Constellation

Desktop Diagnostic Tool Kit
Part Nº - 3MIX-CDDTK
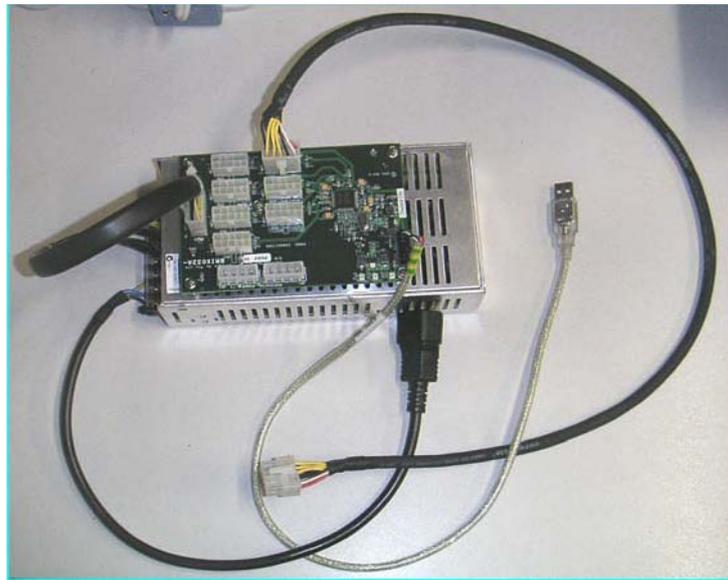
We have put together an external kit that gives you the possibility of removing panels from DREAM surfaces so that they may now be placed on an easily accessible work surface.

Operations such as calibration and diagnostics can now be directly performed from any PC, even a laptop.

The kit includes the following

- An external Power supply

- A PDB2 – BMIX032A, USB hub for Dream

- Cables.

A panel may be removed, attached to the hub ... which is then simply attached to any PC using a standard USB cable.

The software allows you to electrically calibrate encoders and to also boot a Fader panel with no servo card in place, and hence allows you trim all pots AND run the FMC application.

Required Tools:

- # 2 Pozi driver (panel removal – Station/Sidecar)
- 4mm allen key (panel removal – Constellation)

- Large flat screwdriver (panel removal – 2009 Constellation)

- Working PC with DreamII and suitable USB interface installed

Calibration:

To trim up a pot using the software tool :-

- Launch DreamII/Xynergi. Ensure both Dream and FMC applications have launched completely

- Using the mouse, click anywhere on the FMC interface

- Press CTRL + SHIFT + C to invoke Calibration Mode.

The following box will appear.
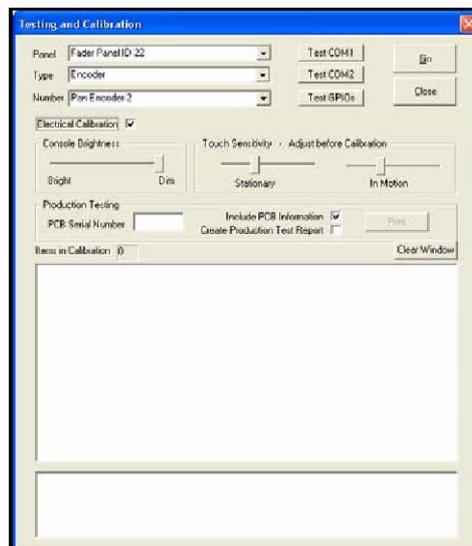
- Select the panel in question

- Select encoders

- Select ONE encoder

The "Electrical Calibration" Box becomes active. Tick the box With "Electrical Calibration"

- Hit "GO"

You will now get a popup like this...
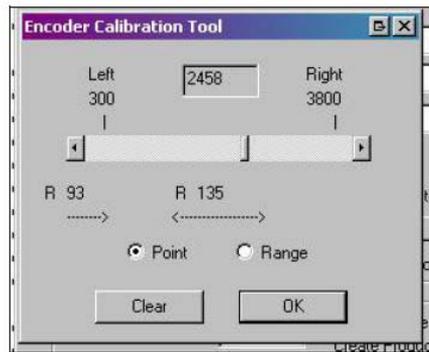
Moving the encoder around moves the slider to the left and right. The aim of this game is to get the end stops of the encoder to match with the 300 and 3800 line on the slider. You do this by trimming the tiny pots on the pcb. Note the "R" numbers under the slider.

In this case you would move the encoder all the way right - so that the slider goes all the way to the top – nearest 3800, then trim R135 until the slider is at 3800 (or there about). Then you move the encoder all the way left – so that the slider goes towards the 300 line. Then trim R93 until the slider is at 300 (or there about)

Then you do it all again – it will take several iterations before both 3800 and 300 are met at either end of the encoder.

If you click the "Range" button the slider remembers where the encoder has been. Turning the encoder all the way left and then all the way right should look like this...
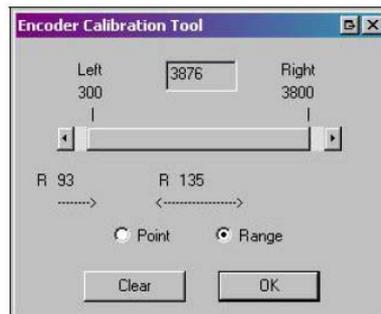
If you trim a pot you must hit "clear" to make the slider forget the previous value.

