

**KONGTOP**

**KT-100**

**TWO-WAY RADIO**

**TECHNOLOGY MANUAL**



# CATALOG

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## Summarize

### Appliance Scope

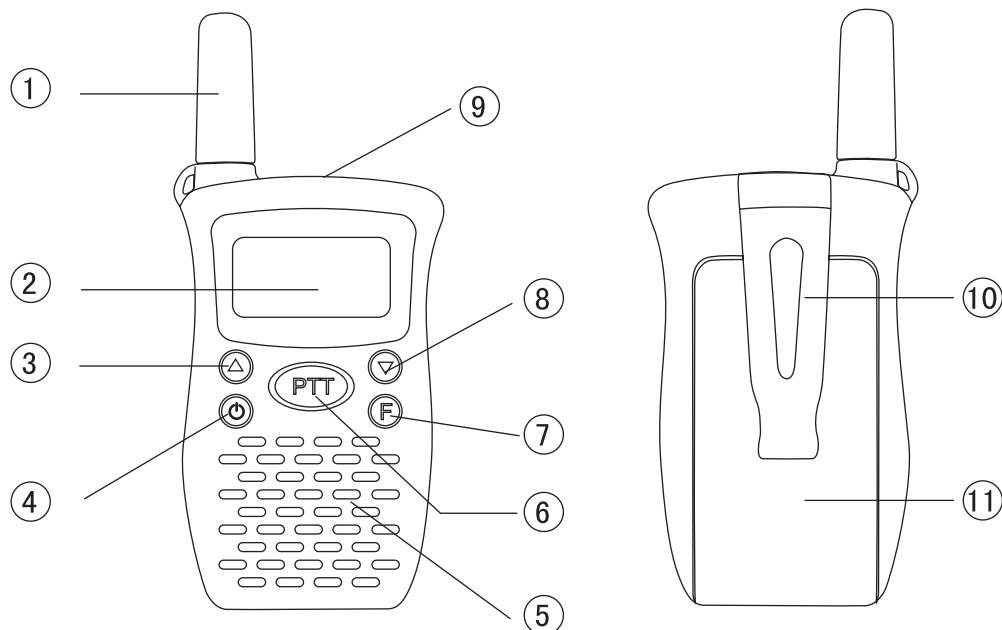
This manual is for Maintenance technicians who knows well of such Walkie Talkie. It includes the Technical information and data.

### Personal safety

For personal safety, please note the following items:

- 1 On the circumstances of didn't verify of all RF plugs carefully or have any open plug is not connected to the appropriate terminals, can not transmit.
- 2 In the vicinity of electric detonators or in the flammable gas environment, you must turn off the power, do not operate this equipment.
- 3 This equipment should only be performed by qualified technical personnel to repair.

## Component Introduction



- 1 Antenna  
Used to receive and transmit signals.
- 2 LED Display  
Is used to display channels, CTCSS code and the status of various functions.
- 3 UP button
- 4 Power Button/CALL button
- 5 Speaker  
Output Sound
- 6 PTT Button  
Press (PTT) button, intercom into the Transmit state; Release will be restored to the receiving state.
- 7 Menu Key  
In the standby mode, enter the status of various functions selected.
- 8 Down Button
- 9 Headphone jack  
External headphone and charging jack.
- 10 Belt clip  
Walkie-talkies can be caught in the belt body, easy to carry.
- 11 Battery Cover  
Can removal Directly to replace the battery.

