PT6808

VHF/UHF MOBILE RADIO
SERVICE MANUAL

Dangerous!

Do not connect AC power or DC power over 13.8V to any connector or terminal of the radio. Otherwise it will cause fire, electric shock or damage to the radio.

Warning!

Do not reverse power polarity.

It may cause harm to the radio if signal input on the antenna connector is higher than 20 dBm (100mW).

Do not turn on the radio until the antenna or load connection is completed.

If the antenna has been damaged, do not use the radio. Damaged antenna may cause light burning on skin.

Though the radio is waterproof, it's better to avoid putting it in rain or snow, or any other liquid to ensure its life and performance.

Statement!

Kirisun Communications Co., Ltd owns the copyright of KSP6808 software.

Duplication of KSP6808 software is allowed.

Kirisun Communications Co., Ltd owns the copyright of the MCU software code.

Kirisun Communications Co., Ltd owns the copyright of the radio outward appearance/structure/circuit design.

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Contents

Chapter 1 Overview

1.1 Introduction

This manual applies to the service and maintenance of PT6808-02 and PT6808-03 trunking portable radios, and is intended for use by engineers and professional technicians that have been trained by Kirisun. It contains all required service information for the equipment. Kirisun reserves the right to modify the product structure and specifications without notice in order to enhance product performance and quality. You can also contact your local dealer or us to get the latest service manual.

Please read this manual before repairing the product.

1.2 Safety Precautions

* Electromagnetic Energy Radiation

Radios will generate and radiate electromagnetic energy during transmit mode.

The safety design of Kirisun radios complies with national and international standards.

In order to obtain best performance, and to guarantee that the electromagnetic radiation does no harm to you, always keep the radio vertical to the ground and make sure that the microphone is 2-5cm from your mouth while using the radio.

* Electromagnetic Interference

In order to avoid electromagnetic interference, please turn off the radio in the place where such post prompts you to do so, e.g. hospital, health care center, airport, etc.

* Explosive Atmosphere

It's prohibited to use or repair the radio in the following places:

Hospital, health center, airport, or where "TURN OFF TWO-WAY RADIO" signs have been posted.

Any area with a potentially explosive atmosphere (e.g. orlop deck of the ship, storage and transportation equipment for fuel and chemical etc.)

Any place near blasting sites or area with electrical blasting cap.

It is also prohibited to change or charge the battery in any area with a potentially explosive atmosphere.

* Antenna

If the antenna has been damaged, do not use the radio. Damaged antenna may cause light burning on skin.

* Replacement Parts

All components used for repair should be supplied by Kirisun.

Components of the same type available on the market are not surely able to be used in this product and we do not guarantee the quality of the product using such components.

If you want to apply for any component from Kirisun, please fill in an application form as below. e.g.

Component Application Form

Radio Model	Component	Position Mark	Model/ Specifications	Parts No.	Qty
PT6808-02	FET	Q3	RD01MUS1	105-RD01MU-R01	1
PT6808-03	Triode	Q49	2SC5108（Y）	104-SC5108-001	1

1.3 Service

All the Kirisun products are subject to the service warranty.

The warranty of the host is 18 months. The warranty of the accessories, including battery, charger, earphone, antenna and adapter, is 6 months. However, in one of the following cases, charge free service will not be available.

* No valid warranty card or original invoice.

* Malfunction caused by disassembling, repairing or reconstructing the radio by users without permission.

* Wear and tear or any man-made damage such as mechanical damage, burning or water leaking.

* Product's serial number has been damaged or the product trademark is difficult to identify.

After the warranty expires, lifetime service is still available. We also provide service components to service stations and staffs.

Chapter 2 External View and Functional Keys

2.1 External View and Functional Keys
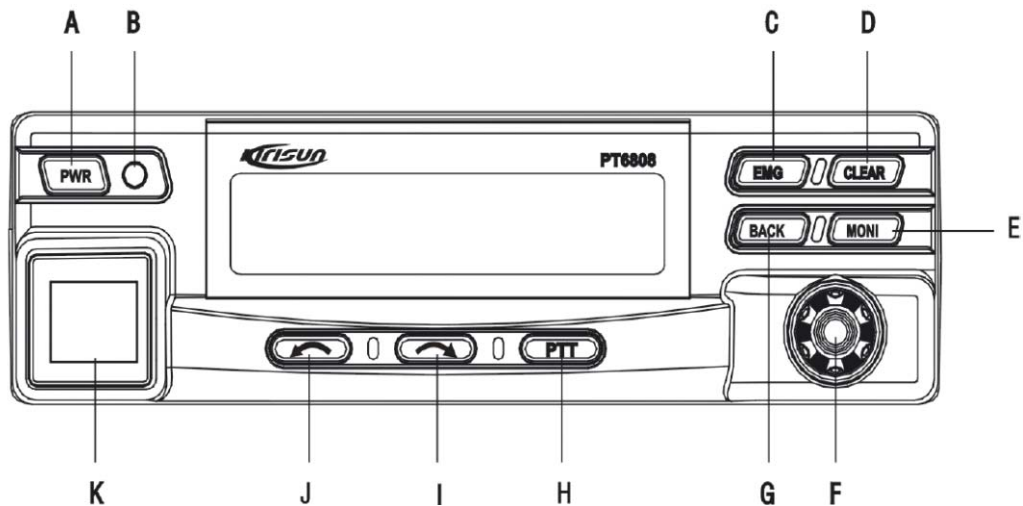
Figure 1
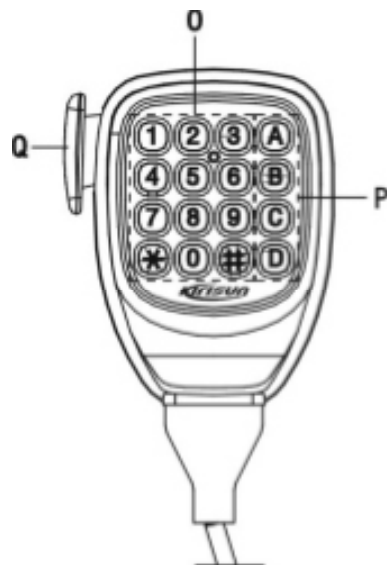
Figure 2

2.2 Key operation descriptions

A. Power Button

B. LED indicator

C. Emergency alarm Button (trunking mode)

D. Clear Button (trunking mode)

E. MONI Button (Normal mode), wide/narrow band switch (test mode)

F. Volume Knob

G. Redial Button (trunking mode)

H. PTT Button

I. Encoder Button (clockwise)

J. Encoder Button (counterclockwise)

K. Connector for hand microphone, programming line

O. Numeric keypad: press the key to input the number you want to call.

P. Programmable Keys: Key A, B, C and D. They can be programmed to execute the following functions by PC software: None, Clear, Redial, Menu, Status Info., Emergency, UP and DOWN.

Q. PTT Key of hand MIC: press down to make or send a call.

2.3 Connectors on the rear panel
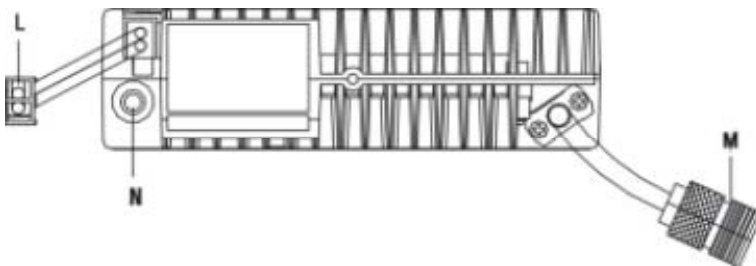
L．Connector for power supply

M．SL16J antenna connector

N．Connector for speaker/MIC

2.4 Display screen
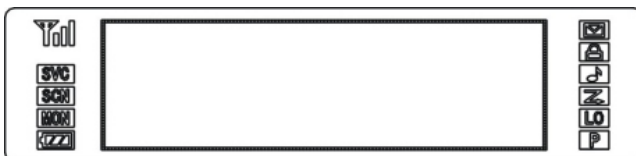
Icon	Description
▾ııl	Indicates the signal strength.
SVC	Indicates that the radio is hunting for a control channel.
MON	Indicates that you are monitoring a channel.
SCN	Appears while you are scanning
Lo	Indicates that the radio is transmitting in low power.
P	Appears when you are in home system, and disappears when in roaming.
✉	Appears when there is new data received, including voice message, digital data message and missed calls.

⊃	Appears when you are in roaming.
🔒	Appears when the keypad is locked.
♪	Appears when the ring alert function is active.
🔋	Indicates the current battery power level.

Chapter 3 Mode Introduction

3.1 Mode Introduction

Mode		Function	How to Enter
User Mode	Trunking Mode	For normal user.	Default step: Press the programmed DOWN key (Hand MIC) to enter Conventional Mode while in Trunking Mode.
	Conventional Mode		Combination step: press the programmed combination keys set in PC software to switch between the two modes.
Panel Test Mode		Used by the dealer to check the fundamental characteristics.	Press and hold the programmed Status Info. Key (Hand MIC) while turning the radio power ON.
Panel Tuning Mode		Used by the dealer to tune the radio.	Press and hold the programmed Menu key (Hand MIC) while turning the radio power ON.
Version Information Mode		Used to check the version.	Press and hold the programmed DOWN key while turning the radio power ON.

3.2 Panel Test Mode

Please refer to Chapter 7 Adjustment.

3.3 Panel Tuning Mode

Please refer to Chapter 7 Adjustment.

Chapter 4 Circuit Description

4.1 Preface

This mobile radio is FM trunking mobile equipment which works among 350MHz-390MHz.

4.2 Frequency Configuration
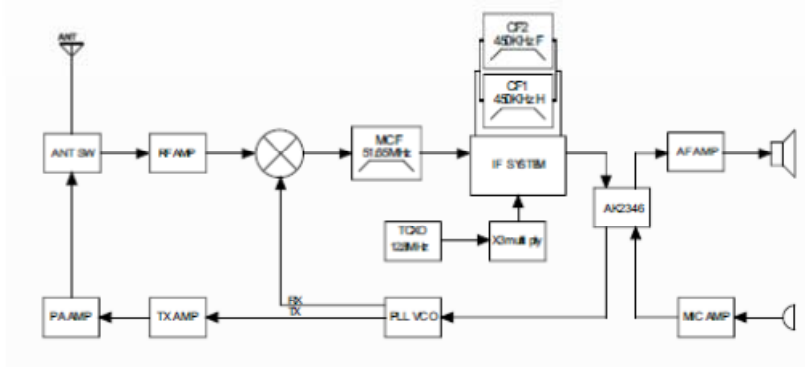
Figure 1: Frequency Configuration

The receiver adopts superheterodyne double frequency conversion of the first IF of 44.85MHz and the second IF of 455kHz.

The first IF of 44.85MHz is generated by mixing the signal received from the antenna with the local oscillator signal coming from the phase lock loop.

Then the output signal is mixed with the second local oscillator signal of 44.395MHz to generate the second IF of 455kHz. And then this frequency is checked and generates demodulating signal.

PLL voltage controlled oscillator generates the Rx signal frequency, and is modulated by the signal from the microphone. Then the signal is amplified and sent to the antenna.

4.3 Principle of Receiver (RX)
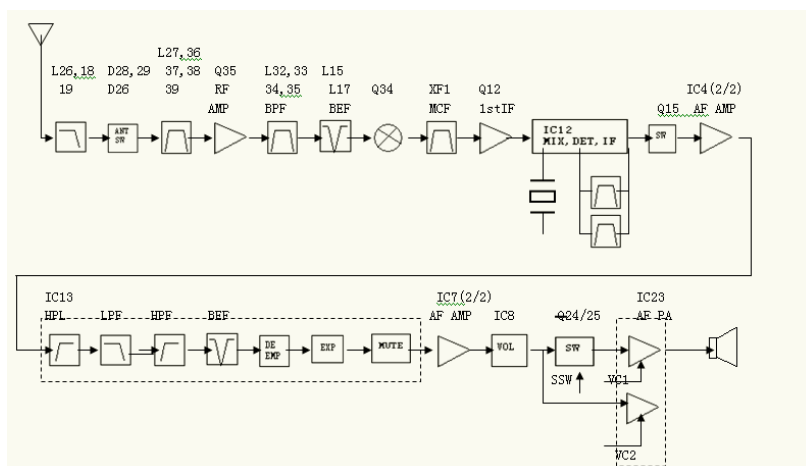
Figure 2 Principle of Receiver

4.3.1 RF circuit

The RF signal received by the antenna comes to antenna switch (D28, D29 and D26), and passes through a BPF (L27, 36, 37, 38 and 39) which is adjusted by variable capacitance. The voltage output from the variable capacitance passes through the voltage from the digital/analog conversion and is modulated. The signal is amplified by RF amplifier Q35, and passes through BPF (L32, 33, 34, 35) and frequency band clear filter (L15.17) to continue to filter the unwanted signal. Then the output signal comes to the first mixed tube (Q34), and mixes with the first local oscillator signal of the frequency synthesizer to generate the first IF (44.85MHz).

