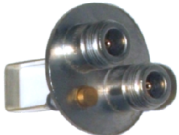


Bandpass
Loop



Pass/Reject
Loop



Notch
Loop



X-Pass
Loop



CAVITY FILTER DESIGN

Comprod Inc. has one of the most rugged, high quality cavity filter designs in the industry with our proven, temperature-compensated cavities. The flexibility of having four versions of filters, Bandpass, Notch, Pass-Reject, and X-Pass, available in 2", 4", 6.625" and 10" cavities, allows for any system to be designed for maximum performance and efficiency. All of the following filters can be achieved by changing the loops, while maintaining the same cavity, when using the 6.625" and 10" cavities.

1. **Bandpass Cavity Filter** – Passes one narrow band of frequencies and attenuates all others with increasing attenuation above and below the pass frequency. The adjustable selectivity characteristics using rotatable loops allows for a trade-off between insertion loss (0.5 to 3.0 dB) and selectivity. This filter is ideal when the interfering frequencies are not known with any degree of accuracy or when high amounts of broadband filtering are required.
2. **Notch Filter** – Passes a relatively wide band of required frequencies, while rejecting a very narrow band of undesired frequencies. Notch depth is variable from 15 to 25 dB. Both the pass and notch frequencies must be known. The Notch Filter is recommended when filtering multiple channel transmitters and receivers. This filter is ideal for very close separations (70-200 KHz) in VHF and (200-400 KHz) in UHF.
3. **Pass-Reject Filter** – Passes a relatively narrow band of required frequencies and rejects a specific undesired frequency. This filter has the greatest notch depth when compared to other types of filters. Notch depth is adjustable, but is dependant on the passband insertion loss (0.3 dB or 0.6 dB typical) and frequency separation. This type of filter is the most efficient for moderately close to wide separations of 200 kHz and greater in VHF and 400 kHz and greater in UHF.
4. **X-Pass** – A special type of filter for expandable multicoupler/combiner applications. Characteristics are identical to a bandpass filter, but have a third port for coupling to other channels. This filter is ideal for close frequency spacing with extremely low losses, acting similar to a hybrid combiner/multicoupler. The design is extremely flexible and expandable from 1 to 21 cavities per rack with additional channel capabilities.

All of Comprod Inc. 6.625" and 10" filters have two hand-movable tuning rods (a coarse and a fine) for faster tuning. Silver-plated adjustable coupling loops and a calibration index label help to facilitate setting the cavity insertion loss as required for each application.

The combination of a heavy-gauge aluminum outer conductor, thick heliarc-welded cavity top plates, heavy silver-plating on micro-finished tuning assemblies, and Invar-based temperature compensation material results in constant performance levels and long term reliability. Cavity and isolator connectors are type N female, with silver-plated brass bodies and gold-plated center contacts. Thru-line cable assemblies are made with high quality connectors and RG-393B/U Teflon or RG-214/U cable, to provide excellent intermodulation rejection at high system power levels. Gold-plated cable connector center contacts are soldered to the cable, and the dual shield is securely crimped to the connector barrel using pneumatic fixtures and precision dies. All of these attributes contribute to making a superior quality product.

For additional information on Comprod Inc. X-Pass, Combiners, Multicouplers, Duplexers, Pass Reject, BandPass, or Notch filters, contact our Technical Support team at 1.800.603.1454 or 1.450.641.1454.

FILTER NOMENCLATURE**PP—FF—XX—YY****PP** = Product Category/ Family**FF** = Frequency Band / Frequency Range**XX** = Cavity Size/ No. Channels/ Load Size/ Termination**YY** = Mounting Style**PP—Product Category / Product Family Codes**

11	Mounting Kits	56	2nd Harmonic Filter
13	Cable Kits/Accessories	57	Compline Filters
19	X-Racks	58	Pre-Amp
		59	Pre-Selector
21	Low Power Single Junction Isolator	60	Multicoupler (XMF Version – Reject/Pass)
22	Low Power Dual Junction Isolator	61	BandPass Filter
41	High Power Single Junction Isolator	62	Pass-Reject Filter
42	High Power Dual Junction Isolator	63	Notch Filter
45	RF Loads		
46	Signal Sampler	66	Pass-Reject Duplexer
47	Power Divider		
48	Hybrid Decouplers VHF/UHF/800/900MHz	68	X-Pass Filter
49	Hybrid Coupler (Single Band)	69	Paging Filter
51	Band pass Conversion Loops	HTC	Hybrid Transmit Combiner
52	Pass-Reject Conversion Loops	XBC	X-Band Coupler (Cross Band Couplers)
53	Notch Conversion Loops	XRM	Xpandable Receiver Multicoupler
54	X-Pass Conversion Loops	XTC	Xpandable Transmit Combiner System
55	Variable Attenuator 3-15 dB	XTR	Xpandable Transmit Receiver System

Model	Type	Other	118-136	138-174	406-512	746-960	Cavity/Mtg	Power	Connector
61-FF-7X Series	BandPass	30-88	•	•	•	•	6.625	150	N Female
62-FF-7X Series	Pass-Reject	30-88	•	•	•	•	6.625	150	N Female
63-FF-7X Series	Notch	30-88	•	•	•	•	6.625	150	N Female
60-13-7X Series	XMF Multicoupler			•			6.625	90-400	N Female
60-40-7X Series	XMF Multicoupler				•		6.625	80-300	N Female
66-FF-74	Duplexer			•	•		6.625	350	N Female
66-FF-2P	Duplexer			•			2 x 2	100	BNC / N F
66-FF-44	Duplexer			•	•	•	4 x 4	350	N Female
66-FF-46	Duplexer			•	•	•	4 x 4	350	N Female
5X4-90	Mobile Duplexer			144-174	406-470		1 x 1	50	BNC / N F
5X6-90	Mobile Duplexer			144-174	406-470		1 x 1	50	BNC / N F
68-XX-7X Series	X-Pass	30-88	•	•	•	•	6.625	150	N Female
XTC-06-7X Series	X-Pass	66-88					6.625	150	N Female
XTC-06-0X Series	X-Pass	66-88					10	150	N Female
XTC-11-7X Series	X-Pass		108-136				6.625	150	N Female
XTC-11-0X Series	X-Pass		108-136				10	150	N Female
XTC-13-7X Series	X-Pass			132-174			6.625	150	N Female
XTC-13-0X Series	X-Pass			132-174			10	150	N Female
XTC-22-7X Series	X-Pass	215-300					6.625	150	N Female
XTC-22-0X Series	X-Pass	215-300					10	150	N Female
XTC-38-7X Series	X-Pass				380-512		6.625	150	N Female
XTC-38-0X Series	X-Pass				380-512		10	150	N Female
XTC-74-7X Series	X-Pass					•	6.625	150	N Female
XTC-74-0X Series	X-Pass					•	10	150	N Female
80-FF-8X Series	X-Pass Combiner				•	•	19" Rack Mt	60/100	N Female
XRM-13-PP Series	Rx Multicoupler	138-225		•			Rack/Cavity	Rx	BNC / N F
XRM-30-PP Series	Rx Multicoupler				300-512		Rack/Cavity	Rx	BNC / N F
XRM-80-PP Series	Rx Multicoupler					806-896	Rack/Cavity	Rx	BNC / N F
XRM-90-PP Series	Rx Multicoupler					896-960	Rack/Cavity	Rx	BNC / N F
90-FF-PP Series	Rx Multicoupler				•	•	19" Rack Mt	Rx	N Female
70-X0-XX Series	TT Amplifier			•	•	•	N/A	Rx	N Female
21-FF-PP Series	Single Isolators			•	•	•	N/A	100	N Female
22-FF-PP Series	Dual Isolators			•	•	•	N/A	100	N Female
41-FF-PP Series	Single Isolators			•	•	•	N/A	150-250	N Female
42-FF-PP Series	Dual Isolators			•	•	•	N/A	150-250	N Female
45-05-PP Series	RF Loads	5-1000	•	•	•	•	N/A	5-250	N Male
HTC-13 Combiner	Hybrid Combiner			•			19" Rack Mt	100	N Female
HTC-40 Combiner	Hybrid Combiner				•		19" Rack Mt	100	N Female
HTC-80 Combiner	Hybrid Combiner					806-960	19" Rack Mt	100	N Female
49-FF-YY-XX Series	Hybrid Coupler			•	•	•	N/A	N/A	N Female
Ceramic Combiner	Star Junction Com					•	19" Rack Mt	125	N Female
Ceramic Combiner	X-Pass Combiner					•	19" Rack Mt	125	N Female
XBC-FF-PP Series	Crossband Coupler	25-175	•	•	•	•	N/A	Rx-250	N Female
57-FF-XX Series	Comblines				•	•	N/A	Rx	N Female
Racks, Hardware	Filter Racks						Racks	N/A	N/A

BAND PASS CAVITY**30-1000 MHz****61-XX-7X Series**

Comprod Inc. BandPass filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, double, triple or more units. Selectivity can be determined by the insertion loss of the cavity or by adding additional cavity units as needed. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops and silver plated tuning rods. Every cavity is equipped with coarse and fine tuning rods for quick and easy field or lab re-tuning.



- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

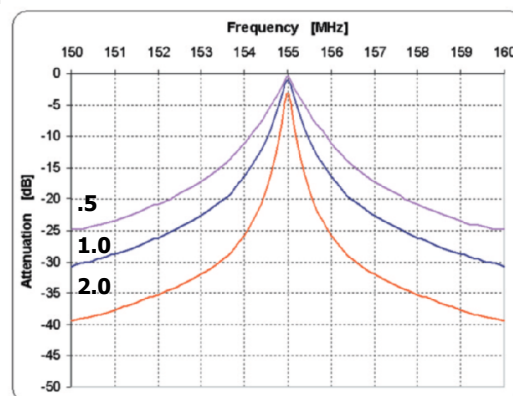
- **Adjustable Loops**

- Each cavity has a calibration index to reference insertion loss

Electrical Specifications	61-03-71	61-06-71	61-11-71	61-13-71	61-40-71	61-74-71
Frequency Range, MHz	30-50	66-88	118-136	136-174	406-512	746-960
Frequency Spacing Min.	Please Refer To Typical Curves					
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
Insertion Loss	Please Refer To Typical Curves					
Reject Attenuation	Please Refer To Typical Curves					
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

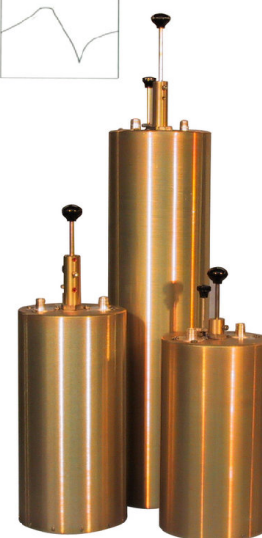
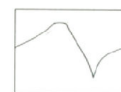
Mechanical Specifications	61-03-71	61-06-71	61-11-71	61-13-71	61-40-71	61-74-71
Maximum length, in	132	77	31.5	26	11.5	13
Weight, lbs	n/a	n/a	18	15	10	10

Order Information	Single	Dual	Triple
4" Cavity	61-XX-41	61-XX-42	61-XX-43
6.625" Cavity	61-XX-71	61-XX-72	61-XX-73
10" Cavity	61-XX-01	61-XX-02	61-XX-03

**61-13-71**

PASS-REJECT CAVITY**30-1000 MHz****62-XX-7X Series**

Comprod Inc. Pass Reject filters are designed to pass a frequency band and reject a narrow band of frequencies. They provide more attenuation than our standard bandpass type cavities. These cavities can reject frequencies on either the high or low side of the pass frequency. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.



- **Temperature Compensation**

- Ensures Frequency Stability

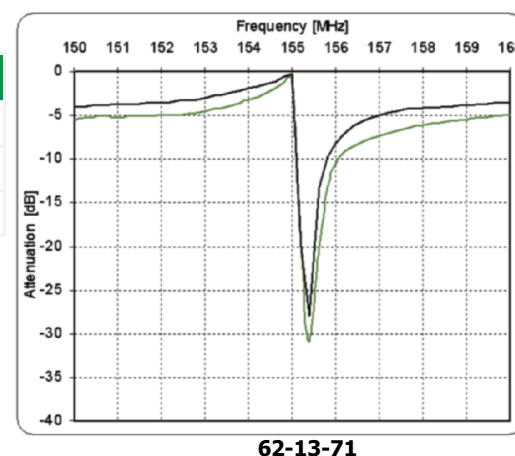
- **High Attenuation**

- Minimizes desense and interference

Electrical Specifications	62-03-71	62-06-71	62-11-71	62-13-71	62-40-71	62-74-71
Frequency Range, MHz	30-50	66-88	118-136	136-174	406-512	746-960
Frequency Spacing Min.	Please Refer To Typical Curves					
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	300	300	300	300	300	300
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
Insertion Loss	Please Refer To Typical Curves					
Reject Attenuation	Please Refer To Typical Curves					
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	62-03-71	62-06-71	62-11-71	62-13-71	62-40-71	62-74-71
Maximum length, in	132	77	31.5	26	11.5	13
Weight, lbs	n/a	n/a	18	15	10	10

Order Information	Single	Dual	Triple
4" Cavity	62-XX-41	62-XX-42	62-XX-43
6.625" Cavity	62-XX-71	62-XX-72	62-XX-73
10" Cavity	62-XX-01	62-XX-02	62-XX-03



NOTCH CAVITY

30-1000 MHz

63-XX-7X Series

Comprod Inc. Notch filters are designed to reject one narrow band of frequencies, while letting all others pass in the operating band. They provide additional isolation by eliminating close adjacent frequencies. The notch cavities can be cascaded or added to one another in order to sharpen the attenuation of the rejection curve. These cavities can be used individually or in multiples. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

- **Adjustable Loops**

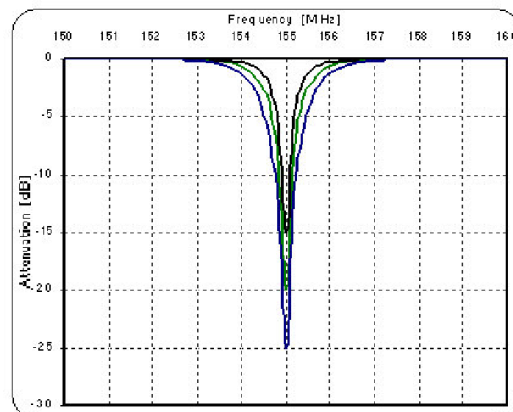
- Each cavity has a calibration index



Electrical Specifications	63-03-71	63-06-71	63-11-71	63-13-71	63-40-71	63-74-71
Frequency Range, MHz	30-50	66-88	108-136	136-174	406-512	746-960
Frequency Spacing Min.	Please Refer To Typical Curves					
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on insertion Loss)	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
Insertion Loss	Please Refer To Typical Curves					
Reject Attenuation	Please Refer To Typical Curves					
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	63-03-71	63-06-71	63-11-71	63-13-71	63-40-71	63-74-71
Maximum length, in	132	77	31.5	26	11.5	13
Weight, lbs	n/a	n/a	18	15	10	10

Order Information	Single	Dual	Triple
4" Cavity	63-XX-41	63-XX-42	63-XX-43
6.625" Cavity	63-XX-71	63-XX-72	63-XX-73
10" Cavity	63-XX-01	63-XX-02	63-XX-03



63-13-71

XMF MULTICOUPLERS

VHF, UHF, & 700/800/900 MHz, Xpandable, BandPass, Multicoupler Filters

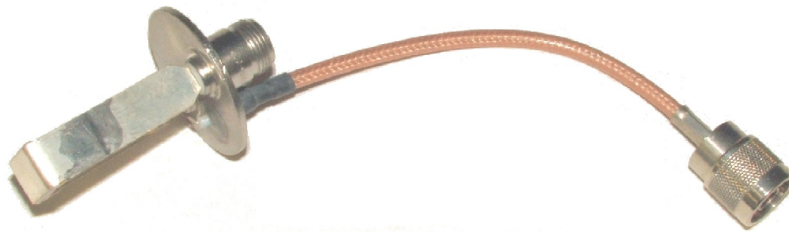
The XMF (Xpandable, Bandpass, Multicoupler, Filter) system is a unique transmit/receive multi-coupler. Each channel consists of one, two, or three bandpass filters in combination with an exclusive notch filter design. This enables system expansion without modification to the existing system channels as long as applicable selectivity standards for minimum channel spacing are met.

