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Safety Statement: English

Antistatic Wrist Strap

Warning: If using an antistatic wrist strap, the grounding cord must contain a 1 meg ohm to 10 meg ohm series isolation resistor.

Chassis Grounding

Warning: The chassis is grounded through the ground conductor of the A/C line cord. To prevent an electric shock hazard, only plug the line cord into a properly grounded A/C wall receptacle, as verified by a qualified installation technician.

Double Pole/Neutral Fusing

Warning: This unit may contain a neutral line fuse.

Fuse Replacement

Caution: For continued protection against fire, replace fuse with the same type and rating.

Power Cord

Caution: Only use the Line Cord which was supplied with the equipment, or a factory approved alternate. Do not use an extension cord.

Power Source

Caution: Equipment may only be operated at the specified line voltage and frequency.

Servicing

Warning: Servicing must only be performed by a qualified Service Technician. The removal of service access panels may expose an individual to hazardous voltages. Line cord should be disconnected before any servicing is performed.

Rapport De Sûreté: Français

Bracelet antistatique

Avertissement: Si un bracelet antistatique est utilisé, le fil de mise à la terre doit contenir une résistance isolante série de 1 mégohm à 10 mégohms.

Mise à la terre du chassis

Avertissement : Le châssis est mis à la terre au moyen du conducteur de masse du fil électrique secteur. Pour empêcher tout risque de choc électrique, ne brancher le fil électrique secteur que dans une prise de courant murale mise à la terre correctement et inspectée par un technicien d'installation agréé.

Fusible neutre/bipolaire

Avertissement : Cet appareil peut contenir un fusible secteur neutre.

Remplacement du fusible

Mise en garde : Pour assurer une protection continue contre les incendies, remplacer le fusible par un fusible du même type et ayant la même valeur limite.

Cordon électrique

Mise en garde : N'utiliser que le fil électrique qui a été fourni avec le matériel ou un fil de rechange agréé par l'usine. Ne pas utiliser de rallonge.

Alimentation

Mise en garde : Le matériel ne peut fonctionner qu'à la fréquence et à la tension secteur indiquées.

Réparations

Avertissement : Les réparations ne doivent être effectuées que par un Technicien S.A.V. agréé. Le retrait des panneaux d'accés pour les réparations risque d'exposer la personne les retirant à des tensions dangereuses. Le fil électrique doit être débranché avant toute réparation.

Sicherheit Aussage: Allemand

Antistatische Armschlaufe

Warnung: Bei der Verwendung einer antistatischen Armschlaufe muß die Erdungsschnur einen in Reihe geschalteten Isolierwiderstand zwischen 1 Megaohm und 10 Megaohm besitzen.

Chassiserdung

Warnung: Das Chassis ist ¸ber den Erdleiter der Wechselstromnetzschnur geerdet. Zur Vermeidung von Berührungsgefahr darf die Netzschnur nur in eine sachgemäß geerdete Wandsteckdose für Wechselstrom gesteckt werden, die von einem qualifizierten Installateur geprüft worden ist.

Zweipol-/Neutralleiterabsicherung

Warnung: Das Gerät kann eine Neutralleitersicherung besitzen.

Auswechseln der Sicherung

Vorsicht: Zur Aufrechterhaltung des Brandschutzes muß die Sicherung durch eine Sicherung des gleichen Typs und der gleichen Größe ausgewechselt werden.

Anschlußschnur

Vorsicht: Es darf nur die mit dem Gerät gelieferte Netzschnur oder ein vom Werk genehmigter Ersatz verwendet werden. Eine Verlängerungsschnur darf nicht verwendet werden.

Stromquelle

Vorsicht: Das Gerät darf nur mit der vorgeschriebenen Netzspannung und Frequenz betrieben werden.

Wartung

Warnung: Die Wartung darf nur von einem qualifizierten Wartungstechniker durchgeführt werden. Das Abnehmen von Wartungsabdeckplatten ermöglicht den Zugang zu lebensgefährlichen Spannungen. Die Netzschnur sollte vor allen Wartungsarbeiten getrennt werden.

Dichiarazione Di Sicurezza: Italiano

Fascetta antistatica da polso

Avvertenza - Se si usa una fascetta antistatica da polso, il cavo di terra deve essere munito di un resistore d'isolamento in serie con un valore nominale di resistenza compreso tra 1 e 10 megaohm.

Collegamento a massa dello chassis

Avvertenza - Lo chassis è collegato a massa attraverso il filo di terra del cavo di alimentazione in c.a. Per evitare scosse elettriche, inserire la spina del cavo di alimentazione in una presa di rete collegata all'impianto di messa a terra. Rivolgersi ad un tecnico qualificato per verificare la correttezza del collegamento.

Polo doppio/fusibile sulla linea neutra

Avvertenza - Questo apparecchio potrebbe contenere un fusibile sulla linea neutra.

Sostituzione del fusibile

Attenzione - Ai fini di una protezione continuata contro gli incendi, sostituire il fusibile con un altro dello stesso tipo e potenza nominale.

Cavo di alimentazione

Attenzione - Usare esclusivamente il cavo fornito in dotazione con l'apparecchio, o un cavo approvato dalla casa fabbricante. Non usare cavi di prolunga.

Alimentazione

Attenzione - Far funzionare l'apparecchio soltanto alla tensione di linea e alla frequenza specificate.

Manutenzione

Avvertenza - Gli interventi di manutenzione vanno eseguiti soltanto da un tecnico qualificato del servizio assistenza. Rimuovendo i pannelli d'accesso per compiere la manutenzione si potrebbe venire a contatto con tensioni pericolose. Prima di eseguire qualsiasi intervento di manutenzione, staccare la spina del cavo di alimentazione dalla presa di rete.

Declaración De Seguridad: Español

Brazalete antiestática

Advertencia: Si utiliza una brazalete antiestática, el cordón de puesta a tierra deberá tener una resistencia aislante de 1 mega ohm a 10 mega ohm conectada en serie.

Puesta a tierra del chasis

Advertencia: El chasis se pone a tierra mediante el conductor de puesta a tierra del cable eléctrico de c.a. Para evitar el peligro de una electrocución, conecte el cable eléctrico únicamente a una toma de pared de c.a. puesta a tierra correctamente y verificada por un técnico de instalación cualificado.

Fusible de lÌnea neutral/Doble polo

Advertencia: Esta unidad puede incluir un fusible de lÌnea neutral.

Reemplazo del fusible

Precaución: Para obtener una protección continua contra el peligro de incendio, reemplace el fusible por uno del mismo tipo y capacidad.

Cable de potencia

Precaución: Utilice únicamente el cable eléctrico que se entrega con el equipo, o bien un cable alternativo aprobado por la fábrica. No utilice cables de extensión.

Fuente de energÌa

Precaución: El equipo únicamente debe usarse con el voltaje y la frecuencia especificados.

Servicio

Advertencia: Todo servicio deberá ser realizado por un Técnico de Servicio cualificado. El desmontaje de los paneles de acceso de servicio puede exponer a una persona a voltajes peligrosos. El cable eléctrico deberá desconectarse antes de realizarse el servicio.

