

RX-1 Compact Receiver

Enhanced
Equalizer



The compact receiver
ideal for mobile applications

Main Features

- Single, dual channels IF/CiF/P/L/S/C band (fully independent)
- Tier II phase noise compliant
- Optimum ratio Pre-D combiner with automatic Best Source Selector mode
- Enhanced Adaptive Equalizer*
 - * Proven best performance equalization on the market.
Able to cancel co-channel interference like STC, but also, Outperforms other state-of-the-art equalizers for Multipath Mitigation
- Up to 3 multi-mode demodulator Tier 0, 1, 2 (PCM-FM, SOQPSK, Multi-h CPM)
- Unprecedented multi-h CPM BER & acquisition time
- AM demodulation for antenna tracking
- Supports LDPC decoder (rates 1/2; 2/3; 4/5) with SOQPSK demodulator
- Up to 3 embedded 30Mbps bit and frame synchronizers with telemetry over IP (TMoIP)
- Chap 10 Ethernet throughput output
- Data Quality Metric / Encapsulation (DQM/DQE)
- Spectrum viewer, eye diagram & constellation diagram
- 100% in-house designed product

Main Benefits

- More compact solution without compromising performance
- Easier shipment, handling and Integration
- Transport cost reduced
- No tuning, no preventive maintenance

Zodiac Data Systems introduces the compact & rugged version of the worldwide acclaimed Cortex RTR receiver. This version provides the same performances and power of the Cortex RTR receiver for single and dual channel configuration.

Alike Cortex RTR, all bands (IF, C-IF, P, L, S and C), pre-D combiner, multimode demodulator (Tier 0, 1 & 2) and bit / frame synchronization with TM data distribution on Ethernet are supported... without compromising performance. Indeed, the Cortex RTR high end features are preserved like the outstanding RF front end and the unmatched processing performance (fast re-acquisition time, sensitivity and high rate combiner).

RX-1 light weight and compactness is ideal for mobile applications when rack space is a constraint and for situations where frequent handling and shipment are required.

Finally, the risk of damaging the receiver during the frequent shipments through carrier is significantly reduced.

Clubbed with the compact COMTRACK antenna, it provides an unequalled compactness and deployability of your turn-key receiving ground station.



ZODIAC DATA SYSTEMS

ZODIAC AIRCRAFT SYSTEMS
Control Systems Division

**ZODIAC
AEROSPACE** 

Technical specifications

Radio

Frequency range (and / or)

C-band	4400 – 5250 MHz
C-IF-band	300 – 1150 MHz
S-band	2180 – 2485 MHz
Upper L-band	1710 – 1850 MHz
Lower L-band	1429 – 1545 MHz
P-band	200 – 500 MHz
IF	70 MHz

RF inputs up to 2 (N-type 50 Ω)

IF inputs / outputs up to 2 / 2 (from/to IF recorder RSR)

Dynamic range -10 dBm to noise threshold

Non destructive level + 10 dBm

Noise figure < 9 dB (6 dB typ.)

Spurious signal rejection > 60 dBc

VSWR < 2 : 1

Phase noise IRIG 106-07 Tier II compliant

IF analog filters 8 pre-selection SAW (500 kHz to 40 MHz)

Signal processing

IF filters 30 FIR digital filters (3 kHz to 40 MHz)

AGC modes Automatic / Manual / Freeze

AGC time constants 5 (0.1 to 1000 ms)

AM response from AGC cut-off to 50 kHz

Diversity combiner Polarization (or space) & Frequency

Combiner balance control Equalizes CH1/CH2 noise floors

Combiner modes Pre-D dual channels with optimal ratio and automatic best source selection (CH1/CH2 fade level of 5 dB)

Pre-D gain > 2.5 dB for two identical SNR

Pre-D tape recording & playback 5 kHz to 10 MHz

Demodulation FM, AM (auto-tracking), SOQPSK, Multi-h CPM, STC

Video filtering 17 digital filters (12.5 kHz to 40 MHz)

De-emphasis (TV) CCIR 405-1 (525 or 625 lines)

Bit synchronizers RS422 and/or TTL outputs

PCM codes NRZ-L/M/S, BP-L/M/S, DM-M/S, differential, RNRZ-L...

Bit rates (max)
 PCM/FM (trellis) 30 Mbps
 SOQPSK 55 Mbps
 Multi-h CPM 49 Mbps

Decoders LDPC (rates 1/2; 2/3; 4/5) (block 4k, 1k)

Miscellaneous

M&C local or remote PC (via TCP-IP)

Rackable chassis 19", 1 U, 508 mm (20")

Weight <10kg (22lbs)

Operating temperature 0°C to +50°C (32°F to 122°F)

Power supply 100-240 VAC, 50-60 Hz

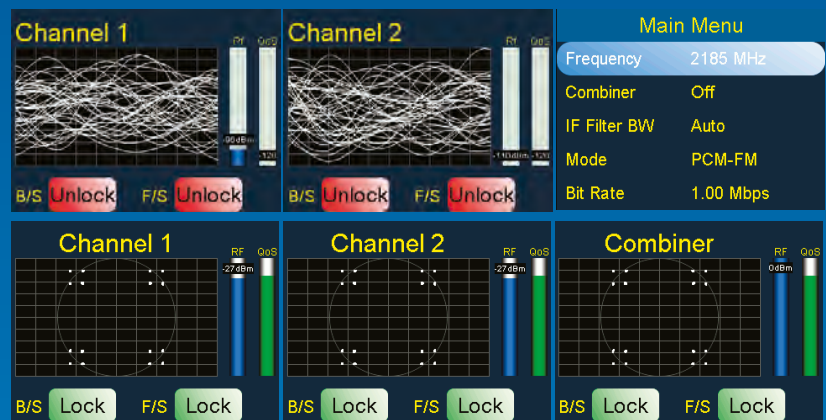
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ORDERING INFORMATION

RX-1-2RF-3D SM01062694

Options

- ▶ Direct C-band 4400 - 5250 MHz
- ▶ STC demodulator in SOQPSK
- ▶ LPDC decoders with SOQPSK
- ▶ Enhanced adaptive Equalizer
- ▶ Telemetry over IP (ch10 UDP throughput, RCC218, STI100013)

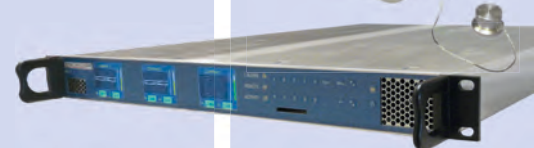


COMTRACK



COMPACT™ Station for portable application

Local ACU GUI Controller



RX-1 Receiver

Non contractual photo

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