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DOD-STD-1842
15 May 1985

MILITARY STANDARD

INSERT ARRANGEMENTS FOR DOD-C-83527 RACK TO PANEL CONNECTORS

METRIC

FSC 5935

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DEPARTMENT OF DEFENSE
Washington, DC 20301

Insert Arrangements for DOD-C-83527 Rack to Panel Connectors.

DOD-STD-1842

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Electronic Support Division, AFLC 2750 ABW/ES, Gentile AF Station, Dayton, OH 45444-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Purpose. This standard covers insert arrangements for use with DOD-C-83527 Rack to Panel Connectors.

2. REFERENCED DOCUMENTS

2.1 Government specification. Unless otherwise specified, the following specification of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation forms a part of this standard to the extent specified herein.

SPECIFICATION

MILITARY

DOD-C-83527 - Connectors, Plug and Receptacle, Electrical, Rectangular, Multiple Insert Type, Rack to Panel, Environment Resisting, 150°C Continuous Operating Temperature, General Specification for.

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. DEFINITIONS

3.1 Terms. The terms used in this standard are generally accepted by the electrical and electronics industries and commonly used in electrical connector engineering practice.

4. GENERAL REQUIREMENTS

Not applicable.

5. DETAIL REQUIREMENTS

5.1 Dimensions. Dimensions shall be in accordance with the applicable section of this standard and the following dimensional data:

a. ⇩ Indicates (℄) centerline of insert arrangement

b. All dimensions (TP) true position and in millimeters

5.2 Marking. All inserts that contain size 22 contacts shall be marked on the rear face with a 5 X 5 grid pattern in a contrasting color. Insert identification marking shall be in accordance with DOD-C-83527.

5.3 Drawing notes. The following information is applicable to all figures of this military standard:

Dimensions are in millimeters.

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Army - CR
Navy - AS
Air Force - 85

Review activities:
Army - AR, MI
Navy - EC, MC, OS
Air Force - 11, 15, 17, 99
DLA - ES

Agent:
DLA - ES

Preparing activity:
Air Force - 85

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SECTION I

1. SCOPE

1.1 This section covers insert arrangements for use with connector cavities A, C, and E of DOD-C-83527.

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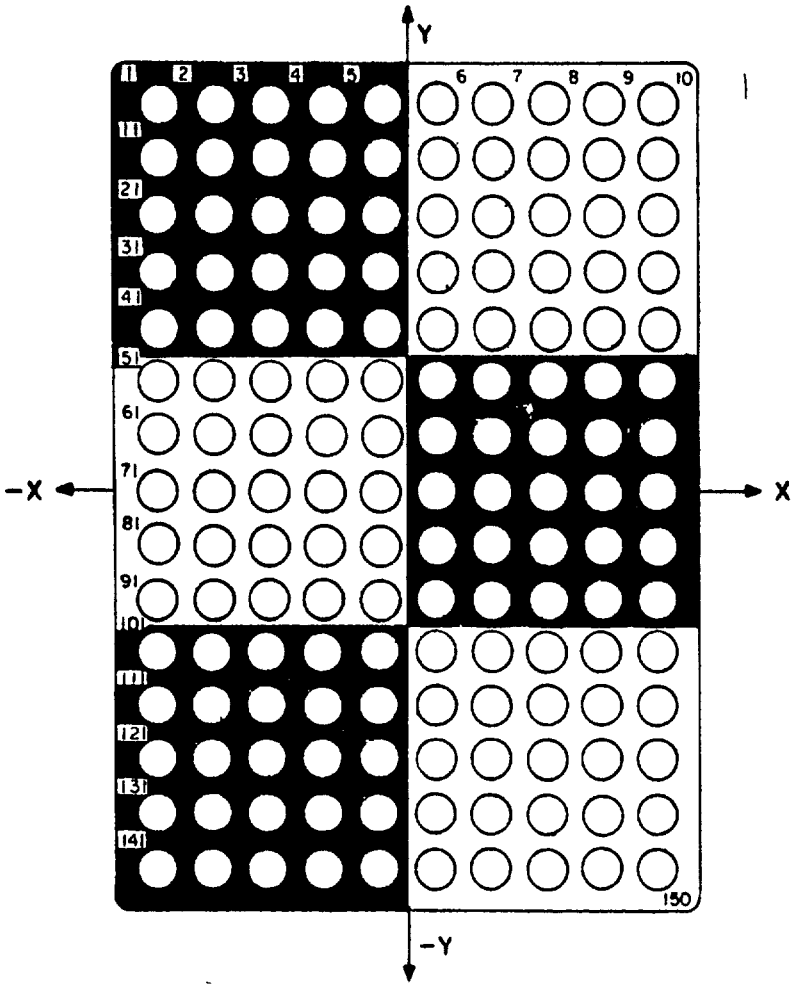

