MILITARY SPECIFICATION SHEET

WAVEGUIDE ASSEMBLIES, RIGID, 90-DEGREE, H-PLANE MITERED CORNER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the waveguide assemblies described herein shall consist of this document and the latest issue of Specification MIL-W-3970.

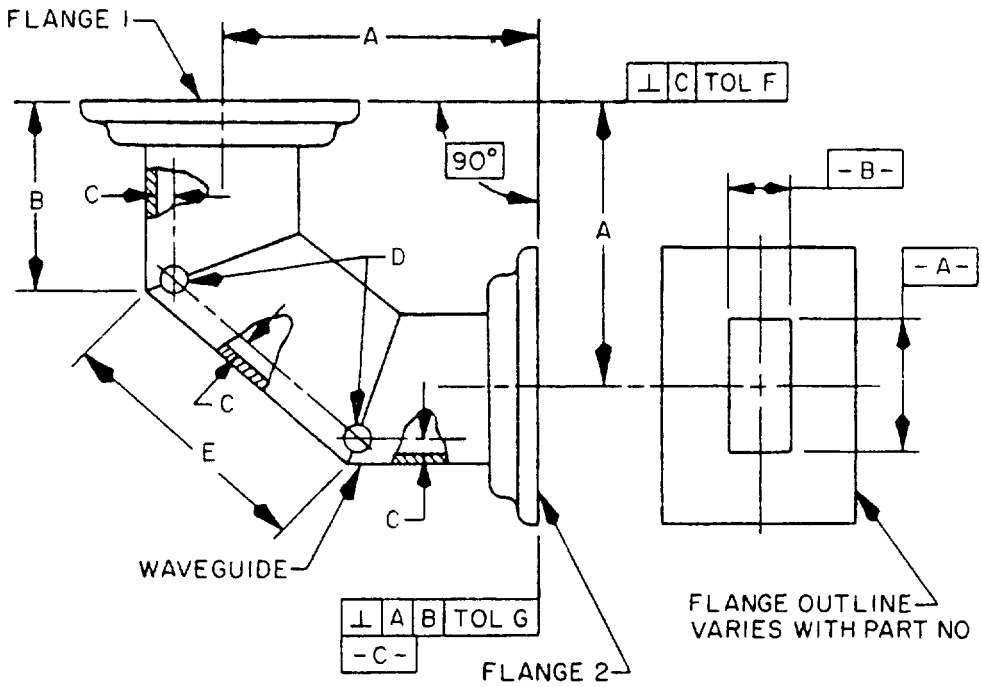

FIGURE 1 Assembly configuration

TABLE I. Dash number, electrical and physical characteristics, and dimensions.

Dash No.	Waveguide M85/	Flange 1 (M3922/)	Flange 2 (M3922/)	Frequency range TE_{10} mode	Insertion loss max	VSWR max	Pressurization lbf/in^2 gage	Dimensions 1/ 2/ 3/ A	B	C	Pin dia D	E	F	G
				GHz	dB									
001	1-043	56-001	61-002	2.60 - 3.95	.05	1.09	15	4.225 (107.32) ±0 020 (0.51)	2.625 (66.68) ±0.015 (0.38)	0.278 (7.06) ±0.005 (0.13)	0.394 (10.01) ±0.005 (0.13)	4.384 (111.35) ±0.020 (0.51)	.060 (1.52)	.012 (.30)
002	1-055	57-002	62-002	3.95 - 5.85	.05	1.08	30	2.924 (74.57) ±0.020 (0.51)	1.875 (47.63) ±0.015 (0.38)	0.184 (4.67) ±0.005 (0.13)	0.260 (6.60) ±0.005 (0.13)	2.898 (73.61) ±0.020 (0.51)	.041 (1.04)	.008 (.20)
003	1-067	55-001	60-001	5.85 - 8.20	.05	1.08	30	2 139 (54.33) ±0.015 (0.38)	1.375 (34.93) ±0.010 (0.25)	0.136 (3.45) ±0 003 (0.08)	0.190 (4.83) ±0.003 (0.08)	2.141 (54.38) ±0.015 (0.38)	.032 (.81)	.006 (.15)
004	1-073	53-002	59-007	7.05 - 10.0	.06	1.08	30	1.869 (47.47) ±0.015 (0.38)	1.250 (31.75) ±0.010 (0.25)	0.110 (2.79) ±0.002 (0.05)	0.156 (3.96) ±0.002 (0.05)	1.760 (44.70) ±0.015 (0.38)	.024 (.61)	.005 (.13)
005	1-079	53-001	59-006	8.20 - 12.40	.06	1.10	30	1.370 (34.80) ±0.010 (0.25)	0.875 (22.23) ±0 010 (0.25	0.088 (2.24) ±0.002 (0.05)	0.125 (3.18) ±0.002 (0.05)	1.410 (35.81) ±0.010 (0.25)	.019 (.48)	.004 (.10)
006	1-102	54-001	59-003	18.0 - 26.50	11	1.06	30	0.775 (19.69) ±0.010 (0.25)	0.550 (13.97) ±0.010 (0.25)	0.040 (1.02) ±0.002 (0.05)	0.0580 (1.47) ±0 0005 (0.01)	0.672 (17.07) ±0.010 (0.25)	.011 (.28)	.002 (.05)
007	1-106	54-001	59-003	18.0 - 26.50	.11	1.06	30	0.775 (19.69) ±0 010 (0 25)	0.550 (13.97) ±0 010 (0.25)	0 040 (1.02) ±0 002 (0.05)	0.0580 (1.47) ±0.0005 (0.01)	0.672 (17.07) ±0.010 (0.25)	.011 (.28)	.002 (.05)
008	1-077	53-003	59-008	8 20 - 12.40	06	1 10	30	1.370 (34.80) ±0.010 (0.25)	0.875 (22.23) ±0 010 (0 25)	0 088 (2 24) ±0 002 (0 05)	0.125 (3.18) ±0.002 (0.05)	1.410 (35.81) ±0.010 (0.25)	019 (.48)	.004 (.10)

See footnotes at end of table.