This unique notch-filter approach provides a junction between channels, allowing channel frequencies to pass freely to or from antennas, while diverting all other channel frequencies to the pass-through antenna line terminal. This characteristic is field-tunable over specified bands of operation without any alterations in the configuration.

Channels may be interconnected with any convenient cable length. There is also no frequency order of interconnection required. The only requirement is that the minimum spacing for VHF is 0.8 MHz and for UHF is 2 MHz.

The XMF channels are supplied with mounting hardware for wall or rack mounting. The individual cavities are mounted with stainless steel strap clamps, and two horizontal mounting bars. In either case, it may be located at a convenient location for rack or wall applications. Horizontally-spaced mounting holes are the standard 19" EIA rack spacing for on the wall and rack mounting.

For additional information on Comprod Inc. X-Pass, Multicouplers, Duplexers, Pass-Reject, BandPass, or Notch filters, contact our Technical Support team at 1.800.603.1454 or 1.450.641.1454.



XMF BAND PASS MULTICOUPLER VHF**138-174MHz****60-13-XP Series**

Comprod Inc. BandPass VHF Multicoupler filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, dual, triple or additional units. Selectivity can be determined by the insertion loss of the cavity or by adding cavity units as required. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

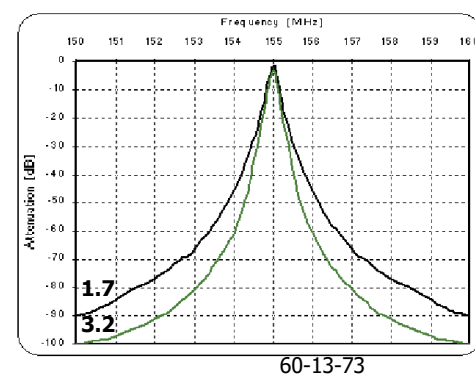
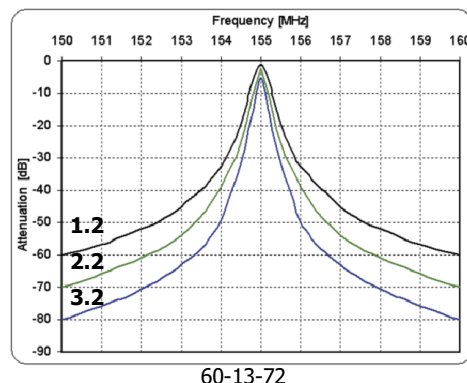
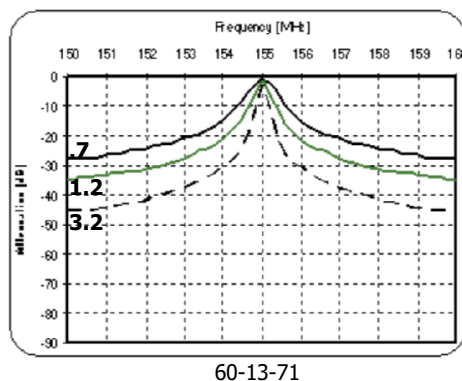
- Minimizes desense and interference from adjacent systems

- **Adjustable Loops**

- Each cavity has a calibration index



Electrical Specifications	60-13-71	60-13-72	60-13-73
Frequency Range, MHz	138-174	138-174	138-174
Frequency Spacing Min. MHz	0.8	0.8	0.8
Cavity Diameter, in	6.625	6.625	6.625
Continuous Power Input, Watts (Dependent on Insertion Loss)	90-400	90-400	90-400
Connectors	N Female	N Female	N Female
Insertion Loss, dB	0.7, 1.2, 3.2	1.2, 2.2, 3.2	1.7, 3.2
Channel Isolation	See Typical Curves		
VSWR	1.5:1	1.5:1	1.5:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	60-13-71	60-13-72	60-13-73
Maximum length, in (H x W x D)	34 x 19 x 7	34 x 19 x 16.5	34 x 19 x 16.5
Weight, lbs (kg)	30 (13.6)	36.3 (16.5)	44 (20)



XMF BAND PASS MULTICOUPLER UHF**406-512MHz****60-40-XP Series**

Comprod Inc. BandPass, UHF, Multicoupler, filters are designed for minimizing interference from adjacent channels and outside systems. They are available in single, dual, triple or additional units. Selectivity can be determined by the insertion loss of the cavity or by adding cavity units as needed. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning applications.

- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

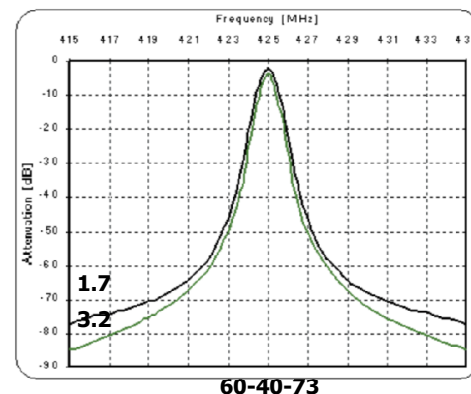
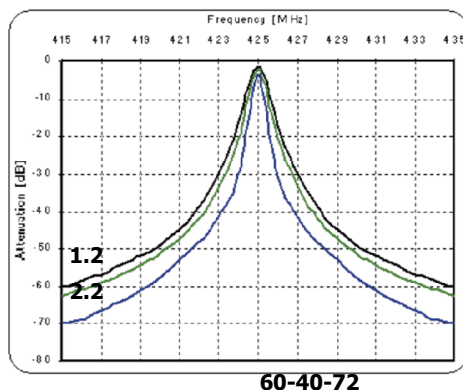
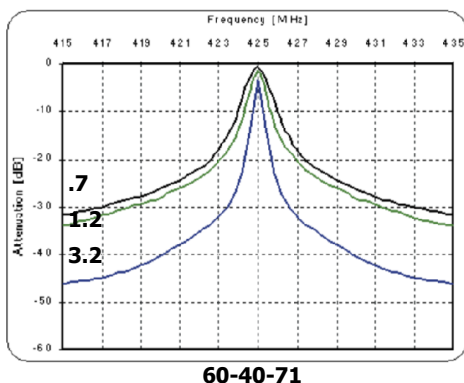
- Minimizes desense and interference from adjacent systems

- **Adjustable Loops**

- Each cavity has a calibration index



Electrical Specifications	60-40-71	60-40-72	60-40-73
Frequency Range, MHz	406-512	406-512	406-512
Frequency Spacing Min. MHz	0.8	0.8	0.8
Cavity Diameter, in	6.625	6.625	6.625
Continuous Power Input , Watts (Dependant on Insertion Loss,)	80-300	80-300	80-300
Connectors	N Female	N Female	N Female
Insertion Loss, dB	0.7, 1.2, 3.2	1.2, 2.2	1.7, 3.2
Channel Isolation	See Curves		
VSWR	1.5:1	1.5:1	1.5:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	60-40-71	60-40-72	60-40-73
Maximum length, in (H x W X D)	16 x 19 x 7	16 x 19 x 16.5	16 x 19 x 16.5
Weight, lbs (kg)	18 (8.6)	26 (11.8)	32 (15.2)



PSEUDO BAND PASS DUPLEXER**66-FF-74**

Comprod Inc. Pseudo BandPass Duplexer filters are designed for quick and easy installations. These filters are designed for the combination of two frequencies requiring extra isolation or can be used as efficient pre-selectors. They are available in either 4 or 6 cavity configurations if higher levels of isolation are required. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

- **Adjustable Loops**

- Each cavity has a calibration index



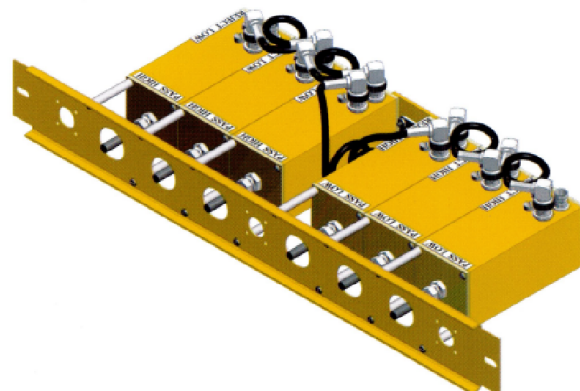
Electrical Specifications	66-13-74	66-40-74
Frequency Range, MHz	138-174	406-512
Frequency Spacing Min.	0.5	1.5
Cavity Diameter, in	6.625	6.625
Continuous Power Input, Watts	400	350
Connectors	N Female	N Female
Insertion Loss	1.5	1.5
Chanel Isolation, @ Min. Separation dB	85	90
VSWR	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60

Mechanical Specifications	66-13-74	66-40-74
Maximum length, in (H x W X D)	34 x 19 x 16.5	18.5 x 19 x 16.5
Weight, lbs (kg)	44 (20)	32 (15.2)

2-INCH CAVITY DUPLEXERS

66-FF-2P Series 2" Cavity Duplexers

Comprod Inc. 2" base station duplexers are ideal for compact high isolation installations. These filters are designed for the combination of two frequencies that require extra isolation or they can be used as efficient pre-selectors. Available in either 4 or 6 cavity configurations if higher levels of isolation are required. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60 °C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods.



- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

Electrical Specifications	66-13-24	66-14-24	66-13-26	66-14-26
Frequency Range, MHz	132-150	144-174	132-150	144-174
Frequency Spacing Min.	4.5	4.5	3.0	3.0
Cavity Number	4	4	6	6
Cavity Diameter, in	2.0	2.0	2.0	2.0
Continuous Power Inputs, Watts	100	100	100	100
Connectors (Equipment/Antenna)	BNC/N	BNC/N	BNC/N	BNC/N
Insertion Loss	1.5	1.5	1.5	1.5
Chanel Isolation, dB	70	70	80/90	80/90
VSWR	1.3:1		1.3:1	
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	66-13-24	66-14-24	66-13-26	66-14-26
Maximum length, in (H x W X D)	5.25 x 19 x 7.25		5.25 x 19 x 7.25	
Mounting	19" Rack Mount			

These duplexers are available in other frequencies and configurations. Please call our technical support for additional models..

4-INCH CAVITY DUPLEXERS

66-FF-44 Series (4) 4" Cavity Duplexers

These Comprod Inc. 4" base station duplexers are ideal for high power, close frequency separation installations. These filters are designed for combining two frequencies or they can be used as efficient pre-selectors. If higher levels of isolation are required, please consider using 6 cavity configurations. Selectivity can be determined by the field adjustable capacitors. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and plated tuning rods.

XBC-FF-PP Series

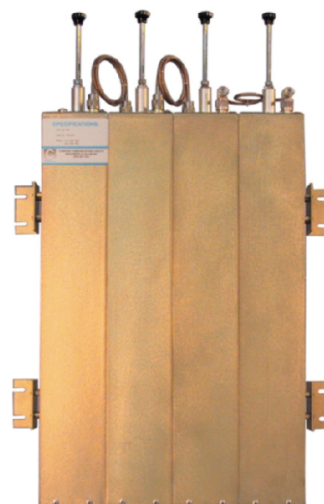
- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

- **Adjustable Loops**



Electrical Specifications	66-13-44	66-40-44	66-80-44
Frequency Range, MHz	138-174	406-512	746-960
Frequency Spacing Min. MHz	0.5	5	9
Cavities, Diameter, in	(4) - 4" Square	(4) - 4" Square	(4) - 4" Square
Continuous Power Input, Watts	350	350	150
Connectors	N Female	N Female	N Female
Insertion Loss, dB	1.5 dB	0.8 dB	0.8 dB
Channel Isolation	70 dB	75 dB	90 dB
VSWR	1.2:1	1.2:1	1.2:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

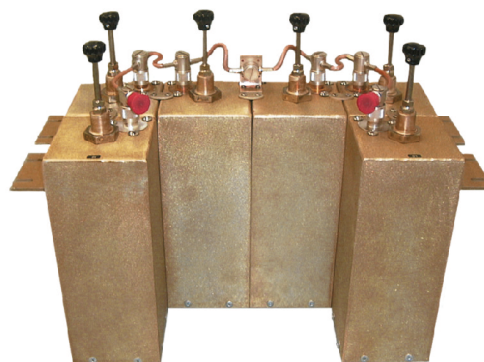
Mechanical Specifications	66-13-44	66-40-44	66-80-44
Maximum length, in (H x W x D)	31 x 19 x 4	4 x 19 x 15	4 x 19 x 12
Weight, lbs (kg)	30 (13.6)	18 (8.2)	16 (7.3)
Mounting	19" Rack Mount	19" Rack Mount	19" Rack Mount

Order Information	Frequency	Wall Mount	4 Cavities
66-13-4X	138-174MHz	66-13-44WM	66-13-44
66-40-4X	406-470MHz	66-40-44WM	66-40-44
66-74-4X	746-806MHz	66-74-44WM	66-74-44
66-80-4X	806-896MHz	66-80-44WM	66-80-44
66-90-4X	896-960MHz	66-90-44WM	66-90-44

4-INCH CAVITY DUPLEXERS

66-FF-46 Series (6) 4" Cavity Duplexers

These Comprod Inc. 6 cavity 4" base station duplexers are ideal for high power close frequency separation installations. These filters are designed for the combination of 2 frequencies that require extra isolation or they can be used as an efficient pre-selector. If higher levels of isolation are required, please consider using the 8 cavity configuration. Selectivity can be determined by the field adjustable loops. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods.



- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

Electrical Specifications	66-13-46	66-40-46	66-80-46
Frequency Range, MHz	138-174	406-512	746-960
Frequency Spacing Min. MHz	0.5	5.0	3.6
Cavities, Diameter, in	(6) - 4" Square	(6) - 4" Square	(6) - 4" Square
Continuous Power Input, Watts	350	350	350
Connectors	N Female	N Female	N Female
Insertion Loss, dB	2.1	1.2	1.2
Channel Isolation @ Min. Sep. dB	85	100	85
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	66-13-46	66-40-46	66-80-46
Maximum length, in (H x W X D)	31 x 19 x 8	8 x 19 x 15	8 x 19 x 12
Weight, lbs (kg)	45 (20.25)	27 (12.15)	24 (10.8)
Mounting	19" Rack Mount	19" Rack Mount	19" Rack Mount

Order Information	Frequency	Wall Mount	6 Cavities
66-13-46	138-174MHz	66-13-46WM	66-13-46
66-40-46	406-512MHz	66-40-46WM	66-40-46
66-80-46	746-960MHz	66-80-46WM	66-80-46

4 CAVITY MOBILE DUPLEXERS

VHF & UHF

4 Cavity Standard Version

The Comprod Inc. line of mobile duplexers features compact size, low loss and temperature compensation over the range of -40°C to +60°C. The use of extruded aluminum cavities and solid- shield copper-jacketed inter-cabling ensures excellent mechanical and electrical stability.

All units are adjustable in the field by qualified personnel and rated at 50 Watts maximum with a maximum VSWR of 1.5: 1 over the entire tuning range.

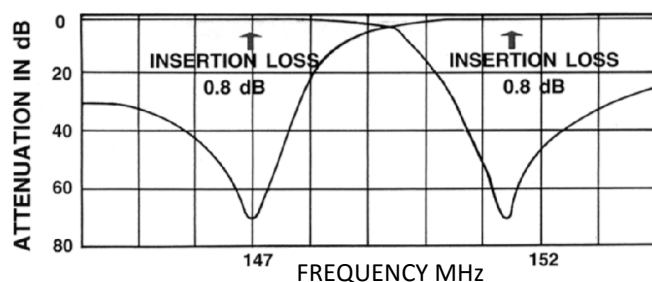
BNC connectors are standard. Variations on connectors and mountings are available by special order. For N female connectors, add suffix N to model number (Ex. 534-90N).



