# Pandora Pogle Installation Document
# April 2010
# Rev 3

## Contents

## PBX6001 Pogle Workstation

**Fig 1.1 Pogle Workstation**

The 2U high 19" Rack Unit is the central controller of the Pogle editing system and is based around twin Motorola 32bit Microprocessors, and runs a real time multi-tasking operating system which allows several system tasks simultaneously. A dual ported RAM buffer is used to link another processor which is responsible for handling all of the input/output resources with which the Workstation is equipped.

It features 2 SCSI ports: the first provides a reliable high bandwidth connection for communication between the Microprocessor in the workstation and the microprocessor in the Pogle Platinum Linux computer, the second SCSI port is used to communicate to other units within the Pogle system such as the Telecine Interface rack.

The commands are collected from the Platinum software then passed on to either the Telecine Interface or the any one of the RS422 controllers used to communicate with up to 4 VTRs/Disks plus a Noise Reducer and Wipe controllers or Mixer.

Inside each Workstation resides a unique serial ID chip. This serial number is referred to as the Pogle Serial Number and is used to license the system as well as being a reference to the entire system (Pandora service contracts refer to these serial numbers only).

## Platinum

The Platinum software application runs on a PC based Linux Red-hat Operating system built around either the Carillon AC-1, or the Dell T7400 hardware. Older systems use the Irix operating system on the Silicon Graphics O2 hardware. Like all PC's, the hardware is continually evolving and hence the specifications are continually changing. Generally speaking the PC will have 2 Ethernet sockets and as well as all the usual I/O devices such as USB, P/S2 etc. Additionally the PC will be equipped with an Adaptec PCI SCSI card used to connect to the Workstation. The Platinum software will be pre-installed and updates can be downloaded and installed periodically from the Pandora website. Further details are given later in this Chapter.


**Fig 2.1 Carillon AC1**


**Fig 2.2 Dell T7400**

Each PC is fully configured and tested before shipping. All the appropriate Operating Systems, drivers and additional software will be installed. Two users will be defined: **pogle** and **root** – the default password for both these users is **pandora.** These can be changed if required. Upon start up of the Linux system the unit should automatically log into the Pogle users desktop. If auto-login has not been enabled then type pogle at the prompt for user name, then pandora as the password. The users desktop will then be displayed.

**Fig 2.3 Linux Desktop when logged in as Pogle user**

The Platinum software is started using the centre mouse button, or the side button on the Tablet Pen to bring up the Platinum menu as shown below or, if applicable, using an icon on the desktop. Once the menu is shown select Pogle Platinum to start the application.

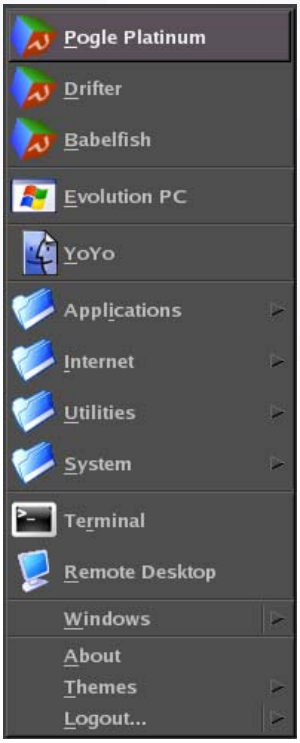



**Fig 2.4 Main Platinum Menu**

*Note : Within the Platinum software, the numerous software displays are always referred to as PANELS as apposed to WINDOWS. These are not to be confused with the hardware evolution panels.*

Installing new versions of Platinum

The installation of new versions of Platinum is made very easy for the operators and requires nothing more that a few clicks of a mouse. Before installation can proceed the software must be downloaded or copied in to the following folder on the Linux PC.

`/pogle/versions`

If the Linux PC has internet connectivity use a browser to navigate to the support area of the Pandora website (pogle.pandora-int.com). Locate the appropriate version of Platinum installer software (ensure you select the Linux or Irix versions as appropriate) and click on it to download.

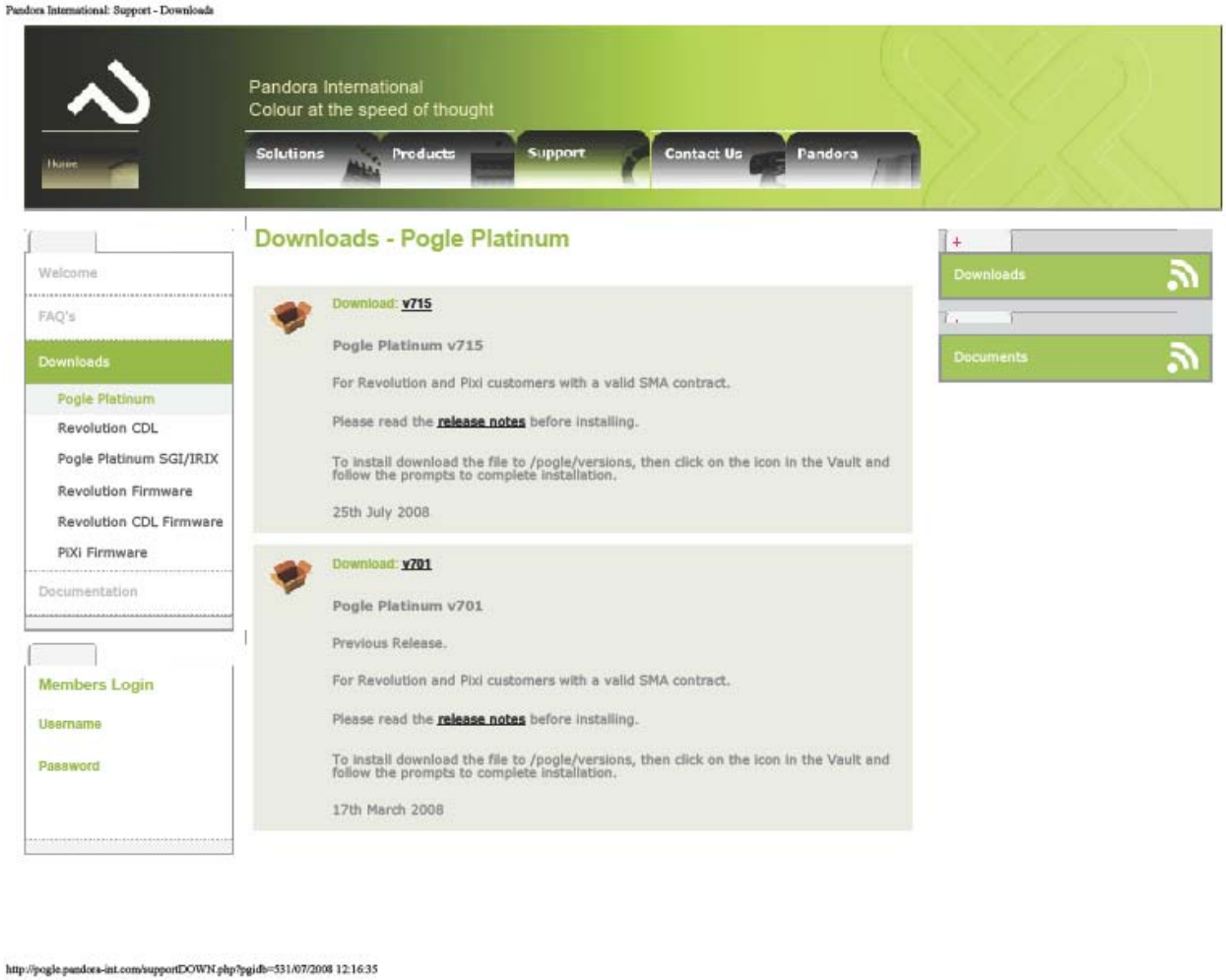



**Fig 2.5 Pandora Support Downloads webpage**

A dialogue box will request a location for the file download. Enter the path /pogle/versions.

If the Linux PC does not have internet connection the file must be downloaded on an alternative PC and copied using either USB or CD media.

*Note: the file can also be copied of the network using a number of network protocols (ftp, samba etc). Please consult you IT administrator for details*.

Once the USB stick or CD is inserted into the Linux PC, the file can be copied into the vault by use of the Black Hole Browser. More information on the Black Hole Browser and it use are available in the Revolution Manual on the Pandora website or within the Drifter Help Topics of Platinum (refer to the Revolution operators Manual).

To enter the Black Hole click on the  icon within the Vault (refer to the Revolution manual) to bring up the following panel.

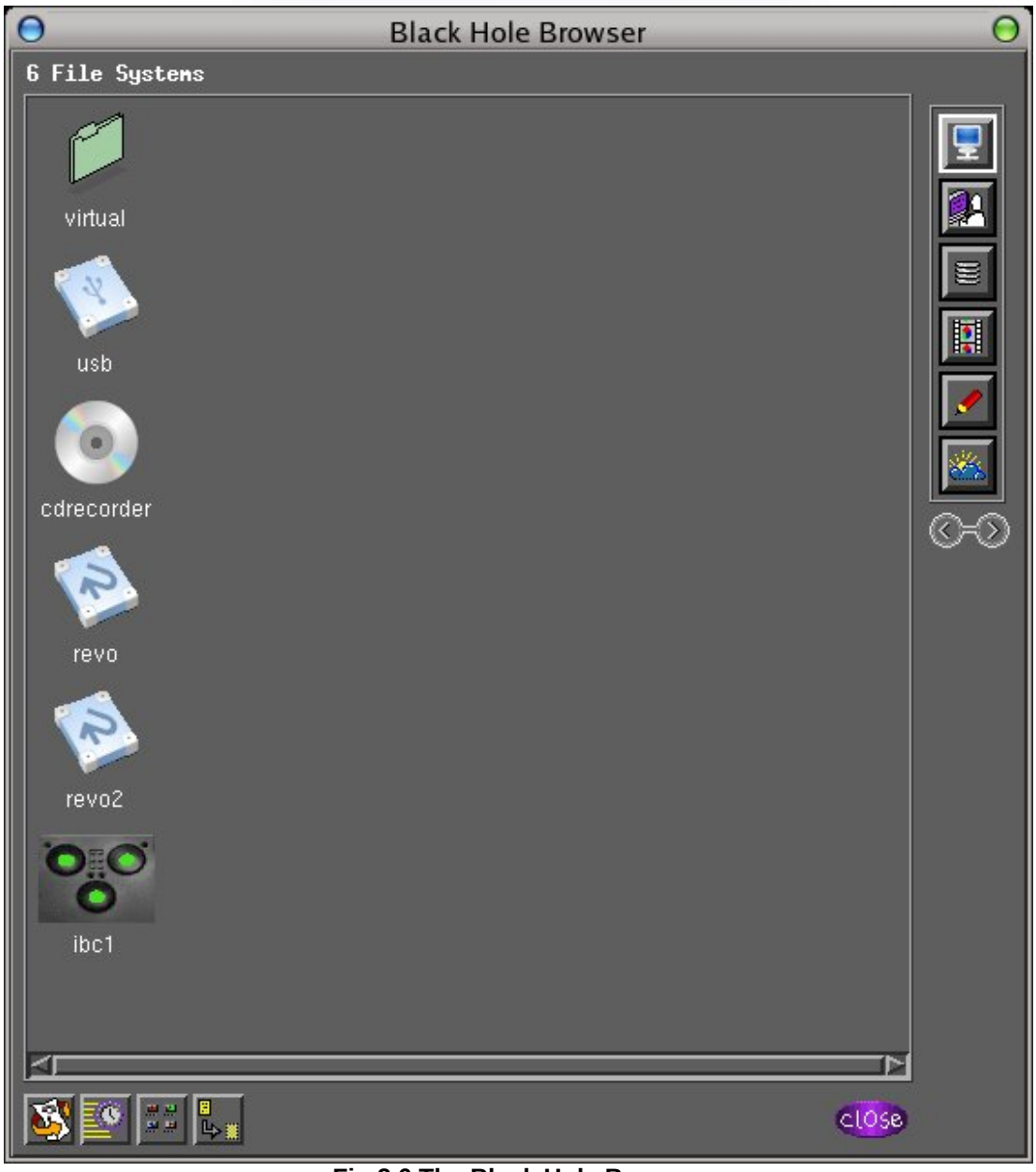



**Fig 2.6 The Black Hole Browser**

Click on either USB or CD as appropriate. Fig 2.7 shows the contents of the USB.

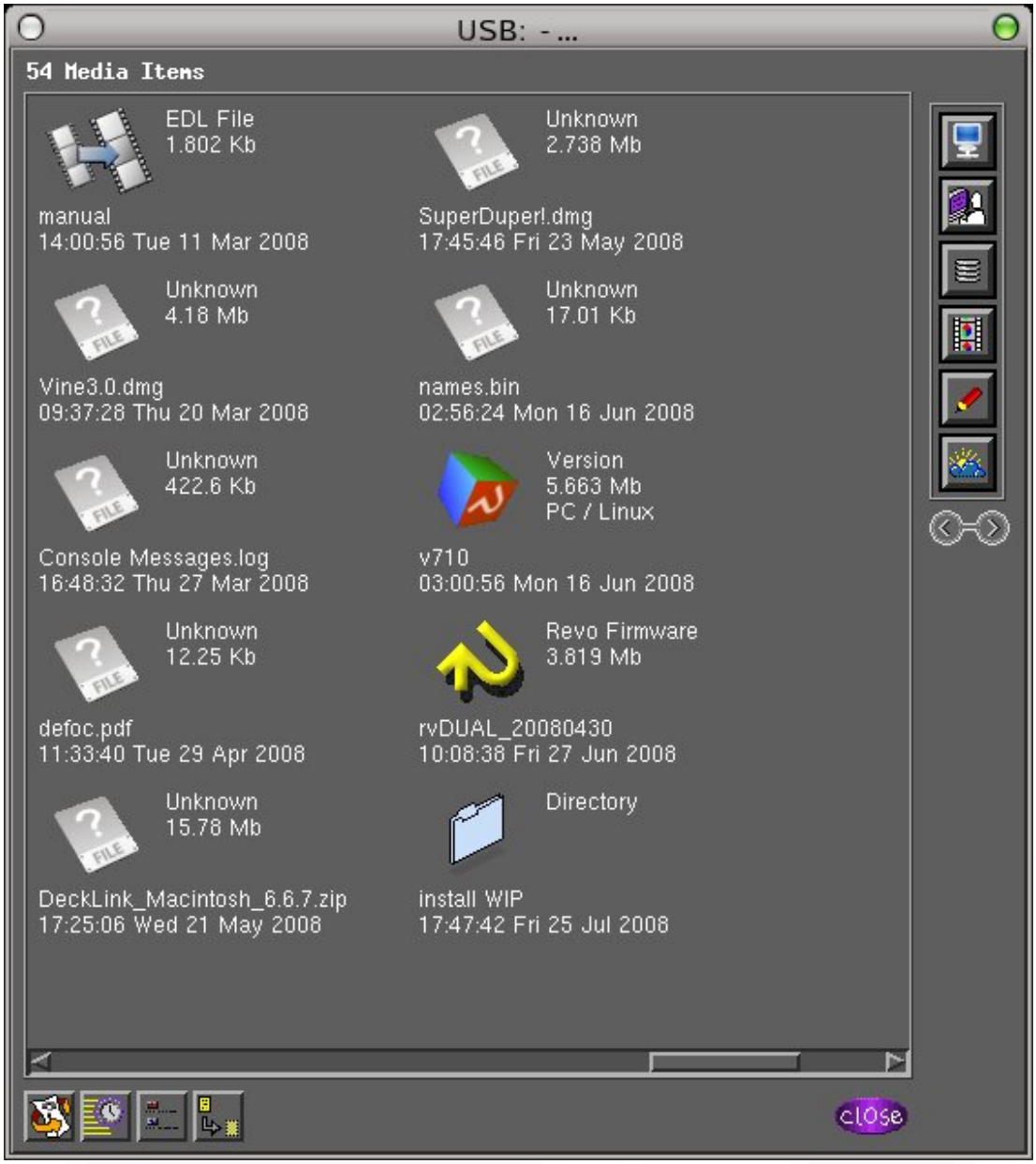
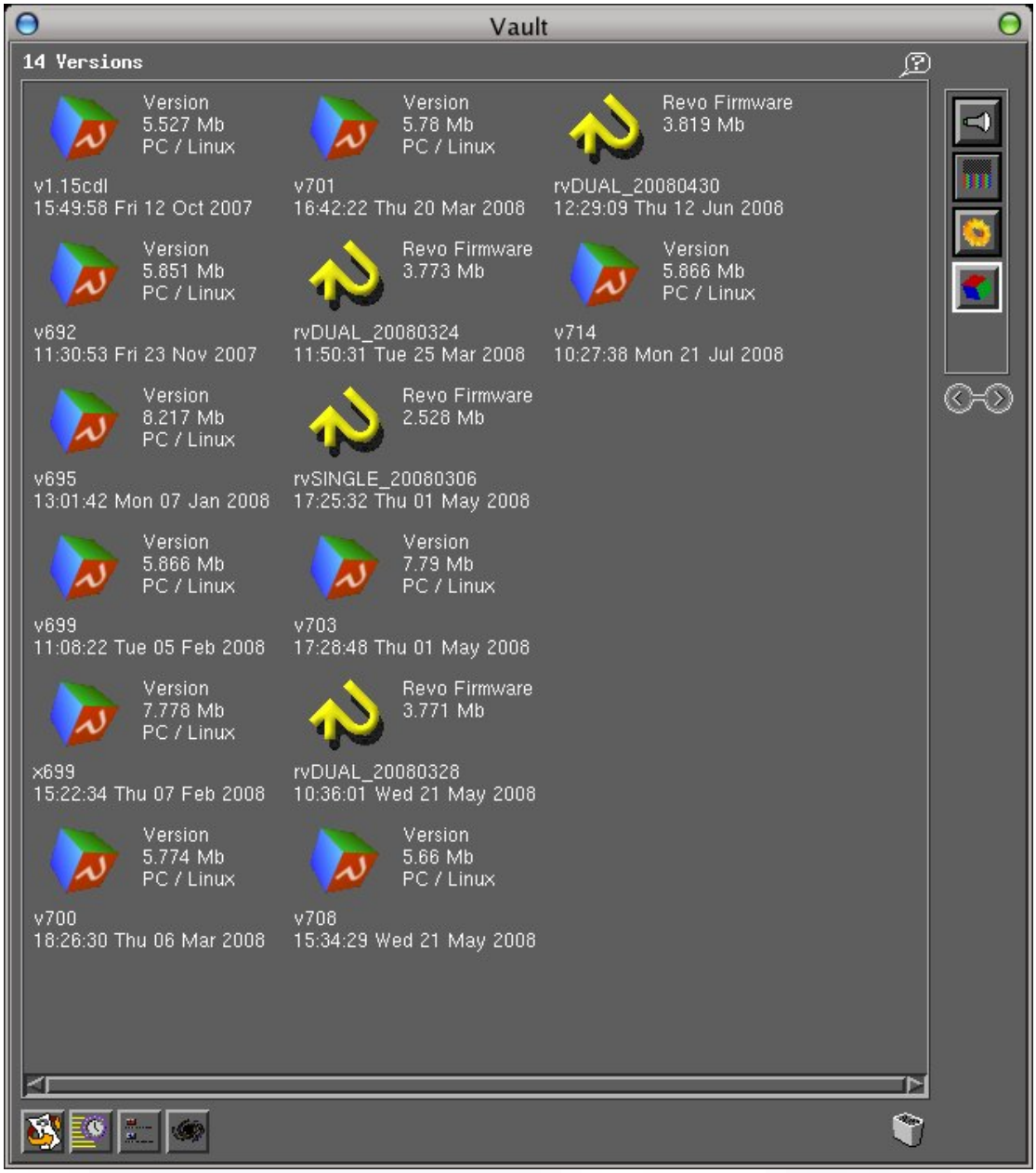



**Fig 2.7 The contents of the USB/CD**

The Platinum installer software will be in the form of vXXX.ppl and is approximately 6Mb in size. The Platinum software will recognise and assign the installer software the  icon. In the above example v710 is on the USB stick.

With the Vault open, drag the file into the Vault, it will be placed automatically in the correct area of the Vault.

Open the software/firmware area of the vault by clicking the  icon. This will bring up the following panel:




**Software/Firmware area of the Vault**

Click on the version to install. A dialogue box will appear requesting confirmation of the installation. In some instances the PC may require a reboot, in which case a further dialogue box may appear giving the option to do this.

## Connectivity between the Platinum PC and the Workstation

Fig 3.1 shows the SCSi connection between the Carillon PC and the Workstation. As with any SCSI chain the total distance is limited to 3 meters, it is therefore recommended the Workstation be mounted directly underneath the Carillon PC in a rack mount system. The system is shipped with a 1 meter SCSI cable which is sufficient in such a configuration.

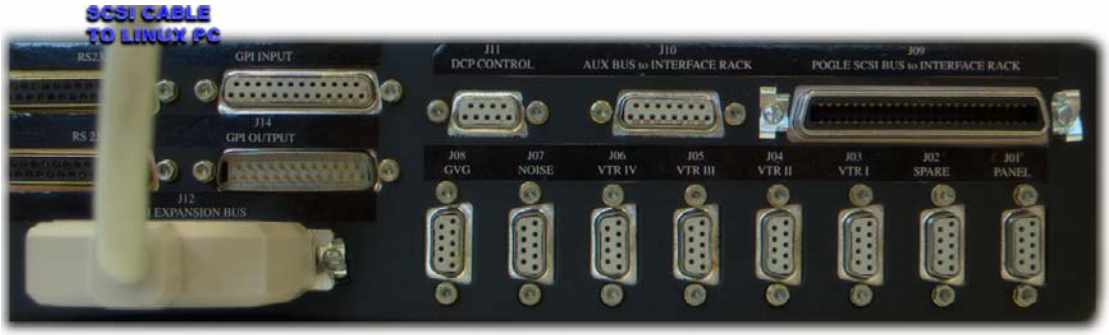



**Fig 3.1 Rear of Pogle Workstation**

Upon start up of the Platinum software, the software for the Workstation microprocessors is downloaded via the SCSI link. If there is a fault with this link then the Platinum software will not load and the following message will be seen.

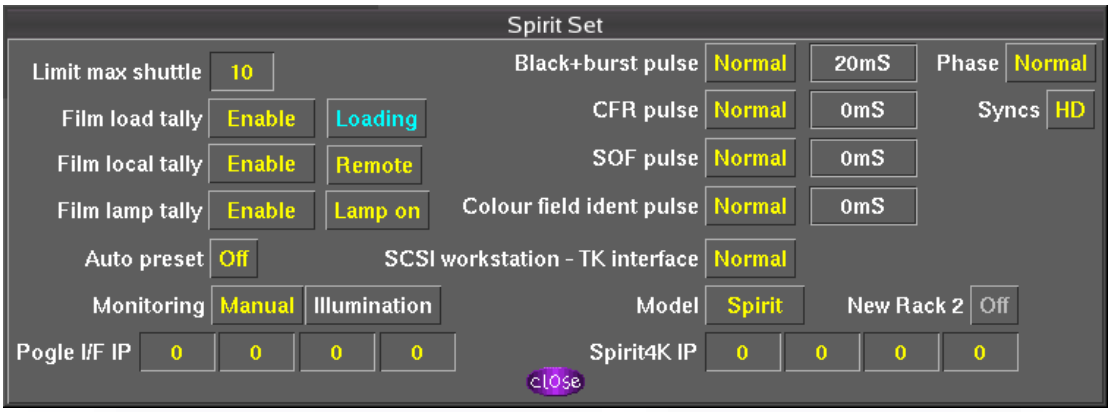

**Fig 3.2 SCSI Error Message**

Note that every workstation carries a unique serial number and Platinum will only run on licensed systems.

