

KENWOOD

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TK-5710(B) TK-5710H(B)

SERVICE MANUAL REVISED

KENWOOD

Kenwood Corporation

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B51-8727-10 (S) 600

TK-5710(B) with KCH-14

This service manual applies to products (HARDWARE VER 2.0) with 80600001 or subsequent serial numbers.
Use this service manual together with the KCH-14/15 service manual.



TK-5710H(B)



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This product uses Lead Free solder.

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GENERAL

INTRODUCTION

SCOPE OF THIS MANUAL

This manual is intended for use by experienced technicians familiar with similar types of commercial grade communications equipment. It contains all required service information for the equipment and is current as of this publication date. Changes which may occur after publication are covered by either Service Bulletins or Manual Revisions, which are issued as required.

ORDERING REPLACEMENT PARTS

When ordering replacement parts or equipment information, the full part identification number should be included. This applies to all parts : components, kits, and chassis. If the part number is not known, include the chassis or kit number of which it is a part and a sufficient description of the required component, for proper identification.

PERSONAL SAFETY

The following precautions are recommended for personal safety :

- DO NOT transmit if someone is within two feet (0.6 meter) of the antenna.
- DO NOT transmit until all RF connectors are secure and any open connectors are properly terminated.
- SHUT OFF this equipment when near electrical blasting caps or while in an explosive atmosphere.
- All equipment should be properly grounded before power-up for safe operation.
- This equipment should be serviced by only qualified technicians.

PRE-INSTALLATION CONSIDERATIONS

1. UNPACKING

Unpack the radio from its shipping container and check for accessory items. If any item is missing, please contact KENWOOD immediately.

2. LICENSING REQUIREMENTS

Federal regulations require a station license for each radio installation (mobile or base) be obtained by the equipment owner. The licensee is responsible for ensuring transmitter power, frequency, and deviation are within the limits permitted by the station license.

Transmitter adjustments may be performed only by a licensed technician holding an FCC first, second or general class commercial radiotelephone operator's license. There is no license required to install or operate the radio.

3. PRE-INSTALLATION CHECKOUT

3-1. Introduction

Each radio is adjusted and tested before shipment. However, it is recommended that receiver and transmitter operation be checked for proper operation before installation.

3-2. Testing

The radio should be tested complete with all cabling and accessories as they will be connected in the final installation. Transmitter frequency, deviation, and power output should be checked, as should receiver sensitivity, squelch operation, and audio output. Signaling equipment operation should be verified.

4. PLANNING THE INSTALLATION

4-1. General

Inspect the vehicle and determine how and where the radio antenna and accessories will be mounted.

Plan cable runs for protection against pinching or crushing wiring, and radio installation to prevent overheating.

4-2. Antenna

The favored location for an antenna is in the center of a large, flat conductive area, usually at the roof center. The trunk lid is preferred, bond the trunk lid and vehicle chassis using ground straps to ensure the lid is at chassis ground.

Service Manual List

| Title | Parts number | Remarks | Market code | Control unit number | Hardware version |
|-------------------------|--------------------------------------|---------|-------------|----------------------------|--------------------------|
| TK-5710(B)/ 5710H(B) | B51-8727-00 | | K | X53-4120-10 J72-0942-29 | 1.0 |
| TK-5710(B)/ 5710H(B) | B51-8727-10 (This service manual) | REVISED | K | X53-4120-10 J72-0942-49 | 2.0 (S/No.80600001 ~) |

GENERAL

4-3. Radio

The universal mount bracket allows the radio to be mounted in a variety of ways. Be sure the mounting surface is adequate to support the radio's weight. Allow sufficient space around the radio for air cooling. Position the radio close enough to the vehicle operator to permit easy access to the controls when driving.

4-4. DC Power and wiring

1. This radio may be installed in negative ground electrical systems only. Reverse polarity will cause the cable fuse to blow. Check the vehicle ground polarity before installation to prevent wasted time and effort.
2. Connect the positive power lead directly to the vehicle battery positive terminal. Connecting the Positive lead to any other positive voltage source in the vehicle is not recommended.
3. Connect the ground lead directly to the battery negative terminal.
4. The cable provided with the radio is sufficient to handle the maximum radio current demand. If the cable must be extended, be sure the additional wire is sufficient for the current to be carried and length of the added lead.

5. INSTALLATION PLANNING – CONTROL STATIONS

5-1. Antenna system

Control station. The antenna system selection depends on many factors and is beyond the scope of this manual. Your KENWOOD dealer can help you select an antenna system that will best serve your particular needs.

5-2. Radio location

Select a convenient location for your control station radio which is as close as practical to the antenna cable entry point. Secondly, use your system's power supply (which supplies the voltage and current required for your system). Make sure sufficient air can flow around the radio and power supply to allow adequate cooling.

SERVICE

This radio is designed for easy servicing. Refer to the schematic diagrams, printed circuit board views, and alignment procedures contained in this manual.

NOTE

You must use KPG-95D version 4.00 or later for transceivers with hardware version 2.0; KPG-95D versions 1.XX to 3.XX will not work properly.

The compatibility of the transceiver hardware/ firmware version and the FPU version is shown in the following table.

| FPU Version | Hardware Version 1.0 Firmware Version = V1.00~V2.99 | Hardware Version 2.0 Firmware Version = F3.00~ |
|-------------|-----------------------------------------------------------|------------------------------------------------------|
| V1.00~V1.01 | No | No |
| V2.00~ | Yes | Yes*1 |
| V3.00~ | Yes | Yes*1 |
| V4.00~ | Yes | Yes |

Yes : Read/Write is possible

No : Read/Write is not possible

*1 : Functions added after the applicable FPU version will not correspond to that FPU version.

Hardware Version 2.0 transceiver

Transceivers with the following features are Hardware Version 2.0 transceivers.

- "HARDWARE Ver 2.0" is stated on the model name plate of the transceiver.
- When you turn the transceiver power ON, "SELF TESTING" appears on the LCD.
- The transceiver firmware version is F3.00 or later.

TK-5710(B)/5710H(B)

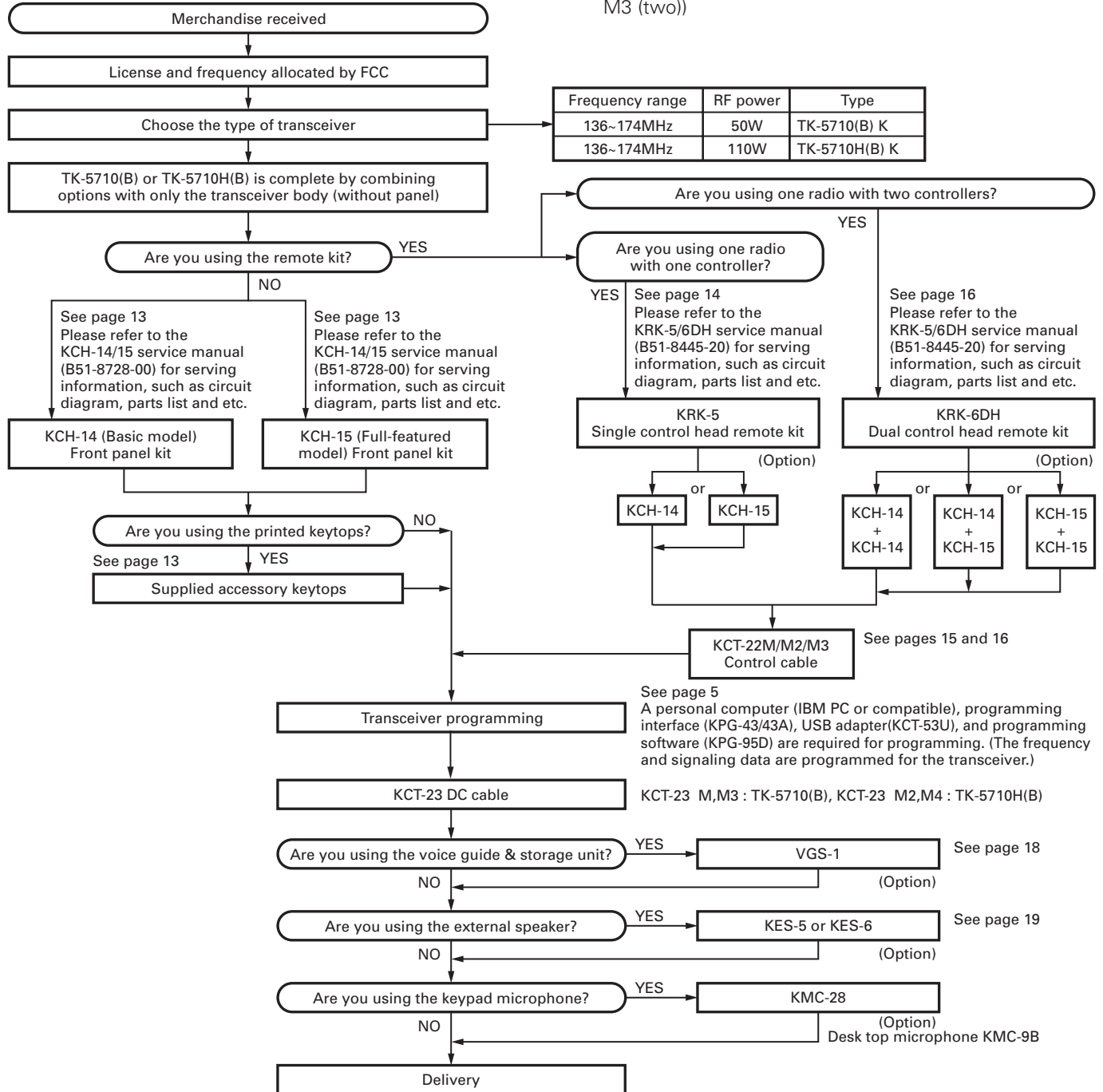
SYSTEM SET-UP

Before Reading About System Set-up

The TK-5710(B)/5710H(B) is a transceiver main unit (without a panel or speaker) that you complete by adding options.

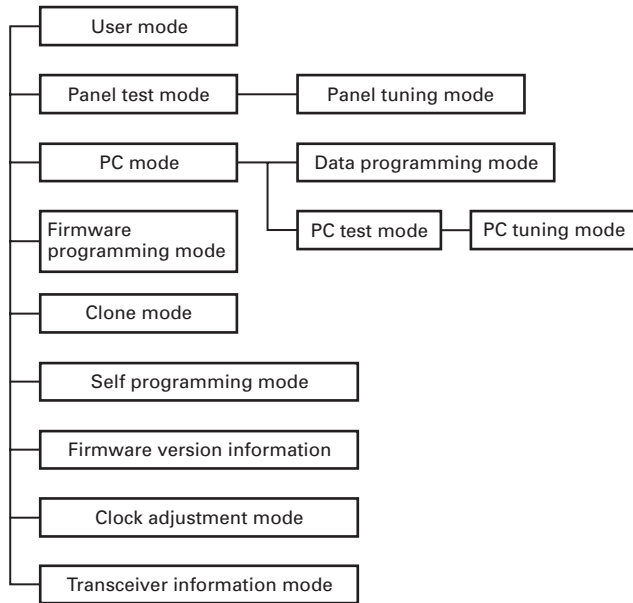
The options are classified into three types according to operation and function.

1. Install the front panel kit (controller) directly on a radio to operate it. (Form : Radio + KCH-14/15)
2. Remotely control one radio with one controller. (Form : Radio + KRK-5 + KCH-14/15 + KCT-22M/M2/M3)
3. Remotely control one radio with two controllers. (Form : Radio + KRK-6DH + KCH-14/15 (two) + KCT-22M/M2/M3 (two))



REALIGNMENT

1. Modes



| Mode | Function |
|------------------------------|----------------------------------------------------------------------------------------------------|
| User mode | For normal use. |
| Panel test mode | Used by the dealer to check the fundamental characteristics. |
| Panel tuning mode | Used by the dealer to tune the transceiver. |
| PC mode | Used for communication between the transceiver and PC (IBM compatible). |
| Data programming mode | Used to read and write frequency data and other features to and from the transceiver. |
| PC test mode | Used to check the transceiver using the PC. This feature is included in the FPU. See panel tuning. |
| Firmware programming mode | Used when changing the main program of the flash memory. |
| Clone mode | Used to transfer programming data from one transceiver to another. |
| Self programming mode | You can program the frequency, signaling and other functions using only the transceiver. |
| Firmware version information | Used to confirm the internal firmware version. |
| Clock adjustment mode | Used by the dealer to adjust date and time. |
| Transceiver information mode | Used to confirm the transceiver firmware version. |

2. How to Enter Each Mode

| Mode | Operation |
|------------------------------|----------------------------|
| User mode | Power ON |
| Panel test mode | [PF1] + Power ON |
| PC mode | Received commands from PC |
| Panel tuning mode | [Panel test mode] + [GRP^] |
| Firmware programming mode | [PF2] + Power ON |
| Clone mode | [PF5] + Power ON |
| Self programming mode | [GRP^] + Power ON |
| Firmware version information | [PF3] + Power ON |
| Clock adjustment mode | [PF4] + Power ON |
| Transceiver information mode | [PF1] + [PF3] + Power ON |

3. Panel Test Mode

Setting method refer to ADJUSTMENT.

4. Panel Tuning Mode

Setting method refer to ADJUSTMENT.

5. PC Mode

5-1. Preface

The transceiver is programmed by using a personal computer, programming interface (KPG-43/43A), USB adapter(KCT-53U) and programming software (KPG-95D).

The programming software can be used with an IBM PC or compatible. Figure 1 shows the setup of an IBM PC for programming.

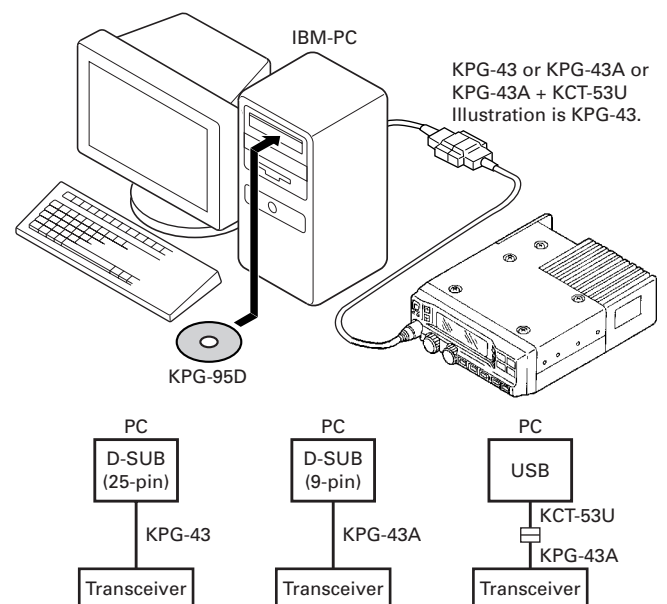


Fig. 1

TK-5710(B)/5710H(B)

REALIGNMENT

5-2. Connection procedure

1. Connect the transceiver to the computer using the interface cable and USB adapter (When the interface cable is KPG-43A, the KCT-53U can be used.).

Notes:

- You must install the KCT-53U driver in the computer to use the USB adapter (KCT-53U).
 - When using the USB adapter (KCT-53U) for the first time, plug the KCT-53U into a USB port on the computer with the computer power ON.
2. When the POWER switch on, user mode can be entered immediately. When PC sends command the transceiver enter PC mode, and "PROGRAM" is displayed on the LCD. When data transmitting from transceiver, the red LED is lights. When data receiving to transceiver, the green LED is lights.

Note:

The data stored in the computer must match the "Model Name and Market Code" when it is written into the EEPROM and flash memory.

5-3. KPG-43/KPG-43A description

(PC programming interface cable: Option)

The KPG-43/43A is required to interface the transceiver to the computer. It has a circuit in its D-sub connector (KPG-43 : 25-pin, KPG-43A : 9-pin) case that converts the RS-232C logic level to the TTL level.

The KPG-43/43A connects the microphone jack of the transceiver to the RS-232C serial port of the computer.

5-4. KCT-53U description (USB adapter : Option)

The KCT-53U is a cable which connects the KPG-43A to a USB port on a computer.

When using the KCT-53U, install the supplied CD-ROM (with driver software) in the computer. The KCT-53U driver runs under Windows 2000 or XP.

5-5. Programming software KPG-95D description

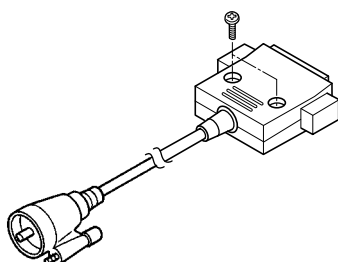
The KPG-95D is the programming software for the transceiver supplied on a CD-ROM. This software runs under MS-Windows 98, ME, Windows 2000 or XP on an IBM-PC or compatible machine.

The data can be input to or read from the transceiver and edited on the screen. The programmed or edited data can be printed out. It is also possible to tune the transceiver.

6. PC Tuning Mode

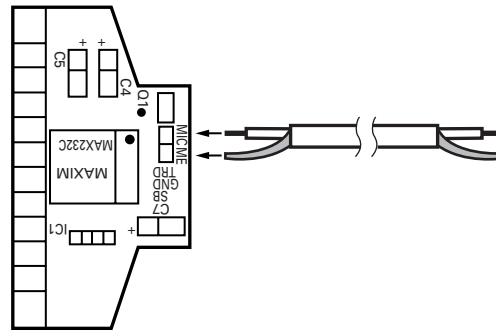
When making adjustment while in PC tuning mode, modify the KPG-43/43A programming interface cable as described below.

1. Remove the two screws from the plug cover, then lift the cover from the plug.

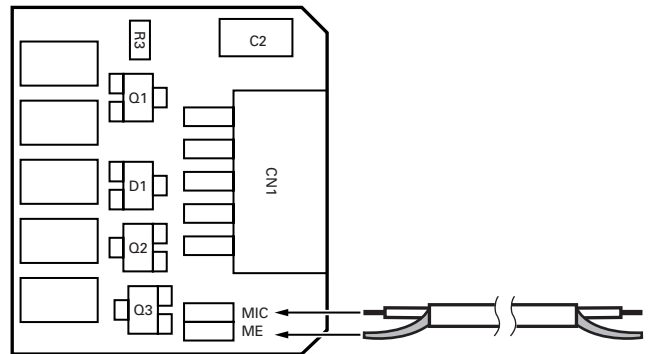


2. Solder the lead wire onto the MIC tab on the PCB, and the ground wire onto the ME tab.

- KPG-43



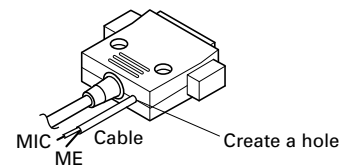
- KPG-43A



- 3.

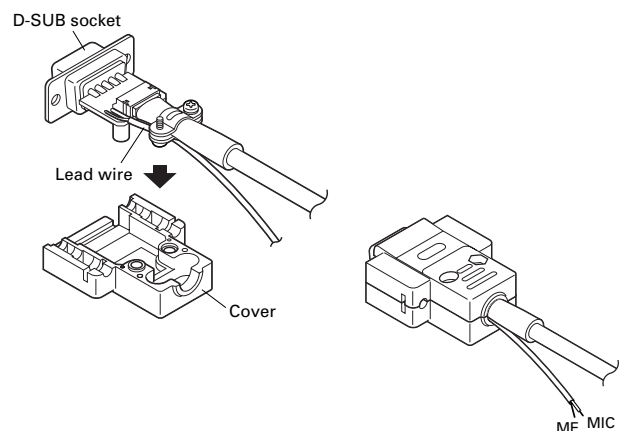
- KPG-43

Create a hole in the casing (as shown in the illustration) then fit the cable into the hole. Replace the cover and secure it using the two screws.



- KPG-43A

Install the D-SUB socket into the cover after aligning the lead wire as shown in the figure. Replace the cover and secure it using the two screws.



REALIGNMENT

7. Firmware Programming Mode

7-1. Preface

Flash memory is mounted on the transceiver. This allows the transceiver to be upgraded when new features are released in the future. (For details on how to obtain the firmware, contact Customer Service.)

7-2. Firmware programming operation using different hardware versions

The firmware that can be written to hardware version 1.0 and hardware version 2.0 transceivers is different.

Hardware version 1.0: These transceivers use firmware versions 1.00 to 2.99. If you attempt to use firmware versions F3.00 or later, a "Check connection" error message will appear on the LCD.

Hardware version 2.0: These transceivers use firmware versions F3.00 or later. If you attempt to use firmware versions 1.00 to 2.99, a "Check connection" error message will appear on the LCD.

■ Compatibility of Hardware version and Firmware version

| Hardware Version | Firmware Version | |
|------------------|------------------|--------|
| | V1.00~V2.99 | F3.00~ |
| 1.0 | Yes | No |
| 2.0 | No | Yes |

Yes : Writing is possible

No : Writing is not possible

Note:

If the firmware is written to the transceiver using a combination that is not applicable, the current transceiver firmware will not be overwritten.

7-3. Connection procedure

Connect the transceiver to the personal computer (IBM PC or compatible) using the interface cable (KPG-43/43A) and USB adapter (KCT-53U : When the interface cable is KPG-43A, the KCT-53U can be used.). (Connection is the same as in the PC Mode.)

7-4. Programming

1. Start up the firmware programming software (Fpro.exe).
2. Set the communications speed (normally, 115200 bps) and communications port in the configuration item.
3. Set the firmware to be updated by File name item.
4. Press and hold the [PF2] key while turning the transceiver power ON. Then, the orange LED on the transceiver lights and "PROG 115200" is displayed.
5. Check the connection between the transceiver and the personal computer, and make sure that the transceiver is in the Program mode.
6. Press "write" button in the window. When the transceiver starts to receive data, the [PG] display is blinking.
7. If writing ends successfully, the checksum is calculated and a result is displayed.
8. If you want to continue programming other transceivers, repeat steps 4 to 7.

Note:

This mode cannot be entered if the Firmware Programming mode is set to Disable in the Programming software.

7-5. Baud rate change

1. If you press the [PF4] key while "PROG 115200" is displayed, the display changes to "PROG 57600" (The LED blinks orange). If you press the [PF4] key again while "PROG 57600" is displayed, the display changes to "PROG 19200" (The LED blinks green) to indicate that the write speed is low speed (19200 bps). If you press the [PF4] key again while "PROG 19200" is displayed, the display returns to "PROG 115200" (The LED lights orange).
2. If you press the [PF5] key while "PROG 115200" is displayed, the checksum is calculated, and a result is displayed. If you press the [PF5] key again while the checksum is displayed, "PROG 115200" is redisplayed.

Note: Normally, write in the high-speed mode.

8. Clone Mode

Programming data can be transferred from one transceiver to another by connecting them via their microphone jacks. The operation is as follows (the transmit transceiver is the source and the receive transceiver is a target).

The following data cannot be cloned.

- Tuning data
 - Embedded message with password
 - Model name data
 - ESN (Electronic Serial Number) data
1. Press and hold the [PF5] key while turning the transceiver power ON. If the Read authorization password is set to the transceiver, the transceiver displays "CLONE LOCK". If the password is not set, the transceiver displays "CLONE MODE".
 2. When you enter the correct password, and "CLONE MODE" is displayed, the transceiver can be used as the cloning source. The following describes how to enter the read authorization password.
 3.
 - **How to enter the read authorization password using the microphone keypad;**
If one of keys 0 to 9 is pressed while "CLONE LOCK" is displayed, the pressed number is displayed on the LCD. Each press of the key shifts the display in order to the left. If you press the [#] key, the least digit of the password is deleted.
When you enter the password and press the [*] key, "CLONE MODE" is displayed if the entered password is correct. If the password is incorrect, "CLONE LOCK" is redisplayed.
 - **How to enter the read authorization password using the [Selector] knob;**
If the [Selector] knob is rotated while "CLONE LOCK" is displayed, the number (0 to 9) flashes on the LCD. When you press the [GRP^] key, the currently selected number is determined. If you press the [PF3] key, the least digit of the password is deleted. If you press the [PF2] key after entering the password in this procedure, "CLONE MODE" is displayed if the entered password is correct. If the password is incorrect, "CLONE LOCK" is redisplayed.
 4. Power ON the target transceiver.

REALIGNMENT

- Connect the cloning cable (part No. E30-3370-05) to the microphone jacks on the source and target.
- Press the [PF2] key on the source while the source displays "CLONE MODE". The data of the source is sent to the target. While the target is receiving the data, "PROGRAM" is displayed. When cloning of data is completed, the source displays "END", and the target automatically operates in the User mode. The target can then be operated by the same program as the source.
- The other target can be continuously cloned. When the [PF2] key on the source is pressed while the source displays "END", the source displays "CLONE MODE". Carry out the operation in step 4 to 6.

Notes:

- Cannot be cloned if the overwrite password is programmed to the target.
- "Model Name and Market Code", "Head Configuration" and "Head Type" must be same to clone the transceiver. However, it may be unable to clone the transceiver depending on the enhanced features settings. (Refer to the FPU for the enhanced features details.)
- Under certain conditions, clone mode cannot be activated even if the clone mode of the source transceiver, using Hardware Version 2.0, is set to enable. Refer to the FPU for more details.

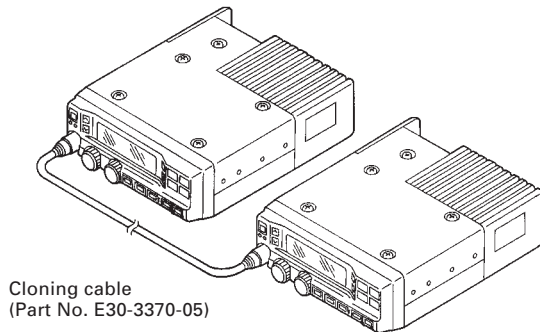
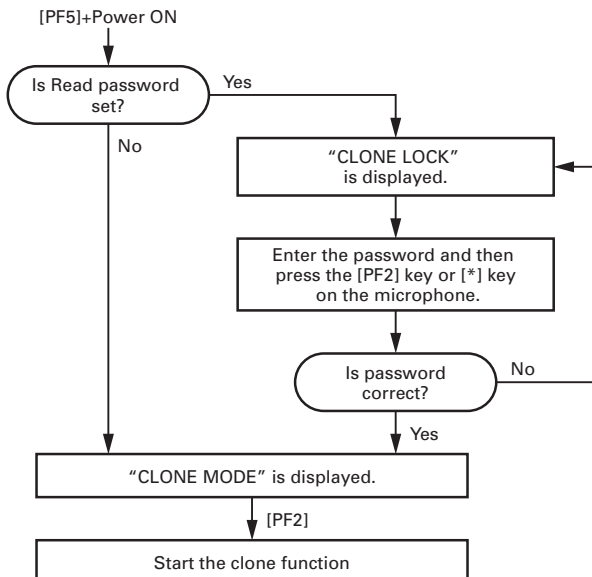


Fig. 2

Flow Chart (Source transceiver)



Clone operation depending on hardware and firmware versions

When Clone is executed between transceivers using different versions of hardware and firmware, the Clone operation is as follows.

Cloning between transceivers using hardware version 1

| Source transceiver (Hardware version 1.0) | Target transceiver (Hardware version 1.0) | Clone operation |
|----------------------------------------------|----------------------------------------------|-----------------|
| Firmware Version | Firmware Version | |
| ~V1.04 | ~V1.04 | Yes |
| | V1.05~V2.99 | No |
| V1.05~V2.99 | ~V1.04 | No |
| | V1.05~V2.99 | Yes |

Yes : Cloning is possible
No : Cloning is not possible

Cloning from hardware version 1 to hardware version 2

| Source transceiver (Hardware version 1.0) | Target transceiver (Hardware version 2.0) | Clone operation |
|----------------------------------------------|----------------------------------------------|-----------------|
| Firmware Version | Firmware Version | |
| ~V1.04 | F3.00~ | No |
| | F3.00~ | Yes |
| V1.05~V2.99 | F3.00~ | Yes |
| | F3.00~ | Yes |

Yes : Cloning is possible
No : Cloning is not possible

Note:

Under certain conditions, cloning cannot be performed even if you are using a proper hardware and firmware combination. Refer to the FPU for more details.

9. Self Programming Mode

Write mode for frequency data and signaling etc. To be used ONLY by the authorized service person maintaining the user's equipment. After programming, reset the FPU to the "Self- Programming" disabled mode. Transceivers CANNOT be delivered to the end-user in the self-programming mode.

The following setup items in the channels programmed by the FPU can be changed using the self-programming mode. The addition of new channel and the deletion of channel that has already been programmed by the FPU cannot be performed using the self-programming mode.

- RX Frequency
- TX Frequency
- Channel Type
- TX Mode (When the channel type is selected "MIXED".)
- Channel Spacing
- RX Signaling
- TX Signaling
- RX NAC
- TX NAC
- Talkgroup List No.

Note:

The personality will be also changed when the above-mentioned items is changed. (Refer to the FPU for the personality details.)

REALIGNMENT

9-1. Enter to the self programming mode

Press and hold the [GRP^] key while turning the transceiver power ON. Ignoring whether the Read authorization password is set or not, "PASSWORD" appears.

If the Read authorization password is not set to the transceiver, "SELF PG MODE" is displayed on the LCD when the [PF2] key is pressed while "PASSWORD" is displayed.

If the password is set to the transceiver, "SELF PG MODE" is displayed on the LCD when you enter the correct password while "PASSWORD" is displayed.

For the password input method, see "8.Clone Mode" step 3 described on page 7.

Note :

This mode (self programming mode) cannot be set when it has been disabled with the FPU.

9-2. Data writing

If the [PF4] key is pressed while Zone/Channel mode is displayed, new data is written into memory. "WRITING" is displayed while the transceiver is writing data.

The setup items for self programming mode are as follows.

| No. | Setup item | Display | Remarks |
|-----|---------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Select Zone/Channel | ** - *** | Zone : 1~50, Channel : 1~250 |
| 2 | RX Frequency | 1**.***** MHz | Receive frequency |
| 3 | TX Frequency | 1**.***** MHz | Transmit frequency |
| 4 | Channel Type | TYPE | ANALOG/P25/MIXED |
| 5 | TX Mode | MODE | ANALOG/P25 |
| 6 | Channel Spacing | SPACE | 25.0kHz/12.5kHz (When the Channel type is selected "ANALOG" or "MIXED".) P25 12.5kHz/12.5kHz (When the Channel type is selected "P25".) |
| 7 | RX Signaling | RX-SIG | Receive QT/DQT |
| 8 | TX Signaling | TX-SIG | Transmit QT/DQT |
| 9 | RX NAC | RX-NAC *** | 000~FFF (Hexadecimal) Note:"F7F" cannot be set. |
| 10 | TX NAC | TX-NAC *** | 000~FFF (Hexadecimal) Note:"F7E" and "F7F"cannot be set. |
| 11 | Talkgroup List No. | None | When you do not want to set the Talkgroup list number to the transceiver. |
| | | *** | Talkgroup list number (1~250) (When the Talkgroup list name is not set to the transceiver.) |
| | | ***** | Talkgroup list name (12 digits) (When the Talkgroup list name is set to the transceiver.) |

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REALIGNMENT

Key operation

• Normal mode

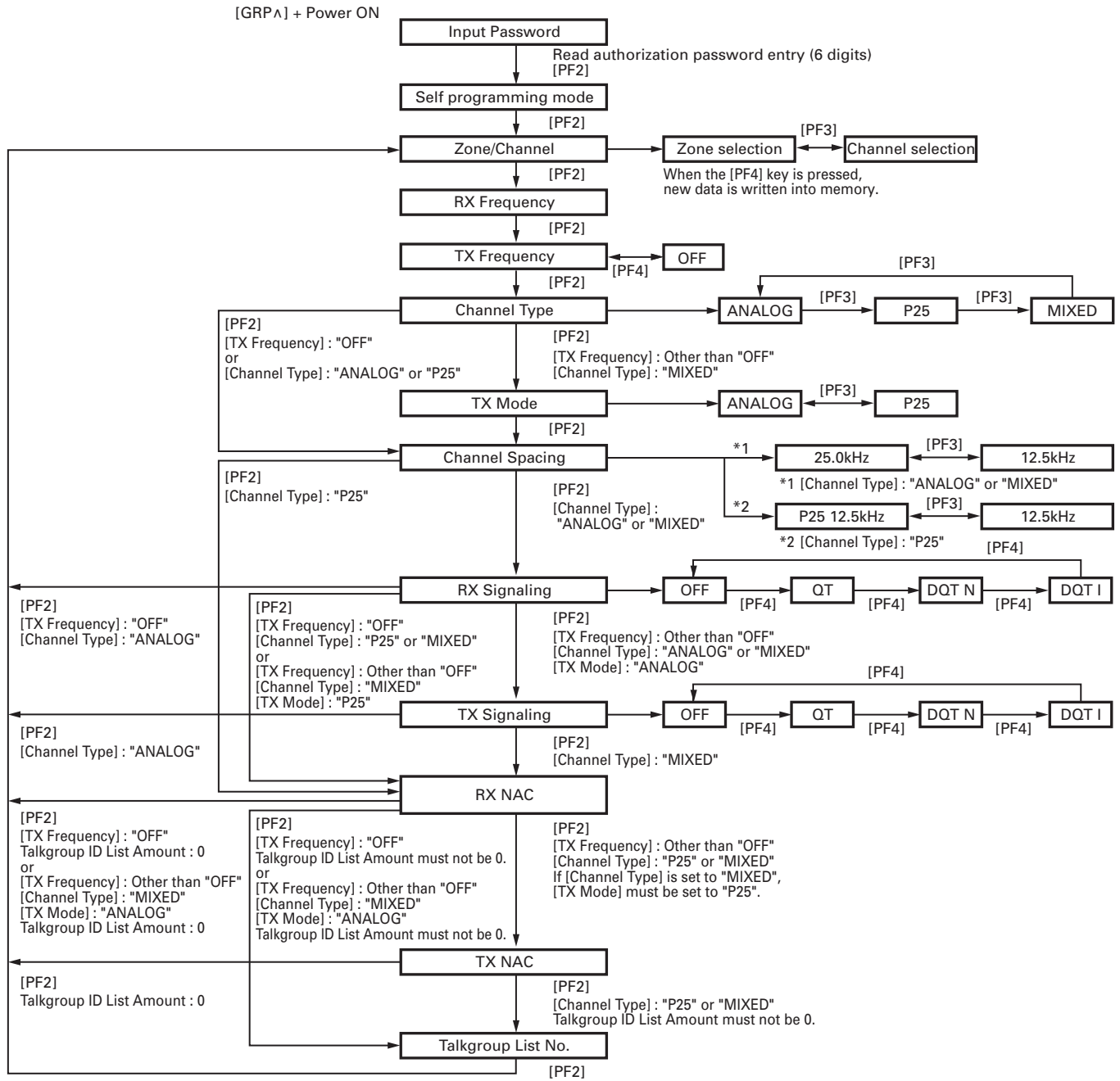
| Key \ Item | Zone- Channel | RX Frequency | TX Frequency | Channel Type | TX Mode | Channel Spacing | RX Signaling | TX Signaling | RX NAC | TX NAC | TG List No. |
|-------------------------|-------------------------|-----------------------------------------------------|-------------------|------------------------------|----------------------|---------------------------|-------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|
| [PF1] | Unused | | | | | | | | | | |
| [PF2] | Go to the next item | | | | | | | | | | |
| [PF3] | Zone/ Channel switching | 2.5kHz/ 5kHz/ 6. 25kHz/ 7.5kHz/ 1MHz step switching | | ANALOG/ P25/ MIXED switching | ANALOG/P25 switching | Channel Spacing switching | 1step/ Standard switching | | Delete the least digit from the current number (Press and hold to delete all numbers.) | | Unused |
| [PF4] | Data Writing | Unused | ON/ OFF switching | Unused | | | QT/ DQT(N)/ DQT(I)/ OFF switching | | Unused | | |
| [PF5] | Unused | | | | | | | | | | |
| [Selector] | Zone/ Channel up/ down | 1step up/ down | | Unused | | | Signaling up/ down | | Increment/ Decrement a number in the specified digit | | TG List number up/ down |
| [GRP^] | Zone/ Channel up | 1step up | | Unused | | | Signaling up | | Determine the least digit | | TG List number up |
| [GRPv] | Zone/ Channel down | 1step down | | Unused | | | Signaling down | | Unused | | TG List number down |
| MIC keypad ([0] to [9]) | Unused | Go to the MIC keypad input mode | | Unused | | | Go to the MIC keypad input mode | | Add a digit to the current number | | Unused |
| MIC keypad ([*) | Unused | | | | | | | | | | |
| MIC keypad ([#]) | Unused | | | | | | | | Delete the least digit from the current number (Press and hold to delete all numbers.) | | Unused |
| MIC PTT | Unused | | | | | | | | [PTT] + [2] : "A" [PTT] + [5] : "B" [PTT] + [8] : "C" [PTT] + [0] : "D" [PTT] + [#] : "E" [PTT] + [*] : "F" | | Unused |

• MIC keypad input mode

| Key \ Item | RX Frequency | TX Frequency | RX Signaling | TX Signaling |
|-------------------------|----------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------|--------------|
| [PF1] | Cancel the MIC keypad input mode (Return to the normal mode) | | | |
| [PF2] | Cancel the MIC keypad input mode (Return to the normal mode) | | | |
| [PF3] | Delete the least digit from the current number (Press and hold to delete all numbers.) | | | |
| [PF4] | Unused | ON/ OFF switching | QT/ DQT(N)/ DQT(I)/ OFF switching | |
| [PF5] | Unused | | | |
| [Selector] | Unused | | | |
| [GRP^] | Unused | | | |
| [GRPv] | Unused | | | |
| MIC keypad ([0] to [9]) | Add a digit to the current number (Return to the normal mode automatically if all digit are entered.) | | | |
| MIC keypad ([*) | Cancel the MIC keypad input mode (Return to the normal mode) | | | |
| MIC keypad ([#]) | Delete the least digit from the current number (Press and hold to delete all numbers.) | | | |
| MIC PTT | Unused | | | |

REALIGNMENT

• Self programming mode flow chart



TK-5710(B)/5710H(B)

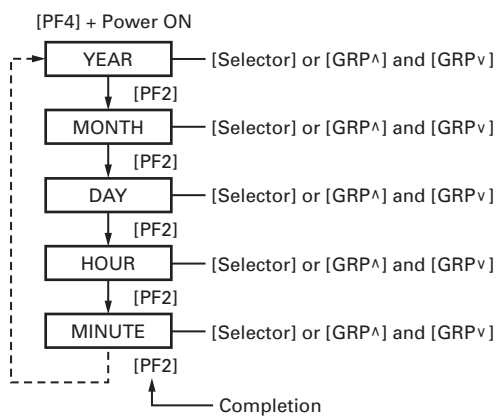
REALIGNMENT

10. Firmware Version Information

Press and hold the [PF3] key while turning the transceiver power ON and then keep pressing and holding the [PF3] key, the firmware version information appears on the LCD.

11. Clock Adjustment Mode

11-1. Flow chart of operation



12. Transceiver Information Mode

Use this function to confirm the transceiver firmware version.

1. Press and hold the [PF1] and [PF3] keys while turning the transceiver power ON.
2. The transceiver firmware version appears on the LCD.
3. To exit the transceiver information mode, turn the transceiver power OFF.

INSTALLATION

1. Front Panel Kit (KCH-14/15:Option)

1-1. Installing the KCH-14/15 front panel kit to the transceiver

1. Remove the upper case and lower case of the transceiver.
2. Insert the lead wire with connector (W700) of the control unit (X53-412) into the connector (CN1) of the KCH-14 or KCH-15.
3. Install the KCH-14 or KCH-15 on the transceiver using the four screws (1) supplied with the front panel kit.

Note:

Take care that the lead wire with connector (W700) is not caught when fitting the KCH-14 or KCH-15 on the transceiver. (You can install the panel upside down if necessary to install the transceiver.)

4. Affixing the sheet (G11-4379-04) for the waterproof (Fig.1-1-2).
 - (1) Remove the covering paper of the sheet (2).
 - (2) Affix the sheet while taking note of the position of the three parts as shown in Fig.1-1-2 (3).

Firmly affix the sheet to the chassis by pushing the double-coated tape with your fingers.
- (3) Repeat step (2) to affix the sheet to the other side of chassis.

Note:

The sheet cannot be reused. Affix a new sheet when you removed the sheet.

5. Reassemble the upper case and lower case. (Refer to pages 25 and 26)

Note:

Take care that the sheet (G11-4379-04) is not peeled off when installing the upper / lower case.

6. Connect the short plug to the accessory connector (9-pin) on the rear of the transceiver.

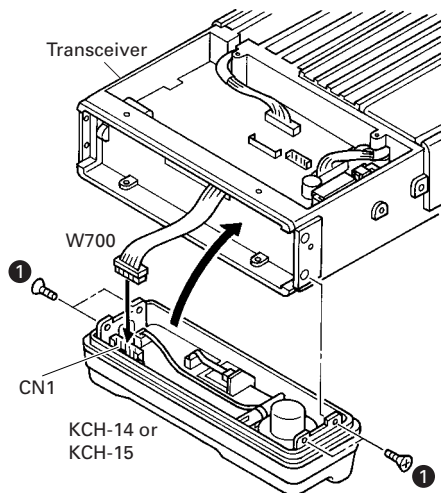


Fig. 1-1-1

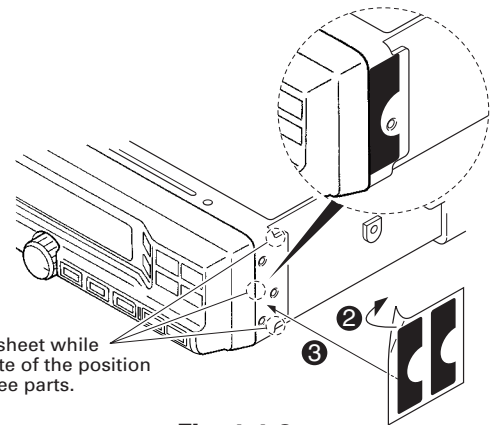


Fig. 1-1-2

1-2. Installing the accessory keytops to the front panel kit

When a function is set by the programming software (KPG-95D), the key legend can be changed by inserting the accessory keytops into PF1 to PF9 of the KCH-15 (PF1 to PF5:KCH-14). The accessory contains 60 keytops as shown the table below.

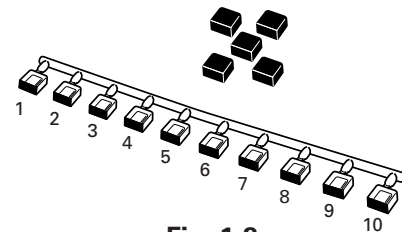


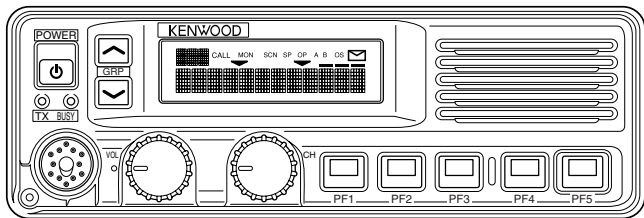
Fig. 1-2

| No. | K29-5276-03 | K29-5277-03 | K29-5305-03 |
|-----|-------------|-------------|-------------|
| 1 | AN | RCL | CH1 |
| 2 | D/A | RPT | CH2 |
| 3 | DIM | SCN | CH3 |
| 4 | HA | SP | CH4 |
| 5 | HC | SPM | CH5 |
| 6 | IC | SQ | AUX A |
| 7 | MON | TA | AUX B |
| 8 | OPT | ∧ | AUX C |
| 9 | OST | v | EMG |
| 10 | PA | No printing | ■ |

| No. | K29-9353-13 | K29-9354-03 | K29-9356-03 |
|-----|-------------|-------------|-------------|
| 1 | 2TN | GPS | PAG |
| 2 | AD | STS | SIT |
| 3 | AR | TAC | SRC |
| 4 | CLK | TON | No printing |
| 5 | FNC | RES | No printing |
| 6 | PBK | IDV | No printing |
| 7 | SCP | KDL | No printing |
| 8 | SEC | TGR | No printing |
| 9 | SEL | No printing | No printing |
| 10 | SES | No printing | No printing |

INSTALLATION

KCH-14



KCH-15

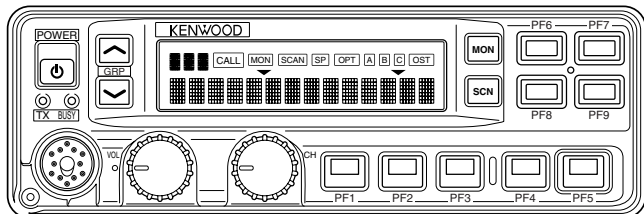


Fig. 1-3

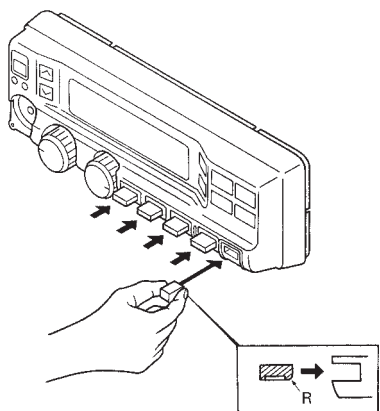


Fig. 1-4 Keytop insertion

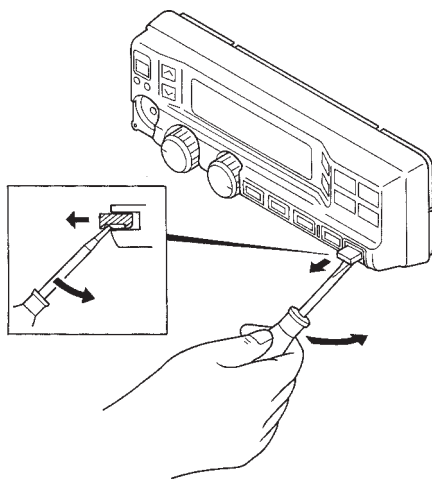


Fig. 1-5 Keytop removal

2. Remote kit (KRK-5:Option)

The KRK-5 remote kit is used to remotely operate the transceiver. The KRK-5 is connected to the KCH-14 or KCH-15 with an optional KCT-22M (8 feet), KCT-22M2 (17 feet), or KCT-22M3 (25 feet) control cable.

2-1. Installing the KRK-5 main panel onto the transceiver

1. Remove the upper case and lower case of the transceiver.
2. Insert the lead wire with connector (W700) of the control unit (X53-412) into the connector (CN4) of the KRK-5.
3. Install the KRK-5 main panel on the transceiver using four screws (1).

Note:

Take care that the lead wire with connector (W700) is not caught when fitting the KRK-5 main panel on the transceiver.

4. Affixing the sheet (G11-4379-04) for the waterproof (Fig.2-1-2).

(1) Remove the covering paper of the sheet (2).

(2) Affix the sheet while taking note of the position of the three parts as shown in Fig.2-1-2 (3).

Firmly affix the sheet to the chassis by pushing the double-coated tape with your fingers.

(3) Repeat step (2) to affix the sheet to the other side of chassis.

Note:

The sheet cannot be reused. Affix a new sheet when you removed the sheet.

5. Reassemble the upper case and lower case of the transceiver. (Refer to pages 25 and 26)

Note:

Take care that the sheet (G11-4379-04) is not peeled off when installing the upper / lower case.

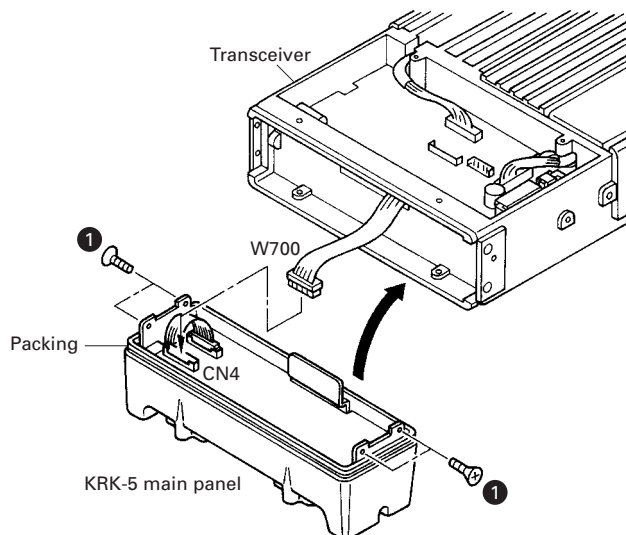


Fig. 2-1-1

INSTALLATION

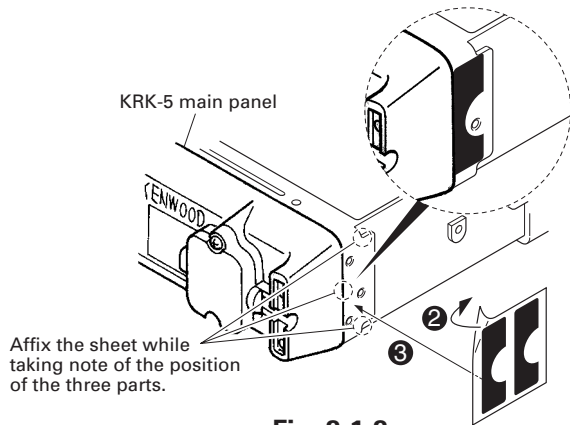


Fig. 2-1-2

2-2. Installing the KRK-5 rear panel onto the front panel kit

The following steps apply to both the KCH-14 and KCH-15.

1. Remove three screws (1) on the KRK-5 rear panel, then remove the KRK-5 sub panel.
2. Insert the lead wire with connector (W102) of the KRK-5 into the connector (CN1) of the front panel kit (2).
3. Insert the lead wire with connector (W103) of the KRK-5 into the connector (CN3) of the front panel kit (3).
4. Make a slight cut in the end of the rubber cap (4).
5. Slide the lead wire of the connector wiring (5) through the slit in the rubber cap (6).
6. Insert the rubber cap into the hole of the KRK-5 rear panel (7).
7. Insert the connector (8) to the ACC connector (9) on the KRK-5 sub panel as shown by the arrow (10).
8. Install the KRK-5 sub panel onto the sub panel of the front panel kit (11).
9. Install the KRK-5 sub panel to the sub panel of the front panel kit using four screws (12).
10. Reinstall the KRK-5 rear panel using three screws removed in step 1.
11. Use a wire band to secure the lead wire at the end of the rubber cap (13).

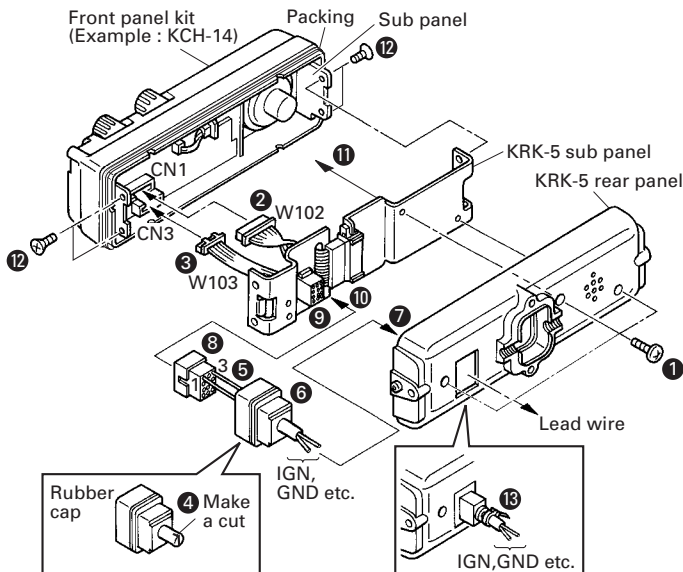


Fig. 2-2

2-3. Control cable (KCT-22) connection (Fig. 2-3)

1. Insert one connector of the control cable to the transceiver (with KRK-5) and the other to the display. Connect the cable to the GND terminal with the screw (1) supplied with the control cable.
2. Secure the one connector of the control cable to the KRK-5 main panel with two screws (2) according to the installation condition of the transceiver. Secure the control cable to the KRK-5 main panel with the cable fitting (J21-4354-04) and two screws (3) supplied with the KRK-5.
3. Secure the other connector of the control cable to the display with two screws (4) in the same way.

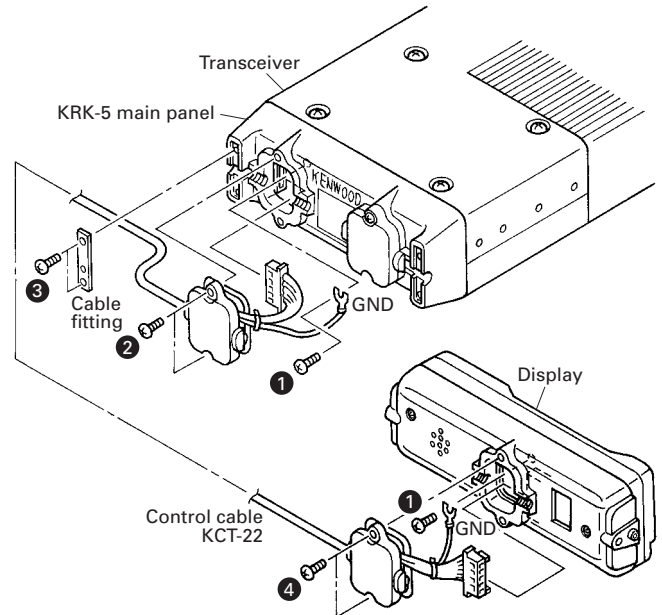


Fig. 2-3

2-4. Display installation (Fig. 2-4)

1. Install the display with the angle bracket (J29-0648-03) (1) and two screws (N08-0526-04) (2) supplied with the KRK-5.

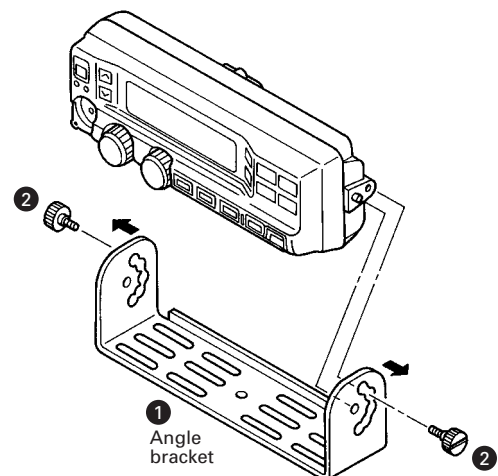


Fig. 2-4

INSTALLATION

3. Dual Control Head Remote Kit (KRK-6DH:Option)

The KRK-6DH remote kit connects two displays (two KCH-14s or KCH-15s) to the transceiver. The KRK-6DH is connected to the KCH-14s or KCH-15s with two optional control cables. There are three version of the control cable : KCT-22M (8 feet), KCT-22M2 (17 feet), and KCT-22M3 (25 feet).

3-1. Installing the KRK-6DH main panel onto the transceiver

1. Remove the upper case and lower case of the transceiver.
2. Insert the lead wire with connector (W700) of the control unit (X53-412) into the connector (CN4) of the KRK-6DH. Insert the lead wire with connector (W104) of the KRK-6DH into the connector (CN724) of the transceiver.
3. Install the KRK-6DH main panel on the transceiver using four screws (1).

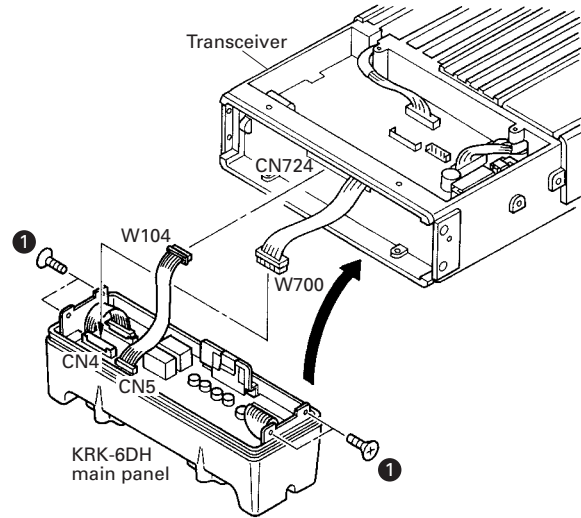


Fig. 3-1-1

Note:

Take care that the lead wire with connector (W700) is not caught when fitting the KRK-6DH main panel on the transceiver.

4. Affixing the sheet (G11-4379-04) for the waterproof (Fig.3-1-2).
 - (1) Remove the covering paper of the sheet (2).
 - (2) Affix the sheet while taking note of the position of the three parts as shown in Fig.3-1-2 (3).
 - Firmly affix the sheet to the chassis by pushing the double-coated tape with your fingers.
 - (3) Repeat step (2) to affix the sheet to the other side of chassis.

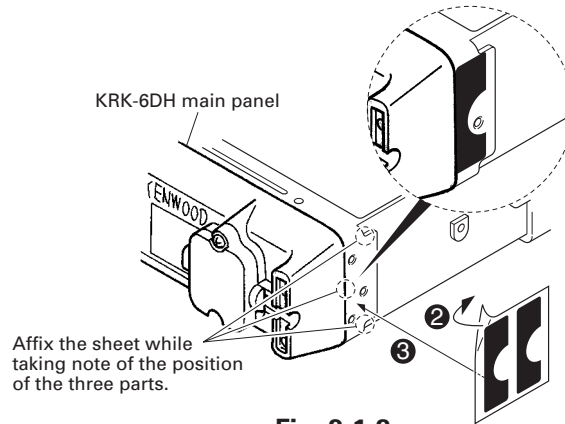


Fig. 3-1-2

Note:

The sheet cannot be reused. Affix a new sheet when you removed the sheet.

5. Reassemble the upper case and lower case of the transceiver. (Refer to pages 25 and 26)

Note:

Take care that the sheet (G11-4379-04) is not peeled off when installing the upper / lower case.

3-2. Installing two KRK-6DH rear panels onto two front panel kits

Install each KRK-6DH rear panel onto each front panel kit as same as "2-2. Install the KRK-5 rear panel onto the front panel kit" described on page 15.

3-3. Control cable (KCT-22) connection (Fig. 3-2)

1. Use two control cables. Insert one connector of the one control cable to the transceiver (with KRK-6DH) and the other to the display 1. Insert one connector of the other control cable to the transceiver (with KRK-6DH) and the other to the display 2. Connect each cable to the GND terminal with the screws (1) supplied with each control cable.
2. Secure the one connector of each control cable to the KRK-6DH main panel with two screws (2) according to the installation condition of the transceiver. Pass the control cables through the grooves at both ends of the KRK-6DH main panel and secure the control cables to the KRK-6DH with the cable fitting (J21-4354-04) and two screws (3) supplied with the KRK-6DH.
3. Secure the other connectors of the control cables to the display 1 and display 2 with two screws (4) in the same way.

INSTALLATION

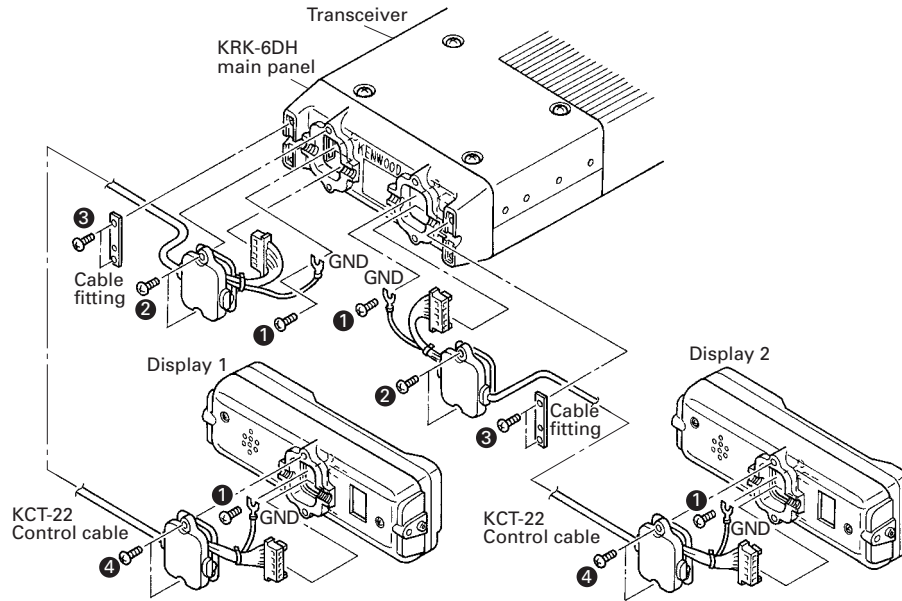


Fig. 3-2

4. Ignition Sense Cable (KCT-18:Option)

The KCT-18 is an optional cable to use the following functions:

• Ignition function

The ignition function allows you to turn the transceiver's power on and off with the ignition key of your car. When you are driving with the ignition key on, the horn alert function is disabled.

• Timed power-off function

The timed power-off function turns the transceiver's power off the time specified with the programming software (KPG-95D) after the ignition key is turned off. When you are driving with the ignition key on, the horn alert function is disabled.

The ignition sense function and the timed power-off function can be used at the same time.

4-1. Connecting the KCT-18 cable to the transceiver

1. Remove the short plug from the accessory connector (9-pin) on the rear of the transceiver.
2. Insert the KCT-18 lead terminal into pin 1 (IGN) of the short plug (9-pin).
3. Connect the short plug to the accessory connector (9-pin) on the rear of the transceiver.

Note: You must setup using the KPG-95D.

4-2. Connecting the KCT-18 cable to the KRK-5/6DH remote kit

1. Remove the square plug from the accessory connector (12-pin) on the rear of the control head.
2. Cut off the end of the rubber cap (accessory), insert the KCT-18 lead terminal into the rubber cap, and insert it into pin 1 (IGN) of the square plug.

3. Connect the square plug and rubber cap to the accessory connector (12-pin) on the rear of the control head, then clamp the bottom of the rubber cap with the supplied tie wrap.

Note: You must setup using the KPG-95D.

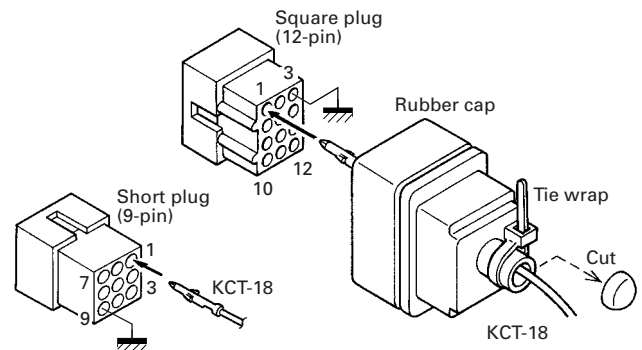


Fig. 4-1

Fig. 4-2

INSTALLATION

5. Voice Guide & Storage Unit (VGS-1: Option)

5-1. Installing the VGS-1 unit in the transceiver

1. Remove the upper case and upper packing of the transceiver.
2. Attach two cushions to the VGS-1 as shown in figure.

Note:

Be sure not to cover the VGS-1 connector (CN1) with the cushion.

3. Insert the VGS-1 connector (CN1) into the control unit connector (CN744).

Note: You must setup using the KPG-95D.

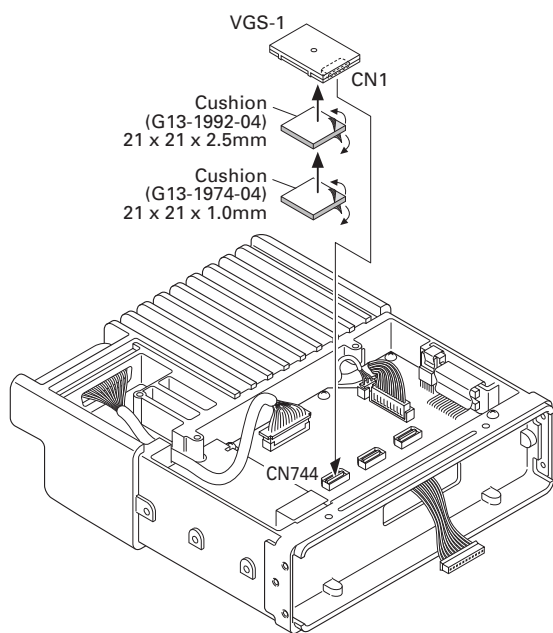


Fig. 5

6. Voice Scrambler Board Connection

1. Remove the upper case and upper packing of the transceiver.
2. Two kinds of the scrambler board are available, and the following describes the each installation method.

• **How to install the scrambler board (Connector connection type)**

- (1) Attach two cushions to the scrambler board as shown in Fig.7-2.

Note:

Be sure not to cover the scrambler board connector with the cushion.

- (2) Insert the scrambler board into the control unit connector (CN771).

• **How to install the scrambler board (Lead wire connection type)**

- (1) Attach the cushion to the scrambler board as shown in Fig.7-2.
- (2) Solder each lead wire of the scrambler board to a necessary location of each landing on the component side of the control unit.

Note: You must setup using the KPG-95D.

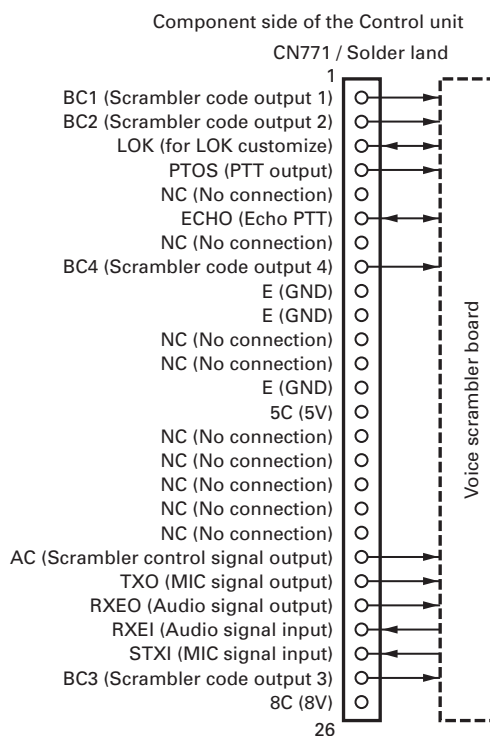


Fig. 6

INSTALLATION

7. ANI Board Connection

1. Remove the upper case and upper packing of the transceiver.
2. Attach the cushion to the ANI board as shown in Fig.7-2.
3. Solder each lead wire of the ANI board to a necessary location of each landing on the component side of the control unit.

Note: You must setup using the KPG-95D.

