

KENWOOD

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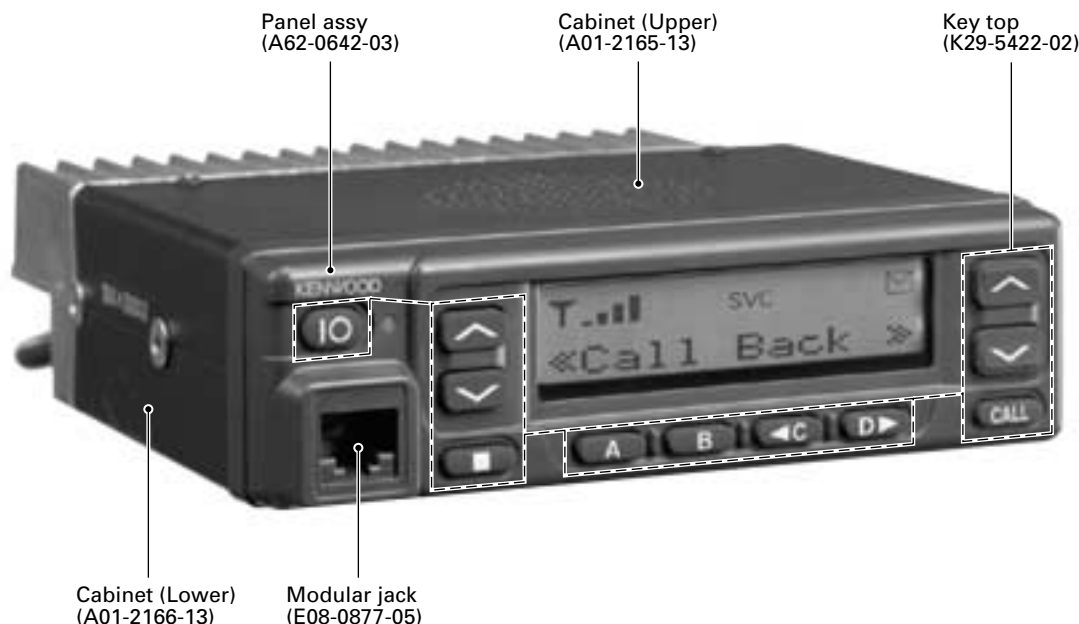
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TK-885

SERVICE MANUAL / 维修手册



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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 the publication date. Changes which may occur after publication are covered by either Service Bulletins or Manual Revisions. These 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, or 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.

PERSONNEL SAFETY

The following precautions are recommended for personnel safety :

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

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. PRE-INSTALLATION CHECKOUT

2-1. 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.

2-2. 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. QT equipment operation should be verified.

引言

本手册的范围

本手册是提供给熟悉通信专业并且具有维修经验的技术人员使用的。它包括了维修该设备所需要的全部资料和 现行出版日期。在出版后如果发生变动, 则根据需要使用《维修通报》或《手册修订本》进行补充。

替换零件的订购

当订购替换零件或设备资料时, 应注意完整的零件识别号码。所有的零件均有识别号码: 元件、组件或机壳。如果不知道零件的号码, 为了正确地识别, 必须注明此元件所属的机壳或组件的号码, 并对元件进行充分的说明。

个人安全

为了个人的安全, 请注意下列事项:

- 如果有人人在距离天线两英尺(0.6米)范围之内时不要进行发射。
- 在没有认真核实所有射频插头之前或有任何一个脱开的插头没有连接到相应端口上的情况下均不要发射。
- 在电爆管附近或在易燃性气体环境中, 必须关闭电源, 不要操作本设备。
- 为了操作的安全, 在接通电源之前所有设备应该正确地接地。
- 本设备只应该由有资格的技术人员进行维修。

安装前事项

1. 开箱

从运输包装中取出本无线电设备并检查附件。如果有任何组件遗失, 请立即与KENWOOD联系。

2. 安装前检查

2-1. 说明

在出厂之前每一个无线电设备均已调整和测试过。但是, 在安装之前最好检查接收部和发射部以保证能够正常使用。

2-2. 测试

无线电设备应该按照电缆和附件最终安装时的连接进行完整的测试。应该检查发射频率、频偏和输出功率, 同样应该检查接收灵敏度、静噪和音频输出。应该检验QT亚音频的操作。

GENERAL / 概述

3. PLANNING THE INSTALLATION

3-1. 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.

3-2. 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.

3-3. 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.

3-4. 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.

4. INSTALLATION PLANNING - CONTROL STATIONS

4-1. 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.

4-2. 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.

3. 安装步骤

3-1. 概述

检查车辆并确认如何以及在何处安装 无线电天线和附件。

安排好电缆的位置，避免挤压或碾碎布线，同时避免无线电设备过热。

3-2. 天线

天线的最佳位置应该在一个宽阔、平整导电区域的中心，通常在车顶的中心。行李箱的盖子更好，将地线连接在行李箱的盖子和车辆的外壳上确保行李箱盖子接地。

3-3. 车载台

通用安装托架允许以多种方法安装车载台。确认安装的表面足以支撑车载台设备的重量。车载台设备的周围留出适当的空间进行散热。将车载台尽可能地安装在靠近车辆操作者的位置上，以便在驾驶时易于控制。

3-4. 直流电源和布线

1. 本无线电设备只能被安装在负极接地电子系统中。反向极性将导致电源线上的保险丝熔断。在安装之前检查车辆的接地极性，避免浪费时间和精力。
2. 将电源的正极引线直接连接到车载电池的正极端点上。不要将正极引线与其他正极电压连接。
3. 将接地引线直接与电池的负极连接。
4. 与无线电设备一起提供的电源线充分满足最大电流的要求。如果电缆必须加长，要确认附加的电线是否能够承载所需电流和添加引线的长度。

4. 安装步骤-基地站

4-1. 天线系统

作为基地台使用。天线系统的选择取决于许多因素，已超出本手册的范围。用户的KENWOOD销售商可以帮助用户选择最能满足用户相应要求的天线系统。

4-2. 电台位置

为用户的基地电台选择一个方便的位置，此位置应尽量靠近天线电缆输入点。其次，使用用户系统的电源(为用户的系统提供所需的电压和电流)。确认无线电设备周围的空气流通顺畅并且足以使设备散热。

GENERAL / 概述

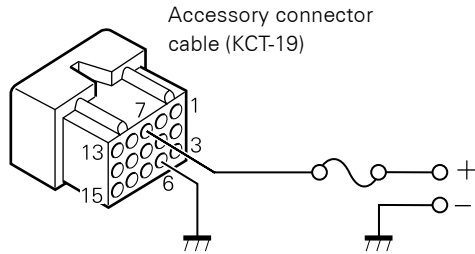
SERVICE

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

Note

When you modify your radio as described in system set-up, take the following precaution.

The rating of pin 7 (SB) of the accessory connector cable (KCT-19) on the rear of the radio is 13.6V (0.75A). Insert a 1A fuse if you use the SB pin for external equipment.



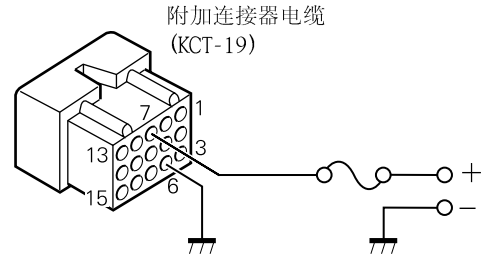
维修服务

为了便于维修本设备，建立了完整的维修服务体系，提供了包括原理图、印刷电路板图和调整步骤在内的资料供参考。

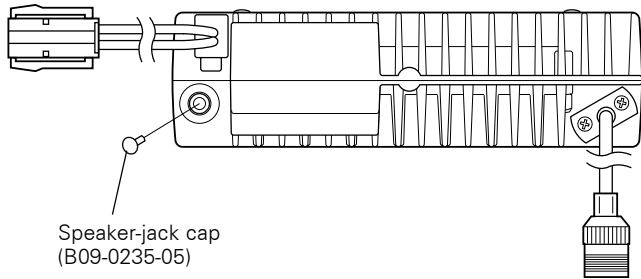
注意事项

当用户按照系统设置改装无线电设备时，请注意下述情况。

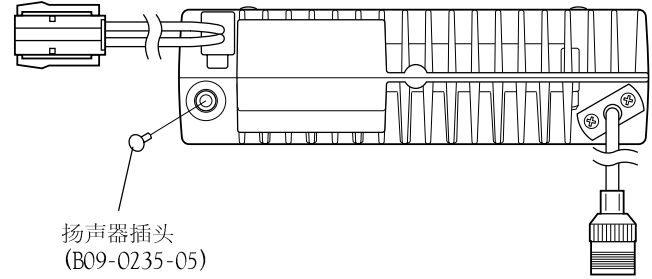
在无线电设备后部附加的连接器电缆(KCT-19)的管脚7 (SB)为13.6V(1A)。如果用户将SB管脚用于外接设备，请插入1A保险丝。



If you do not intend to use the 3.5-mm jack for the external speaker, fit the supplied speaker-jack cap (B09-0235-05) to stop dust and sand getting in.



如果用户不需要使用外置扬声器的3.5-mm插头，请将扬声器插孔盖帽(B09-0235-05)插好以避免灰尘和沙粒侵入。

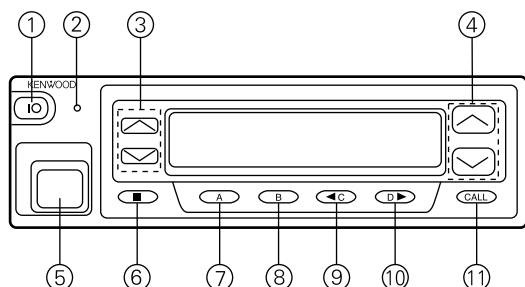


OPERATING FEATURES / 操作特性

基本操作

本节说明的特性适用于中继模式和常规模式。有关各模式的特殊性能，请分别参照本说明书的对应章节。

● 前面板



① IO(电源)开关

按下后即接通(或切断)对讲机。

② 传送/接收指示灯

③ ^/∨(音量)键

按下这些键可以升高和降低音量。

④ ^/∨(控制)键

⑤ 麦克风插座

插入麦克风插头。

⑥ ■键

⑦ A键

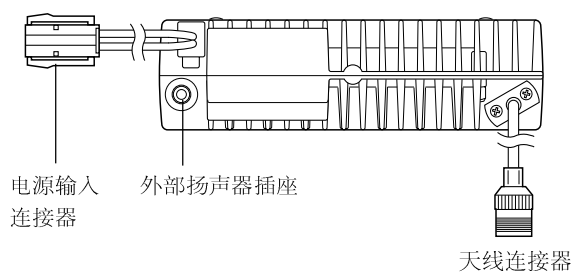
⑧ B键

⑨ ◀C键

⑩ D▶键

⑪ 呼叫键

● 后面板



电源输入
连接器

外部扬声器插座

天线连接器

切换电源的接通/切断

按下IO开关即可接通对讲机。电源接通文本或者装置号码显示2秒钟。

再次按下IO开关即可切断对讲机。

调整音量

按下^/∨(音量)键调整音量。^键可升高音量，∨键可降低音量。

中继模式

● 主要特性

本节中的号码对应第5页的插图。

② 旋转编码器

旋转本编码器选择您需要呼叫的地址(语音呼叫)或者状态(状态呼叫)。

④ ^/∨(控制)键

按下这些键可选择您所需要的呼叫地址(语音呼叫)或者状态(状态呼叫)。

⑥ ■键

按下可结束当前的呼叫。

⑦ A键(初始设定: 状态/堆栈)

按下可开启该辅助功能(以下)。

⑧ B键(初始设定: 功能选单)

按下可开启该辅助功能(以下)。

⑨ C键(初始设定: 常规)

按下可开启该辅助功能(以下)。当观察堆栈条目时，按下可向左侧滚动。

⑩ D▶键(初始设定: 扫描)

按下可开启该辅助功能(以下)。当观察堆栈条目时，按下可向右侧滚动。

⑪ CALL键

按下可呼叫显示的呼叫地址。

● 可编程辅助功能

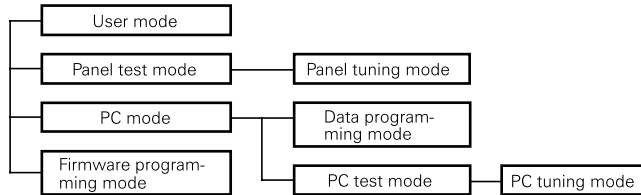
对于 A、B、◀C、D▶键以及外接脚踏开关，可以编程下列辅助功能。有关这些功能的详细内容，请与当地的经销商联系。

注：有些功能无法对某些键设定。有关详细内容，请与当地的经销商联系。

- | | | |
|---------|--------|----------|
| · AUX A | · 功能选单 | · 无 |
| · 呼叫 | · 高功率 | · 重拨 |
| · 清除 | · 返回始位 | · 扫描 |
| · 常规 | · 键锁定 | · 密码器 |
| · 拨号 | · 照明灯 | · 状态/堆栈 |
| · 紧急 | · 网络选择 | · 子LCD功能 |

REALIGNMENT / 模式组合

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 radio.
PC mode	Used for communication between the radio and PC (IBM compatible).
Data programming mode	Used to read and write frequency data and other features to and from the radio.
PC test mode	Used to check the radio 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.

2. How to Enter Each Mode

Mode	Operation
User mode	Power ON
Panel test mode	[B]+Power ON
PC mode	Received commands from PC
Panel tuning mode	[Panel test mode]+[A]
Firmware programming mode	[A]+Power ON

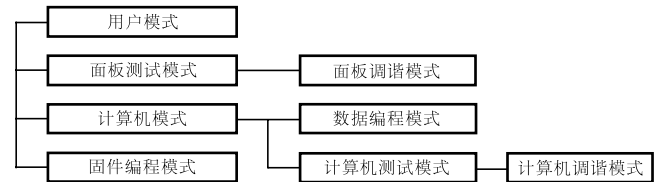
3. For the Panel Test Mode

Setting method refer to ADJUSTMENT.

4. For the Panel Tuning Mode

Setting method refer to ADJUSTMENT.

1. 模式



模 式	功 能
用户模式	一般使用。
面板测试模式	用于经销商检查基本功能。
面板调谐模式	用于经销商调整车台机指标。
计算机模式	用于车台机与计算机(IBM兼容机)之间的通信。
数据编程模式	用于阅读和写入频率数据以及其他功能。
计算机测试模式	用于使用计算机检测。此特性包括在FPU内。参见面板调谐。
固件编程模式	当改变Flash Rom中操作主程序时使用。

2. 如何进入每一种模式

模 式	操 作
用户模式	接通电源
面板测试模式	[B]+接通电源
计算机模式	从计算机接收指令
面板调谐模式	[面板测试模式]+[A]
固件编程模式	[A]+接通电源

3. 关于面板测试模式

关于设定方式, 参见调整。

3-1. 关于面板调谐模式

关于设定方式, 参见调整。

5. PC Mode

5-1. Preface

The TK-885 transceiver is programmed by using a personal computer, programming interface (KPG-46) and programming software (KPG-62D CPS).

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

5-2. Connection Procedure

1. Connect the TK-885 to the personal computer with the interface cable.
2. When the Power is switched on, user mode can be entered immediately. When PC sends command the radio enter PC mode, and "PROGRAM" is displayed on the LCD. When data transmitting from transceiver, the red LED is blinking. When data receiving to transceiver, the green LED is blinking.

Notes :

- The data stored in the personal computer must match model type, when it is written into the flash memory.
- Change the TK-885 to PC mode, then attach the interface cable.

5-3. KPG-46 Description

(PC programming interface cable : Option)

The KPG-46 is required to interface the TK-885 to the computer. It has a circuit in its D-subconnector (25-pin) case that converts the RS-232C logic level to the TTL level.

The KPG-46 connects the modular microphone jack of the TK-885 to the computers RS-232C serial port.

5-4. Programming Software KPG-62D CPS Description

The KPG-62D CPS is the programming software for the transceiver supplied on three 3.5" floppy disks. This software runs under MS-Windows 95/98 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.

We recommend that install the KPG-62D CPS for example to hard disk first then use it.

5-5. Programming With IBM PC

If data is transferred to the transceiver from an IBM PC with the KPG-62D CPS, the destination data (basic radio information) for each set can be modified. Normally, it is not necessary to modify the destination data because their values are determined automatically when the frequency range (frequency type) is set.

The values should be modified only if necessary.

Data can be programmed into the flash memory in RS-232C format via the modular microphone jack.

5. 计算机模式

5-1. 前言

TK-885车台使用计算机、编程电缆(KPG-46)和编程软件(KPG-62D CPS)进行编程。

IBM计算机或兼容机可以使用编程软件。图1显示IBM计算机编程的设置。

5-2. 连接步骤

1. 使用编程电缆将TK-885与计算机连接。
2. 当接通电源时, 立即进入用户模式。当PC机发出指令使车载台进入PC机模式时, "PROGRAM" 出现在显示器上。当车载台发送数据时, 红色指示灯闪动。当车载台接收数据时, 绿色指示灯闪动。

注释 :

- 储存在计算机内的数据在写入车载台的存储器中时必须与车载台的型号相匹配。
- 将TK-885改变为计算机编程模式, 然后连接编程电缆。

5-3. KPG-46说明(计算机编程电缆 : 可选件)

KPG-46用于将TK-885与计算机连接。在其D型副插座(25芯)中有一个电平转换电路, 此电路可以把RS-232C逻辑电平转换为TTL电平。

KPG-46将TK-885的话筒插座与计算机的RS-232C串行口连接。

5-4. 编程软件KPG-62D CPS说明

KPG-62D CPS是车载台的编程软件, 共3张3.5"软盘。此软件的运行环境为IBM-PC机或兼容机的MS-Windows 95/98。

数据可以被写入到车载台或从车载台中读取数据, 并且在屏幕上进行编辑。已被编程或编辑的数据可以打印出来。也可以调整车载台的指标。

建议用户在使用之前将KPG-62D CPS安装到硬盘上。

5-5. 使用IBM计算机编程

如果从使用KPG-62D CPS软件的IBM计算机将数据发送到车台, 设定的通信机型号数据(通信机的基本信息)均可被修改。由于设定频率范围(频率型式)时, 型号数据就确定了, 所以一般不需要修改型号数据。

只有在必要的情况下才修改型号数据。RS-232C格式的数据经由话筒插座输入到通信机的Flash Rom中。

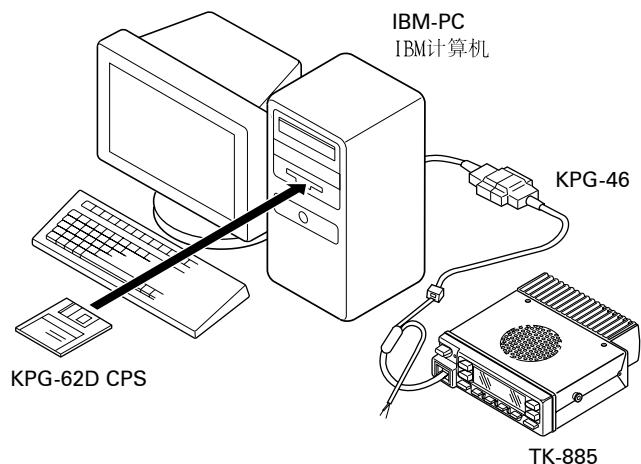


Fig. 1 / 图 1

REALIGNMENT / 模式组合

6. Firmware Programming Mode

6-1. Preface

Flash memory is mounted on the TK-885. This allows the TK-885 to be upgraded when new features are released in the future. (For details on how to obtain the firmware, contact Customer Service.)

6-2. Connection Procedure

Connect the TK-885 to the personal computer (IBM PC or compatible) with the interface cable (KPG-46). (Connection is the same as in the PC Mode.)

6-3. Programming

1. Start up the programming software (Fpro. exe).
2. Set the communications speed (normally, 57600 bps) and communications port in the configuration item.
3. Set the firmware to be updated by File name item.
4. Turn the TK-885 Power ON with the [A] switch held down. Hold the switch down until the display changes to "PROG 57600". When "PROG 57600" appears, release your finger from the switch.
5. Check the connection between the TK-885 and the personal computer, and make sure that the TK-885 is in the Program mode.
6. Press write button in the window. A window opens on the display to indicate progress of writing. When the TK-885 starts to receive data, the **P** icon is blinking.
7. If writing ends successfully, the LED on the TK-885 lights and the checksum is displayed.
8. If you want to continue programming other TK-885, repeat steps 4 to 7.

Notes :

- This mode cannot be entered if the Firmware programming mode is set to Disable in the Programming software (KPG-62D CPS).
- When programming the firmware, it is recommend to copy the data from the floppy disk to your hard disk before update the radio firmware.
Directly copying from the floppy disk to the radio may not work because the access speed is too slow.

6-4. Function

1. If you press the **[■]** switch while "PROG 57600" is displayed, the version is displayed. If you press the **[■]** switch again while the version is displayed, "PROG 57600" is redisplayed.
2. If you press the **[D ▶]** switch while "PROG 57600" is displayed, the display changes to "PROG 19200" to indicate that the write speed is low speed (19200 bps). If you press the **[D ▶]** switch again while "PROG 19200" is displayed, the display changes to "PROG 38400", and the write speed becomes the middle speed (38400 bps). If you press the **[D ▶]** switch again while "PROG 38400" is displayed, the display returns to "PROG 57600".
3. If you press the **[D ▶]** switch while the version is displayed, the checksum is displayed. If you press the **[D ▶]** switch again while the checksum is displayed, the version is redisplayed.

Note :

Normally, write in the high-speed mode.

6. 固件编程模式

6-1. 前言

Flash Rom被安装在TK-885上。当将来出现新功能时，允许TK-885升级。（要了解如何获得固件的详细信息，请与供应商联系。）

6-2. 连接步骤

使用编程电缆(KPG-46)将TK-885与计算机(IBM计算机或兼容机)连接。（与计算机编程模式中的连接方法一样。）

6-3. 编程

1. 启动固件编程软件(FPRO. exe)。
2. 在配置项中设定通信速率(通常为57600bps)和通信端口。
3. 在文件名称项中选定新固件。
4. 向下按动[A]键并接通TK-885的电源。向下按住键直到显示器出现“PROG 57600”为止。当“PROG 57600”出现时，松开按键。
5. 检查TK-885与个人电脑之间的连接是否正确，并且确认TK-885是否处于编程模式。
6. 按下视窗上的写入键。显示器上开启一个视窗显示写入的过程。当TK-885开始接收数据时，**P**图标开始闪动。
7. 写入完成后，TK-885上的指示灯发光，并且显示校验码。
8. 如果用户需要继续编程其他的TK-885，重复步骤4到7。

注释：

- 如果在编程软件(KPG-62D CPS)中固件编程模式设定为禁用，则不能进入此模式。
- 当固件编程时，在用户更新通信机固件之前，建议先把数据从软盘拷贝到硬盘上。
由于读取速率太低，所以直接从软盘写入到通信机可能无效。

6-4. 功能

1. 当显示“PROG 57600”时，如果用户按下**[■]**键，则显示版本。
如果显示版本时再次按下**[■]**键，则显示“PROG 57600”。
2. 当显示“PROG 57600”时，如果用户按下**[D ▶]**键(位于左侧的底部)，则显示变为“PROG 19200”，表示写入速率为低速(19200bps)。当显示“PROG 19200”时，如果用户再次按下**[D ▶]**键，则显示变为“PROG 38400”，表示写入速率为中速(38400bps)。当显示“PROG 38400”时，如果用户再次按下**[D ▶]**键，则显示返回到“PROG 57600”。
3. 当显示版本时，如果用户按下**[D ▶]**键，则显示校验码。当显示校验码时，如果用户再次按下**[D ▶]**键，则显示版本。

注释：

通常情况下在高速率模式中写入数据。

INSTALLATION / 安装

1. Accessory Connection Cable (KCT-19 : Option)

The KCT-19 is an accessory connection cable for connecting external equipment. The connector has 15 pins and the necessary signal lines are selected for use.

1-1. Installing the KCT-19 in the transceiver

1. Remove the upper and lower half of the transceiver case, and lift the DC cord bushing (1) from the chassis.
2. Remove the pad as shown in Figure 1 (2).
3. Insert the KCT-19 cable (3) into the chassis (4). The wire harness band (5) must be inside the chassis.
4. Replace the DC cord bushing (6).
5. Connect the KCT-19 to the TX-RX unit (A/2) as shown in Figure 2 (7).
6. Connect the KCT-19 to the external accessory by inserting the crimp terminal (8) into the square plug (9), both of which are supplied with the KCT-19.

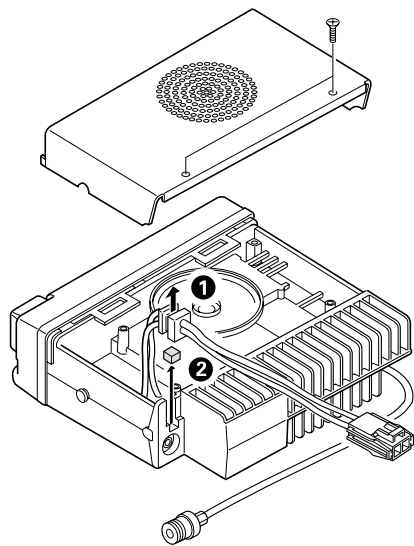


Fig. 1 / 图 1

1. 附加连接电缆 (KCT-19 : 可选件)

KCT-19是用于连接外置设备的附加电缆。此电缆有15芯并根据使用情况选择所需的信号线。

1-1. 在车台上安装 KCT-19

1. 取下车台的上部分机壳。从机架的凹槽上卸下直流电线卡套(1)。
2. 按图1所示取下垫片(2)。
3. 将KCT-19电缆(3)放入机架的凹槽(4)。固定电缆的金属卡子(5)必须在机架的内侧。
4. 重新放入直流电线卡套(6)。
5. 按照图2(7)所示将KCT-19连接到发射-接收单元上(A/2)。
6. 通过将压接件(8)插入方形插头(9)来将KCT-19连接到外置附加设备上。两者均与KCT-19一起提供。

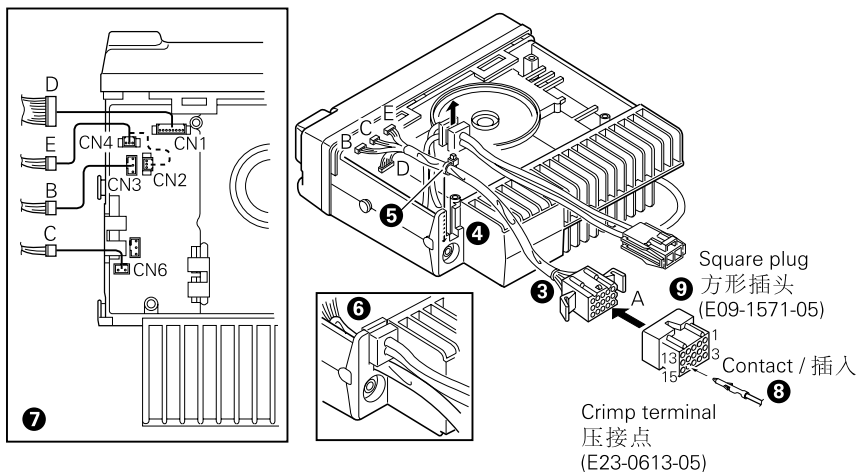


Fig. 2 / 图 2

INSTALLATION / 安装

1-2. KCT-19 Accessory Port Function

No. (A)	No. (B,C,D,E)	Name	Function	Note
1	D-2	AHK	Serial control data input (RXD2).	
2	D-5	ME	Microphone ground.	*1
		AM	Speaker audio mute input.	
3	D-3	IGN	Ignition sense input.	
4	D-1	DEO	Receiver detector output.	
5	D-6	MI	External microphone input.	*1
		TXS	Transmitter sense output.	
6	B-2	E	Ground.	
7	B-3	SB	Switched B+, DC 13.6V output. Maximum 0.75A	
8	D-7	PTT	Serial control data output (TXD2).	
9	D-4	DI	Data modulation input.	
10	B-1	HOR	Horn alert/call output.	
11	D-8	SQ	No function.	
12	C-1	SP	Speaker audio output.	
13	E-1	CN2 and CN4	No function.	*1 *2
		CN2	Speaker mute input.	
14	E-2	CN4	Serial control data input (RXD1).	*2
		CN2	MM	MIC mute input, active high.
15	E-3	CN4	Serial control data output (TXD1).	*2
		CN2	DTC	No function.
		*1	LOK	No function.
		TXS	Transmitter sense output.	
		FSW	Foot switch input, active low	

Note

*1 : The functions of A-2, A-5, A-13 (when connector E is connected to CN2), and A-15 (when connector E is connected to CN2) are changed as described in the jumper chart.

*2 : The functions of A-13, A-14 and A-15 are changed if the connector E is connected to CN2 or CN4 of the radio.

No.	CN2	CN4
E-1	LOK/AM	LOK
E-2	MM	RXD
E-3	LOK/DTC/TXS/FSW	TXD

- Connect CN6 of the radio to connector C of the KCT-19 instead of to the internal speaker connector, if use external speaker.

1-2. KCT-19附加端子功能

号码(A)	号码(B, C, D, E)	名称	功能	注释
1	D-2	AHK	串行控制数据输入 (RXD2)。	
2	D-5	ME	话筒接地。	*1
		AM	扬声器音频静音输入。	
3	D-3	IGN	点火器传感输入。	
4	D-1	DEO	接收部检测器输出。	
5	D-6	MI	外置话筒输入。	*1
		TXS	发射部传感输出。	
6	B-2	E	接地。	
7	B-3	SB	转换开关B+, 直流13.6V输出。 最大电流0.75A。	
8	D-7	PTT	串行控制数据输出 (TXD2)。	
9	D-4	DI	数据调制输入。	
10	B-1	HOR	喇叭告警/呼叫输出。	
11	D-8	SQ	无功能。	
12	C-1	SP	扬声器音频输出。	
13	E-1	CN2 和 CN4	无功能。	*1 *2
		CN2	扬声器静音输入。	
14	E-2	CN4	串行控制数据输入 (RXD1)。	*2
		CN2	话筒静音输入, 高电平有效。	
15	E-3	CN4	串行控制数据输出 (TXD1)。	*2
		CN2	DTC	无功能。
		*1	LOK	无功能。
		TXS	发射部传感输出。	
		FSW	脚踏开关输入, 低电平有效。	

注释

*1 : A-2, A-5, A-13 (当连接器E与CN2连接时)和A-15 (当连接器E与CN2连接时)的功能按照跳线表的说明改变。

*2 : 如果连接器E与车载台的CN2或CN4连接, 则A-13, A-14和A-15的功能改变。

号码	CN2	CN4
E-1	LOK/AM	LOK
E-2	MM	RXD
E-3	LOK/DTC/TXS/FSW	TXD

- 如果使用外置扬声器, 车载台的CN6不与内置扬声器连接, 而与KCT-19的连接器C连接。

INSTALLATION / 安装

1-3. Data Equipment Connection

The jumpers must be set to either one for each function. Otherwise, the radio will not work properly.

ME/AM

R12 (0Ω)	R167 (0Ω)	Function / Default	
Yes	No	AM	Default
No	Yes	ME	

MI/TXS

R94 (0Ω)	R24 (0Ω)	Function / Default	
Yes	No	TXS	Default
No	Yes	MI	

LOK/AM

R5 (0Ω)	R6 (0Ω)	Function / Default	
Yes	No	AM	
No	Yes	LOK	Default

DTC/LOK/TXS/FSW

R168 (0Ω)	R84 (0Ω)	R51 (0Ω)	R13 (0Ω)	Function / Default	
No	No	No	Yes	LOK	
Yes	No	No	No	DTC	Default
No	No	Yes	No	TXS	
No	Yes	No	No	FSW	

Note : The following parts are not installed at the time of shipping; R5,R13,R24,R51,R84, and R167

1-3. 数据设备连接

必须设定跳线来选定其中一种功能。否则，车载台不能正常工作。

ME/AM

R12 (0Ω)	R167 (0Ω)	功能/出厂设定	
使用	不使用	AM	出厂设定
不	使用	ME	

MI/TXS

R94 (0Ω)	R24 (0Ω)	功能/出厂设定	
使用	不使用	TXS	出厂设定
不使用	使用	MI	

LOK/AM

R5 (0Ω)	R6 (0Ω)	功能/出厂设定	
使用	不使用	AM	
不使用	使用	LOK	出厂设定

DTC/LOK/TXS/FSW

R168 (0Ω)	R84 (0Ω)	R51 (0Ω)	R13 (0Ω)	功能/出厂设定	
不使用	不使用	不使用	使用	LOK	
使用	不使用	不使用	不使用	DTC	出厂设定
不使用	不使用	使用	不使用	TXS	
不使用	使用	不使用	不使用	FSW	

注释： 下述元件在出厂时没有安装：R5、R13、R24、R51、R84和R167。

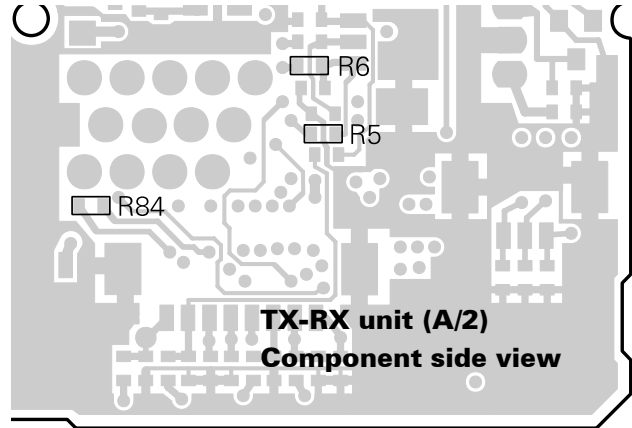
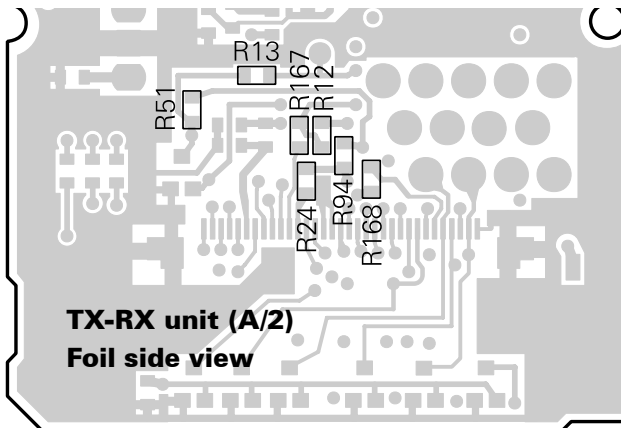


Fig. 3 / 图 3

INSTALLATION / 安装

2. Accessory Terminal (TX-RX Unit)

2-1. External Connector Accessory Terminal Method

Connector No.	Pin No.	Pin name	I/O	Function
CN1	1	DEO	O	Detect signal output. Level : 250mVrms (standard modulation)
	2	AHK	I	Serial data input 2 (RXD2).
	3	IGN	I	Ignition sense input.
	4	DI	I	External modulation signal input.
	5	ME	-	External microphone ground.
		AM	I	Audio mute signal input.
	6	MI	I	External MIC input.
		TXS	O	Transmitter sense output.
7	PTT	I	Serial data output 2 (TXD2).	
8	SQ	O	No function.	
CN2	1	AM	I	Audio mute signal input.
		LOK	O	No function.
	2	MM	I	MIC mute input.
		3	DTC	I
	TXS		O	Transmitter sense output.
	FSW	I	Foot switch signal input. Foot sw on : L	
LOK		O	No function.	
CN3	1	HOR	O	Horn alert signal output. Signal output for horn relay drive (open collector). L level during horn drive : Max. sink current 100mA. L level when AUX A is on.
		E	-	Earth.
	3	SB	O	Power output after power switch (DC 13.6V±15%, 0.75A max.).
CN4	1	LOK	O	No function.
	2	RXD	I	Serial data input 1 (RXD1).
	3	TXD	O	Serial data output 1 (TXD1).
CN5	1	PA	O	Relay for PA function in KAP-1 control signal. PA on : H, PA off : L
	2	SPO	O	Audio signal input from KAP-1.
	3	SPI	I	Audio signal output to KAP-1.
CN6	1	SP	O	Output for internal/external speaker.
	2	E	-	Earth.

