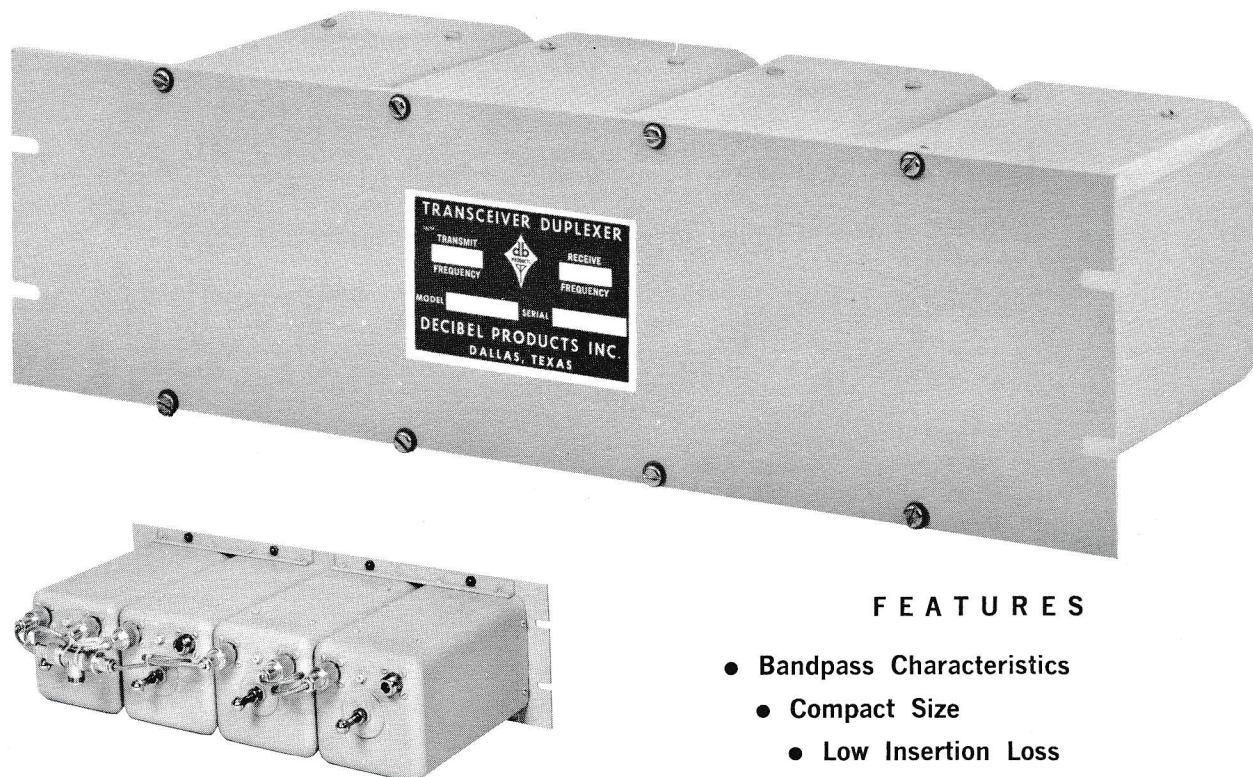




450-512 MHz

DB-4075
DB-4076

BANDPASS-REJECT DUPLEXER FOR RACK MOUNTING



FEATURES

- Bandpass Characteristics
- Compact Size
- Low Insertion Loss
- Greater Tx to Rx Isolation

Models **DB-4075** and **DB-4076** are high performance, compact base station duplexers for use with stations operating in the 450-470 MHz, or 470-512 MHz bands. The models consist of quarter-wave coaxial cavities interconnected in a bandpass configuration with double shielded, teflon dielectric cable. A high quality tunable capacitor is used within each cavity to enhance the bandpass characteristics at the reject (undesired) frequency.

The **DB-4076** duplexer protects the receiver from its associated transmitter by greater than 90dB and the bandpass configuration provides some degree of protection to the receiver from other transmitters in the area. In addition, transmitter noise coupled to the receiver is not only reduced at the associated receive frequency, but is reduced at other frequencies by at least 75dB. The duplex response curves on the back illustrate these typical isolation values provided by the duplexer when operated at the normal 5 MHz frequency separation. The **DB-4076** duplexer is especially suitable for use with state-of-the-art solid state type and/or tube type stations when the transmit and receive frequencies are separated by 3 MHz or more.

The **DB-4075** is a 3-cavity duplexer with two cavities in the transmitter section, one in the receiver section.

It is generally suitable for use with most tube type and many solid state type stations when the transmit and receive frequencies are separated by 5 MHz or more.

Frequency Stability. The **DB-4075** and **DB-4076** will provide specified performance while handling transmitter powers up to 250 watts — even at the extremes of the temperature range. Temperature compensation is accomplished by use of an invar tuning rod in each cavity.

