

FEATURES

- Digital FIR Filter Design Incorporates 20 Standard IF Filter Bandwidths and 19 Video Filter Bandwidths. Other IF and Video Filters can be added with software.
- DSP-based Multimode Demodulator includes FM, PM, BPSK, QPSK, FQPSK* (optional)
- Data rates to 20 Mbps, 40 Mbps QPSK
- Incorporates a 20 Mbps Bit Synchronizer (optional)
- Microdyne's Inter Module Link Technology Reduces Software Development
- Single Slot 6U VME Card
- Interfaces with all Microdyne ATR-2700 Series VME Tuners

DESCRIPTION

The ATR-2700 is a revolutionary new product incorporating the latest Digital Technology in a Telemetry Receiver Product.

The unit incorporates Digital FIR Filter Technology to provide the user with 20 preprogrammed IF filters and the capability to upgrade or change the filters with software.

Digital DSP Technology provides the user with full Multimode. Demodulation capability including FM, PM, BPSK, QPSK and optional *FQPSK.



communications

**Feher-patented Technology*

SPECIFICATIONS

Input Specifications

Input Frequency	70 MHz
Input Impedance	50 Ω
Input Level	-10 dBm +2/-5 dBm

IF Specifications

IF Center Frequency	70 MHz
IF Filter Type	Digital FIR Implementation
IF Filter Bandwidths:	20, 15, 10, 7.5, 6, 5, 4, 3.3, 3, 2.4, 2, 1.5, 1.0, 0.75, 0.5, 0.375, 0.300 MHz, 150, 100, 50 kHz

Reference Oscillator Specifications			
	Internal	External	Output
Frequency	10 MHz	5 or 10 MHz	10 MHz
Frequency Stability	± 1.5 ppm	N/A	± 2 ppm if internal crystal is used
Level	N/A	0 dBm	0 dBm

Temperature Range 0 to 50°C

Mode	FM	PM	BPSK	QPSK
Loop Bandwidth Programmable	1 to 100 Hz	100 to 3 kHz	100 to 3 kHz	100 to 3 kHz
Maximum Bit Rate NRZ-L	17 Mbps	20 Mbps	20 Mbps	20 Mbps/Channel

Type	Signal	Connector	Level
In	IF In	SMA	-10 dBm
In	REF In	SMA	0 dBm
Out	REF Out	SMA	0 dBm
In	AM In	SMA	2 Vpp 50% AM
Out	AM Out	SMA	2 Vpp 50% AM
Out	Doppler Out	SMA	-10 dBm
Out	Ch1 Video	SMA	0 to 8V
Out	CH2 Video	SMA	0 to 8V
Out	Soft Decision	D-sub pins 1-7	TTL
I/O	Inter-module Link	D-sub pins 8-13	0 to 5V

Video Output Specifications

Number of Video Outputs	2
Output Impedance	75 Ω , opt. 50 Ω
Nominal Output	4 Vpp
Maximum Output	8 Vpp
Coupling	AC or DC
Video Filter Types	Digital FIR Implementation
IF Filter Bandwidths:	15, 10, 7.5, 6, 5, 3.75, 3, 2.5, 2, 1.65, 1.5, 1.2, 1, 0.75, 0.5, 0.375, 0.250, 0.187, 0.150 (Others available. Consult factory.)

Digital Output Specifications

Digital Soft Decision I	3-bits TTL
Digital Soft Decision Q	3-bits TTL
Soft Decision Clock	1-bit TTL

Programmable Bit Synchronizer (Optional)

Supporting data rates up to 20 Msps. The outputs of the bit sync are NRZ-L data with clock along with three soft decision bits for I and Q channels.

- . Input code - NRZ-L/M/S, Bi-Phase-L/M/S
- . Bit Rate - 30 Ksps to 20 Msps
- . De-interleaver - In or Out
- . Clock and data polarity

Doppler Out Specs (AFC/APC Tracking)

Nominal Frequency	2.8125 MHz
Tracking Range	± 250 kHz
Size	Single slot 6U "B" size card
Altitude	Operating to 15,000 feet
Altitude Storage	Storage to 30,000 feet
Operating Temperature	0 to 50°C
Storage Temperature	-20 to 60°C
Humidity	20% to 90% non-condensing
Power	40 Watts nominal



L-3 Communications Telemetry-East/Microdyne

1515 Grundy's Lane, P.O. Box 729 • Bristol, PA 19007
 Telephone: (267) 545-7000 • Fax: (267) 545-0100
 E-Mail: sales/mktg@L-3com.com • www.L-3com.com/te