2. 附加端子(发射-接收单元)

2-1. 外置连接器附加终端方法

连接器号码	管脚序号	管脚名称	输入/输出	功能
CN1	1	DEO	输出	检测信号输出。 电平：250mVrms (标准调制)
	2	AHK	输入	串行数据输入2 (RXD2)。
	3	IGN	输入	点火器传感输入。
	4	DI	输入	外置调制信号输入。
	5	ME	-	外置话筒接地。
		AM	输入	音频静音输入。
	6	MI	输入	外置话筒输入。
		TXS	输出	发射部传感输出。
7	PTT	输入	串行数据输出2 (TXD2)。	
8	SQ	输出	无功能。	
CN2	1	AM	输入	音频静音输入。
		LOK	输出	无功能。
	2	MM	输入	话筒静音输入。
		3	DTC	输入
	TXS		输出	发射部传感输出。
FSW	输入	脚踏开关输入。低电平有效		
	LOK	输出	无功能。	
CN3	1	HOR	输出	喇叭告警信号输出。喇叭继电器驱动(开集电极)信号输出。 喇叭驱动过程时L 电平：最大吸引电流为100mA。 当AUX A开启时为L电平。
		E	-	接地。
	3	SB	输出	开启电源后供电输出(最大直流 13.6±15%。0.75A)。
CN4	1	LOK	输出	无功能。
	2	RXD	输入	串行数据输入1 (RXD1)。
	3	TXD	输出	串行数据输出1 (TXD1)。
CN5	1	PA	输出	KAP-1控制信号的PA功能的继电器输出。 PA开启：高电平，PA关闭：低电平
	2	SPO	输出	来自于KAP-1的音频信号输入。
	3	SPI	输入	音频信号输出到KAP-1。
CN6	1	SP	输出	内置/外置扬声器的输出。
	2	E	-	接地。

3. Optional Board Terminal

Terminal is for mounting the option board are provided at the control and TX-RX unit. The table below shows the correspondence between the board and terminals. Disconnect R529 and R571 in control unit when the scrambler board is attached.

The table below shown the differences between the schematic terminals and the PC board terminals.

Schematic diagram			PC board view	
Name	I/O	Function	Name	Unit
SB	O	Switched B+ (13.6V, 0.75A)	SB	TX-RX
5C	O	5C	5C	TX-RX
GND	-	Earth	E	TX-RX
DEO	O	Detect signal output. Level : 250mVrms (standard modulation)	DEO	TX-RX
RXAI	I	RX audio input	RXAI	Control
RXAO	O	RX audio output	RXAO	Control
TXAI	I	TX audio input	TXAI	Control
TXAO	O	TX audio output	TXAO	Control
LOK	O	No function	LOK	TX-RX
OPT	O	Option board select.	OP	TX-RX
CODE1	O	Option code 1 (for voice scrambler code 1)	C1	TX-RX
CODE2	O	Option code 2 (for voice scrambler code 2)	C2	TX-RX
CODE3	O	Option code 3 (for voice scrambler code 3)	C3	TX-RX
CODE4	O	Option code 4 (for voice scrambler code 4)	C4	TX-RX
SQ	O	No function	SQ	TX-RX
TXD1	O	Serial data output 1	TD1	TX-RX
RXD1	I	Serial data input 1	RD1	TX-RX
TXD2	O	Serial data output 2	TD2	TX-RX
RXD2	I	Serial data input 2	RD2	TX-RX
RSSI	O	Receive signal strength indication	RSSI	TX-RX
PTT	I	Serial data output 2	PTT	Control
MPTT	I	MIC PTT	MPTT	Control
FSW	I	Foot switch input	FW	TX-RX

3. 可选电路板端子

控制和TX-RX单元提供了安装可选电路板的端子。下表给出了电路板和接头之间的对应关系。当附带扰频器电路板时，将控制单元上的R529和R571断开。

下述表格表示原理图接头和PC机接头之间的不同。

原理图			PC板视图	
名称	输入/输出	功能	名称	单元
SB	输出	转换开关B+ (13.6V, 0.75A)。	SB	发射-接收
5C	输出	直流5V输出。	5C	发射-接收
GND	-	接地。	E	发射-接收
DEO	输出	检测信号输出。 电平：250mVrms (标准调制)	DEO	发射-接收
RXAI	输入	接收部音频信号输入。	RXAI	控制
RXAO	输出	接收部音频信号输出。	RXAO	控制
TXAI	输入	发射部音频信号输入。	TXAI	控制
TXAO	输出	发射部音频信号输出。	TXAO	控制
LOK	输出	无功能。	LOK	发射-接收
OPT	输出	可选电路板选择。	OP	发射-接收
CODE1	输出	可选编码1 (声音扰频器编码1)。	C1	发射-接收
CODE2	输出	可选编码2 (声音扰频器编码2)。	C2	发射-接收
CODE3	输出	可选编码3 (声音扰频器编码3)。	C3	发射-接收
CODE4	输出	可选编码4 (声音扰频器编码4)。	C4	发射-接收
SQ	输出	无功能。	SQ	发射-接收
TXD1	输出	串行数据输出1。	TD1	发射-接收
RXD1	输入	串行数据输入1。	RD1	发射-接收
TXD2	输出	串行数据输出2。	TD2	发射-接收
RXD2	输入	串行数据输入2。	RD2	发射-接收
RSS1	输出	接收信号强度提示。	RSSI	发射-接收
PTT	输入	串行数据输出2。	PTT	控制
MPTT	输入	MIC PTT。	MPTT	控制
FSW	输入	脚踏开关输入。	FW	发射-接收

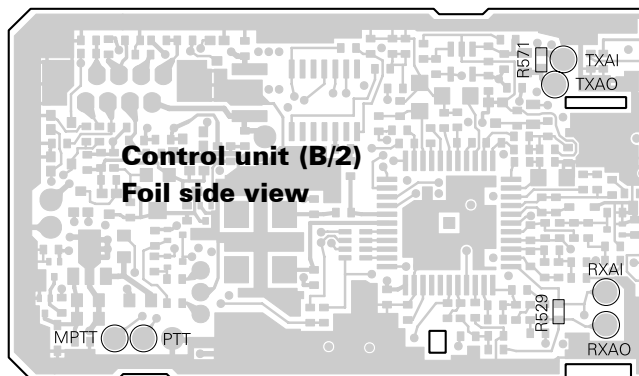
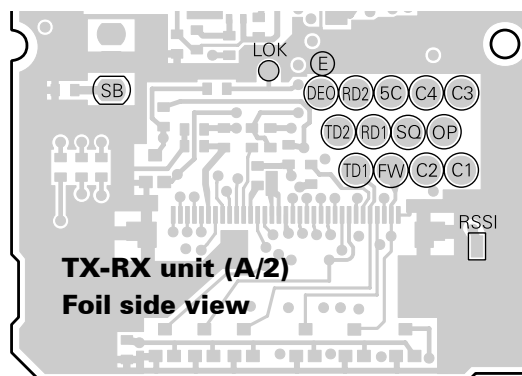


Fig. 4 / 图 4

INSTALLATION / 安装

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

The KCT-18 is an optional cable for enabling the ignition function. The ignition function lets you turn the power to the transceiver on and off with the car ignition key.

If you use the Horn Alert function or the Manual Relay function, you can turn the function off while driving with the ignition key.

4-1. Connecting the KCT-18 to the Transceiver

1. Install the KCT-19 in the transceiver. (See the KCT-19 section.)
2. Insert the KCT-18 lead terminal (②) into pin 3 of the square plug (①) supplied with the KCT-19, then insert the square plug into the KCT-19 connector (③).

4. 点火传感器电缆(KCT-18 : 可选件)

KCT-18是用于使用点火功能的可选电缆。点火功能允许用户使用汽车点火器接通和关闭通信机的电源。

如果使用喇叭告警功能或手动继电器功能，用户可以在使用点火钥匙开车的过程中关闭此功能。

4-1. 将KCT-18连接到车台

1. 在车台上安装KCT-19。(参见KCT-19章节。)
2. 将KCT-18的引线头(①)插入KCT-19方形插头(②)的管脚3上，然后将方形插头插入KCT-19连接器(③)。

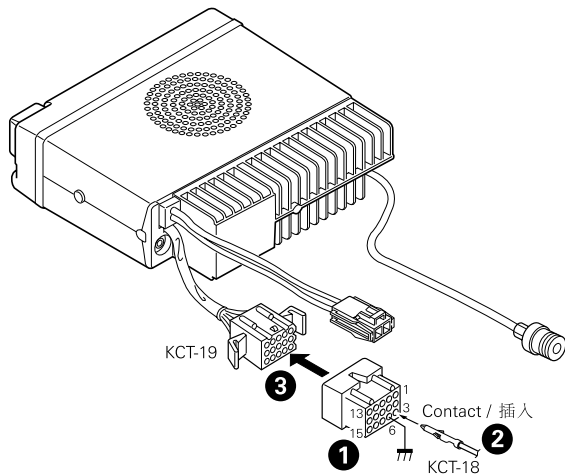


Fig. 5 / 图 5

4-2. Modifying the Transceiver

Modify the transceiver as follows to turn the power or the Horn Alert or Manual Relay function on and off with the ignition key.

1. Remove the lower half of the transceiver case.
2. Set jumper resistors (0Ω) R151 and R152 of the TX-RX unit (A/2) as shown in Table 1.

Operation when KCT-18 is connected	R151	R152
KCT-18 cannot be connected	Yes	Yes
Power on/off and Horn Alert or AUX-A on/off	No	Yes
Horn Alert or AUX-A on/off, Timed power off	Yes	No
Power cannot be turned on	No	No

Table 1 R151 and R152 setup chart

4-2. 修改车台

按照下述方法改装车台能够通过点火钥匙开启和关闭电源、喇叭告警或手动继电器功能。

1. 取下车台的底壳。
2. 按照表1的内容设定发射-接收单元的跳线电阻(0Ω)R151和R152。

当连接了KCT-18时操作	R151	R152
KCT-18不能被连接	使用	使用
接通/关闭电源和 开启/关闭喇叭告警或AUX-A	不使用	使用
开启/关闭喇叭告警或AUX-A. 定时电源关闭	使用	不使用
不能接通电源	不使用	不使用

表1 R151和R152设置表

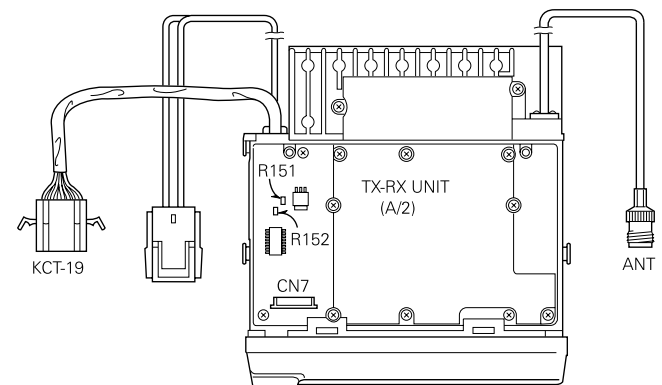


Fig. 6 / 图 6

INSTALLATION / 安装

5. Optional Voice Scrambler Function

You can use the voice scrambler in the following two configurations.

1. Assign this function to the Scrambler key by using the programming software (KPG-62D CPS).
When the Scrambler key is pressed, the [] indicator appears, and the optional (scrambler) function is enabled. When the key is pressed again, the [] indicator goes off and the function is disabled.
2. Using the KPG-62D CPS, you can set the voice scrambler to be always active, without pressing a key. The operator cannot switch off the voice scrambler.

5-1. Configuring a Scrambler Code

The scrambler code cannot be changed using the transceiver keys. Only one scrambler code can be set into the transceiver. If you want to change the code, you must use the KPG-62D CPS to reconfigure the scrambler code.

5-2. Voice Scrambler Board Connection

● Modification

1. Remove the upper half of the case of the TK-885.
2. Remove R529 and R571 on the Control unit (X57-637 B/2).

5. 可选语音扰频器功能

用户可以在下述两种条件下使用语音扰频器：

1. 使用编程软件(KPG-62D CPS)定义某个键为扰频器功能键。
当按下扰频器按键时, [] 显示出现, 并且可选(扰频器)功能有效。当再次按下此按键时, [] 显示关闭, 并且取消此功能。
2. 使用KPG-62D CPS, 用户可以将语音扰频器设定为始终有效, 而不必按下按键。操作者不能关闭语音扰频器。

5-1. 配置扰频器编码

使用车载台按键不能改变扰频器编码。只能将一个固定的扰频器编码设定到车载台内。如果用户需要改变此编码, 则必须使用KPG-62D CPS重新配置扰频器编码。

5-2. 语音扰频器电路板连接

● 改装

1. 取下TK-885外壳的上半部分。
2. 取下控制单元(X57-637 B/2)上的R529和R571。

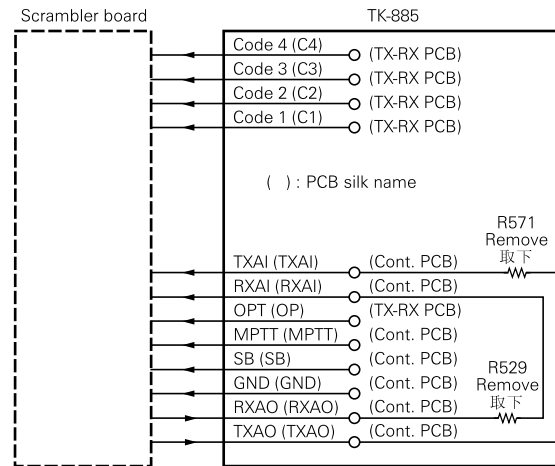


Fig. 7 / 图 7

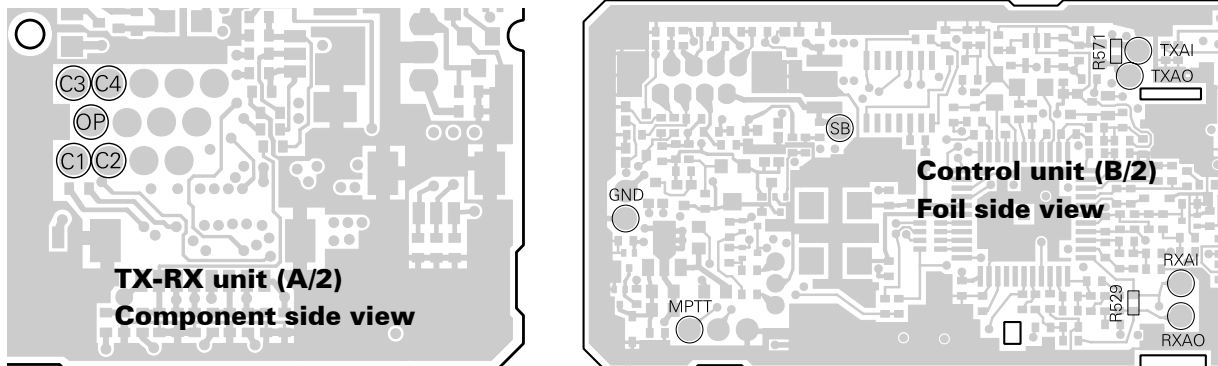


Fig. 8 / 图 8

INSTALLATION / 安装

6. PA/HA Unit (KAP-1 : Option)

6-1. Installing the KAP-1 in the Transceiver

The Horn Alert (max. 2A drive) and Public Address functions are enabled by inserting the KAP-1 W1 (3P; white/black/red) into CN3 on the TX-RX unit, inserting W2 (3P; green) into CN5 on the TX-RX unit, and connecting the KCT-19 (option) to CN2 and CN3 of the KAP-1.

● Installation procedure

1. Open the upper case of the transceiver.
2. Insert the two cables (❶) with connectors from the KAP-1 switch unit into the connectors on the transceiver.
3. Secure the switch unit board to the chassis with a screw (❷). The notch (❸) in the board must be placed at the front left side.
4. Attach the cushion on the top of the KAP-1 switch unit.

6. PA/HA单元(KAP-1 : 可选件)

6-1. 在车台上安装KAP-1

喇叭告警(最大2A驱动)和扩音功能通过将KAP-1 W1 (3P; 白/黑/红)插入发射-接收单元上的CN3, 将W2 (3P; 绿)插入发射-接收单元上CN5, 并且将KCT-19(可选件)连接到KAP-1的CN2和CN3而生效。

● 安装步骤

1. 打开车台的上机壳。
2. 将KAP-1开关单元的两根带插头的电缆插到车载台的插座上(❶)。
3. 使用螺钉(❷)将开关单元板固定在底座上。板上的切口(❸)必须放置在前端左侧。
4. 将减震垫放置在KAP-1开关单元的顶部。

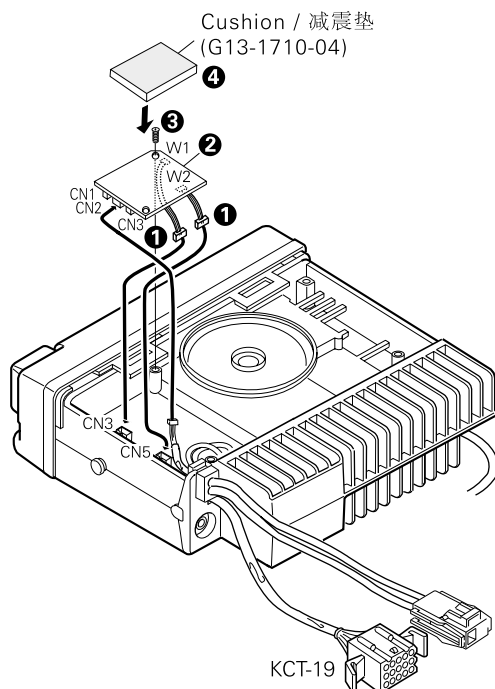


Fig. 9 / 图9

6-2. Modifying the Transceiver

● Horn alert

The signal from pin 4 of IC7 on the TX-RX unit turns Q4 and Q6 on and off and drives KAP-1 HA relay to drive the horn with a maximum of 2A.

The default output is HR1. The relay open output can be obtained between HR1 and HR2 by removing R1 in the KAP-1.

	R1	Output form
HR1 (Default)	Yes	
HR2	No	

6-2. 改装车台

● 喇叭告警

来自于TX-RX单元上IC7的管脚4的信号接通和断开Q4和Q6, 并且驱动KAP-1 HA继电器K2, 使其以最大2A的电流驱动喇叭。

出厂设定的输出是HR1。通过移除KAP-1内的R1可以在HR1和HR2之间获得继电器开路输出。

	R1	输出形式
HR1 (出厂设定)	使用	
HR2	不使用	

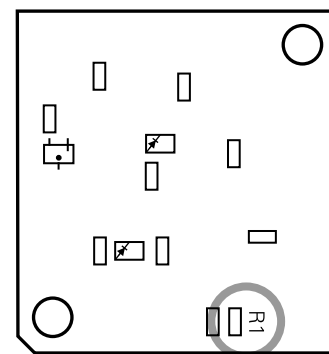


Fig. 10 KAP-1 foil side view

图10

● Public address

The signal from pin 13 of IC7 on the TX-RX unit drives PA relay (K1) in the KAP-1 and switches the audio power amplifier output between the external PA system (through KCT-19) and internal and external speakers.

To use the PA function, R109 on the TX-RX unit must be removed.

	R109
Use the PA function	No
Do not use the PA function	Yes

● 扩音功能

来自于TX-RX单元上IC7的管脚13的信号驱动KAP-1上的PA继电器K1，并且在外置PA系统(通过KCT-19)和内置以及外置扬声器之间转换音频功率放大器输出。

要使用PA功能，TX-RX单元上的R109必须被移除。

	R109
使用PA功能	不使用
不使用PA功能	使用

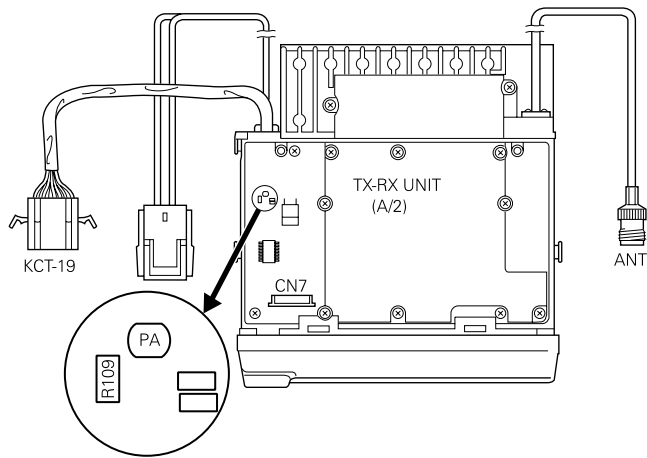


Fig. 11 / 图 11

7. Fitting the Control Panel Upside Down

The TK-885 control panel can be fitted upside down, so the transceiver can be mounted with its internal speaker (in the upper half of the case) facing down in your car.

1. Remove the control panel and the TX-RX unit (B/2) control section. (Fig. 12)

7. 将控制面板倒转安装

TK-885的控制面板可以被倒转，以便在用户的车辆上车台可以在其内置扬声器(在机壳的上部)面向下的情况下被装配。

1. 取下控制面板和发射-接收(B/2)单元控制部。(图12)

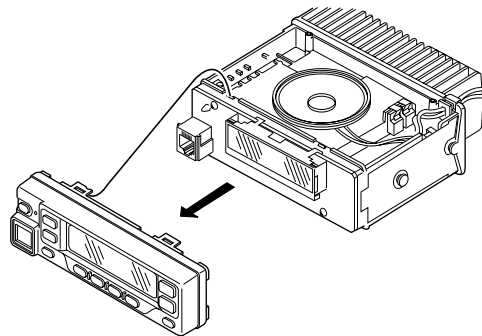


Fig. 12 / 图 12

2. Fold the flat cable (1) in the opposite direction (2).
3. Rotate the control section (3) 180 degrees (4).
4. Insert the flat cable into the control section connector, CN502 (5).
5. Mount the control section on the transceiver (6).

2. 将扁平电缆(1)对折(2)。
3. 将控制部(3)旋转180度(4)。
4. 将扁平电缆插入控制部连接器，CN501(5)。
5. 将控制部装配在车台上(6)。

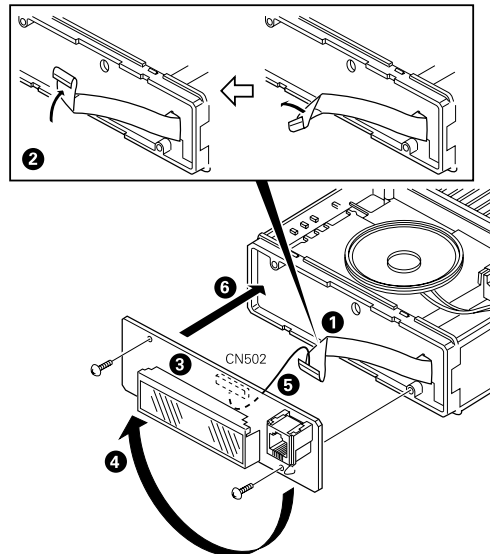


Fig. 13 / 图 13

INSTALLATION / 安装

- Rotate the control panel 180 degrees and mount it on the transceiver. Refit the two halves of the case to complete installation. (Fig. 14)
- 将控制面板旋转180度并且装配在车台机上。重新将两部分机壳装好并完成安装。(图14)

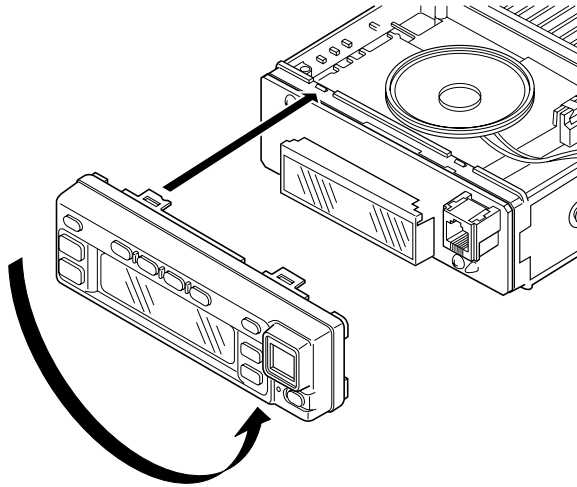


Fig. 14 / 图 14

8. External Speaker

8-1. KES-3 : Option

The KES-3 is an external speaker for the 3.5-mm-diameter speaker jack.

● Connection procedure

- Connect the KES-3 to the 3.5-mm-diameter speaker jack on the rear of the transceiver.

8. 外置扬声器

8-1. KES-3 : 可选件

KES-3是一个使用3.5-mm-直径扬声器插头的外置扬声器。

● 连接步骤

- 将KES-3连接到通信机后部的3.5-mm-直径扬声器插头上。

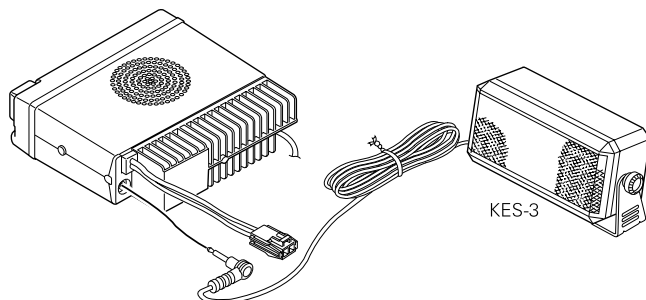


Fig. 15 / 图 15

8-2. KES-4 : Option

The KES-4 is an external speaker used with the accessory connection cable.

● Connection procedure

- Install the KCT-19 in the transceiver. (See the KCT-19 section.)
- Insert the crimp terminal into the square plug supplied with the KCT-19.
- Connect CN5 of the transceiver to connector C of the KCT-19 instead of to the internal speaker connector.

8-2. KES-4 : 可选件

KES-4是使用附加连接电缆的外置扬声器。

● 连接步骤

- 将KCT-19连接到车台上。(参见KCT-19章节。)
- 将压接点插入KCT-19提供的方形插头上。
- 将车台机的CN8与KCT-19的连接器C连接以替换内置扬声器连接器。

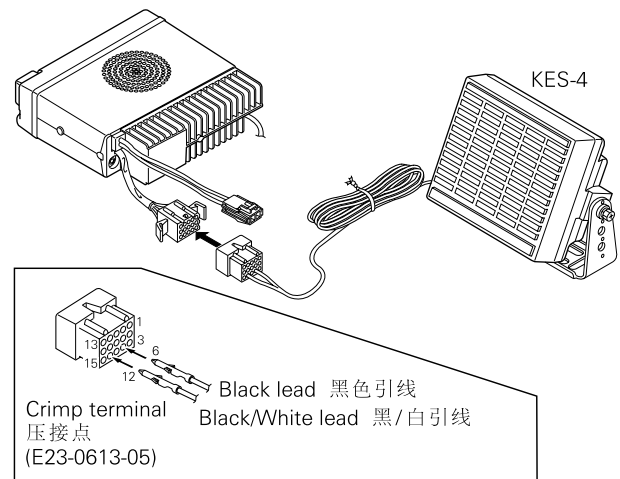


Fig. 16 / 图 16

Frequency Configuration

The TX-RX unit incorporates a VCO, based on a fractional N type PLL synthesizer system, that allows a channel step of 5, 6, and 25kHz to be selected. The incoming signal from the antenna is mixed with a first local oscillation frequency to produce a first intermediate frequency of 44.85MHz.

The signal is then mixed with a second local oscillation frequency of 44.395MHz to produce a second intermediate frequency of 455kHz. This is called a double-conversion system. The TX-RX unit contains a wide/narrow MCF, a wide CF, and a narrow CF. The transmit signal is produced by the PLL circuit for direction oscillation and division. The signal output from the VCO is amplified by a straight amplifier and transmitted.

频率构成

TX-RX单元具有一个基于分级N型PLL合成器系统的VCO。允许选择5、6和25kHz的信道步进值。从天线进入的信号与第一本振频率混频生成44.85MHz的第一中频。

然后此信号与44.395MHz的第二本振频率混频生成455kHz的第二中频信号。这叫二次变频系统。TX-RX单元包括一个宽/窄MCF，一个宽带和一个窄带。PLL电路产生的发射信号直接振荡和分离。VCO输出的信号被直接放大并发射。

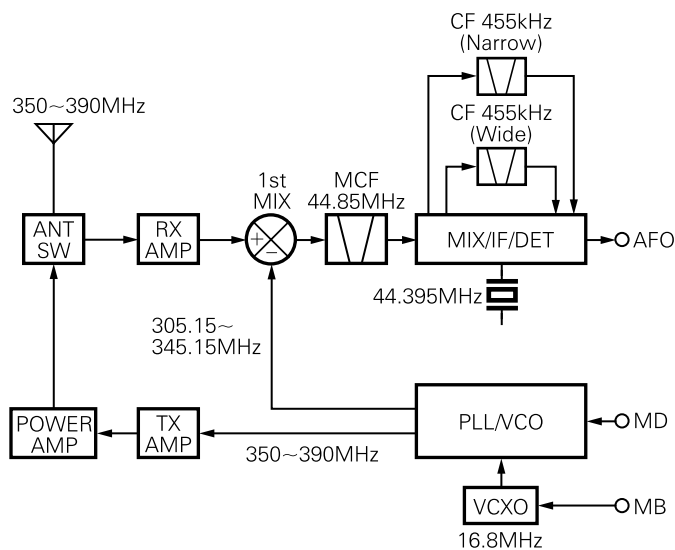


Fig. 1 Frequency configuration

图1 频率构成

Receiver System

Outline

The incoming signal from the antenna passes through a low-pass filter and a transmission/reception selection diode switch (D209) and goes to the front end of the receiver. The front-end filter is a BPF which is adjusted by a variable capacitor (D902, D903). The signal is amplified by Q201 and passed through the BPF and BEF to eliminate unwanted out-of-band signal components. The low-noise amplifier (LNA) (Q201) uses a bipolar transistor to achieve wide-band and low-distortion amplification.

The signal passes through a BPF and BEF, and is then down-converted with the first local signal by IC200, then converted to the first IF signal of 44.85MHz. The first local signal passes through an LPF and an attenuator to eliminate unwanted harmonics components and implement the optimum input level to the mixer, then enters IC200. A DBM is used as a mixer to achieve a high potential.

The signal output from the mixer is amplified by an intermediate frequency amplifier and input to one pair of MCFs (XF1). The signal is amplified by another intermediate amplifier and goes to the FM IF IC (IC11). The first intermediate frequency signal is mixed with the second local signal of 44.395MHz to produce the second IF signal of 455kHz.

The unwanted near-by signal components are then eliminated by a wide ceramic filter (CF1) or a narrow ceramic filter (CF2) and the resulting signal goes back to the FM IF IC. The signal is quadrature-detected in the IC to produce an audio signal, which is amplified by a DET amplifier (IC2) and output to the control unit.

接收部系统

概述

从天线进入的信号通过低通滤波器和发送/接收选择二极管开关 (D209) 进入接收部的前端。前级滤波器是一个通过可变电容 (D902, D903) 调整的BPF。

此信号被Q201放大并通过BPF和BEF消除不需要的带外信号成份。低噪声放大器 (LNA) (Q201) 使用双级晶体管获得宽带和低失真放大。

信号通过BPF和BEF并被IC200的第一本振信号下变频，然后转换为44.85MHz的第一中频信号。第一本振信号通过一个LPF和一个衰减器消除不需要的谐波成份并向混频器提供恰当的输入电平，然后进入IC200。DBM作为混频器使用以获得一个高电位。

混频器输出的信号被中频放大器放大，并且输入到一对MCFs (XF1)。此信号被另一个中频放大器放大，并进入FM中频芯片 (IC11)。第一中频信号与44.395MHz的第二本振信号混频生成455kHz的第二中频信号。

不需要的邻近信号成份被一个宽带陶瓷滤波器 (CF1) 或一个窄带陶瓷滤波器 (CF2) 消除，得到的信号回到FM中频芯片。此信号在芯片中被正交检测并生成音频信号，然后被DET放大器 (IC2) 放大并输出到控制单元。

CIRCUIT DESCRIPTION / 电路说明

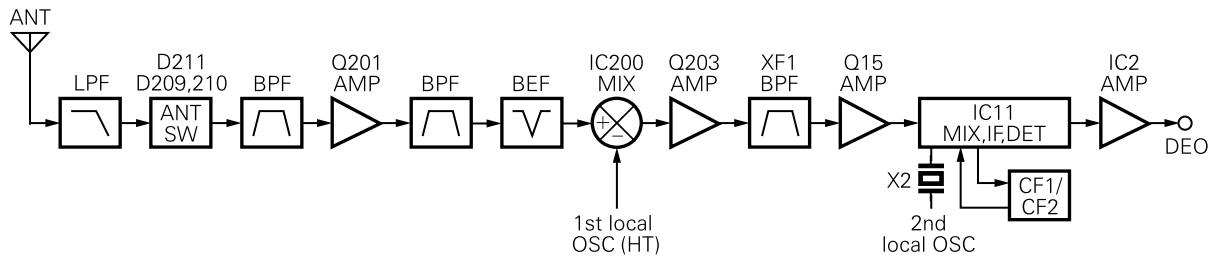


Fig. 2 Receiver system / 图2 接收部系统

Wide/Narrow Changeover Circuit

The W/N port (pin 11) of the shift register (IC7) is used to switch between ceramic filters. When the W/N port is high, Q24 turns on and the ceramic filter SW diode (D22, D23) CF1 turns on to receive a Wide signal. At the same time, Q16 turns on and one of the filters is selected so that the wide and narrow audio output levels are equal.

When the W/N port is low, Q23 turns on and the ceramic filter SW diode (D22, D23) CF2 turns on to receive a Narrow signal.

宽/窄带转换电路

位移寄存器 (IC7) 的宽/窄带端口 (引脚11) 用于切换陶瓷滤波器。当宽/窄带端口为高电平时, Q24接通且陶瓷滤波器 SW 二极管 (D22, D23) CF1 开启并接收宽信号。同时, Q16接通且其中一个滤波器被选定以便宽和窄音频输出电平保持平衡。

当宽/窄带端口为低电平时, Q23接通且陶瓷滤波器 SW 二极管 (D22, D23) CF2 开启并接收窄信号。

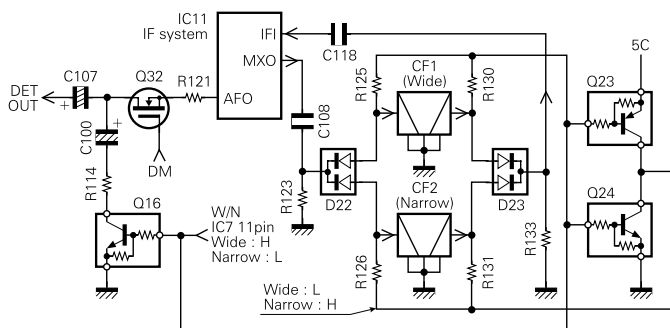


Fig. 3 Wide/Narrow changeover circuit

图3 宽/窄转带换电路

AF Signal System

The detection signal (DEO) from the TX-RX unit goes to the audio processor (IC504) of the control unit. The signal passes through a filter in the audio processor to adjust the gain, and is output to IC502. IC502 sums the AF signal and the DTMF signal and returns the resulting signal to the TX-RX unit. The signal (AFO) sent to the TX-RX unit is input to the D/A converter (IC5). The AFO output level is adjusted by the D/A converter. The signal output from the D/A converter is added with the BEEP signal (BPO) and the resulting signal is input to the audio power amplifier (IC10). The AF signal from IC10 switches between the internal speaker and speaker jack (J1) output.

