RT77 Wireless business Calling Device

Product Overview
Wireless Business Beeper is a kind of communication device that can achieve sample wireless calling service. For example, in an enterprise or public institution, a leader need look for his or her secretary, driver or the manager of another department and things like that. At present, there are plenty of beepers in the market that cannot allow to make a voice call. A superior need page his or her employee to come and tell things face to face. Given the fact that there is a lack of this kind of beeper in the market, our company launch a new model RT77 - Wireless business Calling Device.

Product’s Function
1. Interconnection between 99 devices
2. Two-way communication
3. Making Announcement or one-way conference function
4.Incoming call display
5. Call tone for manual communication
6. Call tone for automatic communication
7. Backlight LCD
8. 5 selectable call tones
9. 10 selectable channels
10. Calling walkie-talkie

Main Technical Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>365g</td>
</tr>
<tr>
<td>Dimension</td>
<td>160<em>150</em>60mm</td>
</tr>
<tr>
<td>Channels</td>
<td>10</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>UHF</td>
</tr>
<tr>
<td>Channel Spacing</td>
<td>25kHz</td>
</tr>
<tr>
<td>Working Mode</td>
<td>Duplex Mode on Two Frequencies</td>
</tr>
<tr>
<td>Modulation</td>
<td>FSK</td>
</tr>
<tr>
<td>Antenna Impedance</td>
<td>50Ω</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>7~9W</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-20~+65℃</td>
</tr>
<tr>
<td>Operating current</td>
<td>&lt; 600 mA</td>
</tr>
<tr>
<td>Standby current</td>
<td>60mA</td>
</tr>
<tr>
<td>Spurious emission</td>
<td>&lt; 60 dB</td>
</tr>
<tr>
<td>Output Power</td>
<td>0.5 W</td>
</tr>
<tr>
<td>Channel Stability</td>
<td>±5 ppm</td>
</tr>
<tr>
<td>Modulation Sensitivity</td>
<td>2~20 mA</td>
</tr>
<tr>
<td>Available Sensitivity</td>
<td>-110dBm</td>
</tr>
<tr>
<td>Threshold of Squelch Sensitivity</td>
<td>&lt; 0.2uV</td>
</tr>
<tr>
<td>Deep Squelching Sensitivity</td>
<td>&lt; 3uV</td>
</tr>
</tbody>
</table>

Technical Features
1. There is no need to wire or change current decoration. Reception is stable and performance reliable. With up-to-date digital encoding and decoding technology, every system owns its unique code that ensures there is no error between calling system.
2. Two-way communication but ordinary beepers only can be linked via communication between master station and extended set. Our new model is designed to satisfy prevailing market demand that an extension could not only communicate freely to master station but also to other extensions. A phone set as the terminal could be turned into the master for the group call as well as an extension for the reception of signals from other extension terminal. It is able to be used for one-to-one calling and also one-to-many communications.

3. It could be connected to a walkie-talkie for voice call.
4. With good audio quality and long range, it is ideal for a big occasion. It makes no difference to desk telephone without wires.

Operation Instructions
1. Attaching Battery Pack
   Connect the Power Adapter and plug it into an AC outlet and then keep it connected to the main power.

2. Setting the Number for the machine.
   Before you turn it on, hold <CALL> and then connect it to the power. When numbers flashes in the display, press <▲> or <▼> to select desired number and start it up again.

2.2 Making phone calls
   RT77 allows to talk with any other RT77 regardless of master or auxiliary terminal. That is to say that all RT77 models can be used as master and auxiliary equipment (extension) also.

2.3 Operation to make phone calls
   A. Making Calls;
      After you select numeric keys presenting phone number of the other party, press <CALL> and the key light twinkle. The light will be out if there is no response from the other party in 10 seconds. When the other party responds, the light for <CALL> goes on and two sides can talk. When the call ends, any side can press <CALL> to stop.

   B. Receiving Calls;
      When the device is receiving a call from the other party, alert tone sounds and keypad lights up. You can press <CALL> to respond, and the light is on. At the moment, two sides can talk to each other. When the talk ends, either side can press <CALL> to stop calls.

