INCH-POUND

MIL-W-3970/10D
3 December 2013
SUPERSEDING
MIL-W-3970/10C
3 February 2009

DETAIL SPECIFICATION SHEET

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

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

Inactive for new design after 18 September 1998.

The requirements for acquiring the waveguide assemblies described herein shall consist of this document and the latest issue of MIL-DTL-3970.

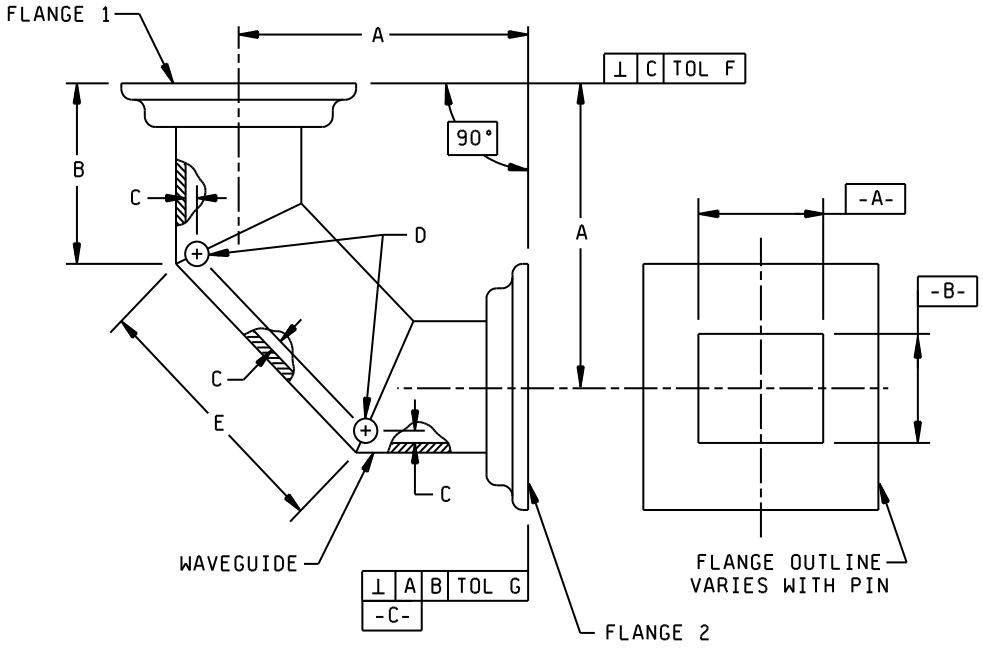

FIGURE 1. Assembly configuration.

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

Dash No.	Wave-guide M85/	Flange 1 (M3922/)	Flange 2 (M3922/)	Frequency Range TE_{10} mode GHz	Insertion loss max db	VSWR max	Pressuri-zation lbf/in2 gage	Dimensions 1/ 2/ 3/ A	B	C	Pin dia D	E	F	G
001	1-043	56-001	61-002	2.60-3.95	.05	1.07	15	3.405 (86.49) ±0.020 (0.51)	2.280 (57.91) ± 0.015 (.38)	0.348 (8.84) ± 0.005 (0.13)	0.349 (8.86) ± 0.002 (0.05)	2.651 (67.34) ± 0.020 (0.51)	.053 (1.35)	.012 (.30)
002	1-055	57-002	62-002	3.95-5.85	.05	1.09	30	2.426 (61.62) ±0.015 (0.38)	1.700 (43.18) ± 0.015 (0.38)	0.226 (5.74) ±0.005 (0.13)	0.227 (5.77) ± 0.002 (0.05)	1.734 (44.04) ± 0.015 (0.38)	.037 (.94)	.008 (.20)
003	1-067	55-001	60-001	5.85-8.20	.05	1.10	30	1.900 (48.26) ±0.015 (0.38)	1.390 (35.31) ±0.010 (0.25)	0.162 (4.11) ± 0.004 (0.10)	0.163 (4.14) ± 0.002 (0.05)	1.251 (31.78) ± 0.010 (0.25)	.030 (.76)	.006 (.15)
004	1-073	53-002	59-007	7.05-10.0	.06	1.05	30	1.352 (34.34) +0.010 (0.25)	0.950 (24.13) ± 0.010 (0.25)	0.129 (3.28) ± 0.004 (0.10)	0.130 (3.30) ± 0.001 (0.03)	1.010 (25.65) ± 0.010 (0.25)	.020 (.51)	.005 (.13)
005	1-079	53-001	59-006	8.20-12.40	.06	1.10	30	1.113 (28.27) ±0.010 (0.25)	0.820 (20.83) ± 0.010 (0.25)	0.104 (2.64) ± 0.003 (0.08)	0.0100 (2.54) ± 0.001 (0.03)	0.768 (19.51) ±0.010 (0.25)	.017 (.43)	.004 (.10)
006	1-102	54-001	59-003	18.0-26.50	.11	1.07	30	0.790 (20.07) ±0.010 (0.25)	0.650 (16.51) ± 0.010 (0.25)	0.044 (1.12) ±0.002 (0.05)	0.0445 (1.13) ± 0.0005 (0.01)	0.375 (9.53) ± 0.010 (0.25)	.011 (.28)	.002 (.05)
007	1-106	54-001	59-003	18.0-26.50	.11	1.16	30	0.790 (20.07) ±0.010 (0.25)	0.650 (16.51) ± 0.010 (0.25)	0.044 (1.12) ± 0.002 (0.05)	0.0445 (1.13) ± 0.0005 (0.01)	0.375 (9.53) ± 0.010 (0.25)	.011 (.28)	.002 (.05)
008	1-077	53-001	59-008	8.20-12.40	.06	1.10	30	1.113 (28.27) ±0.010 (0.25)	0.820 (20.83) ± 0.010 (0.25)	0.104 (2.64) ± 0.003 (0.08)	0.100 (2.54) ± 0.001 0.03	0.768 (19.58) ± 0.010 (0.25)	.017 (.43)	.004 (.10)

