

EXPORT--BOM QULZ	EPIC TECHNOLOGIES, INC	PAGE NUMBER 1
UN TIME: 9:03	MANUFACTURING BILL OF MATERIAL	RUN DATE 05/05/98
EXPIRATION DATE: NONE	FOR REFERENCE ONLY	REQUESTOR ID:

ASSEMBLY NO: 1000 6020	CUSTOMER PART:	ENG REVISION: A7309A	EPIC BOM REV ID: 1086
DESCRIPTION: PI RECEIVER FINAL ASSY		ROUTING ID: GENERIC	
		MPS FLAG: M	

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE	LEAD TIME	ENGR REVISION	BOM TYPE	START/ STOP
1 1000 6017	PI TMS RX R3422 BNC OUT REF. 1002-6017 ASSEMBLY	1.0000	-- 21		H		072696
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--					
EPIC		RECEIVER PCB					
2 1000 6010	PI TMS RX CONNECTOR INTERFACE REF. 1002-6010 ASSEMBLY	1.0000	-- 32		R		072696
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--					
EPIC		RX CONNECTOR INTERFACE					
3 1501 0149	CAP. 01UF 10% 100V X7R 0805 CERAMIC	13.0000	SA 22				052896
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--					
AUX 08051C103KAT0A OR 08051C103KAT1A MURATA ELEC GRM40X7R103K100RD OR AL. BD. 2H		C1-C13					
3 1700 0173	PCB, PI RESEARCH RX INTERFACE PART OF A SET OF TWO PCB'S W/1700 0174	1.0000	HA 22				053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--					
THIS BOARD IS 1/2 OF A SET OF TWO BOARDS THE OTHER BOARD PART NUMBER IS 1700 0174 BOTH 1700 0173 AND 1700 0174 MUST BE ORDERED AT THE SAME TIME UCI **CONTROL PLAN REQUIRED IR 8-12-96 **		PCB CONNECTOR INTERFACE					
3 2100 0312	CONN, 72 PIN, 1" C-C MALE DURL ROW	2000	WH 22				052896
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--					
DIGI-KEY 929836-09-36-ND JM 929836-09-36		CONNECTOR J2					

EXPORT--BOM QULZ

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UN TIME: 9.03

MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/04/99

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REQUISITION ID:

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENG REVISION: 873096

EPIC BOM REF: JRI1006

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENENTL

MPS FLAG: N

COMPONENT		QUANTITY	ASSY PLAN LINE INCR	BOM START
EVL PART NUMBER	COMPONENT DESCRIPTION	PER ASSY	NODE CODE LINE INCR INVT	STOP
2 1000 6017	PI RX PROG. IC PREP KIT	1.0000	BN 22	100096

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

IC PROG. PREP KIT

3 3131 0172	IC, 8 BIT MICRO UN-PROGRAMMED PLCC44	1.0000	SH 22	100096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

MOTOROLA MC68HC070SCPCFN

U2 (UNPROGRAMMED)

2 5000 0158	LABEL, LAT-29-747-10-10 WHITE, AEA65090-000	1.0000	BN 12	100096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

LAT-29-747N-10

ROBERTS ELECTRONICS CO. LAT-29-747-10-10 DL3730

LABEL FOR U2

2 1501 0064	CAP 100PF 5% 50V MPO	3.0000	SA 22	003096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

AUX 1206 1A 101 J ATMA or JATMA

PARTS MUST BE ON T/R

AUX 1206 5A 101 J ATMA or JATMA

C6, C23, C24

2 1501 0066	CAP. 2 2PF +/- .05PF 100V MPO	2.0000	SA 22	003096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

NEPCO/CENTRALAD 09050622500000

C9, C17

2 1501 0068	CAP. 220PF 10% 50V MPO	5.0000	SA 22	003096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

