

CODI Sketchpad

Guide to Operations

Chyron Graphics

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Introduction:

This document will describe the Chyron Codi Sketchpad, a device that allows lines to be drawn on a video monitor. A CODI Sketchpad consists of a Chyron CODI with CODI Sketchpad firmware.

A Sony PVM 2030 (or equivalent) monitor with a MicroTouch ClearTek 1000 Touch Screen or a Wacom SD410 or SD510 digitizing table. Future versions of the CODI Sketchpad will support an Elographics Accutouch Touch Screen. All CODI Sketchpad operations, including setup, operation, and common problems will be detailed in this document.

Setup:

The CODI Sketchpad is a simple device. As such, the system setup is very easy. Before using the CODI Sketchpad, there are a number of connections that must be made. In order, they are:

1. Connect the input video to the CODI. CODI can accept Composite Video or S - Video. Decide which source you are using, and connect it to the CODI.
2. Connect the CODI output to the display monitor. Once again, the CODI provides composite video and S - Video output. If the CODI Sketchpad input device is a touch screen, the touch screen monitor MUST be the display monitor.
3. Connect the cable from the CODI serial port to the input device. Depending on the input device, this will be different.
 - 3.1 MicroTouch Touch Screen:
If the input device is a MicroTouch touch screen, the connector on the rear of the Sony monitor is used. Make sure that you use the MicroTouch connector and not the computer connector. The proper cable to use is an iNFiT! logo composite cable. This cable has the proper connectors (25 pin female - 9 pin male) and the proper wiring connections.
 - 3.2 Wacom Tablet:
If the input device is a Wacom tablet, you will need the Chyron cable that comes with the tablet.
4. Turn on the input device. Make sure the CODI DIP switches are set properly (see switch settings section later in document) then power on the CODI.

At this point (the CODI is powered on), the monitor should clear, and the video input to the CODI should be displayed on the Sony monitor. Any touches on the monitor screen, or lines drawn with the pen should be displayed as lines drawn on the monitor. The CODI Sketchpad is now operational, and you can now use the CODI Sketchpad to draw on the monitor.

Normal Operations:

The CODI Sketchpad device is very simple, usually, lines will be drawn on the screen using either a finger on a touch screen, or a pen on a tablet.

The spot or line drawn will be in the current color, size, and edge. Note that if any line information (color, size, etc.) is changed, it will be saved in memory, so that when the power is turned off, the changes are preserved, and will be reused when the CODI is powered on.

Special Operations:

Certain operations of the CODI Sketchpad are considered special operations. These operations are:

1. Changing the color of the lines on the screen
2. Changing the size of the drawing line
3. Changing the type of edge used
4. Adjusting the video timing parameters.
5. Performing a system reset

If the input device is a Touch Screen, there are addition operations that can be performed. They are:

6. Performing a screen calibration
7. Adjusting the touch screen sensitivity

All CODI Sketchpad special operations are controlled through a menu system. By touching the appropriate area of the screen, the menu items are selected. Note that the current screen is saved when the menu is displayed, and redisplayed when the menu is exited.

Menu Activation:

Touch Screen:

Since the CODI Sketchpad normally displays a spot wherever the screen is touched, a special sequence of touches is used to display the main menu. To display the menu, each corner of the screen must be touched. The order of the corner touches is: lower left, upper left, upper right, lower right. If a touch occurs outside of the corner, the menu display will not occur, and a line will be drawn at the current location. If the four corners were touched correctly, the screen will clear, and the main menu will be displayed.

Wacom Tablet:

The Wacom Tablet version of CODI Sketchpad must use the pen equipped with a side switch and a tip switch. To display the main menu, press the side switch. To draw, depress the tip switch on the tablet. Note that the cursor will be displayed when the pen is on the tablet. As soon as the pen is removed from the tablet, the cursor is erased.

Main Menu:

The main menu will be displayed before any menu operations can be performed. It will look like this:

MAIN MENU

- X Color
- X Line Size
- X Edge
- X Calibration (if touch screen)
- X Video timing
- X Sensitivity (if MicroTouch)
- X Reset

Exit

Instead of an 'X', a box will be displayed. Touching the box will activate the next menu. Once again, note that the screen displayed before the menu was accessed will be restored when the menu is removed. This allows you to have more than one kind of edge, and more than one line size on the screen.

Color:

When the color selection is pressed or activated, a new menu will be displayed. It will look like this:

Color Selection

X 1	X 5
X 2	X 6
X 3	X 7
X 4	X 8

Exit

The color in the box will be the color of the line used. Note that the current selection is displayed in a highlighted box, while the other items are displayed in dim boxes. When a box is touched, that color will become the current color, and the system will return to the main menu. The box around the color that was selected will become highlighted, and the system will return to the main menu.

Note that only one color can be displayed at a time. If lines were drawn in color 1, and then color 2 was selected, the lines on the screen would change to color 1.

