



UHF N+1 CHANNEL COMBINER

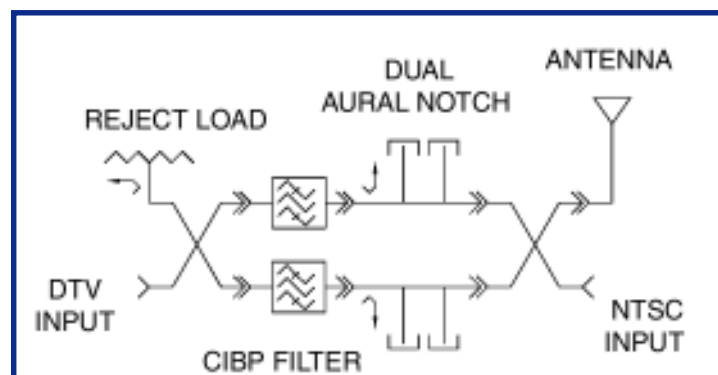
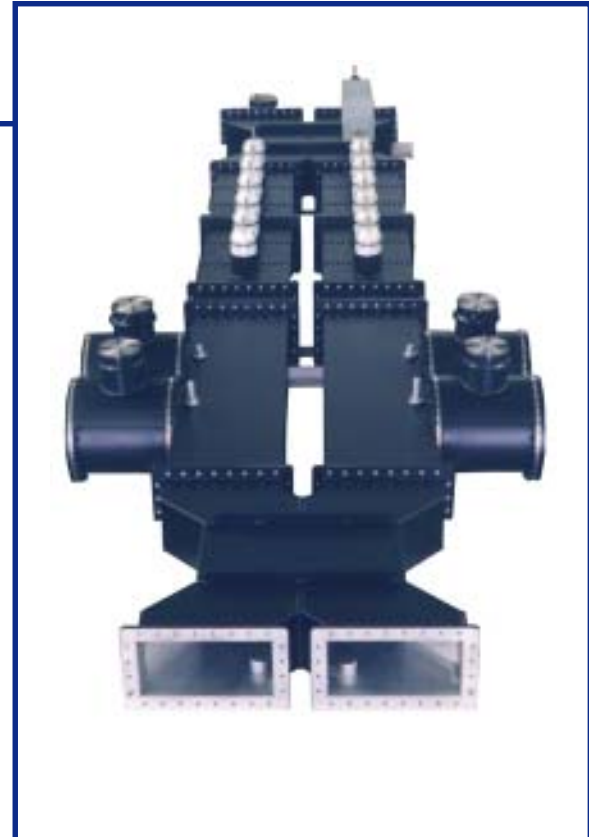
- **Handles up to 240kW NTSC and 75kW DTV total power**
- **Thermally stable filter design—gives constant load**
- **Serves as DTV mask filter**
- **Custom layouts available**

A high power channel combiner for NTSC and DTV to work with allocations of a DTV channel one above your NTSC channel. This allocation was previously thought to be a technological impasse.

MCI has provided a solution that will allow the use of a single run of transmission line on a tower, thus reducing tower loadings and costs. Now stations can broadcast their DTV and NTSC signals from a single antenna to further reduce capital expenditure.

Another advantage of using a single antenna is that it gives the best control over NTSC/DTV signal strength ratios in the radiated field.

The design utilizes a 6-section Chebyshev filter with dual aural cavities. Thermal drift is minimized by the use of self-adjusting aluminum compensators which obviate the need for the use of expensive Invar components. MCI has a patent pending for this thermal compensation design.





UHF N+1 Combiner Performance Specifications

	NTSC (Visual Carrier F_V , Aural Carrier F_A)		DTV (Center Frequency F_C)	
Insertion Loss	0.15 dB 1.0 dB 3.0 dB 1.0 dB 2.0 dB	F_V $F_V + 3.58$ MHz $F_V + 4.18$ MHz F_A $F_A \pm 100$ kHz	0.4-0.5 dB 0.6 dB	Typical $F_C \pm 2.69$ MHz
VSWR	1.07 1.08	$F_V - 0.5$ to $F_V + 4.18$ MHz $F_A \pm 100$ kHz	1.07	$F_C \pm 2.69$ MHz
Group Delay Variation	600 ns	F_V to $F_V + 4.18$ MHz	225ns	$F_C \pm 2.69$ MHz
Isolation	35 dB 30 dB	$F_V - 0.5$ to $F_V + 4.18$ MHz $F_A \pm 100$ kHz (at DTV Port)	35dB	$F_C \pm 2.69$ MHz (at NTSC Port)
Out of Band Rejection			2 dB 55dB	$F_C \pm 3.5$ MHz $F_C \pm 9.0$ MHz
Power Rating	240 kW	Maximum Peak of Sync	75kW	Maximum Average

All specifications are subject to change without notice.

