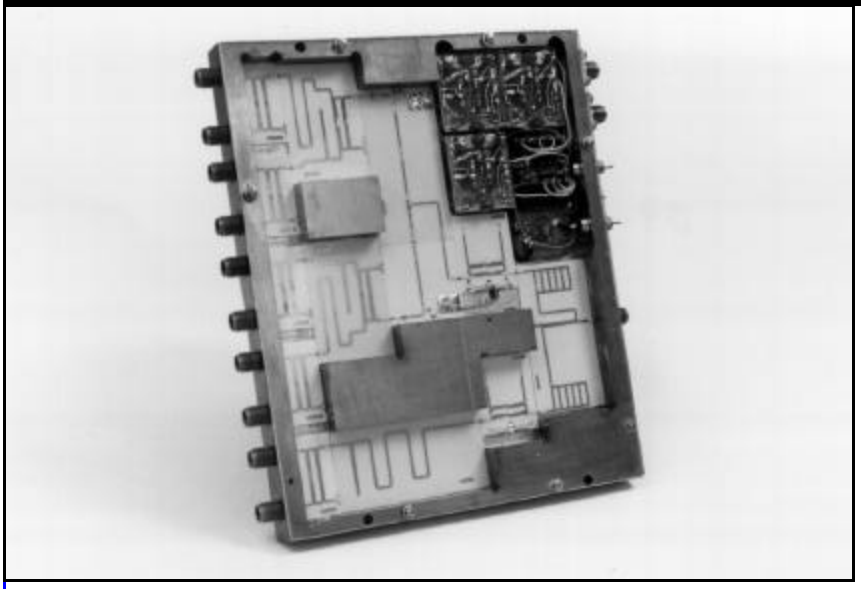
MONOPULSE CONVERTER MODULES



TYPICAL SPECIFICATIONS

Center Frequency	1680 MHz
Bandwidth	100 MHz
Insertion Loss, Delta Channels	3.5 dB max.
Sum Channel	2.5 dB max.
VSWR, all ports	1.5:1 max., 1.3:1 typ.
V (Elevation) - H (Azimuth) Phase	90° ± 3°
Elevation - Azimuth Switch Isolation	45 dB min.
Error Hybrid Isolation	30 dB min.
Bandpass Filter Isolation at 400 MHz	45 dB min.
at 900 MHz	35 dB min.
at 2650 MHz	30 dB min.
Biphase Switch, Phase	0/180°± 3°
EL - AZ Switch and	
Biphase Switch Controls	TTL via DM7280A
	differential line receivers
Switching Time	0.5 µsec. max.
DC Power (V ± 5%)	+5V/150mA, −12V/100mA
RF Connectors	SMA (F)
DC and TTL	Solder Pins
Operating Temperature	-30°C to + 70°C

DESCRIPTION

Monopulse converters are integrated RF modules designed for use in automatic antenna tracking systems. These units accept signals from monopulse antenna arrays and provide RF sum and delta (pointing error) signals at a single RF output port. Azimuth and elevation error signals are sampled by an SP2T switch, phase modulated in a 0/180° biphase modulator, and injected alternately in-and out-of-phase into the sum channel.

The specifications presented list performance parameters for model MC1680, which is used in weather satellite tracking systems. Optimized units are available for other common telemetry bands and for multi-band operation. Similar units for customer-specified bands in the L - X band range are also available.

APPLICATIONS

- Satellite weather tracking systems
- Antenna tracking systems
  - Missile Testing
  - Metereological Sounding rockets

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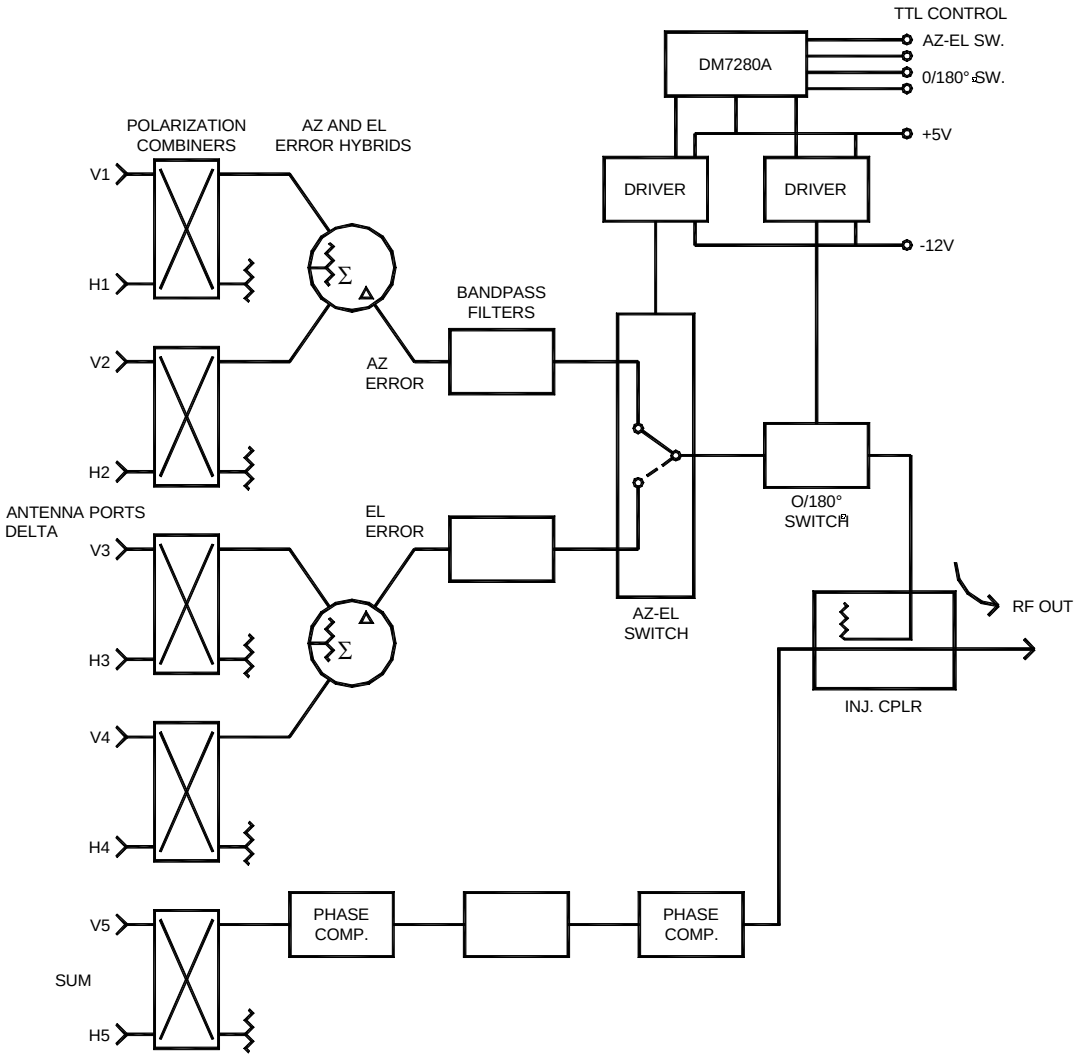

Optional Circuit Configurations:

- Direct inputs from antennas (4 ports) to co-linear ports of sum/delta hybrids (no polarization combiners)
- Sum channel derived from sum ports of sum/delta hybrids via in-phase combiner
- With or without filters in sum and error channels
- Dual circuits for RH and LH circular polarization
- CMOS differential line receivers

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