



Micro Communications, Inc.  
Microwave A MICROWAVE TECHNIQUES COMPANY

SERIES 49400

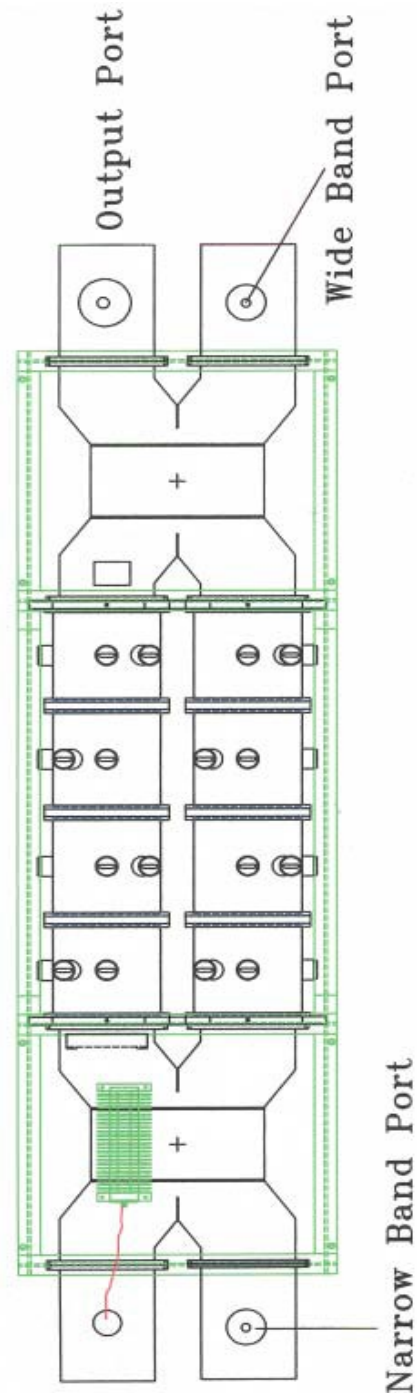
# UHF N - 1 CHANNEL COMBINER

- Allows use of single antenna for DTV and NTSC
- Filters DTV signal to meet FCC Mask
- Temperature-stable design gives maximum width passband

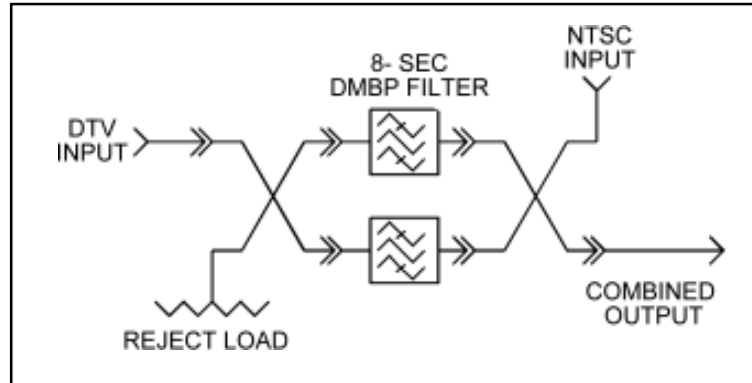
The combining of the NTSC and DTV signal into a common transmission line and broadcast antenna saves in tower loadings by removing the need for two antennas and dual runs of transmission line. Another advantage of using a single antenna is that it gives the best control over NTSC/DTV signal strength ratios in the radiated field.

The N - 1 is a Constant Impedance Channel Combiner. The DTV signal is filtered for unwanted, out-of-band products, while the NTSC channel is reflected by the filters, resulting in a combined NTSC and DTV multiplex to the common antenna port.

The design utilizes Invar cavity components for minimized thermal drift.



**N - 1 Combiner shown  
with Waveguide Hybrids**



**UHF N – 1 Combiner Performance Specifications**

	NTSC (Visual Carrier $F_V$ , Aural Carrier $F_A$ )		DTV (Center Frequency $F_C$ )	
Insertion Loss (dB)	< 0.10	$F_V$ to $F_A$	< 0.17	$F_C$
	< 0.30	$F_V - 0.50$ MHz	< 0.35	$F_C \pm 2.69$ MHz
VSWR	< 1.08	$F_V$ to $F_A$	< 1.08	$F_C \pm 2.69$ MHz
	< 1.10	$F_V - 0.50$ MHz		
Group Delay Variation (ns)	< 600	$F_V - 0.75$ MHz to $F_V$	< 350	$F_C \pm 2.69$ MHz
	< 200	$F_V - 0.50$ MHz to $F_V$		
	< 20	$F_V$ to $F_A$		
Isolation (dB)		> 30		> 30
Power Rating (kW)		240 Peak		75 Avg
Weight	1055lbs 478kg			

All specifications are subject to change without notice.