



## UHF Cavity Duplexers 380-512 MHz



28-56C-02A

A Duplexer is a 3-port device most commonly used to allow a transmitter and receiver, operating on different frequencies, to share a common antenna while operating simultaneously. The filters that make up the duplexer isolate the transmitter from the receiver by filtering out transmitter noise sidebands and protecting the receiver from transmitter carrier overload. The amount of isolation required is dependent on TX to RX frequency spacing. TX RX Systems offers a wide variety of Duplexer options to suit your application, including Vari-notch, Bandpass, and notch type circuits. The TX RX Vari-notch design provides a pseudo-bandpass characteristic that is ideal for UHF frequencies, combining low loss advantages of notch filters with the broad isolation and selective pass characteristics of bandpass filters. For system requirements that go beyond our standard models, contact TX RX Systems for a customized design.

### FEATURES

- ▶ Simplifies overall system by reducing down to one antenna, saving tower space while providing the necessary isolation between TX & RX frequencies
- ▶ A wide variety of duplexers to suit your needs: Vari-notch (pseudo-bandpass), bandpass, and notch type circuit options
- ▶ Circuit style (Vari-notch, bandpass, Series Notch) can be easily changed by ordering the appropriate conversion assemblies for future changes in site requirements
- ▶ Systems are built with our rugged, high quality cavities: welded construction, silver-plated loops, Alballoy-plated integrated loop plates and connectors, a unique fingerstock-free high conductivity silver-plated tuning probe, and hardened aluminum outer conductor
- ▶ 4" (102 mm) diameter, 6.625" (168 mm) diameter, and 1.25" x 2" (32 x51 mm) rectangular cavity options
- ▶ Long-term product dependability and customer support
- ▶ Convenient and space efficient standard 19" rack mounting on most models, with options on some for 19" reverse flush rack mounting, and mobile plate mounting for models designed for mobile use

### TX RX Systems Inc.

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## GENERAL SPECIFICATIONS

Frequency Range Options	380-420 MHz 406-430 MHz 442-450 MHz 450-470 MHz 470-512 MHz
Cavity Type	3/4 wave
Cavity Size Options	1.25" x 2" rectangle 4" (102 mm) diameter 6.625" (168 mm) diameter
Temperature Range	-40°C to +80°C
Characteristic Impedance	50 Ohms
VSWR (all ports)	1.3:1 max



28-70-15H



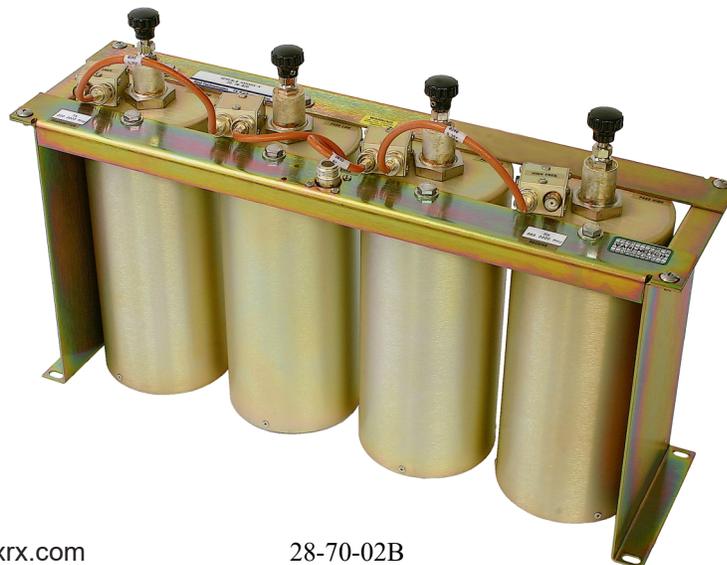
28-70-14A

## Electrical Specifications for Mobile Models

Frequency Range (MHz)	Model Number	Minimum Frequency Separation (MHz)	Power Rating (W)	Circuit Type	Isolation (dB)		Insertion Loss (dB)
					Per Chan	Bet. Chan	
406-430	28-65-10H	4.5	100	Vari-notch (pseudo-bandpass)	80	35	1.2
442-450	28-66-04H	5.0	100	Vari-notch (pseudo-bandpass)	80	35	1.5
450-470	28-70-15H	5.0	100	Vari-notch (pseudo-bandpass)	80	35	1.2

## Mechanical Specifications for Mobile Models

Frequency Range (MHz)	Model Number	Cavities		Type of Mount	Dimensions (HWD)	TX & RX Ports	Antenna Port	Shipping Weight
		No.	Size					
406-430	28-65-10H-N	4	1.25" x 2" (32 x 51 mm) rectangle	Mobile Plate Mount	2.7" x 5.12" x 7.4" (30 x 130 x 188 mm)	BNC	N	5 lbs (2.3 kg)
442-450	28-66-04H-N	4	1.25" x 2" (32 x 51 mm) rectangle	Mobile Plate Mount	2.7" x 5.12" x 7.4" (30 x 130 x 188 mm)	N	N	5 lbs (2.3 kg)
450-470	28-70-15H-N	4	1.25" x 2" (32 x 51 mm) rectangle	Mobile Plate Mount	2.7" x 5.12" x 7.4" (30 x 130 x 188 mm)	BNC	N	5 lbs (2.3 kg)



28-70-02B

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## Electrical Specifications for Base Station Models