The menu also has a sub-section entitled Babelfish. Within this application there exists several diagnostic tools including the sub-menu “Engineering Tools” then “Device Test”. Running this test will interrogate the SCSI and SATA busses and report connectivity. In the example shown below the Workstation is present (/dev/sg0) and Platinum should start without problems. Also within this application is the sub-menu item “Check and Update Platinum”. This will force a check on the current directory structure and permissions and correct any errors. This is a useful tool when problems are experienced opening Platinum after an unexpected power down or crash.

Using the Source Set Up Panel

A useful tool to determining connectivity between the various components of the Pogle system is the Source Set Up window. This can be found within the Engineering Menu of Platinum, which can be obtained by clicking the  icon.
The Source Set Up window shows the validity of the connection between the Workstation and the TK Interface (see Chapter 7). In the example below the “SCSI workstation -TK Interface” is connected correctly as the status is showing “Normal”.



**The Source Window (with Spirit set as the Telecine Type)**

Also useful is the Black+burst pulse status window. This will show the periodic time of the current reference connection. The Workstation is capable of selecting either SD bi-level sync pulses or HD tri-level sync pulses. Note however the HD sync inputs are an option and may not be fitted as standard. The selection of SD or HD syncs is automatic E.g. If working in an SD standard the Platinum software will force the workstation to utilise the SD sync input; if working in an HD standard the Platinum software will force the workstation to utilise the HD sync input – if the HD sync option is not fitted or the HD sync pulses are not present the system will switch back to SD syncs. In the example above it can be seen the system is selecting the HD sync input and that the sync pulses are present and in phase (denoted by the Yellow “Normal” label). If there are any faults reported in the Source Set up window with the sync pulses (denoted by a Cyan “Error” label), investigate the sync system wiring before proceeding.

Figure 6.6 in Chapter 6 shows sync pulse wiring for the entire system including the Video grab card used in the Still Store.

## Evolution Panels

The Evolution panel system consists of 3 individual panels

1) Operations Panel – PBX50300

**Fig 4.1**

2) Secondary Colour Corrector (SCC) Panel – PBX50500

**Fig 4.2**

3) Trackerball Panel – PBX50400

**Fig 4.3**

The 3 Panels are USB devices and connect to a central HUB (PBX 50500) which also supplies the panels with 24v and 5v via special cables fitted with 9-way D-Type connectors. The Hub has 4 available connectors which are all identical. The panels can be connected to any of these ports in any order.

There are 2 methods of connecting the panels to the Platinum System:

1) Connecting Evolutions panels using a Windows PC.

*Note: If the Evolution Panels are to be connected into a system centred around the O2 based Irix Platinum then this method has to be used.*

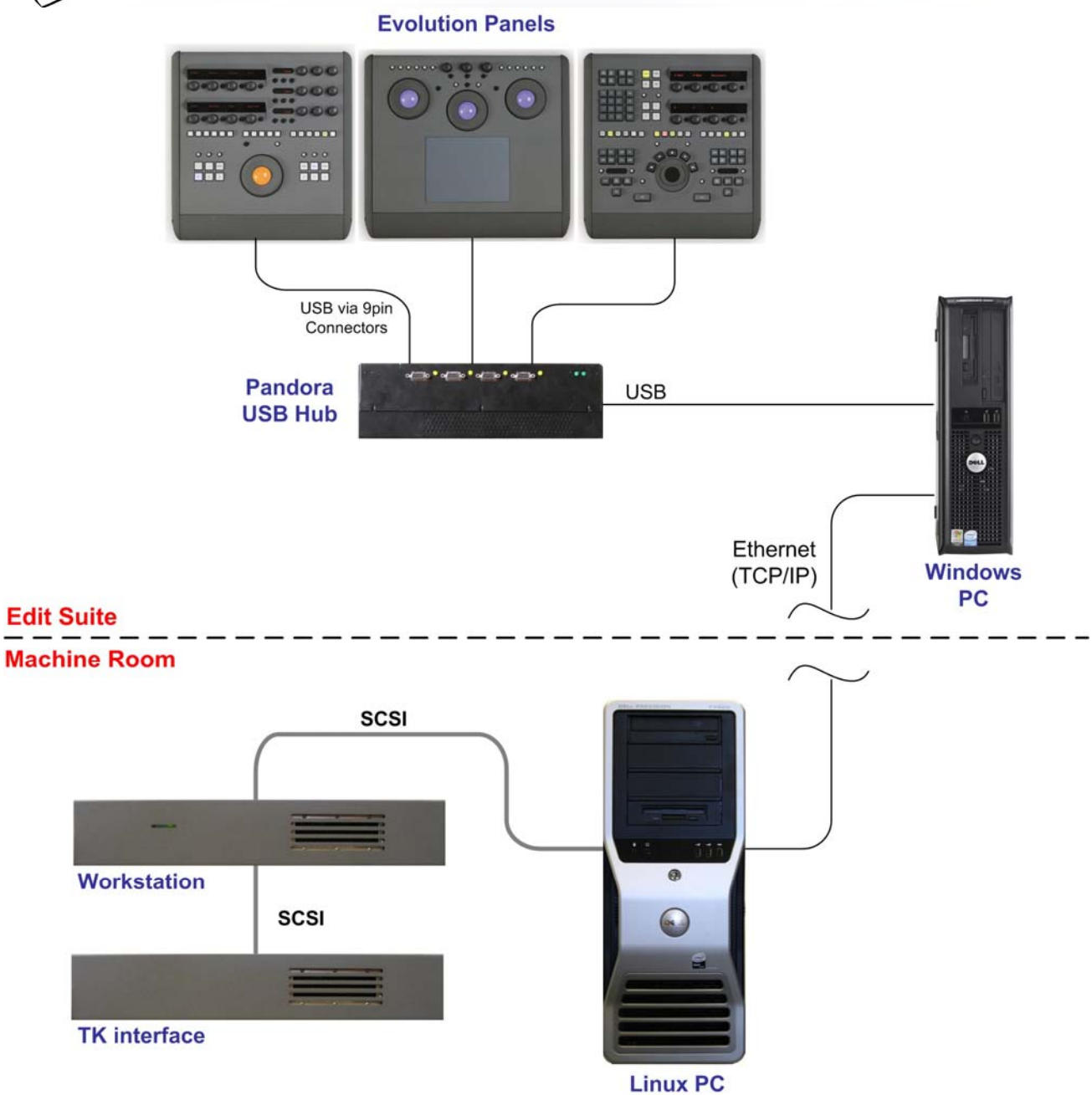



**Fig 4.4 Evolution Panel connections - Windows**

The Hub connects to a Dell or Carillon PC running Windows XP via a standard USB cable. The Windows PC will be supplied readily configured to automatically log in and run a Service named Evolution. It is this service that sends and receives all the panels' functionality to/from the Platinum PC via TCP/IP. The Windows PC should be

connected to the Linux PC via Ethernet, usually via an Ethernet Switch, and the address of the Platinum PC be entered into an XML file as described below.

An XML file will require editing to reflect the IP address of your system. Firstly, ascertain the IP address of the Platinum PC.

*Hint – Bring up the Menu and go to System-Settings-Network and then double click on the relevant Ethernet Port.*

Once the correct address has been obtained, navigate to C:\Evolution\Boot as shown in Fig 4.5, and right click on the file called Config.xml

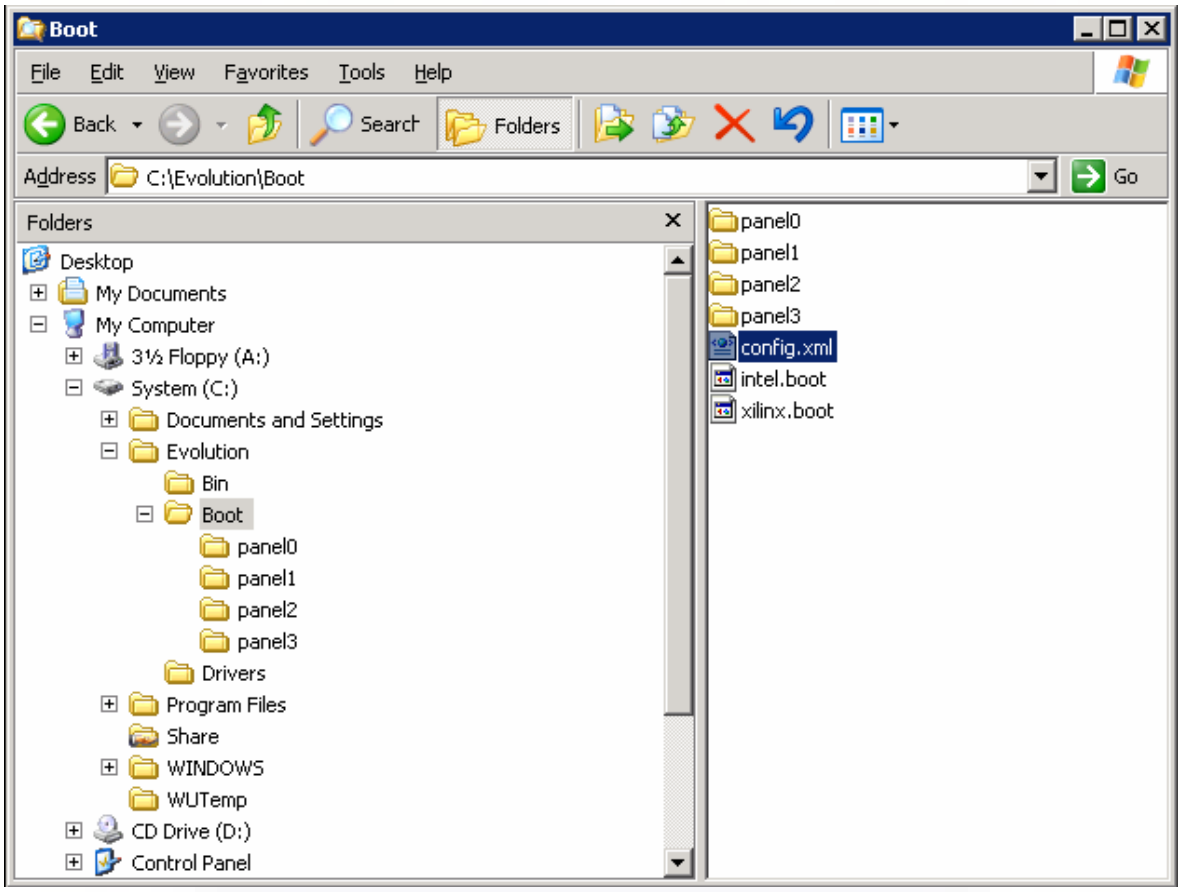



**Fig 4.5 Explorer on Windows XP Evolution PC**

From the drop down menu select Edit to open the XML document in Notepad format as shown in Fig 4.6

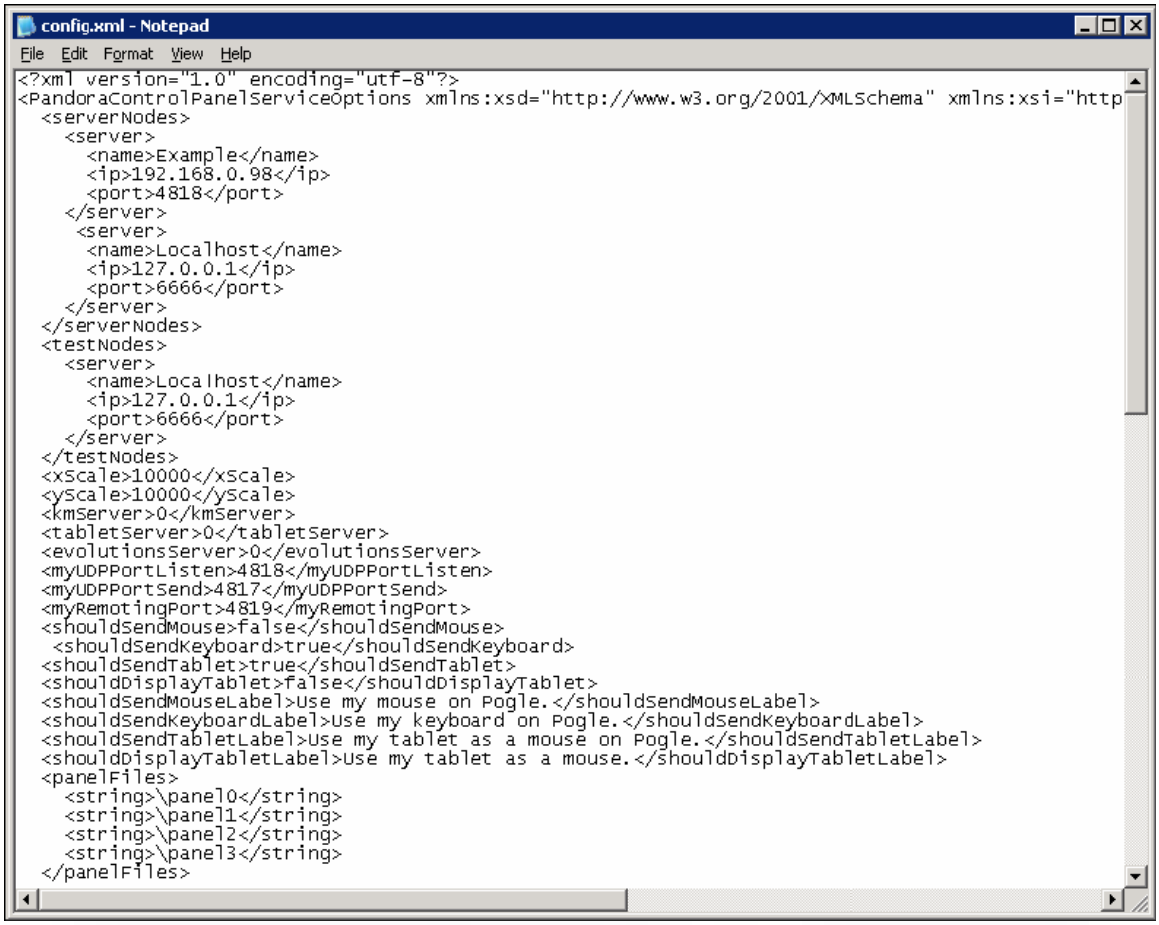



**Fig 4.6 Config.xml**

The file contains entries to indicate the IP addresses of the system. An entry will need to be edited/inserted to enable the panels to communicate with the Platinum software. In the case shown below in Fig 4.7, the IP address entered is 192.168.0.98 and the name given is Example.

Using this example as a guide, make a similar entry replacing the IP and hostname to reflect the IP and Hostname of the installed Platinum PC.

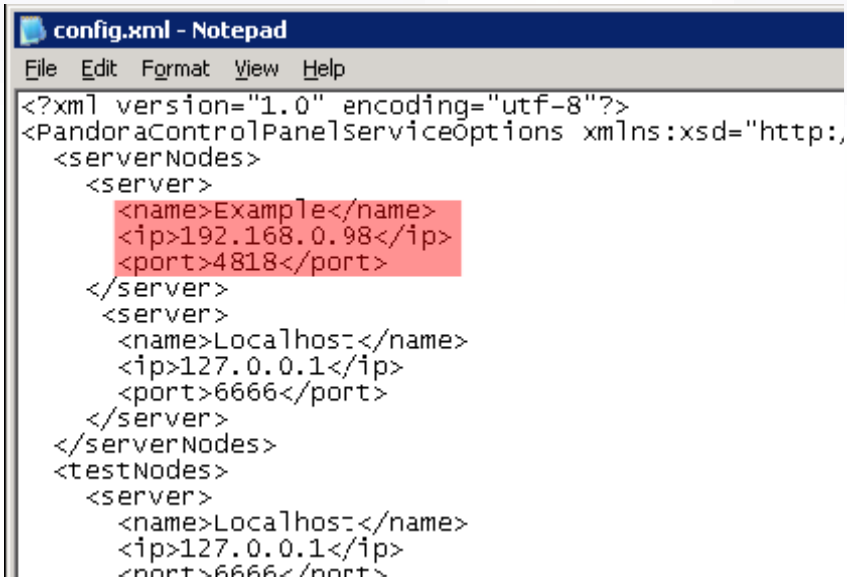



**Fig 4.7**

Once completed, save the file and close.

In order for the changes made to the Config.xml file to take effect the Evolution Service will need to be re-started. To do this right click on the Green circle within the taskbar as shown in Fig 4.8

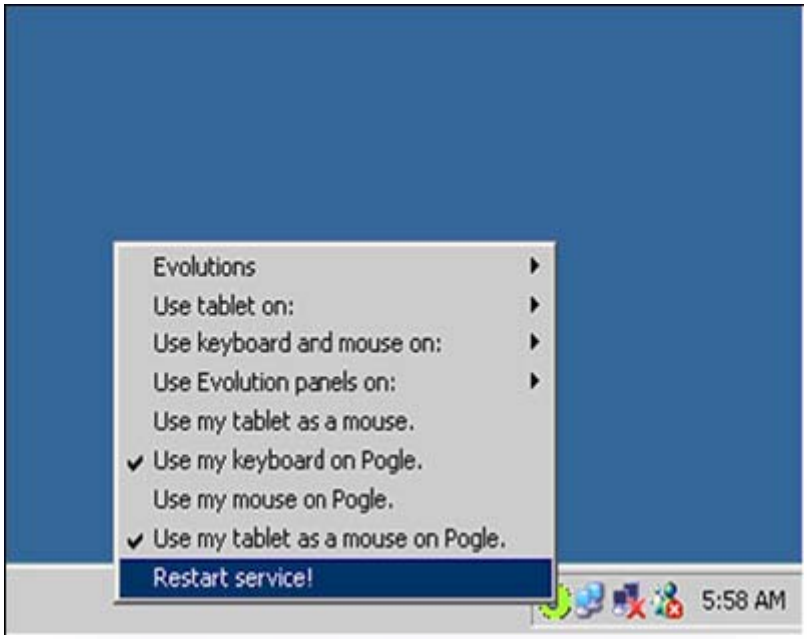



**Fig 4.8 The Evolution Menu**

Then select Restart service.
Once the service has re-started (a message box will appear to tell you that it is re-starting). Check to see that the changes have taken effect. To do this, again right click on the Green Circle and hover the cursor over "Use Keyboard and mouse on:"
As can be seen in Fig 4.9, the changes made in the Config file have been reflected and a tick has been put next to the entry made, to confirm that the panels are now sending information to the IP address of the Platinum PC.

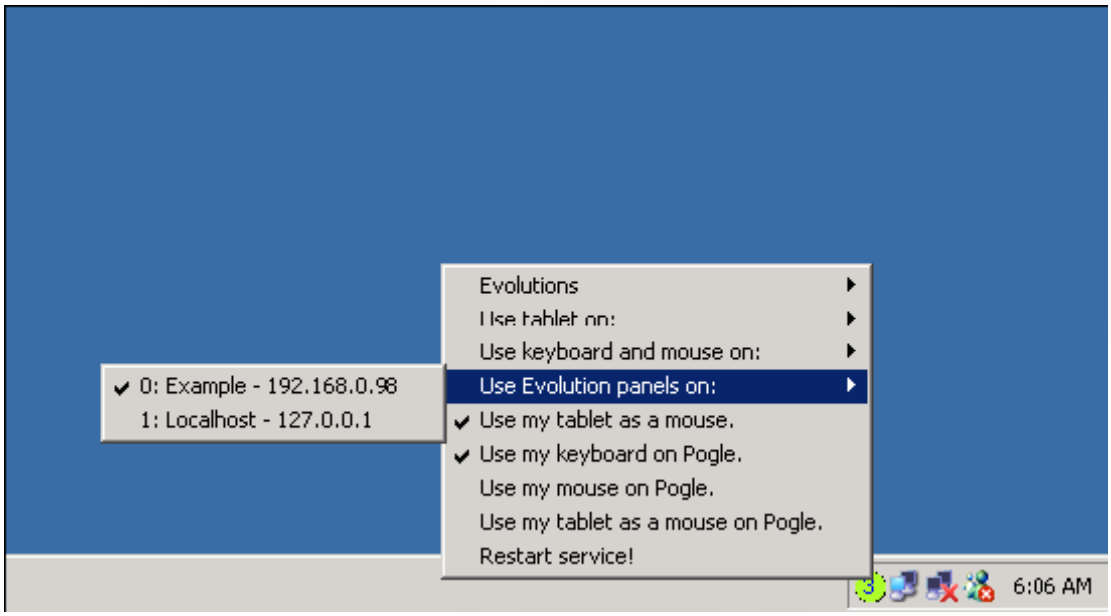



**Fig 4.9 The Evolution Menu - Extended**

Now, as a final check, check to see if the Panels are communicating with Platinum.
Within the Platinum software select the Engineering Menu (see Chapter 3). Within the Engineering Menu select Room Setup. The Panel shown in Fig 4.10 will be displayed.
Note that in the CP type field where Evolution is selected a green activity light can be seen and Online is displayed.
This indicates that the Evolution Panels are successfully communicating with the Platinum software.

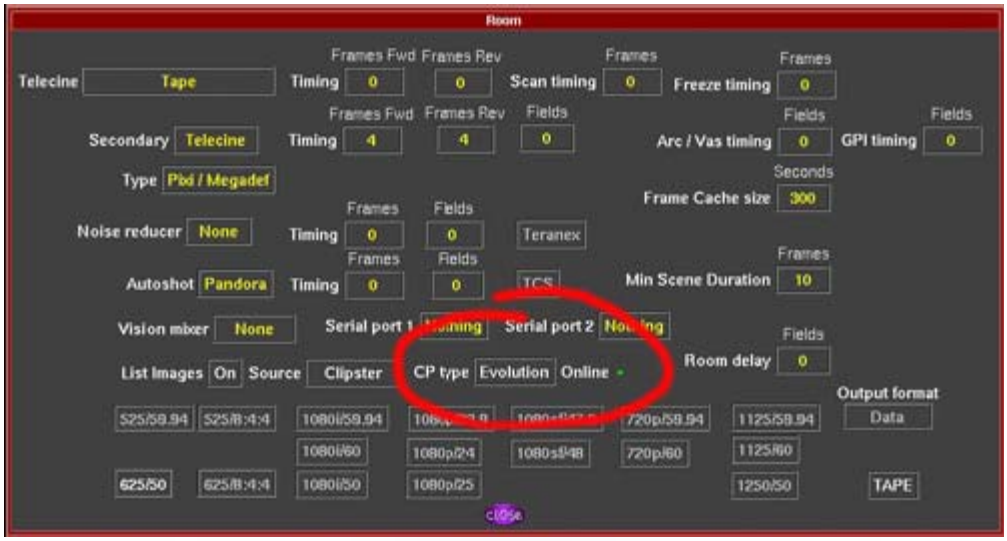



**Fig 4.10 Room Set Up Panel**

2) Connecting the Panels directly to the Linux PC

For those systems using the Linux based Platinum software the panels can be connected to the Linux PC. Pandora has written and installed the necessary drivers in order to eliminate the Windows PC.

*Note: For those customers with a Linux PC but are still using the Window PC; please note that you can update your system to remove the Windows PC. Please contact Pandora Service for further information.*

Because of the limitations in SCSI cable lengths the Platinum PC, the workstation and the TK interface need to be mounted in the same rack space outside the suite. The panels will therefore need to be connected to the PC via a cat5 USB extender. Pandora will supply this for new installations.

