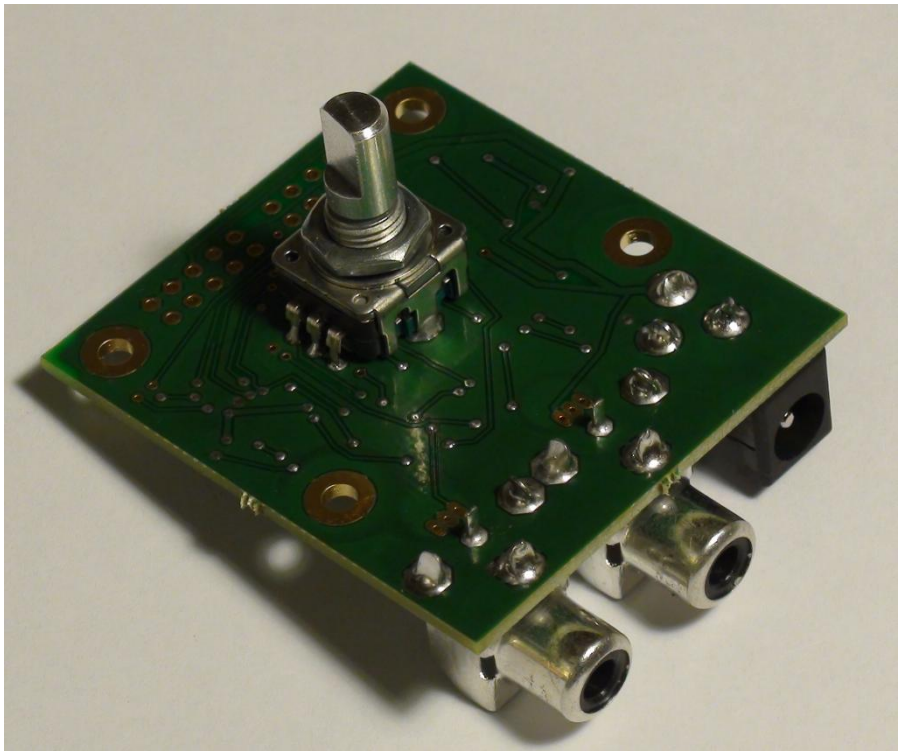
XH300AS Crosshair Generator

Users Guide

Rev 1.1

This is the user's guide for the Micrio Associates Inc. XH300AS crosshair generator. This document contains the complete product description and operating instructions.



XH300AS

1. Introduction

The XH300AS is the most versatile, easy to use, and cost effective video crosshair generator available on the market. The XH300AS crosshair generator is capable of superimposing a video cursor image on an existing video stream.

The incoming video is fed into the connector labeled “Video In”. The video input must be standard baseband NTSC or PAL format. The resulting output video is available at the connector labeled “Video Out”. The output video is in exactly the same form as the incoming video except for the superimposed video generated by the XH300AS.

The XH300AS supports three different cursor types: crosshair, double crosshair, and circle. The firmware generates a crosshair that is superimposed of the existing video stream. While adjusting the cursors the settings are displayed the bottom of the screen. When the adjustment is complete the settings are saved in non-volatile memory. The setting will be restored when power is applied.

2. Specifications.

- Video standards supported: NTSC, PAL.
- Power requirements: 8 to 15 Volts, 80 mA.
- Input/output Impedance: 75 Ohms
- Cursor types: Crosshair, double crosshair, and circle.
- Control: Rotary encoder with press switch.
- Video connectors RCA jacks.
- Power connector. 2.1 mm DIN, center pin positive.
- ROHS Lead free.

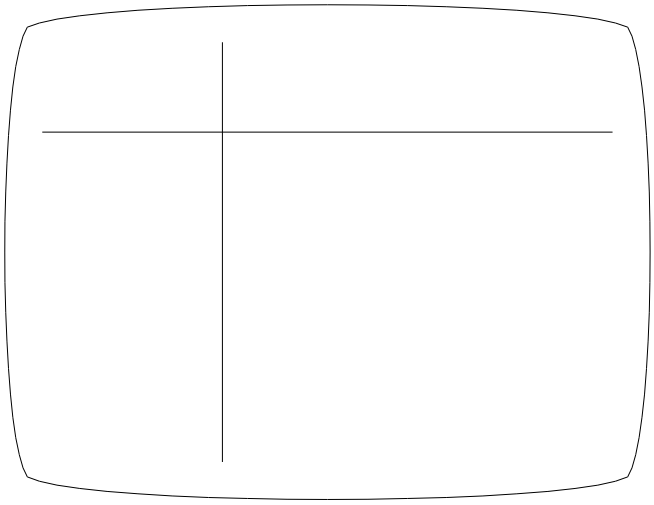
3. Configuring Cursors.

There are three different cursor types that can be selected. The cursors can be displayed as black lines or white lines.

