

2 to 18GHz Instantaneous Frequency Measurement Unit

Teledyne Defence & Space (TDS) latest digital receiver DR073 builds on the strong tradition of TDS digital frequency discriminators (DFD's). This new receiver takes key performance elements from existing TDS DFD and successive detection log video amplifier (SDLVA) product lines, integrating them into a complete solution suitable for military environments.

The DR073 offers the benefits of TDS's field-proven proprietary SSS discriminator tiers coupled with the latest digital technology to produce a receiver that provides high accuracy frequency data. In addition, TDS's latest family of SDLVAs provides high dynamic range, fast recovery time, and excellent linearity across the entire 2-18GHz frequency range.

Frequency data is output as a clocked 15 bit Frequency word via the industry standard VME VXS (Multigig RT) backplane connector. Control and status information use serial interfaces on the same VME backplane. Log video is output via a SMC connector on the front panel.

The DFD is packaged in an industry standard single slot (4HP) width plug-in format suitable for most modern day EW suite equipment racks.

Performance in dense signal environments may be enhanced by the addition of TDS's SA219 Broad Band Switched Multiplexer (BBSwMux), an ultra fast switching (<100ns) channelised 'Front End' filter bank, optimized for use with the DR073.

For further information, please contact the Sales Dept.

FEATURES

- Full 2.0 – 18GHz broadband operation
- 15-BIT output (0.5 MHz Resolution)
- 50 MHz Clocking rate
- 60 dB Dynamic range
- SDLVA Log Video output
- PMOP Detection
- VME64 Form Factor

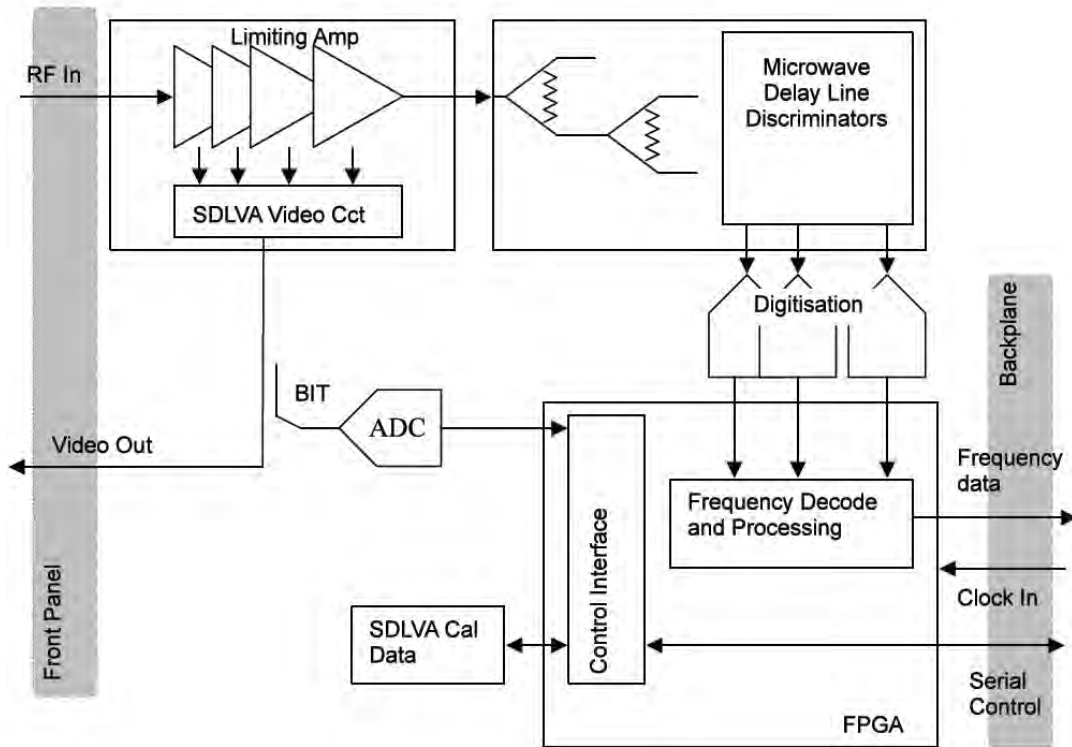
APPLICATIONS

- Electronic Support Measures (ESM)
- Radar Warning Receivers (RWR)
- ECM Set-on
- Airborne, Fixed Wing & Rotary
- Land
- Naval

ELECTRICAL SPECIFICATIONS

Parameters	Units	Min	Nom	Max
Operating Frequency Range	GHz	2.0		18.0
Operating + Guard Band	GHz	1.98		18.02
Frequency Resolution	MHz		0.5	
Digital Frequency resolution	Bits		15	3.0
Frequency Error (RMS) (+3dB RF SNR)	MHz			16
Frequency Peak Error	MHz			16
Peak Error rate				
(+3dB RF SNR)	%			0.05
PMOP Detection POI	%	95	98	
Frequency and Amplitude Measurement Dynamic Range	dBm	-55		+5
Log Video Sensitivity (TSS)	dBm		-65	
Log Video Linearity (over frequency and temperature range)	dB		±2.0	±2.25
Log Video Slope	mV/dB		50	
Log Video Rise Time	ns		20	25
Log Video Recovery Time	ns		35	75
RF input pulse width	ns	50		CW
RF Overload Power	dBm			20
RF Input VSWR				2.1:1
Temperature Range	°C	+10		+60
Supply Current : +12V	A			0.1
Supply Current : +3.3V	A			2.0
Supply Current : +5V	A			2.0
Supply Current : -12V	A			0.4
Boot Time	sec			5
Data Interfaces	RF Input: Data Output: Video Output: Control, Status, Power	Front Panel SMA VME Backplane VXS Multigig P0 Front Panel SMC (75Ohm) VME64x Backplane P1 and P2		
Data Output Format		15-bit frequency, 2 frequency bad data flags, PMOP detect flag. 50MHz DDR output rate		
Weight	kg			1.75
Size			6U x 4HP 262mm x 20.32mm	

BLOCK DIAGRAM



PRODUCT DESCRIPTION

RF Input is via Front Panel SMA (f) connector
 Data Output is via VME Backplane as detailed below.
 Video Output is via Front Panel SMC (m) connector
 Unit Control and Status is via VME Backplane as detailed below DC Power is via VME Backplane as detailed below

ELECTRICAL INTERFACE

The DR073 utilises the following backplane connectors:

Connector	Type	DR073 Functionality
P1	160 pin DIN (41612, Type C	+5V, +12V and -12V supply and ground.
	Expanded) 5 rows x 32 pins	Outer row d required for +3.3V supply
	VME64x	
P2	160 pin DIN (41612, Type C	+5V supply and ground. Serial Interface and Phase
	Expanded) 5 rows x 32 pins	modulation flag. Note: no connections
P0	VME64x	required for outer rows z and d.
	Multigig RT-2 15x7 way, to	Frequency data output, IFM system clock
	VITA 41	input.