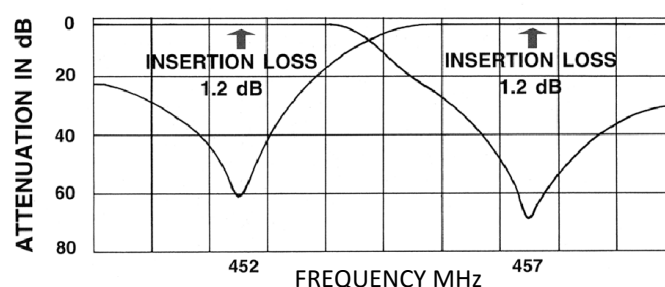
Electrical Specifications	534-90	504-90	
Frequency Range, MHz	144-155/150-165/160-174	406-435/430-470	
Frequency Spacing Min. MHz	4.5	5.0	10.0
Continuous Power Rating, Watts	50	50	50
Insertion Loss - dB: TX to Antenna	0.8	1.2	0.8
Insertion Loss - dB: RX to Antenna	0.8	1.2	0.8
Isolation-dB: TX noise suppression at RX frequency	60	50	60
Isolation-dB: TX isolation at TX frequency	60	50	60
Maximum VSWR, Ohms	1.5:1	1.5:1	
Impedance, Ohms	50	50	
Connector Type, Female	BNC	BNC	
Temperature °C	-40 to +60	-40 to +60	

Mechanical Specifications	534-90	504-90
Dimensions H x W x D, in. (mm)	1-1/4 x 4-1/8 x 7-5/8 (31.8 x 105 x 194)	1-1/4 x 4-1/8 x 8-3/4 (31.8 x 105 x 222)
Weight, lbs (kg)	1.5 (0.7)	2 (0.9)

534-90
Typical Response Curve at 4.5 MHz Spacing



504-90
Typical Response Curve at 5 MHz Spacing



6 CAVITY MOBILE DUPLEXER

VHF & UHF

6 Cavity Standard Version

The Comprod Inc. line of mobile duplexers features compact size, low loss and temperature compensation over the range of -40°C to +60°C. The use of extruded aluminum cavities and solid-shield copper-jacketed intercabling ensures excellent mechanical and electrical stability.

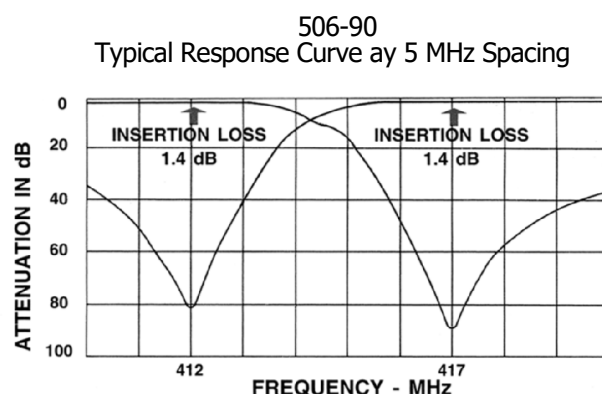
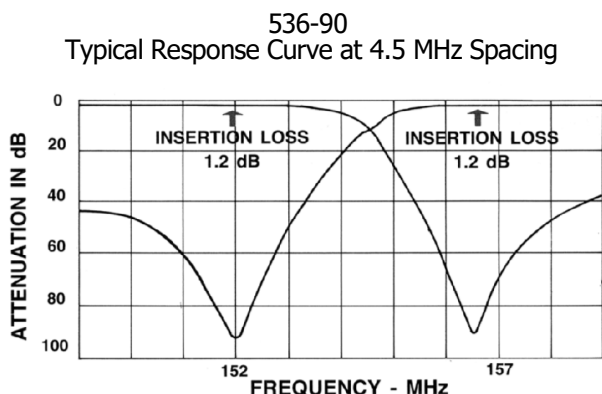
All units are adjustable in the field by qualified personnel and rated at 50 watts continuous duty with a maximum VSWR of 1.5: 1 over the entire tuning range.

BNC connectors are standard. Variations on connectors and mountings are available by special order. For N female connectors, add suffix N to model number (Ex. 536-90N)



Electrical Specifications	536-90	506-90	
Frequency Range, MHz	144-155/150-165/160-174	406-435/430-470	
Frequency Spacing Min. MHZ	4,5	5	10
Continuous Power Rating, Watts	50	50	50
Insertion Loss - dB: TX to Antenna	1.2	1.4	1.2
Insertion Loss - dB: RX to Antenna	1.2	1.4	1.2
Isolation-db: TX noise suppression at RX frequency	80	75	80
Isolation-db: TX isolation at TX frequency	80	75	80
Maximun VSWR , Ohms	1.5:1	1.5:1	
Impedance, Ohms	50	50	
Connector Type, Female	BNC	BNC	
Temperature °C	-40 to +60	-40 to +60	

Mechanical Specifications	536-90	506-90
Dimensions H x W x D, in.	1-1/4 X 6-3/16 X 7-5/8	1-1/4 X 6-3/16 X 7-5/8
(mm)	(31.8 X 157 X 222)	(31.8 X 157 X 222)
Weight, lbs (kg)	2.0 (0.9)	3.5 (1.7)



X-PASS

Expandable Multicoupler/Combiner Filters The Next Generation of Filtration

The X-Pass system is among the most innovative filter designs available today. Possessing the properties of a combiner, but having the expandability of a multicoupler, our X-Pass filters are one of the most versatile and re-usable filtration systems available on the market.

The X-Pass Transmitter Combiner Receiver Multicoupler has superior expandability compared with the fixed star junction configuration. The X-Pass system can be expanded one channel at a time for up to 21 channels with factory tuned, easy to install expansion channel assemblies. Expansion can be completed easily, without modifying the existing system, as easy as adding one or more channels on top of the existing system (daisy chain).

The X-Pass system is a broadband design allowing the system to span entire frequency ranges by using the properties of the X-Pass combiner for close frequency spacing and the X-Pass multicoupler properties for normally spaced channels. The X-Pass system can span the full 138-174 MHz, 406-512 MHz or 806-960 MHz frequency bands. When using the 6.625" cavities, the Tx-Tx separation in VHF can be as close as 75 kHz of frequency separation, or 50 kHz of separation when using 10" cavities.

The X-Pass system has the advantage of being extremely flexible to configure. With the ability to combine Bandpass, Pass-Reject, or Notch loops for 6.625" and 10" cavity filters, once-difficult complex operating requirements can be resolved with a customized design. This allows the X-Pass system to have unlimited combinations that can be integrated using multi-cavity configurations while retaining the expandability of the combiner properties for close frequency-spaced channels using 6.625" and 10" cavities. The system can also be a combination of a combiner for close frequency-spaced channels while encompassing the expandability of a standard multicoupler that can be integrated with standard Bandpass, Notch, and Pass-Reject filter combinations. All X-Pass systems come fully assembled, tested and ready for Plug-and-Play installations.

The X-Pass system has one extra beneficial aspect - the optional X-Pass Rack. With this unique rack design, certain systems can take up to 50 % less space than other systems that are in a 19" rack. By being able to mount all of the cavities horizontally, the installer has the ability to expand one channel on top of another in no particular order, and not having the physical obstacles of mounting a star-junction type configuration in a rack. The X-Pass system can save valuable installation space, and make efficient use of the rack space for future expansion projects.

For additional information on Comprod Inc. X-Pass, Multicouplers, Duplexers, Pass-Reject, BandPass, or Notch filters, contact our Technical Support team at 1.800.603.1454 or 1.450.641.1454.



X-PASS CAVITY**30-1000 MHz****68-XX-7X Series**

Comprod Inc. X-Pass filters are designed for flexible, close frequency systems. Each cavity has both a Reject and a Pass band curve. These individual cavities are used to add channels to existing systems. Available in single units, they can be combined with BandPass, Notch, and Pass Reject cavities for added protection and isolation. Selectivity can be determined by the insertion loss of the cavity or by adding BandPass cavity units to this expansion channel as required. Each cavity is temperature compensated for operation between -40°C to +60°C. Each cavity has a gold alodine finish, silver plated loops, and silver plated tuning rods. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.



- **Temperature Compensation**

- Ensures Frequency Stability

- **High Attenuation**

- Minimizes desense and interference from adjacent systems

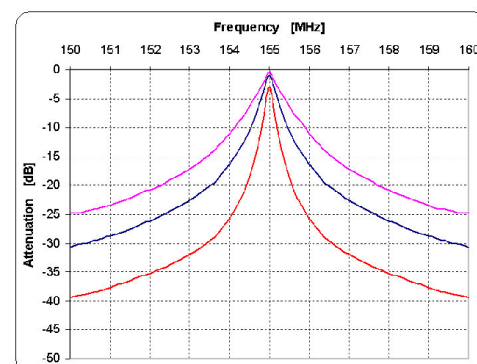
- **Adjustable Loops**

- Each cavity has a calibration index

Electrical Specifications	68-03-71	68-06-71	68-11-71	68-13-71	68-40-71	68-74-71
Frequency Range, MHz	30-40	66-88	118-136	136-174	406-512	746-960
Frequency Spacing Min.	Please Refer To Typical Curves					
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
Insertion Loss	Please Refer To Typical Curves					
Reject Attenuation	Please Refer To Typical Curves					
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	68-03-71	68-06-71	68-11-71	68-13-71	68-40-71	68-74-71
Maximum length, in	132	77	31.5	26	11.5	13
Weight, lbs	n/a	n/a	18	15	10	10

Order Information	Single
4" Cavity	68-XX-41
6.625" Cavity	68-XX-71
10" Cavity	68-XX-01

68-13-71

XPANDABLE TRANSMIT COMBINER**66-88 MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 66-88 MHz, 22 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-06-72	XTC-06-74	XTC-06-76	XTC-06-78	XTC-06-7-10	XTC-06-7-12
Frequency Range, MHz	66-88	66-88	66-88	66-88	66-88	66-88
Bandwidth, MHz	22	22	22	22	22	22
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	50	50	50	50	50	50
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	4.7	5.5	6	6.3	6.8	7.3
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-06-72	XTC-06-74	XTC-06-76	XTC-06-78	XTC-06-7-10	XTC-06-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Cavity	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-06-41	XTC-06-42	XTC-06-43	XTC-06-45	XTC-06-48	
6.625" Cavity	XTC-06-71	XTC-06-72	XTC-06-73	XTC-06-75	XTC-06-78	
10" Cavity	XTC-06-01	XTC-06-02	XTC-06-03	XTC-06-05	XTC-06-08	

XPANDABLE TRANSMIT COMBINER**66-88 MHz****XTC-Xpandable Transmit Combiner Series-10" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing when using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and an internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 66-88 MHz, 22 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7

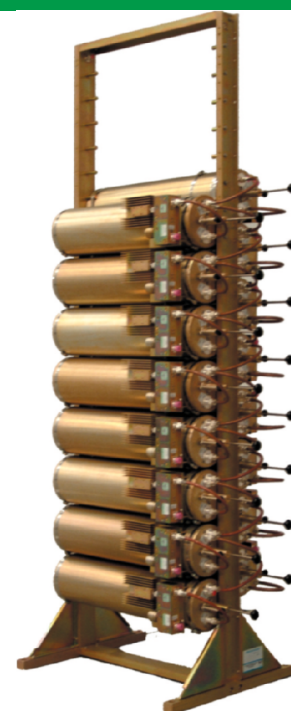


Electrical Specifications	XTC-06-02	XTC-06-04	XTC-06-06	XTC-06-08	XTC-06-0-10
Frequency Range, MHz	66-88	66-88	66-88	66-88	66-88
Bandwidth, MHz	22	22	22	22	22
Number of Channels	2	4	6	8	10
Cavity Diameter, in	10	10	10	10	10
Min. Channel Sep., KHz	50	50	50	50	50
Isolation Min., Tx-Tx, dB	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	3.8	4.9	5.2	5.4	5.6
Continuous Power Input, Watts	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-06-02	XTC-06-04	XTC-06-06	XTC-06-08	XTC-06-0-10
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)				
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN				
Order Information	Single Cavity	2 - Channel	3 - Channel	5 - Channel	8 - Channel
4" Cavity	XTC-06-41	XTC-06-42	XTC-06-43	XTC-06-45	XTC-06-48
6.625" Cavity	XTC-06-71	XTC-06-72	XTC-06-73	XTC-06-75	XTC-06-78
10" Cavity	XTC-06-01	XTC-06-02	XTC-06-03	XTC-06-05	XTC-06-08

XPANDABLE TRANSMIT COMBINER**108-136MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and an internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 108-136 MHz, 28 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-11-72	XTC-11-74	XTC-11-76	XTC-11-78	XTC-11-7-10	XTC-11-7-12
Frequency Range, MHz	108-136	108-136	108-136	108-136	108-136	108-136
Bandwidth, MHz	28	28	28	28	28	28
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	75	75	75	75	75	75
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	3.6	4.5	4.8	5.2	5.4	5.6
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XTC-11-72	XTC-11-74	XTC-11-76	XTC-11-78	XTC-11-7-10	XTC-11-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					

Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel
4" Cavity	XTC-10-41	XTC-10-42	XTC-10-43	XTC-10-45	XTC-10-48
6.625" Cavity	XTC-10-71	XTC-10-72	XTC-10-73	XTC-10-75	XTC-10-78
10" Cavity	XTC-10-01	XTC-10-02	XTC-10-03	XTC-10-05	XTC-10-08

XPANDABLE TRANSMIT COMBINER**108-136MHz****XTC-Xpandable Transmit Combiner Series—10" Cavity**

Our eXpandable Transmit combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable: 1 or more additional channels at a time, Re-configurable equipment
- 108-136 MHz, 28 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high-power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-11-02	XTC-11-04	XTC-11-06	XTC-11-08	XTC-11-0-10	XTC-11-0-12
Frequency Range, MHz	108-136	108-136	108-136	108-136	108-136	108-136
Bandwidth, MHz	28	28	28	28	28	28
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	10	10	10	10	10	10
Min. Channel Sep., KHz	50	50	50	50	50	50
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan.,	4.1	4.8	5.1	5.4	5.6	5.7
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Mechanical Specifications	XTC-11-02	XTC-11-04	XTC-11-06	XTC-11-08	XTC-11-0-10	XTC-11-0-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-10-41	XTC-10-42	XTC-10-43	XTC-10-45	XTC-10-48	
6.625" Cavity	XTC-10-71	XTC-10-72	XTC-10-73	XTC-10-75	XTC-10-78	
10" Cavity	XTC-10-01	XTC-10-02	XTC-10-03	XTC-10-05	XTC-10-08	

XPANDABLE TRANSMIT COMBINER**132-174MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 132-174 MHz, 42 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-13-72	XTC-13-74	XTC-13-76	XTC-13-78	XTC-13-7-10	XTC-13-7-12
Frequency Range, MHz	132-174	132-174	132-174	132-174	132-174	132-174
Bandwidth, MHz	42	42	42	42	42	42
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	75	75	75	75	75	75
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	4.3	5.4	5.8	6.2	6.5	6.7
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-13-72	XTC-13-74	XTC-13-76	XTC-13-78	XTC-13-7-10	XTC-13-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-13-41	XTC-13-42	XTC-13-43	XTC-13-45	XTC-13-48	
6.625" Cavity	XTC-13-71	XTC-13-72	XTC-13-73	XTC-13-75	XTC-13-78	
10" Cavity	XTC-13-01	XTC-13-02	XTC-13-03	XTC-13-05	XTC-13-08	

XPANDABLE TRANSMIT COMBINER**132-174MHz****XTC-Xpandable Transmit Combiner Series—10" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 75 kHz Tx-Tx spacing or 50 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 132-174 MHz, 42 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-13-02	XTC-13-04	XTC-13-06	XTC-13-08	XTC-13-0-10	XTC-13-0-12
Frequency Range, MHz	132-174	132-174	132-174	132-174	132-174	132-174
Bandwidth, MHz	42	42	42	42	42	42
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	10	10	10	10	10	10
Min. Channel Sep., KHz	50	50	50	50	50	50
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	4.1	5.0	5.4	5.7	5.9	6.1
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-13-02	XTC-13-04	XTC-13-06	XTC-13-08	XTC-13-0-10	XTC-13-0-12
Height, in (H x W X D) (mm) - (In X Rack)	86.5 x 24 x 40.25 (2197 x 610 x 1022)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Cavity	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-06-41	XTC-06-42	XTC-06-43	XTC-06-45	XTC-06-48	
6.625" Cavity	XTC-06-71	XTC-06-72	XTC-06-73	XTC-06-75	XTC-06-78	
10" Cavity	XTC-06-01	XTC-06-02	XTC-06-03	XTC-06-05	XTC-06-08	

XPANDABLE TRANSMIT COMBINER**215-300MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 100 kHz Tx-Tx spacing or 75 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 215-300MHz, 85 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-22-72	XTC-22-74	XTC-22-76	XTC-22-78	XTC-22-7-10	XTC-22-7-12
Frequency Range, MHz	215-300	215-300	215-300	215-300	215-300	215-300
Bandwidth, MHz	85	85	85	85	85	85
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	100	100	100	100	100	100
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	4.1	4.5	5.1	5.4	5.6	5.8
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-22-72	XTC-22-74	XTC-22-76	XTC-22-78	XTC-22-7-10	XTC-22-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 26.4 (2197 x 610 x 671)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-22-41	XTC-22-42	XTC-22-43	XTC-22-45	XTC-22-48	
6.625" Cavity	XTC-22-71	XTC-22-72	XTC-22-73	XTC-22-75	XTC-22-78	
10" Cavity	XTC-22-01	XTC-22-02	XTC-22-03	XTC-22-05	XTC-22-08	