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Section 1: Introduction

This manual is intended for use in the installation, setup, operation and maintenance of Chyron Duet HyperX HD/SD systems. The information presented herein is limited to hardware. For information on Chyron's Lyric software, refer to the **Lyric User Guide**, Chyron Publication Number **2A02033**, or to Lyric's Online Help.

1.1 Description

Duet HyperX HD/SD is a video graphics system based on a custom computer chassis designed and assembled by Chyron Corporation. All components are selected to provide optimal real-time performance in video production and live broadcast environments.

The computer and video components used in these systems can and will be updated as the technology advances. Consult the documentation that accompanies your system for the latest information.

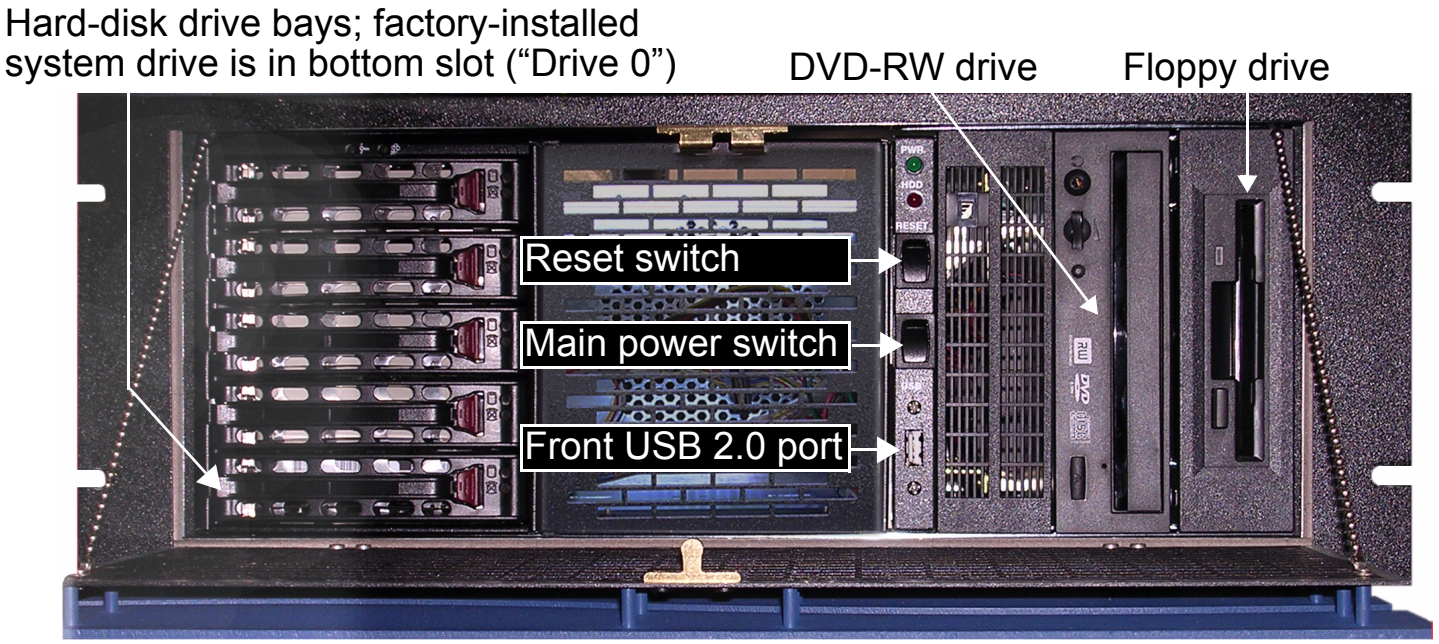


Figure 1-1. HyperX front panel open, showing drives and controls

Duet HyperX HD/SD features the **HyperX eFX Board**. This powerful hardware's video output is software-switchable between several Standard- and High-Definition formats. The HyperX eFX Board also offers a wide range of DVE options, as well as integrated clip recording and playout, depending on your facility's licensed software options.

1.2 PC and Video Section Features

- 600-Watt triple-redundant power supply; modules hot-swappable (Section 5.1)
- Extended ATX form factor motherboard (Section 7)
- 2 Intel Nocona processors, 3.2 GHz; each with 1 MB of L2 cache (Section 7.2)
- 2 GB PC-3200 Registered DIMM memory (Section 7.3)
- 1000BaseT ethernet connection
- Recordable/Rewritable DVD/CD drive (Section 7.4.2)
- 36-GB, 15000 RPM SCSI hard disk drive (Section 6.6)
- 3.5” 1.44 MB floppy disk drive (Section 7.4.2)
- PCI-type video card with NVIDIA chipset (Section 7.6)
- Microsoft Windows XP Professional Operating System. (See Section 6.7 for information on restoring your original system configuration with the included Norton Ghost application and image disc.)
- Up to sixteen GPI connections available through 25-pin D-connector on systems configured with HyperX’s GPI/O Board.

All video boards include Analog black burst reference input. Where multiple boards are present and using analog reference, each board requires its own reference input.

This document also provides information on motherboards used in earlier HyperX systems; see Section 8.

1.3 Specifications

Physical Specifications	
Depth Width Height	25 inches / 63.5 cm 19 inches / 48.3 cm 7 inches / 17.8 cm
Weight (varies with system configuration)	60 lbs / 27.3 kg approx., typical
Operating Humidity	5% to 95% non-condensing
Electrical Specifications	
Power Supply	100 - 240 VAC @ 10 Amperes RMS 50 / 60 Hz. 600W Triple-redundant/Hot-swappable, with Power Factor Correction (PFC)

Section 2: Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Read all instructions before connecting, powering and using the HyperX unit. Operate the HyperX unit only as directed by the HyperX documentation. Inappropriate use, faulty installation or incorrect operation can result in the risk of injury to the user or damage to the HyperX unit.
- Do not attempt to modify the HyperX unit as this may present a safety hazard.
- Do not attempt to destroy the HyperX unit as this may present a safety hazard. If the apparatus is to be disposed of, use a facility that accommodates the disposal of circuit boards.

Section 3: Installation

3.1 Planning; Think Ahead About the Installation Site

- Duet HyperX pulls cool air into the front of the unit and vents through openings in the rear panel. **DO NOT** operate the system without the top cover in place, or air flow necessary to cooling will be compromised.
- Before hookup, place the cables where they'll be convenient.

3.2 Unpack and Check Contents

Check the packing slip against your order. Make sure you've got EVERYTHING listed. If anything is **missing** or **damaged**, contact Chyron Customer Service immediately at 1-888-4-CHYRON (888-424-9766). Problems with components discovered during setup will be handled by Chyron. In the event of substantial physical damage to the contents of your shipment, Chyron will advise you to contact the shipper.

IMPORTANT

Please be sure to secure ALL of the documentation and any software discs that accompany your purchase. Keep them in a readily accessible place. Documentation for third-party components, including the CPU board, may be needed and are NOT replaceable by Chyron.

