



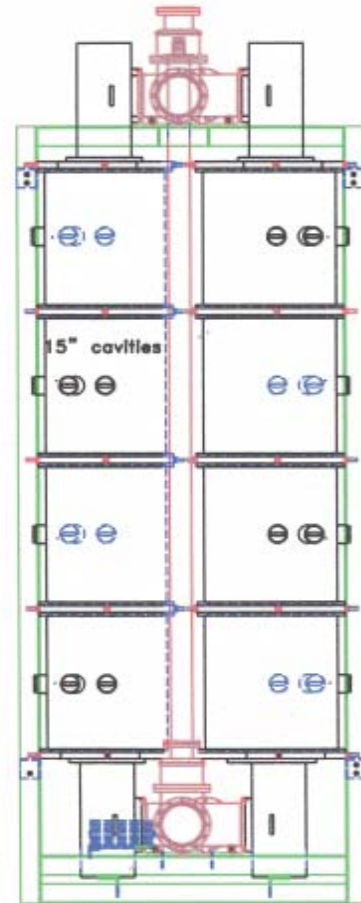
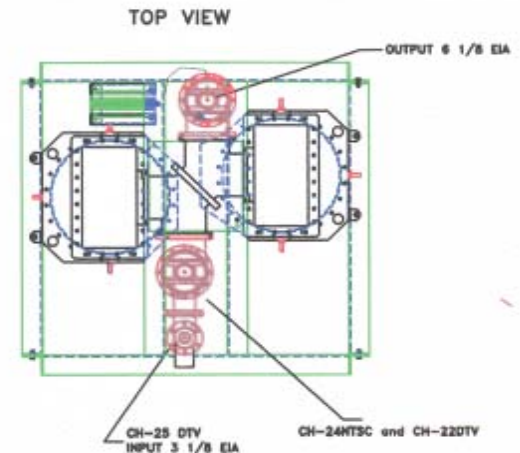
# DTV/DTV ADJACENT CHANNEL COMBINER

- Allows use of Single Antenna
- Low Insertion Loss
- Excellent Rejection
- Temperature Stable Design
- Proven Performance

MCI's DTV/DTV Adjacent Channel Combiner is a constant impedance device using 8<sup>th</sup> order dual mode bandpass filters and 3dB broadband hybrids. The dual mode bandpass filters provide excellent near in rejection required for adjacent channel combining along with a very low loss passband.

The channels are combined using the traditional method of constant impedance channel combining. In this configuration the bandpass filters are placed between a pair of 90-degree hybrids.

One of the DTV signals is filtered for unwanted, out-of-band products, while the other DTV channel is reflected by filters, resulting in a combined DTV/DTV multiplex to the common antenna port.



**DTV/DTV Adjacent Channel Combiner**



DTV 1 Narrow Band Input	
Insertion Loss:	0.25 dB at channel center $F_c$ 0.50 dB at DTV <sub>1</sub> band edges
Group Delay Variation:	500 ns across DTV <sub>1</sub> usable band
VSWR:	1.12:1 across DTV <sub>1</sub> band
Isolation:	> 30 dB DTV <sub>1</sub> to DTV <sub>2</sub>

DTV 2 Wideband Input	
Insertion Loss:	0.06 dB at channel center $F_c$ 0.50 dB at DTV <sub>2</sub> band edge
Group Delay Variation:	600 ns across DTV <sub>2</sub> usable band
VSWR:	1.16:1 across DTV <sub>2</sub> band
Isolation:	> 30 dB DTV <sub>2</sub> to DTV <sub>1</sub>

Data is typical and will vary slightly from actual performance