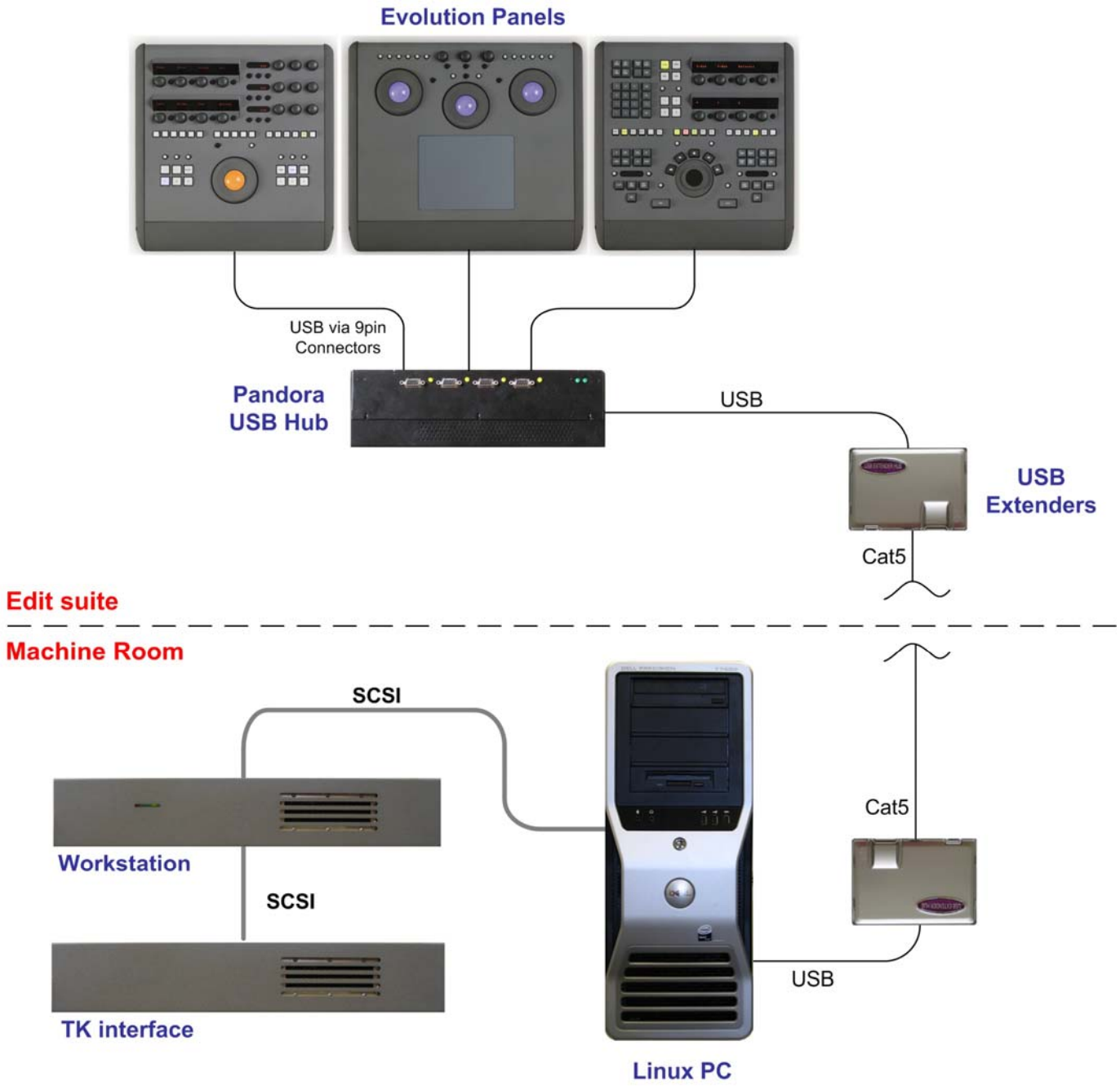



**Fig 4.11 Evolution Panel connection - Linux**

Figure 4.11 shows how the panels extend from the suite into the Machine Room. There are a number of diagnostic steps that can be taken if the panels appear not to be operating correctly.

There are a number of services and dependencies that are required to be running on Linux in order for the panels to work. The first point of reference is the program called EVOQT that can be accessed via the main menu shown in Fig 2.4

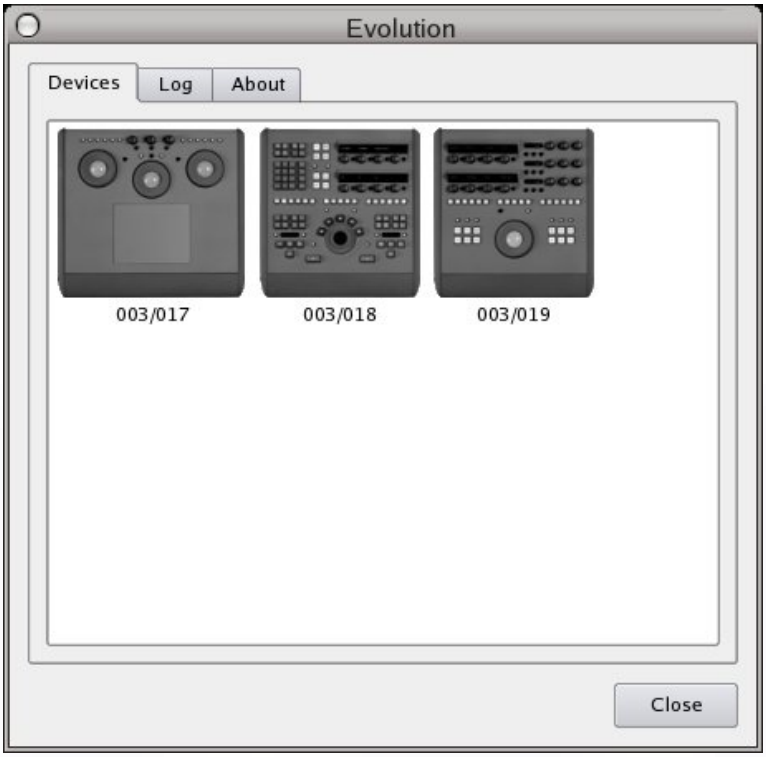



**Fig 4.12 The Evolution QT program Window**

If all three panels are shown in the display as above then the panels are recognised and the drivers are loaded correctly. Now click on the Log tab.

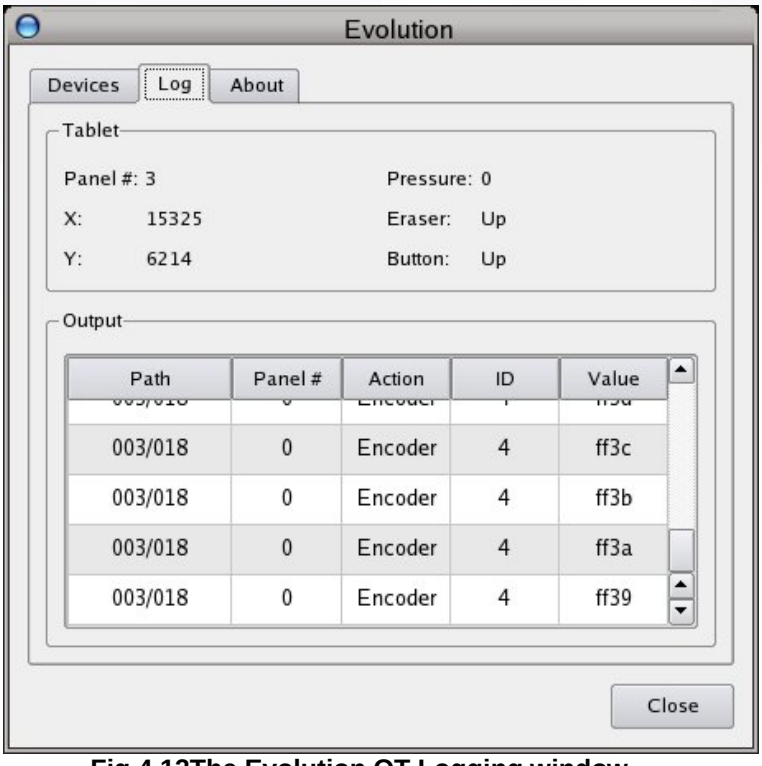



**Fig 4.13The Evolution QT Logging window.**

All pen movements, button presses and encoder rotations are recorded live in this panel. If there is a suspected fault with an individual component part on any of the panels, this is a useful diagnostic tool. In parallel to this the panels automatically go into a test mode whenever platinum is not running. All pen movements, button presses and encoder rotations are logged live and displayed on the amber displays of the Operation panel.

At a lower level there are a number of dependant services that should be running. If the following pop-up message appears when EVOQT is launched, it is generally because the services are not running.


**Fig 4.14 Evolution service error message**

To verify this open the Services panel from the main menu, then scroll down to the **evod** services.

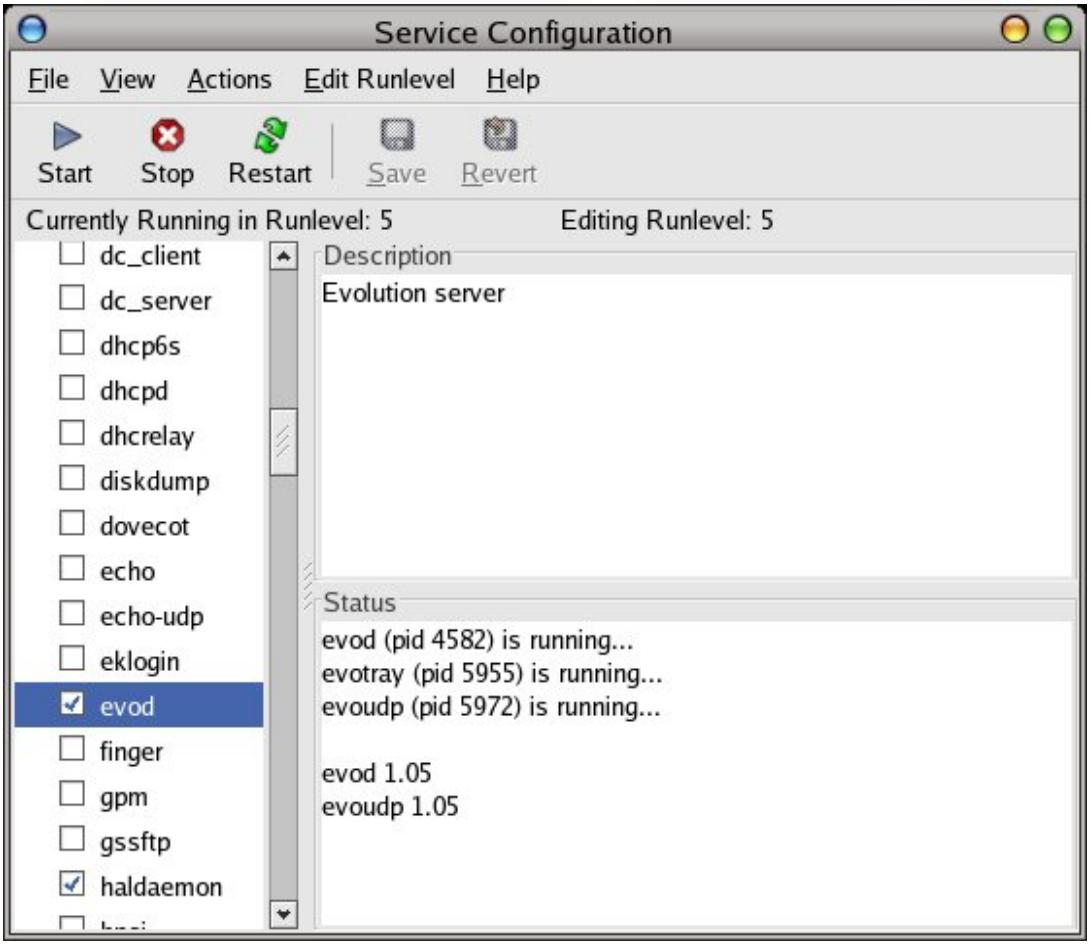



**Fig 4.15 The Services Window**

Ensure the evod services is checked and saved. If any of the three services are not running then restart evod.
If the services are running but there are still no panels showing in the EVOQT program, the USB connection should be investigated. This may be the Cat5 extender or the internal USB connection itself. In order to further diagnose this fault, Red Hat provides a useful tool entitled USB Viewer. Depending on the age of the Linux PC there may be a shortcut in the main menu for this. If not, type usbview in a terminal window.

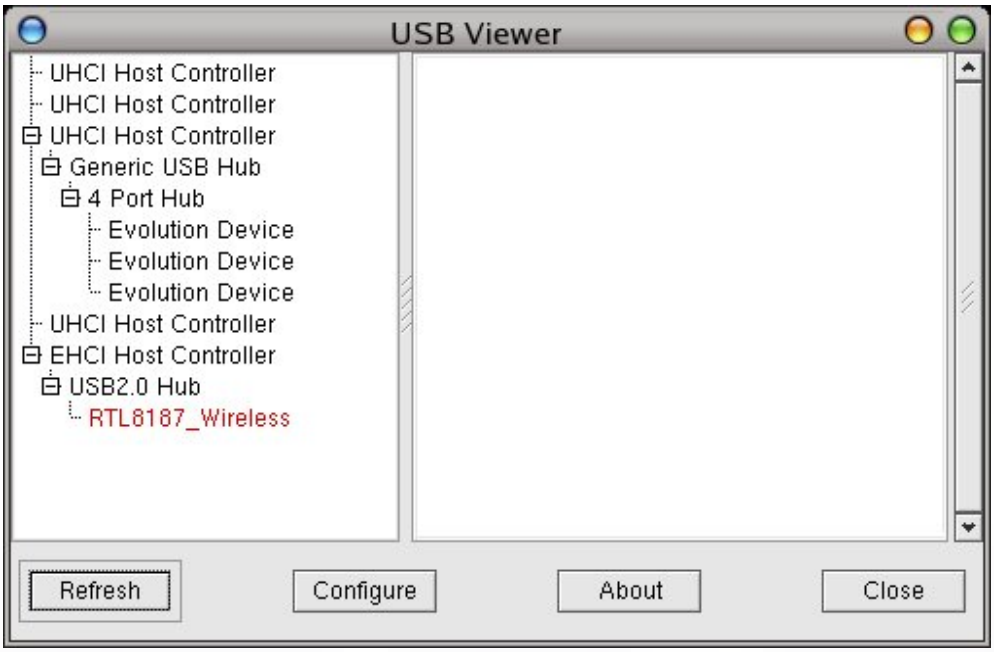



**Fig 4.16 The USB Viewer Window**

The above figure shows a working system. There are 3 Evolution Devices connected to one of the generic USB ports (USB1). All the devices are shown in black text which indicates the drivers have correctly loaded. If any of the panels appear in red text this is an indication that the device is recognised as a USB device but the driver has not loaded correctly. This will need to be rectified before proceeding any further. Try re-powering the USB hub PBX50500 whilst the window is still visible. Otherwise contact Pandora service.

## Revolution Colour Corrector

### Configurations

The Revolution is a powerful real-time colour corrector available in several different configurations. It is housed in a rack mounted 1U enclosure and is ventilated front to back. Ideally it should be mounted in a rack space with at least 1U of free space immediately underneath to allow for additional cooling and to prevent transmission of heat from unit below.
At the rear of the unit are several Video and Ethernet connections. Depending on the configuration, these connectors have different functions. Below shows the main configurations and the associated connector functions.

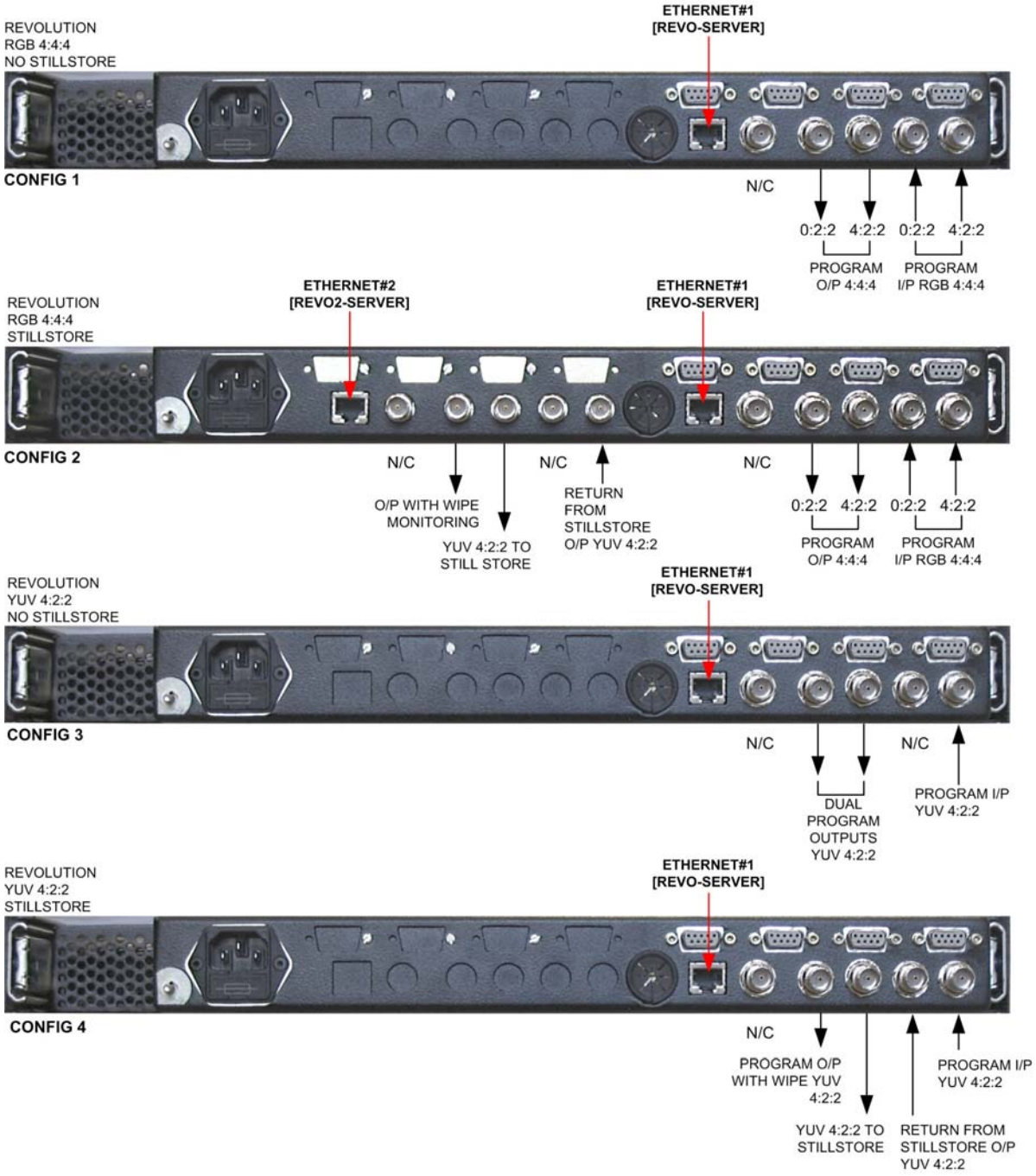



**Fig 5.1 Revolution Configurations**

As shown, there are 2 main hardware configurations. Inside the enclosure it is possible to have either 1 or 2 boards fitted. If a single board is fitted then the Revolution will be able to operate in RGB444 dual link but not have the capacity for a still store feed and return, as in Config 1. However if a single board unit is operated in YUV422 single link mode there will be enough connectors to allow for these additional functions and a Reference wipe will be enabled, as in Config 4.

*Note: if a single board Revolution is used with a still store and reference wipe function, the wipe will be shown on the only available program output and care should be taken not to record this wipe during lay-offs.*

With Dual boards fitted the Revolution is able to work in RGB444 dual link or YUV422 single link and still have capacity for a still store feed and return, as in Config 2. There is also a dedicated preview output which will show the wipe. This output is always in YUV422 regardless of the main program in and out settings. Figure 9.5 in Chapter 5 shows a Dual Board Revolution connected in a Non-Linear video system.

Network Settings

Each board has its own Ethernet port, each with a unique MAC address and IP address. The IP addresses are set, according to the installation's individual IP structure, during installation and should not be altered thereafter. If the address needs to be changed, contact Pandora Service.

The revolution is controlled exclusively by the Platinum software via TCP/IP. The Platinum software binds to an exclusive rack that is defined by its IP address(es) within the Hosts file of the Linux operating system. This allows several systems to co-exist on the same subnet.

*Warning: ensure you are familiar with networking and Linux before attempting to alter any system set ups*

In order to alter the Hosts file use an editor such as NEDIT whilst logged in as a Super User. To do this type the following in a terminal window:

```
sudo nedit /etc/hosts
```

the following window will be displayed with similar text:

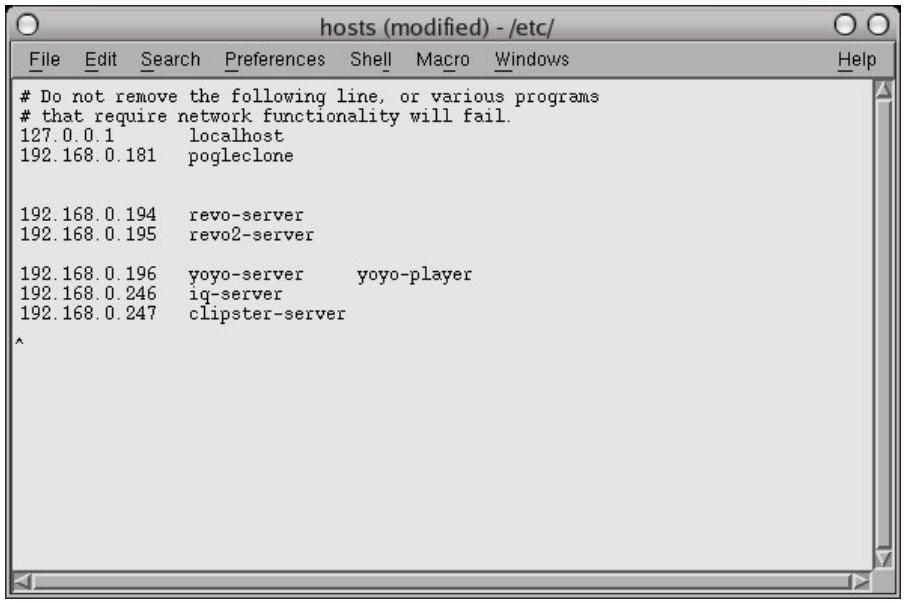



**Fig 5.2 The Hosts File**

The Ethernet port on board 1 is always allocated the host name revo-server; the port on board 2, if fitted, is revo2-server. Using Figure 5.2 as an example, the 2 boards are allocated the IP addresses 192.168.0.194 / 195 respectively.

Revolution Firmware

Every time the Revolution is powered on it will require firmware to be loaded into it. It does this via its Ethernet connection. If Platinum is running when the revolution is powered on, this firmware upload will happen automatically.

The firmware resides in the software / firmware area of the Vault (symbolised by the  icon) new versions of the firmware can be downloaded from our website periodically.

