

TWNC-1510-1,2

NOTCH CAVITIES



TWNC-1510-1



TWNC-1510-2

The Telewave.io TWNC-1510 -1 and 1510-2 are 10" diameter, $\frac{1}{4}$ -wavelength notch cavities 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-1510 cavities cover 148- 174 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 changes become necessary.

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, the TWNC- 1510-2 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 multiple-cavity 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°C. Telewave.io Ground Loop technology places the center conductor of each coupling loop at DC ground potential for lightning protection and noise reduction.

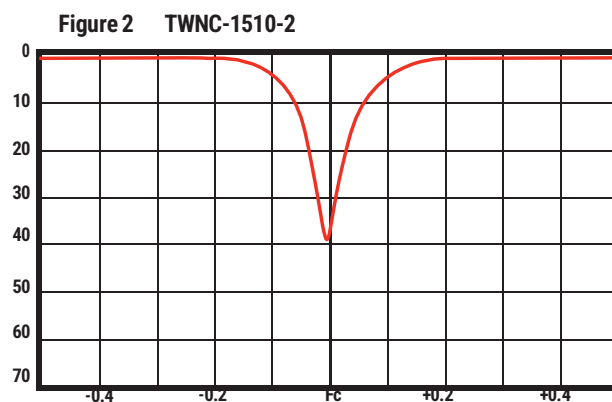
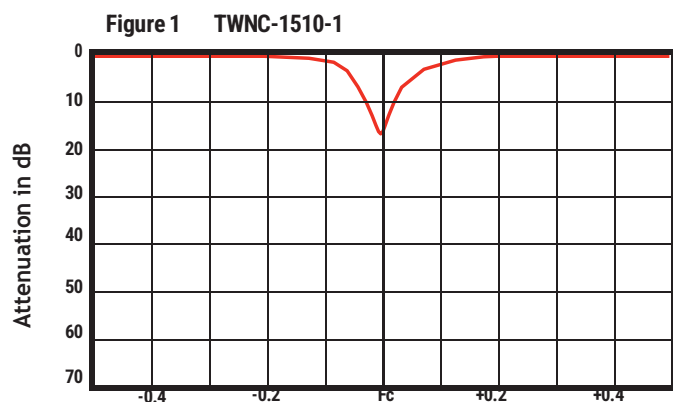
Heavy duty materials are used throughout each cavity to insure high performance and long life. Cavity top plates are machined from $\frac{1}{4}$ -inch aluminum, and are heliarc welded to the cavity body at the high current point for improved conductivity and strength. This allows Telewave.io cavities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

Rigid foam inserts support the tuner assembly allowing vertical or horizontal mounting. 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-1510-1,2

TYPICAL SELECTIVITY CHARACTERISTICS



Frequency (MHz)

| MODEL | TWNC-1510-1 | TWNC-1510-2 |
|--|------------------------|-------------------------------|
| Attenuation at notch frequency | See figure 1 | See figure 2 |
| Maximum dimensions with tuners extended in. (cm) | 10 x 28 (25.4 x 71) | 10 x 20 x 28 (25.4 x 50 x 71) |
| Net weight lb. (kg) | 10 (4.5) | 21.5 (9.8) |
| Shipping weight lb. (kg) | 13 (5.9) | 24 (10.9) |
| COMMON SPECIFICATIONS | | |
| Tuning frequency range | 148-174 MHz | |
| Nominal impedance | 50 ohms | |
| VSWR at resonance (max) | 1.5:1 | |
| Input power (max) | 350 watts | |
| Temperature range | -30°C to +70°C | |
| Cavity electrical length | ¼ wavelength | |
| Outer conductor, end plates | 6061-T6 aluminum | |
| Inner conductor, coupling loops | Silver plated copper | |
| Tuning rod | Invar | |
| Contactors, fingerstock | Beryllium copper | |
| Cavity dimensions (Diam. x H) in. (cm) | 10 x 23.5 (25.4 x 60) | |
| Connectors | N or UHF female (opt.) | |
| Finish | Gray acrylic enamel | |

NOTE: When ordering be sure to specify exact frequency and model number. Contact the factory if additional information or assistance is required.