



Dragon Digital IF System

The Dragon DIF system provides digitization and reconstruction of signals in the L-band range of 850 to 2450MHz. The digitizer has input 4 channels each with 512MHz instantaneous bandwidth spanning this frequency range. These channels are transmitted via high speed ethernet in a Vita-49.2 format, compatible with IEEE-ISTO Std 2900. Similarly, it accepts multiple streams via the ethernet port, which it in turn reconstructs to L-band RF.





Technical specifications and operating parameters

RF Parameters		
Frequency	850 to 2450MHz	
Rx Capacity	Up to 4 Channels ADC , option dependent	
Tx Capacity	Up to 4 channels DAC , option dependent	
Instantaneous Bandwidth	512MHz per channel (DAC or ADC)	
Sample Rate	4 GSPS per channel, Input sample rate, excluding multirate signal processing	
Sample Depth	24 bits per IQ sample, As transmitted over digital link	
Digital Data Transport	QSFP+ , 2 ports – one for future expansion	
Data Protocol	IEEE-ISTO Std 2900-2021	
Channelization	Up to 12 sub-channels per channel At 1MHz Resolution	
Gain (dB)	0±2 Typical, mean across band	
Gain Flatness (dB)	Full band	±2.0
	500 MHz	±1.5
	Any 36MHz	±0.5
Input Return Loss (dB)	Typ.	17
	Min.	12
Output Return Loss (dB)	Typ.	17
	Min.	12
Isolation (dB)	X Min. between any two output ports	
Noise Figure (dB)	26 Typical	
Phase Noise (dBC/Hz)	Offset	PN
	100Hz	-62
	1kHz	-78
	10kHz	-89
	100kHz	-95
	1MHz	-106
	10MHz	-116

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

Note 3: Typical parameters are guide figures and measured data may deviate from the quoted figures. ETL endeavours to exceed the quoted typical parameters where practically possible.





Technical specifications and operating parameters

RF Parameters	
1dB GCP (dBm)	3, 1dB Gain Compression point, output power
OIP3 9dBm)	15
SFDR (dBm)	60
Maximum Latency	<10mS
Latency Variation	+/- 250uS
WAN Synchronization	GPS (10MHz, 1PPS, NMEA timecode) Enquire for other formats
GPS Input	Active Antenna (Provided)
Frequency Reference	10MHz
Input & Output ports	50Ω SMA
Input RF Power	TBC
PSU Power	85-264Vac 50/60Hz, absolute maximum
PSU Redundancy	Dual Redundant and Alarmed, Diode OR. Hot swap.
AC Consumption	TBC
Alarms	Via Ethernet PSU, Fan Status, others TBC
Remote Control & Monitoring	Ethernet (RJ45) on Rear Panel
MTBF	TBC
Environmental Conditions	
Operating Temperature (°C)	0 to 45°C
Storage Temperature (°C)	-20°C to +75°C
Humidity	20 to 90% non-condensing
Altitude	10,000 feet AMSL
Physical Dimensions & Parameters	
Weight (kg)	TBC
Dimensions	2U high x 550mm deep x 19" wide
Front Panel Colour	RAL9003 – White (Semi-Matte)

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