processors



**RX-V673/HTR-6065** | **RX-A720**

# DIGITAL 2/8

Page 143 K9 RX-V673/HTR-6065
to VIDEO (1)_CB303

Page 146 K9 RX-A720
to VIDEO (1)_CB303

**DIGITAL (1)**

to DIGITAL 5/8
to 005.sht
(u-Com)

DV_SCL
DV_SDA
HDMI_PON
VDEC_H_RST

to DIGITAL 3/8
to 003.sht
(FPGA)

VDEC_CLK,VDEC_Y[0-9],VDEC_C[0-9],VDEC_DE,VDEC_HS,VDEC_VS

## Video Decoder

X8841A0

**IC21**
ADV7180BSTZ
**VIDEO DECODER**

3.3V : 204mA
1.8V : 116mA

I2C Addr
ALSB=L:0x40/0x20
ALSB=H:0x42/0x22

ADV7181 時のみ使用

IC/CB/XL:20-29
OHTER :250-349

**VIDEO AUX**
**HDMI IN**

HDMI IN-FrontPanel

DIGITAL(2) FrontHDMI

**DIGITAL (2)**

HDMI Support JIG

## HDMI EQUALIZER

YD186A0

**IC30**
TMDS261BPAGR

3.3V : 216mA

105 Ω

52610-2271
CB34

to DIGITAL(1)
001.sht
(HDMI Rx)

Page 129 F1
to DIGITAL (1)_CB8

DIGITAL(3) RS-232C

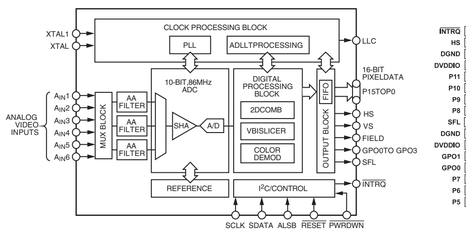
A820 only

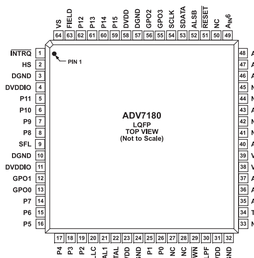
to DIGITAL(1)
005.sht
(u-Com)

DIGITAL(2),(3)
IC/CB/XL:30-39
OHTER :350-399

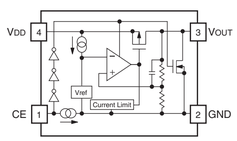
Sheet2:VDec/FHDMI/232C

**IC21**: ADV7180BSTZ
10-bit, 4 x oversampling SDTV video decoder



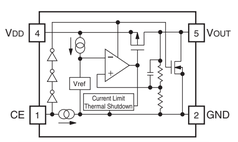




**IC27**: RP130Q181D-TR-F
Voltage regulator



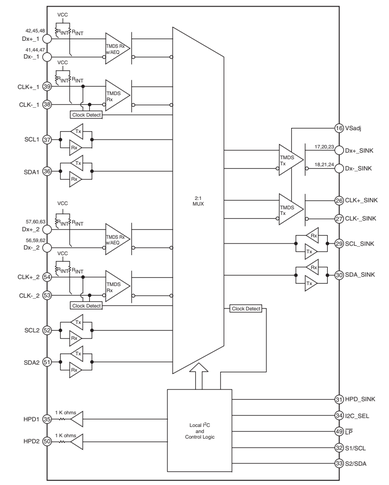

| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

**IC31**: RP132H331D-T1-FE
Voltage regulator




| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable Pin ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | NC | No Connection |
| 4 | VDD | Input Pin |
| 5 | VOUT | Output Pin |

**IC30**: TMDS261BPAGR
HDMI switch




NOTICE (model)
(J)····· JAPAN
(U)····· U.S.A.
(C)····· CANADA
(E)····· GENERAL
(K)····· CHINA
(K)····· KOREA
(A)····· AUSTRALIA
(E)····· BRITISH
(G)····· EUROPE
(L)····· SINGAPORE
(E)····· SOUTH EUROPE
(V)····· TAIWAN
(F)····· RUSSIAN
(P)····· LATIN AMERICA
(S)····· BRAZIL
(H)····· THAI

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (1/8~1/4) |
| ☑ | CARBON FILM RESISTOR (1/2~1) |
| △ | METAL OXIDE FILM RESISTOR |
| ▲ | METAL FILM RESISTOR |
| ⊠ | METAL PLATE RESISTOR |
| ◪ | FIRE PROOF CARBON FILM RESISTOR |
| □ | CEMENT MOLDED RESISTOR |
| ⊘ | SEMI VARIABLE RESISTOR |
| ■ | CHIP RESISTOR |

CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| ⊗ | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| ❀ | CERAMIC TUBULAR CAPACITOR |
| ◎ | POLYESTER FILM CAPACITOR |
| ◇ | POLYSTYRENE FILM CAPACITOR |
| ⓘ | MICA CAPACITOR |
| ⓒ | POLYPROPYLENE FILM CAPACITOR |
| ● | SEMICONDUCTIVE CERAMIC CAPACITOR |
| ⓘ | POLYPHENYLENE SULFIDE FILM CAPACITOR |

RX-V673/HTR-6065 | RX-A720

# DIGITAL 3/8

to 001.sht (HDMI Rx) to DIGITAL 1/8

to 002.sht (VDec) to DIGITAL 2/8

to 005.sht (u-Com) to DIGITAL 5/8

to 005.sht (u-Com) to DIGITAL 5/8

to 006.sht (Net/USB) to DIGITAL 6/8

to 004.sht (HDMI Tx) to DIGITAL 4/8

**No replacement part available.**

できるだけ IC50 端子付近に配置

IC50 EP4CE15F23C6N YD917A0 FPGA

IC53 NT5SV8M16HS-6K YA56080 SDRAM

ESMT : X3745B0 M12L128168A-5TG2L
Winbond : X3584E0 W9812G6JB-6
Nanya : YA56GB0 NT5SV8M16HS-6K

IC55 RP130Q251D-TR-FE Voltage regulator

IC56 R1172N301D-TR-F Voltage regulator

IC57 RP130Q121D-TR-F Voltage regulator

IC51 TC7SH125FU Bus buffer

Sheet3:FPGA

IC/CB/XL:45-59
SW :45-59
OHTER :450-599

IC53: NT5SV8M16HS-6K
128 Mb synchronous DRAM

**DIGITAL (1)**

V773/A820 only

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

**RX-V673/HTR-6065** | **RX-A720**

# DIGITAL 4/8

V773/A820 only

HDMI OUT2

HDMI OUT1

**DIGITAL (1)**

105 Ω

CI2CA:High
0x7E,76,C4

YD892A0

IC62

3.3V:5mA
1.2V:142mA

CI2CA:Low
0x7A,72,C0

HDMI TRANSMITTER

YD892A0

IC61

SII9136CTU-3

**No replacement part available.**

3.3V:5mA
1.2V:142mA

+5HT

TC74VHC157FT

Vcc: 2.0 - 5.5V
ViH: > 0.7*Vcc
ViL: < 0.3*Vcc

/ST SEL | I=O
L L | Y=A
L H | Y=B
H X | HiZ

BUFFER

300MHz DIGITAL Video bus lines

to 001.sht (HDMI Rx)
to DIGITAL 1/8

to 005.sht (u-Com)
to DIGITAL 5/8

to 007.sht (DSP/DIR)
to DIGITAL 7/8

to 003.sht (FPGA)
to DIGITAL 3/8

Sheet4:HDMI Tx

IC/CB/XL:60-74
OHTER :600-749

RESISTOR

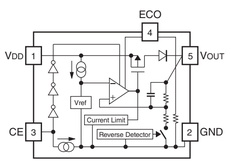
| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (P=5) |
| | CARBON FILM RESISTOR (P=10) |
| | METAL OXIDE FILM RESISTOR |
| | METAL FILM RESISTOR |
| | METAL PLATE RESISTOR |
| | FIRE PROOF CARBON FILM RESISTOR |
| | CEMENT MOLORD RESISTOR |
| | SEMI VARIABLE RESISTOR |
| | CHIP RESISTOR |

CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |
| | POLYPHENYLENE SULFIDE FILM CAPACITOR |

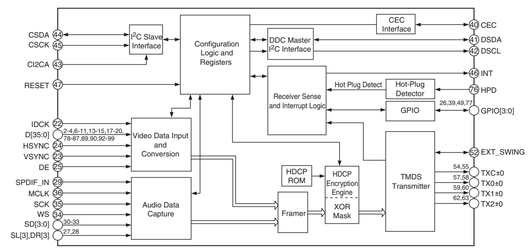
NOTICE (model)
[J]..... JAPAN
[U]..... U.S.A
[C]..... CANADA
[E]..... GENERAL
[T]..... CHINA
[K]..... KOREA
[A]..... AUSTRALIA
[B]..... BRITISH
[G]..... EUROPE
[L]..... SINGAPORE
[S]..... SOUTH EUROPE
[V]..... TAIWAN
[F]..... RUSSIAN
[P]..... LATIN AMERICA
[H]..... BRAZIL
[M]..... THAI

**IC60**: R1163N501B-TR-FE
CMOS-based manual mode switching LDO regulator

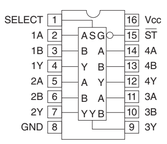



| Pin No. | Symbol | Description |
|---|---|---|
| 1 | VDD | Input Pin |
| 2 | GND | Ground Pin |
| 3 | CE | Chip Enable Pin ("H" Active) |
| 4 | ECO | MODE Alternative Pin |
| 5 | VOUT | Output Pin |

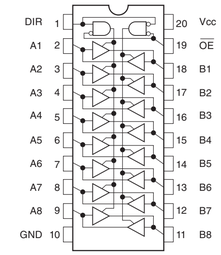
**IC61**: SII9136CTU-3
HDMI deep color transmitter



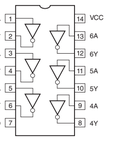

**IC64**: TC74VHC157FT
Quad 2-channel multiplexer




**IC65**: TC74LCX245FT
Low voltage octal bus transceiver
with 5-V tolerant inputs and outputs




**IC66**: TC74VHCU04FT
Hex inverters




★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# DIGITAL 5/8

DIGITAL (1)

to DIGITAL 1/8 to 001.sht (HDMI Rx)

to DIGITAL 2/8 to 002.sht (VDec)

to DIGITAL 3/8 to 003.sht (FPGA)

to DIGITAL 4/8 to 004.sht (HDMI Tx)

to DIGITAL 6/8 to 006.sht (Net/USB)

to DIGITAL 7/8 to 007.sht (DSP/DIR)

to DIGITAL 8/8 to 008.sht (Power)

to DIGITAL 3/8 (FPGA)

DFF1

FLASH ROM

MICROPROCESSOR

No replacement part available.

EEPROM

ANALOG MUX

to DIGITAL(3) RS-232C A820 only

NSD 1stMP から未実装

to MAIN 1

THM

to VIDEO

to OPE(1)

(Writing port) 1stMP から未実装

Page 144 M5 RX-V673/HTR-6065 to VIDEO (1)_CB324

Page 147 M5 RX-A720 to VIDEO (1)_CB324

Page 142 K7 to MAIN (1)_CB156

Page 138 E1 to OPERATION (10)_CB494 (R, T, K, A, B, G, F, L, S, H models)

Page 138 E2 to OPERATION (9)_CB491 (U, C models)

Page 140 F1 to OPERATION (10)_CB494 (A model)

Page 140 F3 to OPERATION (9)_CB491 (U, C models)

Page 145 C2 RX-V673/HTR-6065 to VIDEO (4)_W3601

Page 148 C2 RX-A720 to VIDEO (4)_W3601

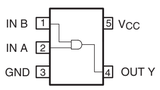
Page 137 H10 RX-V673/HTR-6065 to OPERATION (1)_CB401

Page 139 E10 RX-A720 to OPERATION (1)_CB401

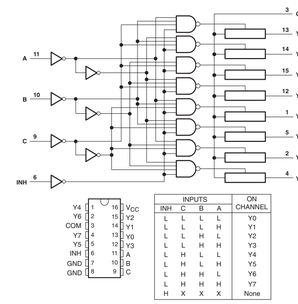
Sheet5:u-Com

IC/CB/XL:75-99
ONTER :750-999

**IC75**: TC7SH08FU
2-input AND gate

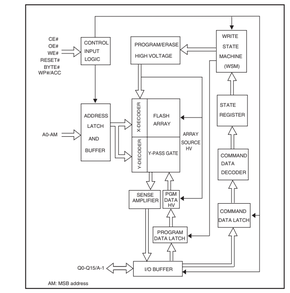


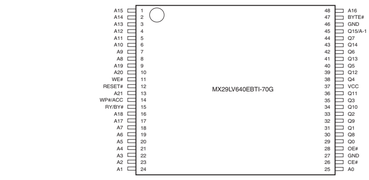

**IC76, 78**: SN74LV4051APWR
8-channel analog multiplexers/demultiplexers



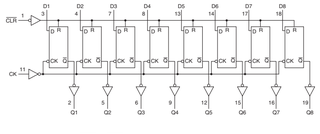

| INPUTS | | | | ON CHANNEL |
|---|---|---|---|---|
| INH | C | B | A | |
| L | L | L | L | Y0 |
| L | L | L | H | Y1 |
| L | L | H | L | Y2 |
| L | L | H | H | Y3 |
| L | H | L | L | Y4 |
| L | H | L | H | Y5 |
| L | H | H | L | Y6 |
| L | H | H | H | Y7 |
| H | X | X | X | None |

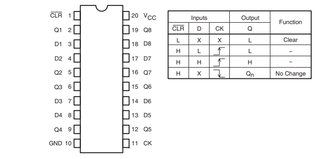
**IC77**: MX29LV640EBTI-70G
64 M-bit single voltage 3 V only flash memory



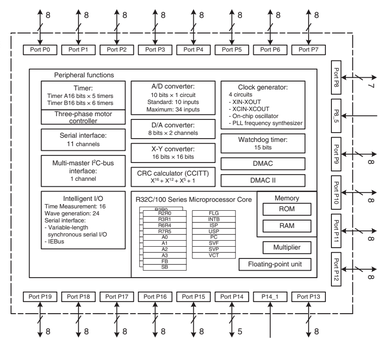

**IC79, 81**: TC74VHC273FT (EL,K)
Octal D-type flip-flop with clear




| Inputs | | | Output | Function |
|---|---|---|---|---|
| CLR | D | CK | Q | |
| L | X | X | L | Clear |
| H | L | ↑ | L | – |
| H | H | ↑ | H | – |
| H | X | L | $Q_0$ | No Change |

**IC83**: R5F6416MADFE
Single chip 32-bit microprocessor




**IC80**: TC7SH32FU
2-input OR gate




| A | B | Y |
|---|---|---|
| H | H | H |
| L | H | H |
| H | L | H |
| L | L | L |

**IC82**: R1EX25512ATA00A
64 K word x 8-bit serial peripheral interface EEPROM




**IC84, 85**: RP130Q331D-TR-F
Voltage regulator




| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | $V_{OUT}$ | Output Pin |
| 4 | $V_{DD}$ | Input Pin |

**IC86**: RP130Q501D-TR-F
Voltage regulator




| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | $V_{OUT}$ | Output Pin |
| 4 | $V_{DD}$ | Input Pin |

**IC87**: TC7WZ32FK (TE85L, F)
Dual 2-input OR gate




**IC91**: TC7SH86FU
Exclusive OR gate




| A | B | Y |
|---|---|---|
| L | L | L |
| L | H | H |
| H | L | H |
| H | H | L |

**IC92**: SN74LVC1G17DCKR
Single schmitt-trigger buffer




| INPUT A | OUTPUT Y |
|---|---|
| H | H |
| L | L |

**IC93**: TC7WH126FU
Dual bus buffer




★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# DIGITAL 6/8

## DIGITAL (1)

EEPROM(SPI)
128KBit
no_use
BR25S128FVT-WE2
IC958

NETWORK MICROPROCESSOR
No replacement part available.

NOR FLASH 256Mbit
IC952
MX29GL256FLT2I-90Q
NOR FLASH

SDRAM 256Mbit
IC954
M12L2561616A-5TG2A
SDRAM

MEMCLK:160MHz

NCPU_D0-15] Sstub must be within 1cm

Boot Configuration

| | FLASH | PAGE | ALE | CLE |
|---|---|---|---|---|
| ○ | NOR | - | 0 | 0 |
| | NAND | 2KB | 0 | 1 |
| | NAND | 512B | 1 | 0 |

No replacement part available.
NETWORK MICROPROCESSOR

No replacement part available.
NETWORK MICROPROCESSOR

APPLE AUTHENTCATION
Apple CoProcessor
I2C Addr = 20h/21h(SELA=Low)
(Class_4:MFI341S2162(YE189A))
No replacement part available.

IC951: DM860A-AQE
Network microprocessor

RESET, BOOT_SEL
Security Engine Reset, Boot, OTP
General Purpose on-chip RAM 64 kBytes
Timing Engine 2 PLLs, 3 DCOs → CLOCKS
SYSTEM BUS
AV0 Port I²S, I²S, DSD, video ← 4xAudio, 1xVideo
AV2 Port I²S, I²S, DSD ← 4xAudio
AV3 Port I²S, I²S, DSD, SPDIF ← 2xAudio
AV4 Port I²S, I²S, DSD, SPDIF, ADAT ← 2xAudio
stereo PWM-DAC → Audio
DMA 2 Forwarding Units 64 Contexts
ARM 926EJ-S 240 MHz (I-cache 16 kByte, D-cache 16 kByte)
Interrupt Controller Watchdog, 2 Timer → GPIO
RTSP Processor 160 MHz (I-cache 16 kByte, TCM 48 kByte)
Audio Engine 160 MHz (I-cache 4 kByte, TCM 10 kByte)
Memory Bus, System Extension ↔ SD/SRAM and System Extension Controller
LCD ↔ LCD Controller
USB ↔ USB 2.0 OTG PHY (8 kByte RAM)
UART ↔ 2 x UART-1
SPI ↔ SPI
Ethernet MAC 10/100 Mbps → (R/SSS)MII
NAND FLASH → NAND
SSM Controller → SSM

IC955: LAN8700C-AEZG-TR
BD decoder IC

IC956: MFI341S2162
IC digital

IC952: M12L2561616A-5TG2A
4M x 16-bit x 4 banks synchronous DRAM

IC953: MX29GL256FLT2I-90Q
Signal voltage 3 V only flash memory

Ethernet
NETWORK
RJSE1AG3870-R

USB

Differential Impedance 90ohm
Differential Impedance 100ohm

Sheet6:NET
IC/CB/XL:951-999
OHTER :9501-9999

Page 137 M7 RX-V673/HTR-6065 to OPERATION (1)_W4482
Page 139 K9 RX-A720 to OPERATION (12)_W4482

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

RX-V673/HTR-6065 | RX-A720

# DIGITAL 7/8

NOTICE (model)
(J)..... JAPAN
(U,C)..... U.S.A
(C)..... CANADA
(E)..... GENERAL
(T)..... CHINA
(K)..... KOREA
(A)..... AUSTRALIA
(B)..... BRITISH
(G)..... EUROPE
(L)..... SINGAPORE
(E)..... SOUTH EUROPE
(T)..... TAIWAN
(F)..... RUSSIAN
(P)..... LATIN AMERICA
(S)..... BRAZIL
(H)..... THAI

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (F=5) |
| | CARBON FILM RESISTOR (F=10) |
| | METAL OXIDE FILM RESISTOR |
| | METAL FILM RESISTOR |
| | METAL PLATE RESISTOR |
| | FIRE PROOF CARBON FILM RESISTOR |
| | CEMENT MOLDED RESISTOR |
| | SEMI VARIABLE RESISTOR |
| | CHIP RESISTOR |

CAPACITOR

| REMARKS | PARTS NAME | |
|---|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR | ⊟ |
| | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | ⊢⊣ |
| | CERAMIC TUBULAR CAPACITOR | |
| | POLYESTER FILM CAPACITOR | |
| | POLYSTYRENE FILM CAPACITOR | |
| | MICA CAPACITOR | |
| | POLYPROPYLENE FILM CAPACITOR | |
| | SEMICONDUCTIVE CERAMIC CAPACITOR | |
| | POLYPHENYLENE SULFIDE FILM CAPACITOR | |

to DIGITAL 5/8
to 005.sht
(u-Com)

to DIGITAL 6/8
to 006.sht
(Net/USB)

to DIGITAL 8/8
to 008.sht
(Power)

DIGITAL IN

ANALOG IN

DIR

DSP

SDRAM

SERIAL FLASH

C/SW

FL/FR

SL/SR

SBL/SBR

Serial Flash Memory
8Mbit

IC923 は下記 3品併用

| Part No. | Vender | Part Type |
|---|---|---|
| YD762A0 | WINBOND | W25Q80BVSSIG |
| YE058A0 | MXIC | MX25L8035EM2I-10G |
| YE005A0 | EON | EN25Q80A-100HIP |

IC922 は下記 3品併用

| Part No. | Vender | Part Type |
|---|---|---|
| XZ414F0 | WINBOND | W98646QJH-6 |
| X9625B0 | ESMT | M12L64164A-5TG2M |
| YD487A0 | ZENTEL | A3V64S40ETP-G6 |

1stMP から未実装

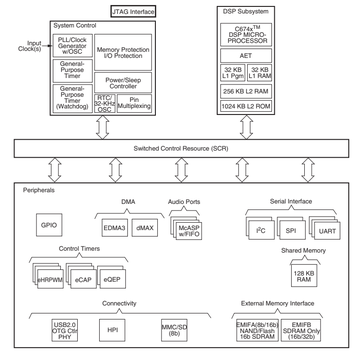
to 004.sht(HDMI Tx)
to DIGITAL 4/8

Sheet7:DSP/DIR

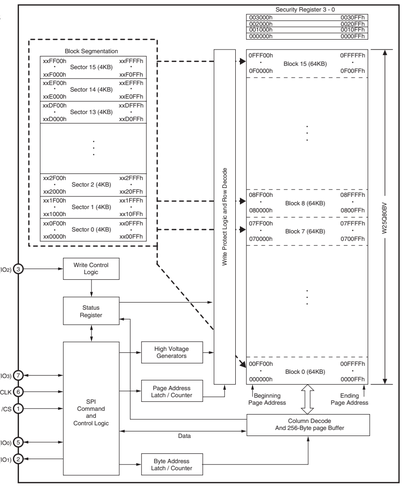
IC/CB/XL:921-939
OHTER :9201-9399

**DIGITAL (1)**

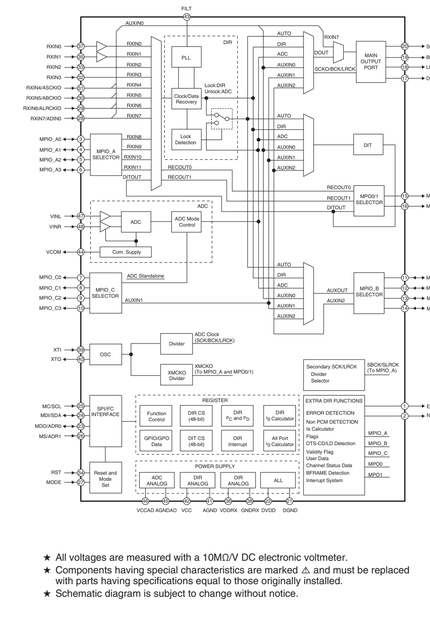
**IC921:** D80YK113CPTP400
Digital signal processor




**IC923:** W25Q80BVSSIG
8 M-bit flash memory with dual and quad SPI

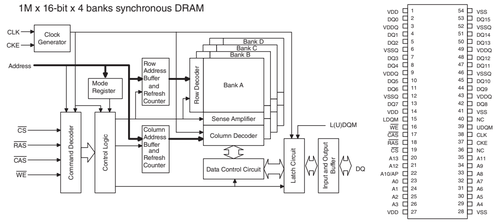



**IC924:** PCM9211PTR
216-kHz digital audio interface transceiver (DIX) with stereo ADC and routing



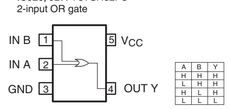

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

**IC922**: M12L64164A-5TG
1M x 16-bit x 4 banks synchronous DRAM



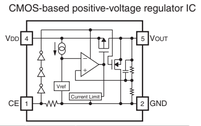

| | | | |
|---|---|---|---|
| VDD | 1 | 54 | VSS |
| DQ0 | 2 | 53 | DQ15 |
| VDDQ | 3 | 52 | VSSQ |
| DQ1 | 4 | 51 | DQ14 |
| DQ2 | 5 | 50 | DQ13 |
| VSSQ | 6 | 49 | VDDQ |
| DQ3 | 7 | 48 | DQ12 |
| DQ4 | 8 | 47 | DQ11 |
| VDDQ | 9 | 46 | VSSQ |
| DQ5 | 10 | 45 | DQ10 |
| DQ6 | 11 | 44 | DQ9 |
| VSSQ | 12 | 43 | VDDQ |
| DQ7 | 13 | 42 | DQ8 |
| VDD | 14 | 41 | VSS |
| LDQM | 15 | 40 | NC |
| WE | 16 | 39 | UDQM |
| CAS | 17 | 38 | CLK |
| RAS | 18 | 37 | CKE |
| CS | 19 | 36 | NC |
| A13 | 20 | 35 | A11 |
| A12 | 21 | 34 | A9 |
| A10/AP | 22 | 33 | A8 |
| A0 | 23 | 32 | A7 |
| A1 | 24 | 31 | A6 |
| A2 | 25 | 30 | A5 |
| A3 | 26 | 29 | A4 |
| VDD | 27 | 28 | VSS |

**IC926, 927**: TC7SH32FU
2-input OR gate



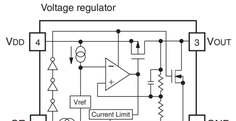

| A | B | Y |
|---|---|---|
| L | L | L |
| H | L | H |
| L | H | H |
| H | H | H |

**IC929**: R1172H121D-T1-F
CMOS-based positive-voltage regulator IC



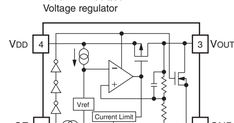

| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable Pin |
| 2 | GND | Ground Pin |
| 3 | NC | No Connection |
| 4 | VDD | Input Pin |
| 5 | VOUT | Output Pin of Voltage Regulator |

**IC930**: RP130Q331D-TR-F
Voltage regulator




| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

**IC931**: RP130Q501D-TR-F
Voltage regulator

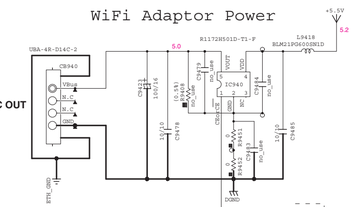



| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

RX-V673/HTR-6065 | RX-A720

# DIGITAL 8/8

## WiFi Adaptor Power




## DIGITAL (1)

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (F=5) |
| | CARBON FILM RESISTOR (F=10) |
| | METAL OXIDE FILM RESISTOR |
| | METAL FILM RESISTOR |
| | METAL PLATE RESISTOR |
| | FIRE PROOF CARBON FILM RESISTOR |
| | CEMENT MOLDED RESISTOR |
| | SEMI VARIABLE RESISTOR |
| | CHIP RESISTOR |

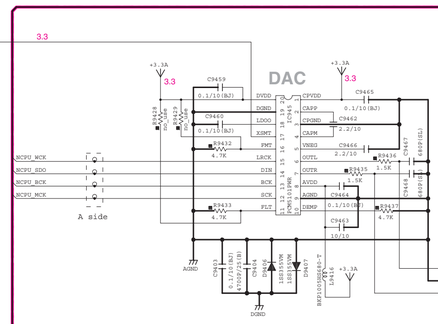
CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |
| | POLYPHENYLENE SULFIDE FILM CAPACITOR |

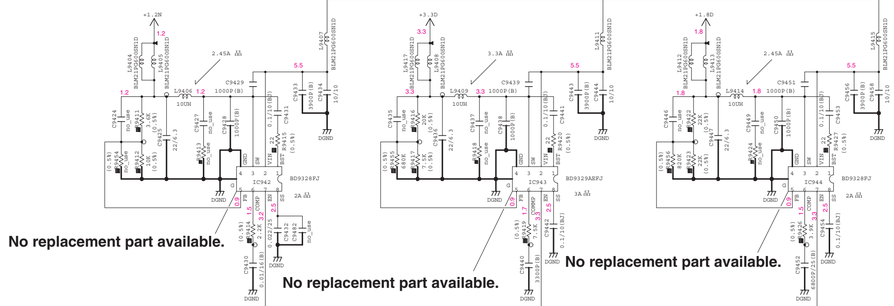
NOTICE (model)
(J) ····· JAPAN
(U) ····· U.S.A.
(C) ····· CANADA
(E) ····· GENERAL
(T) ····· CHINA
(K) ····· KOREA
(A) ····· AUSTRALIA
(B) ····· BRITISH
(E) ····· EUROPE
(L) ····· SINGAPORE
(B) ····· SOUTH EUROPE
(T) ····· TAIWAN
(R) ····· RUSSIAN
(S) ····· LATIN AMERICA
(S) ····· BRAZIL
(S) ····· THAI

FH941 FH942 FH943 FH944 FH945 no_use
#18 L=90: WS48850

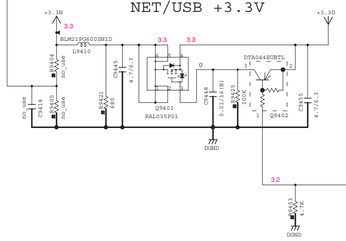
## DAC



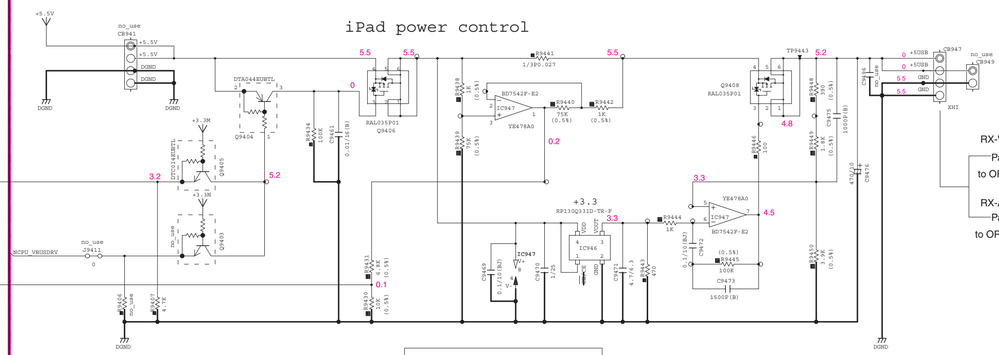

## No replacement part available.




## NET/USB +3.3V



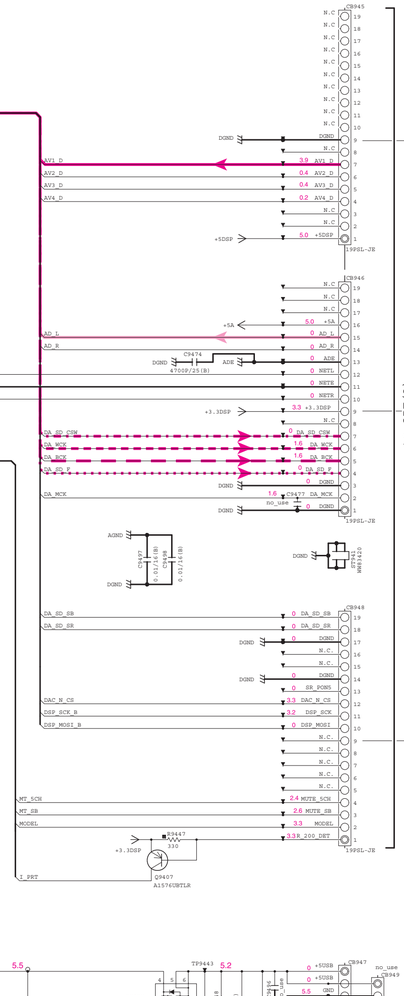

## iPad power control




Sheet8:Power

IC/CB/XL:940-949
ST/PN/W :941-949
OHTER :9401-9499

## to OPE(2)




RX-V673/HTR-6065
Page 138 C4
to OPERATION (2)_CB459

RX-A720
Page 140 C4
to OPERATION (2)_CB459

RX-V673/HTR-6065
Page 138 E4
to OPERATION (2)_CB460

RX-A720
Page 140 E4
to OPERATION (2)_CB460

RX-V673/HTR-6065
Page 138 I4
to OPERATION (2)_CB461

RX-A720
Page 140 I4
to OPERATION (2)_CB461

RX-V673/HTR-6065
Page 137 M7
to OPERATION (1)_W4481

RX-A720
Page 139 K9
to OPERATION (12)_W4481

## to VIDEO (3)

(for service) for FA TEST

RX-V673/HTR-6065
Page 145 K9
to VIDEO (3)_CB375

RX-A720
Page 148 K9
to VIDEO (3)_CB375

RX-V673/HTR-6065
Page 145 K10
to VIDEO (3)_W3703

RX-A720
Page 148 K10
to VIDEO (3)_W3703

## DIGITAL IN

to DIGITAL 7/8 (DSP/DIR) to 007.sht

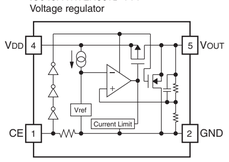
ANALOG IN

CENTER/SUBWOOFER
FRONT L
SURROUND BACK L
SURROUND L

to DIGITAL 5/8 to 005.sht (u-Com)

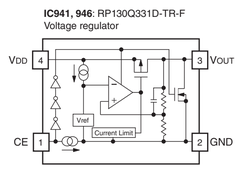
to DIGITAL 6/8 to 006.sht (Net/USB)

**IC940**: R1172H501D-T1-F
Voltage regulator



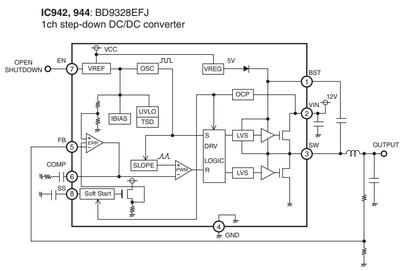

| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable Pin ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | NC | No Connection |
| 4 | VDD | Input Pin |
| 5 | VOUT | Output Pin |