XPANDABLE TRANSMIT COMBINER**215-300MHz****XTC-Xpandable Transmit Combiner Series-10" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 100 kHz Tx-Tx spacing or 75 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 215-300MHz, 85 MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-22-02	XTC-22-04	XTC-22-06	XTC-22-08	XTC-22-0-10	XTC-22-0-12
Frequency Range, MHz	215-300	215-300	215-300	215-300	215-300	215-300
Bandwidth, MHz	85	85	85	85	85	85
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	10	10	10	10	10	10
Min. Channel Sep., KHz	75	75	75	75	75	75
Isolation Min., Tx-Tx, dB	70	70	70	70	70	70
Isolation Min., Ant-Tx, dB	60	60	60	60	60	60
Max. Insertion Loss Per Chan., dB	4.2	5.1	5.5	5.8	6	6.2
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-22-02	XTC-22-04	XTC-22-06	XTC-22-08	XTC-22-0-10	XTC-22-0-12
Height, in (H x W X D) (mm) (In X Rack)	79.5 x 24 x 28.4 (2019 x 610 x 721)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-22-41	XTC-22-42	XTC-22-43	XTC-22-45	XTC-22-48	
6.625" Cavity	XTC-22-71	XTC-22-72	XTC-22-73	XTC-22-75	XTC-22-78	
10" Cavity	XTC-22-01	XTC-22-02	XTC-22-03	XTC-22-05	XTC-22-08	

XPANDABLE TRANSMIT COMBINER**380-512MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 125 kHz Tx-Tx spacing or 75 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 380-512MHz, 132MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-38-72	XTC-38-74	XTC-38-76	XTC-38-78	XTC-38-7-10	XTC-38-7-12
Frequency Range, MHz	380-512	380-512	380-512	380-512	380-512	380-512
Bandwidth, MHz	132	132	132	132	132	132
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	125	125	125	125	125	125
Isolation Min., Tx-Tx, dB	80	80	80	80	80	80
Isolation Min., Ant-Tx, dB	70	70	70	70	70	70
Max. Insertion Loss Per Chan., dB	4.1	5.2	5.7	6.0	6.2	6.4
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XTC-38-72	XTC-38-74	XTC-38-76	XTC-38-78	XTC-38-7-10	XTC-38-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 36 (2197 x 610 x 914)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-38-41	XTC-38-42	XTC-38-43	XTC-38-45	XTC-38-48	
6.625" Cavity	XTC-38-71	XTC-38-72	XTC-38-73	XTC-38-75	XTC-38-78	
10" Cavity	XTC-38-01	XTC-38-02	XTC-38-03	XTC-38-05	XTC-38-08	

XPANDABLE TRANSMIT COMBINER**380-512MHz****XTC-Xpandable Transmit Combiner Series—10" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 125 kHz Tx-Tx spacing or 75 kHz spacing while using 10" cavities. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 380-512MHz, 132MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7

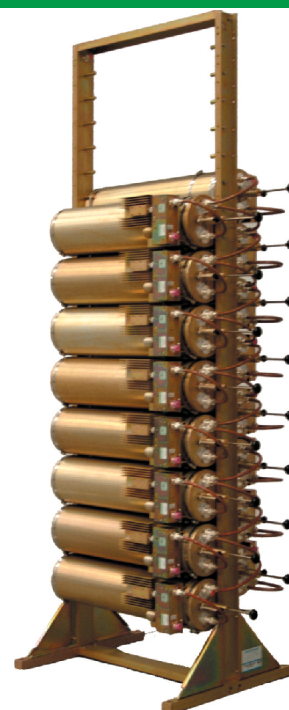


Electrical Specifications	XTC-38-02	XTC-38-04	XTC-38-06	XTC-38-08	XTC-38-0-10	XTC-38-0-12
Frequency Range, MHz	380-512	380-512	380-512	380-512	380-512	380-512
Bandwidth, MHz	132	132	132	132	132	132
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	10	10	10	10	10	10
Min. Channel Sep., KHz	75	75	75	75	75	75
Isolation Min., Tx-Tx, dB	80	80	80	80	80	80
Isolation Min., Ant-Tx, dB	70	70	70	70	70	70
Max. Insertion Loss Per Chan., dB	4.3	5.4	6.0	6.6	6.9	7.1
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-38-02	XTC-38-04	XTC-38-06	XTC-38-78	XTC-38-7-10	XTC-38-0-12
Height, in (H x W X D) (mm) (In X Rack)	79.5 x 24 x 36 (2019 x 610 x 914)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-38-41	XTC-38-42	XTC-38-43	XTC-38-45	XTC-38-48	
6.625" Cavity	XTC-38-71	XTC-38-72	XTC-38-73	XTC-38-75	XTC-38-78	
10" Cavity	XTC-38-01	XTC-38-02	XTC-38-03	XTC-38-05	XTC-38-08	

XPANDABLE TRANSMIT COMBINER**746-1000MHz****XTC-Xpandable Transmit Combiner Series—7" Cavity**

Our eXpandable Transmit Combiners can combine from 1 to 21 channels. The XTC series of filters incorporates expandability, close frequency spacing and some of the lowest insertion losses in the industry. Using a 6.625" cavity, the XTC can easily support 250 kHz Tx-Tx spacing. Each cavity is constructed using a gold alodine finish, silver plated loops, silver plated connectors and internal tuning plunger. Additionally, cavities are temperature compensated for operation between -40°C to +60°C. Every cavity is equipped with both coarse and fine tuning rods for quick and easy field or lab re-tuning.

- Flexible and expandable design, From 1-21 channel capacity
- Expandable 1 or more additional channels at a time, Re-configurable equipment
- 746-1000MHz, 254MHz of operating bandwidth
- Temperature compensation, Ensures frequency stability
- High Attenuation, Minimizes desense and interference
- Ultra-low insertion losses, Low coupling and bridging losses
- Continuous high power handling capability, 150 watts – 24/7



Electrical Specifications	XTC-74-72	XTC-74-74	XTC-74-76	XTC-74-78	XTC-74-7-10	XTC-74-7-12
Frequency Range, MHz	746-1000	746-1000	746-1000	746-1000	746-1000	746-1000
Bandwidth, MHz	254	254	254	254	254	254
Number of Channels	2	4	6	8	10	12
Cavity Diameter, in	6.625	6.625	6.625	6.625	6.625	6.625
Min. Channel Sep., KHz	250	250	250	250	250	250
Isolation Min., Tx-Tx, dB	80	80	80	80	80	80
Isolation Min., Ant-Tx, dB	70	70	70	70	70	70
Max. Insertion Loss Per Chan.	3.1	4.1	4.4	4.9	5.2	5.5
Continuous Power Input, Watts	150	150	150	150	150	150
Connectors	N Female	N Female	N Female	N Female	N Female	N Female
VSWR	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications	XTC-74-72	XTC-74-74	XTC-74-76	XTC-74-78	XTC-74-7-10	XTC-74-7-12
Height, in (H x W X D) (mm) (In X Rack)	86.5 x 24 x 20.7 (2197 x 610 x 526)					
Mounts in 19" Standard Rack	Yes	Yes	Yes	Yes	Yes	Yes
Weight	DEPENDS ON SET-UP AND RACK DESIGN					
Order Information	Single Channel	2 - Channel	3 - Channel	5 - Channel	8 - Channel	
4" Cavity	XTC-74-41	XTC-74-42	XTC-74-43	XTC-74-45	XTC-74-48	
6.625" Cavity	XTC-74-71	XTC-74-72	XTC-74-73	XTC-74-75	XTC-74-78	
10" Cavity	XTC-74-01	XTC-74-02	XTC-74-03	XTC-74-05	XTC-74-08	

EXPANDABLE TX COMBINER 80 SERIES

UHF, 746-960 MHz

X-PASS EXPANDABLE TX COMBINER 80 SERIES

The 0 Series 8" Cavity Transmit Combiner features X-Pass, plug-and-play technology and is fully expandable and reconfigurable. These combiners are designed to offer engineers and technicians many options when designing or upgrading a site.

Electrical Specifications	80-FF-8XILPI
Frequency Range, MHz	Call for Information
Frequency Separation, KHz	200 min
Number of Channels	1 to 6+
Isolation, dB	
TX to TX @ 200k sep.	(S)40 (D)70
ANT to TX @ 600k sep.	(S)30 (D)60
Insertion Loss	See Insertion Loss Chart
TX input Return Loss, dB	1.25:1 min
Power / Channel, Watts	Low=60 / High=100

Mechanical Specifications	
Construction / Finish	Aluminum/Gold/Black
Input Connector	N-Female
Mounting	EIA standard 19"
Temperature Range, °C	-30 to +60

Dimensions	
Cavity Diameter, in (mm)	8 (203)
Width, in (mm)	19 (483)
Depth, in (mm)	UHF 16.5 (419) 700-900MHz 21 (534)
Height, in (mm)	8.7 (221)
Number of Channels (Single cavity per channel)	Rack Units Weight lbs (kg)
1	5 11 (05)
2	5 22 (10)
3	10 33 (15)
4	10 44 (20)
5	15 55 (25)
6	15 66 (30)

Ordering Format

8N	-	FF	-	8X	ILX	ILB	P	I
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Example: Model # 81-45-84BAHD

TX Combiner, 1 cavity per channel, UHF 450-470MHz, 4 Channel, Each X-pass cavity set @ 1.5 dB, No BP Cavity, 100 Watt system, Dual Isolators



UHF 100 WATT TYPICAL INSERTION LOSS, dB

Number of Channels	Frequency Separation (KHz)		
	200	400	600 and +
2	4	3	2.8
3	4.3	3.2	2.85
4	4.6	3.3	2.95
5	4.8	3.4	3
6	5.1	3.5	3.15

UHF 60 WATT TYPICAL INSERTION LOSS, dB

(TX to TX Separations under 400KHz, please use a 100 Watt unit - that spacing requires an external load)

Number of Channels	Frequency Separation (KHz)		
	200	400	600 and +
2	Use 100W	3	2.8
3		3.2	2.85
4		3.3	2.95
5		3.4	3
6		3.5	3.15

700-900MHz 100 WATT TYPICAL INSERTION

Number of Channels	Frequency Separation (KHz)		
	200	500	800 and +
2	3.5	2.5	2.2
3	4.2	3	2.4
4	4.5	3.4	2.5
5	4.8	3.6	2.6
6	5.3	3.7	2.8

XTR

XPANDABLE, TRANSMIT-RECEIVE, MULTICOUPLER

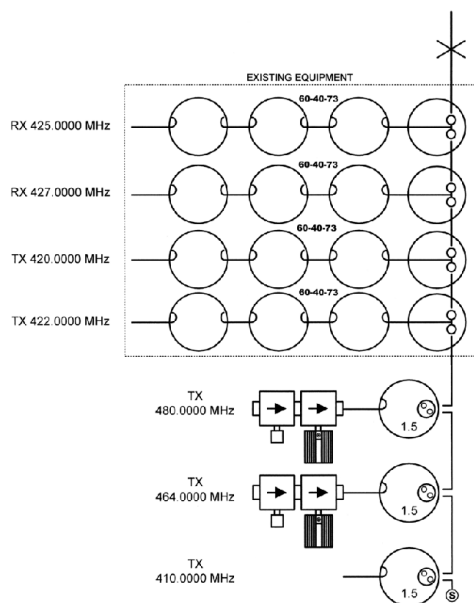
The Next Generation of Combiners

Our X-Pass technology can combine your Tx & Rx frequencies onto the same antenna. Our System Design Department can integrate any combination of frequency, and close frequency spacing, minimizing the system's physical space, and maximizing the efficiency of your system.

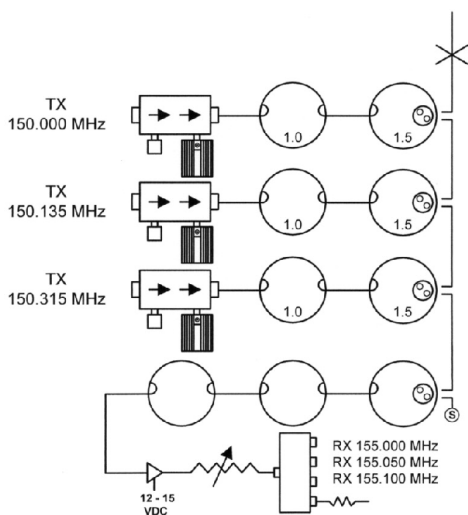
Each of our system designs comes with a full intermodulation study that examines the Intermodulation products followed with a customized solution specific to your clients needs. There are no off-the-shelf solutions - each system is custom tailored to your exact requirements.

Contact Comprod for a free customized system quotation. Tx and Rx frequencies will be required.

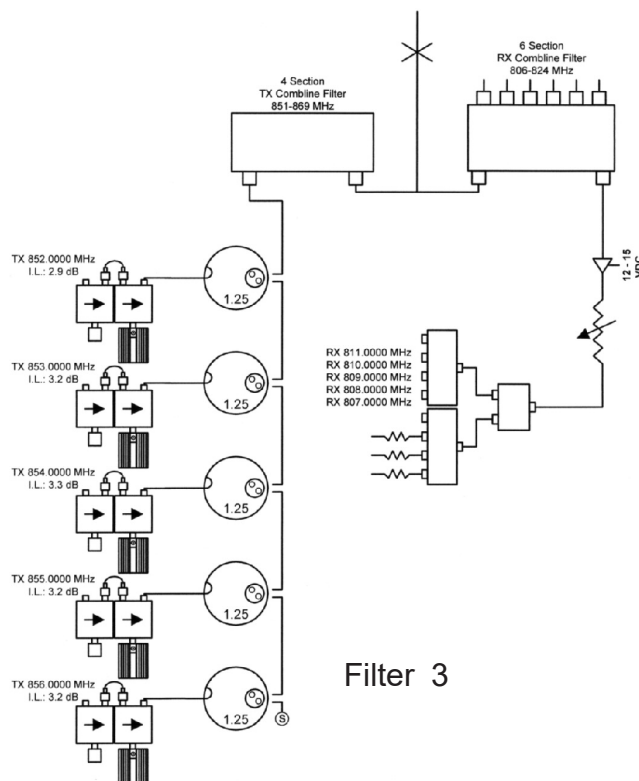
Here are some design examples:



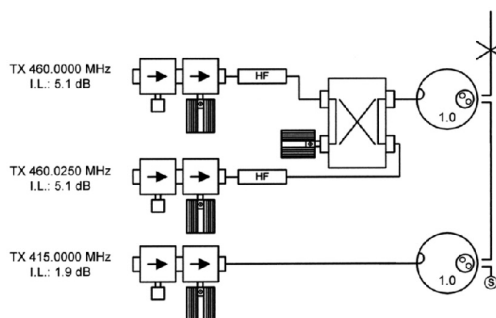
Filter 1



Filter 2



Filter 3



Filter 4

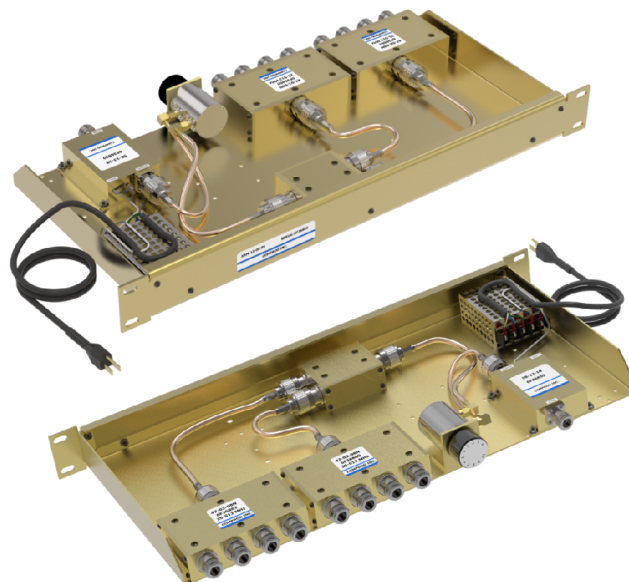
RECEIVER MULTICOUPLER

138-225MHz

XRM-FF-PP Series

Comprod Inc. Xpandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12 and 16 port configurations. This is an affordable means of combining multiple Rx frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Xpandable Receiver Multicoupler has the optional plug-in power supply.