音频信号系统

来自于TX-RX单元的检测信号进入控制单元的音频处理器 (IC504)。信号通过音频处理器中的滤波器进行增益调整, 并且被输出到IC502。IC502将音频信号和DTMF信号合成并且将得到的信号返回到TX-RX单元。发送到TX-RX单元的信号 (AFO) 被输入到数/模转换器 (IC5)。数/模转换器调整AFO输出电平。从数/模转换器输出的信号与BEEP信号 (BPO) 相加后得到的信号被输入到音频功率放大器 (IC10)。来自于IC10的音频信号在内置扬声器和扬声器插口 (J1) 输出之间切换。

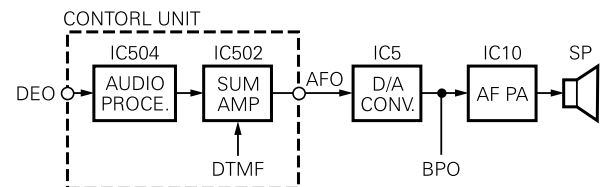


Fig. 4 AF signal system / 图4 音频信号系统

■ Squelch Circuit

The detection output from the FM IF IC (IC11) is amplified by IC2 and the signal (DEO) is sent to the control unit. The signal passes through a high-pass filter and a noise amplifier (Q503) in the control unit to detect noise. A voltage is applied to the CPU (IC511). The CPU controls squelch according to the voltage (ASQ) level. The signal from the RSSI pin of IC11 is monitored. The electric field strength of the receive signal can be known before the ASQ voltage is input to the CPU, and the scan stop speed is improved.

■ 静噪电路

来自于FM中频芯片(IC11)的检测输出被IC2放大, 信号(DEO)被发送到控制单元。此信号通过高通滤波器和控制单元中的噪音放大器(Q503)检测噪音。向CPU(IC511)提供电压。CPU根据电压(ASQ)电平控制静噪。来自于IC11 RSSI引脚的信号被监测。在ASQ电压被输入到CPU之前可以了解接收信号的电场强度, 扫描停止速率被提高。

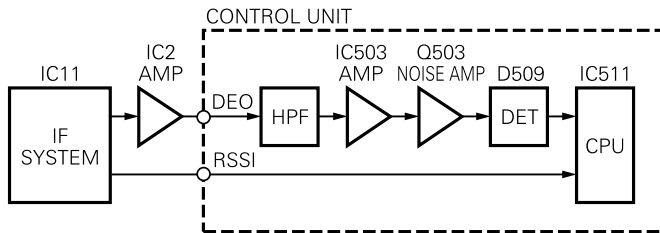


Fig. 5 Squelch circuit / 图5 静噪电路

Transmitter System

■ Outline

The transmitter circuit produces and amplifies the desired frequency directly. It FM-modulates the carrier signal by means of a varicap diode.

■ VCO/PLL Circuit

The TK-885 has a VCO for the transmitter and a VCO for the receiver in a sub-unit (A1). They are housed in a solid shielded case and connected to the TX-RX unit through CN101. One of the VCOs is selected with an ST signal. A filtered low-noise power supply is used for the VCOs and varicap diodes.

The VCO for the transmitter is described below. It is designed so that Q103 turns on with a prescribed frequency when a reverse bias is applied to D102 and D104 by using the control voltage (CV) through CN101. The control voltage

is changed by turning the trimmer capacitor (IC109). The output from Q103 is applied to the buffer amplifier (Q106) to generate a VCO output signal. This signal is used as a drive input signal or a local signal of the first mixer. Since a signal output from Q160 is input to the PLL IC, it passes through CN101 and buffer amplifier (Q300) and goes to the PLL IC (IC300). The modulation signal from CN101 is applied to D105 and passes through C112 and C113 to modulate the carrier.

The PLL IC uses a fractional N type synthesizer to improve the C/N ratio and lock-up speed. The VCO output signal input to the pin 5 of the PLL IC is divided to produce a comparison frequency according to a channel step. This signal is compared with the reference frequency which is output from the VCXO (X1). VCXO provides 16.8MHz, 2.5ppm (D30 to +60°C) and guarantees stable performance when the temperature changes. The output signal from the phase comparator passes through a charge pump and an external active LPF (Q301, Q302) in the PLL IC to generate a DC VCO control voltage CV. Serial data (DT, CK, EP) are output from the CPU (IC511) and shift register (IC8) in the control unit to control the PLL IC. The PLL lock status is always monitored by the CPU.

发射部系统

■ 概述

发射部电路产生并直接放大所需的频率。其采用变容二极管的方式FM-调制载波信号。

■ VCO/PLL电路

TK-885在子单元(A-1)中有一个用于发射部的VCO和一个用于接收部的VCO。他们被放置在固体屏蔽机身中, 并且通过CN101与TX-RX单元连接。ST信号用来选定哪一个VCO工作。经滤波的低噪电源提供给VCOs和变容二极管。

发射部VCO的说明如下。当通过CN101使用控制电压(CV)提供给D102和D104一个反向偏压时, VCO被指定以便Q103以规定的频率工作。通过调谐微调电容(IC109)来改变控制电压。来自于Q103的输出提供给缓冲放大器(Q106)生成VCO输出信号。此信号作为驱动输入信号或第一混频器的本振信号使用。来自于Q160的信号输出被输入到PLL IC。它通过CN101和缓冲放大器(Q300)进入PLL IC(IC300)。来自于CN101的调制信号提供给D105并通过C112和C113调制载波。

PLL IC使用分级N型合成器提高C/N比和锁定速度。输入到PLL IC引脚5的VCO输出信号被分频并且按照信道步进值生成比较频率。此信号与VCXO(X1)输出的参考频率进行比较。VCXO提供16.8MHz, 2.5ppm(-30到+60°C)以在温度变化时保证性能的稳定。来自于相位比较器的输出信号通过负载增压和PLL IC中的外置有源LPF(Q301, Q302)生成一个直流VCO控制电压CV。CPU(IC511)输出串行数据(DT, CK, EP), 并且控制单元中的位移寄存器(IC8)控制PLL IC。PLL锁定状态始终被CPU监测。

CIRCUIT DESCRIPTION / 电路说明

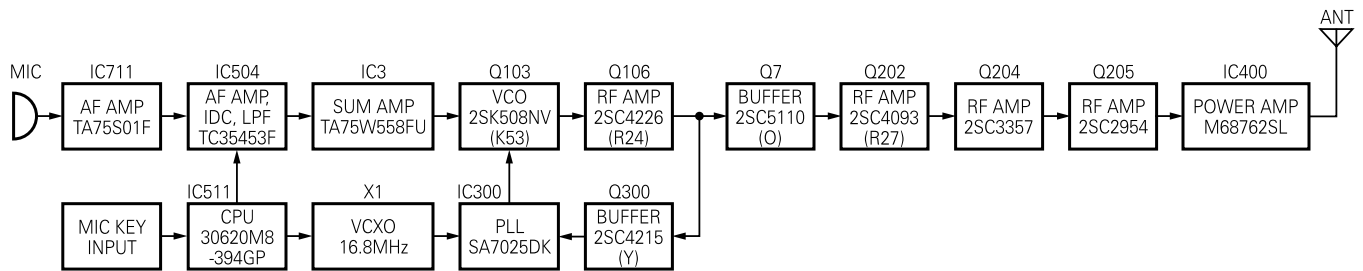


Fig. 6 Transmitter system / 图6 发射部系统

Unlock Circuit

During reception, the TR signal goes high, the KEY signal goes low, and Q10 turns on. Q11 turns on and a voltage is applied to the collector (8R). During transmission, the TR signal goes low, the KEY signal goes high and Q13 turns on. Q12 turns on and a voltage is applied to 8T.

The CPU in the control unit monitors the PLL (IC300) LD signal directly. When the PLL is unlocked during transmission, the PLL LD signal goes low. The CPU detects this signal and makes the KEY signal low. When the KEY signal goes low, no voltage is applied to 8T, and no signal is transmitted.

失锁电路

在接收过程中，TR信号为高电平，KEY信号为低电平，并且Q10接通。Q11接通并且提供给集电极(8R)电压。在发送过程中，TR信号为低电平，KEY信号为高电平，并且Q12接通。Q12接通并且提供给8T电压。

控制单元中的CPU直接监测PLL (IC300)LD信号。当发送过程中PLL失锁时，PLL LD信号为低电平。CPU监测到此信号并且使KEY信号为高电平。当KEY信号为高电平时，不向8T提供电压，并且不发送信号。

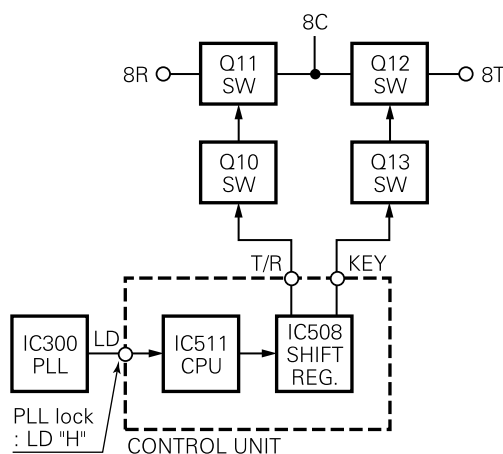


Fig. 7 Unlock circuit / 图7 失锁电路

Power Amplifier Circuit

The transmit output signal from the VCO is amplified to a specified level of the power module (IC400) by the drive block (Q203, Q204, Q205). The amplified signal passes through the transmission/reception selection diode (D209) and goes to a low-pass filter. The low-pass filter removes unwanted high-frequency harmonic components, and the resulting signal is goes the antenna terminal.

功率放大器电路

来自于VCO的发送输出信号通过驱动部分(Q203, Q204, Q205)被放大到功率模块(IC400)的特定电平。经放大的信号通过发送/接收选择二极管(D209)进入低通滤波器。低通滤波器消除不必要的高频谐波元素，得到的信号进入天线末端。

APC Circuit

The automatic transmission power control (APC) circuit detects part of a power module output with a diode (D27, D30) and applies a voltage to Q21. Q21 compares the APC control voltage (PC) generated by the D/A converter (IC5) and DC amplifier (IC6) with the detection output voltage to control Q19 and Q20, generates DB voltage from B voltage, and stabilizes transmission output.

Q17 turns the PC signal on or off using 8T so that the circuit works only during transmission. With stability at low power in mind, Q29 turns off to optimize the detection voltage.

The APC circuit is configured to protect overcurrent of the power module due to fluctuations of the load at the antenna end and to stabilize transmission output at voltage and temperature variations.

APC电路

自动发送功率控制(APC)电路通过二极管(D27, D30)检测功率模块的部分输出，并且向Q21提供电压。Q21将数/模转换器(IC5)和直流放大器(IC6)生成的APC控制电压(PC)与检测输出电压进行比较以控制Q19和Q20。生成来自于B电压的DB电压，并且使发送输出保持稳定。

Q17使用8T接通或断开PC信号以便电路只在发送过程中工作。为了保证低功率时的稳定性，Q29断开以优化检测电压。

APC电路的构成用于防止由于天线终端的负载变化造成的功率模块的过流，并且使发送输出在电压和温度的变化中保持稳定。

CIRCUIT DESCRIPTION / 电路说明

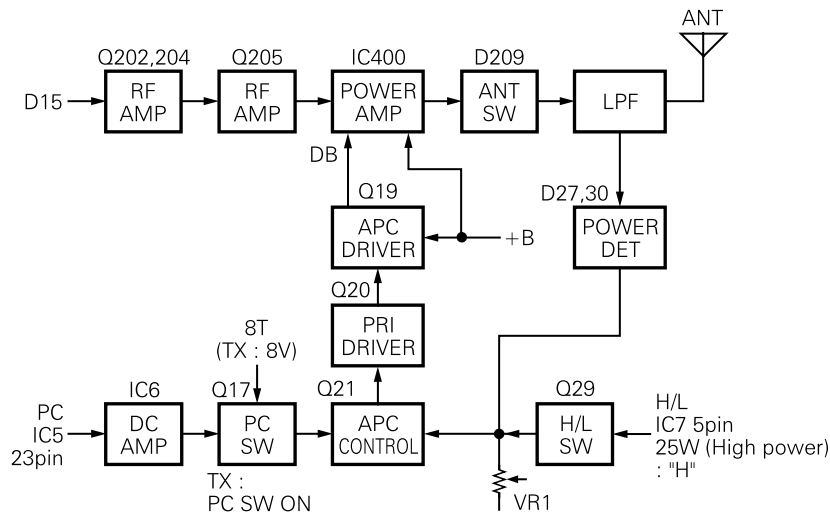


Fig. 8 APC circuit / 图8 APC 电路

Control Circuit

The CPU carries out the following tasks:

- 1) Controls the shift register (IC7, IC8, IC508) AF MUTE, WIDE/NARROW, T/R KEY outputs.
- 2) Adjusts the AF signal level of the audio processor (IC504) and turns the filter select compounder on or off.
- 3) Controls the DTMF decoder (IC507).
- 4) Controls the LCD assembly display data.
- 5) Controls the PLL (IC300).
- 6) Controls the D/A converter (IC5) and adjusts the volume, modulation and transmission power.

控制电路

CPU执行下述工作：

- 1) 控制位移寄存器 (IC7, IC8, IC508) AF MUTE, WIDE/NARROW, T/R KEY 输出。
- 2) 调整音频处理器 (IC504) 的音频信号电平和接通或断开滤波器选择混合器。
- 3) 控制DTMF解码器 (IC507)。
- 4) 控制LCD汇编显示数据。
- 5) 控制PLL (IC300)。
- 6) 控制数/模转换器 (IC5) 和调整音量, 调制和发送功率。

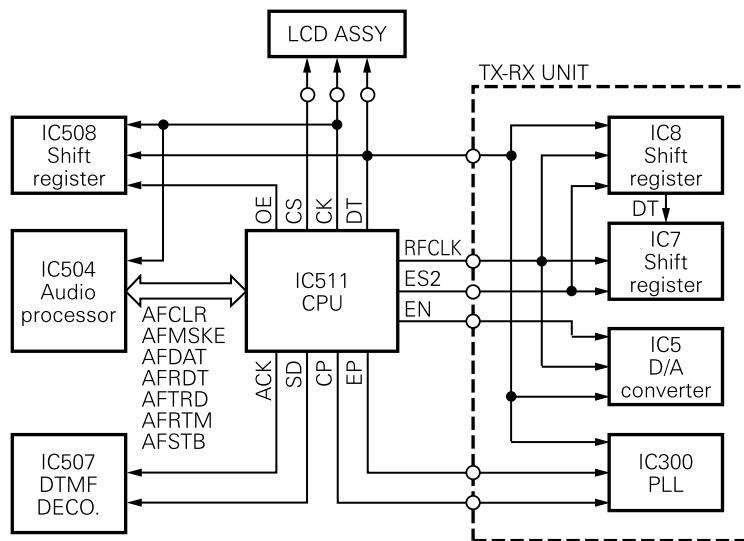


Fig. 9 Control circuit / 图9 控制电路

CIRCUIT DESCRIPTION / 电路说明

■ Memory Circuit

The transceiver has a 2M-bit (256k × 8) flash ROM (IC510) and an 16k-bit EEPROM (IC512). The flash ROM contains firmware programs, data and user data which is programmed with the FPU. The EEPROM contains adjustment data. The CPU (IC511) controls the flash ROM through an external address bus and an external data bus. The CPU controls the EEPROM through two serial data lines.

● Flash Memory

Note: The flash memory stores the data containing the FPU (KPG-62D CPS) program, Security Number (MPT Serial Number), and firmware program (User mode, Test mode, Tuning mode, etc.).

This data must be reinstalled when replacing the flash memory.

● EEPROM

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

Realign the transceiver after replacing the EEPROM.

■ 存储器电路

通信机具有2M(256k×8)闪存ROM(IC510)和16k EEPROM(IC512)。闪存ROM包含固件程序, 数据和使用FPU编程时的用户数据。EEPROM包含调整数据。CPU(IC511)通过外置地址总线和外置数据总线控制闪存ROM。CPU通过两条串行数据线控制EEPROM。

● 闪存

注释: 闪存保存的数据包括FPU(KPG-62D CPS)程序, 安全码(MPT序列号)和固件编程(用户模式, 测试模式, 调谐模式等)。

当更换闪存时, 必须重新安装数据。

● EEPROM

注释: EEPROM保存调谐数据(频偏, 静噪等)。更换EEPROM后重新调整车载台。

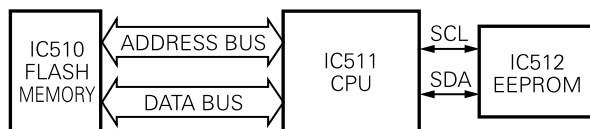


Fig. 10 Momory circuit / 图10 存储器电路

■ Display Circuit

The CPU (IC511) controls the shift register (IC508) and display LEDs. When the LG line goes high when the transceiver is busy, Q508 turns on and the green LED on D511 lights. In transmit mode, the LR line goes high, Q509 turns on and the red light lights. Backlighting LEDs for the key operation unit (D512~D517) and LCD are provided.

When the KBLC line goes high, Q512 turns on, then Q513 turns on, and the key illumination LED lights. A voltage is applied to the LEDA line to turn on the LCD backlight.

■ 显示电路

CPU控制位移寄存器(IC508)和发光二极管。当接收部工作LG线为高电平时, Q508接通且D511上的绿色指示灯发光。在发送模式中, LR线为高电平, Q509接通且红色指示灯发光。按键操作单元(D512~D517)和LCD具有背景灯光指示灯。

当KBLC线为高电平时, Q512接通, 然后Q513接通, 并且按键照明指示灯发光。向LEDA线提供电压以开启LCD背景灯光。

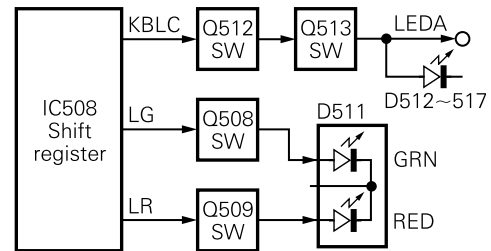


Fig. 11 Display circuit / 图11 显示电路

CIRCUIT DESCRIPTION / 电路说明

■ Key Matrix Circuit

The TK-885 front panel has ten keys. Each of them is connected to a cross point of a matrix of the KEY1 to KEY7 ports of the microprocessor. The KEY5 to KEY7 ports are always high, while the KEY1 to KEY4 ports are always low.

The microprocessor monitors the status of the KEY1 to KEY7 ports. If the state of one of the ports changes, the microprocessor assumes that the key at the matrix point corresponding to that port has been pressed. Unused points (KEY1 to KEY7) are also used for foot switch (FSW) input.

■ 按键矩阵电路

TK-885前端面板有十个按键。每一个按键与微处理器的按键1到按键7端口的矩阵交叉点连接。按键5到按键7端口通常为高电平，同时按键1到按键4端口通常为低电平。

微处理器监测按键1到按键7端口的状态。如果某一个端口的状态发生了变化，微处理器假定对应于此端口的矩阵点上的按键已被按下。不使用的端口(按键1到按键7)也用于脚踏开关(FSW)输入。

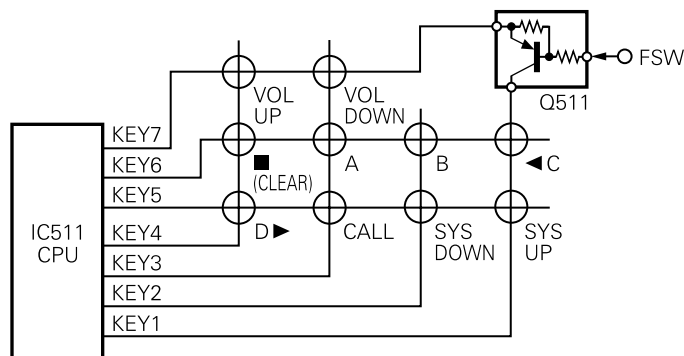


Fig. 12 Key matrix circuit / 图12 按键矩阵电路

■ Encode

The QT, DQT signals are output from LSDO of the CPU (IC511) and go to the D/A converter (IC5) of the TX-RX unit. The DTMF and single/5-tone signals are output from HSDO of the CPU and goes to the audio processor (IC504). An MSK signal is output from the audio processor according to the data (AFDAT) from the CPU. The signal is summed with a MIC/MSK signal by the audio processor (IC504), and the resulting signal passes through an analog switch (IC506) and goes to the TX-RX unit (MO).

MO is summed with the external pin DI line by the summing amplifier (IC3) and the resulting signal goes to the D/A converter (IC5). The D/A converter (IC5) adjusts the MO level and the balance between the MO and TO levels. Part of a TO signal is summed with an output signal from pin 3 (MO) of IC5 and the resulting signal goes to the MD pin of the VCO. This signal is applied to a varicap diode in the VCO for direct FM modulation.

■ 编码

CPU的LSDO输出QT、DQT信号，并且进入TX-RX单元的数/模转换器(IC5)。CPU的HSDO输出DTMF和单音/5音信号，并且进入音频处理器(IC504)。音频处理器按照来自于CPU的数据(AFDAT)输出MSK信号。此信号通过音频处理器(IC504)与MIC/MSK信号合成，得到的信号通过模拟开关(IC506)进入TX-RX单元(MO)。

MO通过总和放大器(IC3)与外置引脚DI线信号合成，得到的信号进入数/模转换器(IC5)。数/模转换器(IC5)调整MO电平以及MO和TO电平之间的平衡。部分TO信号与来自于IC5引脚3(MO)的输出信号合成，得到的信号进入VCO的MD引脚。此信号被提供给VCO中的变容二极管直接进行FM调制。

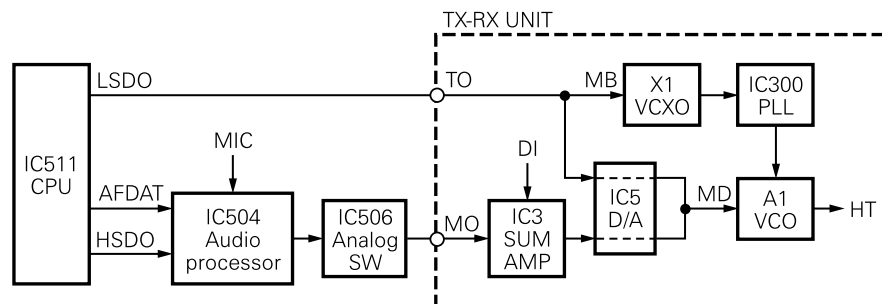


Fig. 13 Encode / 图13 编码

CIRCUIT DESCRIPTION / 电路说明

■ Decode

The signal (DEO) detected by the TX-RX unit passes through two low-pass filters of IC501, goes to LSDI of the CPU (IC511) to decode QT, DQT. The DTMF signal is decoded by a dedicated IC (IC507) and the resulting signal is sent to the CPU (IC511) as serial data (STD).

The 5-tone signal passes through high-pass filter, IC504 and then through low-pass filter, IC710. After passing through these filters, only the audio signal between 300Hz and 3kHz is extracted and input to comparator, IC502. The comparator converts the input signal into a square waveform (0 and 5V). This square waveform is then fed to the HSDI line of CPU (IC511).

■ 解码

TX-RX单元检测到的信号(DEO)通过IC501的两个低通滤波器进入CPU的LSDI对QT, DQT进行解码。DTMF信号被专用芯片(IC507)解码,得到的信号作为串行数据(STD)被发送到CPU(IC511)。

5音信号通过高通滤波器, IC504, 然后通过低通滤波器, IC710。通过这些滤波器后, 只有300Hz到3kHz之间的音频信号被提取出来并且输入到比较器, IC502。比较器将输入信号转换为方形波(0到5V)。然后此方形波进入CPU(IC511)的HSDI线。

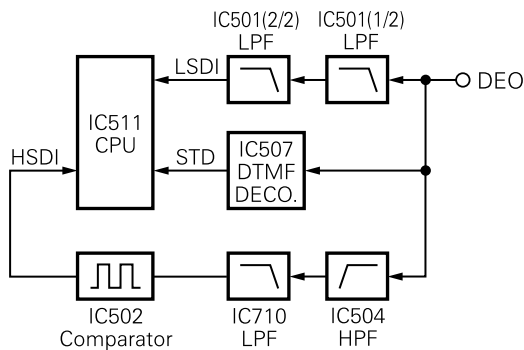


Fig. 14 Decode / 图 14 解码

■ D/A Converter

The D/A converter (IC5) is used to adjust TONE and MO modulation, beep, AF volume, TV voltage, FC reference voltage, and PC POWER CONTROL voltage level.

Adjustment values are sent from the CPU as serial data. The D/A converter has a resolution of 256 and the following relationship is valid:

$$\text{D/A output} = (\text{Vin} - \text{VDAREF}) / 256 \times n + \text{VDAREF}$$

Vin: Analog input

VDAREF: D/A reference voltage

n: Serial data value from the microprocessor (CPU)

■ 数/模转换器

数/模转换器(IC5)用于调整TONE和MO调制, beep, 音频音量, TV电压, FC参考电压和PC POWER CONTROL电压电平。

CPU将调整数值作为串行数据发送。数/模转换器的精度为256, 并且有下述对应关系:

$$\text{数/模输出} = (\text{Vin} - \text{VDAREF}) / 256 \times n + \text{VDAREF}$$

Vin: 模拟输入

VDAREF: 数/模参考电压

n: 来自于微处理器(CPU)的串行数据值

■ Horn Control

The horn switch, consisting of Q4, Q5, and Q6, controls the horn relay. It is supplied by the dealer to provide the external horn alert function.

Q5 disables horn alert, turning on when its base is high, to inhibit the function. Normally, the output from IC7 is low, and Q6 is off; the base of Q4 is about 0V and Q4 is off. When horn alert is enabled, the output from IC7 goes high and Q6 turns on. The base current flows through R58 to Q4 to turn Q4 on. Q4 can sink a maximum of 100mA. If the operational KAP-1 is used, it can drive up to 2A.

■ 喇叭控制

包括Q4, Q5和Q6的喇叭开关控制喇叭继电器。由经销商提供外置喇叭告警功能。Q5使喇叭告警失效, 当其基极为高电平时开启, 用于禁止此功能。通常情况下, IC7的输出为低电平且Q6断开; Q4的基极大约为0V且Q4断开。当喇叭告警有效时, IC7的输出为高电平且Q6接通。基极电流通过R58到Q4并且接通Q4。Q4可以吸取最大100mA的电流。如果使用可选的KAP-1, 可以提高到2A。

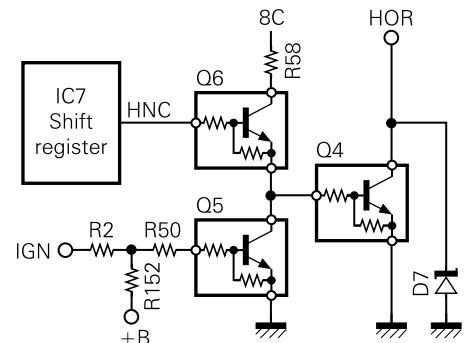


Fig. 15 Horn control / 图 15 喇叭控制

CIRCUIT DESCRIPTION / 电路说明

■ PA Switch

If the optional KAP-1 is used, the PA (Public Address) function becomes available. In this case, the signal flow changes as follows;

"PA2"	Q507	SW.A	SW.B	SW.D	Public address
L	L	L	H	H	OFF
H	H	H	L	L	ON

■ PA开关

如果使用可选的KAP-1, PA(扩音功能)功能变为有效。在这种情况下, 信号电流按照下表变化:

"PA2"	Q507	SW. A	SW. B	SW. D	扩音功能
低电平	低电平	低电平	高电平	高电平	关闭
高电平	高电平	高电平	低电平	低电平	开启

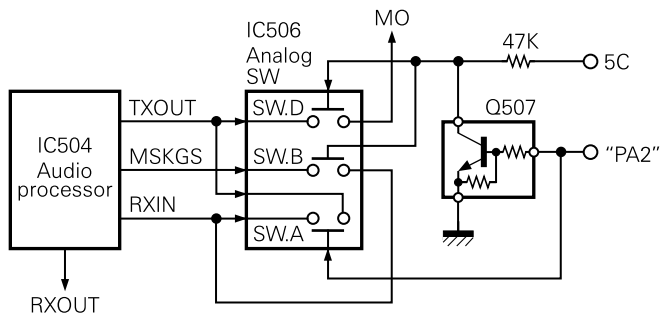


Fig. 16 PA switch / 图 16 PA开关

Power Supply Circuit

When the POWER switch on the control unit is pressed, the PSW signal goes low. This signal is inverted by Q26 and sent to a flip-flop IC (IC15). This IC outputs a control signal when the PSW goes low. When the power turns on, pin 1 of IC15 outputs a low signal and Q30 turns on. The base of Q28 goes high, Q28 turns on, SB SW (Q27) turns on and power (SB) is supplied to the set.

This circuit has an over-voltage protection circuit. If a DC voltage of 20 V or higher is applied to the power cable, D34 turns on and a voltage is applied to the base of Q31. This voltage turns Q31 on and turns Q28 and SBSW off. This circuit has a TIMED POWER OFF (TOF) function which can be programmed by software.

It is controlled through pin 6 of IC7. When the TOF line goes high, Q22 turns on and then Q25 turns on. Pin 6 of IC15 goes high, then pin 1 goes high to turn Q27 off.

电源电路

当按下控制单元上的电源开关时, PSW信号变为低电平。此信号被Q26反相并且被发送到触发电路IC(IC15)。当PSW变为低电平时, 此IC输出控制信号。当电源开启时, IC15的引脚1输出低电平信号并且Q30接通。Q28的基极变为高电平, Q28接通, SB SW(Q27)接通并且向装置提供电源(SB)。此电路具有过压保护电路。如果20V的直流电压或更高的电压提供给电源线, 则D34接通并且向Q31的基极提供电压。此电压接通Q31并且断开Q28和SBSW。此电路具有一个可以通过软件编程的定时关机(TOF)功能。

通过IC7的引脚6进行控制。当TOF线变为高电平时, Q22接通, 然后Q25接通。IC15的引脚6变为高电平, 然后引脚1变为高电平, 使Q27断开。

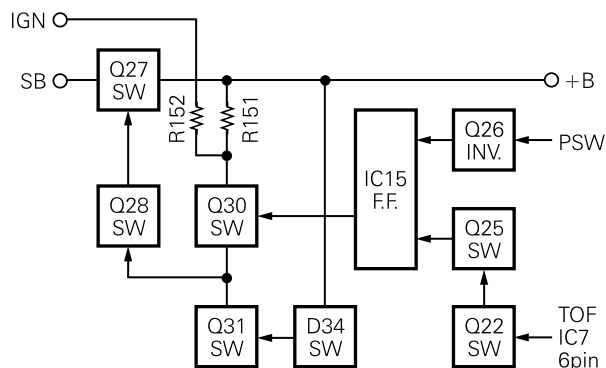


Fig. 17 Power supply circuit / 图 17 电源电路

SEMICONDUCTOR DATA / 半导体数据

**Microprocessor : 30620M8-394GP
(TX-RX Unit IC511)**
■ Terminal function

Pin No.	Name	I/O	Function
1	LSDOUT	O	Low speed data output.
2	HSDOUT	O	High speed data output.
3	HSDIN	I	High speed data input.
4	DTMSTD	I	DTMF decode IC data detect input.
5	SELF	I	No function.
6	BYTE	I	+5V.
7	CNVSS	I	GND.
8	SFTOE	O	Shift register output enable.
9	LCDCS	O	LCD driver chip select output.
10	RESET	I	Microcomputer reset input.
11	XOUT	-	9.8304MHz (System clock).
12	VSS	-	GND.
13	XIN	-	9.8304MHz (System clock).
14	VCC	-	+5V.
15	IGN	I	Ignition sense input.
16	AFTRD	I	FFSK modulation data output timing pulse input.
17	AFRTM	I	FFSK demodulation data input timing pulse input.
18	MICDAT	O	MIC key data output.
19	CP	O	PLL IC clock output.
20	BEEP	O	Beep data output.
21	AFRDT	I	FFSK demodulation data input.
22	AFREG1	O	AF IC register switching data output 1.
23	AFREG2	O	AF IC register switching data output 2.
24	EEPDAT	O	EEPROM data output.
25	EN	O	D/A converter IC data strobe output.
26	AFCLR	O	FFSK flame reset output.
27	RXCOM2	I	External hook input / External serial interface input.
28	TXCOM2	I/O	External PTT input / External serial interface output.
29	TXCOM1	O	External serial interface output.
30	RXCOM1	I	External serial interface input.
31	LD	I	PLL unlock detect input.
32	AFMSKE	O	FFSK modulation enable. (Enable active "H")
33	TXD	O	Serial interface output.
34	HOOK	I	Hook input / Serial interface input.
35	AFDAT	O	FFSK data output.

**微处理器 : 30620M8-394GP
(TX-RX单元IC511)**
■ 端子功能

管脚号	端口名称	输入/输出	功 能
1	LSDOUT	输出	低速率数据输出。
2	HSDOUT	输出	高速率数据输出。
3	HSDIN	输入	高速率数据输入。
4	DTMSTD	输入	DTMF解码芯片数据检测输入。
5	SELF	输入	无功能。
6	BYTE	输入	+5V。
7	CNVSS	输入	接地。
8	SFTOE	输出	位移寄存器输出有效。
9	LCDCS	输出	LCD驱动芯片选择输出。
10	RESET	输入	微电脑复位输入。
11	XOUT	-	9.8304MHz (系统时钟)。
12	VSS	-	接地。
13	XIN	-	9.8304MHz (系统时钟)。
14	VCC	-	+5V。
15	IGN	输入	点火传感输入。
16	AFTRD	输入	FFSK调制数据输出计时脉冲输入。
17	AFRTM	输入	FFSK调制数据输入计时脉冲输入。
18	MICDAT	输出	MIC按键数据输出。
19	CP	输出	PLL IC时钟输出。
20	BEEP	输出	Beep数据输出。
21	AFRDT	输入	FFSK解调数据输入。
22	AFREG1	输出	音频芯片位移开关数据输出1。
23	AFREG2	输出	音频芯片位移开关数据输出2。
24	EEPDAT	输出	EEPROM数据输出。
25	EN	输出	数/模转换器芯片数据选通输出。
26	AFCLR	输出	FFSK复位输出。
27	RXCOM2	输入	外置挂机输入/外置串行接口输入。
28	TXCOM2	输入/输出	外置PTT输入/外置串行接口输出。
29	TXCOM1	输出	外置串口输出。
30	RXCOM1	输入	外置串口输入。
31	LD	输入	PLL失锁检测输入。
32	AFMSKE	输出	FFSK调制有效。(有效激活“高电平”)
33	TXD	输出	串口输出。
34	HOOK	输入	PTT输入/串行接口输出。
35	AFDAT	输出	FFSK数据输出。

SEMICONDUCTOR DATA / 半导体数据

Pin No.	Name	I/O	Function
36	RFCLK	O	Common clock output. (TX-RX unit)
37	RDY	-	Not used.
38	ALE	-	Not used.
39	HOLD	-	Not used.
40	HLDA	-	Not used.
41	BLCK	-	Not used.
42	RD	-	Flash memory RD bus.
43	BHE	-	Not used.
44	WR	-	Flash memory WR bus.
45	DTMCLK	O	DTMF decode IC clock output.
46	CNTCLK	O	Common clock output. (Control unit)
47	EP	O	PLL IC data strobe output.
48	CSO	O	Flash memory chip enable.
49	A19	-	Not used.
50~59	A18~A9	-	Flash memory address bus.
60	VCC	-	+5V.
61	A8	-	Flash memory address bus.
62	VSS	-	GND.
63~70	A7~A0	-	Flash memory address bus.
71~74	KEY1~KEY4	I/O	Key matrix data input/output 1~4.
75	MINDAT	O	Common data output.
76~78	KEY5~KEY7	I	Key matrix data input 5~7.
79~86	D7~D0	-	Flash memory data bus.
87	DTMDAT	I	DTMF decode IC data input.
88	AUXDTC	I	External DTC input.
89	MICBLC	O	MIC back light control output.
90	POWSW	I	Power switch input.
91	ANLSQL	I	Squelch level input.
92	PTT	I	PTT switch input.
93	RSSI	I	Received signal strength indicator input.
94	AVSS	-	GND.
95	LSDIN	I	Low speed data input.
96	VREF	-	+5V.
97	AVCC	-	+5V.
98	ES1	O	Shift register data strobe output. (Control unit)
99	ES2	O	Shift register data strobe output. (TX-RX unit)
100	AFSTB	O	AF IC data strobe output.

