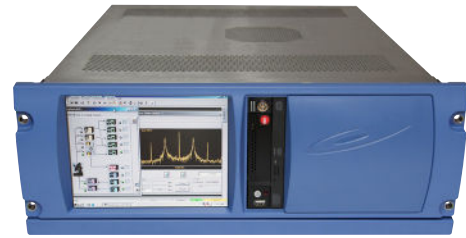


DATA SYSTEMS



CORTEX CRT

**Digital Modem for
Satellite Housekeeping &
Critical Communications**

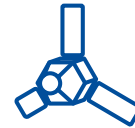


SATELLITE TRACKING SOLUTIONS

Safran Data Systems' **Cortex CRT** is the COTS modem to support **any satellite** at **any time** from manufacturing to orbit. Based on a flexible design, Cortex CRT technology is available in **different form factors and architectures** to meet your system requirements. 4,000+ deployed units compatible and field proven with all commercial satellite platforms make Cortex CRT the **risk-free Command & Control (C2)** modem within the space community.



Communication
& Relay
Satellites



Earth
Observation
Satellites



Launch
Vehicle
Telemetry

4,000+ UNITS IN USE

Dependable Long Term Support

INNOVATIVE RANGING

Infrastructure & Operational
Cost Savings

SOFTWARE DEFINED RADIO

Multi-Mission &
Field Upgradeable

FLEXIBLE ARCHITECTURE

Stand-Alone Box or Distributed
(Digitizer + FEP)

RADIO SIGNAL RECORDER

RF Recording & Playback

**THE COMMAND & CONTROL
COMMUNITY STANDARD**

CORTEX CRT

> DOWNLINK

Independent IF Inputs3

Telemetry

Telemetry Channels Up to 6
 PM/FM Demodulation Rate Up to 600 kbps
 PM/FM Subcarrier Frequency Up to 2 MHz
 BPSK (S)(O)QPSK GMSK AQPSK Demodulation Rate .. 1 kbps to 40 Mbps
 CCSDS Decoding Viterbi LDPC Reed Solomon Turbocode Derandomization
 Acquisition Threshold Es/N0 < -2 dB
 BER Degradation < 0.5 dB (Typical)
 IF Level Range -15 to -105 dBm
 Telemetry Simulation File, Replay, Random data, LAN
 Polarization Diversity Combining Pre-Detection, Post-Detection

Narrow Band Recorder (RSR)

3 Channels IF Record & Replay 80 MHz Aggregate Bandwidth
 BER Degradation <0.5 dB
 Inter-Channel Synchronization <5 ns

> UPLINK

Independent IF Outputs2

Telecommand

Modulation PM FM BPSK (O)QPSK GMSK
 Bit Rate 7 bps to 2.6 Mbps
 Advanced Capabilities CCSDS COP-1, Carrier Sweeping Capacity
 Telemetry Simulation TC Loopback, Noise Source

> RANGING

Modes Active / Semi Active / Hybrid
 Standards ESA-Tone, ESA-Like, ESA-Code, USB, CCSDS PN
 Resolution Measurement 1 ns

> EMBEDDED FREQUENCY CONVERTER

Interfaces Downlink: 3 / Uplink: 2
 Input / Output Frequencies 70 MHz, L/S-Band (950-2400 MHz)

> IT SECURITY

OS Hardening OS Bi Annual Update, NESSUS Scans NIST Rules

> TOOLS

Measurements BER, Eb/N0, Frequency, Doppler
 Signal Retrieval Doppler Compensation, Automatic Ambiguity Resolution
 Monitoring & Control Remote, Local, Web Based GUI
 Signal Monitoring Spectrum & Constellation Display

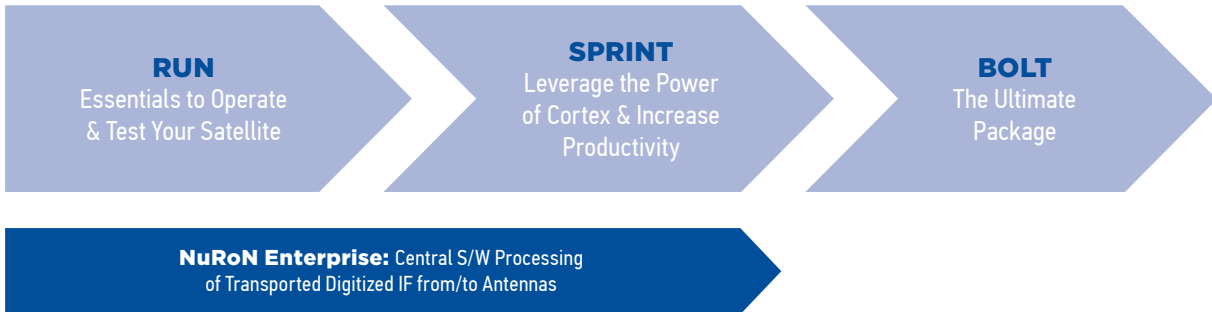
> TIME & FREQUENCY

Time Format IRIG-B, NASA-36, NTP
 Frequency Internal/External Clock 5, 10, 100 MHz

> ENVIRONMENT

Chassis Size 2U or 4U
 Chassis Weight 25 kg / 55 lb (Average)
 Operating Temperature +10°C to +40°C / +50°F to +104°F
 Power Supply Hot-swappable redundant
 Connectors SMA BNC RS422 TTL

LEO, GEO: We Meet Your Needs!



GLOBAL SALES

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