

Radio Over IP Network Gateway

ST-RoIP4-Kirisun

User's Guide



Important Notice

Thank You Notice

Thank you for purchasing ST-RoIP4 Radio-Over-IP Network Gateway. Please read this User's Guide carefully before putting ST-RoIP4 into operation. Support for the ST-RoIP4 is available by email. Please direct all questions via email to support@solidtronic.com. Your question(s) will be answered promptly.

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.
- 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 ST-RoIP4. 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.

Disclaimer

- This product is used to link up the radio networks and IP networks. Its operation and performance rely on the broadband network connections via private and/or public networks. Due to the stability and reliability of these networks, this product may not be able to link up all the networks connected without any interruptions. Therefore, it is not recommended to use this product in an emergency system or a communication system with zero-failure.
- This product can bridge and extend radio networks all over the world. Please consult your local regulations in order to use this product legally.
- Customers and/or users are taking full responsibilities and all risks in using this product. We are not responsible for any direct or indirect losses caused by, but not limited to, communication failures as a result of product failure or network problems.

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Preface

The ST-RoIP4 Series Standalone RoIP Gateway is the next generation radio over IP gateway. It is designed to interconnect PoC platforms with any radio systems including conventional trunked analog FM, ETSI DMR, ETSI TETRA, APCO P25 FDMA, NXDN...

The ST-RoIP4-Kirisun Standalone RoIP Gateway is equipped with the 4th generation Super Dynamic Intelligent Digital Tracking System(iDats-4), PoC-COS/ COR PTT Control Technology, Radio-COS/ COR PTT Control Technology and 2nd generation Adaptive Digital Filter(ADF-2), the Android OS with the Kirisun Press2Talk app, brings you the fast and stable push-to-talk communication over any devices, anytime and everywhere over the world!

Key Features

The key features of ST-RoIP4-Kirisun are:

- **Build-in ARM CPU standalone Radio-over-IP Network Gateway**
- **Install in a second, no IT expert technique is required**
- **Very easy operation**
- **PoC-COS/COR PTT Control Technology**
- **Radio-COS/COR PTT Control Technology**
- **Very fast and stable PTT exchange performance by Super Dynamic iDats-4 PTT Control Technology**
- **ADF-2 to support 2-Way Radio Repeater System**
- **Stable Bandwidth 10/100-Base-T Ethernet Connection**
- **End of Transmission Roger Beep Alert for Radio Channel**
- **Embedded Android 4.0.3 OS**
- **Pre-installed Kirisun Press2Talk app**
- **Support different brands and different type radios**

Product Descriptions

Packing List

- ST-RoIP4-Kirisun Standalone RoIP Gateway x 1
- Ethernet Connection Cable x 1
- Radio Unit Connection Cable x 1
- This User's Guide x 1

Major Operating Controls, Terminals and Their Functions



1. LCD

This is a 4.3 inch touch screen LCD for displaying and on screen controlling the system.

2. MENU Button

This is the MENU button for pop up the Android OS setup menu and apps setup menu.

3. BACK Button

This is the BACK button for back operation of Android OS and Apps.



4. I/O Terminal

This terminal is used to connect to a radio unit.

5. Mode Selection Switch

DIP SW1 : Radio Unit PTT Control Mode Selection. OFF for PTT Mode 1. ON for PTT Mode 2.

DIP SW2 : Digital Interoperability Stabilizer Selection. OFF for 1 Second. ON for 3 Seconds.

Operation \ Mode	PTT Control Method	
	DIPSW2 OFF (1 Second)	DIPSW2 ON (3 Seconds)
PoC → Radio	PoC-COS/COR & iDats-4	PoC-COS/COR & iDats-4
PoC ← Radio	Radio-COS/COR & iDats-4	Radio-COS/COR & iDats-4

The Radio-COS/COR and iDats-4 are working at the same time to support different type of radios. In case a mobile radio is connected by using the Radio-COS/COR interface cable, the PTT control signal from the Radio-COS/COR pin is the highest control priority. If a handheld radio is connected by using the normal connection cable, the PTT control will be handled by the iDats-4 PTT Control Technology.