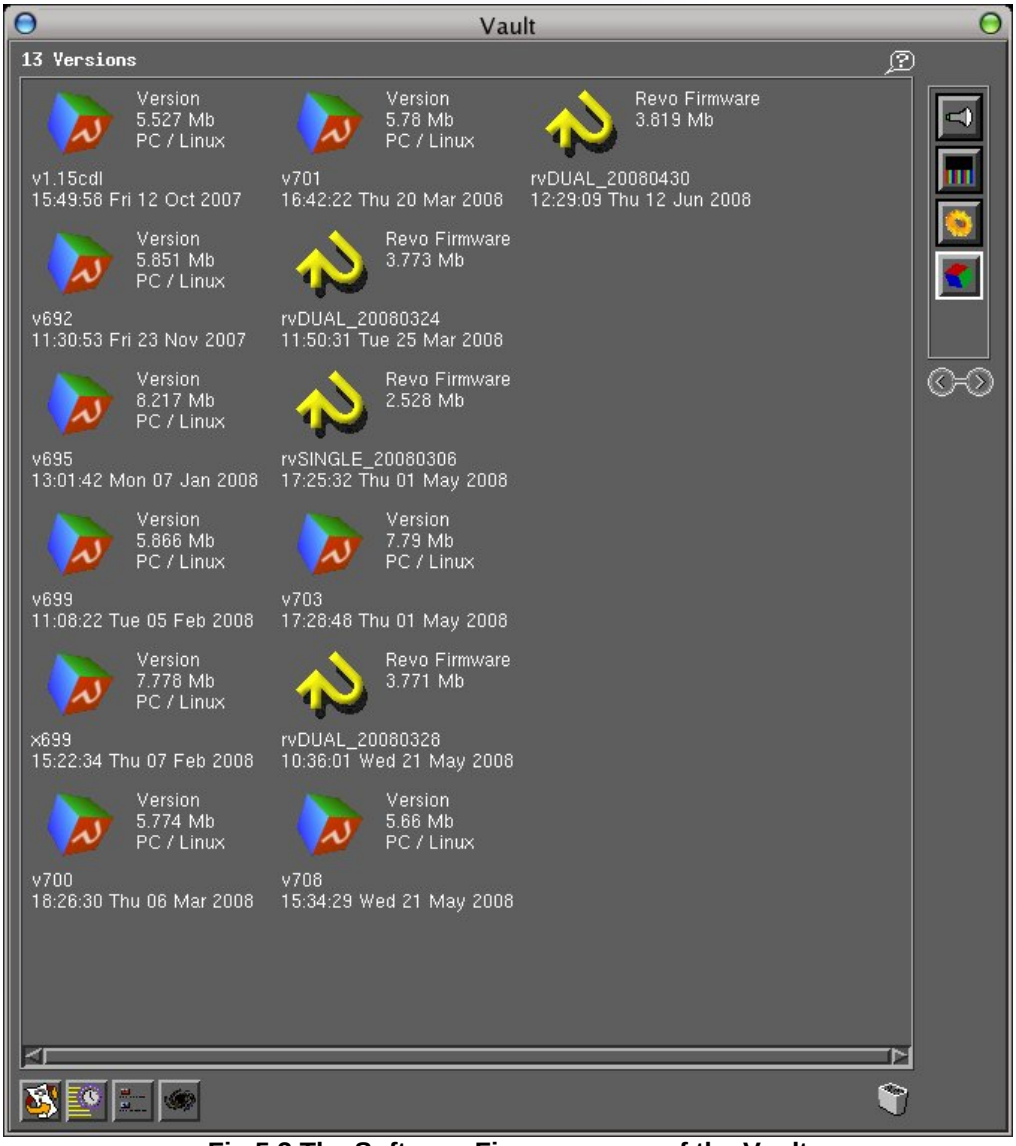



**Fig 5.3 The Software Firmware area of the Vault**

The Linux path to the above area of the Vault is /pogle/versions. This is where all new versions of Platinum and Revolution firmware should be downloaded / copied to. *Note: Single board Revolution racks will have different versions of firmware to those with dual boards.*

To manually load / update Revolution Firmware.

In order to update the Revolution firmware, a new firmware installer package must be downloaded or copied to the Linux system. To do this, follow the same procedures as detailed in Chapter 2 section “Installing new versions of Platinum” but instead download Revolution Firmware from our website.

With the firmware downloaded/copied into the /pogle/versions folder, it will be visible from within the Platinum application and assigned the  icon (see Fig 5.3). Clicking on the icon within the vault will prompt Platinum to unpack the firmware and copy into the relevant folder.

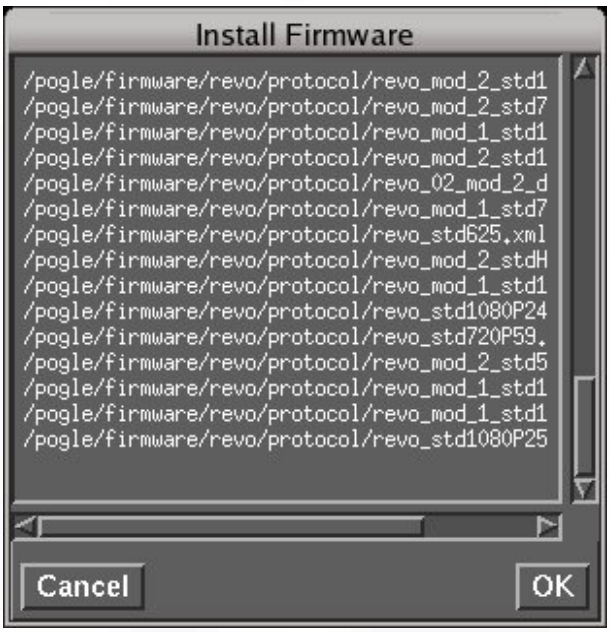



**Fig 5.4 The Firmware installation Dialogue Box**

Click OK to proceed. This firmware now resides in the correct location and will be the version that is uploaded into the Revolution rack until it is overwritten by repeating the procedure with a new version.

*Note: if this procedure is carried out with the Revolution rack powered up and connected the newly overwritten firmware will automatically commence download into the Revolution rack.*

To manually install the firmware open the Engineering menu  . Then navigate to the SCC Set-Up menu.

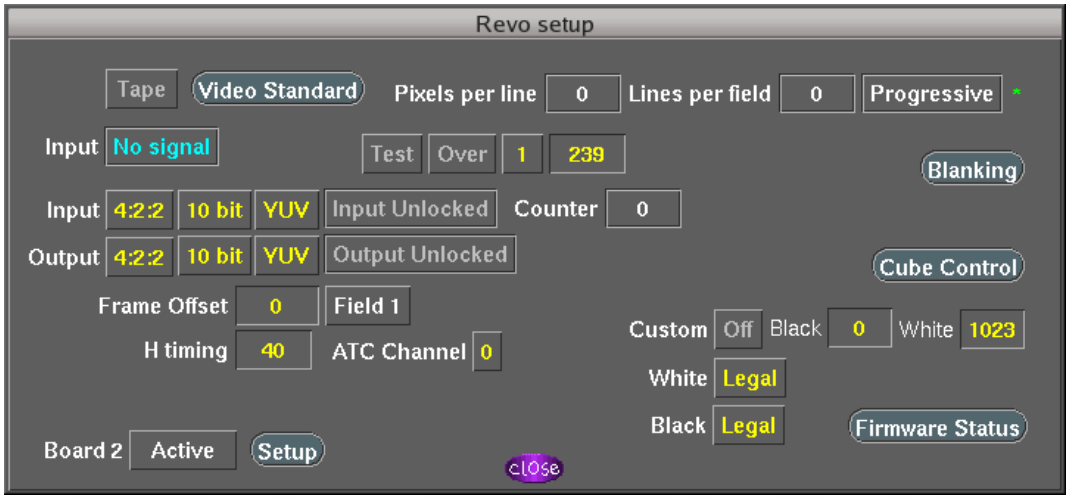



**Fig 5.5 The SCC Set Up window – for Revolution.**

*Note: in the above example the Board 2 is set to Active. This is the correct setting for dual board systems. It should be set to Disabled for single board systems. Platinum will require restarting if this setting is changed.*

Navigate to the Firmware Status panel.

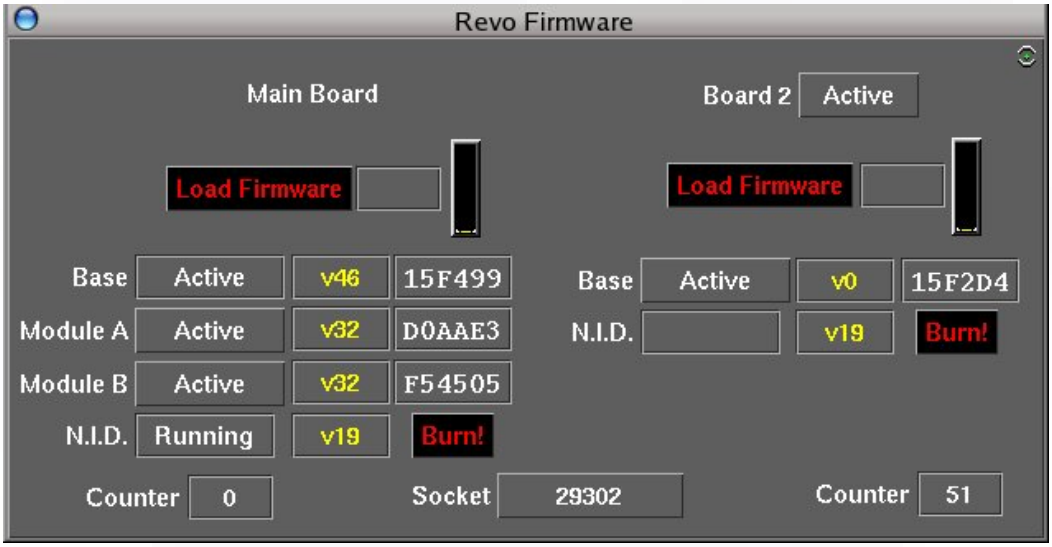



**Fig 5.6 The Firmware Status Window**

Click on the Load Firmware button for both boards, where applicable. The progress bars will indicate loading activity for each board. Upon completion, the Counters for each board fitted should start to run. The counters are activated by field pulses of incoming video and should always be counting. This is a useful check if there appears to be a fault with the output of the System.

## Video Stillstore & Wipe

Prerequisites for using the Pandora Stillstore & Wipe option on a system with a Revolution Colour Corrector

1. Pogle Platinum 'Stillstore' option license – obtainable from Pandora.
2. Bluefish © Grab Card installed into Linux PC

The Stillstore and Wipe are fully integrated into Pogle Platinum. The operation of the Stillstore and Wipe is very easy to set up and use. All reference frames saved in DPX V2.0 formatted files as un-compressed 10-bit RGB. Both SD and HD video standards are supported. Reference frames can be saved to a local disk, or on to a network-shared device.

For details on Still Store and reference wipe operation please see the Revolution Operation Manual.

### Bluefish Service Setup Checks

If the system is purchased with Still Store Option included the installation and set up will be completed and tested prior to shipment.

*Note: It is possible to retrofit the Still store option into any system running the Linux based Platinum software.*

A few checks can be made in the Linux operating system to ensure all the necessary drivers are loaded:

Open the services panel form the main menu, and locate the service entitled Bluefish.

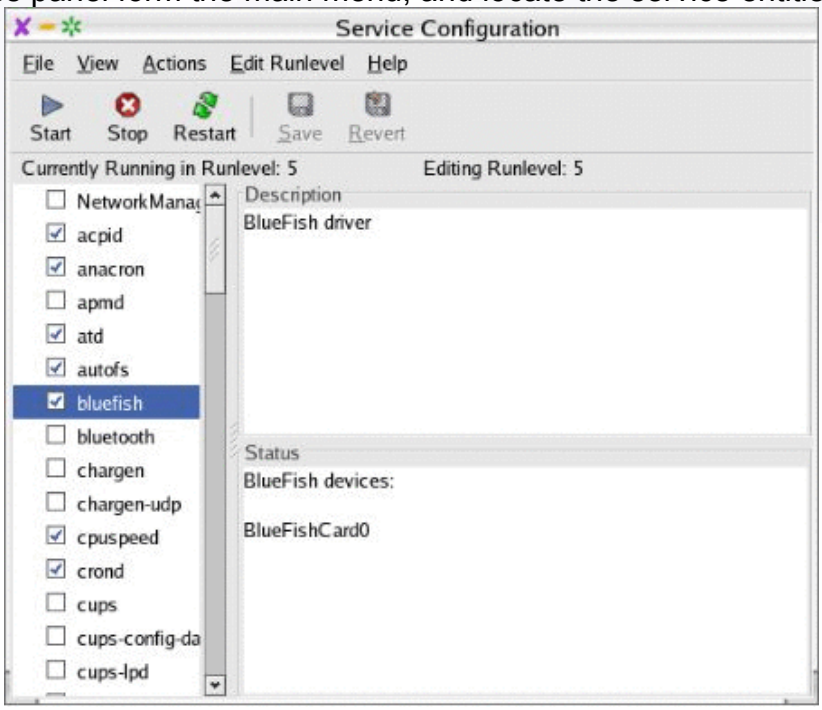



**Fig 6.1 The Services window**

Check that the status shows a device of the form 'BlueFishCardN' (normally N = 0) has been started. Also ensure the service is ticked and saved.

Platinum Setup

Start Pogle Platinum and check the 'Stillstore' license string in the 'Platinum Debug' panel:


**Fig 6.2 Pogle Debug Panel**

This is essential for Still-store operation and can only be installed by Pandora personnel. Please contact Pandora for more details.

Open the 'Room Setup' Panel (from the Engineering  window) and 'enable' the Stillstore option by clicking on the Stillstore button until it is highlighted as shown:


**Fig 6.3 Room Set Up Panel**

In addition, change the 'Source' values in the same panel to suit; Note that Digital I/P 1 is the Bluefish© Video grab card. If this is selected as the List Image Source then the Thumbnails will be created by down res-ing the full Resolution grabbed image.


**Fig 6.4 Room Set Up Panel**

Optionally, the destination directory of all stored reference frames can be set by clicking the 'folder' icon;  select a directory from the dialog and click 'OK'. Note the default location is held at /pogle/data/framestore.

*Note: Some customers prefer to store all their reference frames on a separate hard drive. This will need to be installed and configured first. Information on how to do this is available from Pandora Service.*

Finally, remember to click 

at the bottom of the 'Room Setup' Panel to apply and save the Stillstore settings. Now quit and restart Pogle Platinum as requested.

A note about referencing

With all the above completed the next step is to ensure the system is referenced correctly.

The wipe function is mixing 2 video sources which will need to be synchronous. Customers using a Telecine as a source may have previously used this with internal referencing. This will no longer be appropriate. The Telecine will need to be given an external genlocking reference. This same reference should be used to genlock the PCI grab card. The Wipe V Timing adjustment in the Room Set Up Panel shown in Fig 6.5 advances/retards the video output of the grab card with respect to the reference signal. The Grab card accepts both Bi-level SD and Tri-level HD sync pulses but only has a single input. The type of reference the card is currently receiving can be checked in the Stillstore panel as shown in Fig 6.7.

Adjust the (genlock) vertical-timing parameter on the PC/Linux PCI digital I/O card. Use the mouse Left button to increment and the Centre button to decrement. This value is stored and recalled for each video standard and frame-rate.


**Fig 6.5 Room Set Panel**

Assuming all the video source and recorders are genlocked, adjust the horizontal wipe to a suitable point and adjust the Wipe V Timing until the 2 frames come into line. Remember to click close at the bottom of the each Panel to apply and save any changes. You will need to check this setting for each video standard.

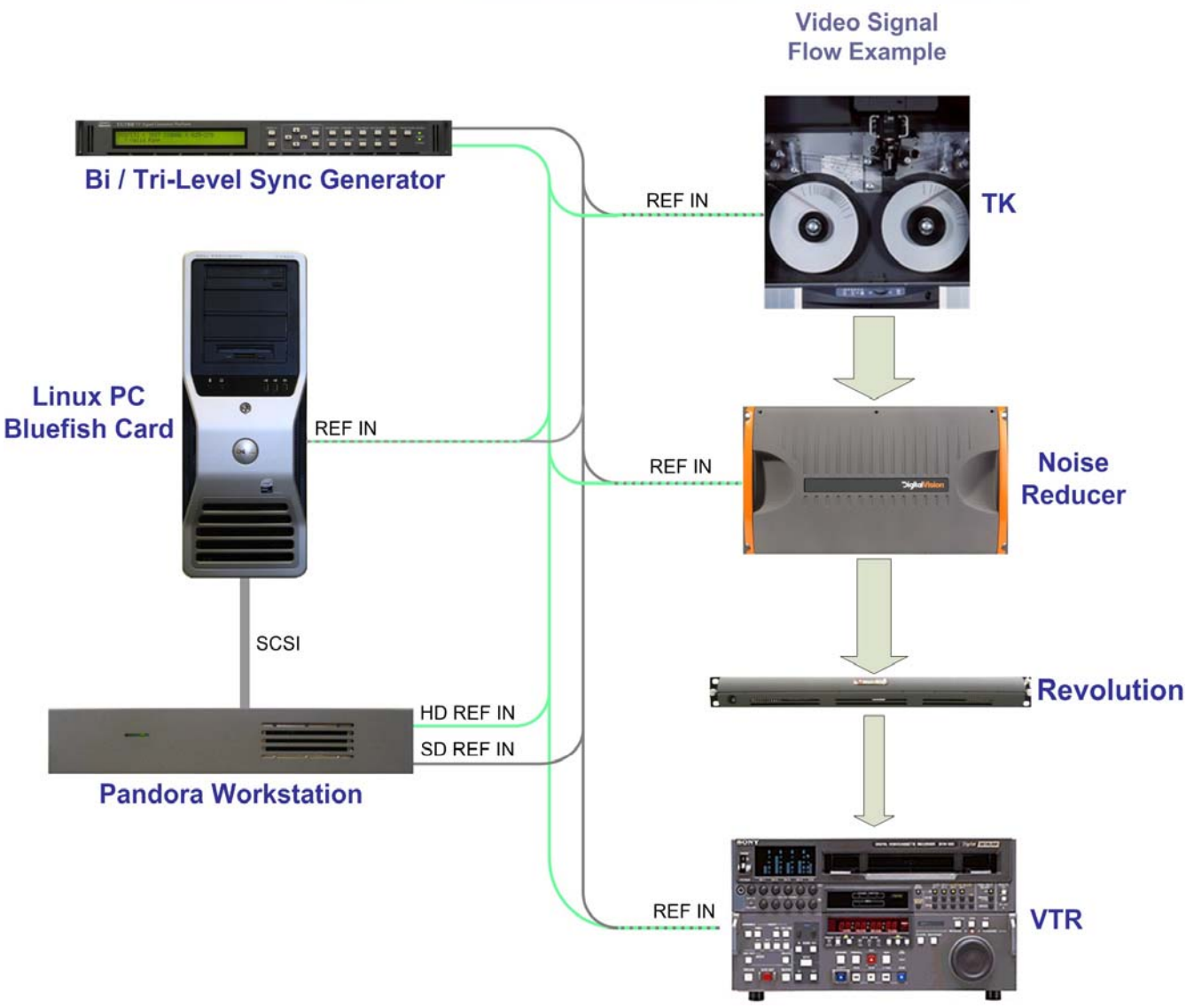



**Fig 6.6 A typical example of the Still Store video and reference connections when used with a Revolution Colour Corrector.**

## Stillstore Panel

The 'Stillstore' Panel is mostly a status indicator, showing the current card, input, output and genlock values.

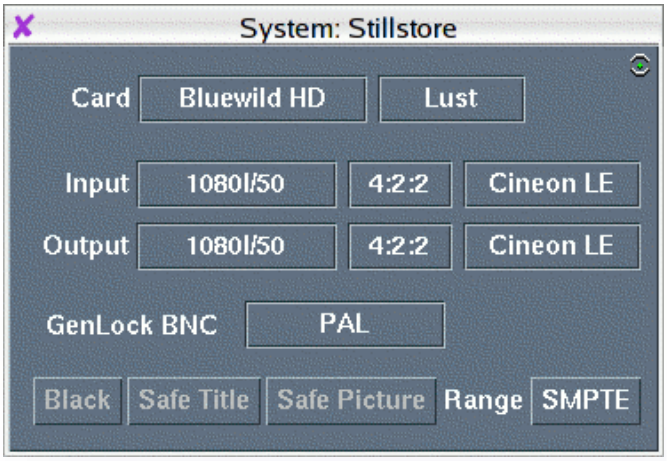



**Fig 6.7 Stillstore panel**

User controls include:

- Black - enable/disable the black (frame) generator on the card
- Safe Title & Picture - overlay the perimeter of the 'safe' title and picture
- Range - toggle the RGB colour range between SMPTE (the default) and CGR

## User set-ups for Still Store

Current option(s) in the 'User Setup' Panel are:

- Enable or disable all pop up dialog messages from the Stillstore (enabled by default). You may wish to disable these messages if loading old lists that have no images associated to them, and consequently warn of being “Unable to locate frame XXX” on every scene.


**Fig 6.8 User Set Up panel**

- Use "Standard" quality thumbnail images or enable "Enhanced" quality for improved images. They are set to 'Standard' by default, to always maintain backwards compatibility –

*WARNING: "Enhanced" quality image event lists and notes cannot be loaded into Pogle Platinum versions below v641*


**Fig 6.9 User Set Up panel**

## PBX6002 Pogle Telecine Interface


**Fig 7.1 Pogle Telecine Interface Front**

This is an additional 2U 19” rack unit which must be mounted adjacent to the Workstation as the connection between the 2 units is via SCSI connection as shown in fig 2. The rack converts the SCSI commands issued by the Workstation into the required format to control whatever telecine is attached. Another Motorola 68k Microprocessor is used to control the process.
The combination of hardware contained within the rack is dependant on the type of telecine interface is required. The figure below shows the SCSi and Aux connections interconnections between the Workstation and the Telecine interface racks.

**Fig 7.2 Rear of Pogle Workstation and TK Interface**

For further details of how to install and configure the Telecine interface, depending on the Type of Telecine used, please see the Appendices to this document.

If the system is to be used as Tape to Tape only then no Telecine interface rack is required.

## Spirit HD/2K/4K connectivity

The following chapter describes how to connect, configure and test the control of the Thomson Grass Valley Spirit HD, 2K and 4K Datacine machines. There are several generations of Spirit telecine/datacines. This document is concerned only with the latest versions supplied. The new Spirit has a new rack 2 fitted internally which consolidates the functions of both rack 2 and rack 3 of the older machines. These were release circa Spring 2007. At the time of writing the Spirit firmware was v2.6.457.

Previous models, either the Spirit Classic or Spirit 2K/4K with old rack 3 have a different set up procedure. Please see previous manuals or contact Pandora Service for details.

### Platinum requirements

To control the latest versions of Spirit, Platinum version 710 or later must be installed.

Firstly the Room Set Up Panel needs to reflect the Type of telecine connected. Open the Engineering menu and then the Room Set Up panel (refer to previous chapters for details).