MM	INCHES
1.27	.050
2.54	.100
3.81	.150
5.08	.200
6.35	.250
7.62	.300
8.89	.350
10.16	.400
11.43	.450
12.70	.500
15.24	.600
17.78	.700

COORDINATE POSITIONS OF CONTACTS 1/

Y-MM \ X-MM	-11.43	-8.89	-6.35	-3.81	-1.27	+1.27	+3.81	+6.35	+8.89	+11.43
+17.78	1	2	3	4	5	6	7	8	9	10
+15.24	11	12	13	14	15	16	17	18	19	20
+12.70	21	22	23	24	25	26	27	28	29	30
+10.16	31	32	33	34	35	36	37	38	39	40
+ 7.62	41	42	43	44	45	46	47	48	49	50
+ 5.08	51	52	53	54	55	56	57	58	59	60
+ 2.54	61	62	63	64	65	66	67	68	69	70
0	71	72	73	74	75	76	77	78	79	80
- 2.54	81	82	83	84	85	86	87	88	89	90
- 5.08	91	92	93	94	95	96	97	98	99	100
- 7.62	101	102	103	104	105	106	107	108	109	110
-10.16	111	112	113	114	115	116	117	118	119	120
-12.70	121	122	123	124	125	126	127	128	129	130
-15.24	131	132	133	134	135	136	137	138	139	140
-17.78	141	142	143	144	145	146	147	148	149	150

1/ Front face of insert with size 22 socket is shown. Size 22 pin is opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 22	150	1 thru 150

INSERT ARRANGEMENT I-150

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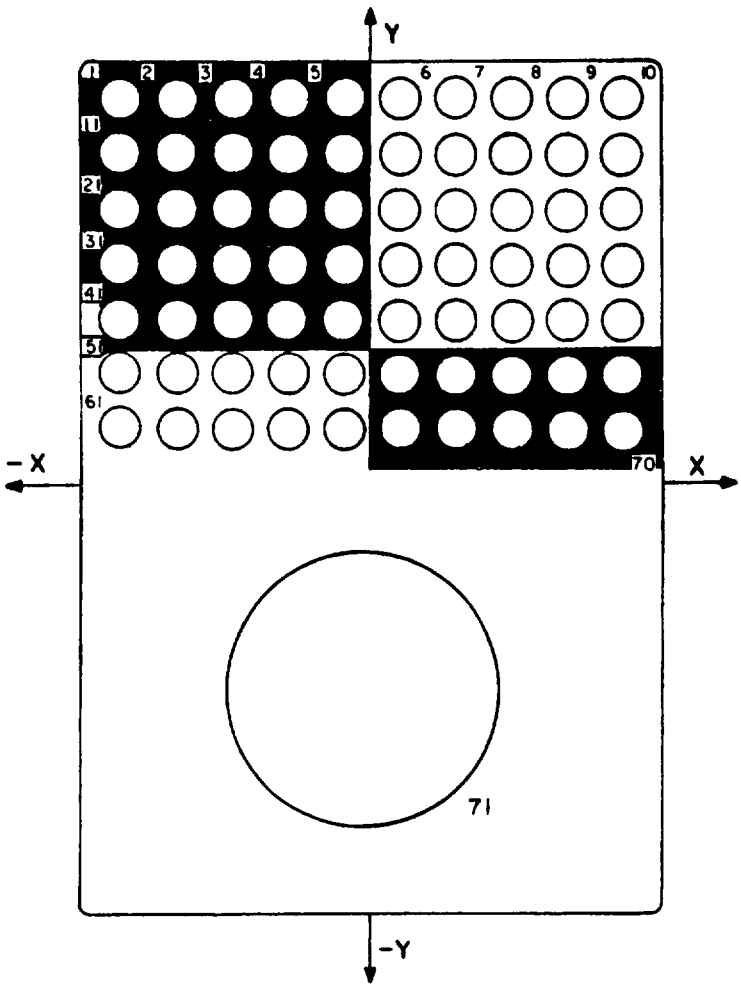

MM	INCHES
1.27	.050
2.54	.100
3.81	.150
5.08	.200
6.35	.250
7.62	.300
8.89	.350
10.16	.400
11.43	.450
12.70	.500
15.24	.600
17.78	.700

COORDINATE POSITIONS OF CONTACTS 1/											
X-MM / Y-MM	-11.43	-10.16	-8.89	-6.35	-3.81	-1.27	+1.27	+3.81	+6.35	+8.89	+11.43
+17.78	1	-	2	3	4	5	6	7	8	9	10
+15.24	11	-	12	13	14	15	16	17	18	19	20
+12.70	21	-	22	23	24	25	26	27	28	29	30
+10.16	31	-	32	33	34	35	36	37	38	39	40
+ 7.62	41	-	42	43	44	45	46	47	48	49	50
+ 5.08	51	-	52	53	54	55	56	57	58	59	60
+ 2.54	61	-	62	63	64	65	66	67	68	69	70
0	-	71	-	-	-	-	-	-	-	-	-

