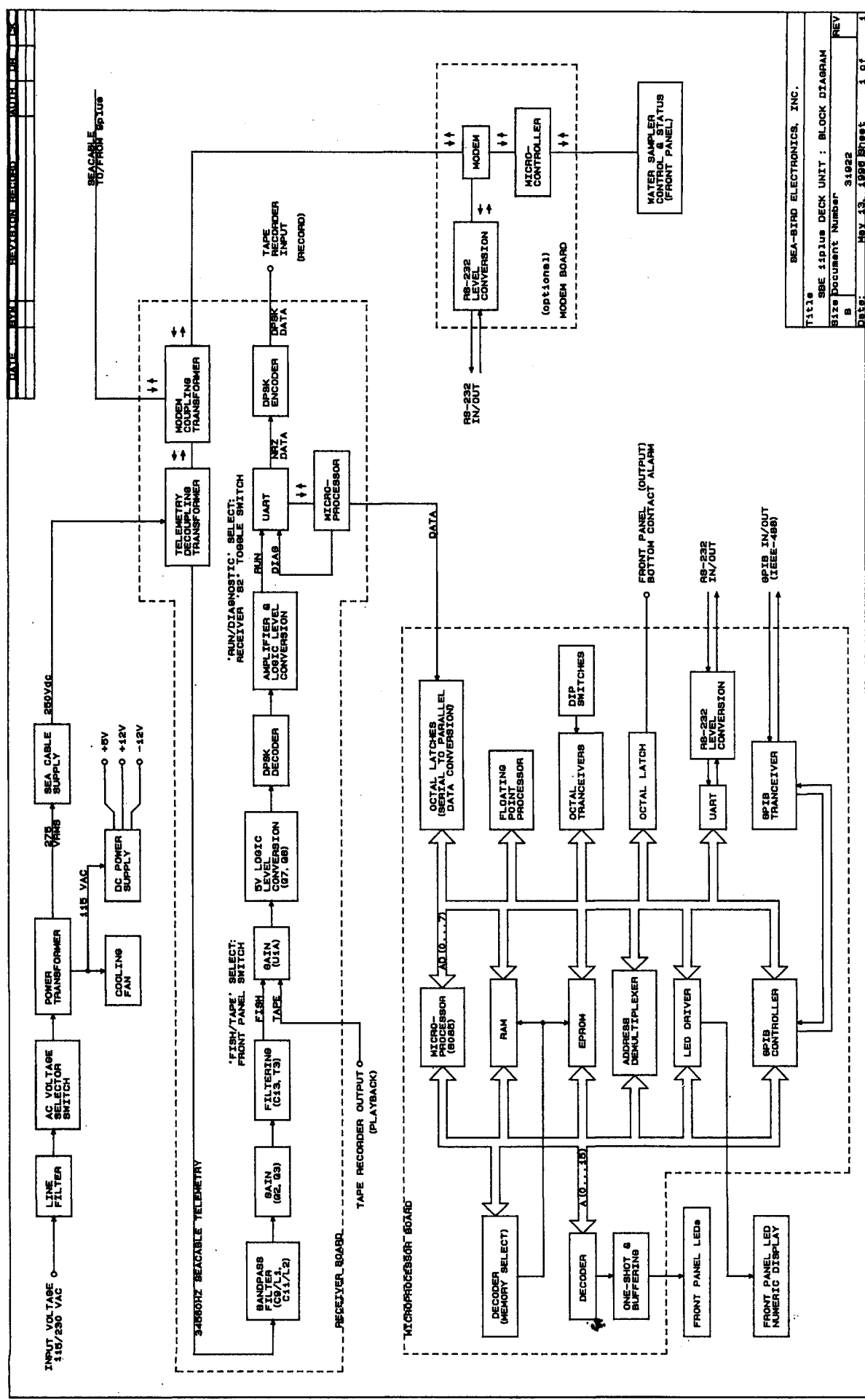
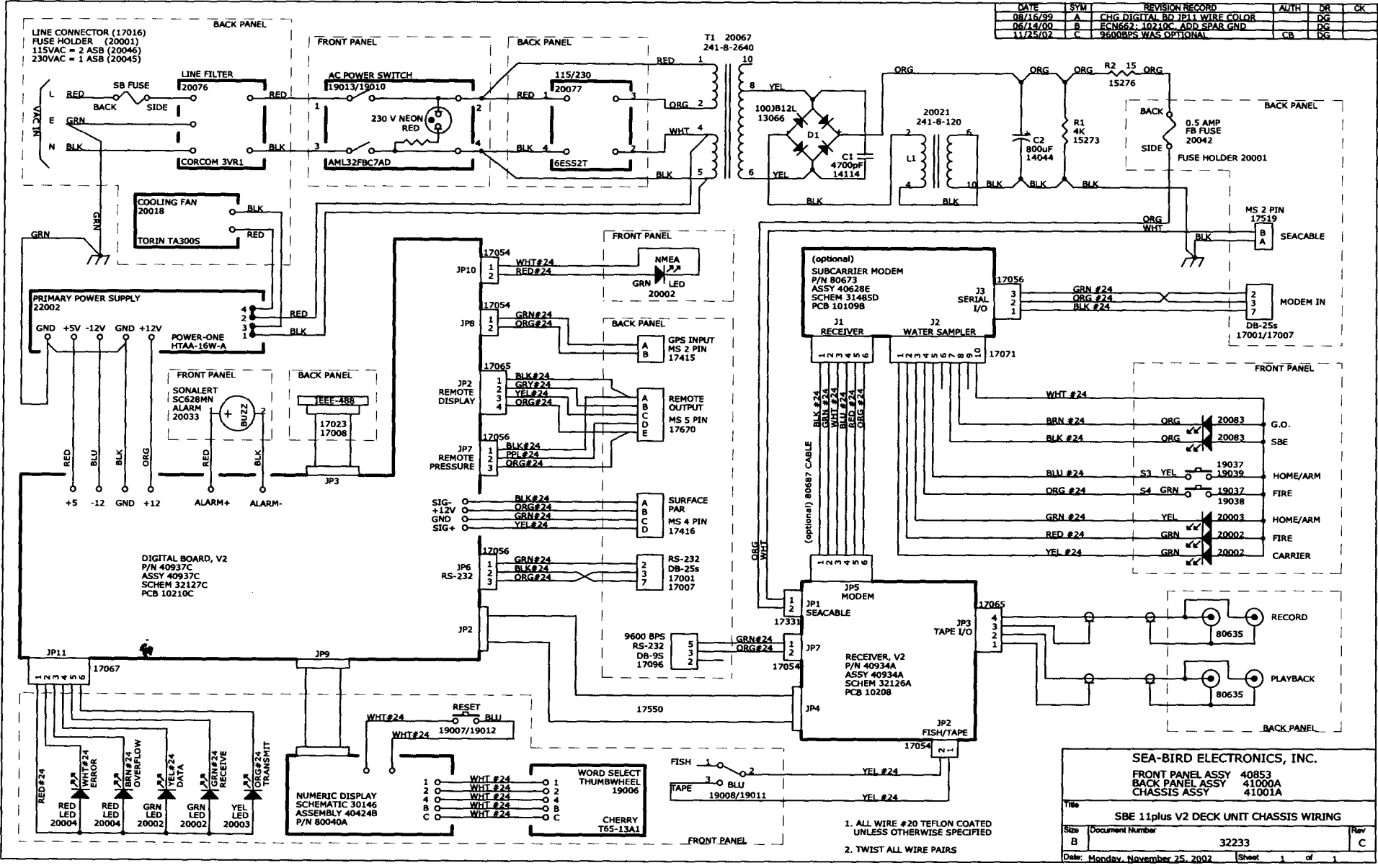


DRAWINGS

Dwg 31922 SBE 11plus Block Diagram.....	1
Dwg 32233C SBE 11plus Chassis Wiring.....	2
Dwg 40853 SBE 11plus Front Panel Assembly.....	3
Dwg 41000a SBE 11plus Back Panel Assembly.....	4
Dwg 41001a SBE 11plus Chassis Panel Assembly.....	5
Dwg 32126C SBE 11plus Deck Unit Receiver Schematic.....	6
Dwg 40934C SBE 11plus Deck Unit Receiver Assembly.....	9
Dwg 32127C SBE 11plus Deck Unit Digital Board Schematic.....	11
Dwg 40937C SBE 11plus Deck Unit Digital Board Assembly.....	15
Dwg 30146 SBE 11plus Deck Unit Front Panel LED Schematic.....	17
Dwg 40424C SBE 11plus Deck Unit Front Panel LED Assembly.....	18
Dwg 31485e SBE 11plus Deck Unit Multi-Rosette Modem Board Schematic.....	19
Dwg 40628F SBE 11plus Deck Unit Multi-Rosette Modem Board Assembly.....	20
Dwg 31371 SBE 11plus Deck Unit Signal Input Cable Assembly, PN 80591.....	21
Dwg 32695A SBE 11plus Deck Unit Signal Input Cable Assembly, SUBCONN,	22
Dwg 32786A GPS/NMEA Interface Test Cable Assembly, PN 801422.....	23
Dwg 32799A SBE 11plus Deck Unit CDO Test Cable, PN 801429.....	24
Dwg 31475a Surface PAR Cable Wiring - Bendix Connector.....	25
Dwg 32434A Surface PAR Cable Wiring - Lemo Connector.....	26
Dwg 32704 Surface PAR Cable Wiring - SwitchCraft Connector.....	27
Dwg 32784 Cable, RS-232, DB-25P to DB-9S, PN 801419.....	28
Dwg 32798 Cable, RS-232 Serial Uplink, DB-9S to DB-9P, PN 801428.....	29
Dwg 32739 Cable, RS-232 Adapter, DB-25P to DB-9S, PN 17130.....	30



SEA-BIRD ELECTRONICS, INC.
 Title: SBE 11plus DECK UNIT : BLOCK DIAGRAM
 Size Document Number: 31922
 B
 Date: May 13, 1998 Sheet 1 of 1



DATE	SYM	REVISION RECORD	AUTH	DR	CK
08/16/99	A	CHG DIGITAL BO JP1 WIRE COLOR		DG	
06/14/00	B	FCNS62: 10210C, ADD SPAR GND		DG	
11/25/02	C	9600BPS WAS OPTIONAL		CB	DG

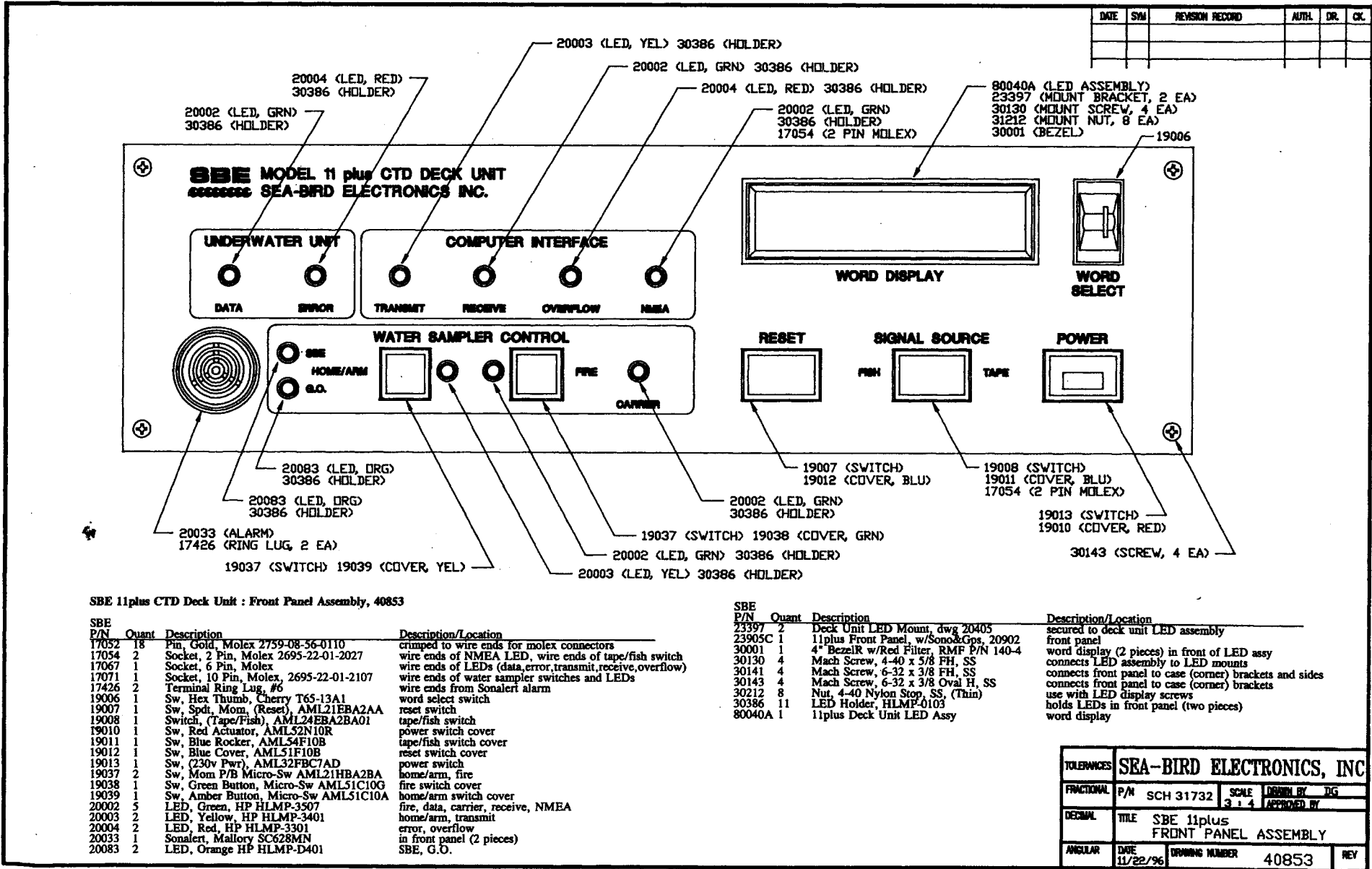
SEA-BIRD ELECTRONICS, INC.
FRONT PANEL ASSY 40853
BACK PANEL ASSY 41000A
CHASSIS ASSY 41001A

