



Monopulse Comparators

Aerospace | Defence | Space



Sylatech provides narrowband monopulse comparator custom designs covering frequencies within WR187 to WR28. Isolation is typically between 30 and 35dB, ensuring excellent amplitude, phase unbalance, and deep nulls.

Sylatech's most popular comparator designs interface with slotted waveguide antenna arrays, where the interface ports are spaced further apart than the conventional square pattern. Sylatech designs and manufactures slotted antenna arrays with dual-polarised and linear feeds typically for X and Ka-band weather radar, SAR, and surveillance radar applications.

With 60 years of heritage in supplying radar solutions to the aerospace, defence, and space sectors, Sylatech's market leading capability is underpinned by an integrated manufacturing facility.

Sylatech's waveguide monopulse comparator offering:

- S, C, X, and Ka bands. WR187 to WR28
- Isolation typically 30 to 35dB
- Excellent amplitude, phase unbalance, and deep nulls
- Dual comparator configurations available
- OMTs can be supplied to generate circular polarisation.

Slotted Waveguide Antenna Arrays

Sylatech's slotted waveguide antenna arrays come with monopulse, dual-polarised, and linear feeds. Feeds are typically low mass and low profile. Large format antennas to 1200mm x 900mm are achievable. All manufacturing is undertaken in-house.

Power Dividers & Combiners

Sylatech's custom design waveguide power combiners are ideal for TWT replacement applications available in configurations 1:2 to 1:128. Designed to suit end-fed slotted waveguide antenna arrays. Sylatech's tee designs are optimised to eliminate the need for fitment of extra irises or complicated shortcuts.

Single Polarisation Specifications

Part #	Frequency		Waveguide	Return Loss dB (min.)			Isolation	Output Unbalances (max.)				Output Phase Variation
								Amplitude	Amplitude	Phase	Phase	
	min.	max.	WR	SUM	DIFF 1	DIFF 2	SUM to DIFF	SUM	DIFF	SUM	DIFF	
				Elevation	Azimuth		dB	dB	dB			
GOVIN514	5.40	5.90	WR187	20.83	20.83	20.83	35	0.20	0.20	2°	2°	1°
GOVIN510	8.00	8.50	WR112 - WR90	20.83	20.83	20.83	35	0.30	0.40	3°	4°	-
MC16001	8.50	9.60	WR90	23.13	19.08	19.08	35	0.30	0.40	3°	4°	-
CSIR501	8.50	10.50	WR90	13.00	13.00	13.00	35	0.20	0.20	2°	2°	-
MC18001	15.50	17.00	WR62	19.08	16.54	16.54	35	0.30	0.30	3°	3°	2°
MC18002	14.40	15.35	WR62	19.08	16.54	16.54	35	0.30	0.30	3°	3°	1°
MC20001	20.20	21.20	WR42	19.08	19.08	19.08	35	0.25	0.25	4°	4°	2°
MC22001	34.89	34.97	WR28	17.69	13.98	17.69	30	0.25	0.25	4°	5°	2.5°
MC22002	34.00	36.00	WR28	17.69	13.98	17.69	30	0.25	0.25	4°	5°	2.5°
MC22004	36.00	37.00	WR28	19.08	14.72	20.83	30 / 29.4	0.40	0.40	4°	5°	2.5°
MC22005	34.00	36.50	WR28	16.54	13.98	13.98	30 / 29	0.40	0.40	4°	5°	2.5°

Dual Polarisation Specifications

Part #	Frequency		Waveguide	Return Loss dB (min.)			Isolation	Output Unbalances (max.)				Output Phase Variation
								Amplitude	Amplitude	Phase	Phase	
	min.	max.	WR	SUM	DIFF 1	DIFF 2	SUM to DIFF	SUM	DIFF	SUM	DIFF	
				Elevation	Azimuth		dB	dB	dB			
MC22006	29.00	31.00	WR28	16.54	13.98	13.98	30	0.80	0.80	4°	4°	4°