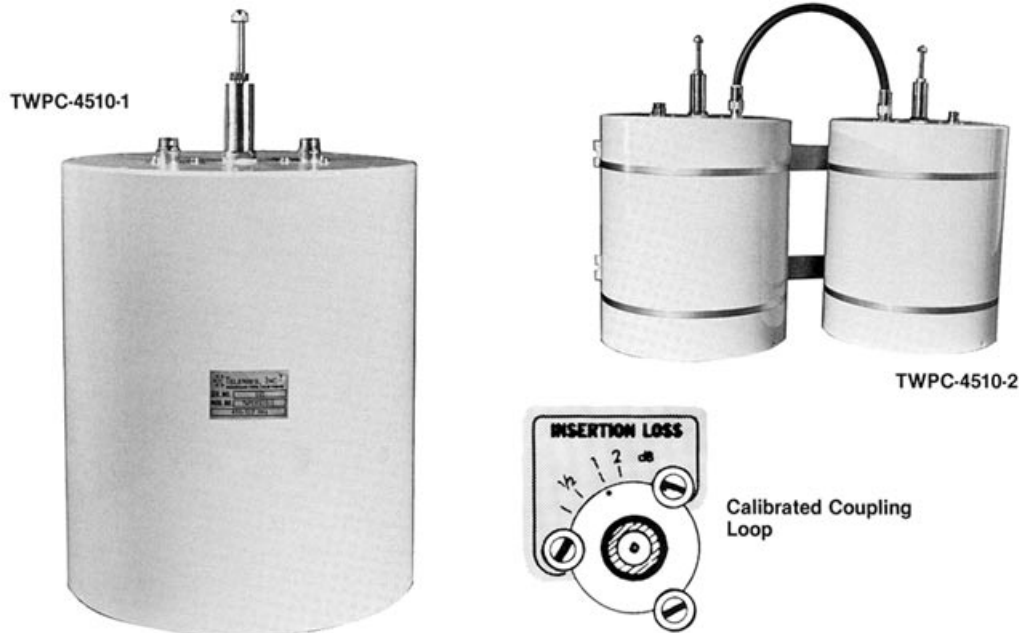


## **TWPC-4510-1,2**

### **BANDPASS CAVITY**



The TELEWAVE TWPC-4510 is a 10" diameter, high Q bandpass cavity filter with superior selectivity. It is ideal for rejecting frequencies outside a narrow passband. It can be installed between transmitter and antenna to reduce transmitter sideband noise and intermodulation interference, or between receiver and antenna to protect against desensitization. The TWPC-4510 is used extensively in TELEWAVE expandable low loss combiners.

The TWPC-4510 is one-quarter wavelength cavity with calibrated adjustable coupling, so that insertion loss can be easily set from less than 0.5 dB to 2 dB or more with corresponding increases in selectivity. This allows for optimum settings of insertion loss and close frequency rejection. For severe RF environments, the TWPC-4510-2 dual cavity, or TWPC-4510-3 triple cavity filters further increases "Q" to provide state of art selectivity.

Frequency stability, which is critical in cavities of high Q design, is engineered to close tolerances by the use of a specially machined compensator and threaded invar rod.

The pass frequency is temperature stable from -30 C to +70 C. High power capability, to 350 watts, is another benefit of the Telewave design.

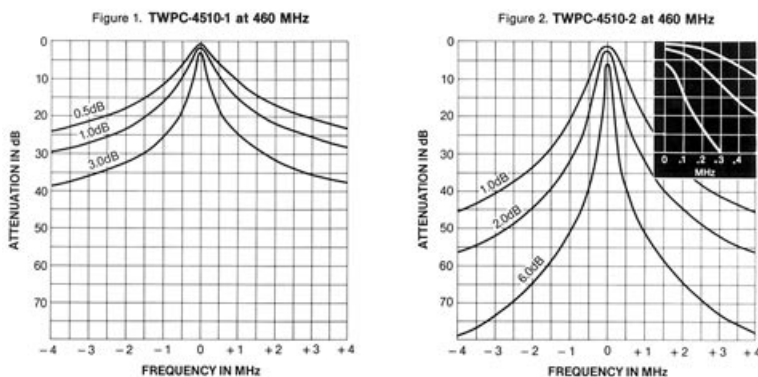
Heavy duty materials are used throughout the cavity to insure top performance and long life. The TWPC-4510 top plates are machined out of 1/4" aluminum, and heliarc welded to the aluminum outer conductor at the high current point for improved conductivity and strength. The use of similar metals and alodined aluminium helps prevent galvanic corrosion. Silver plated tuners and beryllium copper finger stock provide non-corrosive low loss contact.

When frequencies are specified, all cavities are tuned prior to the shipping from factory. No further adjustments should be required. The positive locking mechanism allows for easy field tuning if frequency changes are required.

**TELEWAVE, INC.** 660 Giguere Court San Jose, CA 95133  
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# TWPC-4510-1,2

## TYPICAL BANDPASS CAVITY RESPONSE CURVES



Insertion Loss and Selectivity are Adjustable.

### ELECTRICAL DATA

	<u>TWPC-4510-1</u>	<u>TWPC-4510-2</u>
Model	<u>TWPC-4510-1</u>	<u>TWPC-4510-2</u>
Frequency Range	406-512 MHz	406-512 MHz
Insertion Loss:	Adjustable- 0.5 to 3.0 dB	Adjustable- 1.0 to 6.0 dB
Attenuation:	See Fig. 1	See Fig. 2
Maximum VSWR at Resonance	1.5:1	1.5:1
Maximum Power Input (Continuous)		
0.5 dB per Cavity	350 Watts	350 Watts
1.0 dB per Cavity	250 Watts	250 Watts
2.0 dB per Cavity	150 Watts	150 Watts
Temperature Range	-30 C to +70 C	-30 C to +70 C

### MECHANICAL DATA

Dimensions		
Individual Cavity	10" dia. x 12"	10" dia. x 12"
Maximum, Outside (Tuning rods fully extended)	10" x 17"	10" x 17"
Materials		
Outer Conductor	6061-T6 Aluminum	6061-T6 Aluminum
Inner Conductor	Silver Plated Copper	Silver Plated Copper
Tuning Rod	Nickel Plated Invar	Nickel Plated Invar
End Plates	6061-T6 Aluminum	6061-T6 Aluminum
Coupling Loops	Silver Plated Copper	Silver Plated Copper
Connector Termination:	N or UHF female	N or UHF female
Finish	Acrylic Enamel	Acrylic Enamel
Net Weight	7 Lbs.	17 Lbs.
Shipping Weight	10 Lbs.	22 Lbs.

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