ATTACHMENT
N65540-03-Q-0616
PAGE 1 OF 1

STATEMENT OF WORK

1 MANUFACTURE (40) CIRCUIT CARD ASSEMBLIES PER DRAWING 53711 - 7534911

2 MANUFACTURE (20) CIRCUIT CARD ASSEMBLIES PER DRAWING 53711 - 7534928

INSTRUCTIONS AND NOTES

a MARK SERIAL NUMBERS ON CIRCUIT CARDS PER DRAWING NOTES USING THE FOLLOWING SEQUENCE:

ASSEMBLY 53711 - 7534911 USE #'s: A1 THROUGH A40
ASSEMBLY 53711 - 7534928 USE #'s: A1 THROUGH A20

b GERBER FILES FOR CIRCUIT CARD ARTWORK WILL BE SUPPLIED ON CD AFTER THE AWARD OF THIS REQUEST

c PACKAGING: WRAP EACH CIRCUIT CARD ASSEMBLIE INDIVIDUALLY IN RESEALABLE MYLAR BAGS AND REUSABLE CARDBOARD BOXES. LABEL ACCORDINGLY WITH PART NUMBER AND SERIAL NUMBER.

d THE FOLLOWING DRAWINGS WILL BE SUPPLIED TO COMPLETE THE MANUFACTURING OF THESE TWO CIRCUIT CARD ASSEMBLIES.

53711 - 7534911 AN/BRR-6 DEPTH CANISTER PCB ASSEMBLY 2A4A1
53711 - 7534912 AN/BRR-6 DEPTH CANISTER PCB SCHEMATIC
53711 - 7534913 AN/BRR-6 DEPTH CANISTER PRINTED WIRING BOARD
53711 - 7534928 AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1
53711 - 7534929 AN/BRR-6B DEPTH CANISTER PCB SCHEMATIC
53711 - 7534930 AN/BRR-6B DEPTH CANISTER PRINTED WIRING BOARD
53711 - 6757616 STANDOFF, SWAGE

e COPPER ARTWORK FOR DRAWINGS 53711-7534913 AND 53711-7534930 ARE THE SAME. ONLY THE COMPONENT SIDE SILK SCREEN ARTWORK IS DIFFERENT BETWEEN THESE TWO DRAWINGS.

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY					
REVISION		–					
NSWCCD 95TDC	P	1					
NSWCCD 95TDC	E	1					
NHS ATG*	E	1					
CO ATG*	E	1					
SHL SSC 8075*	E	6					
NAVSEA SPONSOR	E	1					
SPWAR SPONSOR	E	1					
NUWC 3432 (FOR PERISCOPE HAMS)*	E	1					
NUWC 3433 (FOR ANTENNAS)*	E	1					
NSWC JCALS (FOR SURFACE SHIP DRAWINGS)	E	--					
TOTALS: PAPER / VELLUM	P	1					
TOTALS: ELECTRONIC (ADOBE .PDF FILES)	E	13					

* DISTRIBUTION WILL BE MADE FROM NSWCCD 95TDC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 95TDC

GENERAL NOTES

1. REFERENCE DESIGNATIONS ARE USED IN LIEU OF ITEM NUMBERS. SEE PARTS LIST FOR ITEM NUMBERS.
2. THIS ASSEMBLY CONTAINS COMPONENTS SENSITIVE TO ELECTROSTATIC DISCHARGE DAMAGE. THEY SHALL BE PROTECTED IN ACCORDANCE WITH MIL-STD-1686C CLASS 1, AND MIL-HDBK-263.
3. SOLDER USING SOLDER, ITEM NO. 48.
4. MARK SERIAL NUMBER WITH .12 +/-.06 HIGH CHARACTERS, COLOR: CONTRASTING.
5. INSTALL STANDOFFS (ITEM 47) ON SOLDER SIDE OF PWB (ITEM 2) IN TWO PLACES. ROLL PROTRUDING END OF STANDOFF OVER ON COMPONENT SIDE AND PRESS FLAT.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

CAUTION
ELECTROSTATIC DISCHARGE SENSITIVE PART

DISTRIBUTION STATEMENT D:

DISTRIBUTION AUTHORIZED TO THE D.O.D. AND D.O.D. CONTRACTORS ONLY TO PROTECT CRITICAL TECHNOLOGY, 20 JUNE 2003. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO COMMANDER, NAVAL SEA SYSTEMS (SEA 09B2), ARLINGTON, VA 22242-5160.

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	LCG REF BL	VCG REF BL	LCG REF DD	F OR A	TCG REF CL	P S O	VAL BY
NOT APPLICABLE										

WEIGHT CONTROL DATA

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
USE SEPARATE LINES FOR EACH WT GRP, S/A, REV, WT INSTL, OR WT RMV
I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
F=FWD A=AFT P=PORT S=STBD O=CENTERLINE

NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6 DEPTH CANISTER PCB SCHEMATIC	53711 – 7534912
1	–	AN/BRR-6 DEPTH CANISTER PRINTED WIRING BOARD	53711 – 7534913

REFERENCES

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7) PLACES	± TOL	FRACTIONS (7) DIMENSION	± TOL	WELDMENTS DIMENSION	± TOL	CASTINGS DIMENSION	TOLERANCE
.XXX	.005	< 6"	1/64	< 24"	.062	< 2"	+1/16 -1/16
.XX	.02	6" TO 24"	1/32	>OR= TO 24"	.125	2" TO 5"	+3/32 -1/16
.X	.1	>OR= TO 24"	1/16	ALL PLASTICS		5" TO 8"	+1/8 -3/32
WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 -1/8
				MACHINED	.010	12" TO 15"	+1/4 -3/16
				MOLDED	.035	>OR= TO 15"	+1/4 -1/4

(7) MACHINED SURFACE FINISHES = 125MICIN (AA). BREAK ALL SHARP EDGES .01 TO .03. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATIONS TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FIGURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS INVOKED WHERE APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

REV	SHEET	REV STATUS
–	–	
–	–	
–	3	
–	2	
–	1	
REV	SH	

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25685
CODE: 9621
PHONE: 215-897-7540

		DATE
PREPARED BY	C. DILGER	7/22/03
REVIEWED BY	J. BATCHO	7/22/03
DWN BY EN	J. DOLAN	7/22/03
WORK ORD.	K. BENDIFELD	7/22/03
WORKING PROG. ENG.	--	--
ACCEPTED FOR NAVSEA	J. DOLAN	7/23/03
APPROVED FOR NAVSEA	--	--

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

AN/BRR-6 DEPTH CANISTER PCB ASSEMBLY 2A4A1

A N / B R R - 6 D E P T H C A N P C B A S S Y

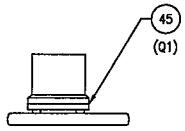
SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534911	–

SCALE: NONE SHEET 1 OF 3

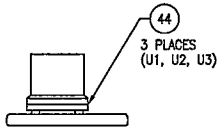
LIST OF PARTS FOR ONE ASSEMBLY

REV	IDENTIFYING DESIGNATION	ITEM NO.	QTY REQD	DESCRIPTION	MATERIAL SPECIFICATIONS	MATERIAL REQUIRED	NSN OR MANUF PART NO.	REMARKS
–	–	1	X	AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1	–	–	C/O ITEMS 2 THRU 49	
–	MP10	2	1	AN/BRR-6B DEPTH CANISTER PRINTED WIRING BOARD	–	–	53711-7534930	
–	C1, C4-C7, C9-C16, C19-C21	3	16	CAPACITOR, 0.22, +/-10%, 50V	MIL-C-39014/22	–	M39014/22-1138	
–	C2, C3, C17, C18	4	4	CAPACITOR, 0.01, +/-10%, 100V	MIL-C-39014/1	–	M39014/01-1575	
–	C8	5	1	CAPACITOR, 22, +/-10%, 35V	MIL-C-39003/1	–	M39003/01-6111	
–	CR1, CR2	6	2	SEMICONDUCTOR, DIODE, RECTIFIER	MIL-S-19500/429	–	JANTX1N5617	
–	CR3-CR5	7	3	SEMICONDUCTOR, DIODE, RECTIFIER	MIL-S-19500/427	–	JANTX1N5618	
–	CR7, CR8	8	2	SEMICONDUCTOR, DIODE, SWITCHING	MIL-S-19500/578	–	JANTX1N6638	
–	P1	9	1	CONNECTOR, ELEC, PWB, MALE	MIL-C-24308/24	–	M24308/24-15	
–	Q1	10	1	SEMICONDUCTOR, TRANSISTOR, PNP, SWITCHING	MIL-S-19500/561	–	JANTX2N6193	
–	Q2, Q3	11	2	SEMICONDUCTOR, TRANSISTOR, FET	MIL-S-19500/476	–	JANTX2N5114	
–	Q4	12	1	SEMICONDUCTOR, TRANSISTOR, NPN, SWITCHING	MIL-S-19500/255	–	JANTX2N2222	
–	R1	13	1	RESISTOR, 3.65K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J3651FS	
–	R2	14	1	RESISTOR, 7.15K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J7151FS	
–	R3	15	1	RESISTOR, 5.49K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J5491BS	
–	R4	16	1	RESISTOR, 243, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J2430BS	
–	R5, R6, R8, R13	17	4	RESISTOR, 1.0K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J1001FS	
–	R7	18	1	RESISTOR, 10, +/-1%, 1W	MIL-R-39007/9	–	RWR81S10R0FS	
–	R9, R11	19	2	RESISTOR, 80.6, +/-1%, 2W	MIL-R-39007/8	–	RWR80S80R6FS	
–	R10, R12	20	2	NOT USED	–	–	–	
	R14	21	1	RESISTOR, 464, +/-1%, 2W	MIL-R-39007/8	–	RWR80S4640FS	
–	R15, R16	22	2	RESISTOR, VARIABLE, 2K, 1/4W	MIL-R-39035/3	–	RJR26FW202R	
–	R17, R19	23	2	RESISTOR, 56.2K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J5622BS	
–	R18	24	1	RESISTOR, 100K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J1003BS	
–	R20, R22	25	2	RESISTOR, 110K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J1103BS	
–	R21	26	1	RESISTOR, 374, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J3740BS	
–	R23	27	1	RESISTOR, 340, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J3400BS	
–	R24, R33	28	2	RESISTOR, 10K, +/-2%, 1/4W	MIL-R-39017/1	–	RLR07C1002GS	
–	R25	29	1	RESISTOR, 41.2K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4122BS	
–	R27, R30	30	2	RESISTOR, 182K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J1823BS	
–	R28	31	1	RESISTOR, 402K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4023BS	
–	R29	32	1	RESISTOR, 43.2K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4322BS	
–	R31, R35	33	2	RESISTOR, 249K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J2493BS	
–	R32	34	1	RESISTOR, 604K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J6043BS	
–	R34	35	1	RESISTOR, 51K, +/-2%, 1/4W	MIL-R-39017/1	–	RLR07C5102GS	
–	R36, R37	36	2	RESISTOR, 499, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4990BS	
–	R38, R39	37	2	RESISTOR 10, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J10R0FS	
–	U1	38	1	MICROCIRCUIT, LINEAR (LH0002)	–	–	7801301XX	
–	U2, U3	39	2	MICROCIRCUIT, VOLTAGE REFERENCE (AD584TH)	MIL-M-38510/128	–	M38510/12802BGX	
–	U4, U7	40	2	MICROCIRCUIT, LINEAR (HI5043)	MIL-M-38510/105	–	M38510/10504BEX	
–	U5, U6	41	2	MICROCIRCUIT, LINEAR (AD624S)	–	–	AD624SD/883B	
–	U8	42	1	MICROCIRCUIT, LINEAR (OP200A)	–	–	5962-8859301PX	
–	VR1	43	1	SEMICONDUCTOR, DIODE, TRANSIENT VOLTAGE SUPPR, 33V	MIL-S-19500/551	–	JANTX1N6466	
–	MP1-MP3	44	3	MOUNTING PAD, ELEC-ELEK COMPONENT (U1-U3)	MIL-M-38527/4	–	M38527/04-03N	
–	MP4	45	1	MOUNTING PAD, ELEC-ELEK COMPONENT (Q1)	MIL-M-38527/4	–	M38527/02-009D	
–	MP5-MP7	46	3	MOUNTING PAD, ELEC-ELEK COMPONENT (Q2, Q3, Q4)	MIL-M-38527/4	–	M38527/03-002D	
–	MP8, MP9	47	2	STANDOFF, SWAGE	QQ-S-763	–	53711 – 6757616	
–	–	48	A/R	SOLDER, SOFT	QQ-S-571	–	SN60BS	
–	R26	49	1	RESISTOR, 64.9K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J6492BS	
–	–	–	–	–	–	–	–	

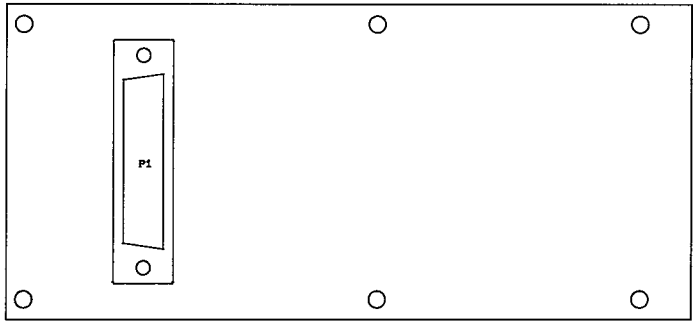
SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534911	–
SCALE: NONE			SHEET 2	