Notice in the window above the value reads 3876, but the slider looks like it's on the 3800 line. This is ok – so you don't need to be too accurate.

- Hit <OK>

- Turn off the "Electrical Calibration" box ...

Attention: NEVER close the calibration window with the electrical Calib box ticked. If you think you might have, go back and manually tick and untick the box.

Once finished with the electrical calibration, it is required to perform a standard software calibration. The Encoder should now pass OK.

DREAM Software Calibration.

To calibrate your pots, faders, and touch sensors;

- Launch DreamII/Xynergi

- Ensure both Dream and FMC applications have launched completely

- Using the mouse, click anywhere on the FMC interface

- Press CTRL + SHIFT + C to invoke Calibration Mode.

This will bring up the calibration window.
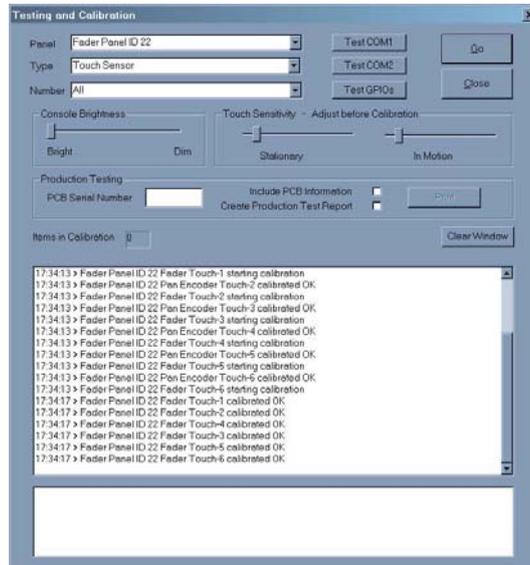
DREAM Calibration is a highly automated procedure that allows the DREAM system to compensate for physical changes caused by vibration in transit and for changes in touch sensitivity caused by location specific atmospheric conditions.

For your information, the actual calibration files can be found in the following directory on the Dream surface PC: *C:\Program Files\Fairlight\FMC\Data*
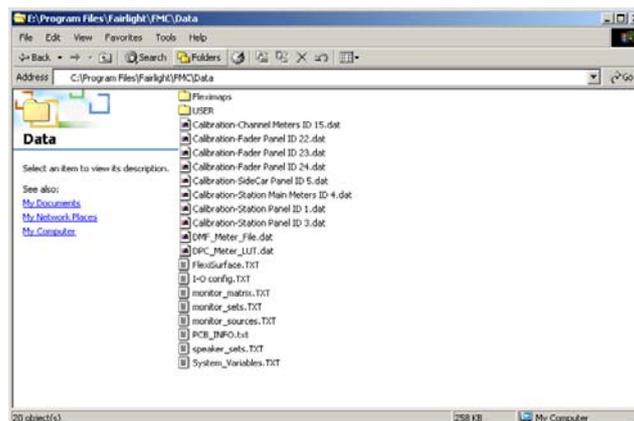
Run the calibration routine for each control type as instructed below:

- Select one panel at a time from the Panel list

- Select control types appropriate for the panel, one at a time from the Type list

- Select All from the Number list

- click Go

The calibration progress is indicated by the Items in Calibration count.

Follow the instructions for each control type as described below. Continue this process for each panel.

If only one or two controls fail calibration, you may select those specific controls from the Number list and adjust the touch sensitivity for those controls before running the calibration again.

Console Brightness

The overall brightness of key illumination is adjustable in four steps. Use the trackball to move the brightness control between Bright and Dim. Adjust the console brightness to compensate for the ambient lighting level in your studio.

Touch Sensitivity

The touch sensitivity controls provide offsets for the touch sense thresholds for the knobs and faders on the Console control surface. Leave these controls in their default positions until you have calibrated the touch sensors. The touch sensitivity controls are only required to be adjusted if, after running the calibration, the system reports that the Stationary or In Motion thresholds are too low or too high. If this occurs for a large number of touch sensors, adjust the appropriate control and run the calibration again.

The touch sensitivity controls can be specific to the particular controls that are selected in the Panel and Number drop-down lists.

Again ... If only one or two controls fail calibration, you may select those specific controls from the Number list and adjust the touch sensitivity for those controls before running the calibration again.

If you notice the touch illumination of some controls lighting when they are not being touched, it may be necessary to run the calibration routine again.
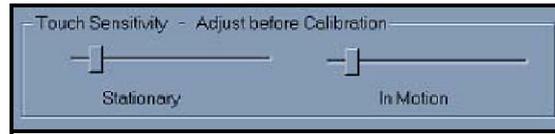
| Left = "more" sensitive | Right = "less" sensitive. |

The touch calibration utility will remember any "Stationary" and "In Motion" touch level offsets. This means that the touch offset sliders will jump to the stored position of any one motorised pot that is selected. A touch calibrate of multiple pots ("ALL") will overwrite any stored levels with the offset levels currently displayed. This should make individual tweaking of touch sensors a little easier.