1/ Front face of insert with size 22 socket and size 1 coax pin is shown. Size 22 pin and size 1 coax socket is opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 22	70	1 thru 70
Size 1 Coax	1	71

INSERT ARRANGEMENT I-70C1

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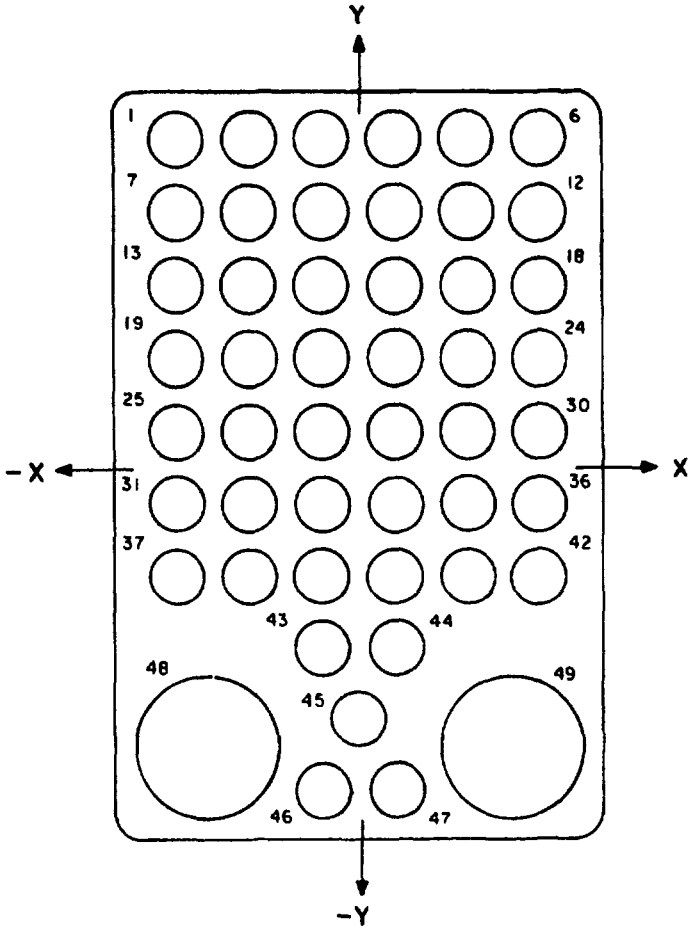

MM	INCHES
1.90	.075
5.72	.225
8.00	.315
9.52	.375
13.34	.525
14.22	.560
17.14	.675

COORDINATE POSITION OF CONTACTS 1/

Y-MM \ X-MM	-9.52	-8.00	-5.72	-1.90	0	+1.90	+5.72	+8.00	+9.52
+17.14	1	-	2	3	-	4	5	-	6
+13.34	7	-	8	9	-	10	11	-	12
+ 9.52	13	-	14	15	-	16	17	-	18
+ 5.72	19	-	20	21	-	22	23	-	24
+ 1.90	25	-	26	27	-	28	29	-	30
- 1.90	31	-	32	33	-	34	35	-	36
- 5.72	37	-	38	39	-	40	41	-	42
- 9.52	-	-	-	43	-	44	-	-	-
-13.34	-	-	-	-	45	-	-	-	-
-14.22	-	48	-	-	-	-	-	49	-
-17.14	-	-	-	46	-	47	-	-	-

1/ Front face of insert with pin contacts is shown. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 20	47	1 thru 47
Size 8 TWINAX	2	48 and 49

INSERT ARRANGEMENT I-47T2

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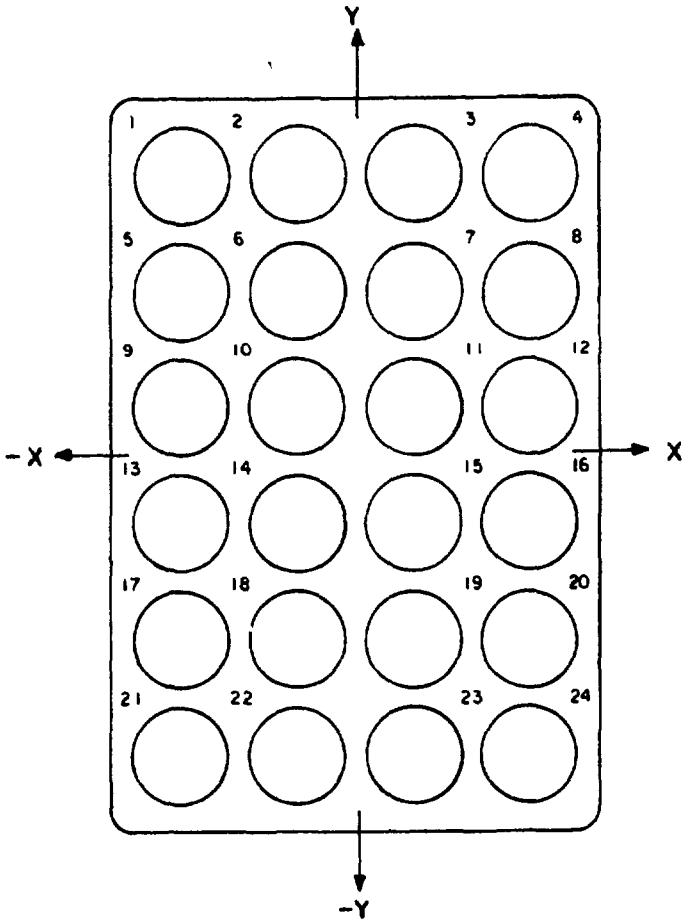

