

EXPORT--BOM 0017

EPIC TECHNOLOGIES, INC
 MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 1
 RUN DATE 05/05/98
 REQUESTOR ID

UN TIME: 9:03

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

ASSEMBLY NO: 1000 6020 CUSTOMER PART: ENG REVISION: #73098 EPIC BOM REV: ID11086

DESCRIPTION: PI RECEIVER FINAL ASSY ROUTING ID: GENERIC
 MFG FLAG: M

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE TIME	ENGR REVISION	BOM TYPE	START/ STOP
1 1000 6017	PI TMS RM RS022 DNC OUT REF. 1002-6017 ASSEMBLY	1.0000	-- 22		H	072696
	--MANUFACTURERS PART NUMBERS--					
	EPIC					
	--CIRCUIT REFERENCE--					
	RECEIVER PCB					
2 1000 6018	PI TMS RM CONNECTOR INTERFACE REF. 1002-6018 ASSEMBLY	1.0000	-- 32		A	072696
	--MANUFACTURERS PART NUMBERS--					
	EPIC					
	--CIRCUIT REFERENCE--					
	MS CONNECTOR INTERFACE					
3 1501 0149	CRP. 01UF 10% 100V X7R 0805 CERAMIC	13.0000	SA 22			052896
	--MANUFACTURERS PART NUMBERS--					
	--CIRCUIT REFERENCE--					
	AUX 08051C103KAT00 OR 08051C103KATZA MURATA ERIC 8RM08051R103K100RD OR RL, BD, BI					
		C1-C13				
3 1700 0173	PCB, PI RESEARCH RM 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	BN 22			052896
	--MANUFACTURERS PART NUMBERS--					
	--CIRCUIT REFERENCE--					
	DIGI-KEY 929836-09-36-ND JM 929836-09-36					
		CONNECTOR J2				

ASSEMBLY NO: 1000 6020	CUSTOMER PART:	ENG REVISION: R73096	EPIC BOM REV: TR1906
DESCRIPTION: PI RECEIVER FINAL ASSY		ROUTING ID: GENERAL	
		MPS FLAG: N	

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

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

IC PROC. PREP KIT

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

--CIRCUIT REFERENCE--

MOTOROLA MC68HC705C9ACFN

U2 (UNPROGRAMMED)

3 5000 0158	LABEL, LAT-29-747-10-10 WHITE, 9EH65090-000	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 NPO	3.0000	SA	22		033096
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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 0065	CAP. 2.2PF +/- .05PF 100V NPO	2.0000	SA	22	1	033096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

NEPCO/CENTRALAD 090506225D0000

C9, C11

2 1501 0066	CAP. 220PF 10% 50V NPO	5.0000	SA	22		033096
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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, C14, C16

REPORT--DDN 0912

EPIC TECHNOLOGIES, INC

PROJ NUMBER: 3

NEW TIME: 9:03

MANUFACTURING BILL OF MATERIAL

MIN DATE: 05/05/98

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

REVISION: 12

ASSEMBLY NO: 1000 6620

CUSTOMER PART:

ENG REVISION: R22226

EPIC COM BIN: 1211086

DESCRIPTION: FI RECEIVER FINAL ASSY

ROUTING ID: GLW/FC

MPS FLAG: A

QTY	COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME WAVE CODE TIME	ENGR. CODE	DATE	START/
2	1501 0100	CAP. 10F 10% 16V TANT. 1206	1.0000	SA 23			053096
		--MANUFACTURERS PART NUMBERS--					
		AVX TAJR106K016R					C15
2	1501 0102	CAP. 470F 10% 10V TANT. 2816	1.0000	SA 22			053096
		--MANUFACTURERS PART NUMBERS--					
		RATSUD 267H1002-476-KR-720 OR 267H1002-476-KR-7					C31
2	1501 0114	CAP. 0.01uF 10% 50V X7R 1206	5.0000	SA 22			053096
		--MANUFACTURERS PART NUMBERS--					
		PARTS MUST BE ON 1/0					
		AVX 12065C103KAT00					C19, C21, C22, C25, C30
2	1501 0115	CAP. 9.0pF +/- .5pF 50V 0805	3.0000	SA 22			053096
		--MANUFACTURERS PART NUMBERS--					
		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--					
		PANASONIC P/N ECE-V10R100P					C33
2	1501 0122	CAP. 10pF +/- .5pF 50V NPO 0805	1.0000	SA 22			053096
		--MANUFACTURERS PART NUMBERS--					
		PANASONIC ECU-V1H1000CH					C8
2	1501 0124	CAP., TUNING RANGE: 1.0pF MIN TO 3.0pF MAX	1.0000	SA 22			053096
		--MANUFACTURERS PART NUMBERS--					
		JOHANSON 9343-1R9					C7

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENG DIVISION: M73096

EPIC BOM REF: J814086

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

RPS FLAG: N

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PRN LEAD NODE WDEL TIME	INCR WDEL TIME	WON	START/STOP
2 1501 0125	CAP, 1uF 10% 50V X7R 1206	2.0000	SA	22		052096

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

AUS 12045010AKATHA

C17, C32

2 1501 0126	CAP, 1000pF +/-5% 50V C0G 1206	4.0000	SA	22		052096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

KEBET 012060100J5640

C10, C20, C26, C27

2 1700 0174	PCB, PI RESEARCH RX R5422 D8C PART OF A SET OF TWO PCB'S W/1700 0173	1.0000	NR	22		052096
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--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 SRT>450 MHz	1.0000	SA	22		052096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

COILCRAFT 1008 C 5-391 X K D C

ADRACOM 1008C391K-ET

L2

2 1801 0006	INDUCTOR, 72nH +/- 10% 1008 CERAMIC CHIP	3.0000	SA	22		052096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

COILCRAFT 1008CS-220KHBC

L1, L3, L4

ASSEMBLY NO: 1000 6020 CUSTOMER PART: ENG REVISION: 070006 EPIC DOM BIL 101006

DESCRIPTION: PI RECEIVER FINAL ASSY ROUTING ID: GENERIC

MPS FLAG: R

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE TIME	LEAD TIME REVISION TYPE	START/STOP
2 2301 0003	RESONATOR, 4 MHZ 0.5% CERAMIC	1.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	AVX/KYOCERA PBRU-4.00AR			R1	
2 3131 0120	IC, 1K CMOS EEPROM	1.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	PARTS MUST BE ON T/R MICROCHIP 24LC01B11/SN			R1	
2 3131 0153	IC, LP2951ACK VOLT REG SOTC-8	1.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	NATIONAL LP2951ACKR			U5	
2 3131 0173	IC, MAX510AEWE DAC CHIP MAXIM	1.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	MAXIM MAX510ACNE			U4	
	MAXIM MAX510AEWE				
2 3131 0174	IC, LTC4901S8 RS422 LINE DRIVE	1.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	LINEAR TECHNOLOGIES LTC4901S8			U4	
2 4701 0032	RES 3.32M 1% 1/8W 1206	2.0000	SA 22		050096
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	PARTS MUST BE ON T/R KOA RK73H2BT3324F			R13, R16	

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENC RESISTOR: 871096

EPIC ROM REV: 1311096

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

RFS FLAG: 0

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MFG CODE LINE	ENGR REVISION	DATE 1992	STATUS
2 4701 0034	RES 150K 1% 1/8W 1206	1.0000	SA 22			053096
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	ROH 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 MCR10E2HF7682					R3, R14
2 4701 0048	RES 29.4K 1.0% 1/8 1206 100PPM SER35049-115 PART ADDED CUSTOM FOR DRL II	1.0000	SA 22			053096
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	PARTS MUST BE ON T/R ROHM MCR10E2HF2942					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 ROH RK73H2BT1004F					R15, R21
2 4701 0058	RES 3.32K 1% 1/8W 1206 100 PPM	3.0000	SA 22			053096
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	ROH 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 ROH RK73H2BT1002F					R6, R8