ESPECIALLY IMPORTANT IS THE IMAGE DISC used for restoring your system's hard drive in the event of a major problem. See Section 6.7 for more information on restoring your system using the "Ghost" CD.

3.3 Rack Mounting

IMPORTANT

GIVE CAREFUL CONSIDERATION TO THE HEIGHT AT WHICH HYPERX IS MOUNTED IN ITS RACK. Take note of HyperX's weight (approximately 60 lbs.) and the length of its chassis, which roughly equals the full depth of a standard equipment rack. ALSO, OBSERVE CAUTION WHEN PULLING THE SYSTEM OUT ON ITS RACK SLIDES, AS THERE MAY BE A TIPPING HAZARD.

1. Locate rack position where system will be installed. Make sure there is adequate space for ventilation.
2. Unpack slides and associated hardware, and check contents.
3. Install slides to rack and to the Duet HyperX chassis in accordance with instructions provided with the slides.
4. Carefully position Duet HyperX in place and engage the intermediate slide section with the rack and chassis slide sections.
5. Attach Duet HyperX front panel flange to rack using hardware supplied.

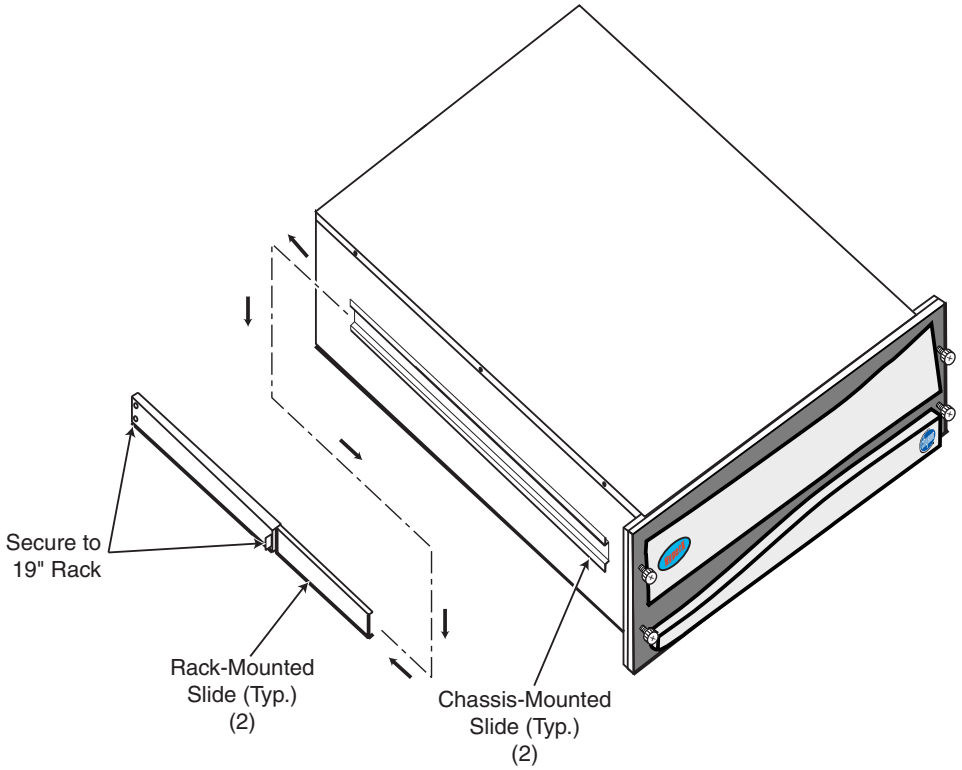


Figure 3-1. Duet HyperX and its rack-mounting hardware

Because of HyperX's weight, Chyron STRONGLY RECOMMENDS that you use the rear brackets pictured in Figure 3-1 to secure the rack slides to the rear horizontal segments of your equipment rack. These brackets are included in the rack slide kit.

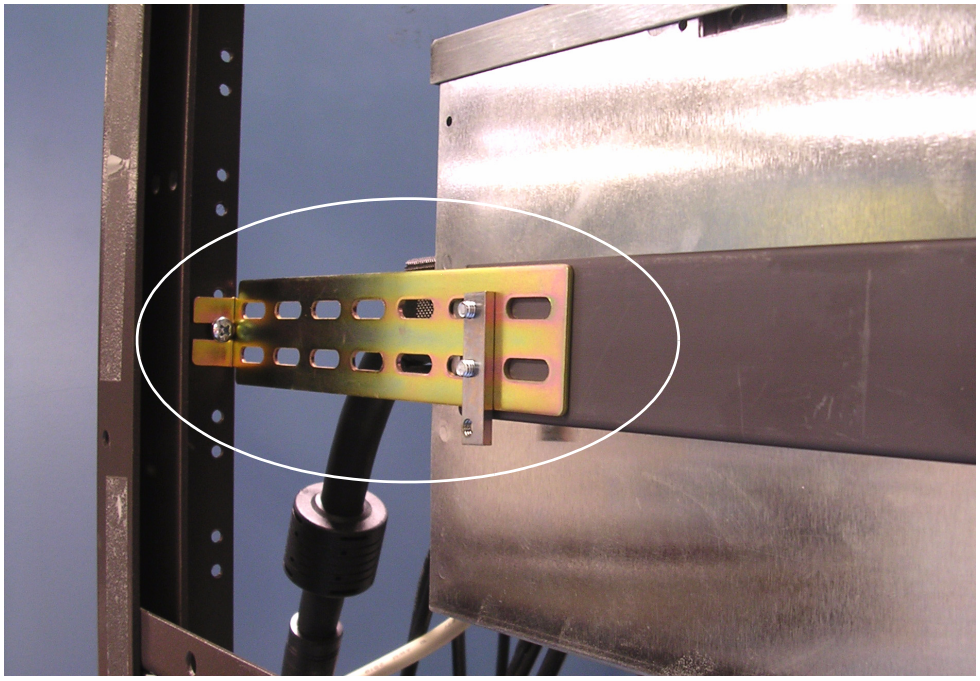


Figure 3-2. Extra brace added to rack slide.

Section 4: System Overview

The numbered components in Figure 4-1 are present in all HyperX systems. Remember to connect all video and data cables BEFORE the AC line cords!