**IC941, 946**: RP130Q331D-TR-F
Voltage regulator

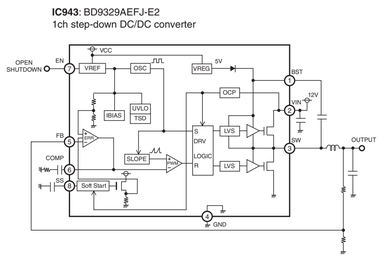



| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

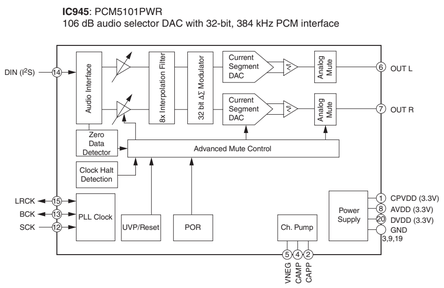
**IC942, 944**: BD9328EFJ
1ch step-down DC/DC converter



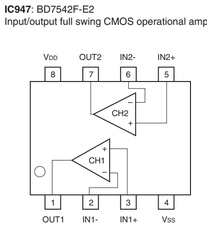

**IC943**: BD9329AEFJ-E2
1ch step-down DC/DC converter



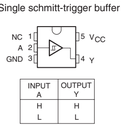

**IC945**: PCM5101PWR
106 dB audio selector DAC with 32-bit, 384 kHz PCM interface




**IC947**: BD7542F-E2
Input/output full swing CMOS operational amplifier



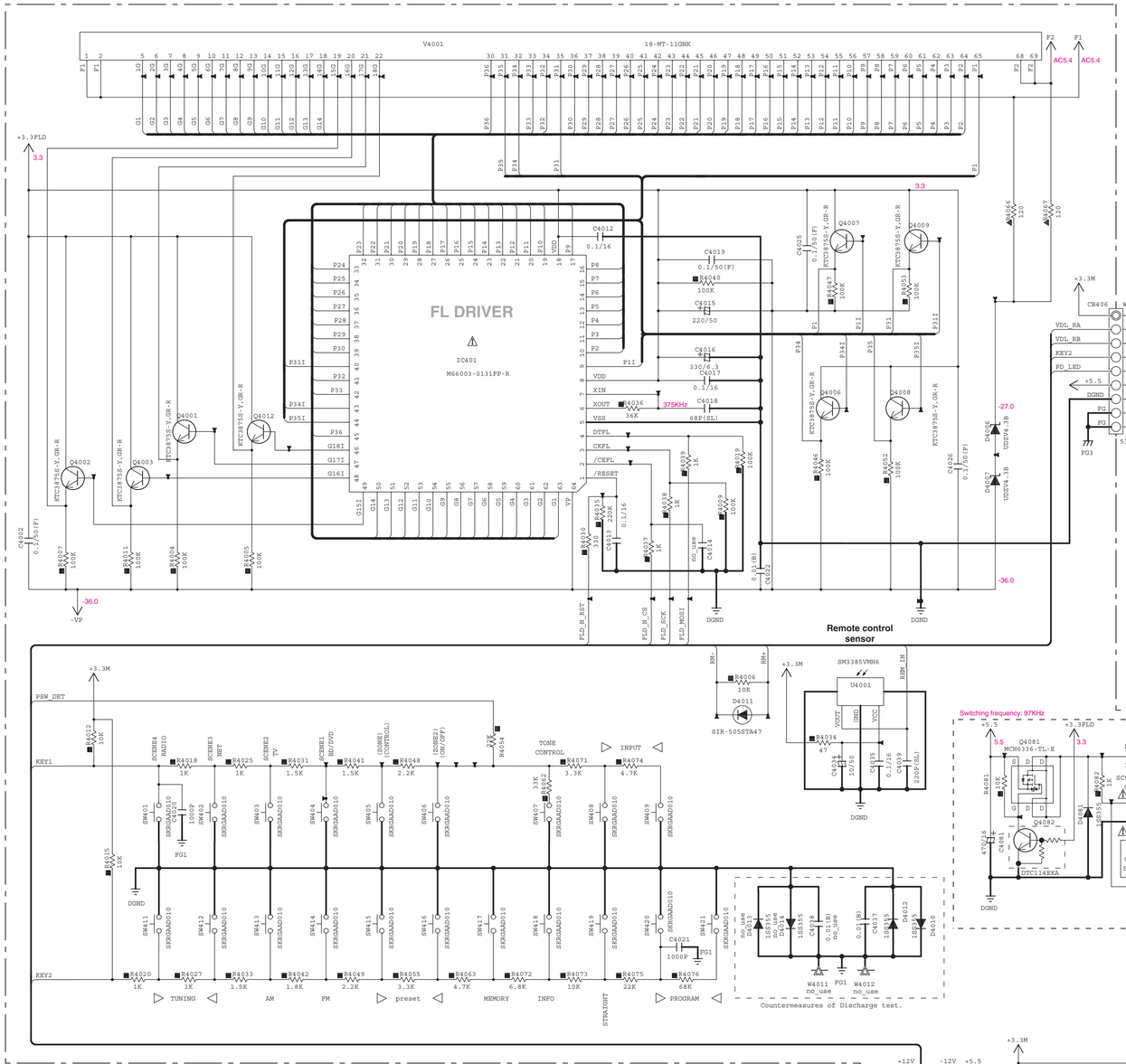

**IC949**: SN74LVC1G17DCKR
Single schmitt-trigger buffer

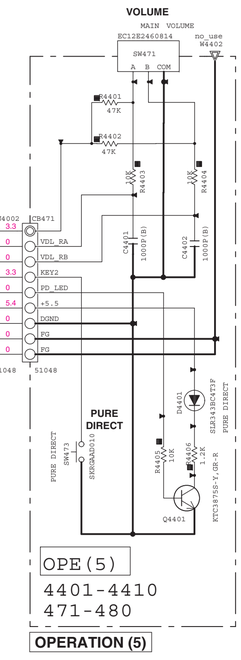


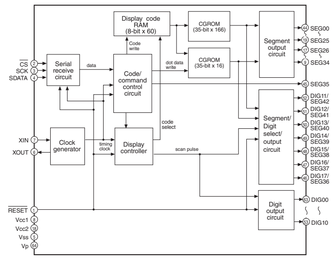

| INPUT A | OUTPUT Y |
|---|---|
| H | H |
| L | L |

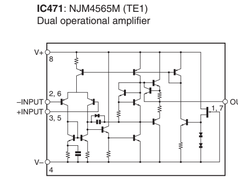
★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

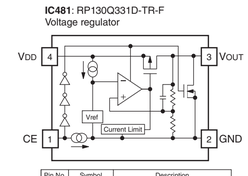
# OPERATION 1/2



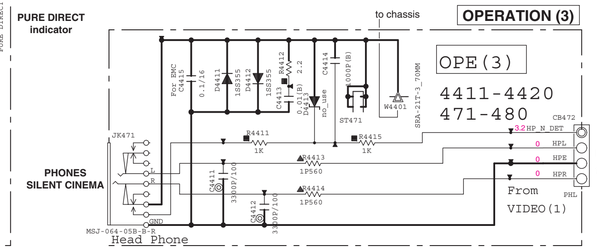



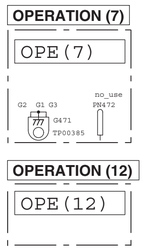

| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

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

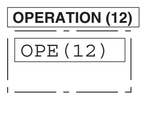
| CAPACITOR | |
|---|---|
| REMARKS | PARTS NAME |
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYESTERENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |
| | POLYPHENYLENE SULFIDE FILM CAPACITOR |

NOTICE (model)
- (J ····· JAPAN
- (U ····· U.S.A
- (C ····· CANADA
- (R ····· GENERAL
- (T ····· CHINA
- (K ····· KOREA
- (A ····· AUSTRALIA
- (B ····· BRITISH
- (G ····· EUROPE
- (L ····· SINGAPORE
- (E ····· SOUTH EUROPE
- (V ····· TAIWAN
- (F ····· RUSSIAN
- (P ····· LATIN AMERICA
- (S ····· BRAZIL
- (H ····· THAI



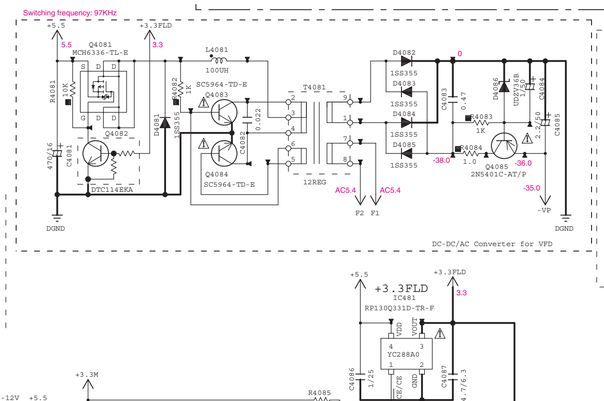

Page 144 A4
to VIDEO (1)_W3401

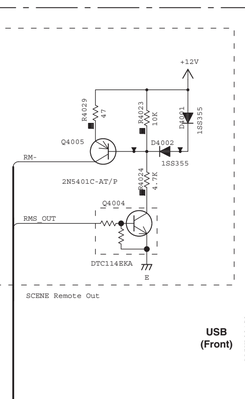


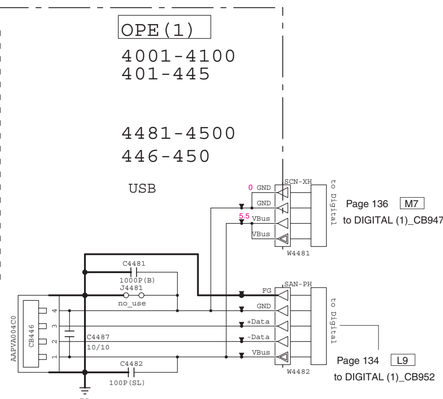
















Key detection for A/D port
Key input (A/D) pull-up resistance 10 k-ohms

| | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.5 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | 22 kΩ | 33 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 171 pin | 0 – 0.15 V | 0.15 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.97 V | 0.98 – 1.24 V | 1.25 – 1.53 V | 1.54 – 1.84 V | 1.85 – 2.22 V | 2.23 – 2.62 V | 2.63 – 3.04 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 75 | 76 – 96 | 97 – 119 | 120 – 142 | 143 – 163 | 182 – 197 | 198 – 209 |
| KEY1 | RADIO (SCENE4) | NET (SCENE3) | TV (SCENE2) | BD/DVD (SCENE1) | ZONE CONTROL | ZONE2 | INPUT > | INPUT < | MAIN ZONE ⏻ (power) | TONE CONTROL |

| | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.8 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | + 6.8 kΩ | + 10 kΩ | + 22 kΩ | + 68 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 170 pin | 0 – 0.15 V | 0.16 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.99 V | 1.00 – 1.27 V | 1.28 – 1.56 V | 1.57 – 1.86 V | 1.87 – 2.14 V | 2.15 – 2.39 V | 2.40 – 2.65 V | 2.66 – 2.91 V | 2.92 – 3.17 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 77 | 78 – 99 | 100 – 121 | 122 – 144 | 145 – 166 | 167 – 186 | 187 – 205 | 206 – 226 | 227 – 246 |
| KEY2 | PURE DIRECT | TUNING >> | TUNING << | AM | FM | PRESET > | PRESET < | MEMORY | INFO | STRAIGHT | PROGRAM > | PROGRAM < |

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

RX-V673/HTR-6065

# OPERATION 2/2

OPE(11)
PM491 PM492
ST493
OPERATION (11)

OPERATION (10)
R, T, K, A, B, G, F, L, S, H models
OPE(10)
Page 133 I9
to DIGITAL (1)_CB79
W4903 MP80310 3P 100mm
CB494 #431 #432 #433 #434 #435
ST492 WW83430
Ex DEST

OPERATION (9) U, C models
OPE(9)
Page 133 I9
to DIGITAL (1)_CB79
W4901 3P 100mm
CB491 #461 #456 ST491 WW83430
D4902 D4901 D4903 D4904
U,C DEST

OPE(8)
4301-4400
461-470
DTA114EKA Q4302 DTC114EKA Q4301
RY463 981-2A-24DS-SP7
ZONE 2/ PRESENCE L
MSP-113ZE-03
R EXTRA SP L
TB461 ST461
CB463 52011
OPERATION (8)

ZONE 2/ PRESENCE

Page 144 D3
to VIDEO (1)_CB347

Page 136 M2
to DIGITAL (1)_CB945

Page 136 M3
to DIGITAL (1)_CB946

Page 136 M5
to DIGITAL (1)_CB948

OPE(2)
4201-4300
451-460
OPERATION (2)

to DIGITAL
CN459 CN460 CN461

| R4200 | |
|---|---|
| RX-V671 | 0 |
| RX-A710 | 1.0K |
| HTR6064 | 2.2K |
| RX-V771 | 3.9K |
| RX-A810 | 5.6K |
| HTR7064 | 8.2K |
| RX-V871 | 12K |
| | 18K |
| | 27K |

ST491
XLM2505A IC4245
VAUXA1 VAUXAE1 VAUXE
D4208 no_use
DIGITAL IN
ANALOG IN
IC4213 PCM1681PWPR
IC4214 BLM21PG600SN1D
IC4215 J4215
IC4216 KIA7805API
IC4217 XLM2505A
IC4218 BLM21PG600SN1D
IC4219 BLM21PG600SN1D
IC4220 BLM21PG600SN1D
IC4221 BLM21PG600SN1D
IC4222 BLM21PG600SN1D
IC4223 BLM21PG600SN1D
IC4224 BLM21PG600SN1D
IC4225 BLM21PG600SN1D
IC4226 BLM21PG600SN1D
IC4227 BLM21PG600SN1D
IC4228 BLM21PG600SN1D
IC4229 BLM21PG600SN1D
IC4230 BLM21PG600SN1D
IC4231 BLM21PG600SN1D
IC4232 BLM21PG600SN1D
IC4233 BLM21PG600SN1D
IC4234 BLM21PG600SN1D
IC4235 BLM21PG600SN1D
IC4236 BLM21PG600SN1D
IC4237 BLM21PG600SN1D

# OPERATION 1/2

OPE(1)
4001-4100
401-440

**OPERATION (1)**

**FL DRIVER**
IC401
M66003-0131FP-R

**PURE DIRECT indicator**

**VOLUME**

Switching frequency: 97KHz

DC-DC/AC Converter for VFD

**OPERATION (4)** 4401-4450 471-480

**YPAO MIC**

**PHONES SILENT CINEMA**

**OPERATION (3)** 4401-4450 471-480

**OPERATION (5)**

**OPERATION (7)**

**OPERATION (6)**

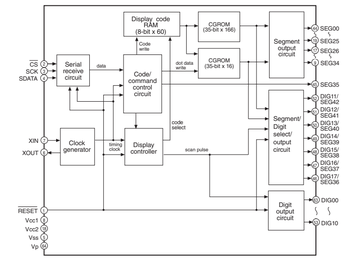
**OPERATION (12)** 4401-4450 471-480 4481-4500 446-450

**USB (Front)**

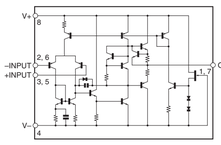
**VIDEO**

Remote control sensor

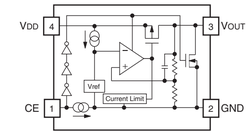
**IC401**: M66003-0131FP-R
18 digit 5 x 7 segment VFD controller/driver




**IC471**: NJM4565M (TE1)
Dual operational amplifier




**IC481**: RP130Q331D-TR-F
Voltage regulator




| Pin No. | Symbol | Description |
|---|---|---|
| 1 | CE | Chip Enable ("H" Active) |
| 2 | GND | Ground Pin |
| 3 | VOUT | Output Pin |
| 4 | VDD | Input Pin |

CAPACITOR

| REMARKS | PARTS NAME | |
|---|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR | ## |
| ⊗ | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | |
| ◉ | CERAMIC TUBULAR CAPACITOR | ## |
| ◎ | POLYESTER FILM CAPACITOR | |
| ○ | POLYSTYRENE FILM CAPACITOR | |
| ⓘ | MICA CAPACITOR | |
| ⓟ | POLYPROPYLENE FILM CAPACITOR | |
| ⓜ | SEMICONDUCTIVE CERAMIC CAPACITOR | |
| ⓨ | POLYPHENYLENE SULFIDE FILM CAPACITOR | |

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (P=5) |
| ◪ | CARBON FILM RESISTOR (P=10) |
| △ | METAL OXIDE FILM RESISTOR |
| ▲ | METAL FILM RESISTOR |
| ⊠ | METAL PLATE RESISTOR |
| ◩ | FIRE PROOF CARBON FILM RESISTOR |
| □ | CEMENT MOLDED RESISTOR |
| ⊘ | SEMI VARIABLE RESISTOR |
| ■ | CHIP RESISTOR |

NOTICE (model)
(J)····· JAPAN
(U)····· U.S.A
(C)····· CANADA
(R)····· GENERAL
(T)····· CHINA
(K)····· KOREA
(A)····· AUSTRALIA
(B)····· BRITISH
(G)····· EUROPE
(L)····· SINGAPORE
(E)····· SOUTH EUROPE
(V)····· TAIWAN
(F)····· RUSSIAN
(P)····· LATIN AMERICA
(S)····· BRAZIL
(H)····· THAI

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

| A7 | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.5 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | 22 kΩ | 33 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 171 pin | 0 – 0.15 V | 0.15 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.97 V | 0.98 – 1.24 V | 1.25 – 1.53 V | 1.54 – 1.84 V | 1.85 – 2.22 V | 2.23 – 2.62 V | 2.63 – 3.04 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 75 | 76 – 96 | 97 – 119 | 120 – 142 | 143 – 163 | 182 – 197 | 198 – 209 |
| KEY1 | RADIO (SCENE4) | NET (SCENE3) | TV (SCENE2) | BD/DVD (SCENE1) | ZONE2 CONTROL | ZONE2 | – | – | MAIN ZONE ⏻ (power) | TONE CONTROL |

| A7 | 0 Ω | + 1.0 kΩ | + 1.0 kΩ | + 1.5 kΩ | + 1.8 kΩ | + 2.2 kΩ | + 3.3 kΩ | + 4.7 kΩ | + 6.8 kΩ | + 10 kΩ | + 22 kΩ | + 68 kΩ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detected voltage value at 170 pin | 0 – 0.15 V | 0.16 – 0.42 V | 0.43 – 0.70 V | 0.71 – 0.99 V | 1.00 – 1.27 V | 1.28 – 1.56 V | 1.57 – 1.86 V | 1.87 – 2.14 V | 2.15 – 2.39 V | 2.40 – 2.65 V | 2.66 – 2.91 V | 2.92 – 3.17 V |
| A/D value (3.3 V=255) | 0 – 11 | 12 – 32 | 33 – 54 | 55 – 77 | 78 – 99 | 100 – 121 | 122 – 144 | 145 – 166 | 167 – 186 | 187 – 205 | 206 – 226 | 227 – 246 |
| KEY2 | PURE DIRECT | TUNING >> | TUNING << | AM | FM | PRESET > | PRESET < | MEMORY | INFO | STRAIGHT | PROGRAM > | PROGRAM < |

Page 147 B4
to VIDEO (1)_W3401

Page 133 K9
to DIGITAL (1)_CB82

Page 140 J8
to OPERATION (2)_CB458

Page 136 M7
to DIGITAL (1)_CB947

Page 134 L9
to DIGITAL (1)_CB952

★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

RX-A720

# OPERATION 2/2

OPE(11)

PN491 PN492 ST493

**OPERATION (11)**

**OPERATION (10)** A model

OPE(10)

Page 133 I9
to DIGITAL (1)_CB79

DEST A ONLY

**OPERATION (9)** U, C models

OPE(9)

Page 133 I9
to DIGITAL (1)_CB79

DEST U,C ONLY

OPE(8)
4301-4400
461-470

ZONE 2/
PRESENCE L

R
EXTRA SP
L

ZONE 2/
PRESENCE

**OPERATION (8)**

Page 147 D3
to VIDEO (1)_CB347

Destination Part List

| eXX | LOC | UC | A |
|---|---|---|---|
| e431 | CB494 | X | V187810<br>51048 |
| e432 | W4903 | X | MP80310<br>- |
| e433 | IC491 | X | YA381A0<br>LM19CIZ/LPT4 |
| e434 | C4901 | X | US13510<br>0.1/16 |
| e435 | ST492 | X | WW83430 |
| e436 | R4904 | X | RD35710<br>10K |
| e456 | ST491 | WW83430 | X |
| e457 | TH492<br>TH491 | WT69830<br>WCP2NA103J1 | X |
| e458 | D4903<br>D4902<br>D4901 | VT33290<br>1SS355 | X |
| e459 | R4902<br>R4903 | RD35610<br>1K | X |
| e460 | R4901 | RD35710<br>10K | X |
| e461 | CB491 | V187810<br>51048 | X |
| e462 | W4901 | MP80310<br>- | X |

RESISTOR

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

CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |
| | POLYPHENYLENE SULFIDE FILM CAPACITOR |

NOTICE (model)

| | |
|---|---|
| J | JAPAN |
| U | U.S.A |
| C | CANADA |
| R | GENERAL |
| T | CHINA |
| K | KOREA |
| A | AUSTRALIA |
| B | BRITISH |
| G | EUROPE |
| L | SINGAPORE |
| E | SOUTH EUROPE |
| V | TAIWAN |
| F | RUSSIAN |
| P | LATIN AMERICA |
| S | BRAZIL |
| H | THAI |

Page 136 M2
to DIGITAL (1)_CB945

Page 136 M3
to DIGITAL (1)_CB946

Page 136 M5
to DIGITAL (1)_CB948

OPE(2)
4201-4300
451-460

**OPERATION (2)**

| R4200 | |
|---|---|
| RX-V671 | 0 |
| RX-A710 | 1.0K |
| HTR6064 | 2.2K |
| RX-V771 | 3.9K |
| RX-A810 | 5.6K |
| HTR7064 | 8.2K |
| RX-V871 | 12K |
| RX-A910 | 18K |
| HTR8064 | 27K |

ST451

DIGITAL IN

ANALOG IN

SURROUND L

FRONT L

CENTER

SUB WOOFER

SURROUND BACK L

Page 139 H10
to OPERATION (1)_CB402

to OPE(1)

Page 142 A3
to MAIN (1)_CB152

Page 142 C5
to MAIN (1)_CB153

Page 142 C6
to MAIN (1)_CB154

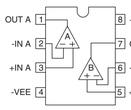
Page 142 C7
to MAIN (1)_CB155

Page 146 K6
to VIDEO (1)_CB302

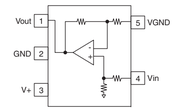
to MAIN

to VIDEO

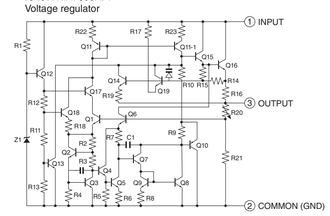
**IC451–454**: LM833MX
Operational amplifier



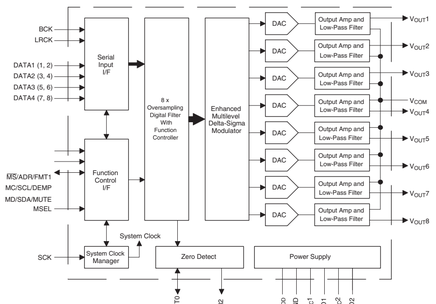

**IC455**: NJM2505A
Single isolation amplifier

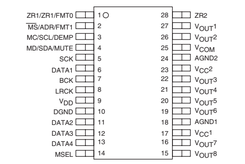



**IC457**: KIA7805API
Voltage regulator




**IC456**: PCM1681PWPR
Audio digital-to-analog converter




★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

RX-V673/HTR-6065 | RX-A720

# MAIN 1/2

| | AC_BH | AC_BL |
|---|---|---|
| +B | +61.9 V | +28.4 V |
| -B | -61.9 V | -28.4 V |

MAIN (1)

CENTER C

FRONT L FL

FR

SURROUND BACK L SBL

SBR

SURROUND L SL

SR

Page 144 B5 RX-V673/HTR-6065 to VIDEO (1)_CB342
Page 147 B5 RX-A720 to VIDEO (1)_CB342

Page 144 B5 RX-V673/HTR-6065 to VIDEO (1)_CB343
Page 147 B5 RX-A720 to VIDEO (1)_CB343

Page 144 B6 RX-V673/HTR-6065 to VIDEO (1)_CB340
Page 147 B6 RX-A720 to VIDEO (1)_CB340

Page 144 B6 RX-V673/HTR-6065 to VIDEO (1)_CB344
Page 147 B6 RX-A720 to VIDEO (1)_CB344

Page 144 B7 RX-V673/HTR-6065 to VIDEO (1)_CB346
Page 147 B7 RX-A720 to VIDEO (1)_CB346

to POWER TRANSFORMER

5 k-ohms 10 W

MAIN (2)

MAIN (6)

Destination Part List

| ADX | LOC | V06786A0M | M | OF |
|---|---|---|---|---|
| A5 | D1040 | MA5270 RA6118M-B-T-ZK1 | MA51100 3608B01 | MA51100 3608B01 |
| A6 | C1008 C1009 C1010 | MA56400 220F/100 | MA51000 220F/630 | MA51000 220F/630 |
| A7 | C1017 C1024 C1031 | MQ10750 120F/100 | MA51060 120F/630 | MA51060 120F/630 |
| A8 | C1026 C1027 C1032 | MA56490 3300F/100 | MA53230 3300F/100 | MA53230 3300F/100 |
| A9 | C1037 C1038 C1039 | MQ62760 2267500 | MA53020 2267630 | MA53020 2267630 |
| A6 | C1040 C1044 C1045 | MA56860 330F/100 | MA53110 330F/100 | MA53110 330F/100 |
| A7 | C1079 C1078 | ML61140 0.1/100 | MP43100 0.047/100 | MP43100 0.047/100 |
| A8 | C1001 C1002 C1003 | UR28710 10/35 | MK56180 10/16 | MK56180 10/16 |
| A9 | C1081 C1080 | MK61650 0.022/100 | MJ51060 0.022/100 | MJ51060 0.022/100 |
| A10 | C1075 | UR28710 10/35 | UR46747 47/50 | UR46747 47/50 |
| A11 | R1075 R1073 | MA62160 10KΩ | MQ43570 10KΩ | MQ43570 10KΩ |
| A12 | C1069 C1068 | UR28747 47/50 | UR46747 47/50 | UR46747 47/50 |
| A14 | C1009 | UR28747 47/50 | UR23610 100/16 | UR23610 100/16 |
| A15 | C1004 C1007 C1005 C1006 | UR28710 10/35 | UR23710 10/16 | UR23710 10/16 |
| A16 | C1011 C1012 C1014 C1015 | MK56420 220F/100 | MJ59830 220F/100 | MJ59830 220F/100 |
| A17 | C1021 C1022 C1018 C1019 | MQ10750 120F/100 | MK17970 120F/100 | MK17970 120F/100 |
| A18 | C1025 C1028 C1029 C1024 | MK56490 3300F/100 | MJ59960 3300F/100 | MJ59960 3300F/100 |
| A19 | C1088 C1087 | UR28710 10/16 | MK56180 10/16 | MK56180 10/16 |

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (5%) |
| ☑ | CARBON FILM RESISTOR (2%,1%) |
| △ | METAL OXIDE FILM RESISTOR |
| ▲ | METAL FILM RESISTOR |
| ⊠ | METAL PLATE RESISTOR |
| ◪ | FIRE PROOF CARBON FILM RESISTOR |
| □ | CEMENT MOLDED RESISTOR |
| ⊘ | SEMI VARIABLE RESISTOR |
| ■ | CHIP RESISTOR |

CAPACITOR

| REMARKS | PARTS NAME | |
|---|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR | B |
| ◇ | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | |
| ◉ | CERAMIC TUBULAR CAPACITOR | |
| ◎ | POLYESTER FILM CAPACITOR | |
| ○ | POLYSTYRENE FILM CAPACITOR | F |
| ⓘ | MICA CAPACITOR | |
| ⊙ | POLYPROPYLENE FILM CAPACITOR | |
| ● | SEMICONDUCTIVE CERAMIC CAPACITOR | |

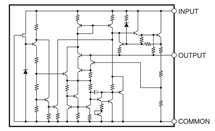
NOTICE (model)
(z)..... JAPAN
(U)..... U.S.A
(C)..... CANADA
(E)..... GENERAL
(T)..... CHINA
(K)..... KOREA
(A)..... AUSTRALIA
(B)..... BRITISH
(G)..... EUROPE
(L)..... SINGAPORE
(E)..... SOUTH EUROPE
(V)..... TAIWAN
(P)..... RUSSIAN
(P)..... LATIN AMERICA
(H)..... BRAZIL
(H)..... THAI

**Safety measures**

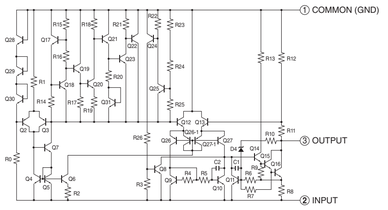
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.

C1082–C1085 on MAIN (1) P.C.B.

**IC101:** NJM7812FA
Voltage regulator




**IC102:** KIA7912PI
Voltage regulator




MAIN
C:A,...:1000-1899
CN,IC,...:100-199
Abad:172
R:-1000/1676,1701-1702
-1683/1839-1832,1853
Q:-1976/
D:-1940/
CN:-107,111,112/
SC:-101/

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

**RX-V673/HTR-6065** | RX-A720

# MAIN 2/2

AV 1 OPTICAL | AV 2 COAXIAL | AV 3 COAXIAL | AV 4 OPTICAL (TV) | AV 5 | AV 6 | AV OUT | AUDIO 1 | AUDIO 2 | AUDIO OUT | ZONE 2 OUT | SUBWOOFER 1 2

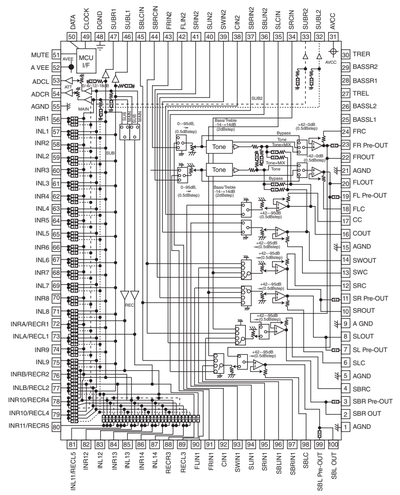
DIGITAL IN

ANALOG IN

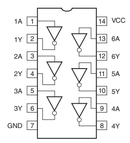
SURROUND L
SURROUND BACK L
SUB WOOFER
CENTER
FRONT L

Page 138 B10 RX-V673/HTR-6065 to OPERATION (2)_CB451
Page 140 B10 RX-A720 to OPERATION (2)_CB451
Page 138 D10 RX-V673/HTR-6065 to OPERATION (2)_CB452
Page 140 D10 RX-A720 to OPERATION (2)_CB452
Page 138 E10 RX-V673/HTR-6065 to OPERATION (2)_CB453
Page 140 E10 RX-A720 to OPERATION (2)_CB453
Page 138 F10 RX-V673/HTR-6065 to OPERATION (2)_CB454
Page 140 F10 RX-A720 to OPERATION (2)_CB454
Page 142 C7 to MAIN (1)_CB158
Page 142 H4 to MAIN (1)_CB157
Page 133 H9 to DIGITAL (1)_CB78

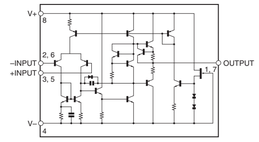
**IC153**: R2A15220FP
8-channel electronic volume with 11 input selector and tone control




**IC152**: TC74VHCU04FT
Hex inverters




**IC154**: NJM4565M (TE1)
Dual operational amplifier




NOTICE (model)
(J) ····· JAPAN
(U) ····· U.S.A
(C) ····· CANADA
(R) ····· GENERAL
(T) ····· CHINA
(K) ····· KOREA
(A) ····· AUSTRALIA
(B) ····· BRITISH
(G) ····· EUROPE
(L) ····· SINGAPORE
(E) ····· SOUTH EUROPE
(V) ····· TAIWAN
(F) ····· RUSSIAN
(P) ····· LATIN AMERICA
(S) ····· BRAZIL
(H) ····· THAI

RESISTOR

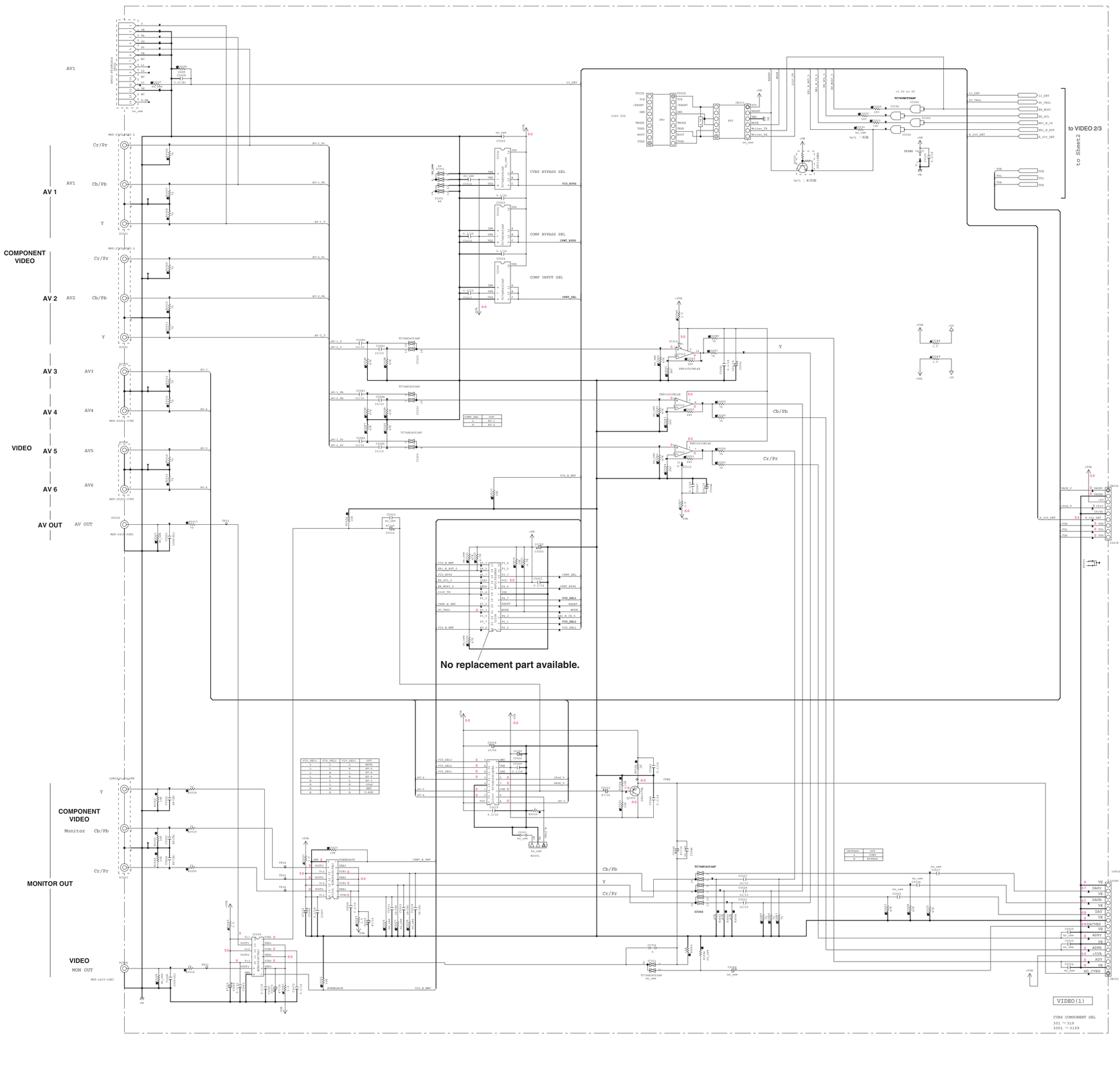
| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (P=5) |
| | CARBON FILM RESISTOR (P=10) |
| | METAL OXIDE FILM RESISTOR |
| | METAL FILM RESISTOR |
| | METAL PLATE RESISTOR |
| | FIRE PROOF CARBON FILM RESISTOR |
| | CEMENT MOLDED RESISTOR |
| | SEMI VARIABLE RESISTOR |
| | CHIP RESISTOR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