## Software Specifications

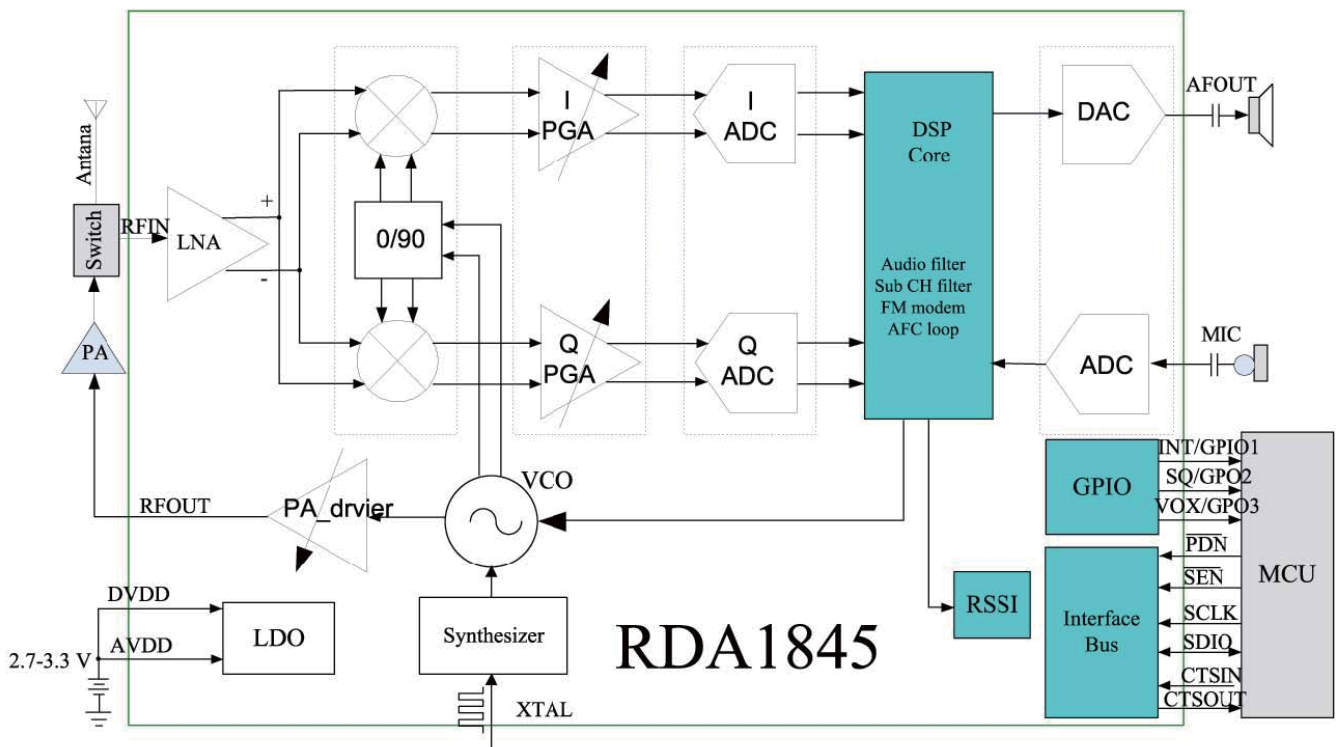
### Functional Description

- 1 20 Channel
- 2 Auto Power-saving Feature
- 3 Transmit Limit
- 4 Continuous Tone Controlled Squelch System
- 5 6 Squelch Level Control
- 6 Battery Low Voltage Alarm
- 7 Channel Spacing 25khz
- 8 Scan Function

