TUNER/SURROUND PROCESSOR
C-G7/G72
SERVICE MANUAL

Illustration is C-G7.

KENWOOD Badge
(B43-0301-04)
Panel *
(A60-)
Front glass *
(B10-)
Knob (TUNING)
(K29-6111-24)

Knob (MIC MIXING)
(K29-5839-14)
Miniature phone jack
(E11-0262-05)
Knob *
(K29-)

Illustration is C-G7/G72.

Phono jack (6P) *
(E63-)
Lock terminal board *
(ANTENNA)
(E20-)
Slide switch
(S62-0034-05)

Phono jack (4P) *
(E63-)
Rectangular receptacle
(E58-0014-05)
Rectangular receptacle
(to A-G7)
(E58-0006-05)

PRECAUTIONS FOR REPAIR
C-G7/G72 do not have a power supply transformer. Use A-G7
or PS-94UA power supply to supply power.

* Refer to parts list on page 26.
REMOTE CONTROL

**External View/Remote Control**

- **KENWOOD Badge**
  - (B43-0301-04)

- **Panel**
  - *(A60-*)

- **Front glass**
  - *(B10-*)

- **Knob (TUNING)**
  - *(K29-6111-24*)

- **Knob (MIC MIXING)**
  - *(K29-5839-14*)

- **Miniature phone jack**
  - *(E11-0262-05*)

- **Knob**
  - *(K29*)

*Refer to parts list on page 26.*

**Remote Control**

- **Model: RC-G6**
- **Infrared ray system**

**Tuner operation keys**
- BAND key, P.CALL keys

**CD player operation keys**
- TIME: Press to switch the time display mode.
- EDIT MODE: Press to select the edit recording mode.
- P.MODE: Press for program playback.
- CLEAR: Press to clear the contents of a program.
- CHECK: Press to display the programmed contents in order.
- SPACE: Press to leave non-recorded spaces of a few seconds between the programmed tracks.
- RANDOM: Press to start random playback.
- REPEAT: Press to start repeated playback.

**Power key**

**Sleep key**

**CD player basic operation keys**
- 1- and - keys, -- and -= keys, >/ key, 4 key
- DISC SKIP: Press to choose a disc.

**Numeric keys (1-9, +10)**
- Function as the numeric keys of the CD player when the CD input is selected.
- Function as the numeric keys of the tuner when the TUNER input is selected.

**Timer operation keys**
- PROGRAM key, ADJUST key, EXE. key, ENTER key

**Mute key**
- Press to mute the sound temporarily.

**Volume Control keys**
- Press to adjust the volume.

**Input key**
- Press to select the component to be played.
CIRCUIT DESCRIPTION

For Pre Tuner µ-com CXP82440A-XXXX, Initial status and Back-up, refer to the Service Manual of C-F5

1. Test mode
1-1. Initial setting
  • When AC power cord is plugged while pressing the AUTO/MANUAL key, equipment is initialized.

1-2. Test mode with the main unit keys
(1) Setting procedure
   While pressing the BAND key, plug the AC power cord to the power outlet.

(2) Cancellation
   Unplug the AC power cord. The initial setting will take effect and the test mode will be canceled.

(3) Description
   1. AUTO POWER ON
      • When AC power cord is plugged while pressing the BAND key, the POWER will turn ON and all function will be at the initial setting. (Input selector=TUNER)
   2. ALL LED ON mode
      • When the AC power cord is plugged while pressing the BAND key, all the LEDs will turn ON.
      • When some main unit key is pressed, ALL LED ON mode will be canceled all function will return the LEDs to normal.

2. Others
   • The operation of main unit keys and remote controller during the test mode, refer to the table.
   • The MUTE function does not work during the test mode. (When POWER ON, MUTE is effective.)
   • Test mode is not canceled when the input selector is moved TUNER to another source.