CAPACITOR

| REMARKS | PARTS NAME | |
|---|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR | B |
| | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | F |
| | CERAMIC TUBULAR CAPACITOR | |
| | POLYESTER FILM CAPACITOR | |
| | POLYSTYRENE FILM CAPACITOR | |
| | MICA CAPACITOR | |
| | POLYPROPYLENE FILM CAPACITOR | |
| | SEMICONDUCTIVE CERAMIC CAPACITOR | |

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# VIDEO 1/3

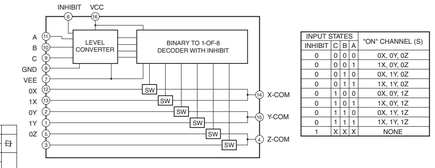



| RESISTOR | |
|---|---|
| REMARKS | PARTS NAME |
| NO MARK | CARBON FILM RESISTOR (5%) |
| | CARBON FILM RESISTOR (10%) |
| | METAL OXIDE FILM RESISTOR |
| | METAL FILM RESISTOR |
| | METAL PLATE RESISTOR |
| | FIRE PROOF CARBON FILM RESISTOR |
| | CEMENT MOLDED RESISTOR |
| | SEMI VARIABLE RESISTOR |
| | CHIP RESISTOR |

| CAPACITOR | |
|---|---|
| REMARKS | PARTS NAME |
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |

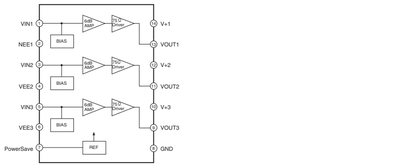
NOTICE (model)
- {J} ····· JAPAN
- {U} ····· U.S.A.
- {C} ····· CANADA
- {R} ····· GENERAL
- {T} ····· CHINA
- {K} ····· KOREA
- {A} ····· AUSTRALIA
- {B} ····· BRITISH
- {E} ····· EUROPE
- {L} ····· SINGAPORE
- {M} ····· SOUTH EUROPE
- {V} ····· TAIWAN
- {F} ····· RUSSIAN
- {P} ····· LATIN AMERICA
- {S} ····· BRAZIL
- {H} ····· THAI

**IC302, 303**: TC74HC4053AF
Analog multiplexer/demultiplexer

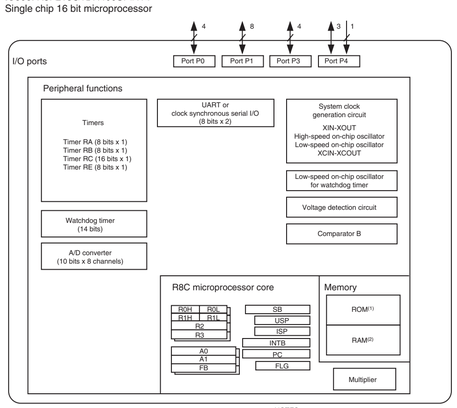



| INPUT STATES | | | | "ON" CHANNEL (S) |
|---|---|---|---|---|
| INHIBIT | C | B | A | |
| 0 | 0 | 0 | 0 | 0X, 0Y, 0Z |
| 0 | 0 | 0 | 1 | 1X, 0Y, 0Z |
| 0 | 0 | 1 | 0 | 0X, 1Y, 0Z |
| 0 | 0 | 1 | 1 | 1X, 1Y, 0Z |
| 0 | 1 | 0 | 0 | 0X, 0Y, 1Z |
| 0 | 1 | 0 | 1 | 1X, 0Y, 1Z |
| 0 | 1 | 1 | 0 | 0X, 1Y, 1Z |
| 0 | 1 | 1 | 1 | 1X, 1Y, 1Z |
| 1 | X | X | X | NONE |

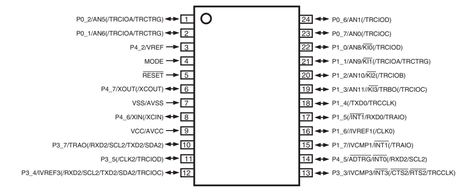
**IC305, 306**: NJM2581M
Video amplifier



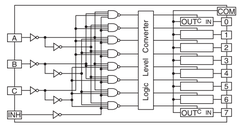

**IC308**: R5F213G1DN400SP#W4
Single chip 16 bit microprocessor



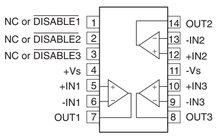

NOTES:
1. ROM size varies with MCU type.
2. RAM size varies with MCU type.



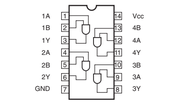

**IC307**: TC74HC4051AFEL
8-channel analog multiplexer/demultiplexer




**IC310**: FHP3350IM14X
Triple voltage feedback amplifier




**IC392**: TC74VHCT08AF
Quad 2-input AND gate




Page 138 H10
to OPERATION (2)_CB455

Page 130 C2
to DIGITAL (1)_CB21

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# VIDEO 2/3

Destination Part List

| aSX | LOC | U | C | RS | T | K | A | BGF | LH |
|---|---|---|---|---|---|---|---|---|---|
| a201 | TE341<br>TE343 | WW72890<br>MST-204Y5-01-76 | WW72890<br>MST-204Y5-01-76 | WW72890<br>MST-204Y5-01-76 | WW72890<br>MST-204Y5-01-76 | WW72650<br>MST-204Y5-01-76 | WW72890<br>MST-204Y5-01-76 | WW72650<br>MST-204Y5-01-76 | WW72650<br>MST-204Y5-01-76 |
| a202 | TE342 | WW72660<br>MST-207Y7-01-76 | WW72660<br>MST-207Y7-01-76 | WW72660<br>MST-207Y7-01-76 | WW72660<br>MST-207Y7-01-76 | WW72880<br>MST-207Y7-01-76 | WW72660<br>MST-207Y7-01-76 | WW72880<br>MST-207Y7-01-76 | WW72880<br>MST-207Y7-01-76 |
| a210 | R3350 | X | X | WW79250<br>2.2K | X | X | X | X | X |
| a211 | D3350 | X | X | VU17280<br>UDZS12B | X | X | X | X | X |

Page 138 H3
to OPERATION (8)_CB463

to OPE(8)

Page 137 M5
to OPERATION (3)_CB472

to OPE(3)

Page 141 G3
to MAIN (1)_W107

Page 141 G3
to MAIN (1)_CB104

Page 141 G4
to MAIN (1)_W116

Page 141 G4
to MAIN (1)_CB103

Page 141 H9
to MAIN (1)_W110

to MAIN

SPEAKER RELAY
340 ～349
3400 ～3499

FRONT L

CENTER

SURROUND L

SURROUND BACK L

FRONT L/R

SPEAKERS

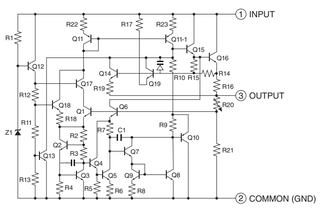
CENTER

SURROUND L/R

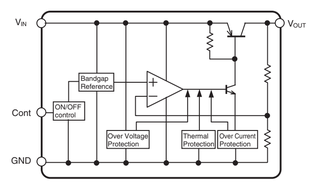
SURROUND BACK L/R / BI-AMP L/R

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

**IC333**: KIA7805API
Voltage regulator




**IC334**: NJM2388F05
Low dropout voltage regulator with ON/OFF control




TRIGER & TUNER
320 ～329
3200 ～3299

VIDEO(1)

# VIDEO (1)

to Sheet1

to VIDEO 1/3

CONTROL OUT
+12V MAX 100mA

TRIGGER OUT

to AM/FM TUNER

[Tuner]

to TUNER PACK

to HD RADIO

to DIGITAL

Page 133 E9
to DIGITAL (1)_CB76

to POWER TRANSFORMER

VIDEO (7)

From Transformer

POWER SUPLY
330 ～339
3300 ～3399

W3302
MP90330

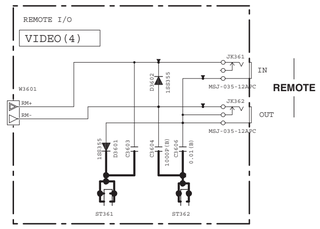
| RESISTOR | | |
|---|---|---|
| REMARKS | PARTS NAME | |
| NO MARK | CARBON FILM RESISTOR (5%) | |
| ⚠ | CARBON FILM RESISTOR (5%1Ω) | |
| ⚠ | METAL OXIDE FILM RESISTOR | |
| ⚠ | METAL FILM RESISTOR | |
| ⚠ | METAL PLATE RESISTOR | |
| ⚠ | FIRE PROOF CARBON FILM RESISTOR | |
| | CEMENT MOLDED RESISTOR | |
| | SEMI VARIABLE RESISTOR | |
| | CHIP RESISTOR | |

| CAPACITOR | | |
|---|---|---|
| REMARKS | PARTS NAME | |
| NO MARK | ELECTROLYTIC CAPACITOR | |
| ⚠ | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | |
| | CERAMIC TUBULAR CAPACITOR | |
| | POLYESTER FILM CAPACITOR | |
| | POLYESTERENE FILM CAPACITOR | |
| | MICA CAPACITOR | |
| | POLYPROPYLENE FILM CAPACITOR | |
| | SEMICONDUCTIVE CERAMIC CAPACITOR | |

NOTICE (mode1)
(J)..... JAPAN
(U)..... U.S.A
(C)..... CANADA
(K)..... GENERAL
(T)..... CHINA
(E)..... KOREA
(A)..... AUSTRALIA
(B)..... BRITISH
(G)..... EUROPE
(L)..... SINGAPORE
(S)..... SOUTH EUROPE
(V)..... TAIWAN
(P)..... RUSSIAN
(P)..... LATIN AMERICA
(S)..... BRAZIL
(H)..... THAI

# VIDEO 3/3

## VIDEO (4)

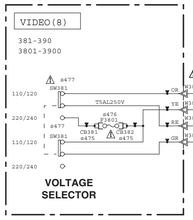



Page 133 J9
to DIGITAL (1)_CB81

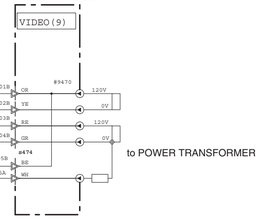
## VOLTAGE SELECTOR

RS ONLY

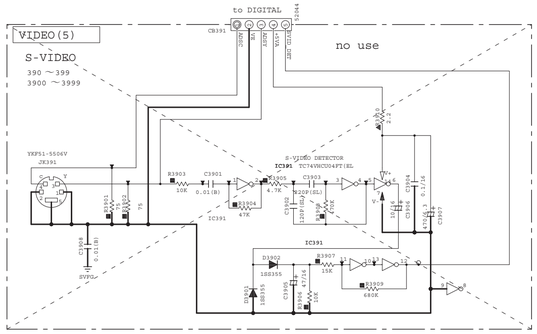
## VIDEO (8) R, S models

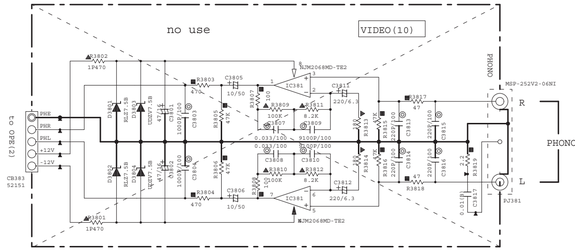


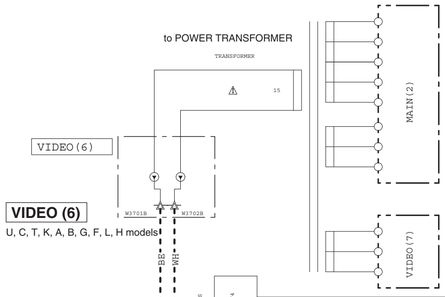

## VIDEO (9) R, S models




to POWER TRANSFORMER

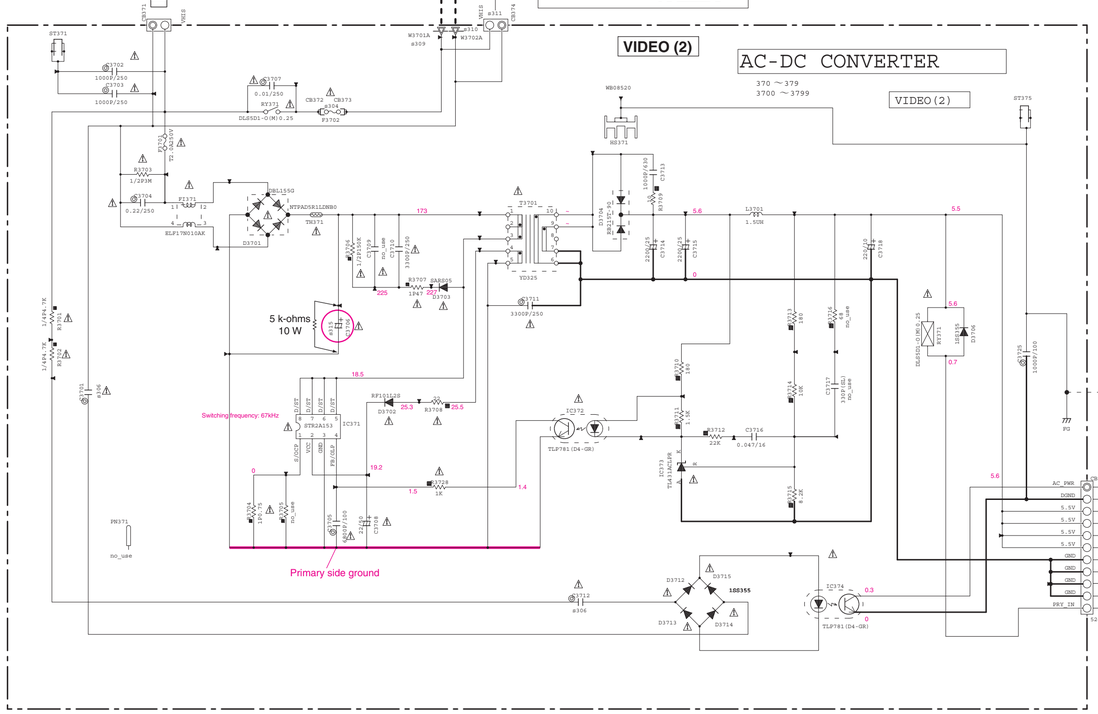


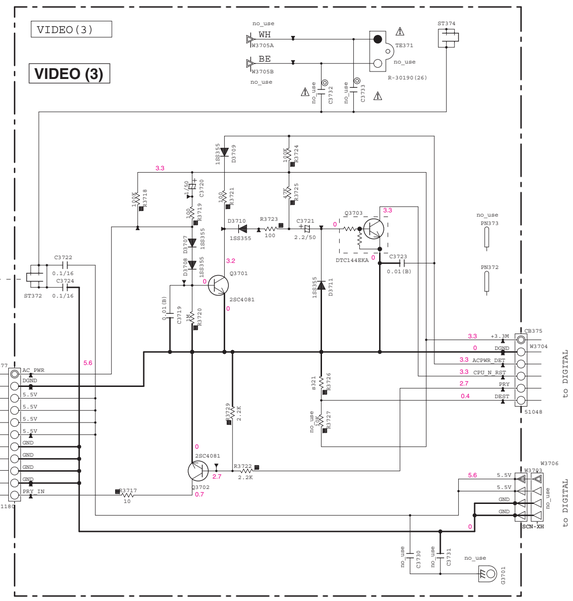




## VIDEO (6)

U, C, T, K, A, B, G, F, L, H models




## VIDEO (3)




Page 136 B5
to DIGITAL (1)_CB944

Page 136 B6
to DIGITAL (1)_CB942

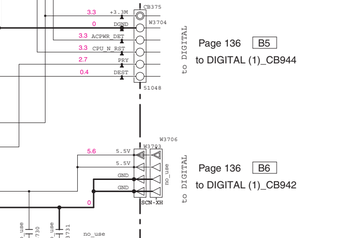
**Safety measures**

- 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 the capacitors 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, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
  C3706 on VIDEO (2) P.C.B.

Destination Part List

| #XX | LOC | U | C | RS | T | K | A | BGP | LH |
|---|---|---|---|---|---|---|---|---|---|
| #304 | F3702 | W251110 8A125V | W251110 8A125V | W251110 8A125V | WM93310 T5.0AL250V | WM93310 T5.0AL250V | WM93310 T5.0AL250V | WM93310 T5.0AL250V | WM93310 T5.0AL250V |
| #306 | C3701 C3712 | WJ36120 0.047/400 | WJ36120 0.047/400 | WJ36180 0.022/630 | WJ36180 0.022/630 | WJ36180 0.022/630 | WJ36180 0.022/630 | WJ36180 0.022/630 | WJ36180 0.022/630 |
| #309 | W3701A W3701B | M80662S | M80662S | X | M80642S | M80642S | M80662S | M80662S | M80662S |
| #310 | W3702A W3702B | M80396S | M80396S | X | M80396S | M80396S | M80396S | M80396S | M80396S |
| #311 | CB374 | X | X | VQ87990 VH18 | X | X | X | X | X |
| #315 | C3706 | WW76600 220/220 | WW76600 220/220 | WW76610 150/450 | WQ85250 68/400 | WQ85250 68/400 | WQ85250 68/400 | WQ85250 68/400 | WQ85250 68/400 |
| #321 | R3726 | RD35612 1.2K | RD35627 2.7K | RD35647 4.7K | RD35668 6.8K | RD35710 10K | RD35715 15K | RD35747 47K | RD35810 100K |
| #470 | W3801A W3801B | X | X | M80302S | X | X | X | X | X |
| #471 | W3802A W3802B | X | X | M80402S | X | X | X | X | X |
| #472 | W3803A W3803B | X | X | M80202S | X | X | X | X | X |
| #473 | W3804A W3804B | X | X | M80802S | X | X | X | X | X |
| #474 | W3805B W3805A | X | X | WA76540 VH-5298T | X | X | X | X | X |
| #475 | CB382 CB381 | X | X | WN10300 TP00351-31 | X | X | X | X | X |
| #476 | F3801 | X | X | X800078 T5AL250V | X | X | X | X | X |
| #477 | SW381 | X | X | WV38290 SL14 | X | X | X | X | X |

**IC371**: STR2A153
Switching regulator




**IC373**: TL431ACLPR
Adjustable precision shunt regulators




RESISTOR

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

CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |

NOTICE (model)

- [J] ····· JAPAN
- [U] ····· U.S.A
- [C] ····· CANADA
- [E] ····· GENERAL
- [T] ····· CHINA
- [K] ····· KOREA
- [A] ····· AUSTRALIA
- [B] ····· BRITISH
- [G] ····· EUROPE
- [L] ····· SINGAPORE
- [S] ····· SOUTH EUROPE
- [V] ····· TAIWAN
- [F] ····· RUSSIAN
- [P] ····· LATIN AMERICA
- [H] ····· BRAZIL
- [N] ····· THAI

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# VIDEO 1/3

AV1

AV 1

COMPONENT VIDEO

AV 2

AV 3

AV 4

VIDEO

AV 5

AV 6

AV OUT

MONITOR OUT

VIDEO

Cr/Pr

Cb/Pb

Y

Monitor Cb/Pb

Cr/Pr

MON OUT

CVBS BYPASS SEL

COMP BYPASS SEL

COMP INPUT SEL

to VIDEO 2/3

to Sheet2

Page 140 H10
to OPERATION (2)_CB455

Page 130 C2
to DIGITAL (1)_CB21

to DIGITAL

to OPE(2)

VIDEO (1)

VIDEO(1)

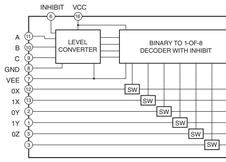
CVBS COMPONENT SEL
301 ~ 319
3001 ~ 3199

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

| CAPACITOR | | |
|---|---|---|
| REMARKS | | PARTS NAME |
| NO MARK | | ELECTROLYTIC CAPACITOR |
| | | TANTALUM CAPACITOR |
| NO MARK | | CERAMIC CAPACITOR |
| | | CERAMIC TUBULAR CAPACITOR |
| | | POLYESTER FILM CAPACITOR |
| | | POLYSTYRENE FILM CAPACITOR |
| | | MICA CAPACITOR |
| | | POLYPROPYLENE FILM CAPACITOR |
| | | SEMICONDUCTIVE CERAMIC CAPACITOR |

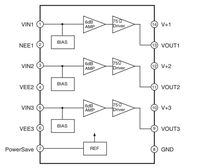
NOTICE (model)
(J) ..... JAPAN
(U) ..... U.S.A
(C) ..... CANADA
(E) ..... GENERAL
(T) ..... CHINA
(K) ..... KOREA
(A) ..... AUSTRALIA
(B) ..... BRITISH
(G) ..... EUROPE
(L) ..... SINGAPORE
(S) ..... SOUTH EUROPE
(V) ..... TAIWAN
(P) ..... RUSSIAN
(Q) ..... LATIN AMERICA
(G) ..... BRAZIL
(H) ..... THAI

**IC302, 303**: TC74HC4053AF
Analog multiplexer/demultiplexer

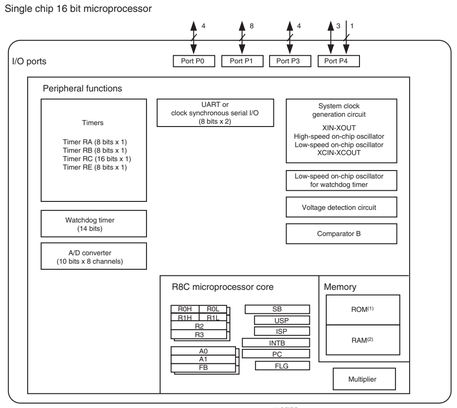



| INPUT STATES | | | | "ON" CHANNEL (S) |
|---|---|---|---|---|
| INHIBIT | C | B | A | |
| 0 | 0 | 0 | 0 | 0X, 0Y, 0Z |
| 0 | 0 | 0 | 1 | 1X, 0Y, 0Z |
| 0 | 0 | 1 | 0 | 0X, 1Y, 0Z |
| 0 | 0 | 1 | 1 | 1X, 1Y, 0Z |
| 0 | 1 | 0 | 0 | 0X, 0Y, 1Z |
| 0 | 1 | 0 | 1 | 1X, 0Y, 1Z |
| 0 | 1 | 1 | 0 | 0X, 1Y, 1Z |
| 0 | 1 | 1 | 1 | 1X, 1Y, 1Z |
| 1 | X | X | X | NONE |

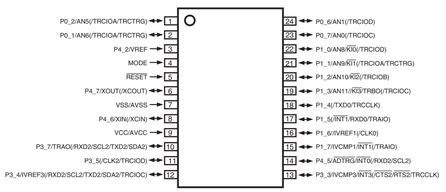
**IC305, 306**: NJM2581M
Video amplifier



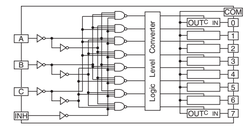

**IC308**: R5F213G1DN400SP#W4
Single chip 16 bit microprocessor



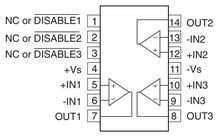

NOTES:
1. ROM size varies with MCU type.
2. RAM size varies with MCU type.



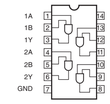

**IC307**: TC74HC4051AFEL
8-channel analog multiplexer/demultiplexer




**IC310**: FHP3350IM14X
Triple voltage feedback amplifier




**IC392**: TC74VHCT08AF
Quad 2-input AND gate




★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

# VIDEO 2/3

# VIDEO (1)

TRIGER & TUNER
320 ～ 329
3200 ～ 3299

VIDEO(1)

NOTICE (model)
(J)..... JAPAN
(U)..... U.S.A
(C)..... CANADA
(E)..... GENERAL
(T)..... CHINA
(K)..... KOREA
(A)..... AUSTRALIA
(B)..... BRITISH
(G)..... EUROPE
(L)..... SINGAPORE
(S)..... SOUTH EUROPE
(V)..... TAIWAN
(P)..... RUSSIAN
(P)..... LATIN AMERICA
(H)..... BRAZIL
(H)..... THAI

RESISTOR

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

CAPACITOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| | CERAMIC TUBULAR CAPACITOR |
| | POLYESTER FILM CAPACITOR |
| | POLYSTYRENE FILM CAPACITOR |
| | MICA CAPACITOR |
| | POLYPROPYLENE FILM CAPACITOR |
| | SEMICONDUCTIVE CERAMIC CAPACITOR |

Page 140 H3
to OPERATION (8)_CB463
to OPE(8)

Page 139 D10
to OPERATION (3)_CB471
to OPE(1)

Page 141 G3
to MAIN (1)_W107
to MAIN

Page 141 G3
to MAIN (1)_CB104
to MAIN

Page 141 G4
to MAIN (1)_W116
to MAIN

Page 141 G4
to MAIN (1)_CB103
to MAIN

Page 141 H9
to MAIN (1)_W110
to MAIN

SPEAKER RELAY
340 ～ 349
3400 ～ 3499

FRONT L/R
CENTER
SURROUND L/R
SURROUND BACK L/R / BI-AMP L/R
SPEAKERS

to Sheet1
to VIDEO 1/3

CONTROL OUT
+12V MAX 100mA
TRIGGER OUT

to AM/FM TUNER
[Tuner]
to TUNER PACK
to HD RADIO

Page 133 E9
to DIGITAL (1)_CB76
to DIGITAL

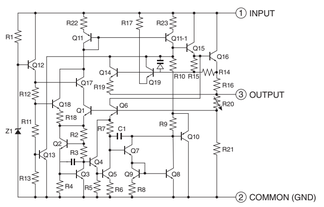
no use

to POWER TRANSFORMER
VIDEO (7)
From Transformer

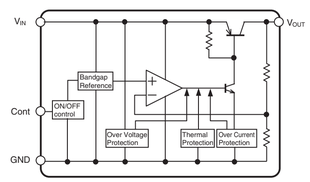
POWER SUPLY
330 ～ 339
3300 ～ 3399

W3302
MP90330

**IC333**: KIA7805API
Voltage regulator




**IC334**: NJM2388F05
Low dropout voltage regulator with ON/OFF control

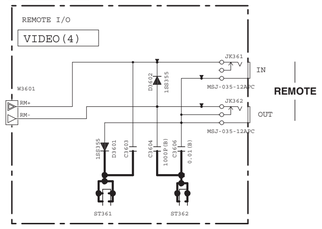



★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

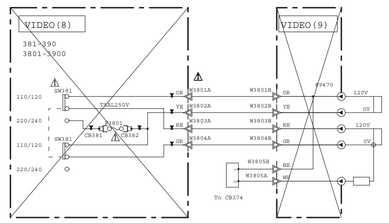
RX-A720

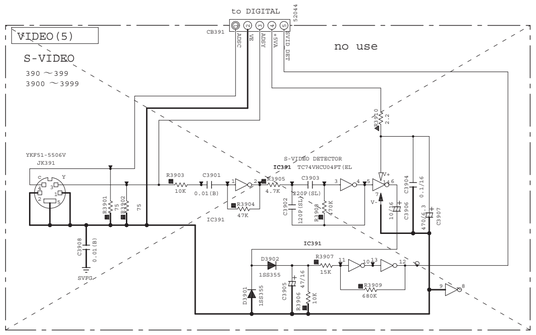
# VIDEO 3/3

## VIDEO (4)




Page 133 J9
to DIGITAL (1)_CB81



# ■ REPLACEMENT PARTS LIST

## ● ELECTRICAL COMPONENT PARTS

### WARNING

- Components having special characteristics are marked ⚠ 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 |
| C.CE | : CERAMIC CAP |
| C.CE.ARRAY | : CERAMIC CAP ARRAY |
| C.CE.CHP | : CHIP CERAMIC CAP |
| C.CE.M.CHP | : CHIP MULTILAYER CERAMIC CAP |
| C.CE.SAFTY | : RECOGNIZED CERAMIC CAP |
| C.CE.TUBLR | : CERAMIC TUBULAR CAP |
| C.CE.SMI | : SEMI CONDUCTIVE CERAMIC CAP |
| C.EL | : ELECTROLYTIC CAP |
| C.EL.BP | : BIPOLAR ELECTROLYTIC CAP |
| C.EL.CHP | : CHIP ELECTROLYTIC CAP |
| C.MICA | : MICA CAP |
| C.ML.FLM | : MULTILAYER FILM CAP |
| C.MP | : METALLIZED POLYESTER FILM CAP |
| C.MYLAR | : MYLAR FILM CAP |
| C.MYLAR.ML | : MULTILAYER MYLAR FILM CAP |
| C.NIOB.OXD | : NIOBIUM OXIDE CAP |
| C.PAPER | : PAPER CAPACITOR |
| C.PLS | : POLYSTYRENE FILM CAP |
| C.POL | : POLYESTER FILM CAP |
| C.PP | : POLYPROPYLENE FILM CAP |
| C.PP.CHP | : CHIP POLYPROPYLENE FILM CAP |
| C.TNTL | : TANTALIUM CAP |
| C.TNTL.CHP | : CHIP TANTALIUM CAP |
| C.TRIM | : TRIMMER CAP |
| CN | : CONNECTOR |
| CN.BS.PIN | : CONNECTOR,BASE PIN |
| CN.CANNON | : CONNECTOR,CANNON |
| CN.DIN | : CONNECTOR,DIN |
| CN.FLAT | : CONNECTOR,FLAT CABLE |
| CN.FFC | : CONNECTOR,FLEXIBLE FLAT CABLE |
| CN.HDMI | : HDMI CONNECTOR |
| CN.PHOTO.R | : PHOTO FIBER SENSOR,RECEIVED |
| CN.PHOTO.T | : PHOTO FIBER SENSOR,TRANSMITTED |
| DIODE.ARRAY | : DIODE ARRAY |
| DIODE.BRG | : DIODE BRIDGE |
| DIODE.CHP | : CHIP DIODE |
| DIODE.VAR | : VARACTOR DIODE |
| DIODE.ZENR | : ZENER DIODE |
| DIODE.Z.CHP | : CHIP ZENER DIODE |
| DIODE.SCHOTTKY | : SCHOTTKY BARRIER DIODE |
| DIODE.PHOT | : PHOTO DIODE |
| FER.BEAD | : FERRITE BEADS |
| FER.CORE | : FERRITE CORE |
| FET.CHP | : CHIP FET |
| FL.DSPLY | : FLUORESCENT DISPLAY |
| FLTR.CE | : CERAMIC FILTER |
| FLTR.COMB | : COMB FILTER MODULE |
| FLTR.LC.RF | : LC FILTER,EMI |
| FUSE.CHP | : CHIP FUSE |
| GND.MTL | : GROUND PLATE |
| GND.TERM | : GROUND TERMINAL |
| JUMPER.CN | : JUMPER CONNECTOR |
| JUMPER.TST | : JUMPER,TEST POINT |
| L.DTCT | : LIGHT DETECTING MODULE |
| LED.CHP | : CHIP LED |
| LED.DSPLY | : LED DISPLAY |
| LED.INFRD | : LED,INFRARED |
| PHOT.CPL | : PHOTO COUPLER |
| PHOT.INTR | : PHOTO INTERRUPTER |
| PHOT.RFLCT | : PHOTO REFLECTOR |
| PHOT.TR | : PHOTO TRANSISTOR |
| PIN.TEST | : PIN,TEST POINT |
| PTC.THERMISTOR | : POSITIVE TEMPERATURE COEFFICIENT THERMISTOR |
| R.ANTI.SURGE | : FIXED ANTI SURGE RESISTOR |
| R.ARRAY | : RESISTOR ARRAY |
| R.CAR. | : CARBON RESISTOR |
| R.CAR.CHP | : CHIP RESISTOR |
| R.CAR.FP | : FLAME PROOF CARBON RESISTOR |
| R.CEMENT | : CEMENT RESISTOR |
| R.CHP | : CHIP RESISTOR |
| R.FUS | : FUSIBLE RESISTOR |
| R.MTL.CHP | : CHIP METAL FILM RESISTOR |
| R.MTL.FLM | : METAL FILM RESISTOR |
| R.MTL.OXD | : METAL OXIDE FILM RESISTOR |
| R.MTL.PLAT | : METAL PLATE RESISTOR |
| RSNR.CE | : CERAMIC RESONATOR |
| RSNR.CRYS | : CRYSTAL RESONATOR |
| SCR.BND.HD | : BIND HEAD B-TIGHT SCREW |
| SCR.TERM | : SCREW TERMINAL |
| SCR.TR | : SCREW,TRANSISTOR |
| SURG.PRTCT | : SURGE PROTECTOR |
| SUPRT.PCB | : P.C.B. SUPPORT |
| SW.LEVER | : LEVER SWITCH |
| SW.MICRO | : MICRO SWITCH |
| SW.LEAF | : LEAF SWITCH |
| SW.PUSH | : PUSH SWITCH |
| SW.RT | : ROTARY SWITCH |
| SW.RT.ENC | : ROTARY ENCODER |
| SW.RT.MTR | : ROTARY SWITCH WITH MOTOR |
| SW.SLIDE | : SLIDE SWITCH |
| SW.TACT | : TACT SWITCH |
| TERM.SP | : SPEAKER TERMINAL |
| TERM.WRAP | : WRAPPING TERMINAL |
| THRMST.CHP | : CHIP THERMISTOR |
| TR | : TRANSISTOR |
| TR.CHP | : CHIP TRANSISTOR |
| TR.DGT | : DIGITAL TRANSISTOR |
| TR.DGT.CHP | : CHIP DIGITAL TRANSISTOR |
| TR.PAIR | : PAIR TRANSISTOR |
| TRANS | : TRANSFORMER |
| TRANS.PULS | : PULSE TRANSFORMER |
| TRANS.PWR | : POWER TRANSFORMER |
| VARISTOR.CHP | : CHIP VARISTOR |
| VOLT.SELCT | : VOLTAGE SELECTOR |
| VR | : ROTARY POTENTIOMETER |
| VR.MTR | : POTENTIOMETER WITH MOTOR |
| VR.SLIDE | : SLIDE POTENTIOMETER |
| VR.SW | : POTENTIOMETER WITH SWITCH |
| VR.TRIM | : TRIMMER POTENTIOMETER |