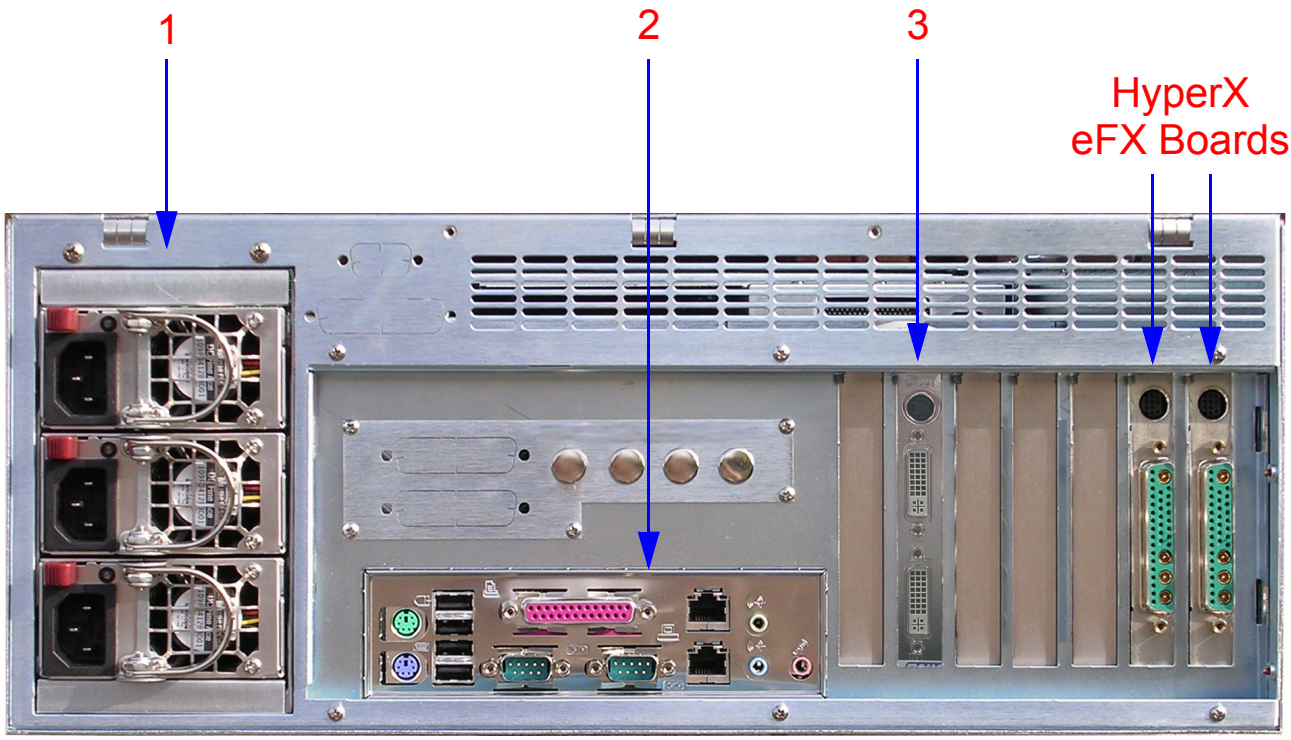


Figure 4-1. HyperX HD/SD with two eFX boards shown.
Numbered components are common to all HyperX systems.

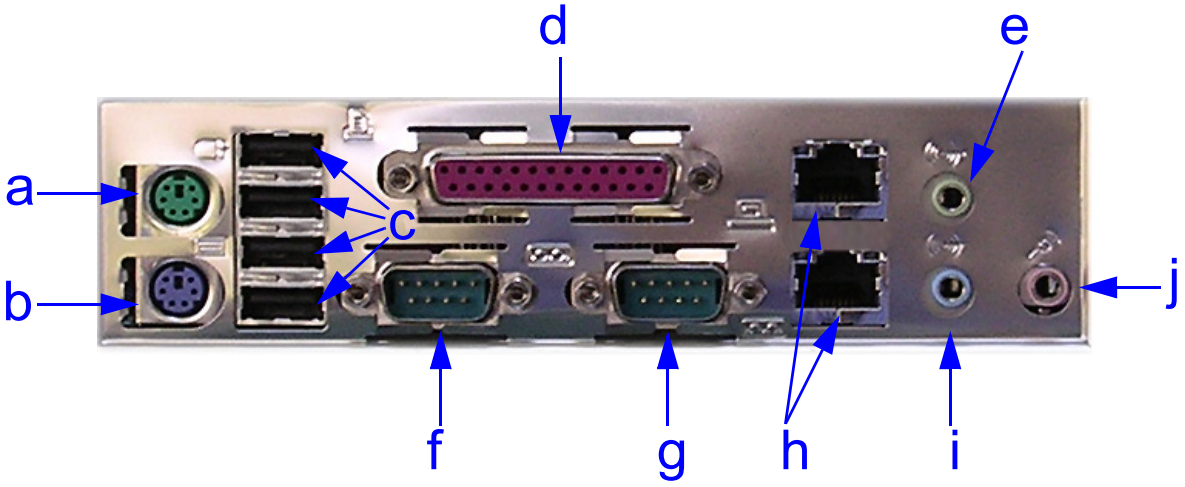
4.1 Power Supply

It is essential that **all three** power supply modules be connected to AC power at all times. For extra insurance against power loss, you may wish to connect the power supply modules to AC outlets on different circuit breakers.

The power supply is discussed further in Section 6.5.1.

4.2 CPU Connectors

The connectors shown here may vary with board updates.



- a: Mouse (top; green).
- b: Keyboard (bottom; blue).
- c: USB ports (4).
- d: Parallel port (purple).
- e: Audio Line Output (green).
- f: Serial port, 9-pin (COM 1).
- g: Serial port, 9-pin (COM 2).
- h: RJ-45 LAN connectors (2).
- i: Audio Line Input (blue).
- j: Microphone Input (red).

The **CPU**'s audio connections should not be confused with audio connections on the optional Internal Clip Player.

4.3 Graphics Card

IMPORTANT THINGS TO REMEMBER:

- The factory-installed graphics card is powered by two separate power sources feeding through its Molex connector (see Section 7.6.1). Both MUST remain connected. If one connection is removed, the card may continue to operate, but at a diminished capacity.
- HyperX's PC monitor display may be duplicated on an analog or digital TV monitor; this option may be used as an extra Preview output. If you intend to use this option, you must connect the monitor to the AGP card's S-Video or DVI connector **BEFORE** turning on the system for the first time. The board thus senses that the monitor connection is present, and the appropriate options are available in the monitor configuration software. See Section 5.4.1 for the procedure.

4.4 HyperX eFX Boards

4.4.1 About Slot Location and Frame Buffer Designations

The slot location of HyperX's eFX Boards determines the Frame Buffer number for that device as it is used by Lyric and other applications.

Figure 4-2. Lyric Frame Buffers

The optimal location for these devices has been determined by factory testing. CHYRON STRONGLY RECOMMENDS THAT YOU LEAVE HYPERX'S EFX BOARDS IN THE SLOTS WHERE THEY WERE FACTORY-INSTALLED. Each factory-installed board is labelled with the number of its Frame Buffer.

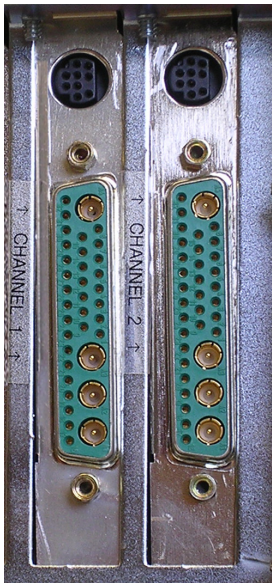


Figure 4-3. Frame Buffer numbers labelled on rear of a HyperX configured with two eFX Boards. Your system's factory configuration may differ from the one seen here.

