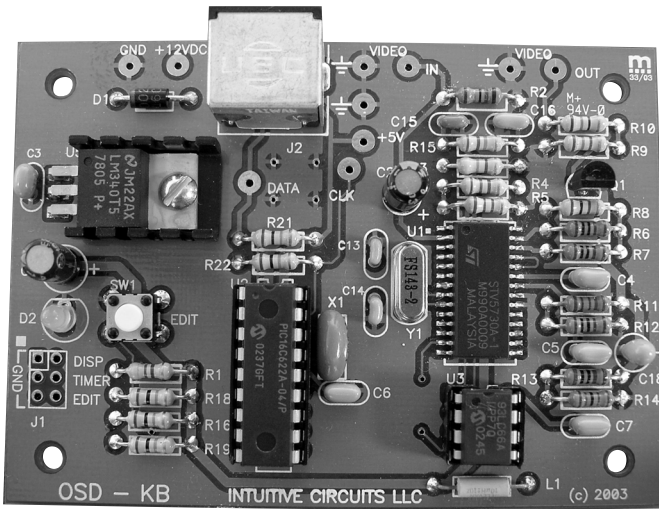


OSD-KB

On-screen display id overlay board with PS/2 keyboard interface



Description

OSD-KB is a standalone on-screen display board that overlays user defined text, entered through a standard PS/2 keyboard, onto an incoming NTSC or optional PAL video source. Every position on the 28 column by 11 row screen (308 characters total) can contain a user typed character. All information is stored in non-volatile eeprom memory so even with loss of power OSD-KB retains all screen information. NTSC and PAL versions available.

Special keyboard functions include an overlay or self generated screen mode selection, character blink toggle, character background frame toggle, character color selection (self-gen mode only), background screen color selection (self-gen mode only), full screen clearing, and a translucent mode toggle. Translucent mode is a unique feature that allows live video to pass through the text like the major networks do with their logos.

The on-board jumpers select the text triggering method. The text triggering method defines when the text screen is displayed. The text triggering methods include an always on, only display when jumper pulled to ground, and display based on a timer (every 10 minutes on for 15 seconds.)

Specifications

Dimensions:	3 1/2" x 2 1/2" x 3/4"
Weight:	1.2 oz.
Input voltage:	8.0 to 14.0 volts DC (60 ma max. without keyboard attached)
Operating temperature:	-10 C to +70 C
Keyboard input:	PS/2 keyboard (6-pin mini din connector)
Text area:	28 columns by 11 rows (308 characters)
Text trigger methods:	3
Video levels:	1 volt peak to peak
Video impedance:	Input 75 ohm, output 75 ohm resistively terminated

Installation

The following is the list of OSD-KB circuit board pads (places to solder wires to). Please follow common electronic safety precautions when soldering.

Pad	Attach To
+12 VDC	Regulated +8 to +14 volt supply
GND	Ground from power supply
VIDEO IN and GND	Incoming video source (optional)
VIDEO OUT and GND	Outgoing video source with overlaid text
+5	External PS/2 keyboard jack +5 pin (optional)
GND	External PS/2 keyboard jack GND pin (optional)
DATA	External PS/2 keyboard jack DATA pin (optional)
CLK	External PS/2 keyboard jack clock pin (optional)

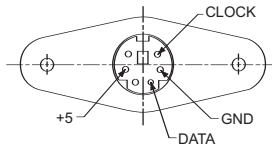


Fig 1.0 - Front view of optional Digi-Key CP-2560-ND PS/2 keyboard jack.

Board Mounting Details

Mount the OSD-KB board into a shielded enclosure to protect it from RF. For each of the four mounting holes be sure to use two 4-40 nuts or one 1/4" spacer between the OSD-KB board and chassis to prevent the bottom of the OSD-KB board from shorting to the chassis.

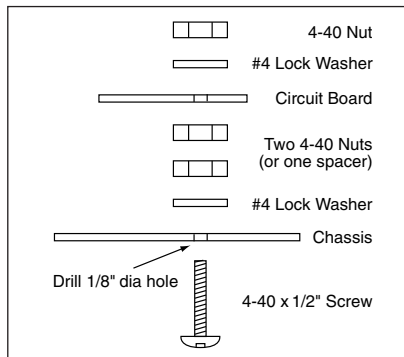


Fig 2.0

Editor Mode

All text that appears on-screen is entered via a PS/2 keyboard (not supplied.) To enter the editor mode press the EDIT button or pull the EDIT jumper to ground. The cursor will appear.