AUX 12061A221KATMA OR 12061A221JATMA

PARTS MUST BE ON T/R

AUX 12065A221KATMA OR 12065A221JATMA

C3, C5, C12, C16, C18

REPORT--BOM QUIZ		EPIC TECHNOLOGIES, INC		PART NUMBER: 3	
RUN TIME: 9:03		MANUFACTURING BILL OF MATERIAL		MFG DATE: 05/05/96	
EXPIRATION DATE: NONE		-----FOR REFERENCE ONLY-----		NEWESTON, IL	
ASSEMBLY NO: 1000 6020		CUSTOMER PART:		EPIC BOM FIN: 101006	
DESCRIPTION: FI RECEIVER FINAL ASSY		ENG REVISION: A72276		ROUTING ID: GLWPHIC	
		MPS FLAG: A			
COMPONENT LVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME WAVE CODE TIME REVISION TYPE	ENDR	BOM START/
2 1501 0100	CAP. 10UF 10% 16V TANT. 1206	1.0000	SA 23		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
AVX 1A310SK016R		C15			
2 1501 0102	CAP. 47UF 10% 10V TANT. 2816	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
RATSDU 267M1002-476-KR-720 OR 267M1002-476-KR-7		C31			
2 1501 0114	CAP. 0.01uF 10% 50V X7R 1206	5.0000	SA 22		100796
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON 1/0					
AVX 12065C103KAT0A		C19, C21, C22, C23, C20			
2 1501 0115	CAP. 9.0pF +/- .5pF 50V 0805	3.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PANASONIC P/N ECU-V1H0900CH		C1, C2, C4, C13, C14			
2 1501 0116	CAP. 10uF 20% 35V 7243D ELEC	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PANASONIC P/N ECE-V1H0100P		C33			
2 1501 0122	CAP. 10pF +/- .5pF 50V NPO 0805	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PANASONIC ECU-V1H1000CH		C2			
2 1501 0124	CAP., TUNING RANGE: 1.0pF MIN TO 3.0pF MAX	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
JOHANSON 9343-1R9		C7			

REPORT--BOM QUIZ

RUN TIME: 9.03

EXPIRATION DATE: NONE

EPIC TECHNOLOGIES, INC

MANUFACTURING BILL OF MATERIAL

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RUN DATE 05/03/96

REQUESTOR ID:

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENG REVISION: 873096

EPIC BOM REF: 1R14086

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE TIME REVISION TYPE	WON STOP
2 1501 0125	CAP, 1uF 10% 50V X7R 1206	2.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	AUS 120650104KATRA	017, 032		
2 1501 0126	CAP, 1000pf +/-5% 50V C0G 1206	4.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	KERET 012060100J0640	010, 020, 026, 027		
2 1700 0174	PCB, PI RESEARCH RX RS422 DBC PART OF A SET OF TWO PCB'S W/1700 0173	1.0000	NA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
THIS BOARD IS 1/2 OF A SET OF TWO BOARDS THE OTHER BOARD PART NUMBER IS 1700 0173 BOTH 1700 0174 AND 1700 0173 MUST BE ORDERED AT THE SAME TIME				
UCT ** CONTROL PLAN REQUIRED IN 0-12-96 **		PCB		
2 1801 0005	INDUCTOR, 390 nH +/-10% 1008 CERAMIC CHIP SRF>450 MHz	1.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	COILCRAFT 1008 C 5-391 X K D C ADRACON 1008C391K-ET	L2		
2 1801 0006	INDUCTOR, 22nH +/- 10% 1008 CERAMIC CHIP	3.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	COILCRAFT 1008CS-220KKBC	L1, L3, L4		

EXPORT--DOM QULZ

EPIC TECHNOLOGIES, INC

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MANUFACTURING BILL OF MATERIAL

MFG DATE: 05/06/98

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REQUESTOR ID

ASSEMBLY NO: 1000 6020

CUSTOMER PART

ENG REVISION: 070396

EPIC DOM BOM: J010006

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERAL

MPS FLAG: R

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE TIME	LACK CORR REVISION TYPE	START/STOP
2 2301 0003	RESONATOR, 4 MHZ 0.5% CERAMIC	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	AVX/KYOCERA PBRU-4.00AR	R1			
2 3131 0120	IC, 1K CMOS EEPROM	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	PARTS MUST BE ON T/R MICROCHIP 24LC01BTJ/SM	U1			
2 3131 0153	IC, LP2951ACK VOLT REG SOIC-8	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	NATIONAL LP2951ACKU	U5			
2 3131 0173	IC, MAX510AWE DAC CHIP MAXIM	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	MAXIM MAX510ACWE	U3			
	MAXIM MAX510AWE				
2 3131 0174	IC, LTC4901S8 RS422 LINE DRIVE	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	LINEAR TECHNOLOGIES LTC4901S8	U4			
2 4701 0032	RES 3.32M 1% 1/8W 1206	2.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	PARTS MUST BE ON T/R KOA RK73H2BT3324F	R13, R16			