Encoder Calibration

Rotary encoders must be calibrated to compensate for physical changes during transit.

All rotary encoders are automatically calibrated without intervention.

- Select Encoder from the Type list

- Select All from the Number list

- Click Go

Check the calibration report window messages to make sure the encoders are calibrated successfully.

Fader Calibration

All faders are automatically calibrated without intervention.

- Select Fader from the Type list

- Select All from the Number list

- Click Go.

Check the calibration window messages to make sure the faders are calibrated successfully.

LCD Calibration

LCD contrast and backlight levels can be adjusted.

- Select LCD from the Type list

- Select All from the Number list

- Click Go and the LCD calibration window will be displayed.
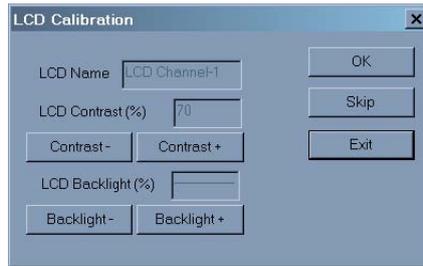
Click the Contrast +/- buttons to change the contrast. LCDs on fader panels and meter panels are not individually controllable. A bar is shown in the Backlight value box for LCDs whose backlight is not controlled directly. Click the OK button to move on to the next LCD, when a value is displayed it may be changed to control all the LCDs in the group.

Click the Backlight +/- buttons to change the backlight level. When All Panels and All LCDs are selected for a fader panel, the pan encoder can be used to adjust the Backlight and Contrast. The following window will be displayed allowing you to select which value to control.
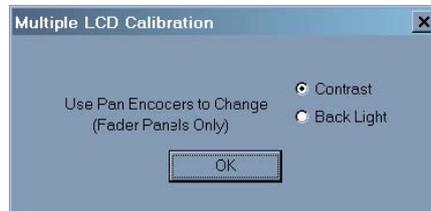
Click OK to save the values for the current LCD and move on to the next LCD. Click Skip to skip the current LCD and move on to the next one.

- Click Exit to complete LCD calibration

Joystick Calibration

- Select Joystick from the Type list. The Joystick dialogue box will be displayed
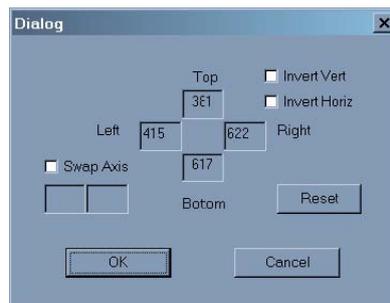
Click Reset to clear the previous values. Move the joystick through its entire travel, left to right and top to bottom. The two fields on the left display the current X and Y values for the joystick.

Check that the joystick displays the lowest values for X and Y when it is positioned in the bottom left corner. Check boxes are available to correct axis reversal or inversion, depending on how the joystick was mounted. When the minimum and maximum values are displayed in the Left/Right/Top/Bottom fields, the calibration process is complete.

- Click OK

Interpreting Encoder error messages

Below ... you will find a list of all Encoder error messages, their meaning, and possible suggestion for solving the error.

- FAILED no zero point
(Whilst seeking right end point)

The electrical offset of the encoder is too large – either the electrical calibration is off, or the encoder is sticking before reaching the right end stop

- FAILED no end point
(Whilst seeking left end point)

The electrical range of the encoder is too small – either the electrical calibration is off, or the encoder is sticking before reaching the left end stop

- FAILED: centre point too close to left
(Whilst seeking the centre point)

The electrical range or the offset of the encoder is incorrect – either the electrical calibration is off, or the encoder is sticking before reaching the centre

- FAILED: could not equalise steps
(Whilst seeking back and forth)

The encoder can not make all its steps match – there may be too little difference from end to end to fit the steps in (wrong range or offset in electrical calibration) or the encoder is sticking.

- FAILED: left end stop value too high
(Whilst locating the left end stop)

The electrical range or the offset of the encoder is incorrect – either the electrical calibration is off, or the encoder is sticking before reaching end stop

- FAILED: not enough steps
(Whilst travelling towards right end stop)

The encoder can not fit all its steps into the range given – (wrong range or offset in electrical calibration) or the encoder is sticking.

**- FAILED doesn't have 70 steps
(During final sweep)**

The encoder can not fit all its steps into the range given – (wrong range or offset in electrical calibration) or the encoder is fouling.

Touch Messages

- Raw too low - Check electronics

The background noise reading is so low that there must be an electrical fault

- Stationary offset too high

The background noise when stationary added to the "Stationary slider" value is too high to proceed. Reduce the slider value. If you can not reduce the slider value enough then there is an electrical problem

- Motion offset too high

The background noise when in motion added to the "Motion slider" value is too high to proceed. Reduce the slider value. If you can not reduce the slider value enough then there is an electrical problem.

BMIX151C Bottom Side