Installing additional boards may alter these Frame Buffer assignments! Chyron strongly recommends that systems modified in this way be TESTED before Air/ Production to verify each board's Frame Buffer designation. You may wish to change the labels on the rear of the unit accordingly.

NOTE:

- With the introduction of Chyron's Lyric 5.2 software, the HyperX eFX Board can serve as both a frame buffer AND an Internal Clip Player (see Section 4.4.3).
- The clip player option is enabled by the options licensing software described in Section 10. The licensing software works with a security device (referred to henceforth as a 'dongle') which is discussed in Section 6.4.1.

4.4.2 HyperX eFX Board Connections

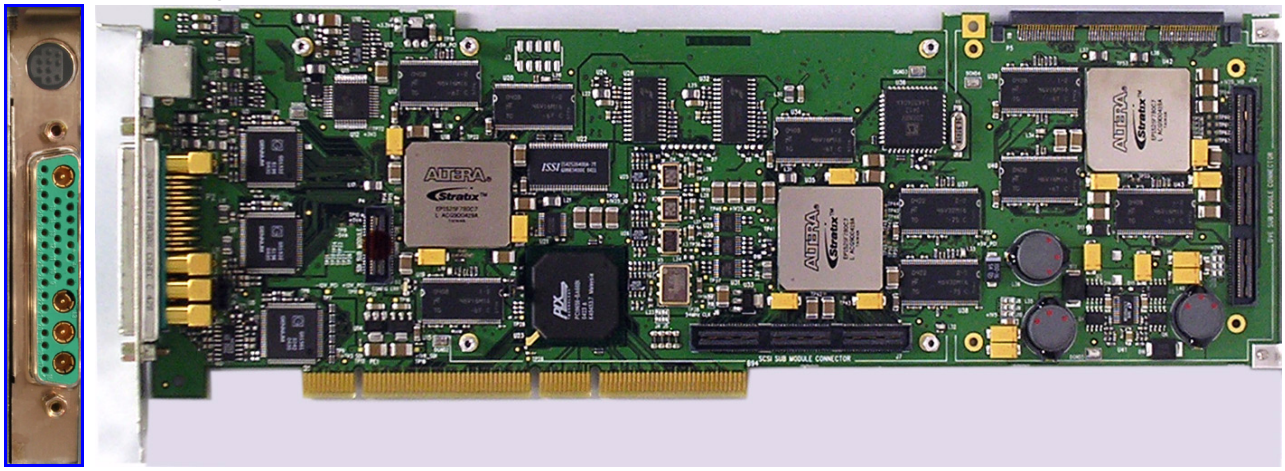


Figure 4-4. HyperX eFX Board; panel connector at left

Figure 4-5. HyperX eFX Board breakout cable; compound connector at left

HyperX eFX Board's I/O Connectors. Refer to Figure 4-5.

- Ref Video: Used to connect an analog GENLOCK source input. The preferred input is Tri-level (600mV nominal) or composite "House" sync signal. *If Reference In is being used, the Genlock signal must be connected here. When multiple boards of this type are installed in a single system, each board must receive its own Reference input to this connector. There is no provision for "sharing" a Reference signal internally, as there is with the SD processors*
- HD/SD Input #1: Program video input. HyperX-produced video will be inserted over this video from an external source. This connection is also used for recording directly to this board's optional Internal Clip Player function.
  - HD Signal: SMPTE 292M/ITU-R BT.709
  - SD Signal: SMPTE 259M/ITU-R BT.655
- HD/SD Output #1: Output of board's internal mixer.
  - HD Signal: SMPTE 292M/ITU-R BT.709
  - SD Signal: SMPTE 259M/ITU-R BT.655
- HD/SD Input #2: *Not used*.
- HD/SD Output #2: Provides a key signal to external device.
  - HD Signal: SMPTE 292M/ITU-R BT.709
  - SD Signal: SMPTE 259M/ITU-R BT.655
- LTC Input and Output: *The Longitudinal Timecode facility on this board is not currently supported for use with Chyron products.*
- AUDIO; *connections will vary with your facility's routing arrangements*:
  - Unbalanced Inputs (2, BNC; red cables) 75 ohm
  - Unbalanced AES Outputs (4, BNC; blue cables) 75 ohm
  - Unbalanced Right & Left Analog Outputs (2, RCA; red cables)

4.4.3 A Word About the eFX Board's Optional Clips Capability

HyperX's optional Internal Clip Players play the same role as an external VTR or DDR. This is to say that they function as a source of video over which text or graphics produced by HyperX are keyed. These devices record video (and audio) from external sources, saving the data to a partition on the system's main drive or to an additional SCSI hard disk in the drive bay. Where the HyperX eFX Board is enabled as a clip player, two additional SCSI drives are installed. These drives are striped together to appear as one drive for storage of video clip files.

The Internal Clip Player and Lyric

Video/audio input to the Internal Clip Player can be saved and played back under the control of Lyric's **Clip Control Panel**. The video output from an Internal Clip Player is not a typical object in a Lyric composition, in that it is not visible on the Lyric Canvas that appears on HyperX's SVGA monitor.

Rather, the video's movement, duration and other behaviors in the composition are controlled by Lyric; in this regard, Internal Clip Player video is manipulated like other Lyric objects.

4.5 Option: HyperX and Chyron's CMix (*SD operation only*)

Chyron's CMix is designed to allow mixing between output channels of a HyperX system **configured for standard-definition output**. This device combines four video/key input pairs plus one program video input layer into a single video/key pair output. The system contains two independent sets of mixing logic controlling two video/key outputs. The mixers share the same inputs, but the inputs can be assigned to different layers in each mixer.

Figure 4-6 shows the rear panel of a CMix with suggested connections to a two channel HyperX system. Figure 4-7 shows the signal paths in the same type of configuration. HyperX's outputs and key outputs are mixed and layered as desired, upstream of the production switcher, allowing the greatest possible flexibility in allocating your switcher's inputs and outputs.