Line Size:

This menu will appear in a similar fashion as the color menu. The size of the line in the box will be the size of the line to be drawn.

You can have more than one line size on the screen. If there were lines drawn in size 3, and size 6 was selected, the existing lines would not change.

Edge:

The edge menu will allow the user to choose from 3 choices, no edge, offset edge, or border edge. The color of the edge is always black. For an offset edge, the direction of the offset is to the lower right, and the amount of offset is 1/2 size of the line. For a border, the size is twice the line size, with a maximum size of 20 pixels.

Calibration: (only applicable with Touch Screen)

Calibration Menu

- X Default
- X Calibrate
- X MicroCal

Exit

The calibration refers to the relationship between the location of the screen touch, and the location of the drawn spot. Depending on the video timing conditions, a touch on one area of the screen may result in a spot being displayed in another area of the screen. If this situation occurs, a calibration should be performed. Note that you do not have to perform a calibration each time the CODI is powered on. The last calibration is saved in permanent memory. You can also restore the calibration to the factory default setting.

When the calibration selection is pressed, the calibration menu will be displayed. There are 3 choices, you can reset the calibration to the default setting, you can perform a screen calibration, or you can perform a MicroTouch Calibration.

To perform a screen calibration, you first touch the lower left corner of the monitor, followed by the upper right corner. Finally, a square will be displayed in the center of the screen. After the square is touched you can test the calibration accuracy. Four squares will be displayed, and this screen area can be used to test the calibration. If the calibration is acceptable, then press the save box. Otherwise, pressing the exit / ABORT area will discard that calibration, and will return to the calibration menu.

You may have to modify the areas touched during the calibration in order to achieve an accurate calibration. For example, if you notice that the spot appears to the right of the touched location, you should touch the center spot slightly to the right of where the box is displayed.

The MicroTouch Calibration should only be done if you change the touch screen monitor that the CODI is connected to. It is extremely important that an accurate MicroTouch Calibration be done. If the MicroTouch Calibration is not accurate, you will not be able to accurately calibrate the CODI and the monitor. The MicroTouch Calibration should not be done unless there is a problem calibrating the monitor. If you select a MicroTouch Calibration, you will be given the chance to abort your selection before starting the calibration. Make sure that this you make the correct decision. You should only have to perform a MicroTouch Calibration once. If you choose to perform a calibration, once again, you touch the lower left corner, followed by the upper right corner. There is no need to touch the center of the screen when doing a MicroTouch Calibration. After a MicroTouch Calibration has been performed the menu system will return to the Calibration menu.

Video Timing:

In this menu, you can change the video timing settings of the CODI Sketchpad. There are adjustments for horizontal delay, key delay, and subcarrier phase. Touching the left side of the screen will decrease the timing value, while touching the right side will increase the timing value. Note that any changes are saved in the CODI sketchpad memory, and will not have to be made each time the unit is powered on.

Sensitivity: (Only applicable to MicroTouch screen)

This selection will allow you to adjust the sensitivity of the screen. It is recommended that you use the least sensitive setting possible. Using too highly sensitive a setting may result in false touches being registered by the CODI Sketchpad. The sensitivity may change when the humidity changes. If you find that it is difficult to register a touch, try increasing the sensitivity of the screen.

Reset:

Selecting a reset will cause the color to be set to color 1, the line size to 3, no edge, and a default calibration.

CODI Sketchpad DIP switch:

The CODI contains 8 switches on the rear of the unit. The most important switch is the switch that places the CODI in Sketchpad mode. Another set of switches determines the input device, while the last switch used is the RESET switch. It is possible that a calibration may be selected that is so far out of calibration that the main menu may not be accessible. If this happens, a RESET must be performed, so that a default calibration is done. To perform a RESET, the CODI must be powered off, the RESET switch moved to the ON position, and the CODI powered on. Before any other operations are performed, the RESET switch must be moved to the DOWN position. Note that a reset will also restore the sensitivity to least sensitive, the color to color 1, size 3, and no edge.

CODI Sketchpad DIP switch: (when looking at rear of unit)

```
1 2 3 4 5 6 7 8
+-----+ Up (ON)
| | | | | | | |
+-----+Down (OFF)
| | | | | | | | +--> Must be ON for Sketchpad
| | | | +---+-----> Input Device
| | | |           D D D MicroTouch
| | | |           U D D Wacom Tablet
| | | |           D U D Elographics screen
| +---+---+---+---+-----> Not Used
+-----+-----> Reset / Version display
```

Notes:

It is possible that the CODI Sketchpad may not power on properly the first time it is used as a Sketchpad. If that happens, perform a RESET by placing the RESET dip switch in the UP position, and then powering on the CODI. After the CODI powers on and displays the reset message, place the dip switch back to the down position.

If the input device is a MicroTouch Touch screen, the very first time the CODI Sketchpad is used, the monitor must be powered on BEFORE the CODI. The CODI will send the monitor some configuration commands that the monitor must receive. The commands will be stored in memory in the monitor.