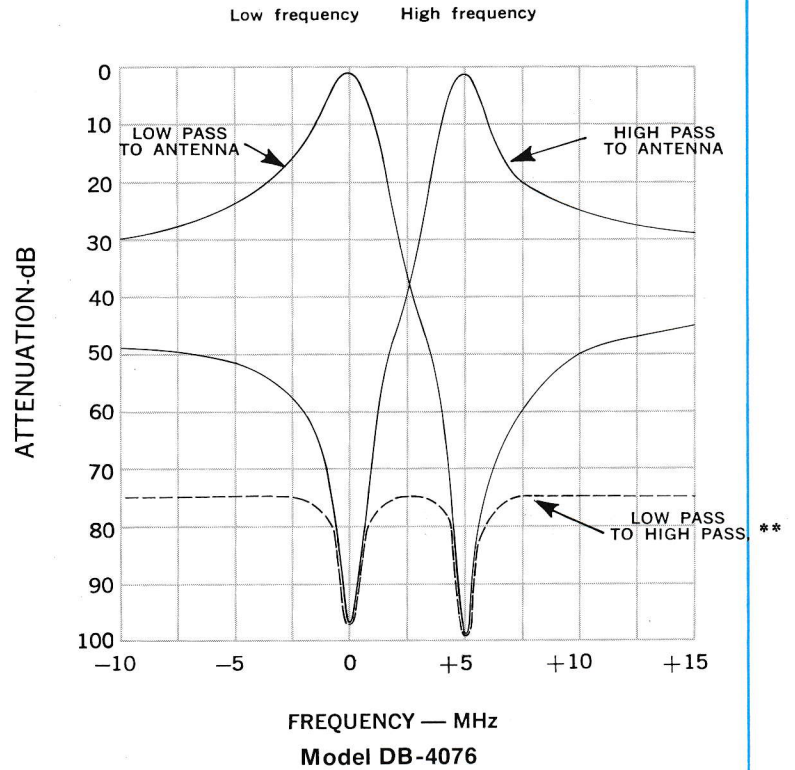
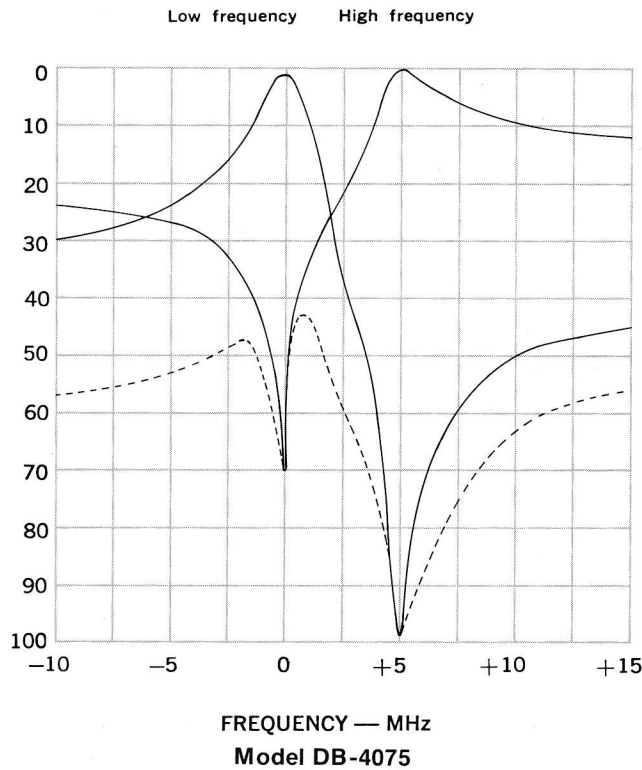
The **DB-4076** duplexer is also suitable for use as a diplexer to couple two simplex stations or two transmitters into a common antenna, provided the power input to the low or high frequency port of the duplexer does not exceed the power rating of 250 watts. The duplexer can also be used to couple two receivers to a common antenna.

Each duplexer is factory tuned to the exact operating frequencies and shipped ready for immediate installation. No further field tuning or adjustment is normally required. If desired, the duplexer can be field tuned to new frequencies within its designed band provided the appropriate measuring equipment is available.

DECIBEL PRODUCTS, INC.

A SUBSIDIARY OF COMMUNICATIONS INDUSTRIES, INC.

TYPICAL DUPLEX RESPONSE CURVES



** Isolation between system transmitter and its associated receiver
when antenna port is terminated in 50 ohms.

ELECTRICAL DATA

	DB-4075	DB-4076
Frequency range	450-470 MHz	450-470 MHz 470-512 MHz
Frequency separation	5 MHz or more	3.0 MHz or more
Maximum power input (continuous duty)	250 watts	250 watts
Insertion loss (transmitter to antenna)	1.2 dB	1.2 dB
Insertion loss (receiver to antenna)7 dB	1.2 dB
Transmitter noise suppression at receive frequency	90 dB	90 dB
Receiver isolation at transmit frequency	60 dB	90 dB
Isolation (Minimum) transmitter to receiver		
at 5 MHz separation	45 dB	75 dB
at 3 MHz separation	NA	52 dB
Maximum VSWR (Reference to 50 ohms)	1.3 to 1	1.3 to 1
Temperature range	—30° to +60°C	—30° to +60°C
Number of cavity filters	3	4

MECHANICAL DATA

Dimensions (height x width x depth)	5 1/4" x 19" x 10 1/2"	5 1/4" x 19" x 10 1/2"
Mounting	19" rack	19" rack
Connector terminations	N Female	N Female
Finish	Beige vinyl enamel	Beige vinyl enamel
Net Weight	17 lbs.	21 lbs.
Shipping weight	20 lbs.	24 lbs.

ORDERING INFORMATION

DB-4075 and
DB-4076 Duplexers

Exact frequency of the transmitter
and the receiver must be specified

DECIBEL PRODUCTS, INC.

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