Title: **SBE 11plus V2 DECK UNIT CHASSIS WIRING**

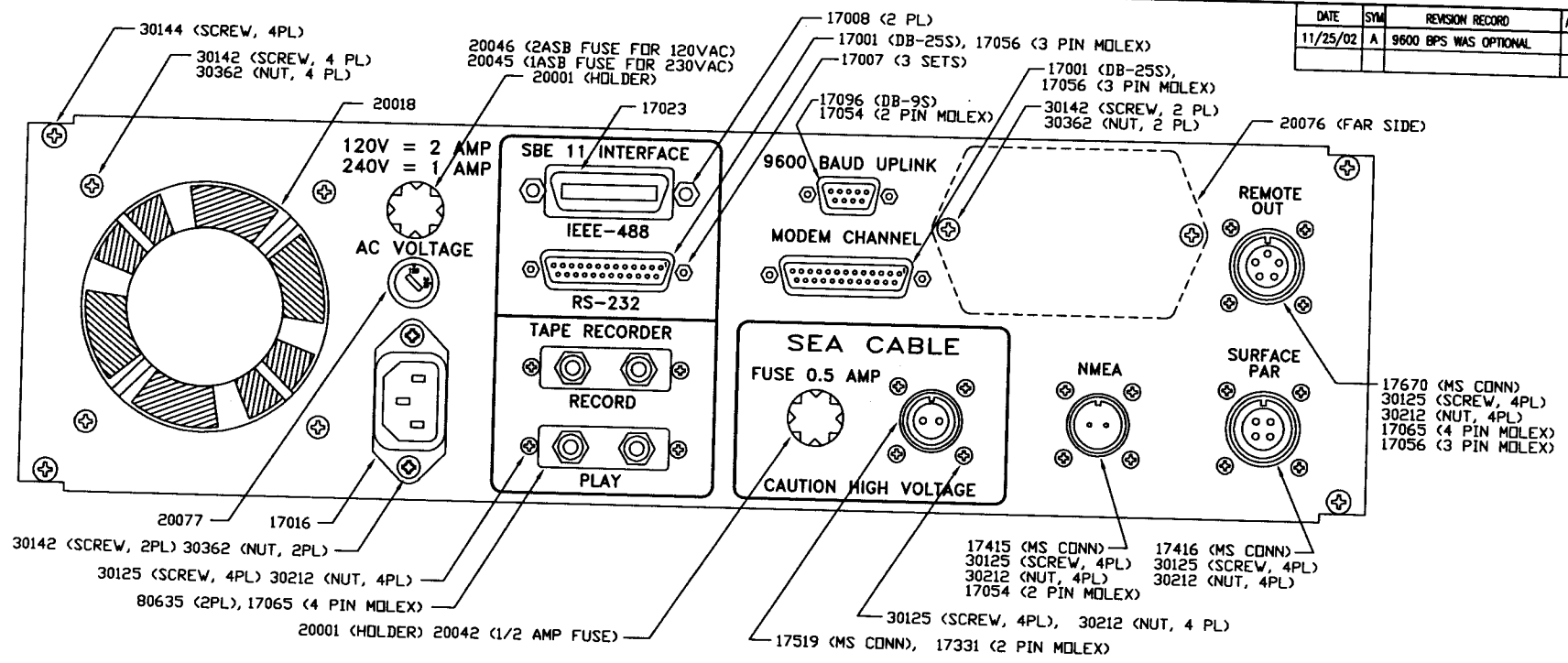
Size: (Document Number) **32233** Rev: **C**

Date: Monday, November 25, 2002 Sheet 1 of 1

1. ALL WIRE #20 TEFLON COATED UNLESS OTHERWISE SPECIFIED
2. TWIST ALL WIRE PAIRS



DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
11/25/02	A	9600 BPS WAS OPTIONAL	CB	DG	



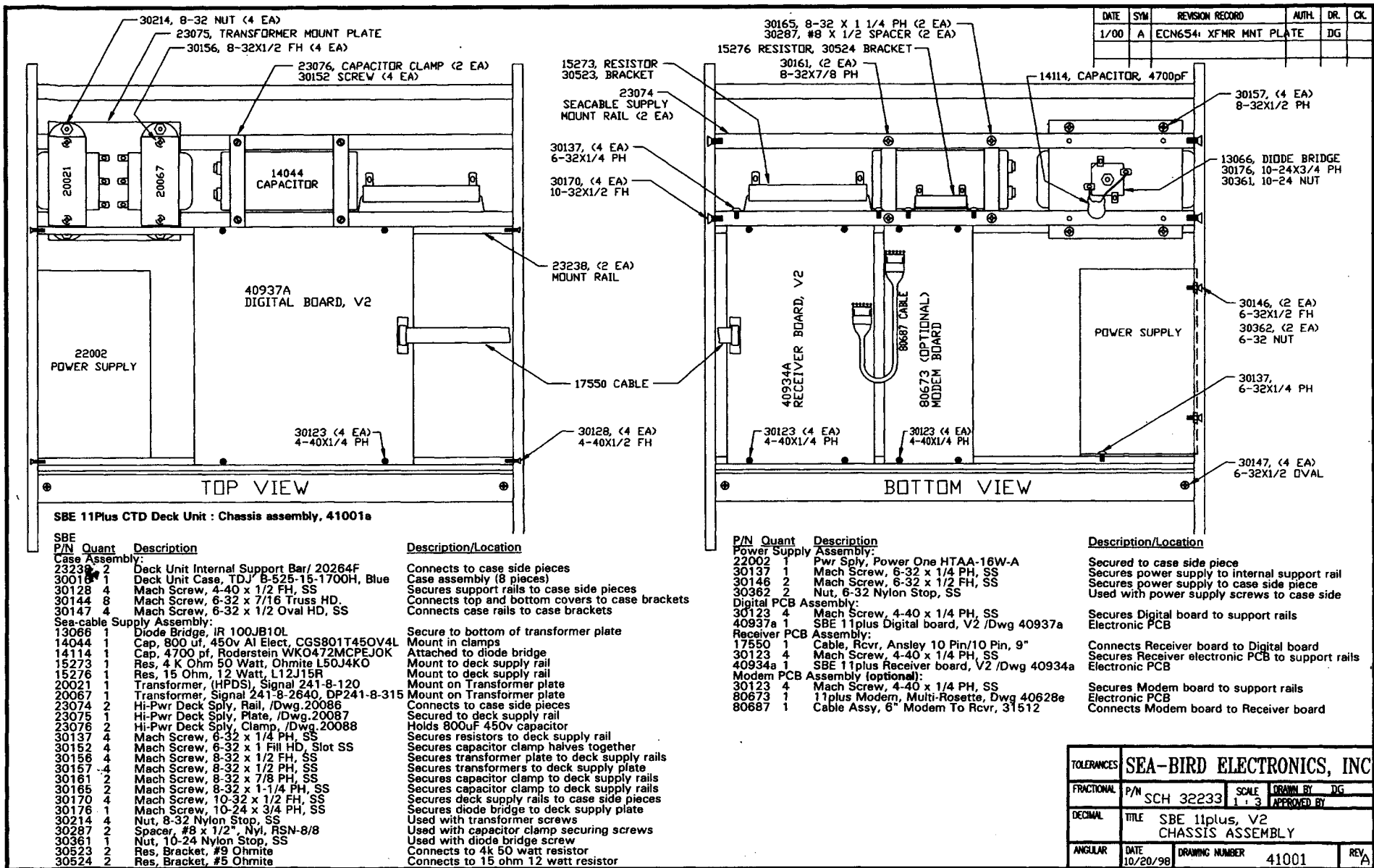
SBE 11plus CTD Deck Unit : Back Panel Assembly, 41000a

SBEPN	Quant	Description	Description/Location
17001	2	Conn, DB-25S, 25 Pin Female	RS-232, modem
17007	3	Conn, Jack Post Set, Amp 205817-1	use with DB-25 and DB-9 connectors
17008	2	Conn, Jack Post, GPIB Amp 553636-2	use with GPIB connector/cable
17016	1	Conn, 110VAC Bulkhead, Switchcraft EAC-309	Line connector
17023	1	Cable, GPIB, Ansley A-05428	IEEE-488
17052	19	Pin, Gold, Molex 2759-08-56-0110	Crimped onto wire ends for molex connectors
17054	2	Socket, 2 Pin, Molex 2695-22-01-2027	wire ends of NMEA and 9600 baud connectors
17056	3	Socket, 3 Pin, Molex 2695-22-01-2037	wire ends of DB-25S and Remote connectors
17065	2	Socket, 4 Pin, Molex, 2695-22-01-2047	wire ends of tape recorder record/play & Remote
17096	1	Conn, DB-9s, 9 pin female	9600 baud uplink
17331	1	Socket, 2 Pin, Molex, 2139-09-50-3021	wire ends of sea cable connector
17332	2	Terminal, Crimp, Molex, 2478-08-56-0106	Crimped to wire ends of sea cable connector
17415	1	Conn, MS3102A12S-3P, 2 Pin, Male Pnl Mnt	NMEA
17416	1	Conn, MS3102A14S-2S, 4 Pin, Female Pnl Mnt	Surface PAR
17519	1	Conn, MS3102A12S-3S, 2 Pin, Female Pnl Mnt	Sea cable
17670	1	Conn, MS3102A14S-5S, 5 Pin, Female Pnl Mnt	Remote Out
20001	2	Fuse Holder, Littelfuse 342004A	back panel 'amp' ports (3 pieces each holder)
20018	1	Fan, (Deck Unit) A30716-10/TA300S	
20042	3	Fuse, 3AG-1/2 A, Fast Blow, 312.500	
20046	3	Fuse, 3AG-2 A, Slow Blow	Sea cable fuse (with 2 spares)
20045	3	Fuse, 3AG-1 A, Slow Blow, 313001	Main fuse for 115VAC operation (with 2 spares)
20076	1	Corcom Line Filter, 3VR1	(optional) Main fuse for 230VAC operation (2 spares)
20077	1	Schurter, Voltage Selector 033.4503	inside surface of back panel
			AC voltage (2 pieces)

SBEPN	Quant	Description	Description/Location
23512	1	IC 1 11plus Back Panel, Screened, Dwg 20561.1a	
30125	20	Mach Screw, 4-40 x 3/8 PH, SS	connectors: audio, sea cable, SPAR, NMEA, Remote
30142	8	Mach Screw, 6-32 x 3/8 PH, SS	fan, line filter, line connector
30144	4	Mach Screw, 6-32 x 7/16 Truss HD	connects back panel to case corner brackets & sides
30212	20	Nut, 4-40 Nylon Stop, SS, (Thin)	connectors: audio, sea cable, SPAR, NMEA, Remote
30362	10	Nut, 6-32 Nylon Stop, SS, (Thin)	power supply, fan, line filter, line connector
30470	1	SBE Label, Serial Number, #468 Adhesive	Attach to back panel
30471	1	SBE Label, Blank Serial Number Inserts	Attach to back panel
80635	2	SBE 11plus Audio Jack Assembly	tape recorder record/play

SEA-BIRD ELECTRONICS, INC

PART NO. 41000A	PIN. SCALE 0.75	DRAWN BY DG
SCHEM 32233C	PL SCALE 1.10	APPR BY
TITLE SBE 11plus, V2 BACK PANEL ASSEMBLY		
DATE 10/20/98	DWG NO. 41000	REV A



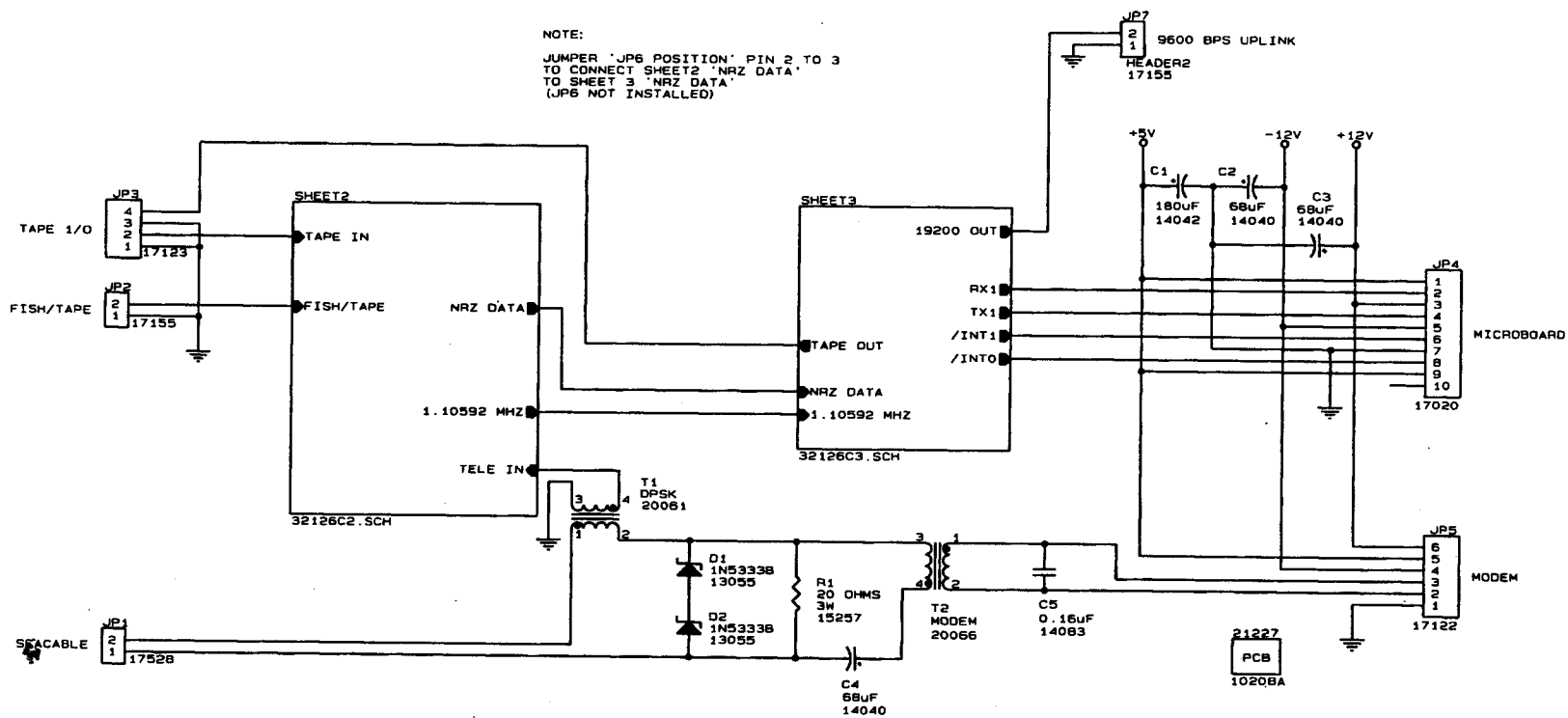
DATE	SYN	REVISION RECORD	AUTH.	DR.	CK.
1/00	A	ECN654: XFMR MNT PLATE	DG		

P/N	Quant	Description	Description/Location
Power Supply Assembly:			
22002	1	Pwr Sply, Power One HTAA-16W-A	Secured to case side piece
30137	1	Mach Screw, 6-32 x 1/4 PH, SS	Secures power supply to internal support rail
30146	2	Mach Screw, 6-32 x 1/2 FH, SS	Secures power supply to case side piece
30362	2	Nut, 6-32 Nylon Stop, SS	Used with power supply screws to case side
Digital PCB Assembly:			
30123	4	Mach Screw, 4-40 x 1/4 PH, SS	Secures Digital board to support rails
40937a	1	SBE 11plus Digital board, V2 /Dwg 40937a	Electronic PCB
Receiver PCB Assembly:			
17550	1	Cable, Rcvr, Ansley 10 Pin/10 Pin, 9"	Connects Receiver board to Digital board
30123	4	Mach Screw, 4-40 x 1/4 PH, SS	Secures Receiver electronic PCB to support rails
40934a	1	SBE 11plus Receiver board, V2 /Dwg 40934a	Electronic PCB
Modem PCB Assembly (optional):			
30123	4	Mach Screw, 4-40 x 1/4 PH, SS	Secures Modem board to support rails
80673	1	11plus Modem, Multi-Rosette, Dwg 40628e	Electronic PCB
80687	1	Cable Assy, 6" Modem To Rcvr, 31512	Connects Modem board to Receiver board

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N	SCH 32233	SCALE	DRAWN BY
DECIMAL	TITLE	SBE 11plus, V2	1:3	DG
ANGULAR	DATE	DRAWING NUMBER	41001	REV. A