- **Design**
 - Simple and cost effective
- **Mounting**
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- **Optional power supply (PS)**



Electrical Specifications	XRM-13-02	XRM-13-04	XRM-13-08	XRM-13-16
Frequency Range, MHz	138-225	138-225	138-225	138-225
Pass Band, MHz	3-8	3-8	3-8	3-8
Number of Channels	2	4	8	16
Rx/Rx Isolation, dB	20+	20+	20+	20+
Amplifier Gain, dB	28+	28+	28+	28+
Amplifier Noise Figure, dB	1.2	1.2	1.2	1.2
Amplifier Bias Voltage, VDC	14-16	14-16	14-16	14-16
Amplifier Current Draw, mA	200	200	200	200
Nominal Impedance, Ohms	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XRM-13-02	XRM-13-04	XRM-13-08	XRM-13-16
Mounting	RM / CM	RM / CM	RM / CM	RM / CM
Connectors	BNC / N	BNC / N	BNC / N	BNC / N
Weight, lbs	12	12	12	12

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply
XRM-13-02	XRM-13-02RM	XRM-13-02CM	XRM-13-02TRM	XRM-13-02PS
XRM-13-04	XRM-13-04RM	XRM-13-04CM	XRM-13-04TRM	XRM-13-04PS
XRM-13-08	XRM-13-08RM	XRM-13-08CM	XRM-13-08TRM	XRM-13-08PS
XRM-13-16	XRM-13-16RM	XRM-13-16CM	XRM-13-16TRM	XRM-13-16PS

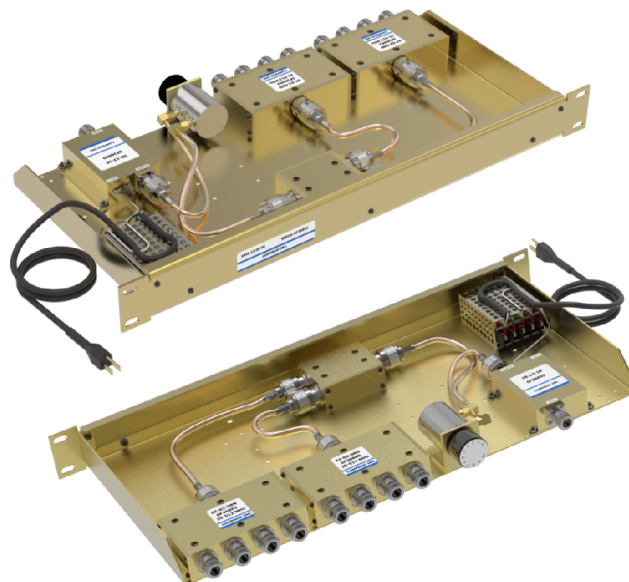
RECEIVER MULTICOUPLER

300-512MHZ

XRM-FF-PP Series

Comprod Inc. Xpandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12 and 16 port configurations. This is an affordable means of combining multiple Rx frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Xpandable Receiver Multicoupler has the optional plug-in power supply.

- **Design**
 - Simple and cost effective
- **Mounting**
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- **Optional power supply (PS)**



Electrical Specifications	XRM-30-02	XRM-30-04	XRM-30-08	XRM-30-16
Frequency Range, MHz	300-512	300-512	300-512	300-512
Pass Band, MHz	3-10	3-10	3-10	3-10
Number of Channels	2	4	8	16
Rx/Rx Isolation, dB	23+	23+	23+	23+
Amplifier Gain, dB	28+	28+	28+	28+
Amplifier Noise Figure, dB	1.2	1.2	1.2	1.2
Amplifier Bias Voltage, VDC	14-16	14-16	14-16	14-16
Amplifier Current Draw, mA	200	200	200	200
Nominal Impedance, Ohms	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XRM-30-02	XRM-30-04	XRM-30-08	XRM-30-16
Mounting	RM / CM	RM / CM	RM / CM	RM / CM
Connectors (Input / Output)	BNC / N	BNC / N	BNC / N	BNC / N
Weight, lbs	12	12	12	12

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply
XRM-30-02	XRM-30-02RM	XRM-30-02CM	XRM-30-02TRM	XRM-30-02PS
XRM-30-04	XRM-30-04RM	XRM-30-04CM	XRM-30-04TRM	XRM-30-04PS
XRM-30-08	XRM-30-08RM	XRM-30-08CM	XRM-30-08TRM	XRM-30-08PS
XRM-30-16	XRM-30-16RM	XRM-30-16CM	XRM-30-16TRM	XRM-30-16PS

RECEIVER MULTICOUPLER

806-896MHZ

XRM-FF-PP Series

Comprod Inc. Xpandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12 and 16 port configurations. This is an affordable means of combining multiple Rx frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Xpandable Receiver Multicoupler has the optional plug-in power supply.



- **Design**
 - Simple and cost effective
- **Mounting**
 - 19" rack mount (RM)
 - Cavity mount (CM)
 - Tray mount (TRM)
- **Optional power supply (PS)**

Electrical Specifications	XRM-80-02	XRM-80-04	XRM-80-08	XRM-80-16	XRM-80-32
Frequency Range, MHz	806-896	806-896	806-896	806-896	806-896
Pass Band, MHz	3-18	3-18	3-18	3-18	3-18
Number of Channels	2	4	8	16	32
Rx/Rx Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	28+	28+	28+	30+	30+
Amplifier Noise Figure, dB	1.2	1.2	1.2	1.2	1.2
Amplifier Bias Voltage, VDC	14-16	14-16	14-16	14-16	14-16
Amplifier Current Draw, mA	200	200	200	200	200
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XRM-80-02	XRM-80-04	XRM-80-08	XRM-80-16	XRM-80-32
Mounting	RM / CM	RM / CM	RM / CM	RM / CM	RM / CM
Connectors (Input / Output)	BNC / N	BNC / N	BNC / N	BNC / N	BNC / N
Weight, lbs	12	12	12	12	12

Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply
XRM-80-02	XRM-80-02RM	XRM-80-02CM	XRM-80-02TRM	XRM-80-02PS
XRM-80-04	XRM-80-04RM	XRM-80-04CM	XRM-80-04TRM	XRM-80-04PS
XRM-80-08	XRM-80-08RM	XRM-80-08CM	XRM-80-08TRM	XRM-80-08PS
XRM-80-16	XRM-80-16RM	XRM-80-16CM	XRM-80-16TRM	XRM-80-16PS

RECEIVER MULTICOUPLER

896-960MHZ

XRM-FF-PP Series

Comprod Inc. Xpandable Receiver Multicouplers are simple and compact. They are available in 2, 4, 8, 12 and 16 port configurations. This is an affordable means of combining multiple Rx frequencies onto the same antenna. We offer three mounting versions: our standard 19" rack, a tray mounted or a cavity mounted version. Each unit consists of a power splitter and an RF amplifier. Every Xpandable Receiver Multicoupler has the optional plug-in power supply.

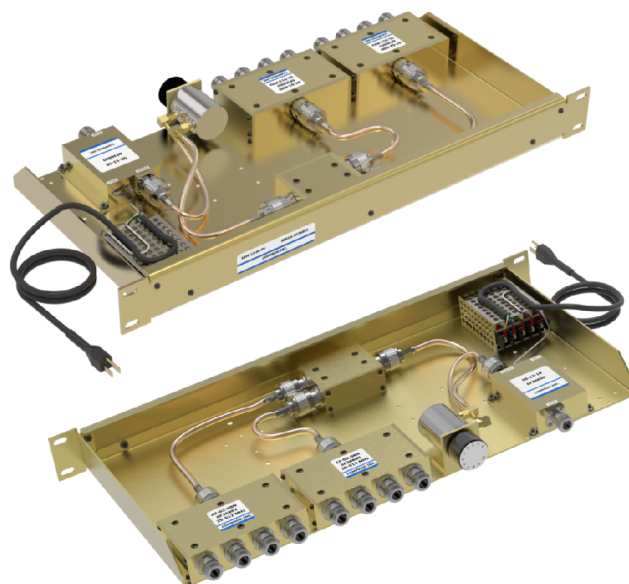
- **Design**

- Simple and cost effective

- **Mounting**

- 19" rack mount (RM)
- Cavity mount (CM)
- Tray mount (TRM)

- **Optional power supply (PS)**



Electrical Specifications	XRM-90-02	XRM-90-04	XRM-90-08	XRM-90-16	XRM-90-32
Frequency Range, MHz	896-960	896-960	896-960	896-960	896-960
Pass Band, MHz	3-15	3-15	3-15	3-15	3-15
Number of Channels	2	4	8	16	32
Rx/Rx Isolation, dB	23+	23+	23+	23+	23+
Amplifier Gain, dB	28+	28+	28+	28+	28+
Amplifier Noise Figure, dB	1.2	1.2	1.2	1.2	1.2
Amplifier Bias Voltage, VDC	14-16	14-16	14-16	14-16	14-16
Amplifier Current Draw, mA	200	200	200	200	200
Nominal Impedance, Ohms	50	50	50	50	50
Max VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	XRM-90-02	XRM-90-04	XRM-90-08	XRM-90-16	XRM-90-32
Mounting	RM / CM	RM / CM	RM / CM	RM / CM	RM / CM
Connectors (Input / Output)	BNC / N	BNC / N	BNC / N	BNC / N	BNC / N
Weight, lbs	12	12	12	12	12

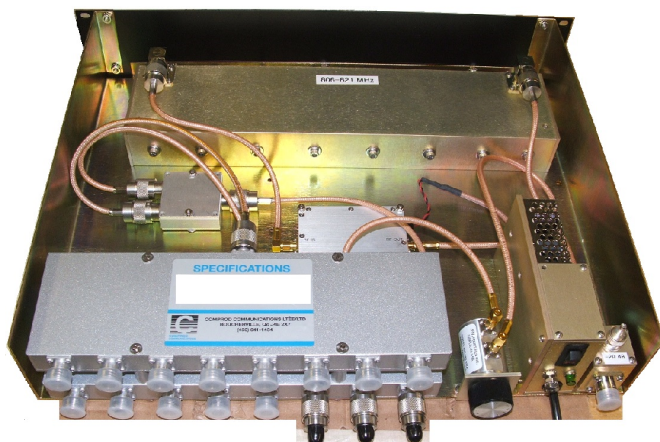
Order Information	Rack Mount	Cavity Mount	Tray Mount	Power Supply
XRM-90-02	XRM-90-02RM	XRM-90-02CM	XRM-90-02TRM	XRM-90-02PS
XRM-90-04	XRM-90-04RM	XRM-90-04CM	XRM-90-04TRM	XRM-90-04PS
XRM-90-08	XRM-90-08RM	XRM-90-08CM	XRM-90-08TRM	XRM-90-08PS
XRM-90-16	XRM-90-16RM	XRM-90-16CM	XRM-90-16TRM	XRM-90-16PS

EXPANDABLE RECEIVER MULTICOUPLER**UHF, 794-824 MHz****Expandable Receiver Multicoupler 90 Series**

Comprod's Expandable Receiver Multicoupler provides an affordable means of combining multiple Receiver frequencies onto the same antenna. They are available in 2, 4, 8, 12 and 16 port configurations.

Key features:

- A low noise amplifier provides gain across the frequency band
- Low noise figure and low intermodulation generation
- Features up to 16 ports (24 and 32 port versions are available)
- -30 dB signal sampler port that can also be used to inject a signal

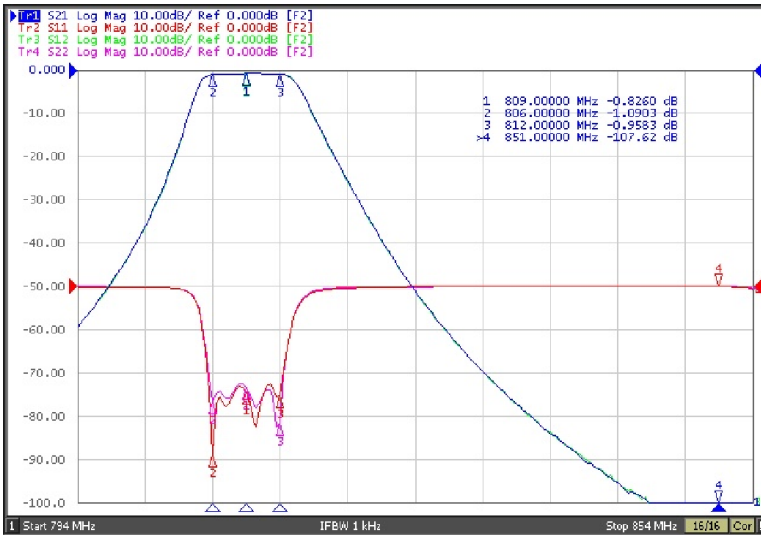
**Electrical Specifications**

Frequency Band, MHz	UHF	794-824
Number of output ports	2 to 16 (24 and 32 port versions are available)	2 to 16 (24 and 32 port versions are available)
Input Preselector Bandwidth Options	2 or 3 MHz Bandwidth 380-512 MHz	794 - 824 MHz, 3/6/12 MHz BW 806 - 821 MHz, 15 MHz BW 806 - 824 MHz, 18 MHz BW 794 - 824 MHz, 30 MHz BW
VSWR	1.5:1	1.5:1
Amplifier Gain	25 dB typical	25 dB typical
Amplifier Output IP3	+38 dB Min	+38 dB Min
Amplifier Noise Figure (LNA)	1.2 dB typical	1.2 dB typical
Manual Attenuation Selection	0 to -10dB in 1 dB steps	0 to -10dB in 1 dB steps
Rx to Rx Isolation	>20 dB	>20 dB
Tx Band Rejection	>40 dB at 2MHz TX-RX	>80 dB
Connector, Input	N (Female)	N (Female)
Connector, Output	N (Female)	N (Female)
Connector, Signal Sampler	BNC (Female)	BNC (Female)
Power Input, Standard	110/220 VAC 50/60Hz 10W	110/220 VAC 50/60Hz 10W
AC Power Input Connector	Hardwired 3-wire	Hardwired 3-wire
DC Power (optional)	14-16 VDC	14-16 VDC
Mounting	EIA Standard 19" 3 RU	EIA Standard 19" 2 RU
Temperature Range C	-30 to +60 C	-30 to +60 C

EXPANDABLE RECEIVER MULTICOUPLER

UHF, 794-824 MHz

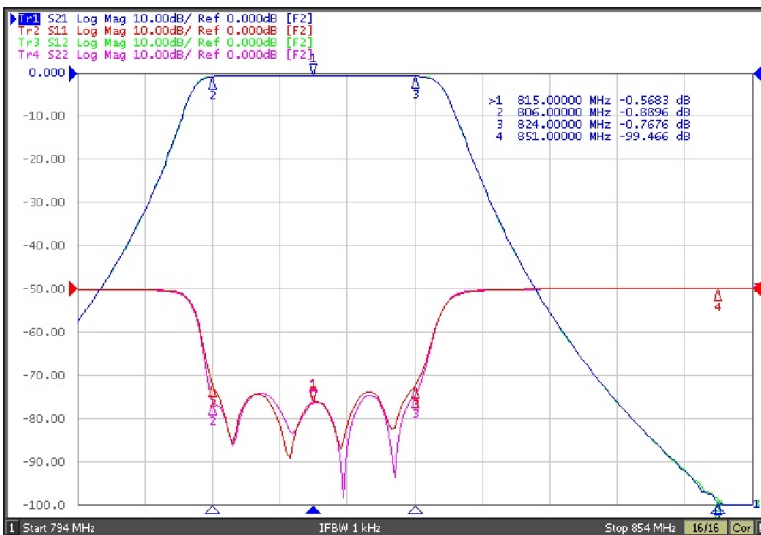
800 MHz Pass: 806-812MHz (6MHz)



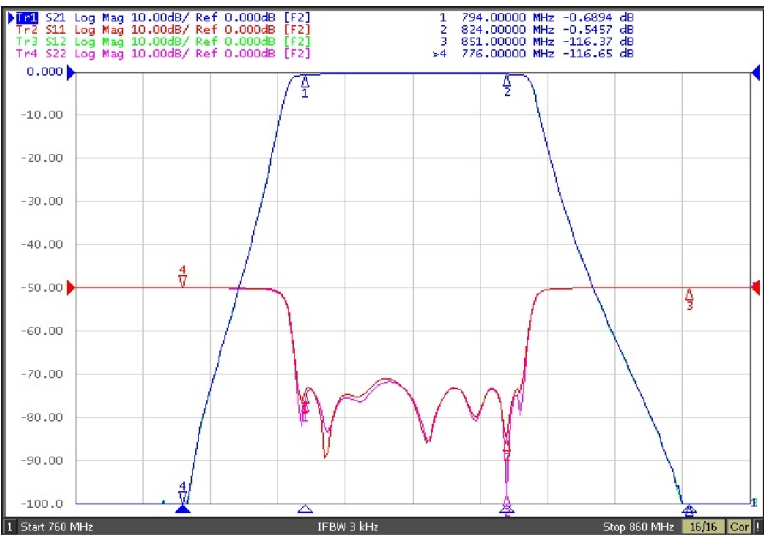
800MHz Pass: 809-821MHz (12MHz)



800MHz Pass: 806-824MHz (18MHz)



800MHz Pass: 794-824MHz (30MHz)



Ordering Format:

9	W	-	FF	-	PP	C	BB
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Example: Model # 91-85-8N18

RX Multicoupler, 1 Pass Window, 806MHz,
8 Output Ports, N female, 18 MHz Bandwidth

9	Series 90	
W	1,2	Number of Pass Windows
FF	76	794-806 MHz
	85	806-824 MHz
	First 2 digits of Freq. 38/40/43/45/47	380-512 MHz
PP	2,4,8,16,24	Number of Ports
C	N/B	N or BNC Connectors
BB	02/03/06/12/15/18/30	Bandwidth in MHz



TTA, Tower Top Amplifier

UHF, 794-824 MHz

Comprod Inc. Tower- Top Amplifier (TTA) systems provide superior receiver system performance and excellent electrical reliability in a rugged, weather-proof design. The tower unit is housed in a seamless cylindrical aluminum housing with a durable finish to repel both weather and solar energy. The aluminum shell connector plate provide much lower electrical resistance than competing stainless steel housings, enhancing the performance of the internal lightning surge protection. A high permeability internal magnetic shield provides protection against damage from lightning-induced magnetic pulses and is many times more effective than a stainless steel enclosure.