REPORT--COM 9012

EPIC TECHNOLOGIES, INC

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MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/11/92

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REQUESTOR ID:

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

END REVISION: 07/09/92

EPIC ROM REV: 1311026

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

RPS FLAG: 0

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY TURN LEAD MFG CODE LINE REVISION	ENGR. COM. START/STOP
2 4701 0034	RES 150K 1% 1/8W 1206	1.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	ROHM RK73H2BT1503 F	R17		
2 4701 0047	RES 76.8K 1.0% 1/8 1206 100PPM PART ADDED CUSTOM FOR DRL II	2.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	ROHM MCR162ZHF7682	R3, R14		
2 4701 0040	RES 29.4K 1.0% 1/8 1206 100PPM AER35049-115 PART ADDED CUSTOM FOR DRL II	1.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	PARTS MUST BE ON T/R ROHM MCR162ZHF2942	R5		
2 4701 0051	RES 1M 1% 1/8W 1206 100 PPM	2.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	PARTS MUST BE ON T/R ROHM RK73H2BT1004F	R15, R21		
2 4701 0050	RES 3.32K 1% 1/8W 1206 100 PPM	3.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	ROHM RK73H2BT3321F	R9, R16, R37		
2 4701 0061	RES 10K 1% 1/8W 1206 100 PPM	2.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
	PARTS MUST BE ON T/R ROHM RK73H2BT1002F	R6, R8		

REPORT--BOM Q11Z
RUN TIME: 9:03
EXPIRATION DATE: NONE

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER: 7
RUN DATE: 05/06/98
REQUESTOR: TD

ASSEMBLY NO: 1000 6020 CUSTOMER PART:
DESCRIPTION: PI RECEIVER FINAL ASSY

ENG REVISION: A73096
ROUTING IN: GENERIC
APS FLAG: N

EPIC BOM REV: ZP10086

COMPONENT KUL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE DDD TIME	ENGR BOM REVISION	START DATE
2 4701 0143	RES 20K 1% 1/8W 1206	8.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
KOA RK73H28T12002F		R12, R19, R24, R28, R34, R38, R39, R39			
2 4701 0144	RES 475 OHM 1% 1/8 1206 100PPM	5.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R ROHM MCR18EZHF4750		R2, R36-R37			
2 4701 0146	RES 100 K 1% 1/8 1206 100PPM	7.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R ROHM MCR18EZHF1003		R19, R22, R23, R25-R27, R27			
2 4701 0228	RES 2K 1% 1/8W 1206	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R ROHM MCR18EZHF2001		R1			
2 4701 0240	RES 47.5 OHM 1% 1/8W 1206 100PPM	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
ROHM MCR18EZHF47R5 PARTS MUST BE ON T/R ROHM MCR18EZHF47R5		R44			
2 4701 0243	RES 100 OHM 1% 1/8W 1206 100PPM	4.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
KOA RK73H28T10000F		R4, R10, R11, R20			

REPORT--DOM Q112

EPIC TECHNOLOGIES, INC

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RUN TIME: 9.03

MANUFACTURING BILL OF MATERIAL

RUN DATE 05/26/96

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REQUESTOR ID:

ASSEMBLY NO: 1000 6020 CUSTOMER PART:

ENG REVISION: 073096

EPC NON EPC 1011086

DESCRIPTION: PT RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT LEVEL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME END	START
2 4801 0014	TRANSISTOR, NMBT4401LT1 SOT-23 NPN 600mA 40V	2.0000	SA 21	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
MOTOROLA NMBT4401LT1		Q5, Q6		
2 4801 0038	TRANSISTOR, RF NMBT110RG SOT23	2.0000	SA 21	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
ALTERNATE OKAYED BY DEVELOPMENT ENGINEER ONLY. PARTS MUST BE ON T/R NATIONAL SEMI NMBT110RG (PREFERRED)		Q1, Q2		
2 4801 0061	TRANS, NMBT5089LT1 LOW NOISE	2.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
MOTOROLA NMBT5089LT1		Q3, Q4		
2 4801 0062	DIODE, 270 ZENER 5% 1W MELF DL-41	1.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
ITT SEMI ZM4750A DIODES INC. DL4750A or DM4750A		D1		
2 4801 0063	DIODE, 1AMP MELF, 400V, 400A DL-41	1.0000	SA 22	053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
DIJ TAIWAN CO, DL400A DIODE INC. DL400A		D2		
1 1070 6020	PI RX CABLE SUB-ASSEMBLY REF. EPIC DRAWING 6000 0087	1.0000	-- 31	100596
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
CABLE ASSEMBLY				

EXPORT--BOM QUIT	EPIC TECHNOLOGIES, INC	PAGE NUMBER 9
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EXPIRATION DATE: NONE	FOR REFERENCE ONLY	REVISION: 10
ASSEMBLY NO: 1000 6020	CUSTOMER PART:	ENG REVISION: 072096
DESCRIPTION: PI RECEIVER FINAL ASSY	ROUTING ID: CHERIC	EPIC BOM PIN INCLUDE
	MPS FLAG: N	

COMPONENT EUL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE TIME	ENGR. MOD. REVISION TYPE	START/
2 2100 0315	CONNECTOR, 14 PIN HEADER IDC	1.0000	-- 22		072096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	MOUSER #517-3914-T 3M 3914-00101	CONNECTOR 3M 3914			
2 2100 0316	CONNECTOR, 14 PIN RIBBON IDC	1.0000	-- 22		072096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	MOUSER #517-3385-7600 3M 3385-7600	CONNECTOR 3M 3385			
2 6000 0088	CABLE, 14 PIN GREY FLAT 1.6" CUT TO LENGTH	1.0000	-- 32		072096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	EPIC	CABLE 14 PIN GREY FLAT			
3 6000 0090	FLAT CABLE 14 PIN GREY 12 INCH	1870	BA 22		072096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	3M 3365/14 (SUPPLIER - MOUSER 172-1400FT)	ROLL OF CABLE			
1 2500 0048	PI TMS RX HARDWARE KIT CUSTOMER SUPPLIED	1.0000	-- 21		072096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	PI RESEARCH SUPPLIED	HARDWARE KIT			
1 3300 0037	OVERPACK, 22.13"X15.63"X6.75"	0400	BA 22		100096
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	STEPHEN GOULD 3300 0037	SHIPPING BOX			

REPORT--DOM.QUT2

EPIC TECHNOLOGIES, INC

PAGE NUMBER 10

RUN TIME: 9:03

MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/06/96

EXPIRATION DATE: NONE ---FOR REFERENCE ONLY---

REQUESTOR: JG

ASSEMBLY NO: 1000 6020 CUSTOMER PART:

ENG REVISION: A73096

EPIC DOM REV: INT1006

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: K

COMPONENT LEVEL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE, DOM, TIME REGION, TIME	START/ STOP
1 3300 0076	PARTITION, 3.5"X.0625"X5.5" 50 CELL	0400	NA 22	100096

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

STEPHEN GOULD 3300-0076

PARTITION

1 3300 0077	BAG, 4" X 8" STATIC SHIELDING	1.0000	NA 22	100196
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

STEPHEN GOULD 3300-0077

ESD BAG

1 3300 0078	FOAM PAD, 22 x 15.25 x 1.25" SUPPLIER PRODUCTION QTY = 1000	.0000	NA 22	100596
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

STEPHEN GOULD 3300 0078

FOAM PAD

1 5000 0140	LABEL, RECEIVER FOR USE WITH PROTO AND LOW VOLUME ASSEMBLIES	1.0000	BM 22	043097
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