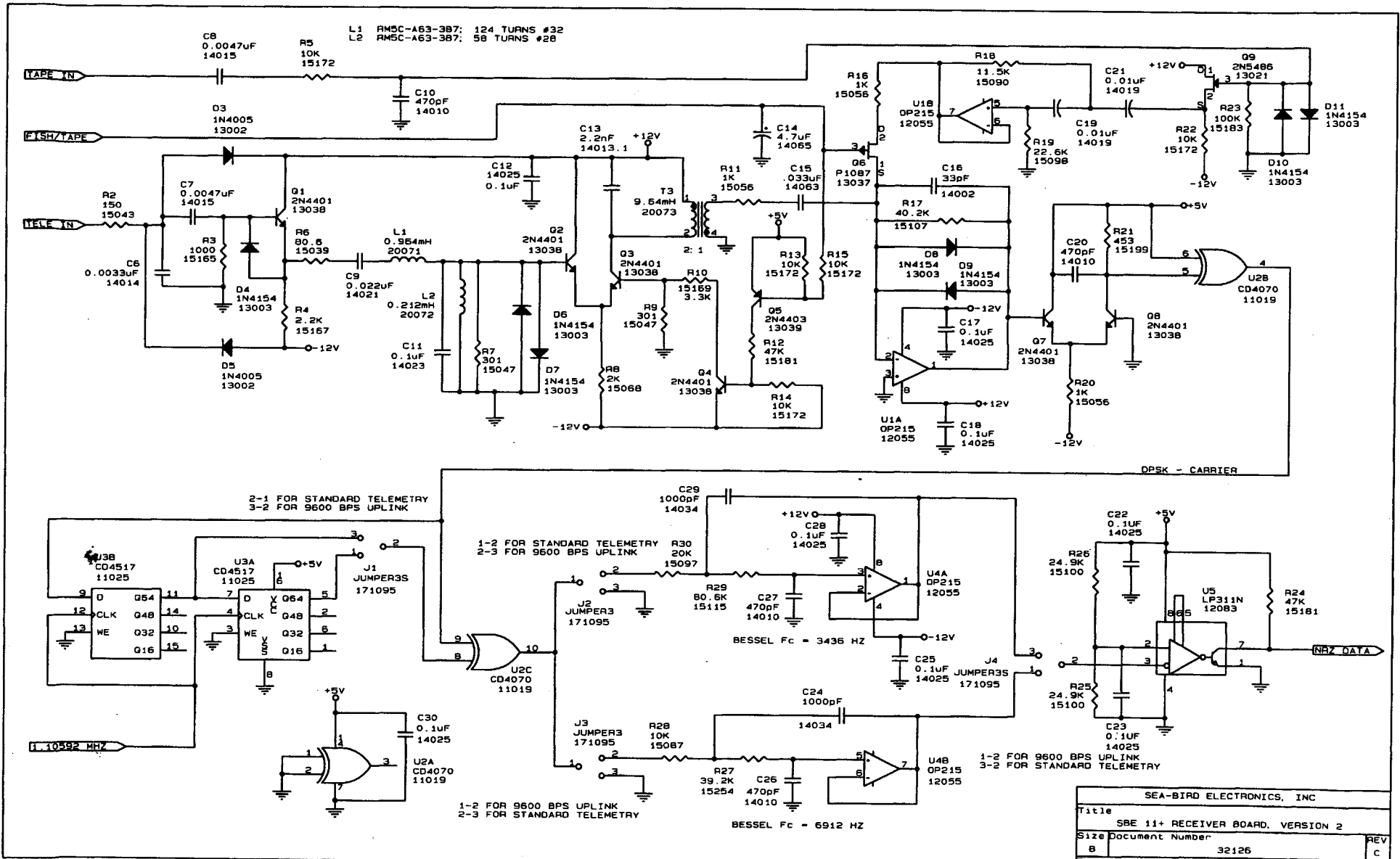
DATE	BY	REVISION	REASON	INIT	DE	CHK
7/20/98	A	EN5951	SWAP U5 PINS 2&3	DJM		
11/17/98	B	AND U7S, U7 WAS 11167			DG	
11/23/98	C	EN5956	PCB A, SWAP U5/2&3		DG	

NOTE:
 JUMPER 'JP6 POSITION' PIN 2 TO 3
 TO CONNECT SHEET2 'NRZ DATA'
 TO SHEET 3 'NRZ DATA'
 (JP6 NOT INSTALLED)



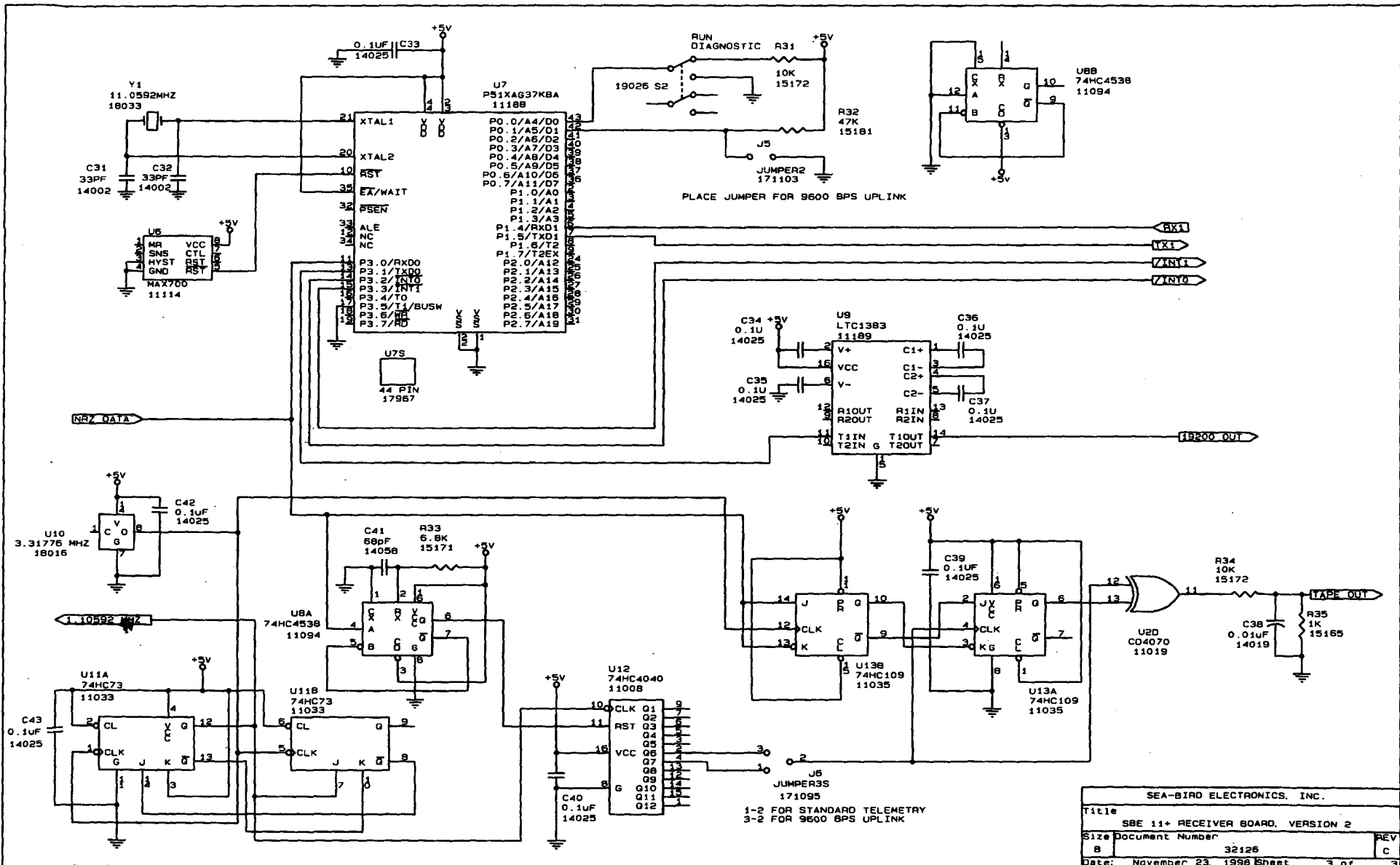
SEA-BIRD ELECTRONICS, INC.		
ASSEMBLY 40934		
Title		
SBE 11+ RECEIVER BOARD, VERSION 2		
Size	Document Number	REV
B	32126	C
Date:	November 23, 1998	Sheet 1 of 3

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SEA-BIRD ELECTRONICS, INC		
Title	SBE 11+ RECEIVER BOARD, VERSION 2	
Size	Document Number	REV
8	32126	C
Date:	November 23, 1998	Sheet 2 of 3

DR16.



1-2 FOR STANDARD TELEMETRY
 3-2 FOR 9600 BPS UPLINK

SEA-BIRD ELECTRONICS, INC.		
Title	SBE 11+ RECEIVER BOARD, VERSION 2	
Size	Document Number	REV
B	32126	C
Date	November 23, 1990	Sheet 3 of 3

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SLB PRINTED ON 10:52:15 18 DEC 1998

PART NUMBER	DESCRIPTION	SRFC QPA MPT	ITM REF DESIG. NBR
40934C	SBE11plus RECEIVER BOARD /DWG 40934C		
10208A	PCB, SBE11plus RECEIVER /DWG 10208A	1.0000	
11008	IC, 74HC4040M, HC RIPPLE CTR.	1.0000	U12
11019	IC, MC14070BCP, MOTOROLA	1.0000	U2
11025	IC, CD4517BE/MC14517BCP, SHIFT REG.	1.0000	U3
11033	IC, 74HC73N, FLIP FLOP	1.0000	U11
11035	IC, 74HC109M	1.0000	U13
11094	IC, 74HC4538, DUAL SINGLE SHOT	1.0000	U8
11114	IC, MAXIM, MAX700CPA	1.0000	U6
11188	IC, P51XAG37KBA OTP 30MHZ CMRCL TEMP PLCC	S 1.0000	U7
11189	IC, LTC1383CN RS232 INTRFC, LINEAR TECH	1.0000	U9
12055	IC, OP215EZ OP AMP	2.0000	U1 U4
12083	IC, LP311N, COMPARATOR, NATIONAL	1.0000	U5
13002	DIODE, 1N4005, HI-VOLTAGE	2.0000	D5 D3
13003	DIODE, 1N4154, UNITRODE	7.0000	D4 D6 D7 D8 D9 D10 D11
13021	FET, 2N5486, MOTOROLA, NOT TESTED	1.0000	Q9
13037	FET, F1087, SILICONIX	1.0000	Q6
13038	XISTOR, 2M4401	6.0000	Q1 Q2 Q3 Q4 Q7 Q8
13039	XISTOR, 2M4403	1.0000	Q5
13055	ZENER DIODE, 1M5333B, MOTOROLA	2.0000	D1 D2
14002	CAP, 33 pF, 100V CER, SR151A330KAA, NPO	3.0000	C16 C31 C32
14010	CAP, 470 pF, 100V CER, SR151A470JAA, NPO	4.0000	C10 C20 C26 C27
14013.1	CAP, .0022 +/- .000044 uF, POLYESTER	1.0000	C13
14014	CAP, .0033 uF, 100V CER, CK05BX332K, X7R	1.0000	C6
14015	CAP, .0047uF, 80V POLY, 192P472X9080	2.0000	C7 C8
14019	CAP, .01 uF, 80V POLYESTER, 192P1039RS	3.0000	C19 C21 C38
14021	CAP, .022 uF, 50V POLYCARB, G12B223FSW	1.0000	C9
14022	CAP, .1 uF, 50V POLYCARB, A12B104GSW	1.0000	C11
14025	CAP, .1 uF, 100V CER, SR211C104KAA, X7R	17.0000	C12 C17 C18 C22 C23 C25 C28 C30 C33 C34 C35 C36 C37 C39 C40 C42 C43
14034	CAP, .001 uF, 200V CER, C322C102J2G5CA, NPO	2.0000	C24 C29
14040	CAP, 68 uF, 15V TANT, CSR13D686KP	3.0000	C2 C3 C4
14042	CAP, 180 uF, 6V TANT, 550D187X9006R2	1.0000	C1
14058	CAP, 68 pF, 200V CER, SR212A680JAA, NPO	1.0000	C41
14063	CAP, .033 uF, 50V CER, CK05BX333K, X7R	1.0000	C15
14065	CAP, 4.7 uF, 25V DIPPED TANT, T350C475K025AS	1.0000	C14
14083	CAP, .16uF, 100V 5%, METLEZD POLYCRENTE,32MPC	1.0000	C5

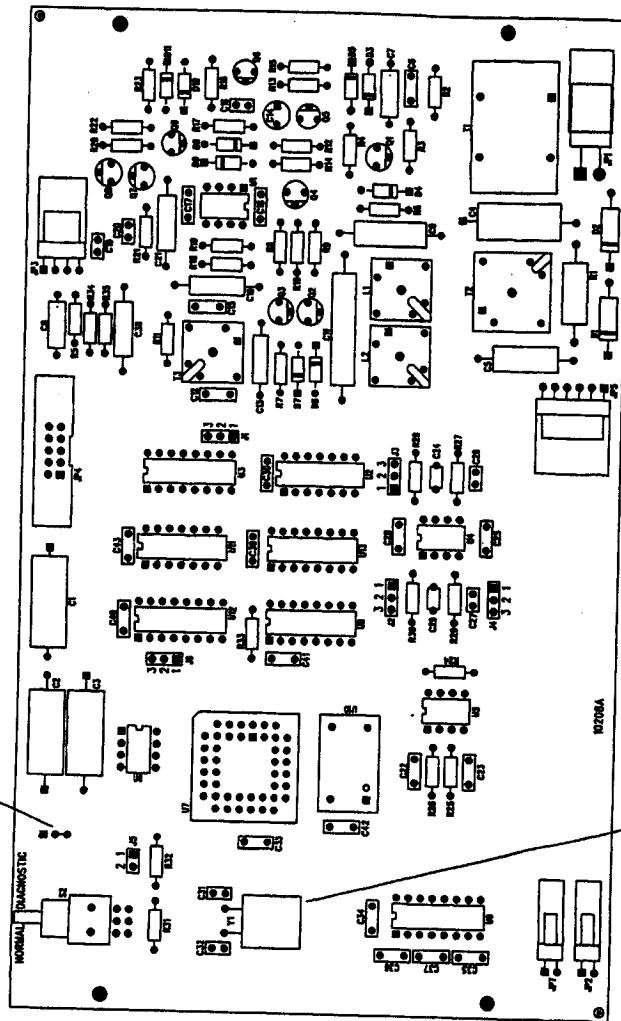
15039	RES, 80.6 OHM, 1%, 1/4 W	1.0000	R6
15043	RES, 150 OHM, 1%, 1/4 W	1.0000	R2
15047	RES, 301 OHM, 1%, 1/4 W	2.0000	R7 R9
15056	RES, 1K OHM, 1%, 1/4 W	3.0000	R11 R16 R20
15068	RES, 2.0K OHM, 1%, 1/4 W	1.0000	R8
15087	RES, 10K OHM, 1%, 1/4 W	1.0000	R28
15090	RES, 11.5K OHM, 1%, 1/4 W	1.0000	R18
15097	RES, 20K OHM, 1%, 1/4 W	1.0000	R30
15098	RES, 22.6K OHM, 1%, 1/4 W	1.0000	R19
15100	RES, 24.9K OHM, 1%, 1/4 W	2.0000	R25 R26
15107	RES, 40.2K OHM, 1%, 1/4 W	1.0000	R17
15115	RES, 80.6K OHM, 1%, 1/4 W	1.0000	R29
15165	RES, 1K OHM, 5%, 1/4 W	2.0000	R3 R35
15167	RES, 2.2K OHM, 5%, 1/4 W	1.0000	R4
15169	RES, 3.3K OHM, 5%, 1/4 W	1.0000	R10
15171	RES, 6.8K OHM, 5%, 1/4 W	1.0000	R33
15172	RES, 10K OHM, 5%, 1/4 W	7.0000	R5 R13 R14 R15 R22 R31 R34
15181	RES, 47K OHM, 5%, 1/4 W	3.0000	R12 R24 R32
15183	RES, 100K OHM, 5%, 1/4 W	1.0000	R23
15199	RES, 453 OHM, 1%, 1/4 W	1.0000	R21
15254	RES, 39.2K OHM, 1%, 1/4 W	1.0000	R27
15257	RES, 20 OHM, 3 WATT, 5%, OHMITE 23J20R	1.0000	R1
17020	CONN, 10 PIN, ANSLEY 609-1027ES	1.0000	JP4
171095	HEADER, 3 PIN SAMTEC, TSW-103-07-L-S	5.0000	J1 J2 J3 J4 J6
171103	HEADER, 2 PIN SAMTEC, TSW-102-07-L-S	1.0000	J5
17122	HEADER, 6 PIN RIGHT ANGLE MOLEX 22-12-2064 RA	1.0000	JP5
17123	HEADER, 4 PIN RIGHT ANGLE MOLEX, 22-12-2044	1.0000	JP3
17155	HEADER, 2 PIN R< MOLEX 22-12-2024 RA	2.0000	JP2 JP7
17528	HEADER, 2 PIN, MOLEX, 26-48-2026	1.0000	JP1
17967	SOCKET, 44 PIN AUGAT PLCC, PCS-044A-1	1.0000	U7S
18016	OSC, CH1100-3.31776 MHZ .01% TOLERANCE	1.0000	U10
18033	CRYSTAL, FOX 11.0592MHZ FOX115-20	1.0000	Y1
19026	SW, ALCO TT21MG-RA-1	1.0000	S2
20061	SBE 9 SEACABLE TELEMETRY XPMR, /DWG 40503	1.0000	T1
20066	MODEM COUPLING XPMR, DRWG 40506	1.0000	T2
20071	SBE 11+ RCVR L1, 0.964 mHy, /DWG 40534	1.0000	L1
20072	SBE 11+ RCVR L2, 0.212 mHy, /DWG 40535	1.0000	L2
20073	SBE 11+ RCVR T1, /DWG 40536	1.0000	T3
30918	JUMPER, SMT-100-BK-G	6.0000	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
7/22/98	A	ECN581: SWAP US PINS 2&3	DJM	DG	
11/17/98	B	ADD VTS, CHANGE U7		DB	
12/18/98	C	ECN596: PCB REVA		DB	

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N 40934 SCH 32126	SCALE	DRAWN BY DG	
DECIMAL	TITLE	APPROVED BY		
ANGULAR	DATE 4/10/98	DWG NO.	SH 1 OF 2	40934
				REV C

ORIG.