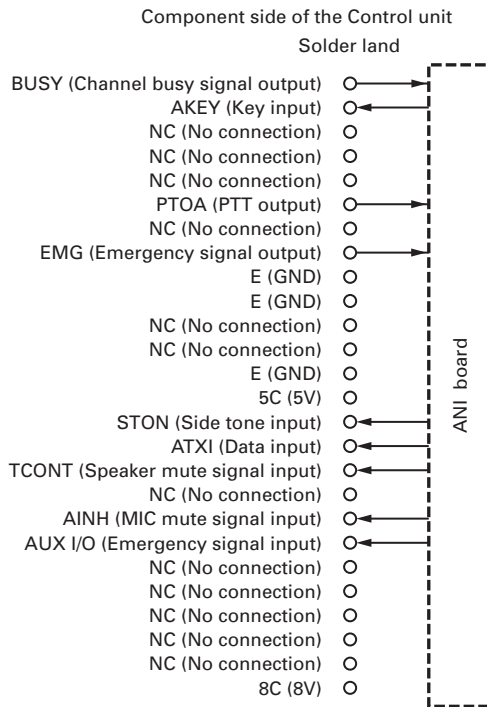


Fig. 7-1

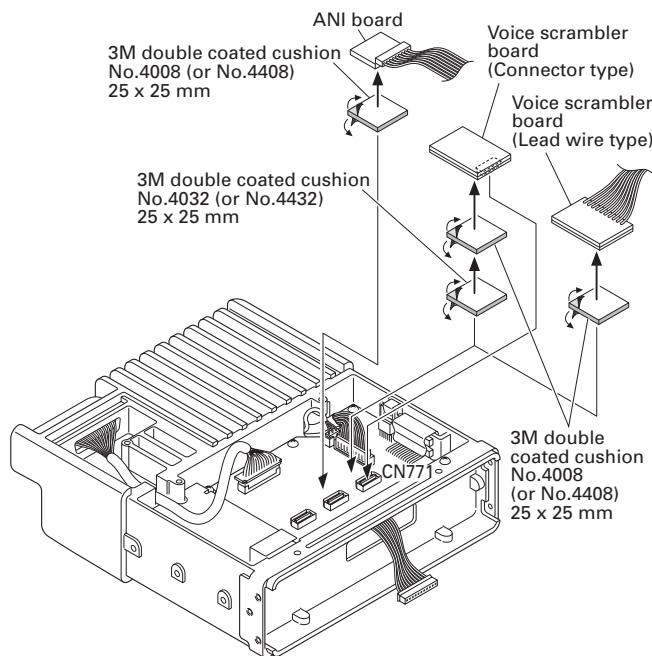


Fig. 7-2

8. External Speaker (KES-5/6:Option)

The speaker output from the transceiver is as follows:

1. The KCH-14 has a built-in speaker (3W/8 ohms).
2. The KCH-15 does not have a built-in speaker.
3. The external speaker output from the accessory connector (9-pin) on the rear of the transceiver is 13W/4 ohms. Use the KES-5 or KES-6.
4. The speaker output from the accessory connector (12-pin) on the rear of the control head is 2W/4 ohms. If the remote kit (KRK-5, KRK-6DH) is used, use the KES-5 or KES-6.

Note :

Since the transceiver uses a BTL audio amplifier, do not ground the speaker output pin.

8-1. Connecting the KES-5/6 external speaker to the transceiver

- When taking the AF output from the accessory connector (9-pin) on the rear of the transceiver

The following tools are required for changing the connector.

Extracting tool

The following extracting tool is recommended :
Molex Inc. Order No. : 11-03-0002

1. Remove the short plug from the accessory connector (9-pin) on the rear of the transceiver (Fig. 8-1-1).
Note : Save the jumper, which is required when the transceiver is used without the external speaker.
2. Remove the terminals with the jumper from the connector housing holes number 3 and 6 using the extracting tool.

Removing the jumper lead (Fig. 8-1-2)

- 1) Insert the extracting tool (11-03-0002) into the connector while pushing the jumper lead in the direction of (a).
 - 2) Push the extracting tool into collapse the barbs of the crimp terminal.
 - 3) Pull out the lead while continuing to push the extracting tool in the direction (b).
3. Reinsert the terminal with the black and white stripe lead into hole number 2, and the terminal with the black lead into hole number 6 (Fig. 8-1-3).
4. Connect the short plug to the accessory connector (9-pin) on the rear of the transceiver.

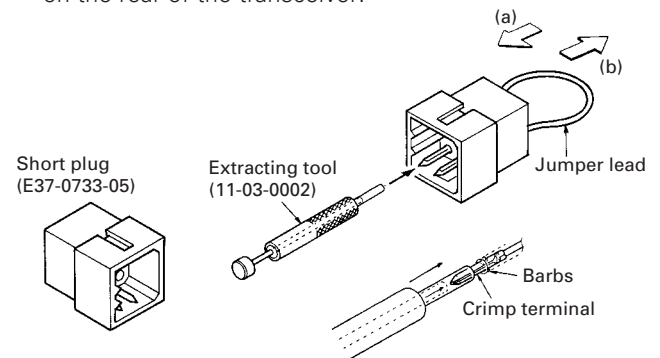


Fig. 8-1-1

Fig. 8-1-2

INSTALLATION

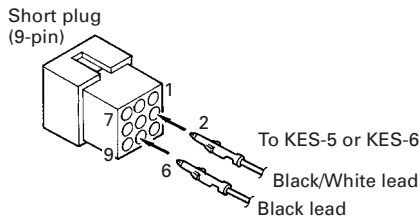


Fig. 8-1-3

8-2. Connecting the KES-5/6 external speaker to the KRK-5/6DH remote kit

- When taking the AF output from the 12-pin accessory connector on the rear of the control head
- Modification of plug (12-pin)

1. Remove the square plug from the accessory connector (12-pin) on the rear of the control head.
2. Cut off the end of the rubber cap, insert the KES-5/6 speaker cable into the cap, and insert it into pins 10 and 11 of the square plug.
3. Connect the square plug and rubber cap to the accessory connector (12-pin) on the rear of the control head, then clamp the bottom of the rubber cap with the supplied tie wrap.

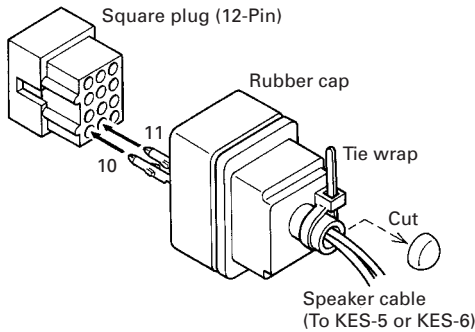


Fig. 8-2-1

- If the KCH-14 is used

If the KES-5 or KES-6 is connected to the 12-pin accessory connector, remove the internal speaker wire.

If the internal speaker is used, remove the wire connected to pins 10 and 11 of the 12-pin accessory connector.

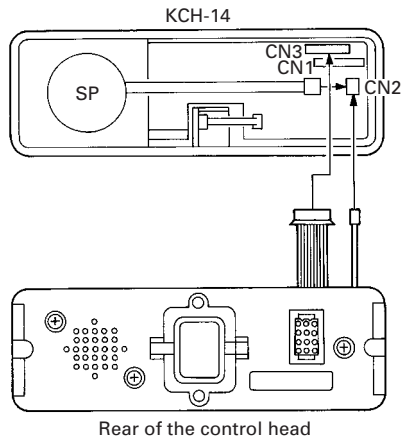


Fig. 8-2-2

8-3. Modification to increase the audio output of the control head

The speaker output can be increased to 13W by moving jumper resistor (0 ohm) R74 to SR73 on the KCH-14 display unit (X54-349 A/3). In this case, the KCH-14 internal speaker cannot be used because the maximum input (3W) of the internal speaker is exceeded. Therefore, use the KES-5 or KES-6.

Note :

Even if the KRK-6DH is modified in this way, the audio output of head 2 cannot be increased.

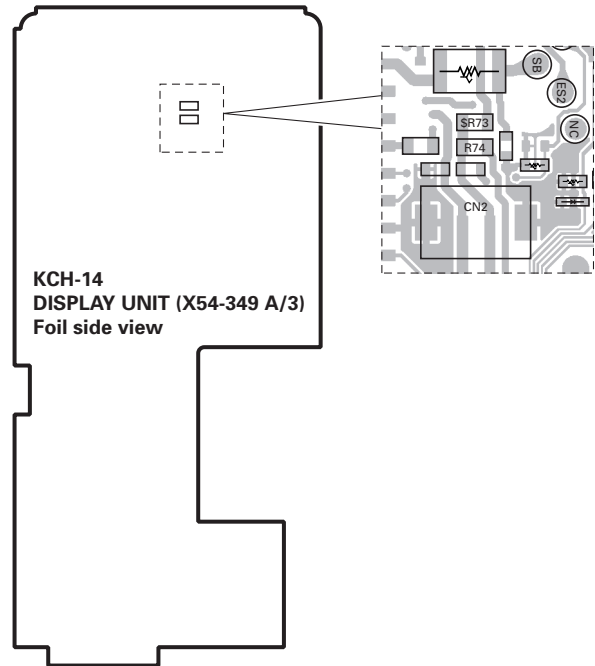


Fig. 8-3

8-4. Use as public address speaker

1. Remove the short plug from the 9-pin accessory connector on the rear of the transceiver. (Remove the jumper lead as described in Section 8-1 on page 19.)
2. Insert the KES-5/6 speaker leads into pins 7 and 8 of the short plug.
3. If you remove jumper shorting pins 3 and 6, the 20W PA (public address) voice signal is output from pins 7 and 8. (Only when the PA or SP switch is on.)
4. If you use the transceiver shorted with pins 3 and 6, the internal speaker is available (when the KCH-14 is used). The KCH-15 does not contain a speaker.

Note :

Relationship between accessory connector (9-pin) connection and speaker output.

When pins 3 and 6 are shorted ; The 3W internal speaker is used (KCH-14 only).

When pins 3 and 6 are opened and is output from pins 7 and 8 ; The 20W external speaker is used.

INSTALLATION

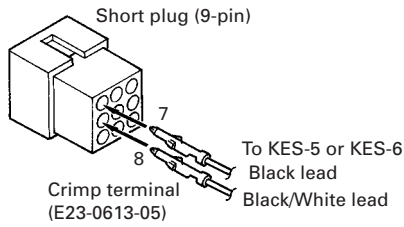


Fig. 8-4

9. Horn Alert Function

The HR1 and HR2 pins of the accessory connector (9-pin) on the rear of the transceiver are connected to the relay (K700) and the maximum current is 1A.

1. Remove the upper case of the transceiver.
2. To make the HR2 pin, remove the jumper resistor (0 ohm) R960 on the control unit (X53-412) as shown in Table 1.
3. Reassemble the PC board and the upper case.

| | Default | Modification |
|-------|---------|--------------|
| R960 | Present | Absent |
| State | | |

Table 1

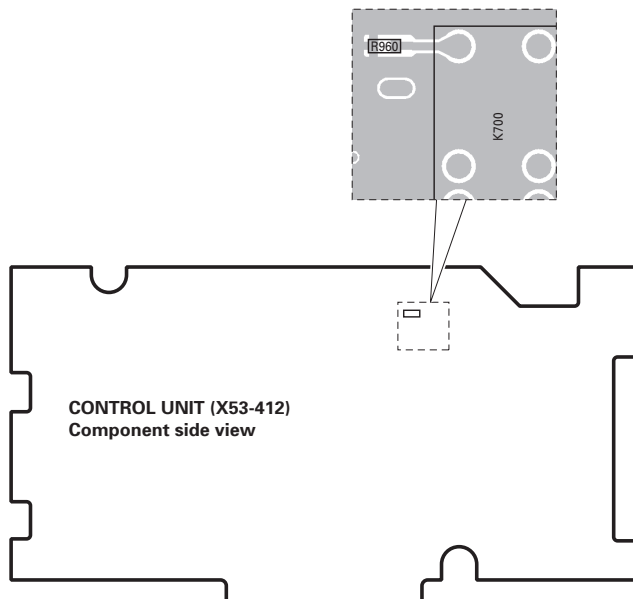


Fig. 9

TK-5710(B)/5710H(B)

DISASSEMBLY FOR REPAIR

Disassembly Procedure (TK-5710 (B))

■ Removing the upper/ lower case and shield cover

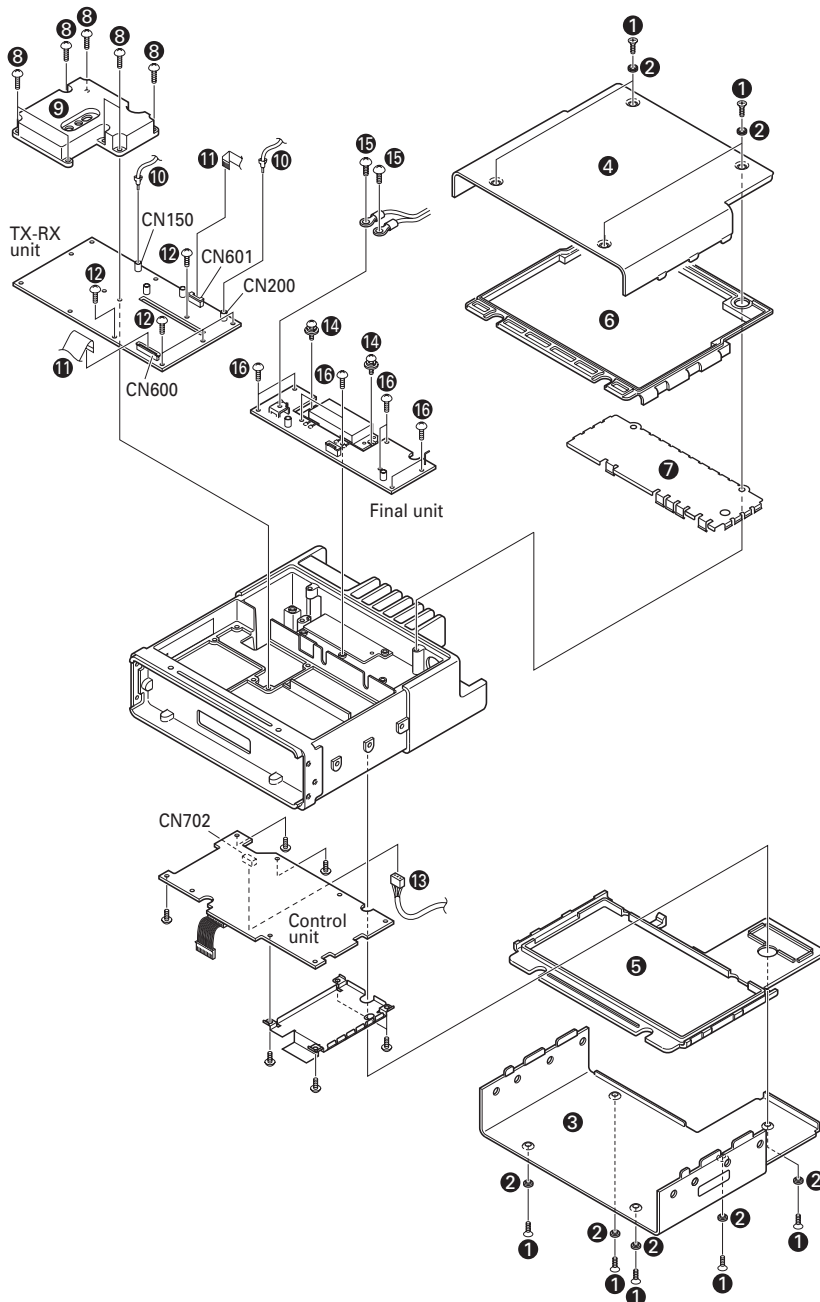
1. Remove the 9 screws **1** and 9 spacers **2**.
2. Remove the upper case **3** and lower case **4**.
3. Remove the upper packing **5** and lower packing **6**.
4. Remove the shield cover **7**.

■ Removing the TX-RX unit (X57-703)

1. Remove the 7 screws **8** holding the PLL shield cover.
2. Remove the PLL shield cover **9**.
3. Remove the coaxial cables from the two connectors (CN150, CN200) of the TX-RX unit **10**.
4. Remove the flat cables from the two connectors (CN600, CN601) of the TX-RX unit **11**.
5. Remove the 5 screws **12**.

■ Removing the Final unit (X45-375)

1. Remove the cables from the connector (CN702) of the control unit **13**.
2. Remove the 2 screws **14** holding the power module.
3. Remove the solder of the power module with a solder absorber.
4. Remove the 2 screws **15** holding the + (positive) terminal and - (negative) terminal of the power supply cable.
5. Remove the 8 screws **16** holding the final unit.
6. Remove the solder of the antenna receptacle with a solder absorber.



DISASSEMBLY FOR REPAIR

Disassembly Procedure (TK-5710H (B))

■ Removing the upper/ lower case and shield cover

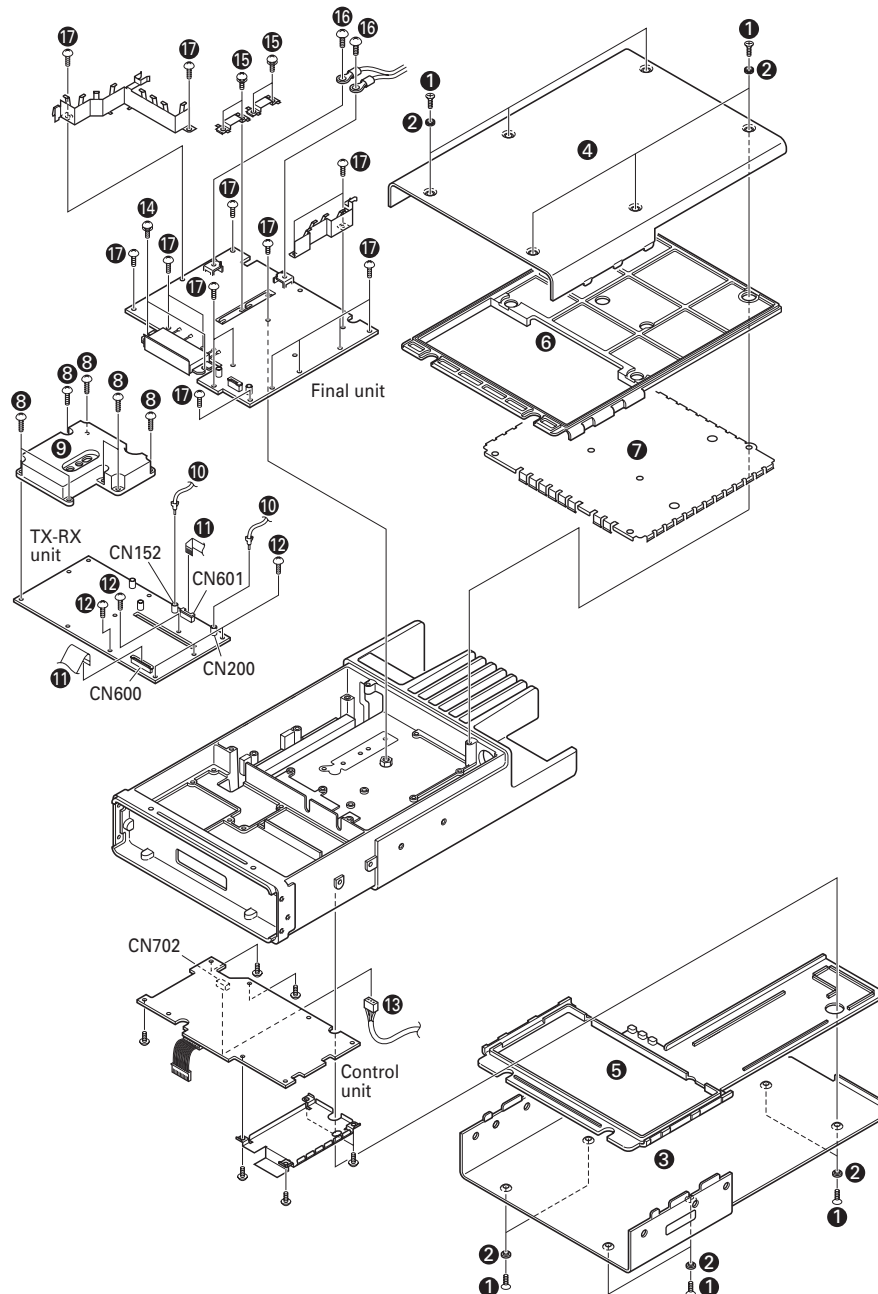
1. Remove the 12 screws **1** and 12 spacers **2**.
2. Remove the upper case **3** and lower case **4**.
3. Remove the upper packing **5** and lower packing **6**.
4. Remove the shield cover **7**.

■ Removing the TX-RX unit (X57-703)

1. Remove the 7 screws **8** holding the PLL shield cover.
2. Remove the PLL shield cover **9**.
3. Remove the coaxial cables from the two connectors (CN152, CN200) of the TX-RX unit **10**.
4. Remove the flat cables from the two connectors (CN600, CN601) of the TX-RX unit **11**.
5. Remove the 5 screws **12**.

■ Removing the Final unit (X45-376)

1. Remove the cables from the connector (CN702) of the control unit **13**.
2. Remove the 2 screws **14** holding the power module.
3. Remove the solder of the power module with a solder absorber.
4. Remove the 4 screws **15** holding the two final transistors.
5. Remove the 2 screws **16** holding the + (positive) terminal and - (negative) terminal of the power supply cable.
6. Remove the 16 screws **17** holding the final unit.
7. Remove the solder of the antenna receptacle with a solder absorber.



TK-5710(B)/5710H(B)

DISASSEMBLY FOR REPAIR

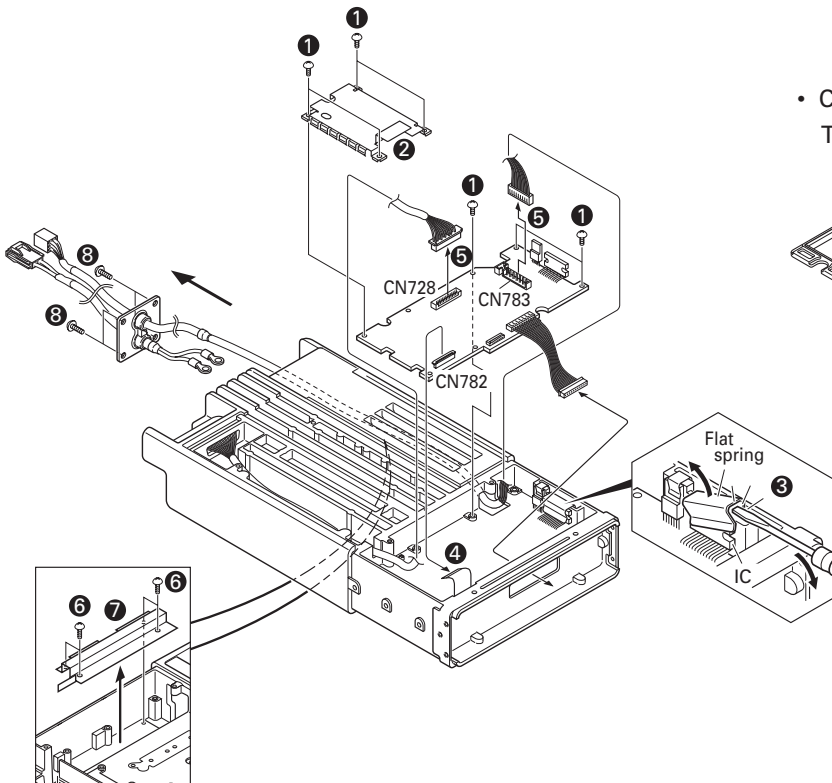
Disassembly Procedure (TK-5710 (B) / 5710H (B))

■ Removing the Control unit (X53-412)

1. Remove the 7 screws ①.
2. Remove the shield plate ②.
3. With a flat-head screwdriver, remove the 2 flat springs holding the ICs (IC706, IC732) ③.
4. Remove the flat cable from the connector (CN782) ④.
5. Remove the cables from the two connectors (CN728, CN783) ⑤.

■ Removing the accessory cable and power supply cable on the rear of the transceiver

1. Confirm the following contents.
 - The screws holding the + (positive) terminal and - (negative) terminal of the power supply cable is removed.
 - The cable from the connector (CN783) of the Control unit is removed.
2. Remove the 4 screws ⑥ holding the shield plate, and remove the shield plate ⑦ from the chassis (TK-5710H(B) only).
3. Remove the 4 screws ⑧ on the rear of the transceiver.
4. Pull out the power supply cable and accessory cable.



Precautions for Reassembly

■ Painting the lubricant (Part No.:410-0019-05) on the groove of the case packing

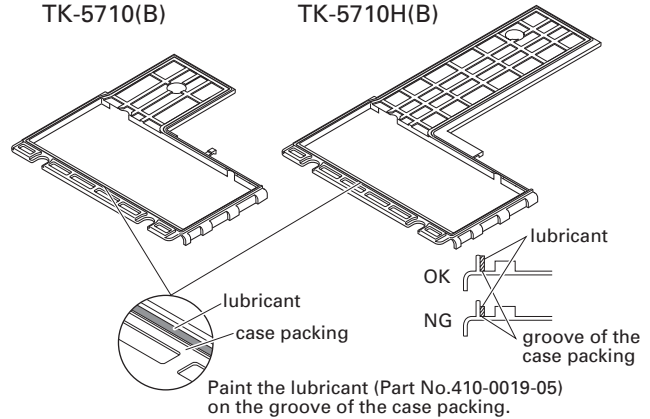
Paint the lubricant to the position as shown in figure after replacing or assembling the case packing.

Note :

To assure waterproofing, paint the lubricant on the groove of the case packing.

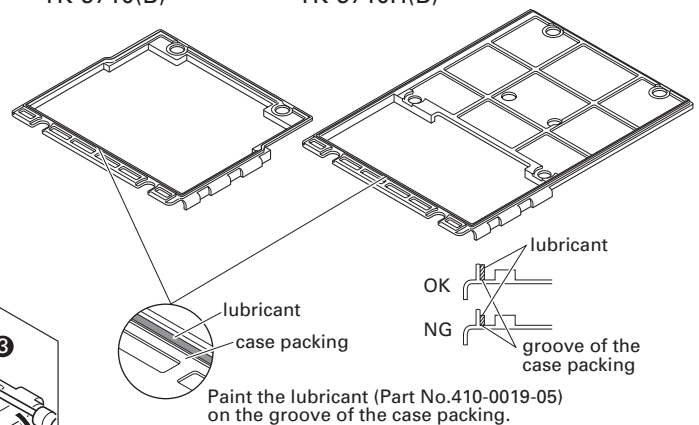
• Case packing (Upper) TK-5710(B)

TK-5710H(B)



• Case packing (Lower) TK-5710(B)

TK-5710H(B)



DISASSEMBLY FOR REPAIR

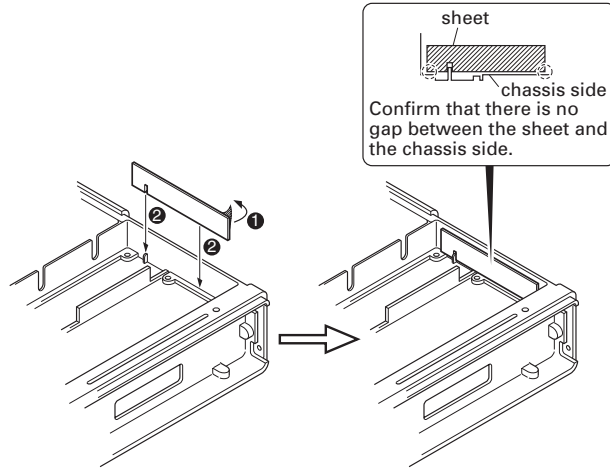
■ Affixing the sheet (G11-4378-04):TK-5710(B) only

1. Remove the covering paper of the sheet ❶.
2. Affix it to one side of chassis, so that the hollow of the sheet fits the convex of the chassis ❷.

Note :

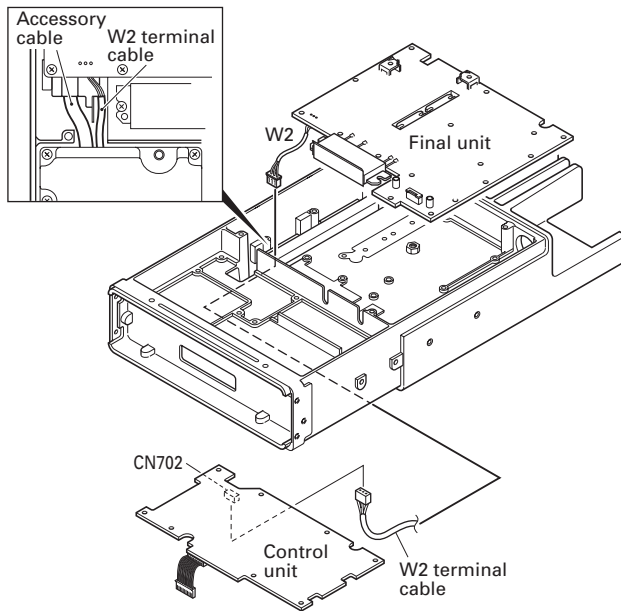
Affix it so as not to leave a gap between the sheet and the chassis side.

3. Repeat step 2 to affix the sheet to the other side of chassis.



■ Align the cable connecting the W2 terminal: TK-5710H(B) only

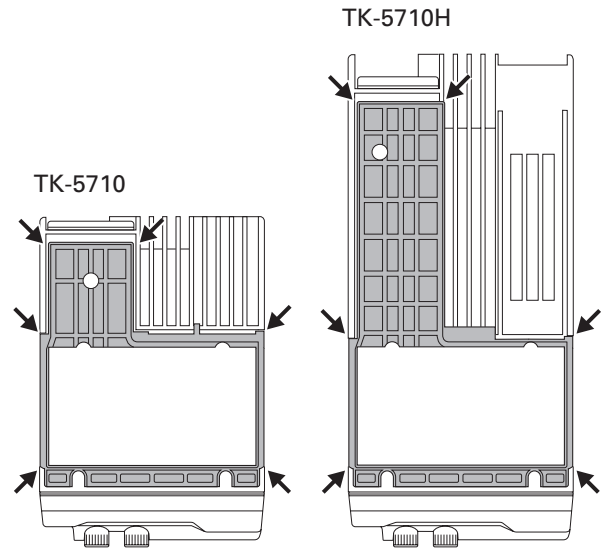
When you assemble the final unit, align the cable connecting the W2 terminal as shown in figure, then insert it into the connector (CN702) of the control unit.



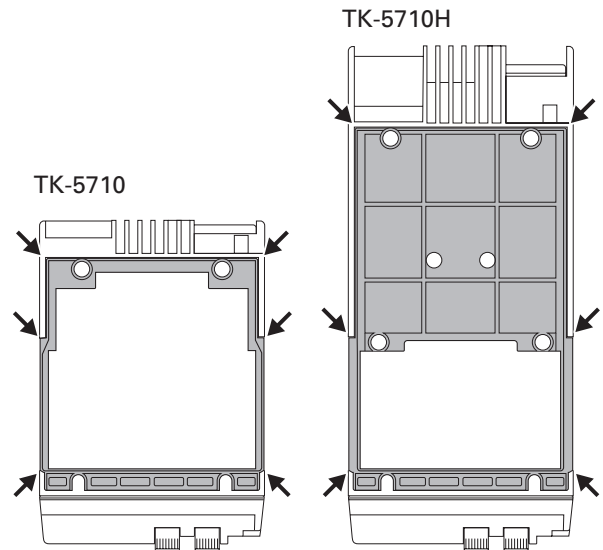
■ Procedures after installing the case packing to the chassis

After installing the case packing to the chassis, confirm that all corners of the upper / lower packing are securely fitted to the chassis. Place are shown in the arrow in the figure below.

• Case packing (Upper)



• Case packing (Lower)



TK-5710(B)/5710H(B)

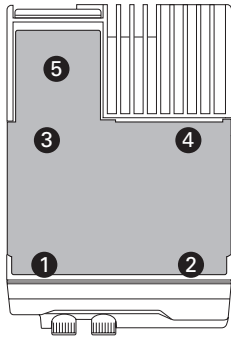
DISASSEMBLY FOR REPAIR

■ Sequence of tightening the screws for the upper / lower case to the chassis

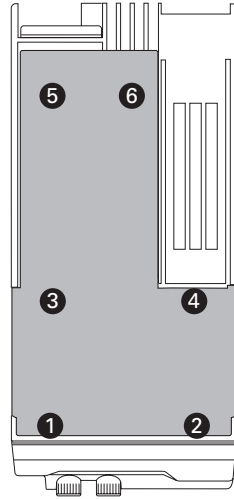
Install the upper / lower case to the chassis and tighten the screws in the order shown in the figure below.

- Upper case

TK-5710

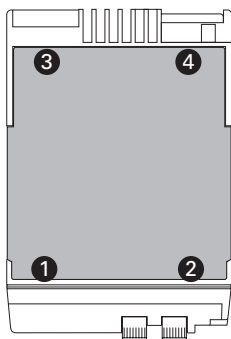


TK-5710H

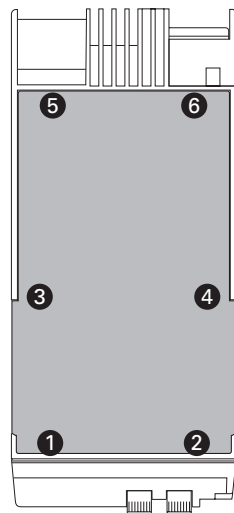


- Lower case

TK-5710



TK-5710H



CIRCUIT DESCRIPTION

1. Overview

This transceiver is a VHF/FM/P25 portable transceiver designed to operate in the frequency range of 136 to 174MHz.

The unit consists of receiver, transmitter, phase-locked loop (PLL) frequency synthesizer, base band parts, power supply, and control circuits.

2. Frequency Configuration

The receiver is a double-conversion superheterodyne using first intermediate frequency (IF) of 49.95MHz and second IF of 450kHz. Incoming signals from the antenna are mixed with the local signal from the PLL circuit to produce the first IF of 49.95MHz.

This is then mixed with the 50.4MHz second local oscillator output to produce the 450kHz second IF. This signal is detected to give the demodulated signal in the DSP.

The transmit signal frequency is generated by the PLL VCO, and modulated by the signal from the DSP. It is then amplified and fed to the antenna.

This is then mixed with the 50.4MHz second local

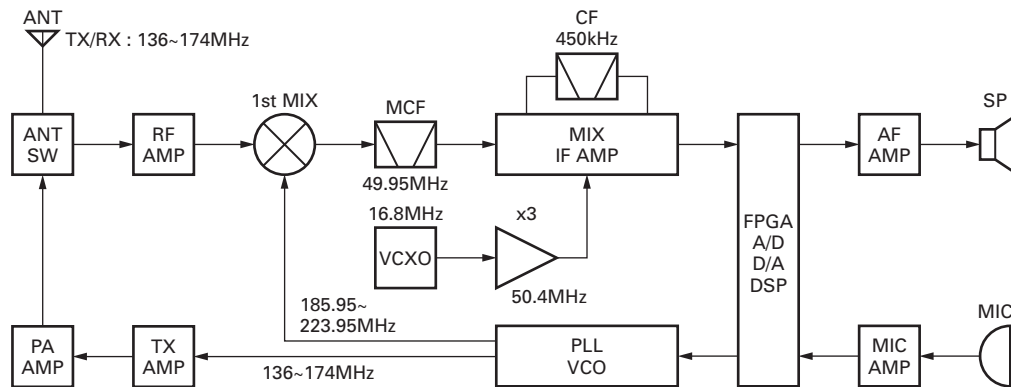


Fig. 1 Frequency configuration

3. Receiver System

3-1. Front-end RF Amplifier

The receive signal from the RX terminal (CN200) of the TX-RX unit (X57-703) is amplified by a transistor (Q200) and passes through the band-pass filter (L221, L222, L223) to remove unwanted signal.

The signal passing through the band-pass filter goes into the 1st mixer.

These band-pass filters are tuned to a desired frequency by variable capacitance diode (D200, D201, D202).

A tuning voltage corresponding to the desired signal is

applied to each variable capacitance diode to tune to the receive frequency.

3-2. 1st Local

The 1st mixer uses double balanced mixer (A400).

The receive signal passing through the band-pass filter (L221, L222, L223) and the 1st local signal generated by the VCO, are mixed by the 1st mixer (A400) to produce a 1st IF signal (49.95 MHz) (Upper heterodyne).

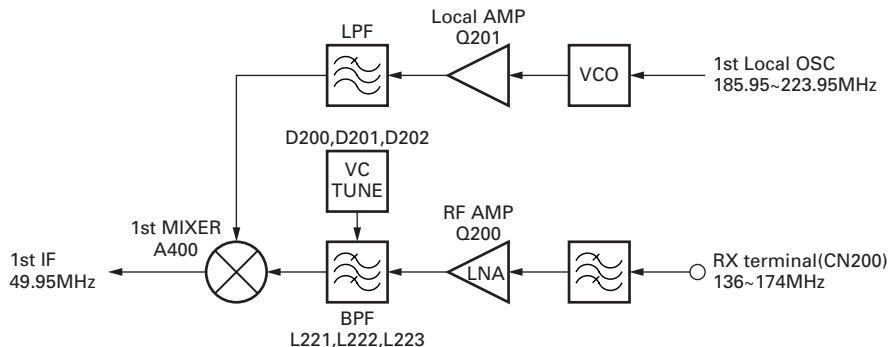


Fig. 2 Front-end RF amplifier and 1st local

TK-5710(B)/5710H(B)

CIRCUIT DESCRIPTION

3-3. 1st IF

The 1st IF signal passes through the MCF (Monolithic Crystal Filter) to remove unwanted signal.

The MCF has two paths (Wide band: XF200, Narrow band: XF201), and these are controlled with the IF filter switch (D205, D206, D207, D208, D209, D210, D211 and D212).

The signal passes through the MCF (XF200) when the Wide band (D206, D208, D210 and D212 are ON) is selected. The signal passes through the MCF (XF201) when the Narrow band (D205, D207, D209 and D211 are ON) is

selected.

The 1st IF signal passing through these MCFs is amplified by the IF amplifier (Q203) and goes into the FM IC (IC212).

3-4. 2nd Local

The 1st IF signal (49.95 MHz) amplified by the IF amplifier (Q203) and the 2nd local signal (50.4 MHz) generated by tripling the reference oscillator frequency (16.8 MHz) of the VCXO (X200) by Q205, are mixed in the FM IC (IC212) to produce a 2nd IF signal (450 kHz) (Upper heterodyne).

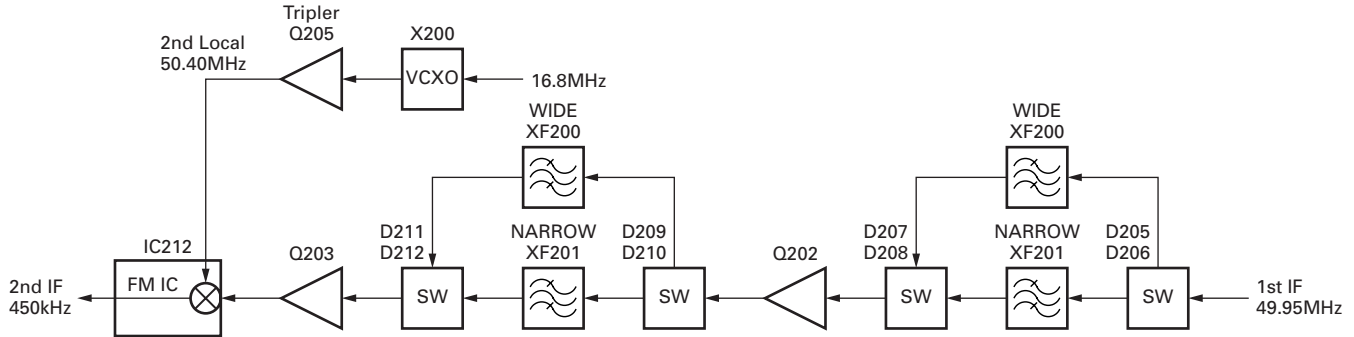


Fig. 3 1st IF and 2nd Local

3-5. 2nd IF

The 2nd IF signal passes through the ceramic filter to remove unwanted signal.

The ceramic filter has three paths (Wide band: CF201 and CF204, Narrow band: CF200 and CF203, P25 band: CF201 and CF202), and these are controlled with the multiplexers (IC205, IC206, IC207, IC209, IC210 and IC211).

The control line is W/N1, W/N2 and VN.

The signal passes through the ceramic filters (CF201 and CF204) when the Wide band (W/N1: high level, W/N2: high

level, VN: high level) is selected. The signal passes through the ceramic filters (CF200 and CF203) when the Narrow band (W/N1: low level, W/N2: low level, VN: high level) is selected. The signal passes through the ceramic filters (CF201 and CF202) when the P25 band (W/N1: high level, W/N2: low level, VN: low level) is selected.

The P25 signal is A/D-converted by the FPGA IC (IC730) and DSP IC (IC715), and is performed P25 demodulation. The detected FM signal and the P25 signal are fed to the CODEC IC (IC724) respectively.

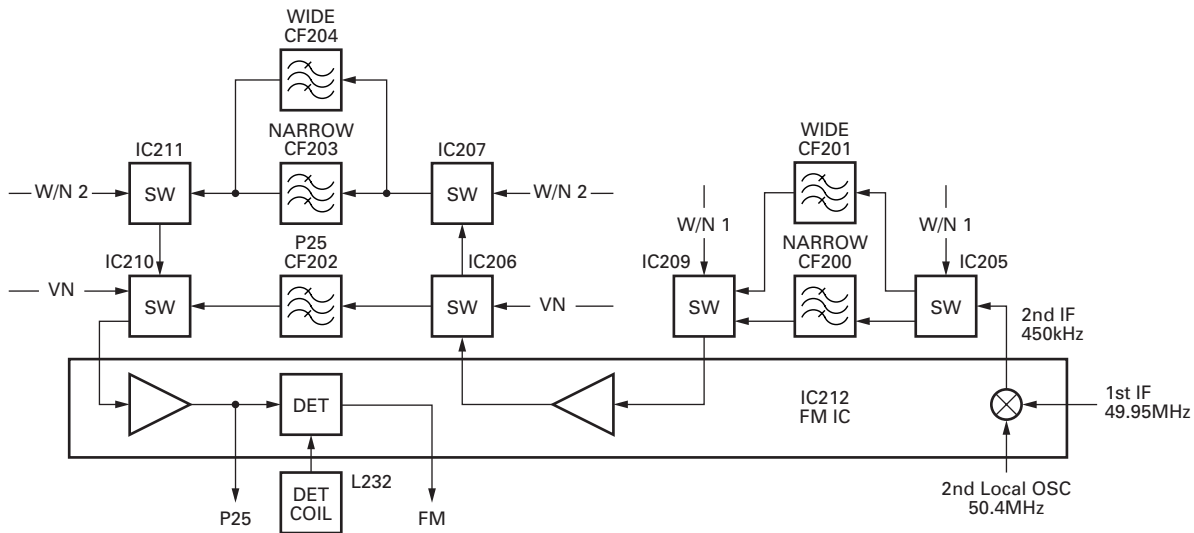


Fig. 4 2nd IF

CIRCUIT DESCRIPTION

3-6. Audio Amplifier Circuit

The AF signal from the CODEC IC (IC724) passes through the low-pass filter (IC729), analog switch (IC731) and summing amplifier (IC742), and then it goes into the D/A converter (IC738).

The output signal from the D/A converter (IC738) passes through the amplifier (IC739), audio mute switch (Q732) and analog switch (IC727), and then it is amplified by the audio amplifier (IC732).

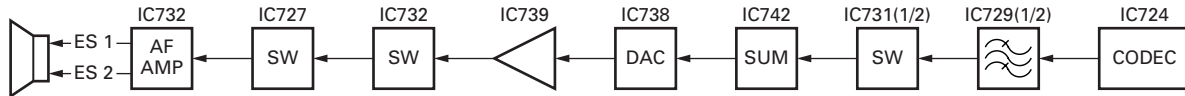


Fig. 5 Audio amplifier circuit

3-7. Squelch Circuit

A noise component is output from the FM IC (IC212). The desired noise signal is extracted by the band-pass filter, and is amplified by the noise amplifier (Q208).

The output signal from the noise amplifier is rectified by

D203 to produce a DC voltage, which is output from D203 as squelch voltage.

The squelch voltage goes into the ASQL terminal (pin 121) of the CPU (IC703) and is compared with the reference voltage preset in the CPU to control audio signal ON/OFF.

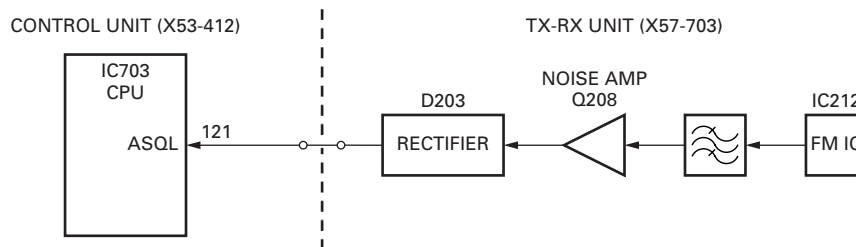


Fig. 6 Squelch circuit

4. Transmitter System

4-1. Audio Band Circuit

The audio band circuit of the transmitter system consists of the following:

- Microphone mute switch (Q723)
- AGC (Automatic Gain Control) (Q715, Q716, IC719, D727, D728)
- Scrambler board switch (Q720)

The microphone mute switch (Q723) cuts off audio signals from the external microphone.

The AGC (Q715, Q716, IC719, D727, D728) is an amplifier that reduces gain automatically by greatly increasing the attenuation when the audio signal of a certain level or higher is present. It controls the gain so that the audio signal input to the CODEC IC (IC724) is not clipped.

If an optional scrambler board is installed, the switch (Q720) adjusts the signal path so that the audio signal is fed to the CODEC IC through the scrambler board.

The audio signal is fed to the CODEC IC (base band circuit) through the above path.

4-2. Base Band Circuit

The base band circuit of the transmitter system consists of the following:

- CODEC IC (IC724)
- DSP IC (IC715)
- LPF (Low-Pass Filter) (IC729)

- Summing amplifier (IC733)
- DAC (D/A Converter) (IC738)
- Amplifier (IC735)

The audio signal output from the base band circuit is converted to digital data of a sampling frequency of 48 kHz and a quantization resolution of 16 bits. This digital data is sent to the DSP IC (IC715), and voice signals of 300 Hz or lower and frequencies of 3 kHz or higher are cut off and an audio range 300 Hz to 3 kHz is extracted.

The audio signal is then pre-emphasized in FM mode and synthesized with the signals, such as QT and DQT, as required, and is then output from the CODEC IC. In P25 mode, the audio signal is converted to the C4FM base band signal and output from the CODEC IC. The DTMF and MSK base band signals are also generated by the DSP IC and output by the CODEC IC.

LPF (IC729) removes quantization noise from the base band signal output from the CODEC IC.

The summing amplifier (IC733) sets the base band signal level to the DAC input range.

The DAC (IC738) assigns the base band signal to the VCO (Q413, Q414, Q416) and VCXO (X400).

At this time, the level output according to the transmit carrier is fine-adjusted according to the modulation method of FM Wide, FM Narrow and P25.

TK-5710(B)/5710H(B)

CIRCUIT DESCRIPTION

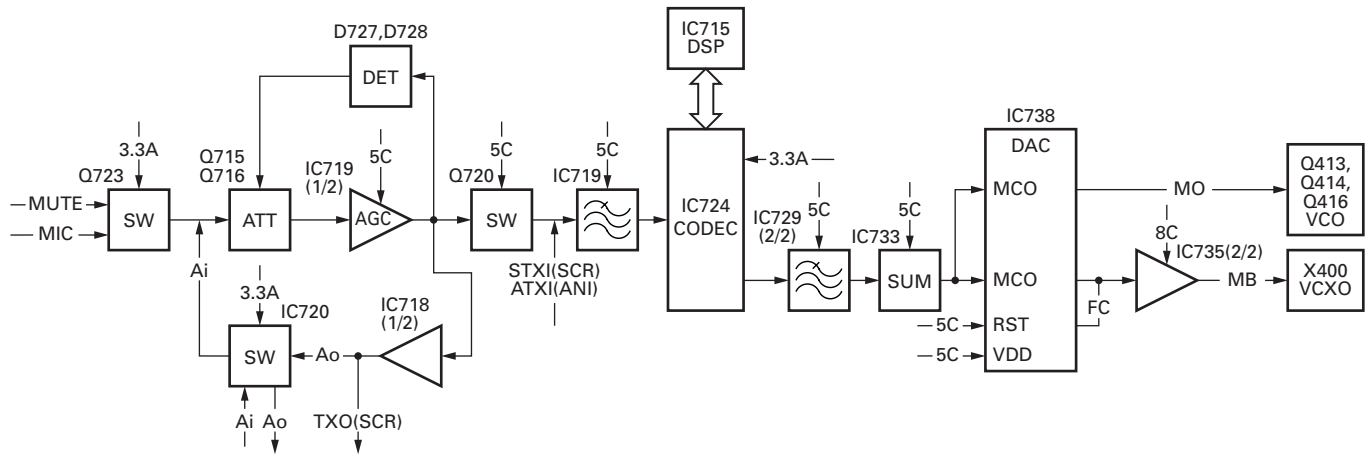


Fig. 7 Audio band and Base band circuit

4-3. Drive Amplifier Circuit (From T/R switch to Power module)

The transmit signal passing through the T/R switch (D435) is amplified by the two drive amplifiers (Q150, Q151). The transmit signal from the drive amplifier (Q151) passes through a 3dB attenuator and is fed to the power module.

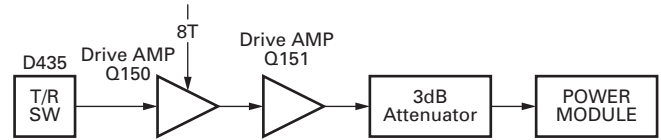


Fig. 8 Drive amplifier circuit

4-4. Final Amplifier Circuit (From Power module to Antenna output): TK-5710 (B)

The transmit signal from the TX terminal (CN1) of the final unit (X45-375) is amplified by the power module (IC2).

The signal amplified by the power module passes through the antenna switch (D1, D3, D12, D11), CM coupler and low-pass filter, then it is fed to the antenna.

CM coupler is a line for detecting forward wave and reflected wave.

Forward wave is detected by D5, and is converted into

DC voltage. The converted DC voltage is fed to the APC comparator (IC1), and is compared with the PC voltage, then is output from the OUT-B terminal (pin 7) of IC1 as an APC voltage. The APC voltage controls the gate voltage of the power module (IC2), and keeps transmission output stable.

If an abnormal antenna load is connected, reflected wave is detected by D6, and output voltage (DC voltage) is fed to the APC comparator (IC1). The transmission output is reduced more as this DC voltage rises.

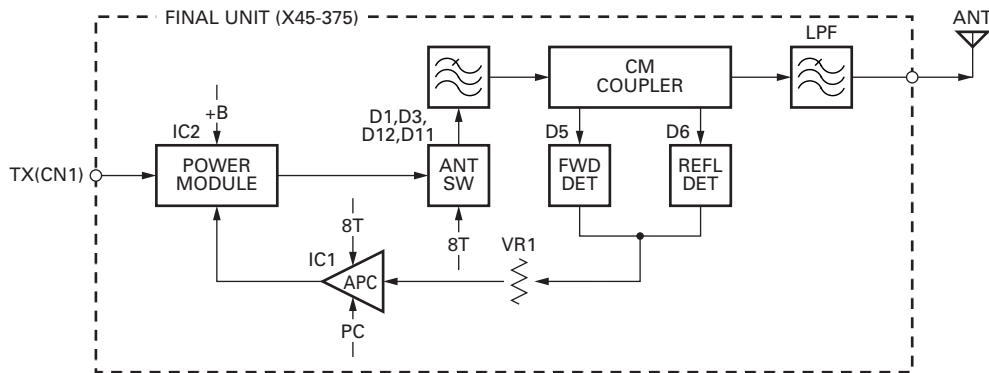


Fig. 9 Final amplifier circuit: TK-5710 (B)

CIRCUIT DESCRIPTION

4-5. Final Amplifier Circuit (From Power module to Antenna output): TK-5710H (B)

The transmit signal from the TX terminal (CN1) of the final unit (X45-376) is amplified by the power module (IC1).

The signal amplified by the power module is divided into two signals, and further is amplified by the final amplifier (Q1,Q2). The each signal from Q1 and Q2 is combined.

The combined signal passes through the antenna switch (D6, D8, D9), CM coupler and low-pass filter, then it is fed to the antenna.

CM coupler is a line for detecting forward wave and reflected wave.

Forward wave is detected by D3, and is converted into DC voltage. The converted DC voltage is fed to the APC comparator (IC2), and is compared with the PC voltage, then is output from the OUT-B terminal (pin 7) of IC2 as an APC voltage. The APC voltage controls the gate voltage of the power module (IC1) and final amplifier (Q1,Q2), and keeps transmission output stable.

If an abnormal antenna load is connected, reflected wave is detected by D4, and output voltage (DC voltage) is fed to the APC comparator (IC2). The transmission output is reduced more as this DC voltage rises.

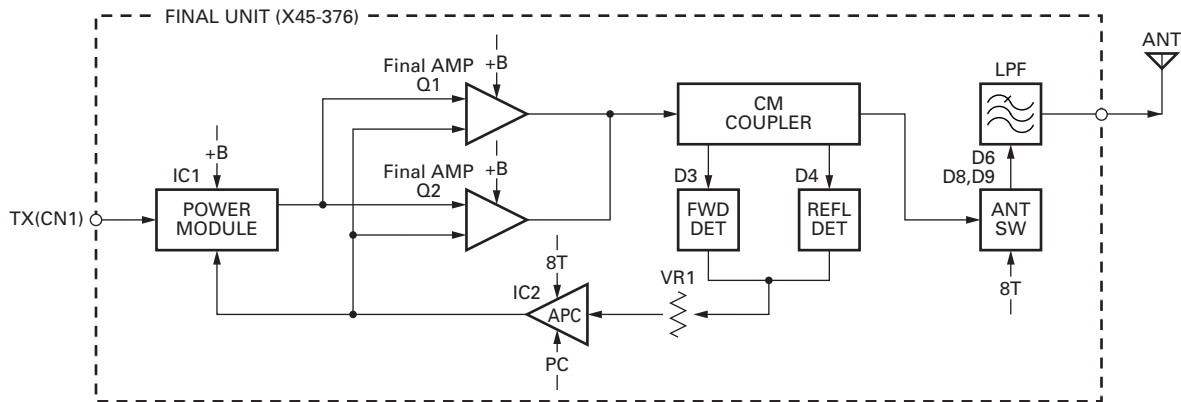


Fig. 10 Final amplifier circuit: TK-5710H (B)

4-6. Temperature Protection Circuit : TK-5710 (B)

To prevent thermal destruction of the power module (IC2), this circuit reduces APC voltage when temperature of the power module (IC2) rises.

The CPU (IC703) detects temperature with a thermistor (TH1) and controls reference voltage to the APC circuit.

4-7. Temperature Protection Circuit : TK-5710H (B)

To prevent thermal destruction of the power module (IC1) and final amplifier (Q1,Q2), this circuit reduces APC voltage when temperature of the power module (IC1) and final amplifier (Q1,Q2) rises.

The CPU (IC703) detects temperature with the thermistor (TH1,TH2) and controls reference voltage to the APC circuit.

5. PLL Frequency Synthesizer

The PLL Frequency Synthesizer consists of the following components:

- VCXO (X400)
- VCO (Q413, Q414, Q416)
- Rheostat IC (IC401)
- PLL IC (IC400)
- Local switch (D435, D436)

5-1. VCXO (X400)

VCXO (X400) generates a reference frequency of 16.8 MHz for the PLL frequency synthesizer. This reference frequency is applied to pin 10 of the PLL IC (IC400).

The VCXO oscillation frequency is fine-adjusted by controlling the voltage applied to pin 1 of the VCXO with DAC (IC738). It is also controlled with pin 1 of the VCXO if the output from VCXO is modulated.

5-2. VCO

There is two RX VCOs (RX VCO 1, RX VCO 2) and a TX VCO.

The RX VCO 1 (Q413) and RX VCO 2 (Q414) generate a 1st local receive signal. The RX VCO 1 oscillation frequency is 185.95 to 204.9475 MHz and the RX VCO 2 oscillation frequency is 204.95 to 223.95 MHz.

The TX VCO (Q416) generates a transmit carrier. The TX VCO oscillation frequency is 136 to 174 MHz.

The VCO oscillation frequency is determined by two systems of operation switching terminals "STR" and "VCO1/2" and two systems of voltage control terminals "C/V" and "ASSIST".

The operation switching terminals, "STR" and "VCO1/2", are controlled by the control lines (STR, VCO1/2) output from the CPU (IC703). When the STR logic is high and the VCO1/2 logic is high, the RX VCO 1 output a 1st local receive signal. When the STR logic is high and the VCO1/2 logic is low, the

TK-5710(B)/5710H(B)

CIRCUIT DESCRIPTION

RX VCO 2 output a 1st local receive signal. When the STR logic is low, the TX VCO output a transmit carrier.

The voltage control terminals, "CV" and "ASSIST", are controlled by the PLL IC (IC400) and rheostat IC (IC401) and the output frequency changes continuously according to the applied voltage. For the modulation input terminal, "MOD", the output frequency changes according to the applied voltage. This is used to modulate the VCO output. "MOD" works only when "STR" is low.

5-3. Rheostat IC (IC401)

The rheostat IC (IC401) is connected to the VCO voltage control terminal, "ASSIST", and quickly controls the VCO oscillation frequency. However, its accuracy is low and the VCO frequency cannot be matched accurately with the desired transmit carrier or the 1st local receive signal.

The rheostat IC is controlled by the CPU (IC703) through the 3-line "PCS", "DAT", "CLK" serial bus.

5-4. PLL IC (IC400)

PLL IC compares the differences in phases of the VCO oscillation frequency and the VCXO reference frequency, returns the difference to the VCO CV terminal and realizes the "Phase Locked Loop" for the return control. This allows the VCO oscillation frequency to accurately match (lock) the

desired frequency.

When the frequency is controlled by the PLL, the frequency convergence time increases as the frequency difference increases when the set frequency is changed. To supplement this, the rheostat IC is used before control by the PLL IC to bring the VCO oscillation frequency close to the desired frequency. As a result, the VCO CV voltage does not change and is always stable at approximately 2 V.

The desired frequency is set for the PLL IC by the CPU (IC703) through the 3-line "EP", "DAT", "CLK" serial bus. Whether the PLL IC is locked or not is monitored by the CPU through the "UL" signal line. If the VCO is not the desired frequency (unlock), the "UL" logic is low.

5-5. Local Switch (D435, D436)

The connection destination of the signal output from the amplifier (Q419) is changed with the diode switch (D435) that is controlled by the transmission power supply, 8T, and the diode switch (D436) that is controlled by the receive power supply, 8R.

If the 8T logic is high, it is connected to a transmit-side pre-pre-drive amplifier (Q150). If the 8R logic is high, it passes through the local amplifier (Q210) and then is connected to a receive-side mixer (A400).

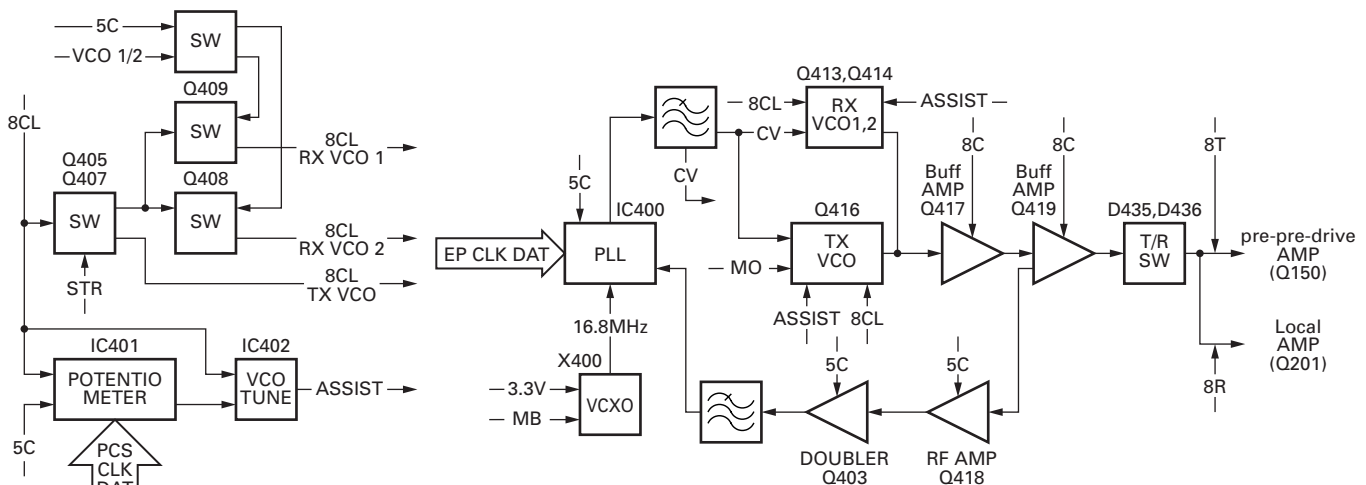


Fig. 11 PLL block diagram

6. Control Circuit

The control circuit consists of CPU (IC703) and its peripheral circuits. It controls the TX-RX unit and transfers data to the Control unit. IC703 mainly performs the following;

- 1) Switching between transmission and reception by PTT signal input.
- 2) Reading system, zone, frequency, and program data from the memory circuit.
- 3) Sending frequency program data to the PLL.
- 4) Controlling squelch on/off by the DC voltage from the squelch circuit.
- 5) Controlling the audio mute circuit by decode data input.

6-1. Memory Circuit

Memory circuit consists of the CPU (IC703) and a flash memory (IC712). A flash memory has a capacity of 16M bits and contains the transceiver control program for the CPU. It also stores the data for transceiver channels and operating parameter that are written by the FPU. This program can be easily written from an external devices.

The EEPROM (IC701) stores the last channel data, the scan on status, and other parameters.

Flash memory

Note : The flash memory (IC712) stores the data that is

CIRCUIT DESCRIPTION

written by the FPU (KPG-95D), and firmware program (User mode, Test mode, Tuning mode, etc.). This data must be rewritten when replacing the flash memory.

■ EEPROM

Note : The EEPROM (IC701) stores tuning data (Deviation, Squelch, etc.).

Realign the transceiver after replacing the EEPROM.

■ Real-time clock

The clock function is based on real-time clock IC (IC700). When the power supply is off, it is backed up by an internal secondary lithium battery.

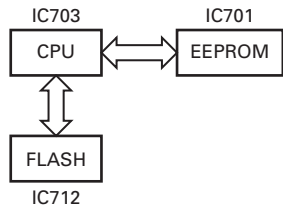


Fig. 12 Memory circuit

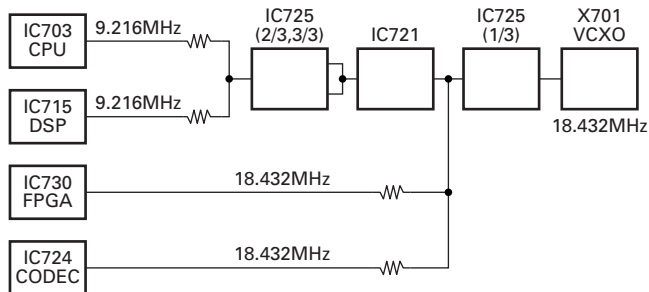


Fig. 13 Clock diagram

6-2. Temperature Detection Circuit

The temperature detection circuit detects the temperature using a temperature IC (IC702) and corrects the thermal characteristic change of the squelch.

6-3. DSP

The DSP circuit consists of a DSP IC (IC715), a CODEC IC (IC724) and processes the base band signal. The DSP IC operates on an external clock of 9.216MHz (the same as the CPU), the I/O section operates at 3.3V and the core section operates at 1.5V. The DSP IC carries out the following processes:

- C4FM encoding
- Analog FM pre-emphasis/de-emphasis
- Vocoder (IMBE) processing between audio codec and modulation/ demodulation
- CAI processing, such as error correction encoding
- QT/DQT encoding/ decoding
- DTMF encoding/ decoding
- MSK encoding/ decoding
- 2-tone decoding
- Compressor/ expander processing
- Transmit/ receive audio filtering processing

- Microphone amplifier AGC processing
- Audio mute processing
- Modulation level processing

6-4. FPGA

The FPGA IC (IC730) I/O section operates at 3.3V and the core section operates at 2.5V. The FPGA IC has the following function.

- Demodulation (C4FM,CQPSK)
- Shift register (8CH)
- Level convert Buffer amplifier(5V→3.3V)(9CH)
- Generates 1.536MHz for the demodulation and CODEC

7. Power Supply Circuit

The voltage is always applied from +B. D719 protects IC705 (DFF) against overvoltage.

Pulses from power switch are fed to the IC705 clock line and the CPU (IC703). These clock pulses reverse the output from High (The transceiver is turned OFF) to Low (The transceiver is turned ON), but it does not reverse the output from Low to High. The CPU (IC703) output the pulse to the S2 (SET2) terminal (pin 8) of IC705 to reverse the output from Low to High.

IGN is connected to the R2 (RESET2) terminal (pin 10) of IC705 and the CPU (IC703). When the IC705 reset voltage is increased, the output changes to Low (The transceiver is turned ON). When IGN voltage is decreased, the CPU (IC703) output the pulse to the S2 terminal (pin 8) of IC705 to reverse the output from Low to High after the programmed time expires (Timed power-off function).

If 24V is supplied to the transceiver by mistake, Q707 turns on, Q710 turns off, the power is forced to be turned off.

This circuit consists of IC706 (8V), IC707 (5V), IC708 (3.3V), IC710 (3.3V), IC711 (2.5V) and IC709 (1.5V).

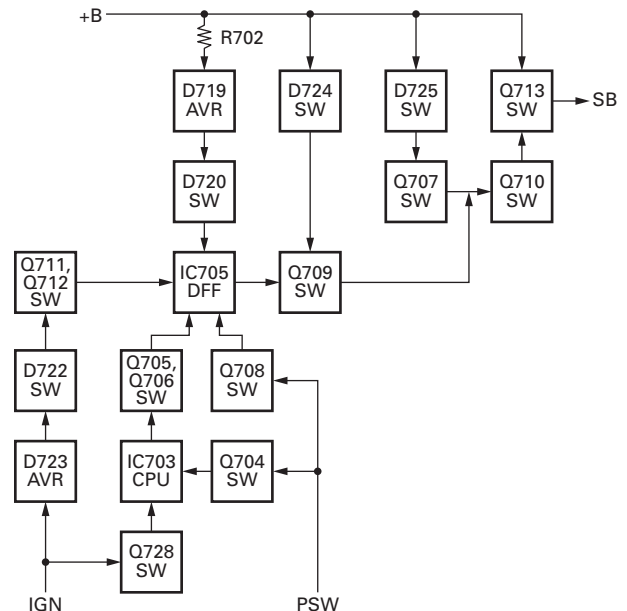


Fig. 14 Power supply circuit

TK-5710(B)/5710H(B)

CIRCUIT DESCRIPTION

8. Signaling Circuit

8-1. Encode (QT/DQT/DTMF/MSK)

Each signaling data signal of QT, DQT, DTMF and MSK is generated by the DSP circuit, superposed on a modulation signal and output from pin 16 of the CODEC IC (IC724).

The modulation balance of the QT/DQT signal is adjusted by the D/A converter(IC738) and the resulting signal is routed to the modulation input of the VCO and VCXO (X400).

The each deviation of the TX QT, DQT, DTMF and MSK tone is adjusted by changing the output level of the CODEC IC and the resulting signal is routed to VCO and VCXO. The RX DTMF tone is output from pin 15 of the CODEC IC, passes through the receive audio signal system, and is output from the speaker.

8-2. Decode (QT/DQT/DTMF/2-tone/MSK)

The audio signal is removed from the FM detection signal sent to the DSP circuit and the resulting signal is decoded.

9. Compander Circuit

The term "compander" means compressor and expander. The compander reduces noise by utilizing a compressor and an expander.

The transceiver contains DSP IC (IC715) to perform this operation. The transceiver compander can be turned on or off using the FPU.