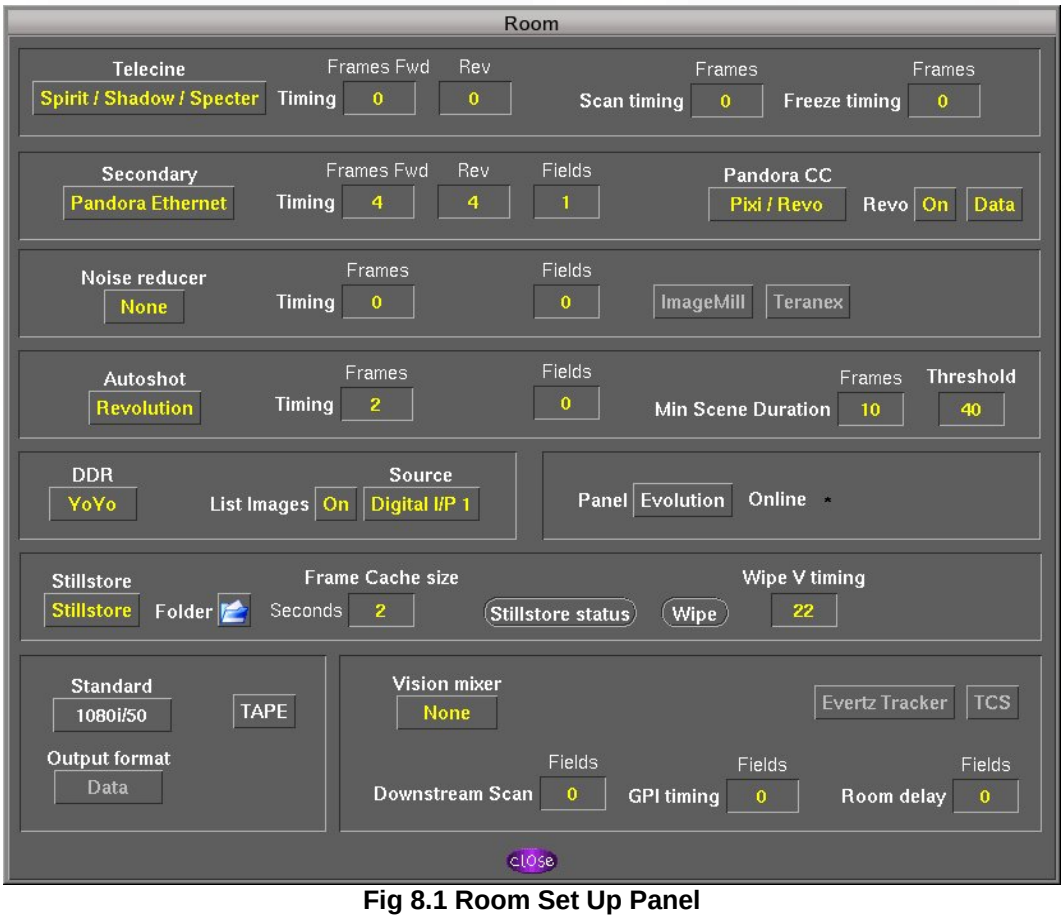



**Fig 8.1 Room Set Up Panel**

Note the top left option set to Spirit / Shadow / Specter.
If this parameter needs to be changed, close the panel to save the setting. A message will appear asking to restart the platinum software. Once this is done, open the engineering menu again and then open the Source Set Up panel.

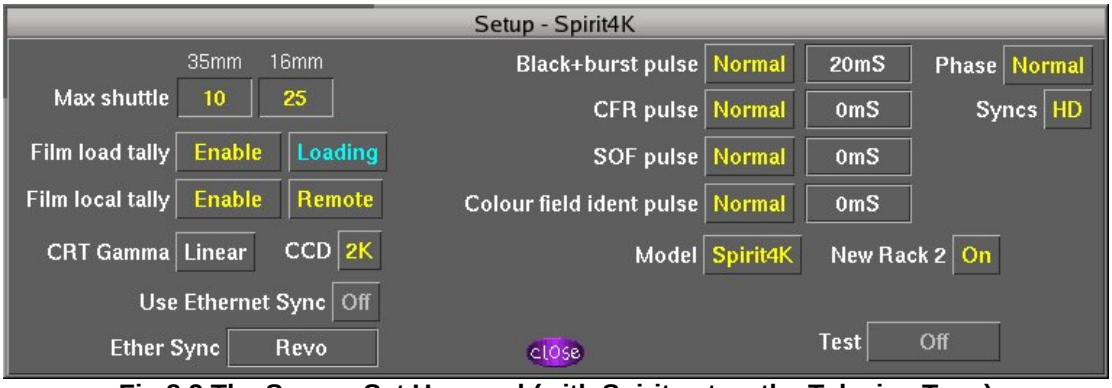



**Fig 8.2 The Source Set Up panel (with Spirit set as the Telecine Type)**

Note the Model set to Spirit4K – this refers to a generation of Spirit and is actually the correct setting for the new (circa spring 2007) spirit HD and Spirit 2K too. Ensure the New Rack 2 setting is set to On. This is only turned off if the Spirit 2K/4K has the older rack 2 AND rack 3 fitted. Again, if any of these parameters need changing, close the panel and restart Platinum as instructed.

Network settings

*Warning: ensure you are familiar with networking and Linux before attempting to alter any system set ups*

The Platinum software sends control commands to the Spirit via TCP/IP and as such is addressed. The Platinum system refers to the Linux Host file in order to send commands to the correct address. First, ascertain the IP address of the Spirit Datacine. This can be done via the Graphical Control Panel (GCP) or refer to the Spirit Manual for further details. Secondly, enter this address in the Host file using host name spirit4k-server.

In order to alter the Hosts file use an editor such as NEDIT whilst logged in as a Super User. To do this type the following in a terminal window.:

```
sudo nedit /etc/hosts
```

The following window will be displayed with similar text:


**Fig 8.3 The Hosts File**

Add a line to reflect the IP address of the Spirit. In the above example this address is

192.168.20.101. Save and close the host file and restart Platinum for the changes to take effect.

*Hint : to ensure the host file entry is correct and that there is a good connectivity between the Linux PC and the Spirit try pinging the hostname:*

```
ping spirit4k-server
```

*a response should be seen. If not, check settings and connections and ensure this is rectified before proceeding.*

System Connectivity

Fig 8.4 shows a simplified system layout with network and SCSi connections.

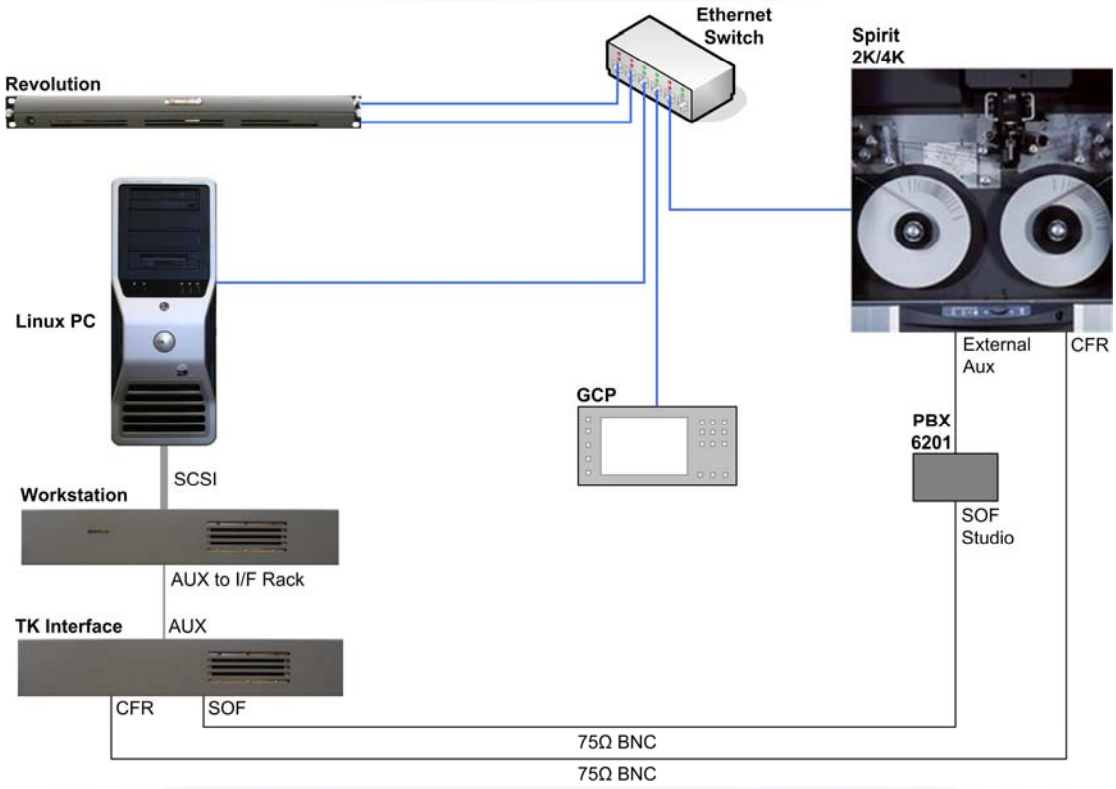



**Fig 8.4 Ethernet wiring for Spirit / Revolution system**

For detailed instructions on how to connect and set up the Start Of Frame (SOF) and Colour Framing (CFR) pulses please refer to Appendix H.

Fig 8.5 shows how both SD and HD referencing are required for the system especially if the system has the integrated Still Store function as detailed in Chapter 6.

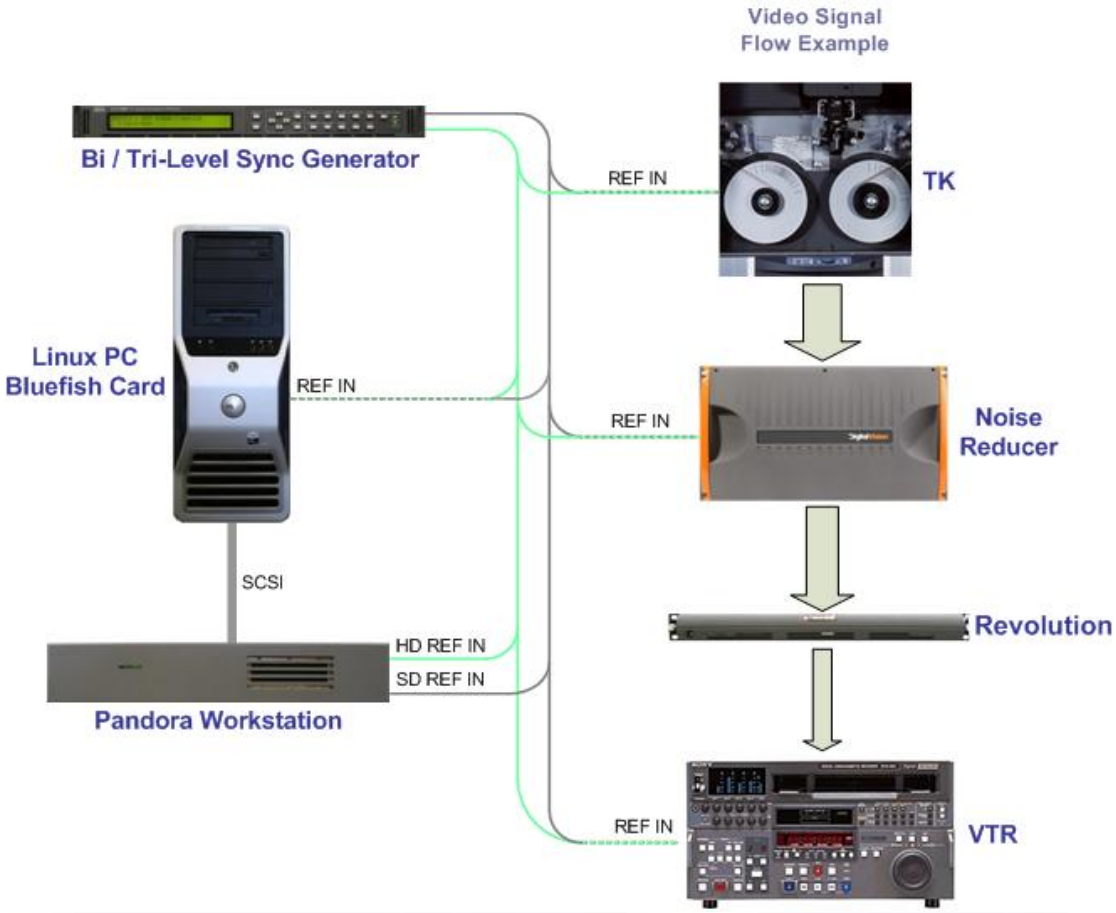



**Fig 8.5 Referencing system for Spirit and Still Store**

Confirming connectivity and control

Once all the connections have been made and the network settings entered correctly (check with “ping” as above) some basic checks can be performed to ensure the Platinum system is able to control the Spirit.

Assuming the Spirit is set into Remote mode on the front Panel the GCP should be able to control all functions of the Spirit. With the Control light illuminated on the GCP, check the several functions (eg Primary colour correctors, zoom values etc). Once the GCP control is established, double press the Stop button on the Evolution Operation panel, this should then “grab” control away from the GCP and assume control from the Pogle system. This can be verified by the Control Light on the GCP going dark. Furthermore, assuming there is film loaded, the timecode/framecount as seen on the GCP should be reflected in the TK transport panel (see chapter 6 of the Revolution Operations Manual).

## YoYo connectivity

The following chapter describes how to connect, configure and test the control of the Pandora YoYo Non-Linear data management system.

**Fig 9.1 Mac-Pro based YoYo**

The YoYo is a Mac-Pro based system and can be configured to work in a video based workflow or an entirely data/file based workflow. For detailed information about the YoYo refer to the Products area of our website. There are also operator and software installation manuals in the support area of our website.

For the video based system, Pandora employs the use of Black Magic Design© Multibridge Pro unit.


Blackmagicdesign

**Fig 9.2 Black Magic Designs Multibridge Pro**

This system will work in either High or Standard Definition in any of the common frame rates. Fig 9.5a/b shows simplified system connections for incorporating a YoYo into a Pogle system.

The YoYo is controlled in 2 ways:

Firstly; as a VTR/DDR device via an RS422 cable into 1 of the 4 VTR ports on the Pogle Workstation. The YoYo uses a USB to Serial (Keyspan adaptor) device in order to "appear" and be controlled as a DDR by the Pogle system. The controls used by this protocol are STOP/PLAY/FF/FR/JOG/SHUTTLE/STEP. Notes on how to install the appropriate drivers are found in the YoYo software installation manual.

*Note: The Yoyo can also control 1 VTR device via the port on the Multibridge unit. This is useful when using the YoYo software to layoff a graded sequence. Refer to YoYo manuals for more information.*

Secondly; an Ethernet socket connection is present between the Platinum and the Yoyo software. This allows for functions including PAN/SCAN/TILT/X&Y AXIS/ZOOM/GRAB EDL. See the Network Settings section of this chapter for information on how to set up and test this connection.

Platinum requirements

To control the latest versions of YoYo, Platinum version 715 or later must be installed.

Firstly the Room Set Up Panel needs to reflect the Source as being a YoYo. Open the Engineering menu and then the Room Set Up panel (refer to previous chapters for details).


**Fig 9.3 Room Set Up panel**

Note the Source is set to YoYo. This will only take effect if the system is also set to Tape mode (in the above example this is not the case as “Tape” in the lower right hand corner is not highlighted).
If this parameter needs to be changed, close the panel to save the setting.

Network settings

*Warning: ensure you are familiar with networking and Linux before attempting to alter any system set ups*

The Platinum software sends control commands to the YoYo via TCP/IP and as such is addressed. The Platinum system refers to the Linux Host file in order to send commands to the correct address. First, ascertain or set the IP address of the YoYo.

*Hint: This can be done via System Preferences>Network with the Main menu of the Mac OS.*

Secondly, enter this address in the Host file using host name yoyo-server.

In order to alter the Hosts file use an editor such as NEDIT whilst logged in as a Super User. To do this type the following in a terminal window:

```
sudo nedit /etc/hosts
```

the following window will be displayed with similar text:

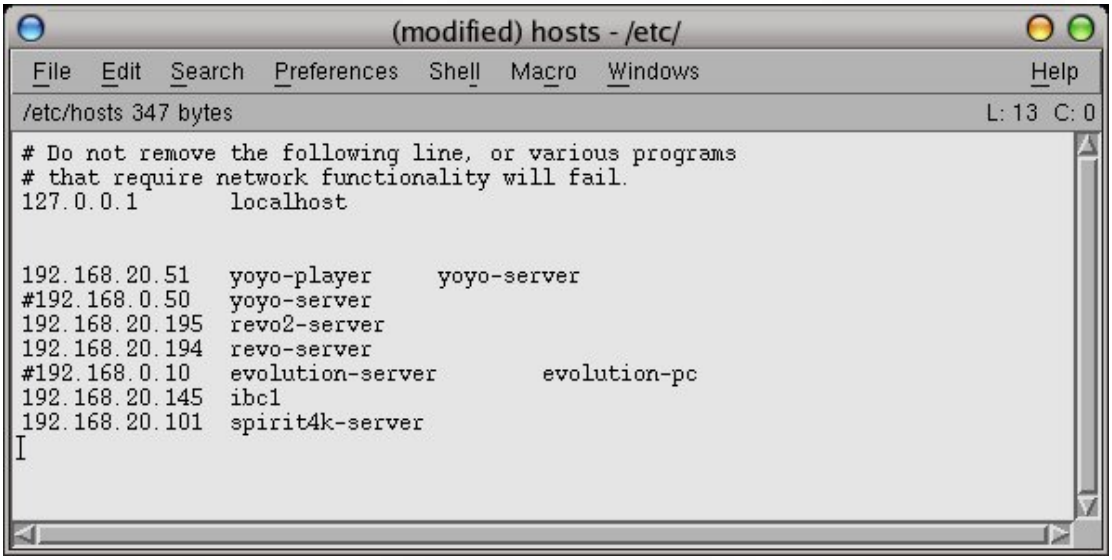



**Fig 9.4 The Hosts file**

Add a line to reflect the IP address of the YoYo. In the above example this address is 192.168.20.51. Save and close the host file and restart Platinum for the changes to take effect.

Hint : to ensure the host file entry is correct and that there is a good connectivity between the Linux PC and the YoYo try pinging the hostname:

```
ping yoyo-server
```

a response should be seen. If not, check settings and connections and ensure this is rectified before proceeding.

## System Connectivity

Fig 9.5a/b shows a simplified system layout.

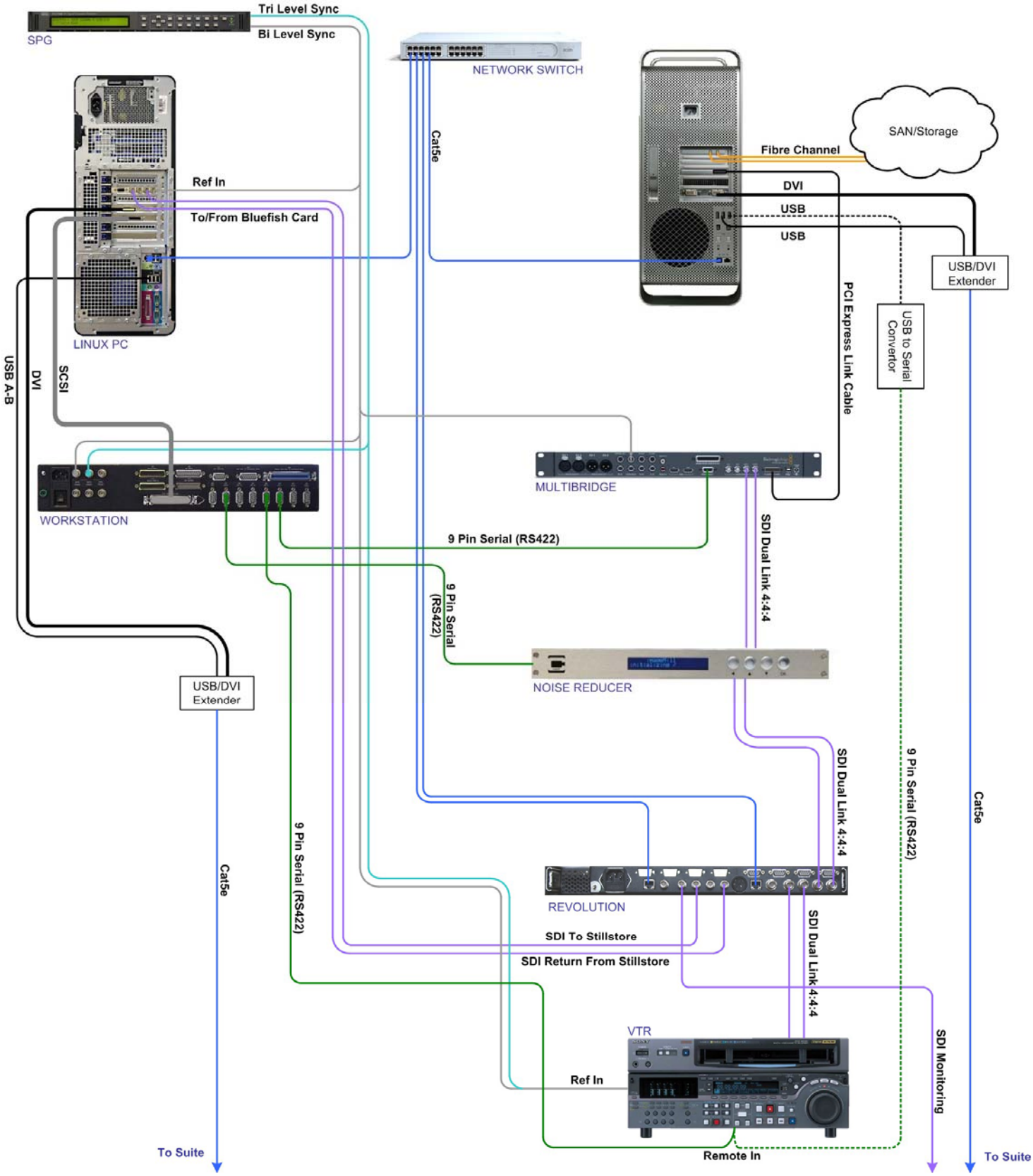



**Fig 9.5a YoYo/Revolution/Still store system layout – machine room**

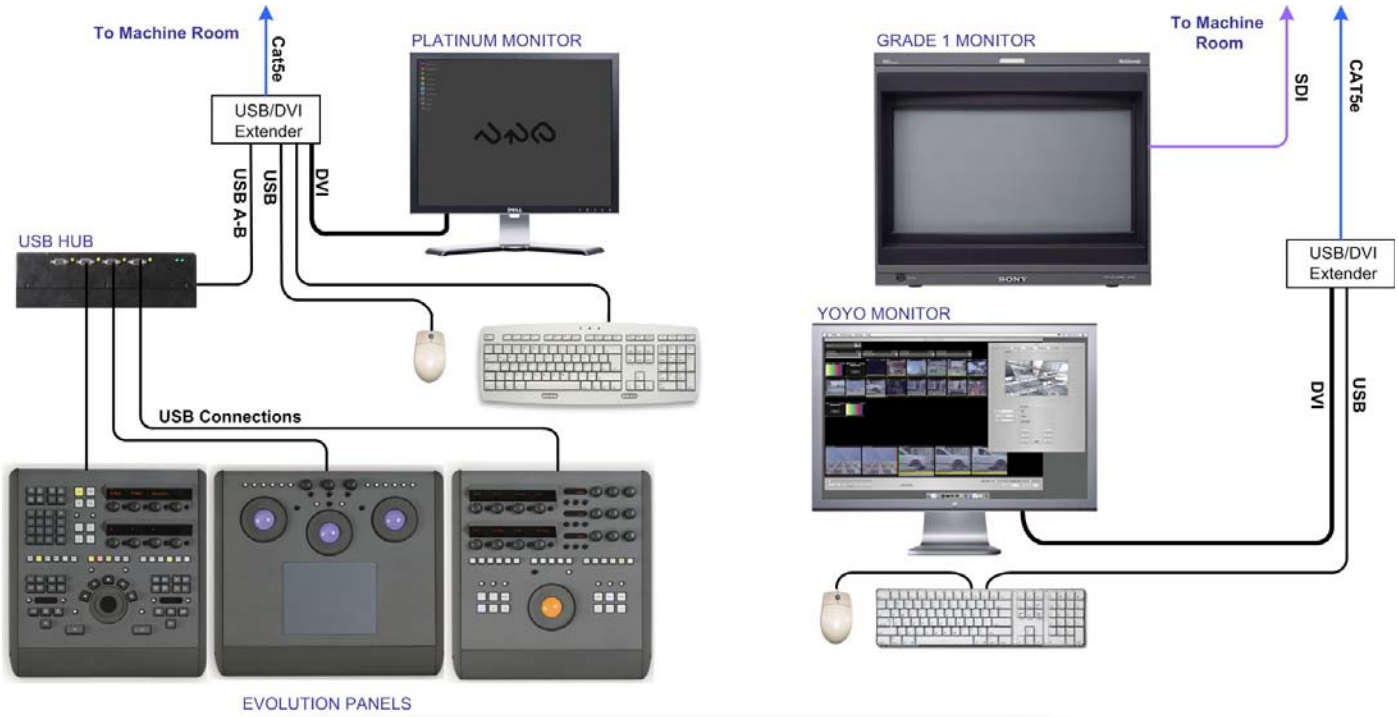



**Fig 9.5b YoYo/Revolution/Still store system layout – Suite**

Confirming connectivity and control

Once all the connections have been made and the network settings entered correctly (check with “ping” as above) some basic checks can be performed to ensure the Platinum system is able to control the YoYo.