## Electric Circuit Introduction

### 1 Receiving part

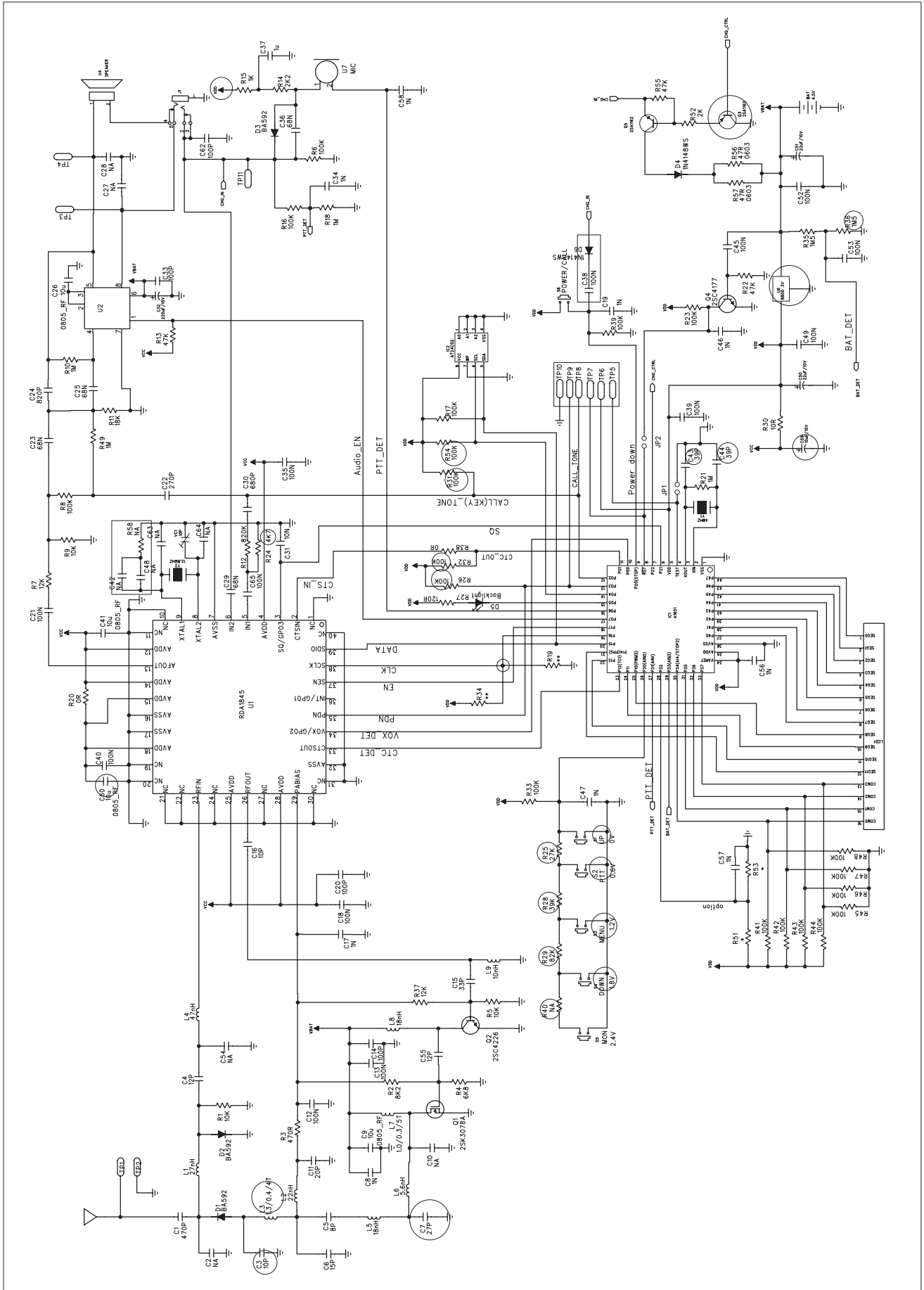
Using zero-IF receiver pattern. the RF signals sense from the antenna pass through the transceiver switches D2, D3, D1, then get into the U5 to be amplified, mixing, demodulated, and process the demodulated audio signals, Processed audio signal output from the U5 13 feet. After adjusted by RV1, the audio signals will be processed by the audio amplifier IC2, then get sound from the speakers.



