



Remote Radio Control over IP

Introduction

The RRC101-IP uses the new technology RoIP (Radio over Internet Protocol). Therefore no expensive analog or digital leased lines are necessary.

Easily use existing and inexpensive Data networks like WAN, LAN, Intranet, Internet.

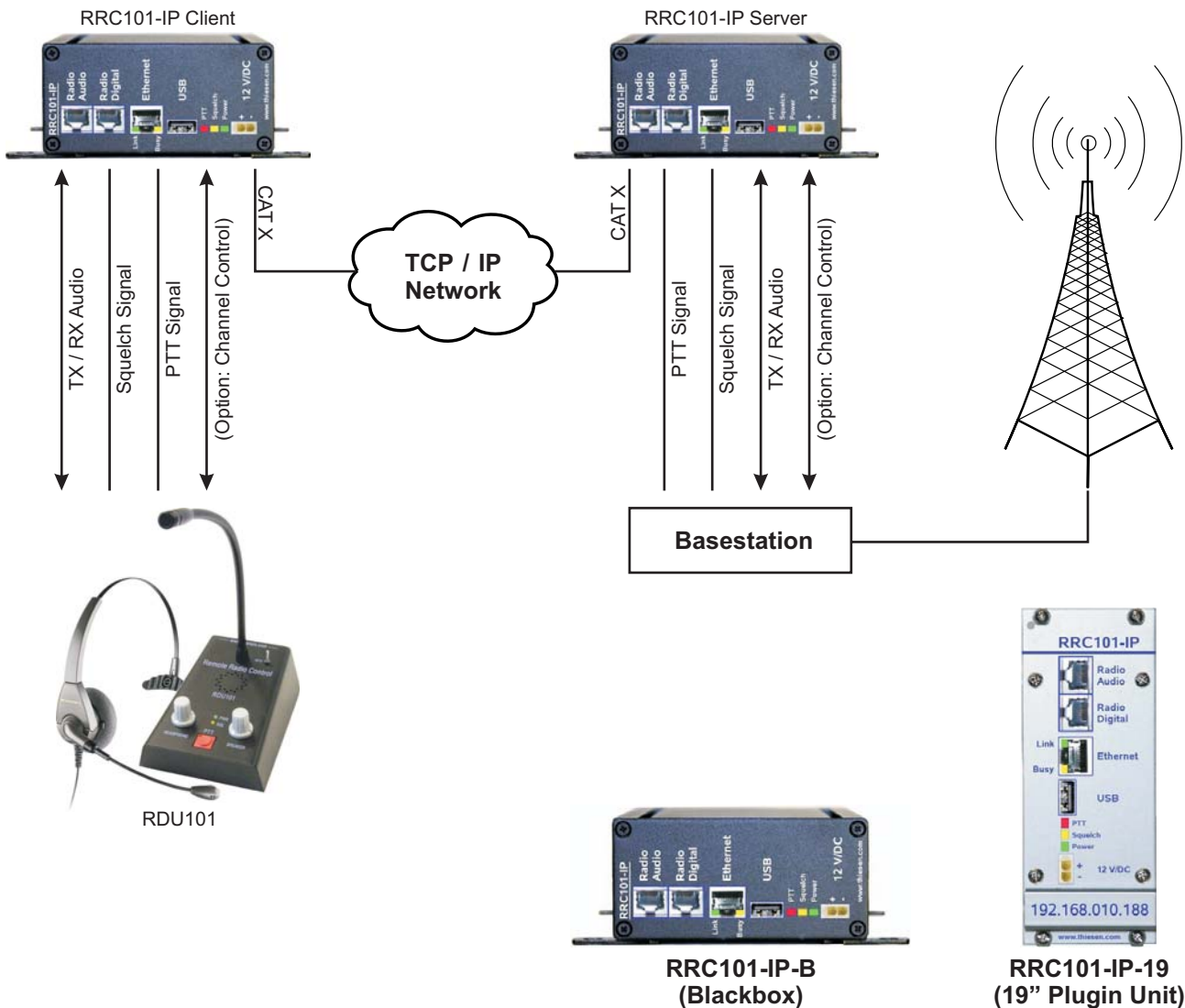
RoIP uses a modified format of Voice over IP (VoIP) which incorporates all of the control issues that are required to control a radio remotely (TX Audio, RX Audio, PTT, Squelch Signal, control bits for auxiliary functions like channel control or theft protection). Channel control is also possible via serial (RS232) or parallel connection.

