

TWNC-4504-1, 2 NOTCH CAVITY



TWNC-4504-1/2

The Telewave TWNC-4504-1,2 is a 4" diameter, $\frac{1}{4}$ -wavelength notch cavity with an adjustable coupling loop. Notch cavities are typically used together with Pass or Pass/Reject cavities to eliminate a particular frequency. Notch cavities have very low loss outside the notch band. Telewave can also "tilt" the notch response to move a notch very close to a pass frequency without adversely affecting the pass response

TWNC-4504-1,2 cavities cover 400-512 MHz. All cavities are tuned to specified frequencies prior to shipping, and no further adjustments should be required. The positive locking mechanism allows for quick field re-tuning if frequency

These cavities feature calibrated adjustable coupling, which can be easily changed to improve selectivity. This allows cavity response to be optimized for any operating environment. At densely populated sites, a dual cavity filter provides greater selectivity with minimum insertion loss. Multiple cavities can also provide a wider notch when required. Mounting rails are provided for all multiplecavity filters.

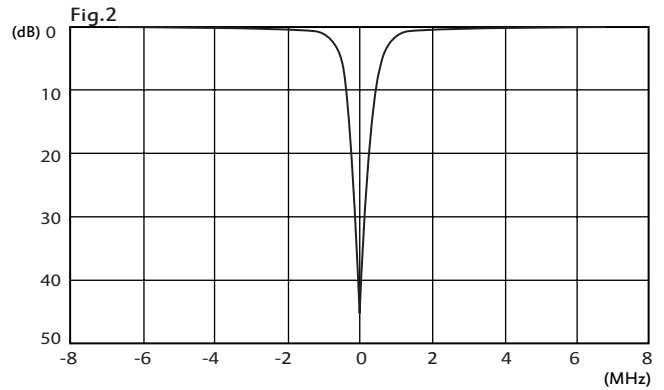
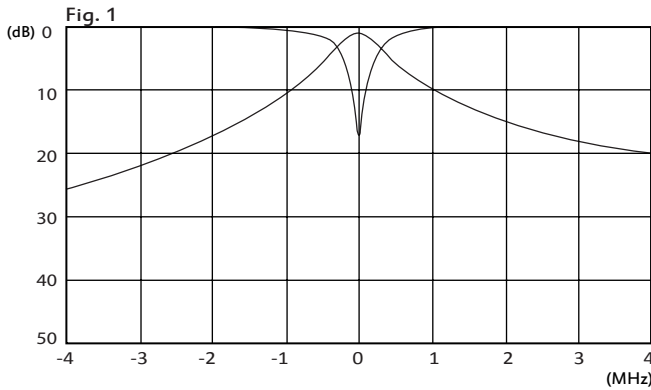
Excellent frequency stability is achieved by the use of a specially machined compensator and Invar rod. The pass and reject frequencies are temperature stable from -30°C to $+70^{\circ}\text{C}$. Telewave Ground Loop technology places the center conductor of each coupling loop at DC ground potential for lightning protection and noise reduction.

Heavy duty materials are used throughout each cavity to insure high performance and long life. Cavity top and bottom plates are machined from $\frac{1}{4}$ -inch aluminum, and are heliarc welded to the cavity body for improved conductivity and strength. This allows Telewave cavities to handle up to 350 watts.

Similar metals and alodined aluminum help prevent galvanic corrosion. Silver plated tuners and beryllium copper finger stock provide non-corrosive low loss contact, and ensure reliable, long-term performance.

TWNC-4504-1, 2
NOTCH CAVITY

TYPICAL SELECTIVITY CHARACTERISTICS



Model	TWNC-4504-1	TWNC-4504-2
Insertion loss (max)	0.2 dB	0.4 dB
Attenuation at notch frequency	Fig. 1	Fig. 2
Cavity dimensions (H x Diam.) in. (cm)	8 x 4 (10.2 x 20.3)	Panel mount
Maximum dimensions with tuners extended in. (cm)	4 x 14 (10.2 x 35.6)	8 x 5.25 x 19 (20 x 14.5 x 48)
Net weight lb. (kg)	3.3 (1.5)	7 (3.2)
Shipping weight lb. (kg)	7 (3.2)	11 (5)
Common Specifications		
Tuning frequency range	400-512 MHz	
Nominal impedance	50 ohms	
VSWR at resonance (max)	1.5:1	
Input power (max)	350 watts	
Cavity electrical length	¼ wavelength	
Temperature range	-30°C to +70°C	
Outer conductor, end plates	6061-T6 aluminum	
Inner conductor, coupling loops	Silver plated copper	
Tuning rod	Invar	
Contactors, fingerstock	Beryllium copper	
Connectors	N female	
Finish	Gray acrylic enamel	