ORIG.



WARRANTY: USE POSITION PIN 2 TO PIN 3
(4-PIN CONNECTOR NOT INSTALLED)

STANDARD TELEMETRY
J1 SHORT 1-2
J2 SHORT 1-2
J3 SHORT 2-3
J4 SHORT 1-2
J5 SHORT 1-2
J6 SHORT 1-2

9600 BPS UPLINK
J1 SHORT 2-3
J2 SHORT 2-3
J3 SHORT 1-2
J4 SHORT 1-2
J5 SHORT 2-3
J6 SHORT 2-3

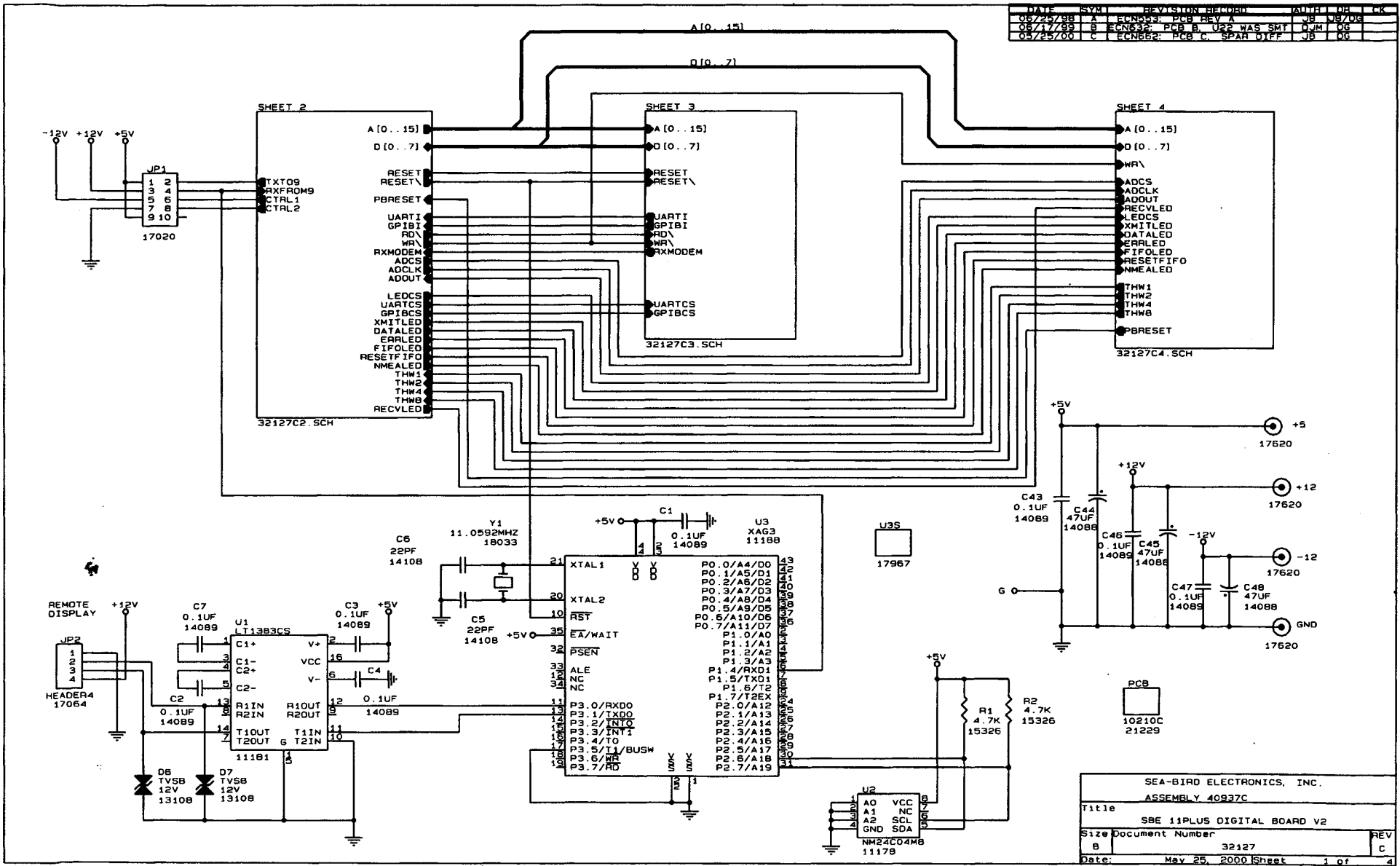
RTV Y1 DOWN
RTV Y1 UP

40934C

RT206A TOP LAYER

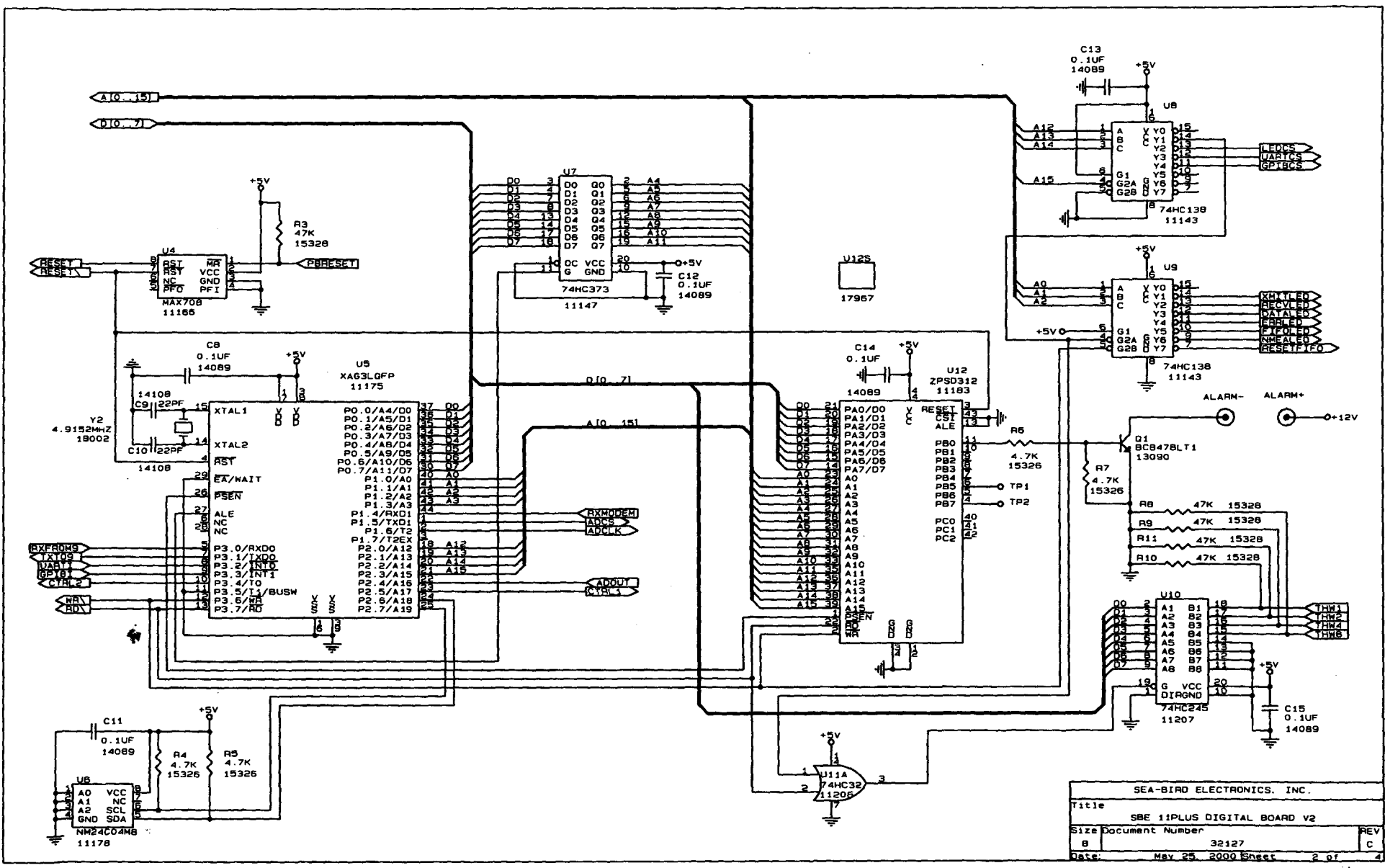
RT206A

DATE	SYMBOL	REVISION	BY	CHK
06/25/98	A	PCB REV A	JM	DS
06/17/99	B	ECN532 PCB B, U22 WAS SMT	JM	DS
05/25/00	C	ECN562 PCB C, SPAR DIFF	JB	DS

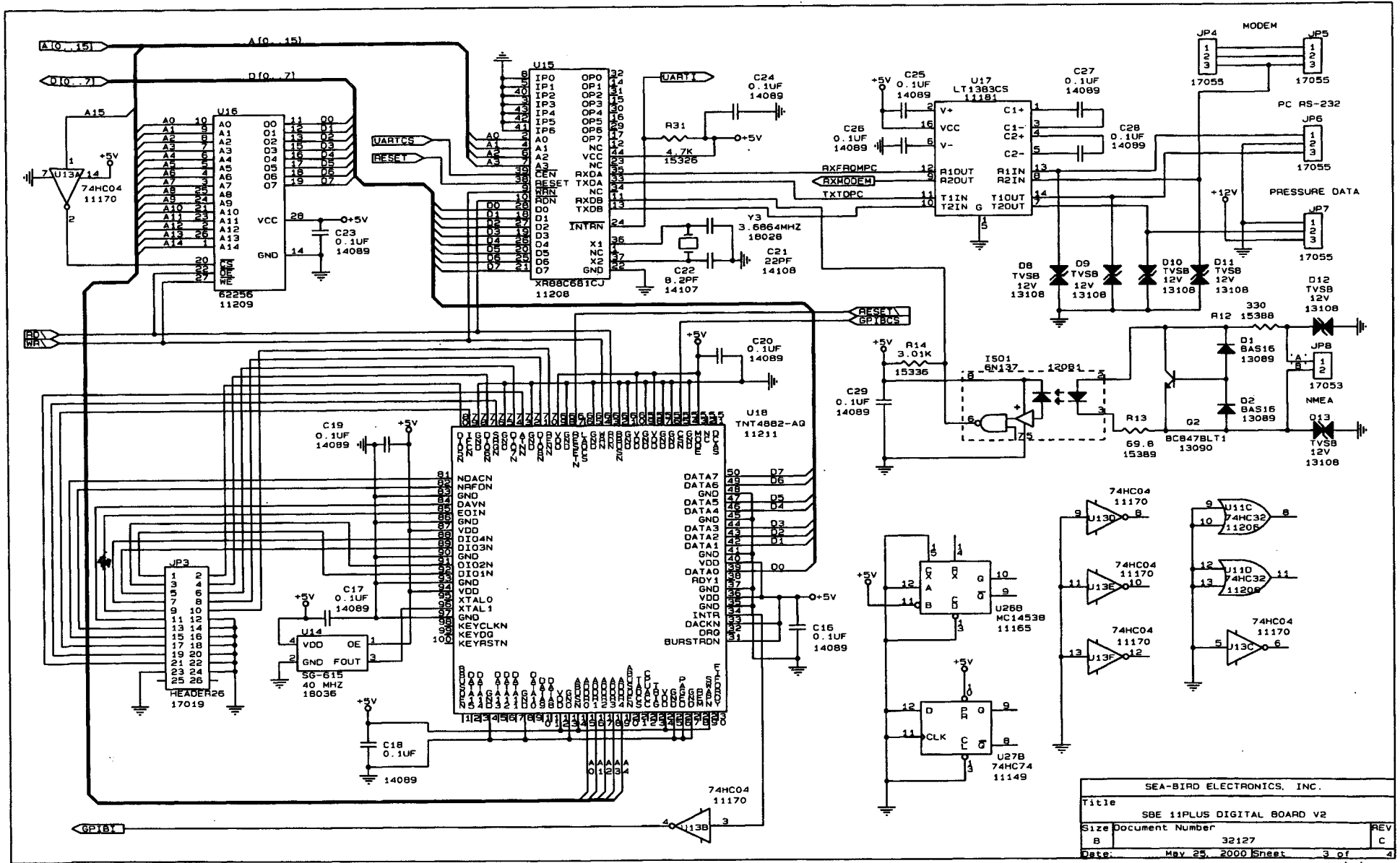


SEA-BIRD ELECTRONICS, INC.		
ASSEMBLY 40937C		
Title		
SBE 11PLUS DIGITAL BOARD V2		
Size Document Number		
B	32127	REV C
Date:	May 25, 2000	Sheet 1 of 4

