

FIELD ENGINEERING BULLETIN

MODEL ADO
BULLETIN NO. 61016
DATE 6/85 BK-8506-04

SHEET 1 OF 10

ADO KEYBOARD ANTI-STATIC ENHANCEMENT

I. APPLICABILITY

All ADO Keyboards equipped with Prom U5, Part Number 1465021-01 on the keyboard CPU PWA, Part Number 1420184.

II. PURPOSE

To prevent the possibility of Keyboard lock-up due to static discharge.

III. DISCUSSION

Seasonally static electricity becomes predominant in areas where the humidity is very dry. The ADO Keyboard switches are scanned under software control using IC's U1, U11 (Encoder) and U12, U13 and U14 (Decoder). The software residing in U5 presently initializes scanning IC's only during power up. In high static areas any discharge can fit into the keyboard scanning IC's and confuse the keyboard CPU. This results in keyboard lock-up.

A new prom Part Number 1465021-02 has been created which initializes the scanning IC in every field so as to keep the keyboard from locking up due to static discharge.

IV. PARTS REQUIRED

Parts required for this update may be obtained FREE on a PXO basis through Ampex. Installation assistance can be obtained through your local Ampex regional office at current Ampex Field Engineering rates.

See attached P-28-85 form

*Entered 5/30/85 7:00 PM
11:45 AM*

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ADO KEYBOARD ANTI-STATIC ENHANCEMENT - Continued

<u>AMPEX P/N</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1465021-02	Prom Assy. Keyboard CPU, U5	1

V. PROCEDURE

1. Remove the back panel on the keyboard.
2. Remove the keyboard CPU PWA and remove U5.
3. Install Prom U5, Part Number 1465021-02.
4. Assemble the PWA and back panel in the reverse order of which removed.

AMPEX

Amplex Corporation
Redwood City, California

LIST OF MATERIALS

F.E.B. 61016 - BK-8506-04

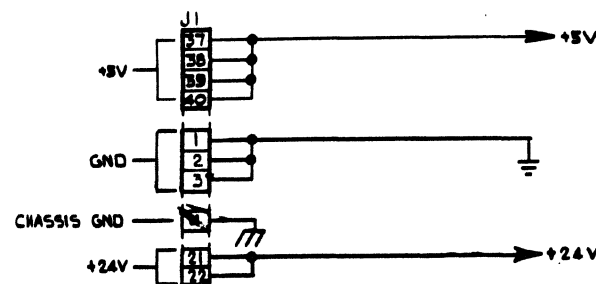
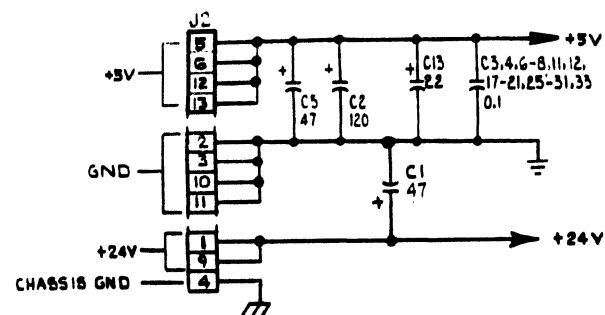
PRINTED WIRING ASSEMBLY
KEYBOARD C.P.U.

