

Important Connections.

Dual-Directional Couplers Monitor Forward And Reflected Power. You Know Output And VSWR To The Second.

Twenty-two models cover the RF and microwave spectrum—from 10 kHz to 18 GHz—with 50 to 15,000 watts continuous, 50,000 watts peak pulse power. This broad range gives you flexibility in coupling low- and high-power amps to power meters, spectrum analyzers, receivers, oscilloscopes, and other measuring instruments.

Dual-directional design—two back-to-back couplers in the same package—lets you monitor forward and

reflected power. It also assures good directivity, flatness, and coupling factor.

Popular applications include power sampling and measurement, amplifier leveling, VSWR monitoring, field control, and amplifier and load protection.

All AR couplers are power- and frequency-matched to our amplifiers and antennas.

RF To 1 GHz.

	DC2035*	DC2100	DC2500	DC2600	DC3001	DC3002	
Frequency Range	10 kHz–220 MHz	20–200 MHz	10 kHz–220 MHz	10 kHz–250 MHz	100 kHz–1000 MHz	100 kHz–1000 MHz	
Power (max. watts)	3500 cw 7000 peak	10,000 cw 20,000 peak	2500 cw 5000 peak	600 cw, 1200 peak (10 kHz–100 MHz) 300 cw, 600 peak (100–250 MHz)	50 cw 1000 peak	120 cw 1200 peak	
Flatness (max.)	± 0.9 dB	± 0.5 dB	± 0.9 dB	± 0.5 dB	± 0.6 dB	± 0.6 dB	
Coupling Factor (includes flatness)	50 ± 1 dB	60 ± 1.5 dB	50 ± 1 dB	50 ± 1 dB	40 ± 0.8 dB	40 ± 0.8 dB	
Directivity							
typical	25 dB	25 dB	25 dB	25 dB	25 dB	25 dB	
minimum	20 dB	20 dB	20 dB	18 dB	20 dB	20 dB	
Insertion Loss (max.)	0.15 dB	0.1 dB	0.15 dB	0.25 dB	0.6 dB	0.65 dB	
VSWR (main line)	1.2:1 max. (50 ohms)	1.1:1 max. (50 ohms)	1.2:1 max. (50 ohms)	1.3:1 max. (50 ohms)	1.3:1 max. (50 ohms)	1.3:1 max. (50 ohms)	
Connectors							
main line	C female	EIA flange 1½ in. male	C female	N female	N female	N female	
coupled	BNC female	BNC female	BNC female	SMA female	BNC female	SMA female	
Weight (max.)	1.8 kg 4.0 lb	1.8 kg 4.0 lb	1.13 kg 2.5 lb	0.64 kg 1.4 lb	0.9 kg 2.0 lb	0.7 kg 1.6 lb	
Size (approximate) W x H x D	25.4 x 9.6 x 11.5 cm (10.0 x 3.8 x 4.53 in.)	20.3 x 8.9 x 10.2 cm (8.0 x 3.5 x 4.0 in.)	25.6 x 8.1 x 7.6 cm (10.1 x 3.2 x 3.0 in.)	10.2 x 7.6 x 6.6 cm (4.0 x 3.0 x 2.6 in.)	12.7 x 5.1 x 3.8 cm (5.0 x 2.0 x 1.5 in.)	13.2 x 6.8 x 4.1 cm (5.2 x 2.7 x 1.6 in.)	
	DC3010	DC4000*	DC5000	DC6080	DC6180	DC6280	DC6380
Frequency Range	10 kHz–1000 MHz	10 kHz–100 MHz	220–400 MHz	80–1000 MHz	80–1000 MHz	80–1000 MHz	80–1000 MHz
Power (max. watts)	50 cw 1000 peak	15,000 cw 50,000 peak	2500 cw 5000 peak	200 cw 1000 peak	600 cw 1000 peak	1500 cw 3000 peak	3000 cw 6000 peak
Flatness (max.)	± 0.6 dB	± 0.9 dB	± 0.6 dB	± 0.4 dB	± 0.5 dB	± 0.5 dB	± 1.0 dB
Coupling Factor (includes flatness)	40 ± 0.8 dB	60 ± 1 dB	50 ± 1 dB	40 ± 0.5 dB	60 ± 1 dB	63 ± 1 dB	63 ± 1.5 dB
Directivity							
typical	25 dB	25 dB	25 dB	25 dB	25 dB	25 dB	25 dB
minimum	20 dB	20 dB	20 dB	20 dB	20 dB	20 dB	20 dB
Insertion Loss (max.)	0.6 dB	0.1 dB	0.2 dB	0.25 dB	0.15 dB	0.15 dB	0.2 dB
VSWR (main line)	1.3:1 max. (50 ohms)	1.2:1 max. (50 ohms)	1.2:1 max. (50 ohms)	1.2:1 max. (50 ohms)	1.15:1 max. (50 ohms)	1.1:1 max. (50 ohms)	1.5:1 max. (50 ohms)
Connectors							
main line	N female	EIA flange 1½ in. male	C female	N female	N female	C female	EIA flange 1½ in. male
coupled	BNC female	BNC female	BNC female	BNC female	BNC female	BNC female	BNC female
Weight (max.)	0.9 kg 2.0 lb	6.8 kg 15.0 lb	0.23 kg 0.5 lb	0.45 kg 1.0 lb	0.6 kg 1.3 lb	0.6 kg 1.3 lb	1.8 kg 4.0 lb
Size (approximate) W x H x D	12.7 x 5.1 x 3.8 cm (5.0 x 2.0 x 1.5 in.)	30.4 x 15.2 x 15.2 cm (12 x 6 x 6 in.)	7.4 x 3.2 x 5.3 cm (2.9 x 1.3 x 2.1 in.)	7.6 x 7.6 x 2.9 cm (3.0 x 3.0 x 1.125 in.)	10.9 x 6.3 x 3.2 cm (4.3 x 2.5 x 1.3 in.)	10.9 x 6.3 x 3.2 cm (4.3 x 2.5 x 1.3 in.)	20.3 x 8.9 x 10.2 cm (8.0 x 3.5 x 4.0 in.)