See footnotes at end of table I.

TABLE I. Dash numbers, electrical, physical characteristics and dimensions Continued.

Dash No.	Wave-guide M85/	Flange 1 M3922/	Flange 2 M3922/	Frequency Range TE_{10} mode GHz	Insertion loss max db	VSWR max	Pressurei-zation Ibf/in2 gage	Dimensions 1/ 2/ 3/ A	B	C	Pin dia D	E	F	G
009	1-071	53-004	59-009	7.05-10.0	.06	1.05	30	1.352 (34.34) ±0.010 (0.25)	0.950 (24.13) ±0.010 (0.25)	0.129 (3.28) ±0.004 (0.10)	0.130 (3.30) ± 0.001 (0.03)	1.010 (25.65) ±0.010 (0.25)	.020 (.51)	.005 (.13)
010	1-041	56-002	61-001	2.60-3.95	.05	1.07	15	3.405 (86.49) ±0.020 (0.51)	2.280 (57.91) ±0.015 (0.38)	0.348 (8.84) ± 0.005 (0.13)	0.349 (8.86) ±0.002 (0.05)	2.651 (67.34) ±0.020 (0.51)	.053 (1.35)	.012 (.30)
011	1-089	53-005	59-001	12.4-18.0	.07	1.10	30	0.893 (22.68) ± 0.010 (0.25)	0.730 (18.54) ±0.010 (0.25)	0.080. (2.03) ± 0.003 (0.08)	0.081 (2.06) ± 0.001 (0.03)	0.507 (12.88) ± 0.010 (0.25)	.014 (.36)	.003 (.08)
012	1-053	57-001	62-001	3.95-5.85	.05	1.09	30	2.426 (61.62) ± 0.015 (0.38)	1.700 (43.18) ±0.015 (0.38)	0.226 (5.74) ±0.005 (0.25)	0.227 (5.77) ± 0.002 (0.05)	1.734 (44.04) ± 0.015 (0.38)	.037 (.94)	.008 (.20)
013	3-006	54-003	59-005	26.5-40.0	.15	1.16	30	0.644 (16.36) ± 0.010 (0.25)	0.540 (13.72) ± 0.010 (0.25)	0.036 (0.91) ±0.002 (0.05)	0.0365 (0.93) ± 0.0005 (0.01)	0.303 (7.70) ± 0.010 (0.25)	.009 (.23)	.001 (.08)
014	1-065	55-002	60-002	5.85-8.20	.05	1.10	30	1.900 (48.26) ±0.015 (0.38)	1.390 (35.31) ± 0.010 (0.25)	0.162 (4.11) ± 0.004 (0.10)	0.163 (4.14) ± 0.002 (0.05)	1.251 (31.78) ±0.010 (0.25)	.030 (.76)	.006 (.15)
015	1-093	53-005	59-001	12.4-18.0	.07	1.10	30	0.893 (22.68) ± 0.010 (0.25)	0.730 (18.54) ±0.010 (0.25)	0.080 (2.03) ± 0.003 (0.08)	0.081 (2.06) ± 0.001 (0.03)	0.507 (12.88) ±0.010 (0.25)	.014 (.36)	.003 (.08)
016	1-103	54-002	59-004	18.0-26.5	.11	1.07	30	0.790 (20.07) ± 0.010 (0.25)	0.650 (16.51) +0.010 (0.25)	0.044 (1.12) ±0.002 (0.05)	0.0445 (1.13) ± 0.0005 (0.01)	0.375 (9.53) ±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 table I and figure 1.
Electrical characteristics: See table I.

Part number: M3970/10- (dash number from table I).
Cross reference: See table II.

TABLE II Cross reference.

Part number M3970/10-	Type designation	Part number M3970/10-	Type designation
001	UG-893/U	009	UG-901/U
002	UG-894/U	010	UG-902/U
003	UG-895/U	011	UG-903/U
004	UG-896/U	012	UG-904/U
005	UG-897/U	013	UG-905/U
006	UG-898/U	014	UG-906/U
007	UG-899/U	015	UG-907/U
008	UG-900/U	016	UG-908/U

Referenced documents. This specification sheet only references MIL-DTL-3970.

Marginal notations are not used on this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5985-2014-006)

Review activities
Army – AR, MI
Navy - AS, CG, MC, OS
Air Force – 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.dla.mil/.