

WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------

This document shows a step-by-step installation of deva 031 joystick. Please follow the document step by step before calling for assistance. Remember the joystick is a USB device and will require deva drivers.

Pre-cursor

The unit will work as a standard joystick in version 30.25

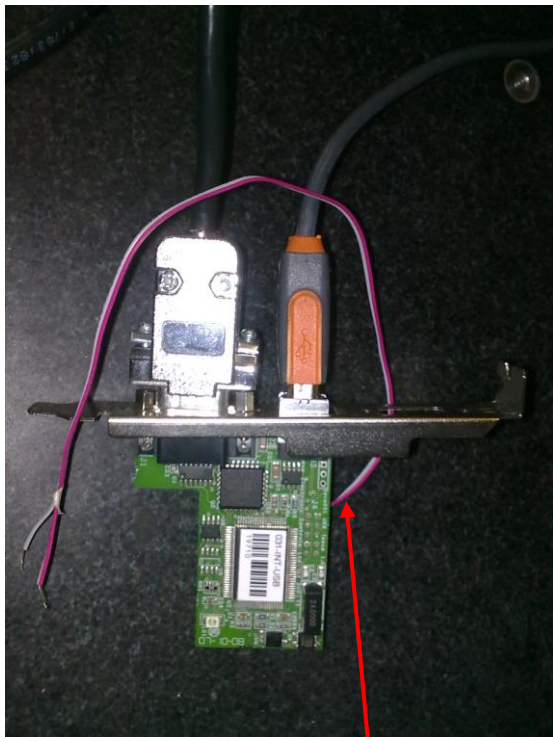
It is not supported prior to this version.

From version 30.28 the computer screen can be controlled via the joystick



Hold and assert a direction with the handle to apply a probe move

Aux. Button, can be setup as a 'move via' button



This flylead can link into the emergency stop button on the joystick, this cable will be supplied. The joystick will not work without connecting this.

Before you start you will require the following

- Deva 031 joystick
- Deva 031 PCB
- USB Cable
- Drivers on a memory stick or CD
- PC mounting plate
- Flylead

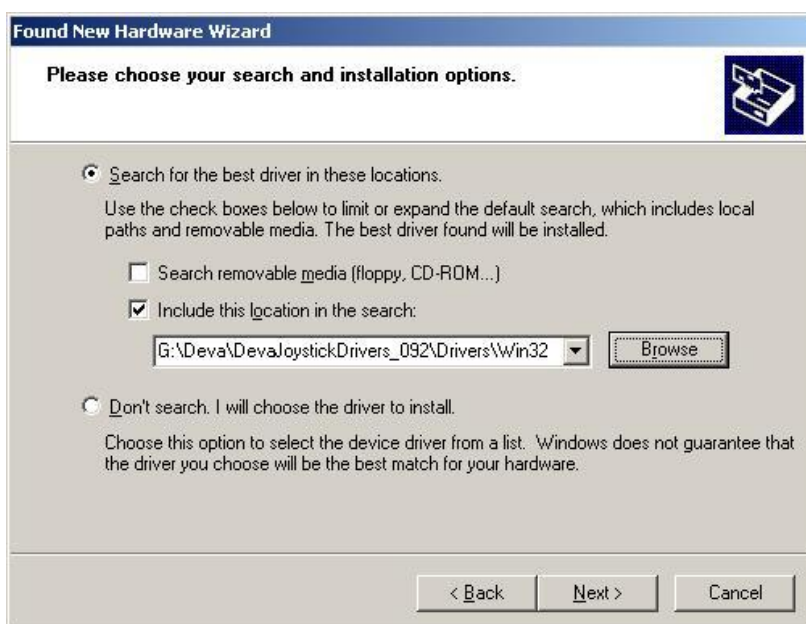
Step one

Fit board into the computer (log on as administrator)

WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------

Step two

Plug in joystick (9 way connector), then plug in USB cable. This message will appear

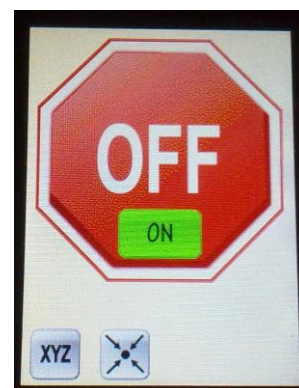


WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------



Installation is now complete, click finish.