4.3.2 IF circuit

The first IF signal passes through crystal filter (XF1 and XF2) to filter the signal coming from the adjacent channel. The output signal is amplified by the first IF amplifier (Q12), and then comes into IF system chip (IC12). IF system chip servers as the second mixer, the second local oscillator, amplitude limit amplifier, quadrature detector and RSSI (receiving signal strength indicator). The second mixer mixes the first IF signal with the second local oscillator signal (crystal part X2) of 44.395MHz, and then generates the second IF of 455 kHz.

The second IF signal passes through ceramic filter (CF: wide; CF: narrow) to continue to filter the unwanted signal from the adjacent channel. The output signal is amplified by the voltage limit amplifier and is demodulated by the quadrature detector with ceramic filter (CD1). The demodulated signal then comes to audio circuit.

4.3.3 Wide/narrow band switch circuit

To set the wide/narrow band of each channel, turn on the ceramic filter CF1 (wide), CF2 (narrow).

The 99 pin of IC19 (micro-computer) outputs the wide band (high power level) and narrow (low power level) signal.

If the circuit receives the wide band (high power level) data, Q6 disconnects and Q7 connects; if the circuit receives the narrow band (low power level) data, Q6 connects and Q7 disconnects; if the circuit receives high/low power level data, D5 and D7 turns on the ceramic filter.

Q9 is connected/disconnected as wide/narrow data receives. The output power level of IC12 detector varies to ensure that the output power level during the wide/narrow band switch is invariable.

4.3.4 Audio amplifier circuit

The demodulated signal coming from IC12 passes through mute switch (Q15), and then is

amplified by IC4 (2/2). The output signal is filtered by IC13 high pass filter, low power filter; high power filter and frequency band eliminator and is de-emphasized.

Then the signal passes through audio amplifier IC7 (2/2), volume controller (IC8) and audio switch (Q25 and Q24 is connected), and then is sent to audio power amplifier (IC23). The amplified signal is output by built-in speaker.

4.3.5 Squelch circuit

The output of IC12 passes through FM IF chip, and then passes through BPF. The noise output from IC12 is amplified by Q4, and is commuted to DC voltage similar to squelch level by D4. The DC voltage is sent to the analog port of CPU (IC19). IC12 generates DC voltage (RSSI) similar to the voltage input by IF amplifier. CPU reads RSSI through pin 93.

IC19 compares the voltage input from pin91 and pin93 with the default value, and then decides whether to output the signal through the speaker.

4.4 Principle of Transceiver (Tx)

4.4.1 Speaker amplifier

The signal coming from the built-in speaker passes through mute switch (Q26).

If the speaker does not match with the microphone, the voltage of MSW on the universal connector becomes high level, and the mute switch (Q26) is connected. If the speaker matches with the microphone, MSW connects with the GND wire in the speaker and microphone. Therefore, Q26 is disconnected; the built-in microphone is mute, and only the external microphone input signal to the speaker amplifier of TX-RX circuit.

The signal coming from the microphone passes through MIC mute switch (Q26 in TX is disconnected), and then passes through low pass filter (IC25:1/2), high pass filter, ALC circuit, low pass filter, high pass filter, amplitude limit circuit and pre-emphasis/IDC circuit of IC13 in turn. When DTMF is encoding, mute switch (Q13) is disconnected to mute the MIC input signal.

The signal passes through digital/analog conversion IC8 to make the maximum deviation adjustment. Then the output signal comes to the summation amplifier consisted of by IC7 (1/2), and mixes with the low speed data receiving from CPU (IC19) and 9600bps data receiving from the port of optional circuit board.

The output signal coming from the summation amplifier passes through digital/analog conversion (IC8), and then comes to VCO to modulate.

The other signal coming from the summation amplifier passes through digital/analog conversion (IC8) again to begin BAL adjustment, and then passes through the buffer amplifier (IC1 2/2), and

comes to TCXO to modulate.
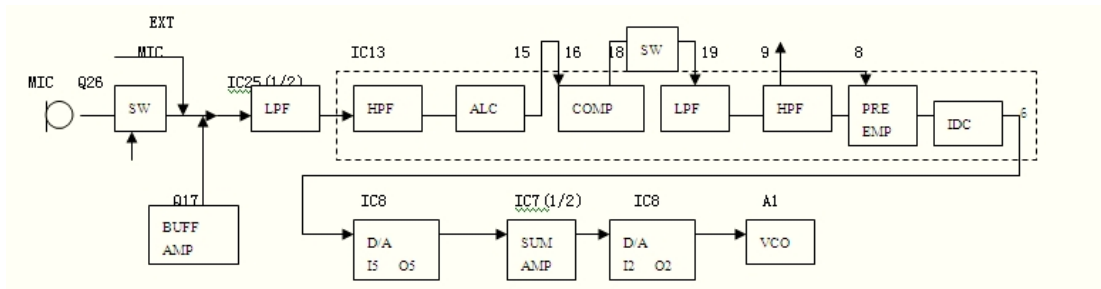
Figure 3 MIC signal processor

4.4.2 Drive and front end amplifier

The signal coming from T/R switch (D25 is connected) is amplified to 100Mw by pre-drive (Q33) and drive amplifier (Q36).

The output of drive amplifier is amplified to 30W (the low power should be 5W) by RF power amplifier (IC26). RF power amplifier is consisted of by power modules. And the output of RF power amplifier passes through harmonic wave filter (LPF) and antenna switch (D26 is connected) to arrive to antenna connector.

4.4.3 Automatic power control circuit

Automatic power control circuit (APC) adopts diode (D30 and D31) to check the output of power module, and supplies the controlling power to IC24. IC24 is compared to the reference voltage input from MCU to output the error voltage from IC24 to control the bias voltage of power amplifier IC26, so as to stabilize the Tx output power. Automatic power control circuit is used to control the overload circuit of power modules generates by the fluctuation of the antenna terminal load, and to stabilize Tx output voltage and temperature.

4.5 Frequency synthesizer unit

4.5.1 Frequency synthesizer

The frequency synthesizer is consisted of by TCXO (X1), VCO (A1), PLLIC (IC14) and buffer amplifier.

TCXO generates frequency of 12.8MHz. Its frequency stability is 1.5ppm within the temperature of -30℃~+60℃. The frequency tuning and modulation of TCXO supplies power to pin 1 of TCXO. The output of TCXO supplies to pin 8 of PLLIC.

VCO of PT6808 is consisted of by two VCOs, and controls two frequency range: 305.15-445.15MHz and 350-390MHz. VCO generates 405.15-425.15MHz to first local oscillator

signal. During the transmission, the power level of VCO's pin3 becomes low level, and VCO generates the frequency of 350-390MHz.

The output of VCO is amplified by buffer amplifier (Q16), and then enters to Pin5 of PLLIC. Meanwhile, the output of VCO is also amplified by buffer amplifier (Q54), and then enters to the next level according to T/R switch (D25, D24).

PLL IC is consisted of by programmable divider, reference drive, phase comparator and loads. PLL IC is level N synthesizer, and operates by the signal of 40, 50 or 60 KHz at level 8 channel. The input signal coming from PLL IC' pin5 and pin 8 is divided into 50 KHz, and is compared in phase comparator. The pulse output signal of phase comparator supplies pressure to load, and is sent to DC signal of LPF after being transformed. The DC signal is sent to pin 1 of VCO and is locked to maintain the stability of VCO frequency.

DT (pin 75), CP (pin 19) and EP (pin 47) of microprocessor' outputs PLL data. If the channel is changed, the radio changes from transmitting to receiving or the voice is reversed, the data is input to PLL IC.

4.6 Control circuit

The control circuit is consisted of by microprocessor (IC19) and its peripheral circuit. The microprocessor controls TX-RX unit, the data sending to the display unit and data sending from the display unit. IC19 performs the following functions:

1) Switch between TX and RX by the PTT output signal.

2) Read system data, group data, frequency data and programming data from memory circuit.

3) Send frequency programming data to PLL.

4) Turn on/off the squelch by the DC voltage of squelch circuit.

5) Control the audio circuit by inputting decoding data.

6) Send audio and encoding data.

4.6.1 Memory circuit

The memory circuit is consisted of by CPU (IC19) and flash memory (IC20). The capacity of the flash memory is 2M bits, including the radio control program of CPU and operating feature data. This program can be written by the external equipment.

- Flash memory

  Note: The data saved in the flash memory are FPU (KPG-62D CPS) program, security code (MPT serial number) and firmware programming (user mode, test mode and tuning mode, etc.). If the flash memory is changed, the data must be re-imported.

- EEPPOM

Note: EEPPOM keeps tuning data (quadrature and noise suppression circuit). If the EEPPOM is changed, the mobile radio needs to be adjusted.

4.7 Signaling circuit

4.7.1 Encoding

- Low speed data (QT and DQT)

Pin 20 of IC13 outputs low speed data. The output signal passes through low pass ceramic filter, and then comes to summation amplifier (IC7 1/2). Then the signal mixes with the audio signal, passes through digital/analog conversion to make BAL adjustment, and then comes to VCO (AI) and TCXO (XI) to modulate.

- High speed data (DTMF)

Pin 2 of IC19 outputs high speed data. The output signal passes through low pass ceramic filter consisted of by IC 10, and supplies TX HSD audio and RX HSD audio. TX HSD error adjusted by microprocessor comes to digital/analog conversion (IC8), and then supplies to audio processor (IC 13).

Then the signal mixes with audio signal, and then comes to VCO and TCXO. RX HSD passes through summation amplifier (IC7 2/2). Digital/analog conversion (IC8) is controlled and amplified by the audio power, and then comes to the speaker.

- FFSK

ESN adopts 1200bps FFSK signal. Pin 19 of IC13 outputs FFSK signal. The signal passes through digital/analog conversion (IC8) for FFSK deviation adjustment, and then comes to VCO. If programming FFSK, the input signal of MIC is mute.

4.7.2 Decoding

- Low speed data (QT and DQT)

The modulated signal coming from IF chip (IC 12) is amplified by IC4 (2/2), and then is input to pin 11 of IC13.

IC13 is digitalized, and performs the functions such as recover DC and decode signal.

- FFSK

FFSK input signal coming from IF is amplified by IC4 (1/2), and then comes to pin 11 of IC13. The signal is then demodulated by FFSK demodulator of IC13.

4.8 Power supply circuit

When pressing down the Power Button, the power level of the CPU port pin is low level, and then CPU port outputs high level. Q18 is connected, SB SW (Q9) is connected and supplies power to the radio. This circuit has overload voltage protection circuit. If the power supply line is provided with 17V or higher voltage, D12 is connected and supplies power to Q17. The voltage makes Q17 connected and makes Q18 and SB disconnected.

Chapter 5 Function Description and Parameter Settings

5.1 Characteristics

(1) The radio conforms to the MPT1327 signaling protocol standard, applies to a variety of base station systems, including: Tait, TaiHe, WanGe, QiaoHang etc., and supports various call methods.

(2) The radio conforms to the MPT1343 standard and Public Security Department CPSX encoding standard.

(3) The radio is provided with special functions of remote killing, reactivating, and dynamic grouping.

(4) 32 conventional channels, standard CTCSS/DCS signaling, BCL, TOT, and scan function to satisfy talk-around requirement.

(5) 16 test frequencies and parameter indications, which are convenient for the dealer to test the radio.

(6) Power, deviation, sensitivity and other parameters are programmed at the factory.

5.2 Trunked Features

1) Trunking signaling

The radio conforms to MPT1327 trunking signaling, MPT1343 standard and Public Security Department CPSX encoding standard.

2) Auto scan

64 control channels can be programmed for the radio, and the radio will hunt for a control channel automatically.

3) Trunking calls

The following calls can be performed by the radio: multi-zone individual call, multi-zone group call, multi-group individual call, multi-group group call, voice call, status call, short data message call, call transfer, conference call, broadcast call, priority call, emergency call, PABX call, PSTN call, status message call, short message status call, NPD free form data transfer, own call diversion, third party call diversion, include call, ALLI call, network operator service call, technician call,

maintenance staff call, etc.

4) Emergency call

Press the orange "Emergency Button" to send an emergency call in case of emergency.

5) Dynamic grouping

Dynamic grouping function allows the base station to group units as a new team by remote control.

6) Remote killing

The base station can give remote killing order to the lost or stolen radio to prohibit its operation.

7) Reactivating

The base station can give reactivating order to the remote killed radio so that it can return to normal operation.

