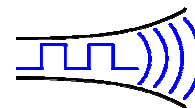


NEW

Radiometrix

Hartcran House, Gibbs Couch, Watford, WD19 5EZ, England



RX1L

Issue A, 05 November 2003 Tel: +44 (0) 20 8428 1220, Fax: +44 (0) 20 8428 1221

Low power 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-173.225-10 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)

RX1L UHF Low current receiver

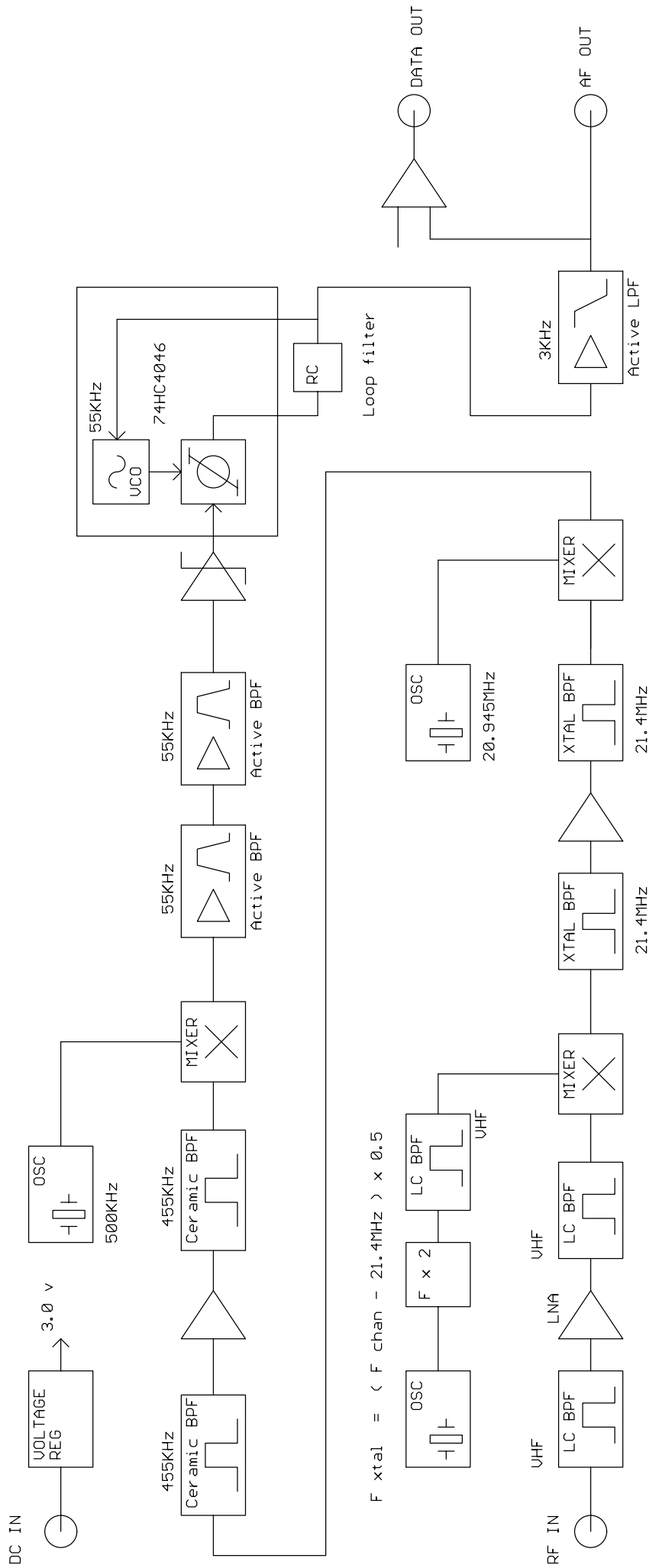


Figure 2: RX1L block diagram

Pin Description – RX1L

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

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

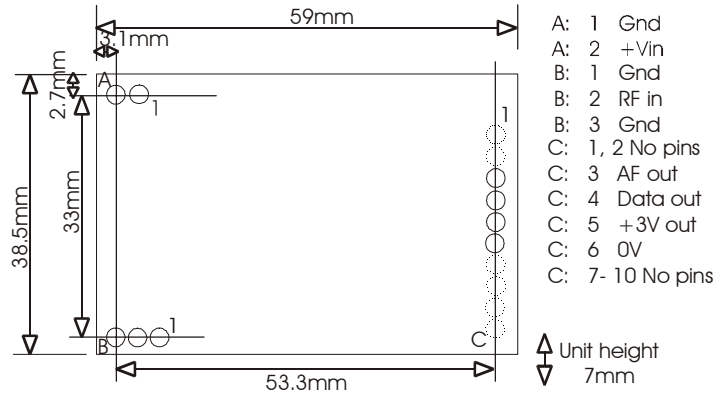


Figure 4: RX1L footprint (Top) view

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

Radiometrix Ltd

Hartcran House

Gibbs Couch

Watford

WD19 5EZ

ENGLAND

Tel: +44 (0)20 8428 1220

Fax: +44 (0)20 8428 1221

info@radiometrix.co.uk

www.radiometrix.co.uk

Copyright notice

This product data sheet is the original work and copyrighted property of Radiometrix Ltd. Reproduction in whole or in part must give clear acknowledgement to the copyright owner.

Limitation of liability

The information furnished by Radiometrix Ltd is believed to be accurate and reliable. Radiometrix Ltd reserves the right to make changes or improvements in the design, specification or manufacture of its subassembly products without notice. Radiometrix Ltd does not assume any liability arising from the application or use of any product or circuit described herein, nor for any infringements of patents or other rights of third parties which may result from the use of its products. This data sheet neither states nor implies warranty of any kind, including fitness for any particular application. These radio devices may be subject to radio interference and may not function as intended if interference is present. We do NOT recommend their use for life critical applications.

