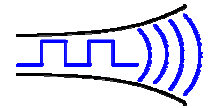


NEW

Radiometrix

Hartcran House, 231 Kenton Lane, Harrow, HA3 8RP, England

Tel: +44 (0) 20 8909 9595, Fax: +44 (0) 20 8909 2233



RX1L

Issue B, 26 February 2010

Low current Narrow Band VHF receiver

The RX1L receiver modules have very low current consumption (1mA) and it offers a reliable data link in an industry-standard pin out and footprint. This makes the RX1L ideally suited to those low power applications where existing narrow band modules are not suitable for prolonged battery powered application. Two versions on the 151.300MHz and 173.225MHz frequencies are available. RX1L is compatible with the Radiometrix TX1 and BiMIT transmitters.



Figure 1: RX1L-173.225-5 receiver

Features

- ◆ Conforms to EN 300 220-3 and EN 301 489-3
- ◆ Data rates up to 5 kbps for standard module
- ◆ Fully screened.
- ◆ Very low current consumption
- ◆ Long battery life

Applications

- ◆ Solar powered remote installation
- ◆ Data loggers
- ◆ Industrial telemetry and telecommand
- ◆ In-building environmental monitoring and control
- ◆ High-end security and fire alarms
- ◆ Vehicle data up/download

Technical Summary

- ◆ Size: 59 x 38 x 7mm
- ◆ Operating frequency: 151.300 or 173.225MHz
- ◆ Supply range: 3.1V - 9V
- ◆ Current consumption: 1mA
- ◆ Data bit rate: 5kbps max. (standard module)
- ◆ Receiver sensitivity: -120dBm (for 12 dB SINAD)

Pin Description – RX1L

Pin A	Name	Function
1	+Vin	3.1 - 9V
2	0V	Ground

Pin B	Name	Function
1	Gnd	RF ground
2	RF out	To the antenna
3	Gnd	RF ground

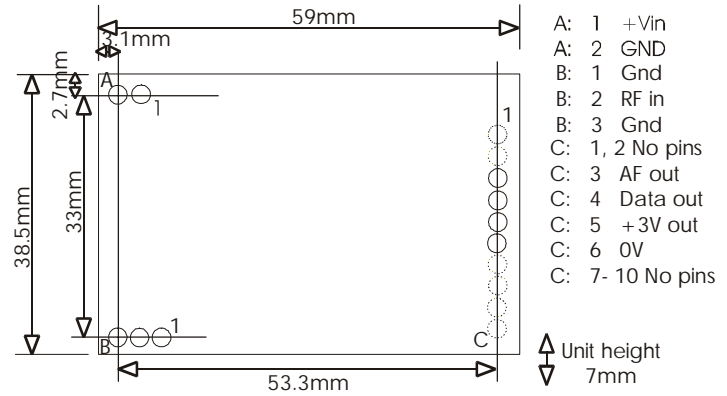


Figure 4: RX1L footprint (Top) view

Pin C	Name	Function
1	No pin	-
2	No pin	-
3	AF out	200mV _{pk-pk} audio. DC coupled, approx 1V bias
4	DATA out	output of data slicer suitable for Biphase codes. 3V CMOS logic levels
5	+3V out/in	DC supply. 10mA maximum drain. Present if unit is powered.
6	0V	Ground
7 – 10	No pins	-

NOTES:

1. '+3V out/in' can be used to power the RX1L receiver from an external regulated 3V supply.
2. While pin equivalent to the RX2M450, the RX1L lacks carrier detect, RSSI, modem or multi channel functions.

Condensed specifications

Frequency	151.300MHz or 171.225MHz (other frequencies on request)
<i>Frequency stability</i>	+/- 2.5kHz
<i>Channel spacing</i>	25kHz
<i>Number of channels</i>	1
Supply <i>voltage</i>	3.1 – 9V (or 3V +/- 10% via 3V out pin)
<i>Current</i>	1mA receive
Operating temperature	-10°C to +60°C (Storage -30°C to +70°C)
Size	59mm x 38mm x 7 mm
Spurious radiations	Compliant with ETSI EN 300 220-3 and EN 301 489-3
Interface	
<i>user</i>	4pin 0.1" pitch molex
<i>Power</i>	2pin 0.1" pitch molex
<i>RF</i>	3pin 0.1" pitch molex
Intended approval	ETSI Radio standard EN 300 220-3 and EMC standard EN 301 489-3
Sensitivity	-120dBm for 12 dB SINAD
<i>image / spurious</i>	-65dB
<i>blocking</i>	-80dB
<i>adjacent channel</i>	<-70dB (Tested per. ETSI EN 301 489-3)
Outputs	Audio, data
Power on to valid audio	20ms
Power on to stable data out (50:50 mark / space)	50ms

Notes: 1. The data slicer cannot be depended upon for data waveform frequencies below 250Hz

2. When RX is on and a transmitter keys up, again a 50ms period is required to stabilise data output mark/space. i.e. allow at least 50ms of preamble

Notes

Notes

Radiometrix Ltd
Hartcran House
231 Kenton Lane
Harrow, Middlesex
HA3 8RP
ENGLAND
Tel: +44 (0) 20 8909 9595
Fax: +44 (0) 20 8909 2233
sales@radiometrix.com
www.radiometrix.com

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R&TTE Directive

After 7 April 2001 the manufacturer can only place finished product on the market under the provisions of the R&TTE Directive. Equipment within the scope of the R&TTE Directive may demonstrate compliance to the essential requirements specified in Article 3 of the Directive, as appropriate to the particular equipment.