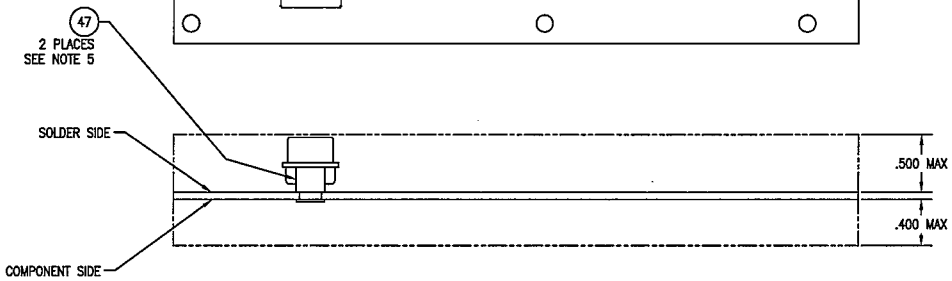


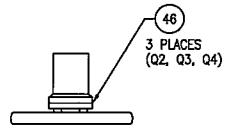
VIEW 23-D
(20-A)
SCALE: NONE



VIEW 23-C
(20-A)
SCALE: NONE







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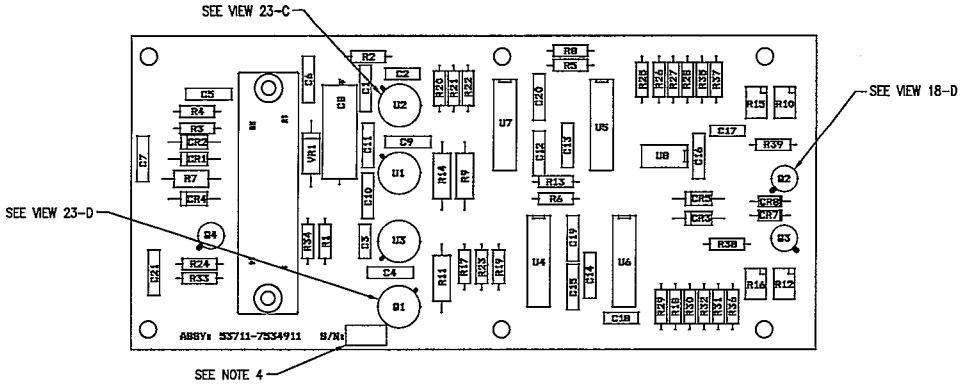
(20-A)
SCALE: NONE



DETAIL 20-A
AN/BRR-6 DEPTH CANISTER PCB ASSEMBLY 2A4A1
SCALE: 2/1

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534911	–
SCALE: AS NOTED			SHEET 3	

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY
REVISION		–
NSWCCD 96TDC	P	1
NSWCCD 96TDC	E	1
NMS /JTS*	E	1
EB /JTS*	E	1
SAL SE 00T99	E	6
NAVSEA SPONSOR	E	1
SPAWAR SPONSOR	E	1
NUWC 3432 (FOR PERISCOPE IMAGE)*	E	1
NUWC 3443 (FOR ANTENNA)*	E	1
NSWC JCALS (FOR SURFACE SHIP DRAWINGS)	E	–
PAPER / VELLUM	P	1
ELECTRONIC (ADOBE .PDF FILES)	E	13

* DISTRIBUTION WILL BE MADE FROM NSWCCD 96TDC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 96TDC

GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED:
   ALL RESISTORS ARE IN OHMS (K=1,000 / M=1,000,000)
   +/-0.1%, AND 1/10W.
   ALL CAPACITORS ARE IN MICROFARADS,
   +/-10%, AND 50V.
   RESISTOR NETWORKS ARE +/-5%, 1/8W PER ELEMENT.
2. PREPARED IN ACCORDANCE WITH MIL-STD-100.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

VOLTAGE CHART

DEVICE	TYPE	SPEC NO. OR MIL NO.	+7.5V	+17.5V	+28V	RTN_D	RTN_A
U1	LH0002	7801301XX	4		1		7
U2	AD584TH	M38510/12802BGX					4
U3	AD584TH	M38510/12802BGX	4	1			
U4, U7	HI5043	M38510/10504BEX	12		11	13	14
U5, U6	AD624S	AD624SD/883B	6		8		7
U8	OP200A	5962-8859301PX			8		4
			VOLTAGE PINS				

DISTRIBUTION STATEMENT D:

DISTRIBUTION AUTHORIZED TO THE D.O.D. AND D.O.D. CONTRACTORS ONLY TO PROTECT CRITICAL TECHNOLOGY, 20 JUNE 2003. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO COMMANDER, NAVAL SEA SYSTEMS (SEA 09B2), ARLINGTON, VA 22242-5160.

HIGHEST REF DES USED						
C21	CR8	Q4	P1	R37	U8	VR1
REF DES NOT USED						
	CR6					

NOT APPLICABLE

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	I R XI XR	VCG REF BL	LCG REF BM	F OR A	TCG REF CL	P S O	VAL BY

WEIGHT CONTROL DATA

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
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I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
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REFERENCES

NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6 DEPTH CANISTER PRINTED WIRING BOARD	53711 – 7534913
1	–	AN/BRR-6 DEPTH CANISTER PCB ASSEMBLY 2A4A1	53711 – 7534911

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7) PLACES	± TOL.	FRACTIONS (7) DIMENSION	± TOL.	WELDMENTS DIMENSION	± TOL.	CASTINGS DIMENSION	TOLERANCE
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WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 –1/8
				MACHINED	.010	12" TO 15"	+1/4 –3/16
				MOLDED	.035	>OR= TO 15"	+1/4 –1/4

(7) MACHINED SURFACE FINISHES = 125MUIN (AA). BREAK ALL SHARP EDGES .01 TO .06. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATION TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FIXTURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS MADE WHERE APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

–	–	–	–	–	REV	REV STATUS
–	–	3	2	1	SH	

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25683
CODE: 9621
PHONE: 215-897-7540

PREPARED BY	C. DILGER	7/22/03
REVIEWED BY	J. BATCHO	7/22/03
DESIGN BY	J. DOLAN	7/22/03
DRAWN BY	K. BENEFIELD	7/22/03
GRAPHIC PROD. DES.	–	–
APPROVED FOR ISSUE	J. DOLAN	7/24/03
APPROVED FOR ISSUE	–	–

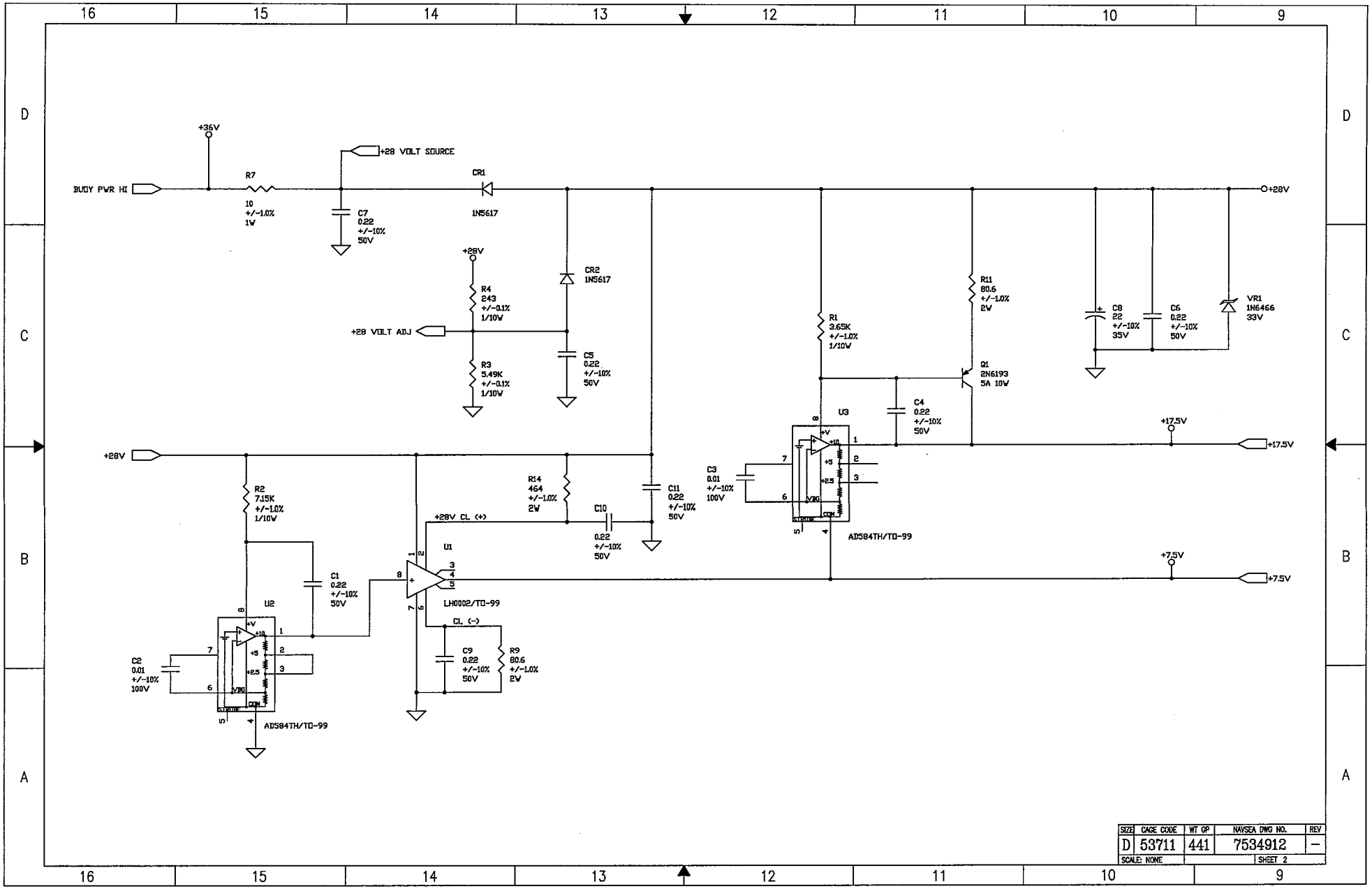
DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

AN/BRR-6 DEPTH CANISTER PCB SCHEMATIC

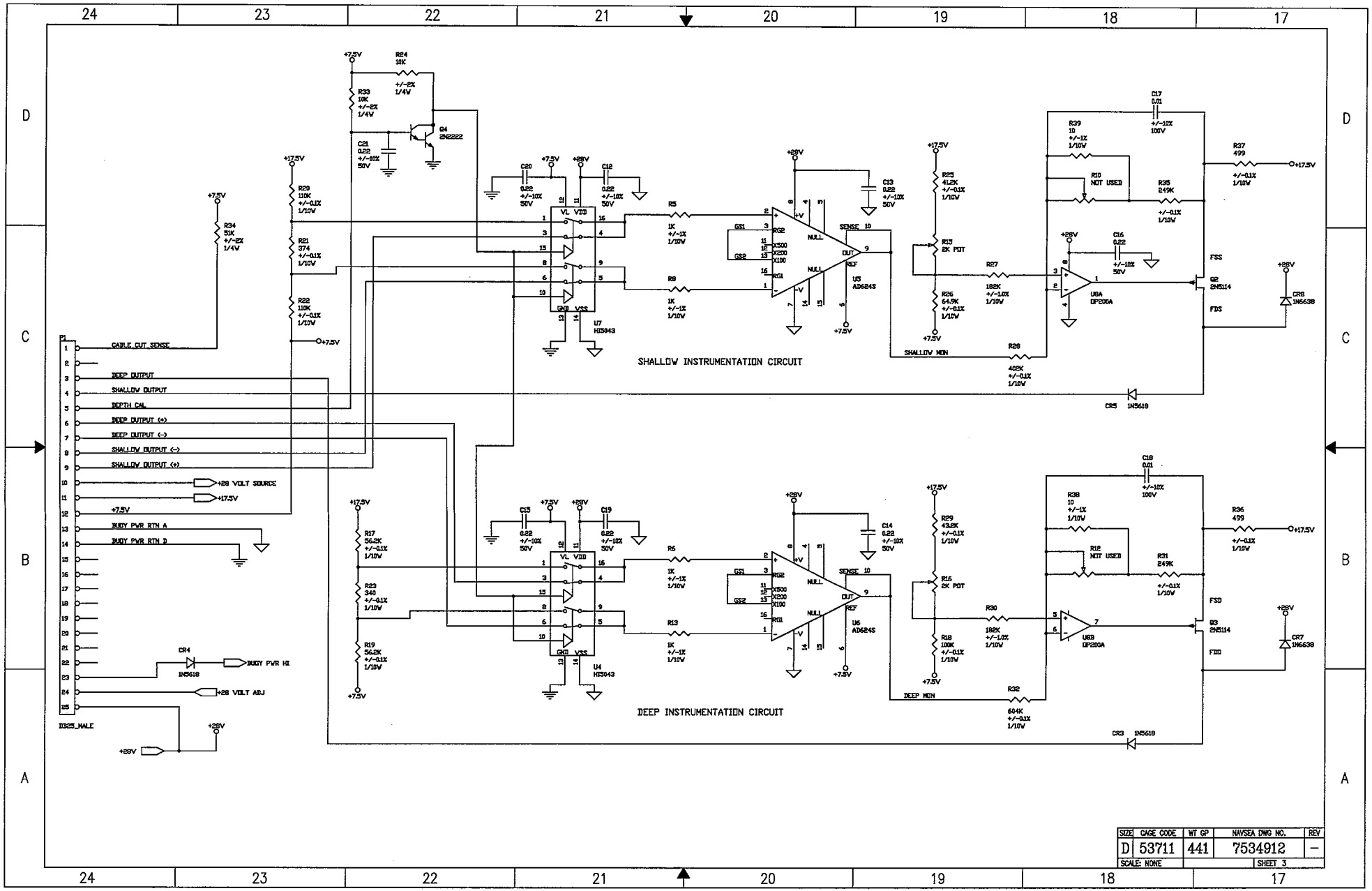
AN/BRR-6 DEPTH CAN PCB SCHEM

SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534912	–

SCALE: NONE SHEET 1 OF 3



SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534912	–
SCALE: NONE			SHEET 2	



SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534912	–
SCALE: NONE			SHEET 3	

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY					
REVISION		–					
NSWCCD 98TDC	P	1					
NSWCCD 98TDC	E	1					
NAVSEA ATSP	E	1					
EB ATSP	E	1					
SAIL ISE REPSP	E	6					
NAVSEA SPONSOR	E	1					
SPAWAR SPONSOR	E	1					
NUWC 3432 (FOR PERISCOPE IMAGE)*	E	1					
NUWC 3463 (FOR ANTENNA)*	E	1					
NSWC JCALS (FOR SURFACE SHIP DRAWINGS)	E	–					
MEDIA: PAPER / VELLUM	P	1					
MEDIA: ELECTRONIC (ADOBE .PDF FILES)	E	13					

* DISTRIBUTION WILL BE MADE FROM NSWCCD 98TDC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 98TDC

GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED: THIS PWB IS DESIGNED IN ACCORDANCE WITH IPC-2221-KIT.
2. UNLESS OTHERWISE SPECIFIED: FABRICATE PER IPC-6012 CLASS 2.
3. MATERIAL:
   BASE: LAMINATED PLASTIC SHEET, GLASS BASE, WOVEN, POLYIMIDE RESIN, COPPER CLAD PER IPC-4101.
   BASE MATERIAL: GI, TYPE AND NOMINAL WEIGHT OF COPPER FOIL:
   EXTERNAL LAYERS: NO LESS THAN 1/2 OZ AND PLATED UP TO 1 OZ.
   CLASS OF THICKNESS TOLERANCE: 1, 2 OR 3.
   B-STAGE: GLASS FABRIC WOVEN, POLYIMIDE RESIN PREIMPREGNATED PER IPC-4101. MATERIAL: PGI.
4. FOR MANUFACTURING PURPOSES USE MASTER PATTERN ARTWORK OR GERBER FILES.
5. PLATE CONDUCTOR PATTERN AND PLATED-THRU HOLES WITH A MINIMUM OF .001 COPPER.
6. EXTERNAL TERMINAL AREAS AND PLATED-THRU HOLES SHALL BE TIN-LEAD PLATED (60% TO 63% TIN). THE TIN-LEAD SHALL BE .0003 THICK MINIMUM.
7. POSITIVE ETCHBACK IS REQUIRED. ETCHBACK SHALL BE .0002 MINIMUM AND .003 MAXIMUM.
8. MAXIMUM CONDUCTOR WIDTH(S) REDUCTION SHALL NOT BE MORE THAN 20% OF CONDUCTOR PATTERN ON MASTER PATTERN ARTWORK.

WIDTH(S) USED ON MASTER PATTERN ARTWORK.
.010, .050

9. MINIMUM CONDUCTOR SPACING SHALL BE .007 AFTER PLATING. MINIMUM CONDUCTOR SPACING ON MASTER PATTERN ARTWORK IS .010
10. MINIMUM ANNULAR RING IN TERMINAL AREAS SHALL BE .005 AFTER PLATING. TERMINAL AREAS WERE SIZED TO PROVIDE A CIRCULAR FABRICATION ZONE OF .012 DIAMETER.
11. UNLESS OTHERWISE SPECIFIED:
    A. MASTER PATTERN ARTWORK WAS DEVELOPED ON A .005 BASIC MODULAR GRID SYSTEM.
    B. ALL HOLE LOCATIONS ARE ⊕ Ø .014 Ⓜ A B C
    C. ALL HOLES ARE PLATED THRU.
    D. ALL HOLE TOLERANCES ARE +/-.003 AFTER PLATING.
12. MANUFACTURER SHALL IDENTIFY WITH THE FOLLOWING:
    A. FSCM OF BOARD MANUFACTURER.
    B. BOARD TRACEABILITY AND LOT NUMBER AND DATE CODE.
13. DIELECTRIC WITHSTANDING VOLTAGE IS 75VDC.
14. MARK BOARD PER MARKING MASTER, USING EPOXY BASE INK CONFORMING TO CID-A-A-56032, COLOR: CONTRASTING.
15. PWB'S SHIPPED IN RESEALABLE BAGS/CONTAINERS SHALL NOT CONTAIN SILICONES, SULPHUR COMPOUNDS, POLYSULPHIDES OR ANY OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO THE PWB SOLDERABILITY.
16. FINISHED PWB SHALL BE SUPPLIED COMPLETE WITH LPI SOLDER MASK BOTH SIDES.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

DISTRIBUTION STATEMENT D:
DISTRIBUTION AUTHORIZED TO THE D.O.D. AND D.O.D. CONTRACTORS ONLY TO PROTECT CRITICAL TECHNOLOGY, 20 JUNE 2003. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO COMMANDER, NAVAL SEA SYSTEMS (SEA 09B2), ARLINGTON, VA 22242-5160.

NOT APPLICABLE

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	L R XI XR	VCG REF BL	LCG REF ⊠	F OR A	TCG REF CL	P S O	VAL BY

WEIGHT CONTROL DATA

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
USE SEPARATE LINES FOR EACH WT GRP, S/A, REV, WT INSTL, OR WT RMV.
I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
F=FWD A=AFT P=PORT S=STBD O=CENTERLINE

NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6 DEPTH CANISTER PCB SCHEMATIC	53711 – 7534912
1	–	AN/BRR-6 DEPTH CANISTER PCB ASSEMBLY 2A4A1	53711 – 7534911

REFERENCES

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7)		FRACTIONS (7)		WELDMENTS		CASTINGS	
PLACES	± TOL	DIMENSION	± TOL	DIMENSION	± TOL	DIMENSION	TOLERANCE
.XXX	.005	< 6"	1/64	< 24"	.062	< 2"	+1/16 –1/16
.XX	.02	6" TO 24"	1/32	>OR= TO 24"	.125	2" TO 5"	+3/32 –1/16
.X	.1	>OR= TO 24"	1/16	ALL PLASTICS		5" TO 8"	+1/8 –3/32
WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 –1/8
				MACHINED	.010	12" TO 15"	+1/4 –3/16
				MOLDED	.035	>OR= TO 15"	+1/4 –1/4

(7) MACHINED SURFACE FINISHES = 125MUIN (AA). BREAK ALL SHARP EDGES .01 TO .03. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATIONS TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FIGURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS INVOKED WHERE APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

5	4	3	2	1	SH	REV STATUS
–	–	–	–	–	–	REV
–	–	–	9	8	7	6	SH
–	–	–	–	–	REV	

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25685
CODE: 9521
PHONE: 215-897-7540

PREPARED BY	C. DILGER	7/22/03
CHECKED BY	J. BATCHO	7/22/03
ISSUED BY	J. DOLAN	7/22/03
REVIEW BY	K. BENEFIELD	7/22/03
MARKING PART NO.	–	DATE –
ADOPTED FOR MARKING	J. DOLAN	7/24/03
APPROVED FOR MARK	–	–

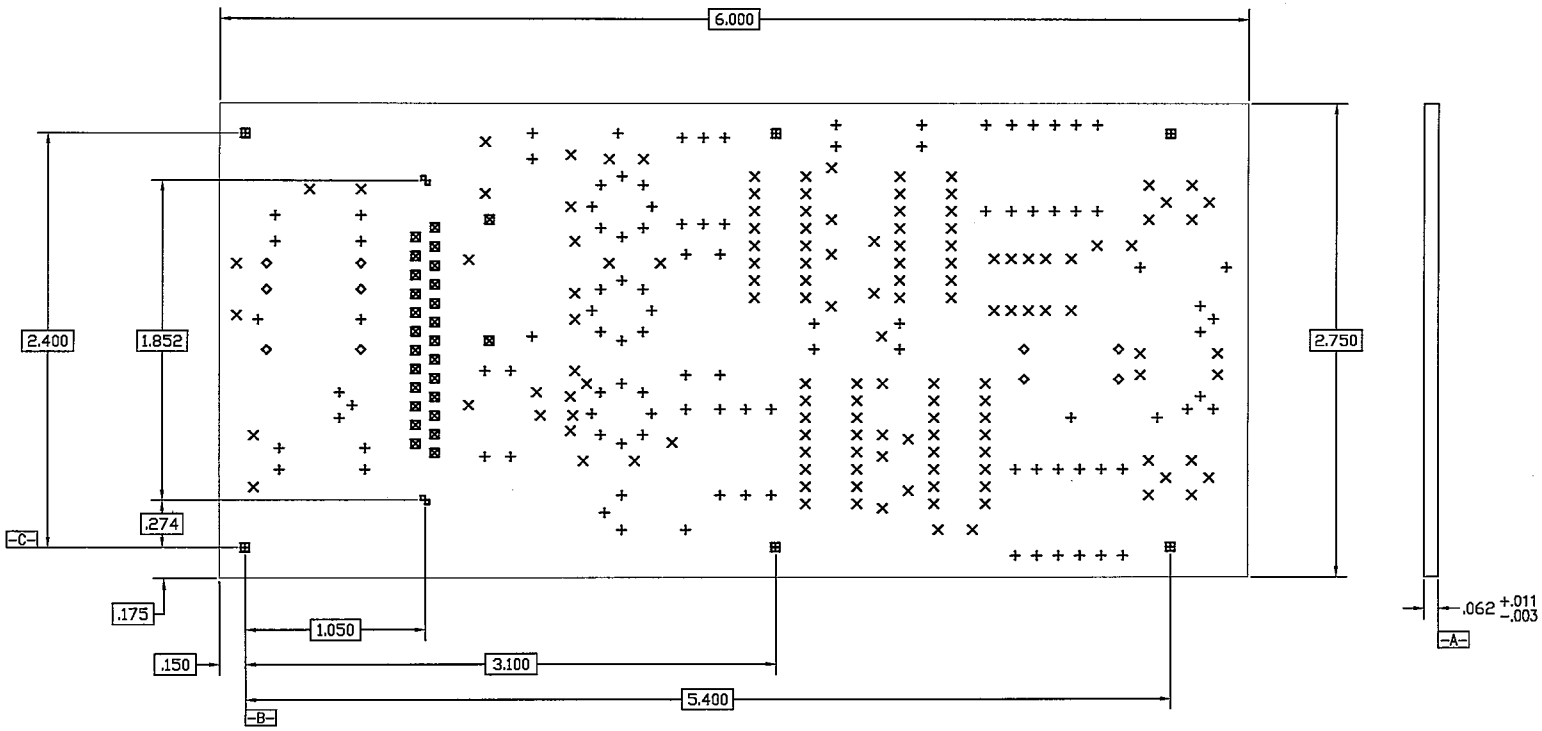
DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

