

# BpBr Circuit® DUPLEXER

**WP-643** 144-174 MHz

**WP-623** 118-144 MHz

**MIN. FREQ. SPACING: 500 KHz**

**POWER: TO 275 WATTS**

**MODEL WP-643** is a 6-cavity BpBr Circuit® duplexer designed for use with duplex systems operating at 500 KHz or more frequency separation in the 144-174 MHz band. It consists of two 8" OD bandpass-reject cavities and one 8" OD bandpass cavity in each section of the duplexer interconnected with double shielded cable. The bandpass cavity in the receiver section provides an additional margin of protection to the receiver from front-end overload and from intermodulation interference problems. The bandpass cavity in the transmitter section provides additional attenuation of transmitter sideband noise and offers further protection from generation of transmitter produced intermodulation interference.

**MODEL WP-623** is identical to the above model but designed for use with duplex stations operating in the 118-144 MHz band when the Tx and Rx frequency separation is 500 KHz or more.

The BpBr Circuit®, which was developed and patented by Wacom, is a unique circuit for coupling energy into and out of a cavity filter.



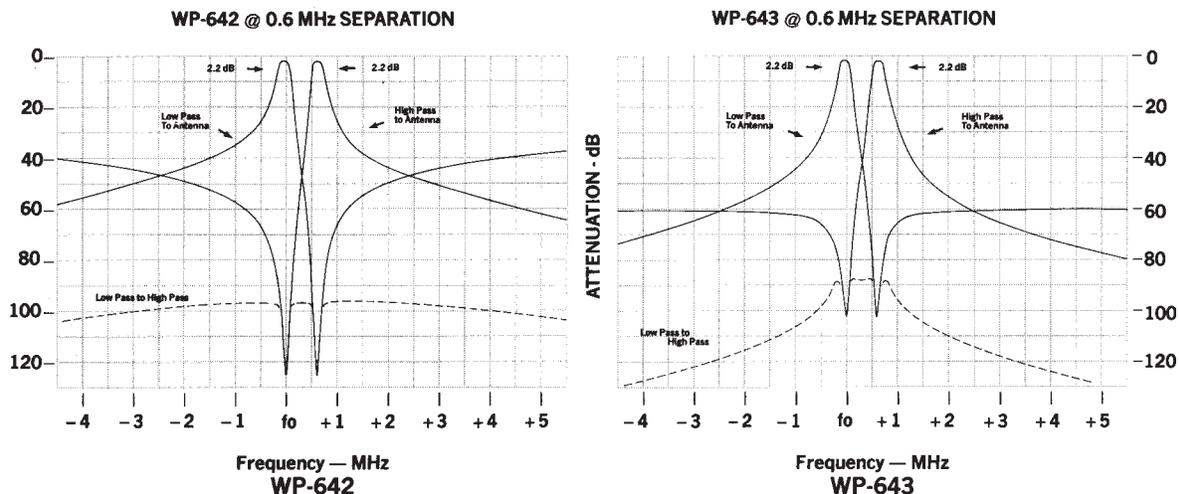
Model WP-643

It provides a bandpass cavity response at the pass frequency and a deeper and wider notch at the reject frequency. BpBr Circuit® duplexers are equally suitable for use in systems with close or wide frequency separations.

**WHEN ORDERING**, specify model number and the exact transmit and receive frequencies to which the duplexer should be tuned. If the optional Type N connectors are preferred (same price), so indicate by adding "with Type N connectors" after the model number.

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## COMPARISON OF WP-642 AND WP-643 AT 0.6 MHz SEPARATION



### ELECTRICAL DATA

	Model WP-623	Model WP-643
<b>Tuning Range</b>		
A Range	118-136 MHz	144-174 MHz
B Range	130-144 MHz	
<b>Minimum Frequency Separation</b>	500 KHz or more	500 KHz or more
<b>Maximum Power Input</b> (continuous duty)	275 watts	275 watts
<b>Insertion Loss</b> (Tx and Rx to Antenna)		
at 0.5 MHz separation	2.2 dB	2.2 dB
at 0.6 MHz separation	2.2 dB	2.2 dB
at 1.0 MHz or more separation	2.2 dB	2.2 dB
<b>Attenuation</b> at Tx Freq. and Rx Freq.		
at 0.5 MHz separation	97 dB	97 dB
at 0.6 MHz separation	102 dB	102 dB
at 1.0 MHz or more separation	110 dB	110 dB
<b>Isolation</b> (midway between channels)		
at 0.5 MHz or more separation	74 dB	74 dB
at 0.6 MHz or more separation	80 dB	80 dB
at 1.0 MHz or more separation	100 dB	100 dB
<b>Maximum VSWR</b> (Ref. 50 ohms)	1.3 to 1	1.3 to 1
<b>Temperature Range</b>	-30° to + 60°C	-30° to + 60°C
<b>Number of Cavity Filters</b>	6	6

### MECHANICAL DATA

<b>Dimensions:</b>		
Individual Cavity (not incl. tuning rod)	8" OD x 29"	8" OD x 25"
Duplexer (D x W x H) with tuning rods fully extended	17" x 27" x 36"	17" x 27" x 31"
<b>Connector Terminations</b> (Tx, Rx, Ant.)	UHF female (Type N optional)	UHF female (Type N optional)
<b>Finish</b>	Black Enamel	Black Enamel
<b>Net Weight</b>	68 lbs.	62 lbs.
<b>Shipping Weight</b>	82 lbs.	74 lbs.
<b>Optional Cabinet</b>	IC-224118	IC-224118
Dimensions, cabinet (D x W x H)	18 1/2" x 22 1/2" x 74"	18 1/2" x 22 1/2" x 74"
Shipping Weight (Cabinet and Duplexer)	246 lbs.	240 lbs.