管脚号	端口名称	输入/输出	功 能
36	RFCLK	输出	共用时钟输出(TX-RX单元)。
37	RDY	-	不使用。
38	ALE	-	不使用。
39	HOLD	-	不使用。
40	HLDA	-	不使用。
41	BLCK	-	不使用。
42	RD	-	闪存RD总线。
43	BHE	-	不使用。
44	WR	-	闪存WR总线。
45	DTMCLK	输出	DTMF解码芯片时钟输出。
46	CNTCLK	输出	共用时钟输出(Control单元)。
47	EP	输出	PLL芯片数据选通输出。
48	CSO	输出	闪存芯片有效。
49	A19	-	不使用。
50-59	A18-A9	-	闪存地址总线。
60	VCC	-	+5V。
61	A8	-	闪存地址总线。
62	VSS	-	接地。
63-70	A7-A0	-	闪存地址总线。
71-74	KEY1-KEY4	输入/输出	按键矩阵数据输入/输出1-4。
75	MINDAT	输出	共用数据输出。
76-78	KEY5-KEY7	输入	按键矩阵数据输入5-7。
79-86	D7-D0	-	闪存数据总线。
87	DTMDAT	输入	DTMF解码IC数据输入。
88	AUXDTC	输入	外置DTC输入。
89	MICBLC	输出	MIC背景灯光控制输出。
90	POWSW	输入	电源开关输入。
91	ANLSQL	输入	静噪电平输入。
92	PTT	输入	PTT开关输入。
93	RSSI	输入	接收信号强度指示输入。
94	AVSS	-	接地。
95	LSDIN	输入	低速率数据输入。
96	VREF	-	+5V。
97	AVCC	-	+5V。
98	ES1	输出	位移寄存器数据选通输出。 (Control单元)
99	ES2	输出	位移寄存器数据选通输出。 (TX-RX单元)
100	AFSTB	输出	音频芯片数据选通输出。

SEMICONDUCTOR DATA / 半导体数据

Shift Register : BU4094BCFV

■ Terminal function (TX-RX unit IC508)

Pin No.	Port	Name	Function
1	ES	ES1	Strobe
2	DT	DAT	Data
3	CK		Clock
4	Q1	LEDR	Red LED. H : ON, L : OFF
5	Q2	LEDG	Green LED. H : ON, L : OFF
6	Q3	KEYBLT	Key back light. H : ON, L : OFF
7	Q4	MMUTE	MIC mute. H: Mute, L : Unmute
8	VSS		GND
9			NC
10			NC
11	Q8	PA2	Public address control 2. H : ON, L : OFF
12	Q7	BSHIFT	Beat shift. H : ON, L : OFF
13	Q6	KEY	TX power switching. H : TX, L : RX
14	Q5	T/R	TX/RX switching. H : RX, L : TX
15	OE		Output enable
16	VDC		+5V

■ Terminal function (TX-RX unit IC7)

Pin No.	Port	Name	Function
1	STB	ES	Strobe
2	SI	DT	Data
3	CLK	CK	Clock
4	Q1	HORN	Horn alert. H : ON, L : OFF / Auxiliary A. H : ON, L : OFF
5	Q2	HL	RF power switching. H : High, L : Low
6	Q3	TIMOFF	Timed power off. H : Power off
7	Q4	CODE3	Option board data 3. H : ON, L : OFF
8	VSS		GND
9			NC
10			NC
11	Q8	W/N	Wide/Narrow switching. H : Wide, L : Narrow
12	Q7		NC
13	Q6	PA1	Public address 4. H : ON, L : OFF
14	Q5	CODE4	Option board data 1. H : ON, L : OFF
15	OE		Output enable
16	VDC		+5V

位移寄存器 : BU4094BCFV

■ 端子功能(TX-RX单元IC508)

管脚号	端口	名称	功能
1	ES	ES1	选通。
2	DT	DAT	数据。
3	CK		时钟。
4	Q1	LEDR	红色指示灯。 高电平：开启，低电平：关闭
5	Q2	LEDG	绿色指示灯。 高电平：开启，低电平：关闭
6	Q3	KEYBLT	按键背景灯光。 高电平：开启，低电平：关闭
7	Q4	MMUTE	MIC静音。 高电平：静音，低电平：不静音
8	VSS		接地。
9			不使用。
10			不使用。
11	Q8	PA2	扩音功能控制2。 高电平：开启，低电平：关闭
12	Q7	BSHIFT	拍频偏移。高电平：开启，低电平：关闭
13	Q6	KEY	TX电源转换开关。 高电平：TX，低电平：RX
14	Q5	T/R	TX/RX转换开关。 高电平：TX，低电平：RX
15	OE		输出有效。
16	VDC		+5V。

■ 端子功能(TX-RX单元IC7)

管脚号	端口	名称	功能
1	STB	ES	选通。
2	SI	DT	数据。
3	CLK	CK	时钟。
4	Q1	HORN	喇叭告警。 高电平：开启，低电平：关闭/ 辅助A。高电平：开启，低电平：关闭
5	Q2	HL	射频功率转换开关。 H：高电平，L：低电平
6	Q3	TIMOFF	定时电源关闭。高电平：电源关闭
7	Q4	CODE3	可选电路板数据3。 高电平：开启，低电平：关闭
8	VSS		接地。
9			不使用。
10			不使用。
11	Q8	W/N	宽/窄转换开关。 高电平：宽，低电平：窄
12	Q7		不使用。
13	Q6	PA1	扩音功能1。 高电平：开启，低电平：关闭
14	Q5	CODE4	可选电路板数据4。 高电平：开启，低电平：关闭
15	OE		输出有效。
16	VDC		+5V。

SEMICONDUCTOR DATA / 半导体数据

■ Terminal function (TX-RX unit IC8)

Pin No.	Port	Name	Function
1	STB	ES	Strobe
2	SI	DT	Data
3	CLK	CK	Clock
4	Q1	AM1	Audio mute 1. H : Mute, L : Unmute
5	Q2	LOK	No function
6	Q3	STR	VCO shift switching. H : TX, L : RX
7	Q4	DM	DET mute. H : RX, L : TX
8	VSS		GND
9	QS		IC7 data output
10			NC
11	Q8	SQ	No function
12	Q7	CODE2	Option board data 2. H : ON, L : OFF
13	Q6	CODE1	Option board data 1. H : ON, L : OFF
14	Q5	OPT	Option board control. H : ON, L : OFF / Auxiliary B.
15	OE		Output enable
16	VDC		+5V.

■ 端子功能(TX-RX单元IC8)

管脚号	端口	名称	功能
1	STB	ES	选通。
2	SI	DT	数据。
3	CLK	CK	时钟。
4	Q1	AM1	音频静音1。 高电平：静音，低电平：不静音
5	Q2	LOK	无功能。
6	Q3	STR	VCO位移转换开关。 高电平：TX 低电平：RX
7	Q4	DM	DET静音。 高电平：TX 低电平：RX
8	VSS		接地。
9	QS		IC7数据输出。
10			不连接。
11	Q8	SQ	无功能。
12	Q7	CODE2	可选电路板数据2。 高电平：开启，低电平：关闭
13	Q6	CODE1	可选电路板数据1。 高电平：开启，低电平：关闭
14	Q5	OPT	可选电路板控制。 高电平：开启，低电平：关闭/辅助B
15	OE		输出有效。
16	VDC		+5V。

DESCRIPTION OF COMPONENTS / 元件说明

TX-RX Unit (X57-6373-01) (A/2)

Ref. No.	Use / Function	Operation / Condition
IC1	DC amp	FC, TCXO control
IC2	DET amp	External DEO, internal DEO
IC3	Amp/Summing amp	DI / DI and MO addtion
IC4	Analog switch	DI switch
IC5	A/D converter	PC, TV, FC, AFO, BEEP, TO, MO control
IC6	DC amp	PC, TV
IC7	Shift register	HNC, H/L, TOF, CODE3, CODE4, PA, W/N control
IC8	Shift register	AM, LOK, STR, DM, OPT, CODE1, CODE2 control
IC9	5V AVR	External 5C
IC10	AF power amp	
IC11	FM IF DET	Quadrature detector, 2nd mixer, OSC, IF amplifier, RSSI
IC12	5V AVR	5C
IC13	9V AVR	9C
IC14	8V AVR	8C
IC15	Flip-flop	Power on/off control
IC200	Mixer	DBM
IC300	PLL	Reference 16.8MHz. PLL lock : LD "H"
IC400	Power module	RF power 25W
IC401	Short protection	
Q1	DC switch	When PTT on CN1 is "H", DI on CN1 is muted
Q2	Ripple filter	8CL
Q4	HOR switch	IGN
Q5	HOR SW control	IGN
Q6	HOR SW control	Active while HNC is "H"
Q7	Buffer amp	HT
Q8	AF mute	Active while AM1 is "H"
Q9	AF mute	Active while power switch is off
Q10	8R SW control	Active while T/R is "H"
Q11	8R switch	Active while Q10 is active
Q12	8T switch	Active while Q13 is active
Q13	8T SW control	Active while KEY is "H"
Q15	IF amp	44.85MHz
Q16	AF switch	No function
Q17	PC switch	Active while TX
Q18	DET mute	Active while KEY is "H"
Q19	APC	APC driver
Q20	APC	APC predriver
Q21	APC control	
Q22	TOF switch	Active while TOF is "H"
Q23	W/N switch	Active while Narrow.
Q24	W/N switch	Active while Wide.
Q25	TOF switch	Active while Q22 is on
Q26	Inverter	Active while power switch is "L"
Q27	SB switch	Active while Q28 is on
Q28	SB SW control	Active while Q30 is on, and Q31 is off

TX-RX单元(X57-6373-01)(A/2)

有关号码	使用 / 功能	操作 / 条件
IC1	直流放大器	FC, TCXO控制
IC2	DTE放大器	外置DEO. 内置DEO
IC3	放大器/总和放大器	DI/DI和MO附加
IC4	模拟开关	DI开关
IC5	数/模转换器	PC, TV, FC, AFO, BEEP, TO, MO控制
IC6	直流放大器	PC, TV
IC7	位移寄存器	HNC, H/L, TOF, CODE3, CODE4, PA, W/N控制
IC8	位移寄存器	AM, LOK, STR, DM, OPT, CODE1, CODE2控制
IC9	5V AVR	外置5C
IC10	音频功率放大器	
IC11	FM IF DET	正交检测器, 第二混频器, OSC, 中频放大器, RSSI
IC12	5V AVR	5C
IC13	9V AVR	9C
IC14	8V AVR	8C
IC15	触发电路	电源开启/关闭控制
IC200	混频器	DBM
IC300	PLL	参考频率16.8MHz PLL锁定: LD "高电平"
IC400	功率模块	射频功率25W
IC401	短路保护	
Q1	直流开关	当CN1上的PTT为"高电平", CN1上的DI为静音。
Q2	脉冲滤波器	8CL
Q4	HOR开关	启动
Q5	HOR开关控制	启动
Q6	HOR开关控制	当HNC为"高电平"时被激活
Q7	缓冲放大器	HT
Q8	音频静音	当AM1为"高电平"时被激活
Q9	音频静音	当电源关闭时被激活
Q10	8R SW控制	当T/R为"高电平"时被激活
Q11	8R开关	当Q10有效时被激活
Q12	8T开关	当Q13有效时被激活
Q13	8T SW开关	当KEY为"高电平"时被激活
Q15	中频放大器	44.85MHz
Q16	音频开关	无用
Q17	PC开关	发送时被激活
Q18	DET静音	当KEY为"高电平"时被激活
Q19	APC	APC驱动器
Q20	APC	APC前驱动器
Q21	APC控制	
Q22	TOF开关	当TOF为"高电平"时被激活
Q23	宽/窄带开关	当窄带时被激活
Q24	宽/窄带开关	当宽带时被激活
Q25	TOF开关	当Q22接通时被激活
Q26	反相器	当功率开关为"低电平"时被激活
Q27	SB开关	当Q28接通时被激活
Q28	SB SW控制	当Q30接通, Q31断开时被激活

DESCRIPTION OF COMPONENTS / 元件说明

Ref. No.	Use / Function	Operation / Condition
Q29	H/L switch	Active while RF power is High
Q30	SB SW control	Active while power switch is on
Q31	SB SW control	Active while power supply voltage is more than 20V
Q32	DET mute	Active while TX
Q201	RF amp	Low noise amplifier
Q202	RF amp	Power module predrive
Q203	Pre IF amp	44.85MHz
Q204,205	RF amp	Power module drive
Q300	Buffer amp	PLL
Q301,302	Active filter	
Q401	Short protection	Power module protection
Q402	W/N switch	Active while narrow
Q403	W/N switch	Active while wide
D1~6	Protection	
D7	HOR protection	
D8,9	Protection	
D11	AF mute	
D12~14	Protection	
D15	HT switch	
D16	Reverse protection	
D17	Protection	
D20	Reverse protection	IGN
D21	Protection	5V (IGN)
D22,23	W/N switch	
D24	Over current protection	
D26	Reverse protection	
D27	Power detection	
D28	Protection	
D30	Power detection	
D31	Reverse protection	
D32	Surge absorption	B
D34	Protection	Active while power supply voltage is more than 20V
D35	Charge	DEO
D37	Reverse protection	
D207	Usable temperature range	
D209	ANT switch	Active while TX
D210,211	ANT switch	
D902,903	BPF tune	

有关号码	使用 / 功能	操作 / 条件
Q29	H/L开关	当射频功率为高电平时被激活
Q30	SB SW控制	当电源开关开启时被激活
Q31	SB SW控制	当电源电压高于20V时被激活
Q32	DET静音	当TX时被激活
Q201	射频放大器	低噪声放大器
Q202	射频放大器	功率模块前驱动
Q203	前中频放大器	44.85MHz
Q204, 205	射频放大器	功率模块驱动
Q300	缓冲放大器	PLL
Q301, 302	活性滤波器	
Q401	短路保护	功率模块保护
Q402	W/N开关	当窄时被激活
Q403	W/N开关	当宽时被激活
D1-6	保护	
D7	HOR保护	
D8, 9	保护	
D11	音频静音	
D12-14	保护	
D15	HT开关	
D16	反向保护	
D17	保护	
D20	反向保护	启动
D21	保护	5V(启动)
D22, 23	W/N开关	
D24	过流保护	
D26	反向保护	
D27	功率检测	
D28	保护	
D30	功率检测	
D31	反向保护	
D32	浪涌吸收	B
D34	保护	当电源电压高于20V时被激活
D35	充电	DEO
D37	反向保护	
D207	有效温度范围	
D209	ANT开关	当TX时被激活
D210, 211	ANT开关	
D902, 903	BPF调谐	

Control Unit (X57-6373-01) (B/2)

Ref. No.	Use / Function	Operation / Condition
IC501	LPF, amplification	LSD
IC502	Amplification	AF, HSD
IC503	Reference voltage/ Buffer amp	ASQ
IC504	Audio processor	Compander, MIC amplifier, ALC, Modem, AF filter, IDC
IC506	Analog switch	MO, DEO, EMG, MI switch
IC507	DTMF decoder	No function

控制单元(X57-6373-01)(B/2)

有关号码	使用 / 功能	操作 / 条件
IC501	LPF, 放大	LSD
IC502	放大	AF, HSD
IC503	参考电压/ 缓冲放大器	ASQ
IC504	音频处理器	压扩器, MIC放大器, ALC, 调制解调器, 音频滤波器, IDC
IC506	模拟开关	MO, DEO, EMG, MI 开关
IC507	DTMF解码器	无功能

DESCRIPTION OF COMPONENTS / 元件说明

Ref. No.	Use / Function	Operation / Condition
IC508	Shift register	LR, LG, KBLC, MM1, T/R, KEY, BSFT, PA2 output
IC509	Reset	Low voltage output when powering up
IC510	Flash ROM	
IC511	CPU	
IC512	EEPROM	
IC513	5V AVR	5C (Control unit)
IC710	Buffer amp	HSD
IC711	Buffer amp	MIC
Q501	MIC mute	Active while MM is "H" and MM1 is "H"
Q502	AF mute	Active while KEY is "H"
Q503	Noise amp	
Q507	Inverter	PA2 H/L switch
Q508	LED switch (Green)	Active while LG is "H", active while RX
Q509	LED switch (Red)	Active while LR is "H", active while TX
Q510	Clock switch shift	Clock shift is on while BSFT is "H"
Q511	FSW swtich	Foot switch is on while FSW is "L"
Q512,513	Key backlight switch	Active while KBLC is "H"
Q515	Key backlight switch	
D501	Surge absorption	BLC
D502	Over current protection	PSB
D503	Surge absorption	CM
D504	Surge absorption	PTT/TXD
D505	Surge absorption	HOOK/RXD
D507	MIC mute	MM/MM1
D508	Limiter	MIC
D509	Limiter	ASQ
D510	Reverse current protection	C575 charge
D511	BUSY/TX LED	Lights green while busy, red while TX
D512~517	Key backlight	Active while KBLC is "H"
D518	Current regulation	Key backlight
D520	Discharge	Speed up

有关号码	使用 / 功能	操作 / 条件
IC508	位移寄存器	LR, LG, KBLC, MM1, T/R, KEY, BSFT, PA2输出
IC509	复位	当功率加大时低电压输出
IC510	闪存ROM	
IC511	CPU	
IC512	EEPROM	
IC513	5V ARV	5C(控制单元)
IC710	缓冲放大器	HSD
IC711	缓冲放大器	MIC
Q501	MIC静音	当MM为“高电平”和MM1为“高电平”时被激活
Q502	音频静音	当KEY为“高电平”时被激活
Q503	噪音放大器	
Q507	反相器	PA2 H/L开关
Q508	LED开关(绿色)	当LG为“高电平”时被激活, 当RX时被激活
Q509	LED开关(红色)	当LR为“高电平”时被激活, 当TX时被激活
Q510	时钟开关变换	当BSFT为“高电平”时时钟变换开启
Q511	FSW开关	当FSW为“低电平”时脚踏开关开启
Q512, 513	按键背景灯光开关	当KBLC为“高电平”时被激活
Q515	按键背景灯光开关	
D501	浪涌吸收	BLC
D502	过流保护	PSB
D503	浪涌吸收	CM
D504	浪涌吸收	PTT/TXD
D505	浪涌吸收	HOOK/RXD
D507	MIC静音	MM/MM1
D508	限幅器	MIC
D509	限幅器	ASQ
D510	反向电流保护	C575充电
D511	BUSY/TX LED	信道忙时绿灯发光, TX时红灯发光
D512~517	按键背景灯光	当KBLC为“高电平”时被激活
D518	电流调节	按键背景灯光
D520	放电	速率升高

VCO Unit (X58-4723-01)

Ref. No.	Use / Function	Operation / Condition
Q101	Oscillator	RX
Q102	Inverter	Active while ST is "H", active while TX
Q103	Oscillator	TX
Q104	TX/RX switch	Active while ST is "H", active while TX
Q105	TX/RX switch	Active while Q102 is off
Q106	Buffer amp	
D101	RX VCO	
D102	TX VCO	
D103	RX VCO	
D104	TX VCO	
D105	Modulation	

VCO单元(X58-4723-01)

有关号码	使用 / 功能	操作 / 条件
Q101	振荡器	RX
Q102	反相器	当ST为“高电平”时被激活, 当TX时被激活
Q103	振荡器	TX
Q104	TX/RX开关	当ST为“高电平”时被激活, 当TX时被激活
Q105	TX/RX开关	当Q102断开时被激活
Q106	缓冲放大器	
D101	RX VCO	
D102	TX VCO	
D103	RX VCO	
D104	TX VCO	
D105	调制	

SUB Unit (X58-4850-11)

Ref. No.	Use / Function	Operation / Condition
Q1	Ripple filter	9CL

SUB单元(X58-4850-11)

有关号码	使用 / 功能	操作 / 条件
Q1	脉冲滤波器	9CL

PARTS LIST / 零件表

*New Parts. ⚠ 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

Y : PX (Far East, Hawaii)

Y : AAFES (Europe)

K : USA

T : England

X : Australia

P : Canada

E : Europe

M : Other Areas

TK-885

TX-RX UNIT (X57-6373-01)

Ref. No.	Address	New parts	Parts No.	Description	Destination
TK-885					
1	1A		A01-2165-13	CABINET TOP	
2	2A		A01-2166-13	CABINET BOTTOM	
3	2A		A62-0642-03	PANEL ASSY	
5	1D		B09-0235-05	CAP ACC	
6	2B		B38-0835-05	LCD ASSY	
8	2D	*	B62-1263-00	INSTRUCTION MANUAL	
9	1C	*	B72-1710-04	MODEL NAME PLATE	
11	1C		E30-3031-15	ANTENNA CABLE N TYPE	
12	1D		E30-3339-05	DC CORD ACC	
13	1C		E30-3340-05	DC CORD RADIO	
14	2B		E37-0789-05	FLAT CABLE CONT-TX/RX	
15	1B		E37-0790-25	SPEAKER LEAD	
21	2B		F10-2371-04	SHIELDING COVER TX/RX	
23	2B		F20-1192-04	INSULATING SHEET CONT	
24	1D		F51-0016-05	FUSE (6*30)	
25	1B,1C		G02-0791-04	FLAT SPRING AF,APC,AVR	
28	1B,1C		G10-1221-04	FIBROUS SHEET SIDE	
29	1B		G10-1222-14	FIBROUS SHEET UP DOWN	
30	1A,2A,2B		G10-1223-14	FIBROUS SHEET SHIELD	
31	1C		G13-1468-04	CUSHION DC CORD	
32	1B		G13-1690-04	CUSHION SP	
34	2B		G13-1839-04	CUSHION SHIELD	
33	2C		G53-0796-04	PACKING PHONE JACK	
35	3D		H10-6618-12	POLYSTYRENE FOAMED FIXTURE (F)	
36	2E		H10-6619-12	POLYSTYRENE FOAMED FIXTURE (R)	
37	1E		H12-1391-03	INNER PACKING CASE	
38	1D		H25-0103-04	PROTECTION BAG (125/250/0.07)	
39	1E,2E		H25-0720-04	PROTECTION BAG (200X350)	
40	3E	*	H52-1740-02	ITEM CARTON CASE	
43	1D		J29-0627-23	BRACKET ACC	
45	2B		K29-5422-02	KEY TOP	
A	1A,2A		N33-2606-45	OVAL HEAD MACHINE SCREW	
B	2C		N67-3008-46	PAN HEAD SEMS SCREW W	
C	2B,1C		N87-2606-46	BRAZIER HEAD TAPTITE SCREW	
D	2B		N87-2612-46	BRAZIER HEAD TAPTITE SCREW	
47	2D		N99-0395-05	SCREW SET	
49	1B		T07-0246-05	SPEAKER	
TX-RX UNIT (X57-6373-01)					
D511			B30-2151-05	LED (RED/GREEN)	
D512-517			B30-2171-05	LED	
C1-15			CK73GB1H102K	CHIP C 1000PF K	
C16			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C17			C92-0628-05	CHIP-TAN 10UF 10WV	
C18			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	
C19			CC73GCH1H100D	CHIP C 10PF D	
C20			CK73GB1E103K	CHIP C 0.010UF K	
C21,22			CK73GB1H102K	CHIP C 1000PF K	
C23			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	
C24			CK73GB1H102K	CHIP C 1000PF K	
C25			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	
C27			CK73GB1H102K	CHIP C 1000PF K	
C28			CC73GCH1H470J	CHIP C 47PF J	
C29			C92-0628-05	CHIP-TAN 10UF 10WV	
C30			CK73GB1H102K	CHIP C 1000PF K	
C31			C92-0628-05	CHIP-TAN 10UF 10WV	
C32			CC73GCH1H220J	CHIP C 22PF J	
C33			CK73GB1E103K	CHIP C 0.010UF K	
C34			C92-0505-05	CHIP-TAN 10UF 16WV	
C35			CK73GB1C104K	CHIP C 0.10UF K	
C36			C92-0628-05	CHIP-TAN 10UF 10WV	
C37			C92-1341-05	ELECTRO 100UF 16WV	
C39			CK73GB1E103K	CHIP C 0.010UF K	
C40			CK73GB1H102K	CHIP C 1000PF K	
C42			C92-0546-05	CHIP-TAN 68UF 6.3WV	
C43			CK73GB1E103K	CHIP C 0.010UF K	
C44			CK73GB1H102K	CHIP C 1000PF K	
C45			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	
C46			C92-0004-05	CHIP-TAN 1.0UF 16WV	
C47			CK73GB1H102K	CHIP C 1000PF K	
C48			CK73FF1C105Z	CHIP C 1.0UF Z	
C49			CK73GB1H102K	CHIP C 1000PF K	
C51,52			CK73GB1H102K	CHIP C 1000PF K	
C54			CK73GB1C104K	CHIP C 0.10UF K	
C55			CC73GCH1H040C	CHIP C 4.0PF C	
C56			CK73GB1H471K	CHIP C 470PF K	
C57			CK73GB1E103K	CHIP C 0.010UF K	
C58			CK73GB1H471K	CHIP C 470PF K	
C59			CK73GB1H102K	CHIP C 1000PF K	
C60			CK73GB1H471K	CHIP C 470PF K	
C61			CK73GB1E103K	CHIP C 0.010UF K	
C62			CC73GCH1H090D	CHIP C 9.0PF D	
C63			CK73FF1C105Z	CHIP C 1.0UF Z	
C64			CK73GB1E103K	CHIP C 0.010UF K	
C65			CK73GB1C104K	CHIP C 0.10UF K	
C66			CC73GCH1H470J	CHIP C 47PF J	
C67			CK73GB1H471K	CHIP C 470PF K	
C68			CK73GB1C104K	CHIP C 0.10UF K	
C69			CC73GCH1H151J	CHIP C 150PF J	
C70			C92-0719-05	ELECTRO 47UF 25WV	
C71			CK73GB1C104K	CHIP C 0.10UF K	
C72,73			CK73GB1H102K	CHIP C 1000PF K	
C74			C92-0719-05	ELECTRO 47UF 25WV	
C75			C92-0044-05	CHIP-ELE 47UF 10WV	
C76			CK73GB1H102K	CHIP C 1000PF K	
C77			C92-0719-05	ELECTRO 47UF 25WV	
C78			CK73GB1E103K	CHIP C 0.010UF K	
C79			C92-0722-05	ELECTRO 470UF 25WV	

PARTS LIST / 零件表

TX-RX UNIT (X57-6373-01)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C80			CK73GB1C104K	CHIP C 0.10UF K		C156,157			CK73GB1E103K	CHIP C 0.010UF K	
C84			CC73GCH1H120J	CHIP C 12PF J		C158,159			CC73GCH1H100D	CHIP C 10PF D	
C88			CK73GB1E103K	CHIP C 0.010UF K		C160			CK73GB1C104K	CHIP C 0.10UF K	
C89			CK73GB1H471K	CHIP C 470PF K		C161			CC73GCH1H101J	CHIP C 100PF J	
C90			CK73GB1H102K	CHIP C 1000PF K		C162			C92-0585-05	CHIP-TAN 4.7UF 16WV	
C91,92			CK73GB1E103K	CHIP C 0.010UF K		C164,165			CK73GB1H471K	CHIP C 470PF K	
C93			CK73GB1H102K	CHIP C 1000PF K		C166			CK73GB1C104K	CHIP C 0.10UF K	
C94			CK73GB1H471K	CHIP C 470PF K		C167			CC73GCH1H100D	CHIP C 10PF D	
C96			CC73GCH1H180J	CHIP C 18PF J		C173			C92-0543-05	CHIP-TAN 3.3UF 10WV	
C97			CK73GB1H102K	CHIP C 1000PF K		C174			C92-0038-05	CHIP-ELE 22UF 16WV	
C98			CC73GCH1H150J	CHIP C 15PF J		C175			CK73GB1H102K	CHIP C 1000PF K	
C99			CK73GB1H102K	CHIP C 1000PF K		C176			C92-0712-05	CHIP-TAN 22UF 6.3WV	
C100			C92-0628-05	CHIP-TAN 10UF 10WV		C177			CC73GCH1H040C	CHIP C 4.0PF C	
C101			CK73GB1H102K	CHIP C 1000PF K		C178,179			CC73GCH1H220J	CHIP C 22PF J	
C102			CC73GCH1H270J	CHIP C 27PF J		C195-198			CK73GB1H102K	CHIP C 1000PF K	
C103			CK73GB1C104K	CHIP C 0.10UF K		C205,206			CC73GCH1H101J	CHIP C 100PF J	
C104			CK73GB1E103K	CHIP C 0.010UF K		C215			CK73GB1H471K	CHIP C 470PF K	
C105			C92-0516-05	CHIP-TAN 4.7UF 16WV		C217			CK73GB1H102K	CHIP C 1000PF K	
C106			C92-0694-05	CHIP-TAN 10UF 16WV		C219			CC73GCH1H391J	CHIP C 390PF J	
C107			C92-0628-05	CHIP-TAN 10UF 10WV		C227			CK73GB1H471K	CHIP C 470PF K	
C108			CK73GB1C104K	CHIP C 0.10UF K		C229			CK73GB1H471K	CHIP C 470PF K	
C109			CK73GB1H471K	CHIP C 470PF K		C230,231			CK73GB1C104K	CHIP C 0.10UF K	
C111,112			CK73GB1H471K	CHIP C 470PF K		C233			CK73GB1E103K	CHIP C 0.010UF K	
C113			CK73GB1E103K	CHIP C 0.010UF K		C234			CC73GCH1H090D	CHIP C 9.0PF D	
C114			C92-0543-05	CHIP-TAN 3.3UF 10WV		C235			CC73GCH1H020C	CHIP C 2.0PF C	
C115			CK73GB1H102K	CHIP C 1000PF K		C236			CK73GB1H471K	CHIP C 470PF K	
C116			C92-0712-05	CHIP-TAN 22UF 6.3WV		C239-241			CK73GB1E103K	CHIP C 0.010UF K	
C117			CK73GB1E103K	CHIP C 0.010UF K		C243			CK73GB1E103K	CHIP C 0.010UF K	
C118			CK73GB1C104K	CHIP C 0.10UF K		C244			CK73GB1H471K	CHIP C 470PF K	
C119			C92-0543-05	CHIP-TAN 3.3UF 10WV		C245			CC73GCH1H060D	CHIP C 6.0PF D	
C120			CK73GB1H102K	CHIP C 1000PF K		C246-250			CK73GB1H471K	CHIP C 470PF K	
C121			C92-0628-05	CHIP-TAN 10UF 10WV		C251			CC73GCH1H070D	CHIP C 7.0PF D	
C123			CK73GB1C104K	CHIP C 0.10UF K		C252			CK73GB1H471K	CHIP C 470PF K	
C124			CK73FB1E103K	CHIP C 0.010UF K		C253			CK73FF1C105Z	CHIP C 1.0UF Z	
C125			CK73GB1H471K	CHIP C 470PF K		C255,256			CK73GB1H471K	CHIP C 470PF K	
C126			CK73GB1C104K	CHIP C 0.10UF K		C257			C92-0719-05	ELECTRO 47UF 25WV	
C127			CK73GB1E103K	CHIP C 0.010UF K		C258			CK73GB1C104K	CHIP C 0.10UF K	
C128			CK73FB1H471K	CHIP C 470PF K		C260			CK73GB1H471K	CHIP C 470PF K	
C129			CK73GB1E103K	CHIP C 0.010UF K		C261			CK73GB1C104K	CHIP C 0.10UF K	
C130			CK73GB1H102K	CHIP C 1000PF K		C262			C92-0719-05	ELECTRO 47UF 25WV	
C131			CK73GB1H471K	CHIP C 470PF K		C263			CK73GB1H471K	CHIP C 470PF K	
C132			CK73GB1C104K	CHIP C 0.10UF K		C264			CK73GB1C104K	CHIP C 0.10UF K	
C133			C92-0720-05	ELECTRO 100UF 25WV		C266			C93-0555-05	CHIP C 5.0PF C	
C134			CK73FB1E224K	CHIP C 0.22UF K		C267			C93-0603-05	CHIP C 1000PF K	
C135			CK73GB1H102K	CHIP C 1000PF K		C268			CC73FCH1H030C	CHIP C 3.0PF C	
C136			CK73FB1E224K	CHIP C 0.22UF K		C272			C93-0560-05	CHIP C 10PF D	
C137			CK73GB1H471K	CHIP C 470PF K		C275			CC73GCH1H070B	CHIP C 7.0PF B	
C138			CC73FCH1HOR5B	CHIP C 0.5PF B		C279			CK73GB1E103K	CHIP C 0.010UF K	
C139			CC73FCH1H020B	CHIP C 2.0PF B		C282,283			CK73GB1H471K	CHIP C 470PF K	
C140-143			CK73GB1H471K	CHIP C 470PF K		C284-286			CC73GCH1H101J	CHIP C 100PF J	
C144			CK73GB1H102K	CHIP C 1000PF K		C287			CK73GB1H471K	CHIP C 470PF K	
C145,146			CK73GB1H471K	CHIP C 470PF K		C292			CM73F2H010C	CHIP C 1.0PF C	
C147			CC73FCH1HOR5B	CHIP C 0.5PF B		C293-295			CC73GCH1H220J	CHIP C 22PF J	
C148			CK73GB1H102K	CHIP C 1000PF K		C296			C92-0555-05	CHIP-TAN 0.047UF 35WV	
C149			CC73FCH1H040B	CHIP C 4.0PF B		C298			C93-0553-05	CHIP C 3.0PF C	
C150			CC73GCH1H220J	CHIP C 22PF J		C299			CC73FCH1H040C	CHIP C 4.0PF C	
C151			CK73GB1H102K	CHIP C 1000PF K		C303			C92-0565-05	CHIP-TAN 6.8UF 10WV	
C152			CE04EW1E102M	ELECTRO 1000UF 25WV		C304-306			CK73GB1H102K	CHIP C 1000PF K	
C153,154			CK73GB1E103K	CHIP C 0.010UF K		C307			CC73GCH1H100D	CHIP C 10PF D	
C155			CK73GB1H102K	CHIP C 1000PF K		C309			CC73GCH1H150J	CHIP C 15PF J	