AN/BRR-6
DEPTH CANISTER
PRINTED WIRING BOARD

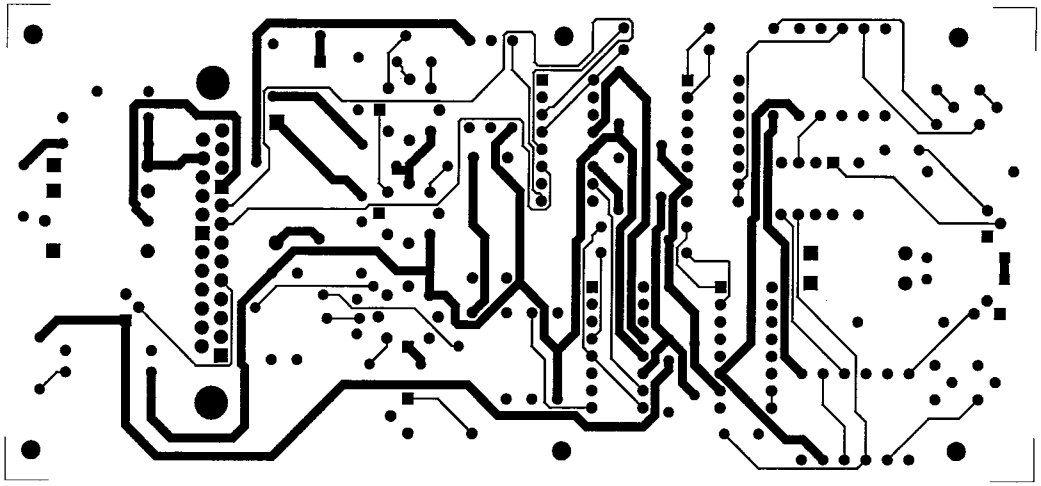
AN/BRR-8 DEPTH CANISTER PWB

SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534913	–

SCALE: NONE SHEET 1 OF 9

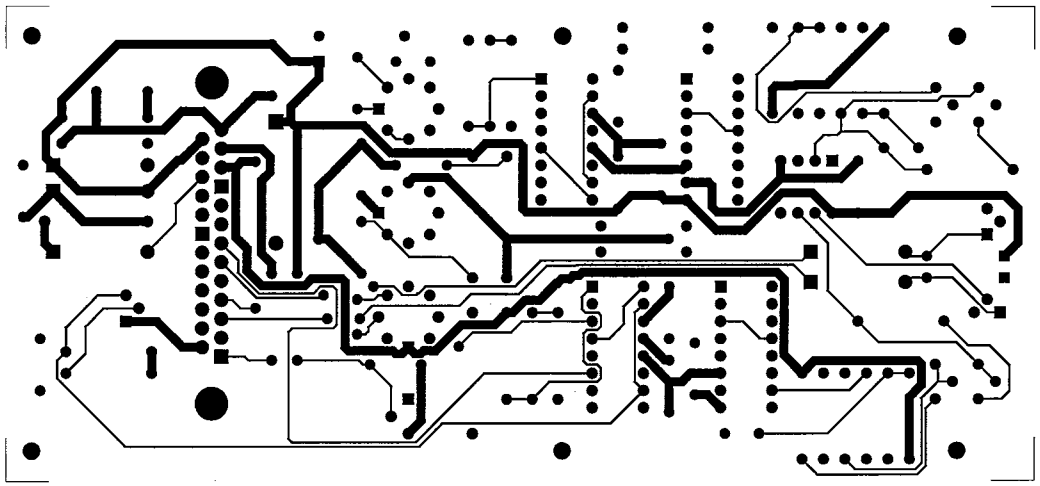


SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 2	



COMPONENT SIDE COPPER

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 3	



SOLDER SIDE COPPER

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
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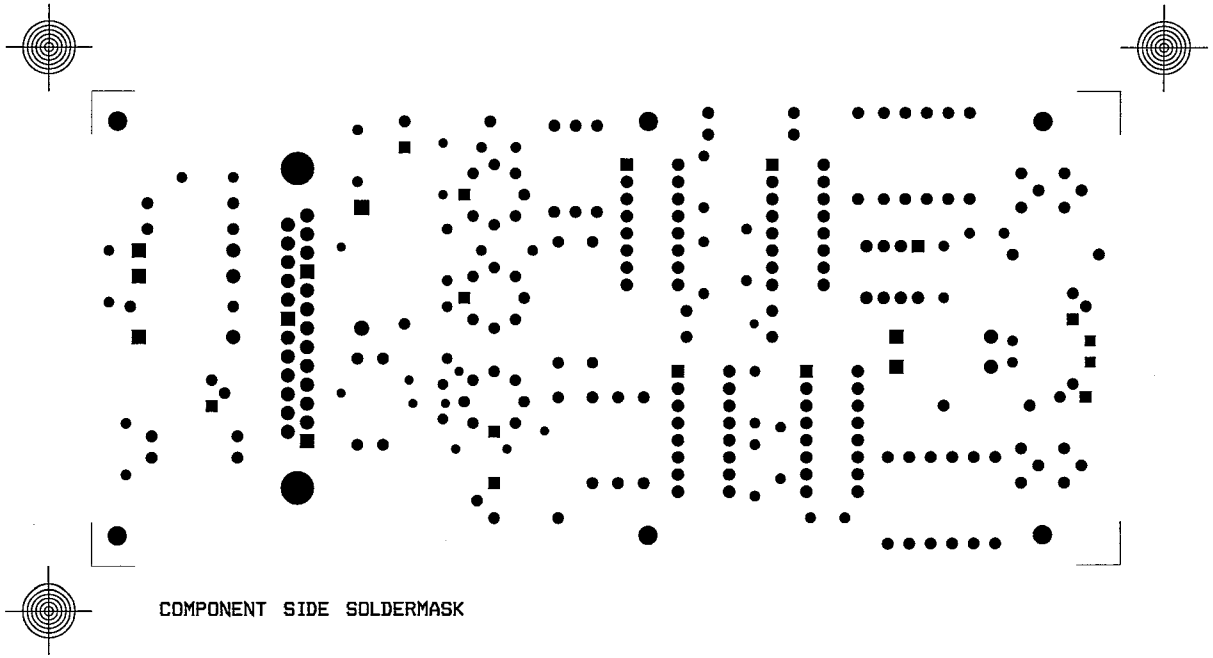
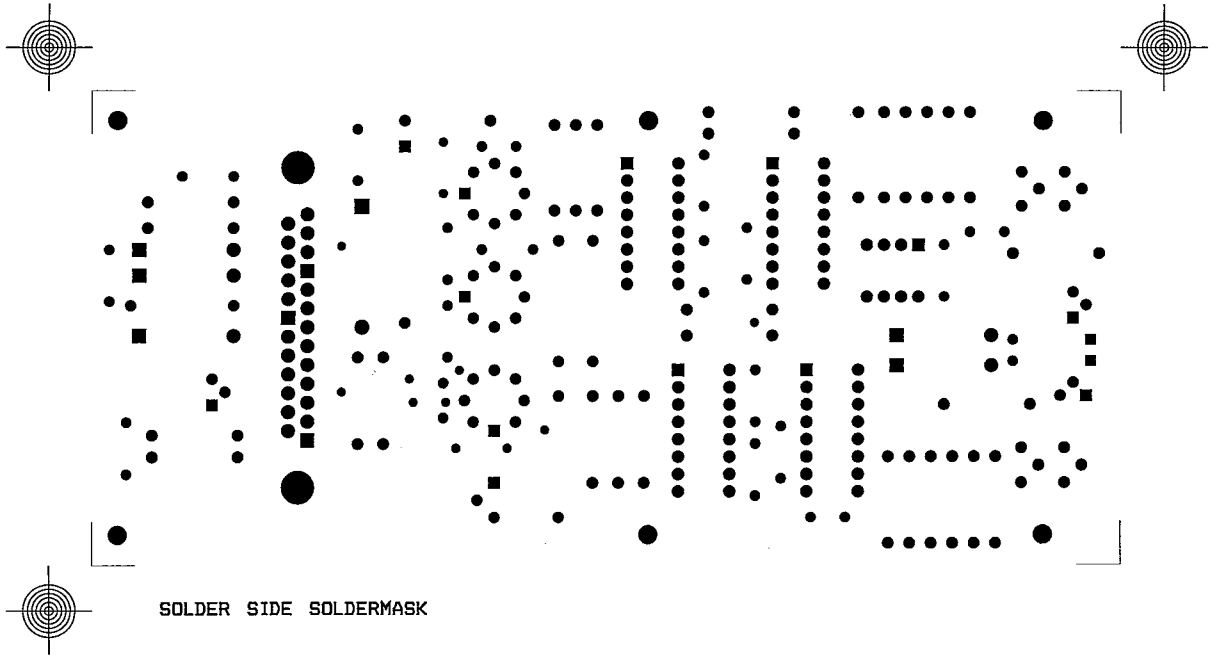
SCALE: 3/1			SHEET 4	



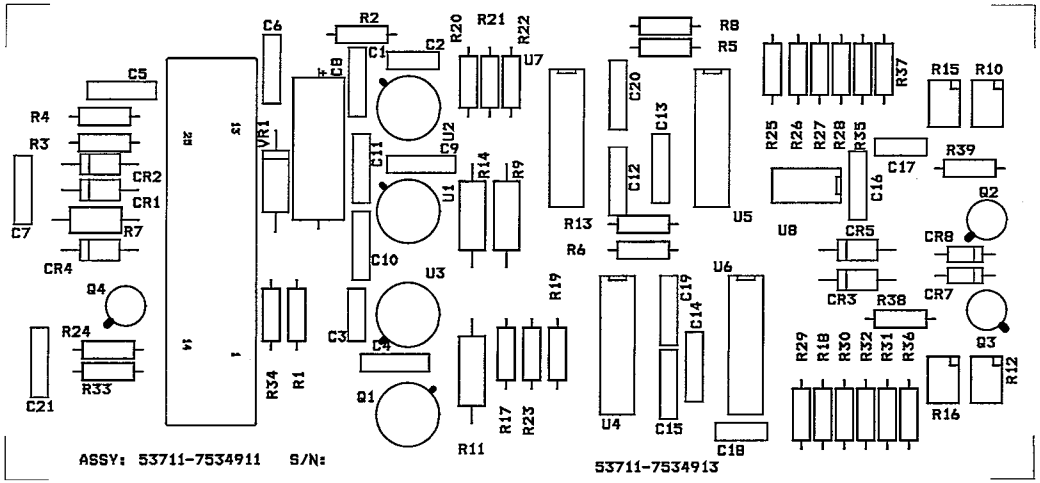
COMPONENT SIDE SOLDERMASK

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 5	



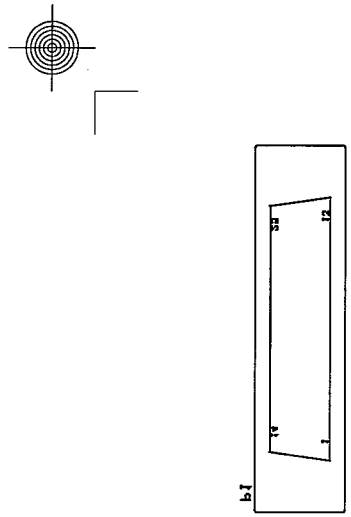
SOLDER SIDE SOLDERMASK

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 6	



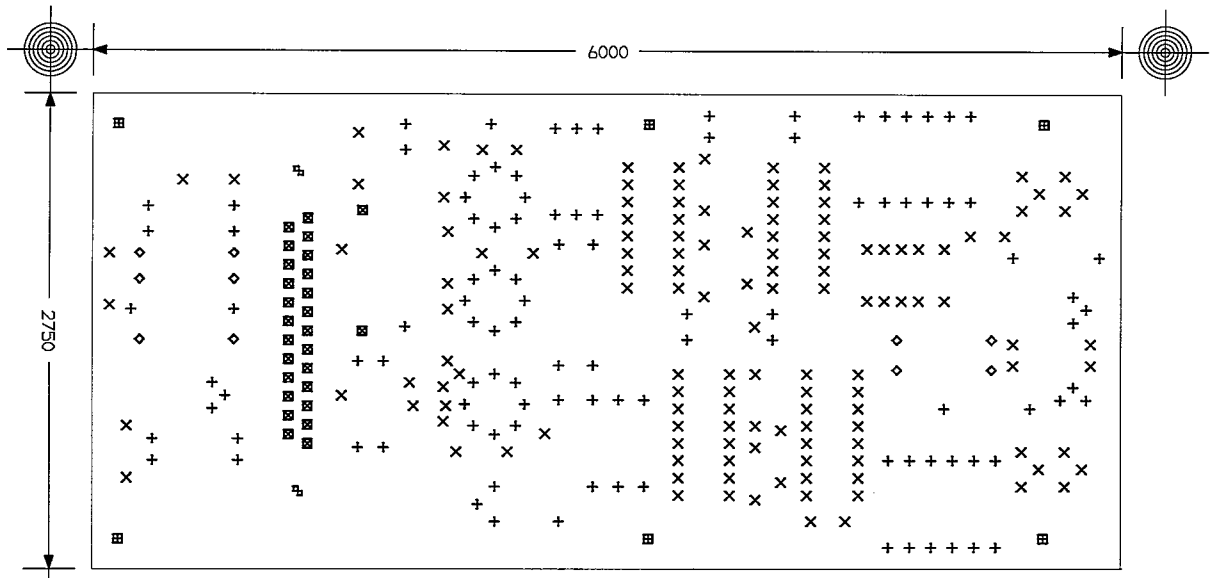
COMPONENT SIDE SILKSCREEN

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 7	



SOLDER SIDE SILKSCREEN

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 8	



DRILL DETAIL

DRILL CHART				
SYM	DIAM	TOL	QTY	NOTE
×	0.032		136	PLATED THROUGH
+	0.035		108	PLATED THROUGH
◇	0.040		10	PLATED THROUGH
⊠	0.055		27	PLATED THROUGH
⊞	0.147		6	NOT PLATED
⊞	0.193		2	NOT PLATED
TOTAL			289	

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534913	–
SCALE: 3/1			SHEET 9	

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY
NSWCCD 965DC	P	1
NSWCCD 965DC	E	1
NHS ATG*	E	1
ED ATG*	E	1
SAIL SIE REPS*	E	6
NAVSEA SPONSOR	E	1
SPWAR SPONSOR	E	1
NUWC 3432 (FOR PERISCOPE IMAGE)*	E	1
NUWC 3403 (FOR ANTENNA)*	E	1
NSWC JCAS (FOR SURFACE SHIP DRAWINGS)	E	–
VIDALS: PAPER / VELLUM	P	1
VIDALS: ELECTRONIC (ADOBE .PDF FILES)	E	13

* DISTRIBUTION WILL BE MADE FROM NSWCCD 965DC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 965DC

GENERAL NOTES

1. REFERENCE DESIGNATIONS ARE USED IN LIEU OF ITEM NUMBERS. SEE PARTS LIST FOR ITEM NUMBERS.
2. THIS ASSEMBLY CONTAINS COMPONENTS SENSITIVE TO ELECTROSTATIC DISCHARGE DAMAGE. THEY SHALL BE PROTECTED IN ACCORDANCE WITH MIL-STD-1686C CLASS 1, AND MIL-HDBK-263.
3. SOLDER USING SOLDER, ITEM NO. 48.
4. MARK SERIAL NUMBER WITH .12 +/-.06 HIGH CHARACTERS, COLOR: CONTRASTING.
5. INSTALL STANDOFFS (ITEM 47) ON SOLDER SIDE OF PWB (ITEM 2) IN TWO PLACES. ROLL PROTRUDING END OF STANDOFF OVER ON COMPONENT SIDE AND PRESS FLAT.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

