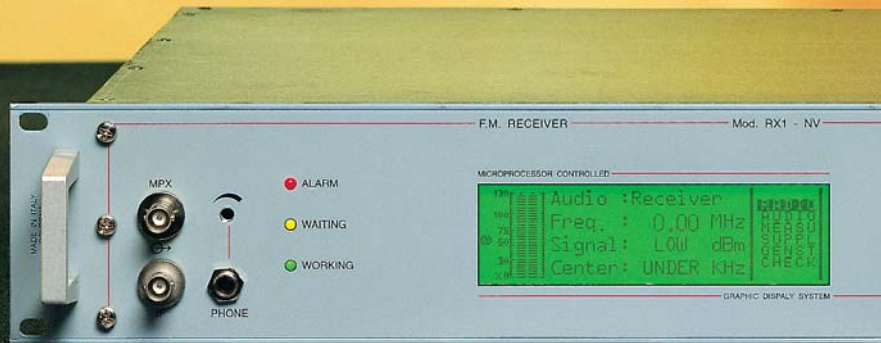


RX1 NV/LCD

FM Receiver 87.5-108 MHz range

top quality
FM Receiver

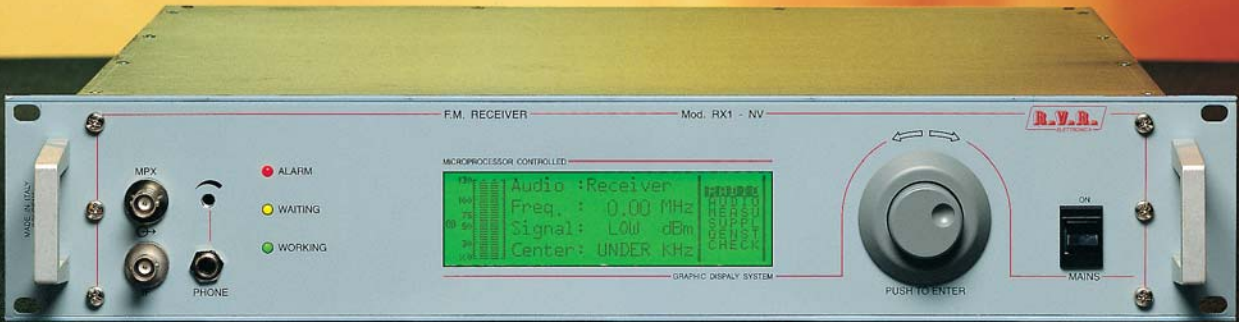
- > 70 dB signal/noise (stereo)
- < 0,1% total harmonic distortion
- > 50 dB stereo separation (20 Hz to 15 KHz)



R.V.R.
ELETTRONICA

RADIO
LINKS

Broadcast
EQUIPMENT



Main features

- State-of-the-art sound quality.
- Dynamic selectivity fully meets CCIR.
- 12 μ V mono and 170 μ V stereo sensitivity.
- Optimum performances also in the presence of hard electromagnetic fields through a strong shielding of subsystems.
- All of the receiver's Settings and Working Parameters can be remote controlled by means of RS232C, RS485 and I2C interfaces.
- Unbalanced Audio Output can drive 50 Ohm loads with cables of any length.
- SMD Technology circuits for optimum Signal Routing.

RS232 connector

Useful for connecting the demodulator to the station's personal computer or, via modem, to that of a Technical Assistance Centre.

The numerical values of signals received are processed by RVR-Acquisition Supervisory Software, with which it is possible to configure in the type and form of the data to be displayed.

Personal Computer Link-up

By linking the demodulator to a PC (either directly or by a modem/phone or RF), thanks to the RVR Supervisory Software package it is possible to Adjust and Read all the receiver settings from the supervisory center.

It means no loss of performance of the received signal. Since RX1 NV/LCD was born, the receiver of a Re-broadcasting chain is not the weakest link anymore.

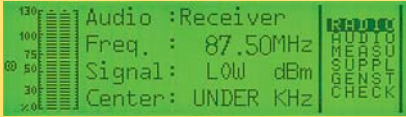
Furthermore a receiver can be networked with other demodulator, making the RX1 NV/LCD particularly suitable for the monitoring and control of complex systems for frequency and spatial diversity operations.



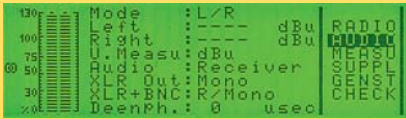
On the RX1 NV/LCD's front panel, by a user-friendly graphic interface, all the demodulator's diagnostic and control capabilities are displayed. The settings which can be monitored and adjusted are the following:



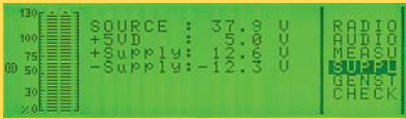
Release menu • The hardware and software release are displayed.



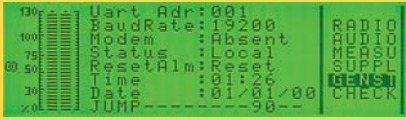
Radio menu • Setting of the Working mode (Receiver or Diversity mode in which the device is daisy-chained with another receiver) and of frequency. Display of Vu-meter (with peak-hold), RF input signal value and the center frequency offset with respect to the receiver's working frequency.



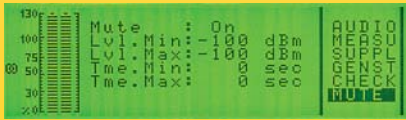
Audio menu • On/Off settings for the following functions: channels, audio output (Receiver/diversity), selection of the signals to be linked to the XLR connectors, deemphasis. Display of measurement of the parameters related to the select mode and the measuring unit.