COORDINATE POSITION OF CONTACTS 1/				
Y-MM \ X-MM	-9.52	-3.18	+3.18	+9.52
+15.88	1	2	3	4
+ 9.52	5	6	7	8
+ 3.18	9	10	11	12
- 3.18	13	14	15	16
- 9.52	17	18	19	20
-15.88	21	22	23	24

MM	INCHES
3.18	.125
9.52	.375
15.88	.625

1/ Front face of insert with pin contacts shown. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 12	24	1 thru 24

INSERT ARRANGEMENT I-24

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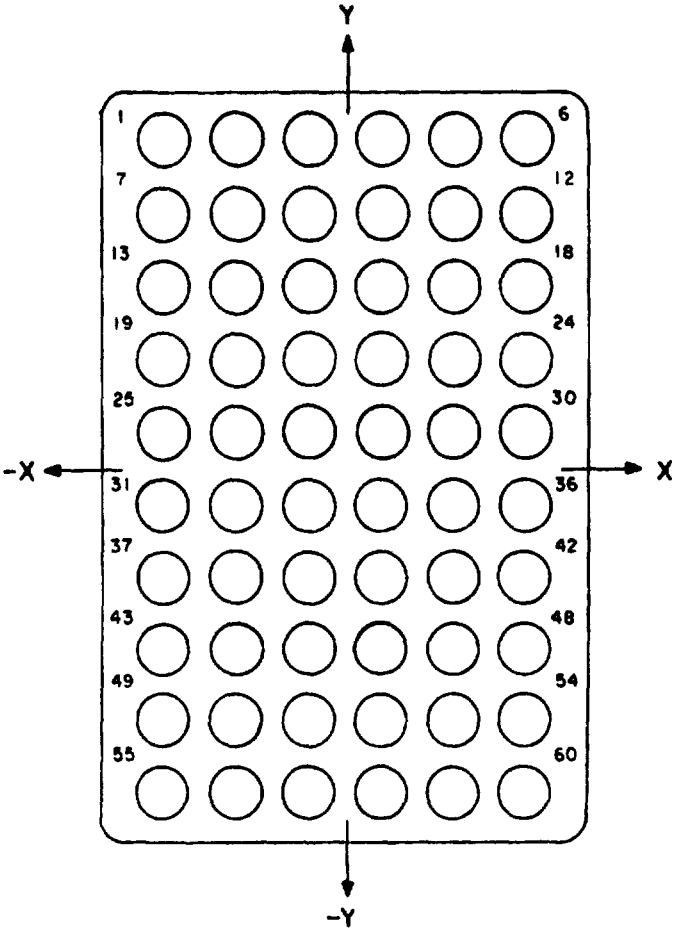

MM	INCHES
1.90	.075
5.72	.225
9.52	.375
13.34	.525
17.14	.675

COORDINATE POSITION OF CONTACTS 1/						
Y-MM \ X-MM	-9.52	-5.72	-1.90	+1.90	+5.72	+9.52
+17.14	1	2	3	4	5	6
+13.34	7	8	9	10	11	12
+ 9.52	13	14	15	16	17	18
+ 5.72	19	20	21	22	23	24
+ 1.90	25	26	27	28	29	30
- 1.90	31	32	33	34	35	36
- 5.72	37	38	39	40	41	42
- 9.52	43	44	45	46	47	48
-13.34	49	50	51	52	53	54
-17.14	55	56	57	58	59	60

1/ Front face of insert shown with pin contact. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 20	60	1 thru 60