LIST OF MATERIALS NO.
1420184

Revision AC

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER										
				-1	-12	-13	-14	-15	-06	-07	-08	-09	-10	
1	1420185	PRINTED WIRING BOARD		-0	-10	-11	-12	-12	-05	-06	-07	-08	-09	+09
2														
3	1420106	SCHEMATIC		\$	T	U	V	W	J	K	L	P	S	
4														
5	1465021-01	PROM ASSEMBLY, KEYBOARD CPU	U5		1	1	1	-						
6	1465021-02	PROM ASSEMBLY, KEYBOARD CPU	U5					1						
7														
8														
9	064-314	CAPACITOR, CERAMIC, MONO., 1 uF, 50V, ±20%	C9,14,24	-	-	-	-	-	3	3	-	-	-	-
10	064-314	CAPACITOR, CERAMIC, MONO, 1uF, 50V, ±20%	C9,14,24,32	4	4	4	4	4	-	4	4	4	4	4
11	064-652	CAPACITOR, CERAMIC, TUBULAR, .01 uF, 50V, ±20%	C3-8,11-13,17-21,23,25-31,25-31,33	-	-	-	-	-	23	23	-	-	-	-
12	064-319	CAPACITOR, CERAMIC, MONO, 4.7uF, 50V, ±20%	C34	-	-	-	-	-	1	1	1	-	-	-
13	064-653	CAPACITOR, CER., TUBULAR, 0.1uF, 50V, ±20%	C3,4,6-8,11,12,17-21,23,25-31,33,36-38	24	24	24	24	24	-	21	21	24		
14														
15														
16	034-222	CAPACITOR, MICA, 100pF, 500V, ±1%	C22	1	1	1	1	1	1	1	1	1	1	1
17	034-919	CAPACITOR, MICA, 270pF, 500V, ±1%	C15,16	2	2	2	2	2	2	2	2	2	2	2
18														
19	055-166	CAPACITOR, MYLAR, .001uF, 50V, ±5%	C35	1	1	1	1	1	-	1	1	1	1	1
20														
21	055-638	CAPACITOR, POLY, .01uF, 100V, ±1%	C32	-	-	-	-	-	1	1	-	-	-	-
22	037-892	CAPACITOR, TANT, 47uF, 20V, ±20%	C5	1	1	1	1	1	-	1	1	1	1	1
23	037-954	CAPACITOR, TANT, 22uF, 15V, ±20%	C13	1	1	1	1	1	-	1	1	1	1	1
24	037-933	CAPACITOR, TANT., 10 uF, 35V, ± 20%	C10	1	1	1	1	1	1	1	1	1	1	1
25	037-965	CAPACITOR, TANT., 120uF, 10V, ±20%	C2	1	1	1	1	1	1	1	1	1	1	1
26	037-940	CAPACITOR, TANT, 47. uF, 35V, ±20%	C1	1	1	1	1	1	1	1	1	1	1	1
27	037-962	CAPACITOR, TANT, 4.7uF, 10V, ±20%	C34	1	1	1	1	1	-	1	1	1	1	1
28	140-716	CONNECTOR, SIGNAL CIRCUIT, PLUG, 15 PINS	J2	1	1	1	1	1	1	1	1	1	1	1
29														
30	017-232	CRYSTAL UNIT, QUARTZ 4.9152 MHZ	Y1	1	1	1	1	1	1	1	1	1	1	1
31														
32	013-599	DIODE, SWITCHING, CD45B	CR1	1	1	1	1	1	1	1	1	1	1	1
33														
34	135-104	HEADER ASSY, RT ANGLE, 10 POSTS	J3	1	1	1	1	1	1	1	1	1	1	1
35	135-165	HEADER ASSY, 40 POSTS	J1	1	1	1	1	1	1	1	1	1	1	1
36														

LM-1420184



I.C. LIST										
REF. DESIGNATION	U16	U17	U17	U18	U19, U20, U21	U22	U23, U24, U25	U26	U27	U28
AMPEX P/N	590-332	589-814	589-818	589-820	589-823	590-335	590-320	590-384	590-247	1465021
VENDOR P/N	74LS02	74LS04	74LS08	74LS74	74LS138	74LS163	74LS123	74LS244	74LS245	74LS251, 12
VOLTAGE PINS	14 (+5)	14 (+5)	14 (+5)	14 (+5)	16 (+5)	16 (+5)	16 (+5)	20 (+5)	20 (+5)	24 (+5)
GROUND PINS	7	7	7	7	8	8	8	10	10	12

