

DATA SYSTEMS



RX-1

Compact Telemetry Receiver
for industrial
and range testing



TELEMETRY GROUND SOLUTIONS



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**.



Launch
Vehicle
Telemetry



Missile
Testing



Fixed &
Rotary Wing

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**

> ANALOG FRONT-END

RF Input Signals	
RF Inputs	2 (N-type 50 Ω)
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

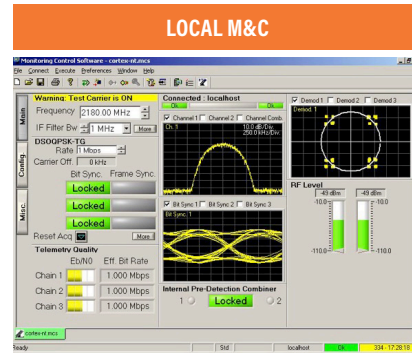
IF Filtering	
Analog Filters	8 pre-selection SAW (500 kHz to 40 MHz)
Digital Filters	30 FIR IF (3 kHz to 40 MHz)
Phase Noise	Compliant to IRIG 106 Tier II
AGC	
Modes	Automatic / Manual / Freeze
Time Constants	5 steps, 0,1 to 1000 ms
Tracking	
Demodulation	AM
Telemetry	
Demodulation	PCM-FM, MSFM, SQPSK, Multi-h CPM
	PCM-PM, BPSK, QPSK, OQPSK,
Advanced Demodulation	Space Time Coding (STC)
Diversity	Polarisation, Space & Frequency
Combiner	Pre-D and Post-D
	Pre-D with optimal ratio or best source selection
	Pre-D gain up to 2.5 dB
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 SQPSK
	45 Mbps in Multi-h CPM

> EQ+ ADAPTIVE EQUALIZER

Modulations	All, i.e. PCM-FM, SQPSK & 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

> 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, SQPSK, MHCPM & Bit Synchronizer
Additional Band	C-band
CCSDS Package	PM, BPSK, QPSK, Viterbi, Reed-Solomon & Turbocodes
Additional Modulations	STC
Additional FEC	LDPC
Additional Features	Equalizer EQ+, DQE/DQM...
Additional Interfacing	Frame Sync, Ethernet ch10...

GLOBAL SALES

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