Safran Data Systems RX-1 is the small-size dual channel telemetry receiver with pre-D combiner that covers all IRIG frequency bands and all IRIG-specified modulations.

This COTS product is based on the RTR technology bricks and inherits the well-recognized RF performance and signal processing capability. The RX-1 fits particularly the test ranges conditions and provides the most advanced features to maximize data availability.

**STC & XTD**
Space Time Coding and Extended Time Diversity both supported

**EQ+**
Adaptive equalizer for all modulations, on video and PCM outputs

**LDPC**
All LDPC IRIG codes supported

**DOM/DQE**
Embedded Data Quality Metrics / Encapsulation compatible with BSS

**CH.10 OUTPUT**
Easy and modern UDP data spreading

**OPERATIONAL TELEMETRY RECEIVER**
Specially fit for mobile applications
TELEMETRY GROUND SOLUTIONS

RX-1

ANALOG FRONT-END

RF Input Signals
- RF Inputs: 2 (N-type 50Ω)
- Input Frequency Range:
  - S-band: 2180 – 2485 MHz
  - L-band: 1710 – 1850 & 1429 – 1545 MHz
  - P-band: 200 – 500 MHz
  - C-IF-band: 300 – 1150 MHz
  - C-band: 4400 – 5250 MHz
- Dynamic Range: -10 dBm to noise threshold
- Noise Figure: < 9 dB (6 dB typ.)
- Spurious Signal Rejection: > 60 dBc
- VSWR: < 2 : 1

IF Inputs / Outputs
- IF Inputs: 2 @ 70 MHz
- IF Outputs: 3 (RSR interface)

SIGNAL PROCESSING SPECIFICATIONS

IF Filtering
- Analog Filters: 8 pre-selection SAW (500 kHz to 40 MHz)
- Digital Filters: 30 FIR IF (3 kHz to 40 MHz)
- Phase Noise: Compliant to IRIG 106 Tier II

AGC
- Modes: Automatic / Manual / Freeze
- Time Constants: 5 steps, 0.1 to 1000 ms

Telemetry
- Demodulation: PCM-FM, MSFM, SOQPSK, Multi-h CPM
- Advanced Demodulation: PCM-PM, BPSK, QPSK, OQPSK
- Advanced Demodulation: Space Time Coding (STC)
- Diversity: Polarisation, Space & Frequency
- Combiner: Pre-D with optional ratio or best source selection
- Pre-D & Post-D

Baseband Filtering: 17 digital filters (12.5 kHz to 20 MHz)
- De-emphasis: CCIR 405-1 (525 or 625 lines)
- Error Correction: Viterbi, Reed-Solomon, Turbocodes & LDPC
- Bit Synchronizer
- Output Format: RS422 and/or TTL
- PCM Codes: NRZ-L/M/S, BP-L/M/S, DM-M/S, differential, RNRZ-L
- Maximum bit rates: 30 Mbps in PCM/FM
- 60 Mbps in SOQPSK
- 45 Mbps in Multi-h CPM

EQ+ ADAPTIVE EQUALIZER

Modulations: All, i.e. PCM-FM, SOQPSK & Multi-H-CPM
- Equalized Outputs: Video, PCM & Ethernet
- Performance: Market-acclaimed error-free telemetry on taxi way, on parking, & before launch for missiles / launch vehicles

GLOBAL SALES

5, Avenue des Andes - CS 90101 - 91978 Courtaboeuf Cedex - FRANCE - Tel.: +33 1 69 82 78 00 - Email: sales.zds@zodiacaeospace.com

USA

3005 Business Park Dr - Norcross, GA 30071 - USA - Tel.: +1 770 753 4017 - Email: sales.zds@zdsus.com

MONITORING & CONTROL

Local Control: 3 front panel displays & Direct access keys
Local GUI: Menus on local display
Extended GUI: Through a KVM – seamless GUI than RTR
Remote Control: Through TCP-IP – seamless GUI than RTR

ENVIRONMENT

Chassis: Rackable, 19", 1U, 508 mm (20")
- Weight: < 10kg
- Operating Temperature: 0°C to +50°C
- Storage Temperature: -40°C to +70°C
- Power Supply: 100-240 VAC, 50-60 Hz

VARIANTS

Baseline: RX-1 Dual channel, P/C-IF/L/S-band, AM, PCM-FM, MSFM, SOQPSK, MHCPM & Bit Synchronizer
- Additional Band: C-band
- Additional Modulations: STC
- Additional FEC: LDPC
- Additional Features: Equalizer EQ+, DGE/DMM
- Additional Interfacing: Frame Sync, Ethernet ch10...

REMOTE M&C seamless to RTR

LOCAL M&C

REMOTE M&C seamless to RTR

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