8) Missed calls

Missed calls can be displayed, and the status of the missed calls can be stored.

9) Contact list

Large memory of 250 contacts.

10) Status message

Content of status messages can be programmed by PC software. Alert tone sounds while messages are received, and the status message can be checked by the user.

11) Redialing

10 groups of dialed number can be stored in the radio. Press the Redial Button to redial.

12) Don't disturb

This function allows the radio to refuse voice calls, status message calls, and short data calls.

5.3 Conventional Features

1) Standard QT (51)/DQT(166)

The dealer may have set CTCSS/DCS on channels of the radio. In doing this, other irrelevant calls using the same channel can be ignored. If a channel has set CTCSS/DCS, the squelch can be opened only when the received signal has the same CTCSS/DCS.

2) DTMF dialing

Input the number while pressing the PTT key. Then you can hear DTMF sound from the speaker.

3) Busy channel lockout (BCL)

This function can prevent other radios on the same channel from being interfered. When the channel is occupied, the radio will prohibit transmitting signals.

4) Channel scan

32 conventional channels can be set through PC programming software, and the parameters on each channel can be set, such as CTCSS/DCS encoding and decoding, wideband/narrowband, BCL, high power/low power, compander, channel name, etc. If signals are detected while in channel scanning, the scanning will pause and the information of the paused channel will be displayed.

5.4 General Features

1) Channel spacing

The channel spacing can be selected (12.5kHz/25kHz) through PC programming software.

2) Signal strength display

The real time signal strength can be displayed on the screen.

5.5 Functional Parameter Setting

The radio's functional parameters have been set before leaving the factory. However, due to different requirements of users, the radio's trunked features, operating frequency, channels, CTCSS/DCS, scan, and other function parameters should be reset. Therefore, the company has specially designed a set of Chinese/English programming software KSP6808 with friendly interface, convenient operation and visualized display for setting functional parameters of the radio.

Steps for setting the functional parameters of the radio by computer are as follows:

A. Install KSP6808 on the computer.

B. Connect the radio to the COM port of the computer with the special programming cable. Refer to the figure below.

Note: While connecting, make sure that the power of the computer and the radio are both turned off.

Computer	⟺	Programming cable for PT6808	⟺	Radio
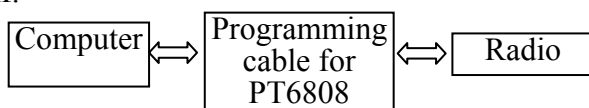
C. Turn the computer power ON.

D. Turn the radio power ON.

E. Run the KSP6808 programming software by double clicking its executive program.

F. Click "Program" in the main menu of KSP6808, and click "Read from radio" in the pull-down menu to read parameters of the radio to the computer.

G. The following parameters can be set by using KSP6808 according to requirements of the user:

1) Basic parameters of the system

2) System code

3) Channel parameters

4) Frequencies

5) Scan option of control channel

6) Personalization

7) Call authorization

8) Call scope limit

9) Call address

10) Default call address

11) Contact list and relevant options

12) 5 digit dialed string

13) Security feature

14) Function menu

15) Trunked features

16) Conventional features

17) Conventional channels

18) Power ON message

Please refer to the "Help" document of KSP6808 and Instruction Manual of PT6808 for details.

Chapter 6 Disassembly for Repair

1. Disassemble the radio

To remove the upper cover:
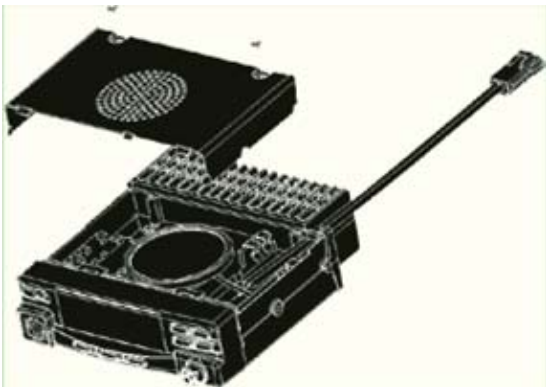
To remove the bottom cover:
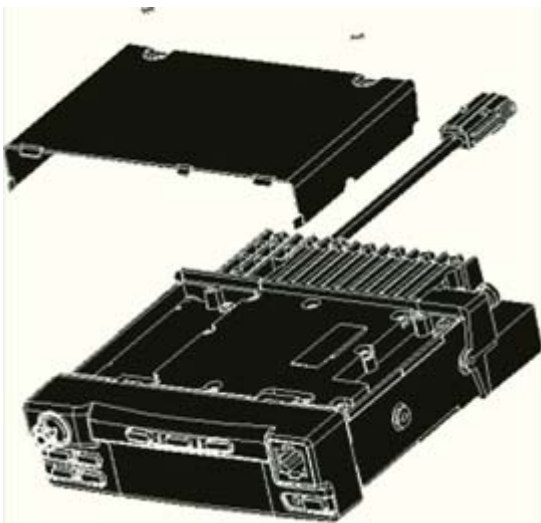
To disassemble the panel:
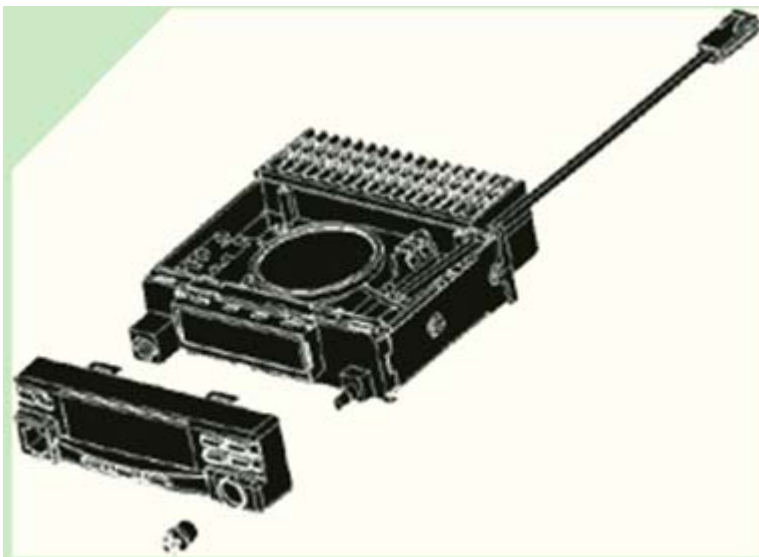
2. Exploded view
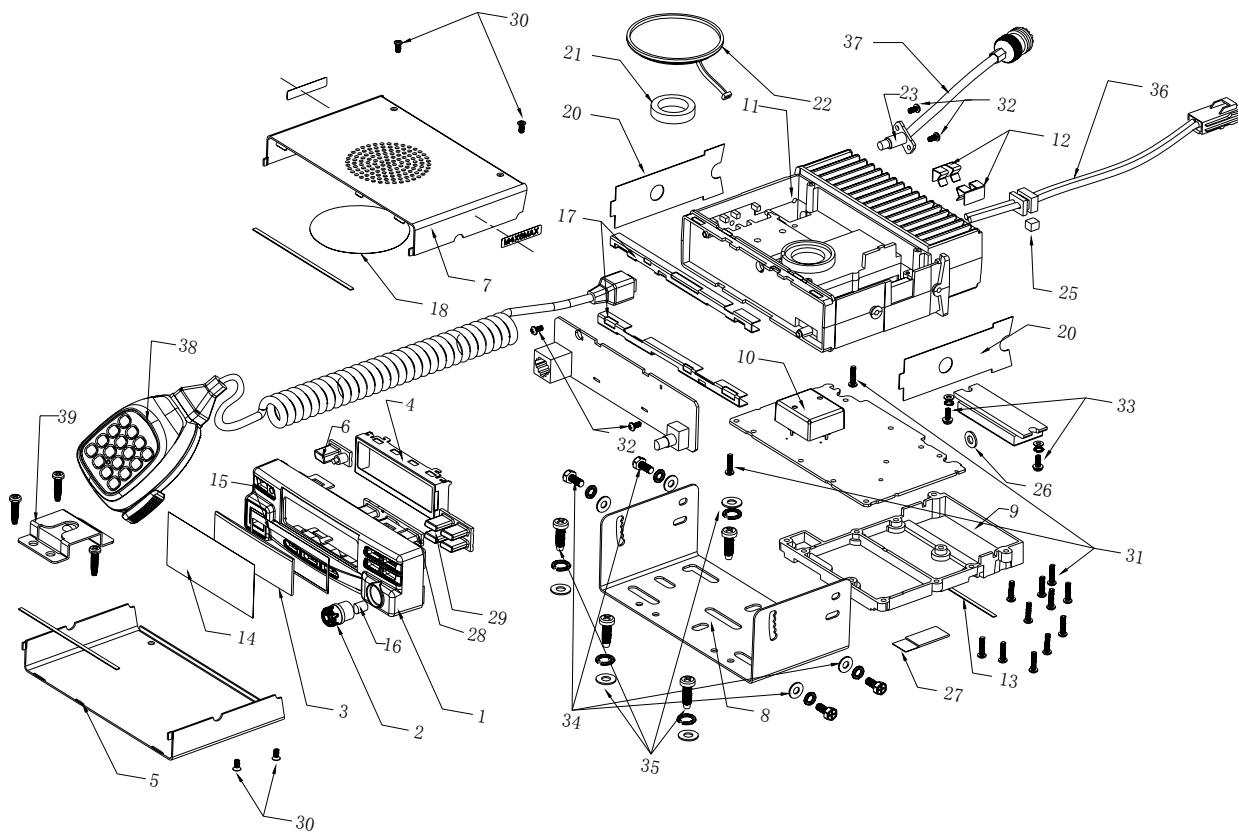
1	7MBP-2000-01A-LOA	Plastic front cover	Material: ABS, Black, silk-screen	PCS	1
2	7MBP-2000-02A-W0	Volume knob	Material: ABS, black	PCS	1
3	7MBP-1747-01A-WCA	Lens	Material: PMMA, transparent, silk-screen	PCS	1
4	6MD7-S1747A	Chinese display module	Chinese, display	PCS	1
5	7MBF-2000-02A-L0	Button cover	Material: Cold roll steel, depth: 1mm, black	PCS	1
6	7MBR-1747-01A-WCA	Silica gel button	Material: White, translucent, silk-screen	PCS	1
7	7MBF-2000-01A-L0	Up cover	Material: Cold roll steel, depth: 1mm, black	PCS	1
8	7MBF-2000-04A-LO	Fixed	1.2mm, steel board, black	PCS	1

		bracket			
9	7MBL-2000-02A-W	Al frame	Material: Al alloy, ACD12, passivation	PCS	1
10	7MBC-1747-01A-N	VCO shield cover	Material: Phosphor copper Ni-plated	PCS	1
11	7MBL-2000-03A-W	Al frame	Material: Al alloy, ACD12, passivation	PCS	1
12	7MBC-2000-02A-N	IC latch	Material: Phosphor copper Ni-plated	PCS	2
14	7WFP-2000-01A	Lens protector film	Static film, 81*36*0.1mm	PCS	1
15	7GCJ-S2000-J	Two adhesive tape for lens	Material: 3M, two-adhesive tape	PCS	1
16	7MHS-1767-02B-W	Circlip for knob	Material: Stainless steel, SUS304-1/2H	PCS	1
17	7GCB-S2000-02-J	Airproof sheet for UP and Down Al frame	Material: Adhesive tape, ROHS	PCS	2
18	7GCB-600001	Dustproof net for speaker	Material: High density black dustproof cloth,Φ60*0.1, adhesive tape	PCS	1
20	7GCB-S2000-01A-J	Airproof sheet for Right and Left Al frame	Material: Adhesive tape, ROHS	PCS	2
21	7GGM-260180060-W	Speaker gasket	Material: Foam, loop, Φ26*Φ18*6.0	PCS	1
22	4SS7-5710-008-400C	Speaker	Φ=57mm,H=10mm, 8Ω, rating power 4W, ND05705M.08P-C	PCS	1
23	3CR7-S1725-A	T-type connector	Brass, Ni-plated	PCS	1
25	7GCM-050050050-J	Gasket for power line	Material: foam, 5mm (L)*5mm(W)*5mm(D)	PCS	1

26	7GGM-100050010-W	Earphone gasket	Material: Foam, Loop, Φ10*Φ5*1.0	PCS	1
27	7MBC-2000-01A-N	Copper foil grounded sheet	Material: Copper foil grounded sheet	PCS	1
28	7MBR-1747-02A-WCA	Silica gel button	Material: White translucent, silk-screen	PCS	1
29	7MBR-1747-03A-WCA	Silica gel button	Material: White translucent, silk-screen	PCS	1
30	7SMF-026060M-SZHT-B1	M2.6*6 cross machine screw	Material: Steel hardness, M2.5*6.0 flat round cross black Zn machine screw	PCS	4
31	7SMF-025120M-SZYB-N	M2.5*12 cross machine screw	Material: Steel hardness, M2.5*12.0 flat round cross Ni-plated machine screw, ROHS	PCS	11
32	7SMF-025060M-SZHT-X1	M2.5*6 cross thick head machine screw	Material: Steel hardness, Φ2.5mm*6mm cross thick head machine screw, metric coarse thread	PCS	4
33	7SAF-030100M-SZYB-N1	R M3*10 flat round cross machine screw	Material: Steel hardness, Φ3mm*10mm cross round Ni-plated screw, with flat gasket and spring gasket, ROHS	PCS	2
34	7SAF-040100M-SZLJ-Z1	R M4*10 cross hexagonal machine screw	Material: Steel hardness, Φ4mm*10mm cross hexagonal machine screw	PCS	4
35	7STF-050160A-SZYB-N	M5*16 cross round	Material: Steel hardness, Φ5mm*16mm cross round head	PCS	4

		self-tapping screw	pyramidal Ni-plated screw		
36	3WPD-S1939-F	Power supply line	2.5m2 copper core, red-black line, VL-2A terminal + SR, L=300mm	PCS	1
37	3WR7-S1725-A	Antenna connector	Antenna connector	PCS	1
38	6SS2-1755-KME	Hand MIC	With programmable functions, ROHS	PCS	1
39	7MBF-2000-03A-R	Speaker bracket	Speaker bracket, with two M4*16 self-tapping screws	PCS	1

Chapter 7 Adjustment

7.1 Adjustment Method

After changing components during the maintenance, it is necessary to test the radio and adjust its technical parameters.