INSERT ARRANGEMENT I-60

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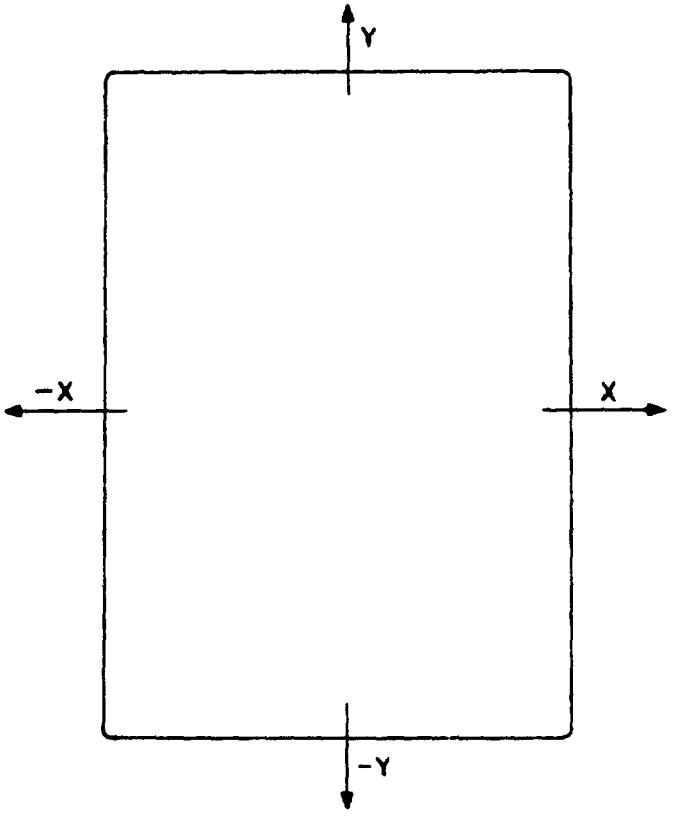

This is a dummy insert and does not contain contacts. It is used to maintain the hermetic seal on the connector and is installed in a cavity where no contacts are required.

INSERT ARRANGEMENT I-0

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SECTION II

1. SCOPE

1.1 This section covers insert arrangements for use with cavities B, D, and F of DOD-C-83527.

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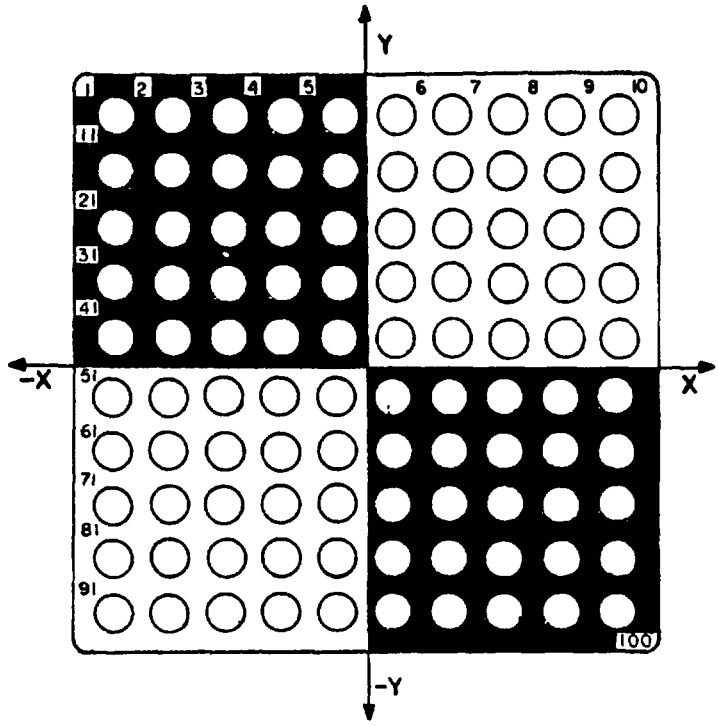

MM	INCHES
1.27	.050
2.54	.100
3.81	.150
5.08	.200
6.35	.250
7.62	.300
8.89	.350
10.16	.400
11.43	.450
12.70	.500
15.24	.600
17.78	.700

COORDINATE POSITIONS OF CONTACTS 1/

Y-MM \ X-MM	-11.43	-8.89	-6.35	-3.81	-1.27	+1.27	+3.81	+6.35	+8.89	+11.43
+11.43	1	2	3	4	5	6	7	8	9	10
+ 8.89	11	12	13	14	15	16	17	18	19	20
+ 6.35	21	22	23	24	25	26	27	28	29	30
+ 3.81	31	32	33	34	35	36	37	38	39	40
+ 1.27	41	42	43	44	45	46	47	48	49	50
- 1.27	51	52	53	54	55	56	57	58	59	60
- 3.81	61	62	63	64	65	66	67	68	69	70
- 6.35	71	72	73	74	75	76	77	78	79	80
- 8.89	81	82	83	84	85	86	87	88	89	90
-11.43	91	92	93	94	95	96	97	98	99	100

1/ Front face of insert shown with socket contacts. Pin contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 22	100	1 thru 100

