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## 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



**Wadsworth  
Sales Inc.**

**Bryan Wadsworth**

**Cell 815-790-4494**

**Fax 815-363-6056**

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## Cellular 850 & 1900 MHz PCS Duplexers

	5597-25BK	5597-14BK	FD193005-1	FD193005-2
Rx Frequency, MHz	824-849	835-849	1850-1910	1850-1910
Tx Frequency, MHz	859-894	880-894	1930-1990	1930-1990
Rx Insertion loss, dB	0.5	0.5	0.5	0.5
Tx Insertion loss, dB	0.5	0.5	0.5	0.5
Tx/Rx isolation, dB	60	60	30	30
Connector type	N	N	N & 7/16	N
Average Power, W	500	500	250	250
Rack mountable	Yes	Yes	Yes	Yes
FD193005-3				
Rx Frequency, MHz	1850-1910			
Tx Frequency, MHz	1930-1990			
Rx Insertion loss, dB	0.5			
Tx Insertion loss, dB	0.5			
Tx/Rx isolation, dB	30			
Connector type	7/16			
Average Power, W	250			
Rack mountable	Yes			

## GSM 900 & 1800 MHz Duplexers

	FD183005	FD904510	FD906005
Rx Frequency, MHz	1710-1785	880-915	890-915
Tx Frequency, MHz	1805-1880	925-960	935-960
Rx Insertion loss, dB	0.5	1.0	0.5
Tx Insertion loss, dB	0.5	1.0	0.5
Tx/Rx isolation, dB	30	45	60
Connector type	N & 7/16	N & 7/16	N & 7/16
Average Power, W	250	350	350
Rack mountable	Yes	Yes	Yes

## PMR & iDEN Applications

	5134-10BK	5134-18BK
Rx Frequency, MHz	806-824	806-824
Tx Frequency, MHz	851-869	851-869
Rx Insertion loss, dB	1.0	1.2
Tx Insertion loss, dB	1.0	1.2
Tx/Rx isolation, dB	85	75
Connector type	N	N
Average Power, W	400	400
Rack mountable	Yes	Yes



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### 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

# Duplexers

## 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

	636A-1*	636A-2*	636A-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	

**Wadsworth Sales Incorporated**  
**E Mail wb9mcw@gmail.com Cell: 1-815-790-4494**  
**Skype: bryan.wadsworth Fax: 1-815-363-6056**