

# System 11B CPU Board

p/n D-11883-566

Item	Part No.	Ckt Designator	Description	Item	Part No.	Ckt Designator	Description
1	5764-12206-00		Bare P. C. Board	64	5010-10170-00	R69	Resistor, 47 $\Omega$ , 5%, 1/4w, C. F.
2	5370-09691-00	U3	IC, CVSD Mod., 55536	65	5010-09160-00	R59, R61, W12, W13	Resistor, 220 $\Omega$ , 5%, 1/4w, C. F.
3	5370-09321-00	U4, U5	IC, Dual Op Amp, 1458	66	5010-09416-00	R33, R34, R71-R78, R135-R137	Resistor, 470 $\Omega$ , 5%, 1/4w, C. F.
4	5281-09308-00	U16	IC, Octal Bus Xcvr, 74LS245	67	5010-09179-00	R9	Resistor, 3.3M $\Omega$ , 5%, 1/4w, C. F.
5	5430-08972-00	U9, U10, U38, U41, U42, U51, U54	IC, PIA, MC6820/6821	68	Not Used		
6	5340-10139-00	U25	IC, 2K x 8 CMOS Static RAM	69	5010-10361-00	R111, R114, R117, R120, R123, R126, R129, R132	Resistor, 1.2K $\Omega$ , 5%, 1/2w, C. F.
7	5280-09010-00	U44	IC, 4-16 Decoder, 74154	70	Not Used		
8	5281-09246-00	U7, U8, U12	IC, 2-4 Decoder, 74LS139	71	Not Used		
9	5075-09406-00	ZR3 - ZR8	Diode, Zener, 6.2v, 0.5w	72	5010-09120-00	R17	Resistor, 270K $\Omega$ , 5%, 1/4w, C. F.
10	5164-10998-00	Q42 - Q49	Transistor, NPN, 2N5550, TO-92	73	5010-09333-00	R15, R16, R18	Resistor, 180K $\Omega$ , 5%, 1/4w, C. F.
11	5281-09487-00	U6	IC, Dual D Flip-flop, 74LS74	74	5010-09324-00	R29, R30	Resistor, 27K $\Omega$ , 5%, 1/4w, C. F.
12	5431-09449-00	U43	IC, Timer, MC1455	75	5010-09269-00	R20, R21	Resistor, 12K $\Omega$ , 5%, 1/4w, C. F.
13	5310-09236-00	U29	IC, 14-b Counter, 4020	76	5010-09356-00	R27, R28	Resistor, 820 $\Omega$ , 5%, 1/4w, C. F.
14	5281-09743-00	U32	IC, Quad 2-Input AND, 74LS08	77	5019-09783-00	SR18	SIP, 9R, 10-pin, 6.8K $\Omega$ , .125w/R, 5%
15	5281-09247-00	U14	IC, Quad 2-Input NOR, 74LS02	78	5019-09362-00	SR3, SR15, SR17, SR19, SR20	SIP, 9R, 10-pin, 4.7K $\Omega$ , .125w/R, 5%
16	5281-09235-00	U35	IC, Triple 3-Input NAND, 74LS10	79	5019-09808-00	SR4, SR6, SR11	SIP, 9R, 10-pin, 560 $\Omega$ , .125w/R, 5%
17	5280-09013-00	U36	IC, Hex Inverter, 7404	80	5019-09785-00	SR16	SIP, 9R, 10-pin, 2.2K $\Omega$ , .125w/R, 5%
18	5281-09499-00	U31, U34	IC, Quad 2-Input NAND, 74LS00	81	5019-10472-00	SR14	SIP, 9R, 10-pin, 3.3K $\Omega$ , .125w/R, 5%
19	5281-10014-00	U33	IC, Dual 4-Input NAND, 74LS20	82	5019-09669-00	SR8	SIP, 9R, 10-pin, 1.0K $\Omega$ , .125w/R, 5%
20	5281-09486-00	U28	IC, Octal D Flip-flop, 74LS374	83	5019-09780-00	SR9, SR10	SIP, 4R, 8-pin, 1K $\Omega$ , .125w/R, 5%
21	5371-09152-00	U2	IC, D/A Converter, MC1408	84	5019-09788-00	SR1, SR2	SIP, 5R, 6-pin, 4.7K $\Omega$ , .125w/R, 5%
22	5281-09745-00	U37	IC, 3-8 Decoder, 74LS138	85	5019-09792-00	SR5, SR7	SIP, 9R, 10-pin, 2.7K $\Omega$ , .125w/R, 5%