SEMICONDUCTOR DATA

CPU:30625MGP347GU (Control unit IC703)

| Pin No. | Port Name | I/O | Function |
|---------|------------|---------|--------------------------------------------------|
| 1 | VREF | – | A/D converter reference voltage input terminal |
| 2 | AVCC | – | A/D converter power supply input terminal |
| 3 | PLAY | I | Play input (for VGS) (H: Playing) |
| 4 | EI | O | Enable output for shift register of KRK |
| 5 | KCS | O | Chip select output for D/A converter of KRK |
| 6 | NC | – | No connection |
| 7 | VOICE | O(D/A) | Voice output of built-in voice guide |
| 8 | SOE | O | Shift register output enable |
| 9 | UL | I | PLL unlock (L:Unlock, H:Lock) |
| 10 | DAT | O | Common data |
| 11 | CLK | O | Common clock |
| 12 | SDA | I/O | EEPROM data |
| 13 | BYTE | I | Use as 8bit data bus (Vcc) |
| 14 | CNVSS | I | Use as memory expansion mode (Vss) |
| 15 | PCS | O | Potentiometer CS |
| 16 | XOUT | – | No connection |
| 17 | RESET | I | Reset input |
| 18 | XOUT | – | No connection |
| 19 | VSS | – | GND |
| 20 | XIN | – | Clock input, 9.216MHz (18.432MHz/2) |
| 21 | VCC1 | – | Power supply input (5V) |
| 22 | NC (NMI) | I | NC |
| 23 | RXD INT | I(INT2) | RXD interrupt input (L:Interrupt) |
| 24 | PSW (INT1) | I(INT1) | Power switch detection (L:Power off, H:Power on) |
| 25 | INTRA | I(INT0) | RTC interrupt input (L:Interrupt) |
| 26 | LD | O | DAC LD |
| 27 | BEEP | O | BEEP output |
| 28 | EP | O | PLL CS |
| 29 | AUX I/O 1 | I/O | Auxiliary I/O 1 (FPU selectable) |
| 30 | AUX I/O 2 | I/O | Auxiliary I/O 2 (FPU selectable) |
| 31 | STRB1 | O | Shift register 1 CS |
| 32 | AUX I/O 3 | I/O | Auxiliary I/O 3 (FPU selectable) |
| 33 | AUX I/O 4 | I/O | Auxiliary I/O 4 (FPU selectable) |
| 34 | RXD2 | I | to Display |
| 35 | TXD2 | O | to Display |
| 36 | TXD1 | O | to D-SUB 25pin (VGS) |
| 37 | VCC1 | – | Power supply input (5V) |
| 38 | RXD1 | I | to D-SUB 25pin (VGS) |
| 39 | VSS | – | GND |
| 40 | VBUSY | I | Busy input (for VGS) (H:Busy) |
| 41 | AUX I/O 5 | I/O | Auxiliary I/O 5 (FPU selectable) |
| 42 | TXD0 | O | to D-SUB 25pin (232C level) |
| 43 | RXD0 | I | to D-SUB 25pin (232C level) |
| 44 | AUX I/O 6 | I/O | Auxiliary I/O 6 (FPU selectable) |
| 45 | AUX I/O 7 | I/O | Auxiliary I/O 7 (FPU selectable) |
| 46 | MM | O | MIC mute output (L:Unmute, H:Mute) |
| 47 | SBC | O | Power control output (L:Power on, H:Power off) |

| Pin No. | Port Name | I/O | Function |
|---------|-----------|---------|------------------------------------------------------------------------------------------|
| 48 | DS | O | Dual band switch |
| 49 | SELF | I | Self programming mode (L:Enable, H:Disable) |
| 50 | RDY | I | Bus control (Ready) |
| 51 | ALE | – | No connection |
| 52 | HOLD | I | Bus control (Hold) |
| 53 | HLDA | – | No connection |
| 54 | STRB | O | Shift register strobe of FPGA |
| 55,56 | NC | – | No connection |
| 57 | SCSW | O | When the scramble board is installed, the route of AF is change. (L:Scrambler on, H:off) |
| 58 | BCLK | O | Bus control (Base clock output) |
| 59 | RD | O | Bus control (Read) |
| 60 | BHE | – | No connection |
| 61 | WR | O | Bus control (Write) |
| 62 | NC | – | No connection |
| 63 | AUXO 1 | O | Auxiliary output 1 (FPU selectable) |
| 64 | AUXO 2 | O | Auxiliary output 2 (FPU selectable) |
| 65 | CHECK | I | for port check |
| 66 | CS2 | O | Flash memory CS |
| 67 | CS1 | O | DSP CS |
| 68 | CS0 | O | Flash memory CS |
| 69~79 | A19~A9 | O | Address bus 19~9 |
| 80 | AM | O | AF mute (L:Unmute, H:Mute) |
| 81 | TCNT | I | Tone control input (for ANI board) |
| 82 | KEY | I | TX key input (for ANI board) |
| 83 | INH | I | Audio inhibit input (for ANI board) |
| 84 | BEEPS | O | Beep mute switch (L:Unmute, H:Mute) |
| 85 | VCC2 | – | Power supply input (3.3V) |
| 86 | A8 | O | Address bus 8 |
| 87 | VSS | – | GND |
| 88~95 | A7~A0 | O | Address bus 7~0 |
| 96 | A20 | O | Address bus 20 |
| 97 | HINT | I(INT4) | DSP HINT interrupt (L:Interrupt) |
| 98 | NC | – | No connection |
| 99 | 1/2 | I | Deak 1/2 L:Deak 1 (default), H:Deak 2 (Modification:Pd→Pu) |
| 100 | IGN | I | Ignition sense (L:Ignition on, H:Ignition off) |
| 101 | DRST | O | DSP reset output (L:Reset) |
| 102 | FRST | O | Flash memory reset output (L:Reset) |
| 103 | NC | O | No connection |
| 104~111 | D7~D0 | I/O | Data bus 7~0 |
| 112 | STRB2 | O | Shift register 2 CS |
| 113 | TAMS | O | TX audio monitor switch (L:Disconnect, H:Connect) |
| 114 | AUX I/O 8 | I/O | Auxiliary I/O 8 (FPU selectable) |
| 115 | LOK | I/O | for LOK customize |
| 116 | RTCDT | I/O | RTC data I/O |
| 117 | AUX I/O 9 | I/O | Auxiliary I/O 9 (FPU selectable) |
| 118 | STRB3 | O | Shift register 3 CS |
| 119 | PTOS | O | for K-USA customize |

TK-5710(B)/5710H(B)

SEMICONDUCTOR DATA

| Pin No. | Port Name | I/O | Function |
|---------|-----------|--------|-------------------------------------------|
| 120 | FTEMP1 | I(A/D) | Temperature compensation 1 input |
| 121 | ASQL | I(A/D) | Analog squelch input |
| 122 | CV | I(A/D) | VCO CV input |
| 123 | RSSI | I(A/D) | RSSI input |
| 124 | TEMP | I(A/D) | Temperature Input |
| 125 | BATT | I(A/D) | Battery level input |
| 126 | FTEMP2 | I(A/D) | Temperature compensation 2 input |
| 127 | AVSS | - | A/D converter power supply input terminal |
| 128 | AUX I/O | I/O | AUX input/ouput (for ANI board) |

Shift Register:BU4094BCFV (Control unit IC728)

| Pin No. | Port Name | I/O | Function |
|---------|-----------|-----|------------------------------------------------------|
| 1 | STRB1 | I | Latch clock input (Rising edge) |
| 2 | DAT | I | Serial data input |
| 3 | CLK | I | Serial clock input (Rising edge) |
| 4 | C | O | External MIC mute (L:Mute, H:Unmute) |
| 5 | B | O | External data line mute (L:Mute, H:Unmute) |
| 6 | A | O | INT SP/EXT SP switching (L:Normal SP, H:PA SP) |
| 7 | HR | O | Horn alert (L:Relay off, H:Relay on) |
| 8 | VSS | - | GND |
| 9,10 | NC | O | No connection |
| 11 | PTOS | O | PTT output for scrambler board (L:PTT on, H:PTT off) |
| 12 | EN | O | VGS enable (L:Enable Low, H: Enable High) |
| 13 | USEL | O | VGS USEL (L:19200bps, H:115200bps) |
| 14 | VRST | O | VGS reset (L:Reset Low, H:Reset High) |
| 15 | SOE | I | Output enable control input |
| 16 | VDD | - | Power supply input (5V) |

Shift Register:BU4094BCFV (Control unit IC717)

| Pin No. | Port Name | I/O | Function |
|---------|-----------|-----|------------------------------------------------|
| 1 | STRB2 | I | Latch clock input (Rising edge) |
| 2 | DAT | I | Serial data input |
| 3 | CLK | I | Serial clock input (Rising edge) |
| 4~7 | BC1~BC4 | O | Scrambler code 1~4 (L:Off, H:On) |
| 8 | VSS | - | GND |
| 9,10 | NC | O | No connection |
| 11 | AC | O | Scrambler on/off (L:On, H:Off) |
| 12 | BUSY | O | Channel busy (L:Busy, H:Not busy) |
| 13 | EMG | O | Emergency on/off (L:On H:Off) |
| 14 | PTOA | O | PTT output for ANI board (L:PTT on, H:PTT off) |
| 15 | SOE | I | Output enable control input |
| 16 | VDD | - | Power supply input (5V) |

Shift Register:BU4094BCFV (TX-RX unit IC600)

| Pin No. | Port Name | I/O | Function |
|---------|-----------|-----|-----------------------------------------------------------|
| 1 | STRB3 | I | Latch clock input (Rising edge) |
| 2 | DAT | I | Serial data input |
| 3 | CLK | I | Serial clock input (Rising edge) |
| 4 | VCO 1/2 | O | VCO 1/ VCO 2 switching (L:VCO 2, H:VCO 1) |
| 5 | STR | O | TX VCO/RX VCO switching (L:TX, H:RX) |
| 6 | 8RC | O | 8R control (L:Off, H:On) |
| 7 | 8TC | O | 8T control (L:Off, H:On) |
| 8 | VSS | - | GND |
| 9,10 | NC | O | No connection |
| 11 | WN1 | O | CF 1st stage W/N switching (Wide H:WN1, H:WN2, H:VN) |
| 12 | WN2 | O | CF 2nd stage W/N switching (Narrow L:WN1, L:WN2, H:VN) |
| 13 | VN | O | CF 2nd stage W or N/VN switching (P25 H:WN1, L:WN2, L:VN) |
| 14 | NC | O | No connection |
| 15 | SOE | I | Output enable control input |
| 16 | VDD | - | Power supply input (5V) |

D/A Converter : M62364FP-F (Control unit IC738)

| Pin No. | Port Name | I/O | Function |
|---------|-----------|-----|----------------------|
| 1 | VIN1 | I | RX AF input 1 |
| 2 | VOUT1 | O | RX AF output 1 |
| 3 | VOUT2 | O | RX AF output 2 |
| 4 | VIN2 | I | RX AF input 2 |
| 5 | VDD | - | 5V (5C) |
| 6 | LD | I | LD |
| 7 | CLK | I | Serial clock input |
| 8 | DI | I | Serial data input |
| 9 | VIN3 | I | GND |
| 10 | VOUT3 | O | BPF tuning |
| 11 | VOUT4 | O | 2nd local tuning |
| 12 | VIN4 | I | GND |
| 13 | VIN5 | I | TX modulation input |
| 14 | VOUT5 | O | TX modulation output |
| 15 | VOUT6 | O | Balance adjust |
| 16 | VIN6 | I | TX modulation input |
| 17 | DO | - | No connection |
| 18 | VDAREf | - | 2V (VREF) |
| 19 | RESET | - | 5V (5C) |
| 20 | GND | - | GND |
| 21 | VIN7 | I | 3.3V (33A) |
| 22 | VOUT7 | O | Frequency control |
| 23 | VOUT8 | O | APC |
| 24 | VIN8 | I | 5V (5C) |

COMPONENTS DESCRIPTION

Control unit (X53-4120-10)

| Ref. No. | Part name | Description |
|-----------|------------|---------------------------|
| IC700 | IC | RTC IC |
| IC701 | IC | EEPROM |
| IC702 | IC | Temperature DET |
| IC703 | IC | CPU |
| IC704 | IC | Reset IC |
| IC705 | IC | D-type flip flop |
| IC706 | IC | Voltage regulator (8C) |
| IC707 | IC | Voltage regulator (5C) |
| IC708 | IC | Voltage regulator (33A) |
| IC709 | IC | Voltage regulator (15D) |
| IC710 | IC | Voltage regulator (33M) |
| IC711 | IC | Voltage regulator (25D) |
| IC712 | IC | Flash ROM |
| IC713 | IC | Address decoder |
| IC714 | IC | OP AMP (DEO) |
| IC715 | IC | DSP |
| IC716 | IC | Voltage regulator (5V) |
| IC717 | IC | Shift register |
| IC718 | IC | OP AMP (VREF) |
| IC719 | IC | OP AMP (MIC AMP) |
| IC720 | IC | Analog switch (VGS) |
| IC721 | IC | Clock divider |
| IC722 | IC | Level converter |
| IC723 | IC | OP AMP (RX AF) |
| IC724 | IC | CODEC |
| IC725,726 | IC | Clock buffer |
| IC727 | IC | Analog switch |
| IC728 | IC | Shift register |
| IC729 | IC | OP AMP (MOD/RX AF) |
| IC730 | IC | FPGA |
| IC731 | IC | Analog switch (Scrambler) |
| IC732 | IC | Audio power AMP |
| IC733 | IC | OP AMP (MOD) |
| IC734 | IC | Analog switch (TAMS) |
| IC735 | IC | OP AMP (PC/MB) |
| IC736 | IC | Analog switch (VGS) |
| IC737 | IC | OP AMP (2nd Lo Tune) |
| IC738 | IC | D/A converter |
| IC739 | IC | OP AMP (RX audio) |
| IC740 | IC | OP AMP (Front end tune) |
| IC741 | IC | Voltage regulator (RTC5V) |
| IC742 | IC | OP AMP (Summing AMP) |
| IC743 | IC | Analog switch (DS) |
| IC745 | IC | Buffer AMP (AFO) |
| IC950 | IC | Bus switch |
| IC951 | IC | Buffer AMP (DI) |
| IC952 | IC | Voltage regulator (RTC) |
| Q700 | Transistor | Buffer (AUXO1) |
| Q701 | Transistor | Buffer (AUXO2) |
| Q702 | Transistor | Buffer (TXD2) |
| Q703 | Transistor | Buffer (TXD2) |
| Q704 | FET | DC switch (PSW) |

| Ref. No. | Part name | Description |
|----------|-------------|----------------------------|
| Q705 | Transistor | DC switch (SBC) |
| Q706 | Transistor | DC switch (SBC) |
| Q707 | Transistor | DC switch (SBC) |
| Q708 | Transistor | DC switch (PSW) |
| Q709 | Transistor | DC switch (SBC) |
| Q710 | Transistor | DC switch (SBC) |
| Q711 | Transistor | DC switch (IGN) |
| Q712 | Transistor | DC switch (IGN) |
| Q713 | FET | DC switch (SB) |
| Q714 | Transistor | Buffer (RXD3) |
| Q715,716 | Transistor | Auto gain control |
| Q717 | Transistor | Buffer (RXD3) |
| Q719 | FET | DC switch (VATS) |
| Q720 | FET | Analog switch (Scrambler) |
| Q721 | FET | DC switch (Scrambler) |
| Q723 | FET | Analog switch (MIC/MIC2) |
| Q725 | FET | DC switch (Beat Shift) |
| Q728 | Transistor | DC switch (IGN) |
| Q729 | FET | RX audio mute switch |
| Q730 | Transistor | DC switch (HR) |
| Q731 | Transistor | RX audio mute switch |
| Q732 | Transistor | RX audio mute switch |
| Q733 | FET | DC switch (VARS) |
| Q734 | FET | DC switch (DS) |
| Q735 | FET | DC switch (BEEPS) |
| Q736 | FET | DC switch (SCSW) |
| Q950,951 | Transistor | Buffer (D_TXD) |
| D650~653 | Diode | Reverse current prevention |
| D700~706 | Diode | Voltage protection |
| D707 | Zener diode | Voltage protection |
| D708,709 | Diode | Voltage protection |
| D710 | Zener diode | Voltage protection |
| D711,712 | Diode | Voltage protection |
| D713,714 | Zener diode | Voltage protection |
| D715~717 | Diode | Reverse current prevention |
| D719 | Zener diode | Voltage regulator (5V) |
| D720 | Diode | Reverse current prevention |
| D721 | Zener diode | Voltage protection |
| D722 | Diode | Reverse current prevention |
| D723 | Zener diode | Voltage protection |
| D724 | Diode | Reverse current prevention |
| D725 | Zener diode | Voltage detection |
| D726 | Diode | Voltage protection |
| D727,728 | Diode | TX AGC detection |
| D731,732 | Zener diode | Voltage protection |
| D734 | Diode | Surge absorption |
| D735 | Zener diode | Voltage protection |
| D736 | Varistor | Surge absorption |
| D737 | Zener diode | Voltage protection |
| D738~742 | Varistor | Surge absorption |
| D743~748 | Diode | Voltage protection |
| D749,750 | Diode | DC switch |
| D751 | Diode | Voltage protection |

TK-5710(B)/5710H(B)

COMPONENTS DESCRIPTION

TX-RX unit (X57-7030-10)

| Ref. No. | Part name | Description |
|--------------|----------------------------|----------------------------|
| IC204 | IC | OP AMP |
| IC205~207 | IC | Multiplexer |
| IC209~211 | IC | Multiplexer |
| IC212 | IC | FM IC |
| IC213 | IC | Buffer |
| IC214 | IC | Multiplexer |
| IC400 | IC | PLL IC |
| IC401 | IC | Rheostat |
| IC402 | IC | OP AMP |
| IC600 | IC | Shift register |
| IC601 | IC | Voltage regulator |
| Q150,151 | Transistor | RF AMP |
| Q200 | Transistor | RF AMP |
| Q201 | Transistor | Local AMP |
| Q202,203 | Transistor | IF AMP |
| Q205 | Transistor | VXCO frequency AMP |
| Q206 | Transistor | DC switch |
| Q207 | FET | DC switch |
| Q208 | Transistor | Noise AMP |
| Q209 | Transistor | DC switch |
| Q212,213 | Transistor | DC switch |
| Q400 | FET | Buffer |
| Q401,402 | Transistor | DC switch |
| Q403 | Transistor | PLL fin AMP |
| Q404 | Transistor | VCO1/2 switch |
| Q405 | Transistor | VCO TX/RX switch |
| Q406 | FET | VCO1/2 switch |
| Q407 | FET | VCO TX/RX switch |
| Q408,409 | Transistor | RX VCO 1/2 switch |
| Q412 | Transistor | Ripple filter |
| Q413,414,416 | Transistor | VCO oscillation |
| Q417 | Transistor | Buffer AMP |
| Q418 | Transistor | PLL fin AMP |
| Q419 | Transistor | Buffer AMP |
| Q598,599 | Transistor | Lock detection |
| Q600,601 | Transistor | 8T switch |
| Q602,603 | Transistor | 8R switch |
| D200~202 | Variable capacitance diode | BPF control |
| D203 | Diode | Noise detection |
| D204 | Diode | Reverse current prevention |
| D205~212 | Diode | IF filter switch |
| D400~403 | Diode | PLL fin filter switch |
| D404 | Diode | Bypass diode |
| D405~407 | Variable capacitance diode | Frequency control |
| D414~416 | Variable capacitance diode | Frequency control |
| D420,422,424 | Variable capacitance diode | Frequency control |
| D427~432 | Variable capacitance diode | Frequency control |

| Ref. No. | Part name | Description |
|----------|----------------------------|-----------------------|
| D433 | Variable capacitance diode | Modulator |
| D435,436 | Diode | Local switch |
| A400 | DBM | Double balanced mixer |

Final unit (X45-3750-10) : TK-5710 (B)

| Ref. No. | Part name | Description |
|----------|-------------|-------------------------------|
| IC1 | IC | APC comparator |
| IC2 | IC | Power module |
| D1 | Diode | ANT switch |
| D2 | Zener diode | Protect of voltage |
| D3 | Diode | ANT switch |
| D5 | Diode | Forward wave rectification |
| D6 | Diode | Reflected wave rectification |
| D8 | Diode | Surge absorption |
| D9 | Diode | Protect of reverse connection |
| D10 | Diode | Combiner |
| D11,12 | Diode | ANT switch |

Final unit (X45-3760-10) : TK-5710H (B)

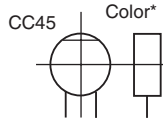
| Ref. No. | Part name | Description |
|----------|-------------|-------------------------------|
| IC1 | IC | TX drive AMP |
| IC2 | IC | DC AMP and APC comparator |
| Q1,2 | FET | Final AMP |
| D1 | Zener diode | Protect of voltage |
| D3 | Diode | Forward wave rectification |
| D4 | Diode | Reflected wave rectification |
| D6,8,9 | Diode | ANT switch |
| D10 | Diode | Surge absorption |
| D11 | Diode | Protect of reverse connection |
| D12 | Diode | Combiner |

PARTS LIST

CAPACITORS

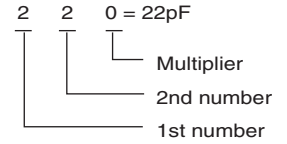
CC 45 TH 1H 220 J
 1 2 3 4 5 6

- 1 = Type ... ceramic, electrolytic, etc.
- 2 = Shape ... round, square, ect.
- 3 = Temp. coefficient
- 4 = Voltage rating
- 5 = Value
- 6 = Tolerance



Capacitor value

- 010 = 1pF
- 100 = 10pF
- 101 = 100pF
- 102 = 1000pF = 0.001μF
- 103 = 0.01μF



Temperature coefficient

| 1st Word | C | L | P | R | S | T | U |
|----------|-------|-----|--------|--------|-------|------|--------|
| Color* | Black | Red | Orange | Yellow | Green | Blue | Violet |
| ppm/°C | 0 | -80 | -150 | -220 | -330 | -470 | -750 |

| 2nd Word | G | H | J | K | L |
|----------|-----|-----|------|------|------|
| ppm/°C | ±30 | ±60 | ±120 | ±250 | ±500 |

Example : CC45TH = -470 ± 60ppm/°C

Tolerance (More than 10pF)

| Code | C | D | G | J | K | M | X | Z | P | No code |
|------|-------|------|----|----|-----|-----|------------|------------|------------|-------------------------------------------------------|
| (%) | ±0.25 | ±0.5 | ±2 | ±5 | ±10 | ±20 | +40 -40 | +80 -20 | +100 -0 | More than 10μF -10 ~ +50 Less than 4.7μF -10 ~ +75 |

(Less than 10pF)

| Gode | B | C | D | F | G |
|------|------|-------|------|----|----|
| (pF) | ±0.1 | ±0.25 | ±0.5 | ±1 | ±2 |

Voltage rating

| 2nd word \ 1st word | A | B | C | D | E | F | G | H | J | K | V |
|---------------------|------|------|------|------|------|------|------|------|------|------|----|
| 0 | 1.0 | 1.25 | 1.6 | 2.0 | 2.5 | 3.15 | 4.0 | 5.0 | 6.3 | 8.0 | - |
| 1 | 10 | 12.5 | 16 | 20 | 25 | 31.5 | 40 | 50 | 63 | 80 | 35 |
| 2 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | - |
| 3 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | - |

Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
 1 2 3 4 5 6 7

(Chip)(CH,RH,UJ,SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z
 1 2 3 4 5 6 7

(Chip)(B,F)

Refer to the table above.

- 1 = Type
- 2 = Shape
- 3 = Dimension
- 4 = Temp. coefficient
- 5 = Voltage rating
- 6 = Value
- 7 = Tolerance

Dimension (Chip capacitors)

| Dimension code | L | W | T |
|----------------|------------|------------|----------------|
| Empty | 5.6 ± 0.5 | 5.0 ± 0.5 | Less than 2.0 |
| A | 4.5 ± 0.5 | 3.2 ± 0.4 | Less than 2.0 |
| B | 4.5 ± 0.5 | 2.0 ± 0.3 | Less than 2.0 |
| C | 4.5 ± 0.5 | 1.25 ± 0.2 | Less than 1.25 |
| D | 3.2 ± 0.4 | 2.5 ± 0.3 | Less than 1.5 |
| E | 3.0 ± 0.2 | 1.6 ± 0.2 | Less than 1.25 |
| F | 2.0 ± 0.3 | 1.25 ± 0.2 | Less than 1.25 |
| G | 1.6 ± 0.2 | 0.8 ± 0.2 | Less than 1.0 |
| H | 1.0 ± 0.05 | 0.5 ± 0.05 | 0.5 ± 0.05 |

RESISTORS

Chip resistor (Carbon)

(EX) R D 7 3 E B 2 B 0 0 0 J
 1 2 3 4 5 6 7

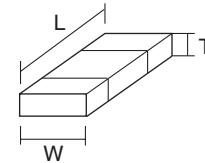
(Chip)(B,F)

Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
 1 2 3 4 5 6 7

- 1 = Type
- 2 = Shape
- 3 = Dimension
- 4 = Temp. coefficient
- 5 = Rating wattage
- 6 = Value
- 7 = Tolerance

Dimension



Dimension (Chip resistor)

| Dimension code | L | W | T |
|----------------|------------|------------|-------------|
| E | 3.2 ± 0.2 | 1.6 ± 0.2 | 1.0 |
| F | 2.0 ± 0.3 | 1.25 ± 0.2 | 1.0 |
| G | 1.6 ± 0.2 | 0.8 ± 0.2 | 0.5 ± 0.1 |
| H | 1.0 ± 0.05 | 0.5 ± 0.05 | 0.35 ± 0.05 |

Rating wattage

| Code | Wattage | Code | Wattage | Code | Wattage |
|------|---------|------|---------|------|---------|
| 1J | 1/16W | 2C | 1/6W | 3A | 1W |
| 2A | 1/10W | 2E | 1/4W | 3D | 2W |
| 2B | 1/8W | 2H | 1/2W | | |

TK-5710(B)/5710H(B)

PARTS LIST

* New Parts. Δ indicates safety critical components.
 Parts without **Parts No.** are not supplied.
 Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
 Teile ohne **Parts No.** werden nicht geliefert.

L: Scandinavia K: USA P: Canada
 Y: PX (Far East, Hawaii) T: England E: Europe
 Y: AAFES (Europe) X: Australia M: Other Areas

TK-5710(B) (Y51-5040-10)
TK-5710H(B) (Y51-5050-10)
FINAL UNIT (X45-3750-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination |
|--------------------|----------------|-----------|-------------|-----------------------------------------|-------------|
| TK-5710(B) | | | | | |
| 1 | 3A | | A01-2161-22 | METALLIC CABINET(TOP) | |
| 2 | 1B | | A01-2162-22 | METALLIC CABINET(BOTTOM) | |
| 6 | 2A | | A10-1388-51 | CHASSIS | |
| 10 | 2E | * | B62-1816-20 | INSTRUCTION MANUAL | |
| 14 | 2B | | E04-0167-05 | RF COAXIAL RECEPTACLE(M) | |
| 15 | 1A | | E37-0179-05 | LEAD WIRE WITH MINIPIN PLUG(X45-X57) | |
| 16 | 1E | | E37-0733-05 | SHORT PLUG(SP) ACCESSORY | |
| 17 | 2B | | E37-0772-25 | LEAD WIRE WITH CONNECTOR(D-SUB) | |
| 18 | 1A,3A | | E37-1147-05 | FLAT CABLE(X53:CN782-X57:CN600) | |
| 19 | 1A | * | E37-1149-15 | LEAD WIRE WITH CONNECTOR(DC2P/ACC9P) | |
| 21 | 1A,2B | | E37-1153-05 | FLAT CABLE(X45:CN9-X57:CN601) | |
| 25 | 2B | | F10-1479-03 | SHIELDING PLATE(FINAL:X45) | |
| 27 | 1A | | F10-2265-13 | SHIELDING COVER(VCO, TX-RX:X57) | |
| 28 | 3B | | F10-3012-04 | SHIELDING PLATE(CONTROL:X53) | |
| 33 | 3A | | G02-0599-04 | FLAT SPRING(AVR) | |
| 34 | 3A | | G02-0709-04 | FLAT SPRING(AUDIO AMP) | |
| 36 | 1A | | G10-1327-04 | FIBROUS SHEET | |
| 37 | 2A,2B | | G11-4378-04 | SHEET | |
| 38 | 2A,2B,1E | | G11-4379-04 | SHEET ACCESSORY | |
| 41 | 2B | | G53-1626-03 | PACKING(D-SUB CAP) | |
| 42 | 2B | | G53-1657-04 | PACKING(ANT) | |
| 43 | 2B | | G53-1658-04 | PACKING(DC/ACC) | |
| 45 | 3A | | G53-1665-12 | PACKING(TOP) | |
| 46 | 1B | | G53-1666-12 | PACKING(BOTTOM) | |
| 49 | 2B | | G53-1687-04 | PACKING(D-SUB) | |
| 50 | 1E | | H02-0626-04 | INNER CARTON CASE | |
| 51 | 2E | | H12-3176-02 | PACKING FIXTURE(HEAD-SPACE) | |
| 52 | 2E,3E | | H12-3183-02 | PACKING FIXTURE(TOP,BOTTOM) | |
| 57 | 3E | * | H52-2073-12 | ITEM CARTON CASE | |
| 62 | 1B,3A | * | J39-0651-05 | SPACER(TOP,BOTTOM CABINET) | |
| A | 2B | | N09-2292-05 | HEXAGON HEAD SCREW(D-SUB) | |
| B | 1B,3A | * | N32-3008-43 | FLAT HEAD MACHINE SCREW(CABINET) | |
| D | 1A | | N35-3006-48 | BINDING HEAD MACHINE SCREW(DC TERMINAL) | |
| E | 1A | | N67-3008-48 | PAN HEAD SEMS SCREW(POWER MODULE) | |
| H | 1A,2A 2B,3B | | N87-2606-48 | BRAZIER HEAD TAPTITE SCREW(PCB) | |
| I | 1A | | N87-2612-48 | BRAZIER HEAD TAPTITE SCREW(SHIELD) | |
| J | 1B,2B | * | N87-3008-48 | BRAZIER HEAD TAPTITE SCREW(DC/ACC,ANT) | |
| 63 | 1E | * | N99-2051-05 | SCREW SET ACCESSORY | |
| 65 | 3B | | W09-0971-05 | LITHIUM CELL(X53) | |
| TK-5710H(B) | | | | | |
| 3 | 3C | | A01-2163-21 | METALLIC CABINET(TOP) | |
| 4 | 1D | | A01-2164-21 | METALLIC CABINET(BOTTOM) | |
| 7 | 2C | * | A10-4092-22 | CHASSIS | |
| 10 | 2G | * | B62-1816-20 | INSTRUCTION MANUAL | |
| 14 | 2D | | E04-0167-05 | RF COAXIAL RECEPTACLE(M) | |
| 15 | 1C | | E37-0179-05 | LEAD WIRE WITH MINIPIN PLUG(X45-X57) | |
| 16 | 1G | | E37-0733-05 | SHORT PLUG(SP) ACCESSORY | |
| 17 | 2D | | E37-0773-35 | LEAD WIRE WITH CONNECTOR(D-SUB) | |
| 18 | 2C,3C | | E37-1147-05 | FLAT CABLE(X53:CN782-X57:CN600) | |
| 20 | 2D | * | E37-1150-15 | LEAD WIRE WITH CONNECTOR(DC4P/ACC9P) | |

| Ref. No. | Address | New parts | Parts No. | Description | Destination |
|---------------------------------------------|----------------|-----------|---------------|----------------------------------------|-------------|
| 22 | 1C,2C | | E37-1156-05 | FLAT CABLE(X45:CN9-X57:CN601) | |
| 26 | 1D | | F10-1488-02 | SHIELDING PLATE(FINAL:X45) | |
| 27 | 1C | | F10-2265-13 | SHIELDING COVER(VCO, TX-RX:X57) | |
| 28 | 3C | | F10-3012-04 | SHIELDING PLATE(CONTROL:X53) | |
| 29 | 1C | | F10-3015-04 | SHIELDING PLATE(X45 LPF) | |
| 30 | 1C | | F10-3016-04 | SHIELDING PLATE(X45 POWER MODULE) | |
| 31 | 1C | | F10-3039-04 | SHIELDING PLATE(X45 DC) | |
| 32 | 2C | | F10-3040-04 | SHIELDING PLATE(X45 ACC) | |
| 33 | 3C | | G02-0599-04 | FLAT SPRING(AVR) | |
| 34 | 3C | | G02-0709-04 | FLAT SPRING(AUDIO AMP) | |
| - | - | | G02-0729-14 | FLAT SPRING | |
| 35 | 1C | | G02-0894-04 | EARTH SPRING(FINAL AMP) | |
| 36 | 2D | | G10-1327-04 | FIBROUS SHEET | |
| 37 | 2C | * | G10-1368-04 | FIBROUS SHEET | |
| 38 | 2C,1G | | G11-4379-04 | SHEET ACCESSORY | |
| 41 | 2D | | G53-1626-03 | PACKING(D-SUB CAP) | |
| 42 | 2D | | G53-1657-04 | PACKING(ANT) | |
| 44 | 2D | | G53-1659-04 | PACKING(DC/ACC) | |
| 47 | 3C | | G53-1667-11 | PACKING(TOP) | |
| 48 | 1D | | G53-1668-11 | PACKING(BOTTOM) | |
| 49 | 2D | | G53-1687-04 | PACKING(D-SUB) | |
| 50 | 1G | | H02-0626-04 | INNER CARTON CASE | |
| 51 | 2G | | H12-3176-02 | PACKING FIXTURE(HEAD-SPACE) | |
| 53 | 2G,3G | | H12-3185-02 | PACKING FIXTURE(TOP,BOTTOM) | |
| 58 | 3G | * | H52-2074-12 | ITEM CARTON CASE | |
| 61 | 2D | | J32-0722-04 | HEXAGON BOSS(X45 FET) | |
| 62 | 1D,3C,3D | | J39-0651-05 | SPACER(TOP,BOTTOM CABINET) | |
| A | 2D | | N09-2292-05 | HEXAGON HEAD SCREW(D-SUB) | |
| B | 1D,3C,3D | * | N32-3008-43 | FLAT HEAD MACHINE SCREW(CABINET) | |
| C | 1C | | N35-2604-43 | BINDING HEAD MACHINE SCREW(HEXAGON) | |
| E | 1C | | N67-3008-48 | PAN HEAD SEMS SCREW(POWER MODULE) | |
| F | 1C | * | N68-3008-48 | PAN HEAD SEMS SCREW(FINAL AMP) | |
| G | 2D | * | N68-4006-48 | PAN HEAD SEMS SCREW(DC TERMINAL) | |
| H | 1C,1D 2C,3C | | N87-2606-48 | BRAZIER HEAD TAPTITE SCREW(PCB) | |
| I | 1C | | N87-2612-48 | BRAZIER HEAD TAPTITE SCREW(SHIELD) | |
| J | 2D | * | N87-3008-48 | BRAZIER HEAD TAPTITE SCREW(DC/ACC,ANT) | |
| 63 | 1G | * | N99-2051-05 | SCREW SET ACCESSORY | |
| 65 | 3C | | W09-0971-05 | LITHIUM CELL(X53) | |
| FINAL UNIT (X45-3750-10): TK-5710(B) | | | | | |
| C4 -6 | | | CK73FB1H102K | CHIP C 1000PF | K |
| C8 | | | C90-5299-05 | ELECTRO 470UF | 25WV |
| C9 | | | C93-0560-05 | CHIP C 10PF | D |
| C10 | | | CM73F2H180J | CHIP C 18PF | J |
| C11 | | | CC73GCH1H471J | CHIP C 470PF | J |
| C12 | | | CK73FB1H102K | CHIP C 1000PF | K |
| C13 | | | CK73GB1H102K | CHIP C 1000PF | K |
| C14 | | | C93-0562-05 | CHIP C 15PF | J |
| C15 | | | CK73FB1H102K | CHIP C 1000PF | K |
| C16 | | | CK73GB1H102K | CHIP C 1000PF | K |
| C17 | | | CC73FCH1H220J | CHIP C 22PF | J |
| C19 | | | CK73GB1E333J | CHIP C 0.033UF | J |
| C20 | | | CM73F2H470J | CHIP C 47PF | J |

TK-5710(B)/5710H(B)

PARTS LIST

FINAL UNIT (X45-3750-10)
FINAL UNIT (X45-3760-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|---------------|--------------------------|-------------|----------------------------------------------|---------|-----------|---------------|----------------------------|-------------|
| C21 | | | CK73GB1H102K | CHIP C 1000PF K | | D9 | | | DSA3A1-FK | DIODE | |
| C22 | | | C93-0562-05 | CHIP C 15PF J | | D10 | | | 1SS388 | DIODE | |
| C23 | | | C93-0563-05 | CHIP C 18PF J | | D11 ,12 | | | MA4PH633 | DIODE | |
| C24 | | | C93-0564-05 | CHIP C 22PF J | | IC1 | | | TA75W01FU | MOS-IC | |
| C25 | | | CK73FB1H102K | CHIP C 1000PF K | | IC2 | | | RA60H13171123 | MOS-IC(POWER MODULE) | |
| C27 | | | CC73FCH1H330J | CHIP C 33PF J | | TH1 | | | S1R104J475H | THERMISTOR | |
| C31 | | | CK73FB1H102K | CHIP C 1000PF K | | FINAL UNIT (X45-3760-10): TK-5710H(B) | | | | | |
| C34 | | | CK73GB1H102K | CHIP C 1000PF K | | C1 | | | CC73FCH1H050C | CHIP C 5.0PF C | |
| C40 ,41 | | | CK73FB1H102K | CHIP C 1000PF K | | C2 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C42 | | | C93-0565-05 | CHIP C 27PF J | | C6 | | | CK73FB1H102K | CHIP C 1000PF K | |
| C46 | | | C93-0564-05 | CHIP C 22PF J | | C8 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C47 ,48 | | | CK73FB1H102K | CHIP C 1000PF K | | C9 | | | CK73FB1H102K | CHIP C 1000PF K | |
| C49 ,50 | | | C90-5299-05 | ELECTRO 470UF 25WV | | C11 | | | C90-4126-05 | ELECTRO 680UF 25WV | |
| C52 ,53 | | | CK73FB1H102K | CHIP C 1000PF K | | C14 | | | C93-0564-05 | CHIP C 22PF J | |
| C54 | | | CK73GB1H102K | CHIP C 1000PF K | | C15 | | | C93-0563-05 | CHIP C 18PF J | |
| C55 | | | C93-0563-05 | CHIP C 18PF J | | C16 ,17 | | | C93-0603-05 | CHIP C 1000PF K | |
| C56 | | | CC73GCH1H821J | CHIP C 820PF J | | C18 | | | CK73GB1H102K | CHIP C 1000PF K | |
| CN1 , 2 | | | E04-0154-05 | PIN SOCKET | | C20 | | | C93-0559-05 | CHIP C 9.0PF D | |
| CN7 | | | E23-0902-05 | TERMINAL | | C21 ,22 | | | C93-0568-05 | CHIP C 47PF J | |
| CN9 | | | E40-6429-05 | FLAT CABLE CONNECTOR | | C23 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| CN10 | | | E23-1118-05 | TERMINAL | | C24 | | | CK73GB1H102K | CHIP C 1000PF K | |
| W2 | | | E37-0705-05 | LEAD WIRE WITH CONNECTOR | | C25 ,26 | | | C93-0603-05 | CHIP C 1000PF K | |
| L1 | | | L34-4520-05 | AIR-CORE COIL | | C29 -32 | | | C93-0573-05 | CHIP C 120PF J | |
| L2 | | | L34-4523-05 | AIR-CORE COIL | | C33 | | | CK73GB1H102K | CHIP C 1000PF K | |
| L3 -5 | | | L34-4520-05 | AIR-CORE COIL | | C34 ,35 | | | C93-0573-05 | CHIP C 120PF J | |
| L7 | | | L34-4523-05 | AIR-CORE COIL | | C40 ,41 | | | CC73FCH1H471J | CHIP C 470PF J | |
| L8 | | | L34-4520-05 | AIR-CORE COIL | | C42 ,43 | | * | C93-0868-05 | MICA CAPACITOR 240PF 300WV | |
| R1 | | | RK73FB2A821J | CHIP R 820 J 1/10W | | C44 ,45 | | | CK73FB1H103K | CHIP C 0.010UF K | |
| R2 ,3 | | | RK73FB2A100J | CHIP R 10 J 1/10W | | C46 ,47 | | | CM73F2H101J | CHIP C 100PF J | |
| R4 | | | RK73FB2A821J | CHIP R 820 J 1/10W | | C48 ,49 | | | CK73FB1E104K | CHIP C 0.10UF K | |
| R5 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | C50 ,51 | | | C90-4126-05 | ELECTRO 680UF 25WV | |
| R6 | | | R92-0670-05 | CHIP R 0 OHM | | C53 ,54 | | | CM73F2H300J | CHIP C 30PF J | |
| R7 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | C56 | | | C93-0571-05 | CHIP C 82PF J | |
| R9 | | | R92-1288-05 | CHIP R 56 J 1W | | C57 | | | C93-0603-05 | CHIP C 1000PF K | |
| R11 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | C58 | | | CM73F2H090D | CHIP C 9.0PF D | |
| R12 | | | RK73GB1J101J | CHIP R 100 J 1/16W | | C59 | | | C93-0571-05 | CHIP C 82PF J | |
| R13 | | | RK73GB1J273J | CHIP R 27K J 1/16W | | C62 | | | CM73F2H180J | CHIP C 18PF J | |
| R14 | | | RK73GB1J334J | CHIP R 330K J 1/16W | | C63 | | | CM73F2H181J | CHIP C 180PF J | |
| R15 | | | RK73GB1J682J | CHIP R 6.8K J 1/16W | | C64 | | | CC73FCH1H220J | CHIP C 22PF J | |
| R16 | | | RK73GB1J334J | CHIP R 330K J 1/16W | | C65 | | | CK73FB1H102K | CHIP C 1000PF K | |
| R17 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | C67 | | | CK73FB1H102K | CHIP C 1000PF K | |
| R18 | | | R92-0670-05 | CHIP R 0 OHM | | C70 | | | CM73F2H181J | CHIP C 180PF J | |
| R19 | | | RK73FB2A820J | CHIP R 82 J 1/10W | | C71 | | | CK73FB1H102K | CHIP C 1000PF K | |
| R22 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | C72 | | | C93-0603-05 | CHIP C 1000PF K | |
| R23 | | | RK73FB2A820J | CHIP R 82 J 1/10W | | C73 | | | CK73FB1H102K | CHIP C 1000PF K | |
| R27 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | C74 | | | CM73F2H060D | CHIP C 6.0PF D | |
| R28 | | | RK73FB2A122J | CHIP R 1.2K J 1/10W | | C75 | | | CM73F2H100D | CHIP C 10PF D | |
| R29 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C76 | | | CK73FB1H102K | CHIP C 1000PF K | |
| R30 | | | RK73FB2A473J | CHIP R 47K J 1/10W | | C77 | | | CM73F2H101J | CHIP C 100PF J | |
| R32 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | C78 | | * | CM73F2H270F | CHIP C 27PF F | |
| R33 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C79 | | | CC73FCH1H090D | CHIP C 9.0PF D | |
| R34 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | C80 | | | C92-0777-05 | ELECTRO 1000UF 25WV | |
| VR1 | | | R12-6427-05 | TRIMMING POT.(47K) | | C81 | | * | CM73F2H270F | CHIP C 27PF F | |
| D1 | | | MA4PH633 | DIODE | | C82 | | | C93-0603-05 | CHIP C 1000PF K | |
| D2 | | | 02DZ6.2(Y) | ZENER DIODE | | C83 | | * | CM73F2H270F | CHIP C 27PF F | |
| D3 | | | MA4PH633 | DIODE | | C84 | | | CK73FB1H102K | CHIP C 1000PF K | |
| D5 ,6 | | | HSM88AS | DIODE | | C85 | | * | CM73F2H220C | CHIP C 22PF C | |
| ID8 | | | 22ZR-10D | SURGE ABSORBER | | | | | | | |

If a part reference number is listed in a shaded box, that part does not come with the PCB.

TK-5710(B)/5710H(B)

PARTS LIST

FINAL UNIT (X45-3760-10)
CONTROL UNIT (X53-4120-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|---------------|----------------------------|-------------|-------------------------------------------------------|---------|-----------|---------------|----------------------|-------------|
| C86 | | | CK73FB1H102K | CHIP C 1000PF K | | D1 | | | 02DZ5.6(X,Y) | ZENER DIODE | |
| C87 ,88 | | | CK73GB1H102K | CHIP C 1000PF K | | D3 ,4 | | | HSM88AS | DIODE | |
| C89 | | | CK73FB1H102K | CHIP C 1000PF K | | D6 | | | MA4P4002F | DIODE | |
| C90 | | | CC73FCH1H050C | CHIP C 5.0PF C | | D8 ,9 | | | MA4PH633 | DIODE | |
| C91 | | | CK73FB1H102K | CHIP C 1000PF K | | D10 | | | ZSH5MA27 | SURGE ABSORBER | |
| C93 | | * | CM73F2H240C | CHIP C 24PF C | | D11 | | | DF25V60 | DIODE | |
| C97 | | * | CM73F2H220C | CHIP C 22PF C | | D12 | | | MA2S111 | DIODE | |
| C98 | | | CC73FCH1H101J | CHIP C 100PF J | | IC1 | | * | RA13H1317M131 | MOS-IC(POWER MODULE) | |
| CN1 ,2 | | | E04-0154-05 | PIN SOCKET | | IC2 | | | TA75W01FU | MOS-IC | |
| CN3 ,4 | | | E23-1116-05 | RELAY TERMINAL | | Q1 ,2 | | * | RD100HHF1-102 | FET | |
| CN9 | | | E40-6429-05 | FLAT CABLE CONNECTOR | | TH1 | | | S1R104J475H | THERMISTOR | |
| CN10 | | | E23-1118-05 | TERMINAL | | TH3 | | | S1R104J475H | THERMISTOR | |
| W2 | | | E37-1218-05 | LEAD WIRE WITH CONNECTOR | | CONTROL UNIT (X53-4120-10):TK-5710(B)/5710H(B) | | | | | |
| L1 | | | L41-4778-08 | SMALL FIXED INDUCTOR(47NH) | | C601 | | | CK73HB1A104K | CHIP C 0.10UF K | |
| L2 ,3 | | | L34-4520-05 | AIR-CORE COIL | | C603 | | | CK73HB1A104K | CHIP C 0.10UF K | |
| L4 ,5 | | | L34-4556-05 | AIR-CORE COIL | | C605 | | | CK73HB1C103K | CHIP C 0.010UF K | |
| L6 ,7 | | | L34-4520-05 | AIR-CORE COIL | | C608 | | | CK73HB1A104K | CHIP C 0.10UF K | |
| L8 ,9 | | | L34-4517-05 | AIR-CORE COIL | | C610 | | | CK73GB0J105K | CHIP C 1.0UF K | |
| L10 ,11 | | | L34-4520-05 | AIR-CORE COIL | | C611 | | | CC73GCH1H101J | CHIP C 100PF J | |
| L13 | | | L34-4523-05 | AIR-CORE COIL | | C613 | | * | C92-0891-05 | ELECTRO 330UF 25WV | |
| L14 -17 | | | L34-4805-05 | AIR-CORE COIL | | C614,615 | | | CK73FB0J106K | CHIP C 10UF K | |
| L18 -22 | | | L92-0179-05 | CHIP FERRITE | | C621 | | | CK73FB0J106K | CHIP C 10UF K | |
| R5 | | | R92-0670-05 | CHIP R 0 OHM | | C651 | | | CC73GCH1H220J | CHIP C 22PF J | |
| R6 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | C652,653 | | | CK73GB1E105K | CHIP C 1.0UF K | |
| R7 | | | RK73GB1J272J | CHIP R 2.7K J 1/16W | | C654 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R8 ,9 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C655 | | | CC73GCH1H470J | CHIP C 47PF J | |
| R10 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | C656-660 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R11 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | C661 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R12 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C662 | | | CC73GCH1H470J | CHIP C 47PF J | |
| R13 | | | RK73GB1J101J | CHIP R 100 J 1/16W | | C663 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R14 | | | RK73GB1J274J | CHIP R 270K J 1/16W | | C664 | | | CK73GB0J475K | CHIP C 4.7UF K | |
| R15 | | | RK73GB1J334J | CHIP R 330K J 1/16W | | C665 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| R16 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | C667,668 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R17 ,18 | | | R92-1264-05 | CHIP R 5.6 J 1W | | C669 | | | CK73GB0J105K | CHIP C 1.0UF K | |
| R20 | | | RK73GB1J332J | CHIP R 3.3K J 1/16W | | C670 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R21 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C700 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R23 ,24 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | C701 | | | CK73GB1C473K | CHIP C 0.047UF K | |
| R25 | | | R92-1221-05 | CHIP R 82 J 1/4W | | C702 | | | CK73GB1H471K | CHIP C 470PF K | |
| R26 | | | RK73FB2A101J | CHIP R 100 J 1/10W | | C703 | | | CC73GCH1H101J | CHIP C 100PF J | |
| R27 | | | R92-1204-05 | CHIP R 100 J 1/4W | | C704 | | | CK73GB1C473K | CHIP C 0.047UF K | |
| R28 | | | R92-1319-05 | CHIP R 82 J 1W | | C705 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R29 | | | RK73FB2A224J | CHIP R 220K J 1/10W | | C706 | | | CK73GB1C473K | CHIP C 0.047UF K | |
| R31 | | | R92-0670-05 | CHIP R 0 OHM | | C707 | | | CK73FB1E474K | CHIP C 0.47UF K | |
| R33 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | C708 | | | CK73GB1H471K | CHIP C 470PF K | |
| R36 | | | RK73FB2A221J | CHIP R 220 J 1/10W | | C710 | | | CK73GB1C473K | CHIP C 0.047UF K | |
| R37 | | | RK73FB2A820J | CHIP R 82 J 1/10W | | C711 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R38 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | C712 | | | CK73GB1A105K | CHIP C 1.0UF K | |
| R39 | | | RK73FB2A563J | CHIP R 56K J 1/10W | | C713 | | | CK73FB0J106K | CHIP C 10UF K | |
| R40 | | | R92-0670-05 | CHIP R 0 OHM | | C714,715 | | | CK73GB1A105K | CHIP C 1.0UF K | |
| R41 ,42 | | | R92-1279-05 | CHIP R 33 J 1W | | C716,717 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| R43 ,44 | | | R92-2673-05 | CHIP R 1.0 J 1W | | C718-721 | | | CC73GCH1H101J | CHIP C 100PF J | |
| R46 -48 | | | R92-2673-05 | CHIP R 1.0 J 1W | | C722-732 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R49 -51 | | | R92-1279-05 | CHIP R 33 J 1W | | C733 | | | CC73GCH1H101J | CHIP C 100PF J | |
| R53 | | | R92-1279-05 | CHIP R 33 J 1W | | C734 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R54 | | | R92-0670-05 | CHIP R 0 OHM | | C735 | | | CC73GCH1H101J | CHIP C 100PF J | |
| R56 ,57 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | C736 | | | CK73GB1H102K | CHIP C 1000PF K | |
| R58 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | C737-741 | | | CC73GCH1H101J | CHIP C 100PF J | |
| VR1 | | | R12-6431-05 | TRIMMING POT.(220K) | | | | | | | |

PARTS LIST

CONTROL UNIT (X53-4120-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|---------------|----------------------|-------------|----------|---------|-----------|---------------|----------------------|-------------|
| C743-745 | | | CC73GCH1H101J | CHIP C 100PF J | | C849 | | | CC73GCH1H121J | CHIP C 120PF J | |
| C746-748 | | | CK73GB1C104K | CHIP C 0.10UF K | | C850 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C749 | | | CK73GB1H102K | CHIP C 1000PF K | | C851 | | | CK73GB1H472K | CHIP C 4700PF K | |
| C751 | | | CK73GB1H472K | CHIP C 4700PF K | | C852 | | | CK73GB0J475K | CHIP C 4.7UF K | |
| C753 | | | CK73HB1A104K | CHIP C 0.10UF K | | C853,854 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C754 | | | CK73HB1H102K | CHIP C 1000PF K | | C855 | | | CK73GB0J475K | CHIP C 4.7UF K | |
| C756 | | | CK73HB1A104K | CHIP C 0.10UF K | | C856 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C757 | | * | CS77CA1D4R7M | CHIP TNTL 4.7UF 20WV | | C857 | | | CC73GCH1H121J | CHIP C 120PF J | |
| C758 | | | CK73HB1A104K | CHIP C 0.10UF K | | C858 | | | CK73GB1H392K | CHIP C 3900PF K | |
| C759,760 | | | CK73GB1H471K | CHIP C 470PF K | | C859 | | | C92-0894-05 | ELECTRO 47UF 25WV | |
| C761 | | | CK73HB1A104K | CHIP C 0.10UF K | | C860 | | | CK73GB0J475K | CHIP C 4.7UF K | |
| C762 | | | C92-1431-05 | CHIP C 33UF 16WV | | C862 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C763 | | | CS77AA1A100M | CHIP TNTL 10UF 10WV | | C863 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C764-767 | | | CK73FB0J106K | CHIP C 10UF K | | C864 | | * | C92-0895-05 | ELECTRO 100UF 25WV | |
| C768 | | | CK73HB1A104K | CHIP C 0.10UF K | | C865-867 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C769 | | | CC73GCH1H390J | CHIP C 39PF J | | C868 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C770 | | | CK73GB1H102K | CHIP C 1000PF K | | C869 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C771 | | | CS77CP0J100M | CHIP TNTL 10UF 6.3WV | | C871 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C772,773 | | | CK73HB1C103K | CHIP C 0.010UF K | | C872 | | | C92-0894-05 | ELECTRO 47UF 25WV | |
| C775 | | | CK73HB1C103K | CHIP C 0.010UF K | | C874 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C776 | | | CS77CP0J100M | CHIP TNTL 10UF 6.3WV | | C875 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C778 | | | CK73HB1C103K | CHIP C 0.010UF K | | C878 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C780,781 | | | CK73HB1C103K | CHIP C 0.010UF K | | C879 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C783,784 | | | CK73HB1C103K | CHIP C 0.010UF K | | C880 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C785 | | | CK73GB1C104K | CHIP C 0.10UF K | | C881 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C786 | | | CK73GB0J105K | CHIP C 1.0UF K | | C889 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C787 | | | CC73GCH1H101J | CHIP C 100PF J | | C890,891 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C788 | | | CK73GB1H103K | CHIP C 0.010UF K | | C892-899 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C789,790 | | | CS77AA1A100M | CHIP TNTL 10UF 10WV | | C900 | | | CC73GCH1H470J | CHIP C 47PF J | |
| C791 | | | CC73GCH1H220J | CHIP C 22PF J | | C901,902 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C792 | | | CK73GB1C104K | CHIP C 0.10UF K | | C904 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C793,794 | | | CS77AP1C1R5M | CHIP TNTL 1.5UF 16WV | | C905,906 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C795,796 | | | CK73GB1C104K | CHIP C 0.10UF K | | C907-909 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C797 | | | CC73GCH1H101J | CHIP C 100PF J | | C910 | | | CK73FB0J106K | CHIP C 10UF K | |
| C798 | | | CK73GB0J105K | CHIP C 1.0UF K | | C912 | | | C92-0870-05 | CHIP TNTL 4.7UF 16WV | |
| C799 | | | CK73FB0J106K | CHIP C 10UF K | | C914 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C800,801 | | | CK73GB1C104K | CHIP C 0.10UF K | | C915 | | | CK73GB1C473K | CHIP C 0.047UF K | |
| C802,803 | | | CK73GB0J475K | CHIP C 4.7UF K | | C916-919 | | | CC73HCH1H330J | CHIP C 33PF J | |
| C804,805 | | | CK73GB1C104K | CHIP C 0.10UF K | | C921,922 | | | CK73GB0J475K | CHIP C 4.7UF K | |
| C808 | | | CK73GB1H103K | CHIP C 0.010UF K | | C930 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C809 | | | CK73GB1C104K | CHIP C 0.10UF K | | C931-938 | | | CK73GB1H471K | CHIP C 470PF K | |
| C810 | | | CK73GB1H471K | CHIP C 470PF K | | C941 | | | CK73HB1H471K | CHIP C 470PF K | |
| C811 | | | CK73GB1C104K | CHIP C 0.10UF K | | C942-954 | | | CK73GB1H471K | CHIP C 470PF K | |
| C812 | | | CK73GB1H471K | CHIP C 470PF K | | C956-961 | | | CK73GB1H471K | CHIP C 470PF K | |
| C814 | | | CS77AAQJ220M | CHIP TNTL 22UF 6.3WV | | C995 | | | CK73FB0J106K | CHIP C 10UF K | |
| C815 | | | CK73GB0J105K | CHIP C 1.0UF K | | C996 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C818 | | | CK73FB0J106K | CHIP C 10UF K | | C997 | | | CK73GB1H471K | CHIP C 470PF K | |
| C820 | | | CK73FB0J106K | CHIP C 10UF K | | C998 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C822 | | | CK73GB1E105K | CHIP C 1.0UF K | | C999 | | | CK73GB1H222K | CHIP C 2200PF K | |
| C823,824 | | | CK73GB1C104K | CHIP C 0.10UF K | | CN702 | | * | E41-2672-05 | PIN ASSY | |
| C825 | | | CC73GCH1H220J | CHIP C 22PF J | | CN724 | | * | E40-6472-05 | PIN ASSY | |
| C826,827 | | | CK73GB1E105K | CHIP C 1.0UF K | | CN728 | | | E40-5960-05 | PIN ASSY | |
| C829 | | | CK73GB1H103K | CHIP C 0.010UF K | | CN744 | | | E40-6357-05 | PIN ASSY | |
| C833 | | | CK73GB1E105K | CHIP C 1.0UF K | | CN755 | | | E40-6357-05 | PIN ASSY | |
| C837,838 | | | CK73FB0J106K | CHIP C 10UF K | | CN771 | | | E40-6357-05 | PIN ASSY | |
| C841 | | | CK73FB0J106K | CHIP C 10UF K | | CN782 | | | E40-6438-05 | FLAT CABLE CONNECTOR | |
| C844 | | | CK73FB0J106K | CHIP C 10UF K | | CN783 | | | E40-5066-05 | PIN ASSY | |
| C845 | | | CK73GB1H152K | CHIP C 1500PF K | | CN950 | | * | E40-6720-05 | SOCKET FOR PIN ASSY | |
| C846,847 | | | CK73GB1H103K | CHIP C 0.010UF K | | CN951 | | * | E41-2730-05 | PIN ASSY | |

If a part reference number is listed in a shaded box, that part does not come with the PCB.