*Power required for fan cooling.

Microwave To 18 GHz.

	DC7128	DC7144	DC7154
Frequency Range	0.8–2.8 GHz	0.8–4.2 GHz	0.8–4.2 GHz
Power (max. watts)	1500 cw 3000 peak	400 cw 1200 peak	400 cw 1200 peak
Flatness (max.)	± 0.8 dB	± 0.8 dB	± 0.8 dB
Coupling Factor	50 ± 1 dB	40 ± 1.3 dB	50 ± 1.3 dB
Directivity			
<i>typical</i>	25 dB	19 dB	19 dB
<i>minimum</i>	20 dB	15 dB	15 dB
Insertion Loss (max.)	0.2 dB	0.4 dB	0.4 dB
VSWR (main line)	1.2:1 max. (50 ohms)	1.25:1 max. (50 ohms)	1.25:1 max. (50 ohms)
Connectors			
<i>main line</i>	7-16 DIN female	N female	N female
<i>coupled</i>	SMA female	SMA female	SMA female
Weight (max.)	0.7 kg 1.5 lb	0.24 kg 0.525 lb	0.24 kg 0.53 lb
Size (approximate)			
W x H x D	7.6 x 7.6 x 3.9 cm (3.0 x 3.0 x 1.54 in.)	2.35 x 5.84 x 19.0 cm (0.925 x 2.3 x 7.48 in.)	2.35 x 5.84 x 19.0 cm (0.925 x 2.3 x 7.48 in.)

Flatness. Maximum variation in coupling factor over specified frequency range.

Coupling Factor. Ratio of power applied to main line input port to the power output at forward-coupled port. Also, ratio of the power applied to the main line output port to the power output at the reverse-coupled port. AR coupling factor tolerances include frequency flatness and, therefore, show the maximum and minimum coupling levels allowable over the specified frequency range.

Directivity. Ratio of power output at forward-coupled port when power is applied to the main input port to power output at this port when same amount of power is applied to main line output port. Directivity is a measure of the coupler's ability to separate forward and reflected power.

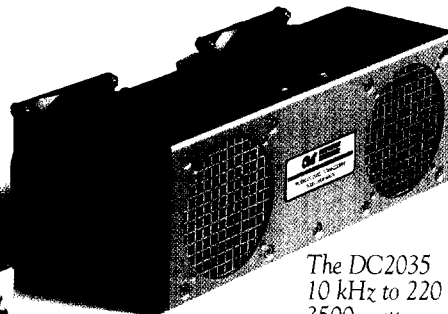
Insertion Loss. The total signal loss of the main line, including the effect of power transferred to the coupled port.

Note: Definitions assume all coupler ports terminate in reflectionless loads.

