

# Duplexers

## Application

Duplexers are used to simultaneously transmit and receive from a single antenna. They are three-port devices comprising a combination of transmit and receive filters with a common antenna port.

Duplexers are designed for various application based on operational frequency and utility. As an example, mobile duplexers are designed to handle low power and are very compact in size. Base station duplexers are designed to handle higher base radio power and generally designed to be mountable in standard equipment racks.

All RFS duplexers are designed to provide high isolation between the transmit and receive ports.

## Features & Benefits

- Low insertion loss ensures that transmitter power is not reduced for transmission.
- High isolation avoids receiver desensitization
- Mobile duplexers are compact and easy to integrate and use with mobile repeaters.
- High Q design ensures low intermodulation



5597 Series



633-6A Series



MD Series



FD90\* Series



## UHF Mobile Duplexers (Fixed Frequency Spacing)

	633-A-1*	633-A-2*	633-A-3*	633-A-4*
Frequency band, MHz	406-440	440-470	470-512	406-470
Tx-Rx spacing, MHz	5	5	5	10
Rx Insertion loss, dB	1.2	1.2	1.2	0.8
Tx Insertion loss, dB	1.2	1.2	1.2	0.8
Tx/Rx isolation, dB	50	50	50	60
Connector type	BNC/N	BNC/N	BNC/N	BNC/N
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	50	50	50	50
	633-A-5*	633-A-7*		
Frequency band, MHz	470-512	406-470		
Tx-Rx spacing, MHz	10	10		
Rx Insertion loss, dB	0.8	0.8		
Tx Insertion loss, dB	0.8	0.8		
Tx/Rx isolation, dB	60	60		
Connector type	BNC/N	BNC/N		
Tx/Rx Bandwidth, KHz	25	25		
Max Power, W	50	50		

\* Additional character indicating type of connectors

## UHF Mobile Duplexers (Variable Frequency Spacing - Higher Isolation)

	633-6A-1*	633-6A-2*	633-6A-5*	633-6A-6*
Frequency band, MHz	406-450	450-470	406-450	450-470
Tx-Rx spacing, MHz	4 to 7	4 to 8	7 to 15	9 to 15
Rx Insertion loss, dB	1.4	1.4	1.2	1.2
Tx Insertion loss, dB	1.4	1.4	1.2	1.2
Tx/Rx isolation, dB	75	75	80	80
Connector type	BNC/N	BNC/N	BNC/N	BNC/N
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	50	50	50	50
	633-6A-7*	633-6A-8*	633-6A-9*	633-6A-11N
Frequency band, MHz	470-512	355-406	470-512	355-406
Tx-Rx spacing, MHz	8 to 12	7 to 16	3 to 5	4.5 to 7
Rx Insertion loss, dB	1.2	1.2	1.4	1.4
Tx Insertion loss, dB	1.2	1.2	1.4	1.4
Tx/Rx isolation, dB	80	80	70	75
Connector type	BNC/N	BNC/N	BNC/N	N
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	50	50	50	50

\* Additional character indicating type of connectors

## UHF Compact Base Station Duplexers

	5085-1	5085-2	5085-3	5085-5
Frequency band, MHz	138-150	138-150	150-162	162-174
Tx-Rx spacing, MHz	3	5	3	3
Rx Insertion loss, dB	1.4	1.4	1.4	1.4
Tx Insertion loss, dB	1.4	1.4	1.4	1.4
Tx/Rx isolation, dB	75	75	75	75
Connector type	N Female	N Female	N Female	N Female
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	100	100	100	100
	5085-6			
Frequency band, MHz	162-174			
Tx-Rx spacing, MHz	5			
Rx Insertion loss, dB	1.4			
Tx Insertion loss, dB	1.4			
Tx/Rx isolation, dB	75			
Connector type	N Female			
Tx/Rx Bandwidth, KHz	25			
Max Power, W	100			

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## UHF Base Station Duplexers

	526-4-1	526-4-2	526-5-1	526-5-2
Frequency band, MHz	406-440	440-470	470-490	490-512
Tx-Rx spacing, MHz	3	3	3	3
Rx Insertion loss, dB	1.0	1.0	1.0	1.0
Tx Insertion loss, dB	1.0	1.0	1.0	1.0
Tx/Rx isolation, dB	75	75	80	80
Connector type	N	N	N	N
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	250	250	250	250

## VHF Mobile Duplexers

	636-6A-1*	636-6A-2*	636-6A-3*	636A-1*
Frequency band, MHz	144-154	154-164	164-174	144-155
Tx-Rx spacing, MHz	4.5 to 6	4.5 to 6	4.5 to 6	4.5
Rx Insertion loss, dB	1.2	1.2	1.2	0.8
Tx Insertion loss, dB	1.2	1.2	1.2	0.8
Tx/Rx isolation, dB	80	80	80	60
Connector type	BNC/N	BNC/N	BNC/N	BNC/N
Tx/Rx Bandwidth, KHz	25	25	25	25
Max Power, W	50	50	50	50
	636A-2*	636A-3*		
Frequency band, MHz	155-162	162-174		
Tx-Rx spacing, MHz	4.5	4.5		
Rx Insertion loss, dB	0.8	0.8		
Tx Insertion loss, dB	0.8	0.8		
Tx/Rx isolation, dB	60	60		
Connector type	BNC/N	BNC/N		
Tx/Rx Bandwidth, KHz	25	25		
Max Power, W	50	50		

\* Additional character indicating type of connectors

## MD Duplexers

	MDX03-1M	MDX04-1M	MD08-1R	MD09-1R
Frequency band, MHz	330-400	400-470	805-890	850-960
Tx-Rx spacing, MHz	9.45	9.45	45	45
Rx Insertion loss, dB	2.0	1.7	1.7	1.7
Tx Insertion loss, dB	2.0	1.7	1.7	1.7
Tx/Rx isolation, dB	85	85	80	80
Connector type	SMA	SMA	SMA/N	SMA/N
Tx/Rx Bandwidth, MHz	2	2	3.5	3.5
Max Power, W	10	10	10	10
	MD18-1L	MD21-1R	MD25-1A	
Frequency band, MHz	1710-1910	2000-2305	2300-2700	
Tx-Rx spacing, MHz	90	91	94	
Rx Insertion loss, dB	1.5	1.7	1.5	
Tx Insertion loss, dB	1.5	1.7	1.5	
Tx/Rx isolation, dB	70	75	75	
Connector type	SMA/N	SMA/N	SMA/N	
Tx/Rx Bandwidth, MHz	8.6	7	16	
Max Power, W	10	10	10	