TK-5710(B)/5710H(B)

PARTS LIST

CONTROL UNIT (X53-4120-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|-------------|---------|-----------|--------------|----------------------------|-------------|----------|---------|-----------|--------------|-------------|--------------|
| W700 | | | E37-1326-05 | LEAD WIRE WITH CONNECTOR | | R667 | | | RK73GB2A684J | CHIP R | 680K J 1/10W |
| F700 | | | F53-0328-05 | FUSE(5.0A) | | R668 | | | RK73GB2A474J | CHIP R | 470K J 1/10W |
| F701 | | | F53-0195-05 | FUSE(2.5A) | | R669 | | | RK73GB2A100J | CHIP R | 10 J 1/10W |
| CN701 | | | J19-5386-05 | HOLDER | | R670 | | | RK73GB2A333J | CHIP R | 33K J 1/10W |
| L650 | | | L92-0446-05 | BEADS CORE | | R671 | | | RK73GB2A104J | CHIP R | 100K J 1/10W |
| L700,701 | | | L92-0140-05 | CHIP FERRITE | | R672,673 | | | RK73GB2A100J | CHIP R | 10 J 1/10W |
| L704-715 | | | L92-0163-05 | BEADS CORE | | R674 | | | RK73GB2A474J | CHIP R | 470K J 1/10W |
| L716,717 | | | L92-0162-05 | BEADS CORE | | R675 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| L718 | | | L92-0446-05 | BEADS CORE | | R676 | | | RK73GB2A333J | CHIP R | 33K J 1/10W |
| L721 | | | L92-0446-05 | BEADS CORE | | R677 | | | RK73GB2A103J | CHIP R | 10K J 1/10W |
| L722,723 | | | L92-0140-05 | CHIP FERRITE | | R678 | | | RK73GB2A104J | CHIP R | 100K J 1/10W |
| L724-732 | | | L92-0179-05 | CHIP FERRITE | | R679-681 | | | RK73HB1J000J | CHIP R | 0.0 J 1/16W |
| X700 | | | L77-2304-05 | CRYSTAL RESONATOR(32768HZ) | | R682 | | | RK73GB2A000J | CHIP R | 0.0 J 1/10W |
| X701 | | | L77-1962-05 | VCXO(18.432MHZ) | | R685 | | | RK73GB2A000J | CHIP R | 0.0 J 1/10W |
| CP700-702 | | | R90-0743-05 | MULTIPLE RESISTOR(47K*2) | | R686 | | | RK73GB2A223J | CHIP R | 22K J 1/10W |
| CP703,704 | | | R90-0745-05 | MULTIPLE RESISTOR(470K*2) | | R687 | | | RK73GB2A153J | CHIP R | 15K J 1/10W |
| R597 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R688,689 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R598,599 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R690 | | | RK73FB2B000J | CHIP R | 0.0 J 1/8W |
| R602 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | R693,694 | | | RK73FB2B000J | CHIP R | 0.0 J 1/8W |
| R603 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R697 | | | RK73FB2B000J | CHIP R | 0.0 J 1/8W |
| R604,605 | | | RK73HB1J100J | CHIP R 10 J 1/16W | | R699 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R606 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R701 | | | RK73GB2A000J | CHIP R | 0.0 J 1/10W |
| R607 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R702 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R608,609 | | | RK73HB1J100J | CHIP R 10 J 1/16W | | R703 | | | RK73GB2A103J | CHIP R | 10K J 1/10W |
| R610,611 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R704 | | | R92-3591-05 | METAL-R | 1.0K J 1/2W |
| R612 | | | RK73HB1J100J | CHIP R 10 J 1/16W | | R705 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R613,614 | | | RK73HB1J470J | CHIP R 47 J 1/16W | | R706,707 | | | RK73GB2A104J | CHIP R | 100K J 1/10W |
| R615 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R708 | | | RK73GB2A103J | CHIP R | 10K J 1/10W |
| R616,617 | | | RK73HB1J100J | CHIP R 10 J 1/16W | | R709 | | | RK73GB2A104J | CHIP R | 100K J 1/10W |
| R618 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R710-712 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R619,620 | | | RK73HB1J470J | CHIP R 47 J 1/16W | | R713 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R621 | | | RK73HB1J101J | CHIP R 100 J 1/16W | | R714 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R623,624 | | | RK73GB2A220J | CHIP R 22 J 1/10W | | R715 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R625 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | R716 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R627 | | | RK73GB2A223J | CHIP R 22K J 1/10W | | R717 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R628 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | R718 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R629 | | | RK73HB1J100J | CHIP R 10 J 1/16W | | R719 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R630 | | | RK73GB2A563J | CHIP R 56K J 1/10W | | R720 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R631 | | | RK73GB2A274J | CHIP R 270K J 1/10W | | R721 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R632,633 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R722 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R634-636 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | R723 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R637-640 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R724 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R641-649 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R726 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R650 | | | RK73FB2B000J | CHIP R 0.0 J 1/8W | | R728,729 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R651 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | R730-734 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R652 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | R735 | | | RK73GB2A000J | CHIP R | 0.0 J 1/10W |
| R653 | | | RK73GB2A470J | CHIP R 47 J 1/10W | | R736 | | | RK73GB2A102J | CHIP R | 1.0K J 1/10W |
| R654,655 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | R738 | | | RK73GB2A103J | CHIP R | 10K J 1/10W |
| R656-658 | | | RK73GB2A470J | CHIP R 47 J 1/10W | | R739 | | | RK73GB2A000J | CHIP R | 0.0 J 1/10W |
| R659 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | R740 | | | RK73GB2A332J | CHIP R | 3.3K J 1/10W |
| R660 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | R741-744 | | | RK73GB2A473J | CHIP R | 47K J 1/10W |
| R661 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R745 | | | RK73HB1J104J | CHIP R | 100K J 1/16W |
| R662 | | | RK73GB2A100J | CHIP R 10 J 1/10W | | R746 | | | RK73HB1J473J | CHIP R | 47K J 1/16W |
| R663,664 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R748 | | | RK73HB1J473J | CHIP R | 47K J 1/16W |
| R665 | | | RK73GB2A100J | CHIP R 10 J 1/10W | | R749,750 | | | RK73HB1J104J | CHIP R | 100K J 1/16W |
| R666 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R751 | | | RK73HB1J474J | CHIP R | 470K J 1/16W |
| | | | | | | R752,753 | | | RK73HB1J472J | CHIP R | 4.7K J 1/16W |
| | | | | | | R754 | | | RK73HB1J474J | CHIP R | 470K J 1/16W |
| | | | | | | R755 | | | RK73FB2B000J | CHIP R | 0.0 J 1/8W |
| | | | | | | R756 | | | RK73HB1J473J | CHIP R | 47K J 1/16W |

PARTS LIST

CONTROL UNIT (X53-4120-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|--------------|---------------------|-------------|----------|---------|-----------|--------------|---------------------|-------------|
| R757 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R857 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R758 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R858 | | | RK73GB2A224J | CHIP R 220K J 1/10W | |
| R759 | | | RK73HB1J472J | CHIP R 4.7K J 1/16W | | R859 | | | RK73GB2A104J | CHIP R 100K J 1/10W | |
| R760 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R860 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R761 | | | RK73GB2A473J | CHIP R 47K J 1/10W | | R861 | | | RK73GB2A223J | CHIP R 22K J 1/10W | |
| R762,763 | | | RN73HH1J102D | CHIP R 1.0K D 1/16W | | R862 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R764 | | | RK73HH1J393D | CHIP R 39K D 1/16W | | R863 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R765 | | | RK73HH1J123D | CHIP R 12K D 1/16W | | R864 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R766 | | | RK73HB1J472J | CHIP R 4.7K J 1/16W | | R865 | | | RK73GB2A104J | CHIP R 100K J 1/10W | |
| R767 | | | RK73FB2B000J | CHIP R 0.0 J 1/8W | | R866 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R768 | | | RK73FB2B471J | CHIP R 470 J 1/8W | | R867 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R769 | | | RK73HB1J472J | CHIP R 4.7K J 1/16W | | R868 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R771 | | | RK73GB2A472J | CHIP R 4.7K J 1/10W | | R870 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R772 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R874 | | | RK73GB2A100J | CHIP R 10 J 1/10W | |
| R773 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R875 | | | RK73GB2A153J | CHIP R 15K J 1/10W | |
| R774,775 | | | RK73GB2A473J | CHIP R 47K J 1/10W | | R876 | | | RK73GB2A154J | CHIP R 150K J 1/10W | |
| R776 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R877 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R777 | | | RK73GB2A473J | CHIP R 47K J 1/10W | | R878 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R778-782 | | | RK73HB1J101J | CHIP R 100 J 1/16W | | R879 | | | RK73GB2A104J | CHIP R 100K J 1/10W | |
| R783 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R882 | | | RK73GB2A4R7J | CHIP R 4.7 J 1/10W | |
| R784-786 | | | RK73HB1J101J | CHIP R 100 J 1/16W | | R883 | | | RK73GB2A272J | CHIP R 2.7K J 1/10W | |
| R787 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R886 | | | RK73GB2A104J | CHIP R 100K J 1/10W | |
| R788 | | | RK73FB2B473J | CHIP R 47K J 1/8W | | R887 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R789 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R888 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R790 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | R890 | | | RK73GB2A684J | CHIP R 680K J 1/10W | |
| R791-810 | | | RK73HB1J101J | CHIP R 100 J 1/16W | | R891 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R811 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R892 | | | RK73HB1J473J | CHIP R 47K J 1/16W | |
| R812 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R893 | | | RK73GB2A392J | CHIP R 3.9K J 1/10W | |
| R813 | | | RK73GB2A274J | CHIP R 270K J 1/10W | | R894 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R814 | | | RK73HB1J104J | CHIP R 100K J 1/16W | | R895 | | | RK73GB2A332J | CHIP R 3.3K J 1/10W | |
| R815 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R896 | | | RK73GB2A274J | CHIP R 270K J 1/10W | |
| R816 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R897 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R817,818 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R898 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R819 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | R899-903 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R820 | | | RK73HB1J104J | CHIP R 100K J 1/16W | | R906 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R821 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R908 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R822 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | | R909 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | |
| R823 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R910 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R824-826 | | | RK73HB1J474J | CHIP R 470K J 1/16W | | R911 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R829-834 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R912 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R835 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | R913 | | | RK73GB2A124J | CHIP R 120K J 1/10W | |
| R837 | | | RK73GB2A473J | CHIP R 47K J 1/10W | | R914 | | | RK73GB2A103J | CHIP R 10K J 1/10W | |
| R838 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | R915 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | |
| R839 | | | RK73GB2A473J | CHIP R 47K J 1/10W | | R916 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R840 | | | RK73GB2A153J | CHIP R 15K J 1/10W | | R917 | | | RK73HB1J103J | CHIP R 10K J 1/16W | |
| R841 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | R918,919 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R842 | | | RK73GB2A123J | CHIP R 12K J 1/10W | | R920 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R843 | | | RK73GB2A564J | CHIP R 560K J 1/10W | | R922 | | | RK73HB1J104J | CHIP R 100K J 1/16W | |
| R844 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | R923,924 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R845 | | | RK73GB2A472J | CHIP R 4.7K J 1/10W | | R926 | | | RN73GH1J473D | CHIP R 47K D 1/16W | |
| R846 | | | RK73GB2A682J | CHIP R 6.8K J 1/10W | | R928 | | | RK73GB2A473J | CHIP R 47K J 1/10W | |
| R847 | | | RK73GB2A822J | CHIP R 8.2K J 1/10W | | R929 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R848 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | R930 | | | RK73GB2A333J | CHIP R 33K J 1/10W | |
| R849 | | | RK73GB2A154J | CHIP R 150K J 1/10W | | R932 | | | RN73GH1J273D | CHIP R 27K D 1/16W | |
| R850 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | R933 | | | RN73GH1J184D | CHIP R 180K D 1/16W | |
| R851,852 | | | RK73HB1J473J | CHIP R 47K J 1/16W | | R934 | | | RK73HB1J000J | CHIP R 0.0 J 1/16W | |
| R853 | | | RK73GB2A470J | CHIP R 47 J 1/10W | | R937,938 | | | RK73GB2A223J | CHIP R 22K J 1/10W | |
| R854 | | | RK73GB2A123J | CHIP R 12K J 1/10W | | R939 | | | RK73HB1J470J | CHIP R 47 J 1/16W | |
| R855 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | R940 | | | RK73GB2A123J | CHIP R 12K J 1/10W | |
| R856 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | R941,942 | | | RK73HB1J470J | CHIP R 47 J 1/16W | |

TK-5710(B)/5710H(B)

PARTS LIST

CONTROL UNIT (X53-4120-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|-------------|---------|-----------|--------------|---------------------|-------------|--------------|---------|-----------|----------------|-------------------|-------------|
| R943 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | D723 | | * | 02DZ10F-Z | ZENER DIODE | |
| R944 | | | RK73GB2A471J | CHIP R 470 J 1/10W | | D724 | | | 1SS355 | DIODE | |
| R945 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | D725 | | | 02DZ18F-X,Y | ZENER DIODE | |
| R946 | | | RK73GB2A105J | CHIP R 1.0M J 1/10W | | D726 | | | DA204U | DIODE | |
| R947 | | | RK73GB2A471J | CHIP R 470 J 1/10W | | | | | | | |
| R948 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | D727,728 | | | RB706F-40 | DIODE | |
| R949 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | D731,732 | | | 02DZ5.1F-Y | ZENER DIODE | |
| R950 | | | RK73GB2A394J | CHIP R 390K J 1/10W | | D734 | | | 1SS355 | DIODE | |
| R951 | | | RK73GB2A154J | CHIP R 150K J 1/10W | | D736 | | | MINISMDC075F24 | VARISTOR | |
| R955 | | | RK73GB2A474J | CHIP R 470K J 1/10W | | D737 | | | 02DZ5.1F-Y | ZENER DIODE | |
| R956 | | | RK73GB2A123J | CHIP R 12K J 1/10W | | D738-742 | | | AVRM1608C270K2 | VARISTOR | |
| R957 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | D743,744 | | | DA204U | DIODE | |
| R958,959 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | D745-748 | | | 1SS388F | DIODE | |
| R960 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | D749,750 | | | MA2S111-F | DIODE | |
| R961 | | | RK73GB2A394J | CHIP R 390K J 1/10W | | D751 | | | 02DZ5.1F-Y | ZENER DIODE | |
| R962 | | | RK73GB2A273J | CHIP R 27K J 1/10W | | IC700 | | | RV5C386A | MOS-IC | |
| R963 | | | RK73GB2A100J | CHIP R 10 J 1/10W | | IC701 | | * | CAT24C256WIG3 | ROM IC | |
| R964,965 | | | RK73GB2A103J | CHIP R 10K J 1/10W | | IC702 | | | MM1522XJURE | ANALOGUE IC | |
| R966 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | IC703 | | * | 30625MPG347GU | MICROPROCESSOR IC | |
| R967 | | | RK73GB2A683J | CHIP R 68K J 1/10W | | IC704 | | | S-80942CNNBG9C | MOS-IC | |
| R968 | | | RK73GB2A273J | CHIP R 27K J 1/10W | | IC705 | | | TC4013BF(N) | MOS-IC | |
| R969 | | | RK73GB2A274J | CHIP R 270K J 1/10W | | IC706 | | | LM2940T-8.0 | MOS-IC | |
| R970,971 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | IC707 | | | TA7805FQ | MOS-IC | |
| R973 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | IC708 | | | XC6204B332M | MOS-IC | |
| R974 | | | RK73GB2A563J | CHIP R 56K J 1/10W | | IC709 | | | XC6209B152M | MOS-IC | |
| R975 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | IC710 | | | XC6204B332M | MOS-IC | |
| R976 | | | RK73GB2A334J | CHIP R 330K J 1/10W | | IC711 | | | XC6204B252M | MOS-IC | |
| R977 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | IC712 | | | Note 1 | ROM IC | |
| R978 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | IC713 | | | TC7S08FU | MOS-IC | |
| R980 | | | RK73GB2A102J | CHIP R 1.0K J 1/10W | | IC714 | | | TC75S51F-F | MOS-IC | |
| R981 | | | RK73GB2A472J | CHIP R 4.7K J 1/10W | | IC715 | | | Note 1 | MICROPROCESSOR IC | |
| R982 | | | RK73GB2A274J | CHIP R 270K J 1/10W | | IC716 | | | NJM78L05UA | BI-POLAR IC | |
| R983,984 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | IC717 | | | BU4094BCFV | MOS-IC | |
| R987 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | IC718,719 | | | TC75W51FUJ | MOS-IC | |
| R988 | | | RK73GB2A684J | CHIP R 680K J 1/10W | | IC720 | | | TC7W66FK-F | MOS-IC | |
| R993 | | | RK73GB2A681J | CHIP R 680 J 1/10W | | IC721 | | | TC7WH74FK | MOS-IC | |
| R994 | | | RK73GB2A104J | CHIP R 100K J 1/10W | | IC722 | | | ADM202EARNZ | MOS-IC | |
| R995 | | | RK73GB2A333J | CHIP R 33K J 1/10W | | IC723 | | | TA75S01F-F | MOS-IC | |
| R996 | | | RK73HB1J470J | CHIP R 47 J 1/16W | | IC724 | | | AK4550VTP | MOS-IC | |
| R998 | | | RK73HB1J470J | CHIP R 47 J 1/16W | | IC725,726 | | | TC7WU04FK | MOS-IC | |
| R999 | | | RK73GB2A000J | CHIP R 0.0 J 1/10W | | IC727 | | | BU4053BCFV | MOS-IC | |
| K700 | | | S76-0434-05 | RELAY | | IC728 | | | BU4094BCFV | MOS-IC | |
| D650,651 | | | CUS01 | DIODE | | IC729 | | | TC75W51FUJ | MOS-IC | |
| D652,653 | | | DA221 | DIODE | | IC730 | | | EX128TQ64I630C | MOS-IC | |
| D700-704 | | | DA204U | DIODE | | IC731 | | | TC7W66FK-F | MOS-IC | |
| D705 | | | 1SS355 | DIODE | | IC732 | | | TDA8561Q | BI-POLAR IC | |
| D706 | | | DA204U | DIODE | | IC733 | | | TC75W51FUJ | MOS-IC | |
| D707 | | | 02DZ18F-X,Y | ZENER DIODE | | IC734 | | | TC7S66FUJ | MOS-IC | |
| D708 | | | DA204U | DIODE | | IC735 | | | TA75W01FUJ | MOS-IC | |
| D709 | | | 1SS355 | DIODE | | IC736 | | | TC7W66FK-F | MOS-IC | |
| D710 | | | 02DZ18F-X,Y | ZENER DIODE | | IC737 | | | LMC7101BIM5 | MOS-IC | |
| D711,712 | | | DA204U | DIODE | | IC738 | | | M62364FP-F | MOS-IC | |
| D713,714 | | | 02DZ18F-X,Y | ZENER DIODE | | IC739 | | | TA75S01F-F | MOS-IC | |
| D715 | | | 1SS388F | DIODE | | IC740 | | | LMC7101BIM5 | MOS-IC | |
| D719 | | | 02DZ15F-X,Y | ZENER DIODE | | IC741 | | | NJM78L05UA | BI-POLAR IC | |
| D720 | | | 1SS355 | DIODE | | IC742 | | | TA75S01F-F | MOS-IC | |
| D721 | | | 02DZ5.1F-Y | ZENER DIODE | | IC743 | | | TC7S66FUJ | MOS-IC | |
| D722 | | | 1SS355 | DIODE | | IC745 | | | TC75S51F-F | MOS-IC | |
| | | | | | | IC950 | | | TC7SBD384AFU | MOS-IC | |
| | | | | | | IC951 | | * | TC75S51F-F | MOS-IC | |

PARTS LIST

CONTROL UNIT (X53-4120-10)
TX-RX UNIT (X57-7030-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|------------------------------------------------------|---------|-----------|---------------|--------------------|-------------|----------|---------|-----------|---------------|------------------|-------------|
| IC952 | | | XC6201P302MR | MOS-IC | | C214 | | | CK73GB1H102K | CHIP C 1000PF K | |
| Q700,701 | | | 2SD2114K(W) | TRANSISTOR | | C215 | | | CC73GCH1H020B | CHIP C 2.0PF B | |
| Q702,703 | | | DTC114TUA | DIGITAL TRANSISTOR | | C216 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| Q704 | | | SSM3K15TE(F) | FET | | C217 | | | CC73GCH1H220J | CHIP C 22PF J | |
| Q705 | | | DTC114YE | DIGITAL TRANSISTOR | | C218 | | | CC73GCH1H020B | CHIP C 2.0PF B | |
| Q706 | | | DTA114YE | DIGITAL TRANSISTOR | | C219 | | | CC73GCH1H220J | CHIP C 22PF J | |
| Q707 | | | DTC114EE | DIGITAL TRANSISTOR | | C220 | | | CC73GCH1H180J | CHIP C 18PF J | |
| Q708,709 | | | DTA114EE | DIGITAL TRANSISTOR | | C221 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| Q710 | | | DTC114EE | DIGITAL TRANSISTOR | | C222 | | | CC73GCH1H101J | CHIP C 100PF J | |
| Q711 | | | DTA114YE | DIGITAL TRANSISTOR | | C223 | | | CC73GCH1H680J | CHIP C 68PF J | |
| Q712 | | | DTC114TE | DIGITAL TRANSISTOR | | C224 | | | CC73GCH1H150J | CHIP C 15PF J | |
| Q713 | | * | 2SJ506-E(S) | FET | | C225 | | | CC73GCH1H020B | CHIP C 2.0PF B | |
| Q714 | | | DTC114YE | DIGITAL TRANSISTOR | | C226 | | | CC73GCH1H270J | CHIP C 27PF J | |
| Q715 | | | 2SC4738(GR)F | TRANSISTOR | | C227 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| Q716 | | | 2SA1832(GR)F | TRANSISTOR | | C228 | | | CC73GCH1H020B | CHIP C 2.0PF B | |
| Q717 | | | DTC114YE | DIGITAL TRANSISTOR | | C229 | | | CC73GCH1H270J | CHIP C 27PF J | |
| Q719 | | | SSM3K15TE(F) | FET | | C230 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| Q720 | | | 2SJ243-A | FET | | C231 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| Q721 | | | SSM3K15TE(F) | FET | | C232 | | | CC73GCH1H150J | CHIP C 15PF J | |
| Q723 | | | 2SJ243-A | FET | | C233,234 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| Q725 | | | SSM3K15TE(F) | FET | | C235 | | | CK73GB1H102K | CHIP C 1000PF K | |
| Q728 | | | DTC114TE | DIGITAL TRANSISTOR | | C236 | | | CC73FCH1H100D | CHIP C 10PF D | |
| Q729 | | | 2SJ243-A | FET | | C237 | | | CC73GCH1H050B | CHIP C 5.0PF B | |
| Q730 | | | DTC114EE | DIGITAL TRANSISTOR | | C238 | | | CC73GCH1H040B | CHIP C 4.0PF B | |
| Q731 | | | DTC144EE | DIGITAL TRANSISTOR | | C239 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| Q732 | | | 2SD1757K | TRANSISTOR | | C240 | | | CC73GCH1H100C | CHIP C 10PF C | |
| Q733,734 | | | SSM3K15TE(F) | FET | | C241 | | | CC73GCH1H101J | CHIP C 100PF J | |
| Q735,736 | | | UM6K1N | FET | | C242 | | | CK73GB1H102K | CHIP C 1000PF K | |
| Q950,951 | | | DTC114TUA | DIGITAL TRANSISTOR | | C243 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| TX-RX UNIT (X57-7030-10): TK-5710(B)/5710H(B) | | | | | | C244 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| C150 | | | CC73GCH1H150J | CHIP C 15PF J | | C245 | | | CK73GB1C333K | CHIP C 0.033UF K | |
| C151 | | | CC73GCH1H220J | CHIP C 22PF J | | C247,248 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C152 | | | CC73GCH1H270J | CHIP C 27PF J | | C249 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C154 | | | CC73GCH1H101J | CHIP C 100PF J | | C250 | | | CC73GCH1H120J | CHIP C 12PF J | |
| C155 | | | CK73GB1H102K | CHIP C 1000PF K | | C251 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C157 | | | CK73GB1H102K | CHIP C 1000PF K | | C252 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C159 | | | CC73GCH1H150J | CHIP C 15PF J | | C253 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| C160-162 | | | CK73GB1H102K | CHIP C 1000PF K | | C254 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| C163 | | | C90-4085-05 | ELECTRO 47UF 20WV | | C255 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C164 | | | CK73GB1H102K | CHIP C 1000PF K | | C256 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| C165 | | | CC73GCH1H180J | CHIP C 18PF J | | C257,258 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C166 | | | CK73GB1H102K | CHIP C 1000PF K | | C259,260 | | | CC73GCH1H040B | CHIP C 4.0PF B | |
| C167 | | | CC73GCH1H220J | CHIP C 22PF J | | C261 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| C168,169 | | | CK73GB1H102K | CHIP C 1000PF K | | C262 | | | CC73GCH1H100C | CHIP C 10PF C | |
| C170 | | | CC73GCH1H470J | CHIP C 47PF J | | C263 | | | CC73GCH1H090D | CHIP C 9.0PF D | |
| C171 | | | CK73GB1H103K | CHIP C 0.010UF K | | C264 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| C200 | | | CC73GCH1H150J | CHIP C 15PF J | | C267 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| C201 | | | CC73GCH1H120J | CHIP C 12PF J | | C268,269 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C202 | | | CC73GCH1H330J | CHIP C 33PF J | | C270 | | | CC73GCH1H470J | CHIP C 47PF J | |
| C203 | | | CC73GCH1H120J | CHIP C 12PF J | | C271 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C204 | | | CC73GCH1H150J | CHIP C 15PF J | | C274 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C205 | | | CK73GB1H103K | CHIP C 0.010UF K | | C275,276 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C206,207 | | | CC73GCH1H220J | CHIP C 22PF J | | C279 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C208 | | | CC73GCH1H180J | CHIP C 18PF J | | C282 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| C209,210 | | | CC73GCH1H101J | CHIP C 100PF J | | C284 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C211 | | | CK73GB1H103K | CHIP C 0.010UF K | | C286,287 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C212 | | | CC73GCH1H100C | CHIP C 10PF C | | C289 | | | CC73GCH1H470J | CHIP C 47PF J | |
| C213 | | | CC73GCH1H220J | CHIP C 22PF J | | C290 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| | | | | | | C291 | | | CC73GCH1H101J | CHIP C 100PF J | |

If a part reference number is listed in a shaded box, that part does not come with the PCB.

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PARTS LIST

TX-RX UNIT (X57-7030-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|---------------|------------------------|-------------|----------|---------|-----------|---------------|----------------------|-------------|
| C292 | | | CC73GCH1H150J | CHIP C 15PF J | | C454,455 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C294 | | | CC73GCH1H150J | CHIP C 15PF J | | C456 | | * | CS77CB21A220M | CHIP TNTL 22UF 10WV | |
| C295-298 | | | CK73GB1C104K | CHIP C 0.10UF K | | C458-460 | | * | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C462 | | | CS77AC1A470M | CHIP TNTL 47UF 10WV | |
| C299,300 | | | CK73GB1E103K | CHIP C 0.010UF K | | | | | | | |
| C301 | | | CK73FB0J106K | CHIP C 10UF K | | C463,464 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C302 | | | CK73GB1C104K | CHIP C 0.10UF K | | C466 | | | CS77AA1A100M | CHIP TNTL 10UF 10WV | |
| C303 | | | CC73GCH1H270J | CHIP C 27PF J | | C467 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C304,305 | | | CC73GCH1H181J | CHIP C 180PF J | | C469 | | | CC73GCH1H680G | CHIP C 68PF G | |
| | | | | | | C470 | | | CC73GCH1H560G | CHIP C 56PF G | |
| C306,307 | | | CK73GB1C104K | CHIP C 0.10UF K | | | | | | | |
| C309 | | | CK73GB1H152J | CHIP C 1500PF J | | C471 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C310 | | | CK73GB1E103K | CHIP C 0.010UF K | | C472 | | | CC73GCH1H560G | CHIP C 56PF G | |
| C311 | | * | CS77BAQJ100M | CHIP TNTL 10UF 6.3WV | | C473,474 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C312,313 | | | CK73GB1C104K | CHIP C 0.10UF K | | C476,477 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C478 | | | CC73GCH1H560G | CHIP C 56PF G | |
| C314 | | | CK73GB1H102K | CHIP C 1000PF K | | | | | | | |
| C316 | | | CK73GB1H102K | CHIP C 1000PF K | | C481 | | | CC73GCH1HR75B | CHIP C 0.75PF B | |
| C318 | | | CK73GB1H102K | CHIP C 1000PF K | | C482 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| C319 | | | CK73GB1C104K | CHIP C 0.10UF K | | C483-485 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| C320 | | | CS77AA0J220M | CHIP TNTL 22UF 6.3WV | | C486,487 | | | CC73GCH1H080B | CHIP C 8.0PF B | |
| | | | | | | C490,491 | | | CC73GCH1H090B | CHIP C 9.0PF B | |
| C321 | | | CK73GB1C104K | CHIP C 0.10UF K | | | | | | | |
| C322 | | | CK73GB1A224K | CHIP C 0.22UF K | | C493 | | | CC73GCH1H010B | CHIP C 1.0PF B | |
| C323 | | | CC73GCH1H680J | CHIP C 68PF J | | C495 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C325-327 | | | CK73GB1C104K | CHIP C 0.10UF K | | C496,497 | | | CC73GCH1H010B | CHIP C 1.0PF B | |
| C328 | | | CC73GCH1H030B | CHIP C 3.0PF B | | C499 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C501 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C329 | | | CC73GCH1H120J | CHIP C 12PF J | | | | | | | |
| C400 | | | CC73GCH1H101J | CHIP C 100PF J | | C502 | | | CC73GCH1H150J | CHIP C 15PF J | |
| C401 | | | CK73GB1H102K | CHIP C 1000PF K | | C504 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C402 | | | CC73GCH1H101J | CHIP C 100PF J | | C505,506 | | | CC73GCH1H050B | CHIP C 5.0PF B | |
| C404 | | | CK73GB1H102K | CHIP C 1000PF K | | C507,508 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C509 | | | CC73GCH1H1R5B | CHIP C 1.5PF B | |
| C407 | | | CK73GB1H102K | CHIP C 1000PF K | | | | | | | |
| C409 | | | CK73GB1H103K | CHIP C 0.010UF K | | C510,511 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C410 | | | CS77AA1V0R1M | CHIP TNTL 0.1UF 35WV | | C512 | | | CC73GCH1H150J | CHIP C 15PF J | |
| C412 | | | CK73GB1C104K | CHIP C 0.10UF K | | C513 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C413 | | | CS77AA1ER47M | CHIP TNTL 0.47UF 25WV | | C514 | | | CC73GCH1H101J | CHIP C 100PF J | |
| | | | | | | C515 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C414 | | | CC73GCH1H101J | CHIP C 100PF J | | | | | | | |
| C415 | | | CK73GF1A105Z | CHIP C 1.0UF Z | | C520 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C417 | | | CC73GCH1H100C | CHIP C 10PF C | | C521 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C418 | | | CK73GB1C104K | CHIP C 0.10UF K | | C522 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C419 | | | C92-0863-05 | CHIP TNTL 0.047UF 35WV | | C523 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| | | | | | | C549,550 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| C420,421 | | | CK73GB1H102K | CHIP C 1000PF K | | | | | | | |
| C422 | | | CC73GCH1H101J | CHIP C 100PF J | | C551 | | | CC73GCH1H101J | CHIP C 100PF J | |
| C424 | | | CC73GCH1H1R5B | CHIP C 1.5PF B | | C552 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| C425,426 | | | CK73GB1H102K | CHIP C 1000PF K | | C590 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C427 | | | CK73GF1A105Z | CHIP C 1.0UF Z | | C591 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C592 | | | CK73GB1E103K | CHIP C 0.010UF K | |
| C428-431 | | | CK73GB1H471K | CHIP C 470PF K | | | | | | | |
| C432 | | | CC73GCH1H300J | CHIP C 30PF J | | C596 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C433 | | | CC73GCH1H120J | CHIP C 12PF J | | C600 | | | C92-0881-05 | ELECTRO 47UF 10WV | |
| C434 | | | CC73GCH1H030B | CHIP C 3.0PF B | | C601 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C435 | | | CC73GCH1H1R5B | CHIP C 1.5PF B | | C602 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| | | | | | | C603 | | | CK73GB1H103K | CHIP C 0.010UF K | |
| C437 | | | CK73GB1E105K | CHIP C 1.0UF K | | | | | | | |
| C438 | | | CC73GCH1H300J | CHIP C 30PF J | | C604 | | | C92-0023-05 | ELECTRO 1.0UF 50WV | |
| C439 | | | CC73GCH1H150J | CHIP C 15PF J | | C605 | | | CK73GB1C104K | CHIP C 0.10UF K | |
| C440,441 | | | CK73GB1H102K | CHIP C 1000PF K | | C606 | | | C92-0870-05 | CHIP TNTL 4.7UF 16WV | |
| C442,443 | | | CK73GB1H471K | CHIP C 470PF K | | C607-610 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C612-629 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C446 | | | CK73GB1H102K | CHIP C 1000PF K | | | | | | | |
| C447 | | | C92-0602-05 | CHIP TNTL 1.0UF 10WV | | C630 | | | CS77BA1C010M | CHIP TNTL 1.0UF 16WV | |
| C448 | | | CK73GB1H103K | CHIP C 0.010UF K | | C631-635 | | | CK73GB1H102K | CHIP C 1000PF K | |
| C449 | | | CC73GCH1H101J | CHIP C 100PF J | | C636 | | | CC73GCH1H220J | CHIP C 22PF J | |
| C451 | | | CK73GB1H102K | CHIP C 1000PF K | | C638-640 | | | CK73GB1H102K | CHIP C 1000PF K | |
| | | | | | | C641 | | | CC73GCH1H100C | CHIP C 10PF C | |
| C452,453 | | | CC73GCH1H101J | CHIP C 100PF J | | | | | | | |

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PARTS LIST

TX-RX UNIT (X57-7030-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|-----------|---------|-----------|--------------|-------------------------------|-------------|----------|---------|-----------|--------------|---------------------------------|-------------|
| C642 | | | CK73GB1H102K | CHIP C 1000PF K | | L431 | | | L40-5675-92 | SMALL FIXED INDUCTOR(56NH) | |
| CN150 | | | E04-0154-05 | PIN SOCKET | | L432 | | | L40-1085-92 | SMALL FIXED INDUCTOR(100NH) | |
| CN152 | | | E04-0154-05 | PIN SOCKET | | L434-437 | | | L92-0140-05 | CHIP FERRITE | |
| CN200,201 | | | E04-0154-05 | PIN SOCKET | | L447 | | | L34-4610-05 | AIR-CORE COIL | |
| CN202,203 | | | E40-5538-05 | PIN ASSY | | L449 | | | L34-4613-05 | AIR-CORE COIL | |
| CN600 | | | E40-6438-05 | FLAT CABLE CONNECTOR | | L450 | | | L34-4612-05 | AIR-CORE COIL | |
| CN601 | | | E40-6429-05 | FLAT CABLE CONNECTOR | | L453 | | | L40-5675-92 | SMALL FIXED INDUCTOR(56NH) | |
| CN602 | | | E37-1235-05 | JUMPER WIRE | | L454-457 | | | L92-0140-05 | CHIP FERRITE | |
| CF200 | | | L72-1018-05 | CERAMIC FILTER | | L460-462 | | | L92-0140-05 | CHIP FERRITE | |
| CF201 | | | L72-1016-05 | CERAMIC FILTER | | L463 | | | L41-2778-08 | SMALL FIXED INDUCTOR(27NH) | |
| CF202 | | | L72-1009-05 | CERAMIC FILTER | | X200 | | | L77-1961-05 | VCXO(16.8MHZ) | |
| CF203 | | | L72-1018-05 | CERAMIC FILTER | | X400 | | | L77-1960-05 | VCXO(16.8MHZ) | |
| CF204 | | | L72-1016-05 | CERAMIC FILTER | | XF200 | | | L71-0625-05 | CRYSTAL FILTER(49.95MHZ WIDE) | |
| | | | | | | XF201 | | | L71-0626-05 | CRYSTAL FILTER(49.95MHZ NARROW) | |
| L150-152 | | | L40-5675-92 | SMALL FIXED INDUCTOR(56NH) | | R150 | | | RK73GB1J121J | CHIP R 120 J 1/16W | |
| L153 | | | L40-8275-92 | SMALL FIXED INDUCTOR(82NH) | | R151 | | | RK73GB1J470J | CHIP R 47 J 1/16W | |
| L154 | | | L40-4775-92 | SMALL FIXED INDUCTOR(47NH) | | R152 | | | RK73GB1J121J | CHIP R 120 J 1/16W | |
| L200,201 | | | L41-2778-08 | SMALL FIXED INDUCTOR(27NH) | | R153,154 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| L202 | | | L41-8278-08 | SMALL FIXED INDUCTOR(82NH) | | R155 | | | RK73GB1J123J | CHIP R 12K J 1/16W | |
| L203 | | | L41-3388-08 | SMALL FIXED INDUCTOR(330NH) | | R157 | | | RK73GB1J470J | CHIP R 47 J 1/16W | |
| L204 | | | L41-3378-08 | SMALL FIXED INDUCTOR(33NH) | | R159 | | | RK73GB1J221J | CHIP R 220 J 1/16W | |
| L205 | | | L41-3388-08 | SMALL FIXED INDUCTOR(330NH) | | R160 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| L206 | | | L41-8278-08 | SMALL FIXED INDUCTOR(82NH) | | R163 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| L207 | | | L41-2788-08 | SMALL FIXED INDUCTOR(270NH) | | R164 | | | RK73GB1J332J | CHIP R 3.3K J 1/16W | |
| L208 | | | L41-6888-08 | SMALL FIXED INDUCTOR(680NH) | | R166 | | | RK73FB2A100J | CHIP R 10 J 1/10W | |
| L209 | | | L41-1588-08 | SMALL FIXED INDUCTOR(150NH) | | R168 | | | RK73FB2A100J | CHIP R 10 J 1/10W | |
| L211-213 | | | L41-3378-08 | SMALL FIXED INDUCTOR(33NH) | | R170 | | | RK73FB2A221J | CHIP R 220 J 1/10W | |
| L214 | | | L41-4778-08 | SMALL FIXED INDUCTOR(47NH) | | R171 | | | RK73FB2A220J | CHIP R 22 J 1/10W | |
| L215 | | | L40-6881-37 | SMALL FIXED INDUCTOR(0.680UH) | | R172 | | | RK73FB2A221J | CHIP R 220 J 1/10W | |
| L216,217 | | | L41-1008-08 | SMALL FIXED INDUCTOR(10UH) | | R175 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| L219 | | | L40-5681-86 | SMALL FIXED INDUCTOR(0.56UH) | | R200 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| L221-223 | | | L34-4080-05 | COIL | | R201 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| L224,225 | | | L34-4748-05 | COIL | | R202 | | | RK73GB1J470J | CHIP R 47 J 1/16W | |
| L226,227 | | | L34-4749-05 | COIL | | R203 | | | RK73GB1J120J | CHIP R 12 J 1/16W | |
| L228,229 | | | L34-4748-05 | COIL | | R204 | | | RK73GB1J821J | CHIP R 820 J 1/16W | |
| L230,231 | | | L34-4749-05 | COIL | | R205 | | | RK73GB1J330J | CHIP R 33 J 1/16W | |
| L232 | | | L34-4725-05 | COIL | | R206 | | | RK73GB1J821J | CHIP R 820 J 1/16W | |
| L233 | | | L41-1588-08 | SMALL FIXED INDUCTOR(150NH) | | R207-209 | | | RK73GB1J105J | CHIP R 1.0M J 1/16W | |
| L401 | | | L41-6868-14 | SMALL FIXED INDUCTOR(6.8NH) | | R210 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| L402 | | | L41-8268-14 | SMALL FIXED INDUCTOR(8.2NH) | | R211 | | | RK73GB1J473J | CHIP R 47K J 1/16W | |
| L403,404 | | | L41-6878-14 | SMALL FIXED INDUCTOR(68NH) | | R212 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| L405 | | | L41-6868-14 | SMALL FIXED INDUCTOR(6.8NH) | | R213 | | | RK73GB1J821J | CHIP R 820 J 1/16W | |
| L406 | | | L41-1078-14 | SMALL FIXED INDUCTOR(10NH) | | R214 | | | RK73GB1J5R6J | CHIP R 5.6 J 1/16W | |
| L407 | | | L41-4798-08 | SMALL FIXED INDUCTOR(4.7UH) | | R215 | | | RK73GB1J821J | CHIP R 820 J 1/16W | |
| L408 | | | L41-3398-08 | SMALL FIXED INDUCTOR(3.3UH) | | R216 | | | RK73GB1J470J | CHIP R 47 J 1/16W | |
| L410 | | | L41-2798-08 | SMALL FIXED INDUCTOR(2.7UH) | | R217 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| L412,413 | | | L41-1898-08 | SMALL FIXED INDUCTOR(1.8UH) | | R218 | | | RK73FB2A821J | CHIP R 820 J 1/10W | |
| L414 | | | L41-2798-08 | SMALL FIXED INDUCTOR(2.7UH) | | R219 | | | RK73FB2A5R6J | CHIP R 5.6 J 1/10W | |
| L415 | | | L41-1898-08 | SMALL FIXED INDUCTOR(1.8UH) | | R220 | | | RK73FB2A821J | CHIP R 820 J 1/10W | |
| L417 | | | L41-1898-08 | SMALL FIXED INDUCTOR(1.8UH) | | R221 | | | RK73GB1J120J | CHIP R 12 J 1/16W | |
| L418 | | | L41-2798-08 | SMALL FIXED INDUCTOR(2.7UH) | | R222 | | | RK73GB1J330J | CHIP R 33 J 1/16W | |
| L420 | | | L41-1898-08 | SMALL FIXED INDUCTOR(1.8UH) | | R223 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| L421 | | | L41-3398-08 | SMALL FIXED INDUCTOR(3.3UH) | | R224 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| L422 | | | L41-2798-08 | SMALL FIXED INDUCTOR(2.7UH) | | R225,226 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| L423,424 | | | L41-5698-08 | SMALL FIXED INDUCTOR(5.6UH) | | R228 | | | RK73GB1J182J | CHIP R 1.8K J 1/16W | |
| L426 | | | L41-2798-08 | SMALL FIXED INDUCTOR(2.7UH) | | R229 | | | RK73GB1J153J | CHIP R 15K J 1/16W | |
| L427 | | | L41-3398-08 | SMALL FIXED INDUCTOR(3.3UH) | | R230 | | | RK73GB1J682J | CHIP R 6.8K J 1/16W | |
| L428 | | | L41-4798-08 | SMALL FIXED INDUCTOR(4.7UH) | | R231 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| L429 | | | L40-1085-92 | SMALL FIXED INDUCTOR(100NH) | | R232 | | | RK73GB1J560J | CHIP R 56 J 1/16W | |

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TK-5710(B)/5710H(B)

PARTS LIST

TX-RX UNIT (X57-7030-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|----------|---------|-----------|--------------|----------------------|-------------|----------|---------|-----------|--------------|----------------------|-------------|
| R233 | | | RK73GB1J270J | CHIP R 27 J 1/16W | | R412 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R235 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | R413 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | |
| R236 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R414 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| R237,238 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | R415 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| R239 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | R416 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R240 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R418 | | | RK73GB1J330J | CHIP R 33 J 1/16W | |
| R248 | | | RK73GB1J331J | CHIP R 330 J 1/16W | | R419 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| R249 | | | RK73GB1J470J | CHIP R 47 J 1/16W | | R420 | | | RK73GB1J470J | CHIP R 47 J 1/16W | |
| R251 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R422 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| R252 | | | RK73GB1J822J | CHIP R 8.2K J 1/16W | | R423,424 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| R253 | | | RK73GB1J470J | CHIP R 47 J 1/16W | | R425 | | | RK73GB1J223J | CHIP R 22K J 1/16W | |
| R254 | | | RK73GB1J684J | CHIP R 680K J 1/16W | | R426 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| R255 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R427,428 | | | RK73GB1J104J | CHIP R 100K J 1/16W | |
| R256 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R430 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R257 | | | RK73GB1J220J | CHIP R 22 J 1/16W | | R431,432 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| R258 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R435 | | | RK73GB1J223J | CHIP R 22K J 1/16W | |
| R259 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | R436 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| R260 | | | RK73GB1J274J | CHIP R 270K J 1/16W | | R437 | | | RK73GB1J184J | CHIP R 180K J 1/16W | |
| R261 | | | RK73GB1J273J | CHIP R 27K J 1/16W | | R439 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| R262 | | | RK73GB1J333J | CHIP R 33K J 1/16W | | R440 | | | RK73GB1J274J | CHIP R 270K J 1/16W | |
| R263,264 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R441,442 | | | RK73GB1J104J | CHIP R 100K J 1/16W | |
| R265 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R445 | | | RK73GB1J105J | CHIP R 1.0M J 1/16W | |
| R266 | | | RK73GB1J273J | CHIP R 27K J 1/16W | | R447 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R267 | | | RK73GB1J332J | CHIP R 3.3K J 1/16W | | R449 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R268 | | | RK73GB1J470J | CHIP R 47 J 1/16W | | R451 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R269 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | | R454 | | | RK73GB1J152J | CHIP R 1.5K J 1/16W | |
| R270 | | | RK73GB1J224J | CHIP R 220K J 1/16W | | R455 | | | RK73GB1J100J | CHIP R 10 J 1/16W | |
| R271 | | | RK73GB1J471J | CHIP R 470 J 1/16W | | R457 | | | RK73GB1J223J | CHIP R 22K J 1/16W | |
| R272 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R458 | | | RN73GH1J471D | CHIP R 470 D 1/16W | |
| R273-275 | | | RK73GB1J332J | CHIP R 3.3K J 1/16W | | R459 | | | RN73GH1J101D | CHIP R 100 D 1/16W | |
| R276 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R461 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| R277 | | | RK73GB1J683J | CHIP R 68K J 1/16W | | R463 | | | RK73GB1J104J | CHIP R 100K J 1/16W | |
| R278 | | | RK73GB1J224J | CHIP R 220K J 1/16W | | R465 | | | RN73GH1J561D | CHIP R 560 D 1/16W | |
| R279 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | R467 | | | RN73GH1J331D | CHIP R 330 D 1/16W | |
| R280 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | R468 | | | RN73GH1J391D | CHIP R 390 D 1/16W | |
| R281-283 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R469 | | | RN73GH1J331D | CHIP R 330 D 1/16W | |
| R284 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | | R470 | | | RN73GH1J101D | CHIP R 100 D 1/16W | |
| R285 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R472 | | | RN73GH1J101D | CHIP R 100 D 1/16W | |
| R286 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | | R473 | | | RN73GH1J221D | CHIP R 220 D 1/16W | |
| R287-291 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R474 | | | RK73GB1J224J | CHIP R 220K J 1/16W | |
| R292 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | | R476 | | | RK73GB1J330J | CHIP R 33 J 1/16W | |
| R294-299 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R477 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R303 | | | RK73GB1J681J | CHIP R 680 J 1/16W | | R478 | | | RK73GB1J331J | CHIP R 330 J 1/16W | |
| R305 | | | RK73GB1J220J | CHIP R 22 J 1/16W | | R480 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | |
| R306-308 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R482,483 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| R309 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | R484,485 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | |
| R312-314 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R486 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| R316 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R488 | | | RK73GB1J331J | CHIP R 330 J 1/16W | |
| R317 | | | RK73GB1J331J | CHIP R 330 J 1/16W | | R490 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| R318 | | | RK73GB1J681J | CHIP R 680 J 1/16W | | R491 | | | RK73GB1J330J | CHIP R 33 J 1/16W | |
| R326-329 | | | RK73GB1J182J | CHIP R 1.8K J 1/16W | | R492 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | |
| R330 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | R493,494 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| R400-403 | | | RK73GB1J101J | CHIP R 100 J 1/16W | | R496 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| R404 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R500,501 | | | R92-0670-05 | CHIP R 0 OHM | |
| R405 | | | RK73GB1J563J | CHIP R 56K J 1/16W | | R503 | | | R92-0670-05 | CHIP R 0 OHM | |
| R406 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | R505 | | | R92-0670-05 | CHIP R 0 OHM | |
| R407,408 | | | RK73GB1J104J | CHIP R 100K J 1/16W | | R509-511 | | | RK73GB1J101J | CHIP R 100 J 1/16W | |
| R409 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | R512 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | |
| R410 | | | RK73GB1J152J | CHIP R 1.5K J 1/16W | | R513 | | | RK73GB1J220J | CHIP R 22 J 1/16W | |
| R411 | | | RK73GB1J561J | CHIP R 560 J 1/16W | | R514 | | | RK73GB1J183J | CHIP R 18K J 1/16W | |

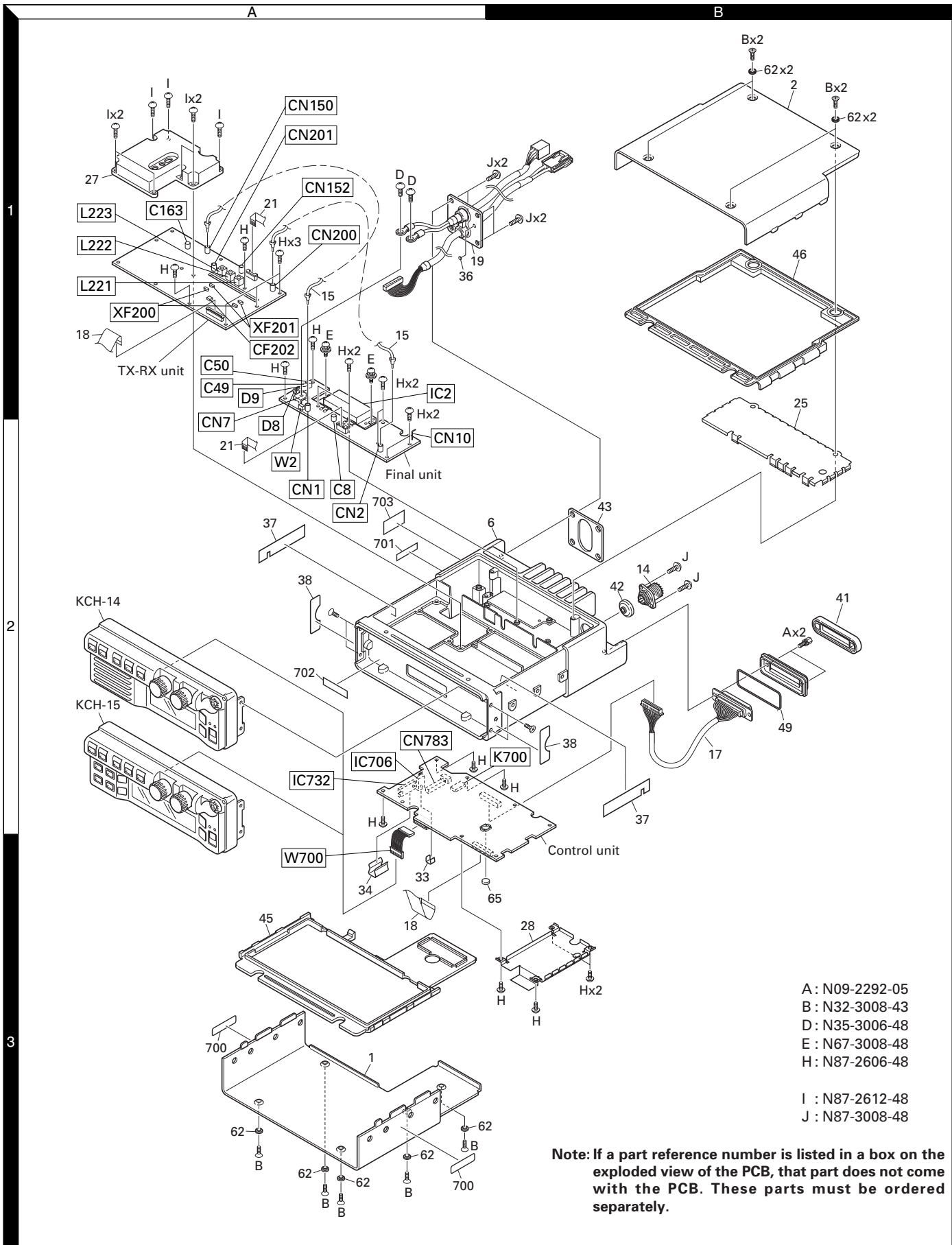
PARTS LIST

TX-RX UNIT (X57-7030-10)

| Ref. No. | Address | New parts | Parts No. | Description | Destination | Ref. No. | Address | New parts | Parts No. | Description | Destination |
|-----------|---------|-----------|---------------|----------------------------|-------------|----------|---------|-----------|---------------|--------------------|-------------|
| R515-518 | | | RK73GB1J101J | CHIP R 100 J 1/16W | | Q406,407 | | | 2SJ347 | FET | |
| R519 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | | Q408,409 | | | RN47A4-F | TRANSISTOR | |
| R521 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | Q412 | | | 2SC4116(GR) | TRANSISTOR | |
| R522 | | | RK73GB1J332J | CHIP R 3.3K J 1/16W | | Q413,414 | | | 2SK508NV(52K) | FET | |
| R588 | | | R92-0670-05 | CHIP R 0 OHM | | Q416 | | | 2SK508NV(K52) | FET | |
| R589 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | Q417-419 | | | 2SC5108(Y) | TRANSISTOR | |
| R590,591 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | Q598 | | | 2SA1832(GR) | TRANSISTOR | |
| R592 | | | RK73GB1J272J | CHIP R 2.7K J 1/16W | | Q599 | | | DTC144EE | DIGITAL TRANSISTOR | |
| R593 | | | RK73GB1J102J | CHIP R 1.0K J 1/16W | | Q600 | | | DTC114EE | DIGITAL TRANSISTOR | |
| R594 | | | RK73GB1J103J | CHIP R 10K J 1/16W | | Q601 | | | 2SB1132(Q,R) | TRANSISTOR | |
| R595-597 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | Q602 | | | DTC114EE | DIGITAL TRANSISTOR | |
| R600 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | Q603 | | | 2SB1132(Q,R) | TRANSISTOR | |
| R601 | | | RK73GB1J222J | CHIP R 2.2K J 1/16W | | TH201 | | | B57331V2104J | THERMISTOR | |
| R602 | | | RK73GB1J473J | CHIP R 47K J 1/16W | | A400 | | | W02-1939-05 | DBM | |
| R603 | | | RK73GB1J472J | CHIP R 4.7K J 1/16W | | | | | | | |
| R622 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | | | | | | |
| R635,636 | | | R92-1252-05 | CHIP R 0 OHM J 1/16W | | | | | | | |
| R637 | | | RK73GB1J105J | CHIP R 1.0M J 1/16W | | | | | | | |
| D200-202 | | | 1SV286 | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D203 | | | RB706F-40 | DIODE | | | | | | | |
| D204 | | | 1SS388 | DIODE | | | | | | | |
| D205-212 | | | HVC131 | DIODE | | | | | | | |
| D400-403 | | | MA2S077 | DIODE | | | | | | | |
| D404 | | | MA742 | DIODE | | | | | | | |
| D405-407 | | | HVC376B | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D414-416 | | | HVC376B | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D420 | | * | 1SV282-F | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D422 | | * | 1SV282-F | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D424 | | * | 1SV282-F | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D427-432 | | * | 1SV282-F | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D433 | | | 1SV278 | VARIABLE CAPACITANCE DIODE | | | | | | | |
| D435,436 | | | HVC131 | DIODE | | | | | | | |
| IC204 | | | TC75S51F-F | MOS-IC | | | | | | | |
| IC205-207 | | | TC7W53FK | HYBRID IC | | | | | | | |
| IC209-211 | | | TC7W53FK | HYBRID IC | | | | | | | |
| IC212 | | | TA31137FN | MOS-IC | | | | | | | |
| IC213 | | | TC7WU04FK | MOS-IC | | | | | | | |
| IC214 | | | TC7S66FU | MOS-IC | | | | | | | |
| IC400 | | | LMX2352TMX/NP | ANALOGUE IC | | | | | | | |
| IC401 | | | MCP41100T | ANALOGUE IC | | | | | | | |
| IC402 | | | LMC7101BIM5 | MOS-IC | | | | | | | |
| IC600 | | | BU4094BCFV | MOS-IC | | | | | | | |
| IC601 | | | TA7805F | MOS-IC | | | | | | | |
| Q150,151 | | | 2SC3357(RF) | TRANSISTOR | | | | | | | |
| Q200-202 | | | 2SC3357(RF) | TRANSISTOR | | | | | | | |
| Q203 | | | 2SC4215-F(Y) | TRANSISTOR | | | | | | | |
| Q205 | | | 2SC5108(Y) | TRANSISTOR | | | | | | | |
| Q206 | | | DTA144EE | DIGITAL TRANSISTOR | | | | | | | |
| Q207 | | | SSM3K15TE | FET | | | | | | | |
| Q208 | | | 2SC4617(S) | TRANSISTOR | | | | | | | |
| Q209 | | | DTC114EE | DIGITAL TRANSISTOR | | | | | | | |
| Q212 | | | DTA114EE | DIGITAL TRANSISTOR | | | | | | | |
| Q213 | | | DTC114EE | DIGITAL TRANSISTOR | | | | | | | |
| Q400 | | | 2SK879(GR,Y) | FET | | | | | | | |
| Q401 | | | DTA144EE | DIGITAL TRANSISTOR | | | | | | | |
| Q402 | | | DTC114EE | DIGITAL TRANSISTOR | | | | | | | |
| Q403 | | | 2SC5108(Y) | TRANSISTOR | | | | | | | |
| Q404,405 | | | RN47A4-F | TRANSISTOR | | | | | | | |

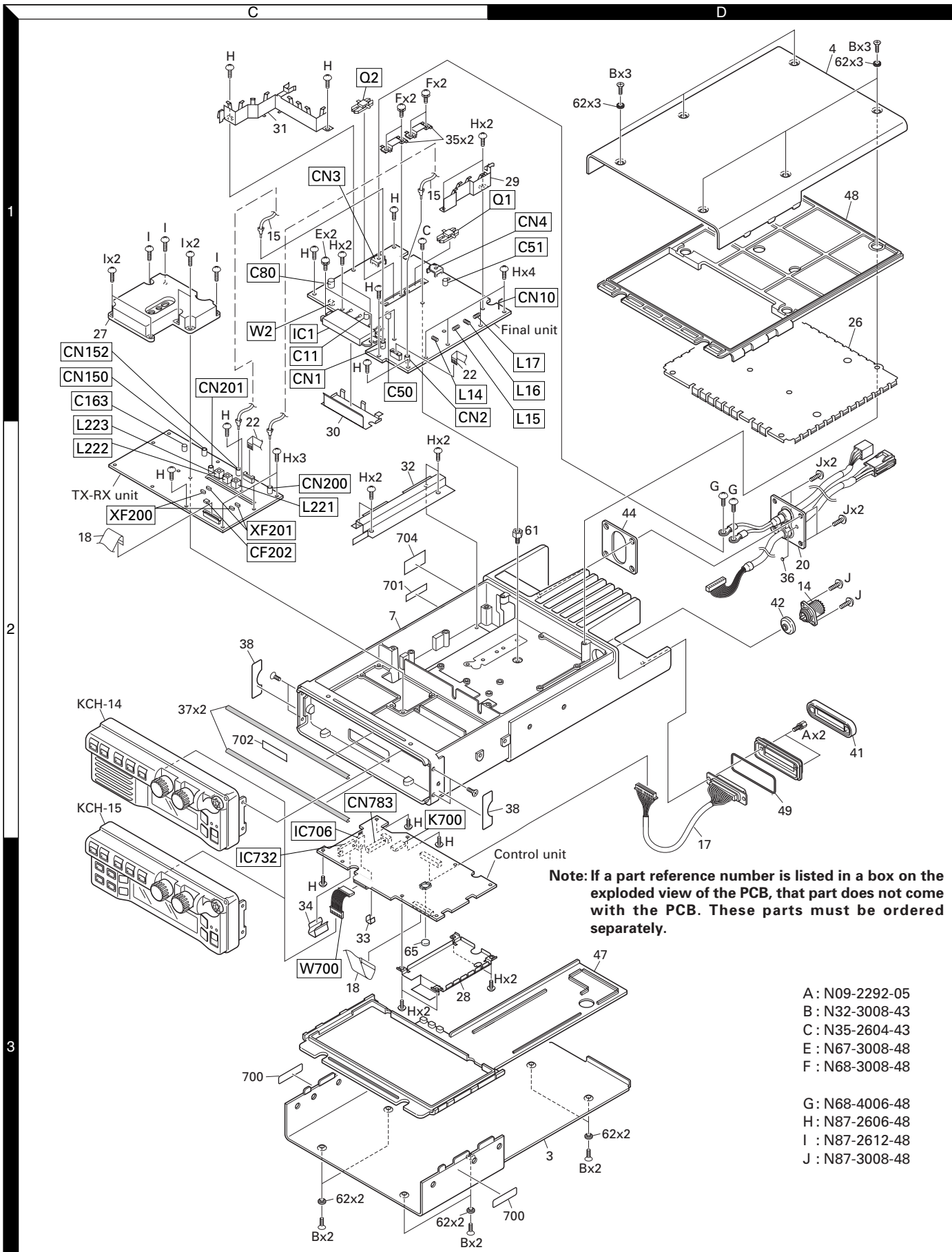
TK-5710(B)/5710H(B)

EXPLODED VIEW (TK-5710(B))



TK-5710(B)/5710H(B)

EXPLODED VIEW (TK-5710H(B))



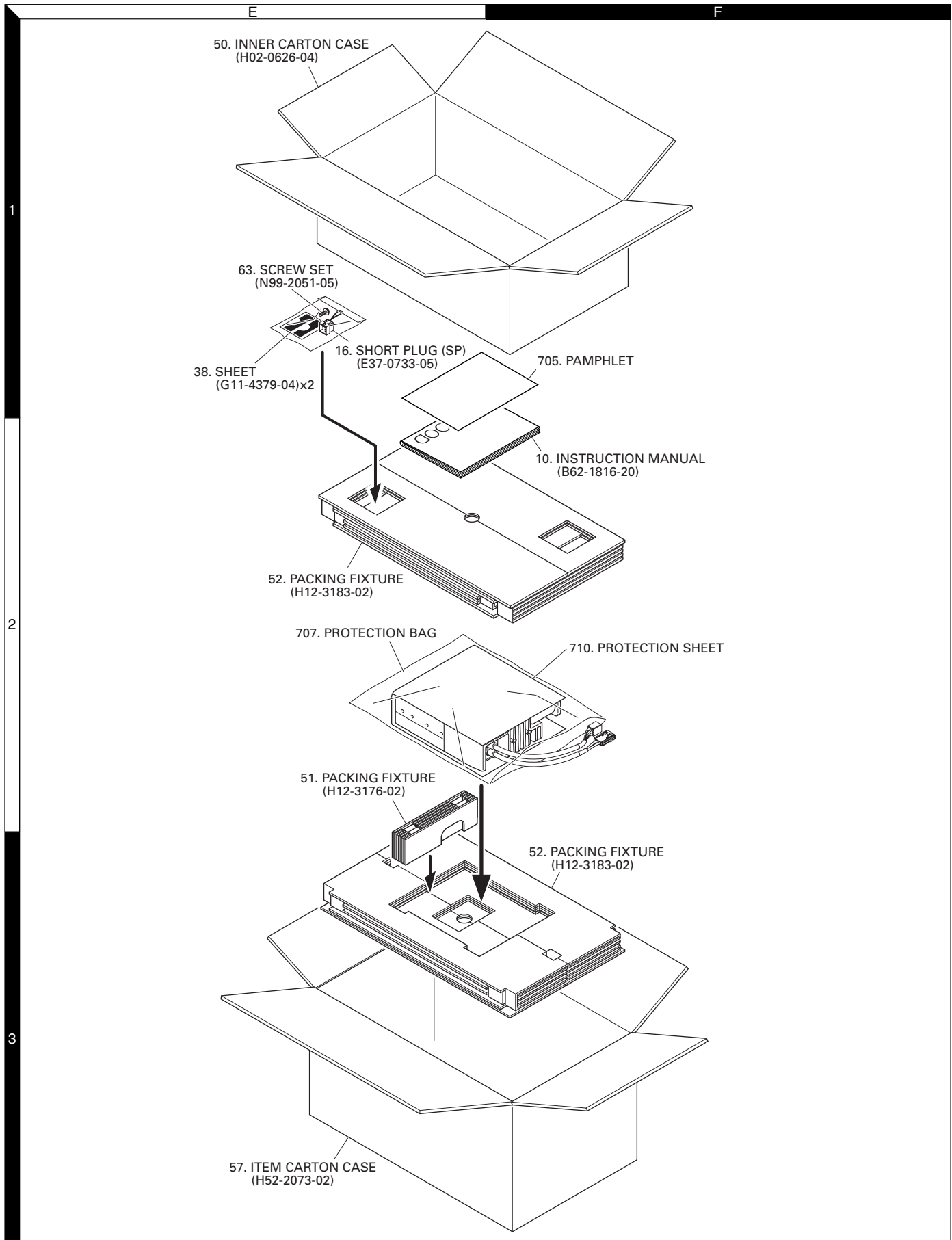
Note: If a part reference number is listed in a box on the exploded view of the PCB, that part does not come with the PCB. These parts must be ordered separately.

- A: N09-2292-05
- B: N32-3008-43
- C: N35-2604-43
- E: N67-3008-48
- F: N68-3008-48

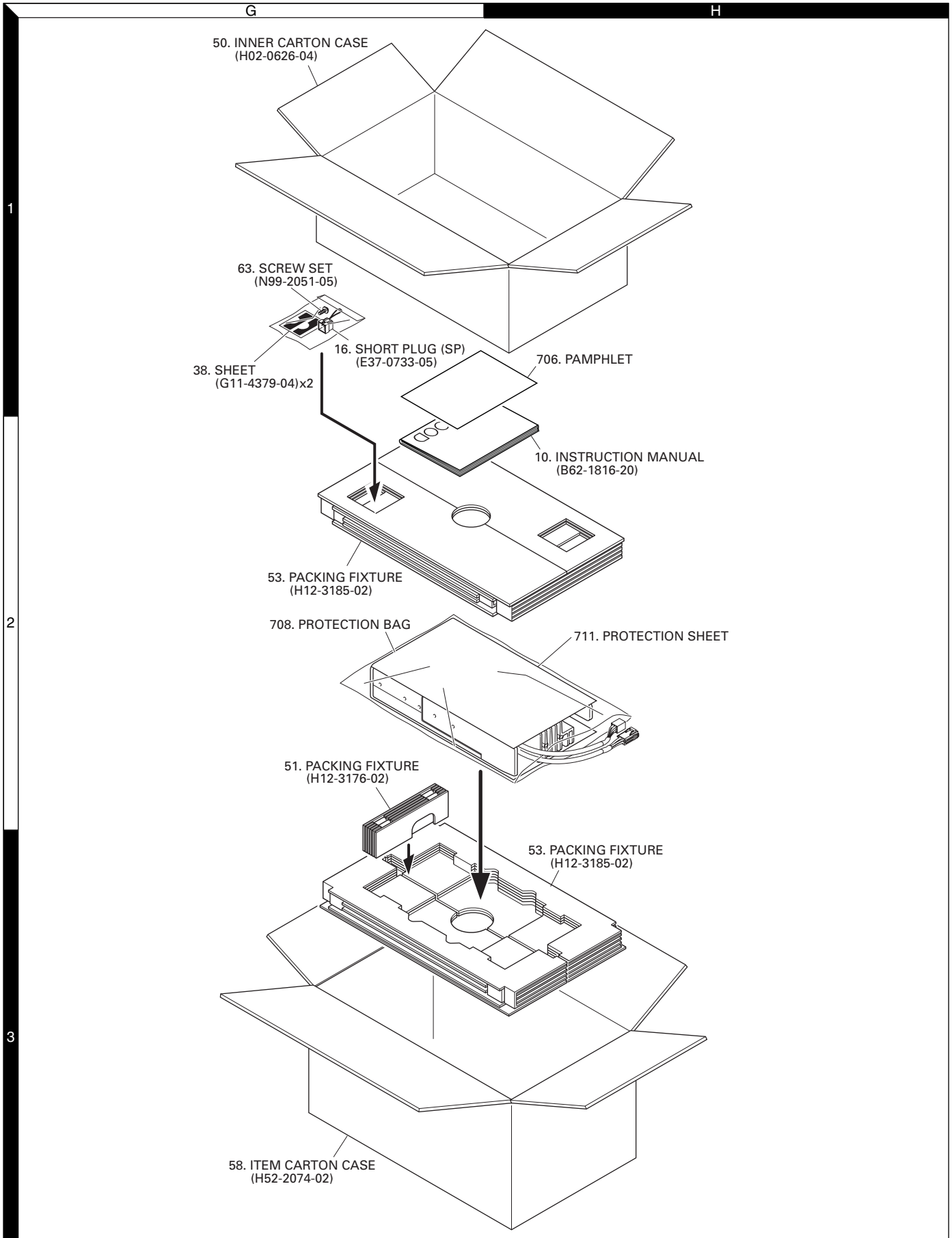
- G: N68-4006-48
- H: N87-2606-48
- I: N87-2612-48
- J: N87-3008-48

TK-5710(B)/5710H(B)

PACKING (TK-5710(B))



PACKING (TK-5710H(B))

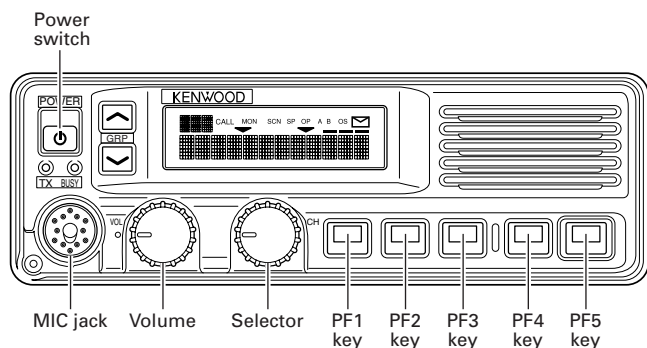


TK-5710(B)/5710H(B)

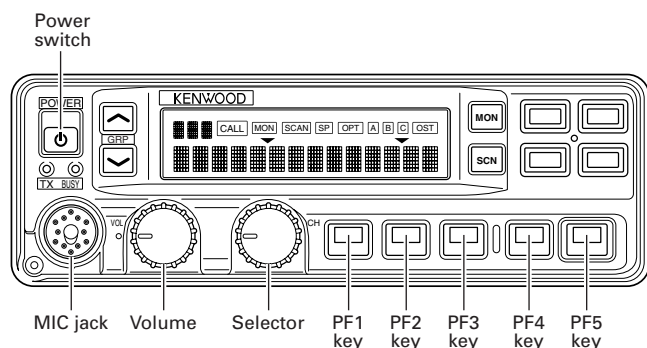
ADJUSTMENT

Controls

• KCH-14 (Basic control panel)



• KCH-15 (Full-featured control panel)



Panel Test Mode

■ Test mode operation features

This transceiver has a test mode. To enter test mode, press and hold the [PF1] key while turning the transceiver power ON. Test mode can be inhibited by programming. To exit test mode, turn the transceiver power OFF.

- When the panel test mode is activated, the last used channel and signaling numbers are displayed. When the panel test mode is activated for the first time, the channel and signaling numbers are 1.
- If test signaling 20 (Tone Test Pattern) is selected, the result of Bit Error Rate (BER) calculation is displayed on the LCD. The BER value is also output from the serial port.

■ Key operation

| Key | "FNC" not appears | |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| | Function | Display |
| [Selector] | Wide/Narrow/P25 | Wide : "W" appears Narrow: "N" appears P25 : "A" appears |
| [GRPΛ] | Shifts to the Panel tuning mode | – |
| [GRPv] | Squelch off | MON icon appears |
| [PF1] | Test frequency channel down | Channel No. |
| [PF1] Hold | Test frequency channel continuation down | Channel No. |
| [PF2] | Test frequency channel up | Channel No. |
| [PF2] Hold | Test frequency channel continuation up | Channel No. |
| [PF3] | Test signaling down | Signaling No. |
| [PF3] Hold | Test signaling continuation down | Signaling No. |
| [PF4] | Test signaling up | Signaling No. |
| [PF4] Hold | Test signaling continuation up | Signaling No. |
| [PF5] | Function on | "FNC" appears |
| MIC PTT | Transmit | – |
| MIC keypad ([0] to [9] and [#], [*]) | Use as the DTMF keypad. If a key is pressed during transmission, the DTMF corresponding to the key that was pressed is sent. | – |

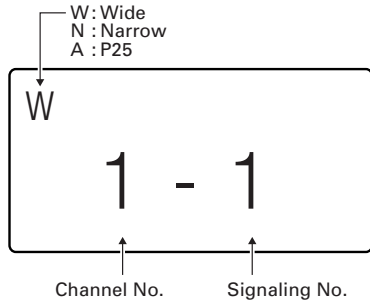
| Key | "FNC" appears | |
|--------------------------------------|----------------------|-----------------------------------------------------------------|
| | Function | Display |
| [Selector] | Function off | – |
| [GRPΛ] | Squelch level 0 | On : ▼ icon appears |
| [GRPv] | High power/Low power | Low: SP icon appears |
| [PF1] | Compander on/off | On : A icon appears |
| [PF2] | LCD all lights | LCD all point appears |
| [PF3] | MSK 1200bps/2400bps | 2400bps: CALL icon appears |
| [PF4] | Beat shift on/off | On : OS (KCH-14) icon appears On : OST (KCH-15) icon appears |
| [PF5] | Function off | – |
| MIC PTT | Transmit | – |
| MIC keypad ([0] to [9] and [#], [*]) | Function off | – |

ADJUSTMENT

• LED indicator

Red LED Lights during transmission.
Green LED Lights when there is carrier.

• LCD display in the panel test mode



• Filter Mode

| Display | Condition |
|---------|-------------------------|
| W | WIDE (25kHz) Filter |
| N | NARROW (12.5kHz) Filter |
| A | P25 (12.5kHz) Filter |

■ Frequency and Signaling

The transceiver has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

• Test Frequency

| Channel No. | RX (MHz) | TX (MHz) |
|-------------|-----------|-----------|
| 1 | 155.10000 | 155.00000 |
| 2 | 136.10000 | 136.00000 |
| 3 | 173.80000 | 173.97500 |
| 4 | 155.00000 | 155.00000 |
| 5 | 155.20000 | 155.20000 |
| 6 | 155.40000 | 155.40000 |
| 7 | 154.90000 | 154.90000 |
| 8 | 145.40000 | 145.40000 |
| 9 | 164.40000 | 164.40000 |

• Test Signaling

| Signaling No. | RX | TX | P25/ Analog |
|---------------|---------------------------------------------------------------|---------------------------------------------------------------|-------------|
| 1 | None | None | Analog |
| 2 | None | 100Hz Square wave | Analog |
| 3 | QT 67.0Hz | QT 67.0Hz | Analog |
| 4 | QT 151.4Hz | QT 151.4Hz | Analog |
| 5 | QT 210.7Hz | QT 210.7Hz | Analog |
| 6 | QT 254.1Hz | QT 254.1Hz | Analog |
| 7 | DQT 023N | DQT 023N | Analog |
| 8 | DQT 445N | DQT 445N | Analog |
| 9 | DQT 754I | DQT 754I | Analog |
| 10 | DTMF Code "159D" | DTMF Code "159D" | Analog |
| 11 | None | DTMF Code "9" | Analog |
| 12 | None | 1633Hz Single Tone | Analog |
| 13 | 2-tone: A : 304.7Hz B : 3106.0Hz | 2-tone: A : 304.7Hz B : 3106.0Hz | Analog |
| 14 | Single Tone : 979.9Hz | Single Tone : 979.9Hz | Analog |
| 15 | None | MSK PN Pattern | Analog |
| 16 | MSK Sync : 0x052B Data : 0x230960C6AAAA CRC : 0xC4D7 | MSK Sync : 0x052B Data : 0x230960C6AAAA CRC : 0xC4D7 | Analog |
| 17 | NAC 293 | NAC 293 | P25 |
| 18 | NAC 023 | NAC 023 | P25 |
| 19 | NAC 5EA | NAC 5EA | P25 |
| 20 | 1011Hz Tone Test Pattern | 1011Hz Tone Test Pattern | P25 |
| 21 | NAC 293 | Silence Pattern | P25 |
| 22 | NAC 293 | Calibration Pattern | P25 |
| 23 | NAC 293 | Transmitter Test Pattern | P25 |
| 24 | NAC 293 | Symbol Rate Pattern | P25 |
| 25 | NAC 293 | Low Deviation Pattern | P25 |
| 26 | NAC 293 | Fidelity Pattern | P25 |

ADJUSTMENT

Panel Tuning Mode

The transceiver is adjusted in this mode.

■ Preparations for tuning the transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is turned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

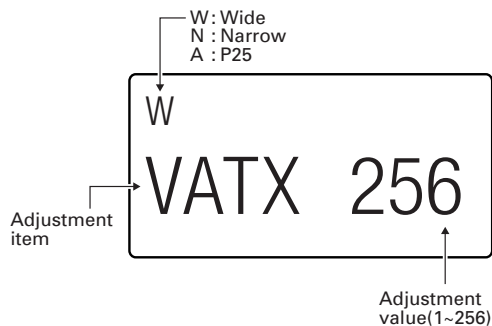
■ Transceiver tuning (To enter tuning mode)

To enter tuning mode, press the [GRPΛ] key while the transceiver is in test mode.