   C. Broadcasting as Group Calls;
      Press <▲> to make announcements to each other all users. When you finish talking, press <CALL> to stop calls.

   D. Responding to a Group Call;
      When a Group Call is received, press <CALL> to make a response if you need answer immediately. The moment light blinks and lasts long, you can respond.

   E. Communication with conventional radio equipment;
      When an analogue radio equipment is set to a channel that is in the same TX frequency, RX frequency and tone as your beeper, press <▲> to talk with the radio equipment on the same channel and listen to incoming calls. (It is limited only to analogue equipment.)

Setting up Channels and Frequencies for Analogue Radio Equipment

<table>
<thead>
<tr>
<th>Channel</th>
<th>RX Frequency (MHz)</th>
<th>TX Frequency (MHz)</th>
<th>CTCSS(Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>463.01250</td>
<td>409.7500</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>463.03750</td>
<td>409.7750</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>463.06250</td>
<td>409.8000</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>463.08750</td>
<td>409.8250</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>463.11250</td>
<td>409.8500</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>463.13750</td>
<td>409.8750</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>463.16250</td>
<td>409.9000</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>463.18750</td>
<td>409.9250</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>463.21250</td>
<td>409.9500</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>463.23750</td>
<td>409.9750</td>
<td>100</td>
</tr>
</tbody>
</table>

2.4 Setting the Volume
   Press <▲> or <▼> to adjust volume level and it also works during communication.

2.5 Setting Automatic Answer and Ring Tone
   Press <M> three times (Pressing M Key once is to make a call, twice to set up channel number, three times to set ring tone) to set up the ring tone; press <▲> or <▼> to display the figure 1,2,3,4 or 5. Figure 1: To answer a call; Figure 2: To answer a call after a ring tone; Figure 3/4/5: To press <CALL> to answer a call after a ring tone.

2.6 Setting up the frequency channel
   It should be noted that it was only when devices in group are on the same frequency that they can communicate with each other if you are setting up the frequency channel for wireless communication. If you want to change or set up channel number, press <M> twice to show channel number. Then press <▲> or <▼> to change the channel number.

Note: The transmitter or receiver frequency of the unit depends on whether it is called or called.

Warning
1. Keep clear of explosive atmosphere (smell, powder and smoke fog and son on).
2. Do not install and use in fuel station.
3. Do not operate in an area in which operating radio transmitter is prohibited unless authorized.
4. Do not dismantle the radio transmitter if you are not a professional personal because it is a precision electronic equipment.

Warnings
RF ENERGY EXPOSURE AND PRODUCT SAFETY GUIDE FOR PORTABLE WALKIE TALKIE

This walkie talkie uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. It uses radio frequency (RF) energy or radio waves to send and receive calls. RF energy is one form of electromagnetic energy. Other forms include, but are not limited to, sunlight and x-rays. RF energy, however, should not be confused with these other forms of electromagnetic energy, which when used improperly, can cause biological damage. Very high levels of x-rays, for example, can damage tissues and genetic material.

Experts in science, engineering, medicine, health, and industry work with organizations to develop standards for safe exposure to RF energy. These standards provide recommended levels of RF exposure for both workers and the general public. These recommended RF exposure levels include substantial margins of protection.

All Retevis walkie talkie are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of walkie talkie. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it.

Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits. http://www.who.int/en

Local Government Regulations
When walkie talkie are used as a consequence of employment, the Local Government Regulations requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness information. Your Retevis walkie talkie has a RF Exposure Product Label. Also, your Retevis user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

Radio License
Governments keep the radios in classification, most of the classified walkie-talkie need to satisfy compliance requirements. For the following specified classification: the USA FRS, Australian CB, the Local Government Regulations and RTT regulations, your Radio walkie talkie has a RF Energy Exposure Label. Also, your Retevis user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.
Compliance with RF Exposure Standards (If appropriate, Reference to the actual product’s Safety Marking)

Your Retevis walkie talkie is designed and tested to comply with a number of national and international standards and guidelines (listed below) for human exposure to radio frequency electro-magnetic energy.

