



					SUB-ASSEMBLY								
	USAGE	#		NO.	4A20324	RELEASE DATE	09/10/03	P/L	REV.	REV.	Units to	Total	Cost per
								DATE	LTR	DATE	Build	Cost	Unit
	323	1		TITLE	Model 323 KAI11000 Front End PCB Assembly 80324	JOB#	N/A	4/2/2003	A	8/7/2003	1	\$2,104.33	#####
			# TO	MFGR	1	WORK ORDER #	N/A						
			NEXT	ASSY	4A-?????	NON STANDARD NOTATIONS							
DESIGNATOR	ITEM	QTY	EXT	STK		PART	MANUFAC		VENDOR	PURCH	UNIT		NEW
NUMBER	#	REQ	QTY	CHK	DESCRIPTION	#	TURER	VENDOR	PART #	QTY	PRICE	TOTAL	STOCK
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	0.5	1	1		Schematic 10324A (80324), Model 323	1D20324 Rev.A	Designed by Andrey Filippov						
	20	1	1		Fabrication (80324), Model 323	4F20324 Rev.A							
	21	1	1		Artwork (80324), Model 323	4G20324 Rev.A							
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U9	40	1	1		Oscillator, 125MHZ, 3.3V, CERAMIC75X50	ECS-3953M-1250-BN	ECS	Digi-Key	XC346CT-ND	1	5.55	5.55	0
U10, U12, U14, U16	41	4	4		Low-Drift Digital Potentiometers, 128 taps, +/-15V, 100K, UMAX-10	MAX5438EUB	Maxim	Maxim		4	3.77	15.08	0
U18	42	1	1		8-Channel, 12-Bit Digital-to-Analog Converter, TSSOP-20	TLV5630IPW	Texas Instruments	Digi-Key	296-3066-5-ND	1	15.54	15.54	0
U5	43	1	1		CCD Sensor 4008x2672, KAI11000CM	KAI11000CM	Kodak	Kodak	4H0278	1	1800	1800	0
U7	44	1	1		CCD Signal Processor, Dual Channel, 14- bit, 36MHz, BGA-96	VSP2254GSJ	Texas Instruments	Digi-Key	296-14396-ND	1	17.09	17.09	0
U6, U11, U13, U15, U17	45	5	5		CMOS Driver, 40MHz, MDP0027	EL7156CS	Intersil	Nu Horizons		5	3.21	16.05	0
U3	46	1	1		Dual 1000V/us Operational Amplifier, S8	LT1364CS8	Linear Technology	Digi-Key	LT1364CS8-ND	1	7.25	7.25	0
U4	47	1	1		Dual, 10-Bit, 125Msps Digital-to-Analog Converter, TQFP-48	DAC2900Y	Texas Instruments	Digi-Key	DAC2900Y/250C T-ND	1	14.54	14.54	0
U1-U2	48	2	2		Quad 600V/us Operational Amplifier, S	LT1359CS	Linear Technology	Digi-Key	LT1359CS-ND	2	12.88	25.76	0
U8	49	1	1		Spartan IIE FPGA, FT256, programmed as TBD	XC2S300E- xFT256	Xilinx	Insight Electronics		1	49.95	49.95	0
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DC3	50	1	1		Low Dropout Voltage Regulator, 3.3V, 700mA, SOT-223	LT1129CST-3.3	Linear Technology	Digi-Key	LT1129CST-3.3- ND	1	4.25	4.25	0
DC8	51	1	1		Low Dropout Adjustable Negative Voltage Regulator, 5V, 500mA, S8	LT1175CS8	Linear Technology	Digi-Key	LT1175CS8-ND	1	5.38	5.38	0

DESIGNATOR	ITEM	QTY	EXT	STK		PART	MANUFAC		VENDOR	PURCH	UNIT		NEW