7.1.1 Components required during adjustment

1) Antenna connector converter

2) Universal connector

7.1.2 Manual tuning method

(1) Five frequency points of the radio need to be adjusted.

The following table is the frequencies corresponding to the numeric keys.

Radio Model	Key 1	Key 2	Key 3	Key 4	Key 5
PT6808 (2)	350.05Mz	370.05MHz	389.95MHz	362.65MHz	387.65MHz
PT6808 (3)	400.15MHz	410.15MHz	420.15MHz	435.15MH	449.95MHz

(2) Panel tuning mode (Manual)

1. Key A on hand MIC—select between high and low power level (LCD on the radio displays "LO" is low power; no icon is high power)

2. Key B and C on hand MIC—select between QT and DQT; during the transmission, select between DTMF9 and FSSK (F120 and F180)

3. Numeric key 7 on hand MIC—turn on/off pre-emphasis (LCD on the radio displays "SCV" is on, no icon is off)

4. Numeric key 8 on hand MIC—turn on/off voice compander (LCD on the radio displays "Z" is on, no icon is off)

5. Numeric key 9 on hand MIC—turn on/off beat frequency (LCD on the radio displays "P" is on, no icon is off)

6. Numeric key 6 on hand MIC—turn on/off scramble frequency (LCD on the radio displays the icon of lock is on, no icon is off)

7. CLEAR key on the panel—turn on/off squelch (LCD on the radio displays "MON" is on, no icon is off)

8. MONI key on the panel—select between wide band and narrow band (Display "W" when select wide band, no icon displays when select narrow band)

(3) Parameters adjustment

A. VCO part:

Press the Key A on hand MIC to enter tuning mode, and then press Key B to enter "Sensitivity" adjustment status.

1. Press numeric key 1 to adjust TC51, and adjust the VCO voltage (CV end) to 1.2V±0.1V.

2. Press numeric key 3 to check VCO, and adjust the VCO voltage (CV end) to ≤4.3V.

In the adjustment mode, press Key C to enter "Low power" adjustment status.

3. Press numeric key 1 to adjust TC50, and adjust the VCO voltage (CV end) to 1.2V±0.1V.

4. Press numeric key 3 to check VCO, and adjust the VCO voltage (CV end) to ≤4.3V.

B. TX part:

In the adjustment mode (press the Key A to turn on the radio), press Key B or C to enter the item you want to adjust (press Key D to save the adjustment).

1. Frequency

Press the Encoder Buttons on the panel, and adjust the Tx frequency within ±100Hz of the frequency displaying on the LCD.

2. High power

Press the Encoder Buttons on the panel, and adjust the Tx power within 20-25W.

(Numeric key 1, 2, 3, 4, 5 correspond to high, intermediate high, intermediate, intermediate low and

low frequency point)

3. Low power

Press the Encoder Buttons on the panel, and adjust the Tx power within 4.0-6.0W.

(Numeric key 1, 2, 3, 4, 5 correspond to high, intermediate high, intermediate, intermediate low and low frequency point)

4. Max. Deviation

Signal source: MOD: 1kHZ/120mV, LPF: 15 kHz

A. Narrow band (N): Press the Encoder Buttons, and adjust the Max. Tx deviation to 2.0kHz ±50Hz

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): Press the Encoder Buttons, and adjust the Max. Tx deviation to 4.50kHz ±50Hz

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band) (Press numeric key 7 to turn off pre-emphasis, no "SVC" icon displays on the LCD)

5. DQT balance

Signal source: LPF: 300Hz

A. Narrow band (N): Press the Encoder Button to adjust the Tx demodulation waveform as flat square wave.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): Press the Encoder Button to adjust the Tx demodulation waveform as flat square wave.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

6. QT deviation

Signal source: LPF: 300Hz

A. Narrow band (N): Press the Encoder Button to adjust the Tx deviation to 0.35kHz ±50Hz

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): Press the Encoder Button to adjust the Tx deviation to 0.70kHz ±50Hz

  (Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

7. DQT deviation

Signal source: LPF: 300Hz

A. Narrow band (N): Press the Encoder Button to adjust the Tx deviation to 0.35kHz ±50Hz

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): Press the Encoder Button to adjust the Tx deviation to 0.70kHz ±50Hz

  (Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

8. DTMF deviation

Signal source: MOD: 1kHz/120mV, LPF: 15 kHz

A. Narrow band (N): Press the Encoder Button to adjust the Tx deviation to 1.45kHz ±50Hz

B. Wide band (W): Press the Encoder Button to adjust the Tx deviation to 3.0kHz ±100Hz

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

9. FFSK deviation

Signal source: MOD: 1kHz/120mV, LPF: 15 kHz

A. Narrow band (N): Press the Encoder Button to adjust the Tx deviation to 1.45kHz ±50Hz

B. Wide band (W): Press the Encoder Button to adjust the Tx deviation to 3.0kHz ±100Hz

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

10. TONE deviation

Signal source: MOD: 1kHz/120mV, LPF: 15 kHz

A. Narrow band (N): Press the Encoder Button to adjust the Tx deviation to 1.45kHz ±50Hz

B. Wide band (W): Press the Encoder Button to adjust the Tx deviation to 3.0kHz ±100Hz

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

C. RX part:

1. Sensitivity

    In the tuning mode (press Key A on hand MIC to turn on the radio), press Key B or C to enter the item you want to adjust, and press Key D to save the data. Press Key 7 to turn on pre-emphasis, "SVC" displays on the LCD.

A. Press the Encoder Button to adjust the tuning voltage of SENS end to 1.0V±0.1V (Low frequency point—press Key 1)

B. Press the Encoder Button to adjust the tuning voltage of SENS end to 2.7V±0.1V (Intermediate frequency point—press Key 2)

C. Press the Encoder Button to adjust the tuning voltage of SENS end to 4.1V±0.1V (High frequency point—press Key 3)

(Sensitivity: low—90, intermediate—162 and high—220)

2. Pass band

In the test mode (press Key D on hand MIC to turn on the radio), press the Encoder Button to select the test point you want to adjust, and press Key 7 to turn on pre-emphasis, "SVC" displays on the LCD.

A. Adjust TC1, TC2, TC3 and TC4 to make the sensitivity of 350-390MHz ≤0.28UV (Wide band), ≤0.35UV (Narrow band), 12dB SINAD MOD: 1 kHz, DEV: ±3kHz (Wide band) ±1.5kHz (Narrow band)

B. Adjust TC1, TC2, TC3 and TC4 to make the mirror, semi-IF disturbance of 350-390MHz ≥70dB.

3. Squelch adjustment

In the tuning mode (press Key A on hand MIC to turn on the radio), press Key B or C to enter the item you want to adjust, and press Key D to save the data. Press Key 7 to turn on pre-emphasis, "SVC" displays on the LCD.

Signal source output: 12dB SINAD.

A. Narrow band (N): Press the Encoder Button to turn off the Squelch circuit.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): Press the Encoder Button to turn off the Squelch circuit.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

4. LRSSI check

In the tuning mode (press Key A on hand MIC to turn on the radio), press Key B or C to enter the item you want to adjust, and press Key D to save the data. Press Key 7 to turn on pre-emphasis, "SVC" displays on the LCD.

Signal source output: 12dB SINAD.

A. Narrow band (N): When the signal is output, press the Encoder Button, and then press Key D to save the data.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): When the signal is output, press the Encoder Button, and then press Key D to save the data.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no

icon displays when select narrow band)

5. HRSSI check

In the tuning mode (press Key A on hand MIC to turn on the radio), press Key B or C to enter the item you want to adjust, and press Key D to save the data. Press Key 7 to turn on pre-emphasis, "SVC" displays on the LCD.

Signal source output: -70dBm.

A. Narrow band (N): When the signal is output, press the Encoder Button, and then press Key D to save the data.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

B. Wide band (W): When the signal is output, press the Encoder Button, and then press Key D to save the data.

(Numeric key 1, 2, 3 correspond to high, intermediate and low frequency point)

Wide/narrow switch—press the "MONI" key on the panel (Display "W" when select wide band, no icon displays when select narrow band)

The following parameters need to be tested in the test mode:

Rx part

1. Sensitivity: ≤0.28μV (Wide band), ≤0.35μV(Narrow band)

High, intermediate, and low frequency point

12dB SINAD

MOD.: 1kHz

DEV.: ±3kHz (Wide band), ±1.5kHz (Narrow band)

2. Distortion: half distortion ≤5%, Max. Distortion ≤20%.

8Ωspeaker, output audio power 2000mW

MOD.: 1KHz

DEV.: ±3kHz (Wide band), ±1.5kHz (Narrow band)

3. Current

a. Static current ≤400mA

The voice volume adjusts to the smallest. All LED indicators light off. Squelch is off.

b. Audio power is 2000mW, the current is ≤1000mA.

4. Audio response: +2dB/-6dB

5. Adjacent channel selectivity: ≥70dB (wideband)/≥65dB (narrowband)

6. Intermodulation suppression: ≥70dB (wideband)/≥65dB (narrowband)

7. Parasitic suppression: ≥70dB

Tx part

1. Output power: high (20.0W—25.0W) low (4.0W—7.0W)

High, intermediate, and low frequency point

MOD.: 1KHz

DEV.: ±3kHz

Red LED indicator lights on while transmitting.

2. Transmitting current: high ≤7.0A, low ≤3.0A

3. Max. deviation (pre-emphasis is on)

4.3kHz—4.7kHz (wideband)

1.9kHz—2.2kHz (narrowband)

MOD: 1kHz/120mV

4. Modulation sensitivity (pre-emphasis is on, and MIC input is 1kHz/12mV)

2.2—3.8kHz (wideband)

1.2—1.8kHz (narrowband)

5. Transmission distortion (pre-emphasis is on)

MOD: 1kHz, DEV.: 3kHz, ＜3%

6. QT deviation

0.50 kHz—0.85kHz (wideband)

0.25kHz—0.5kHZ (narrowband)

The waveform should be good.

7. DQT deviation

0.50 kHz—0.85kHz (wideband)

0.25kHz—0.5kHZ (narrowband)

The waveform should be good.

8. Tx deviation

Nominal frequency ±200Hz

9. Modulation feature: +3dB/-3dB

10. Tx harmonic wave suppression ≥80dB

11. Frequency stability: ±2.5ppm

The voltage of all the tests above is 13.8V ± 0.1V under ambient temperature.

Frequency range: 350MHz—390MHz

Chapter 8 Specifications

8.1 General Specifications

Product Model	PT-6800 (2)	PT-6808 (3)
General specification		
	(350-390) MHz	(400-450) MHz
Number of Channel	1024 (control channel: 64)	
No. of traditional channel	32	
Power supply	DC 13.8V	
Size (W*H*D)	56mm*120mm*35mm	
Weight (g)	896g	

8.2 Rx part

Rx part	
Sensitivity (12dB SINAD)	0.25μV (wideband)/ 0.28μV (narrowband)
Adjacent channel sensitivity	≥75dB (wideband)/ ≥70dB (narrowband)
Intermodulation rejection	≥75dB (wideband)/ ≥70dB (narrowband)
Fake signal response	≥70dB
Audio output power	≥1000mW (When the distortion is ＜5%, the load 8Ω.)
Frequency stability	±2.5ppm
Audio response	+2/-6dB

8.3 Tx part

Tx part	
RF power	25W (high)/5W (low)
Harmonic wave	≤-70dB
Frequency stability	±2.5ppm
Max. deviation	±5kHz (wideband)/±2.5kHz (narrowband)
Audio response	±3dB

Chapter 9 Servicing and Testing Equipment

Equipment and apparatus listed below are required for servicing and test of PT6800.