To check the RS422 connectivity between the Pogle workstation and the YoYo, start the Yoyo application. Within the system bar of the Platinum GUI the following icon should appear in the appropriate port number. This signifies a DDR is connected to that port.

**Fig 9.6 DDR Icon**

To check the Ethernet connection try the “ping” command as detailed above. If that yields a good response, open the YoYo Scans window in Platinum.

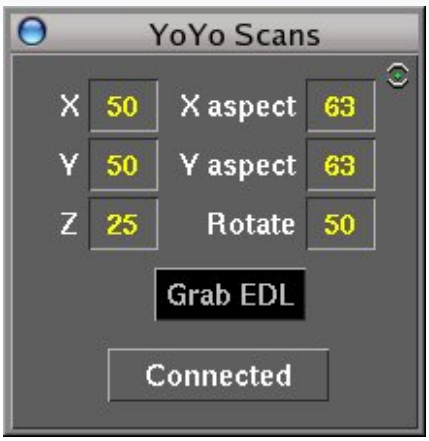



**Fig 9.7 YoYo Scans panel**

If the status indicated is “Connected” the Ethernet connection is good and there should be full control of the Spatial functions of the YoYo.
Hint: Press the Scans button and try adjusting a parameter such as Zoom to visualise the controls.

*Note: If the Yoyo application is restarted for any reason during a session the Platinum system can sometimes “drop” the Ethernet connection. In this case open the YoYo scans Window as above; if the indicator shows “Not Connected” click on it to re-establish communication.*

Yo Cursor

Yo Cursor is a separate application that runs on the same Mac-Pro as the main YoYo application. This background program allows the operator to use the Pen and tablet on the Trackball Panel on the Mac desktop. The application should be set to start automatically on boot up. In order for this to function correctly there must be an Ethernet connection tested and working as per the previous section.
The Platinum system sends the tablet information to the IP address of the YoYo by use of the host file as detailed above.
The host file entry needed is yoyo-player.

In the above example the IP address of the Mac Pro has 2 host names associated with it: yoyo-player and yoyo-server. This is a valid way of ensuring both applications receive the correct data.

To switch the Pen and Tablet over from Platinum to the YoYo open the Cursor Modes panel and select Yo Cursor.

## PCIE data workflow installation

### Overview

Previous chapters have shown systems centred around a video based system where the Revolution Colour Corrector sits downstream from the video source. The data interface presented by Pandora allows an altogether different workflow. A PCIe card is fitted into the YoYo Mac Pro to act as a direct interface from the YoYo application to the Revolution. Instead of Video streams this system allows the user to grade file based material in any resolution up to 2048x1556 faster than realtime. The YoYo and the Revolution are the same hardware as previously described and can be switched between video and data based grading according to requirements.

### System connectivity

Figure 10.1 shows a simplified Data system that would be installed in the equipment room. No video cabling is included in this diagram apart from the YoYo monitor output.

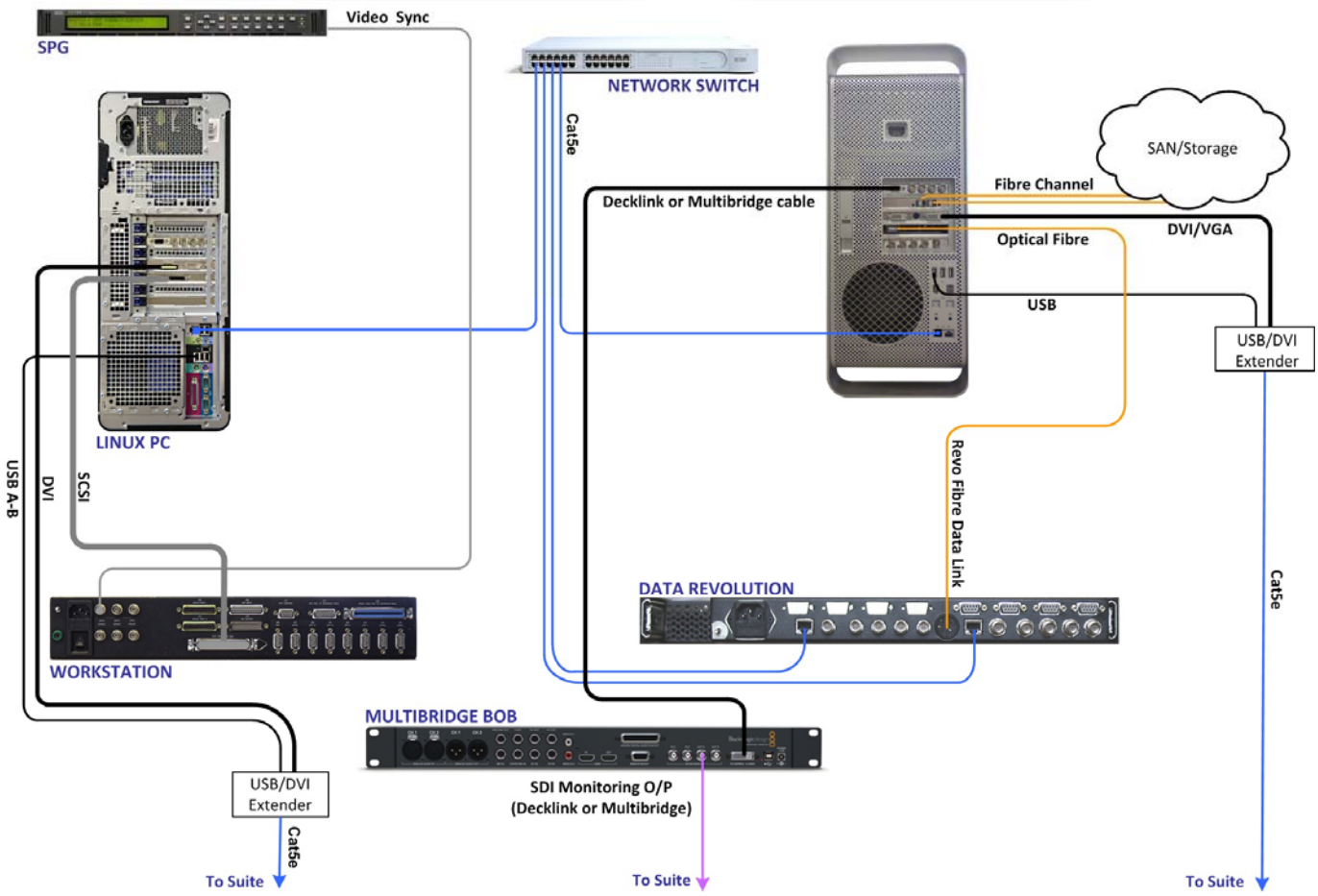



**Figure 10.1 Data YoYo/Revolution system connections**

YoYo PCI-E data card installation

The Pandora card installed into the Yoyo will be referred to as the Yoyo PCI-E Data card.

Due to the current slot configuration in the MacPro, the Mac's PCI-E Graphics card must be a single width card for the Yoyo PCI-E data interface card to fit. This is because the YoYo PCI-E data card is a double width PCI card.
This card has to be fitted in the first 16 lane slot which is the only double width slot that does not impede any of the other card slots. Please see the Figure 10.2 for the correct layout.

Install the Yoyo PCI-E data card into slot 1 of the MacPro.

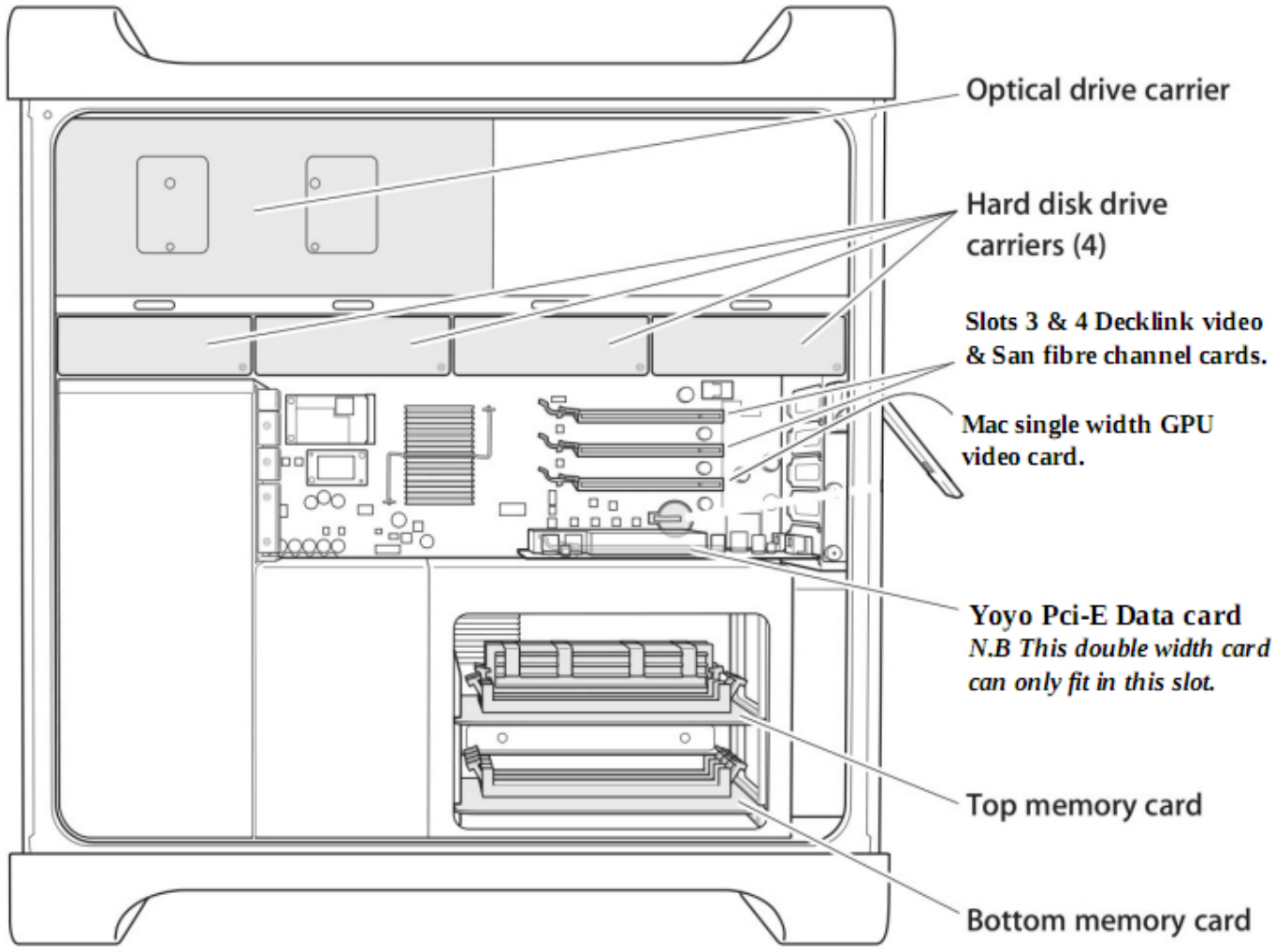



**Figure 10.2 Internal MacPro slot configurations.**

## Video Connections

To monitoring of the video output, as well as output for tape layoff is done via the Blackmagic Multibridge breakout box, or a Decklink PCI card located inside the Mac.

The Decklink documentation for each particular model of Decklink card or Multibridge will indicate where to find the video outputs.

## Installing YoYo drivers and software

Turn on the Mac and check to confirm the Mac has recognised the PCI-E data card.

- To do this, click on the Apple icon in the top left hand corner of the screen (see figure 10.4)
- Click on '**About This Mac'**
- Then **'More Info'** - This will launch the system profiler application.
- Click on '**PCI Cards'** from the list
- The **Pci1aa3,2000** should be present in the list of PCI devices as shown in figure 10.5

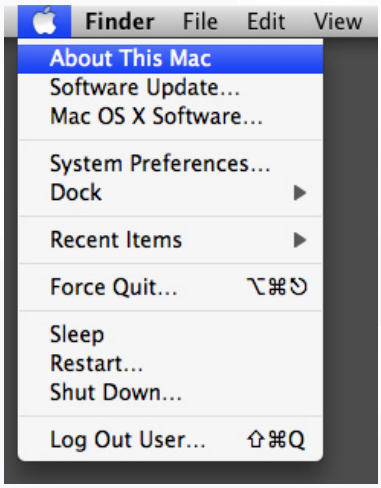



**Figure 10.4 MacOS Menu**

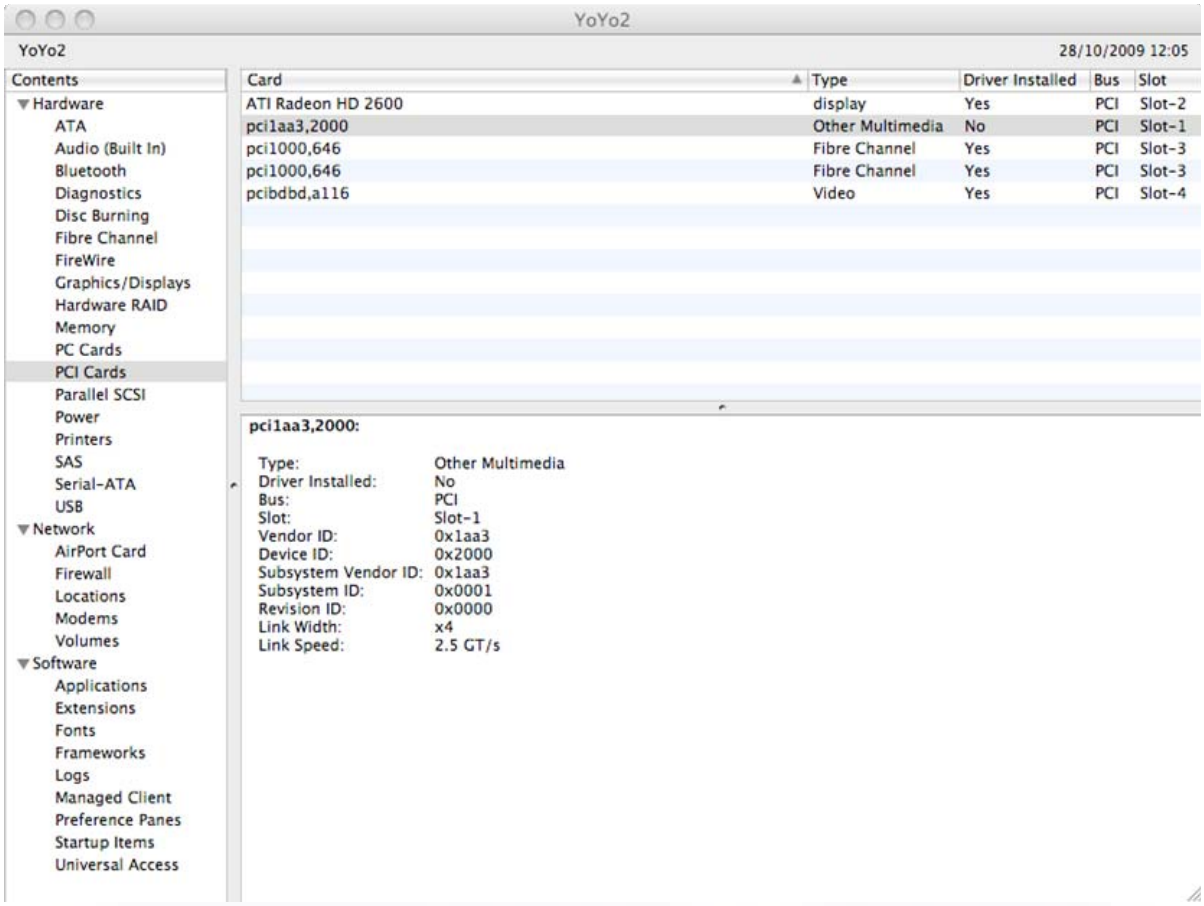



**Figure 10.5 MacOS Hardware profiler**

Download or obtain the latest software and drivers for the PCI card and YoYo. This consists of:

- YoYo application
- YoYo PCI-E card YoYo driver
- YoYo PCI-E card firmware
- Revolution Data Firmware

These can be obtained from the Support area of the Pandora Website.

http://pogle.pandora-int.com/supportRevo.php

Install the Yoyo Driver installer package by clicking on the file. – For example: YoYo_driver_2.1_92 as shown in figure 10.6
The file may need to be unzipped first. To extract the file, just double click the zip file, which will then be extracted to the same folder.

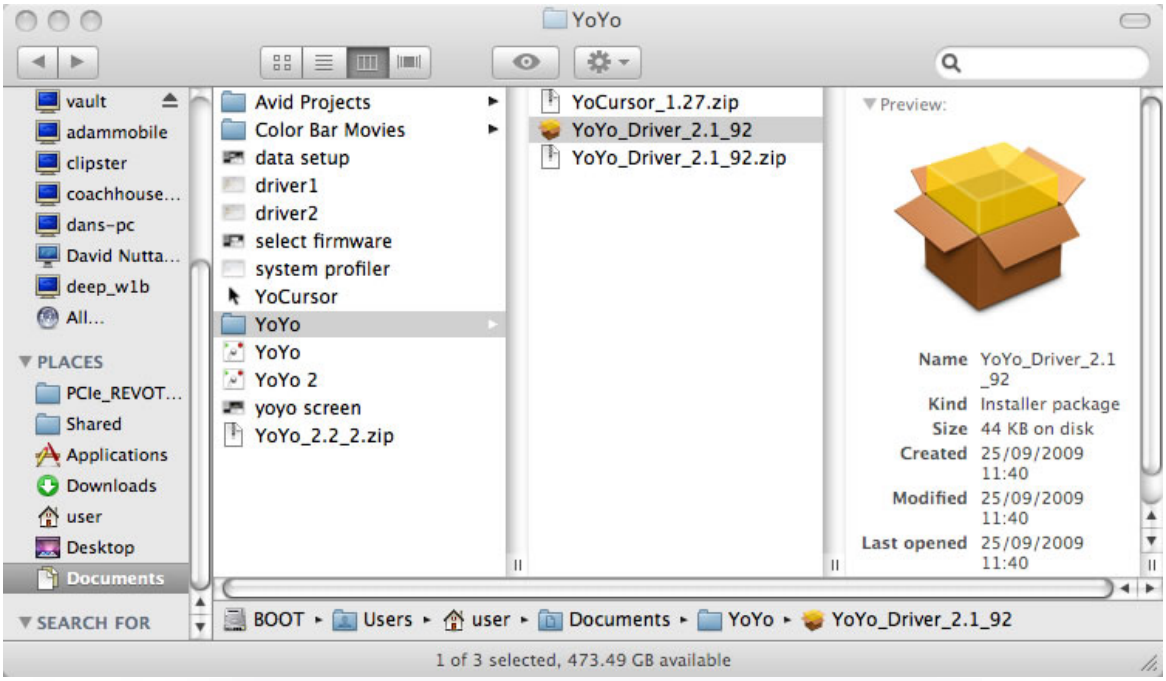



**Figure 10.6 MacOS finder window**

The setup wizard will guide the user through the installation process –figure 10.7

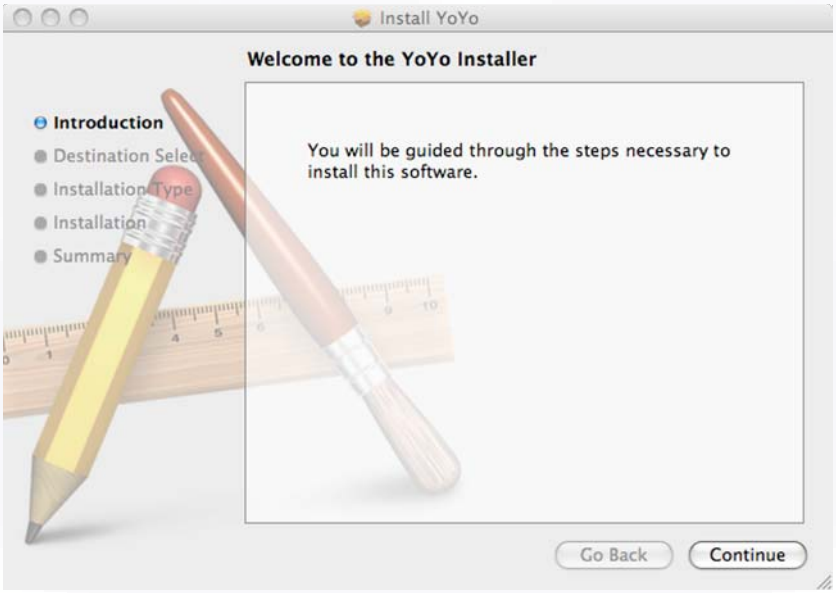



**Figure 10.7– YoYo Installer Introduction**

Once the driver is installed, it will ask the user to reboot. Click on the button to reboot.

The Installation can be verified by accessing the Mac system profiler – as shown previously.

- To do this, click on the Apple icon in the top left hand corner of the screen (figure 10.4)
- Click on '**About This Mac'**
- Then **'More Info'** - This will launch the system profiler application.
- Click on '**PCI Cards'** from the list
- As shown in figure 10.8, The **Pandora Revolution Interface** should be present in the list of PCI devices.

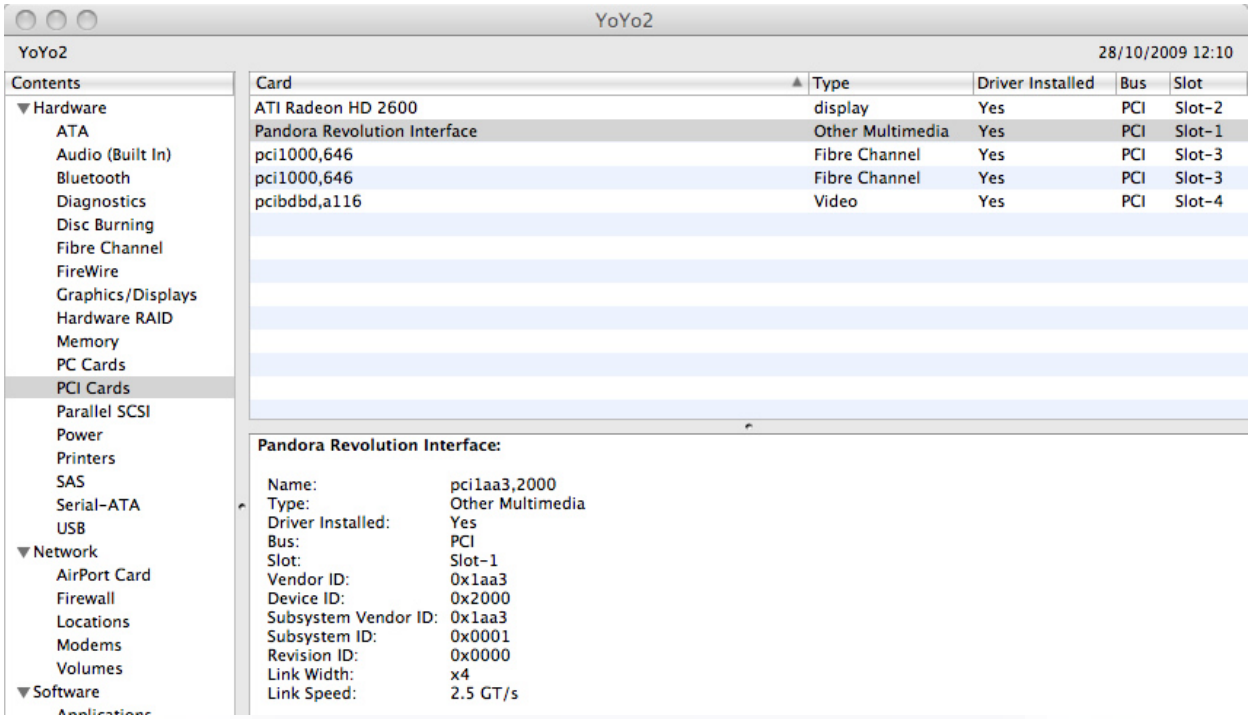



**Figure 10.8 MacOS Hardware profiler**

To run the latest version of Yoyo software, download and unzip the downloaded YoYo Application file, then double click on the Icon.