**RX-V673/HTR-6065** | **RX-A720**

# DIGITAL

| | Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|---|
| * | | ZC099900 | P. C. B. | DIGITAL | | |
| * | CB1-5 | WW271700 | CN. HDMI | 19P HDMI | | |
| | CB8 | WD295800 | CN. BS. PIN | 22P 52793 SE | | |
| | CB21 | VQ044700 | CN. BS. PIN | 16P | | |
| * | CB30 | WW271700 | CN. HDMI | 19P HDMI | | |
| * | CB36 | VY939900 | CN. BS. PIN | 22P 52610 TE | | |
| * | CB61 | WW271700 | CN. HDMI | 19P HDMI | | |
| | CB76 | VQ045000 | CN. BS. PIN | 20P | | |
| | CB78 | VK025600 | CN. BS. PIN | 12P | | |
| | CB79 | VK024700 | CN. BS. PIN | 3P | | |
| | CB81 | VB389800 | CN. BS. PIN | 2P | | |
| | CB82 | VN520900 | CN. BS. PIN | 52045 26P TE | | |
| | CB83 | VG518300 | PIN. BASE | 2P RF TE | | |
| | CB84 | VQ047200 | CN. BS. PIN | 9P | | |
| | CB940 | WG939700 | CN. USB | 4P SE | | |
| | CB942 | LB919040 | CN. BS. PIN | 4P | | |
| | CB943 | VB389900 | CN. BS. PIN | 3P | | |
| | CB944 | VK026500 | CN. BS. PIN | 6P | | |
| | CB945-946 | V9356900 | CN. JE | 19P SE | | |
| | CB947 | VL844800 | CN. BS. PIN | 4P | | |
| | CB948 | V9356900 | CN. JE | 19P SE | | |
| | CB951 | WY212400 | CN. LAN | 8P RJSE1AG3870-R | | |
| | CB952 | VB390100 | CN. BS. PIN | 5P | | |
| | C2 | WJ344400 | C. CE. CHP | 22uF | 6. 3V | |
| | C4 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C5 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C6-8 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C9-11 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C12 | US662100 | C. CE. CHP | 100pF | 50V | |
| | C13 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| | C14 | US046100 | C. CE. CHP | 1uF | 25V | |
| | C17 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C20 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C21 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C22-23 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C24-25 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C26 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C27 | US663390 | C. CE. CHP | 3900pF | 50V | |
| | C28 | WD758300 | C. CE. CHP | 10uF | 10V | |
| | C29 | US662100 | C. CE. CHP | 100pF | 50V | |
| | C30 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C32 | US662100 | C. CE. CHP | 100pF | 50V | |
| | C35 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C37-39 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C40 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C41-42 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C43-44 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C45-46 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C47 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C48 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C49 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C50 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C51 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C53-54 | US663100 | C. CE. CHP | 1000pF | 50V | |
| | C55-56 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| | C57-61 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| | C62-63 | US663100 | C. CE. CHP | 1000pF | 50V | |

✻ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C65-66 | US662100 | C. CE. CHP | 100pF | 50V | |
| C69 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C73 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C74 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C75-77 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C78 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C81 | US662100 | C. CE. CHP | 100pF | 50V | |
| C83-85 | US046100 | C. CE. CHP | 1uF | 25V | |
| C93-94 | US661100 | C. CE. CHP | 10pF | 50V D | |
| C95-96 | US662100 | C. CE. CHP | 100pF | 50V | |
| C99 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C100 | US046100 | C. CE. CHP | 1uF | 25V | |
| C101 | US662470 | C. CE. CHP | 470pF | 50V | |
| C102 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C104-105 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C107 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C108 | US046100 | C. CE. CHP | 1uF | 25V | |
| C109 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C110-112 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C113 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C114-115 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C116 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C117-119 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C120-121 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C122 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C123 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C124-125 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C126 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C127-128 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C129 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C133 | US662100 | C. CE. CHP | 100pF | 50V | |
| C136 | US662100 | C. CE. CHP | 100pF | 50V | |
| C137 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C138-139 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C142 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C143-144 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C145 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C147 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C148 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C149-150 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C152-153 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C154 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C155 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C156 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C157 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C159-160 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C161 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C162 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C163 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C250 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C251 | US046100 | C. CE. CHP | 1uF | 25V | |
| C252-253 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C255 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C257-258 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C261-262 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C271 | WJ932500 | C. CE. CHP | 1uF | 6. 3V | |
| C273 | US625100 | C. CE. CHP | 0. 1uF | 10V | |

✻ New Parts

**RX-V673/HTR-6065** | **RX-A720**

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| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C277 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C279 | WJ932500 | C. CE. CHP | 1uF | 6. 3V | |
| C281 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C286 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C288 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C289 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C291 | US662470 | C. CE. CHP | 470pF | 50V | |
| C294 | US034820 | C. CE. CHP | 0. 082uF | 16V K | |
| C295 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C297-298 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C299-300 | US661100 | C. CE. CHP | 10pF | 50V D | |
| C301 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C302-303 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C304 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C352 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C353 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C354 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C355-361 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C363 | WQ614300 | C. CE. CHP | 22uF | 10VE | |
| C364 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C365 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C500-503 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C504 | UF417470 | C. EL. CHP | 47uF | 6. 3V | |
| C505 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C506-507 | UF417470 | C. EL. CHP | 47uF | 6. 3V | |
| C509-513 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C514-554 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C556-565 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C568 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C569 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C578 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C579-585 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C587 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C591-594 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C597 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C634-635 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C636-637 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C638-643 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C644-645 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C646 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C647 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C649 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C650 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C653 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C654-655 | US662100 | C. CE. CHP | 100pF | 50V | |
| C656 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C662 | US662100 | C. CE. CHP | 100pF | 50V | |
| C664-665 | US046100 | C. CE. CHP | 1uF | 25V | |
| C666 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C667 | US662470 | C. CE. CHP | 470pF | 50V | |
| C668 | US661220 | C. CE. CHP | 22pF | 50V | |
| C669 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C670-671 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C672 | US046100 | C. CE. CHP | 1uF | 25V | |
| C673 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C750-753 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C754 | US625100 | C. CE. CHP | 0. 1uF | 10V | |

✻ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C755-762 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C763 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C764-767 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C768 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C769 | UF027330 | C. EL. CHP | 33uF | 10V | |
| C770 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C771-772 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C773-774 | US662100 | C. CE. CHP | 100pF | 50V | |
| C775 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C776-777 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C778-779 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C780 | US046100 | C. CE. CHP | 1uF | 25V | |
| C781 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C782 | US662100 | C. CE. CHP | 100pF | 50V | |
| C783 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C784 | US662100 | C. CE. CHP | 100pF | 50V | |
| C785 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C786 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C787-791 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C792-795 | US046100 | C. CE. CHP | 1uF | 25V | |
| C796 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C797 | US046100 | C. CE. CHP | 1uF | 25V | |
| C798 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C799-800 | US046100 | C. CE. CHP | 1uF | 25V | |
| C801-802 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C803 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C804 | US046100 | C. CE. CHP | 1uF | 25V | |
| C805 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C808-809 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C829-848 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9201-9207 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C9210 | US643470 | C. CE. CHP | 4700pF | 25V | |
| C9211 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9212 | UF437100 | C. EL. CHP | 10uF | 16V | |
| C9213 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9214-9215 | US661180 | C. CE. CHP | 18pF | 50V | |
| C9216 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9217 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9218-9251 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9252-9253 | UF437100 | C. EL. CHP | 10uF | 16V | |
| C9254-9255 | US643470 | C. CE. CHP | 4700pF | 25V | |
| C9256-9265 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9266 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9267-9268 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9269-9270 | WB571200 | C. MYLA. CHP | 0. 00082uF | 16V | |
| C9271 | US662470 | C. CE. CHP | 470pF | 50V | |
| C9272 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C9273 | US661120 | C. CE. CHP | 12pF | 50V | |
| C9274 | US661150 | C. CE. CHP | 15pF | 50V | |
| C9275 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C9276 | UB214680 | C. CE. CHP | 0. 068uF | 25V | |
| C9278 | US643470 | C. CE. CHP | 4700pF | 25V | |
| C9279-9283 | US625100 | C. CE. CHP | 0. 100uF | 10V | |
| C9284-9285 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C9286-9289 | US046100 | C. CE. CHP | 1uF | 25V | |
| C9290-9293 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9295 | US662470 | C. CE. CHP | 470pF | 50V | |

✻ New Parts

**RX-V673/HTR-6065** | **RX-A720**

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| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C9296 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9315-9317 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9318 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9401 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9402 | WH772100 | C. EL | 1000uF | 10V | |
| C9403 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9404 | US643470 | C. CE. CHP | 4700pF | 25V | |
| C9408 | US046100 | C. CE. CHP | 1uF | 25V | |
| C9409 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C9410 | UF417470 | C. EL. CHP | 47uF | 6. 3V | |
| C9417 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9423 | UF438100 | C. EL. CHP | 100uF | 16V | |
| C9425 | WJ344400 | C. CE. CHP | 22uF | 6. 3V | |
| C9426 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |
| C9428-9429 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9430 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9431 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9432 | US044220 | C. CE. CHP | 0. 022uF | 25V B | |
| C9433 | US663390 | C. CE. CHP | 3900pF | 50V | |
| C9434 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9436 | WJ344400 | C. CE. CHP | 22uF | 6. 3V | |
| C9438-9439 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9440 | US663330 | C. CE. CHP | 3300pF | 50V | |
| C9441-9442 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9443 | US663390 | C. CE. CHP | 3900pF | 50V | |
| C9444 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9445 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C9447 | WJ344400 | C. CE. CHP | 22uF | 6. 3V | |
| C9448 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9450-9451 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9452 | US643680 | C. CE. CHP | 6800pF | 25V | |
| C9453-9454 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9455 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C9456 | US663390 | C. CE. CHP | 3900pF | 50V | |
| C9458 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9459-9460 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9461 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9462 | WV169100 | C. CE. CHP | 2. 2uF | 10V | |
| C9463 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9464-9465 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9466 | WV169100 | C. CE. CHP | 2. 2uF | 10V | |
| C9467-9468 | US062680 | C. CE. CHP | 680pF | 50V B | |
| C9469 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9470 | US046100 | C. CE. CHP | 1uF | 25V | |
| C9471 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C9472 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9473 | US663150 | C. CE. CHP | 1500pF | 50V | |
| C9474 | US643470 | C. CE. CHP | 4700pF | 25V | |
| C9475 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9476 | UF128470 | C. EL. CHP | 470uF | 10V | |
| C9478 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9480 | US662100 | C. CE. CHP | 100pF | 50V | |
| C9481 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9485 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C9497-9498 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9501-9502 | UF418100 | C. EL. CHP | 100uF | 6. 3V | |
| C9503-9509 | WG888300 | C. CE. M. CHP | 10uF | 6. 3V | |

✻ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C9510-9528 | US625100 | C. CE. CHP | 0. 1uF | 10V | |
| C9530-9533 | US663100 | C. CE. CHP | 1000pF | 50V | |
| C9535-9545 | US663100 | C. CE. CHP | 1000pF | 50V | |
| ✻ C9546 | US660400 | C. CE. CHP | 4pF | 50V | |
| C9548-9557 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9562 | US044220 | C. CE. CHP | 0. 022uF | 25V B | |
| C9563-9568 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C9570-9571 | WJ932500 | C. CE. CHP | 1uF | 6. 3V | |
| C9572-9573 | US661150 | C. CE. CHP | 15pF | 50V | |
| C9575 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| C9578-9579 | US634100 | C. CE. CHP | 0. 01uF | 16V | |
| D351 | WE674800 | VARISTOR. CHP | AVRL161A1R1NTB | | |
| D602 | VV220700 | DIODE. SCHOTTKY | RB501V-40 | | |
| ✻ D607 | WZ699800 | DIODE | RCLAMP0584J | | |
| D610 | WE674800 | VARISTOR. CHP | AVRL161A1R1NTB | | |
| D750 | WR148500 | DIODE | RB521S-30TE61 | | |
| D9401-9402 | WW783900 | DIODE | 1SS355VM | | |
| D9403-9405 | WR148500 | DIODE | RB521S-30TE61 | | |
| D9406-9407 | WW783900 | DIODE | 1SS355VM | | |
| IC6 | YC287A00 | IC | RP130Q181D-TR-F | | |
| IC8 | YC289A00 | IC | RP130Q501D-TR | | |
| IC10 | XR680A00 | IC | TC7SH08FU(TE85L, JF | | |
| IC21 | X8841A00 | IC | ADV7180BSTZ | | |
| IC27 | YC287A00 | IC | RP130Q181D-TR-F | | |
| ✻ IC30 | YD186A00 | IC. HDMI | TMDS261BPAGR | | |
| ✻ IC31 | YE357A00 | IC | RP132H331D-T1-FE | | |
| IC51 | X8378A00 | IC | TC7SH125FU(TE85L, F | | |
| ✻ IC53 | YA560B00 | IC | NT5SV8M16HS-6K | | |
| ✻ IC55 | YD992A00 | IC | RP130Q251D-TR-FE | | |
| ✻ IC56 | YC827A00 | IC | R1172N301D-TR-F | | |
| IC57 | YC286A00 | IC | RP130Q121D-TR-F | | |
| ✻ IC60 | YD987A00 | IC | R1163N501B-TR-FE | | |
| IC64 | X0199B00 | IC | TC74VHC157FT(EL, K) | | |
| IC65 | X7787A00 | IC | TC74LCX245FT(EL, K) | | |
| IC66 | XZ509A00 | IC | TC74VHCU04FT INVER | | |
| IC75 | XR680A00 | IC | TC7SH08FU(TE85L, JF | | |
| IC76 | X5875A00 | IC | SN74LV4051APWR | | |
| ✻ IC77 | YE269D00 | IC. MEMORY | MX29LV640EBTI-70G | | (written) |
| IC78 | X5875A00 | IC | SN74LV4051APWR | | |
| IC79 | X7942B00 | IC | TC74VHC273FT(EL, K) | | |
| IC80 | XW633A00 | IC | TC7SH32FU | | |
| IC81 | X7942B00 | IC | TC74VHC273FT(EL, K) | | |
| IC82 | YD355A00 | IC. MEMORY | R1EX25512ATA00A EE | | |
| IC84-85 | YC288A00 | IC | RP130Q331D-TR-F | | |
| IC86 | YC289A00 | IC | RP130Q501D-TR | | |
| IC87 | X8531A00 | IC | TC7WZ32FK | | |
| IC91 | X8121A00 | IC | TC7SH86FU EX-OR | | |
| IC92 | X4453A00 | IC | SN74LVC1G17DCKR | | |
| IC93 | X9692A00 | IC | TC7WH126FU | | |
| ✻ IC921 | YD998A00 | IC | D80YK113CPTP400 | | |
| IC922 | X9625B00 | IC. MEMORY | M12L64164A-5TG | | |
| ✻ IC923 | YE266D00 | IC. MEMORY | W25Q80BVSSIG SPI F | | (written) |
| IC924 | YD216A00 | IC | PCM9211PTR | | |
| IC926-927 | XW633A00 | IC | TC7SH32FU | | |
| IC929 | X9292A00 | IC | R1172H121D-T1-F | | |
| IC930 | YC288A00 | IC | RP130Q331D-TR-F | | |
| IC931 | YC289A00 | IC | RP130Q501D-TR | | |

✻ New Parts

**RX-V673/HTR-6065** **RX-A720**

## DIGITAL

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | IC940 | YA255A00 | IC | R1172H501D-T1-F | |
| | IC941 | YC288A00 | IC | RP130Q331D-TR-F | |
| * | IC945 | YD570A00 | IC | PCM5101PWR | |
| | IC946 | YC288A00 | IC | RP130Q331D-TR-F | |
| * | IC947 | YE478A00 | IC | BD7542F-E2 OPAMP | |
| | IC949 | X4453A00 | IC | SN74LVC1G17DCKR | |
| * | IC952 | YE488A00 | IC | M12L2561616A-5TG2A | |
| * | IC953 | YE417E00 | IC. MEMORY | MX29GL256FLT2I-90Q | (written) |
| | PN941 | WS488500 | STYLE. PIN | L=90 #18 | |
| | PN943 | WS488500 | STYLE. PIN | L=90 #18 | |
| | PN945 | WS488500 | STYLE. PIN | L=90 #18 | |
| | Q5-10 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q11 | WZ703400 | FET | RAL035P01 | |
| | Q12 | WW782000 | TR. DGT | DTA044EUBTL | |
| | Q14-15 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q17 | WZ703400 | FET | RAL035P01 | |
| | Q18 | WW782000 | TR. DGT | DTA044EUBTL | |
| | Q19-20 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q21 | WE834500 | FET | UPA672T-T1-A | |
| | Q250-251 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q252 | WZ461700 | TR. CHP | 2SA1576UBTLR | |
| | Q253 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q351-352 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q750-753 | WY001400 | TR. ARRAY | HN4B01JE | |
| | Q754-759 | WZ461700 | TR. CHP | 2SA1576UBTLR | |
| | Q760 | WZ461800 | TR. CHP | 2SC4081UBTLR | |
| | Q9201 | WZ703400 | FET | RAL035P01 | |
| | Q9202 | WW782000 | TR. DGT | DTA044EUBTL | |
| | Q9401 | WZ703400 | FET | RAL035P01 | |
| | Q9402 | WW782000 | TR. DGT | DTA044EUBTL | |
| | Q9404 | WW782000 | TR. DGT | DTA044EUBTL | |
| | Q9405 | WW782100 | TR. DGT | DTC014EUBTL | |
| | Q9406 | WZ703400 | FET | RAL035P01 | |
| | Q9407 | WZ461700 | TR. CHP | 2SA1576UBTLR | |
| | Q9408 | WZ703400 | FET | RAL035P01 | |
| | R9401 | WB784700 | R. MTL. FLM | 6.8Ω 1W | |
| * | XL1 | WZ730400 | RSNR. CRYS | 28.63636MHz DSX321 | |
| * | XL21 | WZ730400 | RSNR. CRYS | 28.63636MHz DSX321 | |
| | XL51 | WK841200 | RSNR. CRYS | 27MHz DSO321SRAB | |
| | XL75 | WA782500 | RSNR. CE | 8.000MHz | |
| | XL921 | WS190000 | RSNR. CRYS | 24.576MHZ DSX321G | |
| | XL922 | WN318100 | RSNR. CRYS | 20MHz DSX321G | |
| | XL951 | WJ081300 | RSNR. CRYS | 24MHz DSX321G | |

* New Parts

**RX-V673/HTR-6065**

## OPERATION

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| * | | ZC102100 | P. C. B. | OPERATION | UC |
| * | | ZC102200 | P. C. B. | OPERATION | RTKABGFLSH |
| | CB401 | VQ045500 | CN. BS. PIN | 26P | |
| | CB402 | VQ047000 | CN. BS. PIN | 6P | |
| | CB446 | WQ680200 | CN. USB | 4P TE AAPVA004C0 | |
| | CB451 | VQ961100 | CN. BS. PIN | 8P | |
| | CB452 | VQ962100 | CN. BS. PIN | 18P | |
| | CB453 | VQ961800 | CN. BS. PIN | 15P | |
| | CB454 | VQ961400 | CN. BS. PIN | 11P | |
| | CB455 | VQ963000 | CN. BS. PIN | 9P | |
| | CB458 | VQ044200 | CN. BS. PIN | 6P | |
| | CB459-461 | V9357000 | CN | 19P TE | |
| | CB463 | VQ585700 | CN. JUMPER | 7P | |
| | CB472 | VB858300 | CN. BS. PIN | 4P | |
| | CB473 | VK026900 | CN | 10P | |
| | C4002 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4012-4013 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4015 | UR268220 | C. EL | 220uF 50V | |
| | C4016 | UM388330 | C. EL | 330uF 6.3V | |
| | C4017 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4018 | US061680 | C. CE. CHP | 68pF 50V B | |
| | C4019 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4020-4021 | US163100 | C. CE. CHP | 1000pF 50V | |
| | C4022 | US064100 | C. CE. CHP | 0.01uF 50V B | |
| | C4024 | US063100 | C. CE. CHP | 1000pF 50V B | |
| | C4025-4026 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4027 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4028 | US062100 | C. CE. CHP | 100pF 50V B | |
| | C4030 | US062100 | C. CE. CHP | 100pF 50V B | |
| | C4031 | US062470 | C. CE. CHP | 470pF 50V B | |
| | C4032-4033 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4034 | UM417100 | C. EL | 10uF 50V | |
| | C4035 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4037 | US064100 | C. CE. CHP | 0.01uF 50V B | |
| | C4039 | US062220 | C. CE. CHP | 220pF 50V B | |
| | C4081 | WH773700 | C. EL | 470uF 16V | |
| | C4082 | WY034800 | C. CE. CHP | 0.022uF 50V | |
| | C4083 | WM490200 | C. CE. M. CHP | 0.47uF 50V | |
| | C4084 | UM416100 | C. EL | 1uF 50V | |
| | C4085 | UM416220 | C. EL | 2.2uF 50V | |
| | C4086 | US046100 | C. CE. CHP | 1uF 25V | |
| | C4087 | WG251600 | C. CE. CHP | 4.7uF 6.3V | |
| | C4091 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4217 | UR237100 | C. EL | 10uF 16V | |
| | C4225 | UR067100 | C. EL | 10uF 50V | UC |
| | C4225 | UU267100 | C. EL | 10uF 50V | RTKABGFLSH |
| | C4226 | WK041800 | C. EL | 10uF 16V | UC |
| | C4226 | UR267100 | C. EL | 10uF 50V | RTKABGFLSH |
| | C4227-4228 | UR237100 | C. EL | 10uF 16V | |
| | C4229 | WJ608100 | C. MYLAR | 100pF 100V | |
| | C4230 | WY466700 | C. PP | 820pF 100V | UC |
| | C4230 | WJ608800 | C. MYLAR | 820pF 100V | RTKABGFLSH |
| | C4234 | WK041800 | C. EL | 10uF 16V | |
| | C4235-4236 | WJ608100 | C. MYLAR | 100pF 100V | |
| | C4238 | WK041800 | C. EL | 10uF 16V | |
| | C4239 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4240 | WY466700 | C. PP | 820pF 100V | UC |

* New Parts

## RX-V673/HTR-6065

# OPERATION

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C4240 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4241 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4242 | WK041800 | C. EL | 10uF | 16V | UC |
| C4242 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4243-4244 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C4245 | UR067100 | C. EL | 10uF | 50V | UC |
| C4245 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4246 | UR238100 | C. EL | 100uF | 16V | |
| C4250 | UR067100 | C. EL | 10uF | 50V | UC |
| C4250 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4251 | WK041800 | C. EL | 10uF | 16V | UC |
| C4251 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4252 | UR067100 | C. EL | 10uF | 50V | UC |
| C4252 | UU367470 | C. EL | 47uF | 50V | RTKABGFLSH |
| C4253 | WY466700 | C. PP | 820pF | 100V | UC |
| C4253 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4255 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4257 | WJ611000 | C. MYLAR | 0. 047uF | 100V | |
| C4258 | UR267100 | C. EL | 10uF | 50V | |
| C4259-4260 | UR067100 | C. EL | 10uF | 50V | |
| C4261 | WJ609900 | C. MYLAR | 6800pF | 100V | |
| C4262 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4263 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4264 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4265 | UR067100 | C. EL | 10uF | 50V | UC |
| C4265 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4266 | UR257100 | C. EL | 10uF | 35V | UC |
| C4266 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4267 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4268 | WY466700 | C. PP | 820pF | 100V | UC |
| C4268 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4271 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4272 | WY466700 | C. PP | 820pF | 100V | UC |
| C4272 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4273 | UR257100 | C. EL | 10uF | 35V | UC |
| C4273 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4274 | UR067100 | C. EL | 10uF | 50V | UC |
| C4274 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4275 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4276 | US063470 | C. CE. CHP | 4700pF | 50V B | |
| C4277 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4278 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4279 | UR067100 | C. EL | 10uF | 50V | UC |
| C4279 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4280 | UR257100 | C. EL | 10uF | 35V | UC |
| C4280 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4281 | WY466700 | C. PP | 820pF | 100V | UC |
| C4281 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4282 | UR067470 | C. EL | 47uF | 50V | |
| C4284 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4285 | UR067470 | C. EL | 47uF | 50V | |
| C4287 | WY466700 | C. PP | 820pF | 100V | UC |
| C4287 | WJ608800 | C. MYLAR | 820pF | 100V | RTKABGFLSH |
| C4288 | WK041800 | C. EL | 10uF | 16V | |
| C4289 | UR257100 | C. EL | 10uF | 35V | UC |
| C4289 | UR267100 | C. EL | 10uF | 50V | RTKABGFLSH |
| C4290 | UR067100 | C. EL | 10uF | 50V | UC |

⚠ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C4290 | UU237100 | C. EL | 10uF | 16V | RTKABGFLSH |
| C4291 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4292 | US063470 | C. CE. CHP | 4700pF | 50V B | |
| C4294 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C4318-4321 | WJ610200 | C. MYLAR | 0. 01uF | 100V | |
| C4401-4402 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4411-4412 | WJ609500 | C. MYLAR | 3300pF | 100V | |
| C4413 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| C4414 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4415 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4421 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4422 | UM397100 | C. EL | 10uF | 16V | |
| C4423 | WV360900 | C. EL | 22uF | 16V | |
| C4424 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| C4425 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4426 | UM397470 | C. EL | 47uF | 16V | |
| C4427 | US061330 | C. CE. CHP | 33pF | 50V B | |
| C4428 | UM397100 | C. EL | 10uF | 16V | |
| C4430 | WV360900 | C. EL | 22uF | 16V | |
| C4432 | WV360900 | C. EL | 22uF | 16V | |
| C4481 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4482 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4483-4484 | US163100 | C. CE. CHP | 1000pF | 50V | |
| C4487 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C4901 | US035100 | C. CE. CHP | 0. 1uF | 16V B | RTKABGFLSH |
| D4001-4002 | VT332900 | DIODE | 1SS355 | | |
| D4006-4007 | WY163000 | DIODE. ZENR | UDZV4. 3B | | |
| D4010 | VT332900 | DIODE | 1SS355 | | |
| D4011 | V2598200 | LED | SIR-505ST | | |
| D4012 | VT332900 | DIODE | 1SS355 | | |
| D4081-4085 | VT332900 | DIODE | 1SS355 | | |
| D4086 | WY165200 | DIODE. ZENR | UDZV36B | | |
| D4091-4092 | VT332900 | DIODE | 1SS355 | | |
| D4203-4205 | VT332900 | DIODE | 1SS355 | | |
| D4303 | VT332900 | DIODE | 1SS355 | | |
| D4401 | WP080300 | LED. BLUE | Blue SLR343BC4T3F | | |
| D4411-4412 | VT332900 | DIODE | 1SS355 | | |
| D4421-4422 | VT332900 | DIODE | 1SS355 | | |
| D4423 | WY163200 | DIODE. ZENR | UDZV5. 1B | | |
| D4424 | WR095700 | LED | 8224-10SDRD/S530A3 | | |
| D4901-4903 | VT332900 | DIODE | 1SS355 | | UC |
| IC401 | X6386A00 | IC | M66003-0131FP | | |
| IC451-454 | X8136A00 | IC | LM833MX | | |
| IC455 | YD360A00 | IC | NJM2505A VIDEO AMP | | |
| IC456 | X9870A00 | IC | PCM1681PWPR | | |
| IC457 | X4928A00 | IC | KIA7805API 5V | | |
| IC471 | X7378A00 | IC | NJM4565M(TE1) | | |
| IC481 | YC288A00 | IC | RP130Q331D-TR-F | | |
| IC491 | YA381A00 | IC | LM19CIZ/LF THERMAL | | |
| IC491 | YA381A00 | IC | LM19CIZ/LF THERMAL | | RTKABGFLSH |
| JK471 | WZ975700 | JACK. PHONE | MSJ-064-05B-B-RF | | |
| JK472 | WJ117300 | JACK. MINI | MSJ-2200C AG | | |
| PJ401 | WZ631700 | JACK. PIN | 1P MTJ-032-21B-NI | | |
| Q4001-4003 | WC529400 | TR | KTC3875S Y GR RTK | | |
| Q4004 | VV655400 | TR. DGT | DTC114EKA | | |
| Q4005 | WC397700 | TR | 2N5401C-AT | | |
| Q4006-4009 | WC529400 | TR | KTC3875S Y GR RTK | | |

⚠ New Parts

**RX-V673/HTR-6065**

## OPERATION

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | Q4012 | WC529400 | TR | KTC3875S Y GR RTK | |
| | Q4081 | WQ381000 | FET | MCH6336-TL-E | |
| | Q4082 | VV655400 | TR. DGT | DTC114EKA | |
| ⚠ | Q4083-4084 | WW223000 | TR | 2SC5964-TD-E | |
| ⚠ | Q4085 | WC397700 | TR | 2N5401C-AT | |
| | Q4301 | VV655400 | TR. DGT | DTC114EKA | |
| | Q4302 | VV655000 | TR. DGT | DTA114EKA | |
| | Q4401-4402 | WC529400 | TR | KTC3875S Y GR RTK | |
| | R4066-4067 | WW969500 | R. MTL. OXD | 120Ω 1/4W | |
| | R4225 | WW965300 | R. MTL. OXD | 2.2Ω 1/4W | |
| | R4293 | V8070500 | R. MTL. FLM | 22Ω 1W | |
| | R4320-4321 | WW974100 | R. MTL. OXD | 10KΩ 1/4W | |
| | R4331-4332 | WQ072300 | R. MTL. OXD | 2.2Ω 1W | |
| | R4413-4414 | V8071400 | R. MTL. FLM | 560Ω 1W | |
| | RY461 | WJ122400 | RELAY | 981-2A-24DS-SP7 | |
| | SW401-409 | WD483100 | SW. TACT | SKRGAAD010 | |
| | SW411-421 | WD483100 | SW. TACT | SKRGAAD010 | |
| | SW471 | V9597100 | SW. RT. ENC | EC12E2460802 | |
| | SW472-473 | WD483100 | SW. TACT | SKRGAAD010 | |
| | TE461 | WB213900 | TERM. SP | MSP-113V2-03 PUSH | |
| | TH491-492 | WT698300 | THERMISTOR | WC92NA103J1 | UC |
| | U4001 | WQ600700 | L. DTCT | SM3385VMH6 | |
| | V4001 | WW890900 | FL. DSPLY | 18-MT-11GNK | |
| * | | ZA889400 | SPACER | 4.3x8x30 | |

* New Parts

**RX-A720**

## OPERATION

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| * | | ZC102400 | P. C. B. | OPERATION | UC |
| * | | ZC102500 | P. C. B. | OPERATION | A |
| | CB401 | VQ045500 | CN. BS. PIN | 26P | |
| | CB402 | VQ044200 | CN. BS. PIN | 6P | |
| | CB446 | WQ680200 | CN. USB | 4P TE AAPVA004C0 | |
| | CB451 | VQ961100 | CN. BS. PIN | 8P | |
| | CB452 | VQ962100 | CN. BS. PIN | 18P | |
| | CB453 | VQ961800 | CN. BS. PIN | 15P | |
| | CB454 | VQ961400 | CN. BS. PIN | 11P | |
| | CB455 | VQ963000 | CN. BS. PIN | 9P | |
| | CB458 | VQ047000 | CN. BS. PIN | 6P | |
| | CB459-461 | V9357000 | CN | 19P TE | |
| | CB463 | VQ585700 | CN. JUMPER | 7P | |
| | CB471 | VB858300 | CN. BS. PIN | 4P | |
| | C4001 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4002 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4003-4004 | US063100 | C. CE. CHP | 1000pF 50V B | |
| | C4005 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4007 | UR268220 | C. EL | 220uF 50V | |
| | C4008 | UM388330 | C. EL | 330uF 6.3V | |
| | C4009 | US135100 | C. CE. CHP | 0.1uF 16V | |
| | C4010 | US061680 | C. CE. CHP | 68pF 50V B | |
| | C4011 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4012 | US064100 | C. CE. CHP | 0.01uF 50V B | |
| | C4013 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4017 | US065100 | C. CE. CHP | 0.1uF 50V B | |
| | C4018 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4019 | US062100 | C. CE. CHP | 100pF 50V B | |
| | C4021 | US062100 | C. CE. CHP | 100pF 50V B | |
| | C4022 | US062470 | C. CE. CHP | 470pF 50V B | |
| | C4023 | UM388100 | C. EL | 100uF 6.3V | |
| | C4024-4025 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4026 | US062220 | C. CE. CHP | 220pF 50V B | |
| | C4027 | US063100 | C. CE. CHP | 1000pF 50V B | |
| | C4028-4030 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4031 | US063100 | C. CE. CHP | 1000pF 50V B | |
| | C4032 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4033-4034 | US135100 | C. CE. CHP | 0.1uF 16V | |
| | C4081 | WH773700 | C. EL | 470uF 16V | |
| | C4082 | WY034800 | C. CE. CHP | 0.022uF 50V | |
| | C4083 | WM490200 | C. CE. M. CHP | 0.47uF 50V | |
| | C4084 | UM416100 | C. EL | 1uF 50V | |
| | C4085 | UM416220 | C. EL | 2.2uF 50V | |
| | C4086 | US046100 | C. CE. CHP | 1uF 25V | |
| | C4087 | WG251600 | C. CE. CHP | 4.7uF 6.3V | |
| | C4217 | UR237100 | C. EL | 10uF 16V | |
| | C4225 | UR067100 | C. EL | 10uF 50V | |
| | C4226 | WK041800 | C. EL | 10uF 16V | |
| | C4227-4228 | UR237100 | C. EL | 10uF 16V | |
| | C4229 | WJ608100 | C. MYLAR | 100pF 100V | |
| | C4230 | WY466700 | C. PP | 820pF 100V | |
| | C4234 | WK041800 | C. EL | 10uF 16V | |
| | C4235-4236 | WJ608100 | C. MYLAR | 100pF 100V | |
| | C4238 | WK041800 | C. EL | 10uF 16V | |
| | C4239 | US035100 | C. CE. CHP | 0.1uF 16V B | |
| | C4240 | WY466700 | C. PP | 820pF 100V | |
| | C4241 | US035100 | C. CE. CHP | 0.1uF 16V B | |