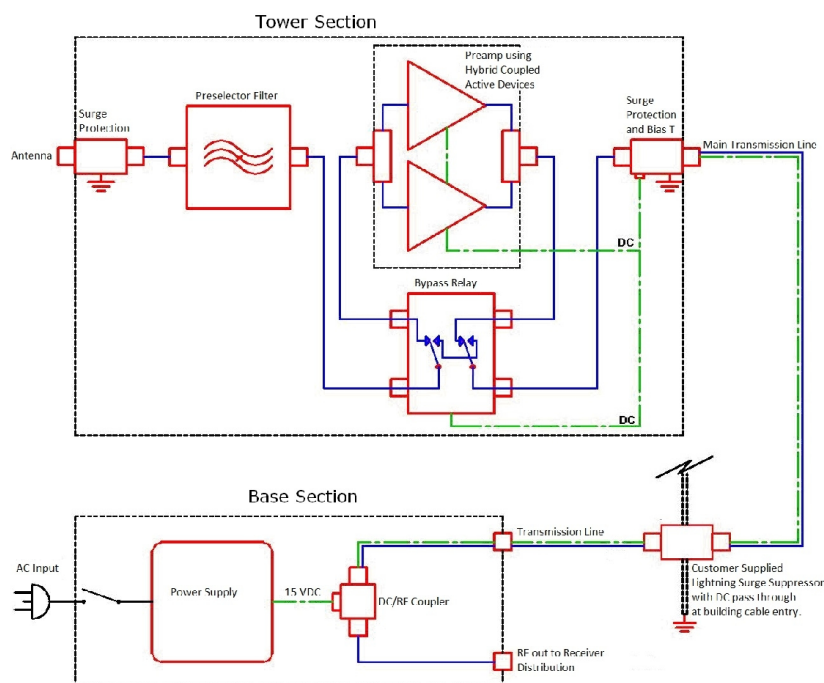
The tower housing has two drain holes to release any water due to condensation build up. RF connections stay weather-resistant longer as a result of the protection provided by a 360° drip - edge. Superior electrical performance starts with a highly selective combline preselector that provides excellent out-of-band rejection with minimum loss. Our preamplifier uses PHEMT (GaAs FET) device technology to provide low noise performance (1.6dB typical) and high intermodulation immunity (+39 dBm OIP3).

For greater reliability, the preamplifier uses a pair of hybrid -coupled devices to provide amplifier redundancy. This circuit provides useful gain should only one device be operational. The preamp features internal transient suppression that complements lightning surge protection provided on all TTA ports.

In addition to amplifier redundancy, full amplifier bypass capability is provided. A hermetically sealed, high-reliability bypass relay will fully remove the amplifier from the circuit and provide a non-amplified connection from the antenna to keep the system up and running even if the preamplifier totally ceases operation. Bypass mode is activated when DC power to the tower unit is disabled.

The base unit is housed in a 19" rack assembly that includes the power supply and DC injector to send DC (12 V) over the transmission line to operate the tower unit. The base unit has jacks for measurement of tower unit Current using a standard digital multi-meter. Type N connectors provided. Tower unit mounting hardware included.

Building- entry lightning surge suppressor w/DC pass-thru is recommended but not supplied.



TTA, Tower Top Amplifier

UHF, 794-902 MHz

Tower Section

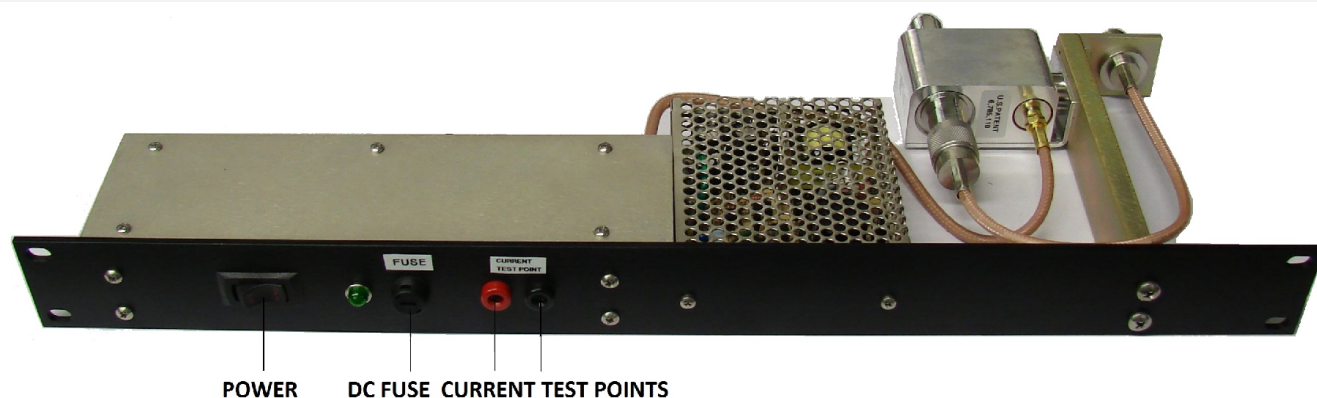
Frequency Range, MHz	UHF (406-512)	794-806	792-824	806-824	896-902
Bandwidth, MHz	2-3	3, 6, 10, 12	32	18	6
Gain, dB	20	13-15	17	17	12
Noise Figure, dB	1	2-4	2-3	2-3	3-4
3rd Order Intercept Point, dBm	+40	+38	+40	+40	+38
Connectors	N Female	N Female	N Female	N Female	N Female
Power, VDC	+12 to +16	+12 to +14	+12 to +14	+12 to +14	+12 to +14
Housing Diameter, in	16 x 14 x 6	6.6	6.6	6.6	6.6
Housing Length, in	N/A	21	21	21	21
Finish	Grey Anodize	Grey Anodize	Grey Anodize	Grey Anodize	Grey Anodize
Temperature Range	- 40° to +50° C	- 40° to +50° C	- 40° to +50° C	- 40° to +50° C	- 40° to +50° C
Weight, lbs	45 with clamps	45 with clamps	45 with clamps	45 with clamps	45 with clamps

Base Unit

Size (H,W,D) in	1.75 x 19 x 6
Finish, Front	Black
Connectors	Transmission Line, RF Output
Connector Type	N Female
Power Input, Standard	110/220 VAC 50/60Hz, 12W
Weight, lbs	5
DC Power (optional)	14-16 VDC
Mounting	EIA Standard 19" 1 RU
Temperature Range, C	-0 to +50

Ordering Information

	TTA-40-00	TTA-70-00	TTA-79-00	TTA-80-00	TTA-90-00
Frequency, MHz	406-512	794-806	792-824	806-824	896-902



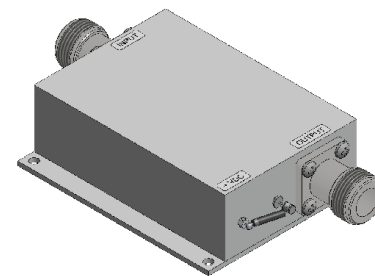
POWER DC FUSE CURRENT TEST POINTS

RECEIVER AMPLIFIERS

138-960MHZ

Models:	58-13-19	(138-174 MHz)
	58-40-19	(406-512 MHz)
	58-74-19	(740-960 MHz)

The Comprod Inc. line of low noise, medium power robust amplifiers are designed for unconditionally stable performance in professional communications systems. Featuring rugged construction, internal voltage regulator, hybrid-combined redundant amplifier pairs and low pass filters. The amplifiers will provide higher system dynamic range for fixed receiver systems, tower mounted amplifiers, or Bi-Directional in-building repeaters and boosters.



- High Gain, Low Noise.
- Maximum performance with minimum noise.
- Filtering on DC Terminals
- Greater than 70 dB attenuation from as low as 5 MHz to several GHz

Electrical Specifications	58-13-19	58-40-19	58-74-19
Frequency Range, MHz	100-200	300-520	700-1000
Bandwidth, MHz	100	220	300
Amplifier Type	Low Noise/Medium Power	Low Noise/Medium Power	Low Noise/Medium Power
Typical Gain, dB	18.0	18.5	19.0
Typical Noise figure, dB	1.9	1.9	1.9
3rd Order Intercept, dBm	+41	+41	+41
Output 1 dB Compression Point, dBm	25.0	25.0	25.0
Input/Output Return loss, dB	-18 Typ	-18 Typ	-18 Typ
Operating Voltage, VDC	12.5 to 28	12.5 to 28	12.5 to 28
Typical DC Current Draw, mA	130mA at 13V	130mA at 13V	130mA at 13V
Standard Connectors (Optional)	N Female (SMA)	N Female (SMA)	N Female (SMA)
Maximum Input Power, dBm	+15	+15	+15
Temperature Range, C	-20 to +70	-20 to +70	-20 to +70

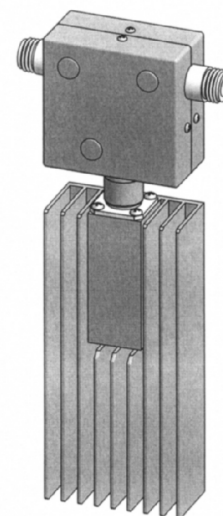
Mechanical Specifications	
Height, in (mm)	4.375 (111)
Width, in (mm)	2.5 (63.5)
Depth, in (mm) (including Connectors)	0.9375 (23.8)
Weight, lb (kg)	0.42 (0.187)
Finish	Alodine (yellow)

Order Information	58-13-19	58-40-19	58-74-19
Frequency MHz	138-174	406-512	740-760

LOW POWER SINGLE ISOLATORS

21-FF-PP

These Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. Low to medium power, and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250 watt combinations, as well as combined with second harmonic filters for Hybrid Combiners (HTCs).



- **High Isolation**

- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous Power**

- Physical size and materials used maximize the performance across the operating band

Electrical Specifications	21-13-XX	21-40-XX	21-80-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	30	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	100	100	100
Connectors	N Female	N Female	N Female
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, dB	30	30	30
Typical Insertion Loss, dB	0.45	0.35	0.25
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	21-13-XX	21-40-XX	21-80-XX
Dimensions, in (H x W x D)	3.94 x 3.75 x 1.78	4.19 x 3.99 x 1.78	5.63 x 3.15 x 1.84
Weight, lbs	1.40	1.41	1.32
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

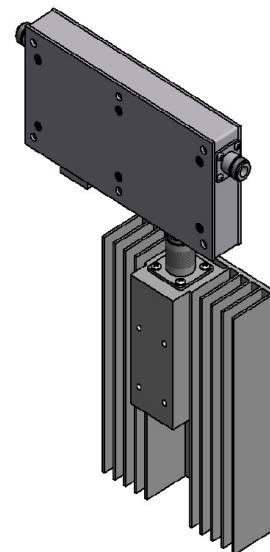
Order Information	5 Watt Load	25 Watt Load	60 Watt Load	100 Watt Load	150 Watt Load
21-13-XX	21-13-05	21-13-25	21-13-60	21-13-100	21-13-150
21-40-XX	21-40-05	21-40-25	21-40-60	21-40-100	21-40-150
21-80-XX	21-80-05	21-80-25	21-80-60	21-80-100	21-80-150

XX = load size

LOW POWER DUAL ISOLATORS

22-FF-PP

Comprod Inc. Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. Low to medium power and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250 watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).



- **High Isolation**

- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous Power**

- Physical size and materials used maximize the performance across the operating band

Electrical Specifications	22-13-XX	22-40-XX	22-80-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	30	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	100	100	100
Connectors	N Female	N Female	N Female
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, dB	50	50	50
Typical Insertion Loss, dB	0.9	0.7	0.5
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	22-13-XX	22-40-XX	22-80-XX
Dimensions, in (H x W x D)	3.94 x 6.25 x 1.78	4.19 x 8.75 x 1.78	5.63 x 6.13 x 1.84
Weight, lbs	2.6	2.8	2.75
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

Order Information	5 Watt Load	25 Watt Load	60 Watt Load	100 Watt Load	150 Watt Load
22-13-XX	22-13-05	22-13-25	22-13-60	22-13-100	22-13-150
22-40-XX	22-40-05	22-40-25	22-40-60	22-40-100	22-40-150
22-80-XX	22-80-05	22-80-25	22-80-60	22-80-100	22-80-150

XX = load size

HIGH POWER SINGLE ISOLATORS

41-FF-PP

Comprod Inc. Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. High power and total reliability are two of the characteristics of these isolators. Used for inter-modulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250 watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).

- **High Isolation**

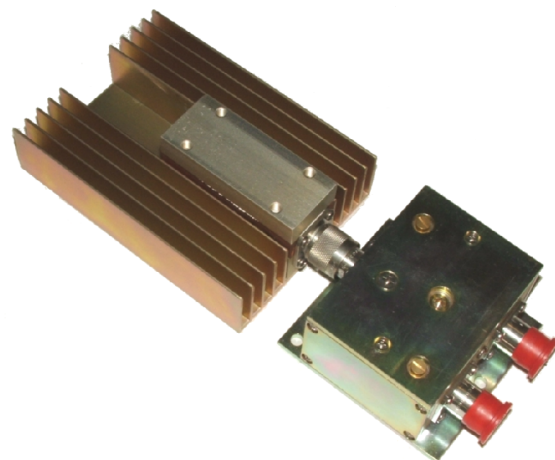
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous Power**

- Physical size and materials used maximize the performance across the operating band



Electrical Specifications	41-13-XX	41-40-XX	41-80-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	30	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	150	250	150
Connectors	N Female	N Female	N Female
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, dB	30	30	30
Typical Insertion Loss, dB	0.45	0.45	0.25
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	41-13-XX	41-40-XX	41-80-XX
Dimensions, in (H x W x D)	3.94 x 3.75 x 1.78	4.19 x 3.99 x 1.78	5.63 x 3.15 x 1.84
Weight, lbs	1,40	1,41	1,32
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

Order Information	5 Watt Load	25 Watt Load	60 Watt Load	100 Watt Load	150 Watt Load
41-13-XX	41-13-05	41-13-25	41-13-60	41-13-100	41-13-150
41-40-XX	41-40-05	41-40-25	41-40-60	41-40-100	41-40-150
41-80-XX	41-80-05	41-80-25	41-80-60	41-80-100	41-80-150

XX = load size

HIGH POWER DUAL ISOLATORS

42-FF-PP

Comprod Inc. Isolators are among the best in the industry for blocking the transfer of RF power flow in the opposite direction. High power and total reliability are two of the characteristics of these isolators. Used for intermodulation panels, protecting your transmitters from reflected power, and providing extra isolation are just a few of the possible applications. These isolators can be combined with a variety of loads, 5/25/60/100/150/250 watt combinations, and combined with second harmonic filters for Hybrid Combiners (HTCs).

