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

**DQM/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
## SIGNAL PROCESSING

### SPECIFICATIONS

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<tr>
<th>Modulation</th>
<th>Baseband Filtering</th>
<th>De-emphasis</th>
<th>Phase Noise</th>
<th>Error Correction</th>
<th>Bit Synchronizer</th>
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<tr>
<td>PCM-FM, MSFM, SOQPSK, Multi-h CPM</td>
<td>17 digital filters (12.3 kHz to 20 MHz)</td>
<td>CCIR 405-1 (525 or 625 lines)</td>
<td>Compliant to IRIG 106 Tier II</td>
<td>Viterbi, Reed-Solomon, Turbo-codes &amp; LDPC</td>
<td>Pre-D gain up to 2.5 dB</td>
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<tr>
<td>PCM-PM, BPSK, QPSK, OQPSK</td>
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<tr>
<td>Advanced Demodulation</td>
<td>Space Time Coding (STC)</td>
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<tr>
<td>Diversity</td>
<td>Polarisation, Space &amp; Frequency</td>
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<tr>
<td>Combiner</td>
<td>Pre-D and Post-D</td>
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<td>Pre-D with optimal ratio or best source selection</td>
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### 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
- **Modes**: Automatic / Manual / Freeze
- **Time Constants**: 5 steps, 0.1 to 1000 ms
- **Tracking Demodulation**: AM
- **Telemetry Demodulation**: PCM-FM, MSFM, SOQPSK, Multi-h CPM
- **Advanced Demodulation**: Space Time Coding (STC)
- **Diversity**: Polarisation, Space & Frequency
- **Combiner**: Pre-D and Post-D
- **Baseband Filtering**: 17 digital filters (12.3 kHz to 20 MHz)
- **De-emphasis**: CCIR 405-1 (525 or 625 lines)
- **Error Correction**: Viterbi, Reed-Solomon, Turbo-codes & LDPC
- **Bit Synchronizer**: Pre-D gain up to 2.5 dB

### 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

### 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

### 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

### VARIANTS

- **Baseline**: RX-1 Dual channel, P/C-IF/LS-band, AM, PCM-FM, MSFM, SOQPSK, MHCPM & Bit Synchronizer
- **Additional Band**: C-band
- **CCSDS Package**: PM, BPSK, QPSK, Viterbi, Reed-Solomon & Turbo-codes
- **Additional Modulations**: STC
- **Additional FEC**: LDPC
- **Additional Features**: Equalizer EQ+, DQE/DQM
- **Additional Interfacing**: Frame Sbc, Ethernet ch10...