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

EPTC TECHNOLOGIES, INC
 MANUFACTURING BILL OF MATERIAL

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

ASSEMBLY NO: 1000 6020 CUSTOMER PART: ENG REVISION: A73096 EPTC BOM REV: ZP10086
 DESCRIPTION: PI RECEIVER FINAL ASSY ROUTING ID: GENERIC
 APS FLAG: N

COMPONENT EOL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD CODE DDDP TIME	ENGR. BOB REVISION/TYPE	START/STOP
2 4701 0143	RES 20K 1% 1/8W 1206	8.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	KOA RK73H2BT2002F	R12, R19, R24, R28, R34, R38, R39, R39			
2 4701 0144	RES 475 OHM 1% 1/8 1206 100PPH	5.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	PARTS MUST BE ON T/R ROHM MCR18EZH4750	R2, R36-R37			
2 4701 0146	RES 100 K 1% 1/8 1206 100PPH	7.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	PARTS MUST BE ON T/R ROHM MCR18EZH1003	R19, R22, R23, R25-R27, R27			
2 4701 0228	RES 3K 1% 1/8W 1206	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	PARTS MUST BE ON T/R ROHM MCR18EZH2001	R1			
2 4701 0240	RES 47.5 OHM 1% 1/8W 1206 100PPH	1.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	ROHM MCR18EZH47R5 PARTS MUST BE ON T/R ROHM MCR18EZH47R5	R44			
2 4701 0243	RES 100 OHM 1% 1/8W 1206 100PPH	4.0000	SA 22		053096
--MANUFACTURERS PART NUMBERS--		--CIRCUIT REFERENCE--			
	KOA RK73H2BT1000F	R4, R10, R11, R20			

REPORT--DOM QWIZ

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 8

RUN TIME 9.03

RUN DATE 05/25/96

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

REQUESTOR ID:

ASSEMBLY NO: 1000 6020 CUSTOMER PART:

ENG REVISION: A73096

EPIC NON REV. 05/25/96

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: #

COMPONENT LEVEL	PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER Assy	ASSY PLAN LEAD TIME	ENGR. LOG	START DATE
2	4801 0014	TRANSISTOR, NMDT4401LT1 SOT-23 NPN 600mA 40V	2.0000	SA 21		053096

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

MOTOROLA NMDT4401LT1

Q5, Q6

2	4801 0038	TRANSISTOR, RF NMBT10RG SOT23	2.0000	SA 23		053096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

ALTERNATE OKAYED BY DEVELOPMENT ENGINEER ONLY.

PARTS MUST BE ON T/R

NATIONAL SEMI NMBT10RG (PREFERRED)

Q1, Q2

2	4801 0061	TRANS, NMDT5089LT1 LOW MOIST	2.0000	SA 22		053096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

MOTOROLA NMDT5089LT1

Q3, Q4

2	4801 0062	DIODE, 27V ZENER 5% 1W MELF DL-41	1.0000	SA 22		053096
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--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 23		053096
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--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	-- 32		100096
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--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

CABLE ASSEMBLY

EXPORT--BOM ONLY

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 9
MFG DATE 05/05/98
REVISION 10