Use the [PF5] key to write tuning data through tuning modes, and the [PF3] and [PF4] keys to adjust tuning requirements (1 to 256 appears on the LCD).

Use the [PF2] key to select the adjustment item through tuning modes. Use the [GRPv] key to exit 3 or 5 reference level adjustments.

• LCD display in the panel tuning mode



■ Key operation

| Key | Function |
|------------|-------------------------------------------------------------------------------|
| [Selector] | Unused |
| [GRPΛ] | Exit the panel tuning mode and shift to the panel test mode. |
| [GRPv] | Exit the 3 or 5 reference level adjustments without backup. |
| [PF1] | Back to the last adjustment item (The current adjustment data is cleared.) |
| [PF2] | Go to the next adjustment item (The current adjustment data is cleared.) |
| [PF3] | Adjustment value down |
| [PF3] Hold | Adjustment value continuation down |
| [PF4] | Adjustment value up |
| [PF4] Hold | Adjustment value continuation up |
| [PF5] | Enter the 3 or 5 reference level adjustments without backup. |
| MIC PTT | Transmit |

■ 3 or 5 reference level adjustments frequency

• Assist voltage adjustments

TX assist voltage

| Tuning point | Display | TX (MHz) |
|--------------|---------|-----------|
| Low | L | 136.00000 |
| Low' | LC | 145.50000 |
| Center | C | 155.00000 |
| High' | CH | 164.50000 |
| High | H | 174.00000 |

RX assist voltage (Upper)

| Tuning point | Display | RX (MHz) |
|--------------|---------|-----------|
| Low | L | 204.95000 |
| Low' | LC | 209.70000 |
| Center | C | 214.45000 |
| High' | CH | 219.20000 |
| High | H | 223.95000 |

RX assist voltage (Lower)

| Tuning point | Display | RX (MHz) |
|--------------|---------|-----------|
| Low | L | 185.95000 |
| Low' | LC | 190.70000 |
| Center | C | 195.45000 |
| High' | CH | 200.20000 |
| High | H | 204.94750 |

• Adjustment items other than assist voltage

| Tuning point | Display | RX (MHz) | TX (MHz) |
|--------------|---------|-----------|-----------|
| Low | L | 136.10000 | 136.00000 |
| Low' | LC | 145.60000 | 145.50000 |
| Center | C | 155.10000 | 155.00000 |
| High' | CH | 164.60000 | 164.50000 |
| High | H | 173.90000 | 174.00000 |

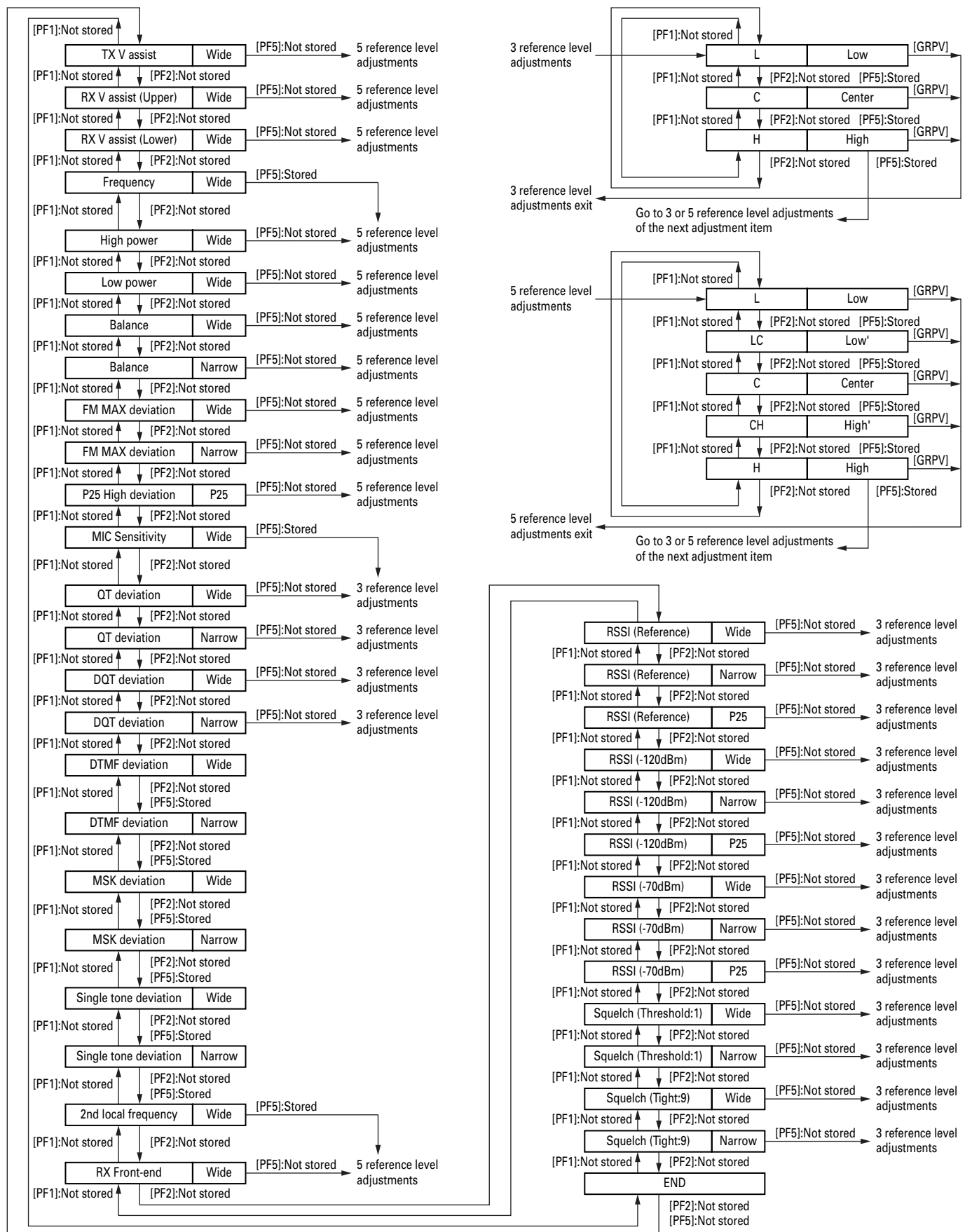
ADJUSTMENT

■ Adjustment item and Display (***: 1~256)

| No. | Adjustment item | Display | Wide/Narrow/P25 | Tuning point | Note |
|-----|--------------------------------|------------|-----------------|--------------|----------------------|
| 1 | TX assist voltage | VATX *** | Wide | 5 | |
| 2 | RX assist voltage (Upper) | VARX u *** | Wide | 5 | |
| 3 | RX assist voltage (Lower) | VARX l *** | Wide | 5 | |
| 4 | Frequency | TXF *** | Wide | 1 | |
| 5 | High power | HPW *** | Wide | 5 | |
| 6 | Low power | LPW *** | Wide | 5 | |
| 7 | Balance (Wide) | BALW *** | Wide | 5 | 100Hz Square Wave |
| 8 | Balance (Narrow) | BALN *** | Narrow | 5 | 100Hz Square Wave |
| 9 | FM MAX deviation (Wide) | FMWD *** | Wide | 5 | |
| 10 | FM MAX deviation (Narrow) | FMND *** | Narrow | 5 | |
| 11 | P25 High deviation | HDVA *** | P25 | 5 | Symbol Rate Pattern |
| 12 | MIC sensitivity | MIC *** | Wide | 1 | |
| 13 | QT deviation (Wide) | QTW *** | Wide | 3 | QT : 67Hz |
| 14 | QT deviation (Narrow) | QTN *** | Narrow | 3 | QT : 67Hz |
| 15 | DQT deviation (Wide) | DQTW *** | Wide | 3 | DQT : 023N |
| 16 | DQT deviation (Narrow) | DQTN *** | Narrow | 3 | DQT : 023N |
| 17 | DTMF deviation (Wide) | DTMW *** | Wide | 1 | DTMF Code : 9 |
| 18 | DTMF deviation (Narrow) | DTMN *** | Narrow | 1 | DTMF Code : 9 |
| 19 | MSK deviation (Wide) | MSKW *** | Wide | 1 | MSK PN Pattern |
| 20 | MSK deviation (Narrow) | MSKN *** | Narrow | 1 | MSK PN Pattern |
| 21 | Single tone deviation (Wide) | 2TNW *** | Wide | 1 | Single Tone : 1633Hz |
| 22 | Single tone deviation (Narrow) | 2TNN *** | Narrow | 1 | Single Tone : 1633Hz |
| 23 | 2nd local frequency | SLO *** | Wide | 1 | |
| 24 | RX Front-end | FEND *** | Wide | 5 | AF unmute |
| 25 | RSSI (Reference) (Wide) | RRSI *** | Wide | 3 | |
| 26 | RSSI (Reference) (Narrow) | RRSI *** | Narrow | 3 | |
| 27 | RSSI (Reference) (P25) | RRSI *** | P25 | 3 | |
| 28 | RSSI (-120dBm) (Wide) | LRSI *** | Wide | 3 | |
| 29 | RSSI (-120dBm) (Narrow) | LRSI *** | Narrow | 3 | |
| 30 | RSSI (-120dBm) (P25) | LRSI *** | P25 | 3 | |
| 31 | RSSI (-70dBm) (Wide) | HRSI *** | Wide | 3 | |
| 32 | RSSI (-70dBm) (Narrow) | HRSI *** | Narrow | 3 | |
| 33 | RSSI (-70dBm) (P25) | HRSI *** | P25 | 3 | |
| 34 | Squelch (Threshold:1) (Wide) | SQOW *** | Wide | 3 | AF unmute |
| 35 | Squelch (Threshold:1) (Narrow) | SQON *** | Narrow | 3 | AF unmute |
| 36 | Squelch (Tight:9) (Wide) | SQTW *** | Wide | 3 | AF unmute |
| 37 | Squelch (Tight:9) (Narrow) | SQTN *** | Narrow | 3 | AF unmute |

ADJUSTMENT

Flow Chart



ADJUSTMENT

BER (Bit Error Rate) Measurement

1. The Panel Test Mode is used to measure the BER (Refer to "Test mode operation features" described on page 56.).
2. Select "20" for test signaling (Refer to "Test Signaling" described on page 57.).
When "20" is selected for the test signaling, the filter is automatically selected to "P25".
(If there is no RF input signal, the display shows "500000")
3. Select a filter (Refer to "Filter Mode" described on page 57.).
4. Select a test frequency (Refer to "Test Frequency" described on page 57.).



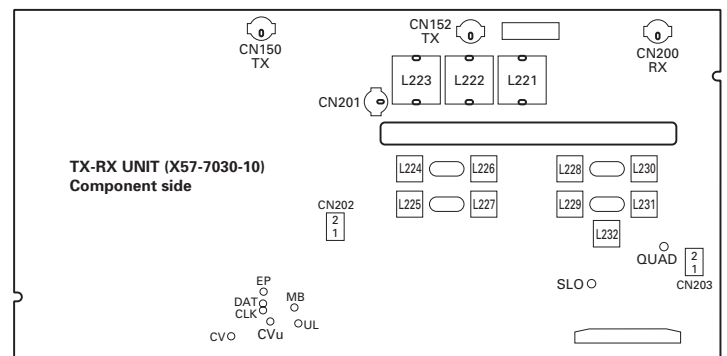
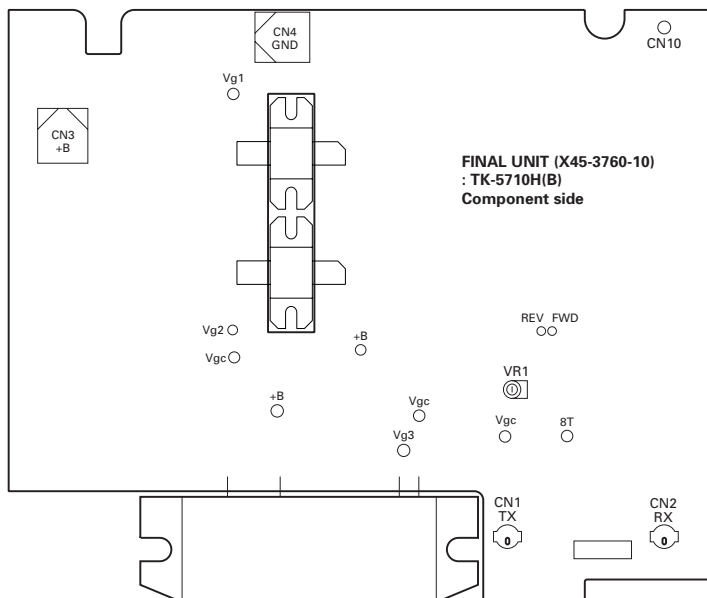
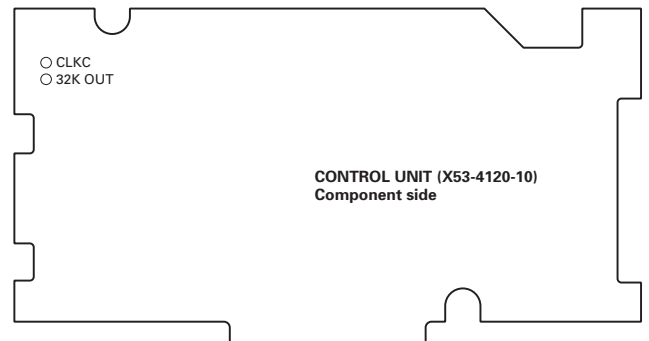
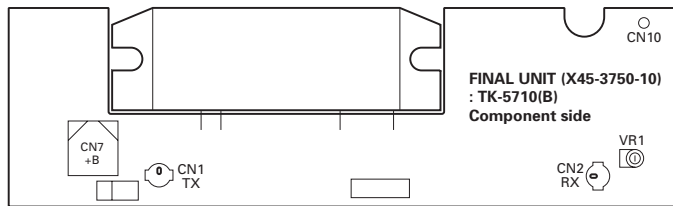
5. Measure the BER (Bit Error Rate) using the digital radio tester. Enter a standard input signal into the transceiver as a standard tone test pattern.
6. Adjust the input signal level to achieve the standard bit error rate (BER).
(For example, if the BER is 5%, the display shows "050000".)



C4FM (P25) Deviation Adjustment

1. The transceiver adjusts the deviation between High Deviation $\pm 1800\text{Hz}$ for the C4FM (P25).
2. The Symbol Rate Pattern is used when adjusting the High Deviation for the C4FM (P25) (Refer to "Test Signaling" described on page 57.). This test signal has a peak deviation equal to $\pi/2 \cdot 1800\text{Hz} = 2827\text{Hz}$.

Adjustment Points



TK-5710(B)/5710H(B)

ADJUSTMENT

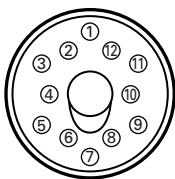
Test Equipment Required for Alignment

| Test Equipment | Major Specifications | |
|---------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1. Standard Signal Generator (SSG) | Frequency Range Modulation Output | 136 to 174MHz Frequency modulation and external modulation -127dBm/0.1μV to greater than -47dBm/1mV |
| 2. Power Meter | Input Impedance Operation Frequency Measurement Range | 50Ω 136 to 174MHz Vicinity of 200W |
| 3. Deviation Meter | Frequency Range | 136 to 174MHz |
| 4. Digital Volt Meter (DVM) | Measuring Range Input Impedance | 1 to 20V DC High input impedance for minimum circuit loading |
| 5. Oscilloscope | | DC through 30MHz |
| 6. High Sensitivity Frequency Counter | Frequency Range Frequency Stability | 10Hz to 1000MHz 0.2ppm or less |
| 7. Ammeter | | 30A |
| 8. AF Volt Meter (AF VTVM) | Frequency Range Voltage Range | 50Hz to 10kHz 3mV to 3V |
| 9. Audio Generator (AG) | Frequency Range Output | 50Hz to 5kHz or more 0 to 1V |
| 10. Distortion Meter | Capability Input Level | 3% or less at 1kHz 50mV to 10Vrms |
| 11. Spectrum Analyzer | Measuring Range | DC to 1GHz or more |
| 12. Tracking Generator | Center frequency Output Voltage | 50kHz to 600MHz 100mV or more |
| 13. 4Ω Dummy Load | | Approx. 4Ω, 30W |
| 14. Regulated Power Supply | | 13.6V (TK-5710 (B)), 13.4V (TK-5710H (B)), approx. 30A (adjusted from 9 to 20V) Useful if ammeter equipped |

Caution

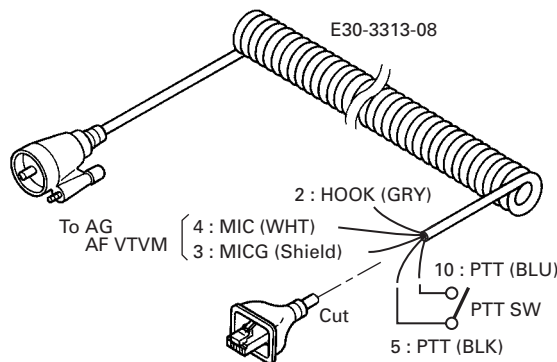
Since the RX AF output is a BTL output, there is a DC Component. Isolate this with a capacitor or transformer as shown in the figure.

MIC connector (Front view)



- 1 : SB
- 2 : HK
- 3 : ME
- 4 : MIC
- 5 : E
- 6 : TRD
- 7 : KVL
- 8 : DM
- 9 : BLC
- 10 : PTT
- 11 : NC
- 12 : ES2

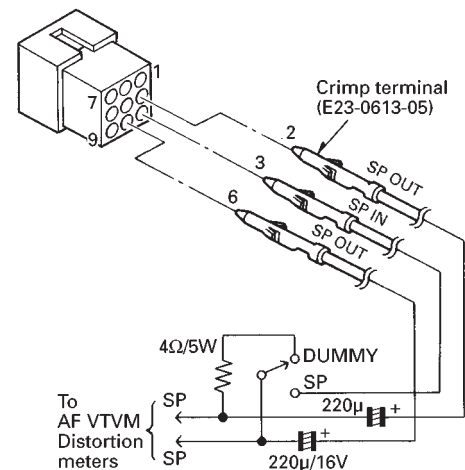
Test cable for microphone input



Cable for BPF or MCF adjustment

- E30-3418-05 (for BPF ADJ)
- W05-1000-00 (for MCF ADJ)

Test cable for speaker output



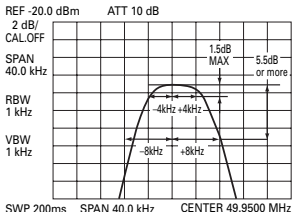
ADJUSTMENT

Common Section

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|----------|-------------|----------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 1. Setting | 1) Connect the front panel kit (KCH-14 or KCH-15) to the TK-5710(B)/5710H(B) transceiver. 2) Power supply voltage •TK-5710(B) Power input connector:13.6V •TK-5710H(B) Power input connector:13.4V 3) SSG standard modulation [Wide] MOD:1kHz, DEV:3kHz [Narrow] MOD:1kHz, DEV:1.5kHz | | | | | | | |
| 2. Assist voltage | [Panel tuning mode] 1) Adj item:[VATX] Adjust:[***] 2) Adj item:[L VATX]→ [LC VATX]→[C VATX]→ [CH VATX]→[H VATX] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | Power meter | Rear panel | ANT | Front panel | [PF3], [PF4] | Change the adjustment value within the limit of the specified voltage. | 1.86V±0.1V |
| •TX | | DVM | TX-RX | CVu | | | | When adjusting the assist voltage in PC tuning mode, slide the bar to indicate "VCO Lock Voltage" within 1.8V±0.1V on Meter window. |
| •RX(Upper) | 3) Adj item:[VARX u] Adjust:[***] 4) Adj item:[L VARX u]→ [LC VARX u]→[C VARX u]→ [CH VARX u]→[H VARX u] Adjust:[***] Press [PF5] to store the adjustment value after adjustment. | | | | | | | |
| •RX(Lower) | 5) Adj item:[VARX l] Adjust:[***] 6) Adj item:[L VARX l]→ [LC VARX l]→[C VARX l]→ [CH VARX l]→[H VARX l] Adjust:[***] Press [PF5] to store the adjustment value after adjustment. | | | | | | | |
| 3. BPF | [Panel test mode] 1) CH-Sig:1-1 Spectrum analyzer setting Center-f : 152.00MHz Span : 100MHz RBW : 1MHz VBW : 300kHz TG level : -20dBm XdB/div : 5dB Connect the cable (E30-3418-05) to CN201. | Spectrum analyzer | Rear panel | ANT | TX-RX | L221 L222 L223 | After setting the adjustment value to 110, adjust each coil to get the waveform as shown to the right. | |
| | | Tracking generator | TX-RX | CN201 | | | | |


TK-5710(B)/5710H(B)

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 4. MCF •Wide | 1) CH-Sig:1-1 Spectrum analyzer setting Center-f : 49.95MHz Span : 40kHz RBW : 1kHz VBW : 1kHz TG level : -20dBm XdB/div : 2dB Connect each cable (W05-1000-00) to CN202 and CN203. | Spectrum analyzer | Rear panel | ANT | TX-RX | L225 L227 L229 L231 | Adjust the coils to obtain the waveform as shown to the right. |  |
| | •Narrow | 2) Turn the [Selector] knob as "N" (Narrow) appears on the LCD. Spectrum analyzer setting Center-f : 49.95MHz Span : 30kHz RBW : 1kHz VBW : 1kHz TG level : -20dBm XdB/div : 2dB | | | | L224 L226 L228 L230 | | |
| 5. 2nd local adjust | [Panel tuning mode] 1) Adj item:[W SLO] Adjust:[***] Press [PF5] to store the adjustment value after adjustment. | f.counter | TX-RX | SLO | TX-RX | [PF3], [PF4] | Change the adjustment value within the limit of the specified frequency. | 50.4MHz±70Hz |
| 6. Quadrature coil adjust | [Panel test mode] 1) CH-Sig:1-1 SSG output:-53dBm(501μV) (DEV:OFF) | SSG DVM AF VTVM Dummy load | TX-RX | QUAD EXT.SP | TX-RX | L232 | Adjust the coil within the limit of the specified voltage. | 1.0V±0.05V |
| 7. RTC oscillation frequency adjust | 1) CH-Sig:1-1 | f.counter DVM DC power supply | CONTROL | CLKC 32KOUT | | Programming Software: KPG-95D | Adjust the RTC oscillation frequency using the PC tuning mode. Perform the procedures below. 1. Apply 5V DC to the "CLKC" terminal of the control unit (X53-412). 2. Measure the output from the "32KOUT" terminal of the control unit (X53-412) using the calibrated frequency counter. 3. Enter the measured frequency value to "Crystal Oscillation Frequency" of RTC correction in the PC tuning mode and then click [OK] button. | Note: It is not necessary to adjust the RTC oscillation frequency under normal adjustments. The RTC oscillation frequency must be checked and adjusted when the 32 kHz crystal resonator (X700) is replaced. |

ADJUSTMENT

Transmitter Section

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------|----------|--------------------|---------------------|------------------------------------------------|---------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 1. Frequency adjust | <p>[Panel test mode]</p> <p>1) CH-Sig : 3-1</p> <p>[Panel tuning mode]</p> <p>2) Adj item:[W TXF] Adjust:[***] PTT:ON</p> <p>Press [PF5] to store the adjustment value after adjustment.</p> | f.counter | Rear panel | ANT | Front panel | [PF3], [PF4] | Center frequency ±50Hz | Note:After replacing the VCXO (X200) align frequency. |
| 2. Max power adjust | <p>[Panel test mode]</p> <p>1) CH-Sig:1-1 PTT:ON</p> | Power meter Ammeter | | | Final | VR1 | 55W | ±2W |
| <ul style="list-style-type: none"> •TK-5710 •TK-5710H | 1) CH-Sig:3-1 PTT:ON | | | | | | 118W | ±2W |
| 3. High power adjust | <p>[Panel tuning mode]</p> <p>1) Adj item:[W HPW] Adjust:[***]</p> <p>2) Adj item:[WL HPW]→ [WLC HPW]→[WC HPW]→ [WCH HPW]→[WH HPW] Adjust:[***] PTT:ON</p> <p>Press [PF5] to store the adjustment value after adjustment.</p> | | | | Front panel | [PF3], [PF4] | 50W | ±1W 12A or less |
| <ul style="list-style-type: none"> •TK-5710 •TK-5710H | 110W | | | | | | ±2W 25A or less | |
| 4. Low power adjust | <p>1) Adj item:[W LPW] Adjust:[***]</p> <p>2) Adj item:[WL LPW]→ [WLC LPW]→[WC LPW]→ [WCH LPW]→[WH LPW] Adjust:[***] PTT:ON</p> <p>Press [PF5] to store the adjustment value after adjustment.</p> | | | | 5.0W | ±0.5W 5A or less | | |
| <ul style="list-style-type: none"> •TK-5710 •TK-5710H | 50W | | | | ±1W 12A or less | | | |
| 5. DQT balance adjust | <p>1) Adj item:[W BALW] Adjust:[***]</p> <p>Deviation meter filter LPF:3kHz HPF:OFF</p> <p>2) Adj item:[WL BALW]→ [WLC BALW]→[WC BALW]→ [WCH BALW]→[WH BALW] Adjust:[***] PTT:ON</p> <p>Press [PF5] to store the adjustment value after adjustment.</p> | Deviation meter Oscilloscope AG AF VTVM | Rear panel | ANT | Front panel | [PF3], [PF4] | Make the demodulation waves into square waves. |  |
| <ul style="list-style-type: none"> •Wide •Narrow | <p>3) Adj item:[N BALN] Adjust:[***]</p> <p>4) Adj item:[NL BALN]→ [NLC BALN]→[NC BALN]→ [NCH BALN]→[NH BALN] Adjust:[***] PTT:ON</p> <p>Press [PF5] to store the adjustment value after adjustment.</p> | | Front panel | MIC jack | | | | |

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------|----------|-------------|-----------------|-------------------------------------------------|------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 6. Max DEV adjust •Wide | 1) Adj item:[W FMWD] Adjust:[***] AG:1kHz/50mV at MIC terminal Deviation meter filter LPF:15kHz HPF:OFF | Deviation meter Oscilloscope AG AF VTVM | Rear panel | ANT | Front panel | [PF3], [PF4] | 4.05kHz (According to the large +, -) | ±50Hz |
| | Front panel | | MIC jack | | | | | |
| •Narrow | 2) Adj item:[WL FMWD]→ [WLC FMWD]→[WC FMWD]→ [WCH FMWD]→[WH FMWD] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | 2.0kHz (According to the large +, -) | ±50Hz |
| 7. P25 high deviation adjust | 3) Adj item:[N FMND] Adjust:[***] | | | | | | 2827Hz | 2771~2883Hz |
| | 4) Adj item:[NL FMND]→ [NLC FMND]→[NC FMND]→ [NCH FMND]→[NH FMND] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | | |
| 8. MIC sensitivity check | 1) Adj item:[A HDVA] Adjust:[***] Deviation meter filter LPF:3kHz HPF:OFF | Deviation meter Oscilloscope AG AF VTVM | Rear panel | ANT | | | Adjust AG input to get a standard MOD., 3.0kHz. | 5mV±1.5mV |
| | 2) Adj item:[AL HDVA]→ [ALC HDVA]→[AC HDVA]→ [ACH HDVA]→[AH HDVA] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | | |

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|-------------|-----------------|---------|------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 9. QT deviation adjust •Wide | 1) Adj item:[W QTW] Adjust:[***] Deviation meter filter LPF:3kHz HPF:OFF 2) Adj item:[WL QTW]→ [WC QTW]→[WH QTW] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | Power meter Deviation meter Oscilloscope AG AF VTVM | Rear panel | ANT | Front panel | [PF3], [PF4] | 0.75kHz | ±50Hz |
| | •Narrow | 3) Adj item:[N QTN] Adjust:[***] 4) Adj item:[WL QTN]→ [WC QTN]→[WH QTN] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | 0.35kHz | ±25Hz |
| 10.DQT deviation adjust •Wide | 1) Adj item:[W DQTW] Adjust:[***] Deviation meter filter LPF:3kHz HPF:OFF 2) Adj item:[WL DQTW]→ [WC DQTW]→[WH DQTW] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | 0.75kHz | ±50Hz |
| | •Narrow | 3) Adj item:[N DQTN] Adjust:[***] 4) Adj item:[WL DQTN]→ [WC DQTN]→[WH DQTN] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | 0.35kHz | ±25Hz |
| 11.DTMF deviation adjust •Wide | 1) Adj item:[W DTMW] Adjust:[***] Deviation meter filter LPF:15kHz HPF:OFF PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | 3.0kHz | ±100Hz |
| | •Narrow | 2) Adj item:[N DTWN] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | 1.5kHz | ±50Hz |

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------|----------|-------------|-----------------|--------|------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 12. MSK deviation adjust •Wide | 1) Adj item:[W MSKW] Adjust:[***] Deviation meter filter LPF:15kHz HPF:OFF PTT:ON Press [PF5] to store the adjustment value after adjustment. | Power meter Deviation meter Oscilloscope AG AF VTVM | Rear panel | ANT | Front panel | [PF3], [PF4] | 3.0kHz | ±100Hz |
| | Front panel | | MIC jack | | | | | |
| •Narrow | 2) Adj item:[N MSKN] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | 1.5kHz | ±50Hz |
| 13. Single tone deviation adjust •Wide | 1) Adj item:[W 2TNW] Adjust:[***] Deviation meter filter LPF:15kHz HPF:OFF PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | | 3.0kHz | ±100Hz |
| | •Narrow | 2) Adj item:[N 2TNN] Adjust:[***] PTT:ON Press [PF5] to store the adjustment value after adjustment. | | | | | 1.5kHz | ±50Hz |

Receiver Section

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|----------|-------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 1. RX Front-end adjust | [Panel tuning mode] 1) Adj item:[W FEND] Adjust:[***] 2) Adj item:[WL FEND]→ [WLC FEND]→[WC FEND]→ [WCH FEND]→[WH FEND] | S&G | Rear panel | ANT | Front panel | [PF3], [PF4] | Enter the following adjustment values to the transceiver by pressing [PF3] and [PF4] keys. [WL FEND] : 190 [WLC FEND] : 160 [WC FEND] : 110 [WCH FEND] : 65 [WH FEND] : 10 After setting the adjustment value, press [PF5] key. The adjustment value will be stored in memory. | Note: After replacing the EEPROM (IC701) align RX Front-end. |

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------|---------------|----------------|-------|-----------------------------------------------------------------------------------------------------|------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 2. RSSI (Reference) adjust •Wide | 1) Adj item:[W RSSI] Adjust:[***] | SSG AF VTVM Oscilloscope | Rear panel | ANT EXT.SP | Front panel | [PF5] | After input signal from SSG, press [PF5] key. That numeric will be stored in memory. | |
| | 2) Adj item:[WL RSSI]→ [WC RSSI]→[WH RSSI] Adjust:[***] SSG output:-125dBm(0.126μV) (MOD:1kHz/±3kHz) | | | | | | | |
| | •Narrow | | | | | | | |
| | 3) Adj item:[N RSSI] Adjust:[***] | | | | | | | |
| | 4) Adj item:[NL RSSI]→ [NC RSSI]→[NH RSSI] Adjust:[***] SSG output:-125dBm(0.126μV) (MOD:1kHz/1.5kHz) | | | | | | | |
| | •P25 | | | | | | | |
| | 5) Adj item:[A RSSI] Adjust:[***] | | | | | | | |
| | 6) Adj item:[AL RSSI]→ [AC RSSI]→[AH RSSI] Adjust:[***] SSG output:-125dBm(0.126μV) | | | | | | | |
| 3. RSSI (-120dBm) adjust •Wide | 1) Adj item:[W LRSI] Adjust:[***] | | | | | | | |
| | 2) Adj item:[WL LRSI]→ [WC LRSI]→[WH LRSI] Adjust:[***] SSG output:-120dBm(0.22μV) (MOD:1kHz/±3kHz) | | | | | | | |
| | •Narrow | | | | | | | |
| | 3) Adj item:[N LRSI] Adjust:[***] | | | | | | | |
| | 4) Adj item:[NL LRSI]→ [NC LRSI]→[NH LRSI] Adjust:[***] SSG output:-120dBm(0.22μV) (MOD:1kHz/±1.5kHz) | | | | | | | |
| | •P25 | | | | | | | |
| | 5) Adj item:[A LRSI] Adjust:[***] | | | | | | | |
| | 6) Adj item:[AL LRSI]→ [AC LRSI]→[AH LRSI] Adjust:[***] SSG output:-120dBm(0.22μV) | | | | | | | |

TK-5710(B)/5710H(B)

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks | |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------|---------------|----------------|----------------|-----------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | | |
| 4. RSSI (-70dBm) adjust •Wide | 1) Adj item:[W HRSI] Adjust:[***] 2) Adj item:[WL HRSI]→ [WC HRSI]→[WH HRSI] Adjust:[***] SSG output:-70dBm(70.8μV) (MOD:1kHz/±3kHz) | SSG AF VTVM Oscilloscope | Rear panel | ANT EXT.SP | Front panel | [PF5] | After input signal from SSG, press [PF5] key. That numeric will be stored in memory. | | |
| | •Narrow | | | | | | | | 3) Adj item:[N HRSI] Adjust:[***] 4) Adj item:[NL HRSI]→ [NC HRSI]→[NH HRSI] Adjust:[***] SSG output:-70dBm(70.8μV) (MOD:1kHz/±1.5kHz) |
| | •P25 | | | | | | | | 5) Adj item:[A HRSI] Adjust:[***] 6) Adj item:[AL HRSI]→ [AC HRSI]→[AH HRSI] Adjust:[***] SSG output:-70dBm(70.8μV) |
| 5. AF level Setting | [Panel test mode] 1) CH-Sig:1-1 SSG output:-47dBm(1mV) (MOD:1kHz/±3kHz) | SSG DVM AF VTVM 4Ω dummy load | Rear panel | ANT EXT.SP | Front panel | Volume Knob | Turn the Volume Knob to obtain 2.0V AF output. | 2.0V±0.1V | |
| 6. Sensitivity Check •Wide | 1) CH-Sig:1-1 SSG output:-117dBm(0.32μV) (MOD:1kHz/±3kHz) | SSG AF VTVM Oscilloscope | Rear panel | ANT EXT.SP | | | Check | 12dB SINAD or more | |
| | 2) CH-Sig:2-1 | | | | | | | | |
| | 3) CH-Sig:3-1 | | | | | | | | |
| | •Narrow | | | | | | | | 4) CH-Sig:1-1 SSG output:-117dBm(0.32μV) (MOD:1kHz/±1.5kHz) |
| | 5) CH-Sig:2-1 | | | | | | | | |
| | 6) CH-Sig:3-1 | | | | | | | | |

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------|---------------|----------------|-------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 7. Squelch (Threshold) adjust •Wide | 1) Adj item:[W SQOW] Adjust:[***] 2) Adj item:[WL SQOW]← [WC SQOW]→[WH SQOW] Adjust:[***] SSG output:12dB SINAD level -3dB (MOD:1kHz/±3kHz) | SSG AF VTVM Oscilloscope | Rear panel | ANT EXT.SP | Front panel | [PF5] | After input signal from SSG, press [PF5] key. That numeric will be stored in memory. | After adjusting SQL, check SQL open/close. [Panel test mode] 1) CH-Sig:1-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close 2) CH-Sig:2-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close 3) CH-Sig:3-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close |
| | •Narrow | 3) Adj item:[N SQON] Adjust:[***] SSG output:12dB SINAD level -3dB (MOD:1kHz/±1.5kHz) | | | | | | After adjusting SQL, check SQL open/Close. [Panel test mode] 1) CH-Sig:1-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close 2) CH-Sig:2-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close 3) CH-Sig:2-1 SSG 12dB SINAD or less:Open SSG -130dBm(0.07μV):Close |

TK-5710(B)/5710H(B)

ADJUSTMENT

| Item | Condition | Measurement | | | Adjustment | | | Specifications/Remarks |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------|---------------|----------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Test-equipment | Unit | Terminal | Unit | Parts | Method | |
| 8. Squelch (Tight) adjust •Wide | 1) Adj item:[W SQTW] Adjust:[***] 2) Adj item:[WL SQTW]← [WC SQTW]←[WH SQTW] Adjust:[***] SSG output:12dB SINAD level +5dB (MOD:1kHz/±3kHz) | SSG AF VTVM Oscilloscope | Rear panel | ANT EXT.SP | Front panel | [PF5] | After input signal from SSG, press [PF5] key. That numeric will be stored in memory. | After adjusting SQL, check SQL open/close. [Panel test mode] 1) CH-Sig:1-1 SSG 16dB SINAD or more:Open SSG 12dB SINAND level -4dB:Close 2) CH-Sig:2-1 SSG 16dB SINAD or more:Open SSG 12dB SINAD level -4dB:Close 3) CH-Sig:3-1 SSG 16dB SINAD or more:Open SSG 12dB SINAD level -4dB:Close |
| | •Narrow | 3) Adj item:[N SQTN] Adjust:[***] SSG output:12dB SINAD level +6dB (MOD:1kHz/±1.5kHz) | | | | | After adjusting SQL, check SQL open/close. [Panel test mode] 1) CH-Sig:1-1 SSG 16dB SINAD or more:Open SSG 12dB SINAD level -4dB:Close 2) CH-Sig:2-1 SSG 16dB SINAD or more:Open SSG 12dB SINAD level -4dB:Close 3) CH-Sig:3-1 SSG 16dB SINAD or more:Open SSG 12dB SINAD level -4dB:Close | |
| 9. BER (Bit Error Rate) check | [Panel test mode] 1) CH-sig:1-20 SSG output:-117dBm(0.32μV) (C4FM) (1011Hz Tone Test Pattern) | Digital radio tester | | | | Check | 5% or less | |

TK-5710(B)/5710H(B)

TERMINAL FUNCTION

Final unit (X45-3750-10): TK-5710(B)

| Pin No. | Name | I/O | Description |
|-----------------------------------|--------|-----|---------------------------------|
| CN1 (to TX-RX unit CN150) | | | |
| 1 | TX | I | TX drive input |
| CN2 (to TX-RX unit CN200) | | | |
| 1 | RX | O | RX signal output |
| CN7 (to DC cable) | | | |
| 1 | +B | I | Power supply input (13.6V±15%) |
| CN9 (to TX-RX unit CN601) | | | |
| 1 | FTEMP2 | O | Final unit temperature 2 |
| 2 | FTEMP1 | O | Final unit temperature 1 |
| 3 | 8T | - | 8V input during transmission |
| 4 | 8T | - | 8V input during transmission |
| 5 | E | - | GND |
| 6 | PC | I | TX power control voltage |
| W2 (to Control unit CN702) | | | |
| 1 | E | - | GND |
| 2 | +B | O | Power supply output (13.6V±15%) |
| 3 | +B | O | Power supply output (13.6V±15%) |

Final unit (X45-3760-10): TK-5710H(B)

| Pin No. | Name | I/O | Description |
|-----------------------------------|--------|-----|---------------------------------|
| CN1 (to TX-RX unit CN152) | | | |
| 1 | TX | I | TX drive input |
| CN2 (to TX-RX unit CN200) | | | |
| 1 | RX | O | RX signal output |
| CN3 (to DC cable) | | | |
| 1 | +B | I | Power supply input (13.4V±15%) |
| CN4 (to DC cable) | | | |
| 1 | E | - | GND |
| CN9 (to TX-RX unit CN601) | | | |
| 1 | FTEMP2 | O | Final unit temperature 2 |
| 2 | FTEMP1 | O | Final unit temperature 1 |
| 3 | 8T | - | 8V input during transmission |
| 4 | 8T | - | 8V input during transmission |
| 5 | E | - | GND |
| 6 | PC | I | TX power control voltage |
| W2 (to Control unit CN702) | | | |
| 1 | E | - | GND |
| 2 | +B | O | Power supply output (13.4V±15%) |
| 3 | +B | O | Power supply output (13.4V±15%) |

Control unit (X53-4120-10)

| Pin No. | Name | I/O | Description |
|-----------------------------------------------------------|-----------|-----|-------------------------------------------------------------|
| CN702 (to TK-5710(B) or TK-5710H(B) Final unit W2) | | | |
| 1 | +B | I | Power supply input (TK-5710(B):13.6V/ TK-5710H(B):13.4V) |
| 2 | +B | I | Power supply input (TK-5710(B):13.6V/ TK-5710H(B):13.4V) |
| 3 | E | - | GND |
| CN724 (to KRK-6DH) | | | |
| 1 | AFO | O | RX audio signal output for remote head 2 |
| 2 | DE3 | I/O | Detection signal |
| 3 | E | - | GND |
| 4 | EI | O | Enable of shift register |
| 5 | CLK | O | Clock output |
| 6 | DAT | O | Data output |
| 7 | RESET | O | Reset signal output |
| 8 | 5C | - | Common 5V |
| 9 | PSC | I/O | Power switch control signal |
| 10 | CS | O | Chip select of D/A converter |
| CN728 (to D-SUB 25-pin connector) | | | |
| 1 | NC | - | No connection |
| 2 | SB | O | Switched B (TK-5710(B):13.6V/ TK-5710H(B):13.4V) |
| 3 | RXD2 | I | Serial data input 2 |
| 4 | AUXO2 | O | Auxiliary output 2 |
| 5 | TXD2 | O | Serial data output 2 |
| 6 | AUXO1 | O | Auxiliary output 1 |
| 7 | AUX I/O 9 | I/O | Auxiliary input/output 9 |
| 8 | AFO | O | RX audio signal output |
| 9 | DI | I | Data signal input |
| 10 | E | - | GND |
| 11 | MI2 | I | External MIC input |
| 12 | DEO | O | Detected signal output |
| 13 | E | - | GND |
| 14 | AUX I/O 5 | I/O | Auxiliary input/output 5 |
| 15 | AUX I/O 8 | I/O | Auxiliary input/output 8 |
| 16 | AUX I/O 4 | I/O | Auxiliary input/output 4 |
| 17 | TXD3 | O | Serial data output 3 |
| 18 | AUX I/O 3 | I/O | Auxiliary input/output 3 |
| 19 | RXD3 | I | Serial data input 3 |
| 20 | AUX I/O 2 | I/O | Auxiliary input/output 2 |
| 21 | E | - | GND |
| 22 | AUX I/O 1 | I/O | Auxiliary input/output 1 |
| 23 | AUX I/O 7 | I/O | Auxiliary input/output 7 |
| 24 | ME | - | MIC GND |
| 25 | AUX I/O 6 | I/O | Auxiliary input/output 6 |
| 26 | E | - | GND |
| 27~30 | NC | - | No connection |
| CN744/Solder land (to VGS-1) | | | |
| 1 | VBUSY | I | Busy signal (Active High) |
| 2 | PLAY | I | Play signal (Active High) |
| 3 | RXD1 | I | Serial data input 1 |
| 4 | TXD1 | O | Serial data output 1 |
| 5 | CLK | O | Clock output |

TK-5710(B)/5710H(B)

TERMINAL FUNCTION

| Pin No. | Name | I/O | Description |
|-----------------------------------------------|---------|-----|-------------------------------------------------------------------------------------------|
| 6 | EN | O | Enable output (Active Low) |
| 7 | USEL | O | UART speed select (H:115200bps, L:19200bps) |
| 8 | VRST | O | Reset signal output |
| 9 | DE | - | Digital GND |
| 10 | E | - | GND |
| 11 | AI | I | Audio input (3Vp-p) |
| 12 | AO | O | Audio output (100mVp-p) |
| 13 | E | - | GND |
| 14 | 5C | - | Common 5V |
| 15~25 | NC | - | No connection |
| 26 | 8C | - | Common 8V |
| CN755/Solder land (to ANI board) | | | |
| 1 | BUSY | O | BUSY signal output (L:TX) $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 2 | AKEY | I | TX Control signal input (Active Low) $L \leq 0.8V$, $H \geq 2.6V$ |
| 3~5 | NC | - | No connection |
| 6 | PTOA | O | PTT signal output (L:PTT ON) $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 7 | NC | - | No connection |
| 8 | EMG | O | Emergency signal output (L:Operated) $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 9,10 | E | - | GND |
| 11,12 | NC | - | No connection |
| 13 | E | - | GND |
| 14 | 5C | - | Common 5V (Standby:3.5mA / Encoding:35mA) |
| 15 | STON | I | Side tone input (1kHz/5Vp-p) |
| 16 | ATXI | I | Data signal input (Adjustable from 0V to 4.5Vp-p) |
| 17 | TCONT | I | Speaker mute signal input (L:Unmute) $L \leq 0.8V$, $H \geq 4.2V$ |
| 18 | NC | - | No connection |
| 19 | AINH | I | MIC mute signal input (L:Mute) $L \leq 0.8V$, $H \geq 4.2V$ |
| 20 | AUX I/O | I | Emergency signal input (Active Low) $L \leq 0.8V$, $H \geq 4.2V$ |
| 21~25 | NC | - | No connection |
| 26 | 8C | - | Common 8V |
| CN771/Solder land (to Scrambler board) | | | |
| 1 | BC1 | O | Scramble code signal output 1 $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 2 | BC2 | O | Scramble code signal output 2 $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 3 | LOK | I/O | for LOK customize |
| 4 | PTOS | O | TX signal output (L:TX) $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 5 | NC | - | No connection |
| 6 | ECHO | I/O | Echo PTT |
| 7 | NC | - | No connection |
| 8 | BC4 | O | Scramble code signal output 4 $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |

| Pin No. | Name | I/O | Description |
|---------------------------------------------|--------|-----|---------------------------------------------------------------------------------------------------|
| 9,10 | E | - | GND |
| 11,12 | NC | - | No connection |
| 13 | E | - | GND |
| 14 | 5C | - | Common 5V |
| 15~19 | NC | - | No connection |
| 20 | AC | O | Scramble control signal output (L:On, H:Off) $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 21 | TXO | O | MIC signal output $Z_o \leq 1k\Omega$ (85mVp-p typ.) |
| 22 | RXEO | O | AUDIO signal output $Z_o \leq 100\Omega$ (1.2Vp-p typ.) |
| 23 | RXEI | I | AUDIO signal input $Z_i = 27k\Omega$ (1.2Vp-p typ.) |
| 24 | STXI | I | MIC signal input $Z_o = 100k\Omega$ |
| 25 | BC3 | O | Scramble code signal output 3 $L \leq 0.4V$, $H \geq 4.6V$ / 30k Ω load |
| 26 | 8C | - | Common 8V |
| CN782 (to TX-RX unit CN600) | | | |
| 1 | E | - | GND |
| 2 | CV | I | Control voltage for VCO |
| 3 | FTEMP2 | I | Final unit temperature 2 |
| 4 | FTEMP1 | I | Final unit temperature 1 |
| 5 | PCS | O | Chip select of potentiometer |
| 6 | L2FT | O | Tuning frequency of 2nd local |
| 7 | UL | I | Lock detection of PLL |
| 8 | EP | O | Enable of PLL |
| 9 | WN2 | - | Switch of ceramic filter (H:Wide, L:Narrow) |
| 10 | MO | O | Modulation signal for VCO |
| 11 | MB | O | Modulation and frequency control signal for VCXO |
| 12~15 | 8C | - | Common 8V |
| 16 | DAT | O | Data output |
| 17 | SOE | O | Enable of Shift Register 3 |
| 18 | CLK | O | Clock output |
| 19 | STRB3 | O | Chip select of Shift Register 3 |
| 20 | 8T | - | 8V output during transmission |
| 21 | Vref | - | Reference voltage |
| 22 | E | - | GND |
| 23 | DET | I | Detection signal input |
| 24 | E | - | GND |
| 25 | PC | O | TX power control voltage |
| 26 | E | - | GND |
| 27~29 | IF_IN | I | IF signal |
| 30~32 | E | - | GND |
| 33 | ASQL | I | Analog squelch signal input |
| 34 | RSSI | I | RSSI signal input |
| 35 | TV | O | Tuning voltage signal output for RX BPF |
| 36 | E | - | GND |
| CN783 (to Accessory 9-pin connector) | | | |
| 1 | IGN | I | Ignition sense input |
| 2 | E | - | GND |
| 3 | HR1 | O | Horn alert signal output 1 (1A max.) |

TERMINAL FUNCTION

| Pin No. | Name | I/O | Description |
|------------------------------------|-------|-----|----------------------------------------------------|
| 4 | HR2 | O | Horn alert signal output 2 (1A max.) |
| 5 | OS2 | O | BTL output for external speaker B (PA) |
| 6 | OS1 | O | BTL output for external speaker B (PA) |
| 7 | ES2 | O | BTL output for external speaker A |
| 8 | ES1 | O | BTL output for external speaker A |
| 9 | IRS | I | Remote speaker switch |
| CN950 (for production) | | | |
| 1~20 | | | |
| CN951 (to Display unit CN1) | | | |
| 1 | ES2 | O | Remote speaker output |
| 2 | IRS | O | Remote speaker output |
| 3 | SB | O | Switched B (TK-5710(B):13.6V/TK-5710H(B):13.4V) |
| 4 | IGN | I | Ignition sense input |
| 5 | PSW | I | Power switch control signal input |
| 6 | TRD | I/O | TX data output / RX data input |
| 7 | 1/2 | O | Remote head 1 or head 2 signal output |
| 8 | RESET | O | Reset signal output |
| 9 | GND | - | GND |
| 10 | MIC | I | MIC signal input |
| 11 | ME | - | MIC GND |

TX-RX unit (X57-7030-10)

| Pin No. | Name | I/O | Description |
|------------------------------------------------------------|--------|-----|---------------------------------|
| CN150 (to TK-5710(B) Final unit CN1) | | | |
| 1 | TX | O | TX drive output for TK-5710(B) |
| CN152 (to TK-5710H(B) Final unit CN1) | | | |
| 1 | TX | O | TX drive output for TK-5710H(B) |
| CN200 (to TK-5710(B) or TK-5710H(B) Final unit CN2) | | | |
| 1 | RX | I | RX signal input |
| CN201 (for BPF Adjustment) | | | |
| 1 | BPFout | O | BPF output |
| 2 | E | - | GND |
| CN202 (for MCF Adjustment) | | | |
| 1 | MCFin | I | MCF input |
| 2 | E | - | GND |
| CN203 (for MCF Adjustment) | | | |
| 1 | MCFout | O | MCF output |
| 2 | E | - | GND |

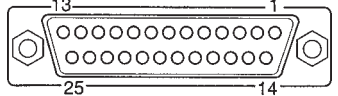
| Pin No. | Name | I/O | Description |
|------------------------------------------------------------|--------|-----|--------------------------------------------------|
| CN600 (to Control unit CN782) | | | |
| 1 | E | - | GND |
| 2 | TV | I | Tuning voltage signal input for RX BPF |
| 3 | RSSI | O | RSSI signal output |
| 4 | ASQL | O | Analog squelch signal output |
| 5~7 | E | - | GND |
| 8~10 | IF_IN | O | IF signal |
| 11 | E | - | GND |
| 12 | PC | I | TX power control voltage |
| 13 | E | - | GND |
| 14 | DET | O | Detection signal output |
| 15 | E | - | GND |
| 16 | Vref | - | Reference voltage |
| 17 | 8T | - | 8V input during transmission |
| 18 | STRB3 | I | Chip select of shift register 3 |
| 19 | CLK | I | Clock input |
| 20 | SOE3 | I | Enable of shift register 3 |
| 21 | DAT | I | Data input |
| 22~25 | 8C | - | Common 8V |
| 26 | MB | I | Modulation and frequency control signal for VCXO |
| 27 | MO | I | Modulation signal for VCO |
| 28 | WN2 | - | Switch of ceramic filter (H:Wide, L:Narrow) |
| 29 | EP | I | Enable of PLL |
| 30 | UL | O | Lock detection of PLL |
| 31 | L2FT | I | Tuning Frequency of 2nd local |
| 32 | PCS | I | Chip Select of potentiometer |
| 33 | FTEMP1 | O | Final unit temperature 1 |
| 34 | FTEMP2 | O | Final unit temperature 2 |
| 35 | CV | O | Control voltage of VCO |
| 36 | E | - | GND |
| CN601 (to TK-5710(B) or TK-5710H(B) Final unit CN9) | | | |
| 1 | PC | O | TX power control voltage |
| 2 | E | - | GND |
| 3 | 8T | - | 8V output during transmission |
| 4 | 8T | - | 8V output during transmission |
| 5 | FTEMP1 | I | Final unit temperature 1 |
| 6 | FTEMP2 | I | Final unit temperature 2 |

TK-5710(B)/5710H(B)

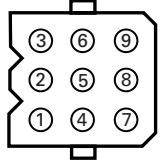
TERMINAL FUNCTION

D-SUB 25-pin connector

| Pin No. | Name | I/O | Description |
|---------|-----------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | NC | – | No connection |
| 2 | RXD2 | I | Serial data input 2 RS-232C level ($\pm 30V$ max.) $L \leq 0.4V$, $H \geq 2.4V$, $Z_i \geq 5k\Omega$ |
| 3 | TXD2 | O | Serial data output 2 RS-232C level $L \leq -5V$, $H \geq 5V / 3k\Omega$ load, $Z_o \leq 2k\Omega$ |
| 4 | AUX I/O 9 | I/O | Auxiliary input/output 9 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 5 | DI | I | Data signal input $Z_i \geq 10k\Omega$ Deviation: 60% deviation or more (at 1kHz/2Vp-p) Frequency response: +3~-3dB (20Hz~9.6kHz) (0dB: 1kHz, 60% deviation) |
| 6 | MI2 | I | External MIC input $Z_i = 600\Omega$ Deviation: 60% deviation (at 1kHz/5mV $\pm 2mV$ input) Frequency response: Compliance with TIA/EIA-603 |
| 7 | E | – | GND |
| 8 | AUX I/O 8 | I/O | Auxiliary input/output 8 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 9 | TXD3 | O | Serial data output 3 CMOS Level $L \leq 0.7V$, $H \geq 4.2V / 25k\Omega$ load, $Z_o \leq 1k\Omega$ |
| 10 | RXD3 | I | Serial data input 3 CMOS Level 0-5V max. $L \leq 0.8V$, $H \geq 4.2V$ |
| 11 | E | – | GND |
| 12 | AUX I/O 7 | I/O | Auxiliary input/output 7 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 13 | AUX I/O 6 | I/O | Auxiliary Input/output 6 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 14 | SB | I | Switched B (TK-5710(B): $13.6V \pm 15\%$ / TK-5710H(B): $13.4V \pm 15\%$) 2A max. |
| 15 | AUXO 2 | O | Auxiliary output 2 (FPU selectable) Active Low: Open Collector (500mA max.) |
| 16 | AUXO 1 | O | Auxiliary output 1 (FPU selectable) Active Low: Open Collector (500mA max.) |
| 17 | AFO | O | RX audio signal output $Z_o \leq 1k\Omega$ PA: MIC signal output 0.65Vp-p typ. (1kHz/5mV input) RX: RX low level output (at 1kHz 60% deviation/-53dBm) (Wide) 1.3Vp-p typ. (Narrow) 1.1Vp-p typ. |
| 18 | E | – | GND |

| Pin No. | Name | I/O | Description |
|---------|-----------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19 | DEO | O | Detected signal output $Z_o \leq 600k\Omega$ 500mVp-p (at 1kHz 60% deviation/-53dBm) Frequency response (0dB: 1kHz 60% deviation) (Wide) 20Hz~4.8kHz: +1/-6dB, 4.8kHz~8.5kHz: +1/-24dB (Narrow) 20Hz~4.8kHz: +1/-15dB |
| 20 | AUX I/O 5 | I/O | Auxiliary input/output 5 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 21 | AUX I/O 4 | I/O | Auxiliary input/output 4 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 22 | AUX I/O 3 | I/O | Auxiliary input/output 3 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 23 | AUX I/O 2 | I/O | Auxiliary input/output 2 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 24 | AUX I/O 1 | I/O | Auxiliary input/output 1 (FPU selectable) Active Low with $47k\Omega$ pull-up to 5V $L \leq 0.8V$, $H \geq 4.2V$ |
| 25 | ME | – | MIC GND  |

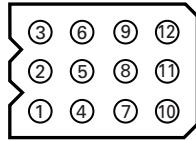
Accessory 9-pin connector

| Pin No. | Name | I/O | Description |
|---------|------|-----|----------------------------------------------------------------------------------------------|
| 1 | IGN | I | Ignition sense input |
| 2 | ES2 | O | BTL output for external speaker A |
| 3 | RS1 | I | Remote speaker switch |
| 4 | HR1 | O | Horn alert signal output 1 (1A max.) |
| 5 | HR2 | O | Horn alert signal output 2 (1A max.) |
| 6 | ES1 | O | BTL output for external speaker A |
| 7 | OS1 | O | BTL output for external speaker B (PA) |
| 8 | OS2 | O | BTL output for external speaker B (PA) |
| 9 | E | – | GND  |

TERMINAL FUNCTION

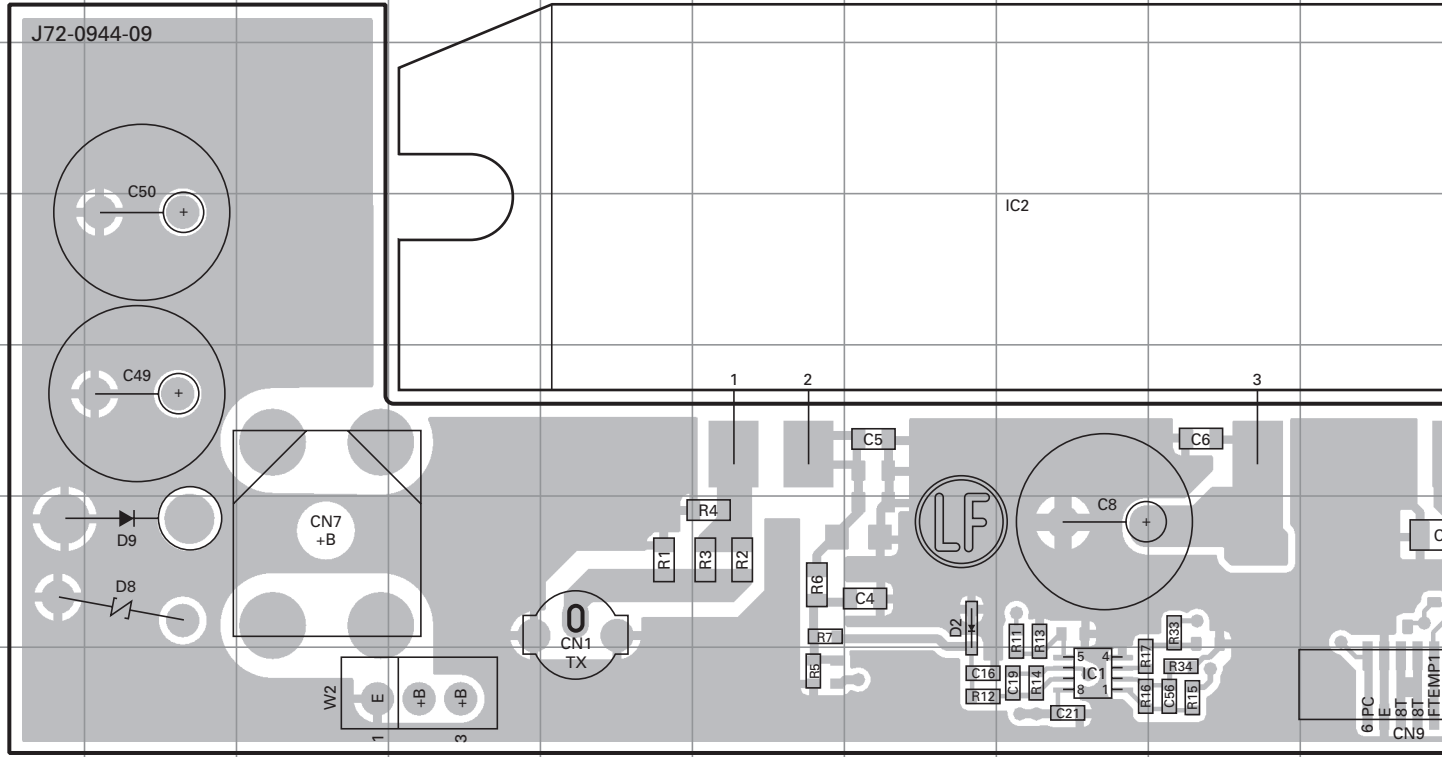
Accessory 12-pin connector (Remote kit)

| Pin No. | Name | I/O | Description |
|---------|------|-----|--------------------------------------------------------------------|
| 1 | IGN | I | Ignition sense input |
| 2 | SB | O | Switched B (TK-5710(B): 13.6V±15% / TK-5710H(B): 13.4V±15%) |
| 3 | E | - | GND |
| 4 | MIC | I | MIC signal input / 60% deviation at 1kHz/5mV±2mV input |
| 5 | ME | - | MIC GND |
| 6 | AI1 | I | Auxiliary input 1 (FPU selectable) |
| 7 | AI2 | I | Auxiliary input 2 (FPU selectable) |
| 8 | AO1 | O | Auxiliary output 1 (FPU selectable) Open collector (500mA max.) |
| 9 | AO2 | O | Auxiliary output 2 (FPU selectable) Open collector (500mA max.) |
| 10 | RS1 | O | Remote speaker output |
| 11 | RS2 | O | Remote speaker output |
| 12 | NC | - | No connection |

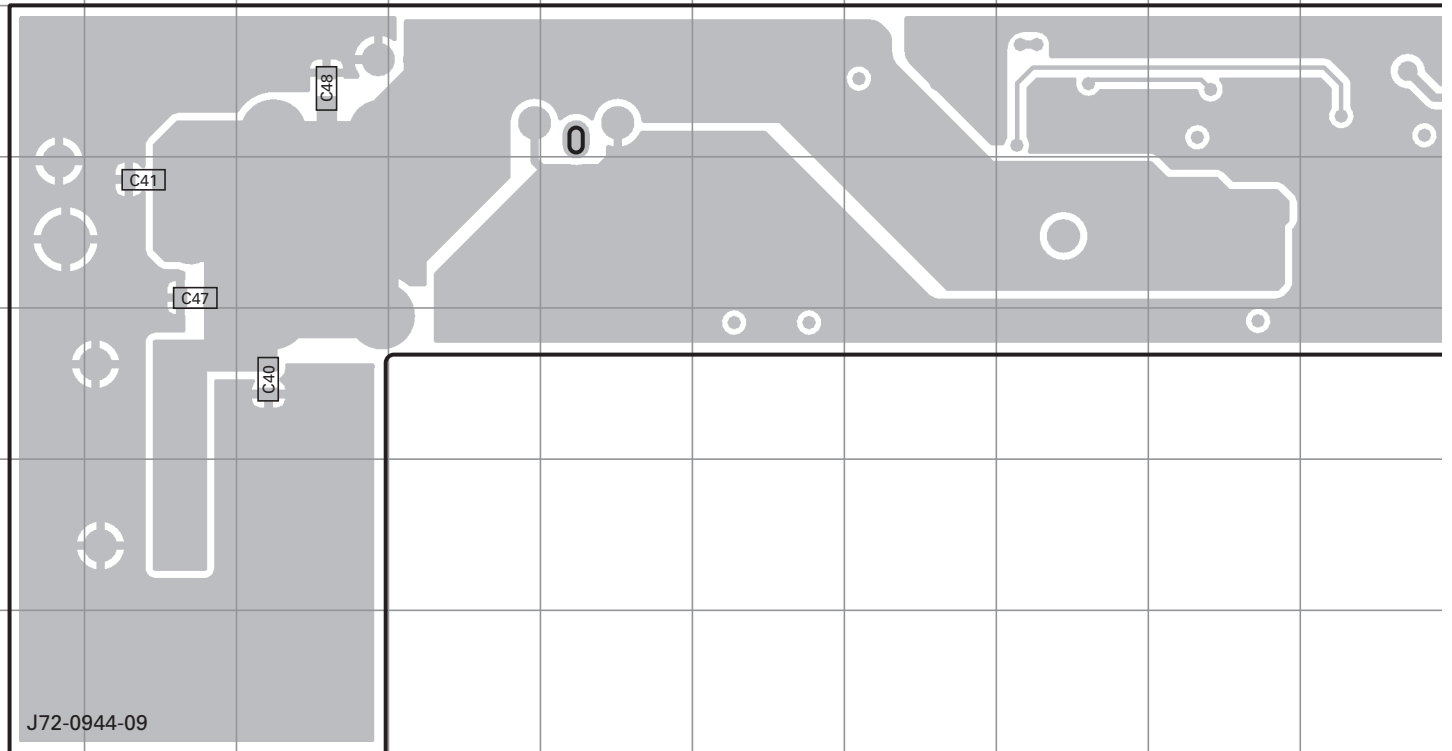


TK-5710(B) PC BOARD

FINAL UNIT (X45-3750-10) : TK-5710(B) Component side view (J72-0944-09)

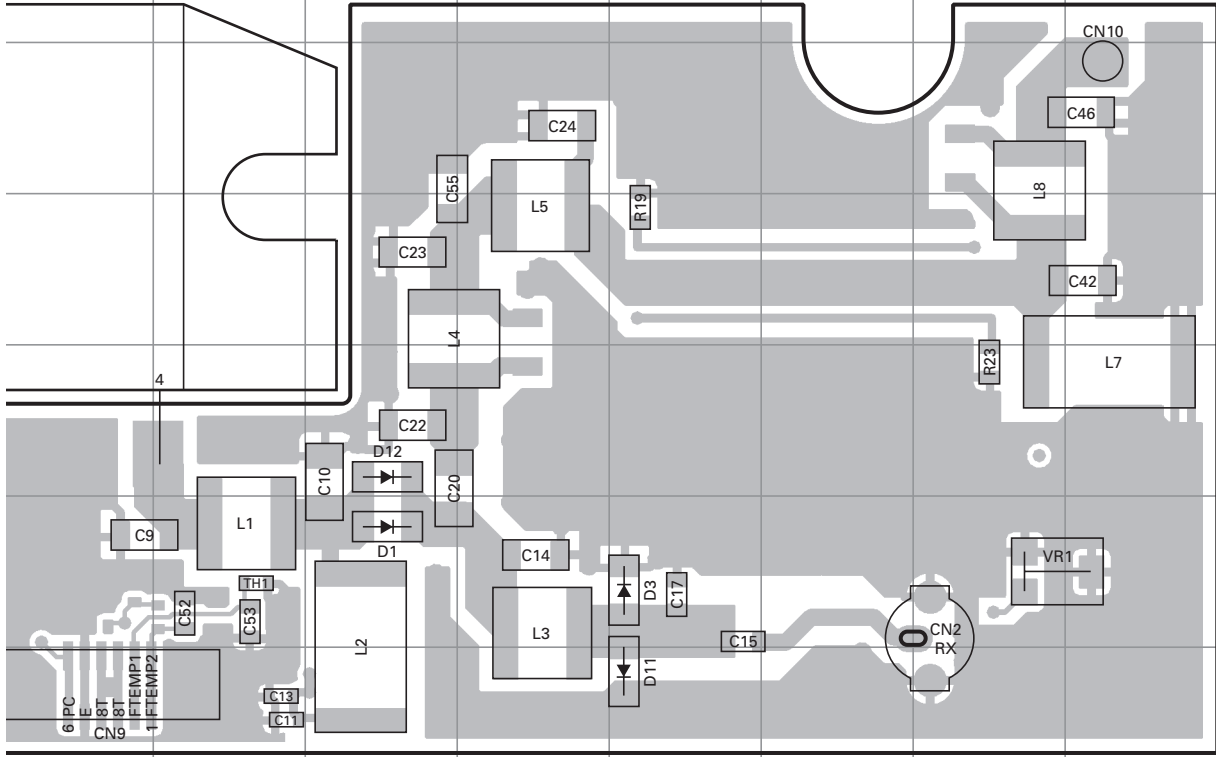


FINAL UNIT (X45-3750-10) : TK-5710(B) Foil side view (J72-0944-09)