NUMBER	#	REQ	QTY	CHK	DESCRIPTION	#	TURER	VENDOR	PART #	QTY	PRICE	TOTAL	STOCK
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DC4, DC7	52	2	2		Low Dropout Adjustable Voltage Regulator, 700mA , S8	LT1129CS8	Linear Technology	Digi-Key	LT1129CS8-ND	2	4.75	9.5	0
DC1-DC2, DC5-DC6	53	4	4		Low Dropout Positive Adjustable Voltage Regulator, 300mA , MS8	LT1962EMS8	Linear Technology	Digi-Key	LT1962EMS8-ND	4	3.5	14	0
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Q2-Q3	54	2	2		Transistor NPN, 3904 , 200mA , 200mW , SOT-323, marked as K2N	MMST3904	Diodes Inc	Digi-Key	MMST3904DICT-ND	2	0.42	0.84	0
Q1	55	1	1		Transistor NPN, PZT2222A , 40V , 1A , 1W , SOT-223	PZT2222A	Fairchild	Digi-Key	PZT2222ACT-ND	1	0.36	0.36	0
QN2-QN3	56	2	2		Complementary Transistor Pair NPN-PNP, 6790 , 40V , 2A , SM-8, marked as T6790	ZDT6790TA	Zetex	Digi-Key	ZDT6790CT-ND	2	1.55	3.1	0
QN1	57	1	1		Complimentary NPN/PNP Small Signal Surface Mount Transistor, MMDT2227 , 75V , 600mA , SOT-363, marked as K27	MMDT2227	Diodes Inc	Digi-Key	MMDT2227DICT-ND	1	0.52	0.52	0
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CR1-CR7	58	7	7		Surface Mount Fast Switching Diode, 70V , 500mA , SOD-323, marked as T5	1N4448WS	Diodes Inc	Digi-Key	1N4448WSDICT-ND	10	0.3	3	3
CR8	59	1	1		Dual Diodes, Series, Low Leakage, 100V , 250mA , SOT-23-123, marked as P8A	FLLD261	Zetex	Digi-Key	FLLD261CT-ND	1	0.45	0.45	0
Z1-Z2	60	2	2		Zener Diode, 4.7V , SOD-323, marked as W7	BZT52C4V7S-7	Diodes Inc	Digi-Key	BZT52C4V7SDI CT-ND	2	0.47	0.94	0
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R61-R62	61	2	2		Resistor, 1.21KΩ , 0.1W , ±1% , SMD 0805, marked as 1211	9C08052A1211FK HFT	Yageo	Digi-Key	311-1.21KCCT-ND	200	0	0	198
R41, R43	62	2	2		Resistor, 0.39Ω , ±1% , SMD 0603, marked as 390M	ERJ-3RQFR39V	Panasonic	Digi-Key	P.39AJCT-ND	10	0.303	3.03	8
R44-R48	63	5	5		Resistor, 1Ω , ±1% , SMD 0603, marked as 1R00	9C06031A1R00FK HFT	Yageo	Digi-Key	311-1.00HCT-ND	10	0.09	0.9	5
R57-R58	64	2	2		Resistor, 22Ω , ±1% , SMD 0603, marked as 22R0	ERJ-3EKF22R1V	Panasonic	Digi-Key	P22.1HCT-ND	10	0.09	0.9	8
R36-R37	65	2	2		Resistor, 49.9Ω , ±1% , SMD 0603, marked as 49R9	ERJ-3EKF49R9V	Panasonic	Digi-Key	P49.9HCT-ND	10	0.09	0.9	8
R16-R19, R25, R27-R28, R30, R59-R60	66	10	10		Resistor, 130Ω , ±1% , SMD 0603, marked as 1300	ERJ-3EKF1300V	Panasonic	Digi-Key	P130HCT-ND	10	0.09	0.9	0
R6, R40, R50, R54-R55	67	5	5		Resistor, 2.49KΩ , ±1% , SMD 0603, marked as 2491	ERJ-3EKF2491V	Panasonic	Digi-Key	P2.49KHCT-ND	10	0.09	0.9	5
