RADIO-TONE

Simplex Repeater Controller

RT-SRC1
User's Guide

Thank You Notice

Thank you for purchasing RT-SRC1 Simplex Repeater Controller. Please read this User's Guide carefully before putting RT-SRC1 into operation. Support for the RT-SRC1 is available by email. Please direct all questions via email to ***support@radio-tone.com***. Your question(s) will be answered promptly.

Safety Information

Electrical shock hazard

- Never attempt to connect the unit to any power network other than one for which it was intended.
- Do not open the housing of the units.
- Switch OFF the unit, and then disconnect the unit from the external power supply and from all other devices if a fault occurs.
- Install the unit only in a dry place protected against the elements.
- If you are uncertain about the safe operation of the unit, shut it down immediately and secure it to prevent any unauthorized start-up. Safe operation is no longer possible, for example,
    - if damage is visible to the unit or the cables,
    - if the unit no longer operates correctly,
    - if objects have penetrated inside the unit,
    - after long storage under improper conditions

Have the system checked by qualified, specialist personnel in such cases.

Installation and operation

- Before installing or operating the system, ensure that you have read and understood the documentation for other equipment connected to the unit. These contain important safety notices and information concerning permissible applications.
- Perform only the installation and operating work described in this guide. All other work beyond this may lead to injuries to persons and damage to the system or other equipment.

Repairs and maintenance

Never open the housing of the RT-SRC1. The unit contains no parts which you can repair or replace. Ensure that only qualified, specialist personnel (electrical technicians) are permitted to carry out maintenance or repair work.

Contents

Preface

The RT-SRC1 is a state-of-the-art simplex repeater controller. It is employed advanced digital voice recording and processing technology to record the received signal (up to 30 seconds), and retransmit it on a same frequency channel. It is an easy of operation, cost effective and highly flexible platform for extending communication range by converting conventional two-way radio into a simplex repeater system.

DTMF remote repeater ON/OFF control function with password protection is available in the RT-SRC1. User can control the repeater ON or OFF remotely by DTMF command.

Key Features

The key features of RT-SRC1 are:
- Install in a second and very easy to operate
- High quality digital voice recorder to record received signal up to 30 seconds
- DTMF remote repeater ON/OFF control function with password protection
- Allows user to change the DTMF remote control password
- Build-in rechargeable Lithium-ion battery support 30 hours long life operation
- Operates on both build-in battery and external DC 12V power supply
- Works with most popular handheld radios

Product Descriptions

Packing List

- RT-SRC1 Simplex Repeater Controller x 1
- Universal AC Adapter x 1
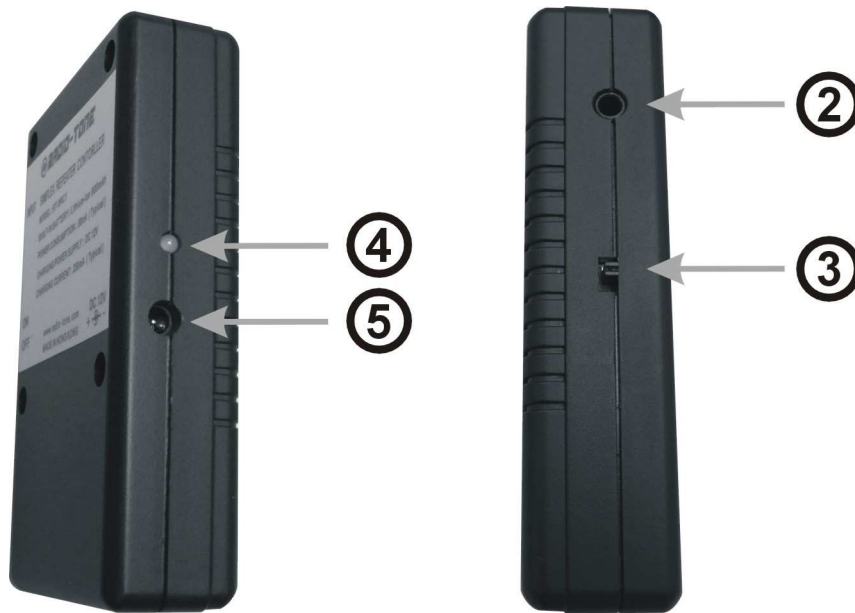- Radio Unit Connection Cable x 1
- This User's Guide x 1

Major Operating Controls, Terminals and Their Functions

1. Status Indicator

This is a status indicator for indicating the operation status of RT-SRC1.

ORANGE COLOR BLINKING	: When the RT-SRC1 is switched on, the status indicator will BLINK with ORANGE color for approximate 20 seconds. User can change the DTMF Remote Control Password or change the PTT Mode in this period.
GREEN COLOR BLINKING	: The RT-SRC1 is standing by for repeating radio calls.
GERRN COLOR LIGHTS UP	: The RT-SRC1 is receiving and recording a radio call.
RED COLOR LIGHTS UP	: The RT-SRC1 is retransmitting a radio call.
ORANGE COLOR LIGHTS UP	: The RT-SRC1 is receiving a radio call, and only allows remote DTMF control. (The repeater function is turned OFF.)
RED COLOR ONE SHORT BLINKING	: PTT Mode 1 acknowledgement
RED COLOR TWO SHORT BLINKING	: PTT Mode 2 acknowledgement

2. **Input Terminal**

   This terminal is used to connect a two-way radio unit.