CAUTION
ELECTROSTATIC DISCHARGE SENSITIVE PART

DISTRIBUTION STATEMENT D:
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NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6B DEPTH CANISTER PCB SCHEMATIC	53711 – 7534929
1	–	AN/BRR-6B DEPTH CANISTER PRINTED WIRING BOARD	53711 – 7534930

REFERENCES

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7) PLACES	± TOL	FRACTIONS (7) DIMENSION	± TOL	WELDMENTS DIMENSION	± TOL	CASTINGS DIMENSION	TOLERANCE
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.X	.1	>OR= TO 24"	1/16	ALL PLASTICS		5" TO 8"	+1/8 –3/32
WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 –1/8
				MACHINED	.010	12" TO 15"	+1/4 –3/16
				MOLDED	.035	>OR= TO 15"	+1/4 –1/4

(7) MACHINED SURFACE FINISHES = 125MUIN (AA). BREAK ALL SHARP EDGES .01 TO .06. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATIONS TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FEATURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS BASIC SHEET APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

–	–	–	–	–	REV
–	–	3	2	1	SH

REV STATUS

WEIGHT CONTROL DATA

NOT APPLICABLE

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	L-R XI XR	VCG REF BL	LCG REF ⊠	F OR A	TCG REF CL	P S O	VAL BY

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
USE SEPARATE LINES FOR EACH WT GRP, S/A, REV, WT INSTL. OR WT R&W
I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
F=FWD A=AFT P=PORT S=STBD D=CENTERLINE

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25685
CODE: 9821
PHONE: 215-897-7540

PREPARED BY	C. DILGER	7/3/03
CHECKED BY	J. BATCHO	7/3/03
DES ENG	J. STILES	7/3/03
DRAFTING	K. BENEFIELD	7/3/03
APPROVED FOR PRODN	J. DOLAN	7/3/03

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

AN/BRR-6B
DEPTH CANISTER
PCB ASSEMBLY 2A4A1

AN/BRR-6B DEPTH CAN PCB ASSY

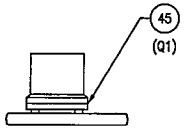
SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534928	–

SCALE: NONE SHEET 1 OF 3

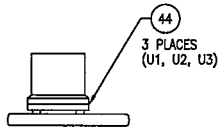
LIST OF PARTS FOR ONE ASSEMBLY

REV	IDENTIFYING DESIGNATION	ITEM NO.	QTY REQD	DESCRIPTION	MATERIAL SPECIFICATIONS	MATERIAL REQUIRED	NSN OR MANUF PART NO.	REMARKS
–	–	1	X	AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1	–	–	C/O ITEMS 2 THRU 48	
–	MP10	2	1	AN/BRR-6B DEPTH CANISTER PRINTED WIRING BOARD	–	–	53711-7534930	
–	C1, C4-C7, C9-C16, C19-C21	3	16	CAPACITOR, 0.22, +/-10%, 50V	MIL-C-39014/22	–	M39014/22-1138	
–	C2, C3, C17, C18	4	4	CAPACITOR, 0.01, +/-10%, 100V	MIL-C-39014/1	–	M39014/01-1575	
–	C8	5	1	CAPACITOR, 22, +/-10%, 35V	MIL-C-39003/1	–	M39003/01-6111	
–	CR1, CR2	6	2	SEMICONDUCTOR, DIODE, RECTIFIER	MIL-S-19500/429	–	JANTX1N5617	
–	CR3-CR5	7	3	SEMICONDUCTOR, DIODE, RECTIFIER	MIL-S-19500/427	–	JANTX1N5618	
–	CR7, CR8	8	2	SEMICONDUCTOR, DIODE, SWITCHING	MIL-S-19500/578	–	JANTX1N6638	
–	P1	9	1	CONNECTOR, ELEC, PWB, MALE	MIL-C-24308/24	–	M24308/24-15	
–	Q1	10	1	SEMICONDUCTOR, TRANSISTOR, PNP, SWITCHING	MIL-S-19500/561	–	JANTX2N6193	
–	Q2, Q3	11	2	SEMICONDUCTOR, TRANSISTOR, FET	MIL-S-19500/476	–	JANTX2N5114	
–	Q4	12	1	SEMICONDUCTOR, TRANSISTOR, NPN, SWITCHING	MIL-S-19500/255	–	JANTX2N2222	
–	R1	13	1	RESISTOR, 3.65K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J3651FS	
–	R2	14	1	RESISTOR, 7.15K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J7151FS	
–	R3	15	1	RESISTOR, 5.49K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J5491BS	
–	R4	16	1	RESISTOR, 243, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J2430BS	
–	R5, R6, R8, R13	17	4	RESISTOR, 1.0K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J1001FS	
–	R7	18	1	RESISTOR, 10, +/-1%, 1W	MIL-R-39007/9	–	RWR81S10R0FS	
–	R9, R11	19	2	RESISTOR, 80.6, +/-1%, 2W	MIL-R-39007/8	–	RWR80S80R6FS	
–	R10, R12	20	2	NOT USED	–	–	–	
–	R14	21	1	RESISTOR, 464, +/-1%, 2W	MIL-R-39007/8	–	RWR80S4640FS	
–	R15, R16	22	2	RESISTOR, VARIABLE, 2K, 1/4W	MIL-R-39035/3	–	RJR26FW202R	
–	R17, R19, R26	23	3	RESISTOR, 56.2K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J5622BS	
–	R18	24	1	RESISTOR, 47.5K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4752BS	
–	R20, R22	25	2	RESISTOR, 110K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J1103BS	
–	R21	26	1	RESISTOR, 348, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J3480BS	
–	R23	27	1	RESISTOR, 340, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J3400BS	
–	R24, R33	28	2	RESISTOR, 10K, +/-2%, 1/4W	MIL-R-39017/1	–	RLR07C1002GS	
–	R25	29	1	RESISTOR, 41.2K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4122BS	
–	R27, R30	30	2	RESISTOR, 182K, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J1823BS	
–	R28	31	1	RESISTOR, 402K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4023BS	
–	R29	32	1	RESISTOR, 45.3K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4532BS	
–	R31, R35	33	2	RESISTOR, 249K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J2493BS	
–	R32	34	1	RESISTOR, 301K, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J3013BS	
–	R34	35	1	RESISTOR, 51K, +/-2%, 1/4W	MIL-R-39017/1	–	RLR07C5102GS	
–	R36, R37	36	2	RESISTOR, 499, +/-0.1%, 1/10W	MIL-R-55182/1	–	RNC55J4990BS	
–	R38, R39	37	2	RESISTOR 10, +/-1%, 1/10W	MIL-R-55182/1	–	RNC55J10R0FS	
–	U1	38	1	MICROCIRCUIT, LINEAR (LH0002)	–	–	7801301XX	
–	U2, U3	39	2	MICROCIRCUIT, VOLTAGE REFERENCE (AD584TH)	MIL-M-38510/128	–	M38510/12802BGX	
–	U4, U7	40	2	MICROCIRCUIT, LINEAR (HI5043)	MIL-M-38510/105	–	M38510/10504BEX	
–	U5, U6	41	2	MICROCIRCUIT, LINEAR (AD624S)	–	–	AD624SD/883B	
–	U8	42	1	MICROCIRCUIT, LINEAR (OP200A)	–	–	5962-8859301PX	
–	VR1	43	1	SEMICONDUCTOR, DIODE, TRANSIENT VOLTAGE SUPPR, 33V	MIL-S-19500/551	–	JANTX1N6466	
–	MP1-MP3	44	3	MOUNTING PAD, ELEC-ELEK COMPONENT (U1-U3)	MIL-M-38527/4	–	M38527/04-03N	
–	MP4	45	1	MOUNTING PAD, ELEC-ELEK COMPONENT (Q1)	MIL-M-38527/4	–	M38527/02-009D	
–	MP5-MP7	46	3	MOUNTING PAD, ELEC-ELEK COMPONENT (Q2, Q3, Q4)	MIL-M-38527/4	–	M38527/03-002D	
–	MP8, MP9	47	2	STANDOFF, SWAGE	QQ-S-763	–	53711 – 5757616	
–	–	48	A/R	SOLDER, SOFT	QQ-S-571	–	SN60BS	
–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	

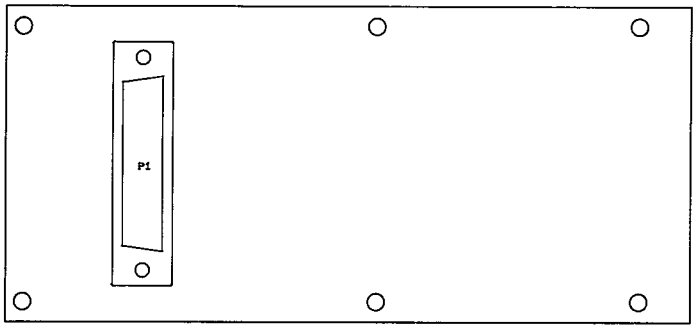
SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534928	–
SCALE: NONE			SHEET 2	

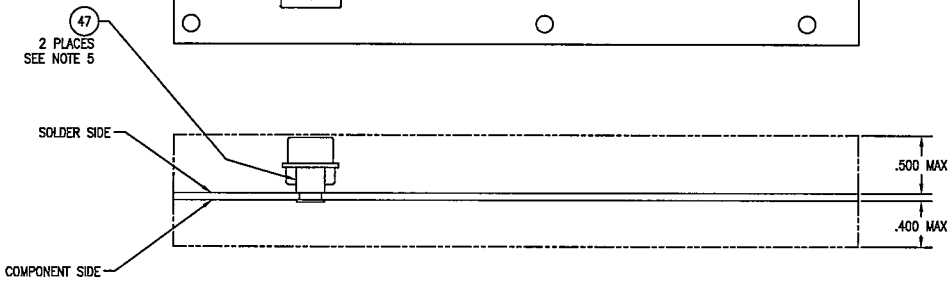


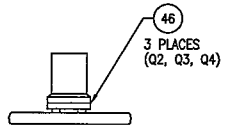
VIEW 23-D
(20-A)
SCALE: NONE



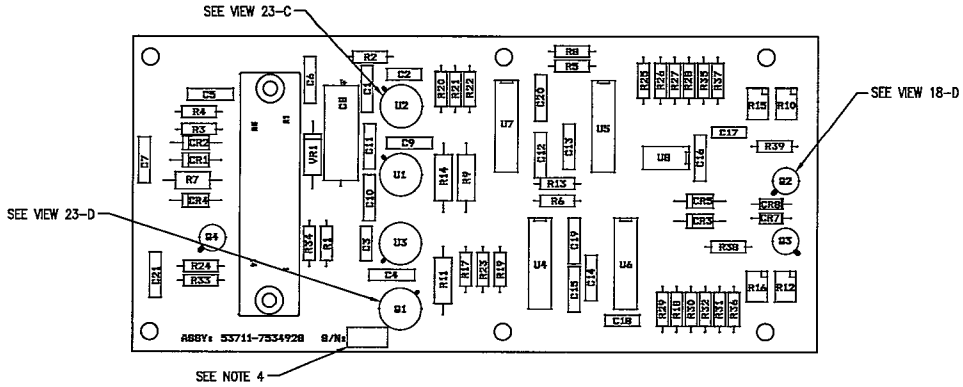
VIEW 23-C
(20-A)
SCALE: NONE







VIEW 18-D
(20-A)
SCALE: NONE



DETAIL 20-A
AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1
SCALE: 2/1

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534928	--
SCALE: AS SHOWN			SHEET 3	

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY					
REVISION		–					
NSWCCD 96TDC	P	1					
NSWCCD 96TDC	E	1					
NRS ATE*	E	1					
EB ATE*	E	1					
SAL RE 80PS*	E	6					
NAVSEA SPONSOR	E	1					
SPAWAR SPONSOR	E	1					
NUWC 3432 (FOR PERISCOPE IMAGE)*	E	1					
NUWC 3443 (FOR ANTENNA)*	E	1					
NSWC 3045 (FOR SURFACE SHIP DRAWINGS)	E	–					
TOTALS: PAPER / VELLUM	P	1					
TOTALS: ELECTRONIC (ADOBE .PDF FILES)	E	13					

* DISTRIBUTION WILL BE MADE FROM NSWCCD 96TDC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 96TDC

GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED:
   ALL RESISTORS ARE IN OHMS (K=1,000 / M=1,000,000)
   +/-0.1%, AND 1/10W.
   ALL CAPACITORS ARE IN MICROFARADS,
   +/-10%, AND 50V.
   RESISTOR NETWORKS ARE +/-5%, 1/8W PER ELEMENT.
2. PREPARED IN ACCORDANCE WITH MIL-STD-100.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

VOLTAGE CHART

DEVICE	TYPE	SPEC NO. OR MIL NO.	+7.5V	+17.5V	+28V	RTN_D	RTN_A
U1	LH0002	7801301XX	4		1		7
U2	AD584TH	M38510/12802BGX					4
U3	AD584TH	M38510/12802BGX	4	1			
U4, U7	HI5043	M38510/10504BEX	12		11	13	14
U5, U6	AD624S	AD624SD/883B	6		8		7
U8	OP200A	5962-8859301PX			8		4
			VOLTAGE PINS				

HIGHEST REF DES USED

C21	CR8	Q4	P1	R37	U8	VR1
REF DES NOT USED						
	CR6					

DISTRIBUTION STATEMENT D:

DISTRIBUTION AUTHORIZED TO THE D.O.D. AND D.O.D. CONTRACTORS ONLY TO PROTECT CRITICAL TECHNOLOGY, 20 JUNE 2003. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO COMMANDER, NAVAL SEA SYSTEMS (SEA 09B2), ARLINGTON, VA 22242-5160.