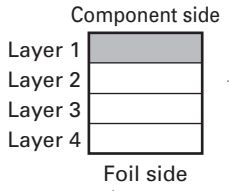


PC BOARD TK-5710(B)

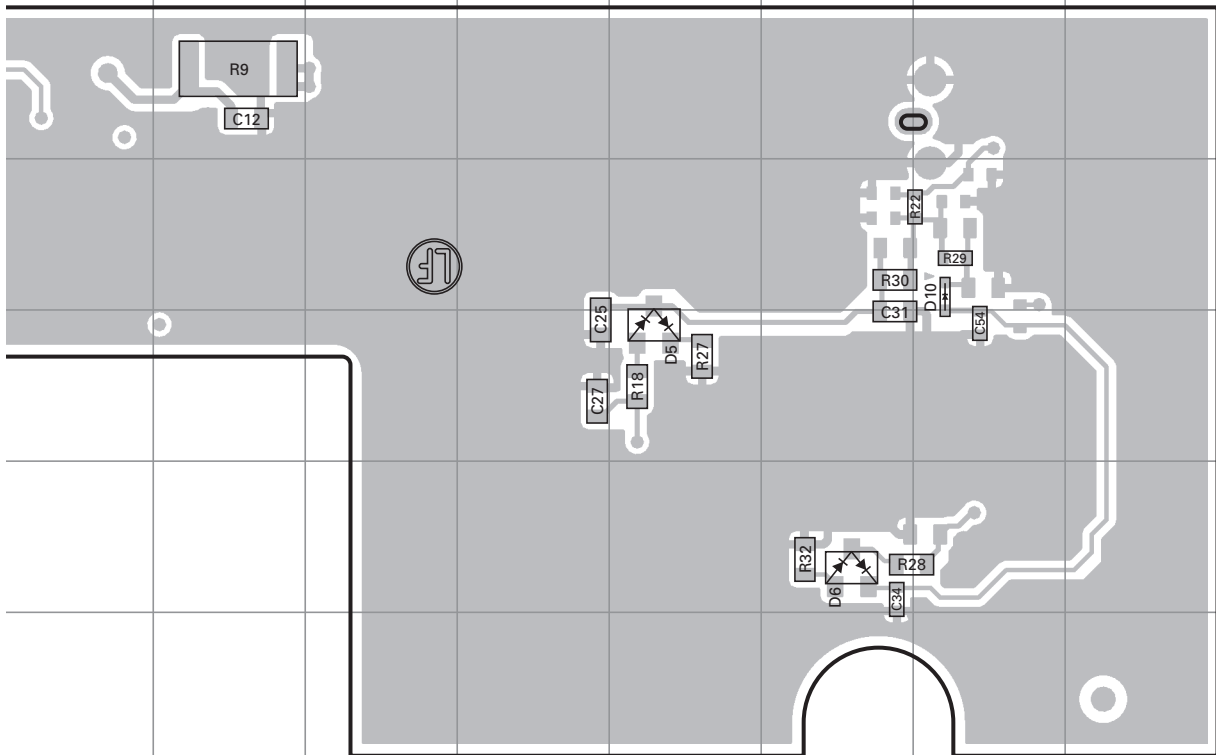
FINAL UNIT (X45-3750-10) : TK-5710(B)
Component side view (J72-0944-09)



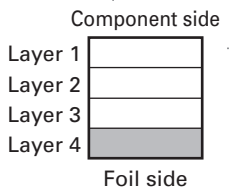
| Ref. No. | Address |
|----------|---------|
| IC1 | 7H |
| IC2 | 4H |
| D1 | 6L |
| D2 | 6G |
| D3 | 6N |
| D8 | 6B |
| D9 | 6B |
| D11 | 7N |
| D12 | 5L |



FINAL UNIT (X45-3750-10) : TK-5710(B)
Foil side view (J72-0944-09)



| Ref. No. | Address |
|----------|---------|
| D5 | 11N |
| D6 | 12O |
| D10 | 10P |

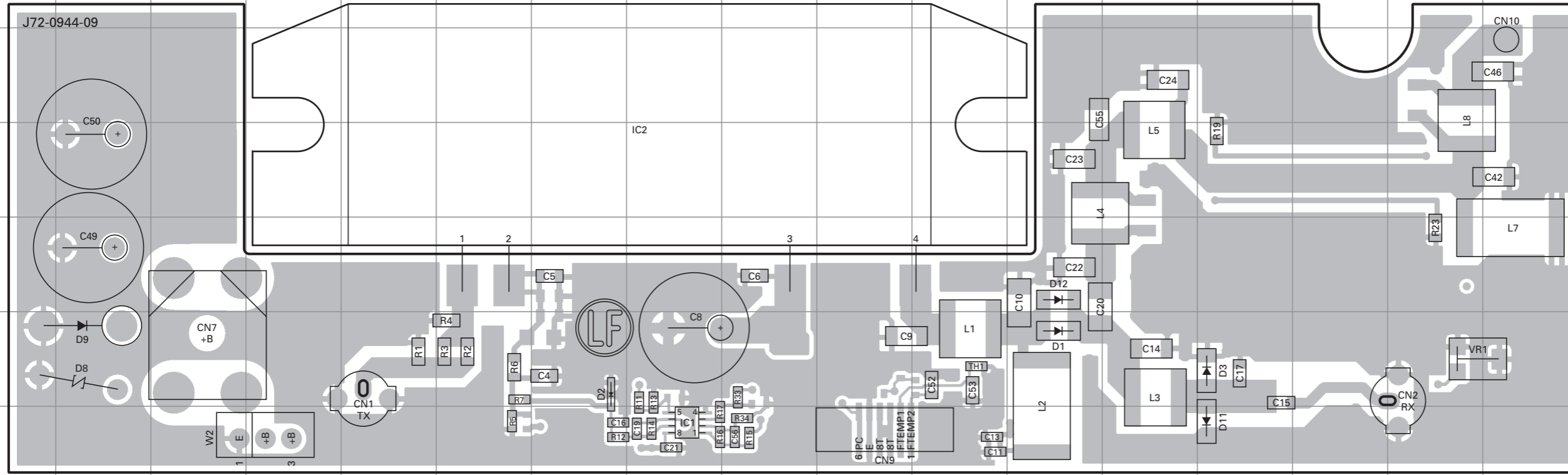


TK-5710(B) PC BOARD

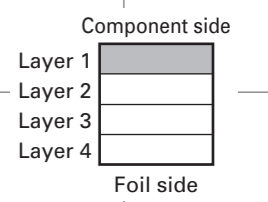
PC BOARD TK-5710(B)

**FINAL UNIT (X45-3750-10) : TK-5710(B)
Component side view (J72-0944-09)**

**FINAL UNIT (X45-3750-10) : TK-5710(B)
Component side view (J72-0944-09)**

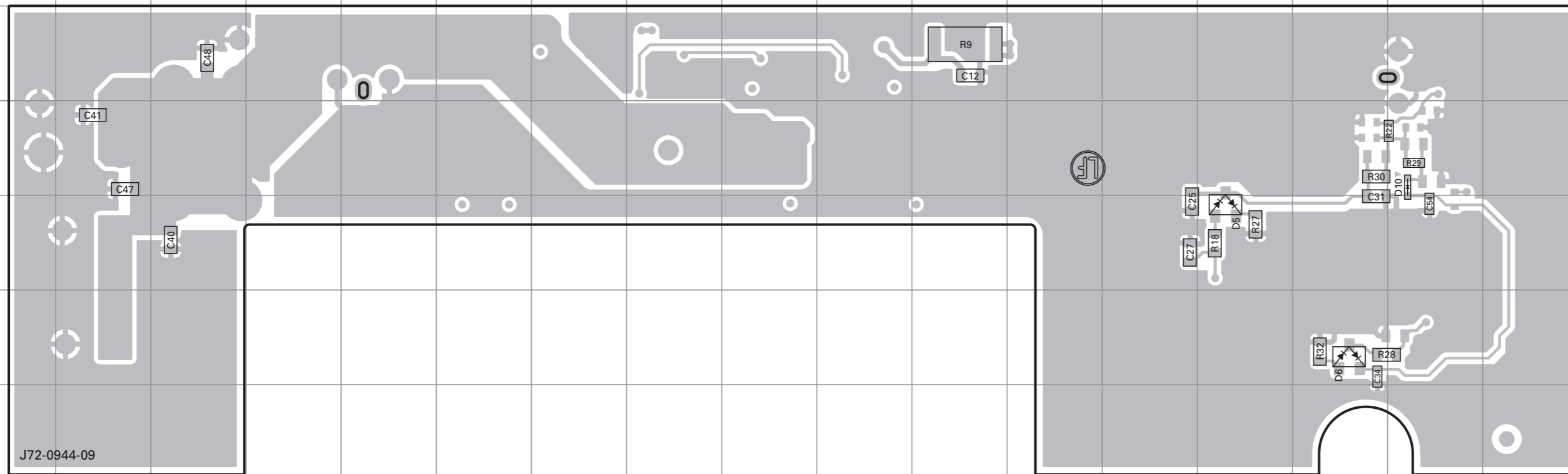


| Ref. No. | Address |
|----------|---------|
| IC1 | 7H |
| IC2 | 4H |
| D1 | 6L |
| D2 | 6G |
| D3 | 6N |
| D8 | 6B |
| D9 | 6B |
| D11 | 7N |
| D12 | 5L |

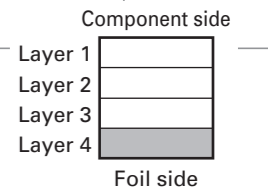


**FINAL UNIT (X45-3750-10) : TK-5710(B)
Foil side view (J72-0944-09)**

**FINAL UNIT (X45-3750-10) : TK-5710(B)
Foil side view (J72-0944-09)**



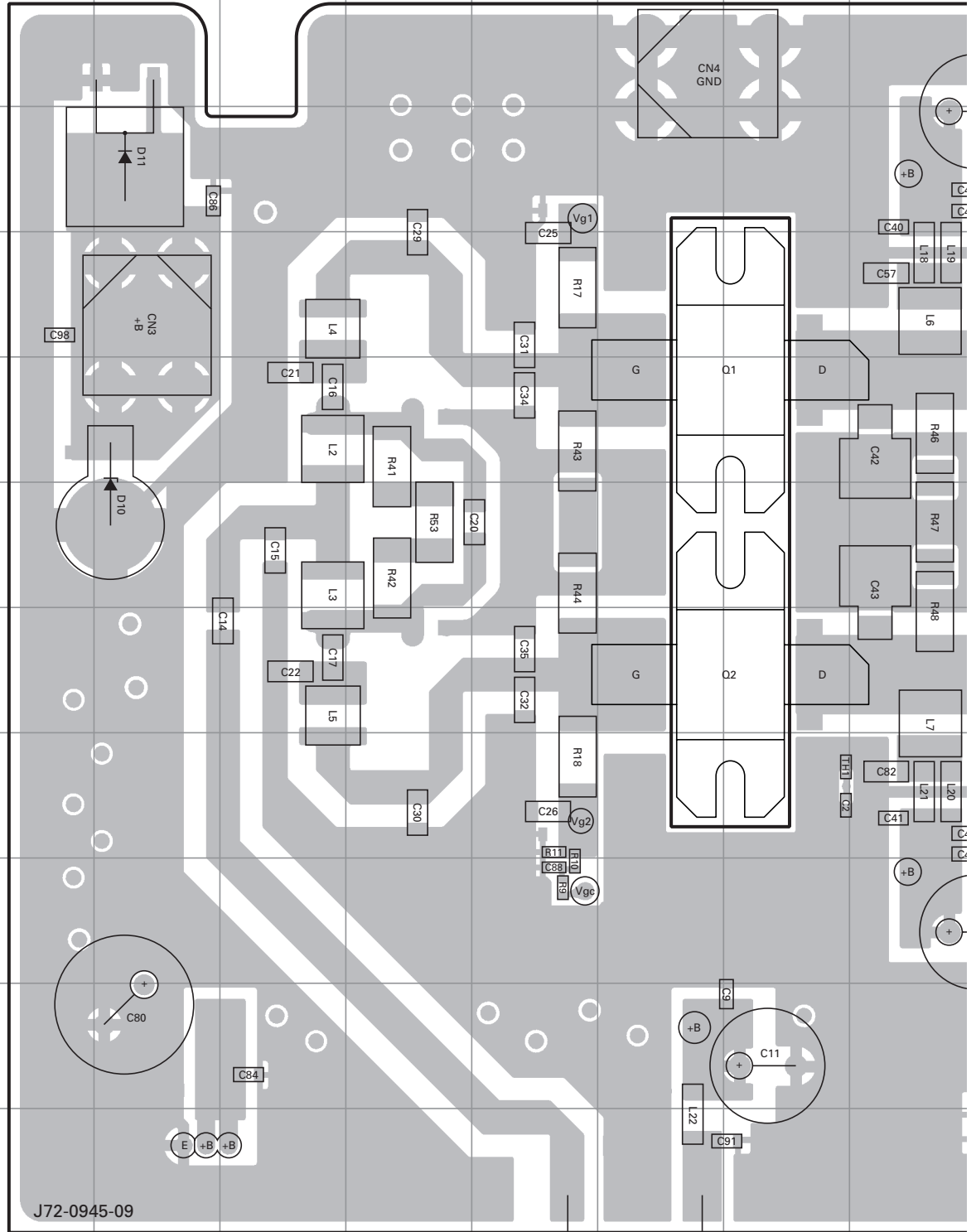
| Ref. No. | Address |
|----------|---------|
| D5 | 11N |
| D6 | 12O |
| D10 | 10P |



TK-5710H(B) PC BOARD

FINAL UNIT (X45-3760-10) : TK-5710H(B)

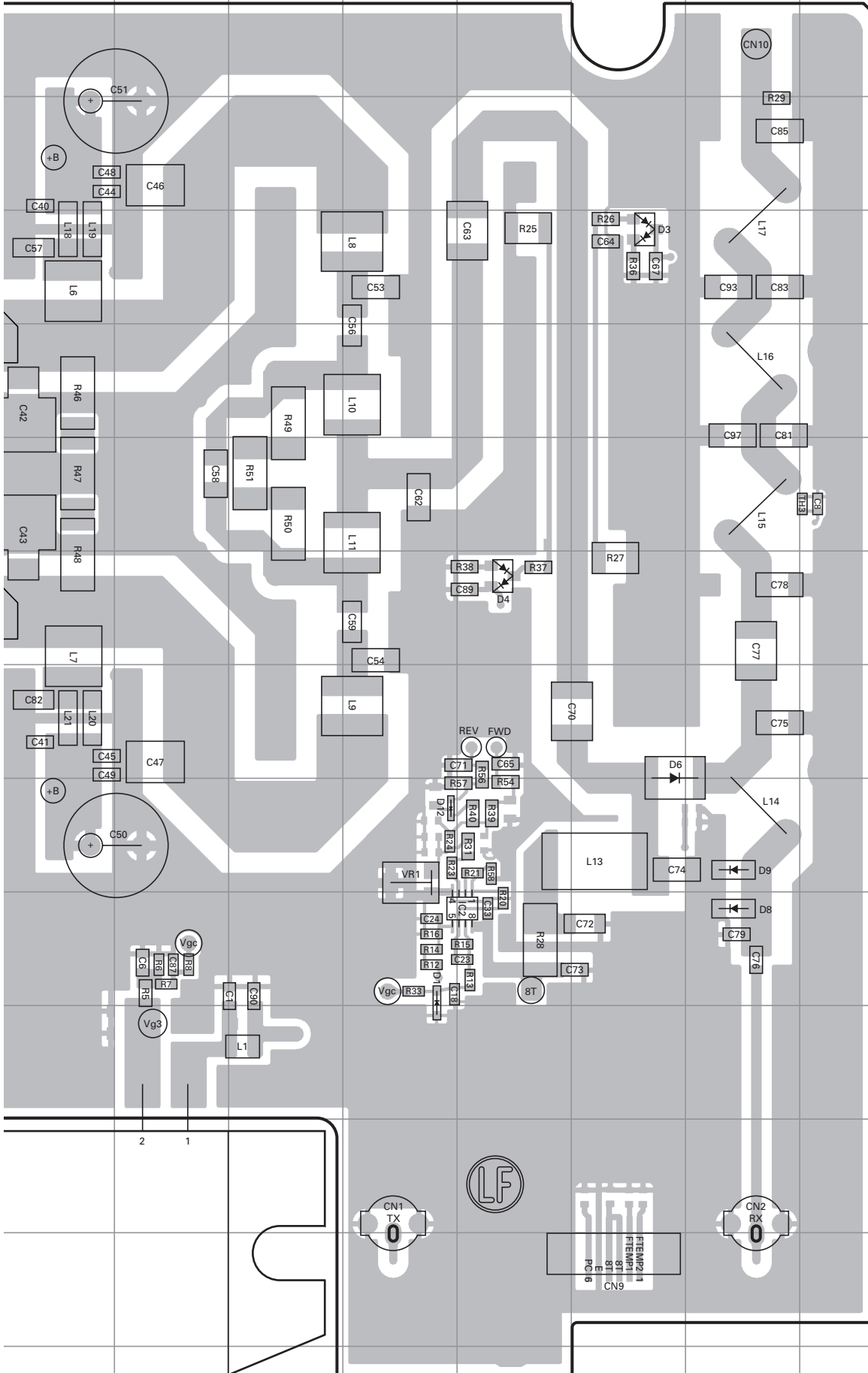
Component side view (J72-0945-09)



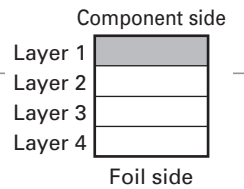
PC BOARD TK-5710H(B)

FINAL UNIT (X45-3760-10) : TK-5710H(B)

Component side view (J72-0945-09)



| Ref. No. | Address |
|----------|---------|
| IC1 | 13I |
| IC2 | 10N |
| Q1 | 5I |
| Q2 | 7I |
| D1 | 10M |
| D3 | 4O |
| D4 | 7N |
| D6 | 8O |
| D8 | 9P |
| D9 | 10P |
| D10 | 6D |
| D11 | 3D |
| D12 | 9M |

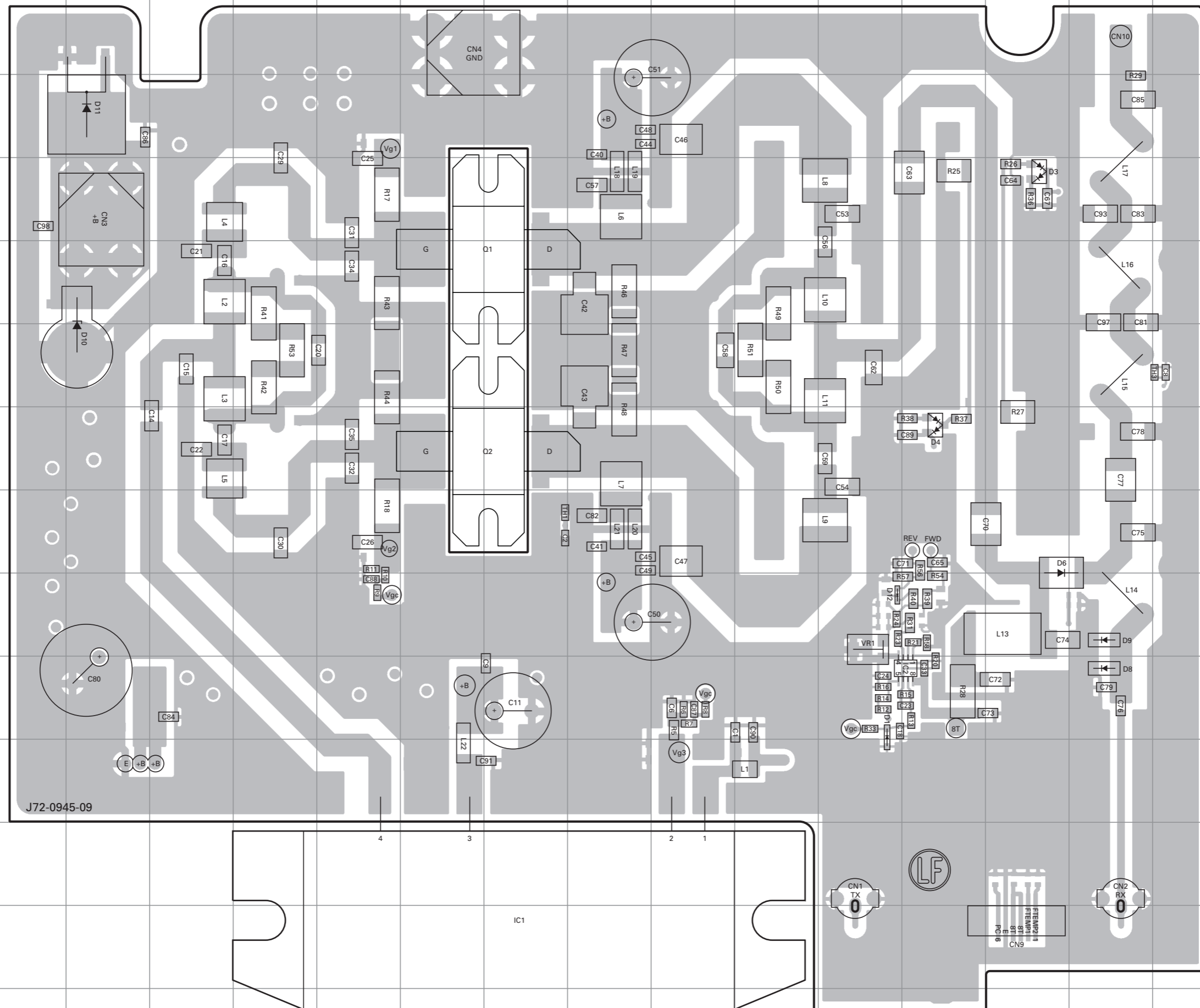


TK-5710H(B) PC BOARD

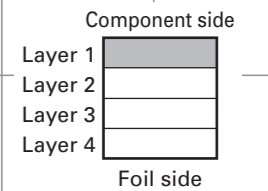
FINAL UNIT (X45-3760-10) : TK-5710H(B)
Component side view (J72-0945-09)

PC BOARD TK-5710H(B)

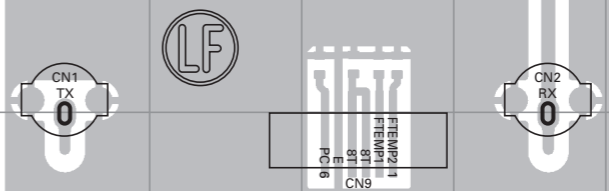
FINAL UNIT (X45-3760-10) : TK-5710H(B)
Component side view (J72-0945-09)



| Ref. No. | Address |
|----------|---------|
| IC1 | 13I |
| IC2 | 10N |
| Q1 | 5I |
| Q2 | 7I |
| D1 | 10M |
| D3 | 4O |
| D4 | 7N |
| D6 | 8O |
| D8 | 9P |
| D9 | 10P |
| D10 | 6D |
| D11 | 3D |
| D12 | 9M |



J72-0945-09

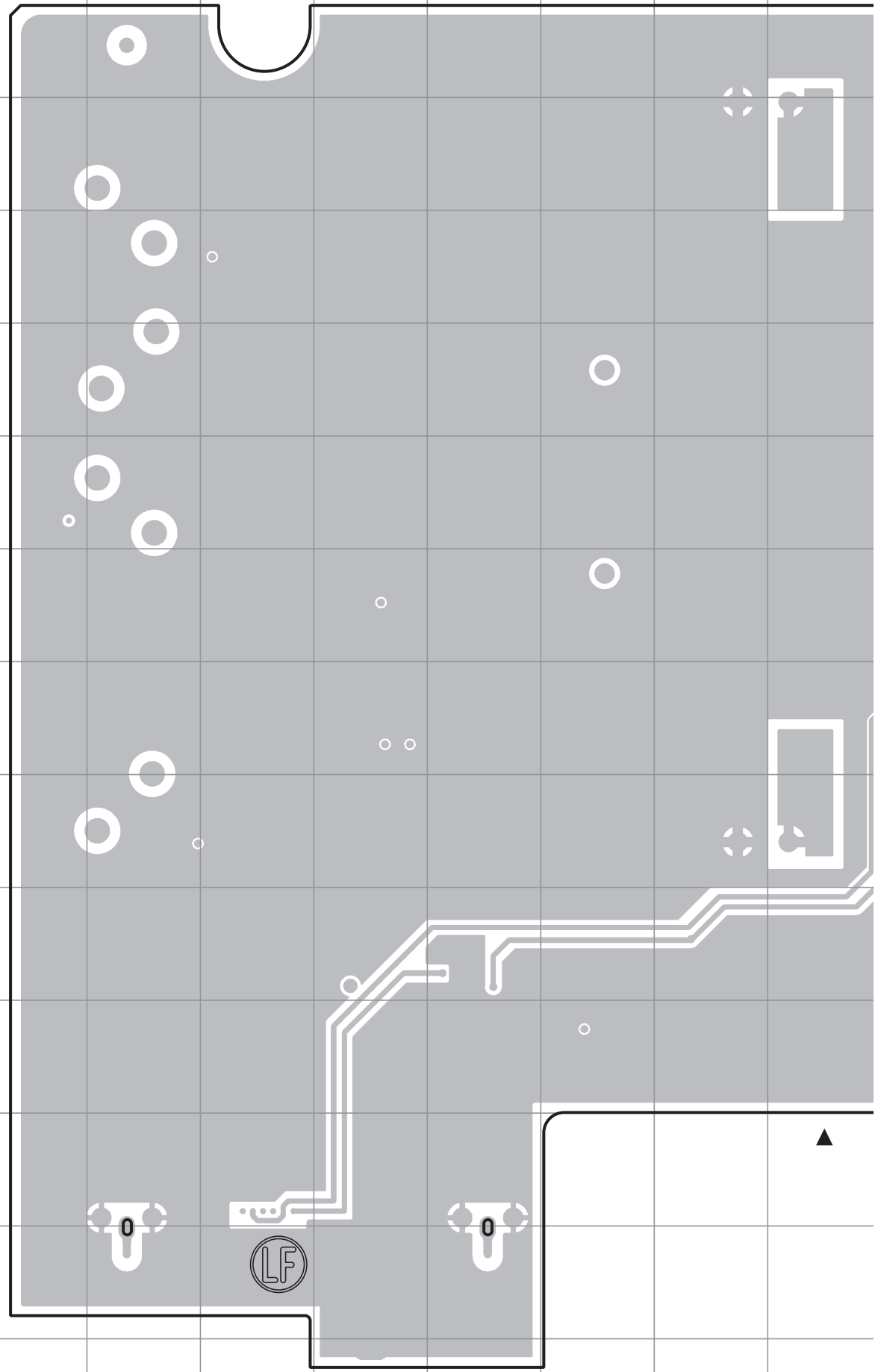


A B C D E F G H I J

TK-5710(B)/5710H(B) PC BOARD

FINAL UNIT (X45-3760-10) : TK-5710H(B)

Foil side view (J72-0945-09)

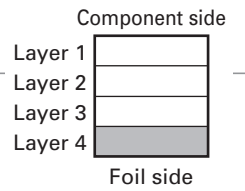
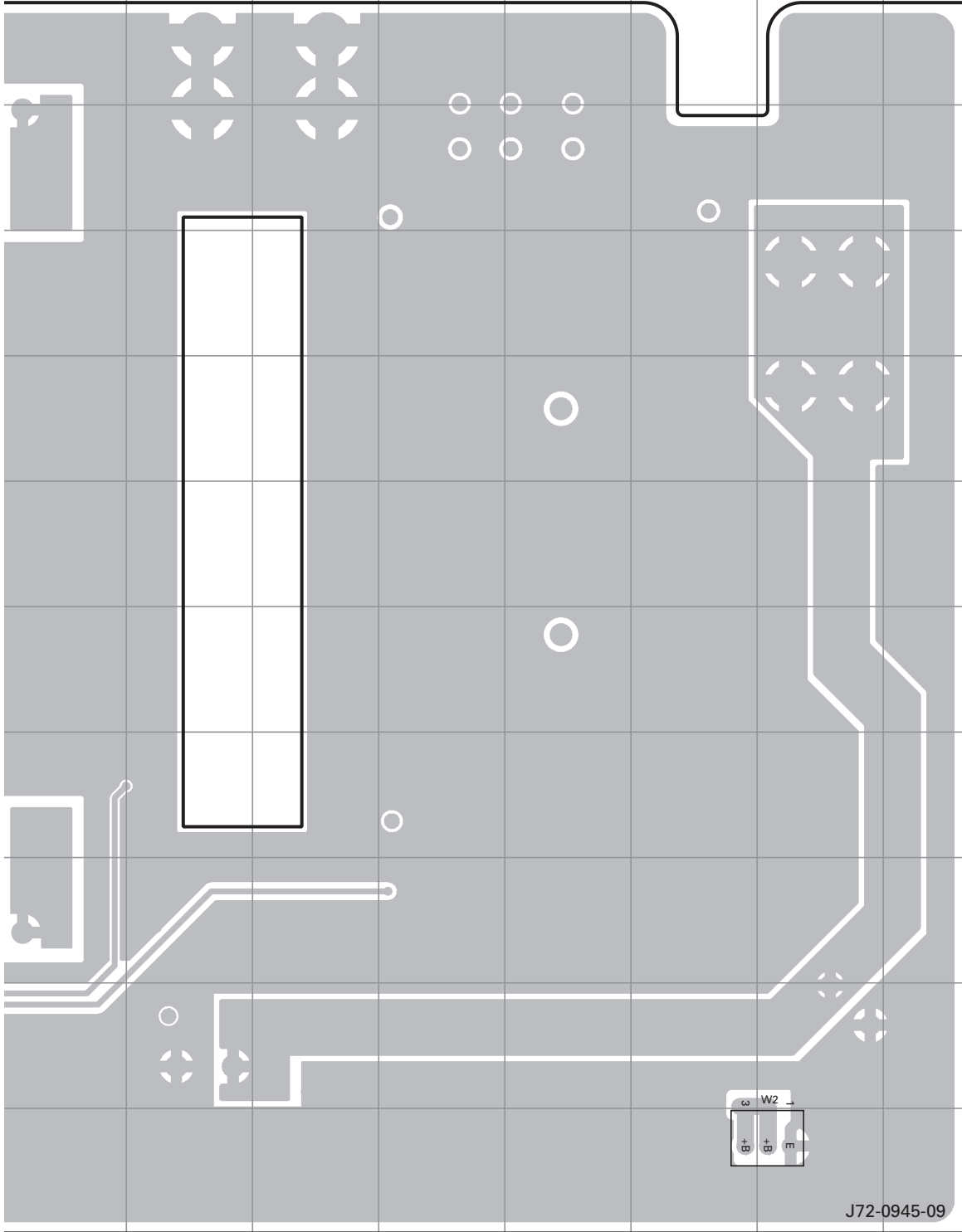


J K L M N O P Q R S

PC BOARD TK-5710(B)/5710H(B)

FINAL UNIT (X45-3760-10) : TK-5710H(B)

Foil side view (J72-0945-09)

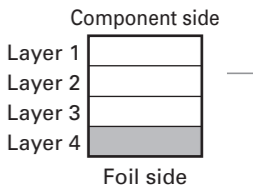
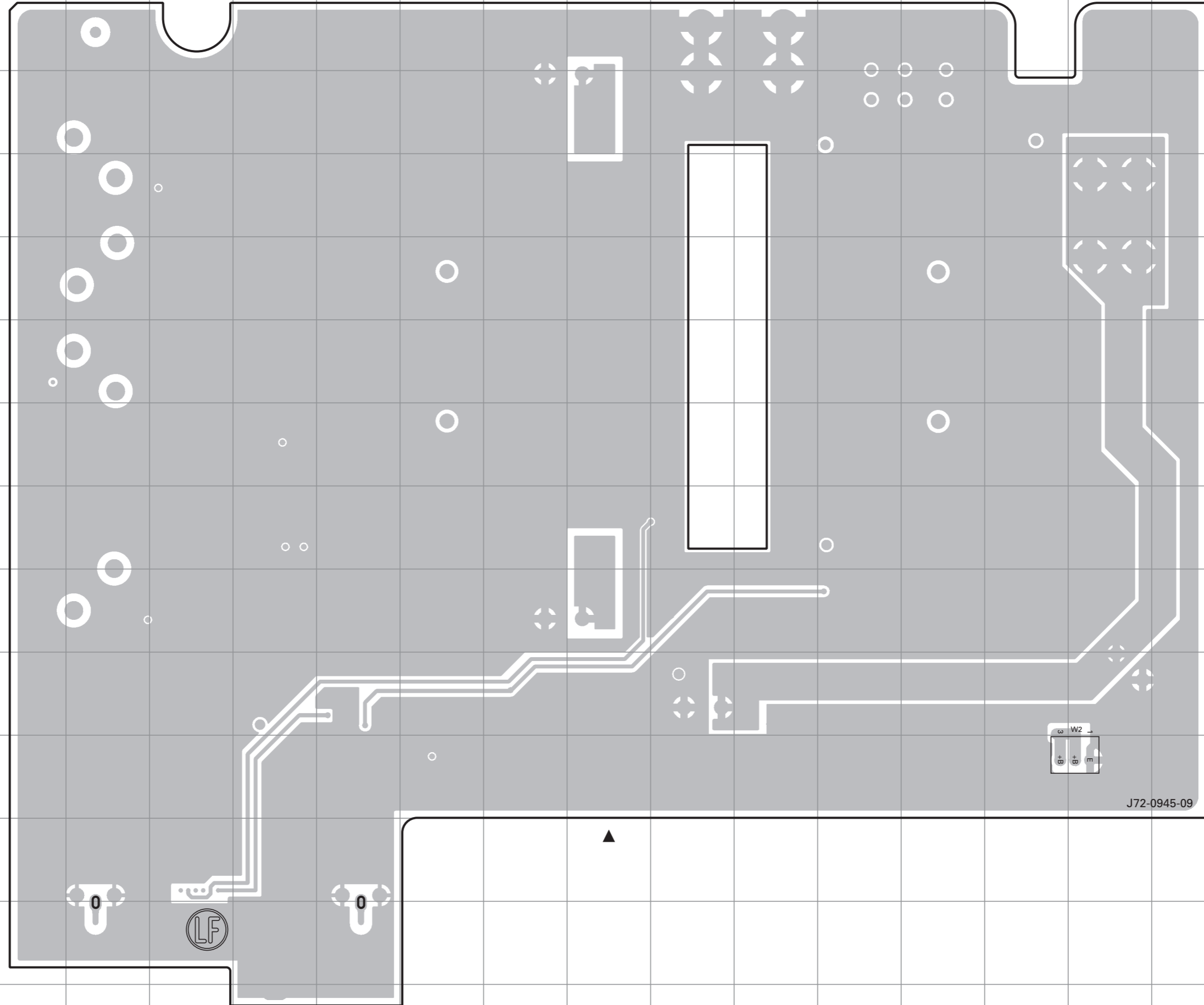


TK-5710(B)/5710H(B) PC BOARD

FINAL UNIT (X45-3760-10) : TK-5710H(B)
Foil side view (J72-0945-09)

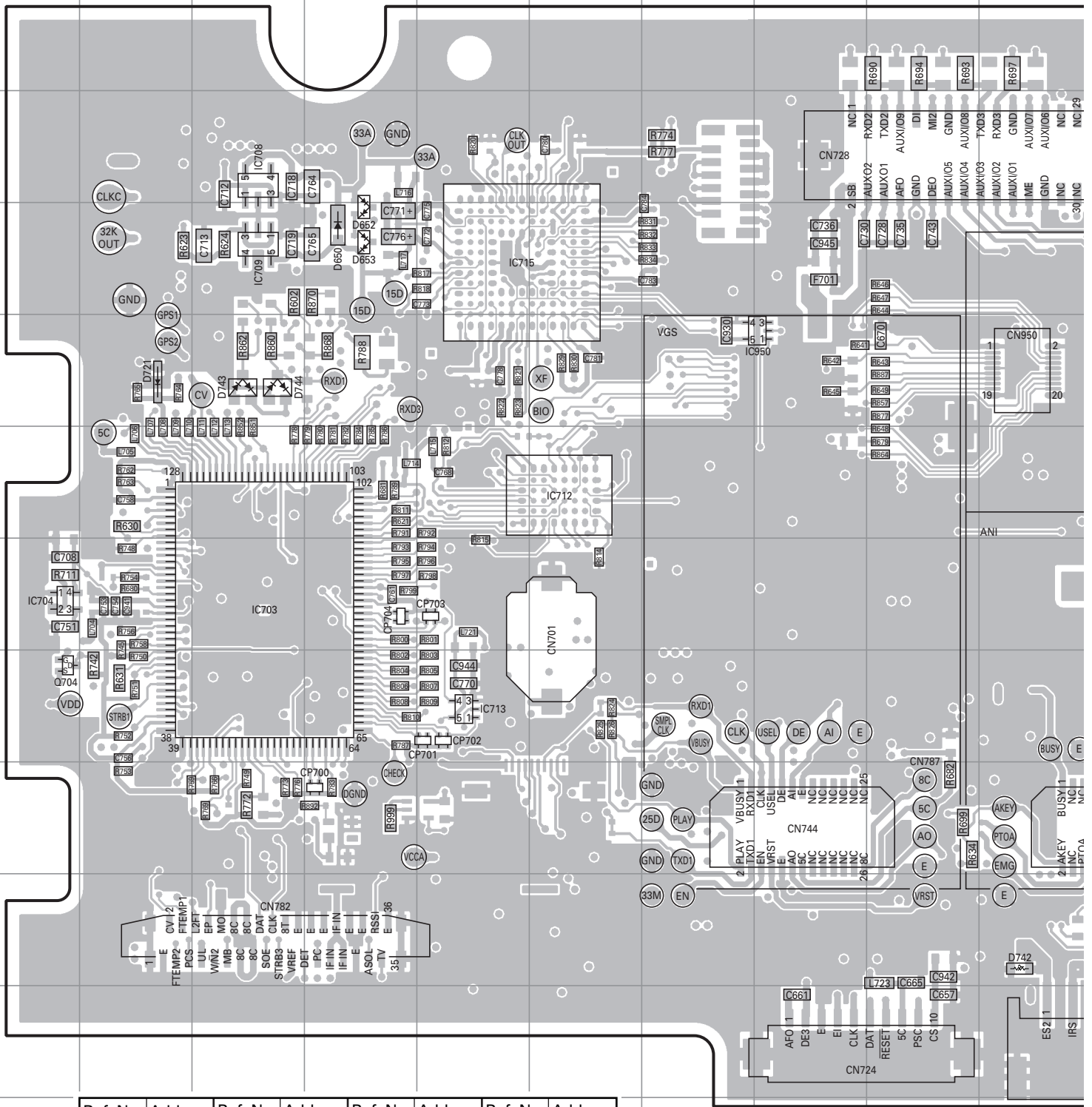
PC BOARD TK-5710(B)/5710H(B)

FINAL UNIT (X45-3760-10) : TK-5710H(B)
Foil side view (J72-0945-09)



TK-5710(B)/5710H(B) PC BOARD

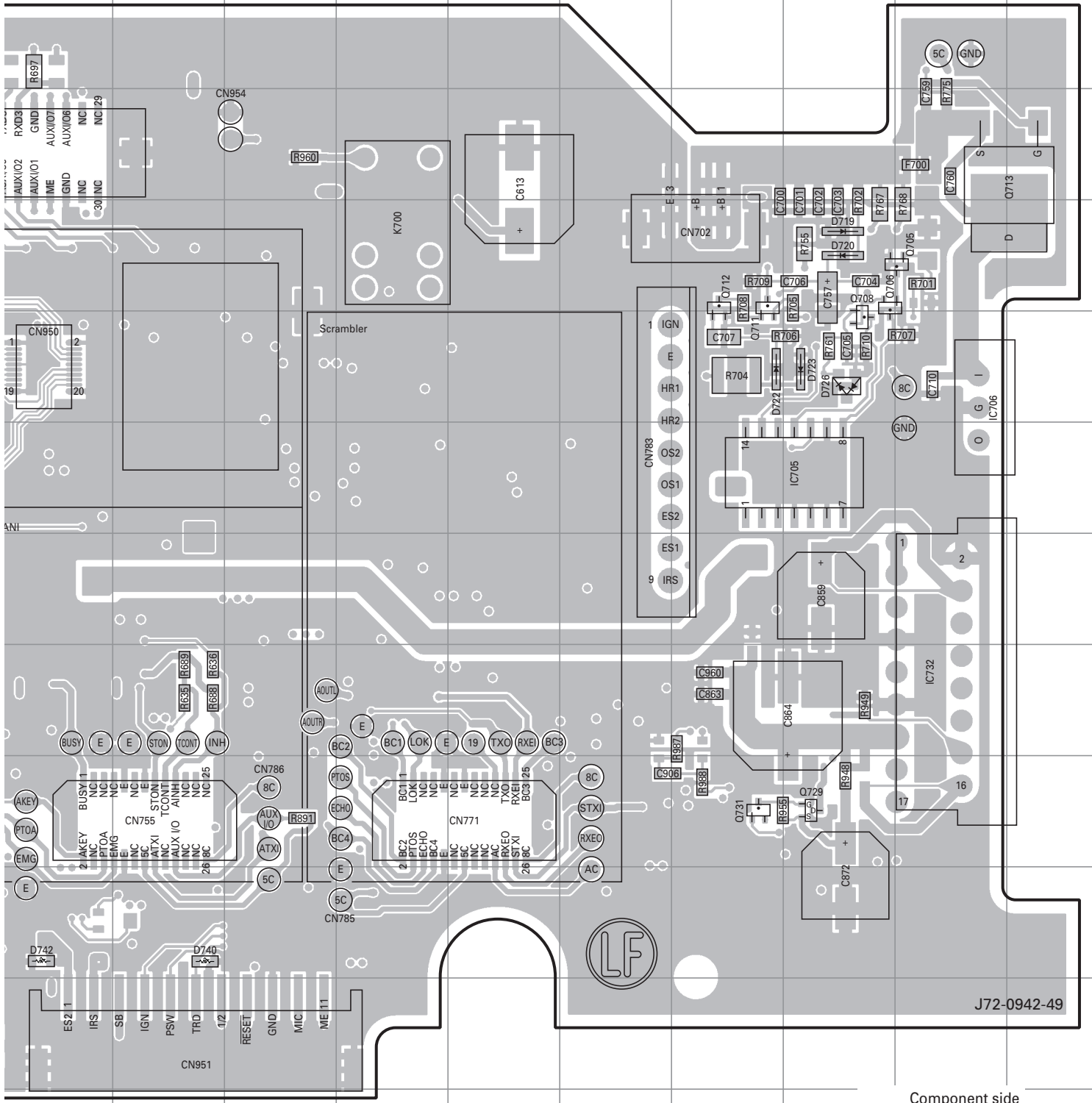
CONTROL UNIT (X53-4120-10)
Component side view (J72-0942-49)



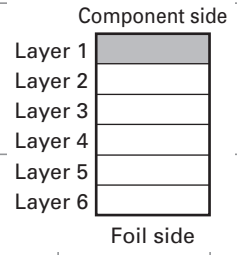
| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|
| IC703 | 7C | IC732 | 8R | Q729 | 9Q | D723 | 5Q |
| IC704 | 7A | IC950 | 5H | Q731 | 9P | D726 | 5Q |
| IC705 | 6Q | Q704 | 8A | D650 | 4D | D740 | 10K |
| IC706 | 5R | Q705 | 4R | D652 | 4D | D742 | 10J |
| IC708 | 3C | Q706 | 4Q | D653 | 4D | D743 | 5C |
| IC709 | 4C | Q708 | 5Q | D719 | 4Q | D744 | 5C |
| IC712 | 6F | Q711 | 4P | D720 | 4Q | | |
| IC713 | 8E | Q712 | 4P | D721 | 5B | | |
| IC715 | 4E | Q713 | 3S | D722 | 5P | | |

PC BOARD TK-5710(B)/5710H(B)

CONTROL UNIT (X53-4120-10)
Component side view (J72-0942-49)



J72-0942-49

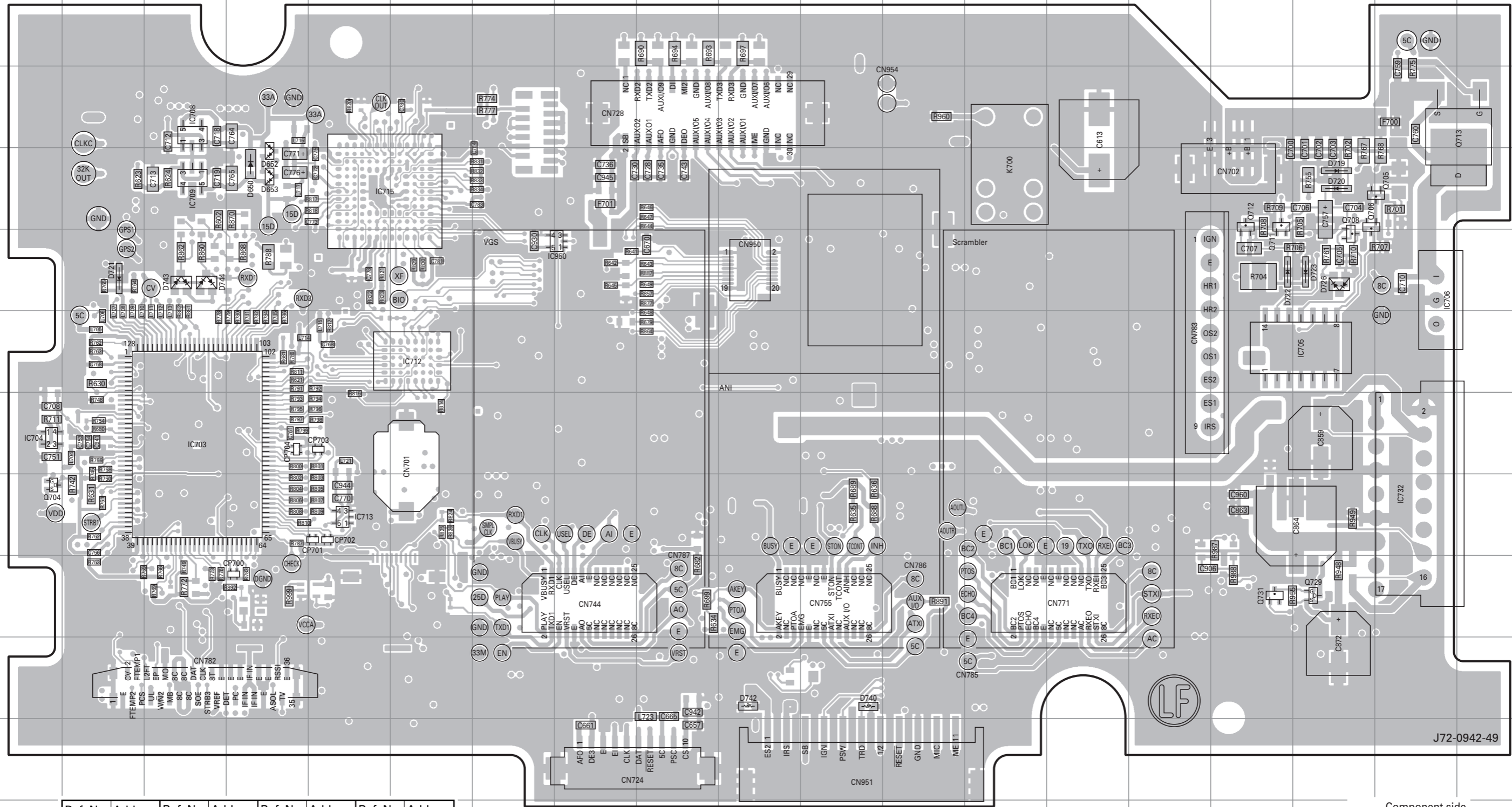


TK-5710(B)/5710H(B) PC BOARD

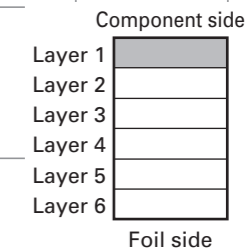
CONTROL UNIT (X53-4120-10)
Component side view (J72-0942-49)

PC BOARD TK-5710(B)/5710H(B)

CONTROL UNIT (X53-4120-10)
Component side view (J72-0942-49)



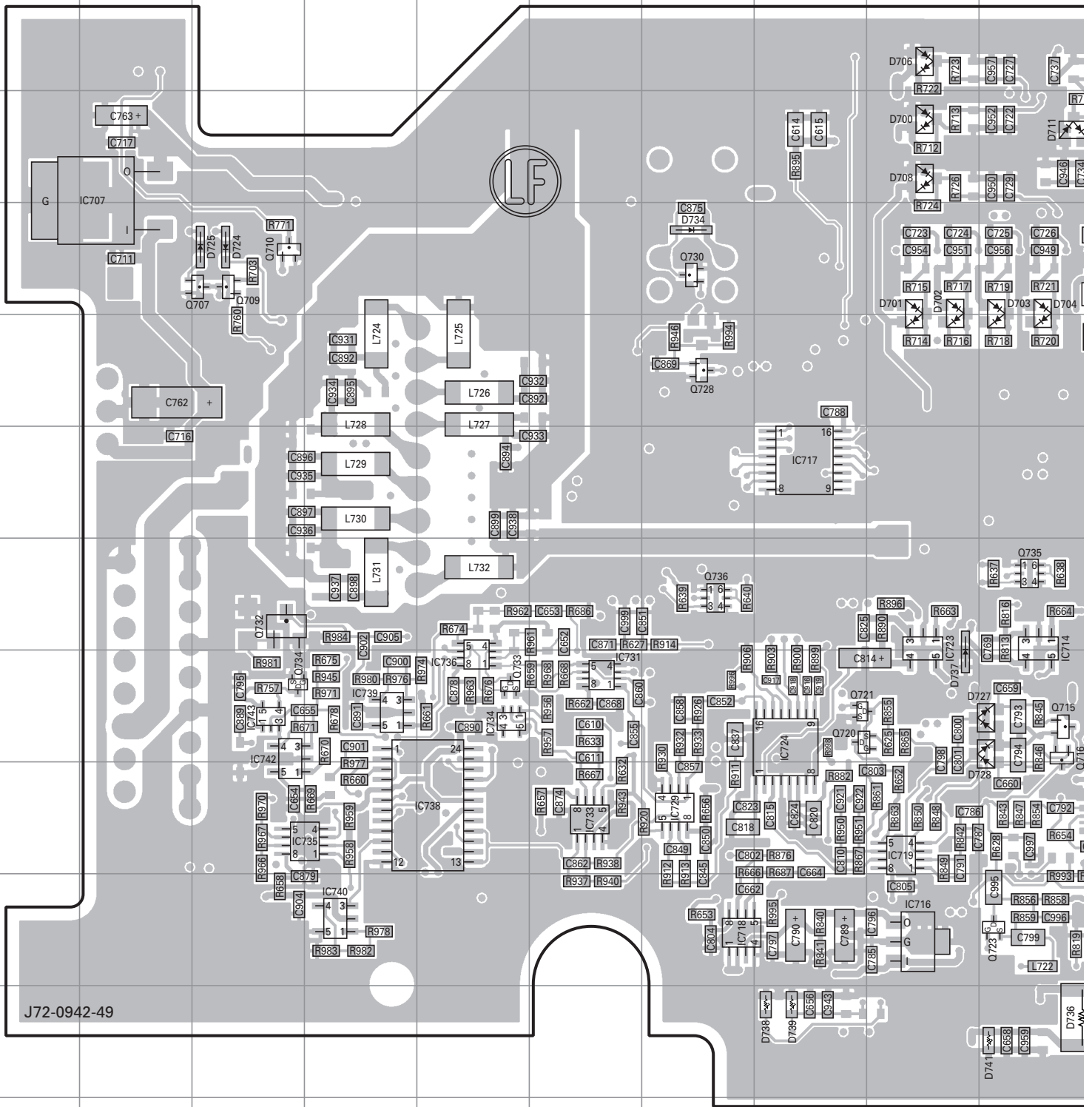
| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|
| IC703 | 7C | IC732 | 8R | Q729 | 9Q | D723 | 5Q |
| IC704 | 7A | IC950 | 5H | Q731 | 9P | D726 | 5Q |
| IC705 | 6Q | Q704 | 8A | D650 | 4D | D740 | 10K |
| IC706 | 5R | Q705 | 4R | D652 | 4D | D742 | 10J |
| IC708 | 3C | Q706 | 4Q | D653 | 4D | D743 | 5C |
| IC709 | 4C | Q708 | 5Q | D719 | 4Q | D744 | 5C |
| IC712 | 6F | Q711 | 4P | D720 | 4Q | | |
| IC713 | 8E | Q712 | 4P | D721 | 5B | | |
| IC715 | 4E | Q713 | 3S | D722 | 5P | | |



TK-5710(B)/5710H(B) PC BOARD

CONTROL UNIT (X53-4120-10)

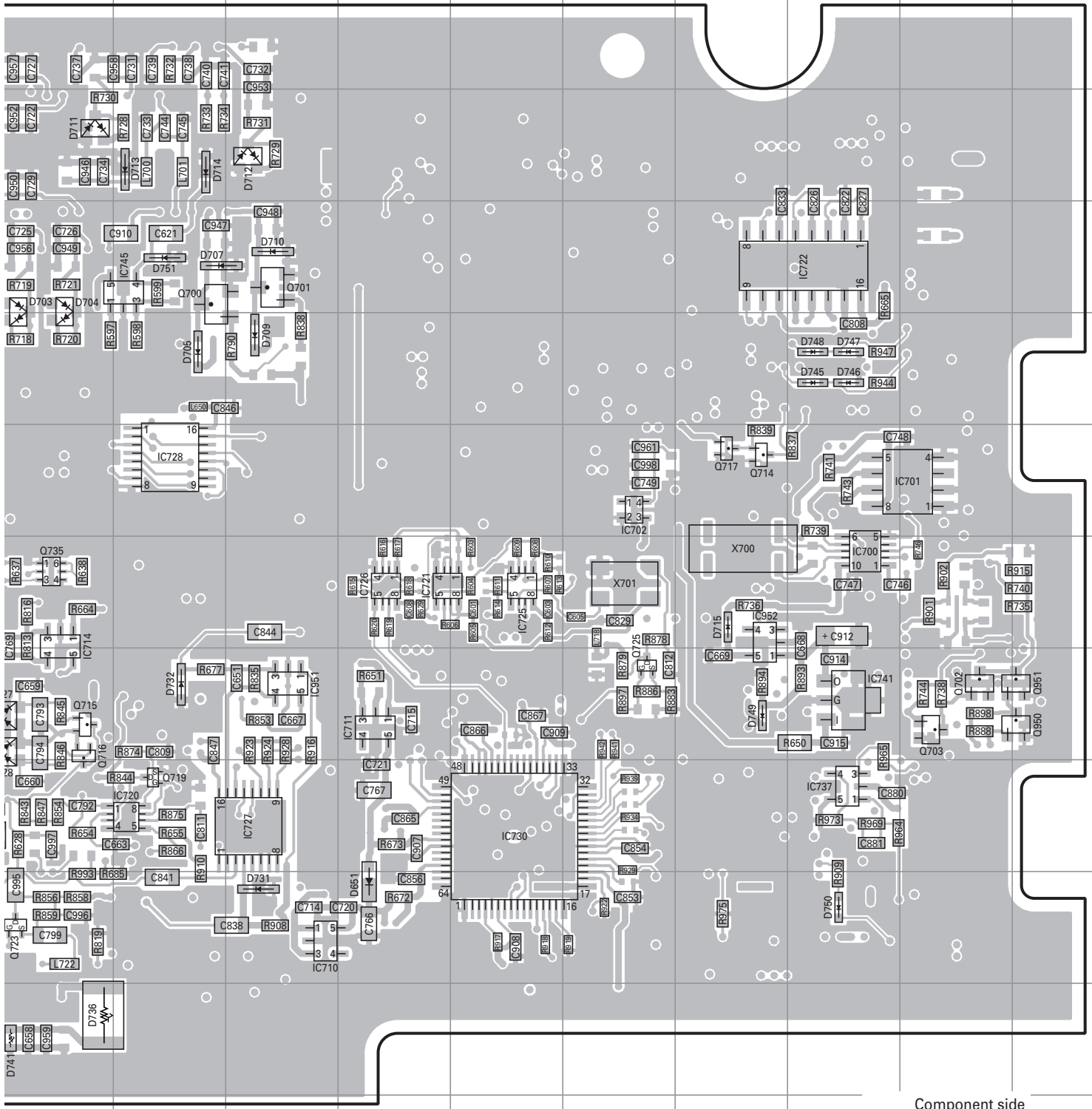
Foil side view (J72-0942-49)



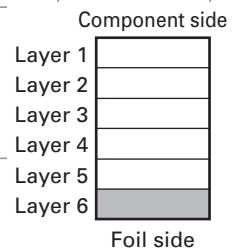
| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| IC700 | 7Q | IC716 | 10I | IC723 | 7I | IC730 | 9N | IC738 | 9E | IC951 | 8L | Q709 | 4C | Q720 | 8H |
| IC701 | 6R | IC717 | 6H | IC724 | 8H | IC731 | 8F | IC739 | 8D | IC952 | 7P | Q710 | 4C | Q721 | 8H |
| IC702 | 6O | IC718 | 10G | IC725 | 7N | IC733 | 9F | IC740 | 10D | Q700 | 4K | Q714 | 6P | Q723 | 10J |
| IC707 | 3B | IC719 | 9I | IC726 | 7M | IC734 | 8E | IC741 | 8Q | Q701 | 4L | Q715 | 8J | Q725 | 8O |
| IC710 | 10L | IC720 | 9K | IC727 | 9L | IC735 | 9D | IC742 | 8C | Q702 | 8R | Q716 | 8J | Q728 | 5G |
| IC711 | 8M | IC721 | 7M | IC728 | 6K | IC736 | 8E | IC743 | 8C | Q703 | 8R | Q717 | 6P | Q730 | 4G |
| IC714 | 7J | IC722 | 4Q | IC729 | 9G | IC737 | 9Q | IC745 | 4K | Q707 | 4C | Q719 | 9K | Q732 | 7C |
| | | | | | | | | | | | | | | D651 | 10M |

PC BOARD TK-5710(B)/5710H(B)

CONTROL UNIT (X53-4120-10)
Foil side view (J72-0942-49)



| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| Q733 | 8E | D700 | 3I | D707 | 4K | D714 | 4K | D732 | 8K | D745 | 5Q |
| Q734 | 8C | D701 | 4I | D708 | 3I | D715 | 7P | D734 | 4G | D746 | 5Q |
| Q735 | 7J | D702 | 4I | D709 | 5L | D724 | 4C | D736 | 11J | D747 | 5Q |
| Q736 | 7G | D703 | 4J | D710 | 4L | D725 | 4C | D737 | 8I | D748 | 5Q |
| Q950 | 8S | D704 | 4J | D711 | 3J | D727 | 8J | D738 | 11H | D749 | 8P |
| Q951 | 8S | D705 | 5K | D712 | 3L | D728 | 8J | D739 | 11H | D750 | 10Q |
| D651 | 10M | D706 | 2I | D713 | 4K | D731 | 10L | D741 | 11J | D751 | 4K |



TK-5710(B)/5710H(B) PC BOARD

CONTROL UNIT (X53-4120-10)
Foil side view (J72-0942-49)

PC BOARD TK-5710(B)/5710H(B)

CONTROL UNIT (X53-4120-10)
Foil side view (J72-0942-49)

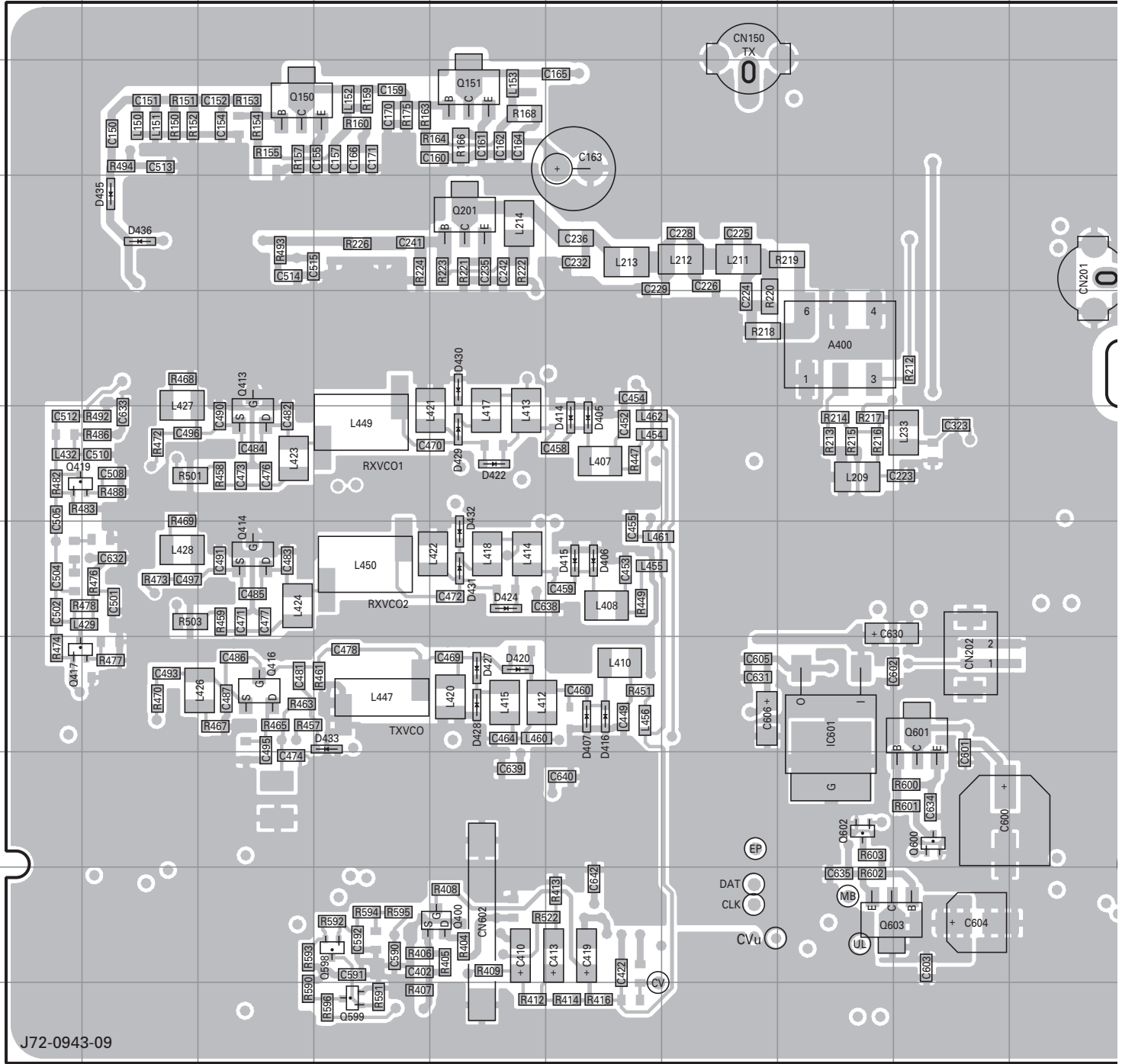


| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | | | | |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|------|-----|------|-----|
| IC700 | 7Q | IC716 | 10I | IC723 | 7I | IC730 | 9N | IC738 | 9E | IC951 | 8L | Q709 | 4C | Q720 | 8H | Q733 | 8E | D700 | 3I | D707 | 4K | D714 | 4K | D732 | 8K | D745 | 5Q |
| IC701 | 6R | IC717 | 6H | IC724 | 8H | IC731 | 8F | IC739 | 8D | IC952 | 7P | Q710 | 4C | Q721 | 8H | Q734 | 8C | D701 | 4I | D708 | 3I | D715 | 7P | D734 | 4G | D746 | 5Q |
| IC702 | 6O | IC718 | 10G | IC725 | 7N | IC733 | 9F | IC740 | 10D | Q700 | 4K | Q714 | 6P | Q723 | 10J | Q735 | 7J | D702 | 4I | D709 | 5L | D724 | 4C | D736 | 11J | D747 | 5Q |
| IC707 | 3B | IC719 | 9I | IC726 | 7M | IC734 | 8E | IC741 | 8Q | Q701 | 4L | Q715 | 8J | Q725 | 8O | Q736 | 7G | D703 | 4J | D710 | 4L | D725 | 4C | D737 | 8I | D748 | 5Q |
| IC710 | 10L | IC720 | 9K | IC727 | 9L | IC735 | 9D | IC742 | 8C | Q702 | 8R | Q716 | 8J | Q728 | 5G | Q950 | 8S | D704 | 4J | D711 | 3J | D727 | 8J | D738 | 11H | D749 | 8P |
| IC711 | 8M | IC721 | 7M | IC728 | 6K | IC736 | 8E | IC743 | 8C | Q703 | 8R | Q717 | 6P | Q730 | 4G | Q951 | 8S | D705 | 5K | D712 | 3L | D728 | 8J | D739 | 11H | D750 | 10Q |
| IC714 | 7J | IC722 | 4Q | IC729 | 9G | IC737 | 9Q | IC745 | 4K | Q707 | 4C | Q719 | 9K | Q732 | 7C | D651 | 10M | D706 | 2I | D713 | 4K | D731 | 10L | D741 | 11J | D751 | 4K |

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TK-5710(B)/5710H(B) PC BOARD