3.1 Crosshair.

The single crosshair is composed of a single vertical line and a single horizontal line. The position of each line can be adjusted independently. During adjustment the horizontal and vertical positions will be displayed in the status line at the bottom of the screen.

The cursor adjustment mode is entered by pressing the switch. The first press will cause the horizontal cursor to flash. Rotating the knob will move the cursor up and down. When the horizontal cursor is at the desired position, press the switch again. The vertical cursor will begin to flash. Adjust the vertical cursor to the desired position. To exit the adjustment mode press the switch again, the rotary switch will become inactive and the current settings will be saved in permanent memory.

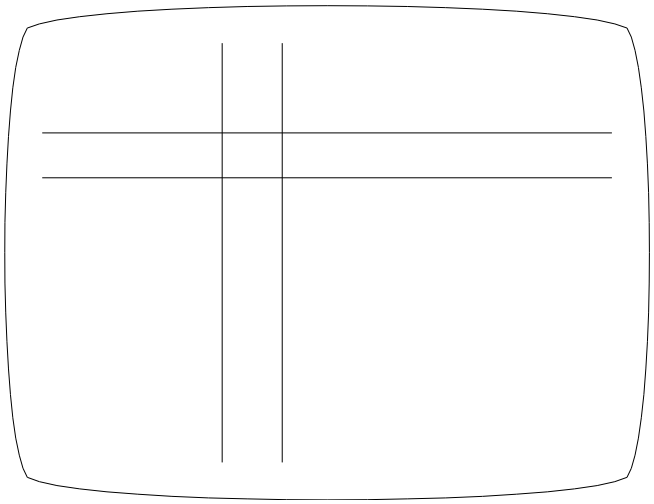


Single cursor.

3.2 Double Crosshair.

The double crosshair is composed of two vertical lines and two horizontal lines. The position of each line can be adjusted independently. During adjustment the horizontal and vertical positions will be displayed in the status line at the bottom of the screen.

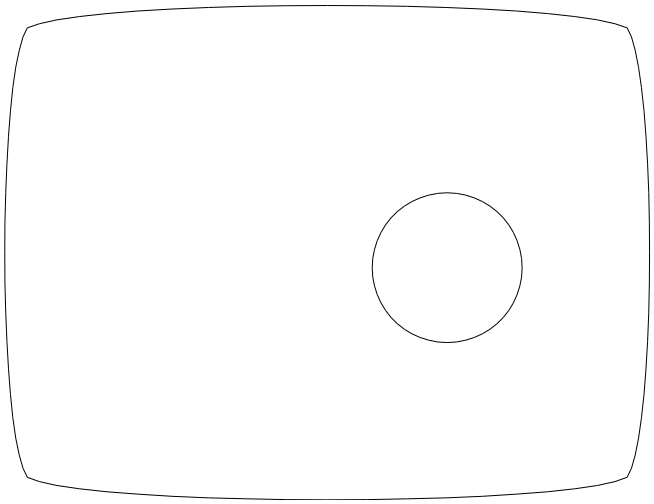
The cursor adjustment mode is entered by pressing the switch. The first horizontal cursor will begin to flash. Rotating the knob will move the cursor back and forth. When the first horizontal cursor is at the desired position, press the switch again. The second horizontal cursor will begin to flash and can be adjusted. With another press the first vertical cursor will begin to flash. Adjust the first vertical cursor to the desired position. Press again and the second vertical will flash and can be adjusted. To exit the adjust mode press the switch again, the rotary switch will become inactive and the current settings will be saved in permanent memory.



Double cursor.

3.3 Circle cursor.

The circle cursor is a single circle that can be moved horizontally and vertically as well as have the diameter changed. The cursor adjustment mode is entered by pressing the switch. The first press allows the circle can be moved vertically. Rotating the knob will move the circle up and down. When the circle is at the desired position, press the switch again. Now the horizontal position can be adjusted. Press the switch again and the diameter of the circle can be adjusted. To exit the adjust mode press the switch again, the rotary switch will become inactive and the current settings will be saved in permanent memory.



Circle cursor.

3.4 Selecting Cursor Type and Color.

The type of cursor and the color can be changed. Press and hold the switch for about 15 seconds and the XH300AS will begin to cycle through each of the possible cursor types and color. This cycle process will pause for about 3 seconds at each selection. As the mode cycles the selection will be listed in the status line at the bottom of the screen and the cursor will be changed

to the selection. When the desired cursor appears release the switch and the choice will be saved in permanent memory.

The selection will cycle through the following choices;

- Single crosshair cursor, black.
- Single crosshair cursor, white.
- Double crosshair cursor, black.
- Double crosshair cursor, white.
- Circle cursor, black.
- Circle cursor, white.

The cycling will continue until the switch is released.

4. Mounting.

There are two ways to mount the XS300AS; by the 4 mounting holes or by the threaded bushing. You should not use both at the same time because it would put stress on the switch and other components.