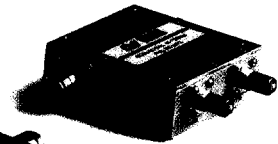
	DC7275	DC7276	DC7280	DC7350	DC7435	DC7450
Frequency Range	2.5–7.5 GHz	2.5–7.5 GHz	2–8 GHz	4–8 GHz	4.2–18 GHz	7.5–18 GHz
Power (max. watts)	700 cw 2500 peak	1400 cw 10,000 peak	350 cw 700 peak	350 cw 700 peak	50 cw 300 peak	1400 cw 5000 peak
Flatness (max.)	± 0.6 dB	± 1.5 dB	± 0.75 dB	± 0.75 dB	± 1.0 dB	± 1.0 dB
Coupling Factor	50 ± 1.3 dB	50 ± 2 dB	50 ± 1.3 dB	50 ± 1.3 dB	35 ± 1.5 dB	50 ± 2 dB
Directivity						
<i>typical</i>	20 dB	28 dB	20 dB	22 dB	16 dB	28 dB
<i>minimum</i>	16 dB	25 dB	16 dB	18 dB	12 dB	25 dB
Insertion Loss (max.)	0.45 dB	0.15 dB	0.4 dB	0.4 dB	0.6 dB	0.15 dB
VSWR (main line)	1.4:1 max. (50 ohms)	1.1:1 max. (50 ohms)	1.35:1 max. (50 ohms)	1.35:1 max. (50 ohms)	1.5:1 max. (50 ohms)	1.1:1 max. (50 ohms)
Connectors						
<i>main line</i>	7-16 DIN female	WRD-250 waveguide	N female	N female	TNC female	WRD-750 waveguide
<i>coupled</i>	SMA female	SMA female	SMA female	SMA female	SMA female	SMA female
Weight (max.)	0.3 kg 0.65 lb	1.7 kg 3.8 lb	0.22 kg 0.48 lb	0.22 kg 0.48 lb	0.1 kg 2 oz	0.45 kg 1.0 lb
Size (approximate)						
W x H x D	2.8 x 5.1 x 14.0 cm (1.1 x 2.0 x 5.5 in.)	45.7 x 8.1 x 8.1 cm (18.0 x 3.2 x 3.2 in.)	2.3 x 4.8 x 11.4 cm (0.9 x 1.9 x 4.5 in.)	2.3 x 4.8 x 8.8 cm (0.9 x 1.9 x 3.5 in.)	7.9 x 5.1 x 1.9 cm (3.1 x 2.0 x 0.75 in.)	3.5 x 4.4 x 25.4 cm (1.4 x 1.7 x 10.0 in.)



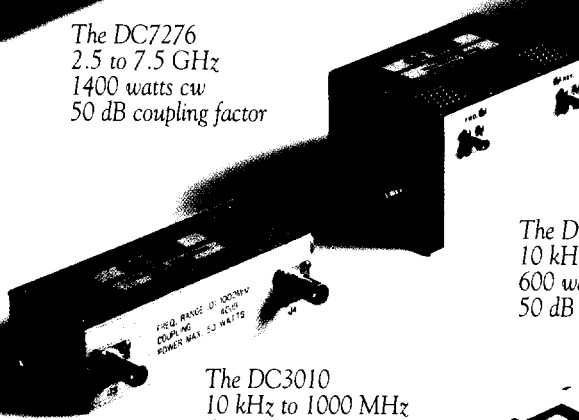
The DC7276
2.5 to 7.5 GHz
1400 watts cw
50 dB coupling factor



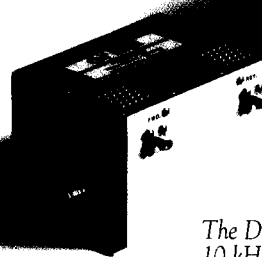
The DC2035
10 kHz to 220 MHz
3500 watts cw
50 dB coupling factor



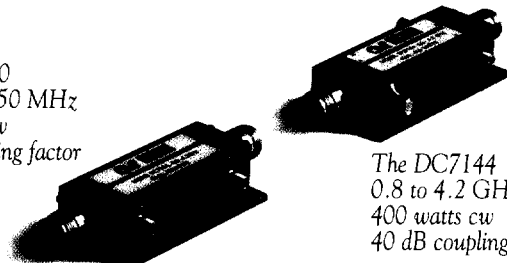
The DC6080
80 to 1000 MHz
200 watts cw
40 dB coupling factor



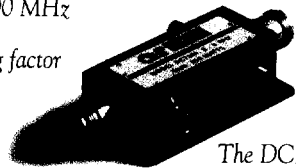
The DC3010
10 kHz to 1000 MHz
50 watts cw
40 dB coupling factor



The DC2600
10 kHz to 250 MHz
600 watts cw
50 dB coupling factor



The DC7144
0.8 to 4.2 GHz
400 watts cw
40 dB coupling factor



The DC7154
0.8 to 4.2 GHz
400 watts cw
50 dB coupling factor

The DC7280
2 to 8 GHz
350 watts cw
50 dB coupling factor