

REV	REVISIONS DESCRIPTION	DATE	APPROVED
1A	ENG REL PER ERC E0452B	4/30/84	JF
2A	REV. SFT'S SEE E0496	5/2/84	JCA
3A	REV PER ERC E0505	6/18/84	SR

ENGINEERING RELEASED

CA025488	7800 KEYBOARDS	DRAWN BY <i>K. Morrison</i>	DATE 4/30/84	 ATARI® <small>Ⓜ A Warner Communications Company</small>	Atari San Jose, CA			
NEXT ASSY	USED ON	CHECKED <i>JF</i>	ENGINEER <i>JF</i>	TITLE Keyboard Assy. 7800 Mitsumi				
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				APPROVED	APPROVED	SIZE A	DRAWING NO. C025485-001	REV 3A
				SCALE	SHEET 1 OF 8			

1.0 SCOPE

1.1 GENERAL

This specification covers the detail requirements for the keyboard assembly.

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issue in effect on date of latest revision shall apply.

2.1 ATARI DOCUMENTS

C099909 Qualification and Reliability Requirements for key-boards except Environmental testing shall be per paragraph 3 of this document.

3.0 REQUIREMENTS

3.1 DIMENSIONAL CONFIGURATION

Device shall conform to outline and dimension as shown in pages 7 and 8.

3.2 MARKING

The part shall be marked with date code, manufacturer's name or logo and Atari part number, C025485-001, Rev.

3.3 PACKAGING FOR SHIPMENT

- 3.3.1 All parts shipped to this specification shall be packed to prevent physical damage, corrosion and deterioration during shipment.
- 3.3.2 Outer carton to include manufacturer's part number, lot number, Atari part number and purchase order number.

3.4 INTERCONNECT REQUIREMENTS

- 3.4.1 Cable to be 24-conductor, flexible p.c. terminations, must be tin-plated and have back-up strip per Atari specification C024863-001 or engineering approved equivalent.
- 3.4.2 Cable shall mate with Atari C061793 connector.

Cable assembly must be approved in writing by Atari APC Components Engineering.

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	SCALE _____	SHEET 2 OF 8	

3.5 ELECTRICAL REQUIREMENTS

3.5.1 ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-40 to 50°C
Operating Temperature	0 to 50°C
Input Current Range (all key switches)	-10 to +10mA
Input Voltage Range (across any key switch inputs)	0 to 25V

3.5.2 Withstand voltage: After A.C. 250V is applied between the terminals for one minute, there shall be no change or damage.

3.5.3 ELECTRICAL CHARACTERISTICS

FIGURE 1

T_{AMBIENT} = 25°C
AIRFLOW = 0 TO 10 LINEAR FT/MIN

SYMBOL	PARAMETER	LIMITS		UNITS	CONDITIONS
		MIN	MAX		
RSC	Switch Closed Resistance		500*	Ohms	Key Depressed See Note 1
RSO	Switch Open Resistance	10 ⁶		Ohms	Key Not Depressed See Note 1

NOTES:

- Key switch resistance is the resistance measured between J1 at the flexible ribbon contacts.

*Maximum allowable one time measurement; not an average.



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SIZE

DRAWING NO.

C025485-001

REV

3A

SCALE

SHEET 3

OF 8

3.6 OPERATING LIFE

Three million operations each key, minimum.

Switch Closed Resistance R_{SC} , must be 500 ohms or less over operating life.

Switch Open Resistance R_{SO} , must be 10^6 ohms or greater over operating life.

All other keys shall be capable of meeting the three million (min.) operations requirement. The DC requirements contained herein are the criteria for determining proper operation.

Contact miss not to exceed .0001% (100 per one million).

Keys must operate freely without drag, squeaking or abnormal noise under normal operating conditions.

3.7 CONTACT BOUNCE

10 ms, max., all keys, over operating life.

This is measured at the terminals of the keyboard assembly.