No.	Name	Major Specifications
1	Standard signal generator	Frequency range: 350 ~ 500MHz Modulation: FM and external modulation Output: -127dBm/0.1μV ~ > -47dBm/1mV
2	Power meter	Input impedance: 50 Ω Operating frequency: 350 ~ 500MHz Measuring range: around 50W
3	Deviation meter	Frequency range: 350 ~ 400MHz
4	Digital voltmeter	Measuring range: DC 10mV ~ 10V Input impedance: High input impedance of min. circuit load
5	Oscilloscope	DC ~ 30MHz
6	High sensitivity frequency counter	Frequency range: 50Hz ~ 10kHz Frequency stability: 0.2ppm or lower
7	Ammeter	15A
8	Audio frequency voltmeter	Frequency range: 50Hz ~ 5kHz Voltage range:1mV~10V
9	Audio frequency generator	Frequency range: 50Hz ~ 5kHz or higher Output: 0 ~ 1V
10	Distortion tester	Capacity: 3% or lower @ 1kHz Input level: 50mV ~ 10vms
11	Spectrum analyzer	Measuring range: DC ~ 1GHz or higher
12	Path generator	Center frequency: 50kHz ~ 600MHz Output voltage: 100mV or higher
13	16 Ω dummy load	Around 8 Ω, 3W
14	Adjustable power supply	20V ~ 30V, around 15A

Chapter 10 Troubleshooting

1. Software problems

No.	Problem	Causes and Solutions
1	Power ON failure	A. The power supply line is not well connected. Please install it well. B. The voltage is not enough.
2	Cannot transmit in conventional mode	A. Make sure you have pressed down the PTT key. B. The voltage is not enough. Please adjust the voltage.
3	The noise is too loud.	A. The voltage is not enough. Please adjust the voltage. B. The communication is out of effective range.
4	Cannot talk to each other.	A. Please check if the channel and frequency the transmitter and the receiver use is the same. B. Please check if CTCSS/DCS is the same. C. The communication is out of effective range.
5	LCD displays "UNPROGRAM".	A. Please check if the network parameter and radio parameter is correct.
6	Always display "Hunting", but cannot find the trunking system.	It indicates that the radio is searching the network, please check if the following parameters are correct: A. The initial channel and its frequency, and channel spacing. B. The number of the control channel. C. System code parameter
7	The communication cannot get through in trunking mode.	A. Please check if the radio parameter is valid. B. Please check if you have selected the correct band width. C. Please check if the initial channel and its Tx frequency are correct. D. Please check if the Tx power under the trunking mode is correct.
8	There is no voice at the communication channel under the trunking mode.	A. Please check if the Tx frequency of the initial channel is correct. B. Please check if the step value of the trunking channel is correct.
9	The private call number, group call number, and contact number are correct,	A. Please check if the radio is enable to make a call. B. Please check if the radio has set the call restriction function.

	but the radio displays NULL NUMBER.	
10	The radio frequently switches from trunking mode to conventional mode.	A. Please check if the radio has set the function of "entering to conventional mode if cannot find the control channel" and "searching control channel automatically under conventional mode". B. Please prolong the delay time or cancel this function.
11	The keypad is unable to use.	A. Please check if the radio enables Keypad Lock function.
12	No power-on alert tone or message alert tone.	A. Please check if the radio enables Mute function or the volume adjusts to 0.
13	No signal strength indication.	A. Please check if signal strength indication is disabled.

2. Hardware problems

No.	Problem	Causes and Solutions
1	No display when powering on.	A. LCD is broken. Please change a new one. B. IC19CPU is broken. Please rejoint it.
2	There is no voltage input.	A. C249 is not jointed well. Please rejoint it. B. Buffer amplifier Q33 is broken. Please change it.
3	There is black spot on the LCD.	A. LCD is broken. Please change it.
4	The backlight is not on.	The backlight is broken. Please change it.

Appendix 1: Abbreviations

AMP   amplify, amplifier

ANT   antenna

APC   automatic power control

BPF   band pass filter

CTCSS   continuous tone control squelch system

DCS   digital code squelch

DEMOD   demodulation

DEV   Deviation

E2PROM   Electrically Erasable Programmable Read-Only Memory

GND   Grounded

HPF   high pass filter

IDC   instantaneous deviation control

IF   intermediate frequency

LED   light-emitting diode

LNA   low noise amplifier

LPF   low pass filter

MCU   micro control unit

MIC   microphone

MOD   modulation

MONI   monitor

PLL   phase lock loop

PTT   push-to-talk

RX   receiver

SPK   speaker

TCXO   temperature control X' oscillator

TX   transmitter

UL   un-lock

VCO   voltage control oscillator

Appendix 2 Semiconductor Data

Microprocessor: 30620M8A-394GP (TX-RX part: TC19)

Functions of pins

Pin	Port Name	In/Out	Functions
1	LG	O	Receiving control
2	HSDOUT	I	High speed data output
3	HSDIN	I	High speed data input
4	DTMSTD	I	DTMF decoding, IC data check input
5	LBL	O	DC switch control
6	BYTE	I	+5V
7	CNVSS	I	GND
8	LR	I	Tx control
9	LCDCS	O	LCD drive chip selection output
10	RESET	I	Microprocessor reset input
11	XOUT	-	9.8304MHZ (system clock)
12	VSS	-	GND
13	XIN	-	9.8304MHZ (system clock)
14	VCC	-	+5V
15	AUX	I	AUX switch input
16	REPLY-DATE	I	Reset selection
17	IRQN		
18	EN2	I	Encoding pulse input 2
19	PLLCLK	O	PLLIC clock output
20	BEEP	O	Beep data output
21	AFRDT	O	Tx/Rx switch control
22	CMX-DATE	O	Consistent clock output
23	CMX-CSN	O	Initial sequence of data transfer control
24	EEPDAT	O	EEPROM data output
25	DACSTB	O	Digital/ analog switch chip data input
26	AFCLR	O	FFSK reset output
27	SAVE	O	Battery saver output
28	LAMP	I	LAMP switch input
29	AUXTXD	O	External serial port output

30	AUXRXD	I	External serial port input
31	PLLUL	I	PLL check input
32	CMX-DATA	O	Consistent data output
33	TXD	O	Serial port output (e.g. PC)
34	RXD	I	Serial port input (e.g. PC)
35	AFDAT	O	FFSK data output
36	PTT	I	PTT key input
37	RDY	-	NC
38	ALE	-	NC
39	HOLD	-	NC
40	HLDA	-	NC
41	BLCK	-	NC
42	RD	-	Flash memory RD bus
43	BHE	-	NC
44	WR	-	Flash memory WR bus
45	DTMCLK	O	DTMF decoding chip clock output
46	CNTCLK	O	Common clock output
47	PLLSTB	O	PLL chip data gate output
48	CSO	O	Flash memory chip valid
49	A19	-	NC
50-59	A9-A18	-	Flash memory address bus
60	VCC	-	+5V
61	A8	-	Flash memory address bus
62	VSS	-	GND
63-70	A0-A7	-	Flash memory address bus
71	MONI	I	Monitor switch input
72	SHIFTCLK	I	Shift clock input
73	DTMFPD	O	DTMF gate chip
74	EN1	I	Encoding pulse input 1
75	MINDAT	O	Common data input
76	KEY2	I	Key press scan input 2
77	KEY1	I	Key press scan input 1
78	RESET	O	Key press scan IC reset output

79-86	D0-D7	-	Flash memory data bus
87	DTMDAT	I	DTMF decoding IC data input
88	PF	I	PF key input
89	VOL	I	Volume level input
90	BATT	I	Battery voltage input
91	ANLSQL	I	Squelch circuit level input
92	TEMP	I	Thermal resistor input
93	RSSI	I	RSSI input
94	AVSS	-	GND
95	LSDIN	I	Low speed data input
96	VREF	-	+5V
97	AVCC	-	+5V
98	AFMUTE	O	Shift register data gate output
99	W/N	O	Wide/narrow band input
100	DCSWITCH		

IC14 Pin data

Pin			Descriptions
1	CLOCK		Serial clock input
2	DATA		Serial data input
3	STROBE		Serial gate input
4	Vss		Digital grounded
5	RFin		Pre-scaler anode input
6	RFin		Pre-scaler cathode input
7	Vccp		Power supply by pre-scaler anode. This pin supplies power to pre-scaler and RF input buffer.
8	REFin		reference divider input
9	RA		Assistant current set; resistance used for Vssa
10	AUXin		Assistant divider input
11	PHA		Assistant phase comparator output
12	Vssa		Analog grounded
13	PHI		General phase tester output
14	PHP		Equilibrium phase tester output

15	VDDA	Voltage supply for analog mode. This pin increases voltage to load, supplies power to assistant pre-scaler, assistant and reference buffer.
16	RN	Main current set; resistance used for Vssa
17	RF	Part compensated current set; resistance used for Vssa
18	LOCK	Lock test output
19	TEST	Test pin; connect to VDD
20	Vdd	Voltage supply for digital mode. This pin supplies power to CMOS digital part of this equipment.

Appendix 3 Electronic Components

Frequency range: 350-390MHz

No.	Part No.	Part Name	Specifications	Qty	Position Mark
1	3FG7-6030-313010	R fuse	Fuse, φ6*30mm,32V,10A	1	
2	2RW3-R09542NO-FB12.5	R volume potentiometer	R09542NO-FB12.5A07-A103-015	1	VR1
3	4PE3-3R0-Y25-A	R chip fixed LED	Φ3mm, two colors (red and green),GHZRG603D2-2C	1	D45A
4	1DS1-DA2S10100L	R Chip Switch Diode	DA2S10100L	1	D21
5	1IS1-HEF-4013BT	E Double D spring IC	HEF-4013BT,SOIC16	1	IC29
6	1IS1-MAX6816EUS	E Chip IC	MAX6816EUS,SOT-143	1	IC30
7	1IS1-XC62FP3602MR	Chip voltage regulator IC	voltage regulator integrated3.6V,SOT-23	1	IC15
8	1TT1-2SB1132-R	Chip Triode	2SB1132-R(BAR),PNP,SC-62	1	Q43
9	1TT1-2SC4617-R	R Chip Triode	2SC4617-R(BR),EMT3	4	Q28,Q29,Q30,Q31
10	1TT1-DTC144EE	R Chip Triode	Digital triode DTC144EE(26),SOT323	2	Q40,Q41
11	2CC1-16-C0G500-101J	R Chip multilayer capacitor	1608,100P±5%,50V,C0G	2	C193,C194
12	2CC1-16-C0G500-470J	R Chip multilayer capacitor	1608,47P±5%,50V,C0G	6	C233,C231,C234,C235,C237,C402
13	2CC1-16-X7R500-471K	R Chip multilayer capacitor	1608,470P±10%,50V,X7R	1	C156
14	2CC1-16-X7R500-102K	R Chip multilayer capacitor	1608,1000P±10%,50V,X7R	11	C154,C155,C158,C162,C163,C300,C300A,C3

					01,C302,C304,C305
15	2CC1-16-X7R500-103K	R Chip multilayer capacitor	1608,10nF±10%,50V,X7R	8	C153,C161,C203,C205,C303,C403,C404,C230
16	2CC1-16-X7R500-104K	R Chip multilayer capacitor	1608,100nF±10%,50V,X7R	2	C161A,C192
17	2CT1-TP20-6R3-100M	R Chip Ta Capacitor	2012,10μF±20%,6.3V	1	EC1A
18	2CT1-TS32-350-R10M	R Chip Ta Capacitor	3216,0.1μF±20%,35V	1	EC12
19	2RS1-16-000O	R Sheet resistor	1608,0Ω	1	R182A
20	2RS1-16-102J	R Sheet resistor	1608,1K±5%	6	R85,R79,R1A,R321,R316,R313
21	2RS1-16-103J	R Sheet resistor	1608,10K±5%	2	R182,R225
22	2RS1-16-105J	R Sheet resistor	1608,1M±5%	1	R186
23	2RS1-16-183J	R Sheet resistor	1608,18K±5%	1	R144
24	2RS1-16-203J	R Sheet resistor	1608,20K±5%	1	R224
25	2RS1-16-271J	R Sheet resistor	1608,270Ω±5%	3	R220,R228,R229
26	2RS1-16-272J	R Sheet resistor	1608,2.7K±5%	4	R322,R315,R314,R324
27	2RS1-16-331J	R Sheet resistor	1608,330Ω±5%	3	R84,R181,R215
28	2RS1-16-471J	R Sheet resistor	1608,470Ω±5%	4	R222,R223,R226,R227