<table>
<thead>
<tr>
<th>Key</th>
<th>Selector: TUNER</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO</td>
<td>Normal operation</td>
<td>REAR LEVEL Normal operation (KEY CON. OFF)</td>
</tr>
<tr>
<td>BAND</td>
<td>Normal operation</td>
<td>CENTER LEVEL Normal operation (KEY CON. DOWM)</td>
</tr>
<tr>
<td>KEY CON ON</td>
<td>Inhibit</td>
<td>KEY CON. ON</td>
</tr>
<tr>
<td>PRESENCE</td>
<td>Normal operation</td>
<td>KEY CON. OFF</td>
</tr>
<tr>
<td>DOLBY PRO LOG</td>
<td>Normal operation</td>
<td></td>
</tr>
<tr>
<td>DOLBY 3 STEREO</td>
<td>Normal operation</td>
<td></td>
</tr>
<tr>
<td>OFF</td>
<td>Normal operation</td>
<td></td>
</tr>
<tr>
<td>DEMO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUNING UP/DOWN</td>
<td>Normal operation</td>
<td>Inhibit</td>
</tr>
<tr>
<td>DIGITAL ECHO</td>
<td>Normal operation</td>
<td></td>
</tr>
<tr>
<td>PRESET EQ</td>
<td>P.CALL UP</td>
<td>Normal operation</td>
</tr>
<tr>
<td>DISPLAY</td>
<td>ALL LEDS ON</td>
<td>OFF</td>
</tr>
</tbody>
</table>