KENNEDY TAPE & LABEL

LAKE SHORE BUSINESS FORMS

OR EQUIVALENT

REFERENCE REV. A DRAWING

SERIAL NUMBER LABEL

REPORT--BOM QUL7	EPIC TECHNOLOGIES, INC	PAGE NUMBER:
RUN TIME: 9:03	MANUFACTURING BILL OF MATERIAL	RUN DATE: 05/04/98
EXPIRATION DATE: NONE	-----FOR REFERENCE ONLY-----	REVISION: 10
ASSEMBLY NO: 1000 5317	CUSTOMER PART:	EPIC BOM REV: 0100197
DESCRIPTION: PI RESEARCH TNS TX FINAL ASSY	ENG REVISION: PRE	
	ROUTING ID: GENERIC	
	MPS FLAG: N	

COMPONENT LEVEL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD ENGR BOM	START
			NODE CODE TIME REVISION TYPE	STOP
1 1000 5317	PI RESEARCH RF BATTERY PCBA REF. 1002-5317 ASSEMBLY	1.0000	-- 22 A	072696
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	EPIC	RF BATTERY PCB		
2 1050 5317	PI RESEARCH COMPONENT PREP KIT	1.0000	BH 22	110795
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
		COMPONENT PREP KIT		
3 2300 0025	RESONATOR, 355.050 MHZ SAW +/- 100 KHZ -55 TO 125 DEG.C	1.0000	RH 22	110796
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	R.F. MONOLITHICS R02069	SAW1		
2 1501 0100	CAP. 1UF 10% 16V TANT. 1206	1.0000	SA 22	110795
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	AUX TAJA105K016R	C5		
2 1501 0131	CAP. 1000PF 10% 50V NPO 0805	1.0000	SA 22	110795
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	AUX 08055A102KATMA 08055A102KAT2A MURATA ERTE GRM40C0G102K050AD GRM40C0G102K050AL PARTS MUST BE ON T/R ONLY	C6		
2 1501 0133	CAP. 2.2PF +/- .25PF 50V 0805 NPO	1.0000	SA 22	110795
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	AUX 08055A2R20ATMA 08055A2R20AT2A MURATA ERTE GRM40C0G2R20050AD GRM40C0G2R20050AL PARTS MUST BE ON T/R ONLY	C7		

EPORT- BOM QUITZ

EPIC TECHNOLOGIES, INC

PAGE NUMBER 2

UN TIME: 9:02

MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/14/99

EXPIRATION DATE: NONE ----- FOR REFERENCE ONLY-----

REQUESTOR ID:

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG REVISION: PRT

EPIC BOM REV: 01/01/97

DESCRIPTION: PI RESEARCH IMS TX FINAL ASSY

ROUTING ID: GENERIC

NPS FLAG: K

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE TIME DESIGN TYPE	ENGR BOM START/STOP
2 1501 0149	CAP. 8.2 PF +- .25PF 50V 0805	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
GRM40C068RZC05000 OR EL AVX 0805588RZCAT0A OR 0805588RZCAT2A MURATA ERIE GRM40C068RZC05000 OR EL		C8		
2 1700 0167	PCB, PI RESEARCH RF BATTERY	1.0000	NA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
UCI ** CONTROL PLAN REQUIRED IR 8-12-96 **		PCB (RF BATTERY)		
2 1801 0007	INDUCTOR, 33 nH 5% 1008 SRF=1500 MHZ CERAMIC CORE	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
COILCRAFT 1008CS-330XJBC 1008CS-330XGBC PARTS MUST BE ON T/R ONLY		L2		
2 1801 0008	INDUCTOR, 47 nH 2% 1008 SRF=1350 MHZ CERAMIC CORE	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
COILCRAFT 1008CS-470XGBC PARTS MUST BE ON T/R ONLY		L1		
2 3901 0000	BATTERY, 3V LITHIUM CARBON MONOFLUORIDE (110 PER TRAY - 1540 PER BOX)	2.0000	SA 17	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
RAYOVAC BR1225SM-B		BAT1, BAT2		