INSERT ARRANGEMENT II-100

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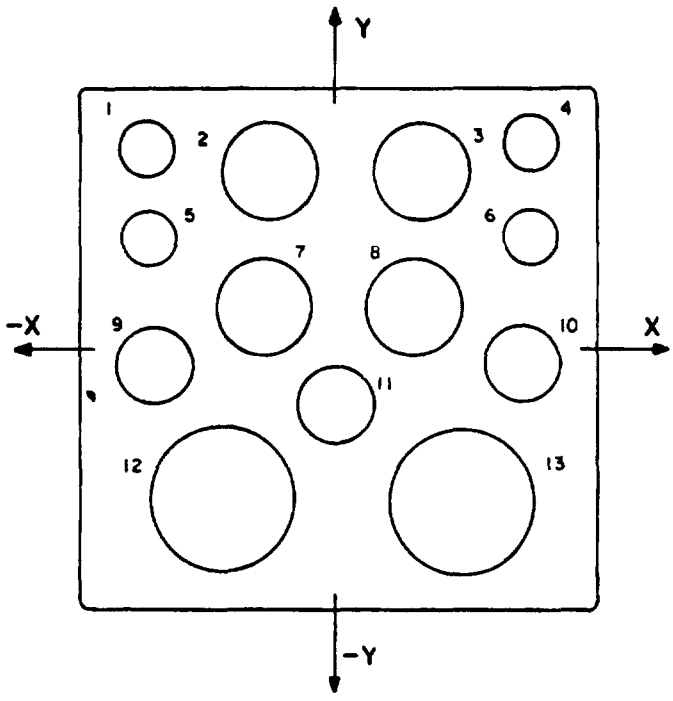

MM	INCHES
0.76	.030
2.29	.090
3.05	.120
3.81	.150
5.84	.230
6.10	.240
7.87	.310
9.40	.370
9.65	.380
10.67	.420

COORDINATE POSITION OF CONTACTS 1/

Y-MM \ X-MM	-9.65	-9.40	-6.10	-3.81	0	+3.81	+6.10	+9.40	+9.65
+10.67	1	-	-	-	-	-	-	-	4
+ 9.40	-	-	-	2	-	3	-	-	-
+ 5.84	5	-	-	-	-	-	-	-	6
+ 2.29	-	-	-	7	-	8	-	-	-
- 0.76	-	9	-	-	-	-	-	10	-
- 3.05	-	-	-	-	11	-	-	-	-
- 7.87	-	-	12	-	-	-	13	-	-

1/ Front face of insert with pin contacts shown. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 20	4	1, 4, 5, and 6
Size 16	3	9, 10, and 11
Size 12	4	2, 3, 7, and 8
Size 5 Coax	2	12 and 13

INSERT ARRANGEMENT II-11C2

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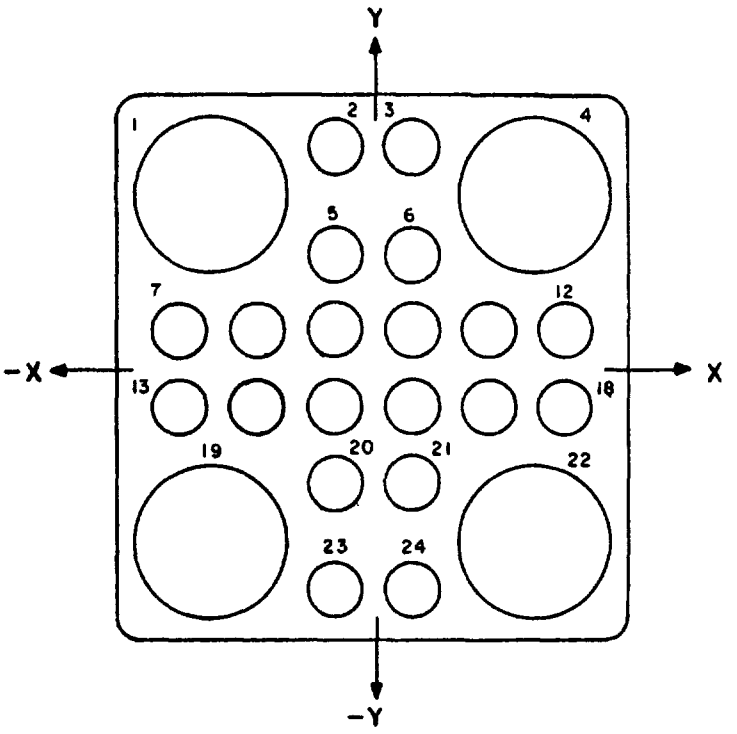

