

FM Receiver Silver



The FM Receiver Silver is a professional FM Rebroadcast Receiver which offers great performance while remaining easily affordable for broadcasters. Designed by WorldCast Systems' experienced R&D team, the FM Receiver Silver is capable of receiving a signal in difficult circumstances and outputting an MPX baseband or audio signal which can be used for high quality retransmission by any make of transmitter. This enables a broadcaster to provide complete coverage in shadow areas, tunnels and other "hard to reach" areas.

To provide broadcast engineers with complete peace of mind, the FM Receiver Silver will monitor RF levels and MPX deviation to establish the presence of a suitable signal and display the current status via the LED front panel. The presence of Pilot and RDS signals are also monitored and the PI code can be decoded to ensure correct program tuning. Level meters offer a visualization of the current level of audio activity.

Compatible with all makes of FM transmitters, the unit also provides a double MPX output so it can also be used in conjunction with 1+1 or Dual Drive transmitter systems. For those requiring additional monitoring capabilities, the IP/IO version offers contact closures (GPIO) and a TCP/IP connection for remote configuration and SNMP management.



Rear Panel

FEATURES

- Keep your signal on air!
 - » Double RF input agile - 87.5 – 108 MHz
 - » Automatic Switching between main and backup frequency
 - » Selectable IF Bandwidth for easy installation on full FM spectrum
 - » Double MPX output for installation of 1+1 or Dual Drive transmitter systems
 - » Both AES and Analog signals available enabling additional or backup path
 - » Selectable de-emphasis 50/75 μ s.
 - » RDS Decoder verifies integrity of signal based on PI code (PI, PS, TP/TA, MS, DI, PTY, AF list, Clock Time)
 - » Serial port communication (bench configuration and reporting)
- Continual Signal Monitoring
 - » Audio Level Bars
 - » Headphone socket
- Simple Management & Control with the IP/IO version
 - » SNMP
 - » Additional GPIOs
 - 6 Command/ Relay Outputs
 - 8 Status (Opto-coupler) Inputs

TECHNICAL SPECIFICATION

Main characteristics	
External dimensions (W x H x D)	483 mm (19") x 1U x 379 mm
Weight	about 3.4 kg
Power supply voltage	88 V - 264 V AC
Power supply frequency	47 Hz - 63 Hz
Power consumption	about 45 VA
Temperature	<ul style="list-style-type: none">• Operation : 0°C - +50°C• Storage: -20°C - +70°C
Humidity	10-95% non-condensing relative humidity
RF Section	
Tuning frequencies	87.5 to 108.00 MHz
Programming step	User defined at 10 kHz or 100 kHz (default: 100 kHz)
Frequency accuracy	10 ppm at 25°C
RF connector and impedance	2 x BNC / 50 Ω
Max input RF level	120 dB μ V (+13 dBm)
RF Attenuation	0 / 40 dB
IF selectivity	Wide / Middle / Narrow
Sensitivity	S/N 60 dB RMS 20-23 kHz (mono) <ul style="list-style-type: none">• AF output<ul style="list-style-type: none">• <40 dBμV• MPX output<ul style="list-style-type: none">• <50 dBμV
MPX	
Signal / Noise, 1 kHz AF at 75 kHz excursion	RMS: 62 dB Weighted QP CCIR: 50 dB
Separation	<-33 dB @ 1 kHz
Distortion	0.1% @ 1 kHz (typical)
Bandwidth	40 Hz-15 kHz, \pm 0.4 dB

Stereo decoder	
Signal / Noise, 1 kHz AF at 75 kHz excursion:	RMS: 65 dB Weighted QP CCIR: 53 dB
Separation	<-40 dB @ 1 kHz
Distortion	0.2% @ 1 kHz (typical)
Bandwidth (48 ksp/s)	40 Hz-15 kHz, \pm 0.85 dB
19 kHz suppression (32 ksp/s)	>50 dB
Measurements	
Receiver modulation level	Front panel LED meters (L&R)
MPX deviation level	from 0 to 99 kHz (Step 1 kHz)
RF level	from 0 to 75 dB μ V (Step 1 dB μ V) \pm 10%
RDS	Presence / absence
PILOT	Presence / absence
RDS data	PI,PS,AF,DI,TP,TA,PTY,MS,CT
Outputs	
AF	Type: XLR Levels: -31 to +15 dB (1.5 dB)
AES	Type: XLR, complete EIAJ CP1201, IEC-60958, AES3 Audio Sample rate: 32 ksp/s
MPX	Type: BNC Levels: 0, +6, +12 dB (+ manual adjustment from $-\infty$ to +2 dB)
Phones	6.35 mm Stereo jack > 50 Ω
Other connectors	
RS-232	Complies to EIA RS232C standard
USB	Reserved for future use