REPORT--DOM QUIZ	EPIC TECHNOLOGIES, INC	PAGE NUMBER 5
RUN TIME: 9:03	MANUFACTURING BILL OF MATERIAL	RUN DATE 07/07/90
EXPIRATION DATE: NONE	-----FOR REFERENCE ONLY-----	REVISION: 10

ASSEMBLY NO: 1000 5319	CUSTOMER PART:	ENG REVISION: PRE	EPIC DOM REQ: 0103197
DESCRIPTION: PI RESEARCH TMS 1X FINAL ASSY		ROUTING ID: GENLRC	
		MPS FLAG: M	

COMPONENT LEVEL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LINE NODE COST TIME REVISION TYPE	ENGR DOM START/STOP
2 4701 0266	RES 475 OHM 1% 1/10W 0805 100 PPM	1.0000	SA 27	033096
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	KOA RK73H2AT4750F RK73H2ATE4750F PARTS MUST BE ON T/R ONLY	R17		
2 4701 0267	RES 3.32M 1% 1/10W 0805 400 PPM	1.0000	SA 22	110745
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	KOA RK73H2AT3324F RK73H2ATE3324F PARTS MUST BE ON T/R ONLY	R18		
2 4701 0271	RES 243 OHM 1% 1/10W 0805 100 PPM	1.0000	SA 22	033096
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	KOA RK73H2AT2340F	R20		
2 4701 0272	RES 76.8K 1% 1/10W 0805 100 PPM	1.0000	SA 22	110745
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	KOA RK73H2AT7682F	R19		
2 4801 0030	TRANSISTOR, RF MMBTH10RG SOT23	1.0000	SA 22	110745
	--MANUFACTURERS PART NUMBERS--	--CIRCUIT REFERENCE--		
	ALTERNATE OKAYED BY DEVELOPMENT ENGINEER ONLY. PARTS MUST BE ON T/R			
	NATIONAL SEMI MMBTH10RG (PREFERRED)	Q2		

REPORT--DOM QUIZ		EPIC TECHNOLOGIES, INC		PAGE NUMBER 4	
RUN TIME: 9:03		MANUFACTURING BILL OF MATERIAL		DUN DATE 03/16/95	
EXPIRATION DATE: NONE		-----FOR REFERENCE ONLY-----		REVISED FOR ID#	
ASSEMBLY NO: 1000 5319		CUSTOMER PART:		DATE DOM BOM 01/01/92	
DESCRIPTION: PI RESEARCH TMS TX FINAL ASSY		ENG REVISION: PRE		ROUTING ID: GENERIC	
		MPS FLAG: N			
COMPONENT	QUANTITY	ASSY PLAN LEAD	INCH	DOM	START
LUL PART NUMBER	PER ASSY	NODE CODE	TIME	REVISION	TYPE
2 4801 0060	1.0000	SA 22			110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R					
SILICONIX 2N7002-T1		01			
2 5100 0045	1.0000	AH 22			080396
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
FLYING D ENTERPRISES 2082-2-000					
LEADS TRIMMED AND FORMED ON .550" C-C SPACING					
SELECT CONTROLS, INC.		SW1			
1 1000 5318	1.0000	-- 22			012696
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
EPIC		MICRO SENSING PCB			
2 1080 5310	1.0000	SA 22			100896
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
		IC PROG. PREP KIT			
1 3131 0152	1.0000	DN 22			100896
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
MICROCHIP PIC16C56-XTI/50 (TUBES)		U3 (UNPROGRAMMED)			
3 5000 0158	1.0000	DN 12			100896
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
LAT-29-747N-10					
ROBERTS ELECTRONICS CO. LAT-29-747-10-10 DL3730		LABEL FOR U3			

EXPORT--DOM QUIL

EPIC TECHNOLOGIES, INC

PAGE NUMBER 3

UN TIME: 9:03

MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/05/98

EXPIRATION DATE: NONE FOR REFERENCE ONLY

REQUESTING ID:

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG REVISION: PRE

EPIC DOM REV: 8100197

DESCRIPTION: PI RESEARCH TMS TX FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT LVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MFG CODE	END QTY	START/ REVISION TYPE	STOP
2 1501 0063	CAP. .01UF 10% 50V NPO 1812	1.0000	SA	22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
PARTS MUST BE ON T/R						
KINET C1812C103K50A07500		C1				
2 1501 0063	CAP. 220PF 10% 50V NPO	2.0000	SA	22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
AUX 12061A221KATMA OR 12061A221JATMA						
PARTS MUST BE ON T/R						
AUX 12065A221KATMA OR 12065A221JATMA		C2, C3				
2 1501 0114	CAP. 0.01uf 10% 50V X7R 1206	1.0000	SA	22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
PARTS MUST BE ON T/R						
AUX 12065C103KATMA		C4				
2 1700 0169	PCB, PI RESEARCH MICRO/SENSING	1.0000	NA	22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
UCI						
** CONTROL PLAN REQUIRED IR 8-12-96 **		PCB (MICRO/SENSING)				
2 2100 0314	AUTOSPLICE PIN FOR PI TMS TX	4.0000	NA	27		051046
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
AUTOSPLICE 8-253F3424		PINS IN EACH CORNER OF PCB				
2 2301 0000	RESONATOR, 1MHZ CERAMIC	1.0000	SA	22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--				
PARTS MUST BE ON T/R						
AUX/KVOCERA KBR-1000YTR		X1				

REPORT--DOM OUTZ		EPIC TECHNOLOGIES, INC		PAGE NUMBER 6	
RUN TIME: 9:03		MANUFACTURING BILL OF MATERIAL		RUN DATE: 05/06/96	
EXPIRATION DATE: NONE		----FOR REFERENCE ONLY----		REVISION ID:	
ASSEMBLY NO: 1000 5319		CUSTOMER PART:		EPIC DOM REV: R1003197	
DESCRIPTION: FI RESEARCH TMS TX FINAL ASSY		ENG REVISION: PRL		ROUTING ID: GENERIC	
		MPS FLAG: R			
COMPONENT		QUANTITY		ASSY PLUM LEAD INCH DOM START/	
EVL PART NUMBER		PER ASSY		MODE CODE TIME REV ISH TYPE SCOP	
2	3131 0120	IC, 1K CMOS EEPROM	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R					
MICROCHIP 24LC01BTI/SM		04			
2	3131 0165	VOLTAGE REG. 2.5V +/-1% 150PPM	1.0000	SA 22	110795
SOT 23					
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R					
NATIONAL SEMI LM4040BIN3X-2.5		REG1			
2	3131 0177	IC, QUAD OP AMP SUIC14	2.0000	SA 22	052096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
NATIONAL LM2902MX					
PARTS MUST BE ON T/R		01, 02			
2	4701 0031	RES 4.99K 1% 1/8W 1206	1.0000	SA 21	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R					
KOA RK73H2BT4991F		R6			
2	4701 0047	RES 76.8K 1.0% 1/8 1206 100PPM	1.0000	SA 22	110795
PART ADDED CUSTOM FOR DRL II					
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
ROHM MCR18EZHF7682		R9			
2	4701 0048	RES 29.4K 1.0% 1/8 1206 100PPM	2.0000	SA 22	110795
AER35049-115 PART ADDED CUSTOM FOR DRL II					
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
PARTS MUST BE ON T/R					
ROHM MCR18EZHF2942		R4, R5			