PARTS LIST / 零件表

TX-RX UNIT (X57-6373-01)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C311			CC73GCH1H100D	CHIP C 10PF D		C544			CC73GCH1H030C	CHIP C 3.0PF C	
C312			CC73GCH1H070D	CHIP C 7.0PF D		C545			CK73GB1H102K	CHIP C 1000PF K	
C313			CK73GB1H102K	CHIP C 1000PF K		C546			CK73GB1H122K	CHIP C 1200PF K	
C314			C92-0001-05	CHIP C 0.1UF 35WV		C547			CK73GB1H102K	CHIP C 1000PF K	
C315			CK73GB1C104K	CHIP C 0.10UF K		C548			C92-0712-05	CHIP-TAN 22UF 6.3WV	
C316			CK73GB1A224K	CHIP C 0.22UF K		C549,550			CK73GB1C104K	CHIP C 0.10UF K	
C317			CK73GB1H102K	CHIP C 1000PF K		C552			CK73GB1C333K	CHIP C 0.033UF K	
C318,319			CK73GB1C104K	CHIP C 0.10UF K		C553			CK73GB1H472K	CHIP C 4700PF K	
C320			C92-0657-05	CHIP-TAN 2.2UF 20WV		C554-558			CK73GB1C104K	CHIP C 0.10UF K	
C321			CC73GCH1H030C	CHIP C 3.0PF C		C559			CK73GB1H102K	CHIP C 1000PF K	
C322			C92-0657-05	CHIP-TAN 2.2UF 20WV		C560			C92-0507-05	CHIP-TAN 4.7UF 6.3WV	
C325			C92-0002-05	CHIP-TAN 0.22UF 35WV		C561			CK73GB1H102K	CHIP C 1000PF K	
C326			CK73FB1C154K	CHIP C 0.15UF K		C562,563			CK73GB1H562K	CHIP C 5600PF K	
C330,331			CC73GCH1H020C	CHIP C 2.0PF C		C564			CK73GB1E223K	CHIP C 0.022UF K	
C405-407			CC73GCH1H220J	CHIP C 22PF J		C565			CK73GB1H102K	CHIP C 1000PF K	
C409			CC73GCH1H220J	CHIP C 22PF J		C566			CC73GCH1H101J	CHIP C 100PF J	
C414			CK73GB1H471K	CHIP C 470PF K		C567			CK73GB1E223K	CHIP C 0.022UF K	
C419			CC73GCH1H220J	CHIP C 22PF J		C568			C92-0712-05	CHIP-TAN 22UF 6.3WV	
C422			CK73GB1H102K	CHIP C 1000PF K		C569			CC73GCH1H470J	CHIP C 47PF J	
C423			C92-0628-05	CHIP-TAN 10UF 10WV		C570,571			CK73GB1C104K	CHIP C 0.10UF K	
C429			C92-0628-05	CHIP-TAN 10UF 10WV		C572			CK73FB1H563K	CHIP C 0.056UF K	
C430,431			CC73GCH1H220J	CHIP C 22PF J		C574			CK73GB1C104K	CHIP C 0.10UF K	
C435			CC73FCH1H220J	CHIP C 22PF J		C575			CK73FB1C334K	CHIP C 0.33UF K	
C442-448			CC73GCH1H220J	CHIP C 22PF J		C576			CK73GB1C473K	CHIP C 0.047UF K	
C454			C93-0557-05	CHIP C 7.0PF D		C577			CK73GB1C104K	CHIP C 0.10UF K	
C501			CK73GB1H471K	CHIP C 470PF K		C578			CK73GB1H103K	CHIP C 0.010UF K	
C502			CC73GCH1H221J	CHIP C 220PF J		C579			CK73GB1H472K	CHIP C 4700PF K	
C503,504			CK73GB1H471K	CHIP C 470PF K		C580			CK73GB1H102K	CHIP C 1000PF K	
C505			CK73GB1C683K	CHIP C 0.068UF K		C581			CK73GB1H103K	CHIP C 0.010UF K	
C506			CK73GB1E123K	CHIP C 0.012UF K		C582,583			CK73GB1C104K	CHIP C 0.10UF K	
C508			CK73GB1C104K	CHIP C 0.10UF K		C584			CK73GB1H471K	CHIP C 470PF K	
C509			CK73GB1H222K	CHIP C 2200PF K		C592			CK73GB1C104K	CHIP C 0.10UF K	
C510			C92-0507-05	CHIP-TAN 4.7UF 6.3WV		C593			CK73GB1H103K	CHIP C 0.010UF K	
C511			CK73GB1H103K	CHIP C 0.010UF K		C594,595			CC73GCH1H270J	CHIP C 27PF J	
C512			CK73GB1H471K	CHIP C 470PF K		C596			CC73GCH1H680J	CHIP C 68PF J	
C513			CK73GB1H102K	CHIP C 1000PF K		C597			CK73GB1H103K	CHIP C 0.010UF K	
C514			CK73GB1H152K	CHIP C 1500PF K		C598,599			CC73GCH1H101J	CHIP C 100PF J	
C515			CK73GB1C104K	CHIP C 0.10UF K		C600,601			CK73GB1H102K	CHIP C 1000PF K	
C516,517			CK73GB1H103K	CHIP C 0.010UF K		C602			CK73GB1H103K	CHIP C 0.010UF K	
C518			CK73GB1H102K	CHIP C 1000PF K		C603			CK73GB1C104K	CHIP C 0.10UF K	
C519			C92-0507-05	CHIP-TAN 4.7UF 6.3WV		C604			C92-0566-05	CHIP-TAN 10UF 6.3WV	
C520			CC73GCH1H221J	CHIP C 220PF J		C605			CK73GB1C104K	CHIP C 0.10UF K	
C521,522			CK73GB1C104K	CHIP C 0.10UF K		C606			CK73GB1H332K	CHIP C 3300PF K	
C523			CK73GB1H103K	CHIP C 0.010UF K		C607			CK73GB1H103K	CHIP C 0.010UF K	
C524			CK73GB1C104K	CHIP C 0.10UF K		C608			CK73GB1H392K	CHIP C 3900PF K	
C525			CK73GB1H103K	CHIP C 0.010UF K		C609,610			CK73GB1H103K	CHIP C 0.010UF K	
C526			CK73GB1C104K	CHIP C 0.10UF K		C613			C92-0606-05	CHIP-TAN 4.7UF 10WV	
C527			CK73GB1C683K	CHIP C 0.068UF K		C614			CK73GB1H102K	CHIP C 1000PF K	
C528			CK73GB1H102K	CHIP C 1000PF K		C616			CK73GB1H102K	CHIP C 1000PF K	
C529			CK73GB1H562J	CHIP C 5600PF J		C617			CC73GCH1H101J	CHIP C 100PF J	
C531			CK73GB1H562J	CHIP C 5600PF J		C620			CC73GCH1H101J	CHIP C 100PF J	
C533			CK73GB1H562J	CHIP C 5600PF J		C622,623			CK73GB1H102K	CHIP C 1000PF K	
C535			CK73GB1H102K	CHIP C 1000PF K		C624			CC73GCH1H101J	CHIP C 100PF J	
C536			CC73GCH1H030C	CHIP C 3.0PF C		C625			CK73GB1H102K	CHIP C 1000PF K	
C537			CK73GB1H272K	CHIP C 2700PF K		C626			CC73GCH1H101J	CHIP C 100PF J	
C539			CK73GB1H272K	CHIP C 2700PF K		C627			CK73GB1H102K	CHIP C 1000PF K	
C540			CC73GCH1H271J	CHIP C 270PF J		C628			CC73GCH1H101J	CHIP C 100PF J	
C541			CC73GCH1H100D	CHIP C 10PF D		C629			CK73GB1C104K	CHIP C 0.10UF K	
C542			CC73GCH1H271J	CHIP C 270PF J		C630			CK73GB1H102K	CHIP C 1000PF K	
C543			CK73GB1H272K	CHIP C 2700PF K		C631-634			CC73GCH1H101J	CHIP C 100PF J	

PARTS LIST / 零件表

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Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C710			CK73GB1C104K	CHIP C 0.10UF K		L8			L92-0138-05	FERRITE CHIP	
C711,712			CK73GB1H222K	CHIP C 2200PF K		L9			L40-1575-44	SMALL FIXED INDUCTOR (15.0NH)	
C713			CK73GB1H102K	CHIP C 1000PF K		L10			L92-0191-05	FERRITE CHIP	
C714			CC73GCH1H331J	CHIP C 330PF J		L205			L40-1278-67	SMALL FIXED INDUCTOR (12NH)	
C715			CK73GB1H102K	CHIP C 1000PF K		L206			L40-1878-67	SMALL FIXED INDUCTOR (18NH)	
C718			C92-0712-05	CHIP-TAN 22UF 6.3WV		L210-212			L39-1272-05	TOROIDAL COIL	
C720			CC73GCH1H470J	CHIP C 47PF J		L216			L40-3371-34	SMALL FIXED INDUCTOR (33NH)	
C721-723			CC73GCH1H221J	CHIP C 220PF J		L217			L40-1571-34	SMALL FIXED INDUCTOR (15NH)	
C724			CK73GB1H682K	CHIP C 6800PF K		L218			L40-2771-34	SMALL FIXED INDUCTOR (27NH)	
C726			CK73GB1C104K	CHIP C 0.10UF K		L220			L34-4478-05	AIR-CORE COIL	
C728			C92-0772-05	CHIP-TAN 10UF 6.3WV		L221			L34-1195-05	AIR-CORE COIL	
C901,902			CK73GB1H102K	CHIP C 1000PF K		L222			L34-1058-05	AIR-CORE COIL	
C904,905			CK73GB1H102K	CHIP C 1000PF K		L223			L34-0908-05	AIR-CORE COIL	
C906			CC73GCH1H060B	CHIP C 6.0PF B		L224			L34-1058-05	AIR-CORE COIL	
C907			CC73GCH1H180J	CHIP C 18PF J		L225			L92-0179-05	FERRITE CHIP	
C909			CC73GCH1H060B	CHIP C 6.0PF B		L227			L40-1085-54	SMALL FIXED INDUCTOR (100NH)	
C911			CC73GCH1H060B	CHIP C 6.0PF B		L228			L40-8281-37	SMALL FIXED INDUCTOR (0.820UH)	
C912			CC73GCH1H180J	CHIP C 18PF J		L302			L92-0148-05	FERRITE CHIP	
C916			CC73GCH1H050B	CHIP C 5.0PF B		L303			L40-2775-34	SMALL FIXED INDUCTOR (27NH)	
C917			CK73GB1H103K	CHIP C 0.010UF K		L305,306			L40-1875-92	SMALL FIXED INDUCTOR (18NH)	
C918,919			CK73GB1H471K	CHIP C 470PF K		L400,401			L92-0179-05	FERRITE CHIP	
C920			CC73GCH1H120J	CHIP C 12PF J		L501-508			L92-0138-05	FERRITE CHIP	
C921			CC73GCH1H080B	CHIP C 8.0PF B		L903,904			L34-4564-05	AIR-CORE COIL	
C922			CC73GCH1H120J	CHIP C 12PF J		L906			L40-6878-67	SMALL FIXED INDUCTOR (68NH)	
C923			CC73GCH1H080B	CHIP C 8.0PF B		L908,909			L34-4564-05	AIR-CORE COIL	
C924			CC73GCH1H220J	CHIP C 22PF J		L913			L40-2778-67	SMALL FIXED INDUCTOR (27NH)	
C925,926			CC73GCH1H070B	CHIP C 7.0PF B		L914			L40-2278-67	SMALL FIXED INDUCTOR (22NH)	
C927			CC73GCH1H2R5B	CHIP C 2.5PF B		L915-917			L40-1878-67	SMALL FIXED INDUCTOR (18NH)	
C928			CC73GCH1H150J	CHIP C 15PF J		L918			L40-5678-67	SMALL FIXED INDUCTOR (56NH)	
C929			CC73GCH1H2R5B	CHIP C 2.5PF B		L921,922			L40-3375-92	SMALL FIXED INDUCTOR (33NH)	
C930			CC73GCH1H070B	CHIP C 7.0PF B		L923			L40-2275-92	SMALL FIXED INDUCTOR (22NH)	
C931			CC73GCH1H220J	CHIP C 22PF J		X1	*		L77-1864-05	TCXD (16.8MHZ)	
C932			CC73GCH1H040B	CHIP C 4.0PF B		X2			L77-1762-05	CRYSTAL RESONATOR (44.395MHZ)	
C933			CC73GCH1H220J	CHIP C 22PF J		X501			L77-1708-05	CRYSTAL RESONATOR (3.579545MHZ)	
C934,935			CK73GB1H102K	CHIP C 1000PF K		X502			L78-0462-05	RESONATOR (9.8304MHZ)	
-			E37-0966-05	PROCESSED LEAD WIRE		XF1			L71-0572-05	MCF (44.85MHZ)	
CN1			E40-5737-05	PIN ASSY8P		CP501			R90-0724-05	MULTI-COMP 1K X4	
CN2			E40-5738-05	PIN ASSY3P		R1			RK73GB1J102J	CHIP R 1.0K J 1/16W	
CN3			E40-3247-05	PIN ASSY3P		R2			R92-1252-05	CHIP R 0 OHM	
CN4			E40-5738-05	PIN ASSY3P		R3,4			RK73GB1J102J	CHIP R 1.0K J 1/16W	
CN5			E40-3247-05	PIN ASSY3P		R6,7			R92-1252-05	CHIP R 0 OHM	
CN6			E40-3246-05	PIN ASSY2P		R8			RK73GB1J102J	CHIP R 1.0K J 1/16W	
CN7			E40-5982-05	FLAT CABLE CONNECTOR		R9			R92-1252-05	CHIP R 0 OHM	
CN501			E40-5823-05	FLAT CABLE CONNECTOR		R10,11			RK73GB1J102J	CHIP R 1.0K J 1/16W	
CN502			E40-5982-05	FLAT CABLE CONNECTOR		R12			R92-1252-05	CHIP R 0 OHM	
J1	2C		E11-0442-05	3.5D PHONE JACK (3P)		R14			RK73GB1J473J	CHIP R 47K J 1/16W	
J501	1B		E08-0877-05	MODULAR JACK		R15			RK73GB1J103J	CHIP R 10K J 1/16W	
-			F20-3321-04	INSULATING SHEET		R16			RK73GB1J184J	CHIP R 180K J 1/16W	
-			J31-0543-05	COLLAR		R17,18			R92-1252-05	CHIP R 0 OHM	
CF1			L72-0372-05	CERAMIC FILTER		R19			RK73GB1J153J	CHIP R 15K J 1/16W	
CF2			L72-0376-05	CERAMIC FILTER		R20			RK73GB1J104J	CHIP R 100K J 1/16W	
L1			L40-1005-34	SMALL FIXED INDUCTOR (10UH)		R21			RK73GB1J563J	CHIP R 56K J 1/16W	
L2			L92-0138-05	FERRITE CHIP		R22			RK73GB1J104J	CHIP R 100K J 1/16W	
L3			L40-4775-44	SMALL FIXED INDUCTOR (47.0NH)		R23			RK73GB1J184J	CHIP R 180K J 1/16W	
L4			L40-8272-37	SMALL FIXED INDUCTOR (0.082UH)		R25			RK73GB1J394J	CHIP R 390K J 1/16W	
L5			L40-1092-34	SMALL FIXED INDUCTOR		R26			RK73GB1J104J	CHIP R 100K J 1/16W	
L6			L34-4459-05	COIL		R27			RK73GB1J473J	CHIP R 47K J 1/16W	
L7			L40-8281-37	SMALL FIXED INDUCTOR (0.820UH)		R28			R92-1252-05	CHIP R 0 OHM	
						R29			RK73GB1J220J	CHIP R 22 J 1/16W	

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Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R30			RK73GB1J224J	CHIP R 220K J 1/16W		R114			RK73GB1J392J	CHIP R 3.9K J 1/16W	
R31			RK73GB1J104J	CHIP R 100K J 1/16W		R115			R92-1252-05	CHIP R 0 OHM	
R32			RK73GB1J474J	CHIP R 470K J 1/16W		R116			RK73GB1J473J	CHIP R 47K J 1/16W	
R33			RK73GB1J562J	CHIP R 5.6K J 1/16W		R119			RK73GB1J103J	CHIP R 10K J 1/16W	
R34			R92-1252-05	CHIP R 0 OHM		R120			RK73GB1J392J	CHIP R 3.9K J 1/16W	
R35			RK73GB1J223J	CHIP R 22K J 1/16W		R121,122			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R36			RK73GB1J103J	CHIP R 10K J 1/16W		R123			RK73GB1J153J	CHIP R 15K J 1/16W	
R37			R92-1252-05	CHIP R 0 OHM		R124-126			RK73GB1J223J	CHIP R 22K J 1/16W	
R39			RK73GB1J101J	CHIP R 100 J 1/16W		R127			RK73FB2A273J	CHIP R 27K J 1/10W	
R40			RK73GB1J152J	CHIP R 1.5K J 1/16W		R128			RK73GB1J223J	CHIP R 22K J 1/16W	
R41			RK73GB1J122J	CHIP R 1.2K J 1/16W		R129			RK73GB1J100J	CHIP R 10 J 1/16W	
R42			RK73GB1J104J	CHIP R 100K J 1/16W		R130,131			RK73GB1J223J	CHIP R 22K J 1/16W	
R44			RK73GB1J154J	CHIP R 150K J 1/16W		R132			RK73GB1J104J	CHIP R 100K J 1/16W	
R45			RK73GB1J104J	CHIP R 100K J 1/16W		R133			RK73GB1J153J	CHIP R 15K J 1/16W	
R46			R92-1252-05	CHIP R 0 OHM		R134			RK73GB1J473J	CHIP R 47K J 1/16W	
R47			RK73GB1J473J	CHIP R 47K J 1/16W		R135			R92-1214-05	CHIP R 120 J 1/2W	
R48			RK73GB1J122J	CHIP R 1.2K J 1/16W		R137			RK73GB1J473J	CHIP R 47K J 1/16W	
R49			RK73GB1J102J	CHIP R 1.0K J 1/16W		R138			RK73FB2A100J	CHIP R 10 J 1/10W	
R50			RK73GB1J103J	CHIP R 10K J 1/16W		R139			R92-0670-05	CHIP R 0 OHM	
R52			R92-1252-05	CHIP R 0 OHM		R140			R92-1252-05	CHIP R 0 OHM	
R53			RK73GB1J274J	CHIP R 270K J 1/16W		R141			RK73GB1J104J	CHIP R 100K J 1/16W	
R54			RK73GB1J104J	CHIP R 100K J 1/16W		R142			R92-0699-05	CHIP R 10 J 1/2W	
R56			RK73GB1J103J	CHIP R 10K J 1/16W		R143			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R57			RK73GB1J473J	CHIP R 47K J 1/16W		R144			RK73GB1J223J	CHIP R 22K J 1/16W	
R58			RK73GB1J102J	CHIP R 1.0K J 1/16W		R145			RK73GB1J104J	CHIP R 100K J 1/16W	
R59			R92-1252-05	CHIP R 0 OHM		R146			R92-1215-05	CHIP R 470 J 1/2W	
R60			RK73GB1J472J	CHIP R 4.7K J 1/16W		R147			RK73FB2A223J	CHIP R 22K J 1/10W	
R61			RK73GB1J822J	CHIP R 8.2K J 1/16W		R148			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R62			RK73GB1J221J	CHIP R 220 J 1/16W		R149			RK73FB2A103J	CHIP R 10K J 1/10W	
R63			R92-1252-05	CHIP R 0 OHM		R150			R92-0670-05	CHIP R 0 OHM	
R65			R92-1252-05	CHIP R 0 OHM		R151-153			R92-1252-05	CHIP R 0 OHM	
R66			RK73GB1J392J	CHIP R 3.9K J 1/16W		R154			RK73GB1J103J	CHIP R 10K J 1/16W	
R67,68			RK73GB1J101J	CHIP R 100 J 1/16W		R155			RK73GB1J333J	CHIP R 33K J 1/16W	
R69			RK73GB1J222J	CHIP R 2.2K J 1/16W		R156			RK73GB1J471J	CHIP R 470 J 1/16W	
R70-73			R92-1252-05	CHIP R 0 OHM		R157			RK73GB1J101J	CHIP R 100 J 1/16W	
R74			RK73GB1J473J	CHIP R 47K J 1/16W		R158,159			RK73FB2A562J	CHIP R 5.6K J 1/10W	
R75			RK73GB1J221J	CHIP R 220 J 1/16W		R162			RK73GB1J122J	CHIP R 1.2K J 1/16W	
R76			RK73GB1J153J	CHIP R 15K J 1/16W		R163			RK73GB1J104J	CHIP R 100K J 1/16W	
R77			RK73GB1J333J	CHIP R 33K J 1/16W		R164			RK73GB1J474J	CHIP R 470K J 1/16W	
R79			RK73GB1J150J	CHIP R 15 J 1/16W		R165			R92-0670-05	CHIP R 0 OHM	
R80			RK73GB1J473J	CHIP R 47K J 1/16W		R168			R92-1252-05	CHIP R 0 OHM	
R81,82			RK73GB1J561J	CHIP R 560 J 1/16W		R169			RK73GB1J104J	CHIP R 100K J 1/16W	
R83			RK73GB1J150J	CHIP R 15 J 1/16W		R170			R92-1252-05	CHIP R 0 OHM	
R85			RK73GB1J102J	CHIP R 1.0K J 1/16W		R176			R92-0670-05	CHIP R 0 OHM	
R86			R92-1252-05	CHIP R 0 OHM		R181,182			R92-0679-05	CHIP R 0 OHM	
R89			R92-1252-05	CHIP R 0 OHM		R200			R92-0670-05	CHIP R 0 OHM	
R90			RK73GB1J2R2J	CHIP R 2.2 J 1/16W		R205			R92-0670-05	CHIP R 0 OHM	
R91			RK73GB1J472J	CHIP R 4.7K J 1/16W		R211			RK73GB1J332J	CHIP R 3.3K J 1/16W	
R94			R92-1252-05	CHIP R 0 OHM		R212,213			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R96			RK73GB1J331J	CHIP R 330 J 1/16W		R214			RK73GB1J221J	CHIP R 220 J 1/16W	
R97,98			RK73GB1J473J	CHIP R 47K J 1/16W		R215			RK73GB1J100J	CHIP R 10 J 1/16W	
R99			RK73GB1J152J	CHIP R 1.5K J 1/16W		R220			RK73GB1J271J	CHIP R 270 J 1/16W	
R100			RK73GB1J331J	CHIP R 330 J 1/16W		R221			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R104			R92-1252-05	CHIP R 0 OHM		R223			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R106			R92-1252-05	CHIP R 0 OHM		R224			R92-1252-05	CHIP R 0 OHM	
R107			RK73GB1J473J	CHIP R 47K J 1/16W		R226			RK73GB1J682J	CHIP R 6.8K J 1/16W	
R109			R92-0670-05	CHIP R 0 OHM		R228			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R110			RK73GB1J470J	CHIP R 47 J 1/16W		R230			RK73GB1J682J	CHIP R 6.8K J 1/16W	
R111,112			RK73GB1J472J	CHIP R 4.7K J 1/16W		R231			RK73GB1J103J	CHIP R 10K J 1/16W	
R113			R92-1252-05	CHIP R 0 OHM		R232			R92-1252-05	CHIP R 0 OHM	

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Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
R233			RK73GB1J470J	CHIP R 47 J 1/16W		R512			RK73GB1J681J	CHIP R 680 J 1/16W	
R234			RK73GB1J150J	CHIP R 15 J 1/16W		R513			R92-1252-05	CHIP R 0 OHM	
R235			RK73GB1J152J	CHIP R 1.5K J 1/16W		R514			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R236			RK73GB1J101J	CHIP R 100 J 1/16W		R515			RN73GH1J913D	CHIP R 91K D 1/16W	
R237			RK73GB1J471J	CHIP R 470 J 1/16W		R516			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R238			RK73GB1J221J	CHIP R 220 J 1/16W		R517			RK73GB1J103J	CHIP R 10K J 1/16W	
R239			RK73GB1J100J	CHIP R 10 J 1/16W		R518			RN73GH1J333D	CHIP R 33K D 1/16W	
R240			RK73GB1J222J	CHIP R 2.2K J 1/16W		R519			RN73GH1J913D	CHIP R 91K D 1/16W	
R241			RK73GB1J100J	CHIP R 10 J 1/16W		R520			RN73GH1J683D	CHIP R 68K D 1/16W	
R242			RK73GB1J681J	CHIP R 680 J 1/16W		R521			RK73GB1J105J	CHIP R 1.0M J 1/16W	
R243			RK73GB1J331J	CHIP R 330 J 1/16W		R522			RN73GH1J913D	CHIP R 91K D 1/16W	
R244			RK73GB1J152J	CHIP R 1.5K J 1/16W		R523			RK73GB1J154J	CHIP R 150K J 1/16W	
R245			R92-0685-05	CHIP R 22 J 1/2W		R524			RN73GH1J274D	CHIP R 270K D 1/16W	
R250			R92-1252-05	CHIP R 0 OHM		R525			RK73GB1J823J	CHIP R 82K J 1/16W	
R251			RK73GB1J474J	CHIP R 470K J 1/16W		R526			RK73GB1J104J	CHIP R 100K J 1/16W	
R255-257			R92-1252-05	CHIP R 0 OHM		R527			RK73GB1J103J	CHIP R 10K J 1/16W	
R258			RK73GB1J222J	CHIP R 2.2K J 1/16W		R528			RK73GB1J153J	CHIP R 15K J 1/16W	
R260			R92-0670-05	CHIP R 0 OHM		R529			R92-1252-05	CHIP R 0 OHM	
R300			RK73GB1J470J	CHIP R 47 J 1/16W		R530			RK73GB1J394J	CHIP R 390K J 1/16W	
R301-303			RK73GB1J102J	CHIP R 1.0K J 1/16W		R531			RK73GB1J473J	CHIP R 47K J 1/16W	
R304			R92-1252-05	CHIP R 0 OHM		R532			RK73GB1J394J	CHIP R 390K J 1/16W	
R305			RK73GB1J103J	CHIP R 10K J 1/16W		R533			R92-1252-05	CHIP R 0 OHM	
R306			RK73GB1J221J	CHIP R 220 J 1/16W		R535			RK73GB1J155J	CHIP R 1.5M J 1/16W	
R307			R92-1252-05	CHIP R 0 OHM		R536			RN73GH1J682D	CHIP R 6.8K D 1/16W	
R308			RK73GB1J101J	CHIP R 100 J 1/16W		R537,538			RK73GB1J473J	CHIP R 47K J 1/16W	
R309			RK73GB1J683J	CHIP R 68K J 1/16W		R540			RK73GB1J474J	CHIP R 470K J 1/16W	
R310			RK73GB1J123J	CHIP R 12K J 1/16W		R541			RK73GB1J274J	CHIP R 270K J 1/16W	
R311			RK73GB1J221J	CHIP R 220 J 1/16W		R542			RN73GH1J683D	CHIP R 68K D 1/16W	
R312			RK73GB1J681J	CHIP R 680 J 1/16W		R544			RK73GB1J101J	CHIP R 100 J 1/16W	
R313			RK73GB1J822J	CHIP R 8.2K J 1/16W		R545			RK73GB1J182J	CHIP R 1.8K J 1/16W	
R314,315			RK73GB1J103J	CHIP R 10K J 1/16W		R546			RK73GB1J224J	CHIP R 220K J 1/16W	
R316,317			R92-1252-05	CHIP R 0 OHM		R547			RK73GB1J103J	CHIP R 10K J 1/16W	
R318			RK73GB1J221J	CHIP R 220 J 1/16W		R548			RK73GB1J183J	CHIP R 18K J 1/16W	
R319			RK73GB1J102J	CHIP R 1.0K J 1/16W		R550			RN73GH1J682D	CHIP R 6.8K D 1/16W	
R320			R92-1252-05	CHIP R 0 OHM		R551			RK73GB1J223J	CHIP R 22K J 1/16W	
R400			R92-0670-05	CHIP R 0 OHM		R552			RK73GB1J334J	CHIP R 330K J 1/16W	
R402			R92-0670-05	CHIP R 0 OHM		R553			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R403			R92-1252-05	CHIP R 0 OHM		R554			RK73GB1J332J	CHIP R 3.3K J 1/16W	
R406			RK73GB1J394J	CHIP R 390K J 1/16W		R555			RK73GB1J394J	CHIP R 390K J 1/16W	
R408			R92-1252-05	CHIP R 0 OHM		R556			RK73GB1J223J	CHIP R 22K J 1/16W	
R411			RK73GB1J472J	CHIP R 4.7K J 1/16W		R558			R92-1252-05	CHIP R 0 OHM	
R413			RK73GB1J473J	CHIP R 47K J 1/16W		R562			RK73GB1J333J	CHIP R 33K J 1/16W	
R414			R92-1252-05	CHIP R 0 OHM		R564			R92-1252-05	CHIP R 0 OHM	
R415			RK73GB1J103J	CHIP R 10K J 1/16W		R566			RK73GB1J470J	CHIP R 47 J 1/16W	
R416			RK73GB1J822J	CHIP R 8.2K J 1/16W		R567			RK73GB1J220J	CHIP R 22 J 1/16W	
R417			RK73GB1J122J	CHIP R 1.2K J 1/16W		R568			RK73GB1J473J	CHIP R 47K J 1/16W	
R418			RK73GB1J473J	CHIP R 47K J 1/16W		R569			RK73GB1J333J	CHIP R 33K J 1/16W	
R419			R92-1252-05	CHIP R 0 OHM		R571,572			R92-1252-05	CHIP R 0 OHM	
R422			R92-1252-05	CHIP R 0 OHM		R573			RK73GB1J104J	CHIP R 100K J 1/16W	
R425			R92-1252-05	CHIP R 0 OHM		R574			RK73GB1J473J	CHIP R 47K J 1/16W	
R501			RK73GB1J472J	CHIP R 4.7K J 1/16W		R575			RK73GB1J103J	CHIP R 10K J 1/16W	
R502			RK73GB1J184J	CHIP R 180K J 1/16W		R576			RK73GB1J473J	CHIP R 47K J 1/16W	
R503			RK73GB1J223J	CHIP R 22K J 1/16W		R577			RK73GB1J153J	CHIP R 15K J 1/16W	
R504			RK73GB1J184J	CHIP R 180K J 1/16W		R579			R92-1252-05	CHIP R 0 OHM	
R505			RK73GB1J102J	CHIP R 1.0K J 1/16W		R580			RK73GB1J103J	CHIP R 10K J 1/16W	
R506			R92-1252-05	CHIP R 0 OHM		R581			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R507,508			RK73GB1J154J	CHIP R 150K J 1/16W		R582			R92-1252-05	CHIP R 0 OHM	
R509			RK73GB1J103J	CHIP R 10K J 1/16W		R584			R92-1252-05	CHIP R 0 OHM	
R510			RK73GB1J105J	CHIP R 1.0M J 1/16W		R585,586			RK73GB1J473J	CHIP R 47K J 1/16W	
R511			RK73GB1J102J	CHIP R 1.0K J 1/16W		R587			R92-1252-05	CHIP R 0 OHM	

PARTS LIST / 零件表

TX-RX UNIT (X57-6373-01)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R588			RK73GB1J473J	CHIP R 47K J 1/16W		R718			RK73GB1J154J	CHIP R 150K J 1/16W	
R589			R92-1368-05	CHIP R 0 OHM		R719			RK73GB1J103J	CHIP R 10K J 1/16W	
R590-600			RK73HB1J102J	CHIP R 1.0K J 1/16W		R720			RK73GB1J683J	CHIP R 68K J 1/16W	
R601-603			R92-1368-05	CHIP R 0 OHM		R721			RK73GB1J334J	CHIP R 330K J 1/16W	
R608-610			RK73HB1J102J	CHIP R 1.0K J 1/16W		R722			RK73FB2A680J	CHIP R 68 J 1/10W	
R611			R92-1252-05	CHIP R 0 OHM		R723			R92-1252-05	CHIP R 0 OHM	
R612			RK73GB1J224J	CHIP R 220K J 1/16W		R724			RK73GB1J332J	CHIP R 3.3K J 1/16W	
R613			RK73HB1J102J	CHIP R 1.0K J 1/16W		R725			RK73GB1J682J	CHIP R 6.8K J 1/16W	
R614			R92-1252-05	CHIP R 0 OHM		R726			R92-1252-05	CHIP R 0 OHM	
R615			RK73HB1J102J	CHIP R 1.0K J 1/16W		R727			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R616			RK73GB1J473J	CHIP R 47K J 1/16W		R730			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R617,618			RK73HB1J102J	CHIP R 1.0K J 1/16W		R902,903			RK73GB1J223J	CHIP R 22K J 1/16W	
R619			R92-1252-05	CHIP R 0 OHM		R904			R92-1252-05	CHIP R 0 OHM	
R620			RK73HB1J102J	CHIP R 1.0K J 1/16W		R908			R92-1252-05	CHIP R 0 OHM	
R621			R92-1252-05	CHIP R 0 OHM		VR1			R32-0668-05	SEMI FIXED VARIABLE RESISTOR	
R622,623			RK73HB1J102J	CHIP R 1.0K J 1/16W		D1-6			DA204U	DIODE	
R624			R92-1252-05	CHIP R 0 OHM		D1-6			HSB123	DIODE	
R625-627			RK73HB1J102J	CHIP R 1.0K J 1/16W		D7			02DZ20(Y,Z)	ZENER DIODE	
R628,629			R92-1368-05	CHIP R 0 OHM		D8,9			DA204U	DIODE	
R630			RK73HB1J102J	CHIP R 1.0K J 1/16W		D8,9			HSB123	DIODE	
R631			R92-1368-05	CHIP R 0 OHM		D11			DAN202U	DIODE	
R632			RK73HB1J102J	CHIP R 1.0K J 1/16W		D12-14			DA204U	DIODE	
R633			R92-1368-05	CHIP R 0 OHM		D12-14			HSB123	DIODE	
R634			RK73HB1J102J	CHIP R 1.0K J 1/16W		D15			DAN235E	DIODE	
R635			R92-1368-05	CHIP R 0 OHM		D16			1SS355	DIODE	
R636,637			RK73HB1J102J	CHIP R 1.0K J 1/16W		D17			DA204U	DIODE	
R638			R92-1368-05	CHIP R 0 OHM		D17			HSB123	DIODE	
R639			RK73HB1J102J	CHIP R 1.0K J 1/16W		D20			1SS355	DIODE	
R640			R92-1368-05	CHIP R 0 OHM		D21			02DZ5.6(X,Y)	ZENER DIODE	
R641			RK73HB1J102J	CHIP R 1.0K J 1/16W		D22,23			DAN235E	DIODE	
R642			R92-1368-05	CHIP R 0 OHM		D24			MINISMD075-02	VARISTOR	
R643			RK73HB1J102J	CHIP R 1.0K J 1/16W		D26			1SS355	DIODE	
R644			R92-1368-05	CHIP R 0 OHM		D27			HSM88AS	DIODE	
R645			RK73GB1J472J	CHIP R 4.7K J 1/16W		D28			02DZ15(X,Y)	ZENER DIODE	
R646,647			RK73HB1J102J	CHIP R 1.0K J 1/16W		D30			HSM88AS	DIODE	
R649			RK73HB1J102J	CHIP R 1.0K J 1/16W		D31			1SS355	DIODE	
R650-652			R92-1368-05	CHIP R 0 OHM		D32			22ZR-10D	SURGE ABSORBER	
R653,654			RK73HB1J102J	CHIP R 1.0K J 1/16W		D34			02DZ18(X,Y)	ZENER DIODE	
R655-657			R92-1368-05	CHIP R 0 OHM		D35			MA742	DIODE	
R658			RK73HB1J472J	CHIP R 4.7K J 1/16W		D37			DSA3A1	DIODE	
R659-666			R92-1368-05	CHIP R 0 OHM		D207			HSB123	DIODE	
R667,668			RK73GB1J181J	CHIP R 180 J 1/16W		D209			MA4PH633	DIODE	
R670			RK73GB1J473J	CHIP R 47K J 1/16W		D210,211			XB15A709	DIODE	
R672,673			RK73GB1J473J	CHIP R 47K J 1/16W		D501			DA204U	DIODE	
R674			RK73FB2A222J	CHIP R 2.2K J 1/10W		D501			HSB123	DIODE	
R675			RK73GB1J473J	CHIP R 47K J 1/16W		D502			MINISMD075-02	VARISTOR	
R676			RK73GB1J103J	CHIP R 10K J 1/16W		D503-505			DA204U	DIODE	
R677			RK73GB1J223J	CHIP R 22K J 1/16W		D503-505			HSB123	DIODE	
R678			RK73GB1J103J	CHIP R 10K J 1/16W		D507			DAN202U	DIODE	
R679			RK73FB2A390J	CHIP R 39 J 1/10W		D508,509			MA742	DIODE	
R680			RK73FB2A222J	CHIP R 2.2K J 1/10W		D510			HSC119	DIODE	
R682			RK73GB1J473J	CHIP R 47K J 1/16W		D518			02DZ9.1(X,Y)	ZENER DIODE	
R683			RK73GB1J103J	CHIP R 10K J 1/16W		D520			MA2S111	DIODE	
R701			RK73GB1J102J	CHIP R 1.0K J 1/16W		D902,903			HVC350B	VARIABLE CAPACITANCE DIODE	
R702			RK73GB1J101J	CHIP R 100 J 1/16W		IC1			TA75W01FU	IC (OP AMP X2)	
R705,706			RK73GB1J473J	CHIP R 47K J 1/16W		IC2,3			TA75W558FU	IC (OP AMP X2)	
R710,711			RK73GB1J104J	CHIP R 100K J 1/16W		IC4			TC4S66F	IC (BILATERAL SWITCH)	
R712,713			RK73GB1J473J	CHIP R 47K J 1/16W		IC5			M62363FP	IC (8 BIT D/A CONVERTER)	
R714			RK73GB1J103J	CHIP R 10K J 1/16W		IC6			TA75W01FU	IC (OP AMP X2)	
R716			RK73GB1J472J	CHIP R 4.7K J 1/16W		IC7,8			BU4094BCFV	IC (8 BIT SHIFT/STORE RESISTER)	

PARTS LIST / 零件表

TX-RX UNIT (X57-6373-01)
PLL/VCO (X58-4723-01)