This image should be on the joystick



Open system.cfg (not axis.cfg) located within the WINDOWS directory, open as note pad application.

Add these lines

```
SUPPLY_ON_IP=1,0,1
ESTOP_CHAIN_OK_IP=1,12,0  Maybe necessary to invert logic ie =1,12,1
```

If using the deva030 amplifier these lines also need to be added

```
NO_MACHINE_FAULT_IP=1,14,1
MACHINE_ON_IP=1,15,1      (if logic needs inverting change the 3rd digit to 0)
```

Input 14 is asserted by the amplifier, and determines a machine fault condition if input is broken.

Input 15 is asserted by the joystick, it is necessary to hit the estop then reset, then on the joystick click the 'On' button via the joystick screen (see image above).

Click on file and save.

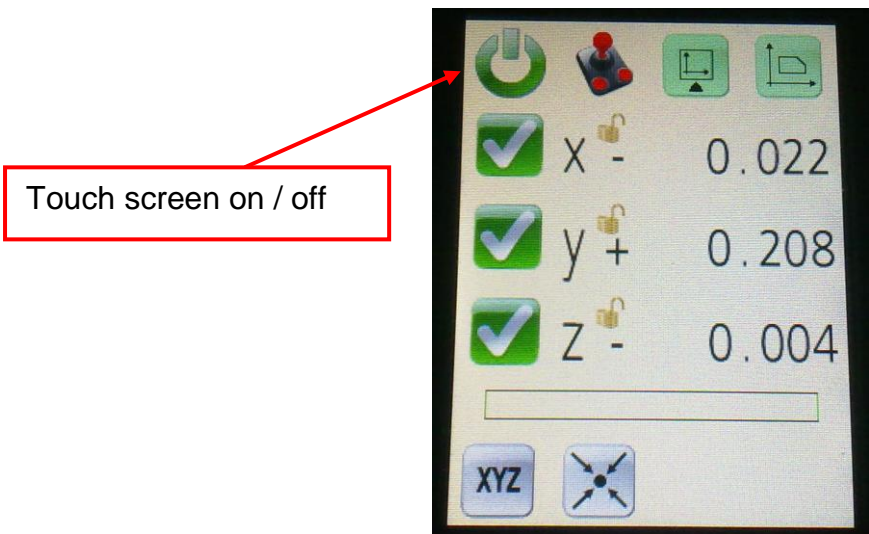
WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------

Step 4

Shut down the computer, not restart.

Step 5

Switch on pc and start Aberlink 3D software, joystick screen should now look like this, it may show a emergency or stop icon, press estop button, and reset, then click 'on'



Step 6

Configuring Aberlink. Inverting joystick axis

Set-up Details

Ref. Ball | CNC | Offsets | Error Map | Scales | IO Card | Units | Graphics | Reference Marks | AutoChange Rack | Vision | CAD | JoyStick | Probe Head | Others | CNC | Files

Units | Display | Feature Points | Company | General

Temperature (deg. C)
 Material
 Thermal Expansion Coefficient (PPM)
 Results Folder

	Full (-)	Dead (-)	Dead (+)	Full (+)		
X	<input type="text" value="0"/>	<input type="text" value="25284"/>	<input type="text" value="40000"/>	<input type="text" value="65535"/>	PH A+	2; 7
Y	<input type="text" value="65000"/>	<input type="text" value="40000"/>	<input type="text" value="25000"/>	<input type="text" value="0"/>	PH A -	2; 8
Z	<input type="text" value="0"/>	<input type="text" value="25000"/>	<input type="text" value="40000"/>	<input type="text" value="65535"/>	PH B+	2; 9
					PH B -	2; 10
					Z Feed-	4
					Z Feed+	6
					Coord	1
					Lock X	8
					Lock Y	10
					Lock Z	12
					Feed Hold	0
					Take Point	1