29	2RS1-16-472J	R Sheet resistor	1608,4.7K±5%	2	R179,R48
30	2RS1-16-473J	R Sheet resistor	1608,47K±5%	2	R105,R105A
31	2RS1-16-682J	R Sheet resistor	1608,6.8K±5%	1	R214
32	2RS1-16-822J	R Sheet resistor	1608,8.2K±5%	1	R323
33	3CF1-BL112-34RL	R Chip FPC/FPC connector	Spacing 0.5mm, 34core ,BL112-34RL	1	CN4
34	3CF1-S100-2RF-10L	Chip FFC/FPC connector	10P connector P=1.0mm S100-2RF-10L	1	CN1
35	3ST1-TD-13MA	Chip Touch Switch	TD-13MA X	8	S3,S7,S5,S8,S6,S4,S301,S9
36	4PE1-16-F3	R Chip LED	1608, orange,19-213/Y2C-ANQB/3T	14	D36,D39,D40,D46,D47,D48,D49,D36B,D46B,D47B,D39B,D40B,D48B,D49B
37	5FE1-BLM11A221SPT	R Chip EMI Control Filter	1608,BLM11A221SPT/BLM18AG221S(0138-05)	3	L6,L13,LIC29
38	2RS1-16-222J	R Sheet resistor	1608,2.2K±5%	1	R64
39	1IS3-L7808CV	E R insert regulator IC	Regulator L7808CV(8V),TO220	2	
40	1IS3-LA4600	E insert audio amplifier IC	Audio amplifier LA4600,SIP10F	1	
41	2CE3-GM250-471M1016	R insert Al electrolyzed capacitor	10×16,470μF±20%,25V,GM type	2	
42	2LH3-R503R0-R10	Insert	Diameter of line φ0.5,	2	

		Air-cored Inductor	inner diameter φ3.0,9.5 loops, positive		
43	2LH3-R803R0-L03	Insert Air-cored Inductor	Diameter of line φ0.8, inner diameter φ3.0, 2.5 loops, negative	1	
44	2LH3-R804R0-R02	Insert Air-cored Inductor	Diameter of line φ0.8, inner diameter φ4.0,1.5 loops, positive	2	
45	2RV3-22ZR-10D	R insert VDR	22ZR-10D	1	
46	5FC3-S44M85-UM5	Insert crystal filter	fo=44.85MHz,D44810BC1	2	
47	1DG1-DSM3MA1	R chip diode	SM3MA1	1	
48	1DS1-1SS373	R Chip Switch Diode	1SS373-SMD	4	
49	1DS1-DA221	R Chip Switch Diode	Duodiode DA221(K),SOT416	2	
50	1DS1-DAN222	R Chip Switch Diode	Duodiode DAN222(TL),SOT23(ROHM)	2	
51	1DS1-HSC277	R Chip Switch Diode	HSC277,1608	2	
52	1DS1-DA2S10100L	R Chip Switch Diode	DA2S10100L	4	
53	1DS1-L709CE	R Chip Switch Diode	L709CE,ROHS	2	
54	1DS1-MA4PH633	R Chip Switch Diode		1	
55	1DS1-RB706F-40	R Chip Switch Diode	Schottky diode RB706F-40,SOT-323	5	
56	1DV1-HVC350B	R Chip variable capacitor diode	HVC350B(B0),SOD523	5	
57	1DV1-HVC351	Chip variable	HVC351,SC-79	1	

		capacitor diode			
58	1DV1-HVC375B	Chip variable capacitor diode	HVC375B(B8)	8	
59	1DZ1-02DZ18-X	R Chip voltage regulator diode	Vmin=16.80V,Vmax=17.76V	1	
60	1DZ1-HZU5ALL	R Chip voltage regulator diode	HZU5ALL,2012,5V	1	
61	1DZ1-HZU68B1	R Chip voltage regulator diode	HZU6.8B1	1	
62	1ID1-M62364FP	E Chip common logic IC	D/A switch M62364FP,24PQ(FP)	1	
63	1IL1-NJM2904V	R Chip Linear IC	Double operation amplification NJM2904V,TSSOP-8	1	
64	1IM1-AT24LC256N10SI2	E R Chip memory IC	Memory 24LC256I/SN	1	
65	1IM1-DS2431P	E R Chip memory IC	EEPROM,DS2431P,TSOC	1	
66	1IM1-W25X40VSNIG	Chip memory IC	W25X40BVSNIG, Blank sheet, ROHS	1	
67	1IP1-M16CM3062LFGPGP	E R Chip CPU IC	Blank sheet, CPU,M16C-M3062LFGPGP,FLASH	1	
68	1IS1-CMX882E1	Chip IC	CMX882E1,TSSOP	1	
69	1IS1-NJM78L05UA	R Chip	voltage regulator	1	

			voltage regulator IC	integrated5V,NJM78L05UA,SOT-89		
70	1IS1-NJU7201U50-TE1	Chip IC	NJU7201U50-TE1,SOT-89	1	
71	1IS1-R3111N421A	Chip voltage regulator IC	Regulator R3111N421A	1	
72	1IS1-SA7025DK	E Chip PLL IC	PLLSA7025DK,SSOP20	1	
73	1IS1-GT3136	E Chip IC	GT3136,SSOP16	1	
74	1IS1-TA75S01F	Chip IC	TA75S01F,SSOP5	1	
75	1IS1-TC75S51F	Chip operational amplifier IC	TC75S51F,SSOP5-P-0.95	1	
76	1IS1-TC75W51FU	R Chip IC	TC75W51FU,SSOP-8	4	
77	1IS1-TK11250CM	E R Chip voltage regulator IC	voltage regulator integrated5V,SOT23L-6	1	
78	1IS1-XC6201P502PR	R Chip voltage regulator IC	voltage regulator integrated	1	
79	1IS1-XC62FP3002MR	Chip voltage regulator IC	voltage regulator integrated3V,SOT-23	1	
80	1IS1-XC62FP3602MR	Chip voltage regulator IC	voltage regulator integrated3.6V,SOT-23	2	
81	1TC1-UMC4	R Chip Compound tube	UMC4,NPN/PNP Compound tube	1	
82	1TF1-2SJ243	R Chip fixed FET	2SJ243-SMD	2	
83	1TF1-2SK1824	R Chip fixed FET	2SK1824(B1)	4	
84	1TF1-2SK508NV-K52	R Chip fixed FET		2	
85	1TF1-3SK318	R Chip	3SK318(YB-)	2	

		Double Grid FET			
86	1TT1-2SA1641-S	R Chip Triode	2SA1641-S	2	
87	1TT1-2SA1745-6	R Chip Triode	2SA1745-6(ES),MCP(SOT323)	2	
88	1TT1-2SA1774-R	R Chip Triode	2SA1774-R(FR),PNP,SOT523	1	
89	1TT1-2SC2412K-Q	R Chip Triode	2SC2412K-Q,SOT346	1	
90	1TT1-2SC4617-R	R Chip Triode	2SC4617-R(BR),EMT3	3	
91	1TT1-2SC4619	Chip Triode	2SC4619	1	
92	1TT1-2SC4988	Chip Triode		1	
93	1TT1-2SC5108-Y	R Chip Triode	2SC5108-Y(MC),NPN	5	
94	1TT1-DTA144EE	R Chip Triode	Digital triode DTA144EE-SMD	1	
95	1TT1-DTC114EE	R Chip Triode	DTC114EE(24),NPN,SOT323	1	
96	1TT1-DTC144EE	R Chip Triode	Digital triode DTC144EE(26),SOT323	3	
97	1TT1-KRC102S	R Chip Triode	KRC102S(NB),SOT23,NPN	3	
98	1TT1-KRC404RTK	R Chip Triode	KRC404RTX(ND),NPN	1	
99	1TT1-KTA1664-Y	R Chip Triode	KTA1664-Y(RY),SOT-89,PNP	1	
100	2CA1-TZVY2Z060A110	Chip Trimming Capacitor	2-6P	1	
101	2CA1-TZVY2Z100A110	R Chip Trimming Capacitor	2-10P,+100/-0%,NP0±300 PPm/℃	3	

102	2CC1-10-X7R500-102K	R Chip multilayer capacitor	1005,1000P±10%,50V,X7R	2	
103	2CC1-10-X7R500-103K	R Chip multilayer capacitor	1005,10nF±10%,50V,X7R	2	
104	2CC1-16-C0G500-100D	R Chip multilayer capacitor	1608,10P±0.5P,50V,C0G	6	
105	2CC1-16-C0G500-101J	R Chip multilayer capacitor	1608,100P±5%,50V,C0G	6	
106	2CC1-16-C0G500-120J	R Chip multilayer capacitor	1608,12P±5%,50V,C0G	1	
107	2CC1-16-C0G500-121J	R Chip multilayer capacitor	1608,120P±5%,50V,C0G	2	
108	2CC1-16-C0G500-130J	R Chip multilayer capacitor	1608,13P±5%,50V,C0G	1	
109	2CC1-16-C0G500-150J	R Chip multilayer capacitor	1608,15P±5%,50V,C0G	3	
110	2CC1-16-C0G500-160J	R Chip multilayer capacitor	1608,16P±5%,50V,C0G	2	
111	2CC1-16-C0G500-181J	Chip multilayer capacitor	1608,180P±5%,50V,C0G	1	
112	2CC1-16-C0G500-1R0C	R Chip multilayer capacitor	1608,1P±0.25P,50V,C0G	2	
113	2CC1-16-C0G500-200J	R Chip	1608,20P±5%,50V,C0G	2	

			multilayer capacitor		
114	2CC1-16-C0G500-220J	R Chip multilayer capacitor	1608,22P±5%,50V,C0G	4	
115	2CC1-16-C0G500-270J	R Chip multilayer capacitor	1608,27P±5%,50V,C0G	2	
116	2CC1-16-C0G500-2R0C	R Chip multilayer capacitor	1608,2P±0.25P,50V,C0G	3	
117	2CC1-16-C0G500-300J	R Chip multilayer capacitor	1608,30P±5%,50V,C0G	1	
118	2CC1-16-C0G500-330J	Chip multilayer capacitor	1608,33P±5%,50V,C0G	3	
119	2CC1-16-C0G500-390J	R Chip multilayer capacitor	1608,39P±5%,50V,C0G	1	
120	2CC1-16-C0G500-3R0C	R Chip multilayer capacitor	1608,3P±0.25P,50V,C0G	4	
121	2CC1-16-C0G500-470J	R Chip multilayer capacitor	1608,47P±5%,50V,C0G	9	
122	2CC1-16-X7R500-471K	R Chip multilayer capacitor	1608,470P±10%,50V,X7R	87	
123	2CC1-16-C0G500-4R0C	R Chip multilayer capacitor	1608,4P±0.25P,50V,C0G	3	
124	2CC1-16-C0G500-5R0C	R Chip multilayer	1608,5P±0.25P,50V,C0G	3	

			capacitor			
125	2CC1-16-C0G500-680J	R Chip multilayer capacitor	1608,68P±5%,50V,C0G	1	
126	2CC1-16-C0G500-6R0D	R Chip multilayer capacitor	1608,6P±0.5P,50V,C0G	4	
127	2CC1-16-C0G500-7R0D	R Chip multilayer capacitor	1608,7P±0.5P,50V,C0G	4	
128	2CC1-16-C0G500-820J	R Chip multilayer capacitor	1608,82P±5%,50V,C0G	1	
129	2CC1-16-C0G500-9R0D	R Chip multilayer capacitor	1608,9P±0.5P,50V,C0G	3	
130	2CC1-16-C0G500-R50B	R Chip multilayer capacitor	1608,0.5P±0.1P,50V,C0G	5	
131	2CC1-16-X7R100-105K	R Chip multilayer capacitor	1608,1μF±10%,10V,X7R	15	
132	2CC1-16-X7R160-333K	R Chip multilayer capacitor	1608,33nF±10%,16V,X7R	1	
133	2CC1-16-X7R160-473K	R Chip multilayer capacitor	1608,47nF±10%,16V,X7R	1	
134	2CC1-16-X7R160-682K	Chip multilayer capacitor	1608,6800P±10%,16V,X7R	1	
135	2CC1-16-X7R500-102K	R Chip multilayer capacitor	1608,1000P±10%,50V,X7R	20	