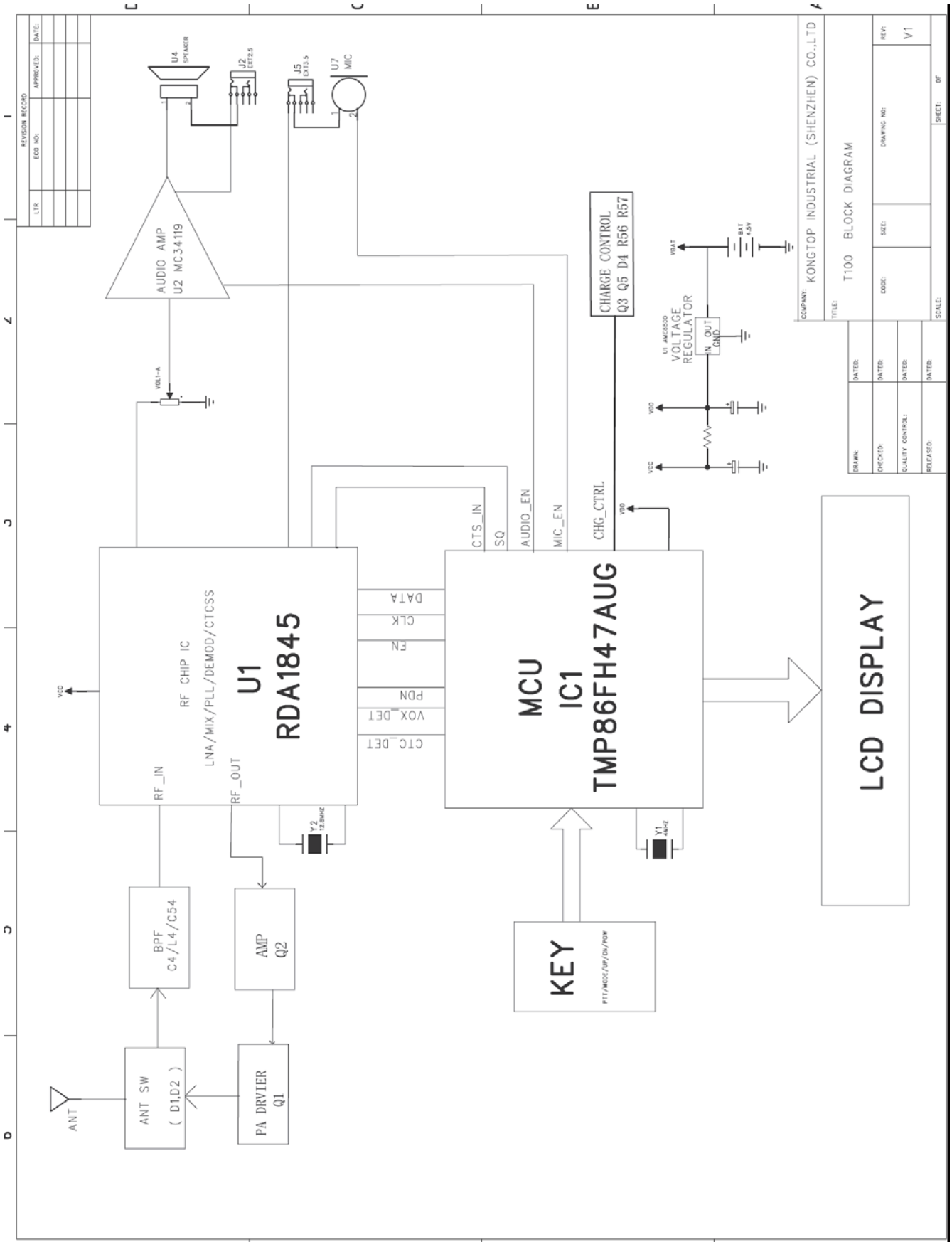
### 2 Transmit Part

The modulated signals get from the microphone pass from the six feet of U5 into the U5, U5 use A/D conversion switch the modulated signals into digital signal, after amplification, filtration and other process modulated into RF signals. Output from U5 26 feet after amplification, then buffer magnified by Q22, conduct power promote amplification by Q26, then process power amplification by Q27, finally the RF signal transmit from the antenna.