IMPORT--BOM QUI7

EPIC TECHNOLOGIES, INC

PAGE NUMBER 7

RUN TIME: 9:03

MANUFACTURING BILL OF MATERIAL

RUN DATE 05-05-95

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REVISION ID

ASSEMBLY NO: 1000 5319 CUSTOMER PART

ENG REVISION: PRO

EPIC BOM FOR AT01017

DESCRIPTION: PI RESEARCH TMS TX FINAL ASSY

ROUTING ID: CINECIC

MPS FLAG: K

COMPONENT EUL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME NODE CODE TIME REVISION TYPE	DATE
2 4701 0061	RES 10K 1% 1/8W 1206 100 PPM	3.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
PARTS MUST BE ON T/R				
KOA RK73H2BT1002F		R3, R10, R11		
2 4701 0146	RES 100 K 1% 1/8 1206 100PPM	4.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
PARTS MUST BE ON T/R				
ROHM MCR18EZHF1003		R12-R15		
2 4701 0242	RES 200K 1% 1/8W 1206	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
PARTS MUST BE ON T/R				
KOA RK73H2BT2003F		R7		
2 4701 0261	RES 357K 1% 1/8W	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
KOA RK73H2BT2493F		R2		
2 4701 0262	RES 590 OHM 1/8W 1% 1206 100 PPM	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
KOA RK73H2BT5900F		R1		
2 4701 0264	RES 825 OHM 1/8W 1% 1206 100 PPM	1.0000	SA 22	110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--		
KOA RK73H2BT8250F		R8		

REPORT--DDM QUIZ		EPIC TECHNOLOGIES, INC		PAGE NUMBER 2	
RUN TIME: 9:03		MANUFACTURING BILL OF MATERIAL		RUN DATE 05/06/96	
EXPIRATION DATE: NONE		---- FOR REFERENCE ONLY----		REQUESTOR ID:	
ASSEMBLY NO: 1000 5319		CUSTOMER PART:		ENG REVISION: PRE	
DESCRIPTION: PI RESEARCH TNS TR FINAL ASSY		ROUTING ID: GENERIC		EPIC ROM REV. 0103197	
		MPS FLAG: M			
COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE TIME	ENGR :DDM REVISION TYPE	START/ STOP
2 5501 0003	PRESSURE SENSOR, 30 PSI	1.0000	SA 22		110795
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
LUCAS MOUSSENSOR MPP-301A-200A					
(NOTE: T/R IS PREFERRED - BULK IS ACCEPTABLE)		SI			
1 1600 0173	TAPE, 3M DOUBLE COATED ACRYLIC 06380 - COMES AS 20 YARD ROLL = 60 FEET	.0028	BH 12		073094
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
(SUPPLIER = NAPA AUTO PARTS)					
(ROLL SIZE = 20 YARDS = 60 FEET)					
(SAFETY STOCK = 1 ROLL)					
3M PART NUMBER 06380		FOAM TAPE FOR SIDES OF SUBWEL			
1 2925 0164	SPACER, REV. B, 125" X .660" HIGH TEMPERATURE THERMOPLASTIC	2.0000	BH 23	010086	060094
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
MATERIAL = G.E. ULTEM 1000					
JTEK		SPACERS FOR BETWEEN PCB			
1 3100 0014	MYLAR INSULATOR 7 MIL THICK MATTE FILM 1.75" X 2.75"	1.0000	BH 12		060094
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
MATERIAL = AZOM 191257					
RICHLAND BLUE PRINT, INC		MYLAR INSULATOR PIECE			
1 3300 0077	BAG, 4" X 8" STATIC SHIELDING	1.0000	MA 22		091894
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
STEPHEN GOULD 3300-0077		ESD BAG			

REPORT--DOM QUIZ

EPIC TECHNOLOGIES, INC

PAGE NUMBER 9

RUN TIME: 9.03

MANUFACTURING BILL OF MATERIAL

RUN DATE 05-08-98

EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

REQUESTOR ZC

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG DIVISION: PRK

EPIC DOM REV: R100197

DESCRIPTION: PT RESEARCH TNS TX FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: R

COMPONENT	QUANTITY	ASSY PLAN LEAD	ENGR	DOM	START		
ENVL PART NUMBER	PER ASSY	MODE	CODE	TIME	REVISION	TYPE	STOP

1 6000 0097	1.0000	BH	12	IR1197	103197	
ANTENNA WIRE						
WIRE CUT LENGTH = 5.45" +/-0.15"						

--MANUFACTURERS PART NUMBERS--

- CIRCUIT REFERENCE--

RAYCHEM 4440111-20-9

NETCON #M81044/12-20-9

(OR MIL-SPEC MIL-W-81044/12 WIRE OR EQUIVALENT)

(REQ APPROX 6" LENGTH, COMES IN 100' ROLLS)

(VALUE AND LENGTH CUT AND STRIP REQUIRED)

** CONTROL PLAN REQUIRED (REV. IR 5-2-97) **

ANTENNA WIRE