DR16

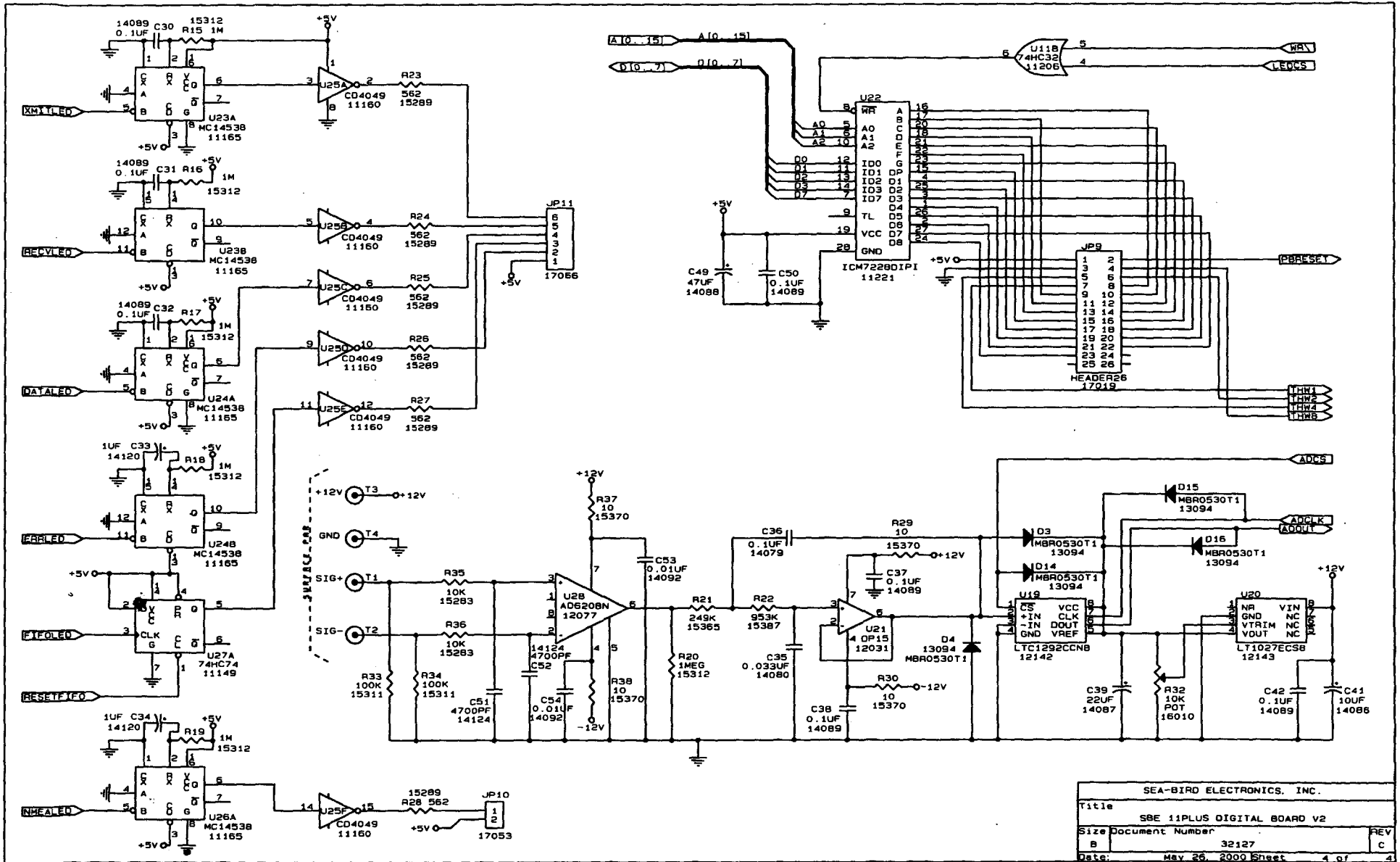


SEA-BIRD ELECTRONICS, INC.
 Title: SBE 11PLUS DIGITAL BOARD V2
 Size Document Number: 32127
 Date: May 25, 2000 Sheet 2 of 4



SEA-BIRD ELECTRONICS, INC.			
Title	SBE 11PLUS DIGITAL BOARD V2		
Size	Document Number	32127	REV
B			C
Date:	May 25, 2000	Sheet	3 of 4

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CR16

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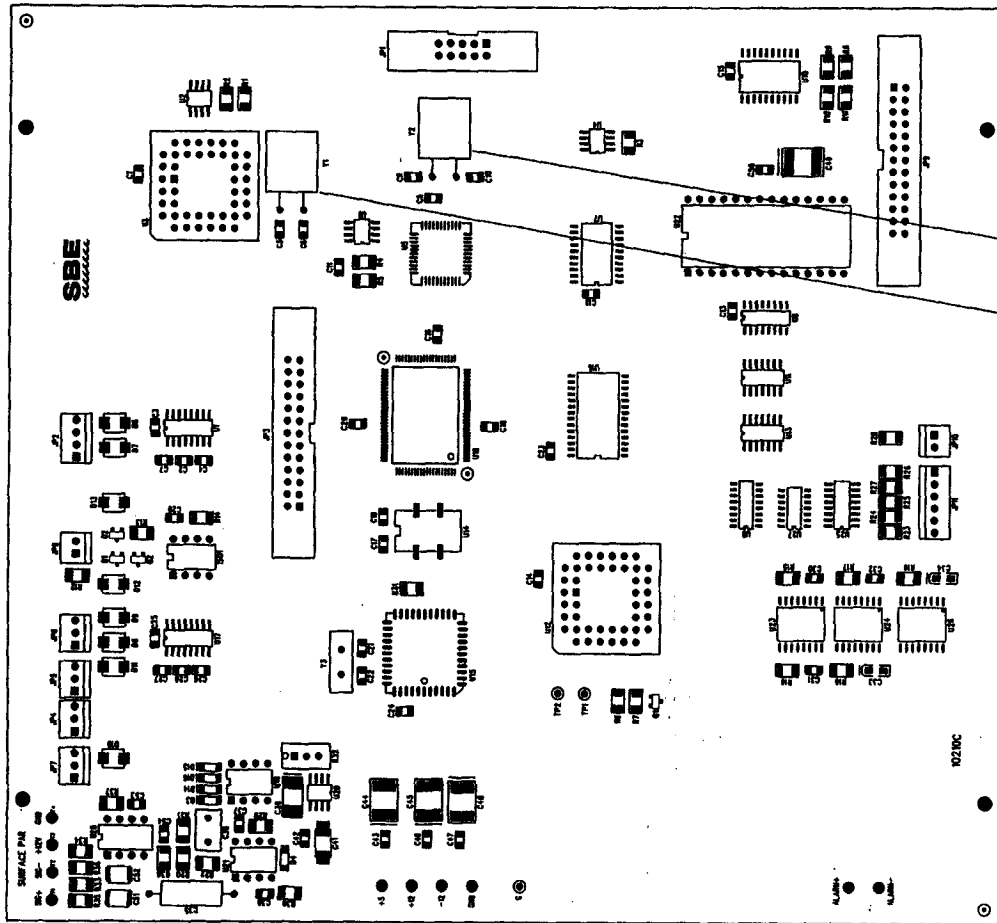
PART NUMBER	DESCRIPTION	QPA	SRFC	ITM	REF	DESIG.	MNT	NR
40937C	SBE11plus DIGITAL BOARD /DWG 40937C							
10210C	PCB, SBE 11+, DIGITAL v2, DWG / 10210C	1.0000				PCB		
11143	IC, MOTOROLA SRFC MNT, MC74HC138AD	2.0000	S			U8 U9		
11147	IC, MOTOROLA SRFC MNT, MC74HC373ADW	1.0000	S			U7		
11149	IC, MOTOROLA SRFC MNT, MC74HC74AD	1.0000	S			U27		
11160	IC, MC14049BD, SRFC MNT	1.0000	S			U25		
11165	IC, MC14538BDW, SRFC MNT	3.0000	S			U23 U24 U26		
11166	IC, MAX70BCSA, SRFC MNT	1.0000	S			U4		
11170	IC, MM74HC04M HEX INVERTER, SRFC MNT	1.0000	S			U13		
11175	IC, P51XAG30KBB0 RMLSS 30MHZ CMRCL TEMP LQFP	1.0000	S			U5		
11178	IC, NM24C04M8, 4K BIT EPROM, SRFC MNT	2.0000	S			U2 U6		
11181	IC, LTC1383CS RS-232 INTRFC, SRFC MNT	2.0000	S			U1 U17		
11183	IC, ZPSD312B-15J MSI PLASTIC EPROM NO WNDW	1.0000	S			U12		
11188	IC, P51XAG37KBA OTP 30MHZ CMRCL TEMP PLCC	1.0000	S			U3		
11206	IC, MC74HC32AD, SRFC MNT MOTOROLA	1.0000	S			U11		
11207	IC, 74HC245ADM, BUS TRANSCEIVER SRFC MNT	1.0000	S			U10		
11208	IC XR-88C681CJ, DUAL UART SRFC MNT	1.0000	S			U15		
11209	IC, HM62256BLFP-7T, 32K X 8K SRAM SRFC MNT	1.0000	S			U16		
11211	IC, TMT4882-BQ, GPIB CONTROLLER SRFC MNT	1.0000	S			U18		
11221	IC, ICM7228DIPI, LED DRIVER	1.0000				U22		
12031	IC, OP15EZ, OP AMP	1.0000				U21		
12077	IC, AD620BN, DIFF AMP, ANALOG DEVICE	1.0000				U28		
12081	IC, HP6N137 OPTO COUPLER	1.0000				IS01		
12142	IC, LTC1292CCN8, 5V 12 BIT A/D SYSTEM	1.0000	S			U19		
12143	IC, LT1027ECS8-5, 5V REF SRFC MNT	1.0000	S			U20		
13084	DIODE, PHILIPS BAS16, SRFC MNT	2.0000	S			D1 D2		
13090	XISTOR, MOT BC847BLT1	2.0000	S			Q2 Q1		
13094	DIODE, MBR0530T1 SCHTKY 30V 0.5A SRFC MNT	5.0000	S			D3 D4 D14 D15 D16		
13108	DIODE, SMBJ12CA 12V BIDIRECTIONAL, SRFC MNT	8.0000	S			D6 D7 D8 D9 D10 D11 D12 D13		
14079	CAP, .1UF 5% NICHICON QYS1H104JTP	1.0000				C36		
14080	CAP, .033 uF, 50V POLY, WESCO 32MPC-3302J05	1.0000				C35		
14086	CAP, 10uF, TANT, 20V, 10%, 293D106X9020C2T	1.0000	S			C41		
14087	CAP, 22uF, TANT, 20V, 10%, 595D226X9020C2T	1.0000	S			C39		
14088	CAP, 47uF, TANT, 20V, 10%, 595D476X9020D7T	4.0000	S			C44 C45 C48 C49		
14089	CAP, .1uF X7R 25V 10%, NMC0805X7R104K25TRPLP	33.0000	S			C1 C2 C3 C4 C7 C8 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C37 C38 C42 C43 C46 C47 C50		

14092	CAP, .01uF, X7R, 50V, 10%, 08055C103KATMA	2.0000	S			C53 C54		
14107	CAP, 8.2pF, NPO 100V +/- 0.5pF, 08051A8R2DATMA	1.0000	S			C22		
14108	CAP, 22pF NPO 100V 10%, 08051A220KATMA SRFC	5.0000	S			C5 C6 C9 C10 C21		
14120	CAP, 1 uF, 20V 293D105X9020A2T, TANT SRFC MNT	2.0000	S			C33 C34		
14124	CAP, 4700 pF, AVX 18121A472KATMA, CER NPO	2.0000	S			C51 C52		
15283	RES, 10K, 1%, SRFC MNT, RK73H2B-10K	2.0000	S			R35 R36		
15289	RES, 562 OHM, 1%, SRFC MNT, RK73H2B-562	6.0000	S			R23 R24 R25 R26 R27 R28		
15311	RES, 100K, 1%, SRFC MNT, RK73H2B-100K	2.0000	S			R33 R34		
15312	RES, 1M, 1%, SRFC MNT, RK73H2B-1M	6.0000	S			R15 R16 R17 R18 R19 R20		
15326	RES, 4.7K OHM 5%, SRFC MNT, 456-447	7.0000	S			R1 R2 R4 R5 R6 R7 R31		
15328	RES, 47K OHM 5%, SRFC MNT, 456-547	5.0000	S			R3 R8 R9 R10 R11		
15336	RES, 3.01K OHM 1%, SRFC MNT, 416-430	1.0000	S			R14		
15365	RES, 249K OHM 1%, SRFC MNT	1.0000	S			R21		
15370	RES, 10 OHM 1% SRFC MNT, RK73H2B-10R0F	4.0000	S			R29 R30 R37 R38		
15387	RES, 953K OHM 1%, SRFC MNT 1206	1.0000	S			R22		
15388	RES, 330 OHM 5%, SRFC MNT, 1206	1.0000	S			R12		
15389	RES, 69.8 OHM 1%, SRFC MNT 1206	1.0000	S			R13		
16010	POT, 10K OHM, TOP ADJ., BOURNS 3296W-1-103	1.0000				R32		
17019	CONN, 26 PIN, ANSLEY 609-2627ES	2.0000				JP3 JP9		
17020	CONN, 10 PIN, ANSLEY 609-1027ES	1.0000				JP1		
17053	HEADER, 2 PIN, MOLEX 6373-22-11-2022	2.0000				JP8 JP10		
17055	HEADER, 3 PIN, MOLEX 6373-22-11-2032	4.0000				JP4 JP5 JP6 JP7		
17064	HEADER, 4 PIN, MOLEX 6373-22-11-2042	1.0000				JP2		
17066	HEADER, 6 PIN, MOLEX 6373-22-11-2062	1.0000				JP11		
17620	TERMINAL, 1/16" PORKED, CONCORD 12-471-2-01	10.0000				+5 -12 +12 T1 T2 T3 T4 GND ALARM- ALARM+		
17647	TERMINAL, YELLOW TEST POINT, TP-105-05-04	2.0000				TP2 TP1		
17649	TERMINAL, GREEN TEST POINT, TP-105-05-05	1.0000				G		
17967	SOCKET, 44 PIN AUGAT PLCC, PCS-044A-1	2.0000				U12S U3S		
18002	XTAL, 4.9152 MHZ, FOX 049/SVF49152	1.0000				Y2		
18028	XTAL, FOX3.6864MHZ/30/50/0--70/20p f	1.0000				Y3		
18033	CRYSTAL, FOX 11.0592MHZ FOX115-20	1.0000				Y1		
18036	XTAL, OSC, SG-615PH-40MHZ SRFC MNT	1.0000				U14		
P40937C	ASSY, SRFC MNT SBE11plus DIGITAL BD /40937C	1.0000						

DATE	SYM	REVISION RECORD	AUTH	DR	CK
7/14/98	A	ECN553: PCB REV A	JB	DG	
7/13/99	B	ECN632: PCB REV B, U22	JB	DG	
6/14/00	C	ECN682: PCB C, SPAR DIFF AMP	JB	DG	

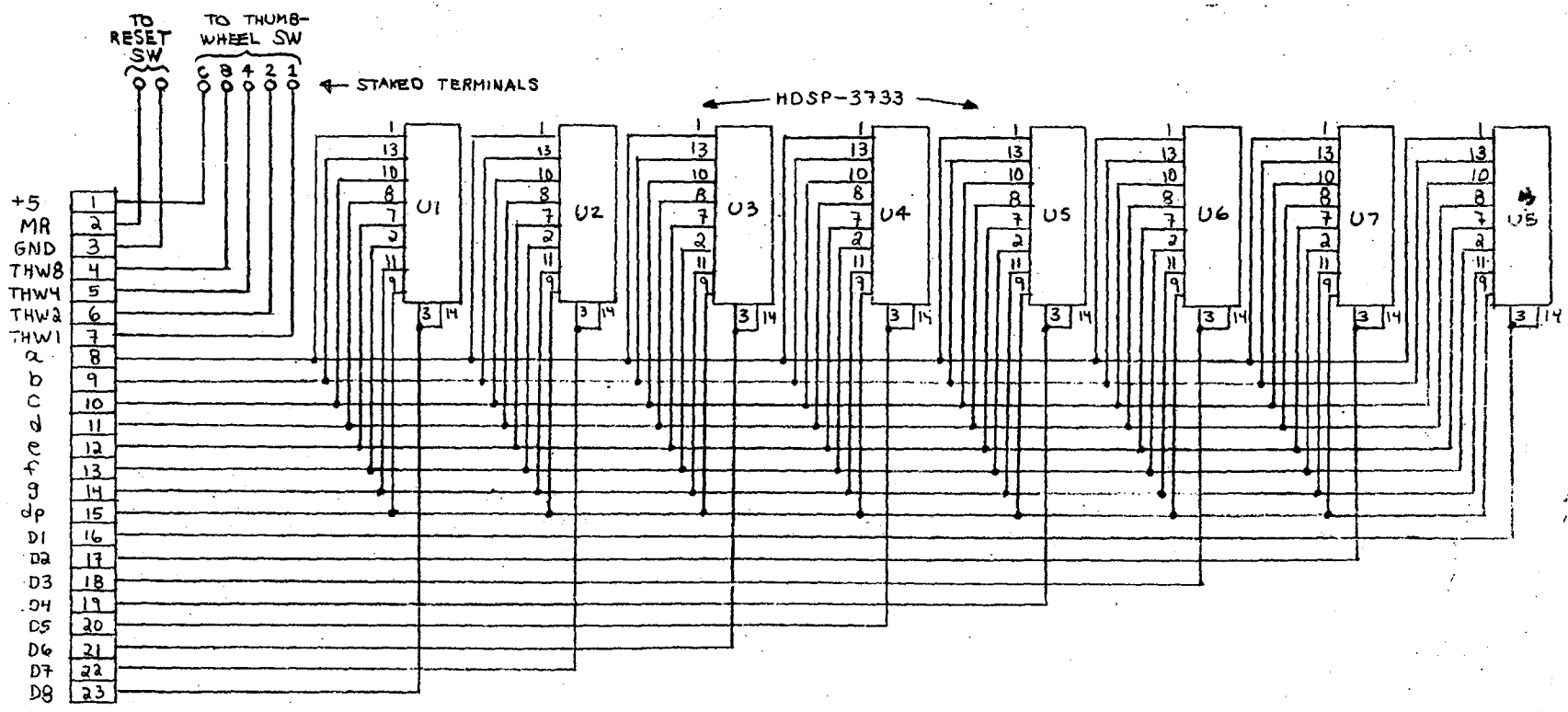
TOLERANCES					
SEA-BIRD ELECTRONICS, INC					
FRACTIONAL	P/N 40937 SCH 32127	SCALE	DRAWN BY	DG	
DECIMAL	TITLE		APPROVED BY		
ANGULAR	DATE	DWG NO.	REV		
	4/10/98	SH 1 OF 2	40937	C	

OR16.