Throttle
 Speed %

To invert any axis, (change direction):-

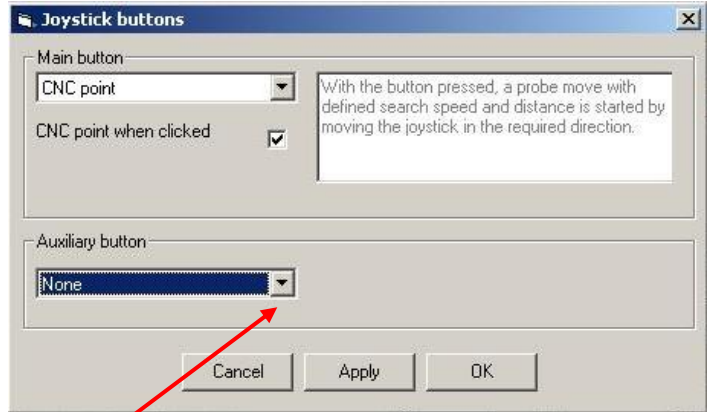
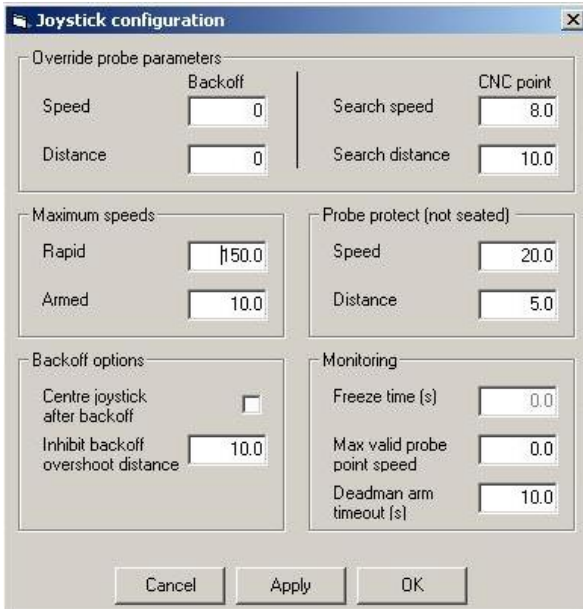
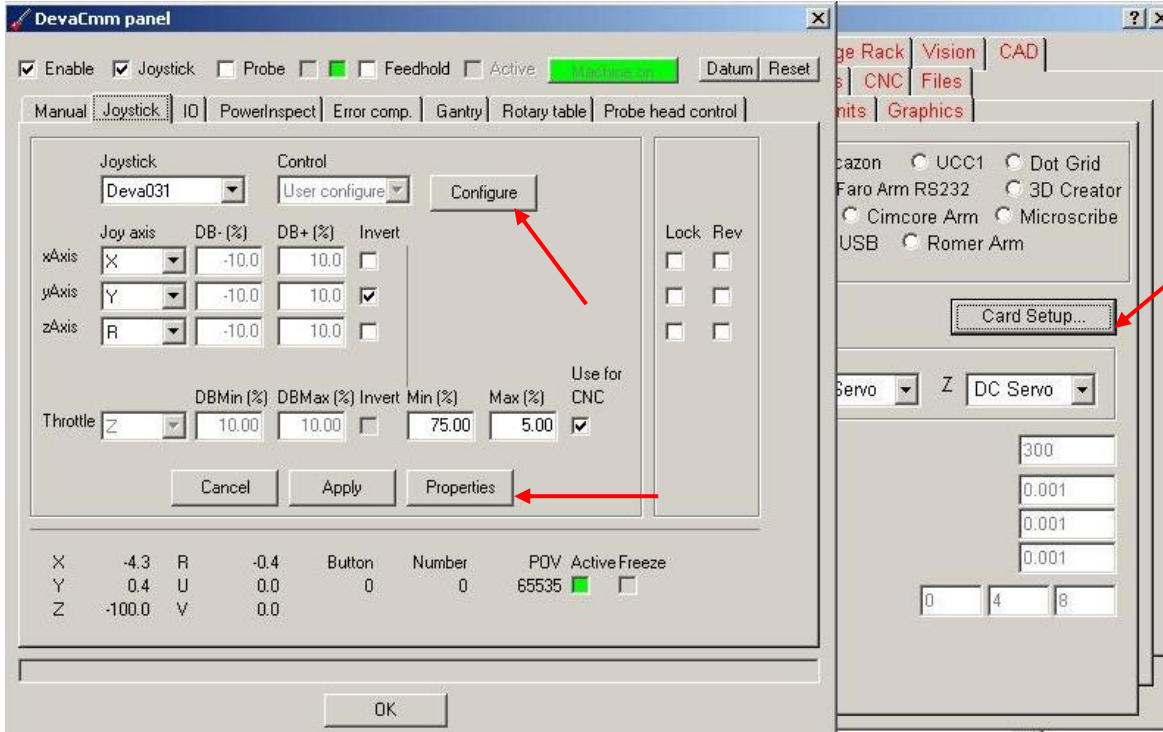
Version 30.25 – Reverse the sequence of numbers fo Full(-) Dead (-) Dead(+) Full (+)