Start the YoYo application. A **Data** button should now be seen on the Yoyo splash screen as shown in Figure 10.9. Select **Data** to run the YoYo application in Data mode.

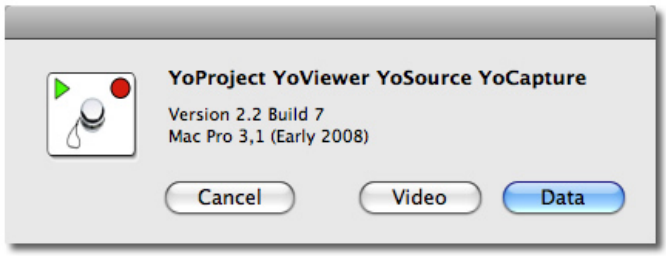



**Figure 10.9 YoYo Splash screen**

Once yoyo has started, In the YoProject window, click the **Setup** button – as circled in figure 10.10

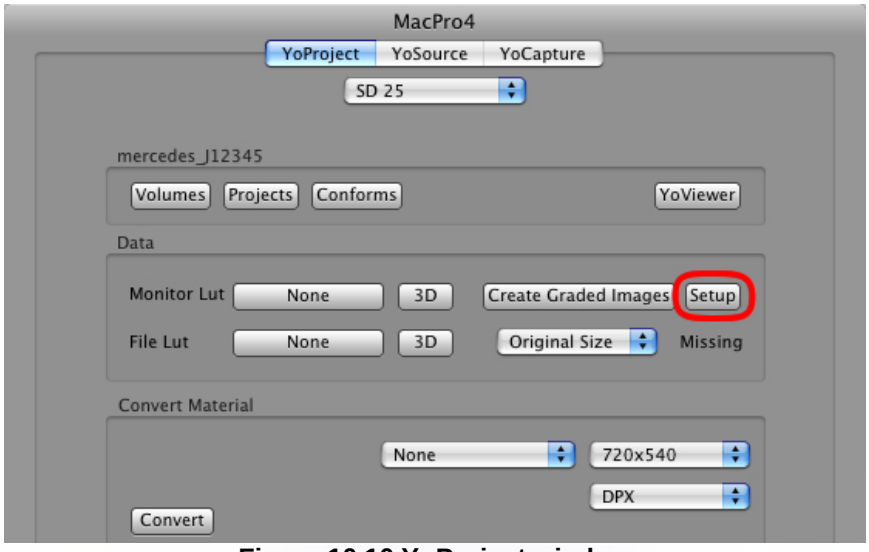



**Figure 10.10 YoProject window**

Select **Program Firmware** (figure 10.11)

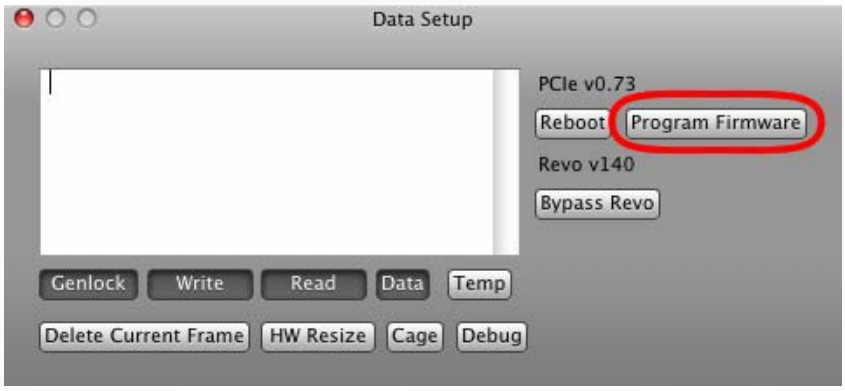



**Figure 10.11 YoYo Data setup window**

Point the finder window to the location of the PCI-E data card firmware file (figure 10.12). This will be in the format of **pxxx_RevoPCI.bit**. Click **Burn** to select.

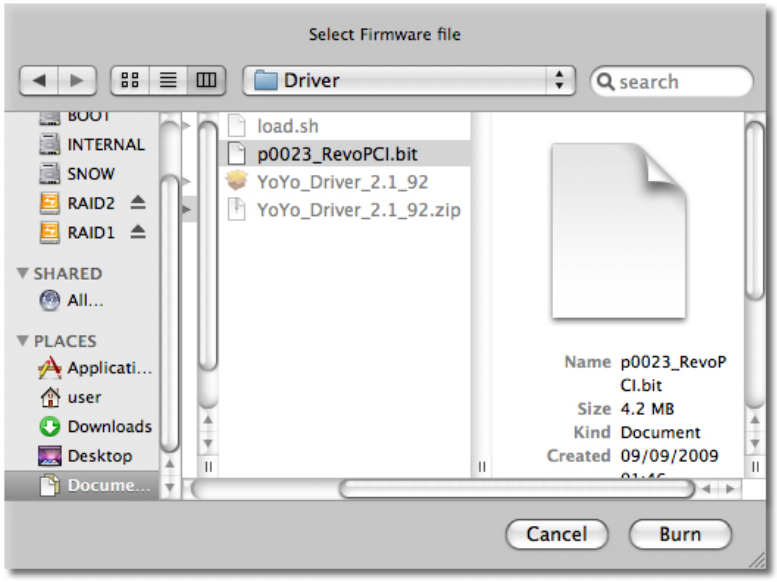



**Figure 10.12 Select Firmware window**

The Firmware will now be programmed into the PCI-E data card. This may take upto 1 minute.

When finished, the text will show: **Firmware Verify OK**. (Figure 10.13)

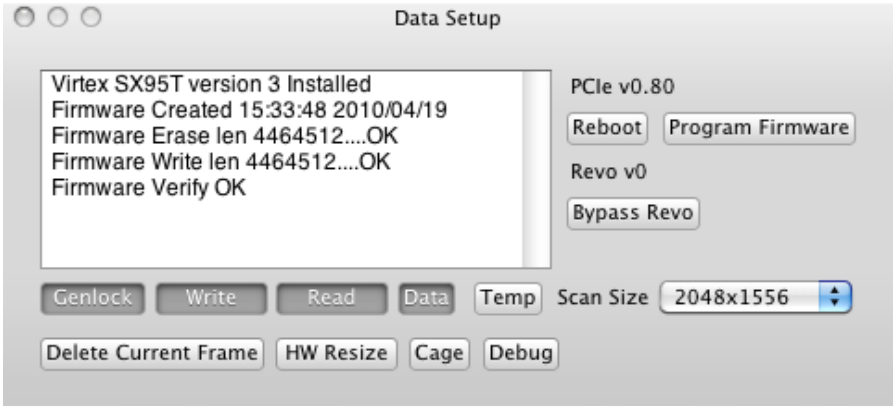



**Figure 10.13 YoYo data setup window**

Press **Reboot** & press **OK** to complete the firmware installation. The Mac will now be rebooted in a particular way to facilitate the completion of the setup process. This may take a few minutes.

Once the Mac has restarted, start the Yoyo application in **Data** mode.

## Platinum and Revolution Setup for Data Workflow

Install the latest version of Platinum. The latest version can be accessed from the Pandora website : www.pandora-int.com and navigating to the download page under the support section.

For help with installing Platinum, please refer to Chapter 2 of this manual.

Once installed, start Platinum in Telecine or Tape mode and go to the **Room Setup** Panel. Turn on the Revolution Data mode (figure 10.14). Close **Room Setup** to save this selection.


**Figure 10.14 Video Room Setup**

Restart Platinum. Now the **Data** button will be available from the Splash screen on start up. Select **Data** to start Platinum in the new Data mode. (figure 10.15)

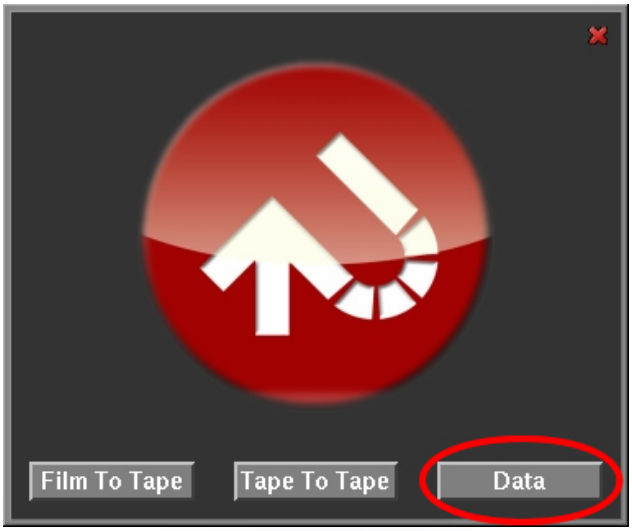



**Figure 10.15– Platinum Splash screen with data option**

Goto the **Vault**, and then **Versions** section and install the latest Revolution SCC Data firmware. This will be in the format of rvPCIxx_xx_xx.rfw where the xx's represent the date of the firmware. For further information on how to load Revolution firmware, refer to CHAPTER 5.

Once the firmware has been loaded into the Revolution SCC, load a clip into YoYo, and image data should now be passed through the Revo, and a video output should be seen on the Blackmagic Device output. If the current selected Yoyo clip is not shown then send new correction data to the Revo to make it refresh itself. (i.e apply a Revo red ball primary correction).

*- When starting the YoYo app for the 1st time after re-powering the Mac-Pro, there may be a delay up to 30 seconds whilst the card initialised and a valid signal is detected on the output of the Blackmagic Device. This is normal behaviour.*

Finally, to confirm the system is working correctly, open the **Data Setup** panel by clicking **SCC Setup** in the Platinum **Engineering Menu**. Check to see if the **Fibre** is reporting the correct frequency rate; for example 25hz for 25fps footage. The Data setup window is described in more detail in the chapter below.

The Platinum Data Setup Panel

The Data setup panel (Fig 10.16) is the equivalent of the **Revo Setup** in Revo video mode. The Following table describes useful functions and buttons you may need to use for diagnostic purposes.

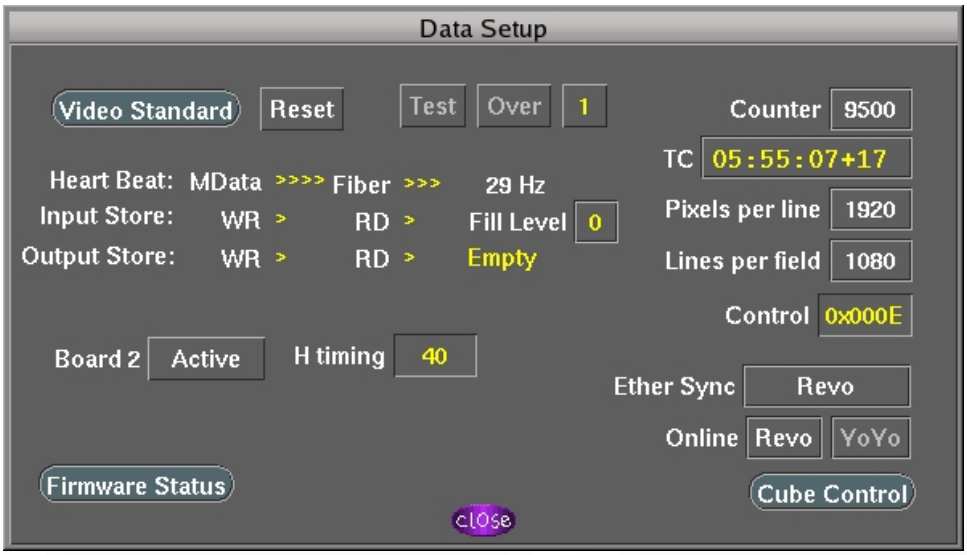



**Fig 10.16 Platinum Data Setup Panel**

| | |
|---|---|
| **Video Standard** | This opens up the Video Stand panel. Use this to change the standard the Revo processes video. |
| **Reset** | Resets the Link between the Revolution and Mac Data card. Use this button if there appears to be a loss off communication between the devices. |
| **Fiber** | The yellow arrows will move across if there is a link present between the Revo and the YoYo PCI-E card, whilst reporting the data rate; ie 25hz for SD 625 and 1080 50i. |
| **Heart Beat: MData** | The yellow arrows will move if there is data moving between the Revo and the YoYo. For example; when you are making colour correction changes. |
| **Input store** | Current data being sent to the YoYo from the Revo |
| **Output Store** | Current data being sent to the Revo from the YoYo |
| **H timing** | This is the same as the Revo in video mode. This should be set to 40 |
| **Counter** | The counter increases when data is sent between the Revo and the YoYo |
| **TC** | This timecode display should be identical to the YoYo timecode. |
| **Pixels per line** | Pixels per line of the picture that is being sent to the Revo |
| **Lines per field** | Lines per field of the picture that is being sent to the Revo |
| **Firmware Status** | This button opens up the Platinum firmware status panel. This works the same as Revo video mode. |

Switching between data and video modes

Switching the Revo between data and video mode is a simple process. Simply restart the Platinum software and select **TK to tape**, or **Tape to tape** mode on the stat up splash screen. When Platinum loads, a dialogue box will pop up (see figure 10.17) asking you to switch the firmware from Data to Video. Click **Yes** to continue.

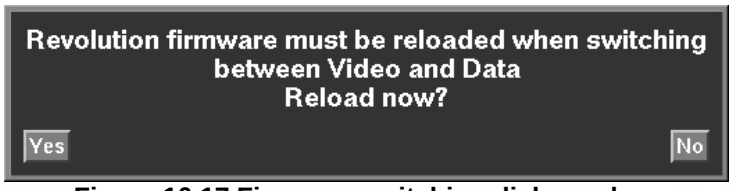



**Figure 10.17 Firmware switching dialogue box**

*Platinum remembers the last version of firmware used for the video and data modes. There is no need to manually re-load the firmware from the Vault.*

To switch the YoYo back to video mode, restart the YoYo application, and select **Video** on the start-up splash screen (figure 10.18). This will switch the video back to video only mode.

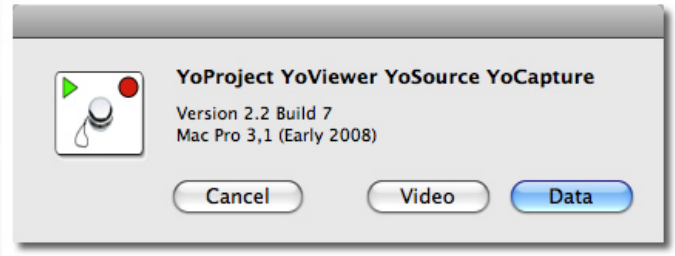



**Figure 10.18 YoYo splash screen**

Troubleshooting

If there appears to be no video output from the data system, the Revo can be bypassed to ensure the PCI-E data card is working correctly in a loopback isolation mode.

To do this, open an EDL and select a video clip from the YoViewer then select **Bypass Revo** in the Yoyo **Data Setup** window as shown in Figure 10.19.

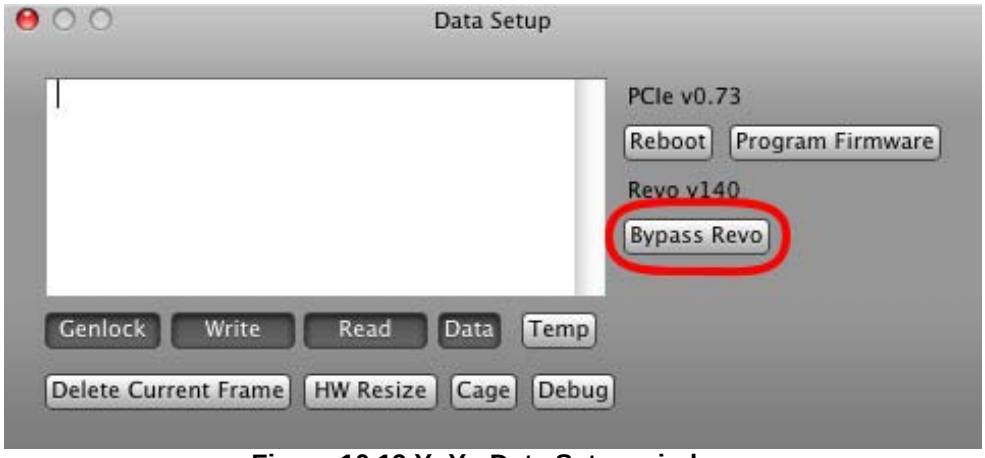



**Figure 10.19 YoYo Data Setup window**

Once highlighted, click on a section of Bars or Slates in the YoYo Viewer to ensure these are outputting correctly. Then click on several shots to ensure these are also being outputted correctly with the colour corrector in bypass.

If video is showing correctly then turn off the “Bypass Revo” button. If there is still no video output, please contact Pandora service for further assistance.

## YoYo buffer

The speed of which the Revo can grade frames is dependent on the speed of your disk array or SAN. In the YoSource window of the YoYo, there is a bar display that indicates the current buffer state. Depending on how full the buffer is, the colour of the bar which be either green, Yellow or Red, with Red meaning the system is unable to sustain the required framerate as specified by the current video standard. When you first play a clip, the buffer should fill until the bar turns completely grey or is left with a few green sections, if this does not happen, there may be disk speed / bandwidth issues.

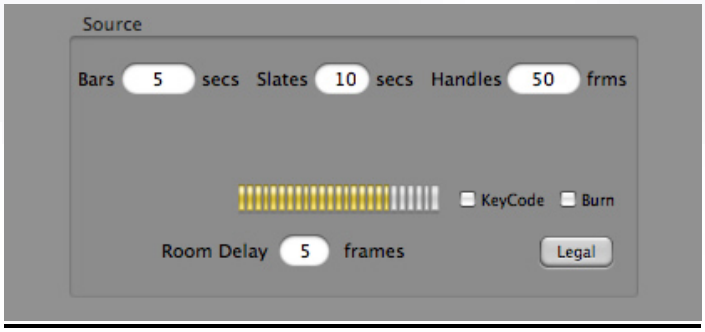



**Figure 10.20 Video buffer in YoSource window**

## Appendices

A. Power Requirements

**Mains Power Wiring**
Each of the Pogle racks requires mains power on a standard IEC type mains connector. Power requirements are as follows....

**PBX6001 (Pogle Workstation) and PBX6002 (Pogle TK Interface)**
Line Voltage : 100-250VAC @ 50/60Hz
Auto Range Sensing by Power Supply Unit.
Line Current : 1A Max @ 240V
VA Rating : 110VA @ 110V, 140VA @ 240V
Fuses:
For 240V operation: 250V T2A Slow Blow Ceramic (IEC Approved)
For 110V operation: 120V 3.15A Slow Blow (UL Approved)

**Revolution**
Line Voltage : 100-250VAC @ 50/60Hz
Auto Range Sensing by Power Supply Unit.
Line Current : 1A Max @ 240V
Fuses:
For 220-240V operation: 230 VOLTS 1A6 T ANTISURGE CERAMIC
For 110V operation: 110 VOLTS 3A15 T ANTISURGE CERAMIC

**Evolution USB Hub**
Line voltage 100-240V 50-60hz
Line current 0.7A Max @ 240V
VA Rating 100-240VAC 100VA/160V
Fuse (antisurge)
240V = 1A6 T @ 250V
100V = 3A15 T @ 250V

**Dell Dimension T7400 PC**
Line Voltage : 100-250VAC @ 50/60Hz
Auto Range Sensing by Power Supply Unit.
Line Current : 10A Max @ 115V  5A @ 230V

**Carillon AC-1 PC**
110V or 230V Switchable. Ensure selector switch on rear of PC is selected to correct Input voltage, or it may cause serious damage to the system.

**Note.**
All units should be connected to a good technical ground. This is especially important in the case of the Telecine Interface rack as any noise on the system ground will eventually appear as hum on the control voltages fed to the telecine. A special earth terminal is fitted to this rack which may be used to link the system directly to the telecine chassis using heavy gauge wire if noise problems are apparent.

**Primary Disconnect Device**

The Plug/Appliance coupler (Power Lead) is the Primary Disconnect device, this lead must be readily accessible at all times.
Any approved cord set can be used (BASEC, HAR, UL etc) provided its meets the appropriate current carrying
capability.

## B. Rack Installation and Removal

When installing the racks, fit the carrier frame to the 19inch main rack first. Then fit the Workstation and Interface racks.
**CAUTION! These racks are heavy and long, it may be advisable to have help when sliding**
**in to the carrier.**
**During service, one or other of the racks may need to be pulled forward to allow access to**
**the rear removable lid. Caution should be taken as the weight may make the unit unstable.**
The Lids to both units must be fitted at all times, unless they are being serviced.

## C. Servicing

Refer to Installation manual before removing lids.
There are rotating blades (fans) enclosed within the units, care must be taken after opening the lids that loose clothing, hair, etc. does not get entangled.
**CAUTION!**
**Switch off power before removing or inserting printed circuit boards and connectors!**

## D. Ventilation

The PBX6001 and PBX6002 cabinets are cooled by a ventilation system.
Air is drawn in through the front of the rack and is expelled at the rear left hand side.
For cooling reasons always keep the covers closed during operation.
The Revolution rack is cooled by drawing air from the front and expelling at the rear. Care must be taken not to obstruct any of the ventilation points. Severe damage can occur if the unit is not adequately ventilated.
The admissible ambient temperature range of the Pogle Colour Digital Correction system is from +5C (41 F) to +30C (86 F). It is however strongly recommended to not exceed an ambient temperature of 20C.
Make sure that the machine is protected against high humidity!
Make sure that enough space is provided so that the cabinets are easily accessible for operation and service works.

**The Pogle Colour Correction System is designed according to regulations of the Underwriters**
**Laboratories Inc. Northbrook, Illinois, USA, certificated and registered under file no E151692.**
LISTED PROFESSIONAL
VIDEO EQUIPMENT
4Z99
Conforms with the following European directives and CE marked:
Safety 73/23/EEC Low voltage directives EN 60950/ 1997
EMC/ EMI 89/336/EEC, EN 55103-1/ 1996, EN 55103-2/ 1996

**Application**

The Pogle Telecine Control System is designed for application in TV studios only. For safety reasons, any application for purposes other than the original intended is not allowed.

***FCC Rules***

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio

communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

## E. Equipment Location

There are many factors affecting the way that the Pogle system is installed. The system is fairly flexible and can be adapted to many environments but there are a few constraints which determine where the various pieces can go…..