* New Parts

## RX-A720

# OPERATION

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C4242 | WK041800 | C. EL | 10uF | 16V | |
| C4243-4244 | WG251600 | C. CE. CHP | 4. 7uF | 6. 3V | |
| C4245 | UR067100 | C. EL | 10uF | 50V | |
| C4246 | UR238100 | C. EL | 100uF | 16V | |
| C4250 | UR067100 | C. EL | 10uF | 50V | |
| C4251 | WK041800 | C. EL | 10uF | 16V | |
| C4252 | UR067100 | C. EL | 10uF | 50V | |
| C4253 | WY466700 | C. PP | 820pF | 100V | |
| C4255 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4257 | WJ611000 | C. MYLAR | 0. 047uF | 100V | |
| C4258 | UR267100 | C. EL | 10uF | 50V | |
| C4259-4260 | UR067100 | C. EL | 10uF | 50V | |
| C4261 | WJ609900 | C. MYLAR | 6800pF | 100V | |
| C4262 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4263 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4264 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4265 | UR067100 | C. EL | 10uF | 50V | |
| C4266 | UR257100 | C. EL | 10uF | 35V | |
| C4267 | US126100 | C. CE. CHP | 1uF | 10V | |
| C4268 | WY466700 | C. PP | 820pF | 100V | |
| C4271 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4272 | WY466700 | C. PP | 820pF | 100V | |
| C4273 | UR257100 | C. EL | 10uF | 35V | |
| C4274 | UR067100 | C. EL | 10uF | 50V | |
| C4275 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4276 | US063470 | C. CE. CHP | 4700pF | 50V B | |
| C4277 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4278 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4279 | UR067100 | C. EL | 10uF | 50V | |
| C4280 | UR257100 | C. EL | 10uF | 35V | |
| C4281 | WY466700 | C. PP | 820pF | 100V | |
| C4282 | UR067470 | C. EL | 47uF | 50V | |
| C4284 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4285 | UR067470 | C. EL | 47uF | 50V | |
| C4287 | WY466700 | C. PP | 820pF | 100V | |
| C4288 | WK041800 | C. EL | 10uF | 16V | |
| C4289 | UR257100 | C. EL | 10uF | 35V | |
| C4290 | UR067100 | C. EL | 10uF | 50V | |
| C4291 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4292 | US063470 | C. CE. CHP | 4700pF | 50V B | |
| C4294 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C4318-4321 | WJ610200 | C. MYLAR | 0. 01uF | 100V | |
| C4401 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4402 | WJ609500 | C. MYLAR | 3300pF | 100V | |
| C4403 | UR067100 | C. EL | 10uF | 50V | |
| C4404 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| C4405 | WJ609500 | C. MYLAR | 3300pF | 100V | |
| C4406 | WV360900 | C. EL | 22uF | 16V | |
| C4407 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| C4408 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4409 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4410 | UM387470 | C. EL | 47uF | 16V | |
| C4411 | US061330 | C. CE. CHP | 33pF | 50V B | |
| C4414-4415 | WV360900 | C. EL | 22uF | 16V | |
| C4416 | UM397100 | C. EL | 10uF | 16V | |
| C4417-4419 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4420 | US135100 | C. CE. CHP | 0. 1uF | 16V | |

✻ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C4421 | US035100 | C. CE. CHP | 0. 1uF | 16V B | |
| C4424 | US061470 | C. CE. CHP | 47pF | 50V B | |
| C4481 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| C4482 | US062100 | C. CE. CHP | 100pF | 50V B | |
| C4483-4484 | US163100 | C. CE. CHP | 1000pF | 50V | |
| C4487 | WD758300 | C. CE. CHP | 10uF | 10V | |
| C4488 | US061470 | C. CE. CHP | 47pF | 50V B | |
| C4901 | US135100 | C. CE. CHP | 0. 1uF | 16V | A |
| D4003-4004 | WY163000 | DIODE. ZENR | UDZV4. 3B | | |
| D4005 | V2598200 | LED | SIR-505ST | | |
| D4006 | WP080300 | LED. BLUE | Blue SLR343BC4T3F | | |
| D4007-4008 | VT332900 | DIODE | 1SS355 | | |
| D4081-4085 | VT332900 | DIODE | 1SS355 | | |
| D4086 | WY165200 | DIODE. ZENR | UDZV36B | | |
| D4203-4205 | VT332900 | DIODE | 1SS355 | | |
| D4303 | VT332900 | DIODE | 1SS355 | | |
| D4401-4404 | VT332900 | DIODE | 1SS355 | | |
| D4406 | WY163200 | DIODE. ZENR | UDZV5. 1B | | |
| D4407 | WR095700 | LED | 8224-10SDRD/S530A3 | | |
| D4408-4409 | VT332900 | DIODE | 1SS355 | | |
| D4901-4903 | VT332900 | DIODE | 1SS355 | | UC |
| IC401 | X6386A00 | IC | M66003-0131FP | | |
| IC451-454 | X8136A00 | IC | LM833MX | | |
| IC455 | YD360A00 | IC | NJM2505A VIDEO AMP | | |
| IC456 | X9870A00 | IC | PCM1681PWPR | | |
| IC457 | X4928A00 | IC | KIA7805API 5V | | |
| IC471 | X7378A00 | IC | NJM4565M(TE1) | | |
| IC481 | YC288A00 | IC | RP130Q331D-TR-F | | |
| IC491 | YA381A00 | IC | LM19CIZ/LF THERMAL | | A |
| JK471 | WC814400 | JACK. MNI | JY-3554-01-130 | | |
| JK472 | WZ975700 | JACK. PHONE | MSJ-064-05B-B-RF | | |
| PJ471 | WZ631700 | JACK. PIN | 1P MTJ-032-21B-NI | | |
| Q4001-4009 | WC529400 | TR | KTC3875S Y GR RTK | | |
| Q4010 | WC397700 | TR | 2N5401C-AT | | |
| Q4011 | VV655400 | TR. DGT | DTC114EKA | | |
| Q4081 | WQ381000 | FET | MCH6336-TL-E | | |
| Q4082 | VV655400 | TR. DGT | DTC114EKA | | |
| Q4083-4084 | WW223000 | TR | 2SC5964-TD-E | | |
| Q4085 | WC397700 | TR | 2N5401C-AT | | |
| Q4301 | VV655400 | TR. DGT | DTC114EKA | | |
| Q4302 | VV655000 | TR. DGT | DTA114EKA | | |
| Q4401 | WC529400 | TR | KTC3875S Y GR RTK | | |
| R4225 | WW965300 | R. MTL. OXD | 2. 2Ω | 1/4W | |
| R4293 | V8070500 | R. MTL. FLM | 22Ω | 1W | |
| R4320-4321 | WW974100 | R. MTL. OXD | 10KΩ | 1/4W | |
| R4331-4332 | V8070100 | R. MTL. FLM | 2. 2Ω | 1W | |
| R4407-4408 | V8071400 | R. MTL. FLM | 560Ω | 1W | |
| RY461 | WJ122400 | RELAY | 981-2A-24DS-SP7 | | |
| SW402 | WD483100 | SW. TACT | SKRGAAD010 | | |
| SW419 | V9597100 | SW. RT. ENC | EC12E2460802 | | |
| SW422 | WD483100 | SW. TACT | SKRGAAD010 | | |
| SW424-440 | WD483100 | SW. TACT | SKRGAAD010 | | |
| SW472 | WQ291600 | SW. RT. ENC | XREB12105PVB25FINA | | |
| SW473 | WD483100 | SW. TACT | SKRGAAD010 | | |
| TE461 | WW728900 | TERM. SP | 4P | | |
| TH491-492 | WT698300 | THERMISTOR | WC92NA103J1 | | UC |
| U4001 | WQ600700 | L. DTCT | SM3385VMH6 | | |

✻ New Parts

RX-A720

## OPERATION

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | V4001 | WW890600 | FL. DSPLY | HNA-18MM03T | |
| * | | ZA889400 | SPACER | 4. 3x8x30 | |

✻ New Parts

RX-V673/HTR-6065 RX-A720

## MAIN

| | Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|---|
| * | | WZ886500 | P. C. B. | MAIN | | UCRTKALSH |
| * | | WZ886600 | P. C. B. | MAIN | | B |
| * | | WZ886700 | P. C. B. | MAIN | | GF |
| | 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 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1001 | WK041800 | C. EL | 10uF | 16V | BGF |
| | C1002 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1002 | WK041800 | C. EL | 10uF | 16V | BGF |
| | C1003 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1003 | WK041800 | C. EL | 10uF | 16V | BGF |
| | C1004 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1004 | UU237100 | C. EL | 10uF | 16V | BGF |
| | C1005 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1005 | UU237100 | C. EL | 10uF | 16V | BGF |
| | C1006 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1006 | UU237100 | C. EL | 10uF | 16V | BGF |
| | C1007 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| | C1007 | UU237100 | C. EL | 10uF | 16V | BGF |
| | C1008 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1008 | WE100900 | C. PP | 220pF | 630V K | BGF |
| | C1009 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1009 | WE100900 | C. PP | 220pF | 630V K | BGF |
| | C1010 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1010 | WE100900 | C. PP | 220pF | 630V K | BGF |
| | C1011 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1011 | WJ608300 | C. MYLAR | 220pF | 100V | BGF |
| | C1012 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1012 | WJ608300 | C. MYLAR | 220pF | 100V | BGF |
| | C1013 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1013 | WJ608300 | C. MYLAR | 220pF | 100V | BGF |
| | C1014 | WN164200 | C. PP | 220pF | 100V | UCRTKALSH |
| | C1014 | WJ608300 | C. MYLAR | 220pF | 100V | BGF |
| | C1015 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1015 | WE100600 | C. PP | 120pF | 630V K | BGF |
| | C1016 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1016 | WE100600 | C. PP | 120pF | 630V K | BGF |
| | C1017 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1017 | WE100600 | C. PP | 120pF | 630V K | BGF |
| | C1018 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1018 | WW179700 | C. MYLAR | 120pF | 100V | BGF |
| | C1019 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1019 | WW179700 | C. MYLAR | 120pF | 100V | BGF |
| | C1020 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1020 | WW179700 | C. MYLAR | 120pF | 100V | BGF |
| | C1021 | WQ107500 | C. PP | 120pF | 100V | UCRTKALSH |
| | C1021 | WW179700 | C. MYLAR | 120pF | 100V | BGF |
| | C1022 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| | C1022 | WE102300 | C. PP | 3300pF | 100V J | BGF |
| | C1023 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| | C1023 | WE102300 | C. PP | 3300pF | 100V J | BGF |
| | C1024 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| | C1024 | WE102300 | C. PP | 3300pF | 100V J | BGF |
| | C1025 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| | C1025 | WJ609500 | C. MYLAR | 3300pF | 100V | BGF |

✻ New Parts

**RX-V673/HTR-6065** | **RX-A720**

# MAIN

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| C1026 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| C1026 | WJ609500 | C. MYLAR | 3300pF | 100V | BGF |
| C1027 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| C1027 | WJ609500 | C. MYLAR | 3300pF | 100V | BGF |
| C1028 | WN164900 | C. PP | 3300pF | 100V | UCRTKALSH |
| C1028 | WJ609500 | C. MYLAR | 3300pF | 100V | BGF |
| C1029 | UR067470 | C. EL | 47uF | 50V | |
| C1030-1031 | UR068100 | C. EL | 100uF | 50V | |
| C1032-1035 | UR067470 | C. EL | 47uF | 50V | |
| C1036 | WQ627600 | C. CE | 22pF | 500V | UCRTKALSH |
| C1036 | WE100200 | C. PP | 22pF | 630V K | BGF |
| C1037 | WQ627600 | C. CE | 22pF | 500V | UCRTKALSH |
| C1037 | WE100200 | C. PP | 22pF | 630V K | BGF |
| C1038 | WQ627600 | C. CE | 22pF | 500V | UCRTKALSH |
| C1038 | WE100200 | C. PP | 22pF | 630V K | BGF |
| C1039-1042 | WQ627600 | C. CE | 22pF | 500V | |
| C1043 | WJ608400 | C. MYLAR | 330pF | 100V | UCRTKALSH |
| C1043 | WE101100 | C. PP | 330pF | 100V J | BGF |
| C1044 | WJ608400 | C. MYLAR | 330pF | 100V | UCRTKALSH |
| C1044 | WE101100 | C. PP | 330pF | 100V J | BGF |
| C1045 | WJ608400 | C. MYLAR | 330pF | 100V | UCRTKALSH |
| C1045 | WE101100 | C. PP | 330pF | 100V J | BGF |
| C1046-1049 | WJ608400 | C. MYLAR | 330pF | 100V | |
| C1050-1056 | UR067100 | C. EL | 10uF | 50V | |
| C1057-1063 | WJ610600 | C. MYLAR | 0.022uF | 100V | |
| C1066-1067 | WN156000 | C. PP | 1000pF | 250V | |
| C1068 | UR866470 | C. EL | 4.7uF | 50V | |
| C1069 | UR828220 | C. EL | 220uF | 10V | |
| C1070-1073 | UR297100 | C. EL | 10uF | 100V | |
| C1074 | UR267330 | C. EL | 33uF | 50V | |
| C1075 | UR257100 | C. EL | 10uF | 35V | UCRTKALSH |
| C1075 | UR067470 | C. EL | 47uF | 50V | BGF |
| C1076 | UR266100 | C. EL | 1uF | 50V | |
| C1078 | WJ611400 | C. MYLAR | 0.1uF | 100V J | UCRTKALSH |
| C1078 | WP421000 | C. PP | 0.047uF | 100V | BGF |
| C1079 | WJ611400 | C. MYLAR | 0.1uF | 100V J | UCRTKALSH |
| C1079 | WP421000 | C. PP | 0.047uF | 100V | BGF |
| C1080 | WN165500 | C. PP | 0.022uF | 100V | UCRTKALSH |
| C1080 | WJ610600 | C. MYLAR | 0.022uF | 100V | BGF |
| C1081 | WN165500 | C. PP | 0.022uF | 100V | UCRTKALSH |
| C1081 | WJ610600 | C. MYLAR | 0.022uF | 100V | BGF |
| ⚠ C1082 | UR049330 | C. EL | 3300uF | 25V | |
| ⚠ C1083 | UR049220 | C. EL | 2200uF | 25V | |
| ⚠ C1084-1085 | WN331300 | C. EL | 6800uF | 71V | |
| C1086 | UR049220 | C. EL | 2200uF | 25V | |
| C1087 | UR237100 | C. EL | 10uF | 16V | UCRTKALSH |
| C1087 | WK041800 | C. EL | 10uF | 16V | BGF |
| C1088 | UR237100 | C. EL | 10uF | 16V | UCRTKALSH |
| C1088 | WK041800 | C. EL | 10uF | 16V | BGF |
| C1509 | UR067470 | C. EL | 47uF | 50V | UCRTKALSH |
| C1509 | UR238100 | C. EL | 100uF | 16V | BGF |
| C1510-1512 | US035100 | C. CE. CHP | 0.1uF | 16V B | |
| C1513-1514 | US061220 | C. CE. CHP | 22pF | 50V B | |
| C1515-1516 | US035100 | C. CE. CHP | 0.1uF | 16V B | |
| C1517-1520 | US062220 | C. CE. CHP | 220pF | 50V B | |
| C1521 | UR267100 | C. EL | 10uF | 50V | |
| C1522 | US061470 | C. CE. CHP | 47pF | 50V B | |

✻ New Parts

| Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|
| 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 | |
| C1542 | US035100 | C. CE. CHP | 0.1uF | 16V B | |
| C1545 | US035100 | C. CE. CHP | 0.1uF | 16V B | |
| C1547 | UR267100 | C. EL | 10uF | 50V | |
| C1549 | UR267100 | C. EL | 10uF | 50V | |
| C1553-1554 | UR267220 | C. EL | 22uF | 50V | |
| C1556 | UR267100 | C. EL | 10uF | 50V | |
| C1558 | UR267470 | C. EL | 47uF | 50V | UCRTKALSH |
| C1558 | UR067470 | C. EL | 47uF | 50V | BGF |
| C1559 | UR267470 | C. EL | 47uF | 50V | UCRTKALSH |
| C1559 | UR067470 | C. EL | 47uF | 50V | BGF |
| C1571 | 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 | UR267100 | C. EL | 10uF | 50V | |
| C1578 | US061470 | C. CE. CHP | 47pF | 50V B | |
| C1579 | UR267100 | C. EL | 10uF | 50V | |
| C1580 | UR837100 | C. EL | 10uF | 16V | |
| C1581-1582 | US061470 | C. CE. CHP | 47pF | 50V B | |
| C1583-1584 | UR267470 | C. EL | 47uF | 50V | |
| C1585 | UR837100 | C. EL | 10uF | 16V | |
| C1589-1590 | UR267100 | C. EL | 10uF | 50V | |
| C1600-1601 | UR267100 | C. EL | 10uF | 50V | |
| C1605 | US064100 | C. CE. CHP | 0.01uF | 50V B | |
| C1608 | US044220 | C. CE. CHP | 0.022uF | 25V B | |
| C1610 | US064100 | C. CE. CHP | 0.01uF | 50V B | |
| C1612-1613 | US064100 | C. CE. CHP | 0.01uF | 50V B | |
| D1001-1016 | VT332900 | DIODE | 1SS355 | | |
| ⚠ D1017-1023 | VG437500 | DIODE. ZENR | MTZJ5.1C | 5.1V | |
| D1024-1039 | VT332900 | DIODE | 1SS355 | | |
| D1040 | WB212700 | DIODE. BRG | RS603M 6A 200V | | UCRTKALSH |
| ⚠ D1040 | WK611100 | DIODE. BRG | D6SBN20 6A 200V | | BGF |
| ⚠ D1041 | WH487300 | DIODE. BRG | RS203M 2.0A 200V | | |
| D1042 | VG440500 | DIODE. ZENR | MTZJ13B | 13V | |
| D1043 | VT332900 | DIODE | 1SS355 | | |
| D1501-1502 | VG438400 | DIODE. ZENR | MTZJ6.8C | 6.8V | |
| G101 | V5995800 | PLATE. GND | | | |
| ⚠ IC101 | XJ608A00 | IC | NJM7812FA | | |
| ⚠ IC102 | X4154A00 | IC | KIA7912PI | | |
| IC152 | XZ509A00 | IC | TC74VHCU04FT INVER | | |
| IC153 | YA361B00 | IC | R2A15220FP | | |
| IC154 | X7378A00 | IC | NJM4565M(TE1) | | |
| PJ150 | V9420700 | JACK. PIN | 2P MSP-252V1-30NI | | |
| PJ151 | V7046800 | JACK. PIN | 6P MSP-246V1-01NI | | |
| PJ152 | V7046700 | JACK. PIN | 4P MSP-244V1-01NI | | |
| PJ155 | V7046700 | JACK. PIN | 4P MSP-244V1-01NI | | |
| PJ159 | V9392100 | JACK. PIN | MSP-242V1-02NIFELF | | |

✻ New Parts

**RX-V673/HTR-6065** | **RX-A720**

# MAIN

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | Q1001-1014 | WF549900 | TR | 2SC3906K T146 R, S | |
| | Q1015-1021 | V3966800 | TR | 2SA949 O, Y | |
| ⚠ | Q1022-1028 | WT676000 | TR | 2SD2705S | |
| ⚠ | Q1029-1035 | VR325600 | TR | 2SC2229 O, Y | |
| ⚠ | Q1036-1042 | V4096100 | TR | 2SC4614 S, T | |
| ⚠ | Q1043-1049 | V4096000 | TR | 2SA1770 S, T | |
| ⚠ | Q1050-1056 | VR355900 | TR. PAIR | A1695/C4468 OPY | |
| | Q1057-1063 | V7421700 | TR. CHP | 2SC3324-GR, BL | |
| | Q1064 | V7421800 | TR | 2SA1312-GR, BL | |
| | Q1065 | V7421700 | TR. CHP | 2SC3324-GR, BL | |
| ⚠ | Q1067-1068 | WC292600 | TR | KTA1837-U | |
| ⚠ | Q1069-1070 | WC398400 | TR | 2N5551C-AT | |
| ⚠ | Q1071 | WC397700 | TR | 2N5401C-AT | |
| ⚠ | Q1072 | VP872600 | TR | 2SA1708 S, T | |
| | Q1073 | WC398500 | TR. DGT | KRA102M-AT | |
| | Q1074 | WC529200 | TR. DGT | KRC102M-AT | |
| | Q1501-1502 | WC883400 | TR | 2SD2704 K | |
| | Q1504 | WC883400 | TR | 2SD2704 K | |
| | Q1507 | WC883400 | TR | 2SD2704 K | |
| | Q1509 | WC883400 | TR | 2SD2704 K | |
| | Q1511-1514 | WC883400 | TR | 2SD2704 K | |
| | Q1520-1521 | WC883400 | TR | 2SD2704 K | |
| | Q1524-1525 | WC883400 | TR | 2SD2704 K | |
| | Q1527 | WC883400 | TR | 2SD2704 K | |
| | R1001-1007 | HF356100 | R. CAR | 1KΩ 1/2W | |
| | R1008-1014 | HF356180 | R. CAR | 1.8KΩ 1/2W | |
| | R1022-1028 | HF355330 | R. CAR | 330Ω 1/2W | |
| | R1029-1035 | HL006120 | R. MTL. OXD | 1.2KΩ 1/2W | |
| | 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 | |
| ⚠ | R1113-1118 | WC862200 | R. MTL. FLM | 120Ω 1W | |
| ⚠ | R1119-1126 | HL005120 | R. MTL. OXD | 120Ω 1/2W | |
| | R1127-1133 | HF355470 | R. CAR | 470Ω 1/2W | |
| ⚠ | R1134-1147 | HL004100 | R. MTL. OXD | 10Ω 1/2W | |
| ⚠ | R1148-1154 | WP839400 | R. CEMENT | 0.22+0.22 3W | |
| ⚠ | R1176-1182 | V8070300 | R. MTL. FLM | 10Ω 1W | |
| ⚠ | R1197-1198 | V8070200 | R. MTL. FLM | 4.7Ω 1W | |
| ⚠ | R1211 | WW966900 | R. MTL. OXD | 10Ω 1/4W | |
| | R1213 | V8072100 | R. MTL. OXD | 5.6KΩ 1W | |
| | R1214 | WW971100 | R. MTL. OXD | 560Ω 1/4W | |
| | R1219 | V8072000 | R. MTL. OXD | 4.7KΩ 1W | |
| ⚠ | R1222 | V8071600 | R. MTL. FLM | 1KΩ 1W | |
| | R1236 | WG726200 | R. MTL. FLM | 820Ω 1/4W | |
| ⚠ | R1238 | WC860900 | R. MTL. FLM | 10Ω 1W | |
| | R1504 | WC860100 | R. MTL. FLM | 2.2Ω 1W | |
| | R1573 | WA621400 | R. MTL. OXD | 82Ω 1W J | UCRTKALSH |
| | R1573 | WQ835700 | R. MTL. OXD | 82Ω 1W | BGF |
| | R1575 | WA621400 | R. MTL. OXD | 82Ω 1W J | UCRTKALSH |
| | R1575 | WQ835700 | R. MTL. OXD | 82Ω 1W | BGF |
| | R1664-1665 | WC862000 | R. MTL. FLM | 82Ω 1W | |
| ⚠ | RY101 | WE648700 | RELAY | DC DH24D2-0-Q | |
| | U1500-1501 | WH169900 | CN. PHOTO. R | 1P GP1FAV51RK0F | |

✻ New Parts

| Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|
| | WE774200 | SCR. BND. HD | 3x10 MFZN2W3 | |

✻ New Parts

## RX-V673/HTR-6065

# VIDEO

| | Ref No. | Part No. | Description | Markets |
|---|---|---|---|---|
| * | | ZC104600 | P. C. B. VIDEO | U |
| * | | ZC104700 | P. C. B. VIDEO | C |
| * | | ZC104800 | P. C. B. VIDEO | RS |
| * | | ZC104900 | P. C. B. VIDEO | T |
| * | | ZC105000 | P. C. B. VIDEO | K |
| * | | ZC105100 | P. C. B. VIDEO | A |
| * | | ZC105200 | P. C. B. VIDEO | BGF |
| * | | ZC105300 | P. C. B. VIDEO | LH |
| | CB302 | VQ961200 | CN. BS. PIN 9P | |
| | CB303 | VM859700 | CN. BS. PIN 16P | |
| | CB323 | VQ047200 | CN. BS. PIN 9P | |
| | CB324 | VQ047500 | CN. BS. PIN 20P | |
| | CB340 | LB918020 | CN. BS. PIN 2P | |
| | CB342 | VL844800 | CN. BS. PIN 4P | |
| | CB343 | VZ130900 | CN. JUMPER 4P | |
| | CB344 | VQ585500 | CN. JUMPER 5P | |
| | CB346 | VB390000 | CN. BS. PIN 4P | |
| | CB371 | VG879900 | CN. BS. PIN 2P | |
| | CB372-373 | WN103000 | CLIP. FUSE TP00351-31 | |
| | CB374 | VG879900 | CN. BS. PIN 2P | RS |
| | CB376 | VQ961400 | CN. BS. PIN 11P | |
| | CB377 | VQ963200 | CN. BS. PIN 11P | |
| | CB381-382 | WN103000 | CLIP. FUSE TP00351-31 | RS |
| | 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 | |
| | C3016-3017 | 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 | US135100 | C. CE. CHP 0. 1uF 16V | |
| | C3023-3025 | US135100 | C. CE. CHP 0. 1uF 16V | |
| | C3026 | UR267100 | C. EL 10uF 50V | |
| | C3027 | WD758300 | C. CE. CHP 10uF 10V | |
| | C3028 | US064100 | C. CE. CHP 0. 01uF 50V B | |
| | C3029 | WD758300 | C. CE. CHP 10uF 10V | |
| | C3031 | WD758300 | C. CE. CHP 10uF 10V | |
| | C3033 | UR837470 | C. EL 47uF 16V | |
| | 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 | |
| | 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 | UR237470 | C. EL 47uF 16V | |
| | C3080-3085 | WD758300 | C. CE. CHP 10uF 10V | |
| | C3100 | US135100 | C. CE. CHP 0. 1uF 16V | |

| | Ref No. | Part No. | Description | Markets |
|---|---|---|---|---|
| | C3201 | US135100 | C. CE. CHP 0. 1uF 16V | |
| | C3217 | US062100 | C. CE. CHP 100pF 50V B | |
| | C3221 | US062100 | C. CE. CHP 100pF 50V B | |
| | C3303-3304 | WJ611400 | C. MYLAR 0. 1uF 100V J | |
| | C3309-3310 | WG601700 | C. EL 4700uF 16V | |
| | C3311-3312 | UR866100 | C. EL 1uF 50V | |
| | C3314 | UR266100 | C. EL 1uF 50V | |
| | C3319 | UR266100 | C. EL 1uF 50V | |
| | C3320-3321 | UR267330 | C. EL 33uF 50V | |
| | C3403-3409 | WJ610200 | C. MYLAR 0. 01uF 100V | |
| | C3410-3416 | WJ610400 | C. MYLAR 0. 015uF 100V | |
| | C3603-3604 | US063100 | C. CE. CHP 1000pF 50V B | |
| | C3606 | US064100 | C. CE. CHP 0. 01uF 50V B | |
| | C3701 | WJ361200 | C. POL. MTL 0. 047uF 400V | UC |
| ⚠ | C3701 | WJ361800 | C. POL. MTL 0. 022uF 630V | RTKABGFLSH |
| ⚠ | C3702-3703 | WQ902300 | C. CE. SAFTY 1000pF 250V | |
| ⚠ | C3704 | V5877700 | C. MYLAR 0. 22uF 250V | |
| ⚠ | C3705 | WJ609900 | C. MYLAR 6800pF 100V | |
| ⚠ | C3706 | WW766000 | C. EL 220uF 220V | UC |
| ⚠ * | C3706 | WW766100 | C. EL 150uF 400V | RS |
| ⚠ | C3706 | WQ852500 | C. EL 68uF 400V | TKABGFLH |
| ⚠ | C3707 | WQ939400 | C. CE. SAFTY 0. 01uF 250V | |
| ⚠ | C3708 | UR867220 | C. EL 22uF 50V | |
| ⚠ | C3710 | WR246900 | C. CE. CHP 3300pF 250V | |
| ⚠ | C3711 | WY685500 | C. CE. SAFTY 3300pF 250V | |
| ⚠ | C3712 | WJ361200 | C. POL. MTL 0. 047uF 400V | UC |
| ⚠ | C3712 | WJ361800 | C. POL. MTL 0. 022uF 630V | RTKABGFLSH |
| | C3713 | WJ322300 | C. CE. M. CHP 1000pF 630V | |
| | C3714-3715 | WH776400 | C. EL 2200uF 25V | |
| | C3716 | US034470 | C. CE. CHP 0. 047uF 16V B | |
| | C3718 | WH771600 | C. EL 220uF 10V | |
| | C3719 | US064100 | C. CE. CHP 0. 01uF 50V B | |
| | C3720 | V7887800 | C. EL 1uF 50V | |
| | C3721 | WJ335500 | C. EL 2. 2uF 50V | |
| | C3722 | US135100 | C. CE. CHP 0. 1uF 16V | |
| | C3723 | US064100 | C. CE. CHP 0. 01uF 50V B | |
| | C3724 | US135100 | C. CE. CHP 0. 1uF 16V | |
| | C3725 | WJ608900 | C. MYLAR 1000pF 100V | |
| ⚠ | D3304 | WH487300 | DIODE. BRG RS203M 2. 0A 200V | |
| | D3310 | VT332900 | DIODE 1SS355 | |
| | D3350 | VU172800 | DIODE. ZENR UDZS12B 12V | RS |
| | D3403-3407 | VT332900 | DIODE 1SS355 | |
| | D3601-3602 | VT332900 | DIODE 1SS355 | |
| ⚠ | D3701 | WW872000 | DIODE. BRG DBL155G 1. 5A 600 | |
| ⚠ | D3702 | WE665600 | DIODE RF101L2STE25 | |
| ⚠ | D3703 | WW170700 | DIODE SARS05 | |
| | D3704 | WW745500 | DIODE. SCHOTTKY RB215T-90 20A 90V | |
| ⚠ | D3706-3715 | VT332900 | DIODE 1SS355 | |
| ⚠ | F3701 | WR944000 | FUSE 2A 250V | |
| ⚠ | F3702 | WQ211100 | FUSE 8A 125V | UCRS |
| ⚠ | F3702 | WM933100 | FUSE T5A 250V | TKABGFLH |
| ⚠ | F3801 | KB000780 | FUSE T5A 250V | RS |
| | IC302-303 | XY879A00 | IC TC74HC4053AF(EL) | |
| | IC305-306 | X2904A00 | IC NJM2581M VIDEO AMP | |
| | IC307 | XY549A00 | IC TC74HC4051AFEL | |
| | IC310 | X8875A00 | IC FHP3350IM14X | |
| | IC333 | X4928A00 | IC KIA7805API 5V | |

* New Parts

* New Parts

## RX-V673/HTR-6065

# VIDEO

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | IC334 | X6143A00 | IC | NJM2388F05 5.0V | |
| ⚠ | IC371 | YD188A00 | IC | STR2A153 | |
| ⚠ | IC372 | WP388200 | PHOT. CPL | TLP781(D4-GR,F) | |
| ⚠ | IC373 | YA276A00 | IC | TL431AC 2.5-36V | |
| ⚠ | IC374 | WP388200 | PHOT. CPL | TLP781(D4-GR,F) | |
| | IC392 | XV495B00 | IC | TC74VHCT08AF E,K,F | |
| | JK321 | V9435700 | JACK. MINI | MSJ-035-12APC | |
| | JK361-362 | V9435700 | JACK. MINI | MSJ-035-12APC | |
| | 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 | |
| | Q3100 | VV655400 | TR. DGT | DTC114EKA | |
| | Q3204 | WC397700 | TR | 2N5401C-AT | |
| | Q3205 | WC398400 | TR | 2N5551C-AT | |
| | Q3206 | ZA348800 | TR | KTA1046-Y-U/PFY | |
| | Q3207 | WC398400 | TR | 2N5551C-AT | |
| | Q3302 | WC397700 | TR | 2N5401C-AT | |
| | Q3303 | ZA348800 | TR | KTA1046-Y-U/PFY | |
| ⚠ | Q3304 | WC397700 | TR | 2N5401C-AT | |
| | Q3305 | WC398400 | TR | 2N5551C-AT | |
| | Q3306 | WC529500 | TR | KTA1504S Y GR RTK | |
| | 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 | |
| | Q3701-3702 | VQ986700 | TR | 2SC4081 T106 | |
| | Q3703 | VV655700 | TR. DGT | DTC144EKA | |
| | R3021 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3025 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3046-3049 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3060-3061 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3213 | WW966300 | R. MTL. OXD | 5.6Ω 1/4W | |
| | R3304 | HL002220 | R. MTL. OXD | 0.22Ω 1/2W | |
| | R3315-3316 | WW973300 | R. MTL. OXD | 4.7KΩ 1/4W | |
| | R3350 | WW972500 | R. MTL. OXD | 2.2KΩ 1/4W | RS |
| | R3403-3406 | WW974100 | R. MTL. OXD | 10KΩ 1/4W | |
| ⚠ | R3703 | WU547900 | R. ANTI. SURGE | 3MΩ 1/2W | |
| | RY341-345 | WJ122400 | RELAY | 981-2A-24DS-SP7 | |
| ⚠ | RY371 | WQ804100 | RELAY | DC DLS5D1-O(M)0.25 | |
| ⚠ | SW381 | WV382900 | SW. SLIDE | SL14 | RS |
| ⚠ | T3701 | YD325A00 | TRANS. SUB | | |
| | TE341 | WW728900 | TERM. SP | 4P | UCRSTA |
| | TE341 | WW726500 | TERM. SP | 4P | KBGFLH |
| | TE342 | WW726600 | TERM. SP | 6P | UCRSTA |
| | TE342 | WW728800 | TERM. SP | 6P | KBGFLH |
| | TE343 | WW728900 | TERM. SP | 4P | UCRSTA |
| | TE343 | WW726500 | TERM. SP | 4P | KBGFLH |
| ⚠ | TH371 | WF544600 | PTC. THERMISTOR | NTPAD5R1LDNB0 5.1 | |