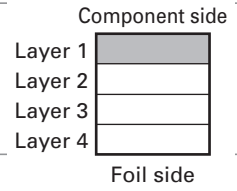
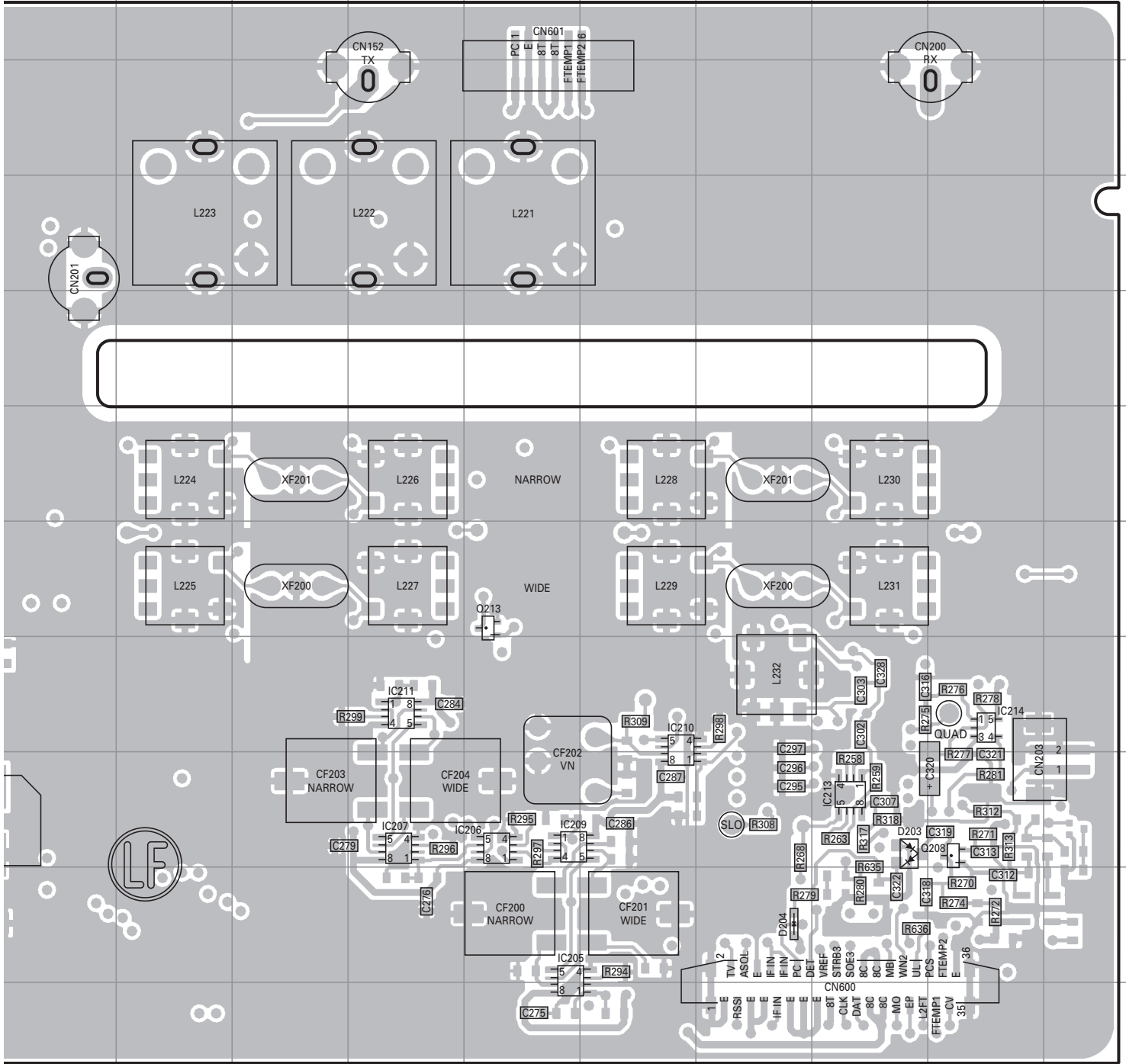
TX-RX UNIT (X57-7030-10)
Component side view (J72-0943-09)



| | | | | | | | | | | | |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
| IC205 | 10N | IC601 | 8H | Q414 | 7C | Q602 | 9H | D415 | 7F | D430 | 5E |
| IC206 | 9N | Q150 | 3C | Q416 | 8C | Q603 | 10H | D416 | 8F | D431 | 7E |
| IC207 | 9M | Q151 | 3E | Q417 | 8A | D203 | 9Q | D420 | 8E | D432 | 7E |
| IC209 | 9N | Q201 | 4E | Q419 | 6A | D204 | 10P | D422 | 6E | D433 | 8D |
| IC210 | 8O | Q208 | 9R | Q598 | 10D | D405 | 6F | D424 | 7E | D435 | 4B |
| IC211 | 8M | Q213 | 7N | Q599 | 11D | D406 | 7F | D427 | 8E | D436 | 4B |
| IC213 | 9Q | Q400 | 10E | Q600 | 9I | D407 | 8F | D428 | 8E | | |
| IC214 | 8R | Q413 | 6C | Q601 | 8I | D414 | 6F | D429 | 6E | | |

PC BOARD TK-5710(B)/5710H(B)

TX-RX UNIT (X57-7030-10)
Component side view (J72-0943-09)

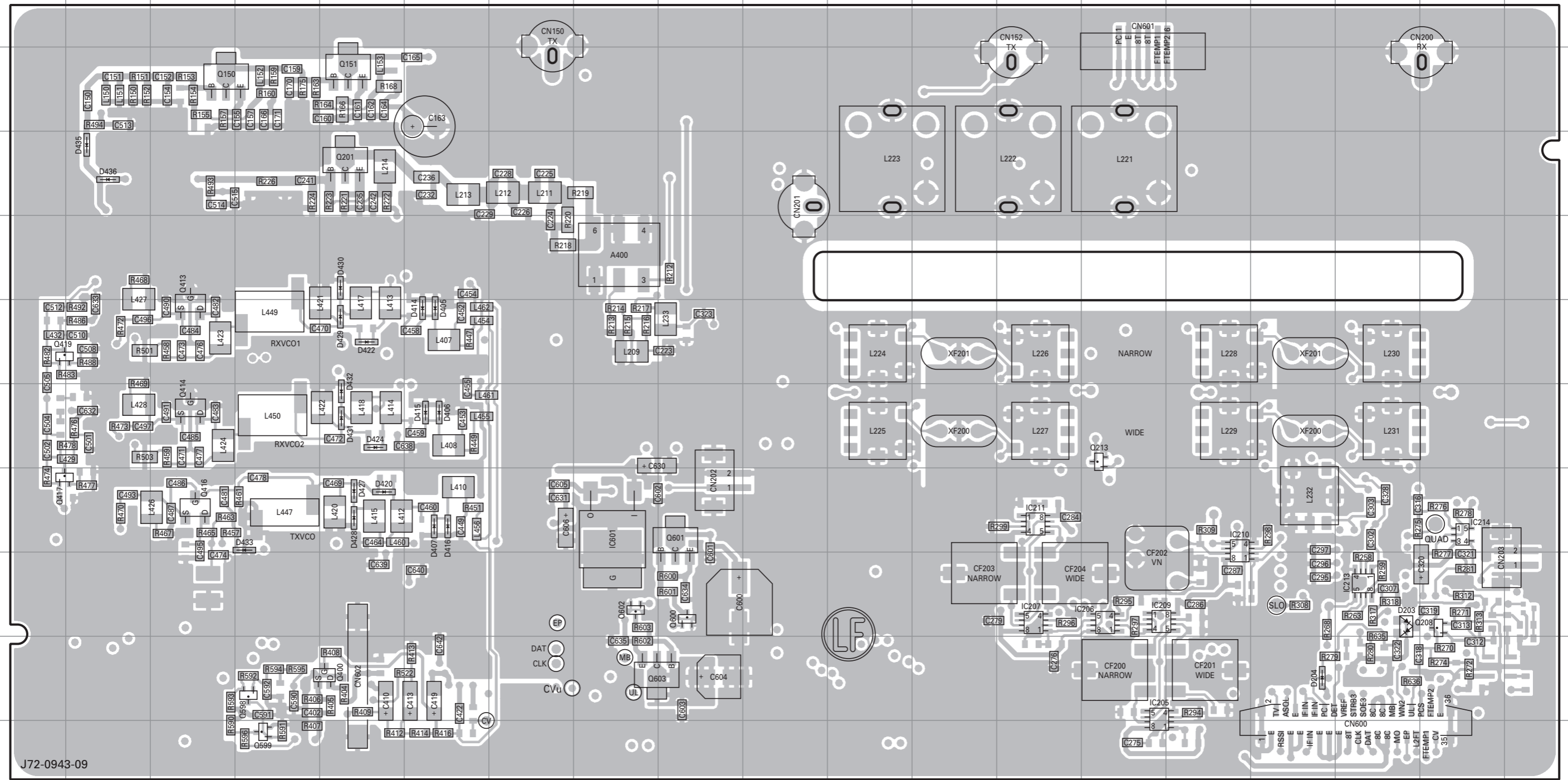


TK-5710(B)/5710H(B) PC BOARD

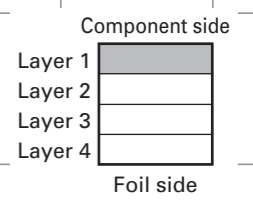
PC BOARD TK-5710(B)/5710H(B)

TX-RX UNIT (X57-7030-10)
Component side view (J72-0943-09)

TX-RX UNIT (X57-7030-10)
Component side view (J72-0943-09)

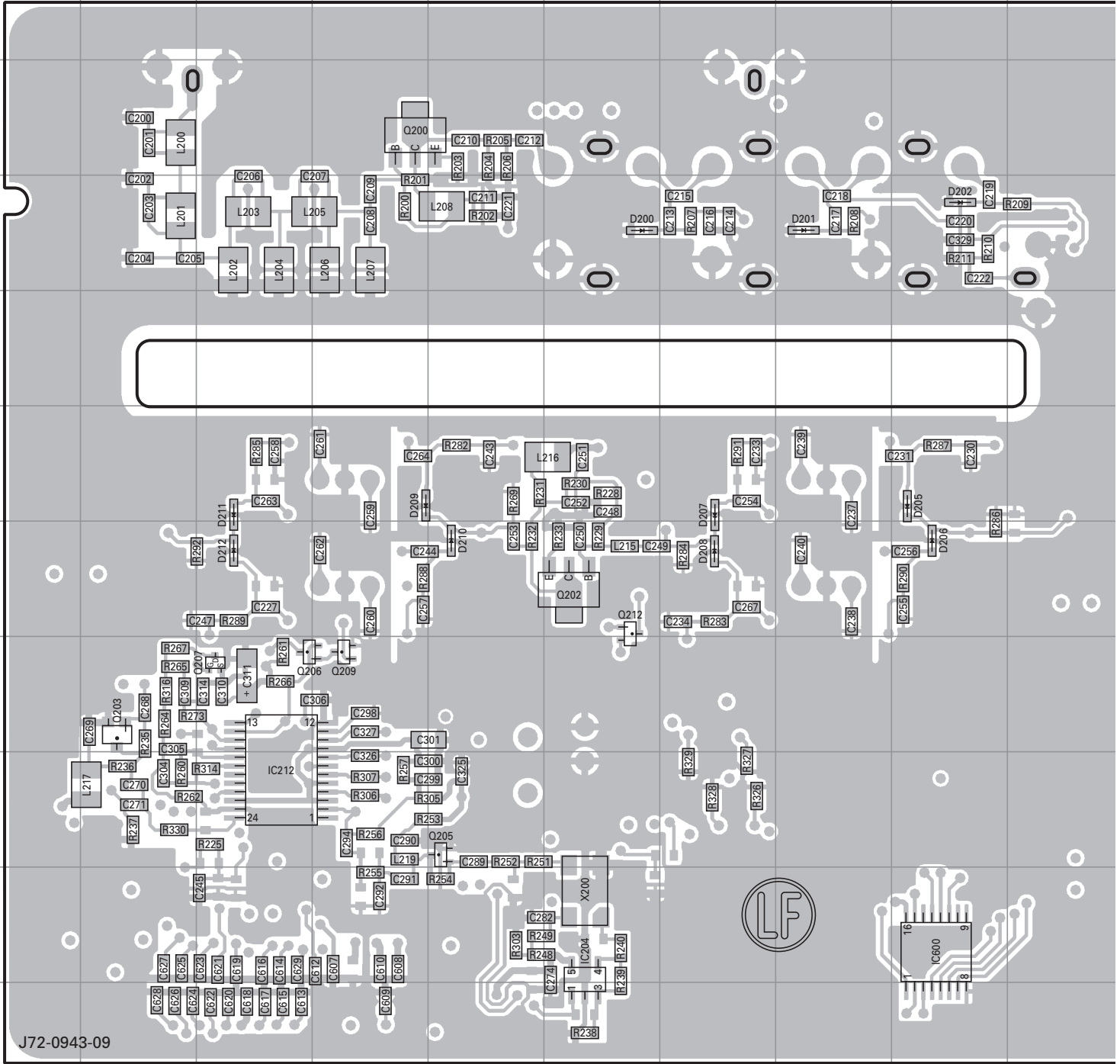


| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| IC205 | 10N | IC601 | 8H | Q414 | 7C | Q602 | 9H | D415 | 7F | D430 | 5E |
| IC206 | 9N | Q150 | 3C | Q416 | 8C | Q603 | 10H | D416 | 8F | D431 | 7E |
| IC207 | 9M | Q151 | 3E | Q417 | 8A | D203 | 9Q | D420 | 8E | D432 | 7E |
| IC209 | 9N | Q201 | 4E | Q419 | 6A | D204 | 10P | D422 | 6E | D433 | 8D |
| IC210 | 8O | Q208 | 9R | Q598 | 10D | D405 | 6F | D424 | 7E | D435 | 4B |
| IC211 | 8M | Q213 | 7N | Q599 | 11D | D406 | 7F | D427 | 8E | D436 | 4B |
| IC213 | 9Q | Q400 | 10E | Q600 | 9I | D407 | 8F | D428 | 8E | | |
| IC214 | 8R | Q413 | 6C | Q601 | 8I | D414 | 6F | D429 | 6E | | |



TK-5710(B)/5710H(B) PC BOARD

TX-RX UNIT (X57-7030-10)
Foil side view (J72-0943-09)

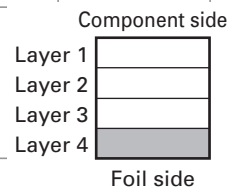
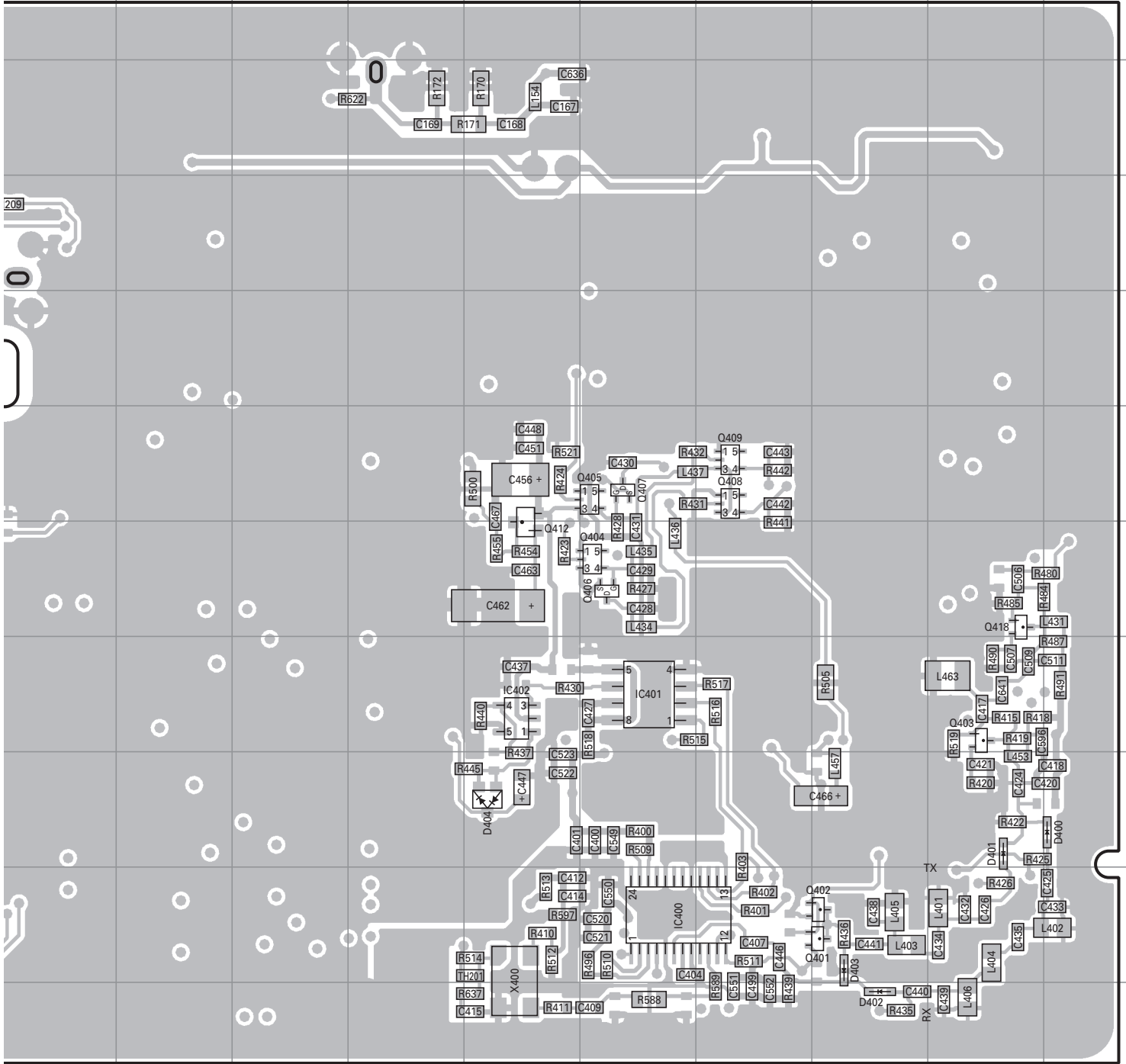


J72-0943-09

| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| IC204 | 10F | Q202 | 7F | Q401 | 10Q | Q408 | 6P | D205 | 6I | D212 | 7C |
| IC212 | 9C | Q203 | 8B | Q402 | 10Q | Q409 | 6P | D206 | 7I | D400 | 9S |
| IC400 | 10O | Q205 | 9E | Q403 | 8R | Q412 | 7N | D207 | 6G | D401 | 9R |
| IC401 | 8O | Q206 | 8C | Q404 | 7O | Q418 | 7R | D208 | 7G | D402 | 11Q |
| IC402 | 8N | Q207 | 8C | Q405 | 6O | D200 | 4F | D209 | 6D | D403 | 10Q |
| IC600 | 10I | Q209 | 8D | Q406 | 7O | D201 | 4H | D210 | 7E | D404 | 9N |
| Q200 | 3D | Q212 | 7F | Q407 | 6O | D202 | 4I | D211 | 6C | | |

PC BOARD TK-5710(B)/5710H(B)

TX-RX UNIT (X57-7030-10)
Foil side view (J72-0943-09)

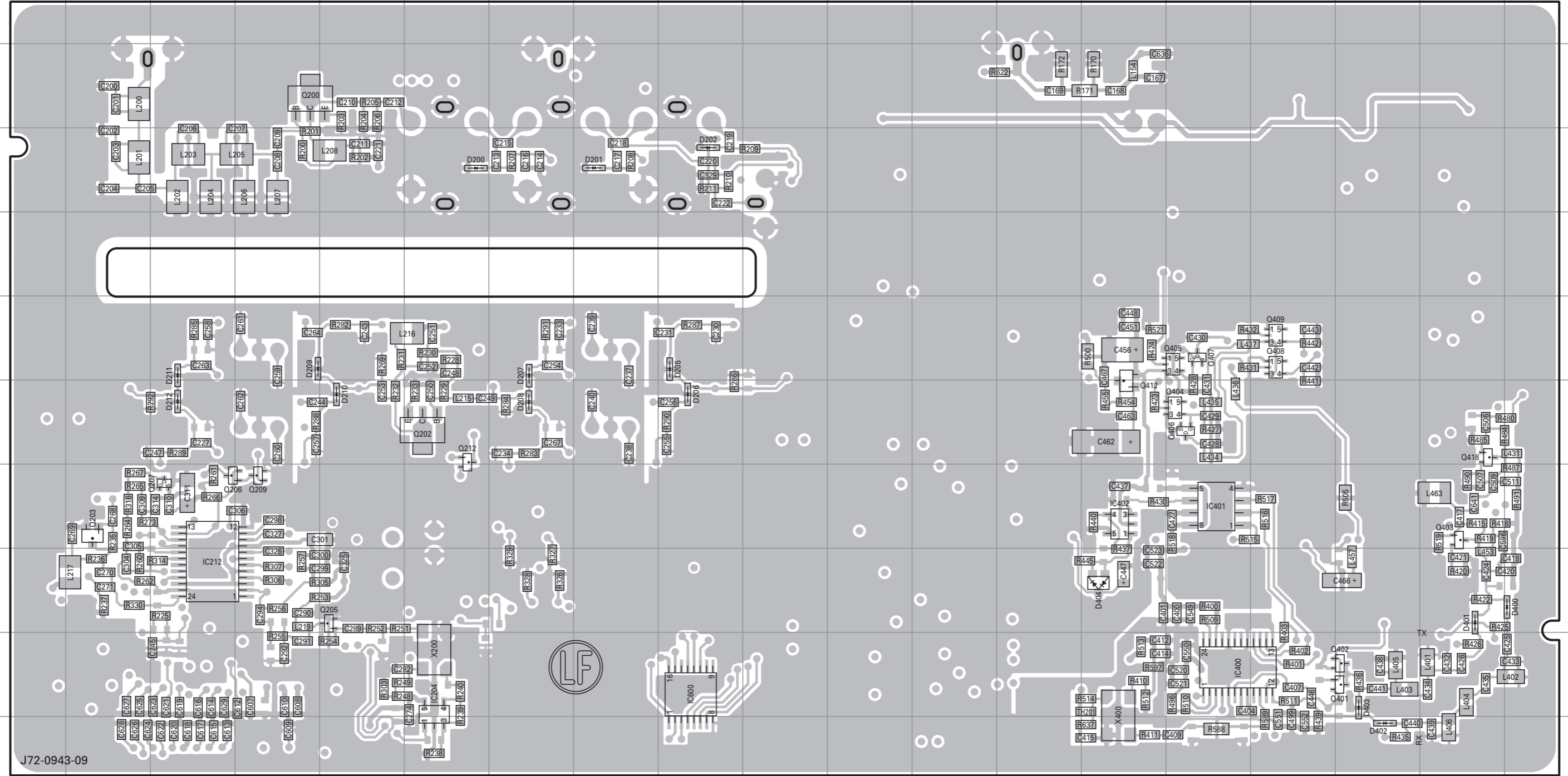


TK-5710(B)/5710H(B) PC BOARD

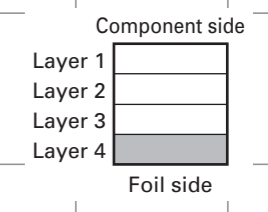
PC BOARD TK-5710(B)/5710H(B)

TX-RX UNIT (X57-7030-10)
Foil side view (J72-0943-09)

TX-RX UNIT (X57-7030-10)
Foil side view (J72-0943-09)

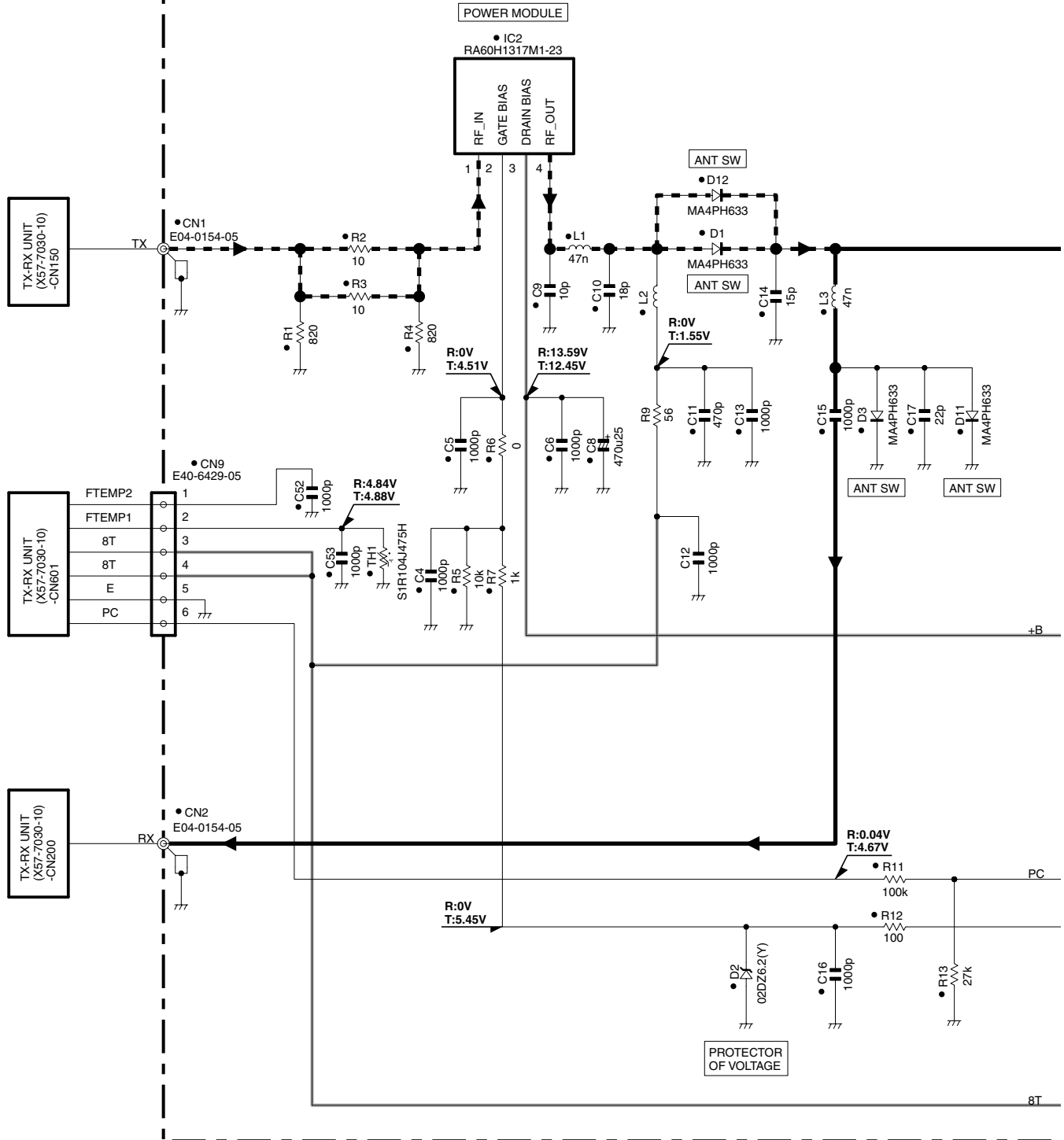


| Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address | Ref. No. | Address |
|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| IC204 | 10F | Q202 | 7F | Q401 | 10Q | Q408 | 6P | D205 | 6I | D212 | 7C |
| IC212 | 9C | Q203 | 8B | Q402 | 10Q | Q409 | 6P | D206 | 7I | D400 | 9S |
| IC400 | 10O | Q205 | 9E | Q403 | 8R | Q412 | 7N | D207 | 6G | D401 | 9R |
| IC401 | 8O | Q206 | 8C | Q404 | 7O | Q418 | 7R | D208 | 7G | D402 | 11Q |
| IC402 | 8N | Q207 | 8C | Q405 | 6O | D200 | 4F | D209 | 6D | D403 | 10Q |
| IC600 | 10I | Q209 | 8D | Q406 | 7O | D201 | 4H | D210 | 7E | D404 | 9N |
| Q200 | 3D | Q212 | 7F | Q407 | 6O | D202 | 4I | D211 | 6C | | |



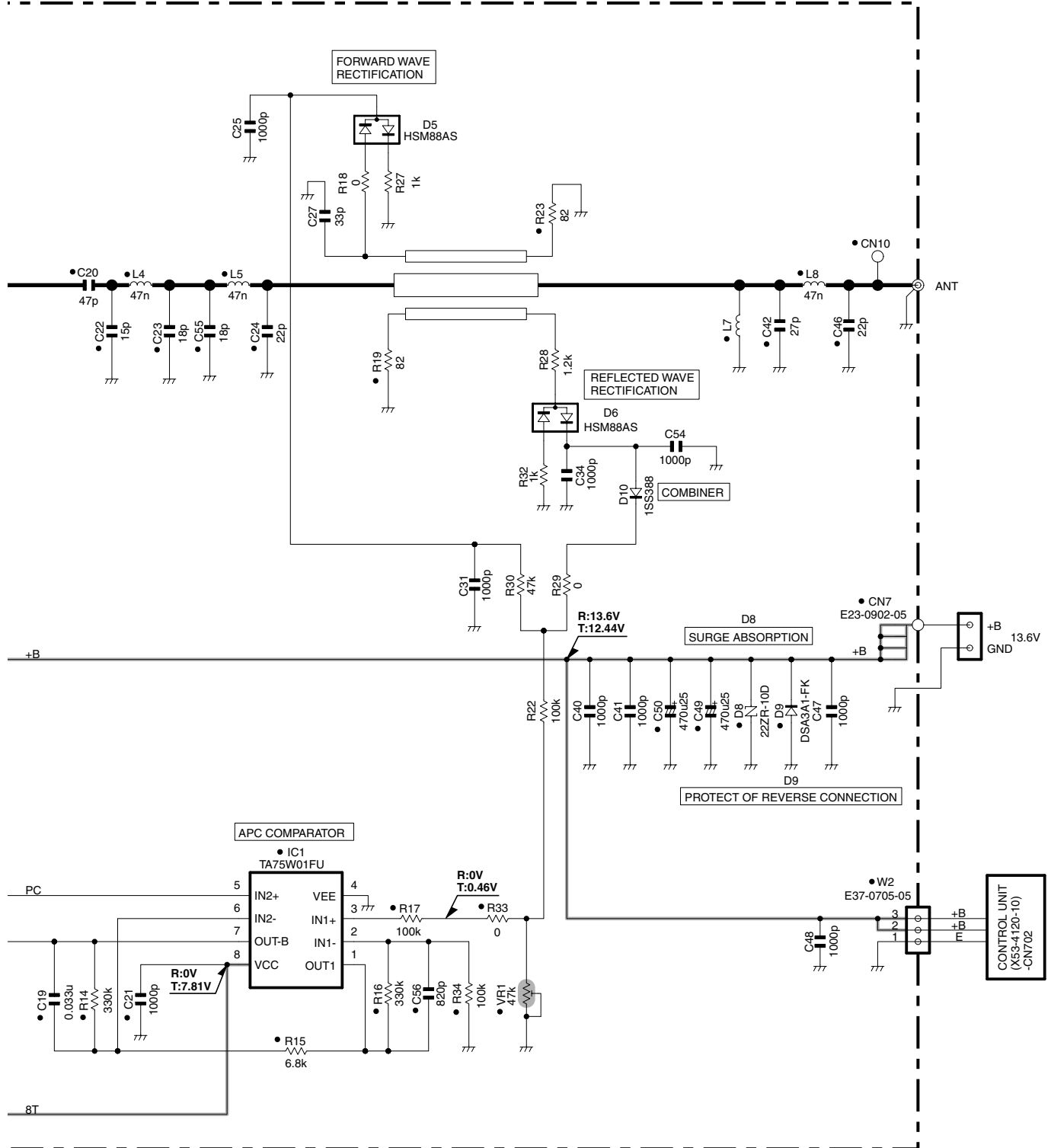
TK-5710(B) SCHEMATIC DIAGRAM

FINAL UNIT (X45-3750-10):TK-5710(B)



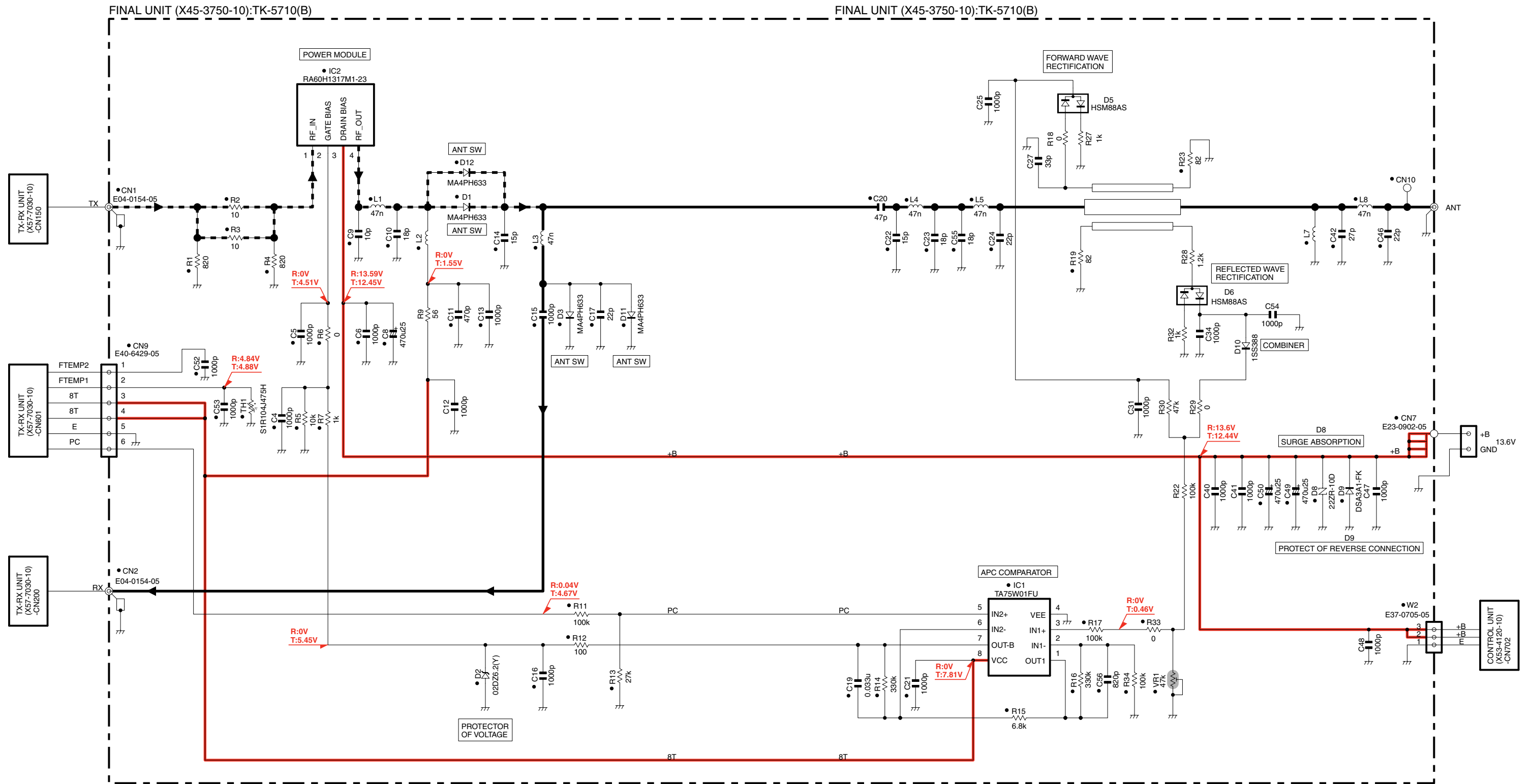
SCHEMATIC DIAGRAM TK-5710(B)

FINAL UNIT (X45-3750-10):TK-5710(B)



Note : The components marked with a dot (●) are parts of layer1.

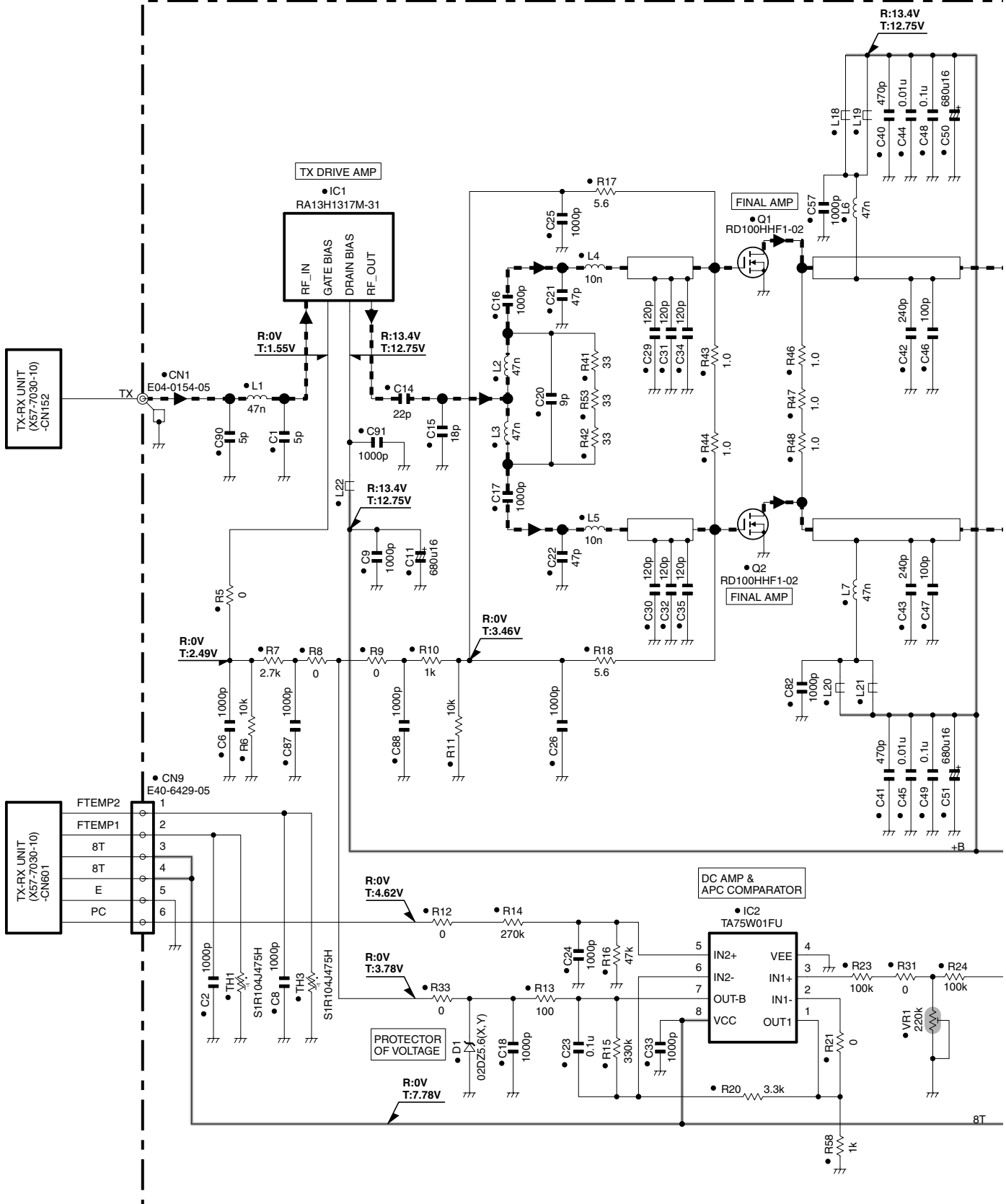
TK-5710(B) SCHEMATIC DIAGRAM



Note : The components marked with a dot (●) are parts of layer1.

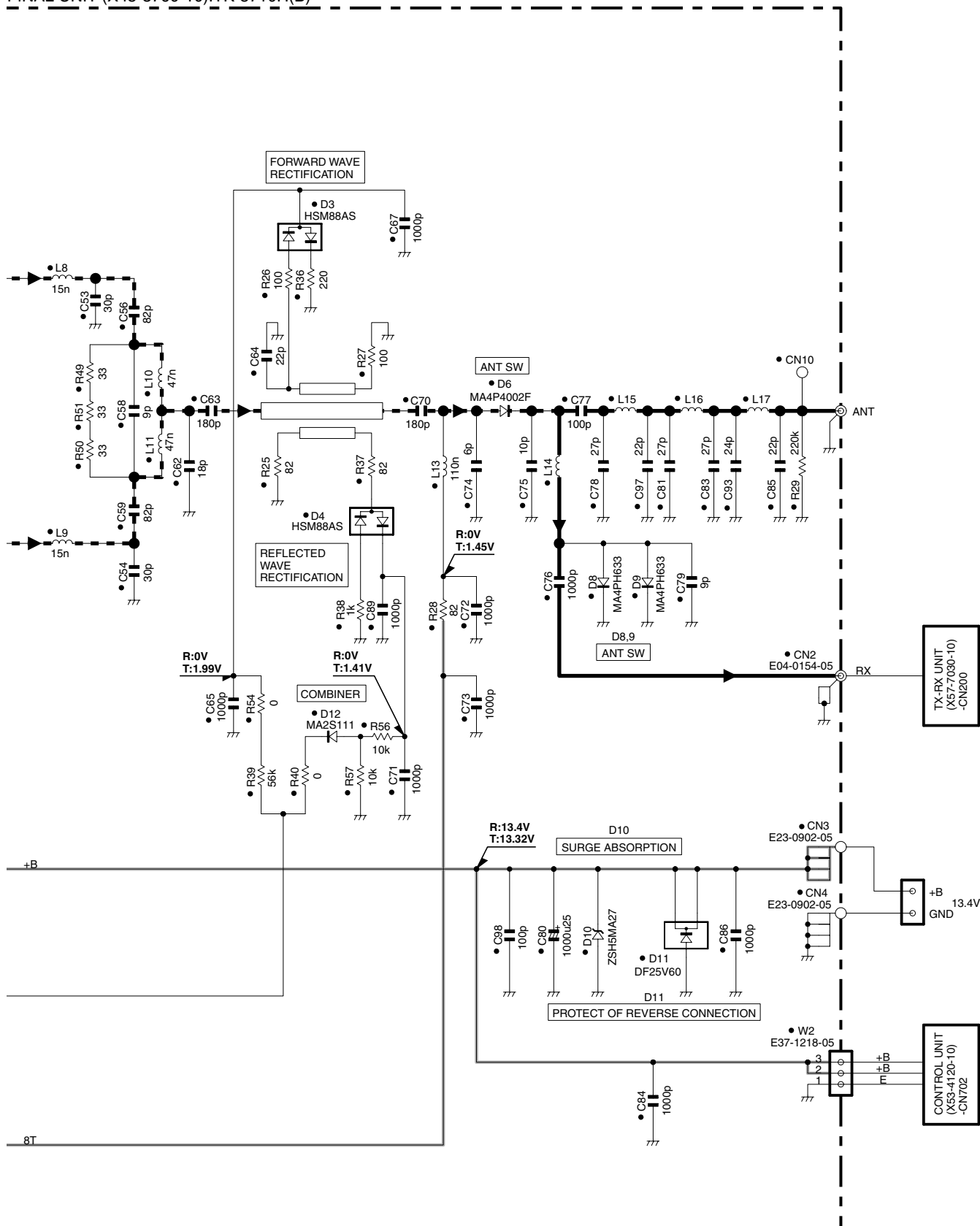
TK-5710H(B) SCHEMATIC DIAGRAM

FINAL UNIT (X45-3760-10):TK-5710H(B)



SCHEMATIC DIAGRAM TK-5710H(B)

FINAL UNIT (X45-3760-10):TK-5710H(B)

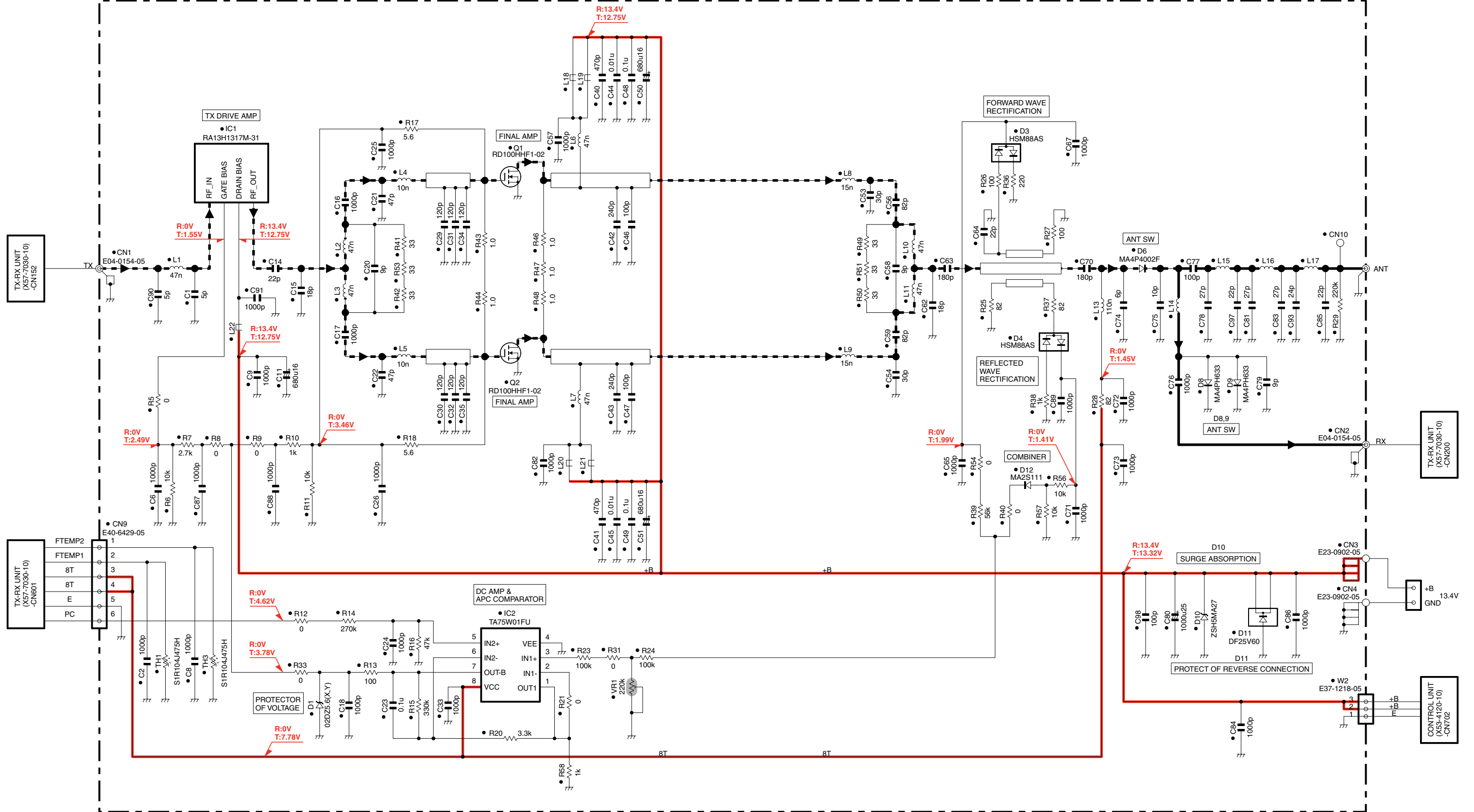


Note : The components marked with a dot (●) are parts of layer1.

TK-5710H(B) SCHEMATIC DIAGRAM

FINAL UNIT (X45-3760-10):TK-5710H(B)

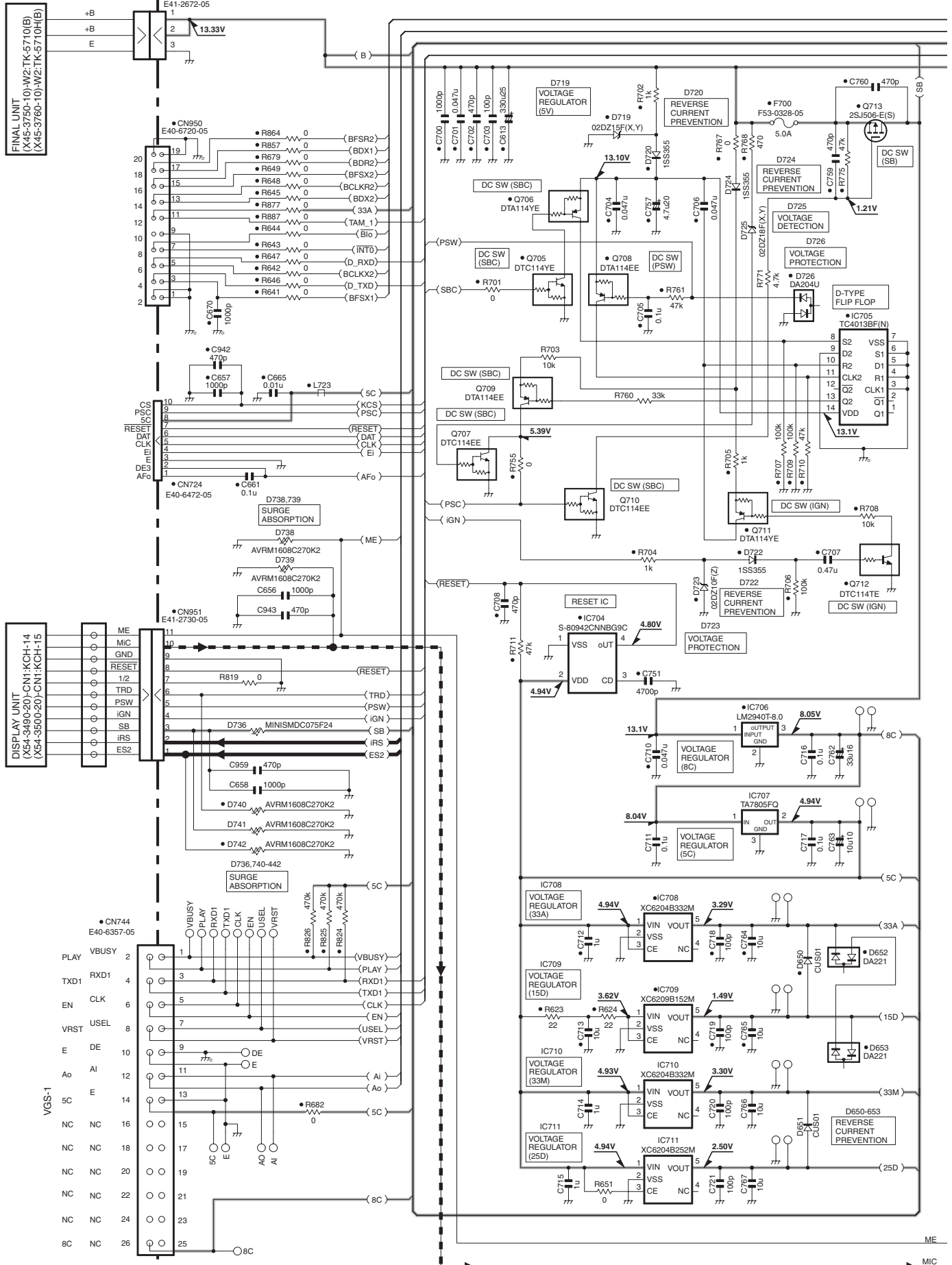
FINAL UNIT (X45-3760-10):TK-5710H(B)



Note : The components marked with a dot (●) are parts of layer1.

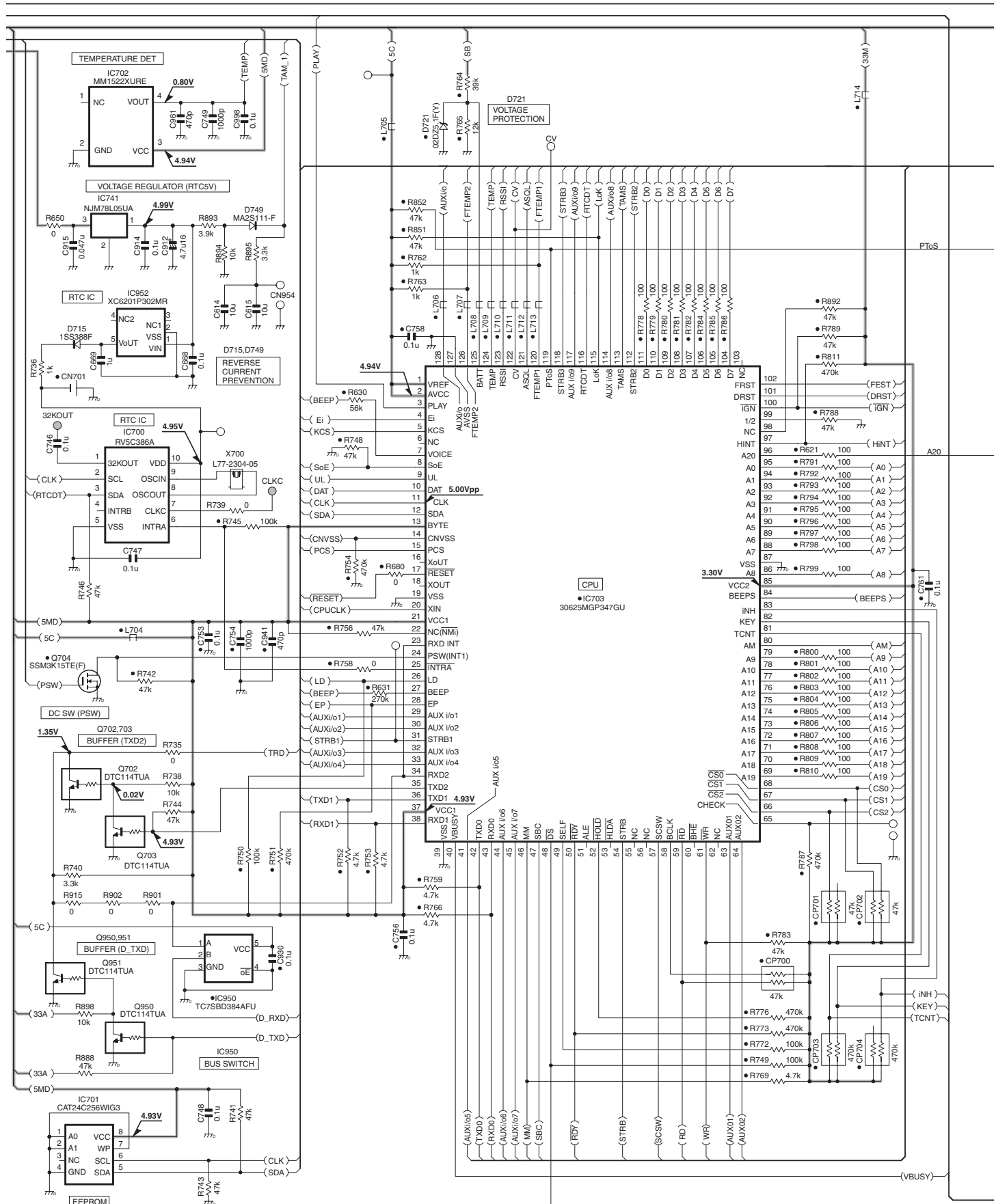
TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

CONTROL UNIT (X53-4120-10)



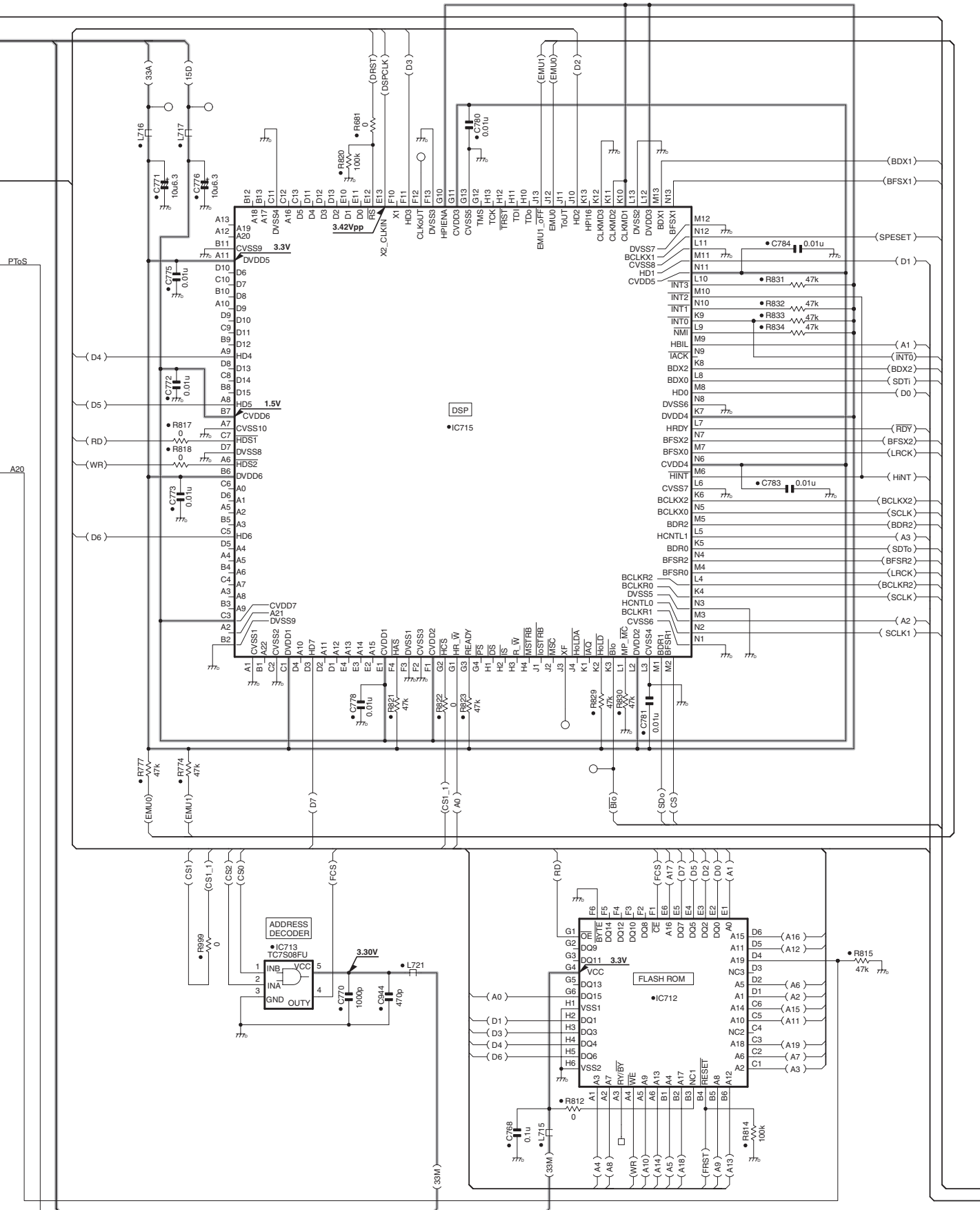
SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

CONTROL UNIT(X53-4120-10)



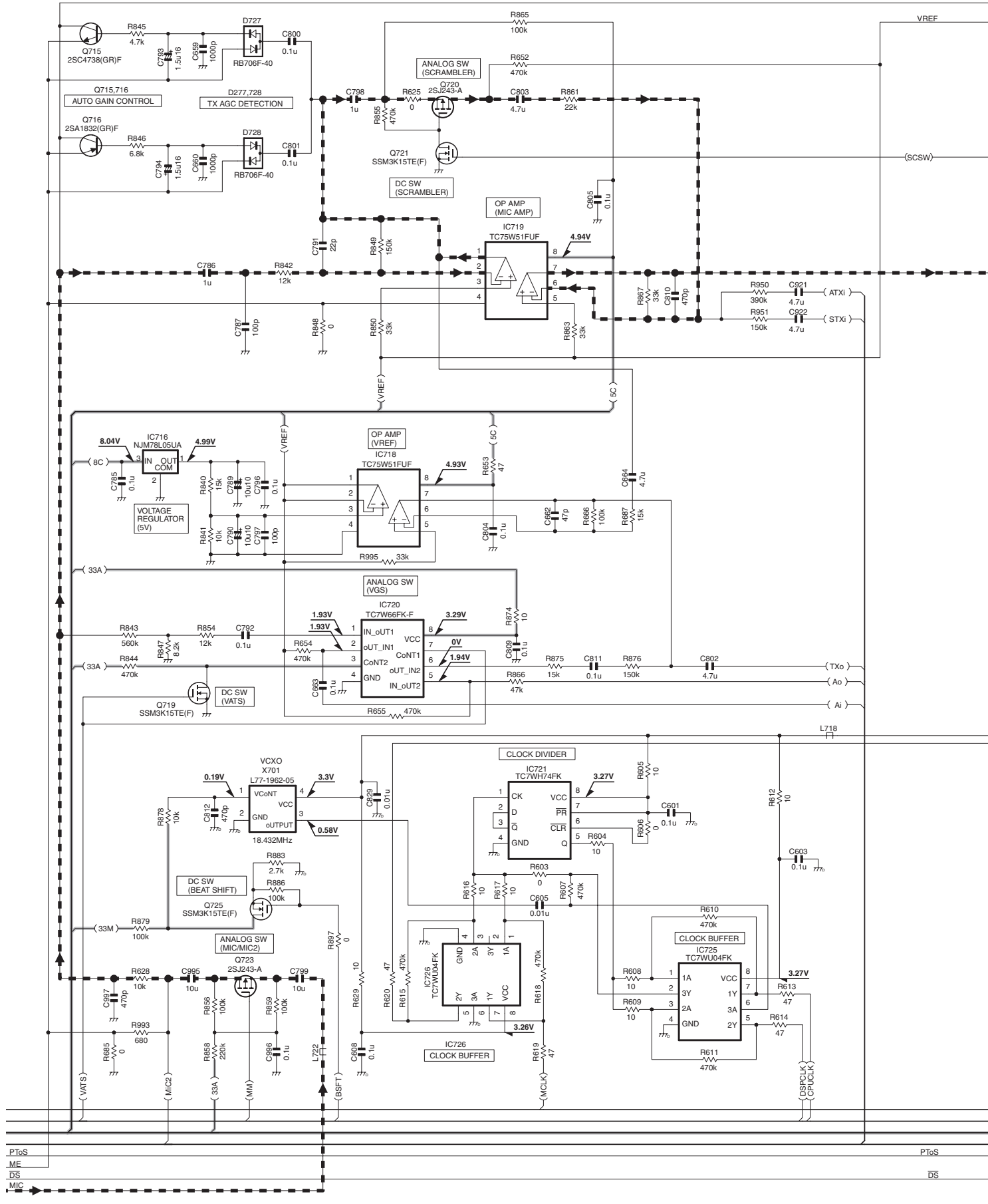
TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

CONTROL UNIT(X53-4120-10)



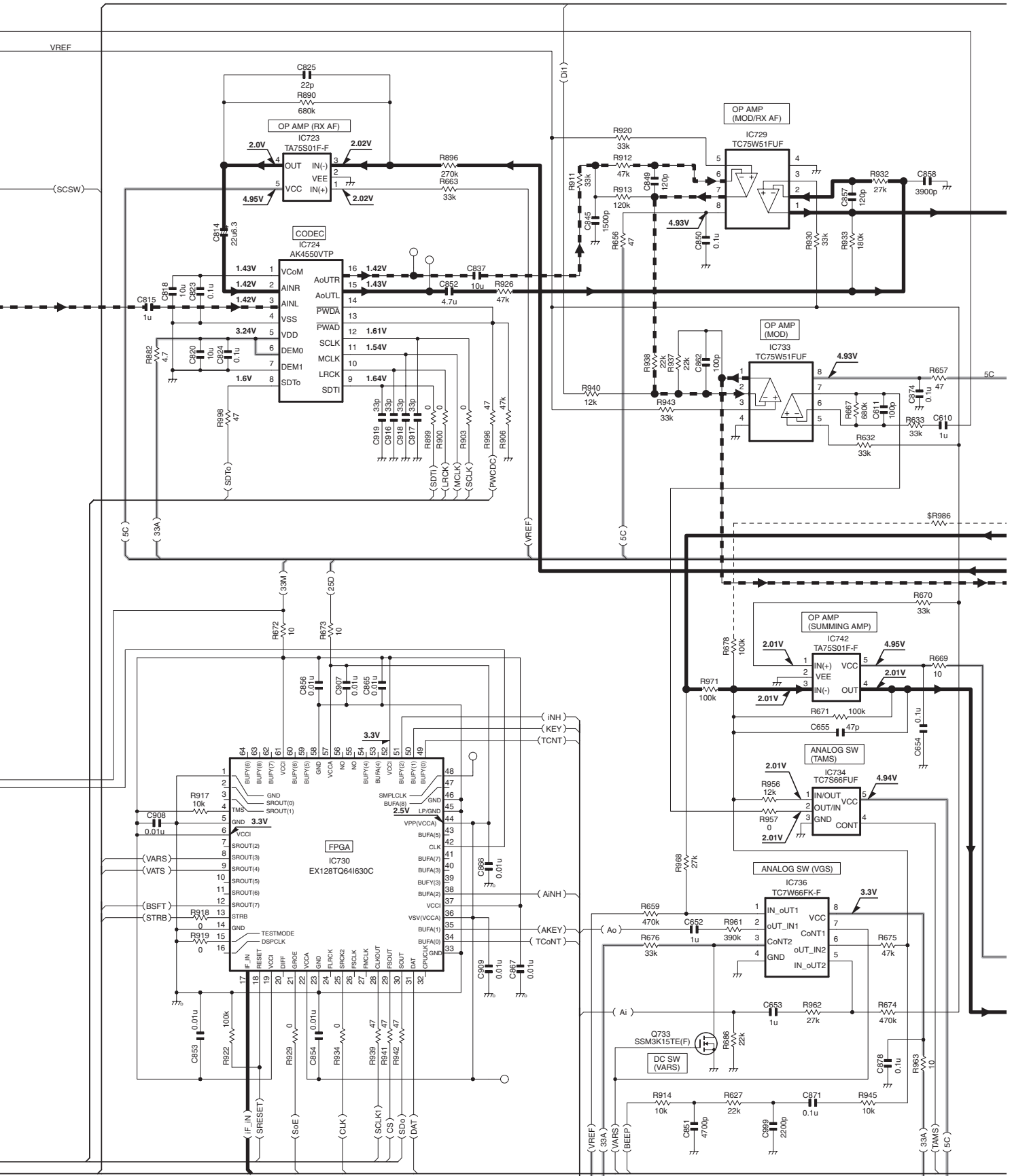
SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

CONTROL UNIT(X53-4120-10)



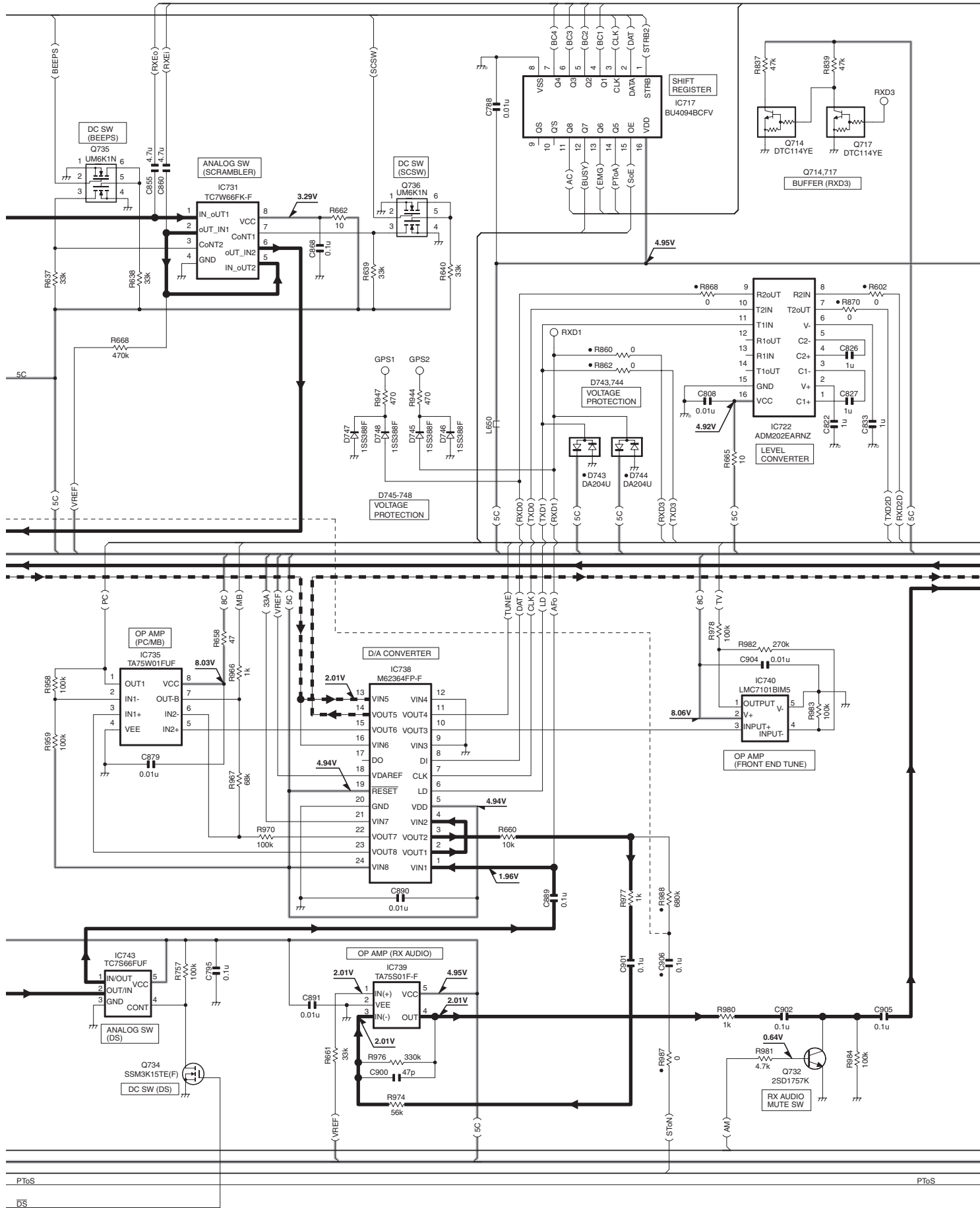
TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