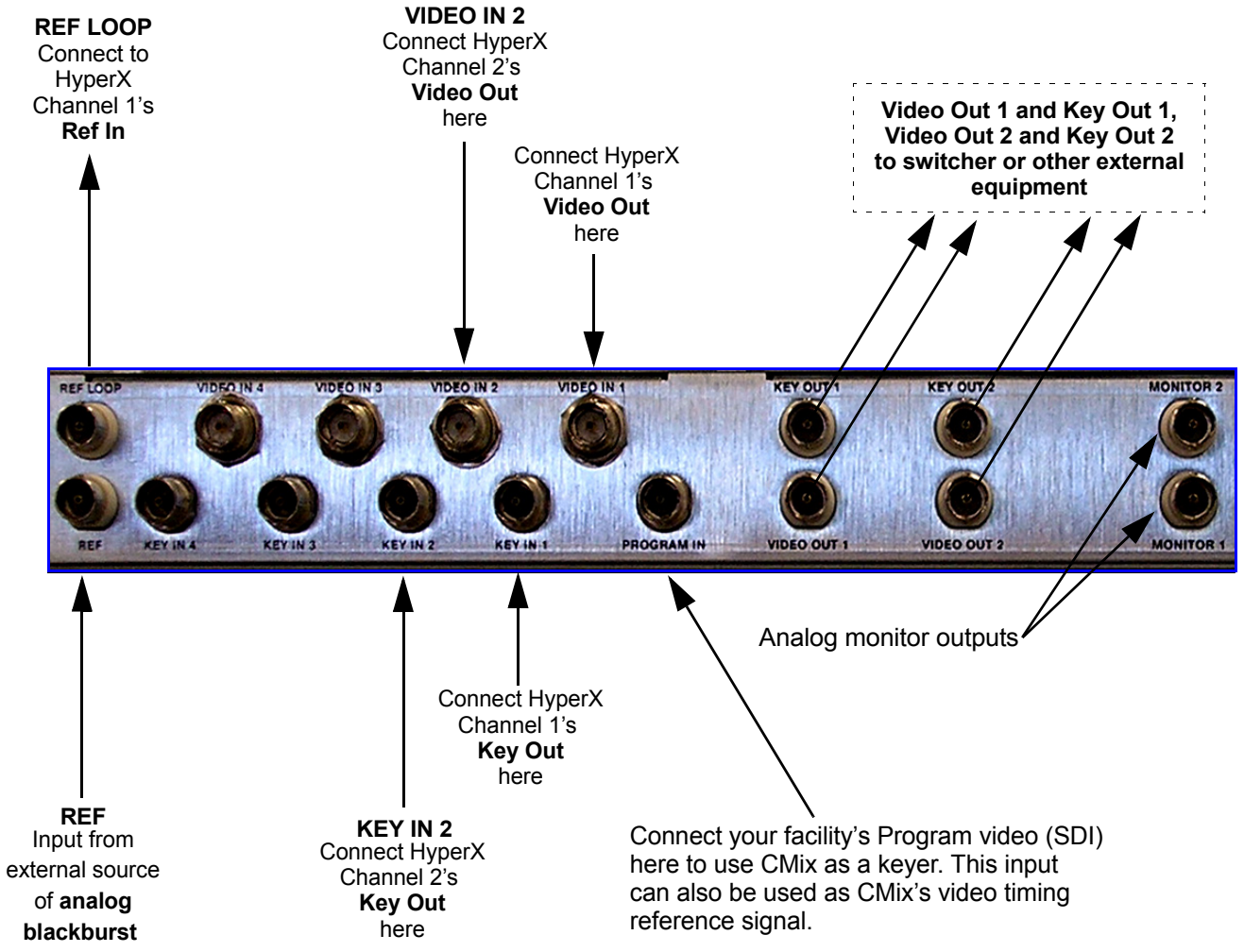


Figure 4-6. Chyron CMix rear panel with typical connections to a two-channel standard-definition HyperX system

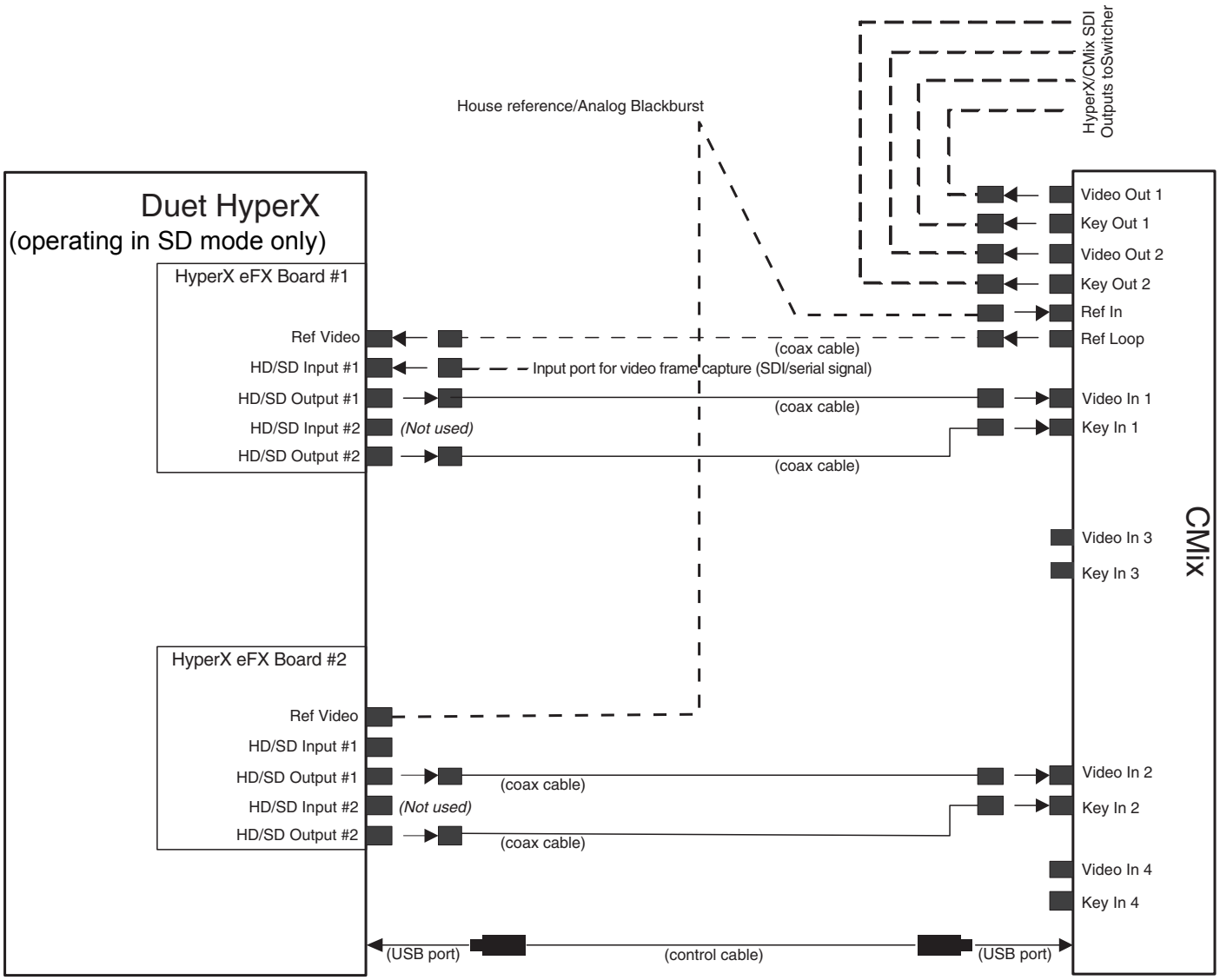


Figure 4-7. Typical connections between a two-channel standard-definition HyperX and Chyron's CMix

Section 5: Initial Power-On

5.1 Main Power Switch on Front of Chassis

- Before turning on the power, make sure that all **three** of HyperX's power-supply modules are plugged in. See Section 4.1 and Section 6.5.1 for more detailed information.