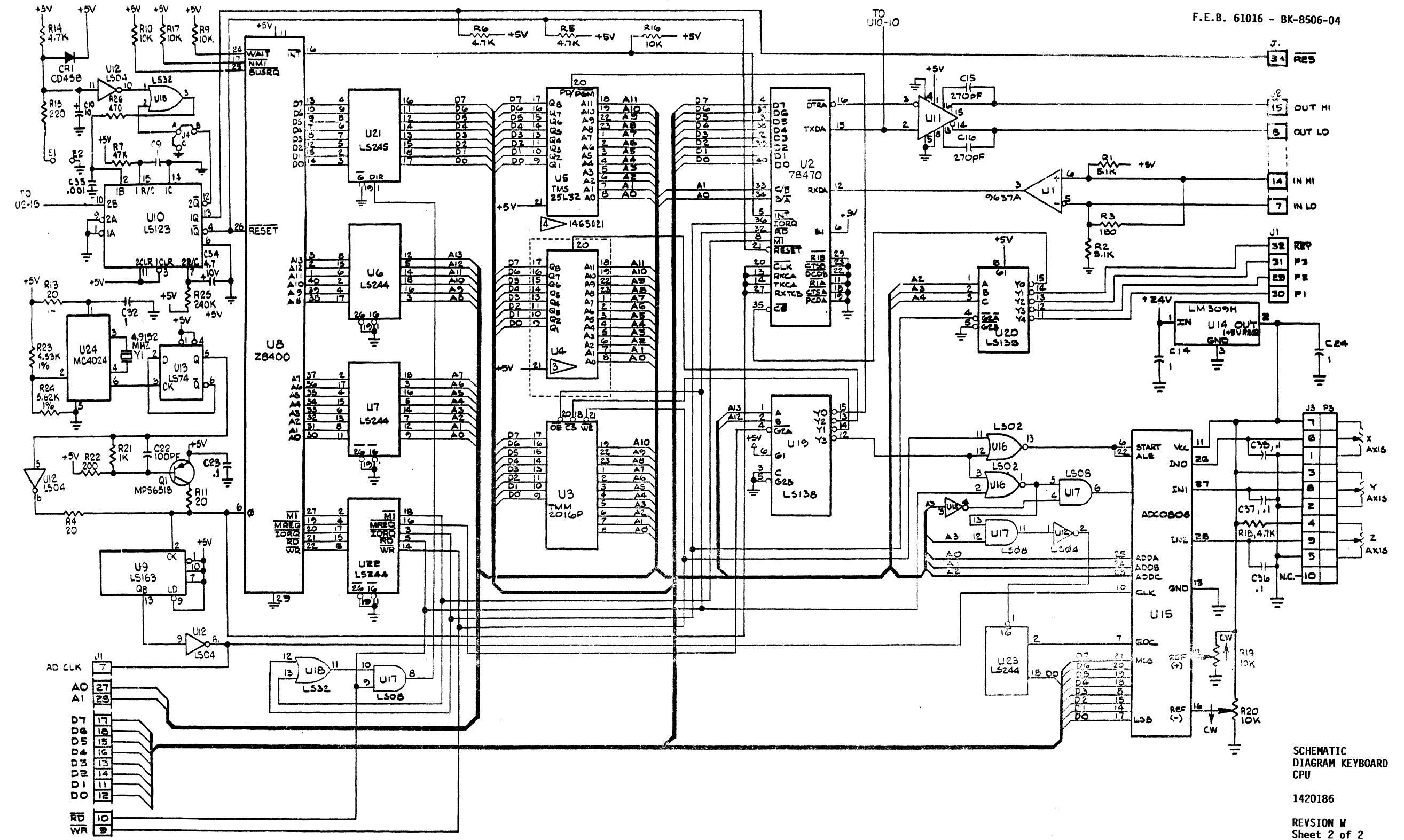
I.C. LIST										
REF. DESIGNATION	U11	U1	U15 A	U15 B	U3 A	U2 A	U24	U14	U18	
AMPEX P/N	590-194	590-193	000-003	589-619	590-983	000-012	586-807	587-070	590-328	
VENDOR P/N	3692	9637A	ADC0808	Z8400	TMM2016P	Z8470	4024	LM309H	74LS32	
VOLTAGE PINS	1 (+5)	1 (+5)	11 (+5REG)	11	24 (+5)	9 (+5)	14 (+5)	1 (+24)	14 (+5)	
GROUND PINS	5	4	13	29	12	31	7	3	7	

NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SHOWN FOR REFERENCE ONLY. BOARD WILL ACCOMMODATE A 25L32 PROGRAMMABLE I.C.; NOT REQUIRED FOR CURRENT APPLICATION.
4. STATIC SENSITIVE, SPECIAL HANDLING REQD PER AMPEX STD HEI-1.

REFERENCE DESIGNATION	
LAST USED	NOT USED
C38	
CRI	
E2	
J4	
Q1	
R26	R8
U24	U4
Y1	

SCHEMATIC
DIAGRAM KEYBOARD CPU
1420186
REVISION W
Sheet 1 of 2



SCHEMATIC
DIAGRAM KEYBOARD
CPU

1420186

REVISION W
Sheet 2 of 2

AMPEX