

# RTX19 / 1

## VHF 87.5-108MHz FM BROADCAST RECEIVER



The RTX19/1 is a modern, frequency-agile broadcast quality Receiver, specially designed to make a broadcast in-band Transponder in couple with any standard FM Transmitter. The design of this equipment derives from a refinement of the time and field proven RTX18 series, coupled with the extended digital control features introduced on EXC30GT FM transmitter. It offers full digital readout and complete and intuitive front panel control through a simple single jog coupled with extensive remote programmability and monitoring. It is accommodated in an elegant, modern looking and space efficient single unit 19" cabinet which requires exactly half the room of the previous series.

Its good sensitivity, high selectivity, RF acceptance and excellent recovered audio and composite signal coupled with the complete on field programmability through the front-panel jog and display, makes the RTX19 a very flexible and user-friendly choice as starting base for a broadcast-grade signal, with reliable and maintenance-free operation. It can also be used as a programmable monitor studio or site receiver, generating a very clean high-end quality LF demodulated output, much better than good consumer grade hi-fi receivers, in addition to very precise modulation measurement capabilities. A laboratory grade internal Stereo Decoder card may be also equipped as a standard option.

### TECHNICAL DESCRIPTION

- Front panel programmable synthesized local oscillator, with 100/10 kHz programming step, which permits easy, precise and immediate operation on site.
- Complete front-panel or remote programmability of frequency, output levels, de-emphasis time constant, muting level and operating parameters.
- Simple and modular internal construction facilitates stage testing and servicing. No internal tuning is required to vary operating parameters.
- Very good screening and high RF acceptance front-end, with ability to operate in harsh, overcrowded RF environment.
- Double conversion IF, with "pulse count" digital demodulator, yields very low distortion and noise, highly stable against temperature and time.
- Linear MPX output, permits mono or stereo retransmission, without need for any subsequent stereo-encoder, filter and pre-emphasis.
- Wide pass-band modulation with phase/level compensated IF filter keeps superior stereo separation and optimum RDS re-broadcast
- Auxiliary wider-band separate monitor output and precisely de-emphasized/filtered mono balanced output.
- Optional high performance digital stepwise stereo-decoder. This option may also be installed as an upgrade on the field.
- Field or condition-driven relay contact for external switchover.
- High efficiency, low-noise switch-mode power supply, with extended 90 ÷ 260 Vac input range and battery backup input with recharging option
- Complete digital control of all internal circuitry and extremely wide monitoring facilities. RS232 port for complete remote control
- Password protection of critical data and presets

## TECHNICAL SPECIFICATIONS

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| <ul style="list-style-type: none"> <li>- Frequency range: 87.5÷108 MHz</li> <li>- Synthesis step: 10kHz</li> <li>- Modulation: FM, 75 kHz peak dev.<br/>180kF3E in mono<br/>256kF3E in stereo</li> <li>- RF input connector: N</li> <li>- RF input impedance 50 Ω</li> <li>- Noise figure: ≤10 dB</li> <li>- Image frequency suppression: ≥60dB 70 typ</li> <li>- Audio/mpx input level: -3.5 ÷ +12.5 dBm<br/>@ ±75 kHz deviation on female XLR conn.</li> <li>- Dynamic selectivity: &gt;+10dB typ @ δF=300 kHz<br/>&gt;+35dB typ @ δF=400 kHz<br/>&gt;+45dB typ @ δF=500 kHz<br/>&gt;+50dB typ @ δF=1.0 MHz</li> <li>- AM suppression: &gt;45 dB</li> <li>- Usable input level: -87 ÷ +10dBm<br/>(10μV÷700mV)</li> <li>- Sensitivity (typ): Sin=-87dBm (10μV) mono<br/>(S/N=60dB) Sin=-67dBm (100μV) stereo</li> <li>- IF monitor outputl: 10.7MHz / 0dBm</li> </ul> | <ul style="list-style-type: none"> <li>- Mpx/mono output level: -1.5 ÷ +12 dBm,<br/>0.5dB/step on male XLR</li> <li>- Audio freq. response: 30 Hz ÷ 15 kHz ±0.1dB</li> <li>- Mpx freq. response: 15 Hz ÷ 120 kHz +0.1/-3dB</li> <li>- S/N ratio (30÷20000 Hz. rms):<br/>≥77 dB &gt;82 typ. mono<br/>≥73 dB &gt;75 typ. stereo</li> <li>- Modulation distortion @ 1kHz / 100% dev.:<br/>mono ≤0.1% 0.05% typ.<br/>stereo, 1ch ≤0.30% 0.20% typ.</li> <li>- Stereo crosstalk (typ): &lt;-50 dB (100 ÷ 5000 Hz)<br/>&lt;-45 dB (30 ÷ 15000 Hz)</li> <li>- De-emphasis time constant: 0 / 50 / 75 μs ±2%</li> <li>- I/O lines: LF disable, Low field, Alarm<br/>RS232 for monitoring and control</li> <li>- Mains supply: 90 ÷ 260 Vac 50/60 Hz<br/>15 W</li> <li>- Battery backup/supply: 22.0 ÷ 28.0 V<br/>≤0.4A @ 24V</li> <li>- Operating temperature range: 0 ÷ 35 °C recomm.<br/>-10 ÷ 45 °C max</li> <li>- Dimensions without handles: 19" 1 un. std. rack<br/>(each equipment) 483 x 43.5 x 320 mm</li> <li>- Weight: 3,5kg (Rx)</li> </ul> |
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