ON TIME 9.02

EXPIRATION DATE: NONE FOR REFERENCE ONLY

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENG REVISION: A72096

EPIC BOM FILE INCLUDE

DESCRIPTION: PI RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT EOL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE TIME	EMBR. CODE REVISION	START DATE
2 2100 0215	CONNECTOR, 14 PIN HEADER IDC	1.0000	-- 22		072696
	--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		072696
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	MOUSER #517-3385-7600 3M 3385-7600			CONNECTOR 3M 3385	
2 6000 0028	CABLE, 14 PIN GREY FLAT 1.6" CUT TO LENGTH	1.0000	-- 33		072696
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	EPIC			CABLE 14 PIN GREY FLAT	
3 6000 0090	FLAT CABLE 14 PIN GREY 12 INCH	1870	BN 22		073196
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	3M 3365/14 (SUPPLIER - MOUSER 172-1400FF)			ROLL OF CABLE	
1 2500 0048	PI TMS RX HARDWARE KIT CUSTOMER SUPPLIED	1.0000	-- 21		072696
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	PI RESEARCH SUPPLIED			HARDWARE KIT	
1 3300 0037	OVERPACK, 22.13"X15.63"X6.75"	0400	NA 22		100996
	--MANUFACTURERS PART NUMBERS--			--CIRCUIT REFERENCE--	
	STEPHEN GOULD 3300 0037			SHIPPING BOX	

REPORT--DOM QUTZ

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 10
RUN DATE: 05/06/96
WORKSTATION 20

RUN TIME: 9:03

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

ASSEMBLY NO: 1000 6020

CUSTOMER PART:

ENG REVISION: A73096

EPIC DOM REV: INT1006

DESCRIPTION: PT RECEIVER FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: 0

COMPONENT LEVEL	PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME	ENGR DOM TIME	START/STOP
1	3300 0076	PARTITION, 3.5"X.0625"X5.5" 50 CELL	0400	NA 23		100096

--MANUFACTURERS PART NUMBERS--

--CIRCUIT REFERENCE--

STEPHEN GOULD 3300-0076

PARTITION

1	3300 0077	BAG, 4" X 8" STATIC SHIELDING	1.0000	NA 22		100190
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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	BN 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

RUN TIME: 9.03
EXPIRATION DATE: NONE -----FOR REFERENCE ONLY-----

ASSEMBLY NO: 1000 5317 CUSTOMER PART:
DESCRIPTION: PI RESEARCH TMS TX FINAL ASSY
ENG REVISION: P01 EPIC BOM REV: 010197
ROUTING ID: GENERIC
MPS FLAG: N

LEVEL	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD TIME	ENGR. BOM	START/STOP
1	1000 5317	PI RESEARCH RF BATTERY PCBA REF. 1002-5317 ASSEMBLY	1.0000	-- 22	A	072696
		--MANUFACTURERS PART NUMBERS--				
		EPIC				
		--CIRCUIT REFERENCE--				
		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	RW 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				

ASSEMBLY NO: 1000 5319 CUSTOMER PART: ENG REVISION: PRT EPIC BOM REV: 02/10/97

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	LEAD TIME	ENGR BOM DESIGN TYPE	START/ STOP
2 1501 0149	CAP. 8.2 PF +- .25PT 50V 0805	1.0000	SA	22		110795

--MANUFACTURERS PART NUMBERS-- --CIRCUIT REFERENCE--

GRM40C068RZC05000 OR EL
AVX 0805588RZCAT8A OR 0805588RZCAT2A
MURATA ERIE GRM40C068RZC05000 OR RL C8

2 1700 0167	PCB, PI RESEARCH RF BATTERY	1.0000	NA	22		110795
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--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
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--MANUFACTURERS PART NUMBERS-- --CIRCUIT REFERENCE--

COILCRAFT 1008CS-330X1BC 1008CS-330X8BC
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-470X8BC
PARTS MUST BE ON T/R ONLY L1

2 3901 0000	BATTERY, 3V LITHIUM CARBON MONOFLUORIDE (110 PER TRAY - 1540 PER BOX)	2.0000	SH	17		110795
-------------	--	--------	----	----	--	--------

--MANUFACTURERS PART NUMBERS-- --CIRCUIT REFERENCE--

RAYOVAC BR1225SM-B BAT1, BAT2

REPORT--DWH 0012

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 5

RUN TIME: 9:03

RUN DATE 07/01/90

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

REVISION 110

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG REVISION: PRF

EPIC BOM REV: R103197

DESCRIPTION: PI RESEARCH TMS 1X FINAL ASSY

ROUTING ID: GENRAIC

MPS FLAG: M

COMPONENT LEVEL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSEMBLY PLAN NODE CODE	LEAD TIME	ENGR. JOB REVISION	STATUS TYPE	START/STOP
2 4701 0266	RES 475 OHM 1% 1/10W 0805 100 PPM	1.0000	SA	27			003096
	--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			003096
	--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 RK73H2AT17682F						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--DON QUIZ