Version 30.28 – Click the mouse button on the X, Y or Z, to quickly invert direction.

Do not use devacmm for inverting

WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	---------------	----------	-----------------------

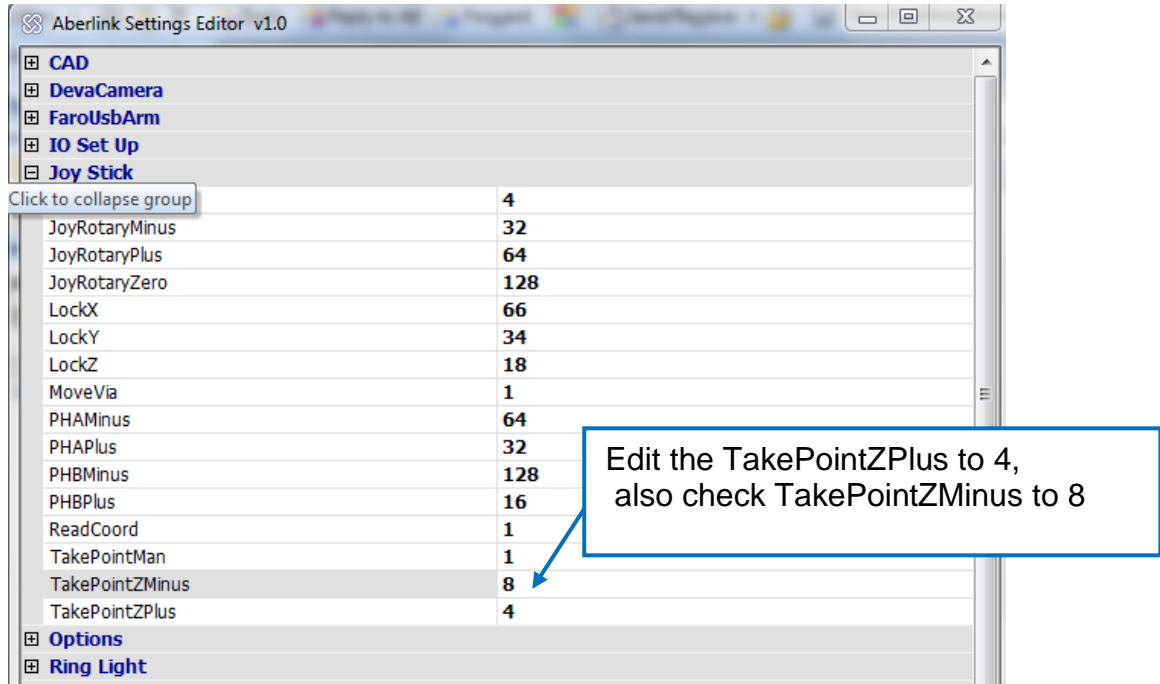
Step 7



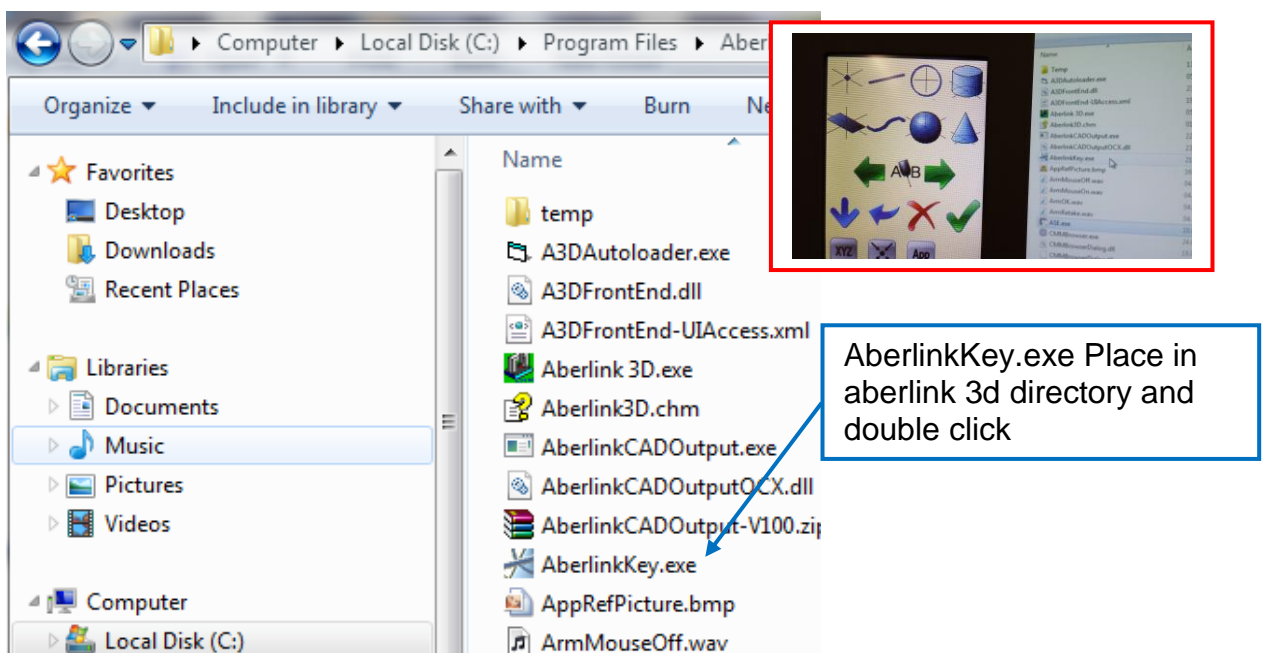
Click here and choose 'Way Point', to use the auxiliary button as a 'move via' point

WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	---------------	----------	-----------------------

Exit aberlink, then use the Aberlink Settings Editor (ASE.exe) in the Aberlink3D directory, double click on the file then enter the tech code 2.718. Expand the joystick settings



To ensure the screen showing the measurement feature icons is displayed, it is necessary to place the file called AberlinkKey.exe in Aberlink directory, and double click on it.



WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------

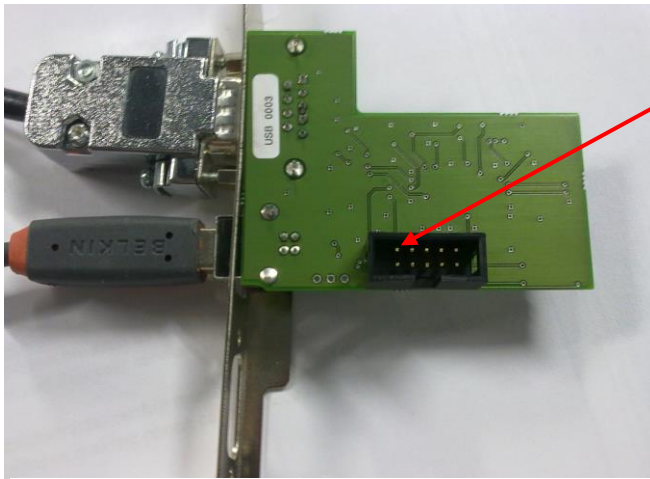
Step 8

Integrating the emergency stop on the joystick with the Aberlink amplifier.
The amplifier has 3 connections :-

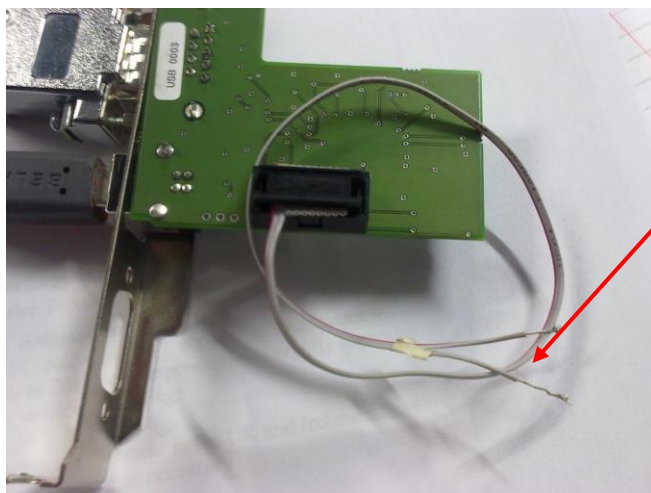
240vac linked into pc psu

Ribbon cable linking the deva 004 card

Loom connecting the amplifier to the motors/tachos/estop and solenoid – This cable terminates on the pc casing with a 25 way D type. Pins 19 and 20 are the emergency stop circuit.



10 way header



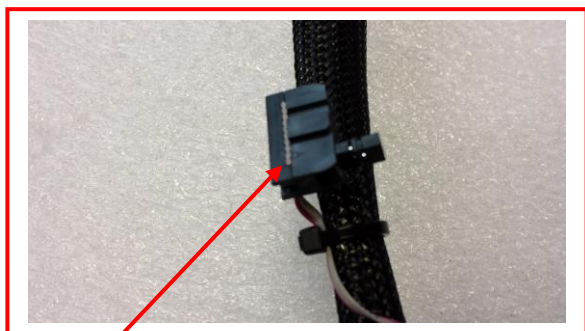
Cable connected, pins 1 and 2 remain, the rest have been removed

These wires need to be linked into either wire leading to pin 19 or 20 on the motor loom.

WI 029- Deva 031 Joystick installation	Date 15/10/15	Issue- 7	Author- Chris Walkley
----------------------------------------	------------------	----------	-----------------------

From November 2010, all machines will be supplied with the Deva 031 flylead already incorporated; of course this will leave the emergency stop open circuit. Therefore, fitted to the end of the 10 way header will be a jumper, shorting out these pins (1 and 2). Once the joystick is fitted, remove the jumper, and plug into the socket on the joystick card.

If a problem occurs and the joystick needs to be returned, then the link as shown below needs to be put back in.



There is an arrow symbol on the socket. This lines up with pins 1 and 2, use wire to complete circuit if removing joystick

Once the deva 031 USB cable is disconnected and the link placed back in the socket (inside the computer), then it is possible to plug in a standard joystick. Remember it maybe necessary to invert the Y axis again.