DATA SYSTEMS

TRACK RECEIVE RECORD PROCESS

RSR-RF

Radio Signal Recorder
for critical applications

TELEMETRY GROUND SOLUTIONS

Safran Data Systems' RSR-RF is a family of **digital recorders** allowing the capture and reproduction of the RF analog signal received at the antenna **before any data processing** is applied. It is the key building block of a Telemetry Station to bring **the highest critical data availability,** especially when recording is not possible on-board.

Data captured during the flight can be processed offline, with all the flexibility to adjust various settings in the receiver, the bit synchronizer or the decommutator, to squeeze **each and every bit out of the recording,** which is **only possible when recording in RF.** It is also a fantastic tool to **qualify a test range prior to a critical flight.**

The RSR-RF-200 allows the capture and the reproduction of the full band (200 MHz) therefore the **recording in one go of multiple telemetry carriers** transmitted by the same airframe, in any telemetry band (L, S or C).

Launch Vehicle Telemetry

Missile Testing

Fixed & Rotary Wing

The RSR-RF comes in 2 different versions:

TYPE	RF/IF	Bands	Max BW	Dynamic	Storage	Throughput	Chassis
RSR - RF-40	2	L/S	40 MHz	100 dB	3.8TB	80MHz / 3.2Gbps	2U or 4U
RSR - RF-200	2	L/S/C	200 MHz	110 dB	15.2TB	400MHz / 8+ GBps	4U

RF RECORDING
Record Telemetry Signal as close as possible to the antenna for Highest Data Availability

WIDE BAND, MULTI-BAND
200 MHz per channel
In L, S or C band

PRE-FLIGHT STATION CHECK
Long Loop Check Secure Station Settings while Replaying Previous Flight Records

8.4" SCREEN
Intuitive GUI, Keyboard and Touchpad for Full and Easy Direct Control

CH.10 RECORDING FORMAT
All Recordings done according to Ch10 Standard, analog data packet format 3

BACKWARD COMPATIBLE
Compatible with analog data packet format 1

SAFRAN

TELEMETRY GROUND SOLUTIONS

RSR-RF

SIGNAL TECHNICAL SPECIFICATIONS

RF Channel (RSR – RF-40)

Number of inputs/outputs	2/2
Center Frequency (In & Out).	
L & S band	900 – 2400 MHz
IF	66-74 MHz
Bandwidth	0.625 to 40 MHz / channel
Level	-110 to -10 dBm
Input/Output impedance	50 ohms
Sampling rate	>2.5 x BW @ 250 MHz
Sample resolution	8 / 16 bits

RF Channel (RSR – RF-200)

Number of inputs/outputs	2/2
Center Frequency (In & Out).	
P, C-IF & L band	200 - 1850 MHz
S band	2200 – 2400 MHz
C band (in option)	4400 – 5250 MHz
Bandwidth	0.625 to 200 MHz / channel
Level	-110 to 0 dBm
Input/Output impedance	50 ohms
Sampling rate	>2.5 x BW
Sample resolution	8 / 16 bits

Recording

File Format	IRIG-106 Chap. 10
	Analog data packet format 3
File Selection	Space Time Navigator
System State	Record, Replay, End-to-End
Monitoring & Control	Front Panel Touch Screen & Remote GUI via TCP/IP
Protected Embedded OS	NIST 800-53, SHB
Network	IPV4/IPV6 2 Gbit RJ-45

Storage (RSR-RF-40)

Removable Cartridge .	1
Cartridge Size	3.8 TB
Aggregated Data Rate	Up to 3.2 Gbps
Recording Time	> 2 hours @ 3.2 Gbps
File Transfer	FTP / SFTP Server
External Disk	USB 3.0

Storage (RSR-RF-200)

Removable Cartridge	1, 2 in option
Cartridge Size	15.2 TB, option for 30.4 TB
Aggregated Data Rate	> 8 Gbps
Recording Time	> 4 hours @ 8 Gbps with 15 TB cartridge
File Transfer	FTP / SFTP Server
External Disk	USB 3.0

Data Processing

Spectrum analyzer	RF Channels

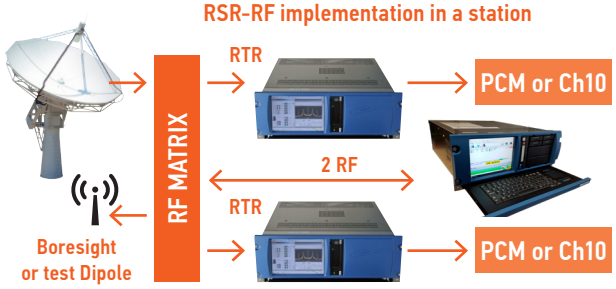
Time & Synchronization

IRIG Time Code	IRIG-B122
Input Level	0.1 to 10 Vpp
Impedance	100 kΩ In / 50 Ω Out
1 PPS	LVTTL 50 Ω Rising
External Ref Frequency	10 MHz, 0.2 to 2 Vpp / 50Ω

Environmental specifications

Touch Screen TFT Color	8.4" on 4U chassis
Chassis	2U or 4U, 19" (7"H x 19"W x 22"D)
Weight	25 kg (55 lb)
Operating Temperature	+10°C to +40°C (50 to 104 °F)
Storage Temperature	-20°C to + 60°C (-4 to 140 °F)
Relative Humidity	< 90% Non-Condensing
Power	100 – 240 VAC / 50-60 Hz
Power Consumption	< 450W

RSR-RF implementation in a station



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