2. Microprocessor : CXP82440A-116 Q (C-G7) : CXP82440A-131 Q (C-G72)

2-1. Block diagram

CXP82440A-XXXX PRE TUNER µ-COM
### C-G7/G72

## CIRCUIT DESCRIPTION

### 2-3. Pin description

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>I/O</th>
<th>Description</th>
<th>No.</th>
<th>Name</th>
<th>I/O</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>CK</td>
<td>I</td>
<td>LC6543H-4600 CLOCK</td>
<td>50</td>
<td>P17</td>
<td>O</td>
<td>FL SEGMENT (P17)</td>
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<tr>
<td>2</td>
<td>DT</td>
<td>I</td>
<td>LC6543H-4600 DATA</td>
<td>51</td>
<td>P18</td>
<td>O</td>
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<tr>
<td>3</td>
<td>ENCA</td>
<td>I</td>
<td>ROTARY ENCODER A SIGNAL</td>
<td>52</td>
<td>P19</td>
<td>O</td>
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<tr>
<td>4</td>
<td>ENCB</td>
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<td>ROTARY ENCODER B SIGNAL</td>
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<td>P20</td>
<td>O</td>
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<tr>
<td>5-6</td>
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<td>I</td>
<td>NOT USED</td>
<td>54</td>
<td>P21</td>
<td>O</td>
<td>FL SEGMENT (P21)</td>
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<tr>
<td>7</td>
<td>NC</td>
<td>I</td>
<td>16K ADJUST MODE</td>
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<td>O</td>
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<td>8</td>
<td>S.DATA</td>
<td>I/O</td>
<td>SERIAL DATA</td>
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<td>9</td>
<td>S.BUSY</td>
<td>I/O</td>
<td>SERIAL BUSY</td>
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<td>10</td>
<td>K CON, DT</td>
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<td>KEY CON. DATA</td>
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<td>P25</td>
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<td>11</td>
<td>V.MUTE</td>
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<td>VIDEO MUTE (H:MUTE OFF, L:MUTE ON)</td>
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<td>P26</td>
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<td>T.MUTE</td>
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<td>TUNER MUTE (H:MUTE OFF, L:MUTE ON)</td>
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<tr>
<td>13</td>
<td>K CON, CK</td>
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<td>KEY CON. CLOCK</td>
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<td>P2</td>
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<td>KR 3</td>
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<td>KEY RETURN 3</td>
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<td>17</td>
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<td>18</td>
<td>KR 1</td>
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<td>69</td>
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<td>I</td>
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<td>20</td>
<td>ST</td>
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<td>STEREO / MONORAL (H:MONORAL, L:STEREO)</td>
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<td>P6/DS 0</td>
<td>O</td>
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<td>21</td>
<td>SD</td>
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<td>SD SIGNAL (H:NO TUNED, L:TUNED)</td>
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<td>P9</td>
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<td>22</td>
<td>PLLDO</td>
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<td>LC7218 DO</td>
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<td>LC7218 DATA</td>
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<tr>
<td>26</td>
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<td>NJU7311/ NJU7313 DATA</td>
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<td>NJU7311/ NJU7313 CLOCK</td>
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<td>LA1011N / LA2785 DATA</td>
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<td>O</td>
<td>FL GRID (8G)</td>
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<td>LA1011N / LA2785 CLOCK</td>
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<td>7G</td>
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<td>31</td>
<td>S/RST</td>
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<td>LA1011N / LA2785 STROBE</td>
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<td>6G</td>
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<td>FL GRID (6G)</td>
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<tr>
<td>32</td>
<td>A/V</td>
<td>I</td>
<td>SPE-ANA INPUT 63Hz</td>
<td>83</td>
<td>5G</td>
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<td>33</td>
<td>A/D</td>
<td>I</td>
<td>SPE-ANA INPUT 400Hz</td>
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<td>FL GRID (4G)</td>
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<td>34</td>
<td>A/D</td>
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<td>SPE-ANA INPUT 2.5kHz</td>
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<td>3G</td>
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<td>FL GRID (3G)</td>
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<td>35</td>
<td>A/D</td>
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<td>SPE-ANA INPUT 16kHz</td>
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<td>2G</td>
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<td>36</td>
<td>NC</td>
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<td>87</td>
<td>1G</td>
<td>O</td>
<td>FL GRID (1G)</td>
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<tr>
<td>37</td>
<td>CE</td>
<td>I</td>
<td>µ-COM CHIP ENABLE (H:ENABLE, L:DISABLE)</td>
<td>88</td>
<td>Vdp</td>
<td>-30V (µ-COM POWER SUPPLY)</td>
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<td>38</td>
<td>RESET</td>
<td>I</td>
<td>RESET (µ-COM HARD RESET)</td>
<td>89</td>
<td>Vdd</td>
<td>+5V (µ-COM POWER SUPPLY)</td>
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<td>39</td>
<td>EXTL</td>
<td>I</td>
<td>8MHz CERAMICS</td>
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<td>XTL</td>
<td>O</td>
<td>8MHz CERAMICS</td>
<td>91</td>
<td>Vss</td>
<td>GND (µ-COM POWER SUPPLY)</td>
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<tr>
<td>41</td>
<td>Vss</td>
<td></td>
<td>GND (µ-COM POWER SUPPLY)</td>
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<td>TYPE SEL</td>
<td>MODEL DETECTION (NORMAL : HI)</td>
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<tr>
<td>42</td>
<td>TX</td>
<td>O</td>
<td>32.768kHz CRYSTAL</td>
<td>93</td>
<td>RES SEL</td>
<td>18kHz RESONANCE (H: NORMAL, L: 16 kHz RESONANCE)</td>
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<td>43</td>
<td>TEX</td>
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<td>32.768kHz CRYSTAL</td>
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<td>NOT USED</td>
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<td>44</td>
<td>NC</td>
<td>I</td>
<td>NOT USED</td>
<td>96</td>
<td>POWER</td>
<td>O POWER (H:POWER ON, L:POWER OFF)</td>
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<tr>
<td>45</td>
<td>K CON ON/OFF</td>
<td>I</td>
<td>KEY CON. ON/OFF</td>
<td>97</td>
<td>DS1</td>
<td>O DIODE SWITCH 1</td>
<td></td>
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<tr>
<td>46</td>
<td>AVref</td>
<td>+5V (A/D REFERENCE VOLTAGE)</td>
<td>98</td>
<td>VIDEOSW</td>
<td>O VIDEOSW (H:VIDEO2, L:VIDEO1)</td>
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<td></td>
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<tr>
<td>47</td>
<td>AVs</td>
<td>GND (A/D REFERENCE VOLTAGE)</td>
<td>99</td>
<td>HIT M ON/OFF</td>
<td>O HIT MASTER ON/OFF</td>
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<td>48</td>
<td>P15</td>
<td>O</td>
<td>FL SEGMENT (P15)</td>
<td>100</td>
<td>START</td>
<td>O LC6543H-4600 START</td>
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<td>49</td>
<td>P16</td>
<td>O</td>
<td>FL SEGMENT (P16)</td>
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### ADJUSTMENT