MM	INCHES
1.90	.075
5.72	.225
8.00	.315
8.64	.340
9.52	.375
11.56	.455

Y-MM \ X-MM	COORDINATE LOCATION OF CONTACTS 1/							
	-9.52	-8.00	-5.72	-1.90	+1.90	+5.72	+8.00	+9.52
+11.56	-	-	-	2	3	-	-	-
+ 8.64	-	1	-	-	-	-	4	-
+ 5.72	-	-	-	5	6	-	-	-
+ 1.90	7	-	8	9	10	11	-	12
- 1.90	13	-	14	15	16	17	-	18
- 5.72	-	-	-	20	21	-	-	-
- 8.64	-	19	-	-	-	-	22	-
-11.56	-	-	-	23	24	-	-	-

1/ Front face of insert with pin contacts shown. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 20	20	2, 3, 5, 6, 7 thru 12, 13 thru 18, 20, 21, 23 and 24
Size 8 TWINAX	4	1, 4, 19, and 22

INSERT ARRANGEMENT II-20T4

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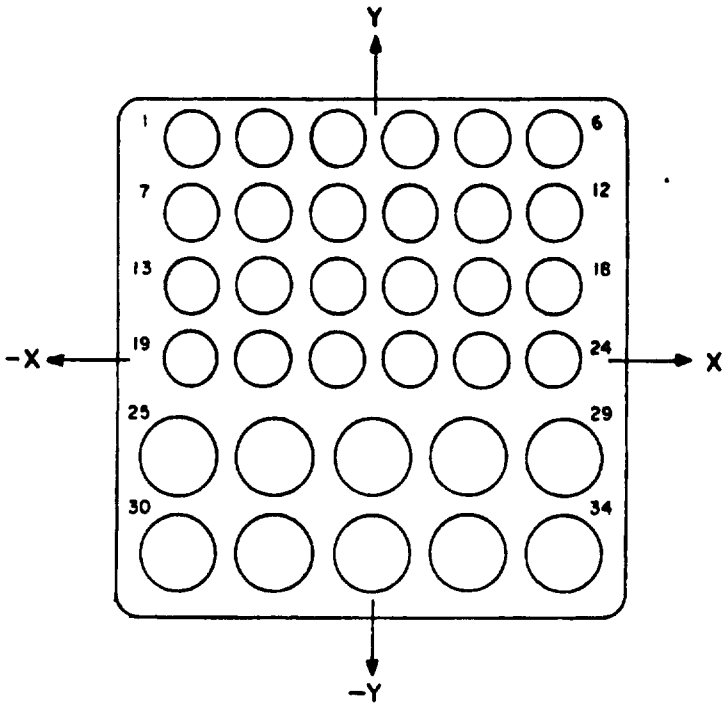

MM	INCHES
1.90	.075
3.81	.150
5.08	.200
5.72	.225
7.62	.300
9.52	.375
10.16	.400
11.43	.450

COORDINATE POSITIONS OF CONTACTS 1/

Y-MM \ X-MM	-10.16	-9.52	-5.72	-5.08	-1.90	0	+1.90	+5.08	+5.72	+9.52	+10.16
+11.43	-	1	2	-	3	-	4	-	5	6	-
+ 7.62	-	7	8	-	9	-	10	-	11	12	-
+ 3.81	-	13	14	-	15	-	16	-	17	18	-
0	-	19	20	-	21	-	22	-	23	24	-
- 5.08	25	-	-	26	-	27	-	28	-	-	29
-10.16	30	-	-	31	-	32	-	33	-	-	34

1/ Front face of insert with pin contacts shown. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBERS
Size 20	24	1 thru 24
Size 16	10	25 thru 34

ARRANGEMENT NUMBER II-34

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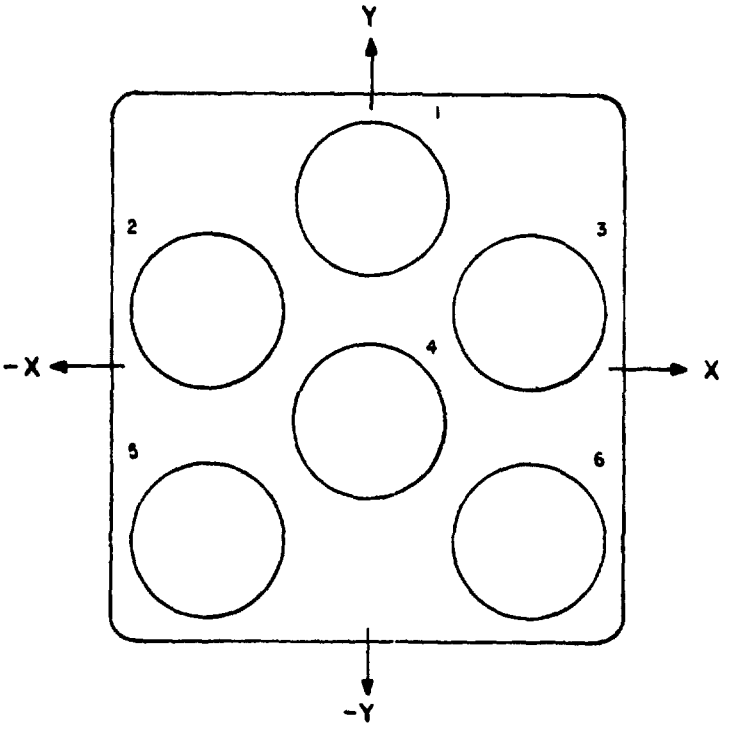