CONTROL UNIT(X53-4120-10)



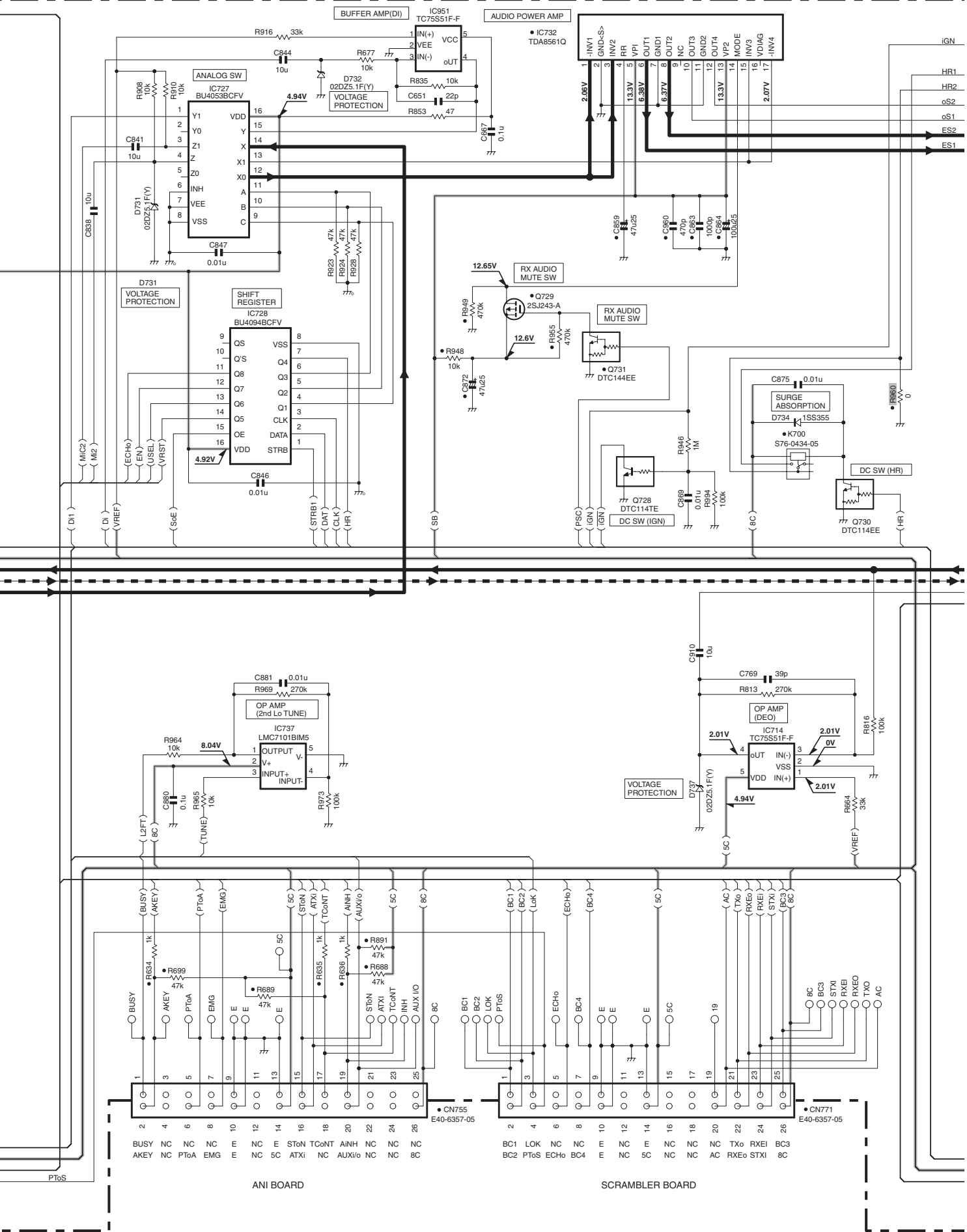
SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

CONTROL UNIT(X53-4120-10)



TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

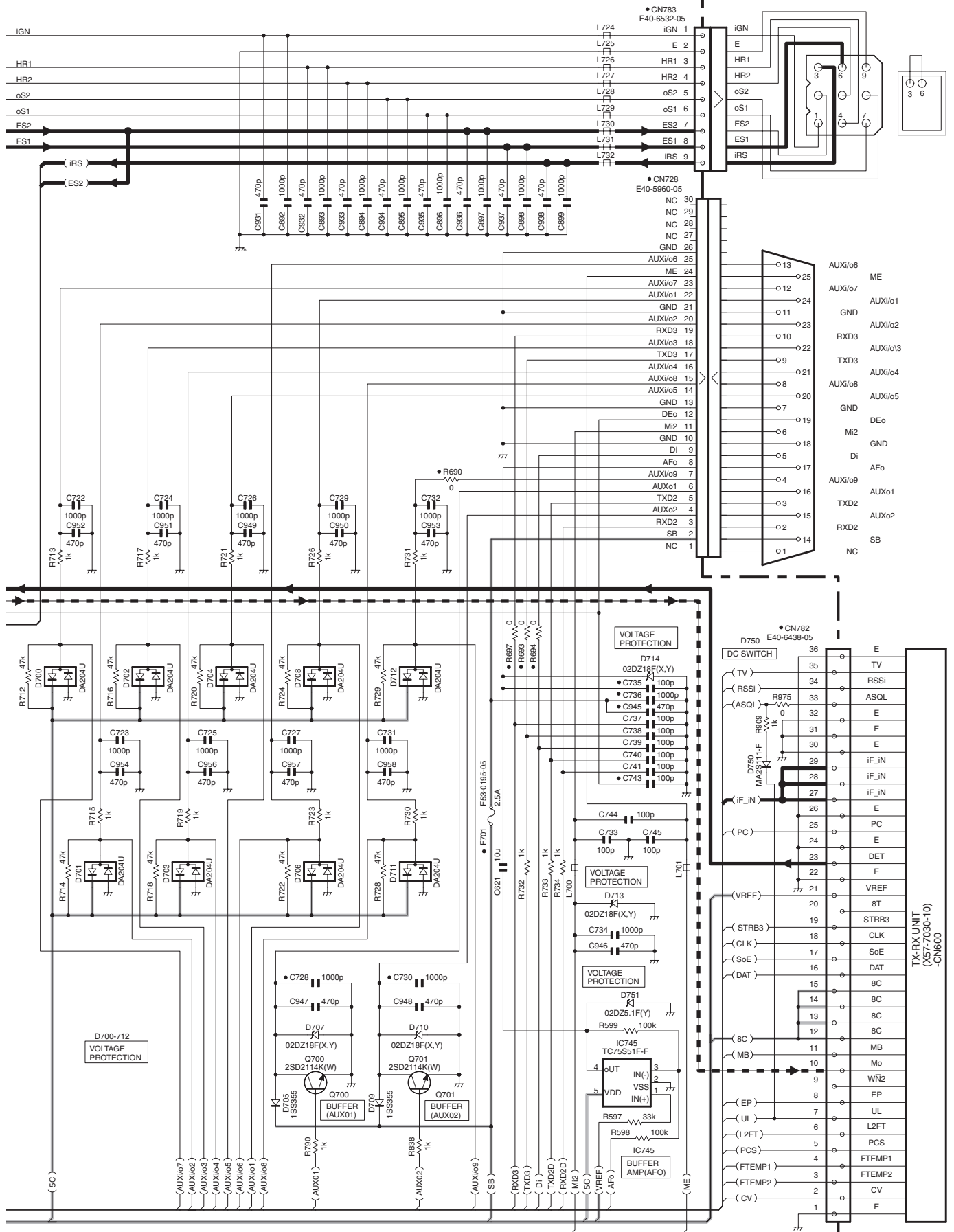
CONTROL UNIT(X53-4120-10)

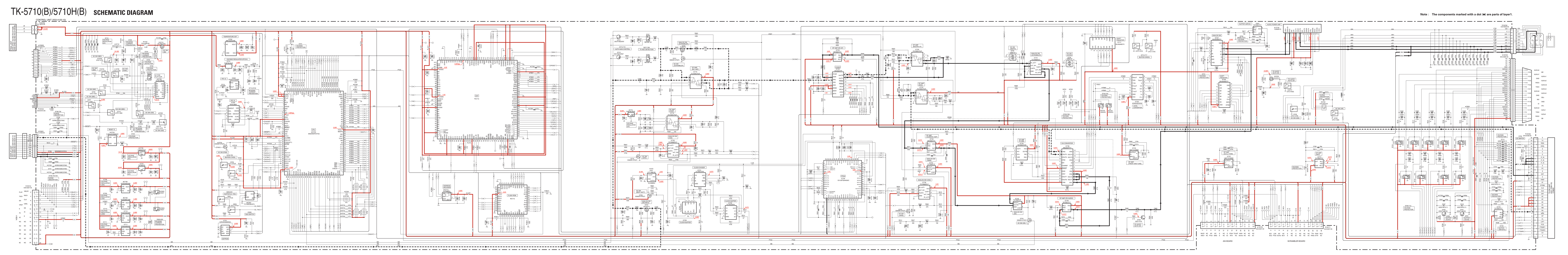


SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

CONTROL UNIT(X53-4120-10)

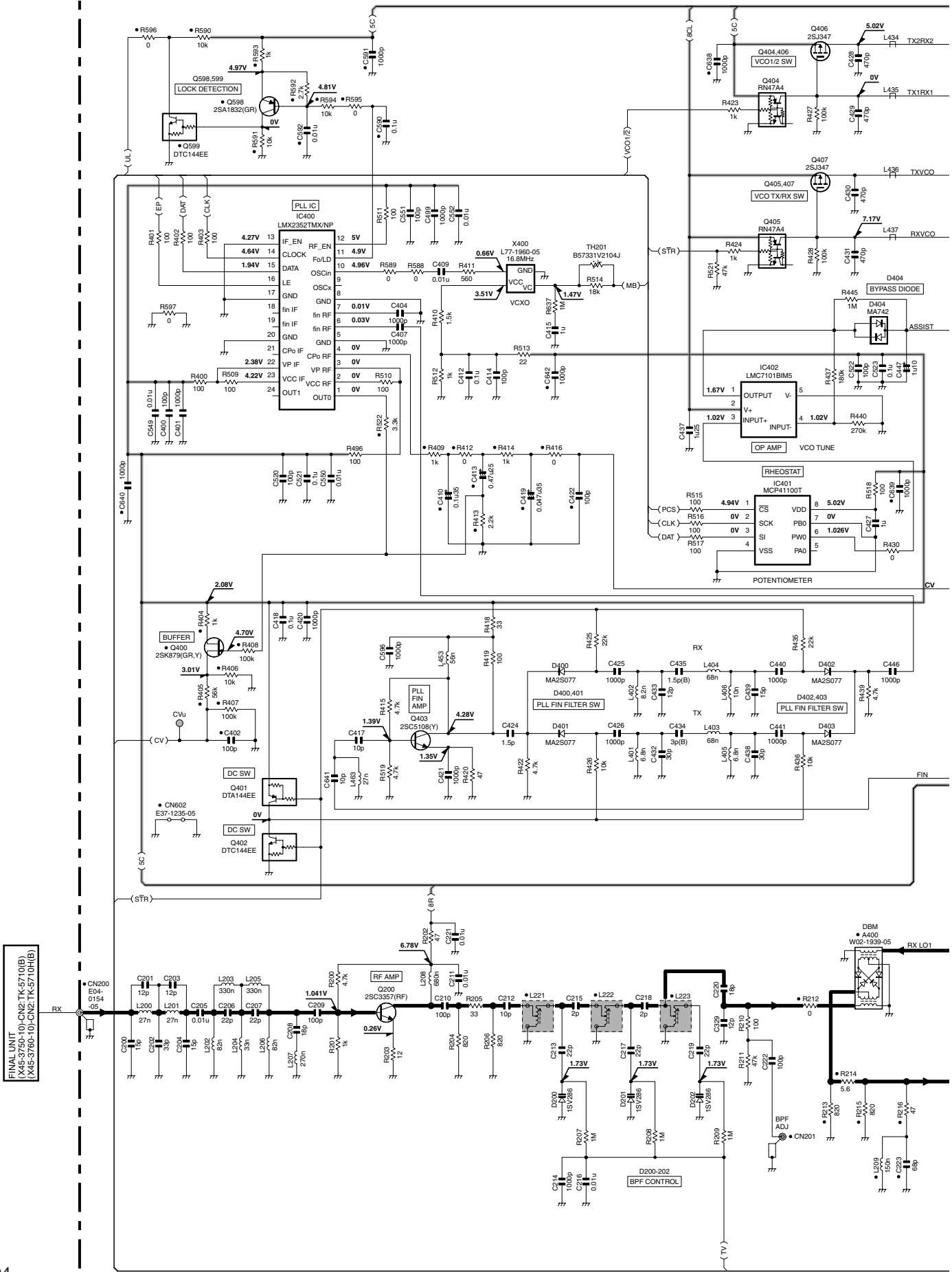
Note : The components marked with a dot (●) are parts of layer1.





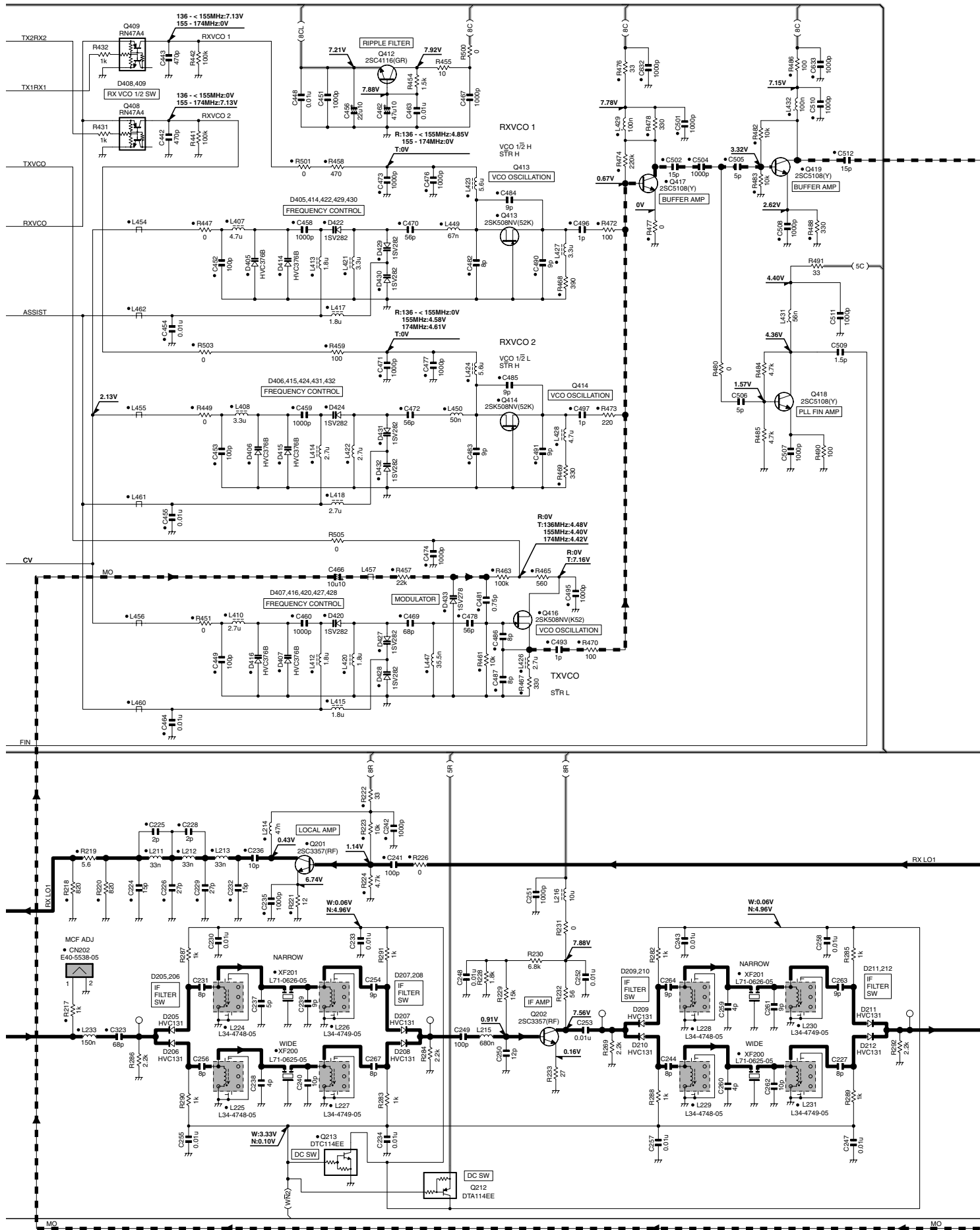
TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

TX-RX UNIT (X57-7030-10)



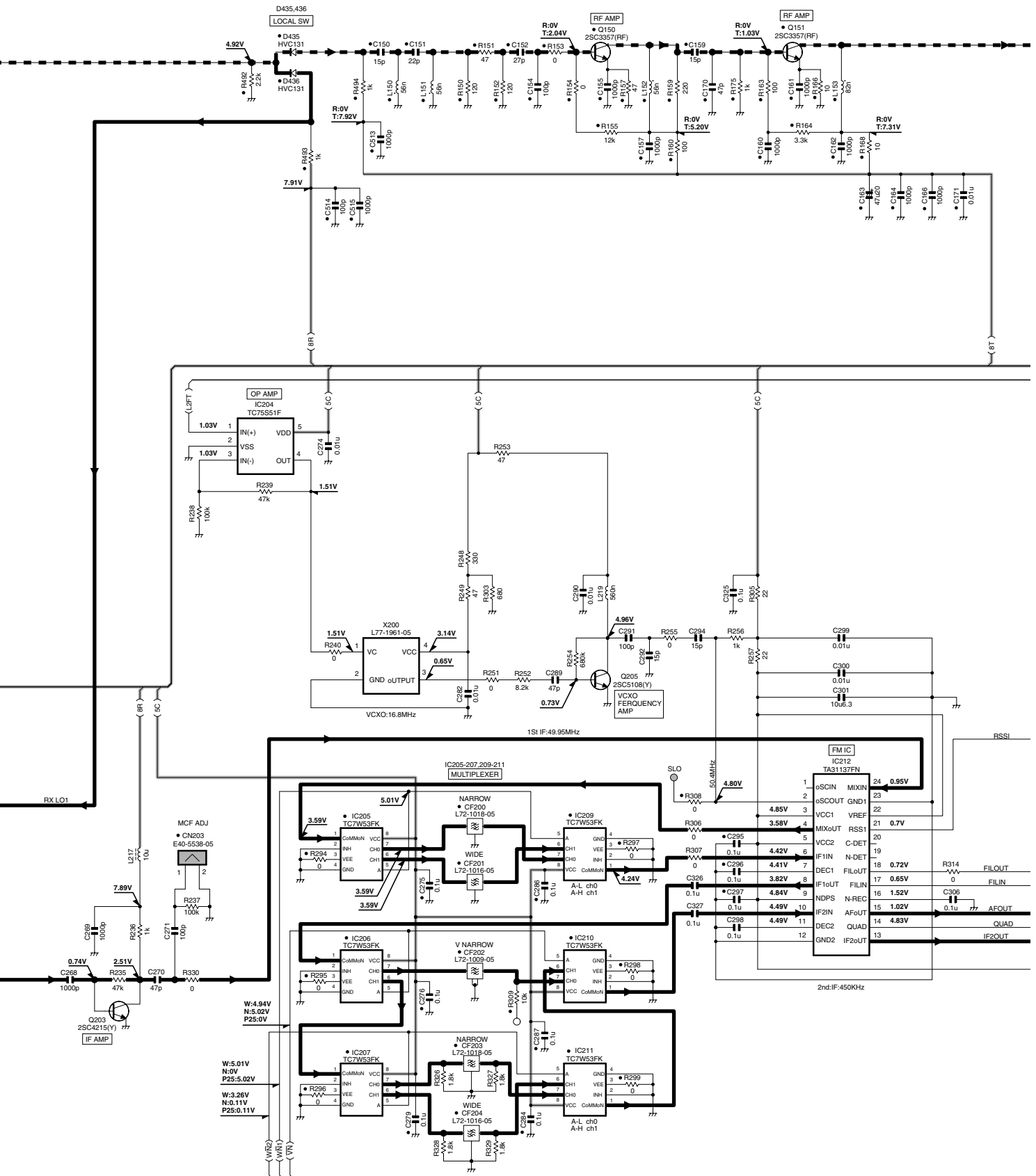
SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

TX-RX UNIT (X57-7030-10)



TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM

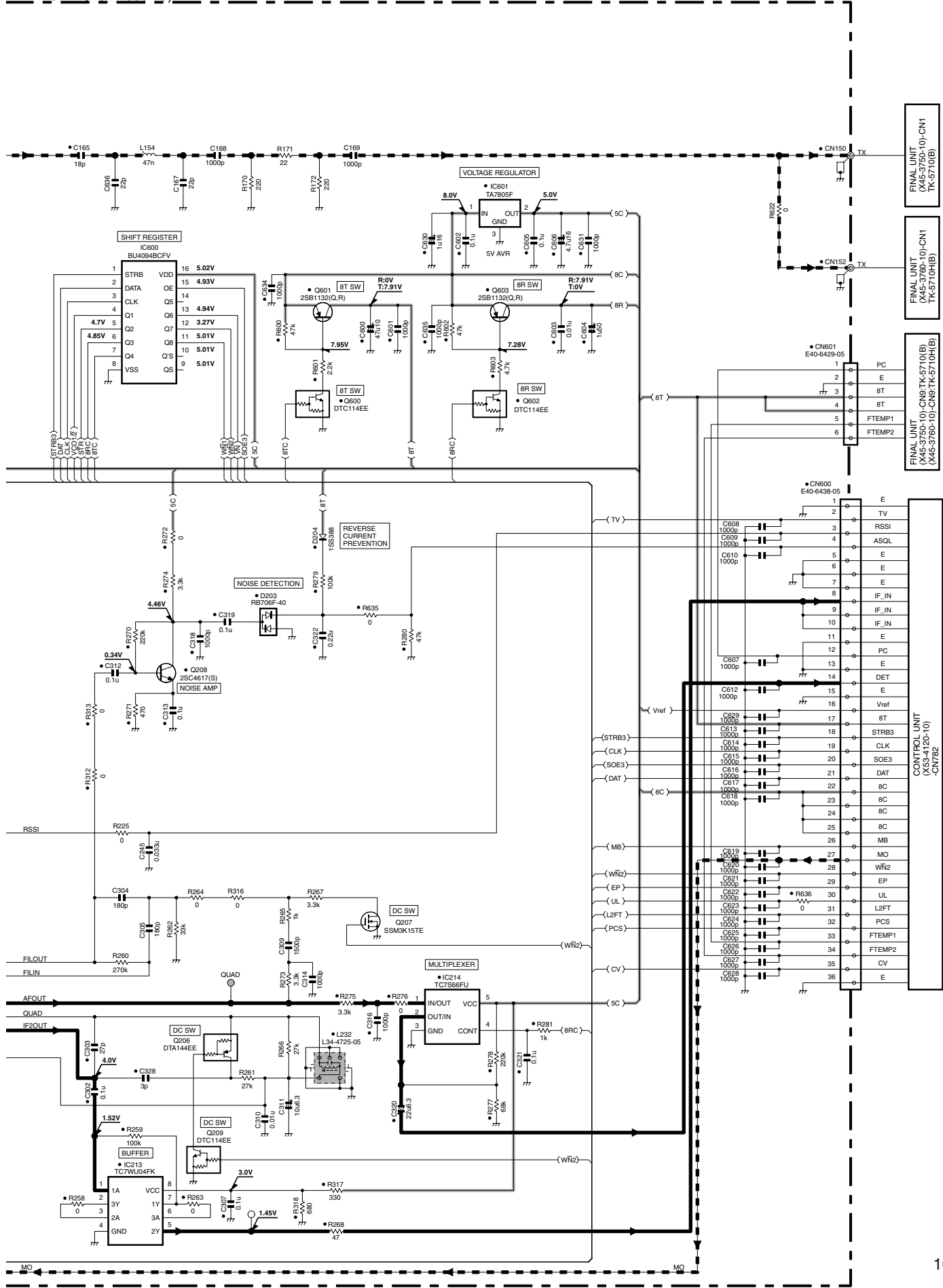
TX-RX UNIT (X57-7030-10)



SCHEMATIC DIAGRAM TK-5710(B)/5710H(B)

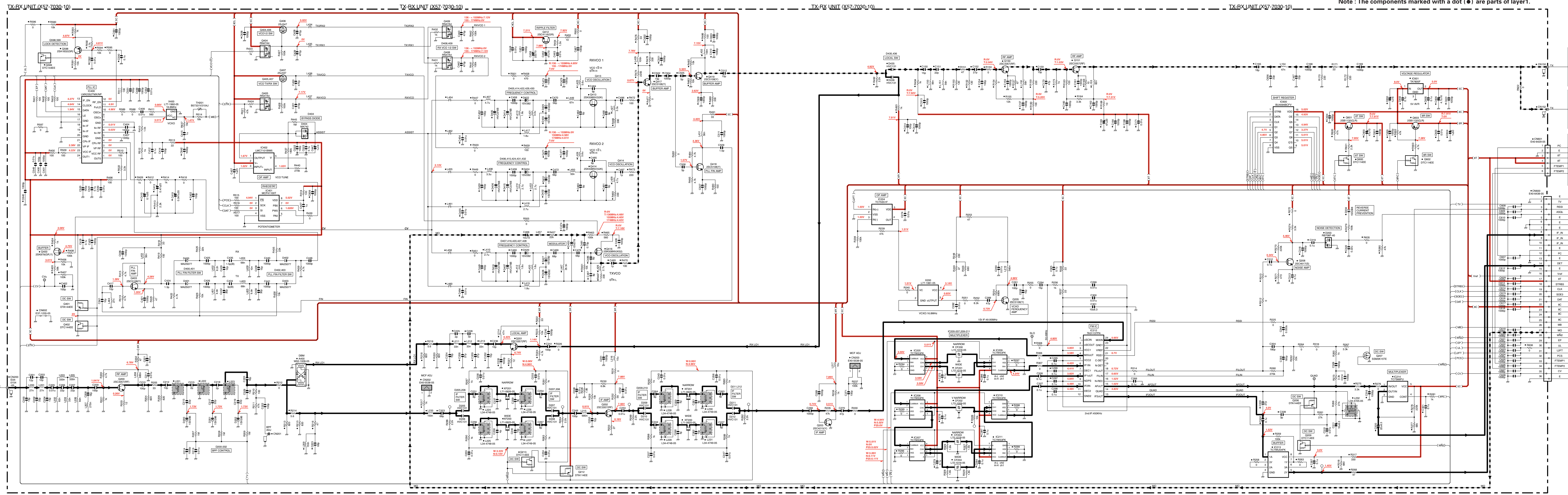
TX-RX_UNIT (X57-7030-10)

Note : The components marked with a dot (●) are parts of layer1.



1
2
3
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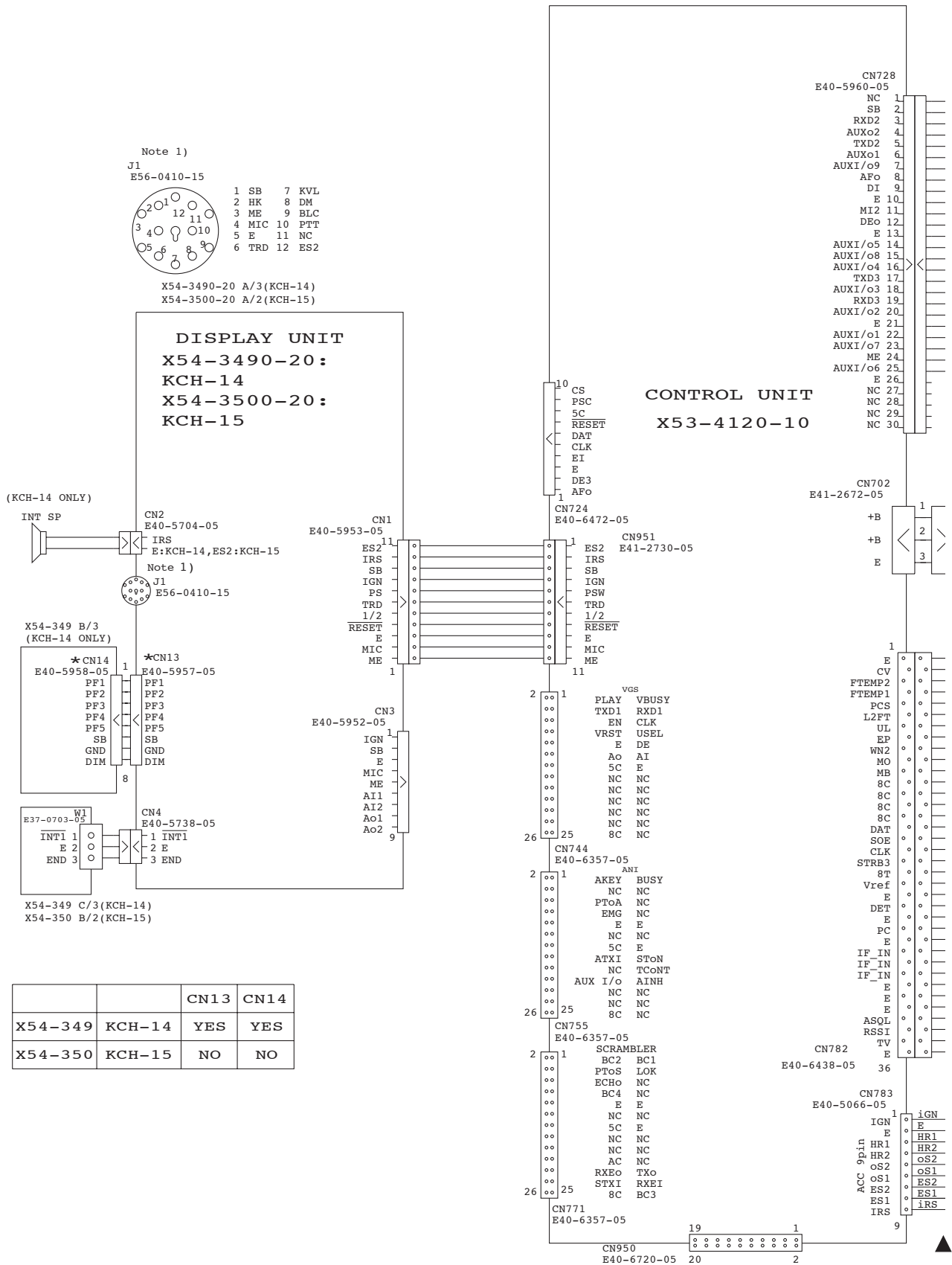
TK-5710(B)/5710H(B) SCHEMATIC DIAGRAM



Note : The components marked with a dot (●) are parts of layer1.

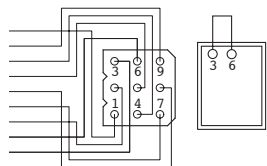
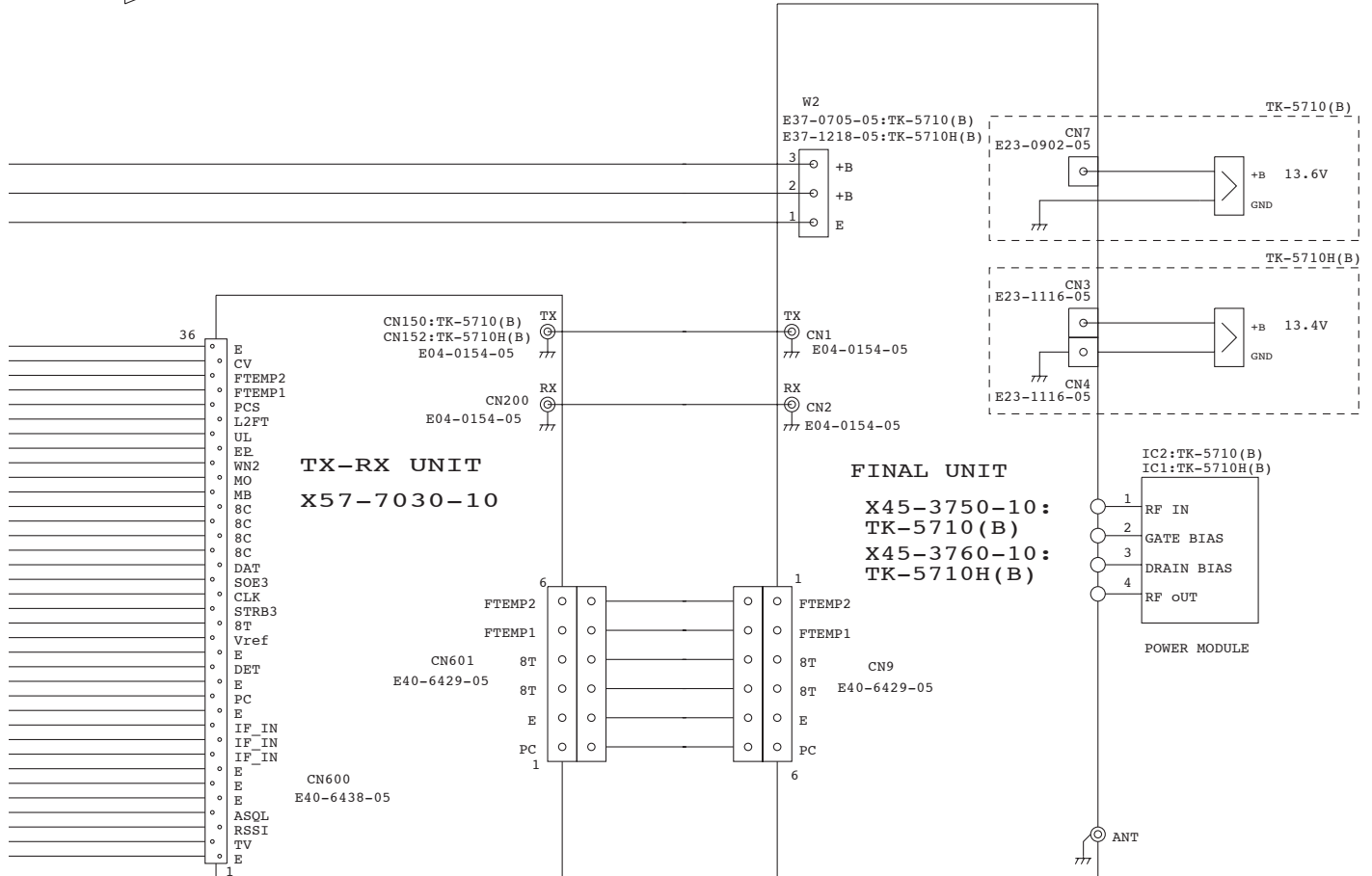
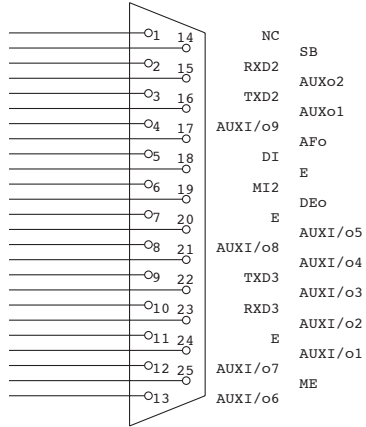
TK-5710(B)/5710H(B)

INTERCONNECTION DIAGRAM

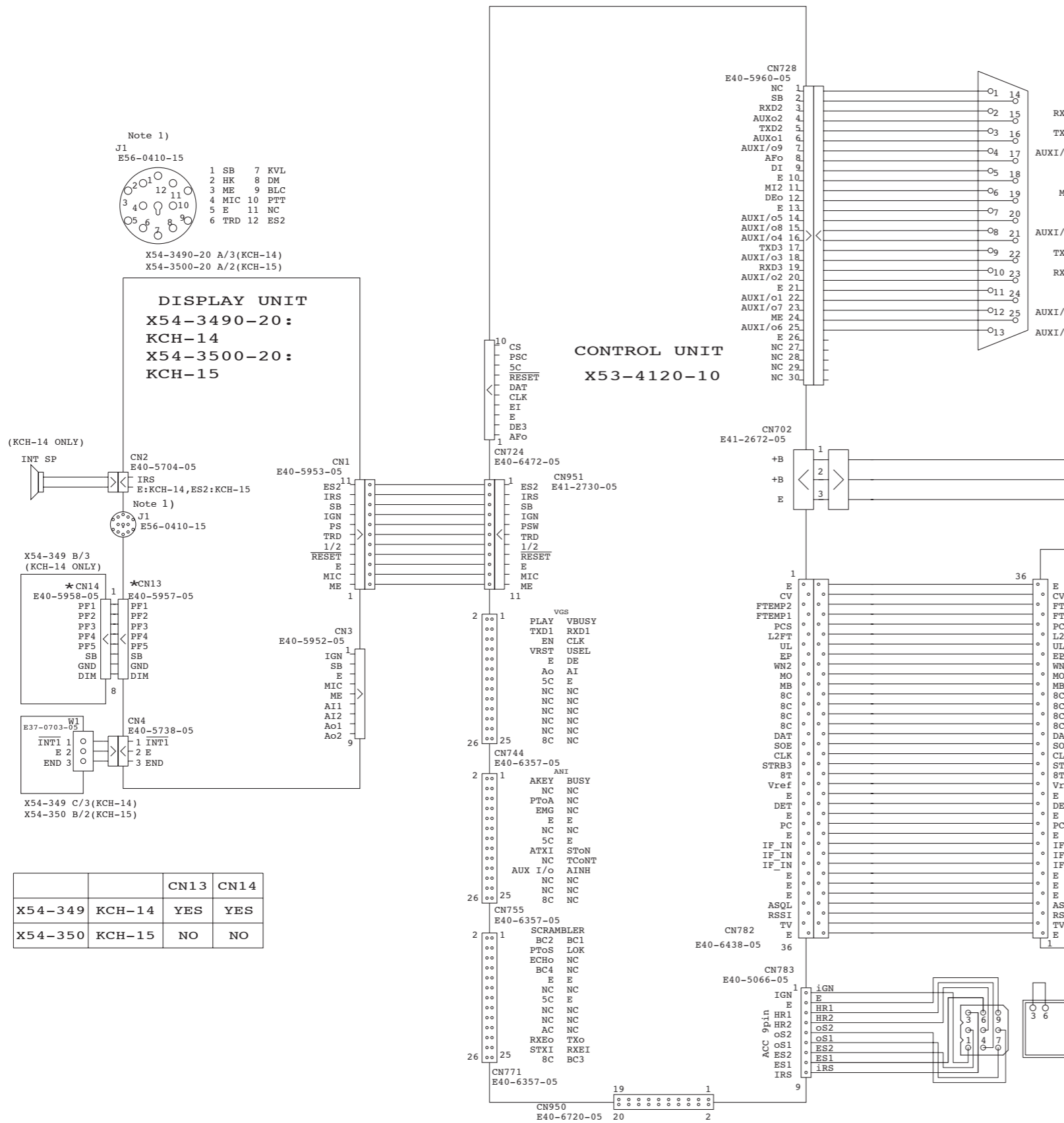


TK-5710(B)/5710H(B)

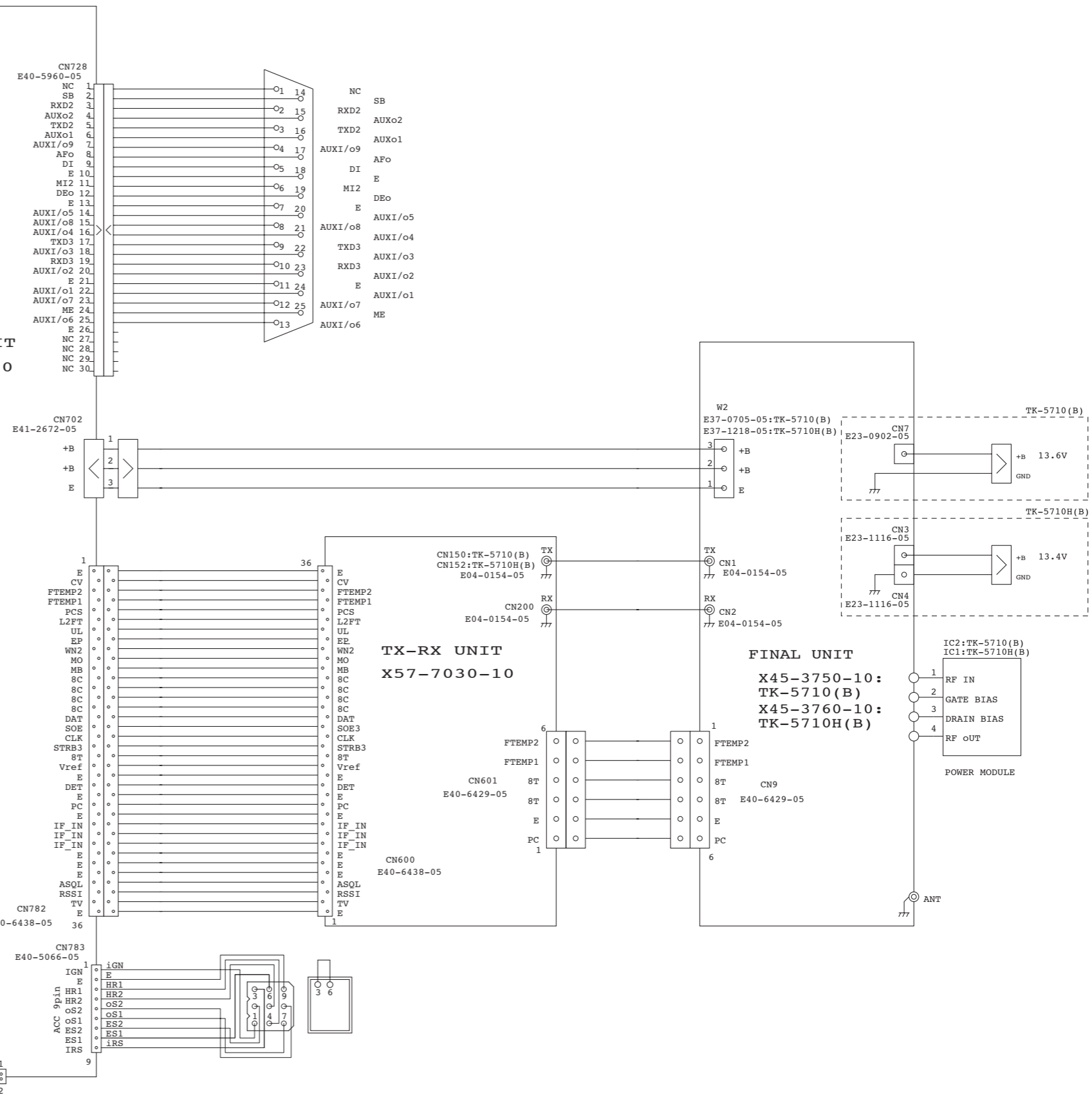
INTERCONNECTION DIAGRAM



INTERCONNECTION DIAGRAM

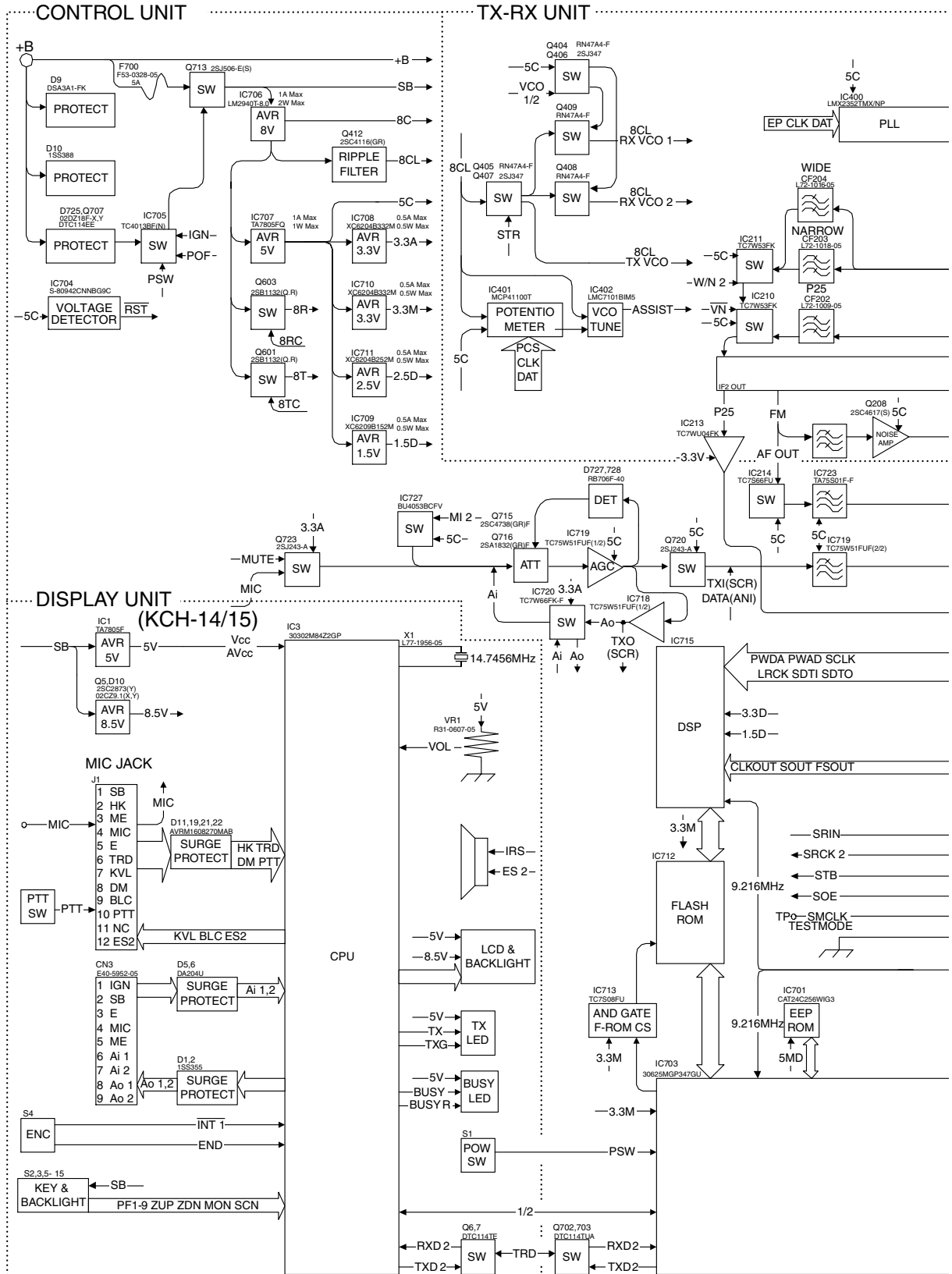


INTERCONNECTION DIAGRAM

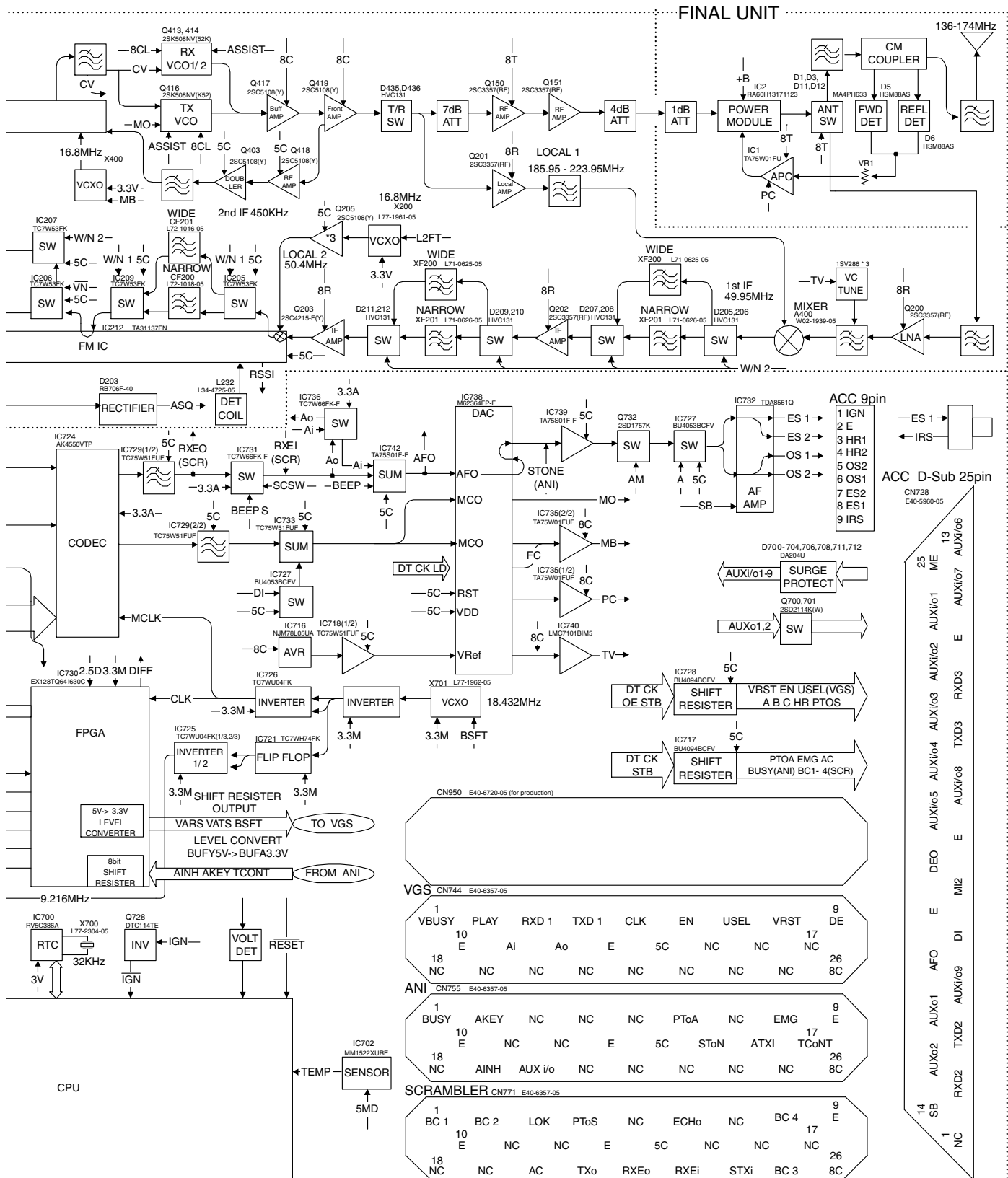


BLOCK DIAGRAM

TK-5710(B) BLOCK DIAGRAM

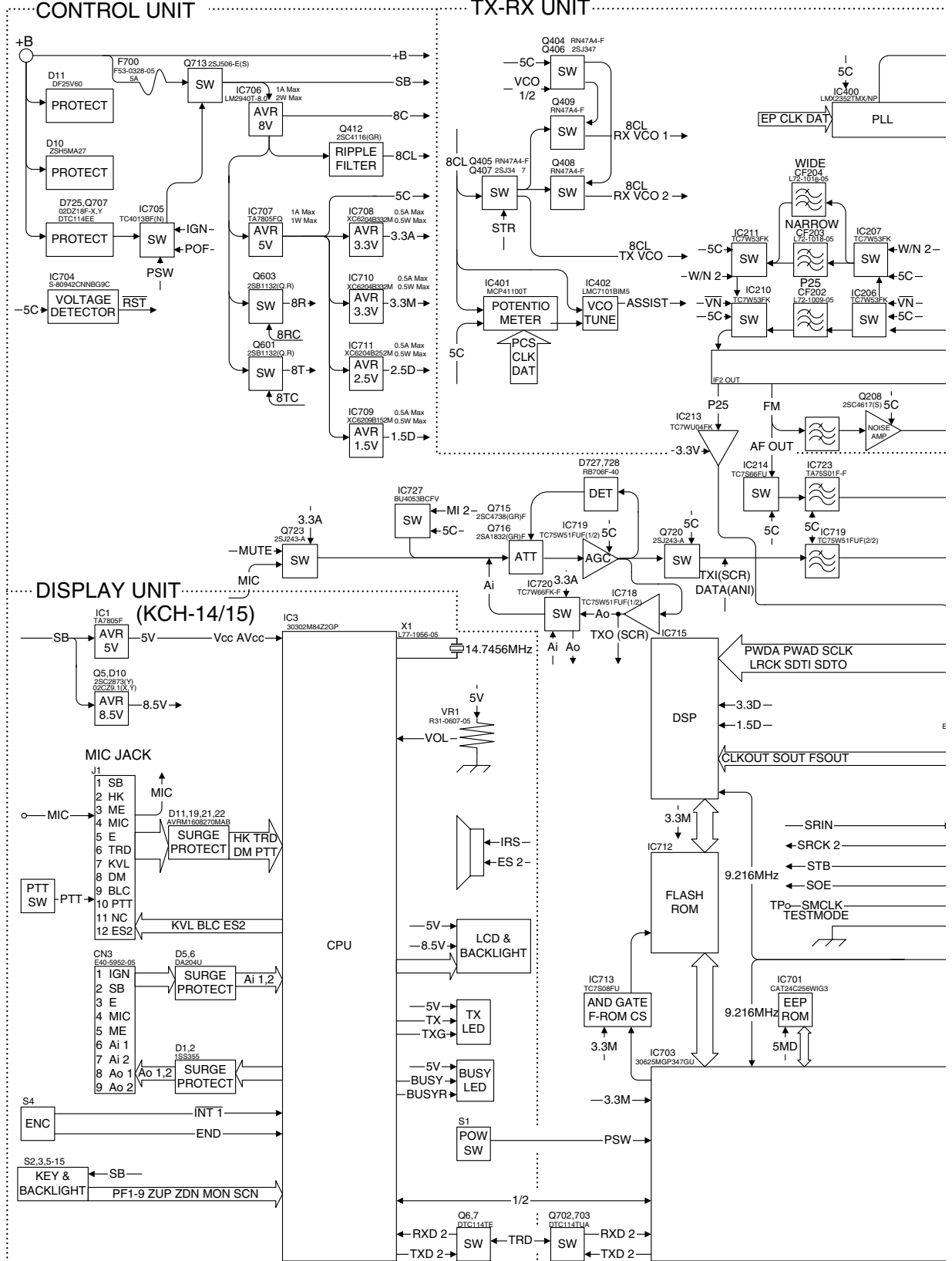


BLOCK DIAGRAM

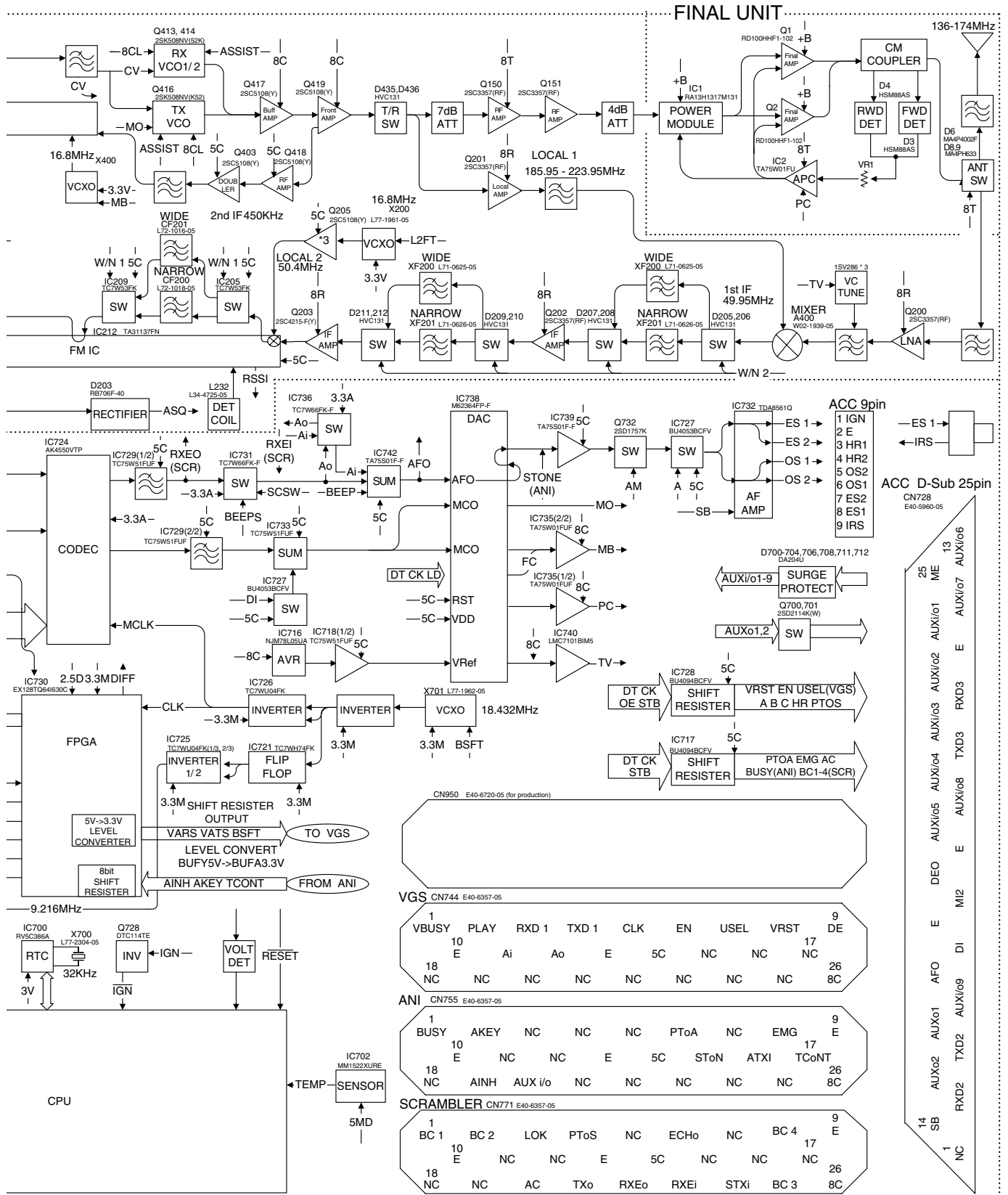


BLOCK DIAGRAM

TK-5710H(B) BLOCK DIAGRAM

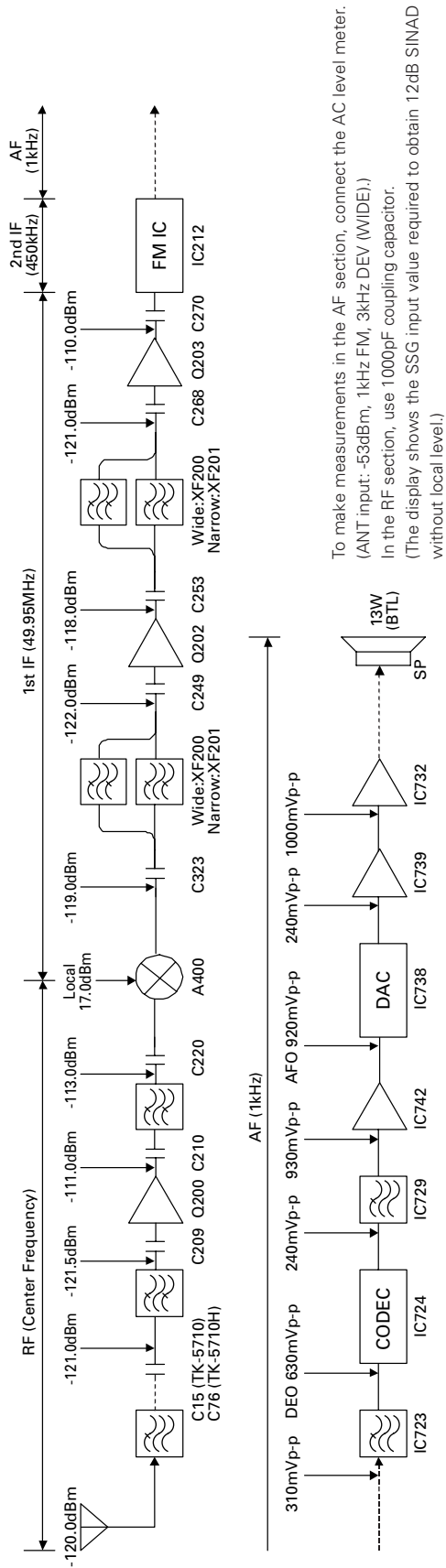


BLOCK DIAGRAM



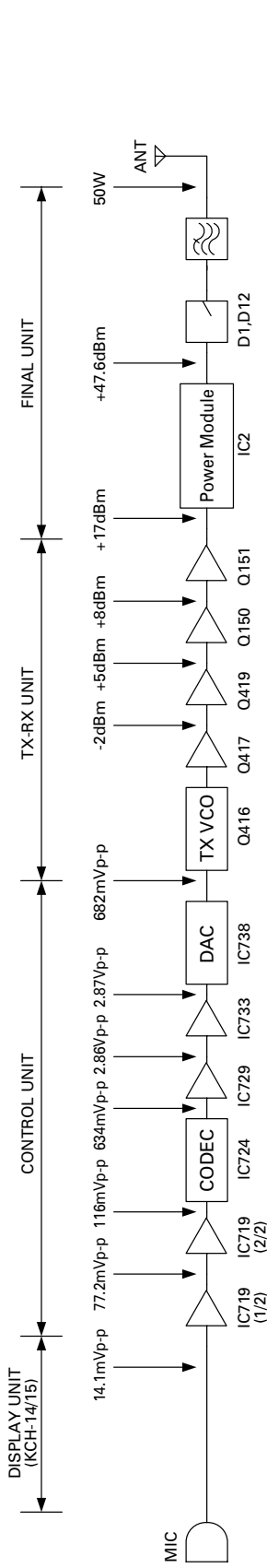
LEVEL DIAGRAM

Receiver Section TK-5710/5710H

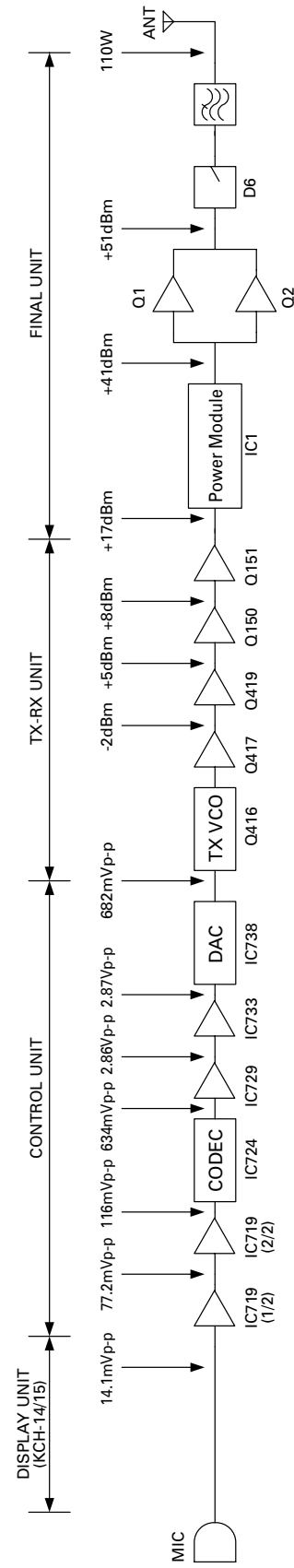


Transmitter Section

TK-5710



TK-5710H



AG is set to the MIC input becomes 3kHz DEV at 1kHz MOD.(WIDE)
To make measurements in the AF section, connect the AC level meter.
In the RF section, use 1000pF coupling capacitor.

OPTIONAL ACCESSORIES

KCH-14 (Front Panel Kit)

■ External View



KCH-15 (Front Panel Kit)

■ External View



KES-6 (External Speaker)

■ External View



TK-5710(B)/5710H(B)

SPECIFICATIONS

GENERAL

| | | |
|----------------------------------------------------------|--------------------------------------------------------|---------------------------|
| Frequency Range | 136~174 MHz | |
| Number of Channels | 512 | |
| Zones | 50 | |
| Max. Channels per Zone | 250 | |
| Channel Spacing | Analog : 12.5/15/20/25/30 kHz | Digital : 12.5 kHz |
| Operating Voltage | TK-5710: 13.6V DC ± 15% | TK-5710H:13.4V DC ± 15% |
| Current Drain | | |
| Standby | Less than 0.6A | |
| Receive | Less than 2.3A | |
| Transmit | TK-5710: 12A | TK-5710H: 25A |
| Duty Cycle | Transmit : 20% | |
| Operating Temperature Range | -22°F to +140°F (-30°C to +60°C) | |
| Frequency Stability | ±2.0 ppm (-22°F to +140°F) | |
| Antenna Impedance | 50Ω | |
| Dimensions (W x H x D) (Projections included) | | |
| RF Deck only | TK-5710 : 7.01" x 2.36" x 7.68" in.(178 x 60 x 195 mm) | |
| TK-5710H : 7.01" x 2.36" x 12.87" in.(178 x 60 x 327 mm) | | |
| with KCH-14 or KCH-15 | TK-5710 : 7.05" x 2.36" x 9.09" in.(179 x 60 x 231 mm) | |
| TK-5710H : 7.05" x 2.36" x 14.29" in.(179 x 60 x 363 mm) | | |
| Weight (net) | | |
| RF Deck only | TK-5710 : 5.3 lbs.(2.4kg) | TK-5710H: 8.6 lbs.(3.9kg) |
| with KCH-14 | TK-5710 : 5.9 lbs.(2.7kg) | TK-5710H: 9.2 lbs.(4.2kg) |
| with KCH-15 | TK-5710 : 5.9 lbs.(2.7kg) | TK-5710H: 9.2 lbs.(4.2kg) |

RECEIVER

| | | |
|----------------------------------|--------------------------------|----------------------------------|
| Sensitivity | Digital (5% BER) : 0.25μV | Digital(1% BER) : 0.40μV |
| | Analog 12dB SINAD : 0.25μV | |
| Selectivity | Digital : -63dB | Analog @25/30kHz : -83dB/-85dB |
| Intermodulation Distortion | Digital : -80dB | Analog @12.5/15kHz : -76dB/-80dB |
| Spurious and Image | Digital : -90dB | Analog @25/30kHz : -80dB |
| Audio Distortion | Digital : Less than 1.0% | Analog : Less than 2.0% |
| Audio Output | Internal (KCH-14)@3%:1.5W/8Ω | External:@3%:12W/4Ω |
| | Internal (KCH-14)@5%:1.625W/8Ω | External:@5%:13W/4Ω |

TRANSMITTER

| | | |
|------------------------------|------------------------------------------------------------------------|---------------------------------|
| RF Output Power | TK-5710: 50W to 5W | TK-5710H: 110W to 50W |
| Spurious and Harmonics | 80dB | |
| FM Hum and Noise | Analog @25kHz : 50dB (53dB)*1 | Analog @12.5kHz : 45dB (47dB)*1 |
| Microphone Impedance | 600Ω | |
| Audio Distortion | Less than 2% | |
| Modulation | 16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 20K0F7D, 11K2F7D, 14K4F1D, 7K20F1D | |

*1 () 148~168MHz

Analog measurements made per TIA/EIA-603

Digital measurements made per TIA/EIA-102CAAA

KENWOOD reserves the right to change specifications without prior notice or obligation.

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