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 4

RUN TIME: 9:03

DUP DATE: 03/06/75

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

REVISED FOR ID#

ASSEMBLY NO: 1000 0319 CUSTOMER PART:

ENG REVISION: PRE

LATE DON SET: 03/01/75

DESCRIPTION: PI RESEARCH TMS TX FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT LUL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE TIME	ENGR. CODE REVISION	START TYPE	STOP AVG
2 4801 0060	JET, N-CHAN SMALL SIGNAL SOT23	1.0000	SA 22			110795
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	PARTS MUST BE ON T/R SILICONIX 2N7002-T1	01				
2 5100 0045	SWITCH, CENTRIFICAL .550" C-C 2.1G 28VDC 2A	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	PI RESEARCH MICRO/SENSING ASSY REF 1002-5318 ASSEMBLY	1.0000	-- 22			012695
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	EPIC					MICRO SENSING PCB
2 1089 5310	PI TX MICRO PROG IC PREP KIT	1.0000	SA 22			100896
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
						IC PROG. PREP KIT
3 3131 0152	IC, 8-BIT MICRO UN PROGRAMMED SOIC18 CMOS	1.0000	DN 22			100096
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	MICROCHIP PIC16056-XTI/50 (TUBES)					U3 (UNPROGRAMMED)
3 5000 0158	LABEL, LAT-29-747-10-10 WHITE, AEM65090-000	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

REPORT--DOM QUILZ

EPIC TECHNOLOGIES, INC
MANUFACTURING BILL OF MATERIAL

PAGE NUMBER 3

UN TIME: 9.03

RUN DATE: 09/02/99

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

REQUESTING ID:

ASSEMBLY NO: 1000 5219

CUSTOMER PART:

ENG REVISION: PRE

DATE DON REV: 8/20/97

DESCRIPTION: PI RESEARCH TMS TR FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: N

COMPONENT LVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MFG CODE	ENGR. DUM TTL REVISION	START/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 KEMET C1812C103K50A07500				C1
2 1501 0068	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	MA 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		081046
	--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

ASSEMBLY NO: 1000 S319

CUSTOMER PART:

ENG REVISION: PNC

EPIC DOM REV: R100197

DESCRIPTION: FI RESEARCH TMS TX FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: R

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PURV LEAD MODE CODE TIME	UNGR -DOM REVISH TYPE	START/ 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/SN	04			
2 3131 0165	VOLTAGE REG. 2.5V +/-1% 150PPM SOT 23	1.0000	SA 22		110795
	--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		953096
	--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 RK73H2BT4991T	R6			
2 4701 0047	RES 76.8K 1.0% 1/8 1206 100PPM PART ADDED CUSTOM FOR DRL II	1.0000	SA 22		110795
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	ROHM MCR18EZHF7682	R9			
2 4701 0048	RES 29.4K 1.0% 1/8 1206 100PPM AER35049-115 PART ADDED CUSTOM FOR DRL II	2.0000	SA 22		110795
	--MANUFACTURERS PART NUMBERS--				--CIRCUIT REFERENCE--
	PARTS MUST BE ON T/R ROHM MCR18EZHF2942	R4, R5			