136	2CC1-16-X7R500-103K	R Chip multilayer capacitor	1608,10nF±10%,50V,X7R	24	
137	2CC1-16-X7R500-104K	R Chip multilayer capacitor	1608,100nF±10%,50V,X7R	35	
138	2CC1-16-X7R500-123K	R Chip multilayer capacitor	1608,12nF±10%,50V,X7R	1	
139	2CC1-16-X7R500-223K	R Chip multilayer capacitor	1608,22nF±10%,50V,X7R	2	
140	2CC1-16-X7R500-271K	R Chip multilayer capacitor	1608,270P±10%,50V,X7R	1	
141	2CC1-16-X7R500-273K	R Chip multilayer capacitor	1608,27nF±10%,50V,X7R	1	
142	2CT1-TP20-6R3-1R0M	Chip Ta Capacitor	2012,1μF±20%,6.3V	1	
143	2CT1-TP20-6R3-2R2M	Chip Ta Capacitor	2012,2.2μF±20%,6.3V	1	
144	2CT1-TS32-100-100M	R Chip Ta Capacitor	3216,10μF±20%,10V	3	
145	2CT1-TS32-100-R68M	Chip Ta Capacitor	3216,0.68μF±20%,10V	1	
146	2CT1-TS32-160-1R0M	R Chip Ta Capacitor	3216,1μF±20%,16V	1	
147	2CT1-TS32-160-4R7M	R Chip Ta Capacitor	3216,4.7μF±20%,16V	4	
148	2CC1-32-X7R251-473K	Chip multilayer capacitor	3216,47nF±10%,250V,X7R,GRM31CR7272E473K	2	
149	2CT1-TS32-6R3-150M	R Chip Ta	3216,15μF±20%,6.3V,	2	

		Capacitor			
150	2CT1-TS60-160-220M	Chip Ta Capacitor	6032,22μF±20%,16V,	2	
151	2LW1-34UC-8N0G	Chip wire inductor	C3328A-8N0G-T07H	4	
152	2LW1-16UC-390J	R Chip wire inductor	1608,39nH±5%,Ceramic core(C1608CB-39NJ)	2	
153	2LW1-16UC-680J	R Chip wire inductor	1608,68nH±5%,Ceramic core(C1608CB-68NJ)	2	
154	2LW1-20UC-270J	R Chip wire inductor	2012,27nH±5%,Ceramic core(C2012C-27NJ)	1	
155	2LW1-20UC-390J	R Chip wire inductor	2012,39nH±5%,Ceramic core(C2012C-39NJ)	1	
156	2LW1-20UC-470J	R Chip wire inductor	2012,47nH±5%,Ceramic core(C2012C-47NJ)	1	
157	2LW1-25UC-120J	R Chip wire inductor	2520,12nH±5%,Ceramic core(C2520CB-12NJ)	2	
158	2LW1-25UC-331K	R Chip wire inductor	2520,330nH±10%,Ceramic core(FLM2520-R33K/SGWI2520HR33J)	1	
159	2LW1-25UC-471K	R Chip wire inductor	2520,0.47μH±10%,Ceramic core(FLM2520-R47K)	1	
160	2RS1-10-000O	R Sheet resistor	1005,0Ω	3	
161	2RS1-10-102J	R Sheet resistor	1005,1K±5%	2	
162	2RS1-16-151J	R Sheet resistor	1608,150Ω±5%	2	
163	2RS1-16-152J	R Sheet resistor	1608,1.5K±5%	2	
164	2RS1-16-153J	R Sheet resistor	1608,15K±5%	1	
165	2RS1-16-154J	R Sheet	1608,150K±5%	2	

		resistor			
166	2RS1-16-180J	Sheet resistor	1608,18Ω±5%	1	
167	2RS1-16-181J	R Sheet resistor	1608,180Ω±5%	1	
168	2RS1-16-182J	R Sheet resistor	1608,1.8K±5%	2	
169	2RS1-16-183J	R Sheet resistor	1608,18K±5%	5	
170	2RS1-16-184J	R Sheet resistor	1608,180K±5%	5	
171	2RS1-16-202J	R Sheet resistor	1608,2K±5%	1	
172	2RS1-16-220J	R Sheet resistor	1608,22Ω±5%	2	
173	2RS1-16-221J	R Sheet resistor	1608,220Ω±5%	4	
174	2RS1-16-393J	R Sheet resistor	1608,39K±5%	3	
175	2RS1-16-394J	R Sheet resistor	1608,390K±5%	1	
176	2RS1-16-470J	R Sheet resistor	1608,47Ω±5%	1	
177	2RS1-16-471J	R Sheet resistor	1608,470Ω±5%	4	
178	2RS1-16-472J	R Sheet resistor	1608,4.7K±5%	10	
179	2RS1-16-473J	R Sheet resistor	1608,47K±5%	18	
180	2RS1-16-474J	R Sheet resistor	1608,470K±5%	3	
181	2RS1-16-560J	R Sheet resistor	1608,56Ω±5%	2	
182	2RS1-16-563J	R Sheet resistor	1608,56K±5%	4	

183	2RS1-16-680J	R Sheet resistor	1608,68Ω±5%	1	
184	2RS1-16-681J	R Sheet resistor	1608,680Ω±5%	1	
185	2RS1-16-682J	R Sheet resistor	1608,6.8K±5%	4	
186	2RS2-32-102J08B	Chip network resistor	3216,1K±5%(0603*4)	1	
187	1DP1-1812L110PR	R protecting diode	1812L110PR,littelfuse,1.1 A	1	
188	2RT1-NCP18XW332J0 3RB	R Chip thermal resistor	1608,NCP18XW332J03R B	1	
189	2RT1-NTH5G16P42B1 04K	R Chip thermal resistor	1608,NTH5G16P42B104 K07TH	1	
190	3CF1-BL112-34RL	R Chip FPC/FPC connector	0.5mm,34 cores,BL112-34RL,	1	
191	5FE1-BLM11A221SPT	R Chip EMI Control Filter	1608,BLM11A221SPT/B LM18AG221S(0138-05)	17	
192	5FE1-BLM41P600SPT	R Chip EMI Control Filter	EMI,FILTER, SMT,BLM41P600SPT,12 06,ROHS	2	
193	5FT1-CFWCA455KEF A-B0	Chip ceramic filter	455K(WIDE)	1	
194	5FT1-CFWCA455KGF A-B0	Chip ceramic filter	455K(narrow)	1	
195	5OT1-12R8-CEC3-050 3	R Chip Temperature Compensated Crystal Oscillator	NT5032SA/NT5032SC,12 .8MHz±2.5PPm,5.0*3.2*1 .6mm	1	
196	2CC1-16-Y5V160-474	R Chip	1608,470nF+80%/-20%,16	1	

	Z	multilayer capacitor	V,Y5V		
197	2CC1-20-Y5V100-334Z	R Chip multilayer capacitor	2012,330nF+80%/-20%,10V,Y5V	1	
198	2CC1-32-C0G500-1R0C	Chip multilayer capacitor	3216,1P±0.25P,50V,C0G	1	
199	2CC1-32-C0G500-2R5C	Chip multilayer capacitor	3216,2.5P±0.25,50V,C0G	1	
200	2CC1-32-X7R500-102K	R Chip multilayer capacitor	3216,1000P±10%,50V,X7R	1	
201	2CC1-32-Y5V500-106Z	Chip multilayer capacitor	3216,10μF+80%/-20%,50V,Y5V	1	
202	2CE1-VS160-470M0605	Chip Al electrolyzed capacitor	6.3×5.4,47μF±20%,16V	1	
203	2CT1-TP20-100-1R0M	R Chip Ta Capacitor	2012,1μF±20%,10V	1	
204	2CT1-TP20-100-4R7M	R Chip Ta Capacitor	2012,4.7μF±20%,10V	11	
205	2CT1-TP20-6R3-100M	R Chip Ta Capacitor	2012,10μF±20%,6.3V	2	
206	2LL1-16-1R0K	R Stacked inductor	1608,1μH±10%(MLF1608A1R0K)	1	
207	2LL1-16-3R3K	R Stacked inductor	1608,3.3μH±10%(MLF1608A3R3K TA00)	2	
208	2LL1-16-6R8K	R Stacked inductor	1608,6.8μH±10%(MLF1608E6R8K)	1	
209	2LL1-16-R10J	R Stacked inductor	1608,0.1uH±5%(MLG1608BR10J\MLG1608B100N	2	

			J/HK1608R10J-T)		
210	2LL1-16-R18J	R Stacked inductor	1608,0.18μH±5%(LG HK 1608R18J-T/MLG1608B180N)	2	
211	2LL1-16-R22J	R Stacked inductor	1608,0.22μH±5%(LG HK 1608R22J-T/MLG1608B220N)	4	
212	2LW1-16UC-150J	R Chip wire inductor	1608,15nH±5%,Ceramic core(C1608CB-15NJ)	1	
213	2LW1-16UC-220J	R Chip wire inductor	1608,22nH±5%,Ceramic core(C1608CB-22NJ)	1	
214	2LW1-16UC-270J	R Chip wire inductor	1608,27nH±5%,Ceramic core(C1608CB-27NJ)	1	
215	2LW1-16UC-330J	R Chip wire inductor	1608,33nH±5%,Ceramic core(C1608CB-33NJ)	2	
216	2RS1-10-122J	R Sheet resistor	1005,1.2K±5%	3	
217	2RS1-10-473J	R Sheet resistor	1005,47K±5%	31	
218	2RS1-16-000O	R Sheet resistor	1608,0Ω	21	
219	2RS1-16-100J	R Sheet resistor	1608,10Ω±5%	2	
220	2RS1-16-101J	R Sheet resistor	1608,100Ω±5%	5	
221	2RS1-16-102J	R Sheet resistor	1608,1K±5%	20	
222	2RS1-16-103J	R Sheet resistor	1608,10K±5%	11	
223	2RS1-16-104J	R Sheet resistor	1608,100K±5%	29	
224	2RS1-16-121J	R Sheet resistor	1608,120Ω±5%	1	

225	2RS1-16-122J	R Sheet resistor	1608,1.2K±5%	5	
226	2RS1-16-123J	R Sheet resistor	1608,12K±5%	2	
227	2RS1-16-124J	R Sheet resistor	1608,120K±5%	1	
228	2RS1-16-222J	R Sheet resistor	1608,2.2K±5%	2	
229	2RS1-16-223J	R Sheet resistor	1608,22K±5%	11	
230	2RS1-16-224J	R Sheet resistor	1608,220K±5%	1	
231	2RS1-16-244J	Sheet resistor	1608,240K±5%	1	
232	2RS1-16-272J	R Sheet resistor	1608,2.7K±5%	9	
233	2RS1-16-273J	R Sheet resistor	1608,27K±5%	2	
234	2RS1-16-304J	R Sheet resistor	1608,300K±5%	1	
235	2RS1-16-331J	R Sheet resistor	1608,330Ω±5%	4	
236	2RS1-16-332J	R Sheet resistor	1608,3.3K±5%	7	
237	2RS1-16-334J	R Sheet resistor	1608,330K±5%	1	
238	2RS1-16-392J	R Sheet resistor	1608,3.9K±5%	1	
239	2RS1-16-683J	R Sheet resistor	1608,68K±5%	1	
240	2RS1-16-684J	R Sheet resistor	1608,680K±5%	2	
241	2RS1-16-823J	R Sheet resistor	1608,82K±5%	4	
242	2RS1-16-824J	Sheet resistor	1608,820K±5%	2	