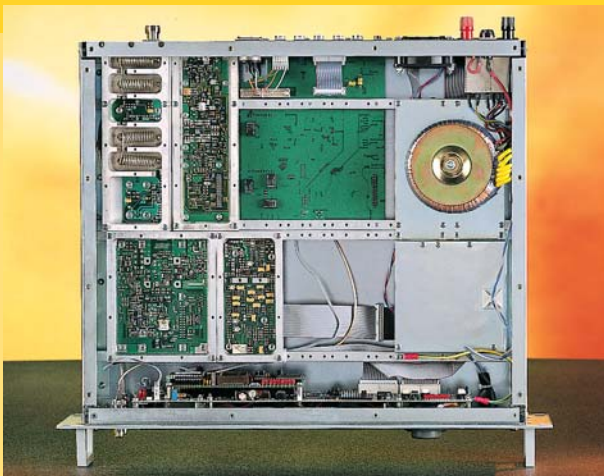
Supply menu • Display of the operational power supply characteristics, power supply voltage levels.



General settings menu • Display of communication settings, node number in the case of networking and Baud-rate. Display of "jumper" operating mode settings.



Mute menu • ON/Off/Auto settings for Muting circuit. Display of min level (below this value the audio output is muted), max level (over this value the audio output is re-enabled), min time (below this value the muting will not intervene), max time (over this value the audio will not be re-enabled).



Hardware Highlights

Frequency-selective Front-end with tuned filter. There is no need for an external RF filter.
 The input amplifier allows very strong RF signals (up to 23 dBm), thanks to the built-in AGC.
 Double IF conversion with dedicated amplitude and group-delay equalization circuitry.
 The grounding of the different PCBs has been carefully designed to reduce noise to the minimum.

These specifications are subject to change without notice.

Technical specifications

RF SECTION

Frequency range:	87.5 – 108 MHz
Channel spacing:	10 KHz
Tuning:	Sinthesized PLL
Frequency stability:	±1 ppm from –10°C to 50 °C
RF input connector:	"N" type
RF input impedance:	50 Ohm
Maximum RF input signal:	+23 dBm
Muting level selectable:	- 100 dBm ÷ 0 dBm
IF frequency:	10.7 MHz and 700KHz
Image frequency rejection	> 80 dB

MPX OPERATION

Output connectors (type, impedance, level):	BNC (Unbal.), 50Ω, +18dBu XLR, 50Ω, +24 dBu (The level is reported to 600 Ohm load)
CBS (Composite baseband signal):	BNC (Unbal.), 50Ω, 0 dBu (50Ω), 6 dBu (600Ω) (This output is endowed with current buffer able to drive a cable up to 250 mt. of length)
Signal to noise (at 1 mV): (With external stereo decoder of reference)	72 dB, RMS detector, 20Hz-20KHz filter, 50 microsec. deemphasis 61 dB, QuPk detector, CCIR weighted filter, 50 microsec. Deemphasis
Amplitude response:	± 0.07 dB (40Hz ÷ 60KHz) ± 0.5 dB (60KHz ÷ 75KHz)
Stereo separation:	> 55 dB (40Hz ÷ 15 KHz)
Total harmonic distortion:	< 0.1%

STEREO OPERATION (with stereo decoder option)

Output, connectors:	XLR (Bal.)
Output impedance:	50Ω
Output level:	+24 dBu (The level is reported to 600 Ohm load)
Stereo sensitivity:	< 200 μV (-54 dB S/N, QuPk, CCIR weighted filter 50 microsec. deemphasis)
Dynamic selectivity 300 KHz:	-35 dB
L, R Output:	Fully meets CCIR (Rec. UIT-R BS. 412-7)
Signal to noise (at 1 mV):	> 70 dB, RMS detector, CCIR unweighted filter, 50microsec. deemphasis > 60 dB, QuPk detector, CCIR weighted filter, 50microsec. deemp.
Amplitude response:	± 0.25 dB (40 Hz ÷ 15 KHz)
Stereo separation:	> 50 dB
Deemphasis:	0, 25μs, 50μs, 75μs
Total harmonic distortion:	< 0.25%

MONO OPERATION

Output connector:	XLR (Bal.)
Output impedance:	50 Ohm
Output level:	+24 dBu (The level is reported to 600 Ohm load)
Mono sensitivity:	< 12 μV (-54 dB S/N, QuPk, CCIR weighted filter 50 microsec. deemphasis)
Dynamic selectivity 300 KHz:	-33 dB
Signal to noise (at 1 mV):	74 dB, RMS detector, CCIR unweigh.filter, 50microsec. Deemp. 61 dB, QuPk detector CCIR weighted filter, 50microsec. deemp.
Amplitude response:	± 0.25 dB (40 Hz ÷ 15 KHz)
Total harmonic distortion:	< 0.1%
Deemphasis:	0, 25μs, 50μs, 75μs

GENERAL CHARACTERISTICS

Temperature range:	-10°C 50°C
Power supply:	170V 250V 90V 135 V
Power consumption:	< 50 VA
Dimensions:	483mm (19") x 88mm (31/2") H (2 standard rack spaces high) x 377 mm (29")
Weight:	10.7 Kg

SERIAL INTERFACE

Serial Interface:	RS232, DTE/DCE selectable RS485 (Optional with external converter)
Serial Connector:	"DB9 female" type
Telemetry Connector:	"DB25 female" type

OPTIONS

/05 Stereo decoder card option
/06 RDS decoder card option
/07 Antenna front-end automatically tuneabl

These specifications are subject to change without notice.

Revision: 03/2003