Further details are available on The Office of Communications (Ofcom) web site:

http://www.ofcom.org.uk/radiocomms/ifi/licensing/licensing_policy_manual/

Information Requests
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA
Tel: +44 (0)845 456 3000 or 020 7981 3040
Fax: +44 (0)20 7783 4033
information.requests@ofcom.org.uk

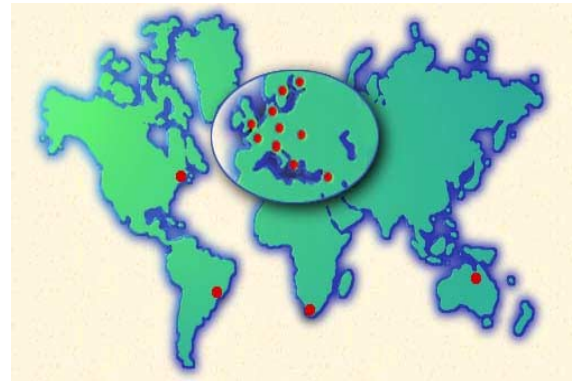
European Radiocommunications Office (ERO)
Peblingehus
Nansensgade 19
DK 1366 Copenhagen
Tel. +45 33896300
Fax +45 33896330
ero@ero.dk
www.ero.dk

Radiometrix Ltd

Worldwide Distributors

Radiometrix Ltd

Harteran House
231 Kenton Lane
Harrow
Middlesex
HA3 8RP
ENGLAND
Tel: +44 (0) 20 8909 9595
Fax: +44 (0) 20 8909 2233
sales@radiometrix.com
www.radiometrix.com



RF Modules Australia

P.O. Box 1957, Launceston,
TAS 7250

AUSTRALIA (including South Pacific)

Tel: +61 3 6331 6789, Fax +61 3 6331 1243
sales@rfmodules.com.au

RS do Brasil Ltda.

Av. Brigadeiro Faria Lima 2413 (6° andar)
01451-001 São Paulo - SP

BRAZIL

Tel: +55 11 3819 0429, Fax: +55 11 3097 0009 or 11 3815 1162
vendas@rsdobrasil.com.br

C-88 AS

Savsvinget 7,
DK-2970 Hørsholm

DENMARK

Tel: +45 7010 4888, Mobile: +45 2320 8589,
Fax: +45 7010 4889
C88@c88.dk

Lextronic

36/40 Rue du Gal de Gaulle,
94510 La Queue en Brie

France

Tél: +33 (0)1 4576 8388, Fax: +33 (0)1 4576 8141
infos@lextronic.fr

Haril

2A Tsokopoulou Street, 152 37 Filothei, Athens

GREECE

Tel : +302 10 6810338, Fax: +302 10 6853359
harico@otenet.gr

Microrobot Co. Ltd.

Bowoo Bldg., 40-26, Cheongdam-dong, Kangnam-gu,
Seoul, 135-102

KOREA

Tel: +82 2 540 1710, Fax: +82 2 540 1720
maroboss@microrobot.com

HY-LINE AG

Forbühlstrasse 16, CH-8245 Feuerthalen

SWITZERLAND

Tel: +41-52 659 63 03, Fax: +41-52 659 63 93
power@hy-line.ch

IDVISION B.V.B.A

Augustijnenstraat 44
B-8900 Ieper

BELGIUM (including NETHERLANDS, LUXEMBOURG)

Tel.: +32 57 216141, Fax: +32 57 216434
info@idvision.net

Advanced Radio Telemetry

Francouzská 82
602 00 Brno

Tel.: +420 (5)4521 1403, Fax: +420 (5)4521 0506

CZECH REPUBLIC

art@artbrno.cz

TQ Electronic Oy

Laurinkatu 40
08100 Lohja

FINLAND

Tel: +358 19 326451, Fax: +358 19 326452,
Mobile: +358 400 670 697
raimo@tqelectronic.fi

HY-LINE Communication Products GmbH

Inselkammerstraße 10,
D-82008 Unterhaching

GERMANY (including AUSTRIA)

Tel: +49 89 61450319, Fax: +49 89 6140960
communication@hy-line.de

Avnet Components Israel Ltd

P.O.BOX 48, Tel Mond, 40600

ISRAEL

Tel : +972 9 7966999, Fax: +972 3 7601115
shuki.herzlinger@avnet.com

RF Design Ltd

Suite 19, 220 Ottery Road, Wynberg
Cape Town 7945

SOUTH AFRICA

Tel: +27-21-762-5365, FAX: +27-21-797-1983
sales@rfdesign.co.za

Lemos International Co. Inc.

1275 Post Rd, Suite A-12, Fairfield, Ct. 06824

UNITED STATES OF AMERICA

Tel: +1 203 254 1531, Fax: +1 203 254 7442
sales@lemosint.com