23	5340-08978-00	U23	IC, 2K x 8 Static RAM, 2016	86	5060-10396-00	SRC1 - SRC5, SRC7 - SRC9	SIP, 8R, 8C, 10-pin, 4.7K $\Omega$ & 470pfd
24	5164-10998-00	Q42 - Q49	Transistor, NPN, 2N5550, TO-92	87	5010-08774-00	R22	Resistor, 22K $\Omega$ , 5%, 1/4w, C. F.
25	5281-09867-00	U11, U13, U40	IC, Octal Buffer, 74LS244	88	5043-08980-00	C14, C17-C21, C31, C32, C49-C56, C59, + 54 Bypass, marked B	Capacitor, 0.01 $\mu$ fd, 50v(+80,-20%), Axial
26	5280-08973-00	U17-U20, U52, U53	IC, Quad 2-Input AND, 7408	89	5043-09845-00	C22, C23, C25, C27, C28	Capacitor, 1K pfd, 50v(+20%), Axial
27	5280-08974-00	U55, U56	IC, Hex Inverter, 7406	90	5043-08996-00	C9, C70-75, C77, C78	Capacitor, 0.1 $\mu$ fd, 50v(+20%), Axial
28	5310-09155-00	U30, U39	IC, Quad 2-Input NAND, MC14011	91	5040-09343-00	C8, C15	Capacitor, 10 $\mu$ fd, Electr., 20v(+20%), Axial
29	5280-08948-00	U45, U50	IC, Quad 2-Input NOR, 7402	92	5043-09844-00	C7	Capacitor, 47 pfd, 50v(+20%), Axial
30	5280-09309-00	U49	IC, Hex Buffer, 7407	93	5040-10974-00	C24, C26, C29	Capacitor, 100 $\mu$ fd, Electr., 25v(+50,-10%), Axial
31	5671-09019-00	LED1-LED3	LED, Red, Display	94	Not Used		
32	5521-10506-00	CR1	Oscillator, 4 MHz	95	5045-09796-00	C60-C67	Capacitor, 0.1 $\mu$ fd, Polycarbonate Rad., 100v(+10%)
33	5162-08976-00	Q51, Q53, Q55, Q57, Q59, Q61, Q63, Q65, Q60, Q62, Q64, Q66	Transistor, NPN Darl. 2N6427, TO-92	96	5043-09065-00	C33-C40, C68, C69, C76, C10, C12	Capacitor, 470 pfd, 50v(+20%), Axial
34	5191-08978-00	Q52, Q54, Q56, Q58, Q60, Q62, Q64, Q66	Transistor, PNP, TIP42, TO-220	97	5040-09545-00	C30	Capacitor, 22 $\mu$ fd, Electr., 10v(+50,-10%), Axial
35	5162-09410-00	Q6-Q9, Q14-Q17, Q22-Q25, Q30-Q33, Q69, Q71, Q73, Q75, Q77, Q79, Q80-Q87	Transistor, NPN, TIP122, TO-220	98	5041-09031-00	C58	Capacitor, 1 $\mu$ fd, Tant., 25v(+20%), Axial
36	5160-08938-00	Q2-Q5, Q10-Q13, Q18-Q21, Q26-Q29, Q34-Q38, Q41, Q67, Q68, Q70, Q72, Q74, Q76, Q78	Transistor, NPN, 2N4401, TO-92	99	5043-09030-00	C16, C57	Capacitor, 0.047 $\mu$ fd, 50v(+20%), Axial
37	5160-10269-00	Q1, Q40	Transistor, NPN, 2N3904, TO-92	100	Not Used		
38	5190-09016-00	Q39, Q50	Transistor, PNP, 2N4403, TO-92	101	5043-09492-00	C11	Capacitor, 100 pfd, ceramic, 100v(+20%)
39	5130-09014-00	S1-S8	SCR, 30v, 0.8A, 2N5060	102	Not Used		
40	5070-06258-00	D3-D19	Diode, 1N4001	103	5048-10992-00	C13	Capacitor, 4700 pfd, ceramic, 50v(+10%)
41	5070-08919-00	D2	Diode, 1N4148, 150mA	104	5551-09822-00	L1-L3	Inductor, 4.7 $\mu$ H, 3A
42	5070-09266-00	D1	Diode, 1N5817, 1.0A	105	5641-09312-00	SW1, SW2	Switch, Pushbutton, DPDT, 100v, 5A
43	5075-09018-00	ZR1	Diode, Zener, 1N5996A, 6.8v, 0.5w	106	5880-09022-00	B1-B3	Battery, Alkaline, 1.5v, AA