3.8 MECHANICAL

3.8.1 ACTUATION FORCE

3.8.1.1 STANDARD KEY

Zero Travel Force: 20 +/- 15 g
(at 0.5 mm travel)
Operating Force: 60 ± 10 g
Full Travel Force: 100 +/- 30 g
(at 0.5 mm above full travel)

3.8.1.2 SPACE KEY

Zero Travel Force: 25 +/- 15 g
(at 0.5 mm travel)
Operating Force: 85 ± 25 g
Full Travel Force: 140 +/- 40 g
(at 0.5 mm above full travel)

3.8.1.3 RESET KEY

Zero Travel Force: 40 +/- 30 g
(at 0.5 mm travel)
Operating Force: 200 + 100 g
- 25 g
Full Travel Force: 350 +/- 100 g
(at 0.5 mm above full travel)



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SIZE
A

DRAWING NO.
C025485-001

REV
3A

SCALE

SHEET 4 OF 8

3.8.2 ACTUATION DISTANCE

3.8.2.1 All Keys

Full Travel: 4.2 +/- 0.5 mm --- Initial
4.5 +/- 0.5 mm --- Over Life
(at 200 g)

4.0 ENVIRONMENTAL TEST

4.1 HUMIDITY TEST

After unit is kept for 96 hours in a chamber of temperature +40/-45°C and relative humidity 90~95%, and is then left in ambient condition for one hour; electrical and mechanical specifications shall be satisfied.

4.2 LOW TEMPERATURE TEST

After unit is kept for 96 hours in a chamber of temperature -20 +/- 2°C, and then is left in ambient condition for one hour; electrical and mechanical specifications shall be satisfied.

4.3 HIGH TEMPERATURE TEST

After unit is kept for 96 hours in a chamber of temperature +70 +/- 2°C, and relative humidity 40~60% and then is left in ambient condition for one hour; electrical and mechanical specifications shall be satisfied.

5.0 APPEARANCE OF KEYCAP

5.1 Disposition of keycap: Disposition of keycap shall be within the limit of .020 inches (0.5 mm) as illustrated in Figure 2 in both vertical and horizontal lines.

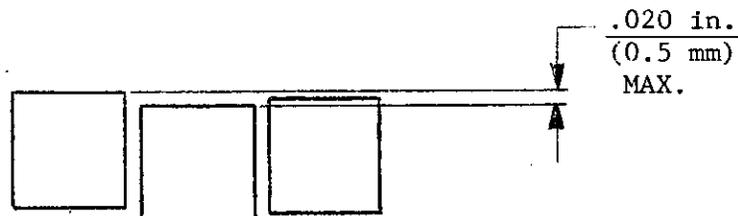


FIGURE 2

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		SCALE —————	SHEET 5 OF 8	

5.2 Tilt of keycap: Tilt of keycap shall be within the limit of .020 inches (0.5 mm) as illustrated in Figure -3.

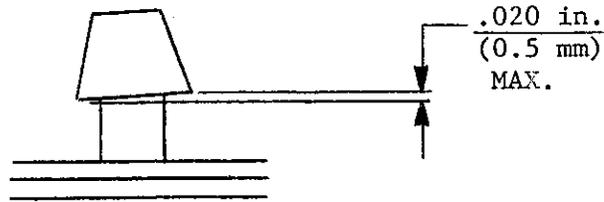


FIGURE 3

5.3 Angular deviation of keycap: Angular deviation of keycap shall be within the limit of .020 inches (0.5 mm) as illustrated in Figure -4.

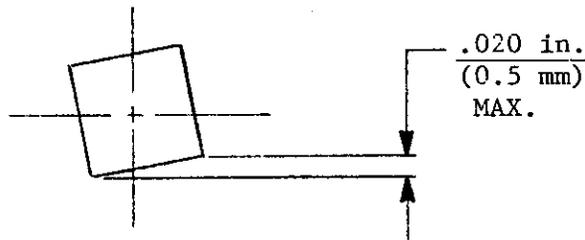


FIGURE 4

5.4 Uneven level of keycap: Uneven level of keycap shall be within the limit of .020 inches (0.5 mm) as illustrated in Figure -5. However, exclude the bend of the frame.

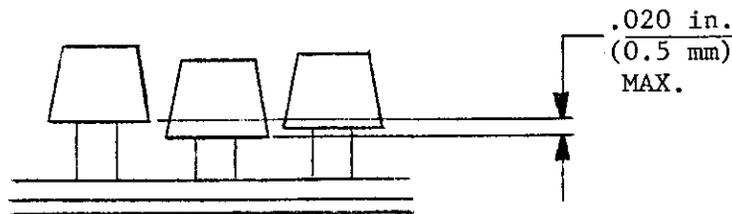


FIGURE 5



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A

DRAWING NO.

C025485-001

REV

3A

SCALE

SHEET 6 OF 8