

# BpBr Circuit® DUPLEXER

**WP-641** 144-174 MHz

**WP-621** 118-144 MHz

**MIN. FREQ. SPACING: 500 KHz**  
**POWER: TO 275 WATTS**

**MODEL WP-641** is a 4-cavity BpBr Circuit® duplexer designed for use with duplex systems operating in the 144-174 MHz band when the separation between the transmit and receive frequencies is 500 KHz or more. It consists of four 8" OD cavities interconnected with double shielded cable in a bandpass-reject configuration. To maintain maximum isolation, double shielded cable must be used to interconnect the duplexer to the transmitter and receiver. Numerous duplexer installation cable kits are available but must be ordered as an optional item. The Model IC-224118 cabinet is also available as an optional item.

**MODEL WP-621** 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. 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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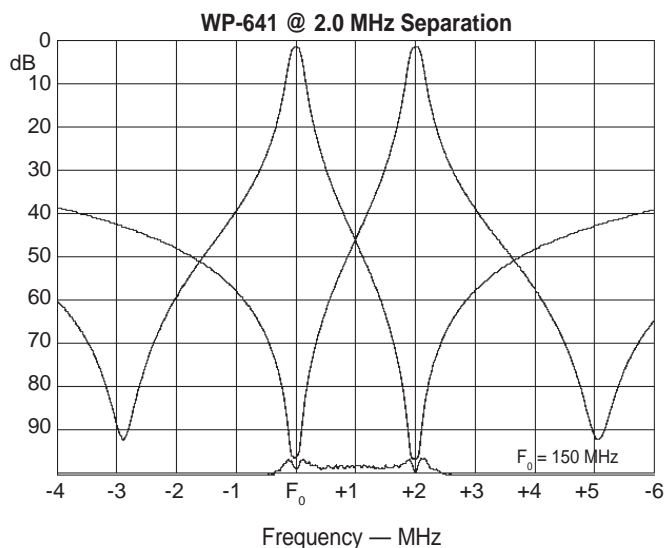
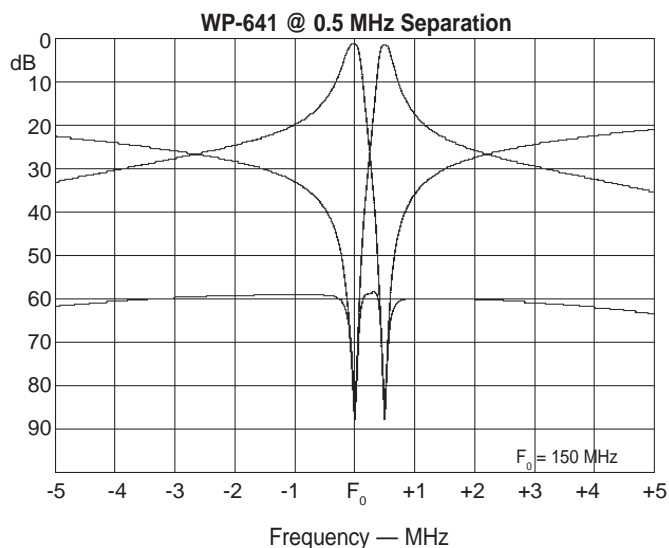


Model WP-641



Optional Model IC-224118  
Indoor Cabinet

## TYPICAL DUPLEX RESPONSE CURVES



### ELECTRICAL DATA

	Model WP-621	Model WP-641
<b>Tuning Range</b> A Range	118-136 MHz	144-174 MHz
B Range	130-144 MHz	
<b>Minimum Frequency Separation</b>	0.5 MHz or more	0.5 MHz 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	1.5 dB	1.5 dB
at 2.0 MHz separation	1.5 dB	1.5 dB
<b>Attenuation</b> at Tx Freq. and Rx Freq.		
at 0.5 MHz separation	85 dB	85 dB
at 2.0 MHz separation	95 dB	95 dB
<b>Isolation</b> (midway between channels)		
at 0.5 MHz or more separation	55 dB	55 dB
at 2.0 MHz or more separation	90 dB	90 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>	4	4

### 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 19" x 36"	17" x 19" 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>	44 lbs.	42 lbs.
<b>Shipping Weight</b>	57 lbs.	55 lbs.
<b>Optional Cabinet</b>	IC-224118	IC-224118
Dimensions, cabinet (D x W x H)	18 1/2" x 22 1/2" x 41"	18 1/2" x 22 1/2" x 41"
Shipping Weight (Cabinet and Duplexer)	162 lbs.	160 lbs.