

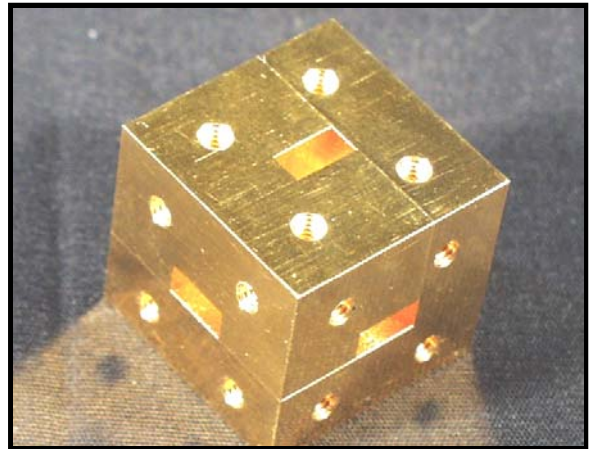
Matched Hybrid Tees (Magic Tees)

FEATURES:

- ❖ Equal Power Division
- ❖ Available from 2 to 220 GHz
- ❖ High Isolation Provided by Symmetrical Construction

Applications:

- ❖ Test setup



DESCRIPTION:

CMT Series

Cernex's CMT series E/H hybrid tees consist of three mutually perpendicular flanged sections of a standard waveguide. Two of these sections are symmetrically located on the broad and narrow walls of the main tee section to provide E-plane and H-plane connections. The internal geometry of these hybrids provides a power-dividing and phase-inverting characteristic. Power applied to the shunt H-plane arm is divided between the two in-line ports of the main tee section to result in equal power, in-phase output signals. Power applied to the series E-plane arm is also divided between these two ports, but with a phase reversal which provides equal-power, opposite-phase outputs. With symmetrical construction, good isolation is maintained between the E-plane and H-plane arms. The CMT series hybrid tees are available in standard waveguide sizes from 2 to 220 GHz.

SPECIFICATIONS:

Matched Hybrid Tees:

Waveguide Band	Ku	K	Ka	Q	U	V	E	W	F	D	G
Waveguide Size	WR-62	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8	WR-6	WR-5
Frequency Range (GHz)	12.4 to 18.0	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110	90 to 140	110 to 170	140 to 220
Insertion Loss (dB, Typ)	-	0.3	0.3	0.4	0.4	0.4	0.5	0.5	-	-	-
Ports Isolation (dB, Min)	20	20	20	20	20	20	20	20	20	20	20
Amplitude Un-Balance (dB, Max)	-	±0.1	±0.1	±0.2	±0.2	±0.2	±0.3	±0.3	-	-	-
VSWR (Typ)	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1