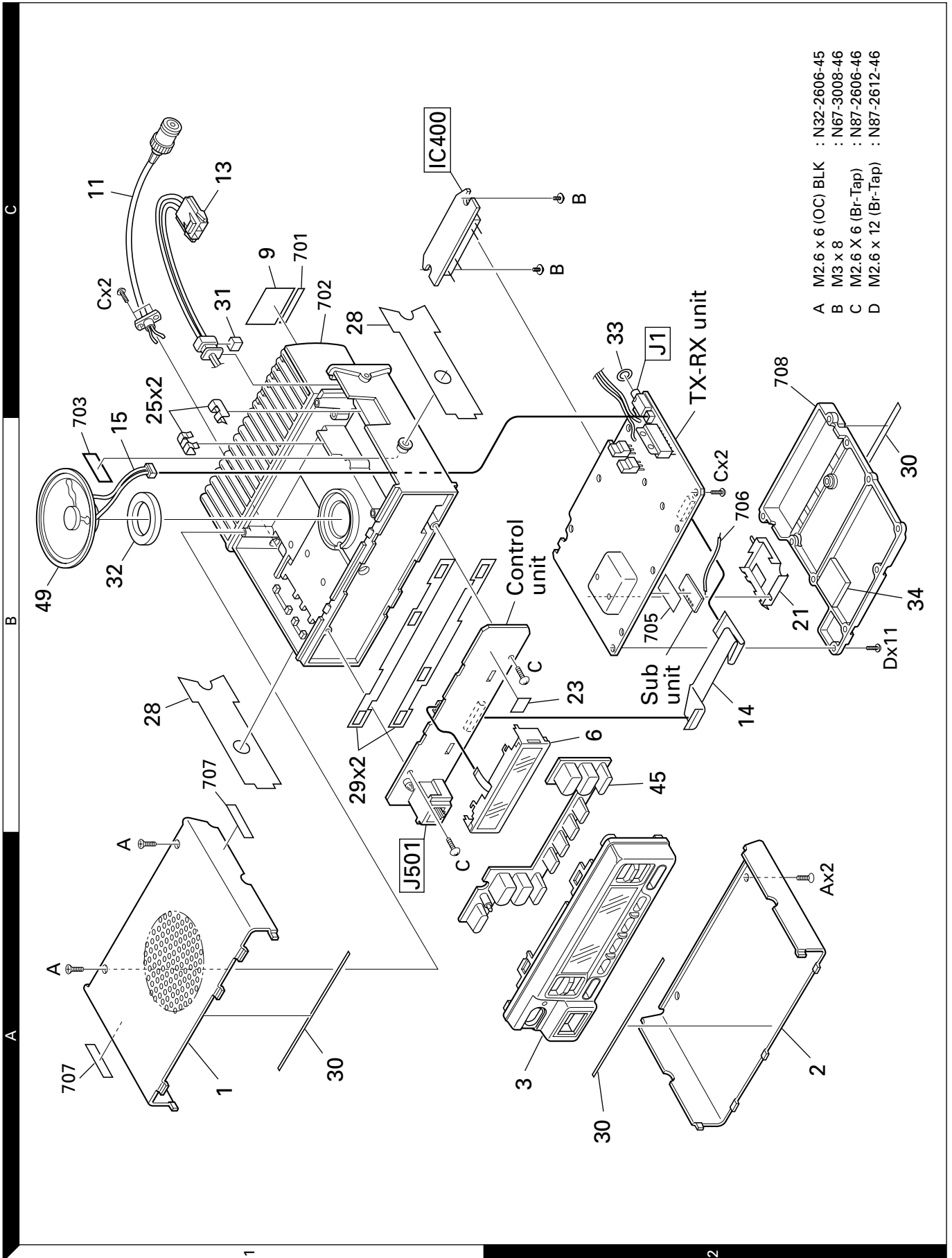
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
IC9			TA78L05F	IC (VOLTAGE REGULATOR 5V)		Q503			2SC4617(S)	TRANSISTOR	
IC10			LA4422	IC (AF POWER AMP 5.8W)		Q507			DTC144EE	DIGITAL TRANSISTOR	
IC11			TA31136FN	IC (FM IF DETECTOR)		Q508,509			2SC4617(S)	TRANSISTOR	
IC12			TA78L05F	IC (VOLTAGE REGULATOR 5V)		Q510			2SC4619	TRANSISTOR	
IC13			AN8009M	IC (REGULATOR)		Q511			DTA144WE	DIGITAL TRANSISTOR	
IC14			TA7808S	IC (REGULATOR)		Q512			DTC114EE	DIGITAL TRANSISTOR	
IC15			TC4013BF(N)	IC (MEMORY)		Q513			2SC2873(Y)	TRANSISTOR	
IC200			GN2011(Q)	IC (MIXER)		Q515			DTC114EE	DIGITAL TRANSISTOR	
IC300			SA7025DK	IC (PLL SYSTEM)		PLL/VCO (X58-4723-01)					
IC400	1C		M68762SL	RF POWER MODULE		C102			CK73GB1H471K	CHIP C 470PF	K
IC401			NJM2904V	IC (APC)		C104			CC73GCH1H150J	CHIP C 15PF	J
IC501			TA75W558FU	IC (OP AMP X2)		C105			CC73GCH1H120J	CHIP C 12PF	J
IC502			TC75W51FU	IC (OP AMP X2)		C107			CC73GCH1H070B	CHIP C 7.0PF	B
IC503			TA75W558FU	IC (OP AMP X2)		C108			CC73GCH1HR75B	CHIP C 0.75PF	B
IC504			TC35453F	IC (AUDIO PROCESSOR)		C110,111			CC73GCH1H060B	CHIP C 6.0PF	B
IC506			BU4066BCFV	IC (ANALOR SWITCH X4)		C113			CC73GCH1H0R5B	CHIP C 0.5PF	B
IC507			LC73872M	IC (DTMF RECEIVER)		C114			CC73GCH1H040B	CHIP C 4.0PF	B
IC508			BU4094BCFV	IC (8 BIT SHIFT/STORE RESISTER)		C115			CC73GCH1H080B	CHIP C 8.0PF	B
IC509			RH5VL42C	IC (REGULATOR)		C116			CC73GCH1H070B	CHIP C 7.0PF	B
IC510			AT29C020-90TI	IC (ROM)		C117			CK73GB1H471K	CHIP C 470PF	K
IC511			30620M8-394GP	IC (CPU)		C118			CC73GCH1H070B	CHIP C 7.0PF	B
IC512			AT2416N10SI2.5	IC (8 KBIT SERIAL EEPROM)		C119,120			CK73GB1H471K	CHIP C 470PF	K
IC513			TA78L05F	IC (VOLTAGE REGULATOR 5V)		C121			CC73GCH1H070B	CHIP C 7.0PF	B
IC710,711			TA75S01F	IC (OP AMP)		C122			CC73GCH1H0R5B	CHIP C 0.5PF	B
Q1			2SK1824	FET		C123			CK73GB1H471K	CHIP C 470PF	K
Q2			2SC2412K(S)	TRANSISTOR		C124			CC73GCH1H0R5B	CHIP C 0.5PF	B
Q4			DTD114EK	DIGITAL TRANSISTOR		C125			CC73GCH1H040B	CHIP C 4.0PF	B
Q5,6			DTC114EE	DIGITAL TRANSISTOR		C126,127			CK73GB1H471K	CHIP C 470PF	K
Q7			2SC5110(O)	TRANSISTOR		C128			CK73FB1E104K	CHIP C 0.10UF	K
Q8			DTC363EU	DIGITAL TRANSISTOR		C129			CK73GB1H471K	CHIP C 470PF	K
Q9			DTA114YUA	DIGITAL TRANSISTOR		TC106			C05-0384-05	CERAMIC TRIMMER CAP (10PF)	
Q10			DTC114EE	DIGITAL TRANSISTOR		TC109			C05-0384-05	CERAMIC TRIMMER CAP (10PF)	
Q11			2SA1362(Y)	TRANSISTOR		CN101			E40-5699-05	PIN ASSY	
Q12			2SB1132(Q,R)	TRANSISTOR		-			F10-2279-04	SHIELDING CASE	
Q13			DTC114EE	DIGITAL TRANSISTOR		L101-104			L40-1595-34	SMALL FIXED INDUCTOR (1.5UH)	
Q15			2SC2059K(P)	TRANSISTOR		L105			L40-3378-67	SMALL FIXED INDUCTOR (33NH)	
Q16			DTC144EE	DIGITAL TRANSISTOR		L106			L40-2778-67	SMALL FIXED INDUCTOR (27NH)	
Q17			2SC2412K(S)	TRANSISTOR		L107,108			L40-1098-76	SMALL FIXED INDUCTOR (1UH)	
Q18			2SK1824	FET		L109,110			L40-1595-34	SMALL FIXED INDUCTOR (1.5UH)	
Q19			2SD2394	TRANSISTOR		L111			L33-0745-05	SMALL FIXED INDUCTOR	
Q20			2SB1188(Q)	TRANSISTOR		R101			R92-1252-05	CHIP R 0 OHM	
Q21			FMW1	TRANSISTOR		R102			RK73GB1J101J	CHIP R 100 J 1/16W	
Q22			DTC114EE	DIGITAL TRANSISTOR		R103			RK73GB1J102J	CHIP R 1.0K J 1/16W	
Q23			DTA114EE	DIGITAL TRANSISTOR		R104			RK73GB1J101J	CHIP R 100 J 1/16W	
Q24			DTC144EE	DIGITAL TRANSISTOR		R105			RK73GB1J154J	CHIP R 150K J 1/16W	
Q25,26			DTA114EE	DIGITAL TRANSISTOR		R106			RK73GB1J101J	CHIP R 100 J 1/16W	
Q27			2SA1641(S,T)	TRANSISTOR		R107-110			RK73GB1J103J	CHIP R 10K J 1/16W	
Q28,29			DTC114EE	DIGITAL TRANSISTOR		R111			RK73GB1J470J	CHIP R 47 J 1/16W	
Q30			DTA114EE	DIGITAL TRANSISTOR		R112,113			RK73GB1J221J	CHIP R 220 J 1/16W	
Q31			DTC114EE	DIGITAL TRANSISTOR		R114			RK73GB1J470J	CHIP R 47 J 1/16W	
Q32			2SK1824	FET		R115			RK73GB1J103J	CHIP R 10K J 1/16W	
Q201			2SC3357	TRANSISTOR		R116			RK73GB1J392J	CHIP R 3.9K J 1/16W	
Q202			2SC4093(R27)	TRANSISTOR		R117			RK73GB1J101J	CHIP R 100 J 1/16W	
Q203,204			2SC3357	TRANSISTOR		R118-120			R92-1252-05	CHIP R 0 OHM	
Q205			2SC2954	TRANSISTOR							
Q300			2SC4215(Y)	TRANSISTOR							
Q301,302			2SC3722K(S)	TRANSISTOR							
Q401-403			DTC114EE	DIGITAL TRANSISTOR							
Q501			DTC314TU	DIGITAL TRANSISTOR							
Q502			DTC144EE	DIGITAL TRANSISTOR							

PARTS LIST / 零件表

PLL/VCO (X58-4723-01)
SUB UNIT (X58-4850-11)

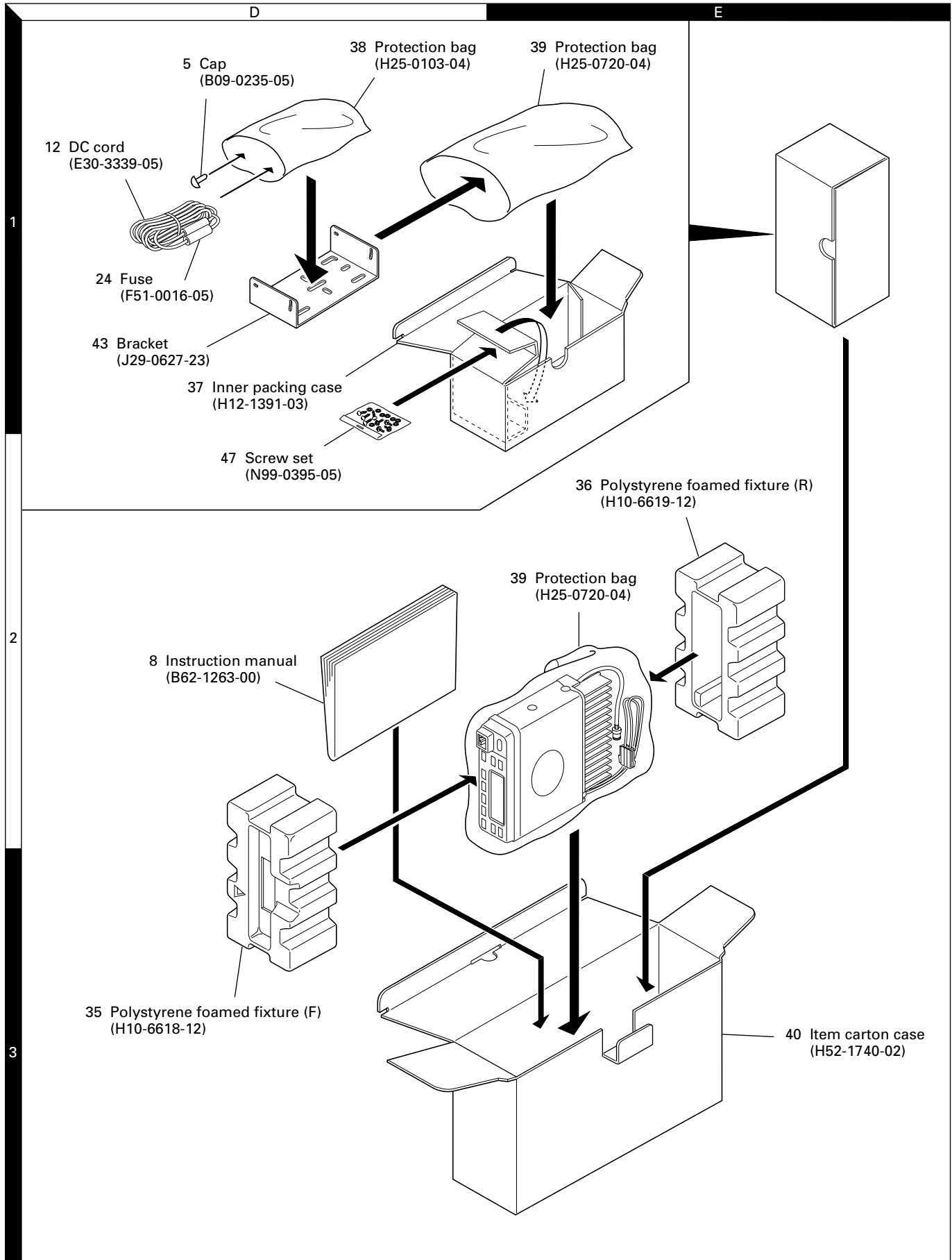
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
D101-104			1SV283	VARIABLE CAPACITANCE DIODE							
D105			1SV214	VARIABLE CAPACITANCE DIODE							
Q101			2SK508NV(K52)	FET							
Q102			DTC114EUA	DIGITAL TRANSISTOR							
Q103			2SK508NV(K52)	FET							
Q104,105			2SC4081	TRANSISTOR							
Q106			2SC4226(R24)	TRANSISTOR							
SUB UNIT (X58-4850-11)											
C1			CK73GB1C104K	CHIP C 0.10UF K							
C2,3			C92-0505-05	CHIP-TAN 10UF 16WV							
R1			RK73GB1J103J	CHIP R 10K J 1/16W							
R3			R92-1252-05	CHIP R 0 OHM							
Q1			2SC2412K(S)	TRANSISTOR							

EXPLODED VIEW / 部件分解图



Parts with the exploded numbers larger than 700 are not supplied.

PACKING / 包装



ADJUSTMENT / 调整

Test Mode

■ Test Mode Operating Features

This transceiver has a test mode. **To enter test mode, press [B] key and turn power on. Hold [B] key until test channel No. and test signalling No. appears on LCD.** Test mode can be inhibited by programming. To exit test mode, switch the power on again. The following functions are available in test mode.

● Controls ("FCN" appears)




[PTT]	Used when making a transmission.
■	Function off.
[A]	FFSK 1200 bps and 2400 bps.
[B]	Shift off.
[◀ C]	Compander function on and off.
[D ▶]	Beat shift on and off.
[CALL]	Monitor on and off.
[System Up/Down]	Shift off.
[Volume Up/Down]	Volume up/down.

● Controls ("FCN" not appears)

[PTT]	Used when making a transmission.
■	Changes wide and narrow.
[A]	Sets to the tuning mode.
[B]	Shift on.
[◀ C]	RF power high and low.
[D ▶]	Changes signalling.
[CALL]	Monitor on and off.
[System Up/Down]	Changes channel.
[Volume Up/Down]	Volume up/down.

Note : If a [A], [B], [◀ C], [D ▶] key is pressed during transmission, the DTMF corresponding to the key that was pressed is sent.

● LCD indicator

"SCN"	Unused.
" 	Lights at compander on.
"AUX"	Unused.
" 	Lights at RF power low.
"MON"	Lights at monitor on.
"SVC"	Unlock.
" 	Lights at FFSK 2400 bps.
"W"	Wide.

● LED indicator

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

● Sub LCD indicator

"FCN"	Appears at shift on.
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测试模式

■ 测试模式操作功能

本车台具有测试模式。要进入测试模式，按下[B]键并接通电源。按住[B]键直到测试信道

号码和测试信令号码出现在LCD上为止。测试模式可以通过编程被禁止。要退出测试模式，再一次开启电源。下述功能在测试模式中有效。

● 控制 ("FCN" 出现)




[PTT]	进行发射时使用。
■	关闭功能。
[A]	FFSK 1200 bps和2400 bps。
[B]	取消位移。
[◀ C]	语音压扩功能开启和关闭。
[D ▶]	拍频偏移功能开启和关闭。
[CALL]	监听开启和关闭。
[系统高/低]	取消位移。
[音量高/低]	音量高/低。

● 控制 ("FCN" 不出现)

[PTT]	进行发射时使用。
■	改变宽带和窄带。
[A]	设定到调谐模式。
[B]	开启位移。
[◀ C]	射频高和低功率。
[D ▶]	改变信令。
[CALL]	监听开启和关闭。
[系统高/低]	改变信道。
[音量高/低]	音量高/低。

注：如果正在发射时按下[A], [B], [◀ C]或[D ▶]键，将发送与按下键相对应的DTMF。

● LCD指示器

"SNC"	不使用。
" 	语音压扩开启时显示。
"AUX"	不使用。
" 	低发射功率时显示。
"MON"	开启监听时显示。
"SVC"	失锁。
" 	FFSK 2400 bps时显示。
"W"	宽带。

● LED指示器

红色LED	发射过程中发光。
绿色LED	有载波时发光。

● 子LCD指示器

"FCN"	位移开启时出现。
-------	----------

ADJUSTMENT / 调整

■ Frequency and Signalling

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

● Frequency (MHz)

Channel No.	RX	TX
1	370.05000	370.10000
2	350.05000	350.10000
3	389.95000	389.90000
4	370.00000	370.00000
5	370.20000	370.20000
6	370.40000	370.40000
7~16	-	-

● Signalling

Signalling No.	RX	TX
1	None	None
2	None	100Hz square
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 250.3Hz	QT 250.3Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	None	DTMF tone 9
10	None	Single tone 1200Hz (HSD out)
11	None	Single tone 1200Hz (MODEM out)
12	None	Single tone 1800Hz (MODEM out)
13	None	FFSK (PN pattern)
14	FFSK code	FFSK code

■ 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).

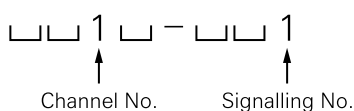
The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

■ Transceiver tuning

(To place transceiver in tuning mode)

Channel appears on LCD. Set channel according to tuning requirements.

LCD display (Test mode)



■ 频率和信令

设备已经按下表中的频率进行了调整。需要时，按照调整步骤重新调整以获得用户在实际操作中想要的频率。

● 频率(MHz)

信道号码	接收频率	发射频率
1	370.05000	370.10000
2	350.05000	350.10000
3	389.95000	389.90000
4	370.00000	370.00000
5	370.20000	370.20000
6	370.40000	370.40000
7-16	-	-

● 信令

信令号码	接收	发射
1	无	无
2	无	100Hz方波
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 250.3Hz	QT 250.3Hz
7	DQT 023N	DQT 023N
8	DQT 754I	DQT 754I
9	无	DTMF音频9
10	无	单音频1200Hz (HSD输出)
11	无	单音频1200Hz (MODEM输出)
12	无	单音频1800Hz (MODEM输出)
13	无	FFSK (PN模式)
14	FFSK	FFSK编码

■ 调整车台的准备

在进行调整车台之前，将主机与电源连接。

无论何时调整发射部分，主机必须连接到合适的假负载（或功率仪）。

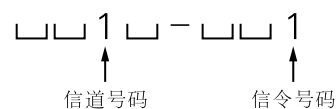
在整个调整过程中，扬声器输出必须经过4Ω假负载并被连接到一个交流电压表和一个音频失真测试仪或一个SINAD测量仪。

■ 车台调整

(将车台置于调整模式)

信道显示在LCD上。按照调整所需设定信道。

LCD显示(测试模式)



ADJUSTMENT / 调整

Press [A], now in tuning mode. Use [◀C] button to write tuning data through tuning modes, and [System Up/Down] to adjust tuning requirements (1 to 256 appears on LCD).

Use [D▶] button to select the adjustment item through tuning modes. Use [B] button to adjust 3 or 5-point tuning, and use [■] button to switch between wide/narrow.

LCD display (Tuning mode)



● Panel Tuning Mode (MHz)

Test channel	RX frequency	TX frequency
L (Low)	350.05000	350.10000
L2 (Low')	360.05000	360.10000
C (Center)	370.05000	370.10000
H2 (High')	380.05000	380.10000
H (High)	389.95000	389.90000

按[A]键进入调谐模式。使用[◀C]按键通过调谐模式写入调谐数据。并使用[系统高/低]键调整调谐要求(1到256出现在LCD上)。

使用[D▶]按键通过调谐模式选择调整项。使用[B]键调整3点或5点调谐, 并使用[■]键转换宽/窄。

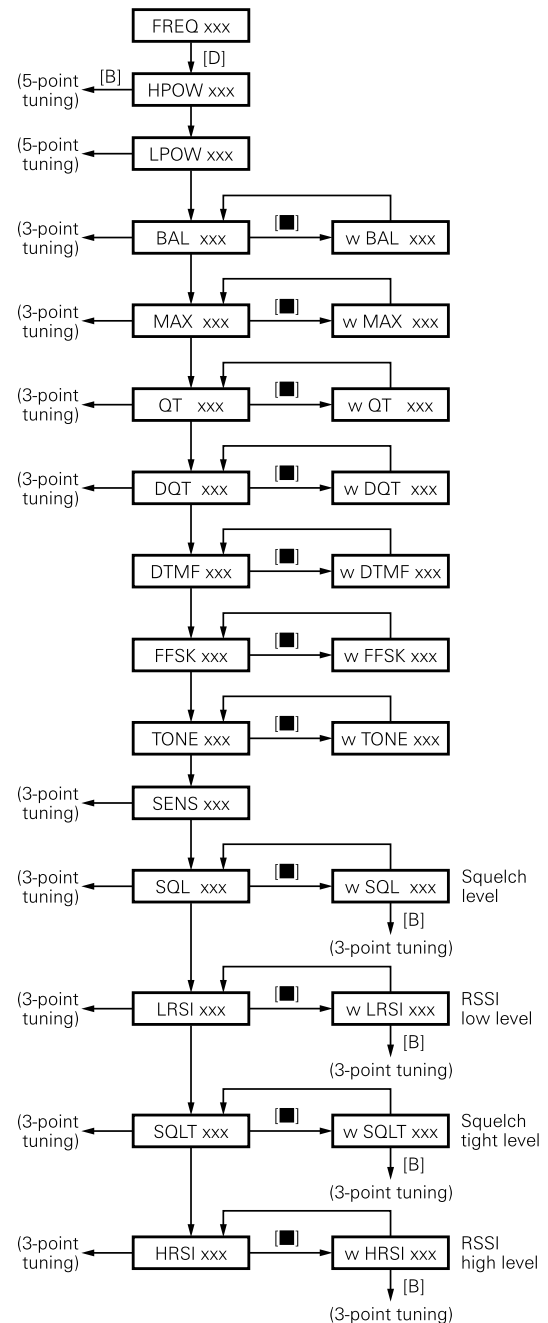
LCD显示(调谐模式)



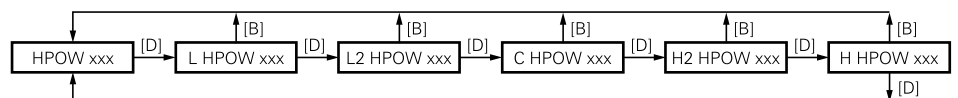
● 面板调谐模式(MHz)

测试信道	接收频率	发射频率
L(低)	350.05000	350.10000
L2(低')	360.05000	360.10000
C(中心)	370.05000	370.10000
H2(高')	380.05000	380.10000
H(高)	389.95000	389.90000

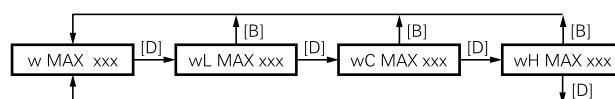
● Tuning Mode Flow Chart / 调谐模式流程图



● 5-point tuning (ex. RF power high)



● 3-point tuning (ex. Maximum deviation (Wide))



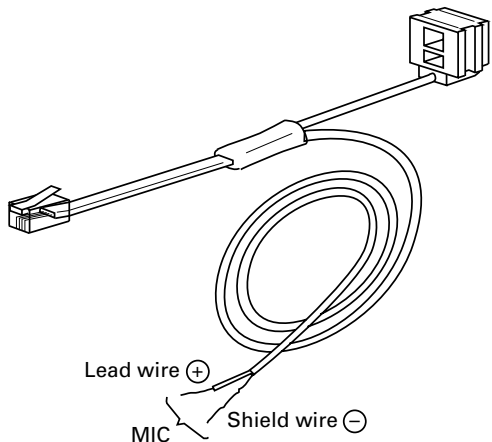
ADJUSTMENT

Test Equipment Required for Alignment

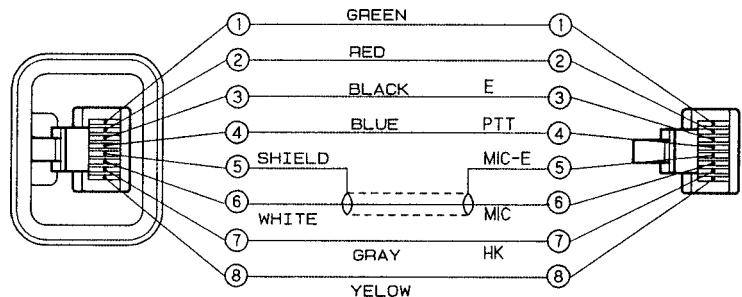
Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range Modulation Output	300 to 400MHz Frequency modulation and external modulation -127dBm/0.1μV to greater than -7dBm/100mV
2. Power Meter	Input Impedance Operation Frequency Measurement Capability	50Ω 300 to 400MHz or more Vicinity of 50W
3. Deviation Meter	Frequency Range	300 to 400MHz
4. Digital Volt Meter (DVM)	Measuring Range Accuracy	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		20A
8. AF Volt Meter (AF VTVM)	Frequency Range Voltage Range	50Hz to 10kHz 1mV to 3V
9. Audio Generator (AG)	Frequency Range Output	20Hz to 20kHz or more 0 to 1V
10. Distortion Meter	Capability Input Level	3% or less at 1kHz 50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W
12. Regulated Power Supply		13.6V, approx. 20A (adjustable from 9 to 20V) Useful if ammeter required

Tuning cable (E30-3383-05)

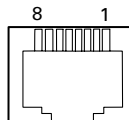
Adapter cable (E30-3383-05) is required for injecting an audio if PC tuning is used. See "PC Mode" section for the connection.



Test cable for microphone input (E30-3360-08)



MIC connector (Front view)



- 1 : BLC
- 2 : PSB
- 3 : E
- 4 : PTT
- 5 : ME
- 6 : MIC
- 7 : HOOK
- 8 : CM

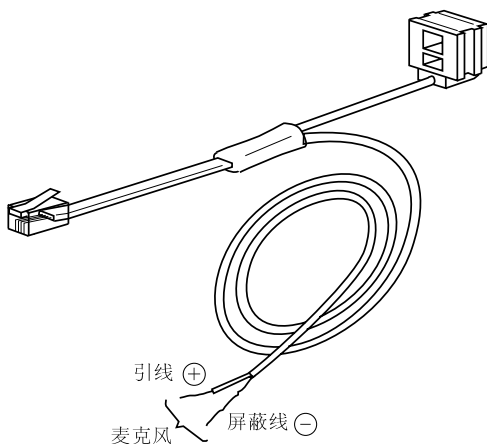
调 整

所需的用于调整的测试设备

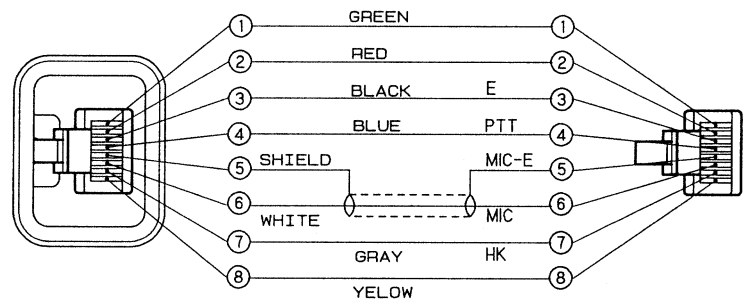
测试设备	主要特性	
1. 标准信号发生器 (SSG)	频率范围 调制 输出	300到400MHz 调频和外部调制 -127dBm/0.1 μ V到大于-7dBm/100mV
2. 功率计	输入阻抗 工作频率 测量范围	50 Ω 300到400MHz或更高 50W左右
3. 频偏仪	频率范围	300到400MHz
4. 数字电压表 (DVM)	测量范围 输入阻抗	直流1V到20V 最小电路负载时为高输入阻抗
5. 示波器		直流到30MHz
6. 高灵敏度频率计数器	频率范围 频率稳定性	10Hz到1000MHz 0.2ppm或更低
7. 电流表		20A
8. 音频电压表 (AF VTVM)	频率范围 电压范围	50Hz到10kHz 1mV到3V
9. 音频发生器 (AG)	频率范围 输出	20Hz到20kHz或更高 0到1V
10. 失真测试仪	测量能力 输入电平	在1kHz时3%或更低 50mV到10Vrms
11. 4 Ω 假负载		大约4 Ω , 10W或更高
12. 可调电源		13.6V, 大约20A 最好具备电流表

调谐电缆 (E30-3383-05)

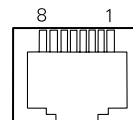
如果使用计算机调谐, 接头电缆 (E30-3383-05) 将用于接入音频信号。
参见“计算机模式”章节有关连接的内容。



用于麦克风输入的测试电缆 (E30-3360-08)



麦克风连接器 (前视)

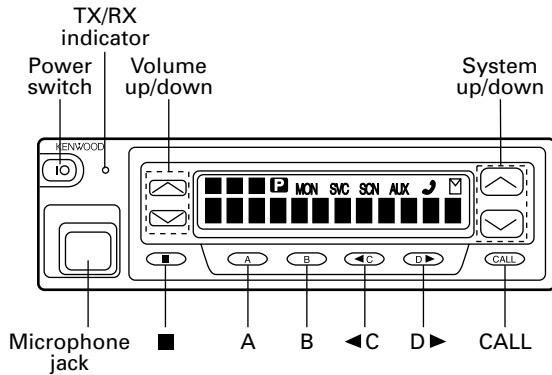


- 1 : BLC
- 2 : PSB
- 3 : E
- 4 : PTT
- 5 : ME
- 6 : MIC
- 7 : HOOK
- 8 : CM

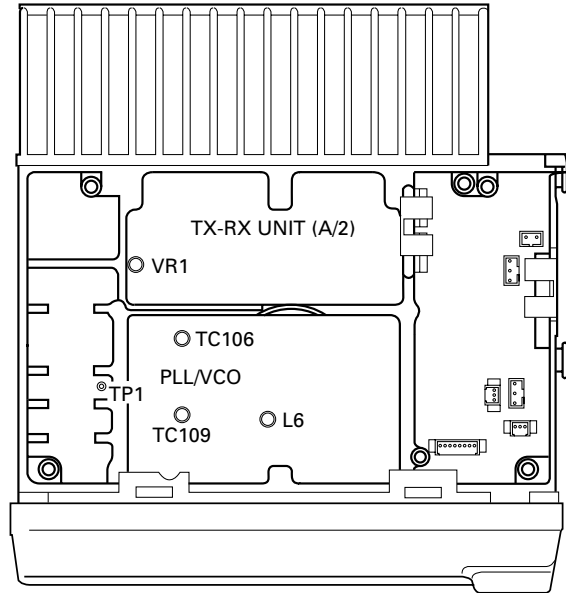
ADJUSTMENT

Adjustment Location

■ Switch



■ Adjustment Point



■ Note

• Flash memory

The firmware program (User mode, Test mode, Tuning mode, etc.), the data programmed and security number (MPT serial number) by the FPU (KPG-62D CPS) for the flash memory, is stored in memory. When parts are changed, program the data again.

• EEPROM

The tuning data (Deviation, Squelch, etc.) for the EEPROM, is stored in memory. When parts are changed, readjust the transceiver.

■ Repair Jig (Chassis)

Use jig (Part No. : A10-4010-02) for repairing the TK-885. The jig facilitates the voltage check when the voltage on the component side TX-RX unit is checked during repairs.