FCC ID

The FCC22 means: This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational and controlled RF exposure environments at operating duty factors of up to 50% talk-50% listen and is approved for occupational use only.

IC ID

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

RF energy exposure standards and guidelines (if appropriate)

Your Retevis walkie talkie complies with the following RF energy exposure standards and guidelines:

- American National Standards Institute (ANSI) / Institute of Electrical & Electronic Engineers (IEEE) C95.1, 2005
- Institute of Electrical and Electronic Engineers (IEEE) C95.3-2002
- International Commission on Non-Ionizing Radiation Protection (ICNIRP)
- International Electrotechnical Commission (IEC)62209-2:2010

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational / controlled environment exposure limits, always adhere to the following procedures.

Guidelines:

- User awareness instructions should accompany the device when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To Transmit (Talk), push the Push To Talk (PTT) button. To receive calls (listen), release the PTT button. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance.
- Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away from a properly installed according to installation instructions, externally mounted antenna.
- When operating in front of the face, worn on the body, always place the radio in a Retevis approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Non-Retevis approved accessories may result in exposure levels, which exceed the IEEE/ICNIRP occupational/controlled environment RF exposure limits.
- If you are not using a body worn accessory and are not using the radio in the intended use position, in front of the face or at the body in the PTT mode or at the head in the phone mode, then ensure the antenna and the radio are kept 2.5 cm (one inch) from the body when transmitting. Keeping the radio at a proper distance is important because RF exposures decrease with increasing distance from the antenna.

Hand-held Mode

- Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (one inch) away from the nose or lips. The antenna should be kept away from the eyes. The Keeping at the proper distance is important as RF exposure decreases with increasing distance from the antenna.

Phone Mode

- When placing or receiving a phone call, hold your product as you would a wireless telephone. Speak directly into the microphone.

Electromagnetic Interference/Compatibility

Note: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

Avoid Burns

Small Parts. Not for children under 3 years.

Turn off your radio power in the following conditions:

- Turn off your radio before removing (installing) a battery or accessory or when charging battery.
- Turn off your radio when you are in a potentially hazardous environment. Near electrical blasting caps, ignitable gas, dust particles, metallic powders, grain powders, etc.
- Turn off your radio while on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

To avoid electromagnetic interference and/or compatibility conflicts:

- Turn off your radio in any facility where posted notices instruct you to do so, hospitals or urgent care facilities (Pacemakers, Hearing Aids and Other Medical Devices) may be using equipment that is sensitive to external RF energy.
- Turn off your radio when on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

- Pacemakers
- Defibrillators or other Implanted Medical Devices Persons with pacemakers, Implanted Cardioverter-Defibrillators (ICDs) or other active implantable medical devices (AIMD) should:
  - ALWAYS keep the radio more than 15cm from their pacemaker when the radio is turned on.
  - Consult with their physicians regarding the potential risk of interference from radio frequency transmitters, such as portable radios (poorly shielded medical devices may be more susceptible to interference).
  - Turn the radio OFF immediately if they have any reason to suspect that interference is taking place.
  - Do not carry the radio in a chest pocket or near the implantation site, and carry or use the radio on the opposite side of their body from the implantable device to minimize the potential for interference.
- Hearing Aids
- Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.
- Other Medical Devices
- If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

Safety Operation

- Avoid Burns
- Antennas
  - Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a minor burn can result.
- Batteries (If appropriate)
  - When the conductive material such as jewelry, keys or chains touch exposed terminals of the batteries, may complete an electrical circuit (short circuit the battery) and become hot to cause body injury such as burns. Exercise care in handling any battery, particularly when placing it inside a pocket, purse or other container with metal objects.
- Long transmission
  - When the transceiver is used for long transmissions, the radiator and chassis will become hot.

Approved Accessories

- This radio meets the RF exposure guidelines when used with the Retevis accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.

For a list of Retevis-approved accessories for your radio model, visit the following website: http://www.Retevis.com