DR.16.

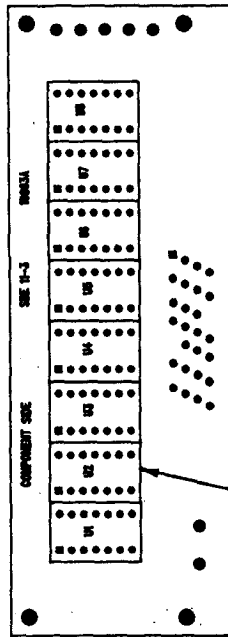
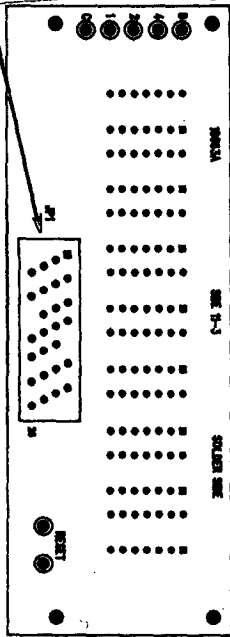
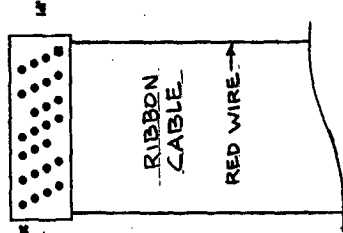
DATE	BY	REVISION RECORD	AUTH.	DR.	CK.
4/91		ADDED REF DESIG			



J1

TOLERANCES (EXCEPT AS NOTED)		SEA-BIRD ELECTRONICS, INC.	
DECIMAL		SCALE	DRAWN BY
±	40424		APPROVED BY
FRACTIONAL	TITLE		
±	SBE DECK UNIT FRONT PANEL LED'S		
ANGULAR	DATE	DRAWING NUMBER	
±	1-26-83	30146	

DATE	SYM	REVISION RECORD	APPR.	DL	CL
1/14/71	A	ADDED NOTE	DG	BAF	
1/14/71	B	CHG SIZE OF TERMINAL	DW	BAF	
1/14/71	C	ADDED DIMENSION	CT	DB	



LEAD END SEE H-3
THIS END - ALL LEADS

SLB PRINTED ON 15:04:43 20 JAN 1999

PART NUMBR. DESCRIPTION..... SRFC QPA..... IYM REF DESIG.
MNT NBR

80040	SBE11plus DECK UNIT LED ASSY /DWG 40424C		
17022	CABLE, LED, ANSLEY A-05429	1.0000	JPI
17072	TERMINAL, PCB, 1/16", CONCORD 12-206-2-01	7.0000	T1-T7
20005	LED, 8-SEGMENT, HP HDS-E103	8.0000	U1-U8
21021	PCB, LED DISPLAY, CTD DECK UNIT /DWG 10063A	1.0000	

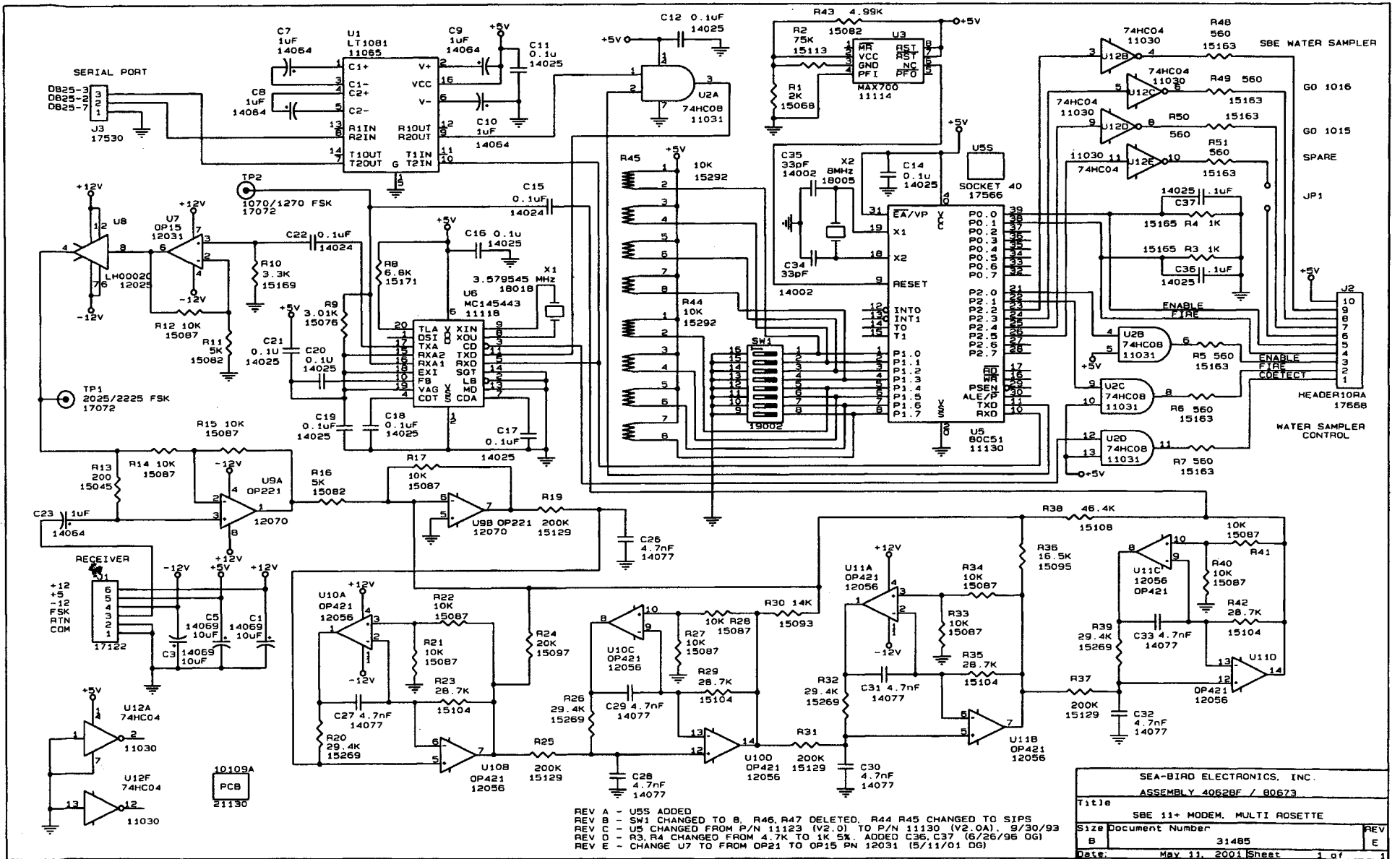
TOLERANCES	P/N	SCALE	MADE BY
DECIMAL	30146	3:2	BAF
INCHES			
FRACTIONAL			

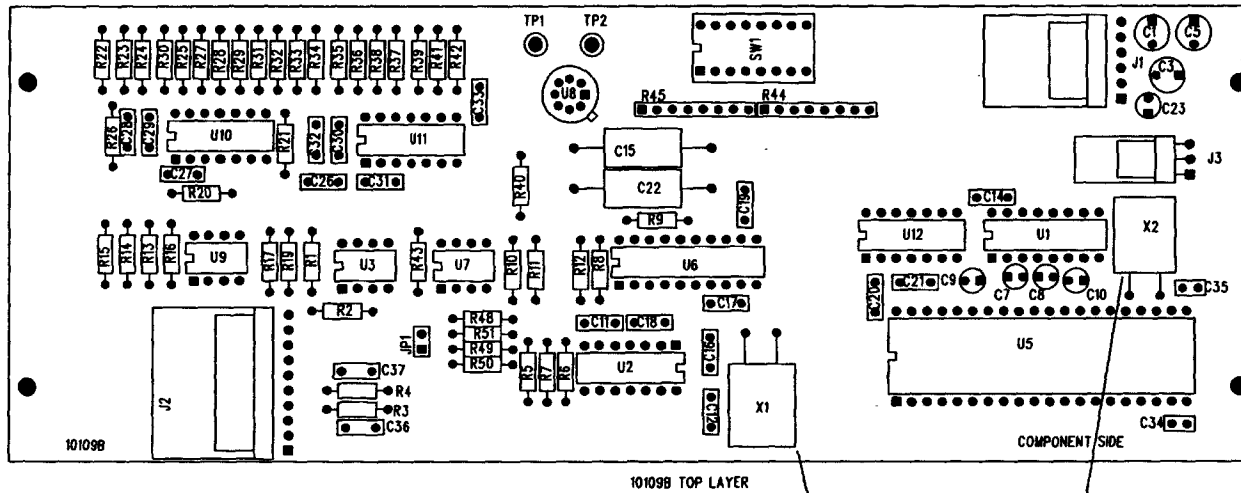
DATE	REVISION NUMBER	REV
4-7-91	40424	C

SEA-BIRD ELECTRONICS, INC

THIS DECK UNIT LED BOARD

6000





DATE	SYM	REVISION RECORD	AUTH	DR	CK
5/3/93	B	ADD 8 POS DIP SW, 10K SPS	DJM		
9/30/93	C	CHANGE U5 TO 11130	BA	BA	
7/1/96	D	R3, R4, C36, C37		JB	DG
2/25/97	E	ECM445: NEW PCB			DG
5/11/01	F	ECM696: CHG U7 TO 12130	DJM	DG	