R26, R29, R33-R34, R42	68	5	5		Resistor, 3.48KΩ , ±1% , SMD 0603, marked as 3481	ERJ-3EKF3481V	Panasonic	Digi-Key	P3.48KHCT-ND	10	0.09	0.9	5
R24	69	1	1		Resistor, 4.99KΩ , ±1% , SMD 0603, marked as 4991	ERJ-3EKF4991V	Panasonic	Digi-Key	P4.99KHCT-ND	10	0.09	0.9	9
R1-R4, R11-R14, R31-R32, R38	70	11	11		Resistor, 10KΩ , ±1% , SMD 0603, marked as 1002	ERJ-3EKF1002V	Panasonic	Digi-Key	P10.0KHCT-ND	11	0.09	0.99	0

DESIGNATOR	ITEM	QTY	EXT	STK		PART	MANUFAC		VENDOR	PURCH	UNIT		NEW
NUMBER	#	REQ	QTY	CHK	DESCRIPTION	#	TURER	VENDOR	PART #	QTY	PRICE	TOTAL	STOCK
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R10, R35, R53, R63	71	4	4		Resistor, 20KΩ , $\pm 1\%$, SMD 0603, marked as 2002	ERJ-3EKF2002V	Panasonic	Digi-Key	P20.0KHCT-ND	10	0.09	0.9	6
R7, R20-R23	72	5	5		Resistor, 30.1KΩ , $\pm 1\%$, SMD 0603, marked as 3012	ERJ-3EKF3012V	Panasonic	Digi-Key	P30.1KHCT-ND	10	0.09	0.9	5
R8	73	1	1		Resistor, 49.9KΩ , $\pm 1\%$, SMD 0603, marked as 4992	ERJ-3EKF4992V	Panasonic	Digi-Key	P49.9KHCT-ND	10	0.09	0.9	9
R5, R9	74	2	2		Resistor, 90.9KΩ , $\pm 1\%$, SMD 0603, marked as 9092	ERJ-3EKF9092V	Panasonic	Digi-Key	P90.9KHCT-ND	10	0.09	0.9	8
R15, R39, R52, R56, R65, R67-R68	75	7	7		Resistor, 150KΩ , $\pm 1\%$, SMD 0603, marked as 1503	ERJ-3EKF1503V	Panasonic	Digi-Key	P150KHCT-ND	10	0.09	0.9	3
R64	76	1	1		Resistor, 324KΩ , $\pm 1\%$, SMD 0603, marked as 3243	ERJ-3EKF3243V	Panasonic	Digi-Key	P324KHCT-ND	10	0.09	0.9	9
R66	77	1	1		Resistor, 383KΩ , $\pm 1\%$, SMD 0603, marked as 3833	ERJ-3EKF3833V	Panasonic	Digi-Key	P383KHCT-ND	10	0.09	0.9	9
R51	78	1	1		Resistor, 634KΩ , $\pm 1\%$, SMD 0603, marked as 6343	ERJ-3EKF6343V	Panasonic	Digi-Key	P634KHCT-ND	10	0.09	0.9	9
R49	79	1	1		Resistor, 510Ω , SMD 0603, marked as 511	ERJ-3GEYJ511V	Panasonic	Digi-Key	P510GCT-ND	10	0.08	0.8	9
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C3, C6, C12, C24, C33, C68, C94	80	7	7		Capacitor, Film, 10nF , 16V , $\pm 2\%$, C-0805	ECH-U1C103GX5	Panasonic	Digi-Key		10	0.375	3.75	3
C11, C67, C111, C131, C142-C143	81	6	6		Low ESR Tantalum Chip Capacitor with Polymer Electrode, 68μF , 4V , SMD B	T520B686M004AS	Kemet	Digi-Key	399-3060-1-ND	6	1.1	6.6	0
C59	82	1	1		Low ESR Tantalum Chip Capacitor with Polymer Electrode, 47μF , 6.3V , SMD B	T520B476M006AS	Kemet	Digi-Key	399-3061-1-ND	1	1.1	1.1	0
C15, C17, C19, C25, C29, C43, C45, C53, C71, C73, C75, C88-C91, C113, C115, C127	83	18	18		Capacitor, Tantalum Chip. low ECR, 10μF , 16V , SMD A	T494A106M016AS	Kemet	Digi-Key	399-3105-1-ND	18	0.674	12.132	0