- **High Isolation**

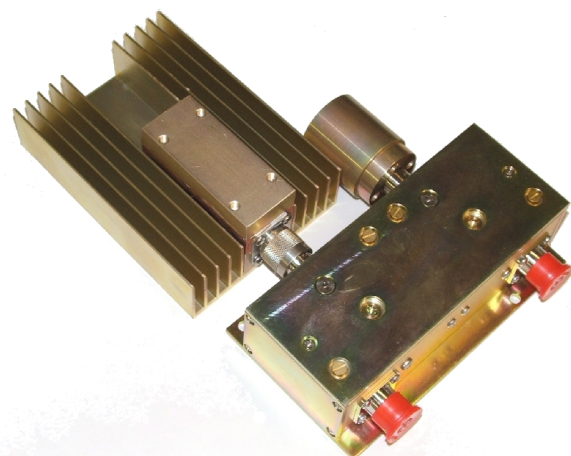
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous Power**

- Physical size and materials used maximize the performance across operating band



Electrical Specifications	42-13-XX	42-40-XX	42-80-XX
Frequency Range, MHz	138-174	406-512	746-960
Frequency Split, MHz	30	24	24
Bandwidth	2.5% Cent. Freq.	1% Cent. Freq.	2.5% Cent. Freq.
Continuous Power Input, Watts	150	250	150
Connectors	N Female	N Female	N Female
Output Load Size	5/25/60/100/150	5/25/60/100/150	5/25/60/100/150
Reverse Isolation, dB	60	60	60
Typical Insertion Loss, dB	0.9	0.7	0.5
VSWR	1.22:1	1.22:1	1.22:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	42-13-XX	42-40-XX	42-80-XX
Dimensions, in (H x W x D)	3.94 x 6.25 x 1.78	4.19 x 8.75 x 1.78	5.63 x 6.13 x 1.84
Weight, lbs	2.6	2.8	2.75
Mounting	Cavity / Plate / Cabinet / Rack Mount Are All Available		

Order Information	5 Watt Load	25 Watt Load	60 Watt Load	100 Watt Load	150 Watt Load
42-13-XX	42-13-05	42-13-25	42-13-60	42-13-100	42-13-150
42-40-XX	42-40-05	42-40-25	42-40-60	42-40-100	42-40-150
42-80-XX	42-80-05	42-80-25	42-80-60	42-80-100	42-80-150

XX = load size

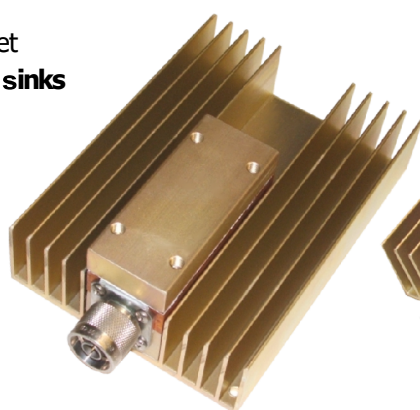
RF LOADS

25-1000MHz

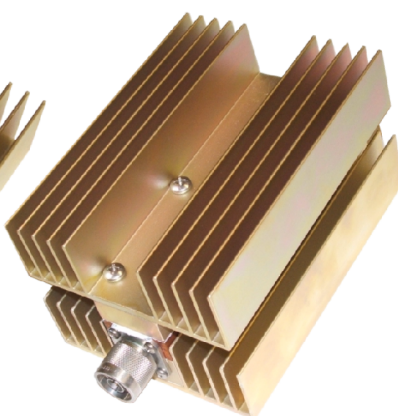
45-05-PP Series

Comprod Inc. continuous power RF Loads have been specifically developed to provide our customers with a product that is truly install and forget. The RF loads are specifically designed to continually absorb reflected power. Our loads are traditionally larger than the industry average. These heavy duty versions provide constant protection to your transmitters with their oversized heat sinks.

- **Excellent return loss**
- **Continuous duty power**
 - 24/7 operation
 - Install-and-forget
- **Oversized heat sinks**



45-05-60



45-05-100



45-05-250

Electrical Specifications	45-05-05	45-05-25	45-05-60	45-05-100	45-05-250
Frequency Range, MHz	5 - 1000	5 - 1000	5 - 1000	5 - 1000	5 - 1000
Load Type	Dry				
Cooling	Natural Air Convention				
Duty Cycle	Continuous				
Connectors	N Male				N Female
Impedance, Ohms	50				
Maximum RF Input Power, Watts	5	25	60	100	250
Resistor Element Rating, Watts	60	60	250	250	250
Heatsink Area, in (cm)	9.2 (59)	57 (368)	172.7 (1114)	334.7 (2159)	898.2 (5795)
Heatsink Power Density, Watts/inches	0.54	0.44	0.35	0.3	0.28
VSWR	1.05:1				
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	45-05-05	45-05-25	45-05-60	45-05-100	45-05-250
Dimensions, in (H x W x D)	1.31 x 1.50	5.06 x 1.50	6.3 x 3.9 x 1.6	6.3 x 3.9 x 2.9	7.4 x 8.00 x 4.3
Weight, lbs	0.18	0.64	1.28	2.00	7.52

HIGH POWER HYBRID COMBINERS

138-174MHz

HTC-13-OX

Our Hybrid Transmit Combiners are designed for compact, close frequency installations. Our HTCs are perfect for very closely spaced frequency transmitters. These devices are ideal for use when our X-Pass technology does not provide adequate performance and isolation for very close Tx-Tx spacing. Hybrid Combiners are also ideal for intermodulation panels, providing extra protection with their second harmonic filters, or when physical space is at a premium or is constrained, and for providing extra isolation between two very close transmitters.

- **High Isolation**

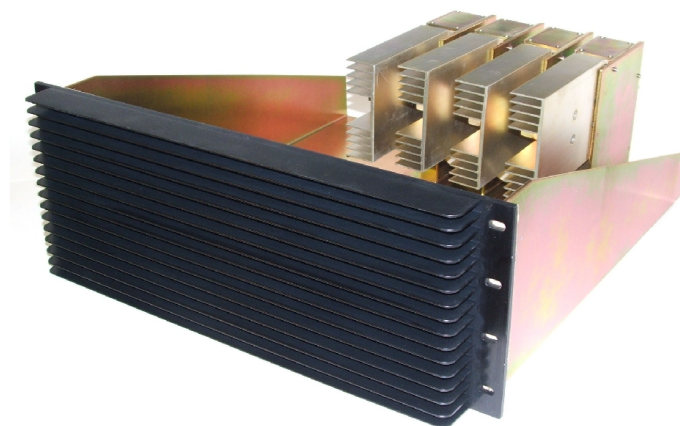
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous power**

- Physical size and materials used maximizes the performance across the operating band



Electrical Specifications	HTC-13-04HS	HTC-13-02HS	HTC-13-04HD	HTC-41-02HD
Frequency Range, MHz	138-174	138-174	138-174	138-174
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts	100	100	100	100
Connectors	N Female	N Female	N Female	N Female
Isolator	Single	Single	Dual	Dual
Isolation Tx/Tx, dB	65	65	100	100
Isolation Ant/Tx	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR - Input/Output	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	HTC-13-04HS	HTC-13-02HS	HTC-13-04HD	HTC-13-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	11.8	9.3-11	12.8	9.3-11
Mounting	19" Rack Mount	19" Rack Mount	19" Rack Mount	19" Rack Mount

HIGH POWER HYBRID COMBINERS

406-512MHz

HTC-40-0X

Our Hybrid Transmit Combiners are designed for compact, close frequency installations. Our HTCs are perfect for very closely spaced frequency transmitters. These devices are ideal for use when our X-Pass technology does not provide adequate performance and isolation for very close Tx-Tx spacing. Hybrid Combiners are also ideal for intermodulation panels, providing extra protection with their second harmonic filters, or when physical space is at a premium or is constrained, and for providing extra isolation between two very close transmitters.

- **High Isolation**

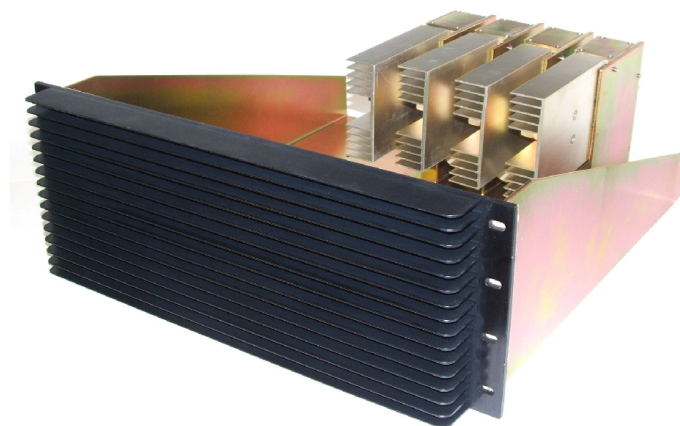
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous power**

- Physical size and materials used maximizes the performance across the operating band



Electrical Specifications	HTC-40-04HS	HTC-40-02HS	HTC-40-04HD	HTC-40-02HD
Frequency Range, MHz	406-512	406-512	406-512	406-512
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts	100	100	100	100
Connectors	N Female	N Female	N Female	N Female
Isolator	Single	Single	Dual	Dual
Isolation Tx/Tx, dB	65	65	100	100
Isolation Ant/Tx	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR - Input/Output	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	HTC-40-04HS	HTC-40-02HS	HTC-40-04HD	HTC-40-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	11.8	9.3-11	12.8	9.3-11
Mounting	19" Rack Mount	19" Rack Mount	19" Rack Mount	19" Rack Mount

HIGH POWER HYBRID COMBINERS

806-960MHz

HTC-80-OX

Our Hybrid Transmit Combiners are designed for compact, close frequency installations. Our HTCs are perfect for very closely spaced frequency transmitters. These devices are ideal for use when our X-Pass technology does not provide adequate performance and isolation for very close Tx-Tx spacing. Hybrid Combiners are also ideal for intermodulation panels, providing extra protection with their second harmonic filters, or when physical space is at a premium or is constrained, and for providing extra isolation between two very close transmitters.

- **High Isolation**

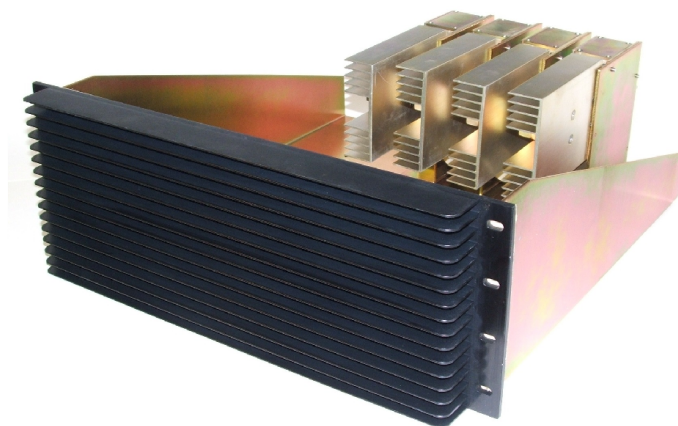
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous power**

- Physical size and materials used maximizes the performance across the operating band



Electrical Specifications	HTC-80-04HS	HTC-80-02HS	HTC-80-04HD	HTC-80-02HD
Frequency Range, MHz	806-960	806-960	806-960	806-960
Frequency Split, MHz	30	30	24	24
Bandwidth	2.5% Cent. Freq.	2.5% Cent. Freq.	1% Cent. Freq.	1% Cent. Freq.
Channels	4	2	4	2
Continuous Power Input, Watts	100	100	100	100
Connectors	N Female	N Female	N Female	N Female
Isolator	Single	Single	Dual	Dual
Isolation Tx/Tx, dB	65	65	100	100
Isolation Ant/Tx	35+	35+	70+	70+
Typical Insertion Loss, dB	6.8	3.5	7.0	3.7
VSWR - Input/Output	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1	1.1:1 / 1.3:1
Temperature °C	-40 to +60	-40 to +60	-40 to +60	-40 to +60

Mechanical Specifications	HTC-80-04HS	HTC-80-02HS	HTC-80-04HD	HTC-80-02HD
Dimensions, in (H x W x D)	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18	6.5 x 19 x 18
Weight, lbs	11.8	9.3-11	12.8	9.3-11
Mounting	19" Rack Mount	19" Rack Mount	19" Rack Mount	19" Rack Mount

HYBRID TRANSMIT COMBINER

806-960MHz

HTC-90-O2DLP

Our Hybrid Transmit Combiners are designed for compact, close frequency installations. Our HTC's are perfect for very closely spaced frequency transmitters. These devices are ideal for use when our X-Pass technology does not provide adequate performance and isolation for very close Tx-Tx spacing. Hybrid Combiners are also ideal for intermodulation panels, providing extra protection with their second harmonic filters, or when physical space is at a premium or is constrained, and for providing extra isolation between two very close transmitters.

- **High Isolation**

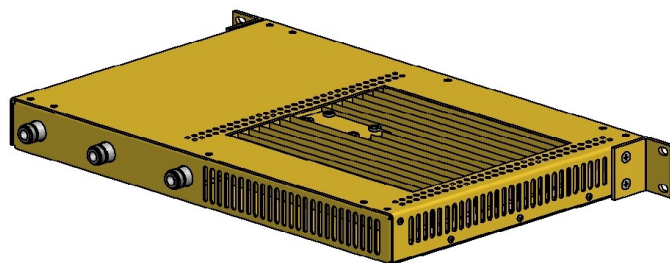
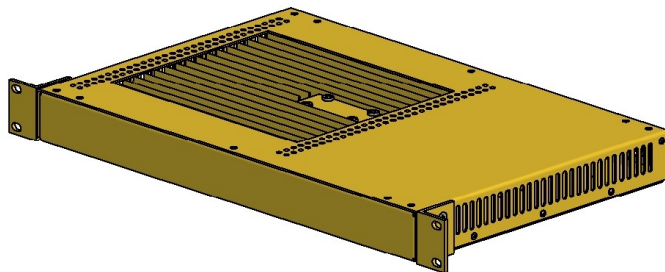
- Minimizes intermodulation products

- **Low loss**

- Maximizes system performance

- **Continuous power**

- Physical size and materials used maximizes the performance across the operating band



Electrical Specifications	HTC-90-O2DLP
Frequency Range, MHz	896-960
Channels	2
Maximum Power Per Channel, Watts	50
Connectors	N Female
Isolator	Single
Isolation Tx/Tx, dB	70
Isolation Ant/Tx, dB	50
Typical Insertion Loss, dB	3.7
Maximum Input VSWR	1.22:1
Maximum Output VSWR	1.3:1
Temperature °C	-40 to +80
Impedance, Ohms	50
Transmit Antenna Return Loss, dB	18

Mechanical Specifications	
Height, in (mm)	1.75 (44.5)
Width, in (mm)	19 (483)
Depth, in (mm)	11.25 (286)
Weight, lb (kg)	8.8 (4.0)
Mounting Information	19" Rack Mount, 1 Rack Unit

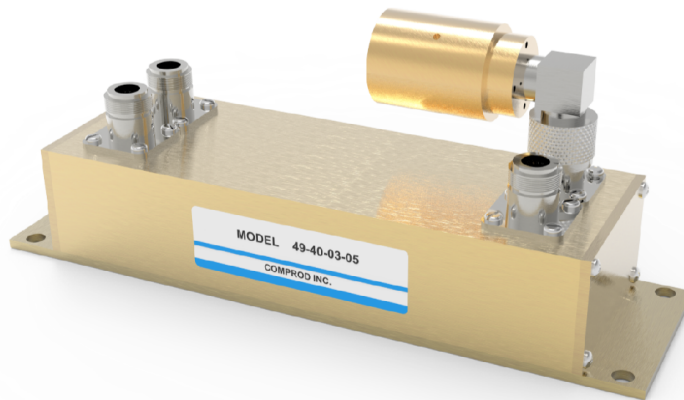
HYBRID DIRECTIONAL COUPLERS

138-960MHz

49-FF-YY-XX Series

Comprod Inc. offers a full line of Hybrid Directional Couplers. The full range of decoupling values allows balanced power division and distribution. These couplers are bidirectional and are well suited for two-way communications systems. A full line of Tri-Band models is available for distribution of VHF, UHF and 800 MHz via a single transmission line. Standard finish is gold alodine.

