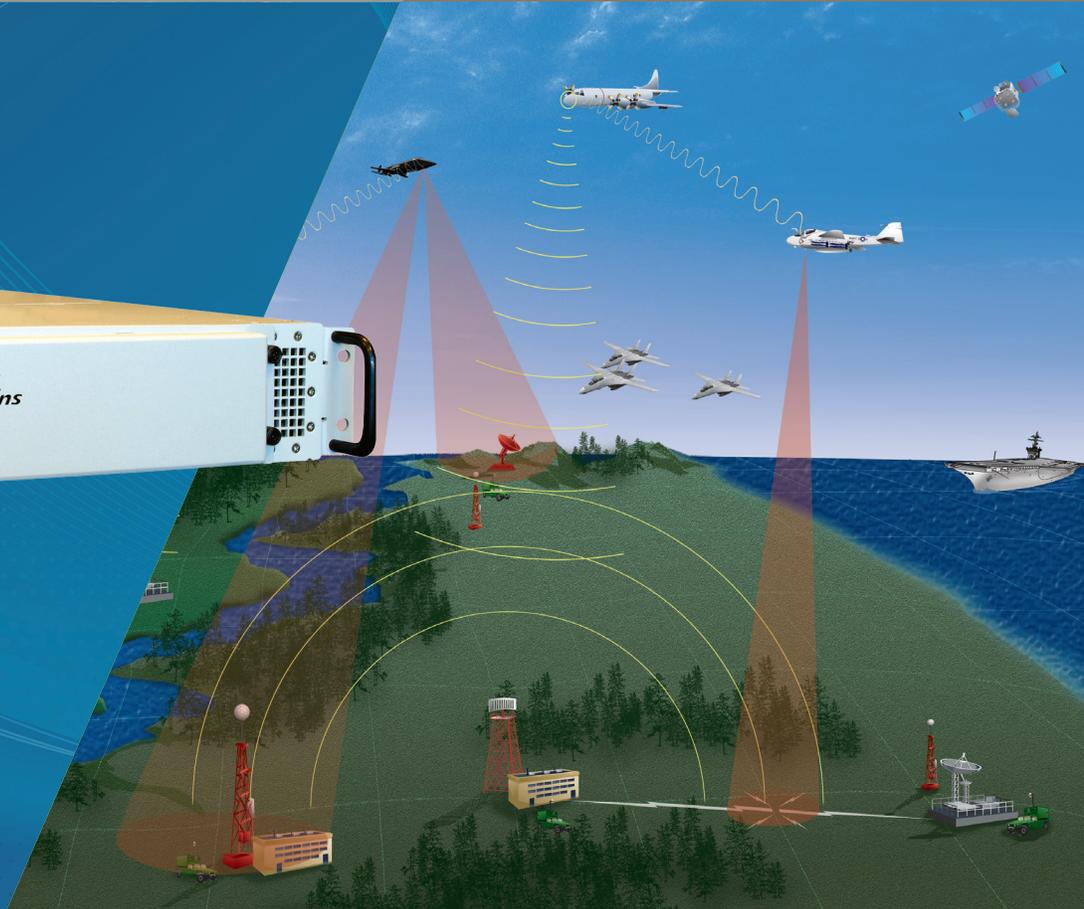


IFMR-6070 IFM Receiver



The IFMR-6070 IFM Receiver provides high probability of intercept coverage for rapid radar emitter detection and analysis.

The Rockwell Collins IFMR-6070 IFM Receiver is a VME based wideband Instantaneous Frequency Measurement (IFM) receiver and signal processor that instantaneously receives radar signals across the entire 0.5 to 18 GHz spectrum, providing very high probability of signal detection. The IFMR-6070 accepts one wideband RF input and generates digital pulse descriptor words (PDWs) and emitter tips over a Gigabit Ethernet LAN interface.

The IFMR-6070 incorporates wideband DFD and SDLVA technology with the parameter measurement boards from the Rockwell Collins CS-3001 Pulse Analyzer Unit and utilizes the same SAT GUI software interface.