MM	INCHES
2.87	.113
8.00	.315
8.64	.340

COORDINATE POSITION OF CONTACTS			
X-MM / Y-MM	-8.00	0	+8.00
+8.64	-	1	-
+2.87	2	-	3
-2.87	-	4	-
-8.64	5	-	6

1/ Front face of insert shown with pin contacts. Socket contacts are opposite.

NUMBER OF CONTACTS		CONTACT NUMBER
Size 8 TWINAX	6	1 thru 6

ARRANGEMENT NUMBER II-T6

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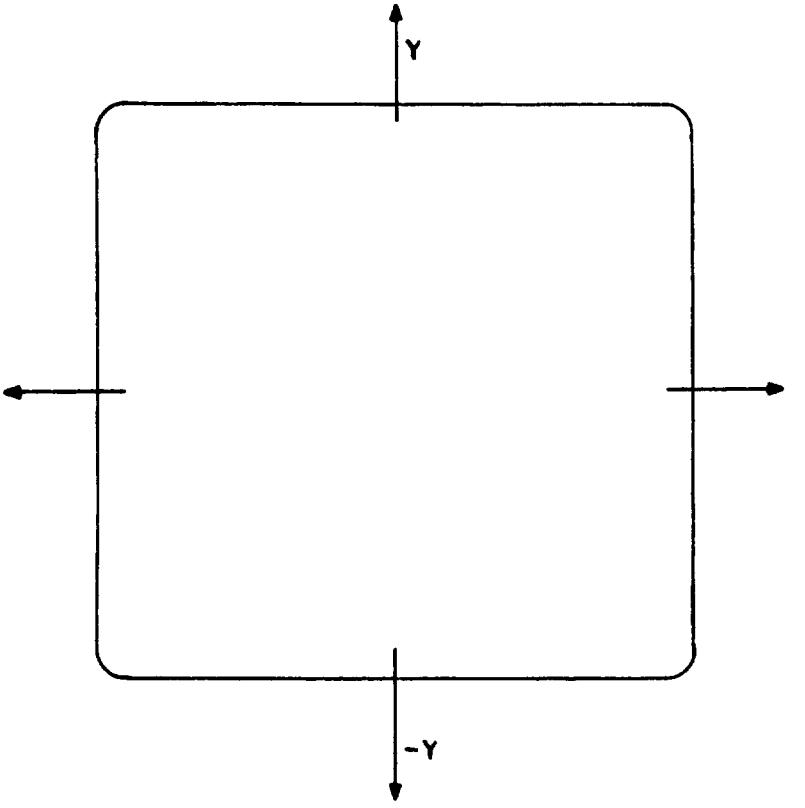

This is a dummy insert and does not contain contacts. It is used to maintain the hermetic seal on the connector and is installed in a cavity where no contacts are required.

INSERT ARRANGEMENT II-0

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SECTION III

1. SCOPE

1.1 This section contains the information on insert arrangement designators to be used with the military part number as shown in DOD-C-83527 and its military specification sheets.

TABLE I. Insert arrangement designator.

Insert designator	Cavities with contact compliment 1/					
	A	B	C	D	E	F
001	I-47T2	II-100	---	---	---	---
002	I-47T2	II-20T4	---	---	---	---
003	I-47T2	II-34	---	---	---	---
004	I-150	II-34	I-150	II-20T4	---	---
005	I-150	II-100	I-47T2	II-100	---	---
006	I-60	II-100	I-60	II-100	---	---
007	I-150	II-100	I-150	II-100	---	---
008	I-60	II-34	I-60	II-34		
009	I-150	II-34	I-150	II-20T4	I-150	II-20T4
010	I-24	II-34	I-150	II-100	I-150	II-20T4
011	I-150	II-34	I-150	II-20T4	I-150	II-T6
012	I-26	II-34	I-150	II-0	I-150	II-20T4

1/ Except I-0 and II-0 shall be without contacts.

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER

2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION *(Mark one)*

- ☐ VENDOR
- ☐ USER
- ☐ MANUFACTURER
- ☐ OTHER *(Specify)* _____

b. ADDRESS *(Street, City, State, ZIP Code)*

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation.

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional

b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional

c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional

8. DATE OF SUBMISSION *(YYMMDD)*

DD FORM 82 MAR 1426

PREVIOUS EDITION IS OBSOLETE