

Figure 16 — Transitions in several sizes of waveguide for different microwave bands.

**Table 1**  
**Rectangular Waveguide to Coax Transitions W1GHZ 2006**

Waveguide	Frequency (GHz)	Probe Diameter (mm)	Probe Length (mm)	Backshort Length (mm)	Bandwidth	Number Tested
WR-42	24.192	1.27	2.41	2.49	>17%	4
WR-75	10.368	1.27	5.49	5.26	14%	1
WR-90	10.368	1.27	5.89	5.46	7%	5
WR-112	10.368	1.27	6.5	6.6	15%	1
WR-112	5.76	1.27	9.8 8.8	5.8 9.8	7%	
WR-137	5.76	1.27	10.5	8.5	10%	1
WR-159	5.76	1.27	11.17	10.0	11%	1
WR-159	5.76	AWG no. 12	10.9	10.0	14%	
WR-187	5.76	2.36	11.3	11.0	16%	
WR-187	5.76	SMA to 2.36	11.6	9.7	16%	1
WR-187	5.76	AWG no. 12	11.3	11.2	14%	
WR-187	3.456	2.36	14.5	18.0	5%	
WR-187	3.456	SMA to 2.36	15	16.5	5%	1
WR-187	3.456	AWG no. 12	14.9	17.4	7%	
WR-229	3.456	1.27	18.2	15.0	8%	
WR-229	3.456	AWG no. 12	17.7	15.1	10%	
WR-229	3.456	2.36	17.4	15.06	11%	
WR-229	3.456	3.175	17	15.6	11%	
WR-229	3.456	4.76	16.2	16.2	14%	
WR-229	3.456	6.35	15.5	16.75	17%	
WR-284	3.456	6.35	17.8	17.5	23%	
WR-284	3.456	AWG no. 12	19	17.5	11%	
WR-284	2.304	6.35	20	28	8%	
WR-284	2.304	AWG no. 12	24	24	7%	
WR-284	2.4	AWG no. 12	23.7	22	8%	
WR-340	2.304	6.35	25	23	11%	
WR-340	2.304	AWG no. 12	27	23	9%	
WR-340	2.4	AWG no. 12	26	23	9%	

has never made a contact below 50 MHz. He has been a microwave experimenter for years and published numerous articles, is active in the Vermont 10 GHz group and a past President of the North East Weak Signal Group. An ongoing project is the W1GHZ Microwave Antenna Book — Online at [www.w1ghz.org](http://www.w1ghz.org). In 1997 Paul was honored

to be named by the Central States VHF Society as the recipient of the Chambers Award. More recently, he was honored by the ARRL with the 2000 Microwave Development Award, and in 2001 with the Thomas Kirby Eastern VHF/UHF Society Award.

A former microwave engineer and retired ski instructor, he is currently employed by

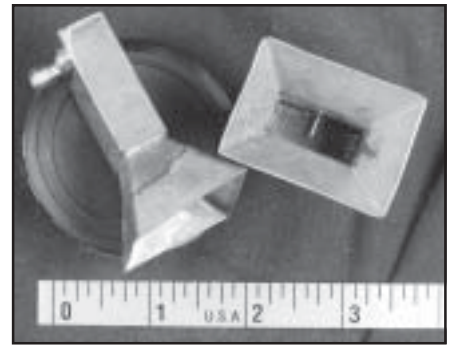


Figure 17 — WR-90 transition integrated into 10 GHz feed horn for DSS offset dish.

Mercury Computer Systems designing computer hardware. A frightening experience at Microwave Update 2001 involving a giant meatball resulted in an angioplasty with two stents, and swearing off meatballs in favor of a low-fat diet.



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