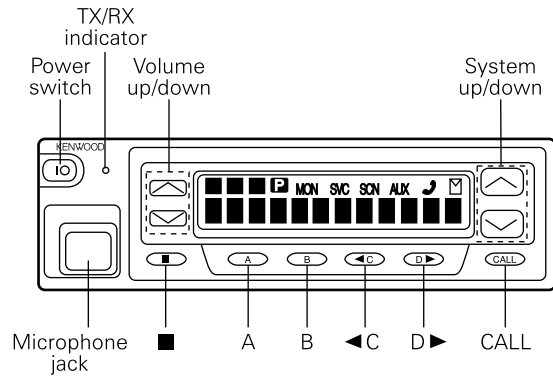
Common Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. PLL lock voltage	1) Set test mode CH : CH3 - Sig1 PTT : OFF (Receive) PTT : ON (Transmit)	DVM Power meter	TX-RX (A/2)	TP1	PLL	TC106	1.5V (Receive)	±0.1V
	TC109					1.5V (Transmit)		
	2) CH : CH2 - Sig1 PTT : OFF (Receive) PTT : ON (Transmit)					Check	8.0V or less	

调 整

调整位置

■ 开关



■ 注释

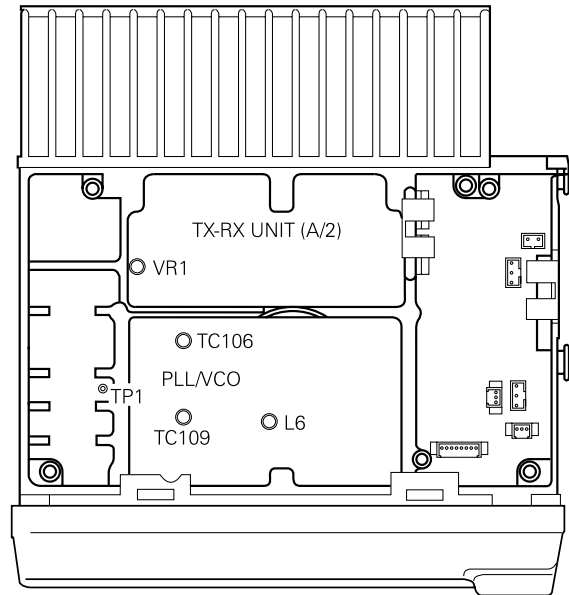
● 闪存

固件程序(用户模式, 测试模式, 调谐模式等), 和由FPU (KPG-62D CPS) 处理的可编程数据, 安全号码 (MPT序列号) 保存在存储器中。当更换闪存时, 重新对数据进行编程。

● EEPROM

EEPROM的调谐数据(频偏, 静噪, 等等)被储存在存储器中。当零件被更换时, 需要重新调整车台。

■ 调整点



■ 维修用具(底座)

使用维修用具(零件号码: A10-4010-02)修理TK-885。维修用具能够在修理时方便地检测发射-接收单元电路板元器件面上的电压。

公用部分

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单 元	端 子	单 元	部 件	方 法	
1. PLL锁定电压	1) [测试模式] CH: CH3-Sig1 PTT: 关闭(接收) PTT: 开启(发射)	DVM 功率计	TX-RX (A/2)	TP1	PLL	TC106	1.5V(接收)	±0.1V
	TC109					1.5V(发射)		
	2) CH: CH2-Sig1 PTT: 关闭(接收) PTT: 开启(发射)					检查	8.0V或更低	

ADJUSTMENT

Receiver Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Discriminator	1) Set test mode CH : CH1 - Sig1 SSG output : -53dBm AF : 1.4V/4Ω	SSG AF VTVM Oscilloscope	Rear panel	ANT ACC (EXT.SP)	TX-RX (A/2)	L6	AF output voltage maximum.	
2. Sensitivity	1) Set test mode Select "SENS" in tuning mode. "L SENS" SSG freq' : 350.050MHz SSG output : -118dBm/0.31μV SSG MOD : 1.5kHz AF output : 1V/4Ω	SSG AF VTVM Distortion meter Oscilloscope AG		ANT ACC (EXT.SP)			Adjust for maximum SINAD.	
	2) "C SENS" SSG freq' : 370.050MHz							
	3) "H SENS" SSG freq' : 389.950MHz					Adjust [150]		
3. Squelch	1) Set test mode Select "L SQL" in tuning mode. SSG freq' : 350.050MHz SSG output : Sensitivity value of 12dB SINAD. SSG MOD : 1.5kHz (Narrow)						Squelch must be closed once. Then adjust for squelch open point.	
	2) "C SQL" SSG freq' : 370.050MHz							
	3) "H SQL" SSG freq' : 389.950MHz							
	4) "wL SQL", "wC SQL", "wH SQL" SSG freq' : Same as narrow adjustment. SSG output : Sensitivity value of 12dB SINAD. SSG MOD : 3.0kHz (Wide)							
4. RSSI (Low)	1) Set test mode Select "L LRSI" in tuning mode. SSG freq' : 350.050MHz SSG output : Sensitivity value of 12dB SINAD. SSG MOD : 1.5kHz (Narrow)						Writing values only.	
	2) "C LRSI" SSG freq' : 370.050MHz							

调 整

接收部分

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单元	端子	单元	部件	方 法	
1. 鉴频器	1) [测试模式] CH: CH1-Sig1 标准信号发生器输出 : -53dBm/501 μ V AF: 1.4V/4 Ω	S S G A F V T V M 示 波 器	背 面 板	ANT ACC (EXT. SP)	TX-RX (A/2)	L6	最大音频输出	
2. 灵敏度	1) [测试模式] 在调谐模式中选择“SENS” “L SENS” 标准信号发生器频率 : 350.050MHz 标准信号发生器输出 : -118dBm/0.31 μ V 标准信号发生器调制: 1.5kHz AF: 1V/4 Ω	S S G A F V T V M 失 真 测 试 仪 示 波 器 A G	背 面 板	ANT ACC (EXT. SP)			调整到最大SINAD	
	2) “C SENS” 标准信号发生器频率 : 370.050MHz						调整[150]	
	3) “H SENS” 标准信号发生器频率 : 389.950MHz							
3. 静噪	1) [测试模式] 在调谐模式中选择“L SQL” 标准信号发生器频率 : 350.050MHz 标准信号发生器输出 : 12dB SINAD的灵敏度 标准信号发生器调制 : 1.5kHz(窄)		背 面 板				静噪必须关闭。 然后调整静噪打 开点。	
	2) “C SQL” 标准信号发生器频率 : 370.050MHz							
	3) “H SQL” 标准信号发生器频率 : 389.950MHz							
	4) “wL SQL”, “wC SQL”, “wH SQL” 标准信号发生器频率 : 与窄调整相同 标准信号发生器输出 : 12dB SINAD的灵敏度 标准信号发生器调制 : 3.0kHz(宽)							
4. RSSI(低)	1) [测试模式] 在调谐模式中选择“L LRSI” 标准信号发生器频率 : 350.050MHz 标准信号发生器输出 : 12dB SINAD的灵敏度 标准信号发生器调制 : 1.5kHz(窄)		背 面 板				只写入数值。	
	2) “C LRSI” 标准信号发生器频率 : 370.050MHz							

ADJUSTMENT

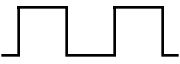
Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
	3) "H LRSI" SSG freq' : 389.950MHz	SSG	Rear panel	ANT			Writing values only.	
	4) "wL LRSI", "wC LRSI", "wH LRSI" SSG freq' : Same as narrow adjustment. SSG output : Sensitivity value of 12dB SINAD. SSG MOD : 3.0kHz (Wide)	AF VTVM Distortion meter Oscilloscope AG		ACC (EXT.SP)				
5. RSSI (High)	1) Set test mode Select "L HRSI" in tuning mode. SSG freq' : 350.050MHz SSG output : -70dBm SSG MOD : 1.5kHz (Narrow)						Writing values only.	
	2) "C HRSI" SSG freq' : 370.050MHz							
	3) "H HRSI" SSG freq' : 389.950MHz							
	4) "wL HRSI", "wC HRSI", "wH HRSI" SSG freq' : -70dBm SSG output : Sensitivity value of 12dB SINAD. SSG MOD : 3.0kHz (Wide)							
6. Squelch check	1) Set test mode CH : CH1 - Sig1 SSG freq' : 370.050MHz SSG output : 15dB SINAD level						Check	Squelch must be opened. (Wide/Narrow)
	2) SSG output : OFF							Squelch must be closed. (Wide/Narrow)
7. QT check	1) Set test mode CH : CH1 - Sig5 SSG freq' : 370.050MHz SSG MOD INT : 1kHz EXT : 151.4Hz SSG system MOD DEV : ±1.85kHz (Narrow) ±3.75kHz (Wide) SSG output : 12dB SINAD level						Check	Squelch must be opened.
	2) CH : CH1 - Sig4 CH1 - Sig6 CH1 - Sig7							Squelch must be closed.

调 整

项 目	条 件	测 量			调 整			规 格 / 备 注		
		测量装置	单元	端子	单元	部件	方 法			
	3) "H LRSI" 标准信号发生器频率 : 389.950MHz	SSG AF VTVM 失真测试仪 示波器 AG	背面板	ANT ACC (EXT. SP)			只写入数值。			
	4) "wL LRSI", "wC LRSI", "wH LRSI" 标准信号发生器频率 : 与窄调整相同 标准信号发生器输出 : 12dB SINAD的灵敏度 标准信号发生器调制 : 3.0kHz(宽)									
5. RSSI (高)	1) [测试模式] 在调谐模式中选择 "L HRSI" 标准信号发生器频率 : 350.050MHz 标准信号发生器输出 : -70dBm 标准信号发生器调制 : 1.5kHz(窄)								只写入数值。	
	2) "C HRSI" 标准信号发生器频率 : 370.050MHz									
	3) "H HRSI" 标准信号发生器频率 : 389.950MHz									
	4) "wL HRSI", "wC HRSI", "wH HRSI" 标准信号发生器频率 : -70dBm 标准信号发生器输出 : 12dB SINAD的灵敏度 标准信号发生器调制 : 3.0kHz(宽)									
6. 静噪检查	1) [测试模式] CH : CH1-Sig1 标准信号发生器频率 : 370.050MHz 标准信号发生器输出 : 15dB SINAD电平						检查	静噪必须被打开(宽/窄带)		
	2) 标准信号发生器输出: 关闭							静噪必须被关闭(宽/窄带)		
7. QT检查	1) [测试模式] CH : CH1-Sig5 标准信号发生器频率 : 370.050MHz 标准信号发生器调制 INT : 1kHz EXT : 151.4Hz 标准信号发生器系统MOD DEV : ±1.85kHz(窄) ±3.75kHz(宽) 标准信号发生器输出 : 12dB SINAD电平						检查	静噪必须被打开		
	2) CH : CH1-Sig4 CH1-Sig6 CH1-Sig7							静噪必须被关闭		


ADJUSTMENT

Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Frequency	1) Set test mode Select "FREQ" in tuning mode. PTT : ON	Power meter F. counter	Rear panel	ANT			Check	370.100MHz±100Hz
2. Power output	1) Maximum power Set test mode Select "HPOW" in tuning mode. "H HPOW 256" PTT : ON				TX-RX (A/2)	VR1	26.0W	±0.5W
3. High power	1) Set test mode Select "HPOW" in tuning mode. "L HPOW" PTT : ON						25.0W	±1.0W
	2) "L2 HPOW" PTT : ON							
	3) "C HPOW" PTT : ON							
	4) "H2 HPOW" PTT : ON							
	5) "H HPOW" PTT : ON							
4. Low power	1) Set test mode Select "LPOW" in tuning mode. "L LPOW" PTT : ON	Power meter					5.0W	±0.5W
	2) "L2 LPOW" PTT : ON							
	3) "C LPOW" PTT : ON							
	4) "H2 LPOW" PTT : ON							
	5) "H LPOW" PTT : ON							
5. Power check	1) Set test mode CH : CH1 - Sig1 CH2 - Sig1 CH3 - Sig1 PTT : ON	Power meter Ammeter	Rear panel	ANT DC IN			Check	25W±1W, 8A or less
6. Modulation balance	1) Set test mode MIC input : OFF Select "BAL" in tuning mode. "L BAL" Deviation meter filter LPF : 15kHz HPF : OFF De-emphasis : OFF	Power meter Deviation meter Oscilloscope AF VTVM AG	Rear panel	ANT			Make the de-modulation waveform near.	(Wide/Narrow) 
	2) "C BAL" PTT : ON		Front panel	MIC				
	3) "H BAL" PTT : ON							
	4) "w BAL" PTT : ON							

调 整

发射部分

项 目	条 件	测 量			调 整			规 格 / 备 注		
		测量装置	单元	端子	单元	部件	方 法			
1. 频率	1) [测试模式] 在调谐模式中选择“FREQ” PTT: 开启	功率计 频率计	背面板	ANT			检查	370.100MHz±100Hz		
2. 功率输出	1) 最大功率 [测试模式] 在调谐模式中选择“HPOW” “H HPOW 256” PTT: 开启						TX-RX (A/2)	VR1	26.0W	±0.5W
3. 高功率	1) [测试模式] 在调谐模式中选择“HPOW” “L HPOW” PTT: 开启 2) “L2 HPOW” PTT: 开启 3) “C HPOW” PTT: 开启 4) “H2 HPOW” PTT: 开启 5) “H HPOW” PTT: 开启								25.0W	±1.0W
4. 低功率	1) [测试模式] 在调谐模式中选择“LPOW” “L LPOW” PTT: 开启 2) “L2 LPOW” PTT: 开启 3) “C LPOW” PTT: 开启 4) “H2 LPOW” PTT: 开启 5) “H LPOW” PTT: 开启	功率计					5.0W	±0.5W		
5. 功率检查	1) [测试模式] CH: CH1-Sig1 CH2-Sig1 CH3-Sig1 PTT: 开启	功率计 电流表	背面板	ANT DC IN			检查	25W±1W 8A或更低		
6. 调制平衡	1) [测试模式] 话筒输入: 关闭 在调谐模式中选择“BAL” “L BAL” 频偏仪滤波器 LPF: 15kHz HPF: 关闭 去加重: 关闭 2) “C BAL” PTT: 开启 3) “H BAL” PTT: 开启 4) “w BAL” PTT: 开启	功率计 频偏仪 示波器 AF VTVM AG	背面板 前面板	ANT MIC			使解调波形为 方形波	(宽/窄带) 		

ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
7. Maximum deviation	1) Set test mode Connect AG to the MIC terminal. Select "MAX" in tuning mode. "L MAX" AG : 1kHz/40mV Deviation meter filter LPF : 15kHz HPF : OFF De-emphasis : OFF PTT : ON	Power meter Deviation meter Oscilloscope	Rear panel	ANT			2.05kHz (Narrow) 4.1kHz (Wide) (According to the larger +, -)	+0Hz, -50Hz (Wide/Narrow)
	2) "C MAX" PTT : ON							
	3) "H MAX" PTT : ON							
	4) "w MAX" PTT : ON							
8. MIC sensitivity check	1) Set test mode CH : CH1 - Sig1 AG : 1kHz/4mV PTT : ON					Check	$\pm 1.5\text{kHz} \pm 0.05\text{kHz}$ (Narrow) $\pm 3.0\text{kHz} \pm 0.2\text{kHz}$ (Wide)	
9. QT deviation	1) Set test mode Select "QT" in tuning mode. "L QT" Deviation meter filter LPF : 3kHz HPF : OFF PTT : ON						0.35kHz (Narrow) 0.75kHz (Wide)	$\pm 50\text{Hz}$ (Wide/Narrow)
	2) "C QT" PTT : ON							
	3) "H QT" PTT : ON							
	4) "w QT" PTT : ON							
10. DQT deviation	1) Set test mode Select "DQT" in tuning mode. "L DQT" Deviation meter filter LPF : 3kHz HPF : OFF PTT : ON						0.35kHz (Narrow) 0.75kHz (Wide)	$\pm 50\text{Hz}$ (Wide/Narrow)
	2) "C DQT" PTT : ON							
	3) "H DQT" PTT : ON							
	4) "w DQT" PTT : ON							

调 整

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单元	端子	单元	部件	方 法	
7. 最大频偏	1) [测试模式] 将音频发生器连接到话筒终端 在调谐模式中选择“MAX” “L MAX” AG: 1kHz/40mV 频偏仪滤波器 LPF: 15kHz HPF: 关闭 去加重: 关闭 PTT: 开启	功率计 频偏仪 示波器	背面板	ANT			2. 05kHz (窄带) 4. 1kHz (宽带) (按照最大+, -)	±0Hz, -50Hz (宽/窄带)
	2) “C MAX” PTT: 开启	AF VTVM AG	前面板	MIC				
	3) “H MAX” PTT: 开启							
	4) “w MAX” PTT: 开启							
8. 麦克风灵敏度检查	1) [测试模式] CH: CH1-Sig1 AG: 1kHz/4mV PTT: 开启					检查	±1. 5kHz±0. 05kHz (窄带) ±3. 0kHz±0. 2kHz (宽带)	
9. QT频偏	1) [测试模式] 在调谐模式中选择“QT” “L QT” 频偏仪滤波器 LPF: 3kHz HPF: 关闭 PTT: 开启						0. 35kHz (窄带) 0. 75kHz (宽带)	±50Hz (宽/窄带)
	2) “C QT” PTT: 开启							
	3) “H QT” PTT: 开启							
	4) “w QT” PTT: 开启							
10. DQT频偏	1) [测试模式] 在调谐模式中选择“DQT” “L DQT” 频偏仪滤波器 LPF: 3kHz HPF: 关闭 PTT: 开启						0. 35kHz (窄带) 0. 75kHz (宽带)	±50Hz (宽/窄带)
	2) “C DQT” PTT: 开启							
	3) “H DQT” PTT: 开启							
	4) “w DQT” PTT: 开启							

ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
11. DTMF deviation	1) Set test mode Select "DTMF" in tuning mode. Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON	Power meter Deviation meter Oscilloscope AF VTVM AG	Rear panel Front panel	ANT MIC			1.5kHz (Narrow) 3.0kHz (Wide)	±0.1kHz (Narrow) ±0,2kHz (Wide)
	2) "w DTMF" PTT : ON							
12. FFSK deviation	1) Set test mode Select "FFSK" in tuning mode. Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						1.5kHz (Narrow) 3.0kHz (Wide)	±0.1kHz (Wide/Narrow)
	2) "w FFSK" PTT : ON							
13. TONE deviation	1) Set test mode Select "TONE" in tuning mode. Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						1.5kHz (Narrow) 3.0kHz (Wide)	±0.1kHz (Wide/Narrow)
	2) "w TONE" PTT : ON							

调 整

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单元	端子	单元	部件	方 法	
11. DTMF频偏	1) [测试模式] 在调谐模式中选择“DTMF” 频偏仪滤波器 LPF: 15kHz HPF: 关闭 PTT: 开启	功率计 频偏仪 示波器 AF VTVM AG	背面板	ANT			1. 5kHz (窄带) 3. 0kHz (宽带)	±0. 1kHz (窄带) ±0. 2kHz (宽带)
	MIC							
12. FFSK频偏	2) “w DTMF” PTT: 开启							
	1) [测试模式] 在调谐模式中选择“FFSK” 频偏仪滤波器 LPF: 15kHz HPF: 关闭 PTT: 开启						1. 5kHz (窄带) 3. 0kHz (宽带)	±0. 1kHz (宽/窄带)
13. TONE频偏	2) “w FFSK” PTT: 开启							
	1) [测试模式] 在调谐模式中选择“TONE” 频偏仪滤波器 LPF: 15kHz HPF: 关闭 PTT: 开启						1. 5kHz (窄带) 3. 0kHz (宽带)	±0. 1kHz (宽/窄带)
	2) “w TONE” PTT: 开启							

TERMINAL FUNCTION

CN7 (TX-RX Unit) ↔ CN502 (Control Unit)

Pin No.	Name	Function
1	W/N	Wide/Narrow switch. H : wide
2	T/R	TX/RX switch. H : Receive
3	MO	Modulation signal.
4	TO	Low speed data signal.
5	BEEP	Beep.
6	8R	NC (8V)
7	PSW	Power switch.
8	DEO	Receive signal to control unit.
9	MM	MIC mute. H : MIC mute
10	AFO	Receive signal from control unit.
11	OE	Output enable.
12	MI	External MIC.
13	AHK	Hook signal. H : Off hook
14	IGN	Ignition signal.
15	SB	13.6V.
16	SB	13.6V.
17	8C	8V.
18	KEY	TX signal.
19	CK	Shift register clock.
20	DT	PLL/Shift register/DA converter data.
21	RSSI	RSSI signal.
22	LD	PLL unlock detection.
23	ES	Shift register enable.
24	EP	PLL enable signal.
25	EN	DA converter enable signal.
26	APTT	No function.
27	CP	PLL clock.
28	DTC	No function.
29	TXD	Serial data
30	RXD	Serial data.
31	OE	Serial data.
32	FSW	Foot switch signal.
33	E	Ground.

CN101 (VCO) ↔ TX-RX Unit

Pin No.	Name	Function
1	ST	Switched transmit input. H : Transmit
2	HT	RF output.
3	E	Ground.
4	9CL	9V input.
5	8CL	8V input.
6	MD	Modulation input.
7	CV	Control voltage input.

CN501 (Control Unit)

Pin No.	Name	Function
1	E	Ground.
2	5C	Logic power (5V).
3	CS	Chip selector signal. L : Option
4	CK	Serial clock signal.
5	SID	Serial data input.
6	(NC)	Unused terminal.
7	(NC)	Unused terminal.
8	LED(A)	LED anode terminal.
9	LED(K)	LED cathode terminal.
10	NC	Unused terminal.

J501 (Control Unit)

Pin No.	Name	Function
1	BLC	MIC key backlight control.
2	PSB	13.6V.
3	E	Ground.
4	PTT/TXD	PTT.
5	ME	MIC ground.
6	MIC	MIC signal input.
7	HOOK/RXD	Hook detection
8	CM	MIC data detection.

端子功能

CN7 (TX-RX单元) ←→ CN502 (控制单元)

引脚号码	名称	功能
1	W/N	宽/窄开关, 高电平: 宽。
2	T/R	TX/RX开关, 高电平: 接收。
3	MO	调制信号。
4	TO	低速率数据信号。
5	BEEP	Beep。
6	8R	无用(8V)。
7	PSW	电源开关。
8	DEO	接收信号到控制单元。
9	MM	MIC静音, 高电平: MIC静音。
10	AFO	从控制单元接收信号。
11	OE	输出有效。
12	MI	外置MIC。
13	AHK	挂机信号, 高电平: 摘机。
14	IGN	点火信号。
15	SB	13.6V。
16	SB	13.6V。
17	8C	8V。
18	KEY	TX信号。
19	CK	位移存储器时钟。
20	DT	PLL/位移存储器/DA转换器数据。
21	RSSI	RSSI信号。
22	LD	PLL失锁检测。
23	ES	位移存储器有效。
24	EP	PLL有效信号。
25	EN	DA转换器有效信号。
26	APTT	无功能。
27	C	PLL时钟。
28	DTC	无功能。
29	TXD	串行数据。
30	RXD	串行数据。
31	OE	串行数据。
32	FSW	脚踏开关信号。
33	E	接地。

CN101 (VCO) ←→ TX-RX单元

引脚号码	名称	功能
1	ST	切换发送输入, 高电平: 发送。
2	HT	射频输出。
3	E	接地。
4	9CL	9V输入。
5	8CL	8V输入。
6	MD	调制输入。
7	CV	控制电压输入。

CN501 (控制单元)

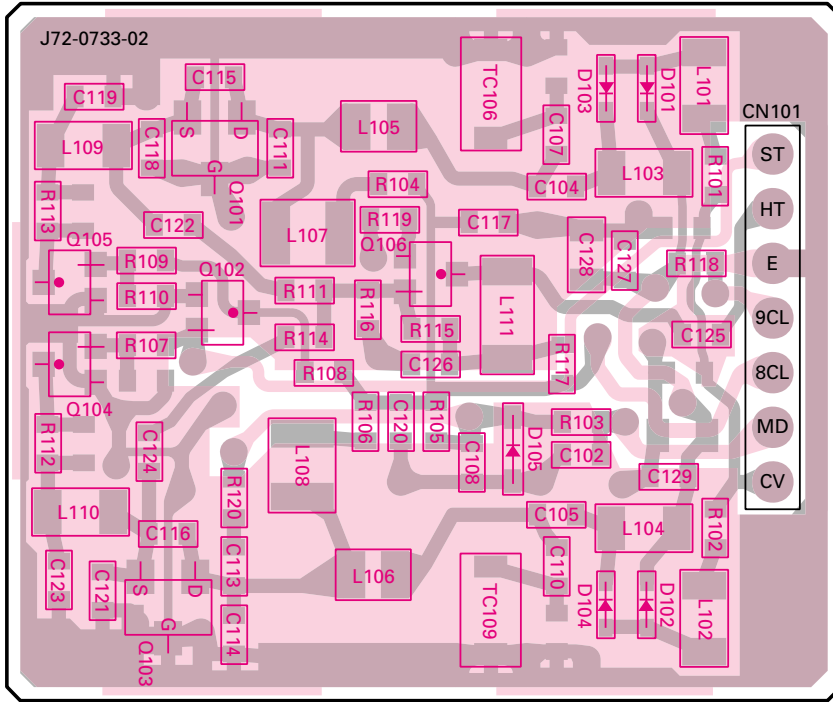
引脚号码	名称	功能
1	E	接地。
2	5C	逻辑功率(5V)。
3	CS	芯片选择器信号, 低电平: 可选。
4	CK	串行时钟信号。
5	SID	串行数据输入。
6	(NC)	不使用端点。
7	(NC)	不使用端点。
8	LED(A)	指示灯正极端点。
9	LED(K)	指示灯负极端点。
10	NC	不使用端点。

J501 (控制单元)

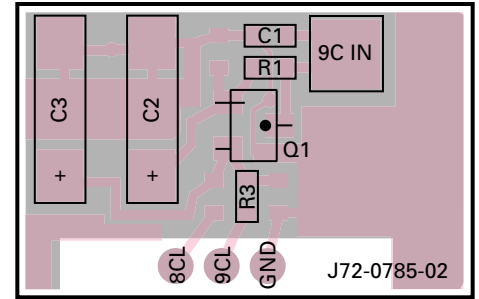
引脚号码	名称	功能
1	BLC	MIC按键背景灯光控制。
2	PSB	13.6V。
3	E	接地。
4	PTT/TXD	PTT。
5	ME	MIC接地。
6	MIC	MIC信号输入。
7	HOOK/RXD	挂机检测。
8	CM	MIC数据检测。

PC BOARD VIEWS / PC板视图 TK-885

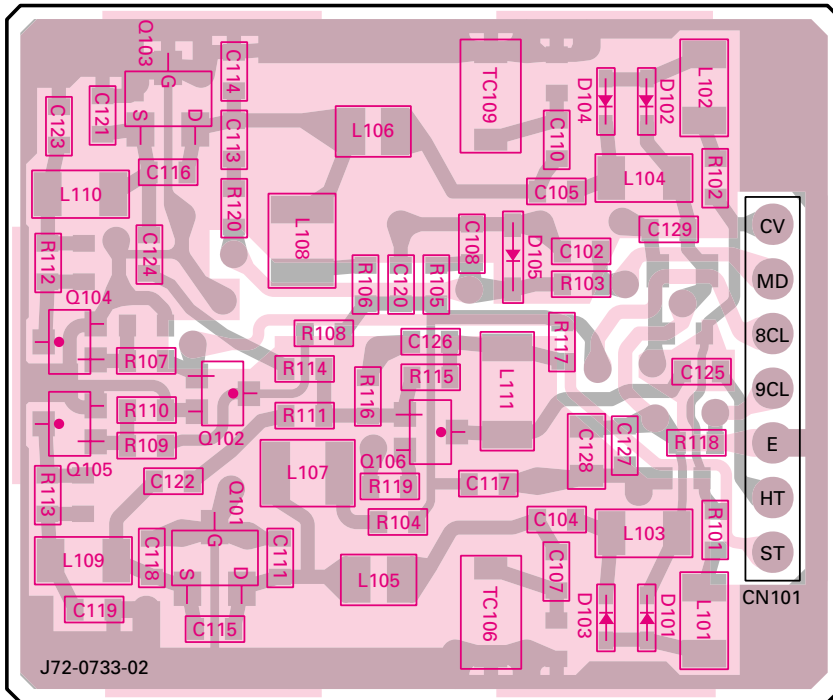
PLL/VCO (X58-4723-01) Component side view



SUB UNIT (X58-4850-11) Component side view



PLL/VCO (X58-4723-01) Foil side view

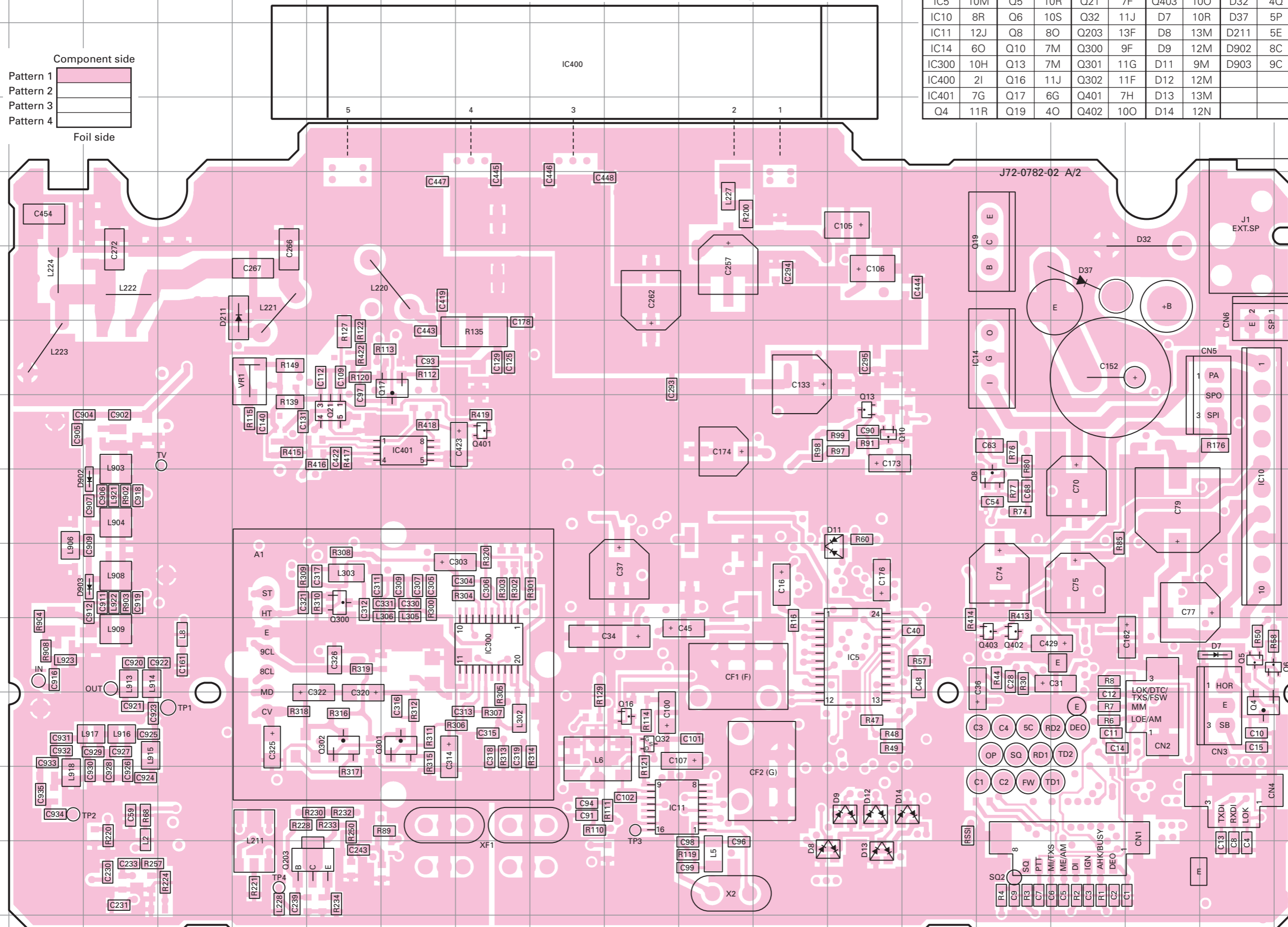
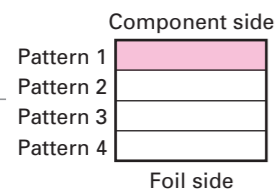


Component side
 Foil side

TK-885 PC BOARD VIEW / PC板视图

TX-RX UNIT (X57-6373-01) (A/2) Component side view

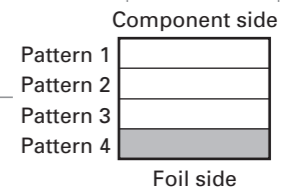
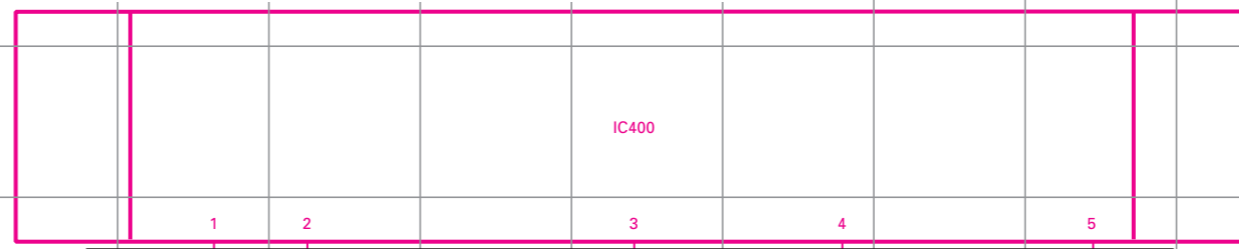
Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC5	10M	Q5	10R	Q21	7F	Q403	10O	D32	4Q
IC10	8R	Q6	10S	Q32	11J	D7	10R	D37	5P
IC11	12J	Q8	8O	Q203	13F	D8	13M	D211	5E
IC14	6O	Q10	7M	Q300	9F	D9	12M	D902	8C
IC300	10H	Q13	7M	Q301	11G	D11	9M	D903	9C
IC400	2I	Q16	11J	Q302	11F	D12	12M		
IC401	7G	Q17	6G	Q401	7H	D13	13M		
Q4	11R	Q19	4O	Q402	10O	D14	12N		



PC BOARD VIEW / PC板视图 TK-885

Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	9M	IC13	6G	Q12	7H	Q27	7D	D1	13D	D20	8C	D31	8C
IC2	13G	IC15	9C	Q15	12K	Q28	7D	D2	13C	D21	8B	D34	8C
IC3	10E	IC200	12Q	Q18	11J	Q29	6N	D3	13C	D22	11I	D35	12F
IC4	9E	IC400	2K	Q20	5G	Q30	8D	D4	13C	D23	11H	D207	7L
IC6	6M	Q1	8E	Q22	9C	Q31	8C	D5	13E	D24	7E	D209	5N
IC7	9G	Q2	9J	Q23	10J	Q201	10Q	D6	12C	D26	9B	D210	6O
IC8	10G	Q7	10N	Q24	10J	Q202	7M	D15	11N	D27	6P		
IC9	8D	Q9	8B	Q25	9C	Q204	7L	D16	7B	D28	8B		
IC12	9H	Q11	7G	Q26	10C	Q205	7J	D17	13D	D30	6R		

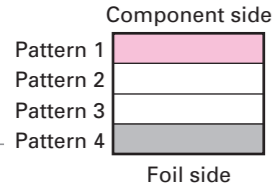
TX-RX UNIT (X57-6373-01) (A/2) Foil side view