The **RRC101-IP** is available in a **black box (RRC101-IP-B)** with mounting flange or as **19 Inch plugin unit (RRC101-IP-19)**.

Configuration is possible very easily using a USB stick. Simply copy your configuration file to the stick and plug it into the RRC101-IP. Updates are done in the same way. After automatic download of the stick contents you can unplug the USB stick.

Monitoring, updating and configuration is also possible via SSH, Webinterface and serial connections. If the RRC101-IP is connected via a gateway to the internet, worldwide remote maintenance is possible.

Basic wiring circuit





Specifications

General

Input Power	+9 to +16 VDC, nominal 12 VDC, max. 300 mA
Temperature	Operating: -20 to +60 degrees C
Humidity	Up to 95% @ 55 degrees C
Front Panel	5 LED's - Power, Link active, 10/100 Mbit, TX active, RX active
Size and Weight	approx. 560 grams
Programming / Configuration	USB-Stick, RS-232, Secure Shell (SSH), Webinterface

RX Audio Input

Input Impedance	10k ohms
Input Voltage	400 mV (70 - 800 mV adjustable)
Frequency Response	60 Hz to 3400 kHz (- 2dB)
Distortion	60 dB or better

TX Audio Output

Output Impedance	min 20 ohms, nominal 35 ohms
Output Voltage	400 mV nominal (2,0 - 1000 mV adjustable)
Frequency Response	60 Hz to 3400 kHz (- 2dB)
Distortion	60 dB or better

Digital Output (PTT)

Output Type	Solid State Relay
Maximum Sink Current	250 mA (AC or DC)
Maximum Open Circuit Voltage	+/- 250 VDC

Digital Input (SQUELCH)

Input Type	Opto Isolator
Input Impedance	1k ohm
Polarity	Active low or high, selectable
Threshold	+1.5 VDC nominal
Protection Up To	+/- 30 VDC

2 Serial Interfaces

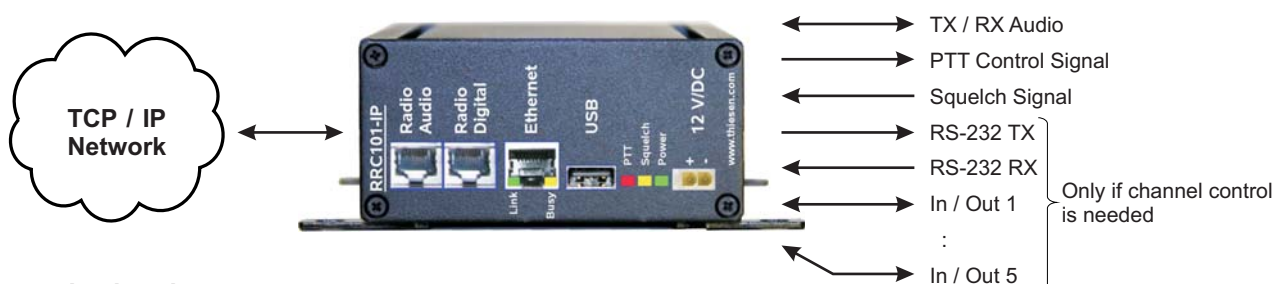
Interface Type	RS-232, Asynchronous, Full Duplex
Baud Rates	4800, 9600, 19200, 38400, 57600, 115200 bps
Connector	RJ45 external, one internal

Network Interface

Interface Type	10/100 BASE-T Ethernet, 100 Mbps; RJ-45 Connector
Protocols	UDP, TCP/IP, ftp, http, bootp, tftp, ssh
Audio encoder / decoder	speex codec

Additional digital In / Output lines

Input Type	Tristate, 0 or 3.3 VDC
Output Type	Tristate, 0 or 3.3 VDC, 50 mA
Number of In / Outputs	7 (5 when external RS232 interface is used)



Customized options on request.