The Intrastat commodity code for all our modules is: 8542 6000.

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 Radiocommunications Agency (RA) web site:

<http://www.radio.gov.uk/topics/conformity/conform-index.htm>

The Library and Information Service

The Radiocommunications Agency

Wyndham House

189 Marsh Wall

London E14 9SX

United Kingdom

Tel: +44 (0)20 7211 0502/0505

Fax: +44 (0)20 7211 0507

library@ra.gsi.gov.uk

For further information on radio matters contact the

Agency's 24 Hour Telephone Enquiry Point: +44 (0)20

7211 0211

European Radiocommunications Office (ERO)

Midtermolen 1

DK 2100 Copenhagen

Denmark

Tel. +45 35250300

Fax +45 35250330

ero@ero.dk

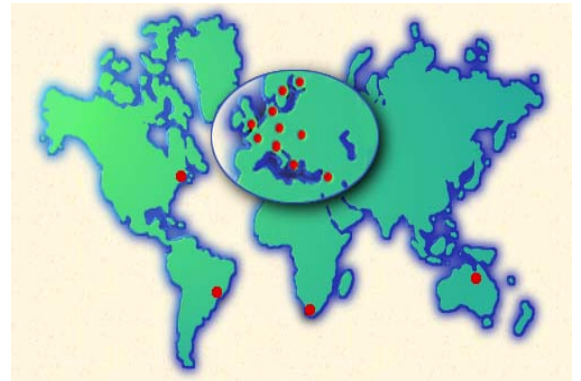
www.ero.dk

Radiometrix Ltd

Worldwide Distributors

Radiometrix Ltd

Harteran House
Gibbs Couch
Watford
WD19 5EZ
ENGLAND
Tel: +44 (0)20 8428 1220
Fax: +44 (0)20 8428 1221
info@radiometrix.com
sales@radiometrix.com
www.radiometrix.com



Telelink Communications

PO Box 5457, North Rockhampton, Queensland 4702
AUSTRALIA (including South Pacific)
Tel: +61 7 49340413, Fax +61 7 49340311
24 hour Message Service +61 7 38300233
sales@telelink.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

Forbuelstrasse 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

Suurlohjankatu 22
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.

1305 Post Road, Suite 305, Fairfield, Ct.06430
UNITED STATES OF AMERICA
Tel: +1 203 254 1531, Fax: +1 203 254 7442
sales@lemosint.com