6. Ethernet Terminal

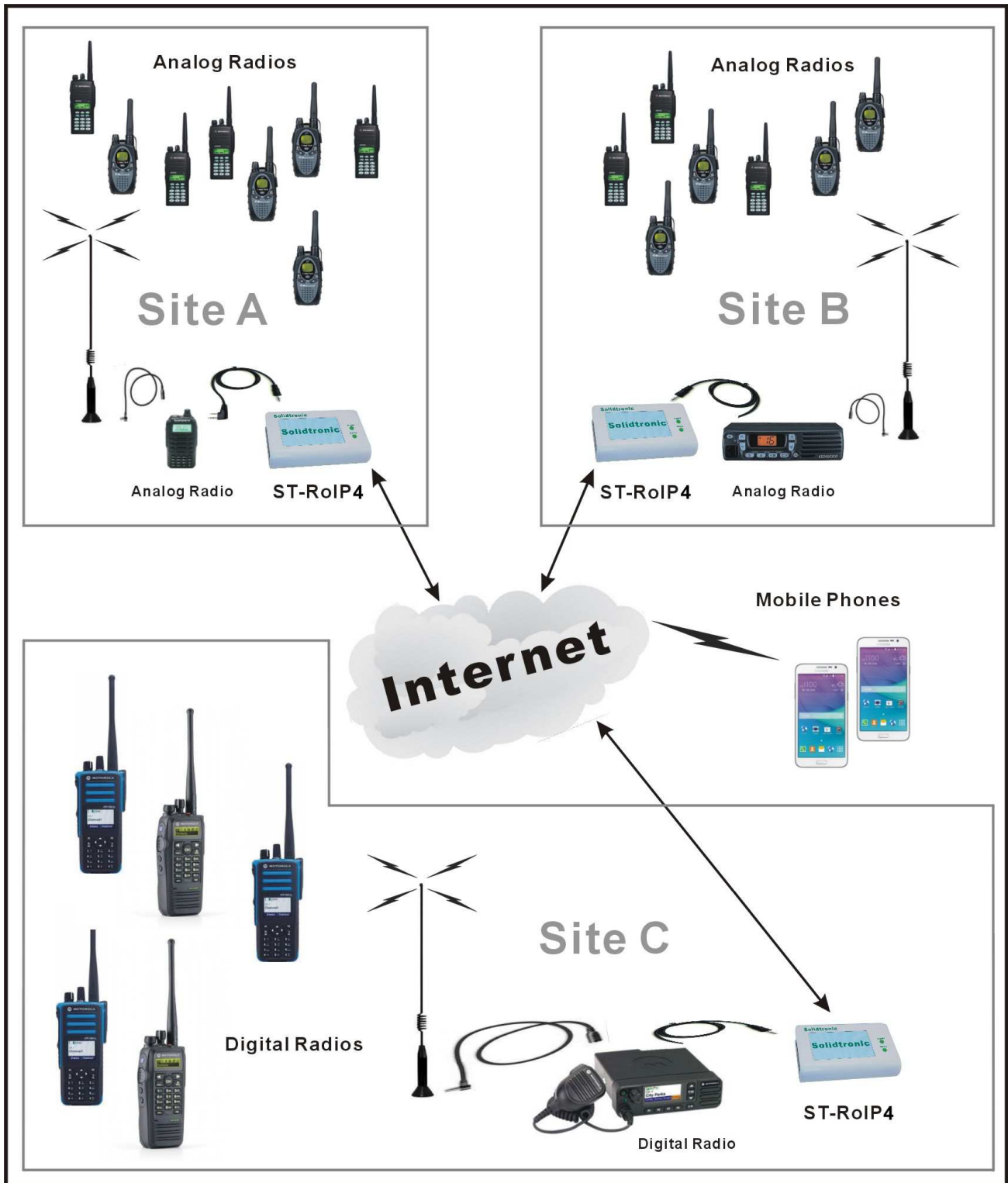
This terminal is used to connect to 10/100-Base-T IP network.

7. DC5V Terminal

This terminal is used to connect to AC Adapter.

Installation

Simple System Connection Diagrams



Note: The connected Radio Units **MUST** be connected with external antennas and the minimum distance between the RoIP system equipments and the antennas are 3 meters to reduce the interference.

The minimum distance between the RoIP system equipments and the user radio equipments are 1 meter to reduce the interference.

System Setup

- Connect the Radio Unit to an external antenna.
- Connect the ST-RoIP4 to a Radio Unit by using a right connection cable.
- Connect the ST-RoIP4 to an IP network by using an Ethernet cable.
- Turn on the Radio Unit and adjust its volume to approximate 1/3 position of maximum level.
- Adjust the radio frequency and CTCSS on both Radio Unit and all other handhelds/mobiles.
- Connect the ST-RoIP4 to power outlet by using the AC adapter to turn on the ST-RoIP4.