**X05-4532-7X (E,T type)**

<table>
<thead>
<tr>
<th>No.</th>
<th>ITEM</th>
<th>INPUT SETTINGS</th>
<th>OUTPUT SETTINGS</th>
<th>TUNER SETTING</th>
<th>ALIGNMENT POINTS</th>
<th>ALIGN FOR</th>
<th>FIG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DISCRIMINATOR</td>
<td>(A) 98.0MHz 1kHz, ±40kHz dev</td>
<td>Connect a DC voltmeter</td>
<td>AUTO or MONO</td>
<td>L3</td>
<td>0V</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>60dB (ANT input)</td>
<td>between TP3 and TP4,</td>
<td>98.0MHz</td>
<td>(X05-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(X05-)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>DISTORTION (STEREO)</td>
<td>(C) 98.0MHz 1kHz, ±40kHz dev</td>
<td>(B) Lch-out : W35</td>
<td>AUTO 98.0MHz</td>
<td>IFT</td>
<td>Minimum distortion.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Pilot : ±6kHz dev. 60dB (ANT input)</td>
<td>Rich-out : W40</td>
<td></td>
<td>(W02-)</td>
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**X05-446XX-XX (Other countries)**

<table>
<thead>
<tr>
<th>No.</th>
<th>ITEM</th>
<th>INPUT SETTINGS</th>
<th>OUTPUT SETTINGS</th>
<th>TUNER SETTING</th>
<th>ALIGNMENT POINTS</th>
<th>ALIGN FOR</th>
<th>FIG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DISTORTION (STEREO)</td>
<td>(C) 98.0MHz 1kHz, ±67.5kHz dev</td>
<td>(B) Lch-out : W41</td>
<td>AUTO 98.0MHz</td>
<td>IFT</td>
<td>Minimum distortion.</td>
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<td></td>
<td>Selector : L or R</td>
<td>Rich-out : W40</td>
<td></td>
<td>(W02-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>60dB (ANT input)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
PC BOARD (Component side view)

TUNER UNIT (X05-4460-71 : X / 0-21 : M, Y, C)

ANTENNA
GND

AM

FM75Ω

DE-EMPHASIS

Refer to the schematic diagram for the values of resistors and capacitors.
TUNER UNIT (X05-4532-72 : E / 2-73 : T)

ANTENNA
GND
AM ANT
FM 75Ω

DC voltmeter
(a) Detector: 0V
CAUTION: For continued protection against electric shock, leakage current shall be carried out (exposed from the supply circuit) before delivery.

The DC voltage is an actual impedance type voltmeter measurement value may vary depending on the instruments used or on the place of measurement.

- 2SC1845
- 2SC3940A
- 2SD683
- 2SC1740S
- 2SB1370
- 2SD2061
- NJM2120D
- NJM4565D
- NJM4565D-D

L6 | Q6 | Q10 | R59, 60 | W107, 113, 204
---|----|-----|---------|------------
X | X | X | X | X
Y | Y | Y | Y | Y

C-G7/G72(1/3)

Y08-4532-70
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). A indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

C-G7/G72
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). A indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

XR-1091ECP
SAA6579
M5223P
XRA15218-DX
LA2785L
LA1836
M65840SP
TC9162N
TC9164N
NJU7311AL
NJU7313AL

Y08-4532-70

KENWOOD
CAUTION: For continued safety, replace components only with manufacturer's specified parts. Indicates safety-critical function. For continued protection against risk of electric shock, leakage-current or resin shall be carried out (exposed parts are from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading of impedance type voltmeter with no measurement value may vary depending on instruments used or on the product.
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.
FM tuner section
Tuning frequency range ......................... 87.5 MHz – 108 MHz
Sensitivity (IHF) .................................. 13.2 dB (1.2 μV at 75 Ω)
Signal to noise ratio (at 1 kHz)
  MONO ........................................... 75 dB (65 dB input)
  STEREO ....................................... 68 dB (65 dB input)
Selectivity (IHF ± 400 kHz) ....................... 50 dB
Stereo separation (IHF at 1 kHz) ................... 40 dB
Frequency response ......................... 30 Hz – 15 kHz, ±0.5 dB, -3 dB

AM tuner section
Tuning frequency range
  9 kHz step .................................... 531 kHz – 1.602 kHz
  10 kHz step .................................. 530 kHz – 1.610 kHz
Usable sensitivity .............................. 12 μV / (500 μV / m)
Signal to noise ratio ............................ 48 dB

General
Dimensions .....................................
  W : 270 mm (10 -5/8")
  H : 104 mm (4 -1/8")
  D : 334 mm (13 -1/8")
Weight (Net) .................................. 2.0 kg (4.4 lb)

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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