✻ New Parts

| Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|
| | WE774200 | SCR. BND. HD | 3x10 MFZN2W3 | |

✻ New Parts

## RX-A720

# VIDEO

| | Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|---|
| * | | ZC105400 | P. C. B. | VIDEO | | U |
| * | | ZC105500 | P. C. B. | VIDEO | | C |
| * | | ZC105600 | P. C. B. | VIDEO | | A |
| | CB302 | VQ961200 | CN. BS. PIN | 9P | | |
| | CB303 | VM859700 | CN. BS. PIN | 16P | | |
| | CB323 | VQ047200 | CN. BS. PIN | 9P | | |
| | CB324 | VQ047500 | CN. BS. PIN | 20P | | |
| | CB340 | LB918020 | CN. BS. PIN | 2P | | |
| | CB342 | VL844800 | CN. BS. PIN | 4P | | |
| | CB343 | VZ130900 | CN. JUMPER | 4P | | |
| | CB344 | VQ585500 | CN. JUMPER | 5P | | |
| | CB346 | VB390000 | CN. BS. PIN | 4P | | |
| | CB371 | VG879900 | CN. BS. PIN | 2P | | |
| | CB372-373 | WN103000 | CLIP. FUSE | TP00351-31 | | |
| | CB376 | VQ961400 | CN. BS. PIN | 11P | | |
| | CB377 | VQ963200 | CN. BS. PIN | 11P | | |
| | 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 | |
| | C3016-3017 | 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 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3023-3025 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3026 | UR267100 | C. EL | 10uF | 50V | |
| | C3027 | WD758300 | C. CE. CHP | 10uF | 10V | |
| | C3028 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| | C3029 | WD758300 | C. CE. CHP | 10uF | 10V | |
| | C3031 | WD758300 | C. CE. CHP | 10uF | 10V | |
| | C3033 | UR837470 | C. EL | 47uF | 16V | |
| | 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 | |
| | 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 | UR237470 | C. EL | 47uF | 16V | |
| | C3080-3085 | WD758300 | C. CE. CHP | 10uF | 10V | |
| | C3100 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3201 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3217 | US062100 | C. CE. CHP | 100pF | 50V B | |
| | C3221 | US062100 | C. CE. CHP | 100pF | 50V B | |
| | C3303-3304 | WJ611400 | C. MYLAR | 0. 1uF | 100V J | |
| | C3309-3310 | WG601700 | C. EL | 4700uF | 16V | |
| | C3311-3312 | UR866100 | C. EL | 1uF | 50V | |
| | C3314 | UR266100 | C. EL | 1uF | 50V | |

| | Ref No. | Part No. | Description | | | Markets |
|---|---|---|---|---|---|---|
| | C3319 | UR266100 | C. EL | 1uF | 50V | |
| | C3320-3321 | UR267330 | C. EL | 33uF | 50V | |
| | C3403-3409 | WJ610200 | C. MYLAR | 0. 01uF | 100V | |
| | C3410-3416 | WJ610400 | C. MYLAR | 0. 015uF | 100V | |
| | C3603-3604 | US063100 | C. CE. CHP | 1000pF | 50V B | |
| | C3606 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| ⚠ | C3701 | WJ361200 | C. POL. MTL | 0. 047uF | 400V | UC |
| ⚠ | C3701 | WJ361800 | C. POL. MTL | 0. 022uF | 630V | A |
| ⚠ | C3704 | V5877700 | C. MYLAR | 0. 22uF | 250V | |
| ⚠ | C3705 | WJ609900 | C. MYLAR | 6800pF | 100V | |
| ⚠ | C3706 | WW766000 | C. EL | 220uF | 220V | UC |
| ⚠ | C3706 | WQ852500 | C. EL | 68uF | 400V | A |
| ⚠ | C3707 | WQ939400 | C. CE. SAFTY | 0. 01uF | 250V | |
| ⚠ | C3708 | UR867220 | C. EL | 22uF | 50V | |
| ⚠ | C3710 | WR246900 | C. CE. CHP | 3300pF | 250V | |
| ⚠ | C3711 | WY685500 | C. CE. SAFTY | 3300pF | 250V | |
| ⚠ | C3712 | WJ361200 | C. POL. MTL | 0. 047uF | 400V | UC |
| ⚠ | C3712 | WJ361800 | C. POL. MTL | 0. 022uF | 630V | A |
| | C3713 | WJ322300 | C. CE. M. CHP | 1000pF | 630V | |
| | C3714-3715 | WH776400 | C. EL | 2200uF | 25V | |
| | C3716 | US034470 | C. CE. CHP | 0. 047uF | 16V B | |
| | C3718 | WH771600 | C. EL | 220uF | 10V | |
| | C3719 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| | C3720 | V7887800 | C. EL | 1uF | 50V | |
| | C3721 | WJ335500 | C. EL | 2. 2uF | 50V | |
| | C3722 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3723 | US064100 | C. CE. CHP | 0. 01uF | 50V B | |
| | C3724 | US135100 | C. CE. CHP | 0. 1uF | 16V | |
| | C3725 | WJ608900 | C. MYLAR | 1000pF | 100V | |
| ⚠ | C3732-3733 | WQ902300 | C. CE. SAFTY | 1000pF | 250V | |
| ⚠ | D3304 | WH487300 | DIODE. BRG | RS203M 2. 0A 200V | | |
| | D3310 | VT332900 | DIODE | 1SS355 | | |
| | D3403-3407 | VT332900 | DIODE | 1SS355 | | |
| | D3601-3602 | VT332900 | DIODE | 1SS355 | | |
| ⚠ | D3701 | WW872000 | DIODE. BRG | DBL155G 1. 5A 600 | | |
| ⚠ | D3702 | WE665600 | DIODE | RF101L2STE25 | | |
| ⚠ | D3703 | WW170700 | DIODE | SARS05 | | |
| | D3704 | WW745500 | DIODE. SCHOTTKY | RB215T-90 20A 90V | | |
| ⚠ | D3706-3715 | VT332900 | DIODE | 1SS355 | | |
| ⚠ | F3701 | WR944000 | FUSE | 2A | 250V | |
| ⚠ | F3702 | WQ211100 | FUSE | 8A 125V | | UC |
| ⚠ | F3702 | WM933100 | FUSE | T5A | 250V | A |
| | IC302-303 | XY879A00 | IC | TC74HC4053AF(EL) | | |
| | IC305-306 | X2904A00 | IC | NJM2581M VIDEO AMP | | |
| | IC307 | XY549A00 | IC | TC74HC4051AFEL | | |
| | IC310 | X8875A00 | IC | FHP3350IM14X | | |
| | IC333 | X4928A00 | IC | KIA7805API 5V | | |
| | IC334 | X6143A00 | IC | NJM2388F05 5. 0V | | |
| ⚠ | IC371 | YD188A00 | IC | STR2A153 | | |
| ⚠ | IC372 | WP388200 | PHOT. CPL | TLP781(D4-GR, F) | | |
| ⚠ | IC373 | YA276A00 | IC | TL431AC 2. 5-36V | | |
| ⚠ | IC374 | WP388200 | PHOT. CPL | TLP781(D4-GR, F) | | |
| * | IC392 | XV495B00 | IC | TC74VHCT08AF E, K, F | | |
| | JK321 | V9435700 | JACK. MINI | MSJ-035-12APC | | |
| | JK361-362 | V9435700 | JACK. MINI | MSJ-035-12APC | | |
| | PJ301 | WG505100 | JACK. PIN | 6P | | |
| | PJ302 | V7189800 | JACK. PIN | 1P | | |

* New Parts

* New Parts

RX-A720

## VIDEO

| | Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|---|
| | 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 | |
| | Q3100 | VV655400 | TR. DGT | DTC114EKA | |
| | Q3204 | WC397700 | TR | 2N5401C-AT | |
| | Q3205 | WC398400 | TR | 2N5551C-AT | |
| | Q3206 | ZA348800 | TR | KTA1046-Y-U/PFY | |
| | Q3207 | WC398400 | TR | 2N5551C-AT | |
| | Q3302 | WC397700 | TR | 2N5401C-AT | |
| | Q3303 | ZA348800 | TR | KTA1046-Y-U/PFY | |
| | Q3304 | WC397700 | TR | 2N5401C-AT | |
| | Q3305 | WC398400 | TR | 2N5551C-AT | |
| | Q3306 | WC529500 | TR | KTA1504S Y GR RTK | |
| | 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 | |
| | Q3701-3702 | VQ986700 | TR | 2SC4081 T106 | |
| | Q3703 | VV655700 | TR. DGT | DTC144EKA | |
| | R3021 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3025 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3046-3049 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3060-3061 | WW964500 | R. MTL. OXD | 1Ω 1/4W | |
| | R3213 | WW966300 | R. MTL. OXD | 5.6Ω 1/4W | |
| ⚠ | R3304 | HL002220 | R. MTL. OXD | 0.22Ω 1/2W | |
| | R3315-3316 | WW973300 | R. MTL. OXD | 4.7KΩ 1/4W | |
| | R3403-3406 | WW974100 | R. MTL. OXD | 10KΩ 1/4W | |
| ⚠ | R3703 | WU547900 | R. ANTI. SURGE | 3MΩ 1/2W | |
| | RY341-345 | WJ122400 | RELAY | 981-2A-24DS-SP7 | |
| ⚠ | RY371 | WQ804100 | RELAY | DC DLS5D1-O(M)0.25 | |
| ⚠ | T3701 | YD325A00 | TRANS. SUB | | |
| | TE341 | WW728900 | TERM. SP | 4P | |
| | TE342 | WW726600 | TERM. SP | 6P | |
| | TE343 | WW728900 | TERM. SP | 4P | |
| ⚠ | TE371 | ZD538700 | INLET. AC | R-30190(26) | |
| ⚠ | TH371 | WF544600 | PTC. THERMISTOR | NTPAD5R1LDNBO 5.1 | |
| | | WE774200 | SCR. BND. HD | 3x10 MFZN2W3 | |

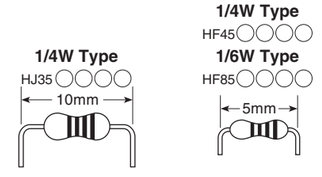
✻ New Parts

| Ref No. | Part No. | Description | | Markets |
|---|---|---|---|---|

✻ New Parts

## Carbon Resistors

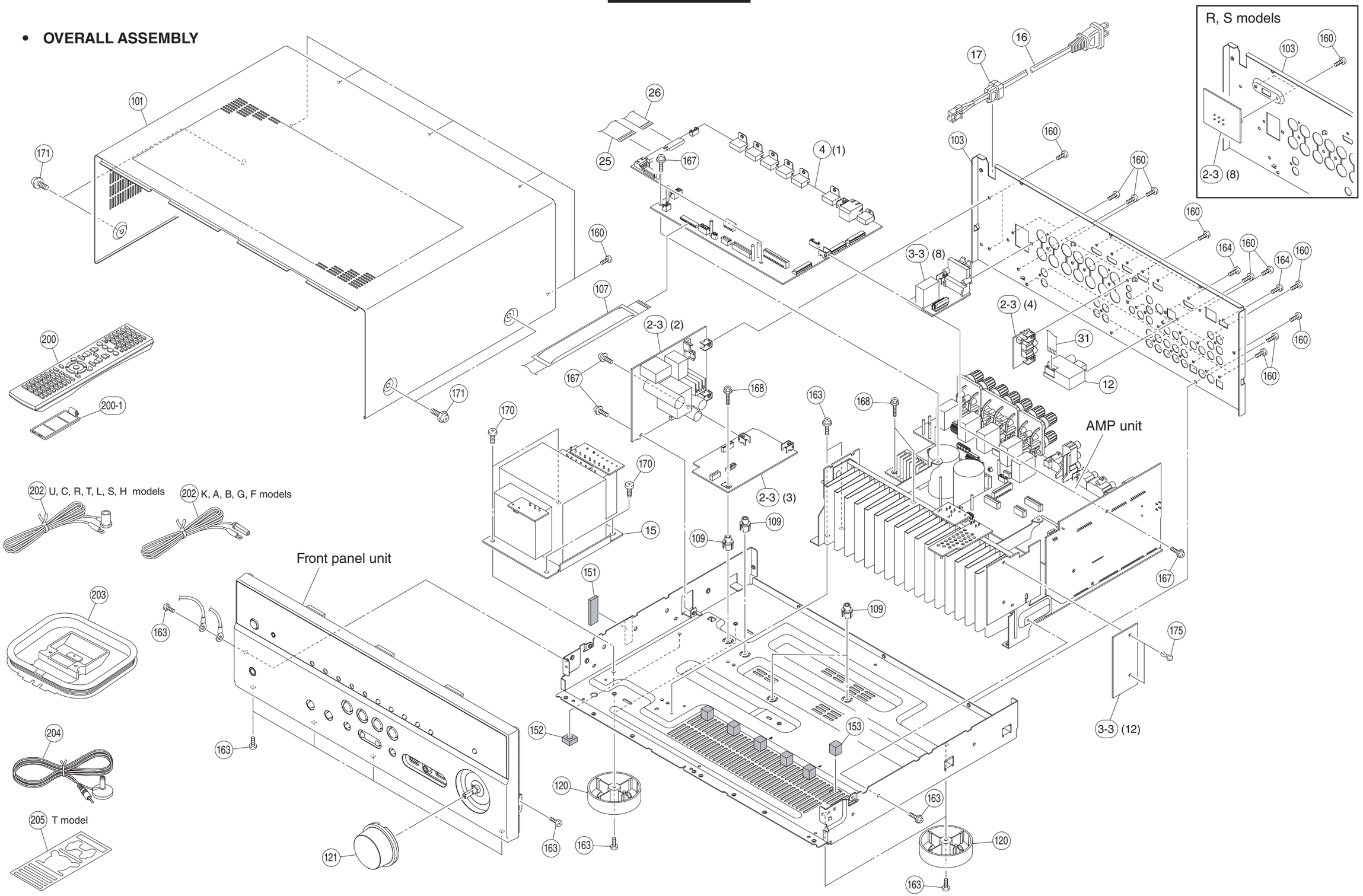
| Value | **1/4W** Type Part No. | **1/6W** Type Part No. | Value | **1/4W** Type Part No. | **1/6W** Type Part No. |
|---|---|---|---|---|---|
| 1.0 Ω | HJ35 3100 | HF85 3100 | 11 kΩ | HF45 7110 | HF45 7110 |
| 1.8 Ω | HJ35 3180 | ✻ | 12 kΩ | HJ35 7120 | HF85 7120 |
| 2.2 Ω | HJ35 3220 | HF85 3220 | 13 kΩ | HF45 7130 | HF45 7130 |
| 3.3 Ω | HJ35 3330 | HF85 3330 | 15 kΩ | HF45 7150 | HF45 7150 |
| 4.7 Ω | HJ35 3470 | HF85 3470 | 18 kΩ | HF45 7180 | HF45 7180 |
| 5.6 Ω | HJ35 3560 | HF85 3560 | 22 kΩ | HF45 7220 | HF45 7220 |
| 10 Ω | HF45 4100 | HF45 4100 | 24 kΩ | HF45 7240 | HF45 7240 |
| 15 Ω | HJ35 4150 | HF85 4150 | 27 kΩ | HJ35 7270 | HF85 7270 |
| 22 Ω | HF45 4220 | HF45 4220 | 30 kΩ | HF45 7300 | HF45 7300 |
| 27 Ω | HJ35 4270 | HF85 4270 | 33 kΩ | HF45 7330 | HF45 7330 |
| 33 Ω | HF45 4330 | HF45 4330 | 36 kΩ | HF45 7360 | HF45 7360 |
| 39 Ω | HJ35 4470 | HF85 4390 | 39 kΩ | HF45 7390 | HF45 7390 |
| 47 Ω | HF45 4470 | HF45 4470 | 47 kΩ | HF45 7470 | HF45 7470 |
| 56 Ω | HF45 4560 | HF45 4560 | 51 kΩ | HF45 7510 | HF45 7510 |
| 68 Ω | HF45 4680 | HF45 4680 | 56 kΩ | HF45 7560 | HF45 7560 |
| 75 Ω | HF45 4750 | HF45 4750 | 62 kΩ | HF45 7620 | HF45 7620 |
| 82 Ω | HF45 4820 | HF45 4820 | 68 kΩ | HF45 7680 | HF45 7680 |
| 91 Ω | HF45 4910 | HF45 4910 | 82 kΩ | HF45 7820 | HF45 7820 |
| 100 Ω | HF45 5100 | HF45 5100 | 91 kΩ | HF45 7910 | HF45 7910 |
| 110 Ω | HJ35 5110 | HF85 5110 | 100 kΩ | HF45 8100 | HF45 8100 |
| 120 Ω | HF45 5120 | HF45 5120 | 110 kΩ | HF45 8110 | HF45 8110 |
| 150 Ω | HF45 5150 | HF45 5150 | 120 kΩ | HF45 8120 | HF45 8120 |
| 160 Ω | HJ35 5160 | ✻ | 130 kΩ | HF45 8130 | ✻ |
| 180 Ω | HF45 5180 | HF45 5180 | 150 kΩ | HF45 8150 | HF45 8150 |
| 200 Ω | HF45 5200 | HF45 5200 | 180 kΩ | HF45 8180 | HF45 8180 |
| 220 Ω | HF45 5220 | HF45 5220 | 220 kΩ | HJ35 8220 | HF85 8220 |
| 270 Ω | HF45 5270 | HF45 5270 | 270 kΩ | HF45 8270 | HF45 8270 |
| 330 Ω | HF45 5330 | HF45 5330 | 300 kΩ | HF45 8300 | HF45 8300 |
| 390 Ω | HF45 5390 | HF45 5390 | 330 kΩ | HF45 8330 | HF45 8330 |
| 430 Ω | HF45 5430 | HF45 5430 | 390 kΩ | HJ35 8390 | HF85 8390 |
| 470 Ω | HF45 5470 | HF45 5470 | 470 kΩ | HF45 8470 | HF45 8470 |
| 510 Ω | HF45 5510 | HF45 5510 | 560 kΩ | HJ35 8560 | HF85 8560 |
| 560 Ω | HF45 5560 | HF45 5560 | 680 kΩ | HJ35 8680 | HF85 8680 |
| 680 Ω | HF45 5680 | HF45 5680 | 820 kΩ | HJ35 8820 | HF85 8820 |
| 820 Ω | HF45 5820 | HF45 5820 | 1.0 MΩ | HF45 9100 | HF45 9100 |
| 910 Ω | HF45 5910 | HF45 5910 | 1.2 MΩ | HJ35 9120 | ✻ |
| 1.0 kΩ | HF45 6100 | HF45 6100 | 1.5 MΩ | HJ35 9150 | HF85 9150 |
| 1.2 kΩ | HF45 6120 | HF45 6120 | 1.8 MΩ | HJ35 9180 | HF85 9180 |
| 1.5 kΩ | HF45 6150 | HF45 6150 | 2.2 MΩ | HJ35 9220 | HF85 9220 |
| 1.8 kΩ | HF45 6180 | HF45 6180 | 3.3 MΩ | HJ35 9330 | HF85 9330 |
| 2.0 kΩ | HJ35 6200 | HF85 6200 | 3.9 MΩ | HJ35 9390 | ✻ |
| 2.2 kΩ | HF45 6220 | HF45 6220 | 4.7 MΩ | HJ35 9470 | HF85 9470 |
| 2.4 kΩ | HJ35 6240 | HF85 6240 | | | |
| 2.7 kΩ | HF45 6270 | HF45 6270 | | | |
| 3.0 kΩ | HF45 6300 | HF45 6300 | | | |
| 3.3 kΩ | HF45 6330 | HF45 6330 | | | |
| 3.6 kΩ | HJ35 6360 | HF85 6360 | | | |
| 3.9 kΩ | HF45 6390 | HF45 6390 | | | |
| 4.7 kΩ | HF45 6470 | HF45 6470 | | | |
| 5.1 kΩ | HF45 6510 | HF45 6510 | | | |
| 5.6 kΩ | HF45 6560 | HF45 6560 | | | |
| 6.8 kΩ | HF45 6680 | HF45 6680 | | | |
| 8.2 kΩ | HF45 6820 | HF45 6820 | | | |
| 9.1 kΩ | HF45 6910 | HF45 6910 | | | |
| 10 kΩ | HF45 7100 | HF45 7100 | | | |




✻ : Not available

RX-V673/HTR-6065

- **OVERALL ASSEMBLY**



## RX-V673/HTR-6065

| | | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|---|
| | * | 2-3 | ZC104600 | P.C.B. ASSEMBLY | VIDEO | | U |
| | * | 2-3 | ZC104700 | P.C.B. ASSEMBLY | VIDEO | | C |
| | * | 2-3 | ZC104800 | P.C.B. ASSEMBLY | VIDEO | | RS |
| | * | 2-3 | ZC104900 | P.C.B. ASSEMBLY | VIDEO | | T |
| | * | 2-3 | ZC105000 | P.C.B. ASSEMBLY | VIDEO | | K |
| | * | 2-3 | ZC105100 | P.C.B. ASSEMBLY | VIDEO | | A |
| | * | 2-3 | ZC105200 | P.C.B. ASSEMBLY | VIDEO | | BGF |
| | * | 2-3 | ZC105300 | P.C.B. ASSEMBLY | VIDEO | | LH |
| | * | 3-3 | ZC102100 | P.C.B. ASSEMBLY | OPERATION | | UC |
| | * | 3-3 | ZC102200 | P.C.B. ASSEMBLY | OPERATION | | RTKABGFLSH |
| | * | 4 | ZC099900 | P.C.B. ASSEMBLY | DIGITAL | | |
| | | 12 | WW891000 | AM/FM TUNER | FAEH08-W02 | | UCRTLSH |
| | | 12 | WW891100 | AM/FM TUNER | FAEH08-E02 | | KABGF |
| ⚠ | * | 15 | YD387A00 | POWER TRANSFORMER | | | UC |
| ⚠ | * | 15 | YD388A00 | POWER TRANSFORMER | | | RS |
| ⚠ | * | 15 | YD389A00 | POWER TRANSFORMER | | | TK |
| ⚠ | * | 15 | YD390A00 | POWER TRANSFORMER | | | ALH |
| ⚠ | * | 15 | YD391A00 | POWER TRANSFORMER | | | BGF |
| ⚠ | | 16 | WY040900 | POWER CABLE | 1.8m | | UC |
| ⚠ | | 16 | WY042500 | POWER CABLE | 1.8m | | R |
| ⚠ | | 16 | WY042600 | POWER CABLE | 1.8m | | T |
| ⚠ | | 16 | WY042400 | POWER CABLE | 1.8m | | K |
| ⚠ | | 16 | WY042100 | POWER CABLE | 1.8m | | A |
| ⚠ | | 16 | WY041100 | POWER CABLE | 1.8m | | B |
| ⚠ | | 16 | WR336900 | POWER CABLE | 2m | | GFL |
| ⚠ | * | 16 | ZC898500 | POWER CABLE | 1.8m | | S |
| ⚠ | | 16 | WY094600 | POWER CABLE | 1.8m | | H |
| | | 17 | V2438700 | CORD STOPPER | 10P1 | | |
| | * | 25 | ZC038600 | FLEXIBLE FLAT CABLE | 20P 200mm P=1.25 | | |
| | * | 26 | ZC038500 | FLEXIBLE FLAT CABLE | 16P 250mm P=1.25 | | |
| | | 31 | WY194600 | FLEXIBLE FLAT CABLE | 9P 100mm P=1.25 | | |
| | * | 101 | ZA554700 | TOP COVER | | GD(Gold) | |
| | * | 101 | ZA554500 | TOP COVER | | BL(Black) | |
| | * | 101 | ZA554600 | TOP COVER | | Tl(Titanium) | |
| | * | 103 | ZA558400 | REAR PANEL | | | UC |
| | * | 103 | ZA558500 | REAR PANEL | | | RS |
| | * | 103 | ZA558600 | REAR PANEL | | | T |
| | * | 103 | ZA558800 | REAR PANEL | | | KALH |
| | * | 103 | ZA558900 | REAR PANEL | | | BGF |
| | * | 107 | ZC017300 | FFC BARRIER | | | |
| | | 109 | WQ664500 | SUPPORT | H8 | | |
| | * | 120 | ZC181800 | LEG | D60/H21 Black | | |
| | * | 121 | ZA168900 | KNOB | D52 VOLUME | GD(Gold) | |
| | * | 121 | ZA168700 | KNOB | D52 VOLUME | BL(Black) | |

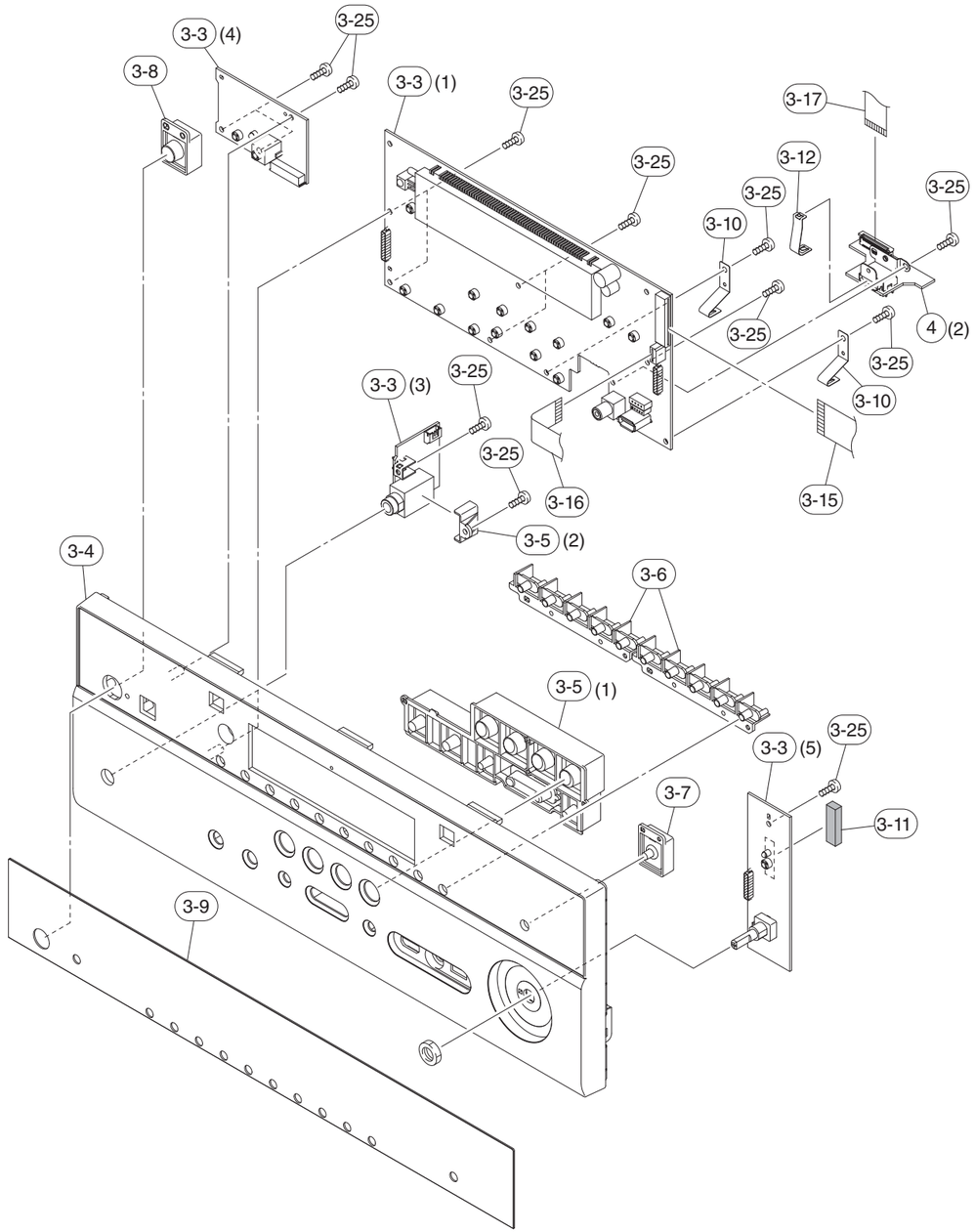
* New Parts

| | Ref No. | Part No. | Description | | | Remarks | Markets |
|---|---|---|---|---|---|---|---|
| * | 121 | ZA168800 | KNOB | D52 VOLUME | | Tl(Titanium) | |
| | 151 | V5881100 | CUSHION | 5x8x25 | | | |
| | 152 | WC879000 | DAMPER | SCREW MASK | | | |
| | 153 | WR377400 | DAMPER | 14x10x10 | | | |
| | 160 | WE774100 | BIND HEAD BONDING B-T. SCREW | 3x8 | MFZN2B3 | | |
| | 163 | WE774300 | BIND HEAD B-TIGHT SCREW | 3x8 | MFZN2W3 | | |
| | 164 | WE877900 | BIND HEAD S-TIGHT SCREW | 3x6 | MFZN2W3 | | |
| | 167 | WF002600 | PW HEAD B-TIGHT SCREW | 3x8 | MFZN2W3 | | |
| | 168 | WE774600 | HEXAGONAL HEAD B-TIGHT SCREW | 3x18 | MFZN2W3 | | |
| | 170 | WU048900 | BIND HEAD S-TIGHT SCREW | 4x10 | MFZN2W3 | | |
| | 171 | VD069600 | PW HEAD S-TIGHT SCREW | 4x8-10 | MFNI33 | GD(Gold) | |
| | 171 | VH313200 | PW HEAD S-TIGHT SCREW | 4x8-10 | MFNI3BL | BL(Black) | |
| | 171 | VD069600 | PW HEAD S-TIGHT SCREW | 4x8-10 | MFNI33 | Tl(Titanium) | |
| | 175 | VQ368600 | PUSH RIVET | P3555-B | | | |
| | | | ACCESSORIES | | | | |
| * | 200 | ZA238200 | REMOTE CONTROL | RAV472 | | 000-224700010 | |
| | 200-1 | AAX82380 | BATTERY COVER | Black | | CG-2209 | |
| | 202 | V6267000 | FM ANTENNA | 1.4m 1pc | | | UCRTLSH |
| | 202 | VQ147100 | FM ANTENNA | 1.4m 1pc | | | KABGF |
| | 203 | VR248500 | AM ANTENNA | 1m 1pc | | | |
| | 204 | WN649600 | YPAO MICROPHONE | 6m 1pc | | EM6022L-HN1700 | |
| * | 205 | ZC175500 | REMOTE CONTROL SHEET | 1pc | | | T |
| | | | BATTERY | R03,AAA,UM-4 2pcs | | | |

* New Parts

RX-V673/HTR-6065

- **FRONT PANEL UNIT**

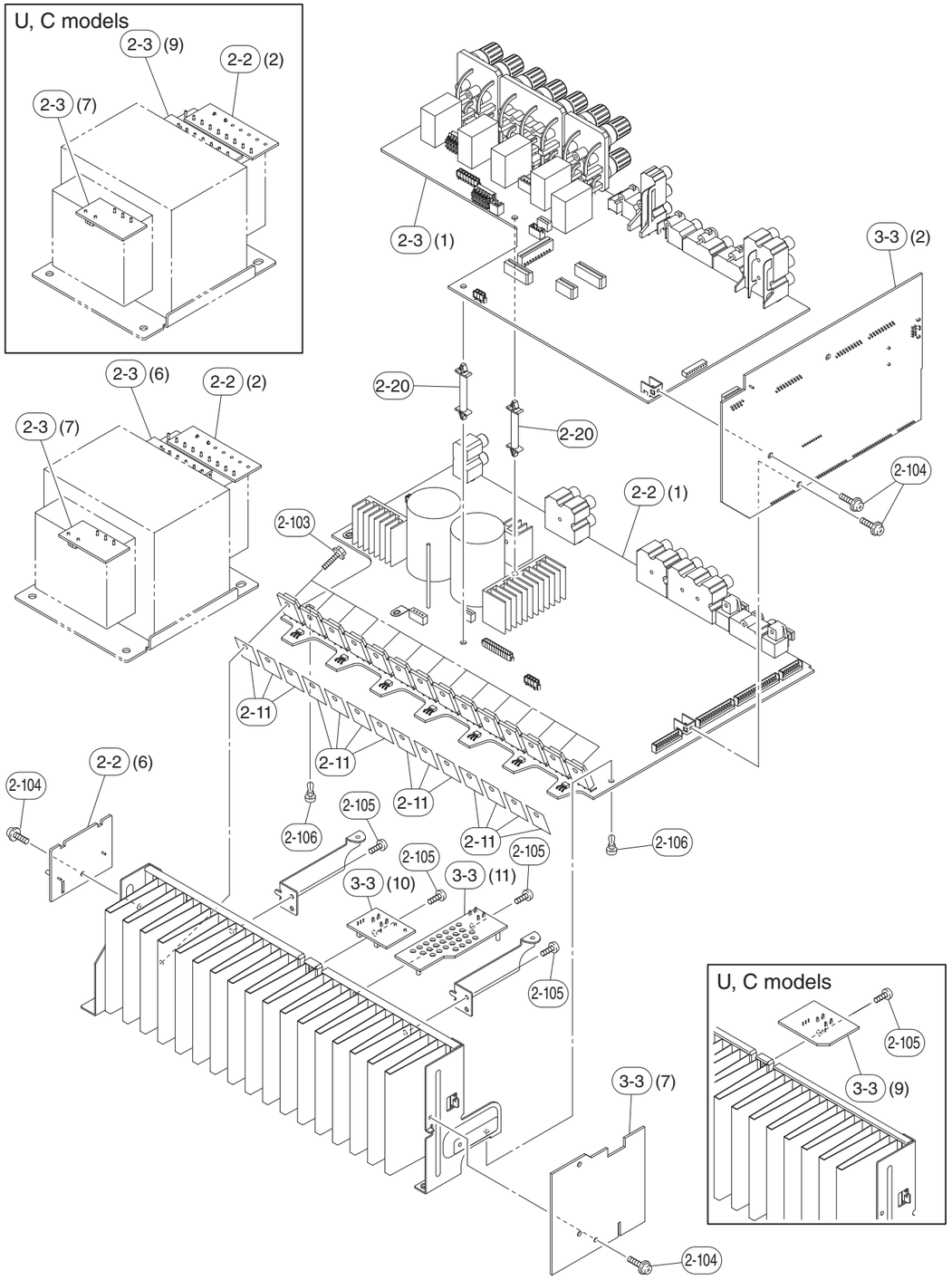



| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| * | 3-3 | ZC102100 | P.C.B. ASSEMBLY | OPERATION | | UC |
| * | 3-3 | ZC102200 | P.C.B. ASSEMBLY | OPERATION | | RTKABGFLSH |
| * | 3-4 | ZA582000 | FRONT PANEL | | GD(Gold) | |
| * | 3-4 | ZA581800 | FRONT PANEL | RX-V673, HTR-6065 | BL(Black) | |
| * | 3-4 | ZA581900 | FRONT PANEL | | TI(Titanium) | |
| * | 3-5 | ZA281500 | BUTTON | SCENE | GD(Gold) | |
| * | 3-5 | ZA281300 | BUTTON | SCENE | BL(Black) | |
| * | 3-5 | ZA281400 | BUTTON | SCENE | TI(Titanium) | |
| | 3-6 | WT823900 | BUTTON | TUNER | | |
| | 3-7 | WT871300 | BUTTON | PURE DIRECT | | |
| | 3-8 | WT843800 | BUTTON | POWER | | |
| * | 3-9 | ZA582100 | WINDOW SHEET | | RX-V673 | |
| * | 3-9 | ZA582200 | WINDOW SHEET | | HTR-6065 | |
| * | 3-10 | ZA582300 | EARTH PLATE | OPEARTION | | |
| | 3-11 | V5881100 | CUSHION | 5x8x25 | | |
| * | 3-12 | ZA582400 | EARTH PLATE | | | |
| | 3-15 | WY194500 | FLEXIBLE FLAT CABLE | 26P 300mm P=1.25 | | |
| * | 3-16 | ZA116800 | FLEXIBLE FLAT CABLE | 6P 300mm P=1.25 | | |
| * | 3-17 | ZA116600 | FLEXIBLE FLAT CABLE | 22P 210mm P=1.0 | | |
| | 3-25 | WE774800 | BIND HEAD P-TIGHT SCREW | 3x8 MFZN2W3 | | |
| * | 4 | ZC099900 | P.C.B. ASSEMBLY | DIGITAL | | |

