

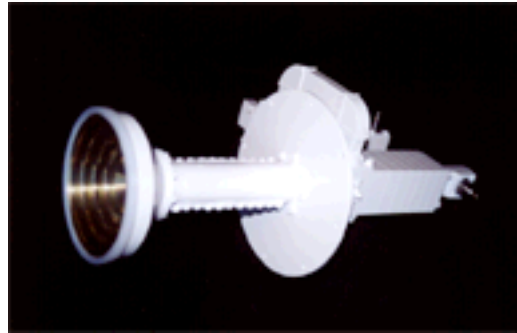
DUAL POLARIZED BROADBAND FEEDS FOR REFLECTOR ANTENNAS

These feeds provide broadband dual-polarization illumination for reflector antennas with f/D ratio between 0.35 and 0.5. Photographs of several of the feeds are shown below.

Above 6 GHz full waveguide bandwidth is provided using a waveguide orthomode coupler with a scalar horn for dual linear polarization, or with the addition of a multi-pin polarizer if dual circular polarization is required. The VSWR is 1.5 maximum. The isolation for dual linear feeds is greater than 30 dB (40 dB can be provided at extra cost). The axial ratio for dual CP feeds is less than 3 dB, and less than 2 dB over most of the band. Waveguide-to-coax transitions can be provided if coaxial outputs are required.



4-6 GHz DUAL CP FEED

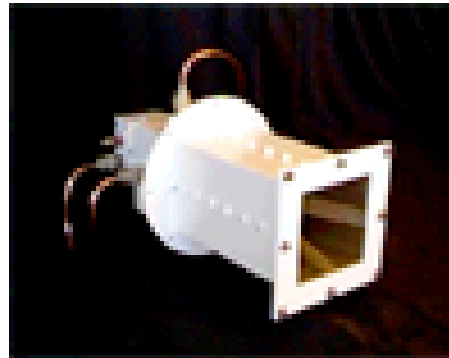


8-12.4 GHz DUAL CP FEED

The 4-6 GHz feed uses a quad-ridge transition with a scalar horn, plus a polarizer if dual CP is required. The 2-4 GHz feed uses a square quad-ridge radiator with the addition of a 90 degree coupler if dual CP is required. For these two feed types, and for the Dual Log Periodics at lower frequencies, the VSWR is 2:1 max, the dual-linear isolation is 30 dB min, and the dual CP axial ratio is 3 dB max.



1-2 GHz DUAL LINEAR FEED



2-4 GHz DUAL CP FEED

Below 2 GHz, orthogonal log-periodics provide octave bandwidth with dual polarization. A 90 degree hybrid is added if dual CP is required. The VSWR is 2:1 maximum, the dual-linear isolation is 20 dB min, and the dual CP axial ratio is 3 dB max.

The feeds are listed by model number in the two attached charts.

DUAL LINEAR POLARIZATION BROADBAND FEEDS

MODEL NUMBER	FREQ RANGE	FEED TYPE	DIMENSIONS		AVG. POWER	PEAK POWER	OUTPUT FITTING
			WIDTH	LENGTH			
LP2DL5	0.2 - 0.5	PYRAMID LP	35	43	300 W	300 W	N OR SC FEMALE
LP5DL10	0.5 - 1.0	PYRAMID LP	14	20	300 W	300 W	N OR SC FEMALE
LP10DL20	1.0 - 2.0	PYRAMID LP	9	12	300 W	300 W	N OR SC FEMALE
QR19DL40	1.9 - 4.0	QUAD RIDGE	5.5	12	400 W	10 KW	N OR SC FEMALE
SC40DL60	4.0 - 6.0	SCALAR HORN	8.5	9	300 W	2 KW	N FEMALE
SC60DL80	6.0 - 8.0	SCALAR HORN	5.5	16	300 W	1 KW	WR137 OR N FEMALE
SC80DL120	8.0 - 12.0	SCALAR HORN	4.5	10	300 W	1 KW	WR90 OR N FEMALE
SC120DL180	12.0 - 18.0	SCALAR HORN	3.2	8	300 W	0.5 KW	WR62 OR N FEMALE

DUAL CIRCULAR POLARIZATION BROADBAND FEEDS

MODEL NUMBER	FREQ RANGE	ANTENNA TYPE	DIMENSIONS		AVG. POWER	PEAK POWER	OUTPUT FITTING
			WIDTH	LENGTH			
LP2DC5	0.2 - 0.5	PYRAMID LP	35	43	300 W	300 W	N OR SC FEMALE
LP5DC10	0.5 - 1.0	PYRAMID LP	14	20	300 W	300 W	N OR SC FEMALE
LP10DC20	1.0 - 2.0	PYRAMID LP	9	12	300 W	300 W	N OR SC FEMALE
QR19DC40	1.9 - 4.0	QUAD RIDGE	5.5	14	400 W	10 KW	N OR SC FEMALE
SC40DC60	4.0 - 6.0	SCALAR HORN	8.5	18	300 W	2 KW	N FEMALE
SC60DC80	6.0 - 8.0	SCALAR HORN	5.5	22	300 W	1 KW	WR137 OR N FEMALE
SC80DC120	8.0 - 12.0	SCALAR HORN	4.5	15	300 W	1 KW	WR90 OR N FEMALE
SC120DC180	12.0 - 18.0	SCALAR HORN	3.2	11	300 W	0.5 KW	WR62 OR N FEMALE