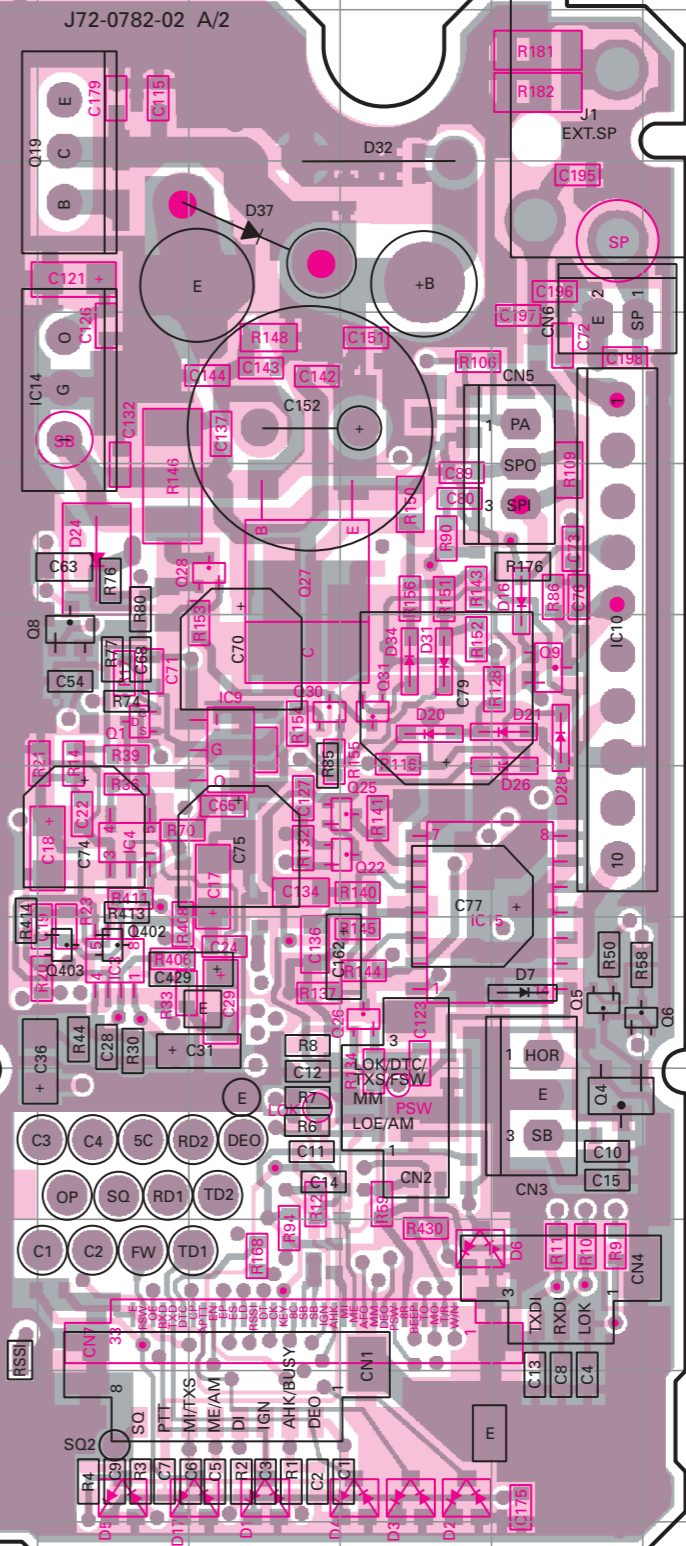
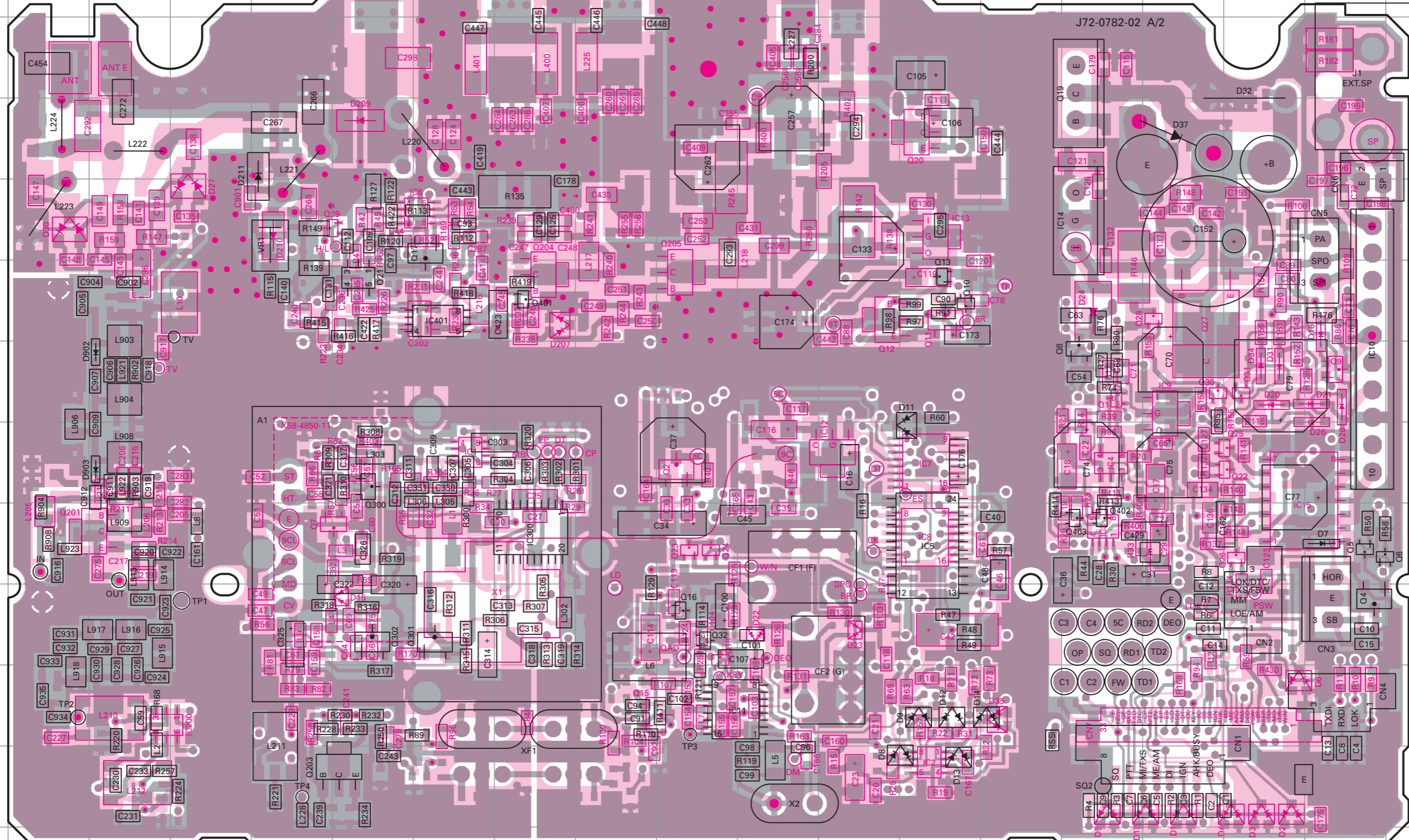
TK-885 PC BOARD VIEW / PC板视图

TX-RX UNIT (X57-6373-01) (A/2) Component side view + Foil side

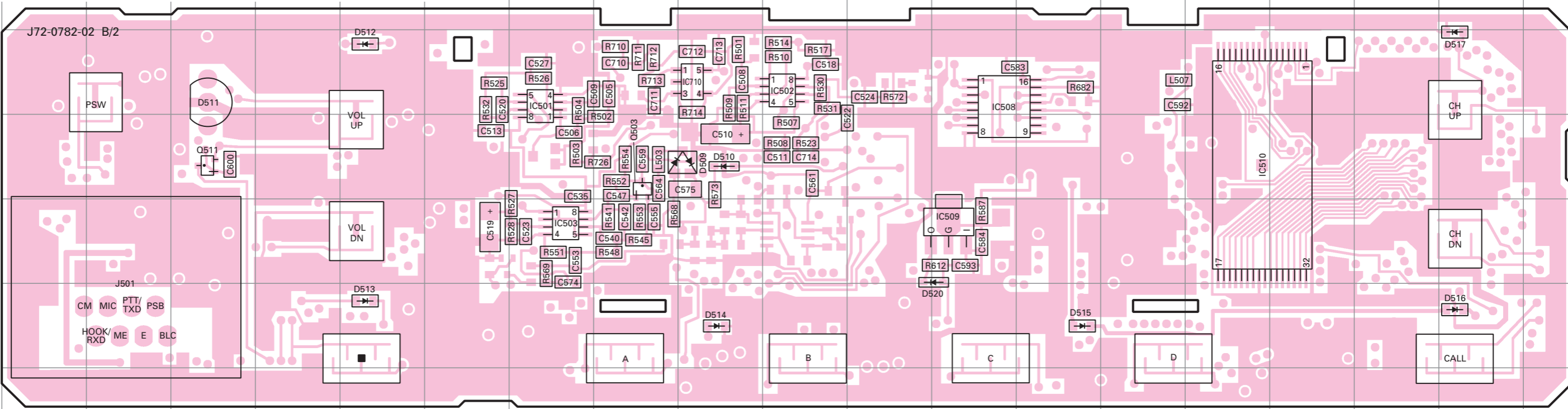
Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	9G	IC14	6O	Q9	8R	Q23	10J	Q204	7H	D6	12Q	D22	11K	D209	5F
IC2	13M	IC15	9R	Q10	7M	Q24	10J	Q205	7J	D7	10R	D23	11L	D210	6E
IC3	10O	IC200	12C	Q11	7M	Q25	9Q	Q300	9F	D8	13M	D24	7O	D211	5E
IC4	9O	IC300	10H	Q12	7L	Q26	10Q	Q301	11G	D9	12M	D26	9R	D902	8C
IC5	10M	IC400	2I	Q13	7M	Q27	7P	Q302	11F	D11	9M	D27	6D	D903	9C
IC6	6G	IC401	7G	Q15	12I	Q28	7P	Q401	7H	D12	12M	D28	8R		
IC7	9M	Q1	8O	Q16	11J	Q29	6F	Q402	10O	D13	13M	D30	6B		
IC8	10M	Q2	9J	Q17	6G	Q30	8P	Q403	10O	D14	12N	D31	8Q		
IC9	8P	Q4	11R	Q18	11J	Q31	8Q	D1	13P	D15	11F	D32	4Q		
IC10	8R	Q5	10R	Q19	4O	Q32	11J	D2	13Q	D16	7R	D34	8Q		
IC11	12J	Q6	10S	Q20	5M	Q201	10C	D3	13Q	D17	13P	D35	12N		
IC12	9L	Q7	10F	Q21	7F	Q202	7G	D4	13O	D20	8O	D37	5P		
IC13	6M	Q8	8O	Q22	9Q	Q203	13F	D5	13	D21	8R	D207	7H		



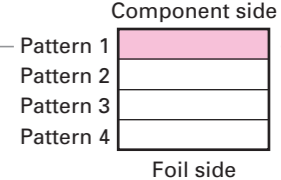
● Connect 1 and 4



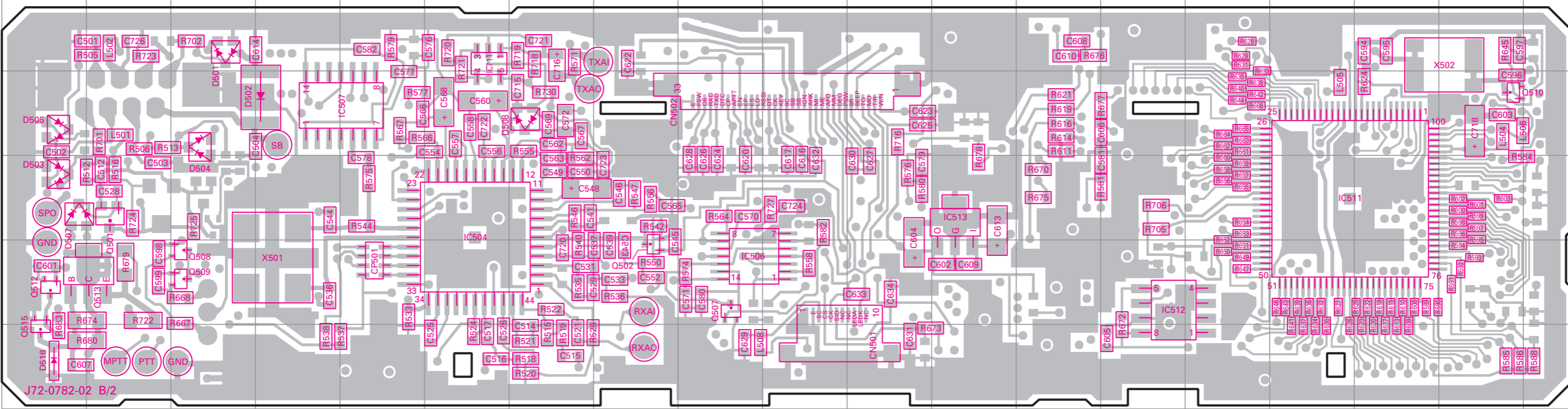
TX-RX UNIT (X57-6373-01) (B/2) Component side view



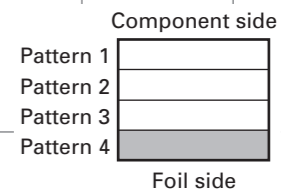
Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC501	2G	IC508	2L	IC710	2I	D509	3I	D512	2E	D515	5M	D520	4L
IC502	2J	IC509	4L	Q503	3H	D510	3I	D513	5E	D516	5R		
IC503	4G	IC510	3O	Q511	3C	D511	2C	D514	5I	D517	2R		



TX-RX UNIT (X57-6373-01) (B/2) Foil side view

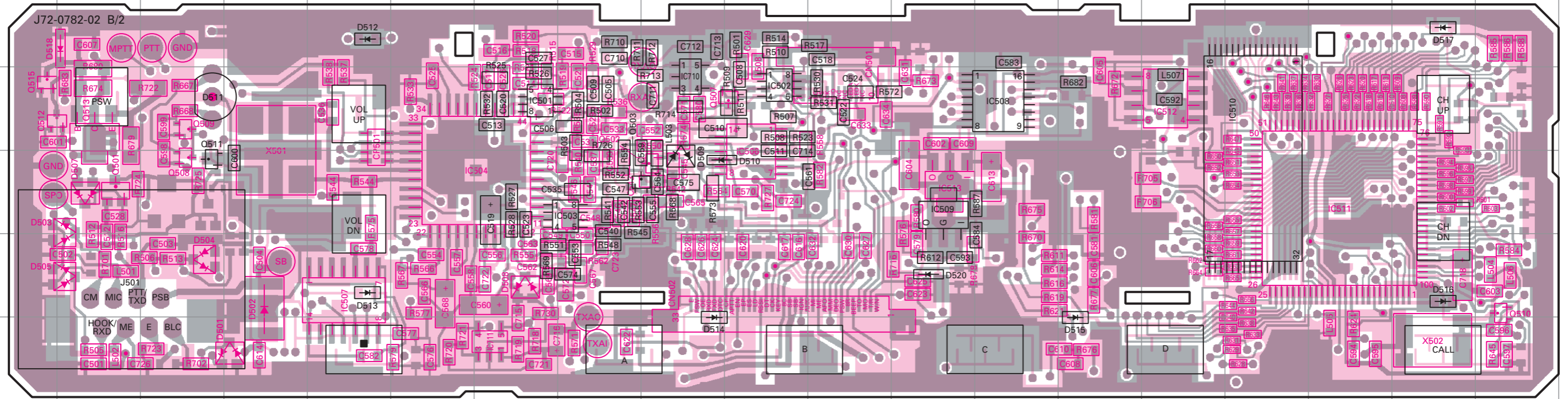


Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC504	10F	IC511	10P	IC711	7F	Q507	11I	Q510	9R	Q515	12A	D503	10A
IC506	11I	IC512	11N	Q501	10B	Q508	11C	Q512	11A	D501	8C	D504	9C
IC507	9E	IC513	10L	Q502	11H	Q509	11C	Q513	11B	D502	9D	D505	9A
										D507	10A	D508	9G
										D509	9A	D518	12A

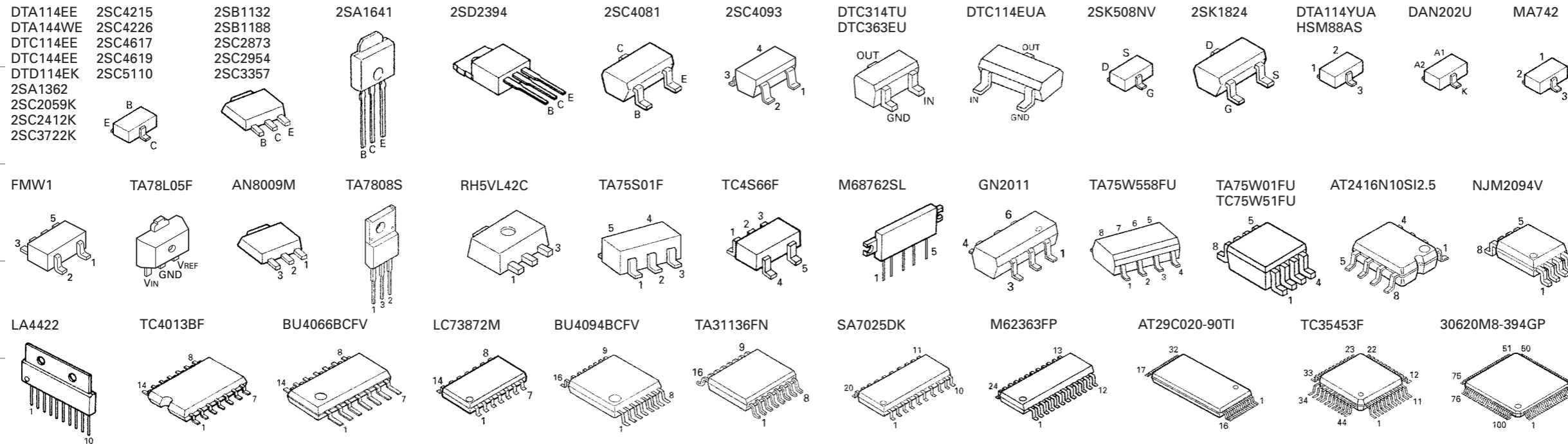
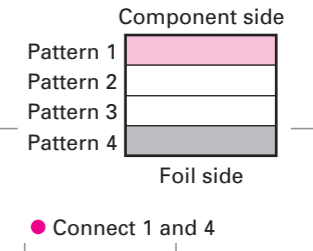


TK-885 PC BOARD VIEW / PC板视图

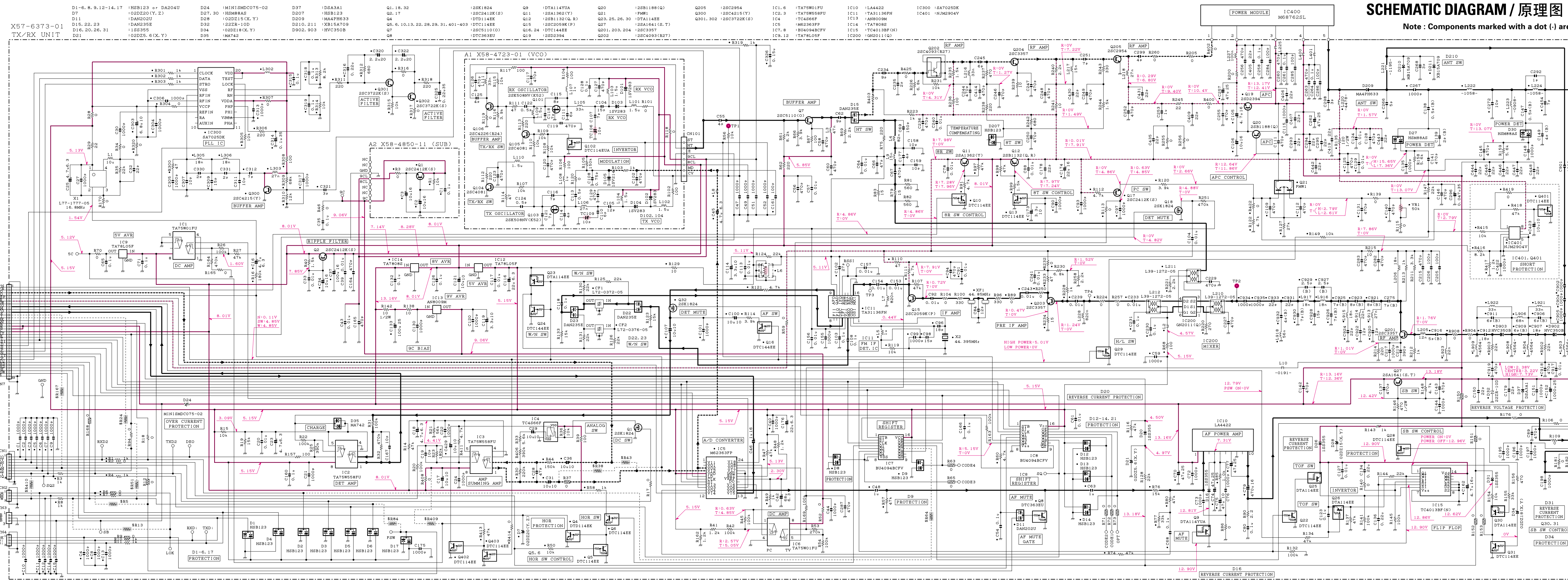
TX-RX UNIT (X57-6373-01) (B/2) Component side view + Foil side



Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC501	3G	IC509	4L	Q501	4B	Q511	4C	D504	5C	D512	2E	D520	5L
IC502	3J	IC510	3P	Q502	4I	Q512	3A	D505	5B	D513	5E		
IC503	4H	IC511	4Q	Q503	4H	Q513	3B	D507	4B	D514	6I		
IC504	4G	IC512	3O	Q507	3J	Q515	3A	D508	5G	D515	6N		
IC506	4J	IC513	4L	Q508	4C	D501	6D	D509	4I	D516	5R		
IC507	5E	IC710	3I	Q509	3C	D502	5D	D510	4J	D517	2R		
IC508	3M	IC711	6G	Q510	5S	D503	4B	D511	3C	D518	2B		



Note: Components marked with a dot (·) are parts of pattern 1.

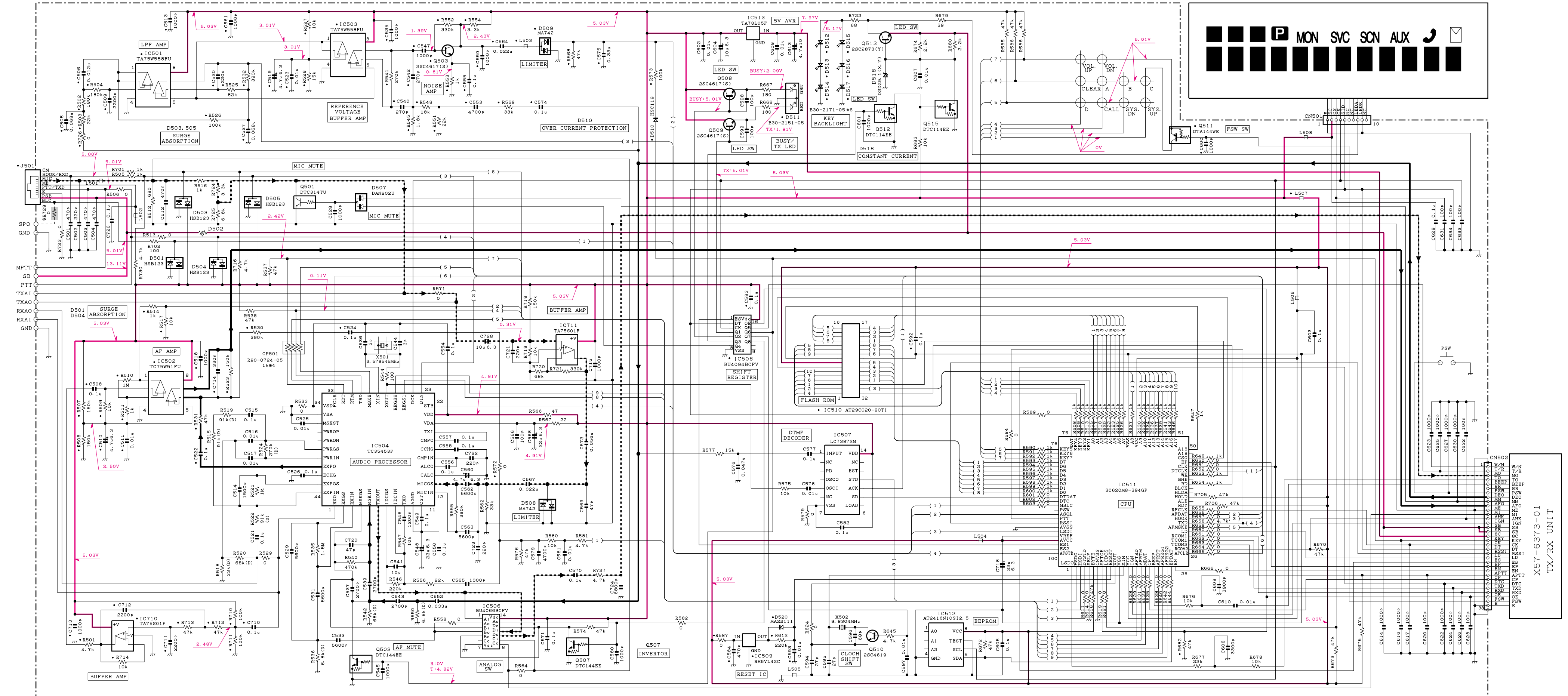


D1: 6, 8, 9, 12, 14, 17	: HSB123 or DA204U	D24	: MINISMDC075-02	D37	: DSA3A1	Q1: 18, 32	: 2SK1824	Q9	: DTA14YUA	Q20	: 2SB1188(Q)	Q205	: 2SC2954	IC1: 6	: TA75W01FU	IC10	: LA4422	IC300	: SA7025DK
D7	: 02D220(Y, Z)	D27: 30	: HSM88AS	D207	: HSB123	Q2: 17	: 2SC2412K(S)	Q11	: 2SA1362(Y)	Q21	: FM1	Q300	: 2SC4215(Y)	IC2: 3	: TA75W58FU	IC11	: TA31136FN	IC401	: NJM2904V
D11	: DAN202U	D28	: 02D215(X, Y)	D209	: MA4PH633	Q4	: DTA148E	Q12	: DTA138(G, R)	Q22	: 2SC25, 26, 30	Q301, 302	: 2SC3722(K, S)	IC4	: TC4069	IC13	: AN8009M		
D15, 22, 23	: DAN235E	D32	: 2Z2E-10D	Q5	: 16, 10, 13, 22, 28, 29, 31, 401-403	Q4	: DTC1148E	Q15	: 2SC2059K(P)	Q27	: 2SA1641(S, T)			IC5	: M62363FP	IC14	: TA7808S		
D16, 20, 26, 31	: 1S355	D34	: 02D218(X, Y)	D902, 903	: HVC350B	Q7	: 2SC5110(O)	Q16, 24	: DTC144E	Q201, 203, 204	: 2SC3357			IC7, 8	: BU4094BCFV	IC15	: TC4013BF(N)		
D21	: 02D25, 6(X, Y)	D35	: MA742	D95	: DTC363EU	Q8	: 2SD2394	Q19	: 2SD2394	Q22	: 2SC4093(R27)			IC9, 12	: TA78L05F	IC200	: GN2011(Q)		

TK-885 SCHEMATIC DIAGRAM / 原理图

X57-6373-01 CONTROL UNIT

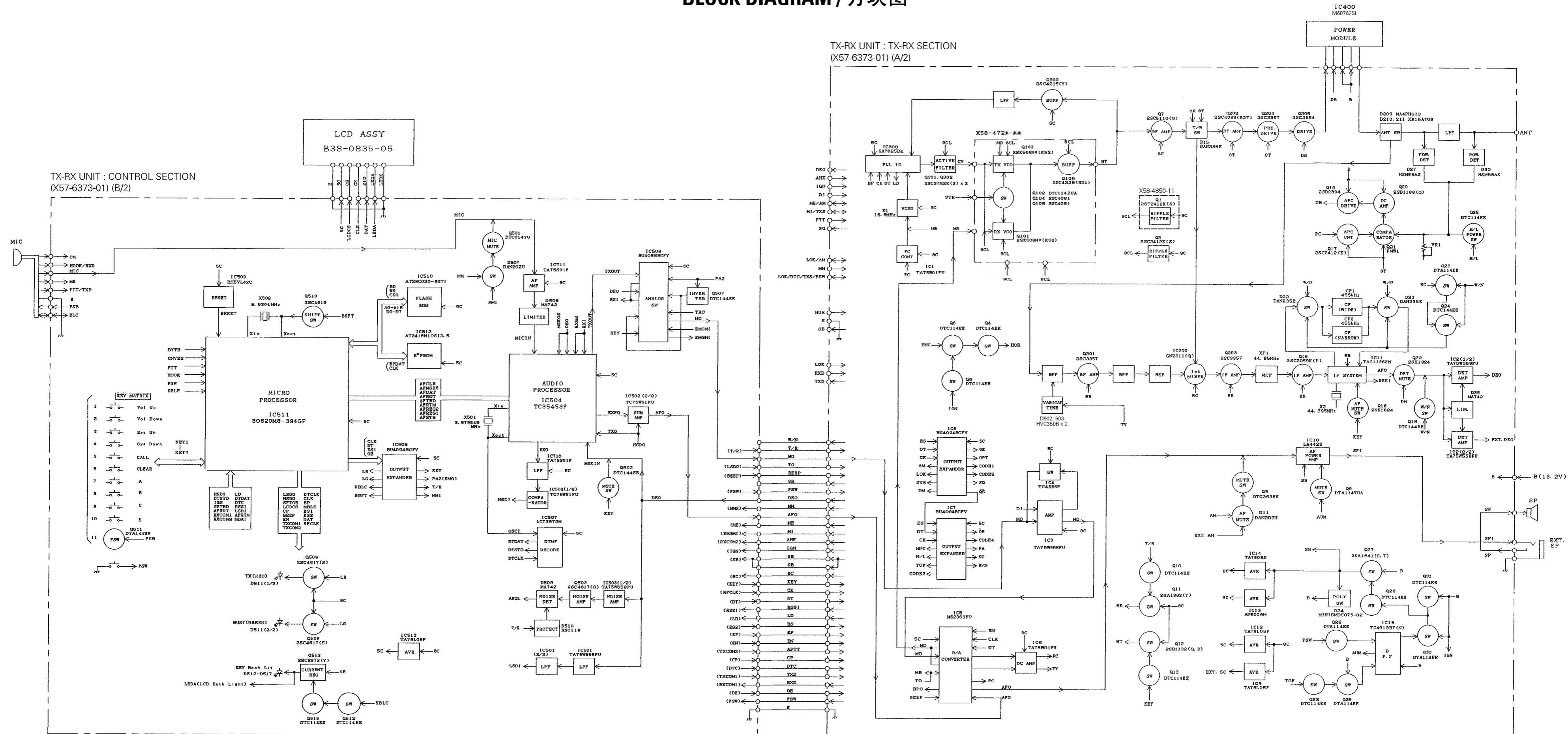
Note : Components marked with a dot (·) are parts of pattern 1.



- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------------|-----------|----------|------|--------------|----------|----------------|-----------|-----------|------|-----------|----------------|-------------|-------|------------|-------|-------------|------------|-------------|-------|----------------|-------|-----------------|------------|-----------|-------|----------------|-------|-----------|
| D501, 503-505 | ·HSB123 or DA204U | D507 | ·DAN202U | D510 | ·HSC119 | D512-517 | ·B30-2171-05 | D520 | ·MA2S111 | Q501 | ·DTC314TU | Q503, 508, 509 | ·28C4617(S) | Q511 | ·DTA144WE | Q513 | ·28C2873(Y) | IC501, 503 | ·TA75W58FU | IC504 | ·TC35453P | IC507 | ·LC73872M | IC509 | ·RH5V142C | IC511 | ·30620M8-394GP | IC513 | ·TA78L05F |
| D502 | ·MINISMD075-02 | D508, 509 | ·MA742 | D511 | ·B30-2151-05 | D518 | ·02D29.1(X, Y) | Q502, 507 | ·DTC144EE | Q510 | ·28C4619 | Q512, 515 | ·DTC114EE | IC502 | ·TC75W51FU | IC506 | ·BU4066BCFV | IC508 | ·BU4094BCFV | IC510 | ·AT29C020-90T1 | IC512 | ·AT2416N10S12.5 | IC710, 711 | ·TA75S01F | | | | |

X57-6373-01
TX/RX UNIT

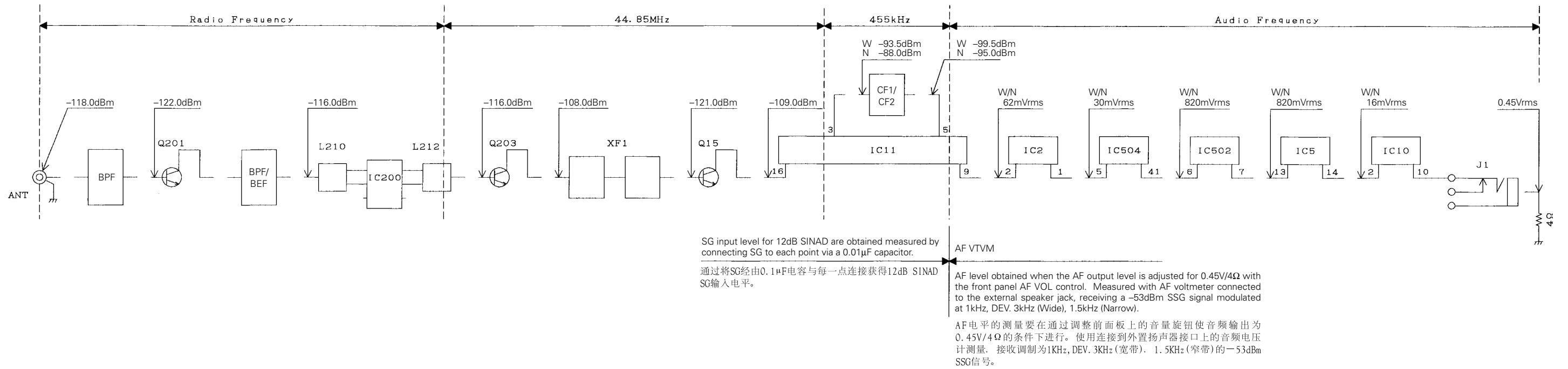
BLOCK DIAGRAM / 方块图



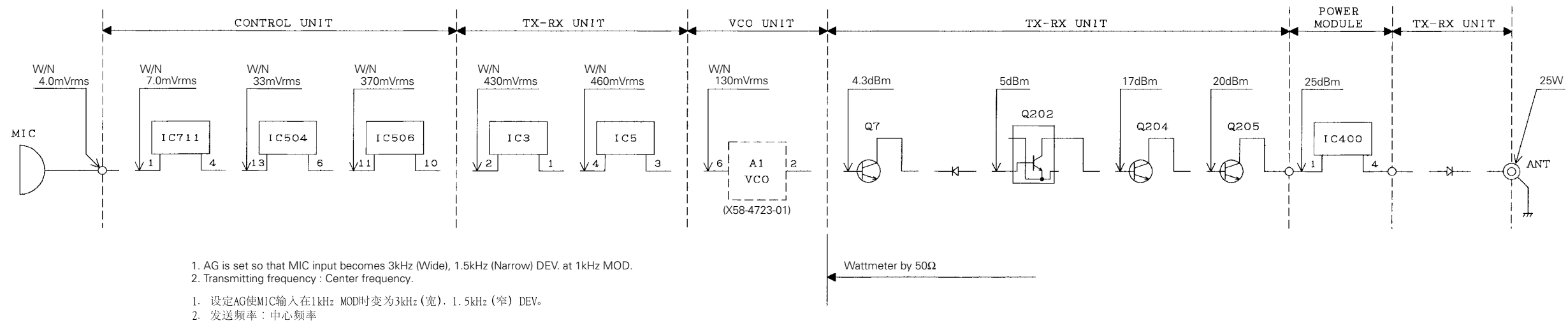
TK-885 TK-885

LEVEL DIAGRAM / 电平图

Receiver Section / 接收部



Transmitter Section / 发射部



SPECIFICATIONS

GENERAL

Frequency Range	350 to 390MHz
Number of Channels	Trunking mode : Maximum 1023 channels Conventional mode : Maximum 32 channels
Channel Spacing	12.5kHz/25kHz
Input Voltage	13.6V±15% negative ground
Current Drain	0.4A on standby 1.0A on receive 8A on transmit
Temperature Range	-30°C to +60°C (-22°F to +140°F)
Frequency Stability	±2.5ppm from -30°C to +60°C
Dimensions & Weight	140 (5.51) W x 40 (1.58) H x 145 (5.73) D mm (inch), 0.94kg (2.07 lbs)

RECEIVER (Measurements made par EIA standard EIA/TIA 603)

RF Input Impedance	50Ω
Sensitivity	0.35μV/0.28μV (Narrow/Wide)
Adjacent Channel Selectivity	67dB/75dB (Narrow/Wide)
Intermodulation Rejection	65dB/70dB (Narrow/Wide)
Spurious and Image Rejection	80dB
Audio Power Output	4W at 4Ω less than 10% distortion
Channel Frequency Spread	40MHz

TRANSMITTER (Measurements made par EIA standard EIA/TIA 603)

RF Power Output	25W
Spurious and Harmonics	70dB
Modulation Limiting	±2.5kHz at 12.5kHz, ±5.0kHz at 25kHz
FM Noise	40dB/45dB (Narrow/Wide)
Microphone Impedance	600Ω
Audio Distortion	Less than 3% at 1000Hz
Channel Frequency Spread	40MHz

规 格

概 述

频率范围	350~390MHz
信道数量	集群模式：最多1023个信道 常规模式：最多32个信道
信道间隔	12.5kHz/25kHz
输入电压	13.6V±15%负极接地
电流消耗	待机为0.4A 接收为1.0A 发送为8A
温度范围	-30°C到+60°C (-22°F到+144°F)
频率稳定性	从-30°C到+60°C为2.5ppm
体积和重量	140(5.51)宽×40(1.58)高×145(5.73)长 mm(英寸), 940g(2.07lbs)
信道频率扩展	40MHz

接收部(按照EIA标准EIA/TIA603测定)

射频输入阻抗	50Ω
灵敏度	0.35μV/0.28μV(窄带/宽带)
邻道选择性	67dB/75dB(窄带/宽带)
互调抑制	65dB/70dB(窄带/宽带)
寄生和镜像抑制	80dB
音频功率输出	4Ω时为4W, 失真小于10%
信道频率扩展	40MHz

发射部(按照EIA标准EIA/TIA603测定)

射频功率输出	25W
寄生和谐波	70dB
调制限制	在12.5kHz时2.5kHz, 在25kHz时5.0kHz
FM噪声	40dB/45dB(窄带/宽带)
麦克风阻抗	600Ω
音频失真	在1000Hz时小于3%
信道频率扩展	40MHz

TK-885

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