* New Parts

RX-V673/HTR-6065

- **AMP UNIT**

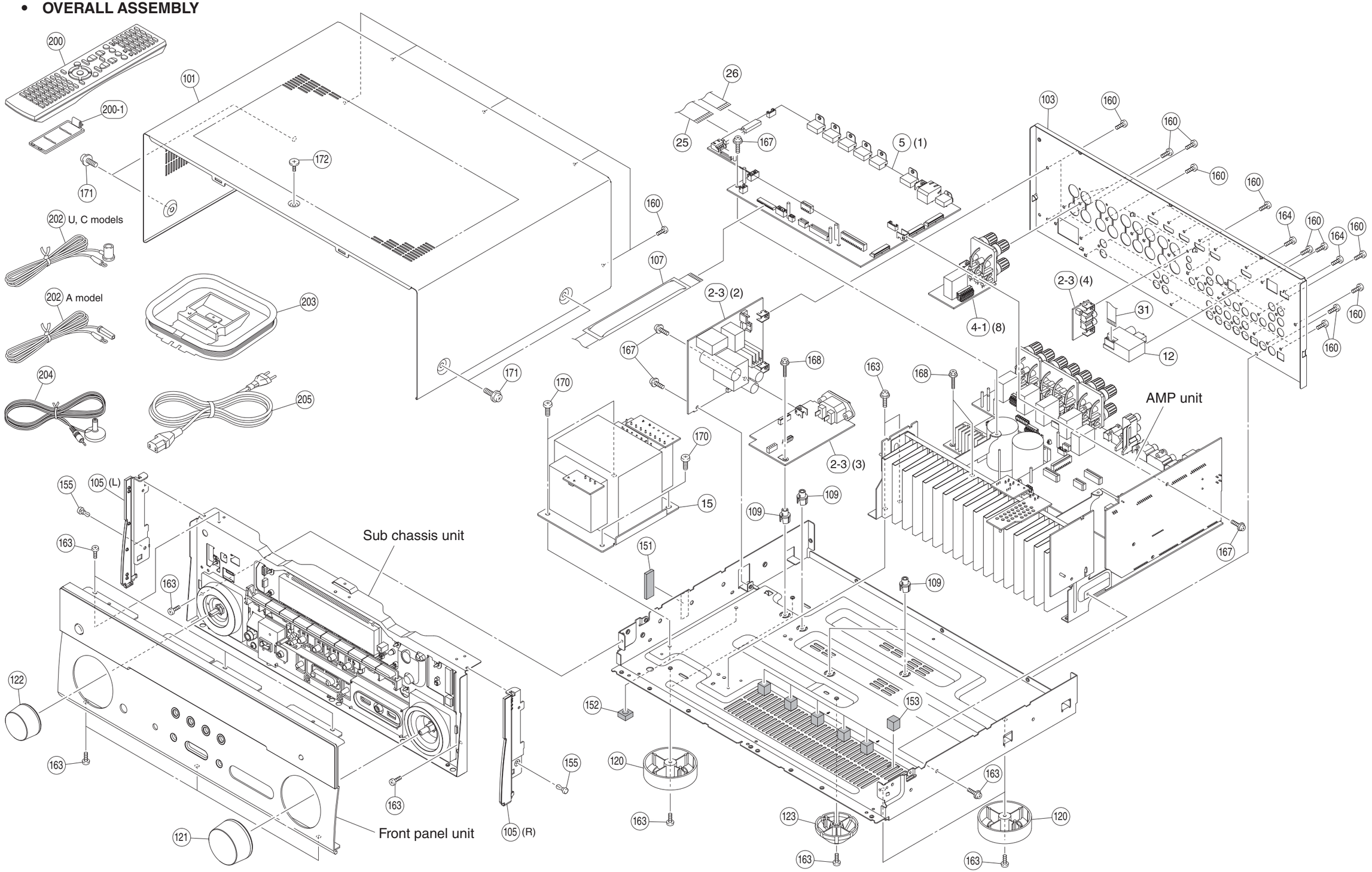



| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| * | 2-2 | WZ886500 | P.C.B. ASSEMBLY | MAIN | | UCRTKALSH |
| * | 2-2 | WZ886600 | P.C.B. ASSEMBLY | MAIN | | B |
| * | 2-2 | WZ886700 | P.C.B. ASSEMBLY | MAIN | | GF |
| * | 2-3 | ZC104600 | P.C.B. ASSEMBLY | VIDEO | | U |
| * | 2-3 | ZC104700 | P.C.B. ASSEMBLY | VIDEO | | C |
| * | 2-3 | ZC104800 | P.C.B. ASSEMBLY | VIDEO | | RS |
| * | 2-3 | ZC104900 | P.C.B. ASSEMBLY | VIDEO | | T |
| * | 2-3 | ZC105000 | P.C.B. ASSEMBLY | VIDEO | | K |
| * | 2-3 | ZC105100 | P.C.B. ASSEMBLY | VIDEO | | A |
| * | 2-3 | ZC105200 | P.C.B. ASSEMBLY | VIDEO | | BGF |
| * | 2-3 | ZC105300 | P.C.B. ASSEMBLY | VIDEO | | LH |
| | 2-11 | WQ753200 | RADIATION SHEET | 40x23x0.06 MICA | | |
| | 2-20 | WS000800 | SPACER SUPPORT | LCA4-29M PIN | | |
| | 2-103 | WM220800 | HEXAGONAL HEAD B-TIGHT SCREW | 3x15 SP MFZN2W3 | | |
| | 2-104 | WF002600 | PW HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 2-105 | WE774300 | BIND HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 2-106 | VQ368600 | PUSH RIVET | P3555-B | | |
| * | 3-3 | ZC102100 | P.C.B. ASSEMBLY | OPERATION | | UC |
| * | 3-3 | ZC102200 | P.C.B. ASSEMBLY | OPERATION | | RTKABGFLSH |

* New Parts

RX-A720

## • OVERALL ASSEMBLY



## RX-A720

| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| * | 2-3 | ZC105400 | P.C.B. ASSEMBLY | VIDEO | | U |
| * | 2-3 | ZC105500 | P.C.B. ASSEMBLY | VIDEO | | C |
| * | 2-3 | ZC105600 | P.C.B. ASSEMBLY | VIDEO | | A |
| * | 4-1 | ZC102400 | P.C.B. ASSEMBLY | OPERATION | | UC |
| * | 4-1 | ZC102500 | P.C.B. ASSEMBLY | OPERATION | | A |
| * | 5 | ZC099900 | P.C.B. ASSEMBLY | DIGITAL | | |
| | 12 | WW891000 | AM/FM TUNER | FAEH08-W02 | | UC |
| | 12 | WW891100 | AM/FM TUNER | FAEH08-E02 | | A |
| ⚠ * | 15 | YD387A00 | POWER TRANSFORMER | | | UC |
| ⚠ * | 15 | YD390A00 | POWER TRANSFORMER | | | A |
| * | 25 | ZC038600 | FLEXIBLE FLAT CABLE | 20P 200mm P=1.25 | | |
| * | 26 | ZC038500 | FLEXIBLE FLAT CABLE | 16P 250mm P=1.25 | | |
| | 31 | WY194600 | FLEXIBLE FLAT CABLE | 9P 100mm P=1.25 | | |
| | 101 | WQ665500 | TOP COVER | | | |
| * | 103 | ZA559300 | REAR PANEL | | | |
| | 105 | WW982200 | SIDE PLATE | | | |
| * | 107 | ZC017300 | FFC BARRIER | | | |
| | 109 | WQ664500 | SUPPORT | H8 | | |
| * | 120 | ZC181800 | LEG | D60/H21 Black | | |
| | 121 | WW981000 | KNOB | D48 VOLUME | | |
| | 122 | WW981300 | KNOB | D38 INPUT | | |
| | 123 | WV139700 | CENTER LEG | D48 | | |
| | 151 | V5881100 | CUSHION | 5x8x25 | | |
| | 152 | WC879000 | DAMPER | SCREW MASK | | |
| | 153 | WR377400 | DAMPER | 14x10x10 | | |
| | 155 | VQ368600 | PUSH RIVET | P3555-B | | |
| | 160 | WE774100 | BIND HEAD BONDING B-T. SCREW | 3x8 MFZN2B3 | | |
| | 163 | WE774300 | BIND HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 164 | WE877900 | BIND HEAD S-TIGHT SCREW | 3x6 MFZN2W3 | | |
| | 167 | WF002600 | PW HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 168 | WE774600 | HEXAGONAL HEAD B-TIGHT SCREW | 3x18 MFZN2W3 | | |
| | 170 | WU048900 | BIND HEAD S-TIGHT SCREW | 4x10 MFZN2W3 | | |
| | 171 | VH313200 | PW HEAD S-TIGHT SCREW | 4x8-10 MFNI3BL | | |
| | 172 | WE200500 | DISH HEAD B-TIGHT SCREW | 3x6 MFNI3BL | | |

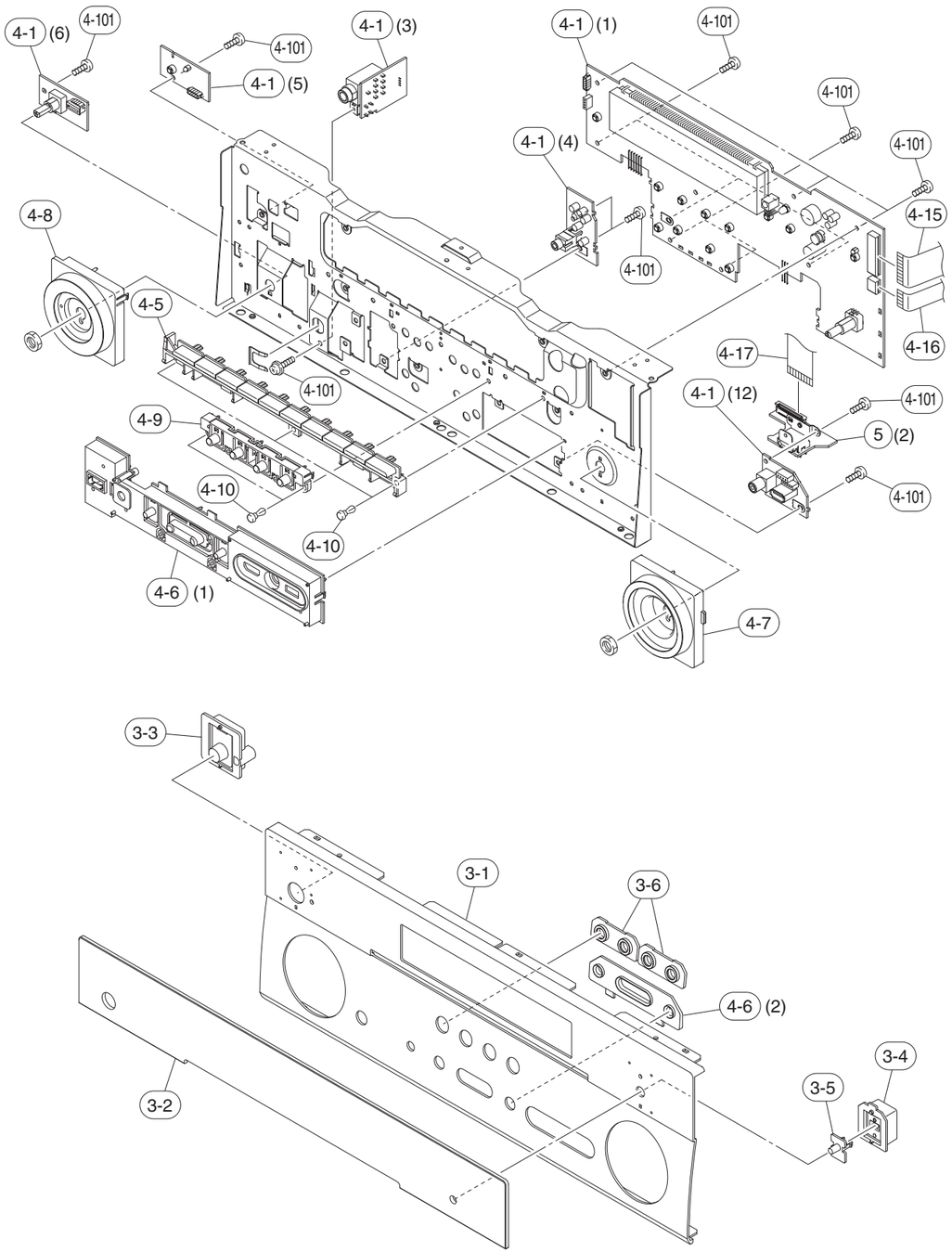
* New Parts

| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| | | | ACCESSORIES | | | |
| * | 200 | ZA238200 | REMOTE CONTROL | RAV472 | 000-224700010 | |
| | 200-1 | AAX82380 | BATTERY COVER | Black | CG-2209 | |
| | 202 | V6267000 | FM ANTENNA | 1.4m 1pc | | UC |
| | 202 | VQ147100 | FM ANTENNA | 1.4m 1pc | | A |
| | 203 | VR248500 | AM ANTENNA | 1m 1pc | | |
| | 204 | WN649600 | YPAO MICROPHONE | 6m 1pc | EM6022L-HN1700 | |
| ⚠ | 205 | WU900300 | POWER CABLE | 2m 1pc | | UC |
| ⚠ | 205 | WB750900 | POWER CABLE | 2m 1pc | | A |
| | | | BATTERY | R03,AAA,UM-4 2pcs | | |

* New Parts

RX-A720

- **FRONT PANEL UNIT and SUB-CHASSIS UNIT**

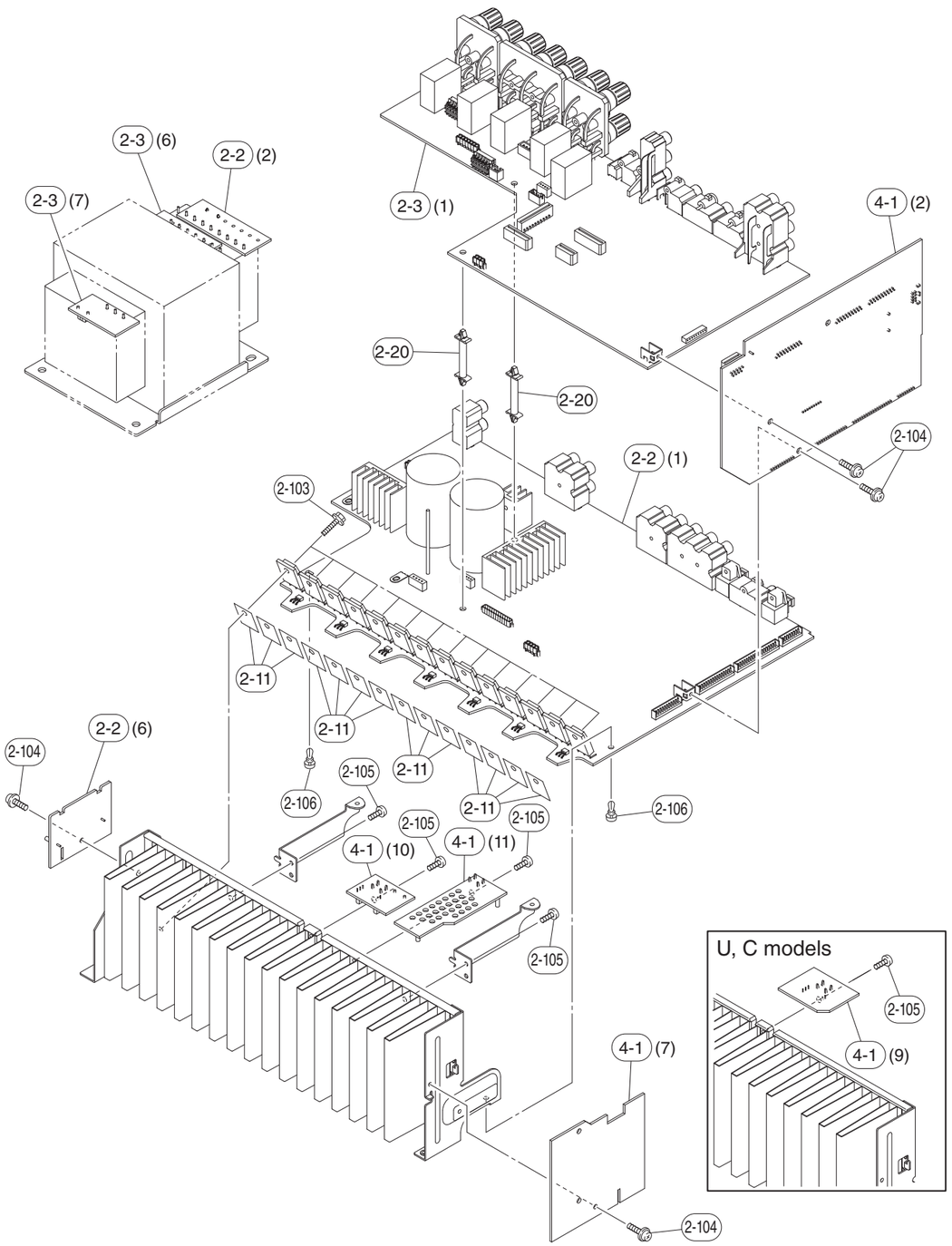



| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| * | 3-1 | ZA569500 | FRONT PANEL | | | |
| * | 3-2 | ZA567900 | WINDOW SHEET | | | |
| | 3-3 | WW980100 | BUTTON | POWER | | |
| | 3-4 | WW980500 | BUTTON | PURE DIRECT | | |
| | 3-5 | WU155600 | LENS | PURE DIRECT | | |
| | 3-6 | WW961500 | ESCUTCHEON | SCENE | | |
| * | 4-1 | ZC102400 | P.C.B. ASSEMBLY | OPERATION | | UC |
| * | 4-1 | ZC102500 | P.C.B. ASSEMBLY | OPERATION | | A |
| | 4-5 | WW983400 | BUTTON | TUNER | | |
| * | 4-6 | ZA567100 | BUTTON CASE | | | |
| | 4-7 | WW981600 | ESCUTCHEON | VOLUME | | |
| | 4-8 | WW981900 | ESCUTCHEON | INPUT | | |
| | 4-9 | WW983100 | BUTTON | SCENE | | |
| | 4-10 | VQ368600 | PUSH RIVET | P3555-B | | |
| | 4-15 | WP242200 | FLEXIBLE FLAT CABLE | 26P 250mm P=1.25 | | |
| * | 4-16 | ZA116700 | FLEXIBLE FLAT CABLE | 6P 200mm P=1.25 | | |
| * | 4-17 | ZA116600 | FLEXIBLE FLAT CABLE | 22P 210mm P=1.0 | | |
| | 4-101 | WE774300 | BIND HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| * | 5 | ZC099900 | P.C.B. ASSEMBLY | DIGITAL | | |

* New Parts

RX-A720

- **AMP UNIT**

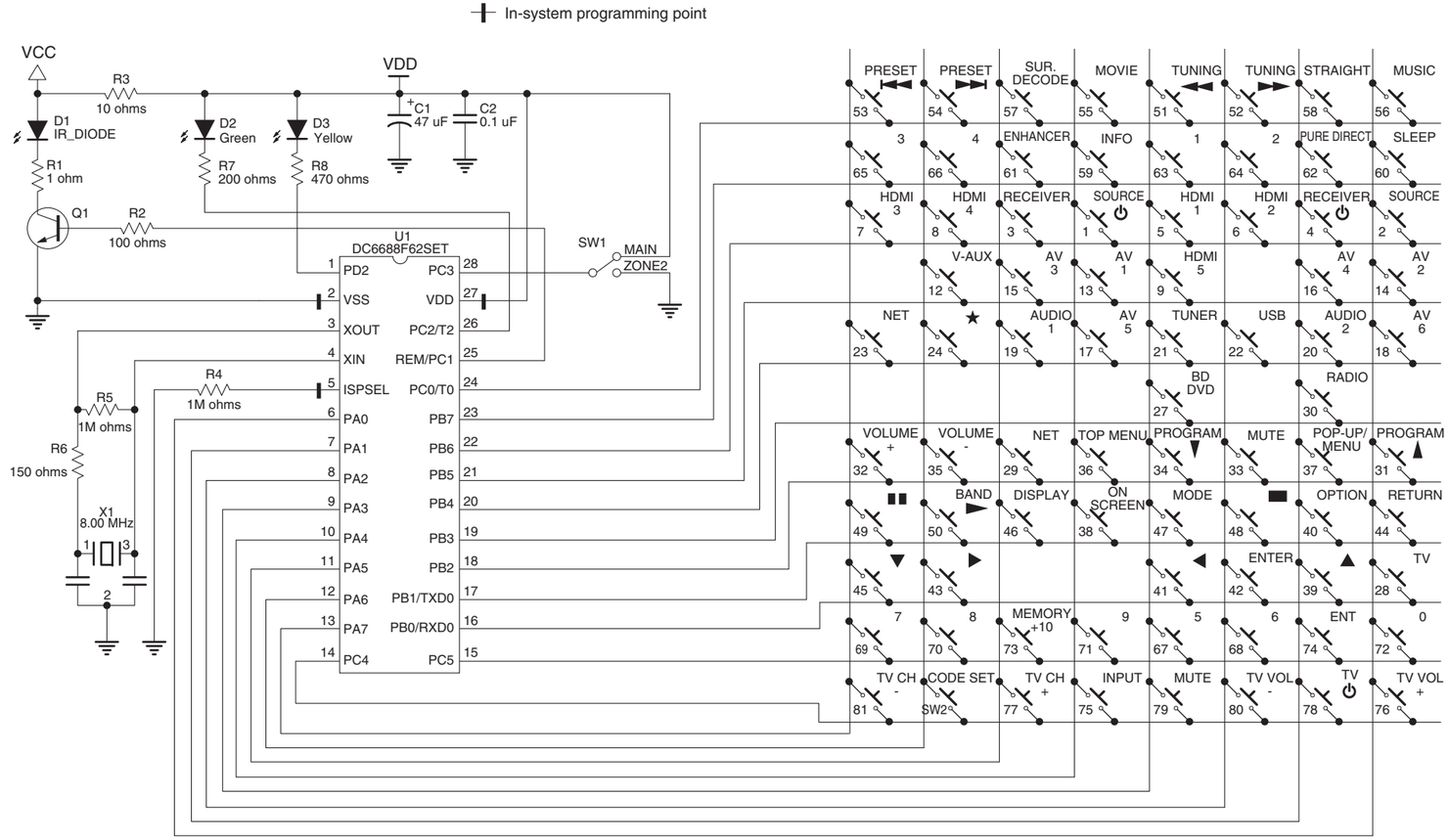



| | Ref No. | Part No. | Description | | Remarks | Markets |
|---|---|---|---|---|---|---|
| * | 2-2 | WZ886500 | P.C.B. ASSEMBLY | MAIN | | |
| * | 2-3 | ZC105400 | P.C.B. ASSEMBLY | VIDEO | | U |
| * | 2-3 | ZC105500 | P.C.B. ASSEMBLY | VIDEO | | C |
| * | 2-3 | ZC105600 | P.C.B. ASSEMBLY | VIDEO | | A |
| | 2-11 | WQ753200 | RADIATION SHEET | 40x23x0.06 MICA | | |
| | 2-20 | WS000800 | SPACER SUPPORT | LCA4-29M PIN | | |
| | 2-103 | WM220800 | HEXAGONAL HEAD B-TIGHT SCREW | 3x15 SP MFZN2W3 | | |
| | 2-104 | WF002600 | PW HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 2-105 | WE774300 | BIND HEAD B-TIGHT SCREW | 3x8 MFZN2W3 | | |
| | 2-106 | VQ368600 | PUSH RIVET | P3555-B | | |
| * | 4-1 | ZC102400 | P.C.B. ASSEMBLY | OPERATION | | UC |
| * | 4-1 | ZC102500 | P.C.B. ASSEMBLY | OPERATION | | A |

* New Parts

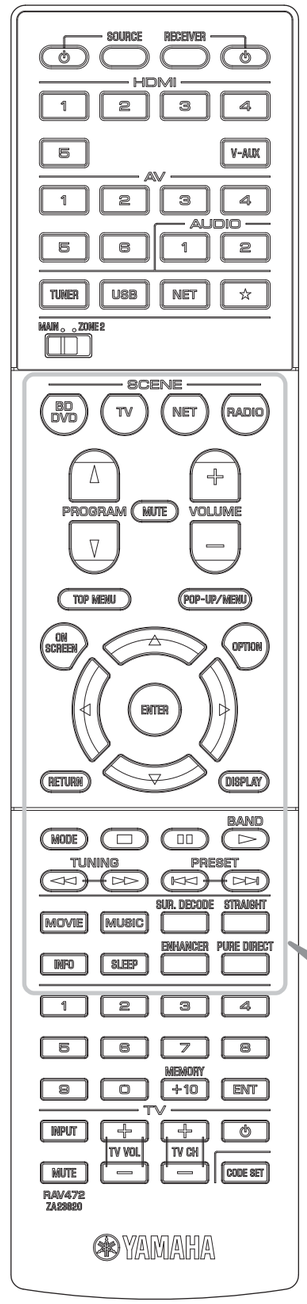
# ■ REMOTE CONTROL

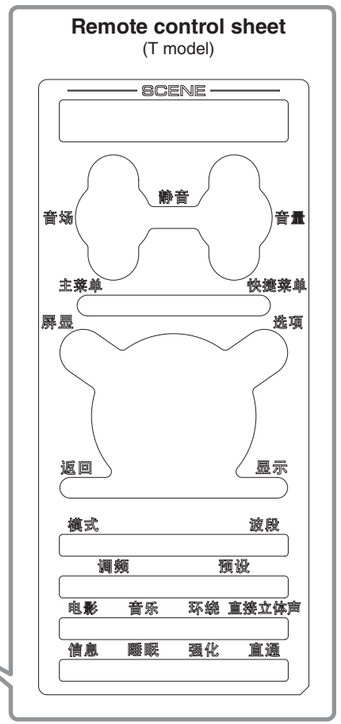
## SCHEMATIC DIAGRAM



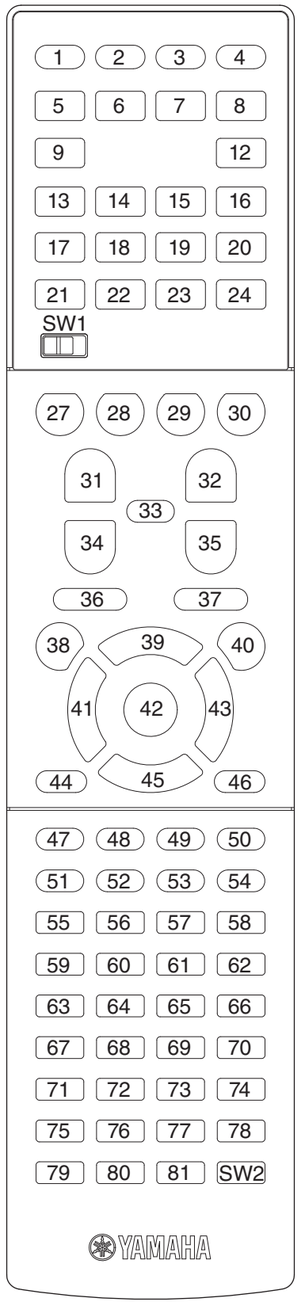

## PANEL

### RAV472



## KEY NO. LAYOUT



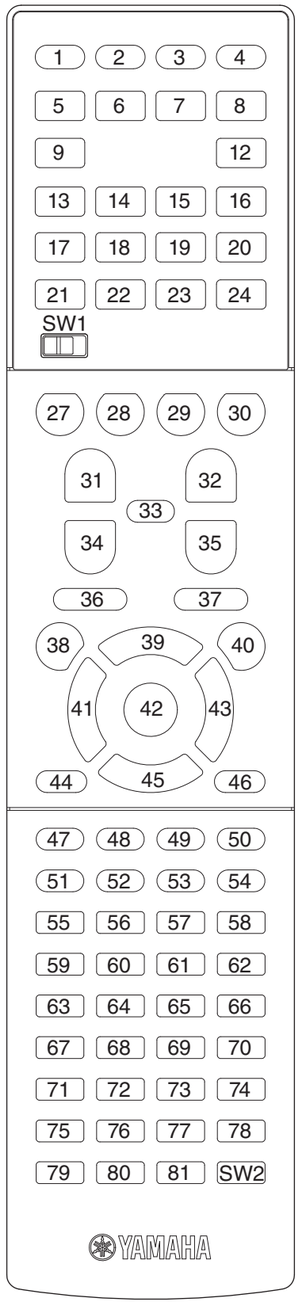

## KEY CODE

### RECEIVER MODE

| | Key No. | FUNCTION (U, C, R, T, K, A, B, G, F, L, S, H models) | FUNCTION Remote control sheet (T model) | ID-1 (5019) MAIN | ID-1 (5019) ZONE2 | ID-2 (5020) MAIN | ID-2 (5020) ZONE2 |
|---|---|---|---|---|---|---|---|
| | SW1 | MAIN/ZONE2 | | [MAIN] | [ZONE2] | [MAIN] | [ZONE2] |
| | SW2 | CODE SET | | [CODE SET] | [CODE SET] | [CODE SET] | [CODE SET] |
| | K2 | SOURCE | | select RCU "mode: SOURCE" | | | |
| | K3 | RECEIVER | | select RCU "mode: RECEIVER" | | | |
| "RECEIVER" (mode fixed) | K4 | RECEIVER ⏻ | | 7E-2A | 7A-453A | 7E-2AD4 | 7A-453B |
| | K5 | HDMI-1 | | 7A-4738 | 7A-4837 | 7A-4739 | 7A-4836 |
| | K6 | HDMI-2 | | 7A-4A35 | 7A-4B34 | 7A-4A34 | 7A-4B35 |
| | K7 | HDMI-3 | | 7A-4D32 | 7A-4E31 | 7A-4D33 | 7A-4E30 |
| | K8 | HDMI-4 | | 7A-502F | 7A-512E | 7A-502E | 7A-512F |
| | K9 | HDMI-5 | | 7A-700F | 7A-710E | 7A-700E | 7A-710F |
| | K12 | V-AUX | | 7A-55 | 7A-D8 | 7A-55AB | 7A-D826 |
| | K13 | AV-1 | | 7A-532C | 7A-542B | 7A-532D | 7A-542A |
| | K14 | AV-2 | | 7A-5629 | 7A-5728 | 7A-5628 | 7A-5729 |
| | K15 | AV-3 | | 7A-5926 | 7A-5A25 | 7A-5927 | 7A-5A24 |
| | K16 | AV-4 | | 7A-5C23 | 7A-5D22 | 7A-5C22 | 7A-5D23 |
| | K17 | AV-5 | | 7A-5F20 | 7A-601F | 7A-5F21 | 7A-601E |
| | K18 | AV-6 | | 7A-621D | 7A-631C | 7A-621C | 7A-631D |
| | K19 | AUDIO-1 | | 7A-651A | 7A-6619 | 7A-651B | 7A-6618 |
| | K20 | AUDIO-2 | | 7A-6817 | 7A-6916 | 7A-6816 | 7A-6917 |
| | K21 | TUNER | | 7A-16 | 7A-D2 | 7A-16E8 | 7A-D22C |
| | K22 | USB | | 7F01-720D | 7F01-730C | 7F01-720C | 7F01-730D |
| | K23 | NET | | 7F01-3F | 7F01-40 | 7F01-3FC1 | 7F01-40BE |
| | K24 | ★ | | 7A-14 | 7A-D0 | 7A-14EA | 7A-D02E |
| | K27 | BD/DVD (SCENE) | | 7A-007F | 7A-017E | 7A-007E | 7A-017F |
| | K28 | TV (SCENE) | | 7A-037C | 7A-047B | 7A-037D | 7A-047A |
| | K29 | NET (SCENE) | | 7A-0679 | 7A-0778 | 7A-0678 | 7A-0779 |
| | K30 | RADIO (SCENE) | | 7A-0976 | 7A-0A75 | 7A-0977 | 7A-0A74 |
| | K31 | PROGRAM ▲ | 音场 | 7A-58 | – | 7A-58A6 | – |
| | K32 | VOLUME ( + ) | 音量 | 7A-1A | 7A-DA | 7A-1AE4 | 7A-DA24 |
| | K33 | MUTE | 静音 | 7A-1C | 7A-DC | 7A-1CE2 | 7A-DC22 |
| | K34 | PROGRAM ▼ | 音场 | 7A-59 | – | 7A-59A7 | – |
| | K35 | VOLUME ( - ) | 音量 | 7A-1B | 7A-DB | 7A-1BE5 | 7A-DB25 |
| | K38 | ON SCREEN | 屏显 | 7A-84 | 7A-3B44 | 7A-847A | 7A-3B45 |
| | K40 | OPTION | 选项 | 7A-6B14 | 7A-6C13 | 7A-6B15 | 7A-6C12 |
| | K55 | MOVIE | 电影 | 7A-88 | – | 7A-8876 | – |
| | K56 | MUSIC | 音乐 | 7A-89 | – | 7A-8977 | – |
| | K57 | SUR. DECODE | 环绕 | 7A-8D | – | 7A-8D73 | – |
| | K58 | STRAIGHT | 直接立体声 | 7A-56 | – | 7A-56A8 | – |
| | K59 | INFO | 信息 | 7A-2758 | 7A-2857 | 7A-2759 | 7A-2856 |
| | K60 | SLEEP | 睡眠 | 7A-30 | 7A-31 | 7A-30CE | 7A-31CF |
| | K61 | ENHANCER | 强化 | 7A-94 | – | 7A-946A | – |
| | K62 | PURE DIRECT | 直通 | 7A-DD | – | 7A-DD23 | – |

| | | |
|---|---|---|
| K41 [ ◀ cursor -LEFT] + K27 [SCENE -BD/DVD] | ID-1 | |
| K41 [◀ cursor -LEFT] + K28 [SCENE -TV] | | ID-2 |

| | | | | |
|---|---|---|---|---|
| K43 [ ▶ cursor -RIGHT] + K27 [SCENE -BD/DVD] | MAIN | | MAIN | |
| K43 [ ▶ cursor -RIGHT] + K28 [SCENE -TV] | | ZONE2 | | ZONE2 |
| K43 [ ▶ cursor -RIGHT] + K29 [SCENE -NET] | | | | |