3. **Power ON/OFF Switch**

   This switch is used to turn ON/OFF the RT-SRC1.

4. **DC Input / Charging Indicator**

   This indicator is used to indicate the battery charging and external DC input status.

   ORANGE COLOR LIGHTS UP : The build-in battery is being charging.
   GREEN COLOR LIGHTS UP : The build-in battery is charged up and the RT-SRC1
                                is working on external power supply.

5. **DC 12V Terminal**

   This terminal is used to connect an external DC 12V power supply

Installation

Charging the built-in battery
- Connect the AC adapter to the DC 12V Terminal of the RT-SRC1.
- Plug the AC adapter to an AC outlet.

Normal operation with build-in battery

- Turns off the RT-SRC1 and the two-way radio unit.
- Connect the two-way radio unit to the Input Terminal of the RT-SRC1 by using correct cable.

Operation with external power supply
- Turns off the RT-SRC1 and the two-way radio unit.
- Connect the two-way radio unit to the Input Terminal of the RT-SRC1 by using correct cable.
- Connect the DC Output of AC adapter to the DC 12V Terminal of the RT-SRC1.
- Plug the AC adapter to an AC outlet.

Operation

When the system is installed, and the radio channel of two-way radio unit is configured, the system is ready for use now.

Setup a new DTMF Remote Control Password
- Turn ON the power of the two-way radio unit.
- Turn ON the power of the RT-SRC1. The Status Indicator of the RT-SRC1 will BLINK with ORANGE COLOR for approximate 20 seconds.
- Push and hold the PTT switch of any radio unit with DTMF function.
- Key-in a *4-digit* new password and followed by " **#** " key, for example, " 8888# ".
- Release the PTT switch, the new password will be stored in the memory of the RT-SRC1.

Setup PTT Control Mode
This repeater controller ships with PTT Mode 1. For some radio units, like KG-UVD1P, they are required the PTT Mode 2 to let them work as Transmitter. Follow below steps to change the PTT Mode.

- Turn ON the power of the two-way radio unit.
- Turn ON the power of the RT-SRC1. The Status Indicator of the RT-SRC1 will BLINK with ORANGE COLOR for approximate 20 seconds.
- Push and hold the PTT switch of any radio unit with DTMF function.
- Key-in the PTT mode selection code "**1234**" and then followed by the mode number " **1** " or " **2** ". That means " **12341** " for PTT Mode 1, and " **12342** " for PTT Mode 2.
- After release the PTT switch, the new PTT Mode will be stored in the memory of the RT-SRC1.

Simple Repeater Operation
- Turn ON the power of the two-way radio unit and RT-SRC1. The system will standby for radio repeater function. The status indicator will BLINK with ORANGE COLOR for approximate 20 seconds, and then BLINK with GREEN COLOR.
- Push and hold the PTT switch of any other radio unit to perform a radio call.
- The two-way radio unit will receive the call, and the RT-SRC1 will record the received signal. The Status Indicator of the RT-SRC1 will LIGHT UP with GREEN COLOR for signaling the recording status.
- After the caller released the PTT switch, then the RT-SRC1 will trigger the two-way radio unit as a transmitter, and retransmit the recorded signal on the same radio frequency channel.

Remote Control Repeat Function OFF
- Push and hold the PTT switch of any radio unit with DTMF function to perform a radio call.
- The two-way radio unit will receive the radio call and then trigger the RT-SRC1.
- The Status Indicator of the RT-SRC1 will LIGHT UP with GREEN COLOR, which indicates

the repeat function of RT-SRC1 is set ON.

- Key-in the **4-digi*t*** password followed by " ＊ " key, for example, " 8888＊ ".
- The Status Indicator of the RT-SRC1 will LIGHT UP with ORANGE COLOR, and the Repeat Function is turned to OFF now.

Remote Control Repeat Function ON
- Push and hold the PTT switch of any radio unit with DTMF function to perform a radio call.
- The two-way radio unit will receive the radio call and then trigger the RT-SRC1.
- The Status Indicator of the RT-SRC1 will LIGHT UP with ORANGE COLOR, which indicates the repeat function is set OFF.
- Key-in the ***4-digit*** password followed by " ***#*** " key, for example, " ***8888#*** ".
- The Status Indicator of the RT-SRC1 will LIGHT UP with GREEN COLOR, and the Repeat Function is turned to ON now.

Specifications

Power Supply	: Build-in 8.4V 900mAh Lithium-Ion Battery
Power Consumption	: 38mA (Typical)
Charging & External Power Supply	: DC 12V
Charging Current	: 250mA (Typical)
Digital Voice Recorder	: 30 Seconds
DTMF Remote Control Functions	: Repeat Function ON and OFF
DTMF Remote Control Protection	: User define 4-digit Password Protection
Carrier Detect Activation Time	: Approx. 1/2 Second
Carrier Handover Time	: Approx. 2 Second
Indicators	: Status LED and External Power Supply Input LED
Dimensions	: 95(H) x 60(W) x 23(D) mm
Weight	: 0.1 Kg
AC Adapter	: Input: AC100~240V 50/60Hz, Output: DC 12V 0.5A