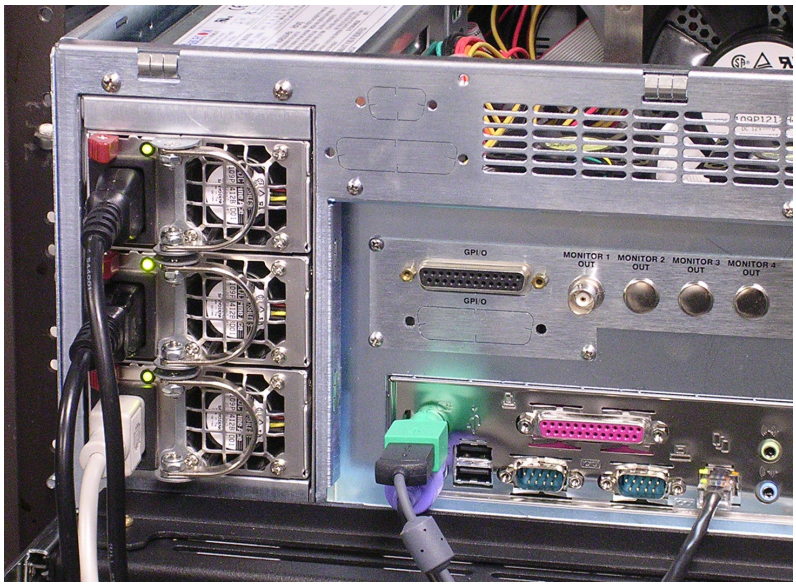


Figure 5-1. Stand-by LED indicators, left, show that the module is receiving power. Your system's appearance may differ from this illustration.

- If the system fails to initialize, check the connection between the front-panel power switch and the CPU board (see Section 6 for more about HyperX maintenance).

5.2 System Initialization

- Before turning on the power to HyperX, make sure the system's VGA monitor is connected to the graphics card (Section 4.3), and the monitor is receiving power.
- When power is turned on, you should see the familiar **POST** operation (Power On Self-Test) run, as well as an on-screen indication that HyperX's SCSI resources have initialized. As on most systems, the text that indicates these operations goes by quickly, so don't worry about missing something.
- Windows XP starts and the Desktop appears.

NOTE:

HyperX's Windows XP operating system is **activated** at the factory. However, there is a difference between activating and **registering** your copy of Windows XP. The latter action is strictly optional; however it is strongly recommended by Microsoft. You will be prompted periodically to do so, but the reminders can be dismissed.

- If the startup script indicates that no disk has been found, or that there is no operating system, check the SCSI connectors from the drive bay (see Section 6 for more about HyperX maintenance).

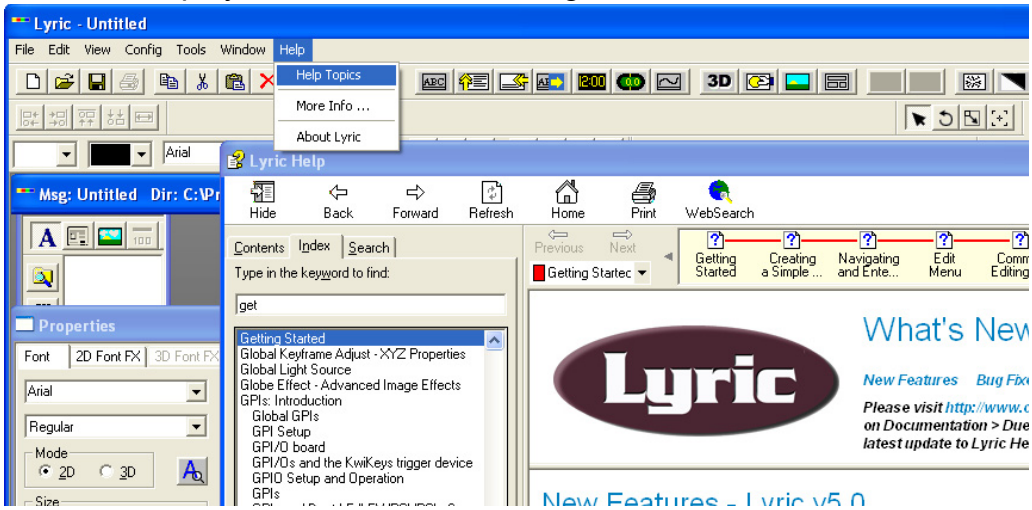
5.3 Application Tests

- **Lyric:** If your system includes the optional Lyric software:

  1. After Windows startup is complete, locate the Lyric icon on the desktop and double-click it to launch the Lyric application.

     Depending on the specifics of your system's Lyric installation, there may be sample Lyric messages available with which you can experiment. If you wish, search your system for files with the **.lyr** extension.

  2. If sample Lyric message files are present, use the File > Open command or click the button, and navigate to the appropriate file. Consult Lyric Online Help for more information about playout of animated messages.



     You might also like to try entering some text on the Lyric Canvas. In any event, the Online Help's **Getting Started** topic will prove invaluable as you're getting accustomed to HyperX and Lyric.

  3. Test the system's Video (and Key) Output 1 by pressing the Xfer key. **Carefully** take note of the correspondence between channels on the Lyric interface and the monitors connected to your system, to confirms correct routing of HyperX's Frame Buffer(s).

  4. On dual- or multiple-channel systems: To test the system's other channel(s) (Video and Key Outputs), press the Swap key, then press again.

- **CAL:**

  Being custom software, CAL applications vary widely. Chyron offers this general advice: Install the CAL application that will be running on your HyperX system. Launch the application, and as above, carefully verify that your animations appear on the expected outputs.

5.4 Graphics Card Preview Output

Duet HyperX is factory-configured to produce a Preview monitor output from the graphics card. In the event that the card must be replaced, or if the Preview output must be reconfigured for some other reason, follow the procedure outlined in this section. It may be useful to restate the goal of these actions:

5.4.1 Set-Up Procedure

This procedure may vary with the graphics card currently being delivered in HyperX systems.

The graphics card can deliver a duplicate of the VGA monitor's "Desktop" display to an analog TV monitor. In the suggested configuration, the Desktop display is **re-sized** and **positioned** (centered) on the TV monitor, so the Canvas area of the Lyric interface occupies the monitor picture completely.

1. Connect an **analog** TV monitor to the S-video connector, which is topmost on the graphics card. See the note at the end of this section for other monitor options.
2. Restart Duet HyperX. Restarting after the monitor is connected insures that the graphics card will recognize the connection of the monitor.
3. Before doing anything else, **launch the Lyric application**. Get all of the windows on the Lyric interface arranged to your liking. Do not minimize the Lyric application. Leave it full-screen and proceed so that the windows in the following steps open "over" the Lyric interface. You'll see why this is important later in the procedure.
4. From the Start Menu in the lower left, select START > Control Panel > Display.