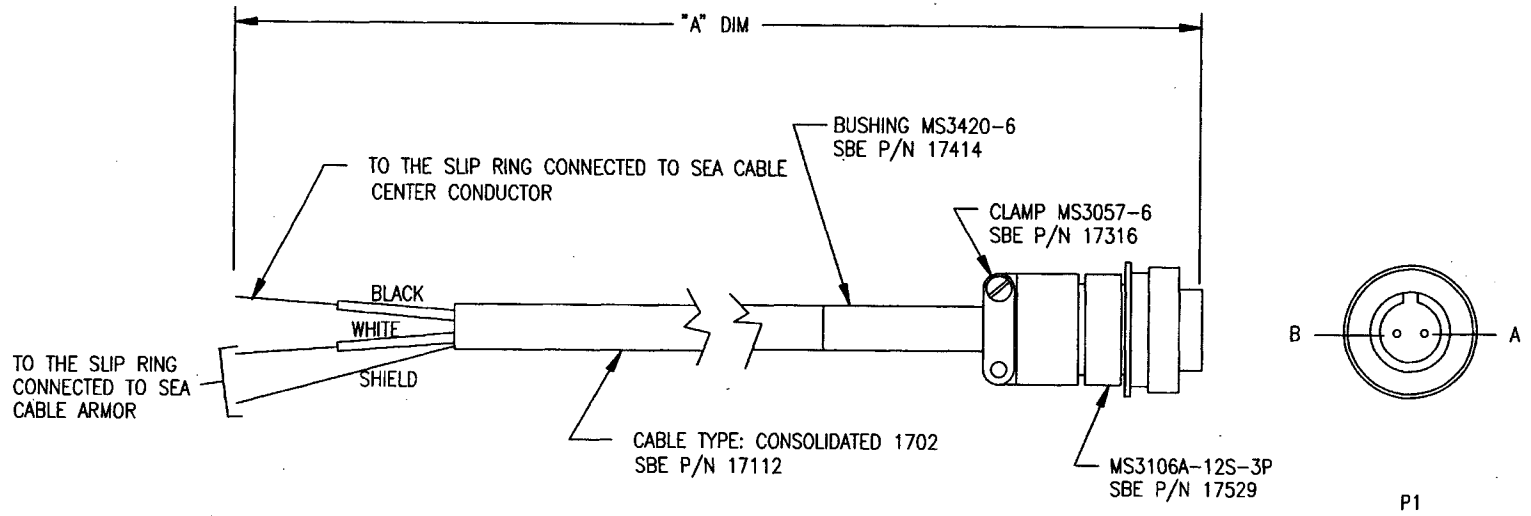
SLB PRINTED ON 09:42:27 11 MAY 2001

PART NUMBER.. DESCRIPTION..... QPA..... ITM REF DESIG.....
NBR

80673	SBE 11+ MODEM, MULTI-ROSETTE, /DWG 40628F			15093	RES, 14K OHM 1% 1/4W RN55C1402F	1.0000	R30
11030	IC, 74HC04N	1.0000	U12	15095	RES, 16.5K OHM, 1%, 1/4 W	1.0000	R36
11031	IC, 74HC08N, QUAD 2-INPUT AND	1.0000	U2	15097	RES, 20K OHM, 1%, 1/4 W	1.0000	R24
11065	IC, LT1081CN, LINEAR TECH, RS232	1.0000	U1	15104	RES, 28.7K OHM, 1%, 1/4 W	4.0000	R23 R29 R35 R42
11114	IC, MAXIM, MAX700CPA	1.0000	U3	15108	RES, RN55C4642F, 46.4K OHM 1% 1/4W	1.0000	R38
11118	IC, MC145443P	1.0000	U6	15113	RES, 75K OHM, 1%, 1/4 W	1.0000	R2
11130	IC, V2.0C SBE 11+ MODEM, MULTI-ROSETTE PROC	1.0000	U5	15129	RES, 200K OHM, 1%, 1/4 W	4.0000	R19 R25 R31 R37
12025	IC, HA2-5002-5, CURRENT AMP	1.0000	U8	15163	RES, 560 OHM, 5%, 1/4 W	7.0000	R5 R6 R7 R48 R49 R50
12031	IC, OP15EZ, OP AMP	1.0000	U7	15165	RES, 1K OHM, 5%, 1/4 W	2.0000	R3 R4
12056	IC, OP421HY OP AMP	2.0000	U10 U11	15169	RES, 3.3K OHM, 5%, 1/4 W	1.0000	R10
12070	IC, OP221GZ, PMI, OP AMP	1.0000	U9	15171	RES, 6.8K OHM, 5%, 1/4 W	1.0000	R8
14002	CAP, 33 pf, 100V CER, SR151A330KAA, NPO	2.0000	C35 C34	15269	RES, RN55C2942F, 29.4K OHM 1% 1/4W	4.0000	R20 R26 R32 R39
14024	CAP, 10 uf, 80V POLYESTER, 192P104X9080	2.0000	C22 C15	15292	RES-NET, 10K X 4, SIP, CSC08A03103G	2.0000	R44 R45
14025	CAP, .1uf, 100V 10% X7R SR211C104KAA, AVX	11.0000	C11 C12 C14 C16 C17 C18 C19 C20 C21 C36 C37	17072	TERMINAL, PCB, 1/16", CONCORD 12-206-2-01	2.0000	TP2 TP1
14064	CAP, 1 uf, 35V DIPPED TANT, T350A105K035AS	5.0000	C7 C8 C9 C10 C23	17122	HEADER, 6 PIN RIGHT ANGLE MOLEX 22-12-2064 RA	1.0000	J1
14069	CAP, 10 uf, 20V DIPPED TANT, T350E106K020AS	3.0000	C1 C3 C5	17530	HEADER, 3 PIN RIGHT ANGLE MOLEX, 22-12-2034	1.0000	J3
14077	CAP, 4700 pf, SR211A472JAA AVX	8.0000	C26 C27 C28 C29 C30 C31 C32 C33	17566	SOCKET, 40 PIN, LD-PRO, AUGAT 540-AG11DES	1.0000	USS
15001.2	JUMPER WIRE, 2 POSITION	1.0000	JP1	17668	HEADER, 10 PIN RTK MOLEX 22-12-2104 RA	1.0000	J2
15045	RES, 200 OHM, 1%, 1/4 W	1.0000	R13	18005	XTAL, 8 MHZ, MP-1-8.000000 M-TRON	1.0000	X2
15068	RES, 2.0K OHM, 1%, 1/4 W	1.0000	R1	18018	XTAL, FDX036S, 3.57954 MHZ	1.0000	X1
15076	RES, 3.01K OHM, 1%, 1/4 W	1.0000	R9	19002	DIP SW, 8 POS, AMP #4-435626-2	1.0000	SW1
15082	RES, RN55C4991F, 4.99K OHM 1% 1/4W	3.0000	R11 R16 R43	21130	PCB, SBE 11+ MODEM, MULTI ROSETTE, /101098	1.0000	PCB
15087	RES, RN55C1002F, 10K 1% 1/4W, DALE	12.0000	R12 R14 R15 R17 R21 R22 R27 R28 R33 R34 R40 R41	30039	MICA INSULATOR, B08853A001	2.0000	X1 X2

SEA-BIRD ELECTRONICS, INC			
PART NO.	80673	BD SCALE	1.25
DRWN BY	DG	PL SCALE	1.00
APPR BY			
TITLE			
SBE 11plus MODEM, MULTI-ROSETTE			
DATE	5/3/93	DWG NO.	40628
REV	F		

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.

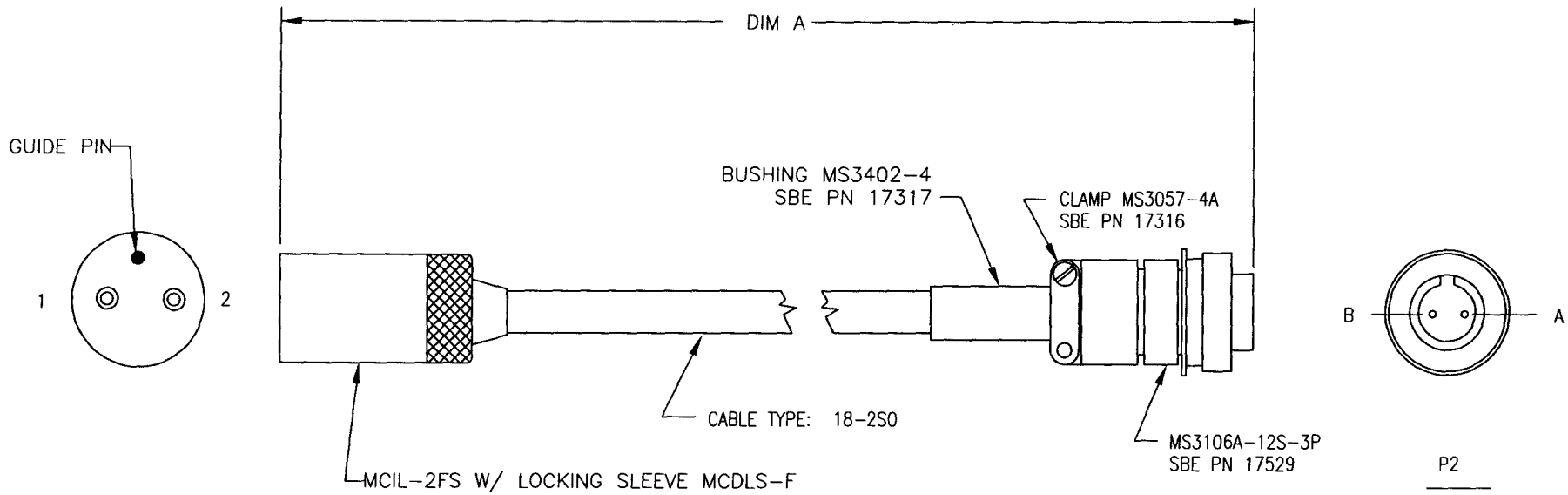


WIRING CONNECTIONS	
P1	COLOR
A	WHITE
B	BLACK
A	SHIELD

ASSY P/N	"A" DIM
17556	10 METERS
17557	20 METERS
17841	30 METERS
17912	50 METERS
17938	100 METERS
17958	25 METERS

TOLERANCES	SEA-BIRD ELECTRONICS, INC		
FRACTIONAL	P/N SEE TABLE	SCALE 1:1	DRAWN BY BMC
DECIMAL	TITLE	APPROVED BY	
	CABLE, SBE 11+ TO SLIP RINGS		
ANGULAR	DATE 4/7/92	DRAWING NUMBER 31371	REV

DATE	REV	REVISION RECORD	AUTH.	DR.	CK.
1.22.03	A	SWITCHED WIRE COLORS	CB	KLP	

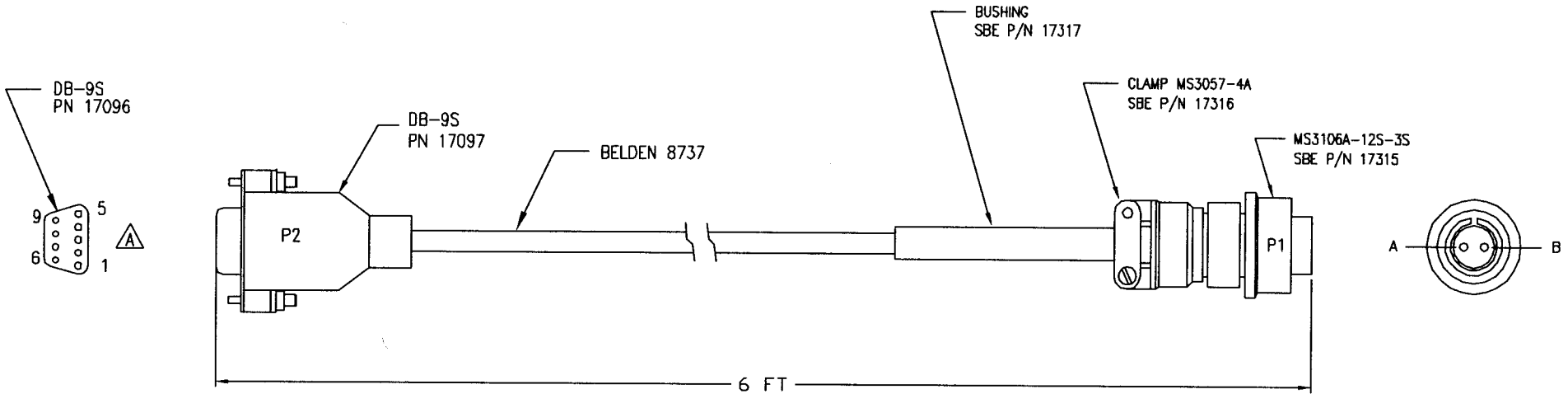


ASSY PN	PIGTAIL PN	DIM A	
801363	171512	8 FT	2.5 m

WIRING CONNECTIONS		
P1 MCIL-2FS	COLOR	P2
PIN 1	WHITE Δ	A
PIN 2	BLACK Δ	B

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N SEE TABLE	SCALE NTS	DRAWN BY KLP	
DECIMAL	APPROVED BY			
ANGULAR	DATE 7.31.02	TITLE TEST CABLE, SBE 911 PLUS, SUBCONN	DRAWING NUMBER 32695	REV A

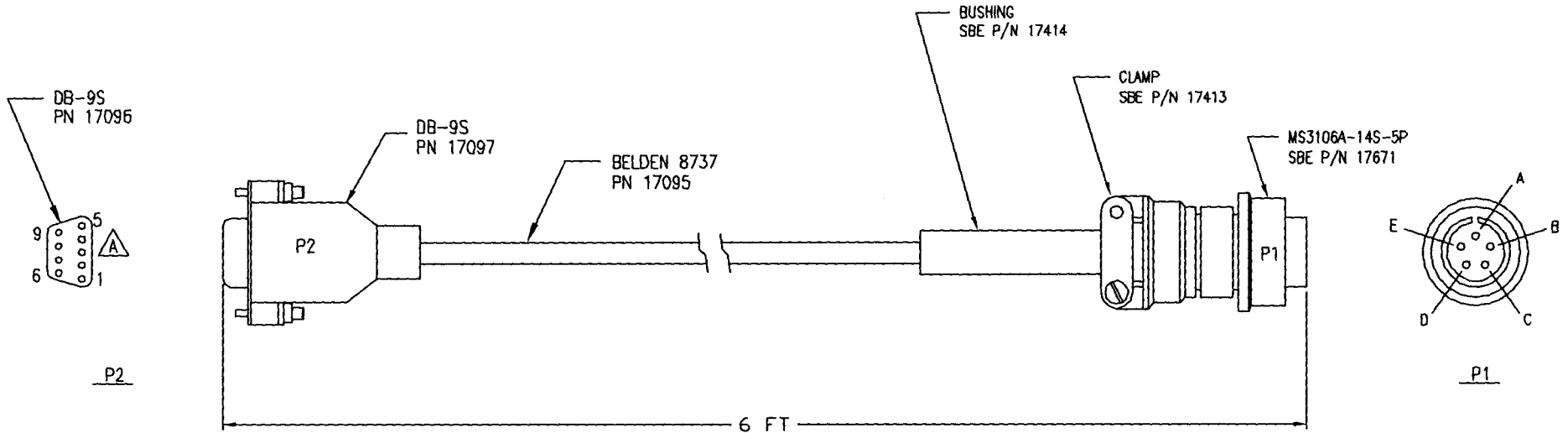
DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
5.16.03	A	FIXED PIN CALLOUTS	CB	KLP	



P1	MS3106A-12S-3S	P2	DB-9S	COLOR
	PIN A		PIN 3	RED
	PIN B		PIN 5	BLK

TOLERANCES	SEA-BIRD ELECTRONICS, INC				
FRACTIONAL	P/N	801422	SCALE	NTS	DRAWN BY KLP
DECIMAL	TITLE				
	NMEA TEST CABLE, 11PLUS/33/36				
ANGULAR	DATE	4/09/03	DWG NO.	32786	REV A

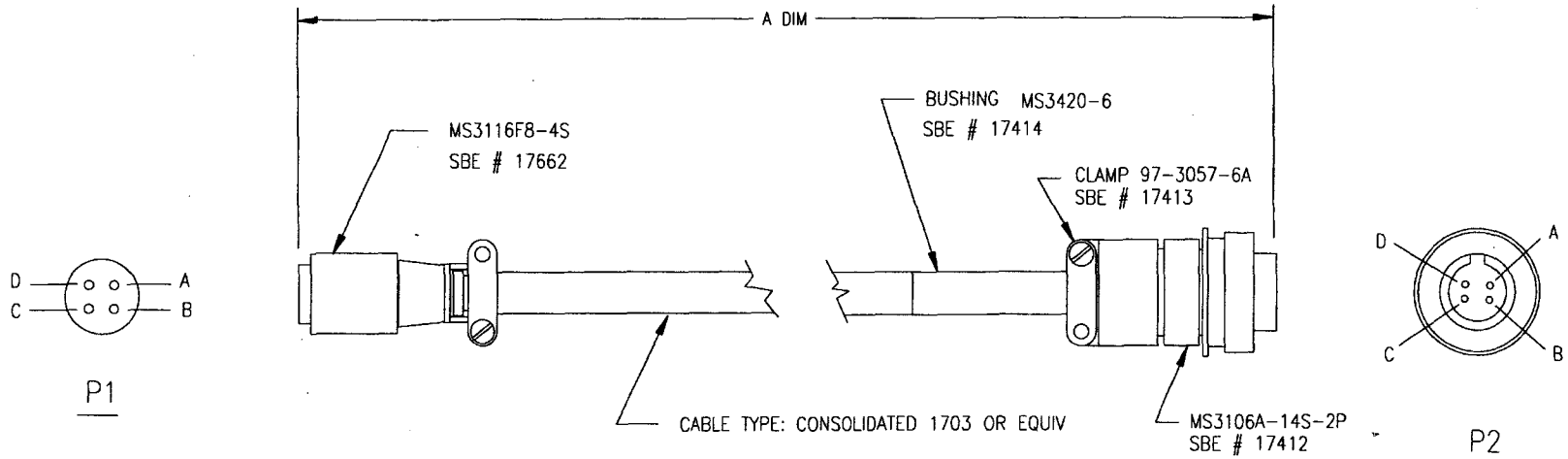
DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
5.16.03	A	FIXED PIN CALLOUTS	CB	KLP	



P1 MS3106A-14S-5P	P2 DB-9S	COLOR
PIN A	PIN 5	SHIELD
PIN B	PIN 3	RED
PIN C	PIN 2	BLK

TOLERANCES				SEA-BIRD ELECTRONICS, INC	
FRACTIONAL	P/N	SCALE	DRAWN BY	KLP	
	801429	NTS	APPROVED BY		
DECIMAL	TITLE				
	SBE 11plus CDD TEST CABLE				
ANGULAR	DATE	DWG NO.	REV		A
	4.29.03	32799			

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
06.00	A	Change pin C, add note	MJ	CB	