C30, C84-C85, C124-C125	84	5	5		Capacitor, Tantalum Chip, 10μF , 20V , SMD B, marked as 106/20V	ECS-T1DX106R	Panasonic	Digi-Key	P11324CT-ND	10	0.709	7.09	5

DESIGNATOR	ITEM	QTY	EXT	STK		PART	MANUFAC		VENDOR	PURCH	UNIT		NEW
NUMBER	#	REQ	QTY	CHK	DESCRIPTION	#	TURER	VENDOR	PART #	QTY	PRICE	TOTAL	STOCK
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C1-C2, C4-C5, C8, C10, C13-C14, C16, C18, C20-C23, C26, C34-C35, C42, C44, C52, C54-C57, C60-C66, C70, C72, C74, C76, C81-C83, C86-C87, C95-C96, C99-C106, C108, C110, C112, C114, C116-C119, C126, C128-C130, C132-C139, C141	85	71	71		Capacitor, Ceramic Chip, 0.1μF, 25V , C-0603D	06032F104Z8B20D	Phycomp	Digi-Key	311-1087-1-ND	100	0.0377	3.77	29
C48-C51	86	4	4		Capacitor, Ceramic Chip, 2μF, 25V , C-	ECJ-2FF1E225Z	Panasonic	Digi-Key	PCC2231CT-ND	10	0.33	3.3	6
C36, C41, C47, C69, C97-C98	87	6	6		Capacitor, Tantalum Chip. low ECR, 10μF, 25V , SMD C	T494C106M025AS	Kemet	Digi-Key	399-1786-1-ND	6	1.15	6.9	0
C39, C58	88	2	2		Capacitor, Tantalum Chip, 10μF, 35V , SMD D	T491D106M035AS	Kemet	Digi-Key	399-1655-1-ND	2	1.23	2.46	0
C27-C28, C37-C38, C40, C46	89	6	6		Capacitor, Ceramic Chip, 0.1μF, 50V , C-0603	ECJ-1VF1H104Z	Panasonic	Digi-Key	PCC2153CT-ND	10	0.082	0.82	4
C31-C32	90	2	2		Capacitor, Ceramic Chip, 10pF , C-0603	0603CG100J9B200	Phycomp	Digi-Key	311-1058-1-ND	10	0.058	0.58	8
C7, C9, C77-C80, C92-C93, C107, C109, C120-C123	91	14	14		Capacitor, Ceramic Chip, 1000pF , C-0603	06032R102K9B20D	Phycomp	Digi-Key	311-1080-1-ND	14	0.055	0.77	0
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LC1-LC6	92	6	6		Chip EMI Filter, 10000PF , LC4518	EXC-CET103U	Panasonic	Digi-Key	P9832CT-ND	10	0.685	6.85	4
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J5	93	1	1		Connector header, Milli-Grid 2mm, Shrouded, Vertical SMT, 20 contacts, 125V, 1A , 87332-2020	87332-2020	Molex	Digi-Key	WM18081-ND	1	2.68	2.68	0
J1-J4	94	4	4		0.5 mm-Pitch Vertical Slide-Lock FPC Connector, 30 pos., XF2J-3024-11	XF2J-3024-11	Omron	Digi-Key	OR671CT-ND	4	1.3	5.2	0
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XJ1-XJ2	95	2	2		Flex Cable, 0.5 mm pitch, 30 conductors, 2 in long, 050-30-51B	050-30-51B	Parlex	Digi-Key	HFF-30U-02-ND	2	3.83	7.66	0
XU1-XU40	96	40	40		Pin socket for 0.015-0.022 diameter pins, 0.040" mounting hole, SOCK040	0569-0-15-01-11-27-10-0	Mill-Max	Mouser	575-056901	40	0.13	5.2	0