**Cables that can NOT be extended …..**

**SCSI Bus**

1] Between the Linux PC and the PBX6001 Pogle Workstation Rack
2] Between the PBX6001 Workstation Rack and the PBX6002 Telecine Interface Rack.

**Analogue Telecine Connections**

Modern telecine's usually have digital control lines and so this restriction does not apply but for older machines such as Cintel MkIII or BTS Quadra most of the controls are DC voltages.
Standard cable lengths supplied by Pandora are usually 4 Meters. Other lengths can be supplied to special order but in general the Telecine machine MUST be less than 10 meters from the PBX6002 rack or else
there may be problems with noise.

**Cables that can be extended easily …….**

**RS422**

This includes Video Tape Recorders and other remotely controlled devices.
Normally we supply 10 meter cables but it is possible to supply longer lengths to order. Some telecines and also the Pandora PIXI colour corrector also use RS422 connections but be aware that some of these connections run at VERY high speeds and so there are some restrictions on the cable length. In general if you need to extend RS422 cables over about 10 Meters then care must be taken with the choice of cable used and its construction, low capacitance, individually shielded pairs are absolutely necessary to avoid cross-talk and other interference problems. Please contact Pandora for advice.

**Ethernet**

Many newer telecine machines use Ethernet connections for control. These should NOT be connected to the house network as heavy traffic could interrupt the control to the telecine. In the Pogle system a dedicated Ethernet is provided between the PBX6002 telecine interface rack and the machine.

**General Recommendations**

All of this means that for a standard installation we recommend the all of the Pogle equipment with the exception of the control panels should be mounted in a 19" rack bay as close as possible to the telecine machine. The control panel and computer Monitor can be mounted some distance away in the control room. If there are any special requirements or constraints on a particular installation please contact Pandora at the earliest opportunity to discuss the possible complications.

## F. Equipment Dimensions

**Pogle Workstation and Telecine Interface Racks**
Each rack occupies 2U of space in a standard 19 inch rack bay. A special carrying frame [4U] is provided which supports the racks from the front and allows them to be slid forward for service. Care must be taken when running cables to the rear of each rack to provide sufficient slack to allow the necessary forward movement of each rack. We recommend that at least a 1U gap be left above the top most rack [usually the PBX6002] to allow unrestricted airflow and free movement of the rack.

**Linux PC**
Carrilon AC1: 4U Rackmount
Dell Dimension T7400: 13U Shelf Mounted

**YoYo**
Mac Pro: 12U Shelf Mounted

Note : the Mac Pro and Dell Dimension can be mounted side by side on a Rack shelf to save space.

## G. Pogle Installation – General

### 1] Rack Mounting

It is first necessary to mount the two electronics racks.
The **Pogle Workstation** and **Pogle Telecine Interface** are mounted in a special carrier frame in a convenient position close to the telecine. Normally 4m length cables are supplied to connect to the telecine - it is not advisable to extend these as there is a possibility of picking up noise or interference
The carrier frame provides not only support for the extended depth of these racks but also a means by which either rack may be slid forward for service and routine maintenance. This is important as POGLE does not use a card frame system and each rack contains a single large PCB which may only be accessed from the top of the enclosure.
Note:
The Pogle Workstation Rack PBX6001 must be mounted into the bottom position of the Carrier Frame. If this is not observed then it will be impossible to access the Telecine Interface Rack after cables have been connected.
Cables must be dressed in such a way as to allow sufficient movement for the racks to be slid forward. The Pogle Workstation Rack may be slid forward on its own in order for work to be carried out. In order for the Telecine Interface Rack to be slid forward it is also necessary to pull forward the Pogle Workstation unit which then provides additional support for the Telecine
Interface Rack. To provide the best service access to the Pogle electronics it is better not to mount any other equipment directly above in the rack, a 1U blanking panel is recommended. Please take care when sliding rack's forward that the equipment rack does not become unbalanced and fall over.
Each of the two main Pogle racks are equipped with fans which pull in fresh air from a grill at the front of the rack and expel it along the left hand side [when viewed from the front]. Provision should be made when mounting the units to allow some air circulation around the sides of the racks.
**It should be emphasised that the proximity of these racks to the telecine is important especially in the case of analogue machines. As the signals carried by the various multicore cables between Pogle and the telecine are prone to noise pickup and hum their length should be kept as short as possible.**

Two cables are supplied with the system to interconnect the **Pogle Workstation** with the **Pogle Telecine Interface Racks**. The first of these is a 50 way ribbon equipped with CENTRONIC type connectors; this carries the SCSI BUS connection between the two racks. The second is a 15 way male dee to dee ribbon cable which carries various timing pulses and signals.

| **PBX6001** | **PBX6002** | |
|---|---|---|
| J09 | J09 | 50 Way SCSI Bus |
| J10 | J08 | 15 Way Aux Bus |

## H. System Sync Pulses

Two signals must be provided from the main System Pulse Generator.
POGLE will **NOT** operate without the correct sync signals connected.

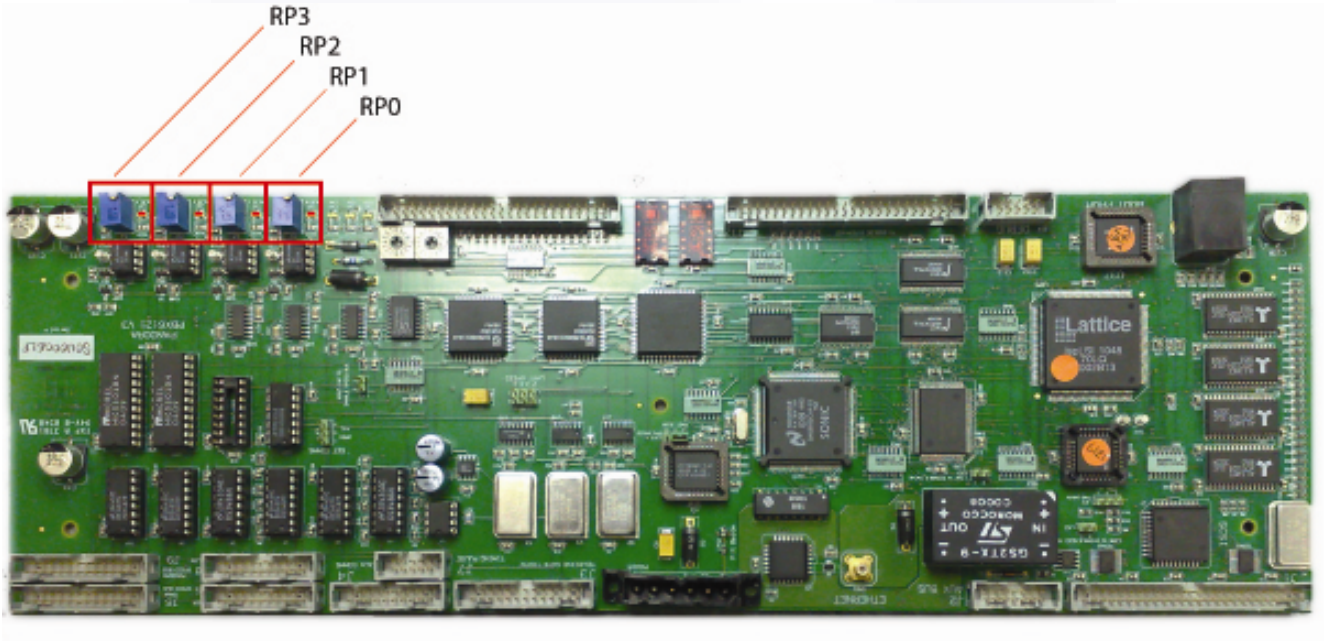
**a] Black + Burst** [or Mixed Syncs]
Required by the main Workstation Rack. This signal is used to time all communication between POGLE and other devices within the telecine suite and is crucial for correct operation. A high impedance loop-thru connection is provided on standard 75connectors [J23-24 PBX6011 rack]. It is obviously important that this signal should be obtained either from the same source or from a correctly timed derivative of the reference signal used to drive both the Telecine and any VTR's attached to POGLE. Pogle software can select between the HD/SD Sync inputs as required.
Note that it is not always necessary to have a separate connection for HDTV sync when working in a multi-standard environment. Spirit Telecine's provide a SDTV reference sync at all times even when working in HDTV modes and this can be used to drive Pogle Directly. There are now some dual standard pulse generators that provide both HDTV and 525/625 syncs locked together. Please Refer back to chapter 8 for further details

**b] Field 1 Ident [CfiD]**
This signal is used only when controlling SD VTR's. If the VTR control option is not fitted then this signal is not required. This pulse is used by the Pogle's Internal Colour Framer to ensure that edits are performed with correct timing when using PAL or NTSC composite recorders. When running in PAL format this pulse marks the first field of an 8 field sequence. In NTSC the pulse occurs after every 4 fields. Some Pulse Generators output this pulse as a narrow [1 line wide] pulse during field one others provide a square wave. Either type may be used as the input to POGLE is edge triggered. Another form of this pulse is a narrow white pulse superimposed on a black signal with normal syncs etc. It is possible to use this type of pulse as well but the input threshold level of POGLE will need to be set carefully.
Connection usually should be made via a 75 ohm cable to BNC 3 on the rear of the **Telecine Interface Rack**. It will then be necessary to adjust the input threshold level as described in the section **Timing Pulse Adjustment** on the following page of this manual. If there is no **Telecine Interface** [i.e. Tape to Tape System] then an alternative input for CfiD will be provided on the rear of the **PBX6001 Workstation Rack**. Open the SOURCE SETUP window on the Pogle Platinum display to show the correct operation of the system sync signals. The Vertical frequency of attached sync signals is displayed.
**Other pulse inputs are specific to the Telecine type in use.**
**Please see the relevant section of this manual for details.**

**Timing Pulse Adjustment for Telecine Interface rack PBX6002**

Within the **Telecine Interface Rack** all timing pulses are taken into the PBX6021 board [or newer PBX6121 board] where they are buffered by an LM301 op-amp. The second input of each is connected to a pot making a simple comparator circuit. The level of the comparator can be adjusted by the pot thereby allowing these inputs to be setup for a wide range of pulse
levels. Remove the front lid from the Telecine interface rack to gain access to the pots. The adjustment is the same for any type of Telecine; the pulses are named and behave in different ways according to type. See below table for details.

| INPUT | POT # | PULSE # | PULSE NAME | DETAILS |
|---|---|---|---|---|
| **Cintel Telecines [MKIII /Turbo 1/TurboII/URSA/Gold/Diamond/Millenium]** | | | | |
| 1 | RP0 | 1 | TK FRAME PULSE | from digiscan rack film frame rate square wave |
| 2 | RP1 | 2 | WRITE VERTICAL DRIVE | from digiscan rack film frame rate pulse |
| 3 | RP2 | 3 | COLOUR FIELD IDENT | from system pulse gen 6.25 Hz PAL 15 Hz NTSC |
| 4 | RP3 | 4 | N/C | |
| **BTS Telecines [FDL60/FDL90/QUADRA]** | | | | |
| 1 | RP0 | 1 | FRID | from J34 via special cable [supplied] only runs when transport moving |
| 2 | RP1 | 2 | FRI | from J34 via special cable [supplied] only runs when transport moving |
| 3 | RP2 | 3 | COLOUR FIELD IDENT | from system pulse gen 6.25 Hz PAL 15 Hz NTSC |
| 4 | RP3 | 4 | N/C | |
| **Thomson Telecines [Spirit classic/HD/2k/4k]** | | | | |
| 1 | RP0 | 1 | CFR | 6HZ pulse always present from CFR out BNC connection |
| 2 | RP1 | 2 | SOF | Start of Frame Pulse; frame rate pulse only runs when transport moving. |
| 3 | RP2 | 3 | N/C | |
| 4 | RP3 | 4 | N/C | |



**Cintel Ursa Series Interface**
Includes Ursa Gold and Ursa Diamond.
A total of five cables are required as detailed below.....
**A] ES-Bus**
This is a 9 pin dee to 9 pin dee cable normally supplied with **Pogle**.
Connection is from the **Pogle Telecine Interface Rack J05** to the **ES Bus 1** connector on the rear of the Ursa Frame Store which is the Rack (or Ursa Gold/ Diamond a Termination Panel) mounted on the bottom left of the telecine when viewed from the rear.
**B] Fast Bus**
This is an identical 9 pin dee to 9 pin dee cable as used for the ES Bus connection. The routing is similar from the rear of the **Pogle Telecine Interface Rack J06** to the Ursa Frame Store Rack/Termination Panel.
**NOTE: Although the ES + Fast Buses Use Standard 9 Pin Connectors the pin out is NOT standard.**
**C] Counter Pulses**
A special adaptor pod is supplied with Pogle this connects to BPL5 on the rear of the Ursa servo rack which is on the right hand side of the machine [above the linear scan amplifiers] when viewed from the rear of the telecine. On Ursa Gold/ Diamond this will be found on the Termination Panel to the right hand side of the Telecine when viewed from the rear. BPL5 is a seven pin DIN socket originally intended to provide pulses to a FERRIT sound follower. Note that the Pogle buffer pod is equipped with an output socket into which a Ferrit may be connected if required. The output of the buffer pod is connected to a 25 way dee type connector on the rear of the **Pogle Telecine Interface**.
**D] Telecine Frame Pulse**
This connection is made via a 75 Ω BNC lead from the marked socket on the rear of the **Telecine**
**Frame Store**.[lower right hand rack when viewed from the rear; Ursa **Gold/ Diamond Termination Panel** to the right hand side when viewed from the rear] to the first of the group on BNC sockets on the **Pogle Telecine Interface Rack**.
**E] Write Vertical Drive Pulse**
This connection is made via a 75 Ω BNC lead from the marked socket on the rear of the **Telecine Frame Store/ Termination Panel**. Note that this socket is normally in use and so a BNC Tee piece will be required. Connection is made to the second of the group of BNC sockets on the rear of the **Pogle Telecine Interface Rack**.
Ready made cables of 4 Metre length are normally supplied with POGLE for connections a, b, and c above. The wiring for these connectors is shown in this manual and it is possible to order additional lengths. All BNC cables are supplied by the user and should be made to length as part of the installation
procedure.

**Cintel C-Reality & Rascal Interface**

The C-Reality & Rascal Telecine's are controlled via an Ethernet connection.

This is driven from a special Ethernet port on the Pogle Telecine Interface Rack. Note that the POGLE is equipped with a 10base2 [50 Ω BNC] Ethernet connection whilst the Telecine may have a 10baseT [UTP] type connection.

For C-Reality interfaces Pandora usually supply an Ethernet hub equipped with a 10base2 port. This can be swapped with the Ethernet hub which is mounted inside the back of C-Reality or alternatively it can just be linked to it using an RJ45 type [UTP] Ethernet connector.

**Important notes for 10base2 Ethernet.**

This connection is made using 50 Ω cables and connectors, 75 Ω video cables and fittings WILL NOT WORK. Pandora supplies the necessary cables and terminations. The 10base2 connection must be terminated at each end of the cable using a 50 Ω terminator. At the Pogle end there are two BNC sockets [loop thru]. A 50 Ω terminator is installed on one socket whilst the other connects to the special 50 Ω cable that goes to the Ethernet hub inside CReality. Some types of Ethernet hub are equipped with a termination switch. If this type is provided please ensure that the 50 Ω TERM switch is in the ON position. If the Ethernet hub does not have internal termination then it will be necessary to use a BNC Tee-Piece together with a 50 Ω termination cap.

**Other Telecine Connections**.

All use 75 Ω BNC cables.

**Telecine Sync In**

House Sync is used to drive the SYNC IN input to the telecine and all other equipment in the suite with the exception of the Pogle Workstation.

**Telecine Sync Out**

Whether you are running SDTV, HDTV or DATA this output from the C-Reality must be connected to the Pogle Workstation SDTV sync input. Circuitry within the C-Reality automatically provides the correct reference for POGLE.

**Telecine Read Frame Pulse**

This pulse indicates the start of the 2/3 sequence and will be present at all times as an output from the Telecine.

**Telecine Write Vertical Drive Pulse**

This is a frame rate (40 ms) pulse that indicates start of a new frame.

**Thompson/ Philips Spirit Interface**

**Sync In**
This should come from the system SPG and be looped to all other equipment in the system, but NOT the Pogle Workstation.
**SDTV**
Whether you are running standard or high definition, this output from the Spirit must be put into the Pogle Workstation black and burst input.
**CFR Out**
This pulse indicates the start of the 2/3 sequence and will be present at all times as an output from the Telecine.
**SOF Film**
This pulse is unusual, as it originates on the Spirit as a 25 way 'D' type connector. You will need an adaptor to take the appropriate pins from the 'D' type onto a BNC connector. This will be provided either by Philips or Pandora (PBX6201). Details of the adaptor can be found in 4.0. There is another pulse that comes out of this connector called SOF Studio, do not use this with the Pogle.
Also note that this pulse is only present whilst the telecine transport is moving.
**iMCS**
This is the ethernet communication line between the Spirit, and Sprint 2k/4k 1st generation. Pogle Workstation and the Spirit remote panel provided by Philips. Note that this is a 50Ω BNC cable and must be terminated on the Pogle Telecine Interface rack with a 50Ω terminator.
It is possible that between the Spirit and the Pogle Telecine Interface, you may have the iMCS looped through the Spirit remote panel provided by Philips.
NOTE: newer models (without rack 3) only use TCP/IP. iMCS is no longer needed. Consult Tho

**CFID**
This pulse comes from the system SPG and is the pulse that indicates the start of the colour field sequence. v1.01 15/03/2002 28

**Details of the SOF Film Adaptor.**
The PBX6021 supplied by Pandora takes the SOF Film and Studio pulses from the 25 way 'D'
type J30 on rack 2 of the Spirit. These are taken out onto BNC connectors.
**25 way 'D' Pin Number Description**
10 SOF Film
6 Screen - SOF Film
16 SOF Studio
18 Screen - SOF Studio
Note: Do not use SOF Studio with the Pogle.

**ITK Millennium Interface**

**Sync In**

A connection is tee'd from the main House syncs (75 Ω BNC) to both the ITK Millennium & the Pogle Workstation SDTV Sync In.

**Telecine OPD**

The Read pulse indicates the 2/3 pull down sequence from the Telecine. It is a 75 Ω BNC connection from the telecine Video Rack OPD to the bottom left hand BNC connection on the Pogle Telecine Interface Rack.

**Write Vertical Drive (WVD)**

The WVD pulse is a frame rate pulse that indicates the start of frame. It is a 75 Ω BNC connection from the Video Rack on the Millennium to the bottom middle BNC connection on the Pogle Telecine Interface Rack.

**Counter Pulses**

The Counter pulses are fed from the Telecine's Scan Rack to the Pogle Telecine Interface Rack via a special adaptor box (PBX 6407). This is connected to a 5 pin DIN connector on the rear of the Telecine's Scan Rack, Bi-Phase 2. The output of the adaptor box, a 9 pin D type, is then connected to the rear of the Pogle Telecine Interface Rack, 25 Pin D type.

**Control**

Control for the Telecine is via a 9 pin RS422 cable connected between the Telecine's Video rack 422 1 & the Pogle Telecine Interface Rack, to the only vertical RS422 connector. This is actually a high speed RS422 Control and requires a special interface card.

**Sony Vialta Interface**

**Reference Out.**

There are two connections for a reference out from the Vialta to the Pogle Workstation, both are via 75 Ω BNC and provide the Input Sync reference to the Pogle to enable it to work in both Standard and High Definition formats.

**Sequence**

This is a frame rate pulse fed via a 75 Ω BNC. There are two feeds out of the Vialta 1 for a Standard Definition format and the other for a High Definition formats.

**Remote 1**

The output from Remote 1 on the Vialta is fed into a Pogle converter box (PBX 6009), there are two outputs from this box. The first is a 75 Ω BNC fed to BNC2 on the Pogle Telecine Interface Rack, this is the Write Pulse.

The second is an RS422 Control fed to J17 on the Pogle Telecine Interface Rack; this is the main control interface between the Pogle and Vialta

**DAV Cineglyph Interface**

**Ethernet**

The Telecine control is a standard ethernet connection, via a hub, to the Pogle Telecine Interface Rack.

**Vertical Drive**

The Vertical Drive is a frame rate pulse that indicates the start of a new frame. It is connected via a 75 Ω BNC connection to BNC2 on the Pogle Telecine Interface Rack.

**Frame**

The Frame pulse indicates the pull down sequence. It is connected via a 75 Ω BNC connection to BNC1 on the Pogle Telecine Interface Rack.

**CFID**

The Colour Field Identifier is fed from the System/ House Syncs and identifies the start of the Colour field sequence.

**POGLE GPI's**

The POGLE system is equiped with 8 GPI inputs and 8 GPI outputs.

These can be used in various ways. The POGLE control panel also has 8 GPI outputs which may be connected to control ancillary equipment in the users desk or control room.

**GPI OUTPUTS**

These are uncommitted normally open relay contacts which can switch 1A at 24Vdc [non-inductive].

GPI 1 + 2

These are controlled manually from the TELECINE window and can not be programmed.
They were originaaly designed to control a registered pin gate system manufactured by Video Engineering Ltd.
However they may be used to provide on/off switching for other telecine related equipment.

GPI 3 is closed when POGLE is set to NTSC operation.

GPI 4 is closed when POGLE is set to PAL operation.
These relays can be used with external switching hardware to enable the entire telecine suite to be switched from 525 to 625 standards from the POGLE.

GPI 5 thru 8

These relays are configured via the GPI SETUP menu which can be found in the TELECINE SETUP
section. They may be programmed to be normally open or closed to provide pulse triggers. Once configured they may be programmed on a scene by scene basis.

DEE TYPE PIN CONNECTIONS AS FOLLOWS ....
25 PIN MALE DEE TYPE
Relay 1 1+14 Gen Purpose 1
Relay 2 2+15 Gen Purpose 2
Relay 3 3+16 PAL
Relay 4 4+17 NTSC
Relay 5 5+18 Programmable 1
Relay 6 6+19 Programmable 2
Relay 7 7+20 Programmable 3
Relay 8 8+21 Programmable 4

**GPI INPUTS**

These are TTL level inputs which are normally pulled high [+5V] by a 4k7 resistor. Shorting to ground will trigger these inputs
Although inputs are buffered care must be taken to ensure that voltage do not exceed +5V or go below ground.
There are two ways of using GPI inputs which are selected in the TELECINE SETUP MENU.
IF SET TO GPI START.
GPI 1 may be used to remotely start the telecine transport from another location [e.g. a time code coincidence
start from an edit suite].
This function is enabled using the REMOTE key on the control panel.
Push REMOTE to arm the input 'REMOTE' will be displayed in the menu bar and the system will wait for
an input.
Once a trigger has been received it will be necessary to reselect REMOTE in order to re-arm.
IF SET TO GPI TRANSPORT
In this mode all telecine transport functions are available as detailed below.

This mode must be used when the system is controlled by an external editor such as the Time Logic system
[TLC]
AUTOSHOT DETECTOR
An automatic scene change detector is available from Pandora. This device uses GPI 8 as an input in order
to automatically mark points into the event list. This function is enabled by the AUTO key on the control
panel.
GPI INPUT WIRING
25 WAY FEMALE DEE TYPE
**GPI CONNECTION FUNCTION**
1 pin 1 PLAY FORWARD
2 pin 2 STOP
3 pin 3 PLAY REVERSE
4 pin 4 INCH FORWARD
5 pin 5 INCH REVERSE
6 pin 6 FAST FORWARD
7 pin 7 FAST REVERSE
8 pin 8 AUTOSHOT
- pin 14 GROUND