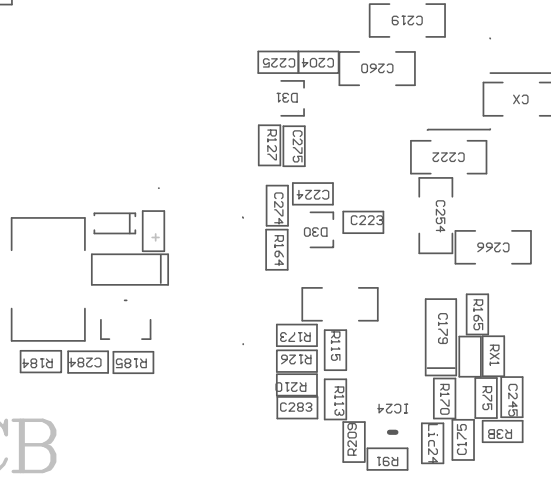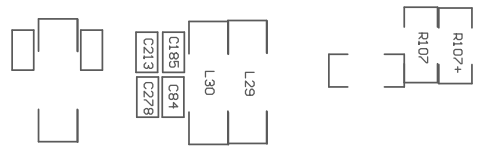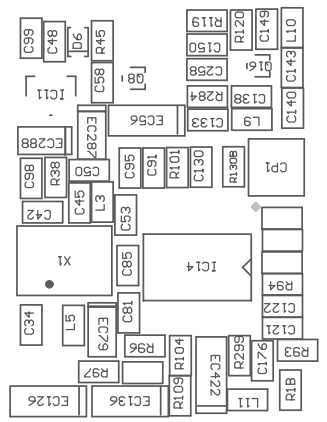| 243	2RS1-20-000O	R Sheet resistor	2012,0Ω	1	
244	2RS1-20-120J	Sheet resistor	2012,12Ω±5%	1	
245	2RS1-20-471J	Sheet resistor	2012,470Ω±5%	3	
246	2RS1-32-000O	R Sheet resistor	3216,0Ω±5%	2	
247	2RS1-50-151J	R Sheet resistor	5025,150Ω±5%	1	
248	2RS1-50-471J	R Sheet resistor	5025,470Ω±5%	1	
249	2RS2-10-102J04B	Chip network resistor	1010,1K±5%(0402*2)	1	
250	2RS2-10-473J04B	Chip network resistor	1010,47K±5%(0402*2)	3	
251	5XC1-44R3-KKL10-0503	E Chip transistor oscillator	44.395MHz,DSX531S	1	
252	5XT1-CDBCB455KCA	Chip ceramic discriminator	CDBCB455KCA,Y24-B0	1	
253	2CC1-16-C0G500-1R5C	R Chip multilayer capacitor	1608,1.5P±0.25P,50V,C0G	1	
254	5OC1-10R0-MMC-0307	R Transistor oscillator	10MHz±30PPm,30PPm,20PF,-20℃to+80℃,3*7*mm,CSTCC10.0MG-TC	1	
255	5OC1-18R4-HMI-0805	Transistor oscillator	DSX840GA,18.432MHz±5PPm,±30PPm,-10to+60℃8PF,8.0*4.5*1.4mm	1	
256	2CC1-32-C0G500-3R0C	Chip multilayer capacitor	3216,3P±0.25P,50V,C0G	1	
257	2CC1-32-C0G500-4R0C	Chip multilayer capacitor	3216,4P±0.25P,50V,C0G	1	

258	2CC1-32-C0G500-6R0C	Chip multilayer capacitor	3216,6P±0.25P,50V,C0G	1	
259	2CC1-32-C0G500-8R0C	Chip multilayer capacitor	3216,8P±0.25P,50V,C0G	1	
260	2CE1-VS250-470M0605	R Chip Al electrolyzed capacitor	6.3×5.3,47μF±20%,25V	1	
261	2CT1-TP20-100-100M	R Chip Ta Capacitor	2012,10μF±20%,10V	1	
262	2LW1-16UC-470J	R Chip wire inductor	1608,47nH±5%,Ceramic core(C1608CB-47NJ)	1	
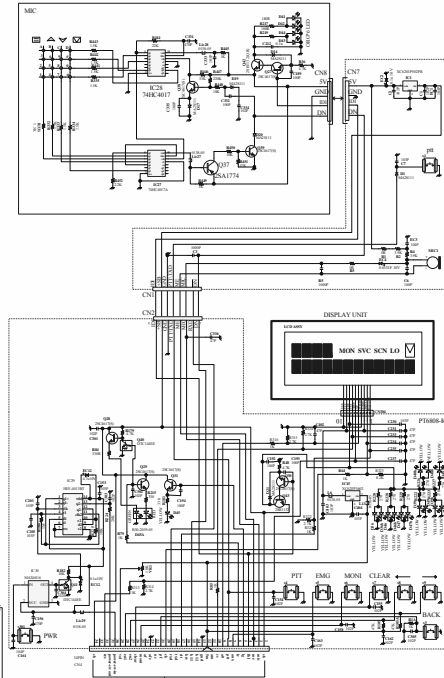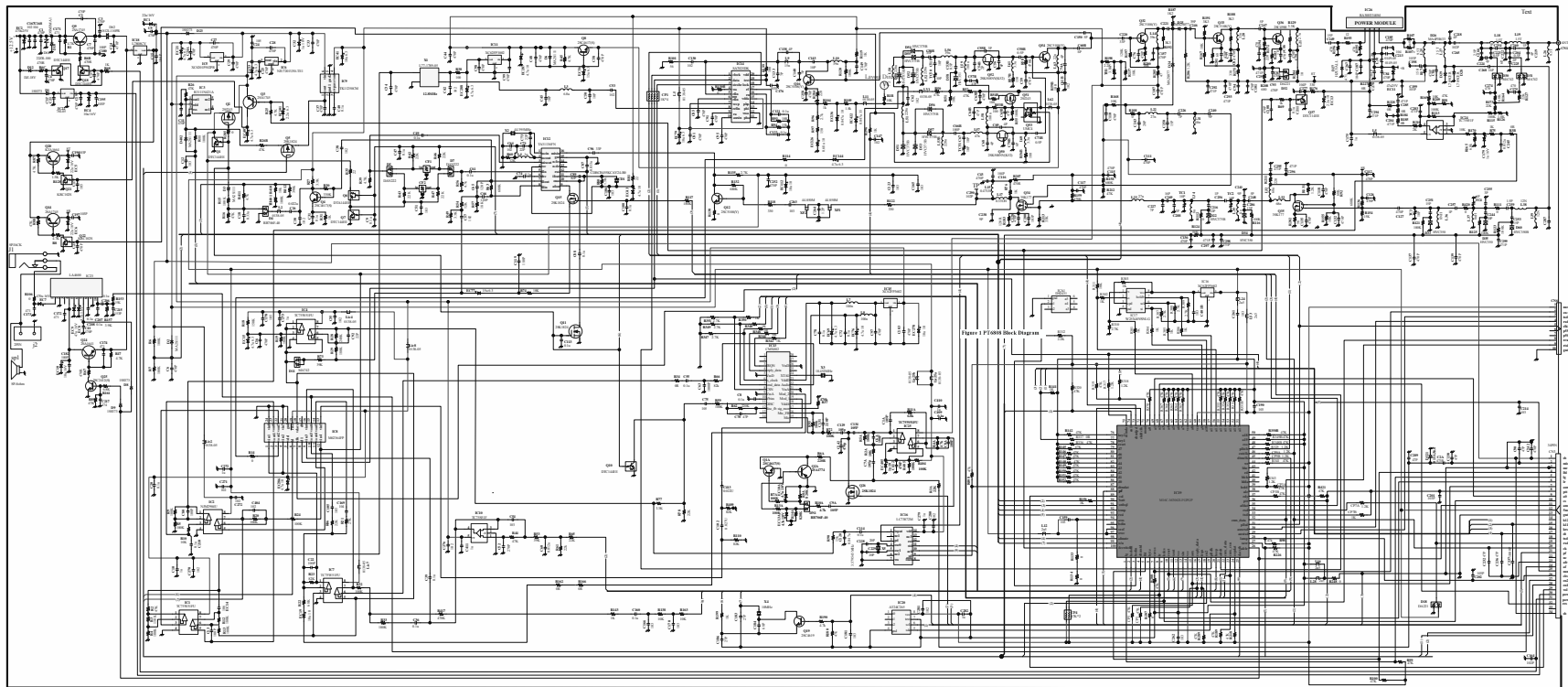
PT6808电路原理图

名称	PT6808电路原理图	机型	PT6808
文件号		版本	
设计		审核	
批准		第 2 张\ 共 2 张	

101-068081-R03
PT6808RF060808.PCB

IC9 IC4 IC2 IC7 IC1 IC14 IC11 IC8 IC12

U301 U303 U304 U322

MOD-1 MOD-2 DISC SENS AUDIO MIC PLL-UL CV

vcc cnvss gnd txd1 rxd1 clk1 reset rtsi

CN3

CF1 CF2

+B

X1
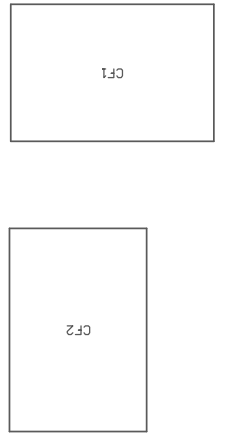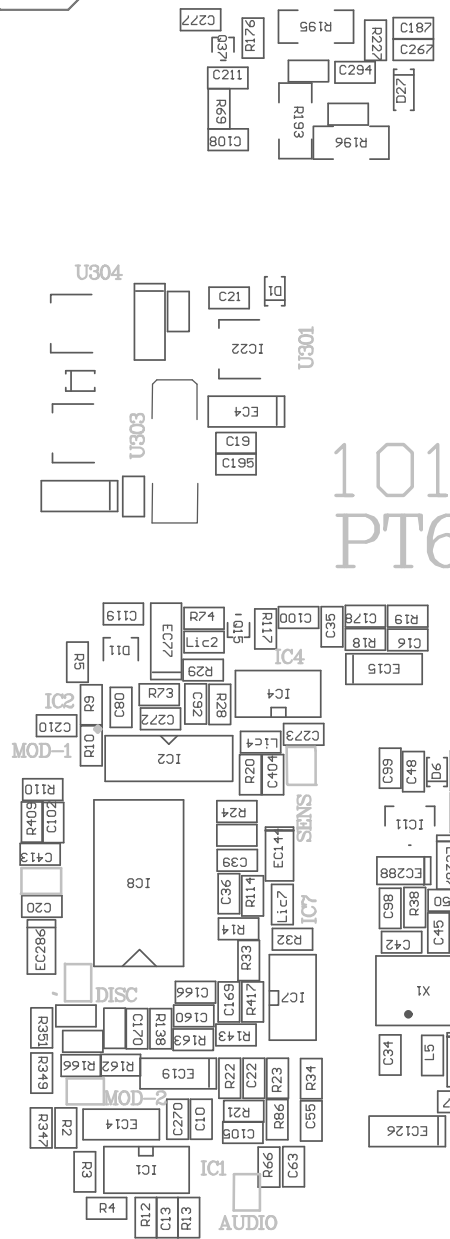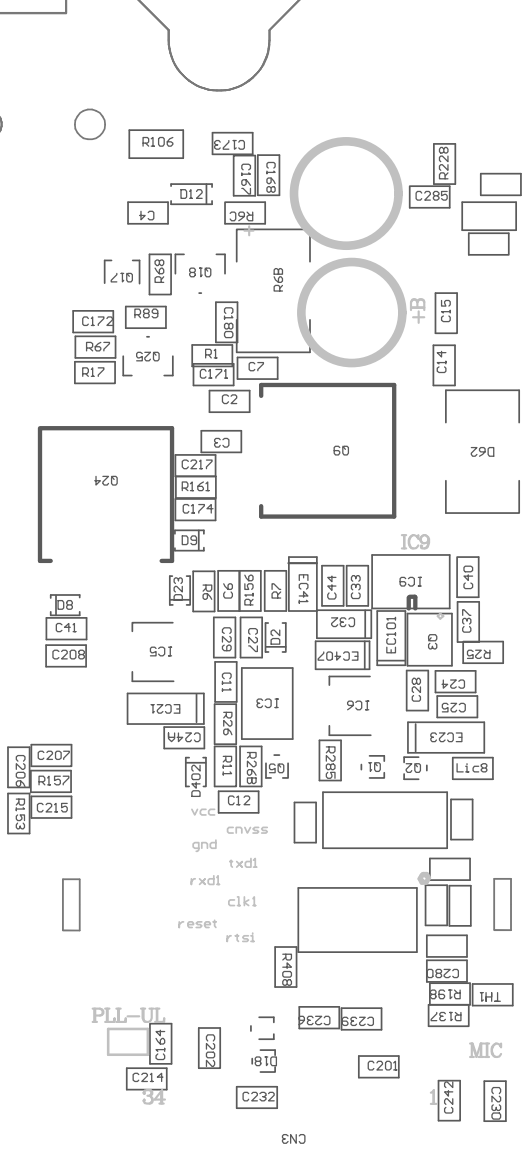
101-068083-002
PT6808-KEY060426.PCB

S301
D45A
D45b

CN2
CN1

VSS
VDD
LED
CS1
RES
A0
WR/RW
E(RD)
D6(CLK)
DATA(D7)

D36   S8   D36b   D46   S9   D46b   D47   S4   D47b   C194   231"   R181

D39   S5   D39b   D48b   S7   D48

D49   S3   D49b   D40b   S6   D40

VR1

R144 C300 C161A

C155 C163 R85 R324 C230 C231 C233 C402 R315 C156 C301 C302 C29 R215 Q40 R179 Q28 R84

IC15 C404 L7 L13 R85 C237 R314 R64

C403 L6

R227 R48 C192 D21 R193 Q30 C213 R316 R313 R323 C235 R322 R321 Q43 R225 IC29 C303 IC30 C161 R79 C304

R226 C300A

R223 R228 R229 R220 R214 C154 R109 R109B C162 EC1A

R222 R224 C153 C205 R186 C29 C203 EC12 Q41

C158 R1A C305

R182A

1 34

CN4