TABLE I. Dash number, electrical and physical characteristics, and dimensions - Continued.

Dash No	Waveguide M85/	Flange 1 M3922/	Flange 2 M3922/	Frequency range TE_{10} mode	Insertion loss max	VSWR max	Pressurization lbf/in^2 gage	Dimensions 1/ 2/ 3/ A	B	C	Pin dia D	E	F	G
				GHz	dB									
009	1-071	53-004	59-009	7.05 - 10 0	06	1 08	30	1 869 (47 47) +0 015 (0 38)	1.250 (31.75) ±0.010 (0.25)	0 110 (2 79) +0 002 (0.05)	0.156 (3.96) ±0.002 (0.05)	1.760 (44 70) +0 015 (0.38)	024 (61)	.005 (.13)
010	1-041	56-002	61-001	2 60 - 3 95	.05	1.09	15	4 225 (107 32) +0 020 (0 51)	2.626 (66 68) ±0 015 (0 38)	0 278 (7.06) ±0.005 (0.13)	0.394 (10.01) +0.005 (0.13)	4.384 (111.35) ±0.020 (0.51)	.060 (1.52)	.012 (.30)
011	1-089	53-005	59-001	12.4 - 18 0	.07	1 10	30	1 091 (27 71) ±0.010 (0.25)	0.750 (19.05) ±0 010 (0.25)	0.060 (1 52) ±0 002 (0 05)	0 087 (2.21) +0.001 (0.03)	0.978 (24 84) +0 010 (0.25)	.015 (38)	.003 (.08)
012	1-053	57-001	62-001	3.95 - 5 85	05	1 08	30	2 924 (74 57) ±0.020 (0 51)	1.875 (47.63) +0.015 (0.38)	0.184 (4 67) +0.005 (0 13)	0.260 (6.60) +0.005 (0.13)	2.898 (73.61) +0 020 (0.51)	.041 (1.04)	.008 (.20)
013	3-006	54-003	59-005	26.5 - 40 0	15	1 12	30	0 645 (16 38) +0.010 (0.25)	0.500 (12 70) +0.010 (0 25)	0.027 (0.69) ±0.002 (0.05)	0.0390 (0.99) +0.0005 (0.01)	0.459 (11.66) ±0.010 (0.25)	.009 (23)	.001 (.03)
014	1-065	55-002	60-002	5.85 - 8 20	05	1 08	30	2.139 (54.33) ±0.015 (0.38)	1.375 (34.93) +0 010 (0 25)	0.136 (3.45) ±0.003 (0.08)	0.190 (4.83) ±0.003 (0.08)	2.141 (54.38) +0.015 (0.38)	032 (81)	.006 (.15)
015	1-093	53-005	59-001	12.4 - 18 0	.07	1.10	30	1.091 (27.71) ±0 010 (0.25)	0.750 (19.05) ±0.010 (0.25)	0.060 (1.52) +0 002 (0.05)	0 087 (2 21) ±0.001 (0 03)	0.978 (24.84) +0 010 (0.25)	.015 (.38)	.003 (.08)
016	1-103	54-002	59-004	18.0 - 26.5	.11	1.06	30	0 775 (19.69) ±0.010 (0.25)	0.550 (13.97) ±0.010 (0.25)	0.040 (1.02) ±0.002 (0.05)	0.0580 (1.47) ±0.0005 (0.01)	0.672 (17.07) ±0.010 (0.25)	.011 (.28)	.002 (.05)

1/ Dimensions are in inches.
2/ Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3/ Metric equivalents are in parentheses.

REQUIREMENTS:

Dimensions and configuration See figure 1 and table I.

Electrical characteristics: See table I.

Part number: M3970/16-(dash number from table I).

Cross reference: See table II.

TABLE II. Cross reference.

Part number M3970/16-	Type designation	Part number M3970/16-	Type designation
001	UG-844/U	009	UG-852/U
002	UG-845/U	010	UG-853/U
003	UG-846/U	011	UG-854/U
004	UG-847/U	012	UG-855/U
005	UG-848/U	013	UG-856/U
006	UG-849/U	014	UG-857/U
007	UG-850/U	015	UG-858/U
008	UG-851/U	016	UG-859/U

Custodians:
Army - EL
Navy - EC
Air Force - 85

Review activities:
Army - MI,
Navy - EC, OS
Air Force - 11, 17, 99
DSA - ES

User activities:
Army - MU
Navy - MC, CG, AS
Air Force - 14, 19

Preparing activity:
Navy - EC

Agent.
DSA - ES

(Project 5985-0835-13)

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