Keyboard Commands

Key Press	Action
0-9, a-z, A-Z, - : . / ' + * ? = space	Insert character at cursor position
ESC	Exit editor mode
F1	Character blink toggle
F2	Character black background frame toggle
F3	Character color cycle (blue > green > cyan > red > magenta > yellow > white) Self-generated screen mode only
F9	Screen mode toggle (overlay > self-generated) Overlay mode requires valid input video source
F10	Screen background color cycle (black > blue > green > cyan > red > magenta) Self-generated screen mode only
F11	Screen translucent characters toggle Overlay screen mode only
[CTRL] [SHIFT] F12	Clear screen
Up arrow	Move cursor up one row
Down arrow	Move cursor down one row
Left arrow	Move cursor left one column
Right arrow	Move cursor right one column
[CTRL] Up arrow	Shift screen characters up one pixel
[CTRL] Down arrow	Shift screen characters down one pixel
[CTRL] Left arrow	Shift screen characters left one pixel
[CTRL] Right arrow	Shift screen characters right one pixel
Home	Moves cursor to the top left corner of the screen
End	Moves cursor to last typed character on the current row
Insert	Insert a space at the cursor and shift the text to the right
Delete	Delete the current character by shifting the text to the right of the cursor left
Enter	Move cursor to first column on the next row
[ALT] xxx	Insert a special character (see note 1)

*Note 1: To insert a special character hold down the Alt key, type a special character decimal value, and release the Alt key.
(See character chart on page 6).*

Operation

OSD-KB's operation depends on what is jumpered on the board.

Jumper	Action
DISP	Always display text (or use in external pull to ground circuit to show / hide text)
EDIT	Enter editor mode
TIMER	Display text every 10 minutes on for 15 seconds

Note 2: Use momentary normally open buttons attached to jumpers for external use.

Trouble Shooting Tips

Problem	Solution
Green LED off (won't power up)	<ul style="list-style-type: none">• Check power supply output (8 to 14 VDC).• Check polarity of supply to OSD-KB board
Screen is unreadable	<ul style="list-style-type: none">• Check that the OSD-KB "VIDEO IN" has a valid video signal.
Keyboard hangs when Caps Lock, Num Lock, or Scroll Lock keys press	<ul style="list-style-type: none">• Try a different keyboard.

Warranty & Service

If the product fails to perform as described in our product description or specification, within 90 days from the date of shipment to the buyer, we will repair or replace the product and/or accessories originally supplied. Failure due to improper installation, misuse, abuse or accident is not covered by this warranty. Incidental and consequential damages are not covered by this warranty. The buyer must obtain a Return Material Authorization by calling (248) 524-1918, and shipping the defective product to Intuitive Circuits, 2275 Brinston, Troy, MI 48083, freight prepaid. After the warranty expires, we will promptly supply an estimate for the repair cost.

Character Chart

Below is the chart of the 128 displayable on-screen characters. Each character is 12 x 18 pixels. To determine the value of a particular character add the column number to the row number. For example the key symbol is column number 48 + row number 14 = 62.

	0	16	32	48	64	80	96	112
0	0	E	U	s	w	ò	▶	?
1	1	F	V	h	x	ô	▶	♥
2	2	G	W	i	y	ö	◀	■
3	3	H	X	J	Z	ó	■	■
4	4	I	Y	k	à	û	—	■
5	5	J	Z	l	â	ü	—	■
6	6	K	:	m	ä	ü	+	■
7	7	L	.	n	á	ú	+	■
8	8	M	/	o	é	Ä	—	=
9	9	N	'	p	è	Ö	Ä	⌘
10	-	Q	a	q	ë	Ü	à	→
11		P	b	r	ê	É	←	
12	A	Q	c	s	ì	ß	⊕	↑
13	B	R	d	t	í	ñ	Ñ	↓
14	C	S	e	u	ï	+	⊗	⌘
15	D	T	f	v	í	x	+	⊕

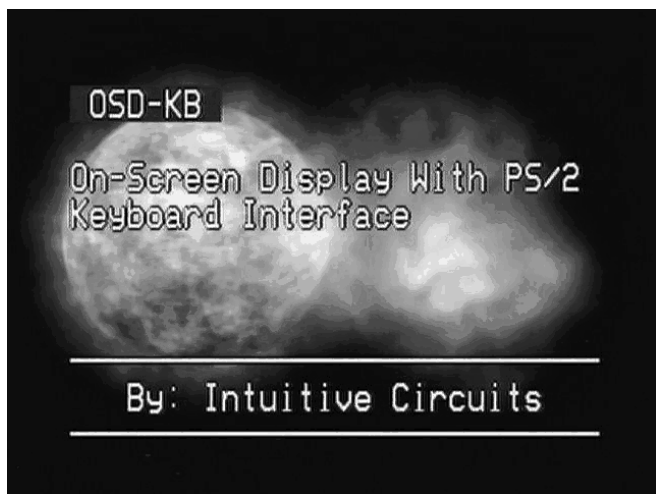


Fig 3.0 - Screen shot of OSD-KB output

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