The PDW data includes measured frequency, PW, PRI, amplitude as well as modulation flags for each received pulse. The IFMR-6070 comes with a powerful Java based GUI software suite designed to easily interface with simple or complex ELINT and ESM subsystems over a LAN network.

The powerful and flexible IFM Signal Analysis Tool (SAT) GUI is easy to use and customize with flexible docking windows. The analysis software tools provide operators with excellent visualization and statistical displays of collected emitter intercept data. A real time signal activity display provides the operator with a situational display that shows detected signal activity.

The IFMR-6070 consists of three separate 6U VME boards in a 2U tall chassis. The VME filter board provides flexible RF filtering of incoming signals to reduce interference due to CW emitters, high PRF emitters and on-board emitters. The filter board provides 17 selectable filter bands,

each 1 GHz in width, that may be turned on or off in any combination to reduce RF interference. The VME Enhanced Digitizer board conditions and digitizes the input signals and does the parameter feature extraction. The Enhanced Digitizer board can receive and process radar signals in dense signal environments of 2.5 million pulses per second and can hold up to 4 million pulses in internal RAM memory to prevent overloading the LAN interface with pulse data. The VME CPU board provides back end processing and PDW formatting and the LAN interface to the SAT GUI workstation or host system.

In addition to the VME boards in the IFMR-6070, wideband receiver modules make precision frequency and amplitude

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measurements that are digitized by the VME Enhanced Digitizer board and processed using an FPGA to generate PDW data.

To ensure high accuracy pulse timing measurement and synchronization with ESM and ELINT systems, the IFMR-6070 has an internal OCXO reference oscillator and can automatically detect and lock to an external 10 MHz reference signal. A 1 PPS input signal also allows the IFMR-6070 to synchronize the time to a GPS, IRIG-B or NAV system.

KEY FEATURES

- Instantaneous 0.5 to 18 GHz frequency coverage
- High precision radar signal measurement and analysis
- Generates digital pulse descriptor word (PDW) data
- Very fast reaction time (<1 second)
- Stores 4,000,000 pulse descriptor words
- Processes and stores 2.5+ million PDWs/sec
- Powerful Java™ based/net friendly GUI
- Supports optional growth up to 40 GHz
- Small chassis reduced SWaP (Size/Weight/Power)

CONTROL, ANALYSIS AND VISUALIZATION SCREENS

- Sparkle display with graphical Accept/Reject regions
- Frequency Activity Display with amplitude vs. frequency
- Signal parameter analysis display
- Flexible GUI has adjustable zoom windows
- Same SAT interface familiar to current CS-3001/2 users

System architecture	Flexible, programmable RF filtering followed by 0.5 to 18 GHz DFD and SDLVA. Signals detected and digitized to create pulse descriptor word (PDW) data that is used for emitter tipping and identification
RF filtering	17 RF channels, 1 GHz wide each, 100 nsec switching time
PDW data	Signals greater than threshold level generate pulse descriptor word (PDW) data with Frequency, Amplitude, PW, PRI, CW flag
Spectrum display	RF signal activity display showing amplitude vs. frequency
Emitter tipping	Generates automatic and manual tipping to ELINT and ESM systems
Instantaneous dynamic range	>60 dB
Inputs/outputs	
RF input	0.5 to 18 GHz, SMA female, 50 ohms
Data interface	PDWs, emitter tips and control over Gigabit Ethernet LAN
1 PPS input	SMA female
Internal reference Oscillator	Contains highly stable 10 MHz Ref oscillator

External reference input	Accepts external 10 MHz reference input, 0 dBm, SMA female, 50 ohms
Chassis size	2U rack mount chassis (3.5" x 19" x 27")
Weight	32 lbs
Power	Universal AC power, 110 to 220 VAC, 50 to 400 Hz, <250 watts
Operating temperature	0 to +50° C

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



2U 19" rack mount version (3.5" x 19" x 27")

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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