NOT APPLICABLE

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	L R XI XR	VCG REF BL	LCG REF ⊠	F OR A	TCG REF CL	P S O	VAL BY

WEIGHT CONTROL DATA

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
USE SEPARATE LINES FOR EACH WT GRP, S/A, REV, WT INSTL, OR WT RMV
I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
F=FWD A=AFT P=PORT S=STBD O=CENTERLINE

NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6B DEPTH CANISTER PRINTED WIRING BOARD	53711 – 7534930
1	–	AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1	53711 – 7534928

REFERENCES

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7) PLACES	± TOL	FRACTIONS (7) DIMENSION	± TOL	WELDMENTS DIMENSION	± TOL	CASTINGS DIMENSION	TOLERANCE
.XXX	.005	< 6"	1/64	< 24"	.062	< 2"	+1/16 –1/16
.XX	.02	6" TO 24"	1/32	>OR= TO 24"	.126	2" TO 5"	+3/32 –1/16
.X	.1	>OR= TO 24"	1/16	ALL PLASTICS		5" TO 8"	+1/8 –3/32
WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 –1/8
				MACHINED	.010	12" TO 15"	+1/4 –3/16
				MOLDED	.035	>OR= TO 15"	+1/4 –1/4

(7) MACHINED SURFACE FINISHES = 125MUIN (AA). BREAK ALL SHARP EDGES .01 TO .02. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATIONS TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FIXTURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS INVOKED WHERE APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

–	–	–	–	–	REV	REV STATUS
–	–	3	2	1	SH	

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25685
CODE: 9821
PHONE: 215-897-7540

PREPARED BY	C. DILGER	7/3/03
REVIEWED BY	J. BATCHO	7/3/03
DESIGN BY	J. STILES	7/3/03
DRAWN BY	K. BENEFIELD	7/3/03
CHECKED FOR ISS.	–	–
ACCEPTED FOR ISSUE	N. DOLAN	7/3/03
APPROVED FOR ISSUE	–	–

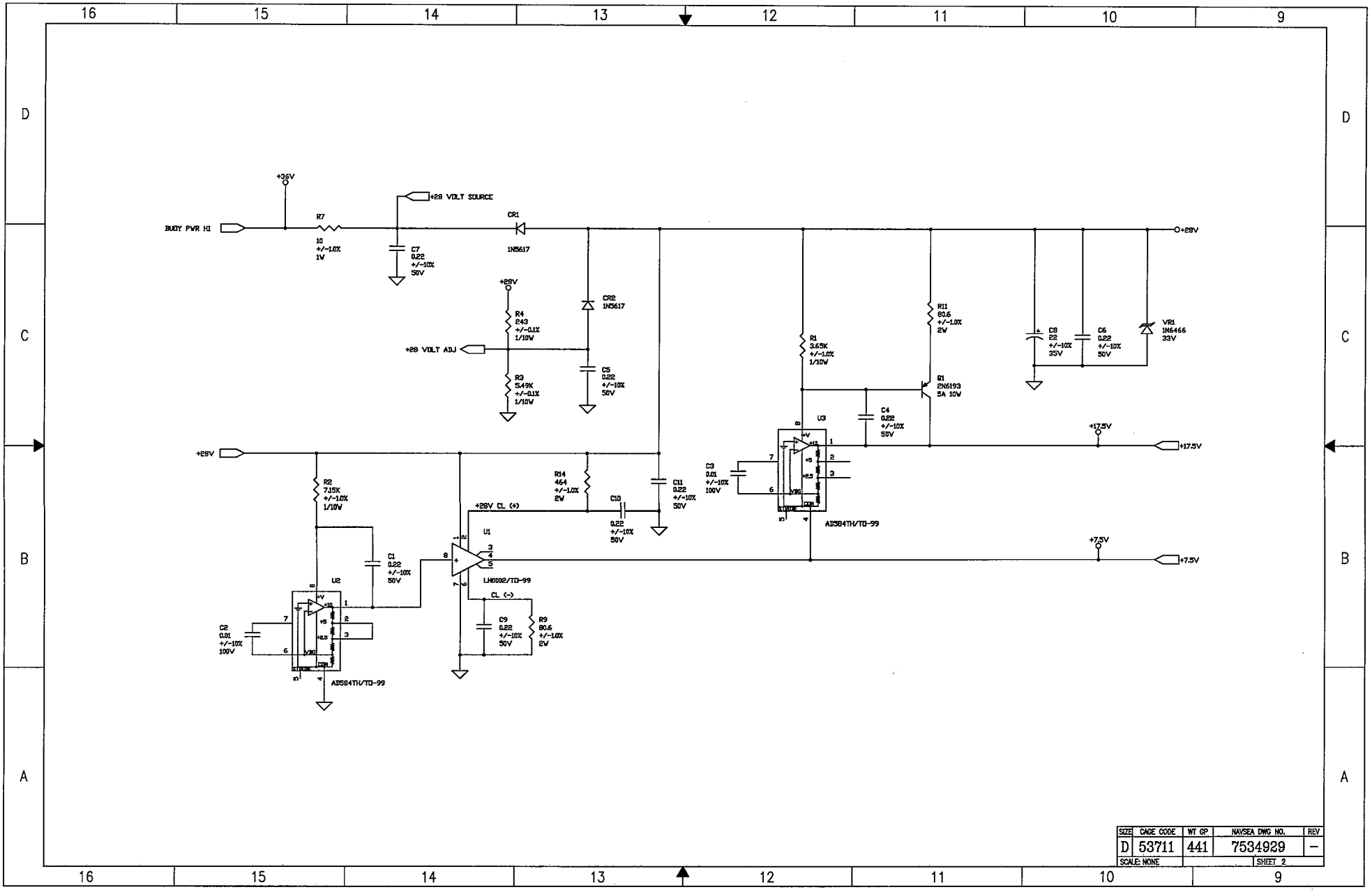
DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

AN/BRR-6B DEPTH CANISTER PCB SCHEMATIC

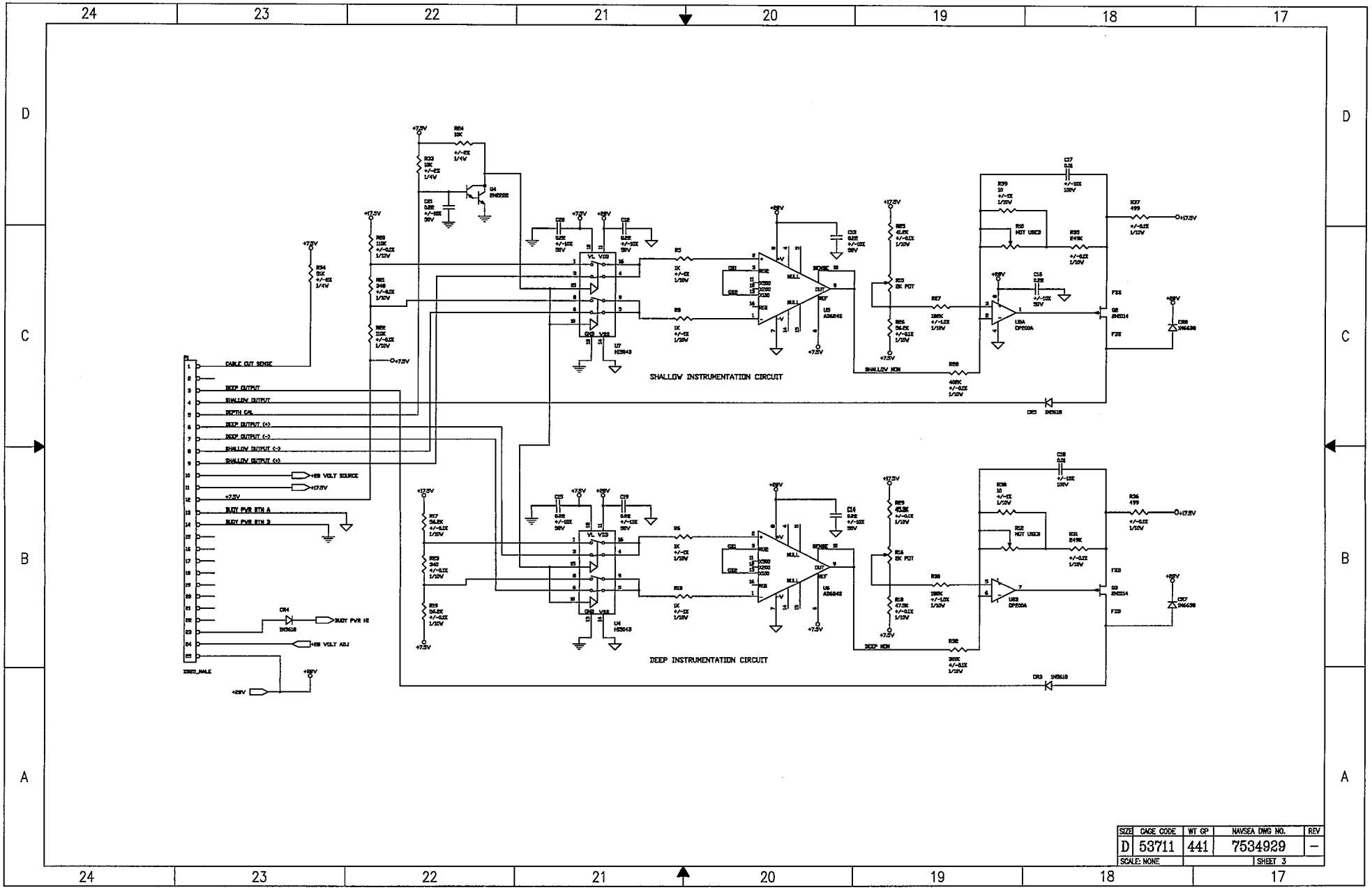
AN/BRR-6B DEPTH CANISTER PCB SCHEMATIC

SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534929	–

SCALE: NONE SHEET 1 OF 3



SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534929	–
SCALE: NONE			SHEET 2	



SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534929	–
SCALE: NONE			SHEET 3	

DISTRIBUTION LIST

ACTIVITY CODE	KIND	QTY
REVISION		–
NSWCCD 98TDC	P	1
NSWCCD 98TDC	E	1
NNS ATS*	E	1
CB ATS*	E	1
SAL ISE DEPOT	E	6
NAVSEA SPONSOR	E	1
SPAWAR SPONSOR	E	1
NUWC 3432 (FOR PERISCOPE HULLS)*	E	1
NUWC 3443 (FOR ANTENNA)*	E	1
NSWC JCALS (FOR SURFACE SHIP DRAWINGS)	E	–
VOYALS: PAPER / VELLUM	P	1
VOYALS: ELECTRONIC (ADOBE .PDF FILES)	E	13

* DISTRIBUTION WILL BE MADE FROM NSWCCD 98TDC
ELECTRONIC MASTER FILES WILL BE SUPPLIED TO NSWCCD 98TDC

GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED: THIS PWB IS DESIGNED IN ACCORDANCE WITH IPC-2221-KIT.
2. UNLESS OTHERWISE SPECIFIED: FABRICATE PER IPC-6012 CLASS 2.
3. MATERIAL:
   BASE: LAMINATED PLASTIC SHEET, GLASS BASE, WOVEN, POLYIMIDE RESIN, COPPER CLAD PER IPC-4101.
   BASE MATERIAL: GI, TYPE AND NOMINAL WEIGHT OF COPPER FOIL:
   EXTERNAL LAYERS: NO LESS THAN 1/2 OZ AND PLATED UP TO 1 OZ.
   CLASS OF THICKNESS TOLERANCE: 1, 2 OR 3.
   B-STAGE: GLASS FABRIC WOVEN, POLYIMIDE RESIN PREIMPREGNATED PER IPC-4101. MATERIAL: PGI.
4. FOR MANUFACTURING PURPOSES USE MASTER PATTERN ARTWORK OR GERBER FILES.
5. PLATE CONDUCTOR PATTERN AND PLATED-THRU HOLES WITH A MINIMUM OF .001 COPPER.
6. EXTERNAL TERMINAL AREAS AND PLATED-THRU HOLES SHALL BE TIN-LEAD PLATED (60% TO 63% TIN). THE TIN-LEAD SHALL BE .0003 THICK MINIMUM.
7. POSITIVE ETCHBACK IS REQUIRED. ETCHBACK SHALL BE .0002 MINIMUM AND .003 MAXIMUM.
8. MAXIMUM CONDUCTOR WIDTH(S) REDUCTION SHALL NOT BE MORE THAN 20% OF CONDUCTOR PATTERN ON MASTER PATTERN ARTWORK.