Frequency Range (MHz)	Model Number	Minimum Frequency Separation (MHz)	Power Rating (W)	Circuit Type	Isolation (dB)		Insertion Loss (dB)
					Per Chan	Bet. Chan	
380-420	28-56C-02A	5.0	250	Vari-notch (pseudo-bandpass)	100	50	0.7
406-430	28-65-01A	1.5	350	Vari-notch (pseudo-bandpass)	90	50	1.5
	28-65-02A	3.0	350	Vari-notch (pseudo-bandpass)	80	30	0.8
	28-65-02B	3.0	350	Vari-notch (pseudo-bandpass)	80	30	0.8
	28-65-05A	0.7	350	Vari-notch (pseudo-bandpass)	100	50	2.2
	28-65-07A	3.0	250	Vari-notch (pseudo-bandpass)	85	60	1.25
	28-65-07B	3.0	250	Vari-notch (pseudo-bandpass)	85	60	1.25
	28-65-08A	4.5	100	Vari-notch (pseudo-bandpass)	80	35	1.2
	28-65-09A	2.5	100	Vari-notch (pseudo-bandpass)	80	30	1.8
442-450	26-66-01A	6.0	100	Bandpass	70	55	1.2
	28-66-02A	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
	28-66-02B	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
450-470	28-70-01A	1.5	350	Vari-notch (pseudo-bandpass)	90	50	1.5
	28-70-02A	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
	28-70-02A-U*	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
	28-70-02B	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
	28-70-02B-U*	5.0	350	Vari-notch (pseudo-bandpass)	100	46	0.6
	28-70-07A	0.7	350	Vari-notch (pseudo-bandpass)	100	50	2.2
	28-70-09A	5.0	250	Vari-notch (pseudo-bandpass)	100	70	1.25
	28-70-09B	5.0	250	Vari-notch (pseudo-bandpass)	100	70	1.25
470-512	28-70-14A	5.0	100	Vari-notch (pseudo-bandpass)	80	35	1.2
	28-69-01A	1.5	350	Vari-notch (pseudo-bandpass)	90	50	1.5
	28-69-02A	3.0	350	Vari-notch (pseudo-bandpass)	80	30	0.8
	28-69-02B	3.0	350	Vari-notch (pseudo-bandpass)	80	30	0.8
	28-69-04A	0.7	350	Vari-notch (pseudo-bandpass)	100	50	2.2

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## Mechanical Specifications for Base Station Models

Frequency Range (MHz)	Model Number	Cavities		Type of Mount	Dimensions (HWD)	TX & RX Ports	Antenna Port	Shipping Weight
		No.	Size					
380-420	28-56C-02A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +5"/-12" (133 x 483 x +127/-305 mm)	N	N	19 lbs (8.6 kg)
406-430	28-65-01A	4	6.625" (168 mm) diameter	Standard 19" rack mount	17" x 19" x ±7.5" (432 x 483 x ±191 mm)	N	N	37 lbs (16.8 kg)
	28-65-02A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-65-02B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
	28-65-05A	6	6.625" (168 mm) diameter	Standard 19" rack mount	34" x 19" x ±7.5" (864 x 483 x ±191 mm)	N	N	75 lbs (34 kg)
	28-65-07A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-65-07B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
	28-65-08A	4	1.25" x 2" (32 x 51 mm) rectangle	Standard 19" rack mount	1.75" x 19" x ±2.5" (44 x 483 x 64 mm)	BNC	N	5 lbs (2.3 kg)
	28-65-09A	6	1.25" x 2" (32 x 51 mm) rectangle	Standard 19" rack mount	3.5" x 19" x ±2.5" (89 x 483 x 64 mm)	BNC	N	7 lbs (3.2 kg)
442-450	26-66-01A	2	Comblines	Standard 19" rack mount	10" x 21.5" x 7.5" (254 x 546 x 191 mm)	N	N	12 lbs (5.4 kg)
	28-66-02A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-66-02B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
450-470	28-70-01A	4	6.625" (168 mm) diameter	Standard 19" rack mount	17" x 19" x ±7.5" (432 x 483 x ±191 mm)	N	N	37 lbs (16.8 kg)
	28-70-02A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-70-02A-U*	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-70-02B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
	28-70-02B-U*	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
	28-70-07A	6	6.625" (168 mm) diameter	Standard 19" rack mount	34" x 19" x ±7.5" (864 x 483 x ±191 mm)	N	N	55 lbs (25 kg)
	28-70-09A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-70-09B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
28-70-14A	4	1.25" x 2" (32 x 51 mm) rectangle	Standard 19" rack mount	1.75" x 19" x ±2.5" (44 x 483 x 64 mm)	BNC	N	5 lbs (2.3 kg)	
470-512	28-69-01A	4	6.625" (168 mm) diameter	Standard 19" rack mount	17" x 19" x ±7.5" (432 x 483 x ±191 mm)	N	N	37 lbs (16.8 kg)
	28-69-02A	4	4" (102 mm) diameter	Standard 19" rack mount	5.25" x 19" x +3"/-9" (133 x 483 x +76/-229 mm)	N	N	14 lbs (6.4 kg)
	28-69-02B	4	4" (102 mm) diameter	19" reverse flush rack mount	5.25" x 19" x 12" (133 x 483 x 305 mm)	N	N	16 lbs (7.3 kg)
	28-69-04A	6	6.625" (168 mm) diameter	Standard 19" rack mount	34" x 19" x ±7.5" (864 x 483 x ±191 mm)	N	N	55 lbs (25 kg)

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