ASSEMBLY NO: 1000 5319 CUSTOMER PART: ENG REVISION: PRO EPIC DON FOR: 410197

DESCRIPTION: PI RESEARCH TMS TX FINN! ASSY ROUTING ID: GENERIC

MPS FLAG: K

COMPONENT EUL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LIND NODE CODE TIME	INCR REVIS	DOC TYPE	START DATE
2 4701 0061	RES 10K 1% 1/8W 1206 100 PPM	3 0000	SA 22			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	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 27			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	PARTS MUST BE ON T/R					
	ROHM MCR18EZHF1003	R12-R15				
2 4701 0242	RES 200K 1% 1/8W 1206	1 0000	SA 22			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	PARTS MUST BE ON T/R					
	KOA RK73H2BT2003F	R7				
2 4701 0261	RES 357K 1% 1/8W	1 0000	SA 27			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	PARTS MUST BE ON T/R					
	KOA RK73H2BT2493F	R2				
2 4701 0262	RES 590 OHM 1/8W 1% 1206 100 PPM	1 0000	SA 22			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	PARTS MUST BE ON T/R					
	KOA RK73H2BT5900F	R1				
2 4701 0264	RES 825 OHM 1/8W 1% 1206 100 PPM	1 0000	SA 22			11/07/95
	--MANUFACTURERS PART NUMBERS--					
	PARTS MUST BE ON T/R					
	KOA RK73H2BT8250F	R8				

REPORT--DON QUIZ

EPIC TECHNOLOGIES, INC

PAGE NUMBER 2

RUN TIME: 9:03

MANUFACTURING BILL OF MATERIAL

RUN DATE: 05/04/96

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

REQUESTOR: JH

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG REVISION: PRE

EPIC ROM BYU: 0103197

DESCRIPTION: PI RESEARCH TRS TR FINAL ASSY

ROUTING ID: GENERIC

MPS FLAG: #

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD MODE CODE TIME	ENGR REVISION	DDM TYPE	START/ STOP
2 5501 0003	PRESSURE SENSOR, 30 PSI	1.0000	SA 22			110795
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	LUCAS HOUSSENSOR MPP-301A-200A (NOTE: T/R IS PREFERRED - BULK IS ACCEPTABLE)	51				
1 1600 0173	TAPE, 3M DOUBLE COATED ACRYLIC 06330 - 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 06330					FORM TAPE FOR SIDES OF HOUSING
1 2925 0164	SPACER, REV B, 125" X 660" HIGH TEMPERATURE THERMOPLASTIC	2.0000	BH 23			060494
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	MATERIAL = G.E. ULTEM 1000 JTEK					SPACERS FOR BETWEEN PINS
1 3100 0014	NYLAR INSULATOR 7 MIL THICK MATTE FILM 1.75" X 2.75"	1.0000	BH 12			060494
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	MATERIAL = AZOM 191257 RICHLAND BLUE PRINT, INC					NYLAR INSULATOR PIECE
1 3300 0077	BAG, 4" X 8" STATIC SHIELDING	1.0000	NA 22			091894
	--MANUFACTURERS PART NUMBERS--					--CIRCUIT REFERENCE--
	STEPHEN GOULD 3300-0077					ESD BAG

REPORT-- DOM Q11Z

EPIC TECHNOLOGIES, INC

PAGE NUMBER 9

RUN TIME: 9.03

MANUFACTURING BILL OF MATERIAL

RUN DATE 05-28-98

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

REQUESTOR

ASSEMBLY NO: 1000 5319 CUSTOMER PART:

ENG REVISION: PRK

EPIC DOM BXU: R103197

DESCRIPTION: PT RESEARCH TMS TX FINAL ASSY

ROUTING ID: GENERIC

NPS FLAG: R

COMPONENT EVL PART NUMBER	COMPONENT DESCRIPTION	QUANTITY PER ASSY	ASSY PLAN LEAD NODE CODE	LEAD TIME TIME	INCR UNIT REVISION TYPE	START DATE
1 6000 0097	ANTENNA WIRE WIRE CUT LENGTH = 5.45" +/-0.15"	1.0000	BH	12	IR1197	103197

--MANUFACTURERS PART NUMBERS--

- CIRCUIT REFERENCE -

RAYCHEM 4480111-20-9

NETCON #N81044/12-20-9

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

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

(VALUE ADD LENGTH CUT AND STRIP REQUIRED)

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

ANTENNA WIRE