WIDTH(S) USED ON MASTER PATTERN ARTWORK.
.010, .050

9. MINIMUM CONDUCTOR SPACING SHALL BE .007 AFTER PLATING. MINIMUM CONDUCTOR SPACING ON MASTER PATTERN ARTWORK IS .010
10. MINIMUM ANNULAR RING IN TERMINAL AREAS SHALL BE .005 AFTER PLATING. TERMINAL AREAS WERE SIZED TO PROVIDE A CIRCULAR FABRICATION ZONE OF .012 DIAMETER.
11. UNLESS OTHERWISE SPECIFIED:
    A. MASTER PATTERN ARTWORK WAS DEVELOPED ON A .005 BASIC MODULAR GRID SYSTEM.
    B. ALL HOLE LOCATIONS ARE ⌖ Ø .014 Ⓜ | A | B | C
    C. ALL HOLES ARE PLATED THRU.
    D. ALL HOLE TOLERANCES ARE +/-.003 AFTER PLATING.
12. MANUFACTURER SHALL IDENTIFY WITH THE FOLLOWING:
    A. FSCM OF BOARD MANUFACTURER.
    B. BOARD TRACEABILITY AND LOT NUMBER AND DATE CODE.
13. DIELECTRIC WITHSTANDING VOLTAGE IS 75VDC.
14. MARK BOARD PER MARKING MASTER, USING EPOXY BASE INK CONFORMING TO CID-A-A-56032, COLOR: CONTRASTING.
15. PWB'S SHIPPED IN RESEALABLE BAGS/CONTAINERS SHALL NOT CONTAIN SILICONES, SULPHUR COMPOUNDS, POLYSULPHIDES OR ANY OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO THE PWB SOLDERABILITY.
16. FINISHED PWB SHALL BE SUPPLIED COMPLETE WITH LPI SOLDER MASK BOTH SIDES.

REVISIONS

REV	SHEET	DESCRIPTION	BY	DATE	APPROVED
–	–		–	–	–

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE DESIGN ACTIVITY.

DISTRIBUTION STATEMENT D:
DISTRIBUTION AUTHORIZED TO THE D.O.D. AND D.O.D. CONTRACTORS ONLY TO PROTECT CRITICAL TECHNOLOGY, 20 JUNE 2003. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO COMMANDER, NAVAL SEA SYSTEMS (SEA 09B2), ARLINGTON, VA 22242-5160.

REFERENCES

NO.	HULL	TITLE	IDENT
2	–	AN/BRR-6B DEPTH CANISTER PCB SCHEMATIC	53711 – 7534929
1	–	AN/BRR-6B DEPTH CANISTER PCB ASSEMBLY 2A4A1	53711 – 7534928

DIMENSIONAL TOLERANCES AND SURFACE FINISHES – UNLESS OTHERWISE SPECIFIED

DECIMALS (7) PLACES	± TOL	FRACTIONS (7) DIMENSION	± TOL	WELDMENTS DIMENSION	± TOL	CASTINGS DIMENSION	TOLERANCE
.XXX	.005	< 6"	1/64	< 24"	.062	< 2"	+1/16 –1/16
.XX	.02	6" TO 24"	1/32	>OR= TO 24"	.125	2" TO 5"	+3/32 –1/16
.X	.1	>OR= TO 24"	1/16	ALL PLASTICS		5" TO 8"	+1/8 –3/32
WHOLE NUMBERS ARE ± 0.1 TOLERANCE				CONDITION	± TOL	8" TO 12"	+3/16 –1/8
				MACHINED	.010	12" TO 15"	+1/4 –3/16
				MOLDED	.035	>OR= TO 15"	+1/4 –1/4

(7) MACHINED SURFACE FINISHES = 125MUIN (AA). BREAK ALL SHARP EDGES .01 TO .06. ALL ANGLES ± 0 DEGREES 30 MINUTES. MATERIAL SPECIFICATIONS TOLERANCES APPLY TO STOCK SIZES. THREAD DIMENSIONS AND DESIGNATIONS TO BE IN ACCORDANCE WITH NATIONAL BUREAU OF STANDARDS HANDBOOK H-28. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND FEATURES ARE SYMMETRICAL ABOUT CENTERLINE. AMERICAN NATIONAL STANDARD ANSI Y14.5M 1994 IS INVOKED WHERE APPLICABLE.

SUPERSEDING OR MODIFICATION INFORMATION:

SHIP	REV	SHIPCHECK BY	DATE

SHIP APPLICABILITY

REV	SHEET	REV	SHEET	REV	SHEET	REV	SHEET	REV STATUS
–	–	–	–	–	–	–		REV
–	–	–	9	8	7	6		SH
–	–	–	–	–	–	REV		REV STATUS
5	4	3	2	1	SH			

NOT APPLICABLE

REV	SHIPALT NUMBER	WT GRP	WT (LBS)	L R XI XR	VCG REF BL	LCG REF ⊠	F OR A	TCG REF CL	P S O	VAL BY

WEIGHT CONTROL DATA

LONGITUDINAL AND TRANSVERSE LEVERS IN FEET TO THE NEAREST TENTH OF A FOOT
VERTICAL LEVERS IN FEET TO THE NEAREST HUNDREDTH OF A FOOT
USE SEPARATE LINES FOR EACH WT GRP, S/A, REV, WT INSTL. OR WT RMV.
I=INSTALL R=REMOVE XI=LOAD ITEM INSTALLED XR=LOAD ITEM REMOVED
F=FWD A=AFT P=PORT S=STBD O=CENTERLINE

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION
PHILADELPHIA, PA 19112-5083
CAGE CODE 25685
CODE: 9621
PHONE: 215-897-7540

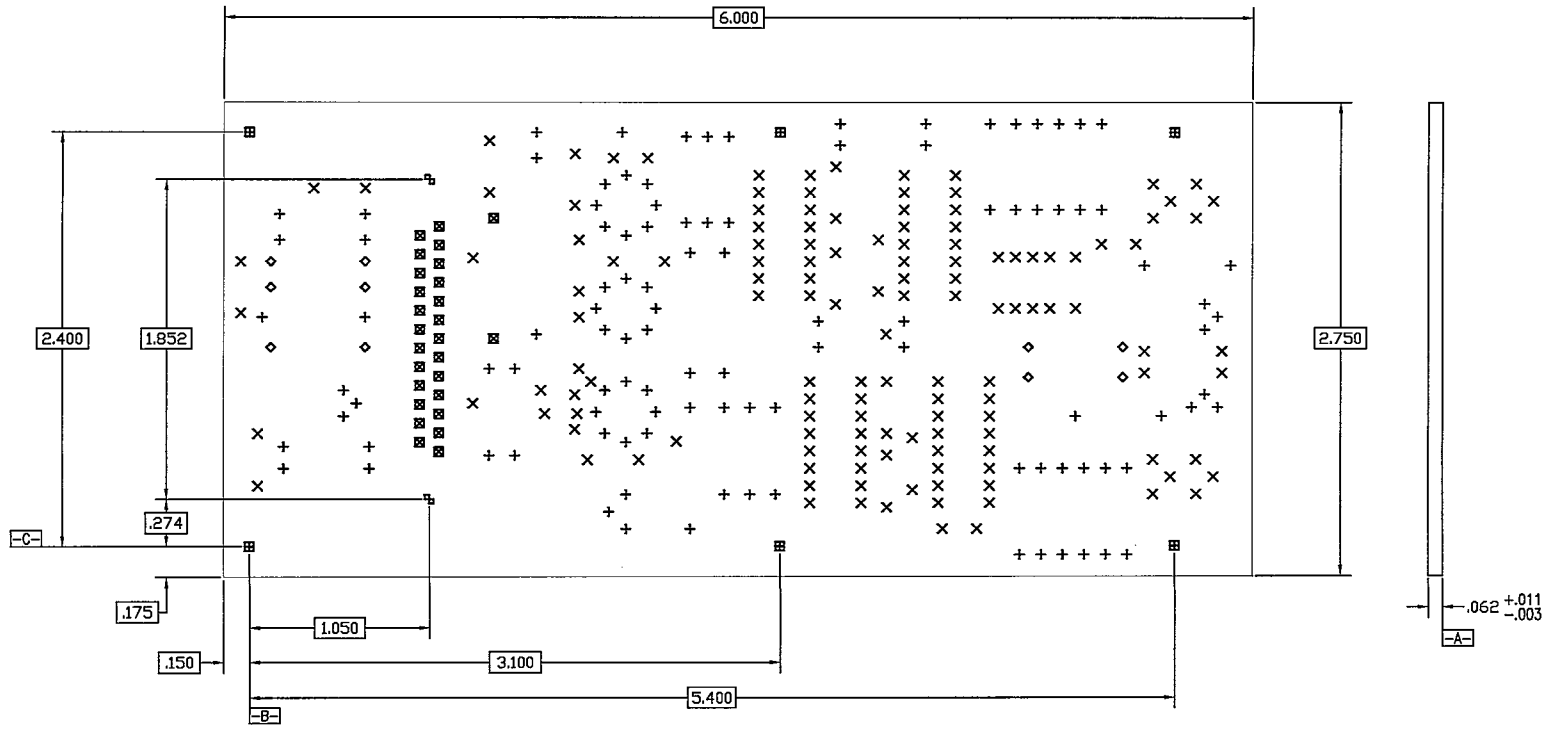
PREPARED BY	C. DILGER	7/3/03
REVIEWED BY	J. BATCHO	7/3/03
DWG ISS BY	J. STILES	7/3/03
CHKD BY	K. BENCFIELD	7/3/03
MARKING PWB BY	–	–
ACCEPTED FOR DRAWING	J. DOLAN	7/3/03
APPROVED FOR DRAWING	–	–