## SOURCE MODE

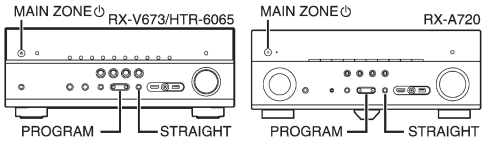
| | Key No. | FUNCTION (U, C, R, T, K, A, B, G, F, L, S, H models) | Remote control sheet (T model) | IR code in "RECEIVER" mode ID-1 MAIN | IR code in "RECEIVER" mode ID-1 ZONE2 | IR code in "RECEIVER" mode ID-2 MAIN | IR code in "RECEIVER" mode ID-2 ZONE2 | IR code in "SOURCE" mode ID-1 / ID-2 MAIN / ZONE2 / ZONE3 | K24 [ ☆ ] | K23 [NET] | K22 [USB] | K21 [TUNER] | K20 [AUDIO-2] | K19 [AUDIO-1] | K18 [AV-6] | K17 [AV-5] | K16 [AV-4] | K15 [AV-3] | K14 [AV-2] | K13 [AV-1] | K12 [V-AUX] | K9 [HDMI-5] | K8 [HDMI-4] | K7 [HDMI-3] | K6 [HDMI-2] | K5 [HDMI-1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| "SOURCE/ RECEIVER" | K1 | SOURCE ⏻ | | 7F01-50 | 7F01-70 | 7F01-50AE | 7F01-708E | * SOURCE * | * RECEIVER * | | | | | | | | | | | | | | | | | |
| | K36 | TOP MENU | 主菜单 | 7A-A0DF | 7A-A1DE | 7A-A0DE | 7A-A1DF | | | | | | | | | | | | | | | | | | | |
| | | | | transmit "RECEIVER" code then switch RCU to "SOURCE" mode | | | | | | | | | | | | | | | | | | | | | | |
| | K37 | POP-UP MENU | | 7A-A4DB | 7A-A5DA | 7A-A4DA | 7A-A5DB | | | | | | | | | | | | | | | | | | | |
| | | | | transmit "RECEIVER" code then switch RCU to "SOURCE" mode | | | | | | | | | | | | | | | | | | | | | | |
| | K39 | ▲ (UP) | | 7A-9D | 7A-2B54 | 7A-9D63 | 7A-2B55 | * SOURCE * | * RECEIVER * | | | | | | | | | | | | | | | | | |
| | K41 | ◀ (LEFT) | | 7A-9F | 7A-2D52 | 7A-9F61 | 7A-2D53 | | | | | | | | | | | | | | | | | | | |
| | K42 | ENTER | | 7A-DE | 7A-2F50 | 7A-DE20 | 7A-2F51 | | | | | | | | | | | | | | | | | | | |
| | K43 | ▶ (RIGHT) | | 7A-9E | 7A-2E51 | 7A-9E60 | 7A-2E50 | | | | | | | | | | | | | | | | | | | |
| | K44 | RETURN | | 7A-AA | 7A-3C43 | 7A-AA54 | 7A-3C42 | | | | | | | | | | | | | | | | | | | |
| | K45 | ▼ (DOWN) | | 7A-9C | 7A-2C53 | 7A-9C62 | 7A-2C52 | | | | | | | | | | | | | | | | | | | |
| | K46 | DISPLAY | | 7F01-60 | 7F01-80 | 7F01-609E | 7F01-807E | | | | | | | | | | | | | | | | | | | |
| | K47 | MODE | 模式 | 7F01-66 | 7F01-86 | 7F01-6698 | 7F01-8678 | * SOURCE * | * RECEIVER * | | | | | | | | | | | | | | | | | |
| | K48 | ■ (STOP) | | 7F01-69 | 7F01-89 | 7F01-6997 | 7F01-8977 | | | | | | | | | | | | | | | | | | | |
| | K49 | ▮▮ (PAUSE) | | 7F01-67 | 7F01-87 | 7F01-6799 | 7F01-8779 | | | | | | | | | | | | | | | | | | | |
| | K50 | BAND ► (PLAY) | 波段 | 7F01-68 | 7F01-88 | 7F01-6896 | 7F01-8876 | | | | | | | | | | | | | | | | | | | |
| | K51 | ◄◄ (REW) / TUNING ( - ) | 调频 | 7F01-6A | 7F01-8A | 7F01-6A94 | 7F01-8A74 | | | | | | | | | | | | | | | | | | | |
| | K52 | ►► (FF) / TUNING ( + ) | | 7F01-6B | 7F01-8B | 7F01-6B95 | 7F01-8B75 | | | | | | | | | | | | | | | | | | | |
| | K53 | ⏮ (SKIP) / PRESET ( - ) | 预设 | 7F01-6C | 7F01-8C | 7F01-6C92 | 7F01-8C72 | | | | | | | | | | | | | | | | | | | |
| | K54 | ⏭ (SKIP) / PRESET ( + ) | | 7F01-6D | 7F01-8D | 7F01-6D93 | 7F01-8D73 | | | | | | | | | | | | | | | | | | | |
| | K63 | 1 | | 7F01-51 | 7F01-71 | 7F01-51AF | 7F01-718F | * SOURCE * | * RECEIVER * | | | | | | | | | | | | | | | | | |
| | K64 | 2 | | 7F01-52 | 7F01-72 | 7F01-52AC | 7F01-728C | | | | | | | | | | | | | | | | | | | |
| | K65 | 3 | | 7F01-53 | 7F01-73 | 7F01-53AD | 7F01-738D | | | | | | | | | | | | | | | | | | | |
| | K66 | 4 | | 7F01-54 | 7F01-74 | 7F01-54AA | 7F01-748A | | | | | | | | | | | | | | | | | | | |
| | K67 | 5 | | 7F01-55 | 7F01-75 | 7F01-55AB | 7F01-758B | | | | | | | | | | | | | | | | | | | |
| | K68 | 6 | | 7F01-56 | 7F01-76 | 7F01-56A8 | 7F01-7688 | | | | | | | | | | | | | | | | | | | |
| | K69 | 7 | | 7F01-57 | 7F01-77 | 7F01-57A9 | 7F01-7789 | | | | | | | | | | | | | | | | | | | |
| | K70 | 8 | | 7F01-58 | 7F01-78 | 7F01-58A6 | 7F01-7886 | | | | | | | | | | | | | | | | | | | |
| | K71 | 9 | | 7F01-59 | 7F01-79 | 7F01-59A7 | 7F01-7987 | | | | | | | | | | | | | | | | | | | |
| | K72 | 0 | | 7F01-5A | 7F01-7A | 7F01-5AA4 | 7F01-7A84 | | | | | | | | | | | | | | | | | | | |
| | K73 | +10 / MEMORY | | 7F01-5B | 7F01-7B | 7F01-5BA5 | 7F01-7B85 | | | | | | | | | | | | | | | | | | | |
| | K74 | ENT | | 7F01-5C | 7F01-7C | 7F01-5CA2 | 7F01-7C82 | | | | | | | | | | | | | | | | | | | |
| "SOURCE" (mode fixed) | K75 | TV -INPUT | | * SOURCE (TV) * | | | | | * TV -INPUT | | | | | | | | | | | | | | | | | |
| | K76 | TV -VOL ( + ) | | | | | | | * TV -VOL ( + ) | | | | | | | | | | | | | | | | | |
| | K77 | TV -CH ( + ) | | | | | | | * TV -CH ( + ) | | | | | | | | | | | | | | | | | |
| | K78 | TV - ⏻ | | | | | | | * TV - ⏻ | | | | | | | | | | | | | | | | | |
| | K79 | TV -MUTE | | | | | | | * TV -MUTE | | | | | | | | | | | | | | | | | |
| | K80 | TV -VOL ( - ) | | | | | | | * TV -VOL ( - ) | | | | | | | | | | | | | | | | | |
| | K81 | TV -CH ( - ) | | | | | | | * TV -CH ( - ) | | | | | | | | | | | | | | | | | |

# ■ ADVANCED SETUP

Configure the system settings of the unit while viewing the front display.

**1 Set the unit to standby mode.**

**2 While holding down STRAIGHT on the front panel, press MAIN ZONE ⏻.**




**3 Press PROGRAM to select an item.**

**4 Press STRAIGHT to select a setting.**

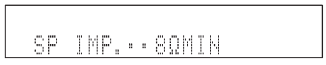
**5 Press MAIN ZONE ⏻ to set the unit to standby mode and turn it on again.**

The new settings take effect.

## ADVANCED SETUP menu items

| Item | Function |
|---|---|
| SP IMP. | Changes the speaker impedance setting. |
| REMOTE ID | Selects the unit's remote control ID. |
| TU<br>(R, T, K, L, S, H models) | Changes the FM/AM tuning frequency setting. |
| TV FORMAT | Switches the video signal type. |
| MON.CHK | Removes the limitation on HDMI video output. |
| INIT | Restores the default settings. |
| UPDATE | Updates the firmware. |
| VERSION | Checks the version of firmware currently installed on the unit. |

## Changing the speaker impedance setting (SP IMP.)




Change the unit's speaker impedance settings depending on the impedance of the speakers connected.

**Settings**

| | |
|---|---|
| 6 Ω MIN | Select this option when you connect 6-ohm speakers to the unit. You can also use 4-ohm speakers as the front speakers. |
| 8 Ω MIN (default) | Select this option when you connect 8-ohm or higher speakers to the unit. |

## Selecting the remote control ID (REMOTE ID)




Change the unit's remote control ID so that it matches the remote control's ID (default: ID1). When using multiple Yamaha AV receivers, you can set each remote control with a unique remote control ID for its corresponding receiver.

**Settings**

ID1 (default), ID2

**■ Changing the remote control ID of the remote control**

Perform each of the following steps within 1 minute. Otherwise, the setting will be automatically canceled.

**1 Press CODE SET on the remote control.**

**2 Press RECEIVER.**

**3 Use the numeric keys to enter "5019" (ID1) or "5020" (ID2).**

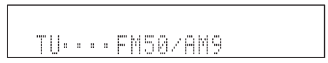
Once the remote control ID is registered successfully, SOURCE blinks twice.

If it blinks six times, registration failed. Repeat from Step 1.

- The registered remote control codes are not cleared even if you change the remote control ID.

## Changing the FM/AM tuning frequency setting (TU)

(R, T, K, L, S, H models)

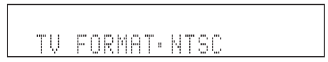



Change the FM/AM tuning frequency setting of the unit depending on your country or region.

**Settings**

| | |
|---|---|
| FM100/AM10 | Select this when you want to adjust the FM frequency by 100-kHz steps and AM by 10-kHz steps. |
| FM50/AM9 (default) | Select this when you want to adjust the FM frequency by 50-kHz steps and AM by 9-kHz steps. |

## Switching the video signal type (TV FORMAT)




Switch the video signal type of the unit so that it matches to the format of your TV.

**Settings**

NTSC, PAL

**Default**

U.S.A., Canada, Korea and General models: NTSC

Other models: PAL

## Removing the limitation on HDMI video output (MON.CHK)




The unit automatically detects resolutions supported by a TV connected to the HDMI OUT jack.

Disable the monitor check function if you want to specify a resolution in "Resolution" when the unit cannot detect the TV's resolution or when you want to specify a different resolution than the detected resolution.

**Settings**

| | |
|---|---|
| YES (default) | Enables the monitor check function. (Outputs video signals with a resolution supported by the TV only.) |
| SKIP | Disables the monitor check function. (Outputs video signals with a specified resolution regardless of compatibility with the TV.) |

- Reset to "YES" if the unit becomes inoperable because video from the unit cannot be displayed on the TV after "MON.CHK" has been set to "SKIP".

## Restoring the default settings (INIT)

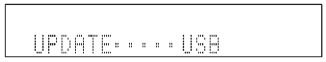



Restores the default settings for the unit.

**Choices**

| | |
|---|---|
| VIDEO | Restores the default settings for video configurations. |
| ALL | Restores the default settings for the unit. |
| CANCEL | Does not perform an initialization. |

## Updating the firmware (UPDATE)




New firmware that provides additional features or product improvements will be released as needed. Updates can be downloaded from our website. If the unit is connected to the Internet, you can download the firmware via the network. For details, refer to the information supplied with updates.

### ■ Firmware update procedure

Do not perform this procedure unless firmware update is necessary. Also, make sure you read the information supplied with updates before updating the firmware.

**1 Press STRAIGHT repeatedly to select "USB" or "NETWORK" and press INFO to start firmware update.**

**Choices**

| | |
|---|---|
| USB | Update the firmware using a USB memory device. |
| NETWORK | Update the firmware via the network. |

- If the unit detects newer firmware over the network, the corresponding message will be displayed after ON SCREEN is pressed. In this case, you can also update the unit's firmware by following the procedure in "Updating the unit's firmware".

## Checking the firmware version (VERSION)




Check the version of firmware currently installed on the unit.

- You can also check the firmware version in "System" in the "Information" menu.

RX-V673/HTR-6065

# FIRMWARE UPDATING PROCEDURE

**IMPORTANT NOTICE**

Do not attempt to update your Yamaha receiver using any other data file except those provided directly from the Yamaha website or through your network connection.
Follow the instructions carefully and do not attempt any other procedures not specified in the instructions provided by Yamaha.
Improperly updated products may cause improper operation, and any parts or service required to restore proper operation will not be covered under the Yamaha Limited Warranty.

## Choose from the following 2 methods to update to the latest firmware.

**Click here for Firmware Update Through the Internet**

(Connection to the Internet is required)

**Click here for Firmware Update by USB**

(A USB thumb drive is required)

**In case of error, see the Troubleshooting section**

RX-V673/HTR-6065

## Firmware Update Through the Internet

**Requirement:** Internet connection

Your receiver is connected to the Internet if you can receive Internet radio stations.
(See owner's manual for details)

### 1 Power off the receiver (Standby mode)

### 2 Enter the ADVANCED SETUP mode

While pressing the **STRAIGHT** key, press the **MAIN ZONE** key and keep **STRAIGHT** key pressed until "ADVANCED SETUP" appears on the front panel display.

* "ADVANCED SETUP" is displayed only for a few seconds.




### 3 Select "FIRM UPDATE" from the menu

a. Press the **PROGRAM** key until "UPDATE····USB" is displayed.

b. Then, press **STRAIGHT** key until "UPDATE·NETWORK" is displayed.




### 4 Start firmware update

a. Press **INFO** key to start the update.

(Update process may take up to 15 minutes)

* If "UPDATE SUCCESS" appears, this means your receiver is already up-to-date. In this case, power off to exit from Advanced Setup. Your AV receiver is ready for normal use.

**Firmware update in progress**




**Caution**

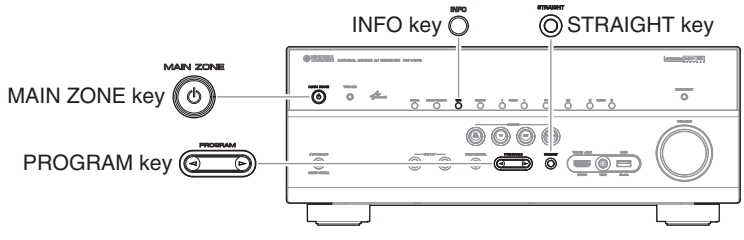
DO NOT interrupt power during the update.

In case the power is accidentally cut off resulting in a condition where you can't recover normal operation, refer to the troubleshooting method (**Troubleshooting CASE 2**) on the last page.

b. When completed, "UPDATE SUCCESS" appears on the display.




c. Turn off the power of the receiver by pressing the **MAIN ZONE** key.



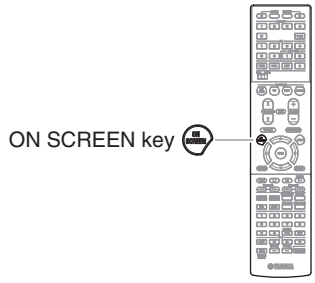
RX-V673/HTR-6065

## 5 Check the updated firmware version

a. Power on the AV receiver and press the **ON SCREEN** key on the remote control.

b. Select “Information” > “System”.

c. Confirm that the firmware version is updated to the latest version.




## Congratulations!

You have completed the firmware update. Your AV receiver is ready for normal use.

RX-V673/HTR-6065

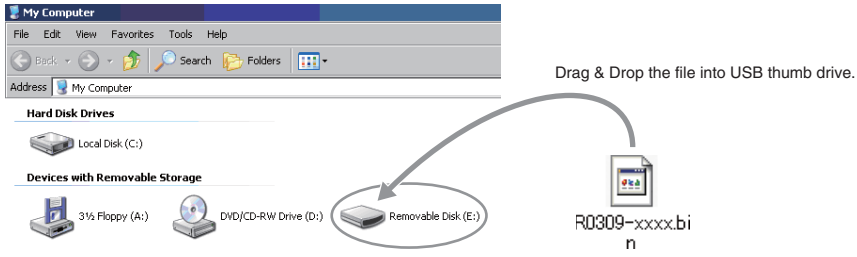
## Firmware Update by USB

**Requirement:** USB thumb drive, with enough free space to store over 25MB.
(File system with FAT16 or FAT32 format)

Firmware file provided by YAMAHA,"R0309-xxxx.bin".

### 1 Prepare USB thumb drive for the update

Download the firmware, unzip and copy "R0309-xxxx.bin" into the root directory of the USB thumb drive.




### 2 Power off the receiver (Standby mode)

### 3 Insert the USB thumb drive

USB port is located at the lower left corner of the front panel.

### 4 Enter the ADVANCED SETUP mode

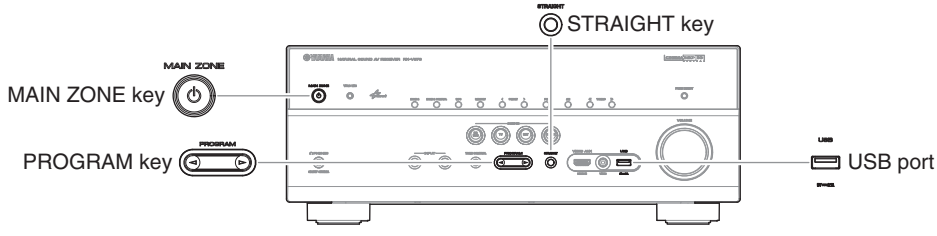
While pressing the **STRAIGHT** key, press the **MAIN ZONE** key and keep **STRAIGHT** key pressed until "ADVANCED SETUP" appears on the front panel display.




### 5 Select firmware update from the menu

Press the **PROGRAM** key until "UPDATE····USB" is displayed.



## 6 Start firmware update

a. Press **INFO** key to start the update.

(Update process may take up to 10 minutes)

* If "UPDATE SUCCESS" appears, this means your receiver is already up-to-date. In this case, power off to exit from Advanced Setup. Your AV receiver is ready for normal use.

**Firmware update in progress**




**Caution**

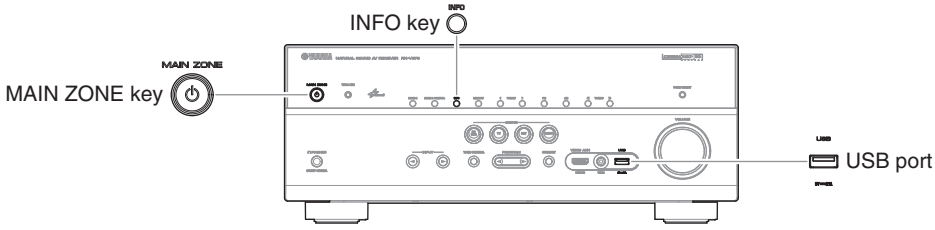
DO NOT interrupt power during the update.

In case the power is accidentally cut off resulting in a condition where you can't recover normal operation, refer to the troubleshooting method (**Troubleshooting CASE 2**) on the last page.

b. When completed, "UPDATE SUCCESS" appears on the display.




c. Turn off the power of the receiver by pressing the **MAIN ZONE** key.

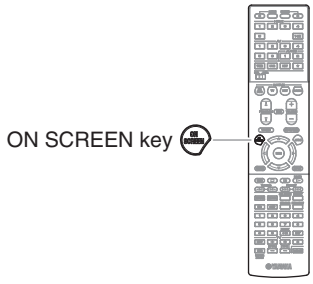



## 7 Check the updated firmware version

a. Power on the AV receiver and press the **ON SCREEN** key on the remote control.

b. Select "Information" > "System".

c. Confirm that the firmware version is updated to the latest version.




## Congratulations!

You have completed the firmware update. Your AV receiver is ready for normal use.

# Troubleshooting

## CASE 1 Error message appeared during the update

**Cause:** For some reason, the receiver can't read the firmware data.

**Method:** For your solution, check the following

**[Update through Internet]**

❏ Check Internet connection.
Your Internet connection is working by playing an Internet radio station.
(See owner's manual for details)

**[Update by USB thumb drive]**

❏ USB thumb drive is connected properly to the receiver.

❏ USB thumb drive is not password protected.
(AV receiver cannot read data from a security protected USB thumb drive)

❏ Make sure the USB thumb drive is inserted before the receiver is powered on for the update.

❏ The firmware data, R0309-xxxx.bin is stored in the root directory of the USB thumb drive.

❏ There is no other data except the firmware data in the USB thumb drive.

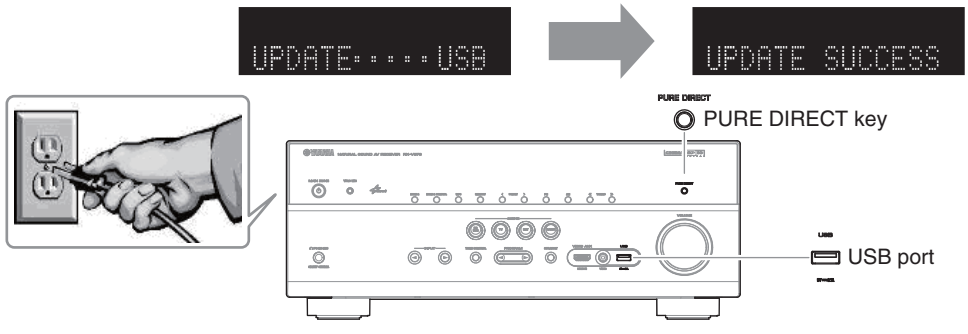
❏ No folders are created in the USB thumb drive.
Else, retry the update by USB using another USB thumb drive.

## CASE 2 Firmware update doesn't start for other reasons

- **Receiver doesn't power up after the update.**
- **Or, error message appeared when confirming the firmware version.**

**Recovery method using USB method:**

1. Unplug the AC power cable from wall outlet.
2. Insert the USB thumb drive which has the firmware data stored inside, into the USB port located on the front panel.
3. Press and hold the **PURE DIRECT** key and keep it pressed while you plug the AC power cable back into the wall outlet again.
"USB UPDATE" will appear on the front display. Then, release the **PURE DIRECT** key.
4. The update will start automatically.
5. When "UPDATE····USB" appears on the display, firmware update is completed.
Power off the receiver and remove the USB thumb drive.
6. Confirm updated firmware version.



RX-A720

# FIRMWARE UPDATING PROCEDURE

**IMPORTANT NOTICE**

Do not attempt to update your Yamaha receiver using any other data file except those provided directly from the Yamaha website or through your network connection.
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Improperly updated products may cause improper operation, and any parts or service required to restore proper operation will not be covered under the Yamaha Limited Warranty.

## Choose from the following 2 methods to update to the latest firmware.

**Click here for Firmware Update Through the Internet**

(Connection to the Internet is required)

**Click here for Firmware Update by USB**

(A USB thumb drive is required)

**In case of error, see the Troubleshooting section**

RX-A720

## Firmware Update Through the Internet

**Requirement:** Internet connection

Your receiver is connected to the Internet if you can receive Internet radio stations.
(See owner's manual for details)

### 1 Power off the receiver (Standby mode)

### 2 Enter the ADVANCED SETUP mode

While pressing the **STRAIGHT** key, press the **MAIN ZONE** key and keep **STRAIGHT** key pressed until "ADVANCED SETUP" appears on the front panel display.

* "ADVANCED SETUP" is displayed only for a few seconds.




### 3 Select "FIRM UPDATE" from the menu

a. Press the **PROGRAM** key until "UPDATE····USB" is displayed.

b. Then, press **STRAIGHT** key until "UPDATE·NETWORK" is displayed.




### 4 Start firmware update

a. Press **INFO** key to start the update.

(Update process may take up to 15 minutes)

* If "UPDATE SUCCESS" appears, this means your receiver is already up-to-date. In this case, power off to exit from Advanced Setup. Your AV receiver is ready for normal use.

**Firmware update in progress**




**Caution**

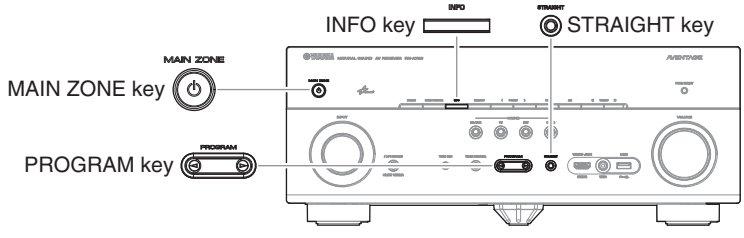
DO NOT interrupt power during the update.

In case the power is accidentally cut off resulting in a condition where you can't recover normal operation, refer to the troubleshooting method (**Troubleshooting CASE 2**) on the last page.

b. When completed, "UPDATE SUCCESS" appears on the display.




c. Turn off the power of the receiver by pressing the **MAIN ZONE** key.



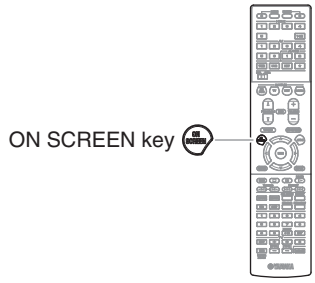
RX-A720

## 5 Check the updated firmware version

a. Power on the AV receiver and press the **ON SCREEN** key on the remote control.

b. Select “Information” > “System”.

c. Confirm that the firmware version is updated to the latest version.




## Congratulations!

You have completed the firmware update. Your AV receiver is ready for normal use.

RX-A720

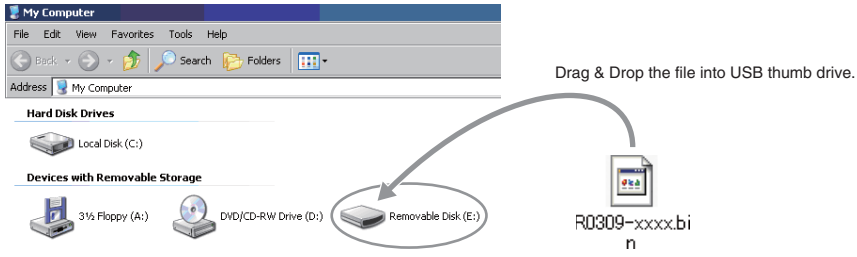
## Firmware Update by USB

**Requirement:** USB thumb drive, with enough free space to store over 25MB.
(File system with FAT16 or FAT32 format)

Firmware file provided by YAMAHA,"R0309-xxxx.bin".

### 1 Prepare USB thumb drive for the update

Download the firmware, unzip and copy "R0309-xxxx.bin" into the root directory of the USB thumb drive.




### 2 Power off the receiver (Standby mode)

### 3 Insert the USB thumb drive

USB port is located at the lower left corner of the front panel.

### 4 Enter the ADVANCED SETUP mode

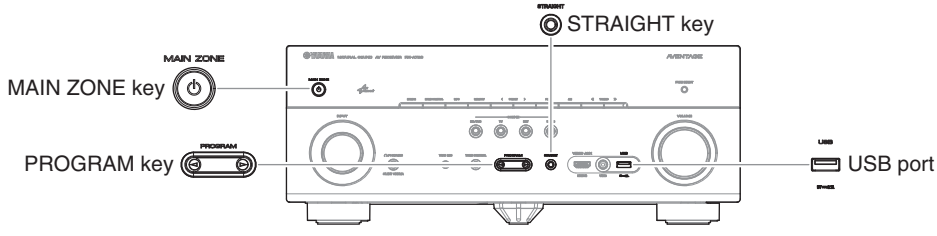
While pressing the **STRAIGHT** key, press the **MAIN ZONE** key and keep **STRAIGHT** key pressed until "ADVANCED SETUP" appears on the front panel display.




### 5 Select firmware update from the menu

Press the **PROGRAM** key until "UPDATE····USB" is displayed.



RX-A720

## 6 Start firmware update

a. Press **INFO** key to start the update.

(Update process may take up to 10 minutes)

* If "UPDATE SUCCESS" appears, this means your receiver is already up-to-date. In this case, power off to exit from Advanced Setup. Your AV receiver is ready for normal use.

**Firmware update in progress**




**Caution**

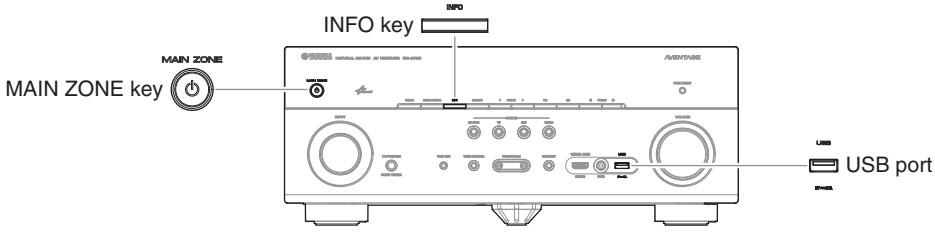
DO NOT interrupt power during the update.

In case the power is accidentally cut off resulting in a condition where you can't recover normal operation, refer to the troubleshooting method (**Troubleshooting CASE 2**) on the last page.

b. When completed, "UPDATE SUCCESS" appears on the display.




c. Turn off the power of the receiver by pressing the **MAIN ZONE** key.

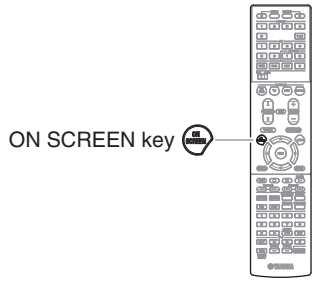



## 7 Check the updated firmware version

a. Power on the AV receiver and press the **ON SCREEN** key on the remote control.

b. Select "Information" > "System".

c. Confirm that the firmware version is updated to the latest version.




## Congratulations!

You have completed the firmware update. Your AV receiver is ready for normal use.

RX-A720

# Troubleshooting

## CASE 1 Error message appeared during the update

**Cause:** For some reason, the receiver can't read the firmware data.

**Method:** For your solution, check the following

**[Update through Internet]**

❏ Check Internet connection.
Your Internet connection is working by playing an Internet radio station.
(See owner's manual for details)

**[Update by USB thumb drive]**

❏ USB thumb drive is connected properly to the receiver.

❏ USB thumb drive is not password protected.
(AV receiver cannot read data from a security protected USB thumb drive)

❏ Make sure the USB thumb drive is inserted before the receiver is powered on for the update.

❏ The firmware data, R0309-xxxx.bin is stored in the root directory of the USB thumb drive.

❏ There is no other data except the firmware data in the USB thumb drive.

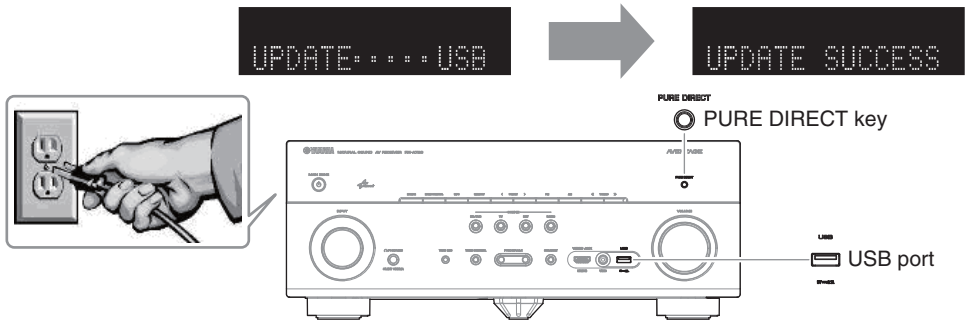
❏ No folders are created in the USB thumb drive.
Else, retry the update by USB using another USB thumb drive.

## CASE 2 Firmware update doesn't start for other reasons

- **Receiver doesn't power up after the update.**
- **Or, error message appeared when confirming the firmware version.**

**Recovery method using USB method:**

1. Unplug the AC power cable from wall outlet.
2. Insert the USB thumb drive which has the firmware data stored inside, into the USB port located on the front panel.
3. Press and hold the **PURE DIRECT** key and keep it pressed while you plug the AC power cable back into the wall outlet again.
"USB UPDATE" will appear on the front display. Then, release the **PURE DIRECT** key.
4. The update will start automatically.
5. When "UPDATE▫▫▫▫USB" appears on the display, firmware update is completed.
Power off the receiver and remove the USB thumb drive.
6. Confirm updated firmware version.



# MEMO

# RX-V673/HTR-6065/
# RX-A720

YAMAHA