4.1 Mounting holes.

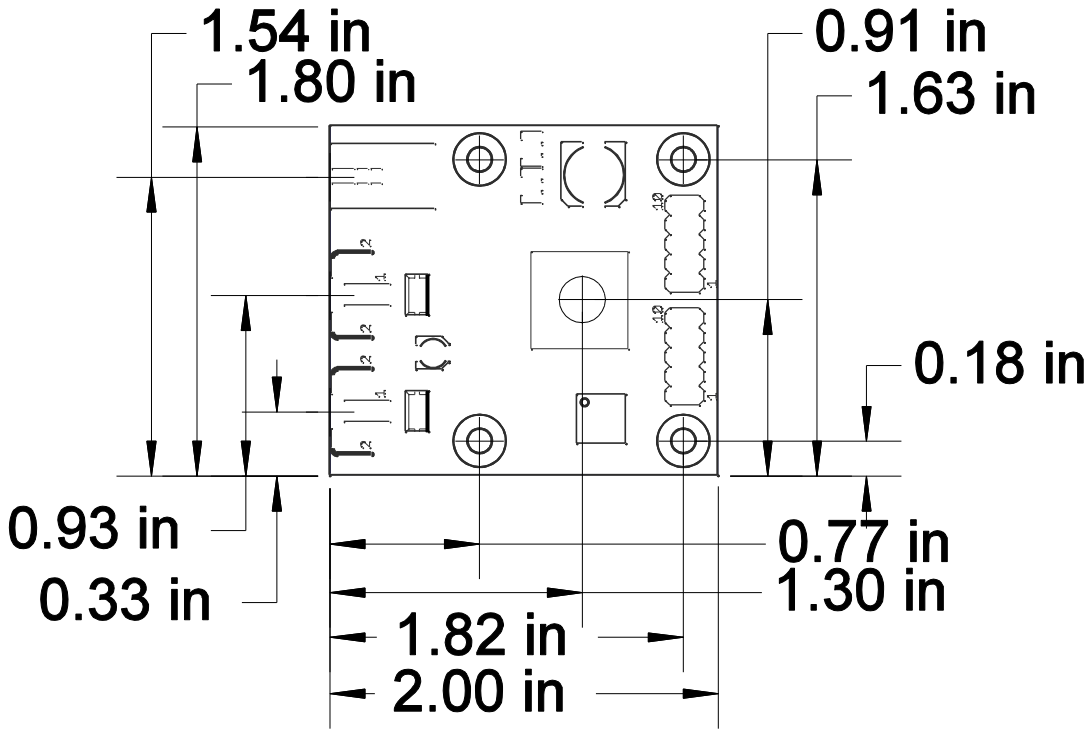
There are 4 mounting holes that can take either 3 mm metric screws or 4/40 American standard screws. This is the preferred mounting method. It results in the greatest strength for the video and power connectors. This also results in better cooling for the components.

4.2 Switch bushing.

The switch has a 7 X .75 mm metric threaded bushing. Hardware is included that can be used to mount the XH300AS using the bushing. This should only be used if the video and power connectors are normally left in place.

5. Mechanical drawings.

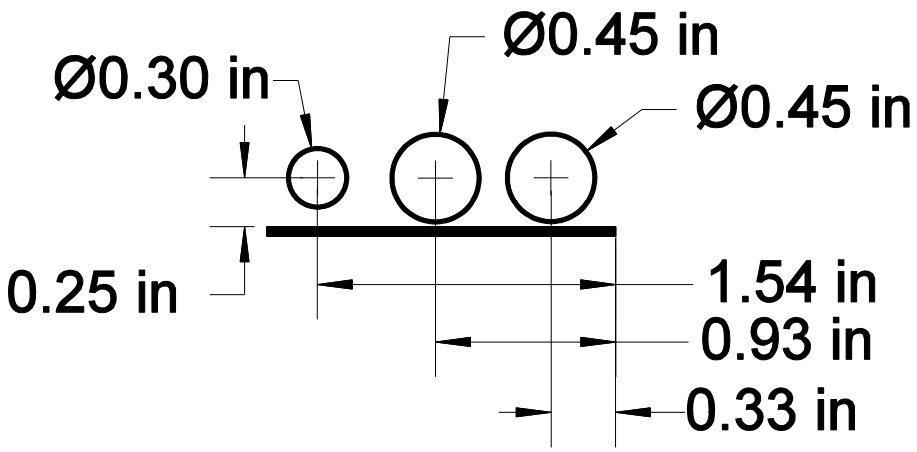
5.3 Top view.



Board view, component side.

All measurements are from the corner of the board. All components except for the encoder switch are on the top of the board. All mounting holes are connected to the ground plane. The two DIP connectors are not used and should be left not connected.

5.4 Side view.



Board view, from video connector edge.

This shows the recommended chassis punch out holes necessary to expose the connectors. The encoder switch (not shown) is facing downward in this view.

6. Customization.

The XH300AS has been designed with versatility in mind. The crosshair and text are all generated in firmware. This allows a wide range of customizations for particular needs. Contact www.micrio.com for any special needs.