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
ARLINGTON, VA 22242-5160

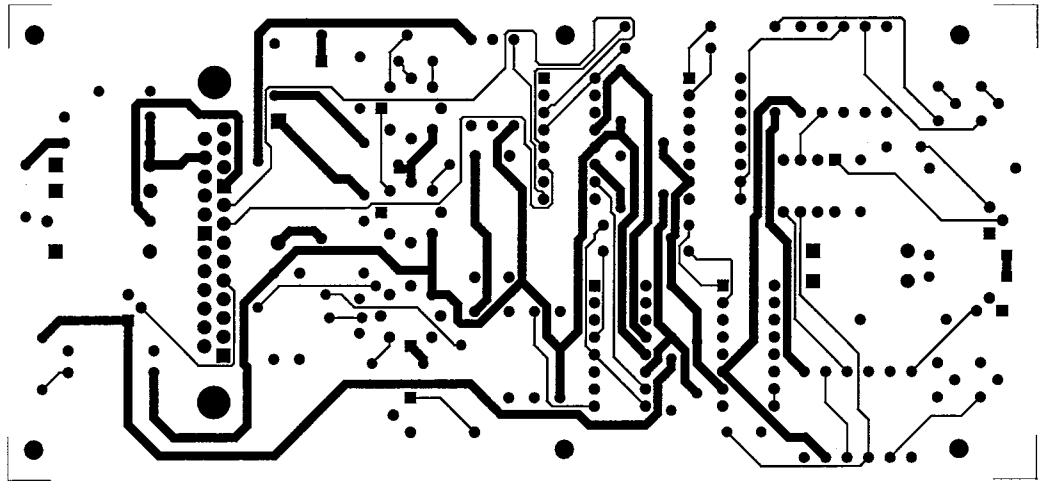
AN/BRR-6B
DEPTH CANISTER
PRINTED WIRING BOARD

AN/BRR-6B DEPTH CANISTER PWB				
SIZE	CAGE NO.	WT GRP	NAVSEA DRAWING NO.	REV
D	53711	441	7534930	–

SCALE: NONE SHEET 1 OF 9

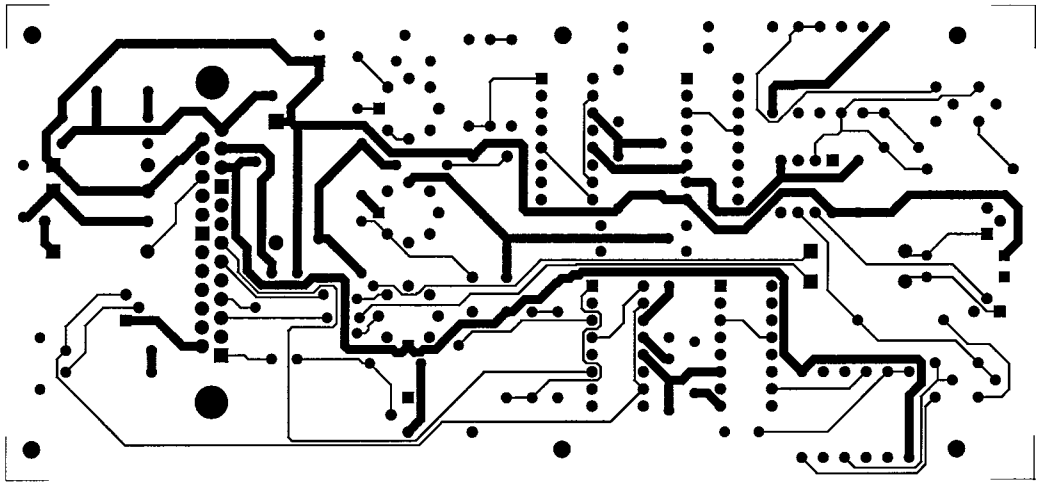


SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 2	



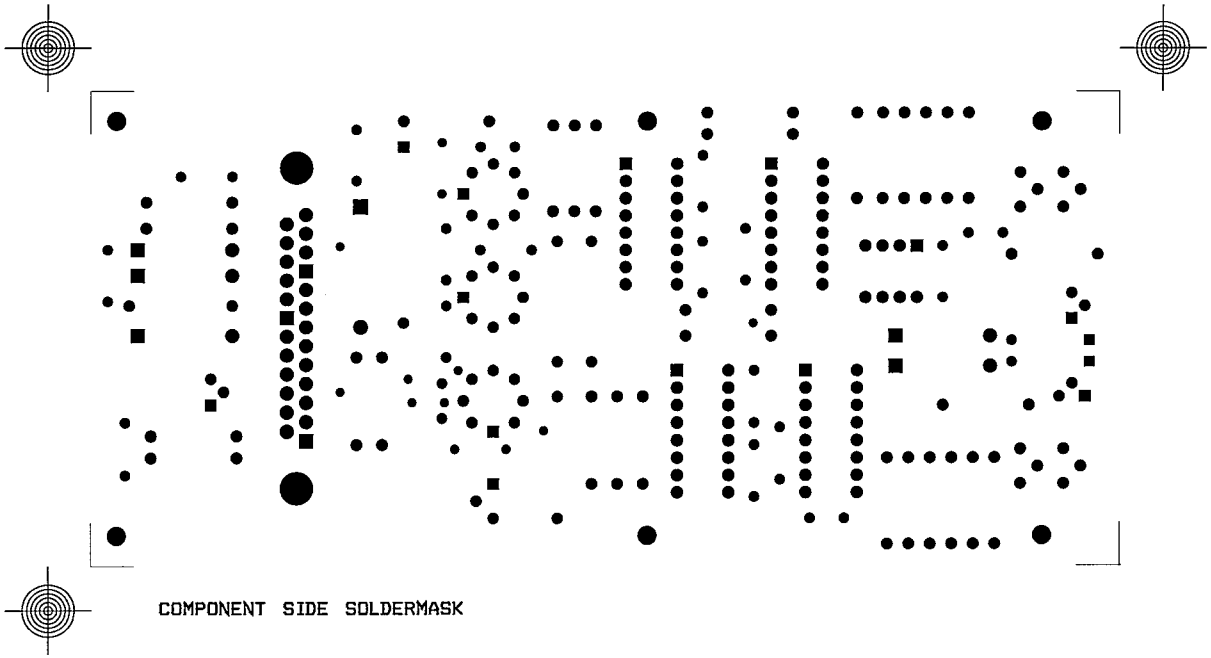
COMPONENT SIDE COPPER

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 3	



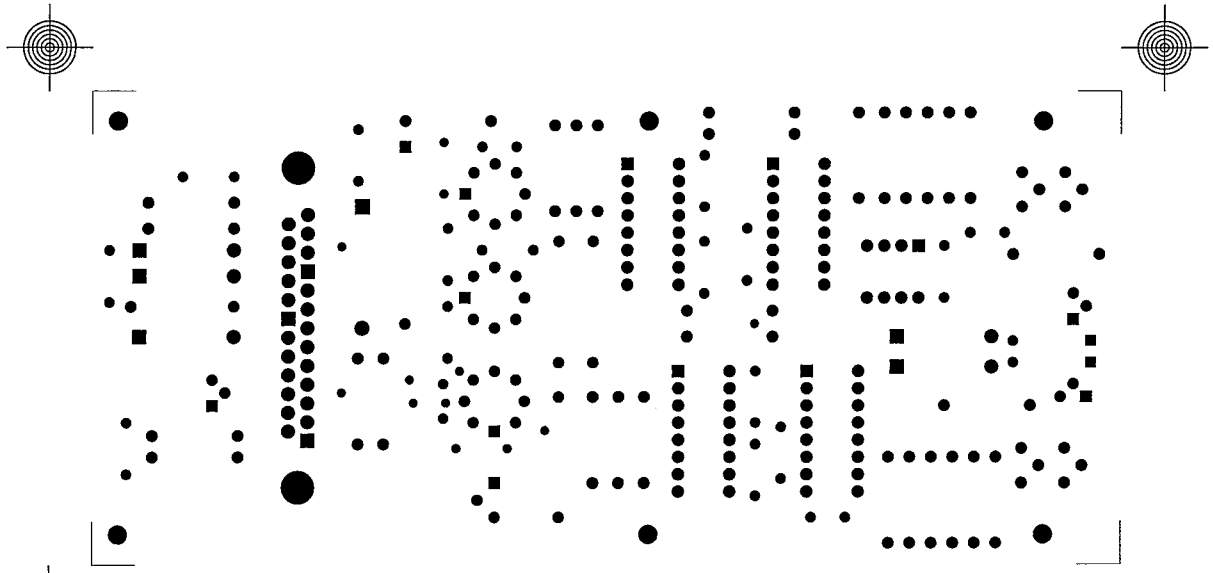
SOLDER SIDE COPPER

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	--
SCALE: 3:1			SHEET 4	



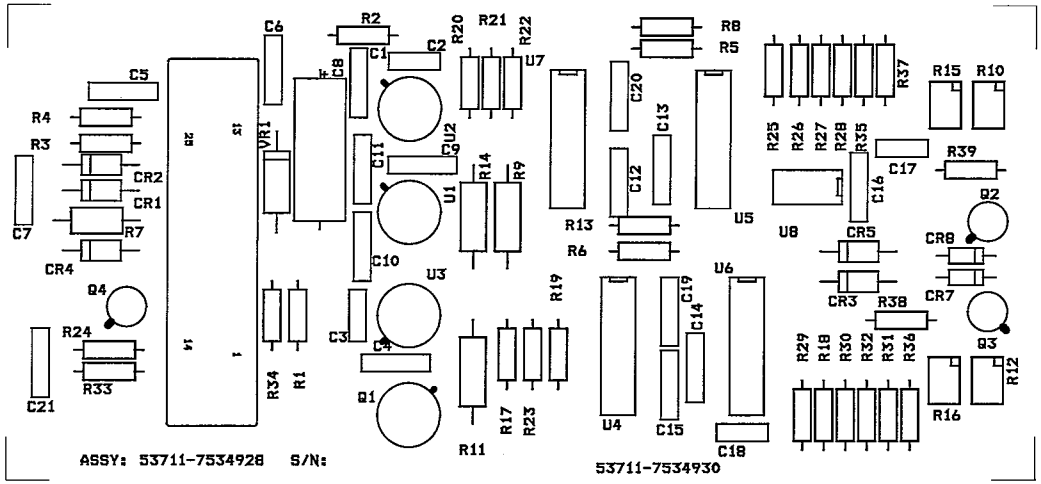
COMPONENT SIDE SOLDERMASK

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 5	



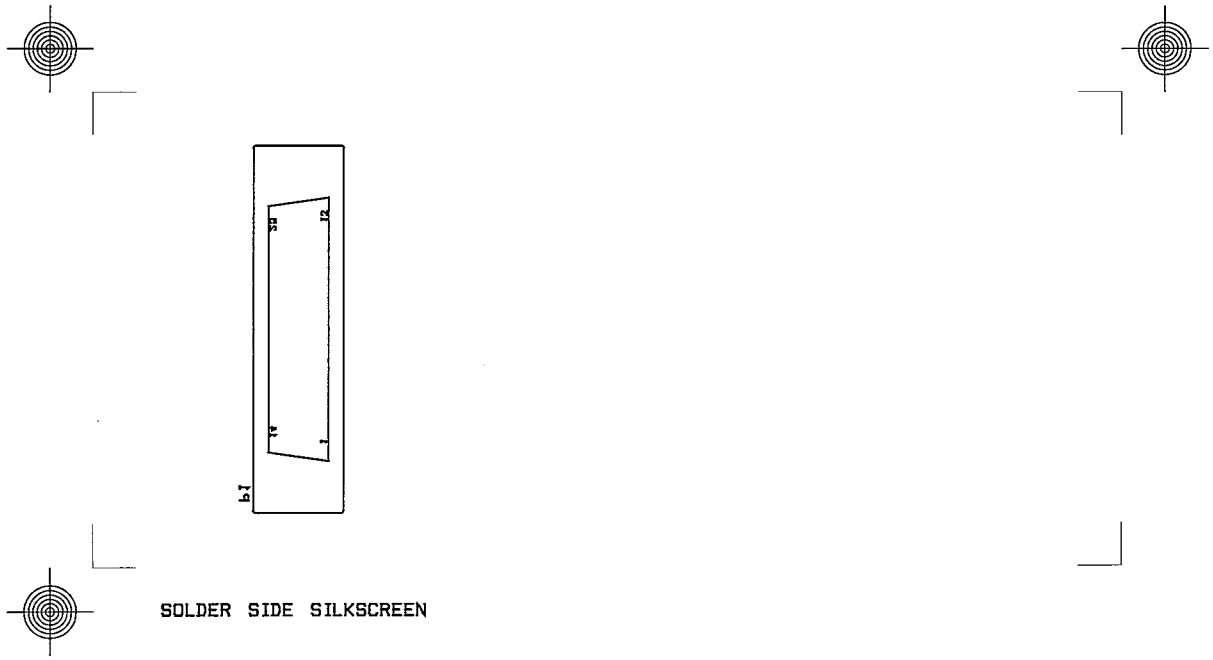
SOLDER SIDE SOLDERMASK

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 6	

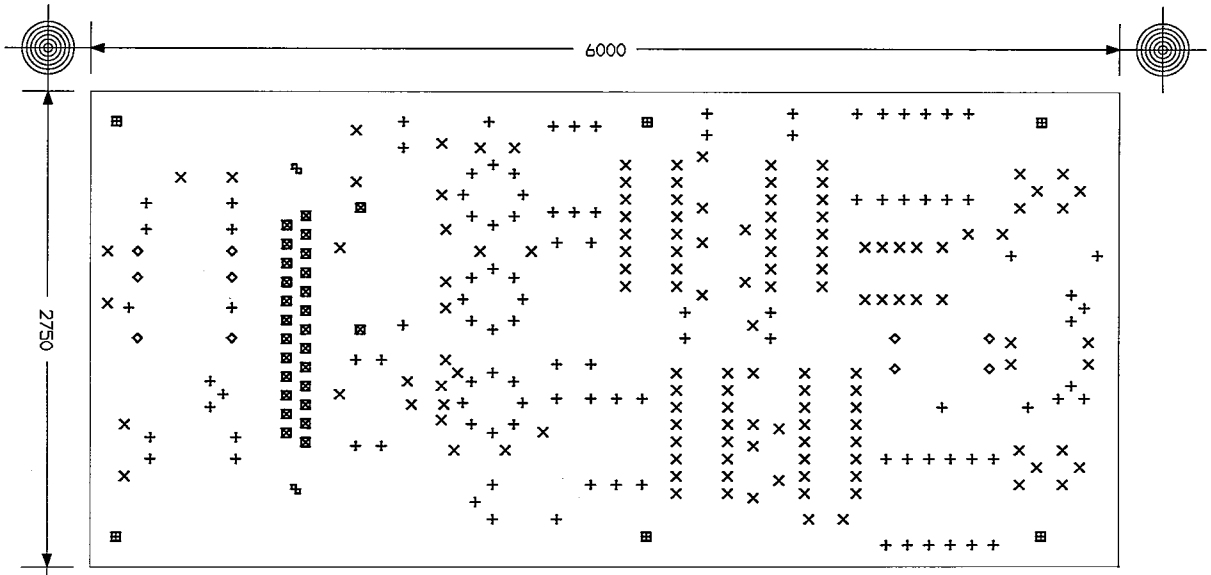


COMPONENT SIDE SILKSCREEN

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 7	



SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 8	



DRILL DETAIL

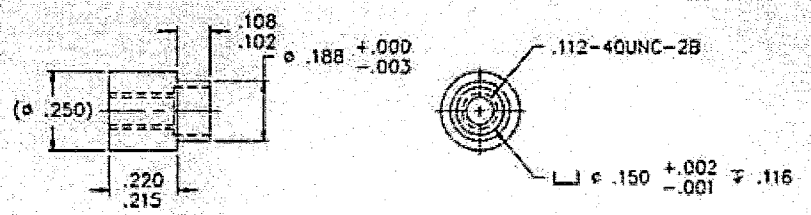
DRILL CHART				
SYM	DIAM	TOL	QTY	NOTE
×	0.032		136	PLATED THROUGH
+	0.035		108	PLATED THROUGH
◇	0.040		10	PLATED THROUGH
⊠	0.055		27	PLATED THROUGH
⊞	0.147		6	NOT PLATED
⊞	0.193		2	NOT PLATED
TOTAL			289	

SIZE	CAGE CODE	WT GP	NAVSEA DWG NO.	REV
D	53711	441	7534930	–
SCALE: 3:1			SHEET 9	

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

NOTES:

1. DRAWING PREPARED IN ACCORDANCE WITH APPLICABLE STANDARDS PRESCRIBED BY DOD-D-1000, LEVEL 3.
2. REMOVE ALL BURRS AND SHARP EDGES.
3. SURFACE ROUGHNESS AS ROLLED, DRAWN OR EXTRUDED. MACHINE SURFACE ROUGHNESS 125 UNLESS OTHERWISE SPECIFIED.
4. PASSIVATE IAW QQ-P-35.
5. TAG OR BAG 53711-6757616 AND MFR (IF MANUFACTURED BY OTHER THAN 53711) IAW MIL-STD-130.



6757609	TR-315/BRR
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DO NOT SCALE DRAWING

MATERIAL:

ROUND BAR, ø .250
CRES 304,
QQ-S-763

NAVAL SHIPS SYSTEMS ENGINEERING STATION, CODE: 0642 PHILADELPHIA, PA 19112-5083 CAGE: 23643

DRAWN	RM/ABT/31-1-10
CHECKED	JAW 91/1/25
APPROVED	[illegible]
APPROVED	[illegible]
APPROVED/ACCEPTED FOR NAVSEA	[illegible]

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

S T D F S W G

STANDOFF, SWAGE

SIZE	CAGE	DRAWING NO.	REV
C	53711	6757616	
SCALE 4/1		SHEET 1 OF 1	

6757616