



360 Herndon Parkway
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<http://www.rheintech.com>

APPENDIX D: MANUAL



Operation and Instructions Manual for the Radio Modules **70RX-M1**



former labeling of the modules



new labeling from September 2001 on

FCC - XXX – 70RX-M1 CE 0682 ⓘ

The modules are licenced in Europe¹⁾, USA and Canada

¹⁾ Licences may not be available for all of the 16 EU-countries



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GmbH

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1. Purpose and application of the Radio Modules 70RX-M1

The 70TXRX-M1 Radio Modules, comprising of the

Receiver **70RX-M1**

are FM-narrow bandwidth type radio modules. They are single channel, crystal controlled devices on an assigned frequency in the range from 420 – 510 MHz, in 12.5 or 25 KHz spacing.

The modules are supplied by HM-Funktechnik GmbH (HM-Radio USA) as an OEM product and are to be installed in customer designed peripherals, such as

- radio remote control devices for machinery in industrial sites
- burglar alarm system, data in general and voice, only in alarm conditions
- data transmission in telemetry systems
- data transmission in wireless hand held terminal systems
- wireless data transmission in general



2. Dimensions and connections to peripheral devices

Modulation Input

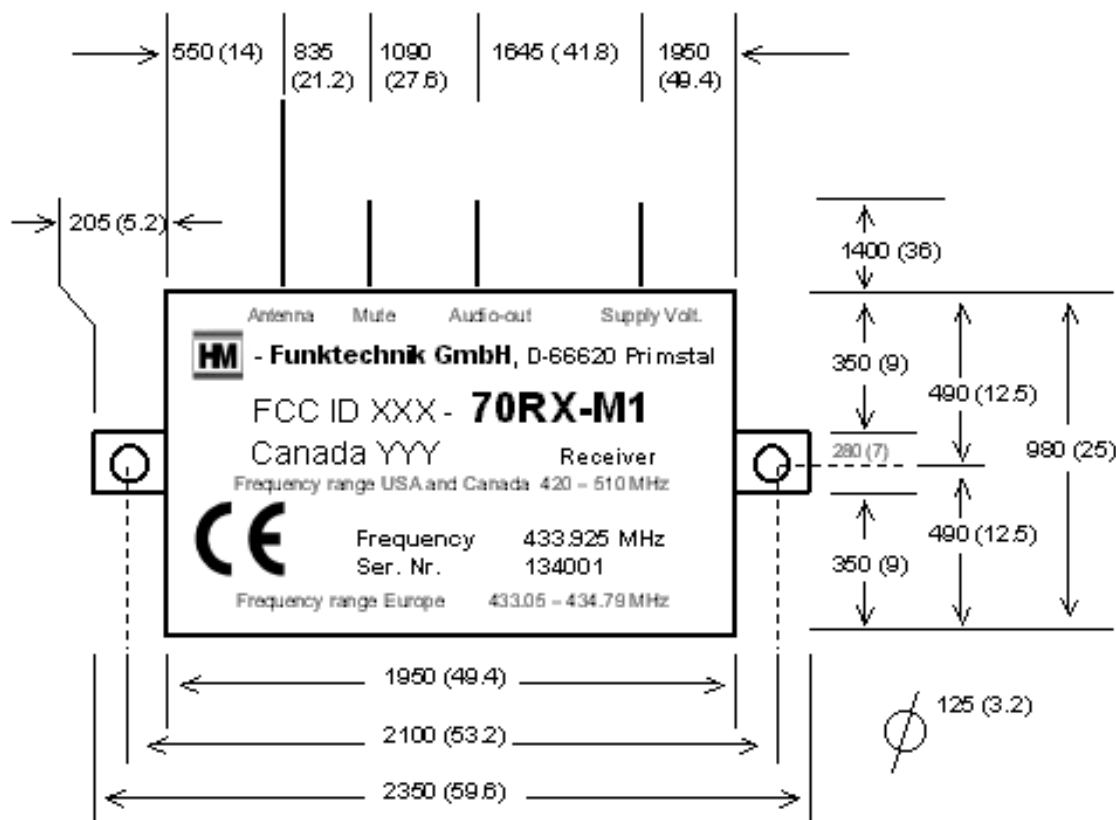
Level: TTL level, or $2.5\text{ V DC} + 2.5\text{ V sin}\omega t$ for $\pm 2.5\text{ KHz}$ frequency deviation

Frequency 0 - 4 KHz, maximum

Input impedance $> 4.7\text{ K}\Omega$

Dimensions: Receiver **70RX-M1**³⁾

are in mil, values in brackets are the corresponding mm values



Module height 500 (12.7)

Tolerance: $\pm 0.2\text{ mm}$

³⁾ information shown on this label
is not identical with the label on
the module



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3. Technical data

Receiver **70RX-M1**

Supply Voltage	minimum	4.8V
	maximum	10 V
<u>Absolut maximum rating</u>	12 V DC	
Supply current	25 mA	
RX-bandwidth	3 KHz +/- 7.5 KHz	(1. IF Filter)
	20 KHz	(2. IF Filter)
	more narrow filters upon request	
Audio out	Ao +0.5 Vpp at 2.5 KHz nominal deviation Ao depends on the frequency offset between TX and RX and may vary between 1 and 3 V DC.	
Output impedance	typically 2 K Ω	
AFC range	+/- 3 KHz	
Sensitivity	- 121 dBm for 12 dB SINAD CCITT weighted	
MUTE signal	0 V with no RF and + 4.5 V at a RF input of typ. - 112 dBm +/- 5 dB	
RSSI	available upon request instead of MUTE, 0.5 V - 2.5 V / -120 -60 dBm	
Maximum RF input level	0 dBm	

4. Restrictions

- **Do not supply a higher modulation input level or a higher frequent audio signal to the TX modulation input as specified in 2**
- **Do not use the 70TXRX-M1 radio modules to transmit audio or voice, except in alarm and emergency situations**
- **Do not build illegal spy devices using the 70TXRX-M1 radio modules**
- **Do not operate the modules at lower supply voltages as specified**

For any further question, comments or advices, please contact HM-Funktechnik at

HMRADIO@AOL.COM