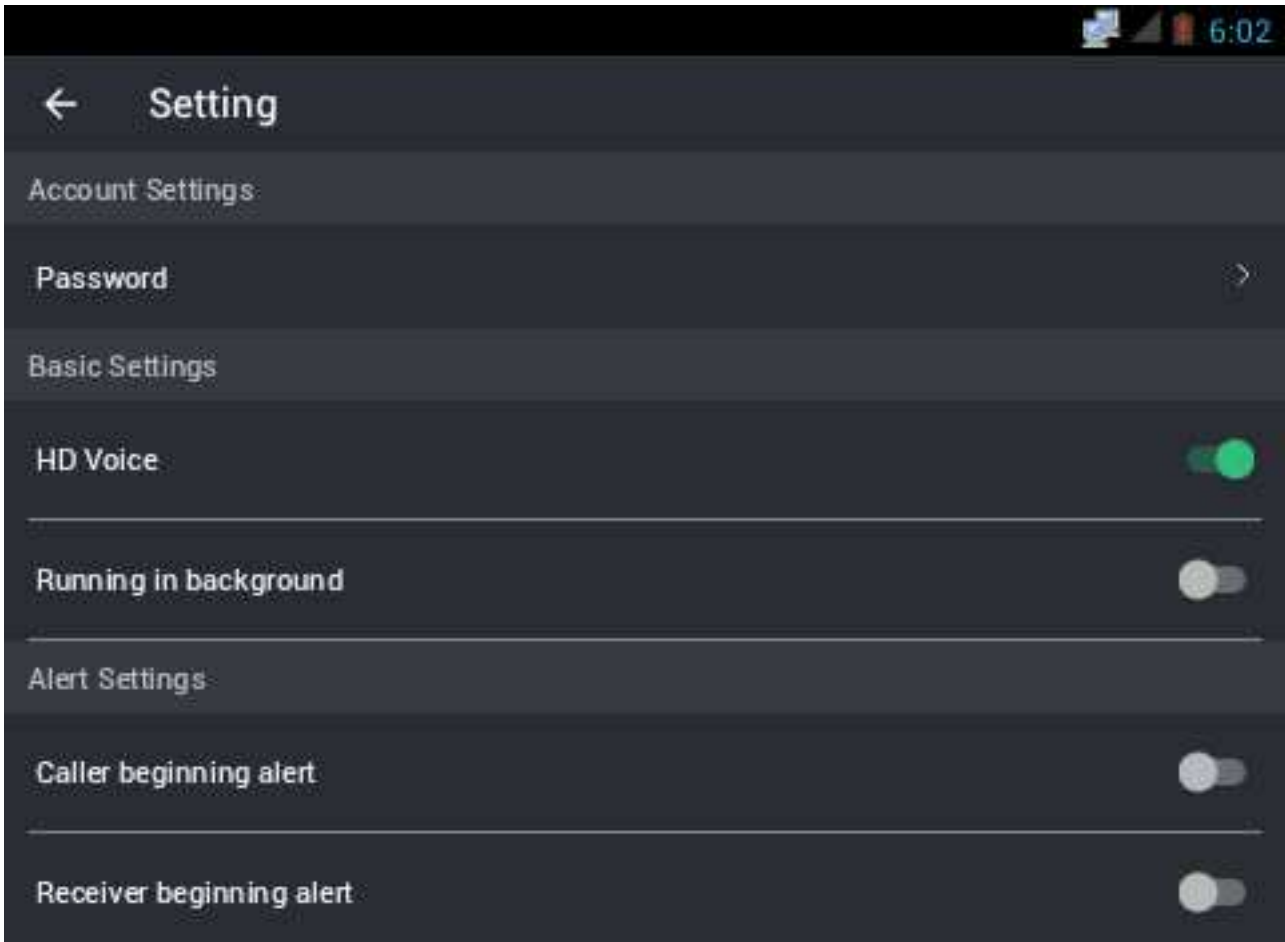
Setup PTT Control Mode of ST-RoIP4

The ST-RoIP4 ships with PTT Control Mode 1 for supporting the connected radio with the PTT pin embedded with MIC pin(such as Motorola). If the PTT and MIC are on separate pins(such as Kenwood), please set the **DIP SW1** to **ON** position.

Setup Kirisun Press2Talk PTT App

Please add an account to the Kirisun Press2Talk app, and setup the app like below.

Setting



Operation

When the system is installed, the Radio Unit and the apps are configured, the system is ready to use now.

Normal Operation	Enable/Disable Radio Channel Roger Beep Tone
<ul style="list-style-type: none"> ● Run Kirisun Press2Talk app. ● Select a talk group. ● The ST-RoIP4-Kirisun is standing by calls from other mobile phones, 2-way radios from remote ST-RoIP4-Kirisun sites and local 2-way radios. 	<ul style="list-style-type: none"> ● Set both DIPSW1 & DIPSW2 to OFF position. ● Use a smartphone Kirisun Press2Talk app to make a PTT call to the Kirisun Press2Talk group. ● Keep the DIPSW1 at OFF(Disable) position or set it to ON position(Enable). ● Set the DIPSW2 to ON position, then followed by setting it to OFF position to action the new setting. ● Release the PTT call from the smartphone Kirisun Press2Talk app. ● Reset the DIPSW1 & DIPSW2 to normal operation positions.

Specifications

Power Supply	: DC 5V
Power Consumption	: 600mA (Typical)
Ethernet	: 10/100 Base-T
CPU	: ARM
Display	: 4.3 inch Touch Screen LCD
Control Buttons	: MENU and BACK
Pre-installed Communication App	: Kirisun Press2Talk
Carrier Detect Activation Time	: <0.2 Second
Digital Interoperability Stabilizer	: 0.5 Second(OFF) or 2 Seconds(ON) selectable
Dimensions	: 160(W) x 100(D) x 40(H) mm
Weight	: 450 g
AC Adapter	: Input AC100-240V, Output DC5V 2A

- *Weight and dimensions indicated are approximate.*
- *Specifications are subject to change without notice.*