44	5075-09059-00	ZR2	Diode, Zener, 1N5990, 3.9v, 0.5w	107	20-9491	W18, W19	Bus Wire, Jumper
45	5010-08992-00	R94, R97, R100, R103, R106, R109	Resistor, 560 $\Omega$ , 5%, 1/4w, C. F.	108	5881-09021-00		Battery Holder, #171
46	5010-09039-00	R56	Resistor, 10 $\Omega$ , 5%, 1/4w, C. F.	109	5700-10176-00		IC Socket, 28 pin
47	5010-09534-00	W1, W2, W4, W5, W7, W8, W11, W14, W16, W17, W19	Resistor, 0 $\Omega$ , 5%, 1/4w, C. F.	a)	A-5343-566-1	U26	IC, Game ROM 2, 27128
48	5010-08991-00	R31, R32, R35, R52, R55, R68, R92, R146	Resistor, 4.7K $\Omega$ , 5%, 1/4w, C. F.	b)	A-5343-566-2	U27	IC, Game ROM 1, 27256
49	5010-09358-00	R54, R57, R58, R64, R66, R138-R145	Resistor, 1.0K $\Omega$ , 5%, 1/4w, C. F.	c)	A-5343-566-4	U21	IC, Sound ROM 1, 27256
50	5010-09113-00	R79	Resistor, 33K $\Omega$ , 5%, 1/4w, C. F.	d)	A-5343-566-3	U22	IC, Sound ROM 2, 27256
51	5010-08983-00	R7, R8, R10, R70, R80	Resistor, 3.3K $\Omega$ , 5%, 1/4w, C. F.	110	5700-08985-00		IC Socket, 40 pin
52	5010-09034-00	R11-R14, R25, R26, R53, R60, R65, R90	Resistor, 10K $\Omega$ , 5%, 1/4w, C. F.	a)	5400-09150-00	U15	IC, $\mu$ Processor, 6802
53	5010-09086-00	R81	Resistor, 6.8K $\Omega$ , 5%, 1/4w, C. F.	b)	5400-09150-00	U24	IC, $\mu$ Processor, 6802
54	5010-09363-00	R3	Resistor, 5.6K $\Omega$ , 5%, 1/4w, C. F.	111	5824-09248-00	TP1, TP2	Test Point
55	5010-08997-00	R23, R24, R91, R93, R96, R99, R102, R105, R108, R112, R115, R118, R121, R124, R127, R130, R133, R113, R116, R119, R122, R125, R128, R131, R134	Resistor, 2.7K $\Omega$ , 5%, 1/4w, C. F.	112 - 115	Not Used		
56 <sup>2</sup>	5012-09037-00	R113, R116, R119, R122, R125, R128, R131, R134	Resistor, 0.4 $\Omega$ , 5%, 3w, Wire-Wnd.	116	Not Used		
57	5010-08993-00	R36-R51, R95, R98, R101, R104, R107, R110	Resistor, 68 $\Omega$ , 5%, 1/2w, C. F.	117	5580-08994-01	K1	Relay, 4-pole, 40 $\Omega$ , 6v
58 <sup>2</sup>	5012-10880-00	R82-R89	Resistor, 27 $\Omega$ , 5%, 2w, C. F.	118	5791-10862-09	1J1, 1J2, 1J4-1J8, 1J10-1J12, 1J17-1J19	Connector, 9 pin (Hdfr)
59	Not Used			119	5791-10862-04	1J13, 1J14, 1J16	Connector, 4 pin (Hdfr)
60	Not Used			120	5791-10862-12	1J3	Connector, 12 pin (Hdfr)
61	5010-10987-00	R19	Resistor, 56K $\Omega$ , 5%, 1/4w, C. F.	121	Not Used		
62	5010-10003-00	R62, R63	Resistor, 390 $\Omega$ , 5%, 1/4w, C. F.	122	5791-10850-00	1J22	Connector, 26 pin Ribbon (Hdfr)
63	5010-10171-00	R67	Resistor, 56 $\Omega$ , 5%, 1/4w, C. F.	123	5791-09437-00	1J21	Connector, 20 pin Ribbon (Hdfr)

## NOTES:

- For Schematic, refer to drawing #16-9019.
- Items 56 and 58 (resistors) must be mounted 1/8" above PCB surface.
- Standard Jumper: W1, W2, W4, W5, W7, W8, W11, W14, W16, W17, W19.