- Low Insertion Loss
- High Isolation between ports
- Excellent VSWR
- Tri-Band and other models are available and customizable. Please contact a Comprod Inc. Technical support technician for consultation.



Model With No Load	Model With 5 Watt Load	Model With 25 Watt Load	Frequency Range	Decoupling (dB)	ThruLine Loss (dB)	Power Split Ratio (%)
49-13-03-00	49-13-03-05	49-13-03-25	138-174MHz	-3, ± 0.7	-3.0, ± 0.3	50 / 50
49-13-48-00	49-13-48-05	49-13-48-25	138-174MHz	-4.8, ± 0.7	-1.8, ± 0.3	67 / 33
49-13-06-00	49-13-06-05	49-13-06-25	138-174MHz	-6.0, ± 1.0	-1.2, ± 0.2	75 / 25
49-13-07-00	49-13-07-05	49-13-07-25	138-174MHz	-7.0, ± 1.0	-1.0, ± 0.2	80 / 20
49-13-10-00	49-13-10-05	49-13-10-25	138-174MHz	-10.0, ± 1.0	-0.5, ± 0.2	90 / 10
49-13-20-00	49-13-20-05	49-13-20-25	138-174MHz	-20.0, ± 1.0	-0.3 max.	99 / 1
49-38-03-00	49-38-03-05	49-38-03-25	380-512MHz	-3, ± 0.7	-3.0, ± 0.3	50 / 50
49-38-48-00	49-38-48-05	49-38-48-25	380-512MHz	-4.8, ± 0.7	-1.8, ± 0.3	67 / 33
49-38-06-00	49-38-06-05	49-38-06-25	380-512MHz	-6.0, ± 1.0	-1.2, ± 0.2	75 / 25
49-38-07-00	49-38-07-05	49-38-07-25	380-512MHz	-7.0, ± 1.0	-1.0, ± 0.2	80 / 20
49-38-10-00	49-38-10-05	49-38-10-25	380-512MHz	-10.0, ± 1.0	-0.5, ± 0.2	90 / 10
49-38-15-00	49-38-15-05	49-38-15-25	380-512MHz	-15.0	-0.2 max.	97 / 3
49-38-20-00	49-38-20-05	49-38-20-25	380-512MHz	-20.0	-0.2 max.	99 / 1
49-38-30-00	49-38-30-05	49-38-30-25	380-512MHz	-30.0	-0.2 max.	99.9 / 0.1
49-74-03-00	49-74-03-05	49-74-03-25	760-960MHz	-3, ± 0.7	-3.0, ± 0.3	50 / 50
49-74-48-00	49-74-48-05	49-74-48-25	760-960MHz	-4.8, ± 0.7	-1.8, ± 0.3	67 / 33
49-74-06-00	49-74-06-05	49-74-06-25	760-960MHz	-6.0, ± 1.0	-1.2, ± 0.2	75 / 25
49-74-07-00	49-74-07-05	49-74-07-25	760-960MHz	-7.0, ± 1.0	-1.0, ± 0.2	80 / 20
49-74-10-00	49-74-10-05	49-74-10-25	760-960MHz	-10.0, ± 1.0	-0.5, ± 0.2	90 / 10
49-74-15-00	49-74-15-05	49-74-15-25	760-960MHz	-15.0	-0.2 max.	97 / 3
49-74-20-00	49-74-20-05	49-74-20-25	760-960MHz	-20.0	-0.2 max.	99 / 1
49-74-30-00	49-74-30-05	49-74-30-25	760-960MHz	-30.0	-0.2 max.	99.9 / 0.1

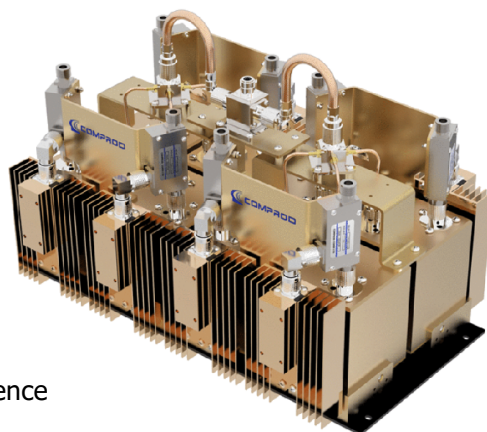
CERAMIC COMBINER

764-776, 851-869 & 935-941 MHz

Star Junction Ceramic Combiner

Comprod's Ceramic Combiner uses dielectric resonator technology to offer higher performance than standard RF cavities in a much smaller package. It combines 8 channels in only 8.5" of standard 19" rack space. The resonator allows combining of transmitters at a frequency spacing as close as 150 KHz. Lower insertion loss per channel is another result of the sharper filtering performance. Expandable in individual channel increments. Available in Star or X-Pass (expandable) configuration.

- Available for the 764-776, 851-869 and 935-941 MHz bands
- Designed for tight channel spacing
- Lowest insertion loss, high isolation for maximum coverage and reduced interference
- Star Configuration
- Compact, robust design for rapid installations, increased mobility and ease of maintenance

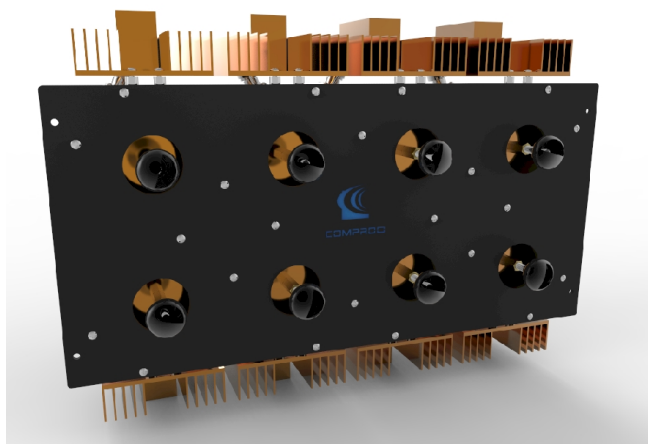


Electrical Specifications

Frequency Range, MHz	764-776, 851-869 & 935-941
Frequency Spacing, Min.	150 KHz
Temperature Range, °C	-35 to +60
TX to TX Isolation at Minimum Frequency Spacing of 150 KHz	65 dB min (double junction isolator)
ANT to TX Isolation	60 dB min (double junction isolator)
Insertion Loss	1.8 dB – 4 ch. at 500 KHz 2.5 dB – 16 ch. at 500 KHz 3.8 dB – 24 ch. at 500 KHz
Power Input / Channel (Watts)	125
Transmitter Input VSWR (max)	1.25:1

Mechanical Specifications

Dimensions (HWD), in (mm)	14 x 8.5 x 19 (356 x 216 x 483)
Weight, lb (kg)	8 Channel system 62.17 (28.2)



CERAMIC COMBINER

764-776, 851-869 & 935-941 MHz

X-Pass Ceramic Combiner

Comprod's Ceramic Combiner uses dielectric resonator technology to offer higher performance than standard RF cavities in a much smaller package. It combines 4 channels in only 7.75" of standard 19" rack space. The resonator allows combining of transmitters at a frequency spacing as close as 150 KHz. Lower insertion loss per channel is another result of the sharper filtering performance. Expandable in individual channel increments. Available in Star or X-Pass (expandable) configuration.



- Available for the 764-776, 851-869 and 935-941 MHz bands
- Designed for tight channel spacing
- Lowest insertion loss, high isolation for maximum coverage and reduced interference
- Easy field expandability with X-Pass technology - one channel at a time
- Compact, robust design for rapid installations, increased mobility and ease of maintenance

Electrical Specifications

Frequency Range, MHz	764-776, 851-869 & 935-941
Frequency Spacing, Min.	150 KHz
Temperature Range, °C	-35 to +60
TX to TX Isolation at Minimum Frequency Spacing of 150 KHz	65 dB min (double junction isolator)
ANT to TX Isolation	60 dB min (double junction isolator)
Insertion Loss	1.8 dB – 4 ch. at 500 KHz 2.5 dB – 16 ch. at 500 KHz 3.8 dB – 24 ch. at 500 KHz
Power Input / Channel (Watts)	125
Transmitter Input VSWR (max)	1.25:1

Mechanical Specifications

Dimensions (HWD), in (mm)	7.75 x 19 x 14 (197 x 483 x 356)
Weight, lb (kg)	4 Channel system 32 (15)



DRXC	-	FF	-	XX	N
DRXC	Dielectric Resonator X-Pass				
FF	Frequency band: 76=764-776 85=851-869 93=935-940				
XX	Number of Channels				
N	N Female Connectors				

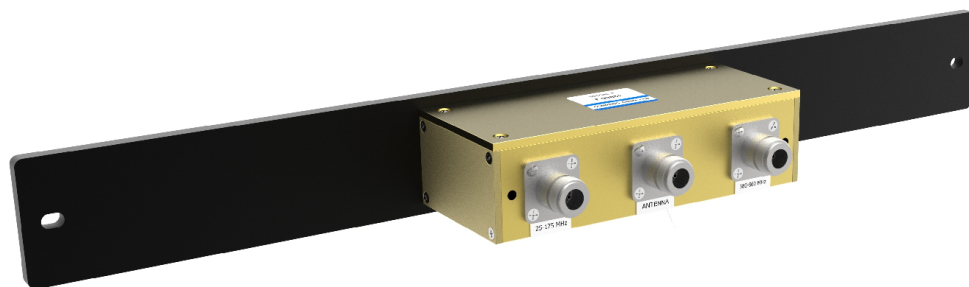
Example: Model # RDXC-85-04N

Ceramic Combiner, 851-869 MHz, 4 Channel N Connectors

X-BAND COUPLER

25-960MHz

Comprod Inc. Cross Band Couplers are designed for easy installation, reducing coaxial runs, and for in-building applications with multi-band antennas. They allow multiple bands to share the same transmission lines. They are available in VHF, UHF and 800/900MHz bands. They can be tower mounted (TM), rack mounted (RM), tray-mounted (TRM) or stand alone.



Electrical Specifications		XBC-02-38	XBC-02-38R	XBC-38-80	XBC-38-80R	XBC-38-80RX
Frequency Range, MHz	1st	25-175	25-175	380-512	380-512	380-512
	2nd	380-960	380-960	806-960	806-960	806-960
Typical Loss, dB	1st	0.35	0.35	0.20	0.35	0.30
	2nd	0.50	0.50	0.20	0.50	0.50
Isolation, dB		40	40	40	40	40
Power Rating, Watts	1st	250	Rx Only	250	Rx Only	250
	2nd	250	Rx Only	250	Rx Only	Rx Only
Connectors		N Female				
VSWR		1.25:1				
Temperature °C		-40 to +60	-40 to +60	-40 to +60	-40 to +60	-40 to +60
Mechanical Specifications		XBC-02-80	XBC-02-80R	XBC-38-80	XBC-38-80R	XBC-38-80RX
Dimensions		DEPENDS ON Mounting CONFIGURATION				
Rack Mount		DEPENDS ON Mounting CONFIGURATION				
Tower Mount		DEPENDS ON Mounting CONFIGURATION				
Order Information		19" Rack Mount	Tower Mount	Tray Mount	Without Bracket	
XBC-02-80		XBC-02-80-RM	XBC-02-80-TM	XBC-02-80-TRM	XBC-02-80-WB	
XBC-02-80R		XBC-02-80R-RM	XBC-02-80R-TM	XBC-02-80R-TRM	XBC-02-80R-WB	
XBC-38-80		XBC-38-80-RM	XBC-38-80-TM	XBC-38-80-TRM	XBC-38-80-WB	
XBC-38-80R		XBC-38-80R-RM	XBC-38-80R-TM	XBC-38-80R-TRM	XBC-38-80R-WB	
XBC-38-80RX		XBC-38-80RX-RM	XBC-38-80RX-TM	XBC-38-80RX-TRM	XBC-38-80RX-WB	

COMBLINE FILTERS / PRESELECTORS

30-960MHz

57-FF-XX Series

Comprod Inc. Comblime filters are designed for minimizing interference from adjacent channels and outside systems. They are available in a wide range of bandwidths and frequency splits. Used in front of a wideband receiver multicoupler, the preselectors narrow the passband to the desired bandwidth. Each filter is temperature compensated for operation between -40°C to +60°C. Each filter has silver plated loops, and silver plated tuning rods. Comprod Inc. preselectors are available in a wide range of frequency splits, bandwidth and cavity sizes.

Temperature Compensation

- Ensures Frequency Stability

High Attenuation

- Minimizes desense and interference from adjacent systems

Several other preselectors are also available. They include combline and our full line of cavity based preselectors. Sizes range from the very compact 1" helical filter to the very selective 6.625" cavity preselector. Please contact a Comprod Inc. Technical support technician for consultation.



Electrical Specifications	57-45-04	57-80-05	57-80-07	57-80-15	57-80-18
Frequency Range, MHz	450-470	766-960	766-960	766-960	766-960
Type	Comblime	Comblime	Comblime	Comblime	Comblime
Insertion Loss Bandwidth, dB	3	1.5	1.5	0.8	0.8
Pass Bandwidth, MHz	4.0	5.0	7.0	15.0	18.0
Return Loss, dB (VSWR)	20 (1.22)	20 (1.22)	20 (1.22)	20 (1.22)	20 (1.22)
Typical Selectivity, dB @ MHz	38 @ 5	80 @ 45	80 @ 45	70 @ 45	70 @ 45
Temperature Range, °C	-30 to +60	-30 to +60	-30 to +60	-30 to +60	-30 to +60
Input Power, Watt	Rx Only	Rx Only	Rx Only	Rx Only	Rx Only
Connectors, Antenna/Output	N-F/N-F	N-F/N-F	N-F/N-F	N-F/N-F	N-F/N-F

Mechanical Specifications	57-45-04	57-80-05	57-80-07	57-80-15	57-80-18
Finish	Black	Black and gold alodine			
Dimensions H x W x D, in (mm)	5.25 x 19 x 4.5	3.5 x 19 x 6	3.5 x 19 x 6	3.5 x 19 x 6	3.5 x 19 x 6
	(133 x 686 x 114)	(89 x 483 x 152)	(89 x 483 x 152)	(89 x 483 x 152)	(89 x 483 x 152)

Order information: specify working frequency, bandwidth, power and isolation required.

FILTER RACKS AND MOUNTING

Filter Rack Mounting Systems

Comprod Inc. filter racks are designed for flexible, space saving filter systems. Each rack has its own benefits, space constraints, ease of installation and cost effectiveness.

We offer four types of racks:

19 inch Standard Rack

This is a standard 19" rack with mounting holes on either side of the rack for ease of installation. Racks are available in different heights.

X-Rack

The X-Rack was specifically developed for our X-Series Cavities. This rack system allows for maximum cavity installation, but minimizes the amount of physical space that is used. All cavities mount horizontally for easy installation and removal. Most X-Rack systems will be supplied turnkey and pre-assembled for quick installation. The maximum capacity per rack is 21 cavities. Racks are available in different heights.

Stack Rack

The Stack Rack is used when space is at a premium. It must be assembled on-site. Two Stack Racks can hold 40 cavities. All cavities are mounted horizontally, with 4 cavities per row.

Wall-Mount and Cabinets

We have multiple versions of these cabinets and cavity mounts. Please contact us for additional information. Do not hesitate to ask for custom installations.

We also offer four types of mounting hardware:

- Cabinet Mount - (CM)
- Wall Mount - (WM)
- Rack Mount - (RM)
- Tower Mount - (TM)
- Tray Mount - (TRM)

We also supply mounting hardware manufactured to your specifications. Our metal shop manufactures our own racks, cabinets and mounting hardware. We also have the ability to design, and build your custom concepts.



Rack Style	Model Number	Cavity Size	Cavity Length	# of Cavity	Height	Width	Depth
X Rack	19-10-26-13	10"	26"	13	79.5"	24"	28.69"
X Rack	19-07-11-20	6.625"	11.5"	21	86.5"	24"	14.19"
X Rack	19-07-26-20	6.625"	26"	21	86.5"	24"	28.69"
X Rack	19-07-13-20	6.625"	13"	21	86.5"	24"	15.81"
X Rack	19-10-26-19	10"	26"	19	108"	24"	28.69"
Stack Rack	HRV-85	6.625"	26"	20	42.62"	32.75"	30.25"
Stack Rack	HRU-85	6.625"	11.5"	20	42.62"	32.75"	18.25"
19" Standard Rack	Call for Available Dimensions						