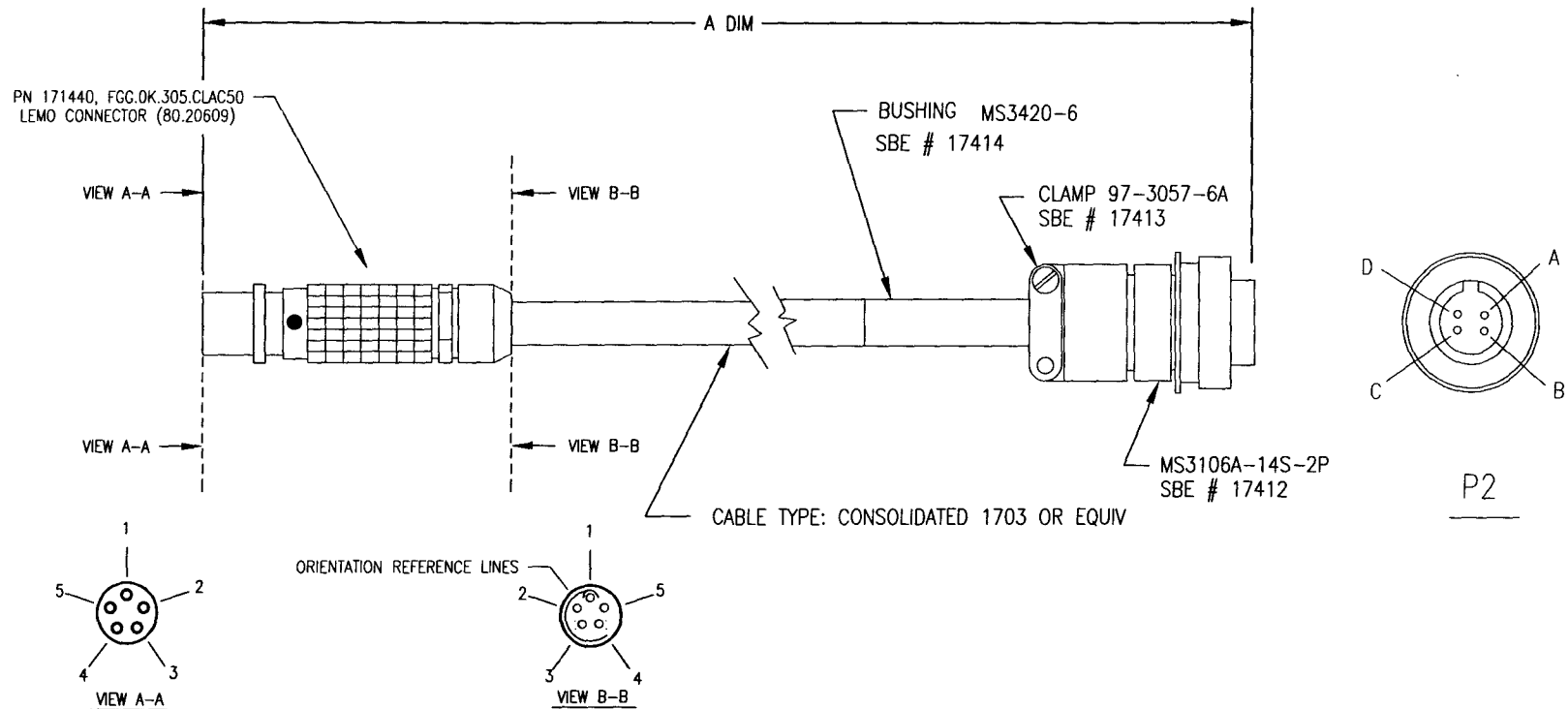
* NOTE: Connect P2 / A & C to P1 / A at P1 connector. DO NOT JUMPER AT P2 CONNECTOR.

P1	COLOR	P2	DESCRIPTION
A	SHIELD/WHITE	A, C *	GROUND
B	BLACK	B	+12V PWR
C	-	-	N/C
D	RED	D	PAR SIGNAL

PART NO.	A DIM
80665	30 METERS
80666	50 METERS

TOLERANCES				SEA-BIRD ELECTRONICS, INC	
FRACTIONAL	P/N SEE TABLE	SCALE 1:1	DRAWN BY BMC		
DECIMAL	TITLE SURFACE PAR TO SBE 11 CABLE JOBS 7306 & 5635				
ANGULAR	DATE 7/11/93	DRAWING NUMBER	31475	REV A	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CR.
11.00	A	CORRECTED WIRING	MJ	CB	

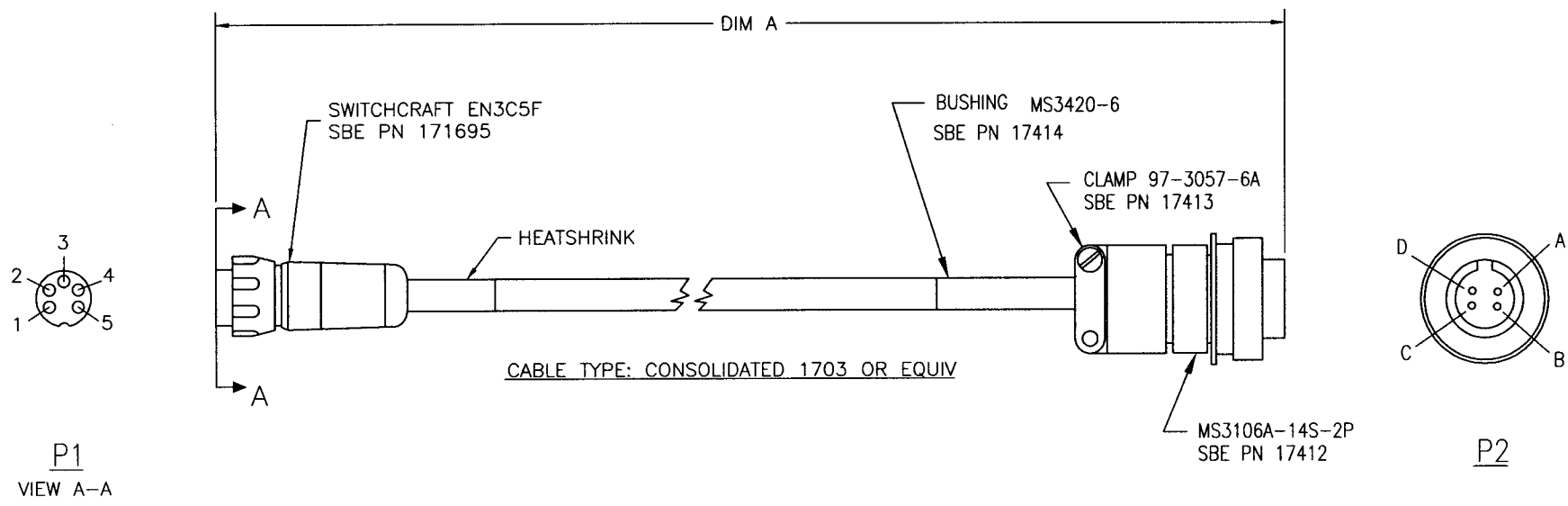


P1	COLOR	P2	DESCRIPTION
1	SHIELD/WHITE	A	GROUND
2	WHITE	C	GROUND
3	RED	D	PAR SIGNAL
4	---	-	---
5	BLACK	B	+12V POWER

PART NO.	A DIM
801238	30 METERS
801239	50 METERS

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N SEE TABLE	SCALE 1:1	DRAWN BY MJ	APPROVED BY CB
DECIMAL	TITLE CABLE: SURFACE PAR to SBE11plus (LEMO)			
ANGULAR	DATE 08.10.00	DRAWING NUMBER 32434	REV A	

DATE	REV	REVISION RECORD	AUTH.	DR.	CK.



P1
VIEW A-A

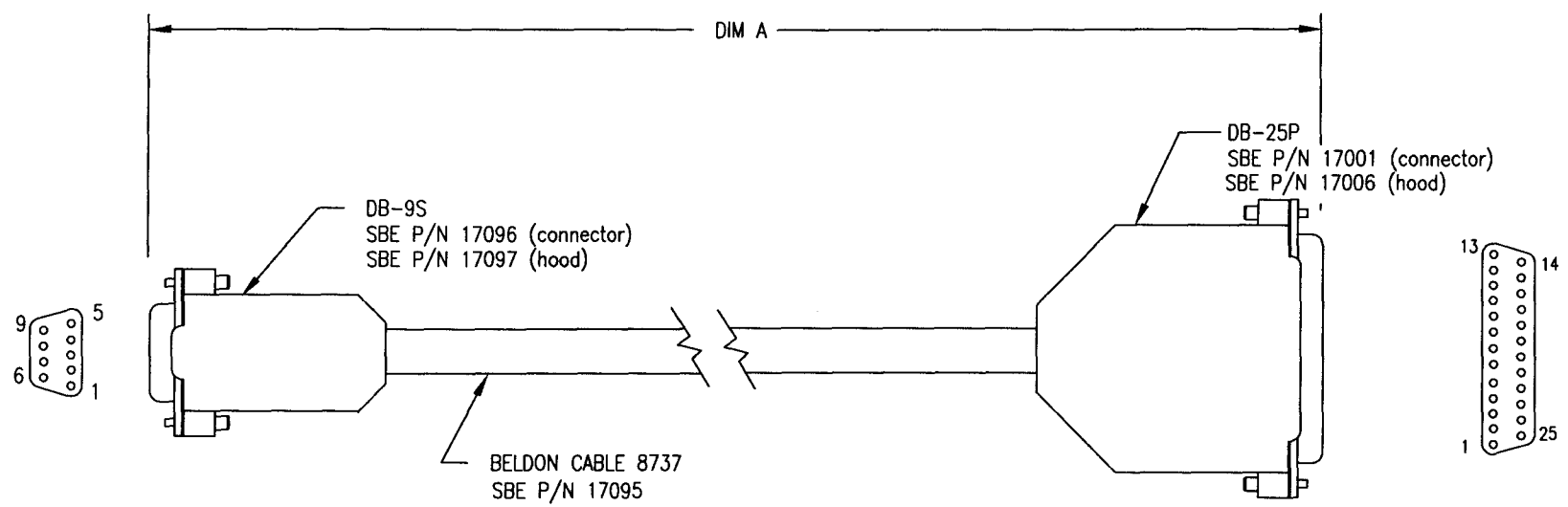
P2

P1 EN3C5F	COLOR	P2	DESCRIPTION
1	SHIELD	C	POWER GROUND
2	RED	D	PAR SIGNAL
3	WHITE	A	SIGNAL GROUND
4	BLACK	B	+12V POWER
5	---	-	---

SBE PN	DIM A
801367	15 m (50 FT)
801368	30 m (100 FT)
801369	50 m (165 FT)
801375	40 m (132 FT)
801457	35 m (116 FT)

TOLERANCES				SEA-BIRD ELECTRONICS, INC	
FRACTIONAL	P/N SEE TABLE	SCALE NTS	DRAWN BY KLP	APPROVED BY CB	
DECIMAL	TITLE CABLE: SURFACE PAR to SBE11plus (SWITCHCRAFT)				
ANGULAR	DATE 8.28.02	DRAWING NUMBER	32704	REV	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.

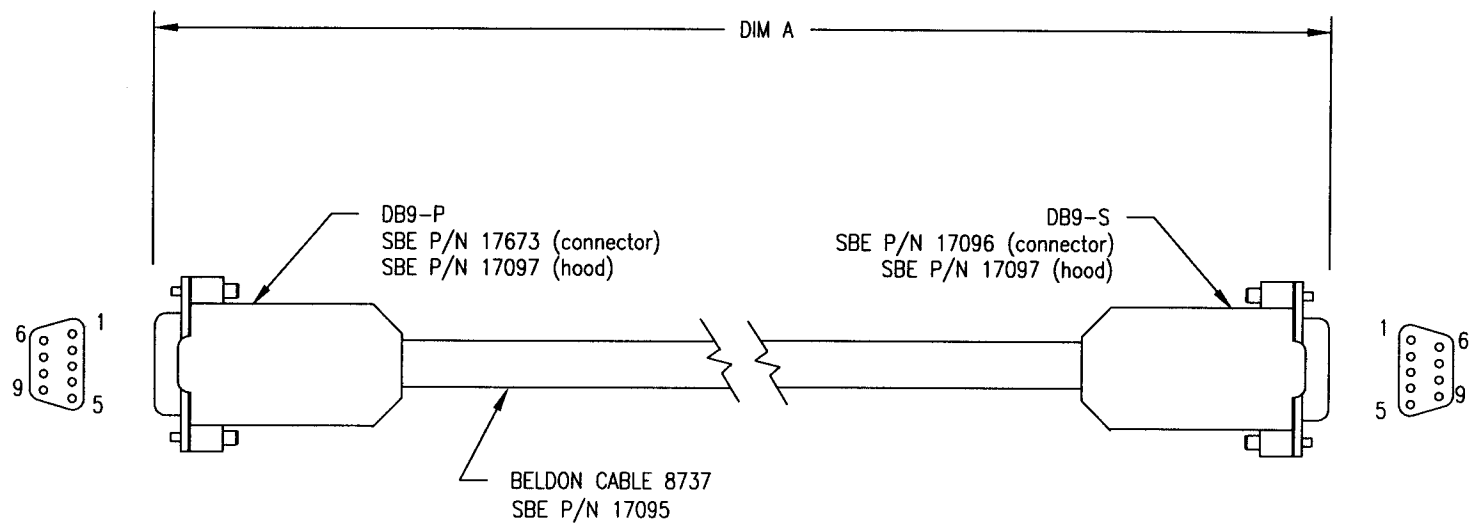


P1 DB-9S	COLOR	P2 DB-25P
PIN 5	SHIELD	PIN 7
PIN 3	BLACK	PIN 2
PIN 2	RED	PIN 3

SBE PN	DIM A
801419	6 FT

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N SEE TABLE	SCALE 1:1	DRAWN BY CWB	APPROVED BY
DECIMAL	TITLE CABLE ASSY, DB-25P TO DB-9S			
ANGULAR	DATE 4/03	DRAWING NUMBER 32784	REV	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.

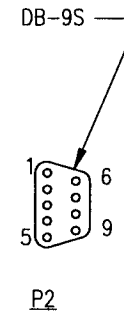
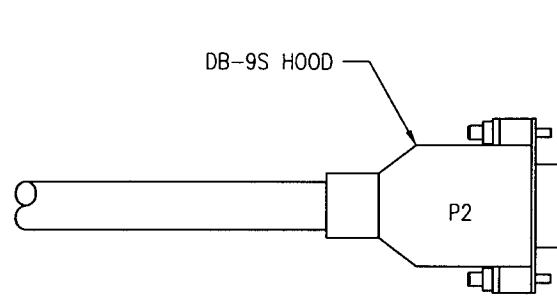
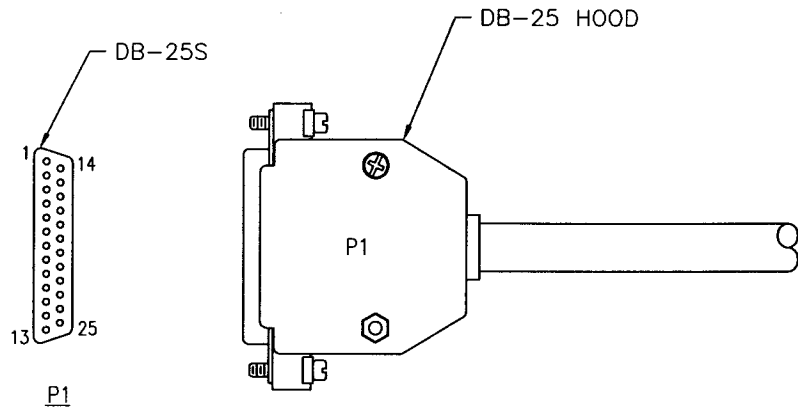


P1 DB9-P	COLOR	P2 DB-9S
PIN 5	SHIELD	PIN 5
PIN 2	RED	PIN 3
PIN 3	BLACK	PIN 2

SBE PN	DIM A
801428	6 FT

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N SEE TABLE	SCALE NTS	DRAWN BY CB	APPROVED BY
DECIMAL	TITLE CABLE ASSY, SERIAL UPLINK			
ANGULAR	DATE 04/28	DRAWING NUMBER 32798	REV	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CR.



P1 DB-25S	P2 DB-9S
PIN 8	PIN 1
PIN 3	PIN 2
PIN 2	PIN 3
PIN 20	PIN 4
PIN 7	PIN 5
PIN 6	PIN 6
PIN 4	PIN 7
PIN 5	PIN 8
PIN 22	PIN 9

SBE PN	DIM A
17130	10 IN

TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N SEE TABLE	SCALE -	DRAWN BY KLP	APPROVED BY
DECIMAL	TITLE			
	CABLE, ADAPTER DB-25 TO DB-9S			
ANGULAR	DATE 11.18.02	DWG NO.	32739	REV