## Schematic



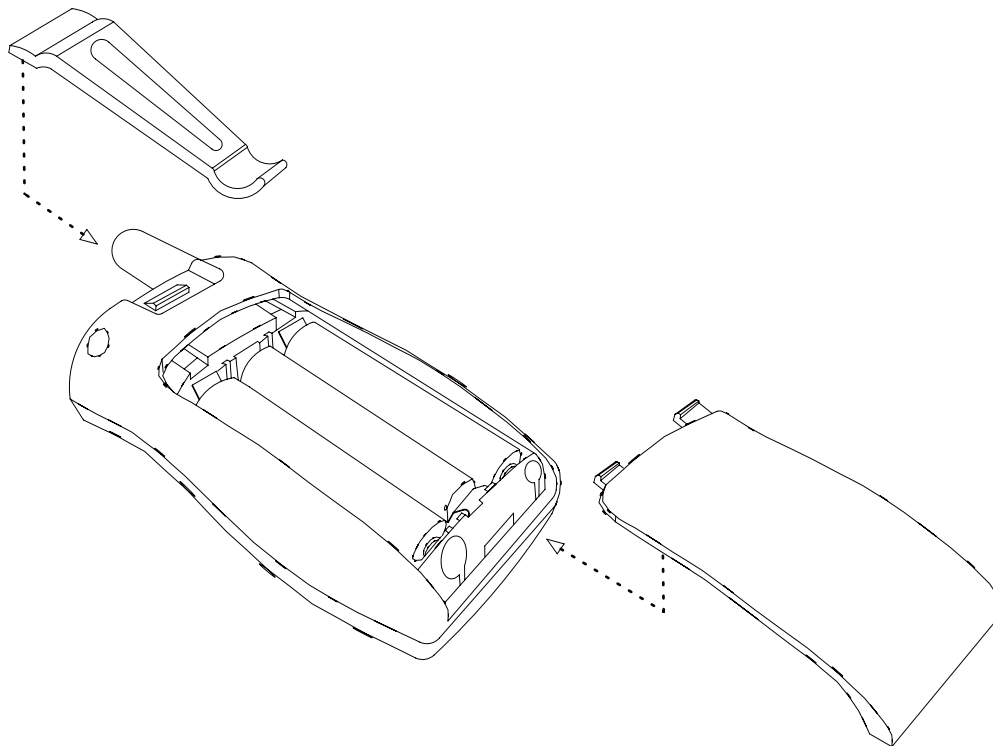
# Diagram





## Install Battery

- 1 Remove the belt buckle, open the battery cover
- 2 loading the battery according to positive and negative
- 3 Fasten the battery cover, install the belt buckle



### Notice:

- ※ Please follow the steps and remove carefully to avoid mangle the batteries and walkie-talkie.
- ※ If do not use walkie-talkie for a long time, please remove the battery, or battery leakage may damage the walkie-talkie.

## Main Technical Specification

Mode	KT-100
Frequency Range	462/467 MHz
Number Of Channels	22
Channel Spacing	25kHz
Antenna Impedance	50Ω
Microphone Impedance	2.2K Ω
Operating Voltage	4.5V DC
Frequency Stability	±2.5ppm
<b>Transmitting System</b>	
Carrier Frequency Tolerance	±2.5ppm
Carrier Power Output	≤500mW
Modulation Sensitivity	12±4mV
Modulation Distortion	≤10%
Modulation Limiting	≤ 2.5kHz
Operation Bandwidth	≤8.5 kHz
Modulation Character	The deviation of 6dB-per-octave de-emphasis is no greater than +1dB \ -3dB
Spurious and harmonics	≤7.5μW
Adjacent Channel Power	≤-55 d B
<b>Receiving System</b>	
Sensitivity	≤ 0.4μV
Squelch Opening Sensitivity (SQL:5)	≤ 0.22μV
Audio Power	200mW
Audio Distortion	≤ 10 %
Audio Response	The deviation of 6dB-per-octave de-emphasis is no greater than +3dB / -3dB
Common channel inhibition	≥-8 d B
Blocking or desensitization	≥85d B
Adjacent Channel Selectivity	≥60 d B

## GMRS/FRS FREQUENCY CHART (MHz)

CH. No.	CH. Freq.	CH. No.	CH. Freq.	CH. No.	CH. Freq.
1	462.5625	9	467.5875	17	462.6000
2	462.5875	10	467.6125	18	462.6250
3	462.6125	11	467.6375	19	462.6500
4	462.6375	12	467.6625	20	462.6750
5	462.6625	13	467.6875	21	462.7000
6	462.6875	14	467.7125	22	462.7250
7	462.7125	15	462.5500		
8	467.5625	16	462.5750		

\* Channels 8~14 are low-power FRS license free channels

### IMPORTANT NOTICE, FCC LICENSE REQUIRED FOR GMRS OPERATION

The KT-100 Series operates on GMRS (General Mobile Radio Service) frequencies which require an FCC (Federal Communications Commission) license. You must be licensed prior to operating on channels 1 – 7 or 15 - 22, which comprise the GMRS channels of the KT-100 Series. Serious penalties could result for unlicensed use of GMRS channels, in violation of FCC rules, as stipulated in the Communications Act's Sections 501 and 502 (amended).

You will be issued a call sign by the FCC which should be used for station identification when operating the radio on GMRS channels. You should also cooperate by engaging in permissible transmissions only, avoiding channel interference with other GMRS users, and being prudent with the length of their transmission time.

To obtain a license or ask questions about the license application, contact the FCC at 1-888-CALL FCC or go to the FCC's website: <http://www.fcc.gov> and request form 605.

## FCC Warning



To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:

- DO NOT operate the radio without a proper antenna attached, as this may damage the radio. And may also cause you to exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or antenna specifically authorized by the manufacturer for use with this radio.
- DO NOT transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the "TX indicator" lights red. You can cause the radio to transmit by pressing the "PTT" switch.
- ALWAYS keep the antenna at least 1.5cm (0.6 inch) away from the body when transmitting and only use the belt-clip which is listed in instructions when attaching the radio to your belt, etc., to ensure FCC RF exposure compliance requirements are not exceeded.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates within the FCC RF exposure limits of this radio.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

NOTE 1: This equipment has been tested and found to comply with the part 95 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.