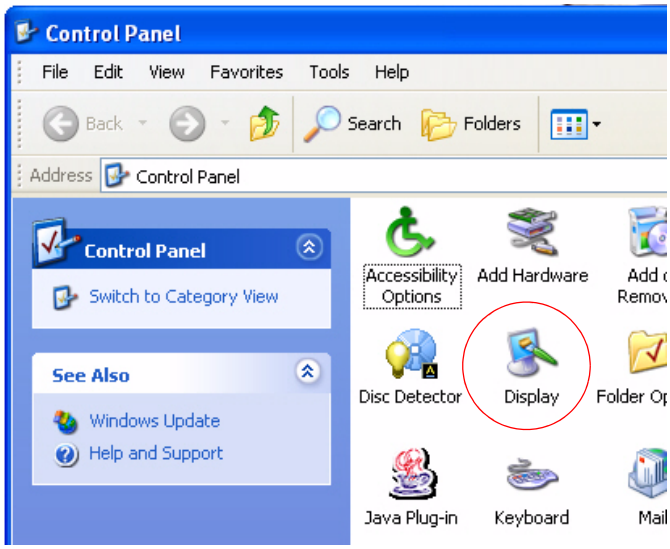


Figure 5-2. Windows XP control panel

5. Double-click the **Display** icon, circled in Figure 5-2. The menu pictured in Figure 5-3 appears. The **2** icon on the right side of the display indicates that the card senses the connection of a second monitor; the “Not Active” tool tip shows that that monitor has not yet been configured.

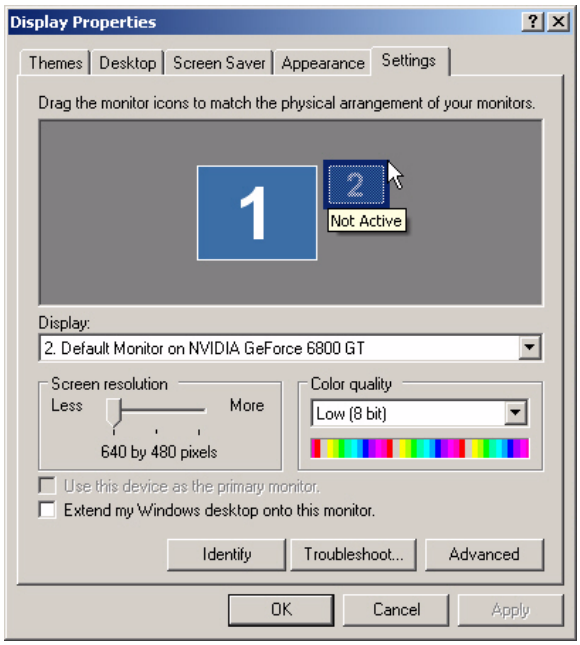


Figure 5-3. Settings menu *before* configuring software for TV display

6. Important: Drag the Display Properties window pictured in Figure 5-3 to the center of the Desktop. This is a necessary part of the actions you will take to properly center the re-sized Desktop image on your monitor.
7. Click the **Advanced** button shown above. The menu below left appears, with the General tab selected by default. Click on the **GeForce 6800 GT** tab. The menu pictured at right in Figure 5-4 appears.

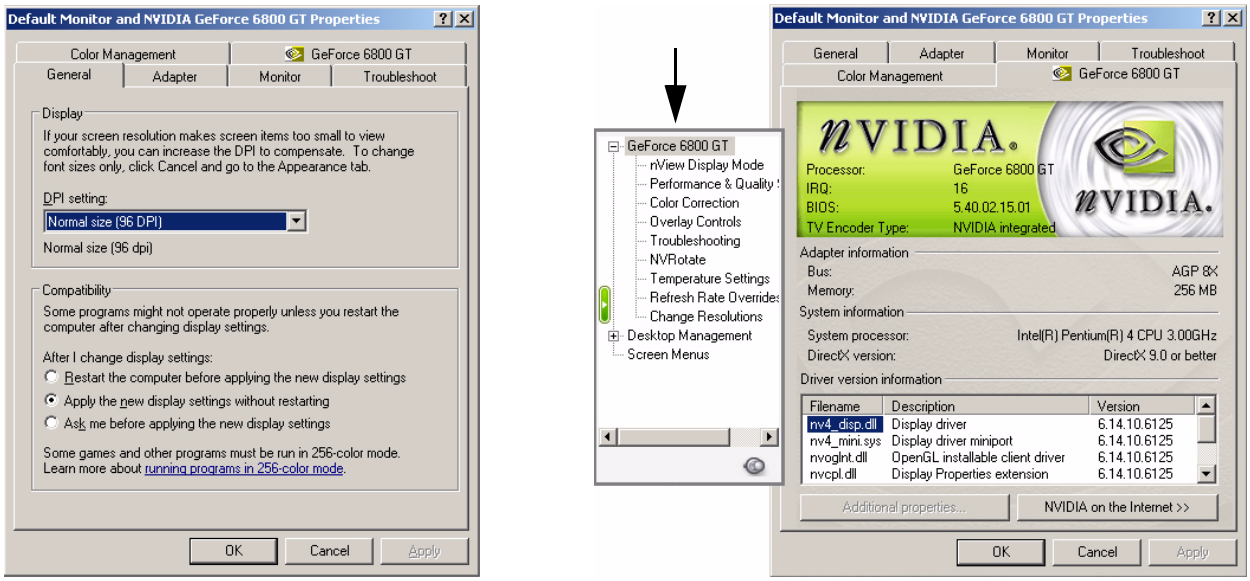
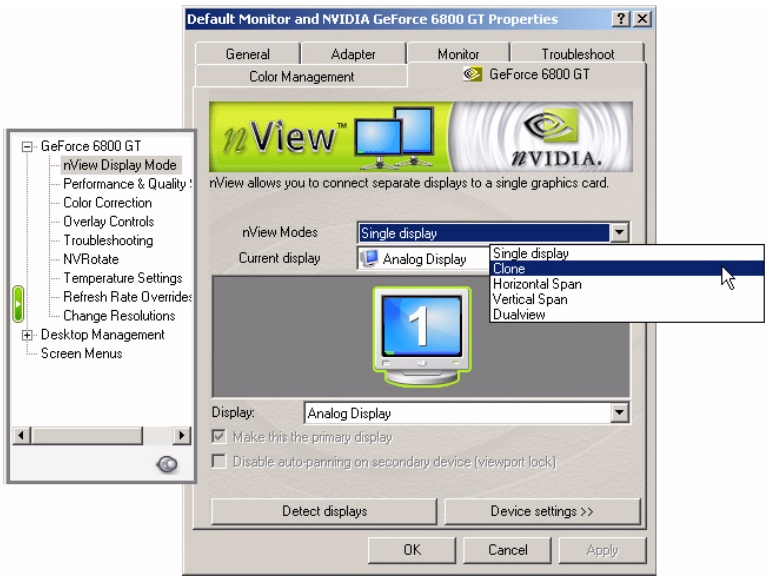


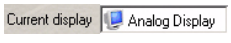
Figure 5-4. GeForce 6800 GT menu with all options displayed

8. In the submenu, click on ***nView Display Mode***. The menu changes as shown in Figure 5-5.



This view is modified to show the different choices available in the "nView Mode" dropdown.

Figure 5-5. Option for "cloning" VGA display on TV monitor

9. Choose **Clone**. (This will have the effect of duplicating Duet HyperX's "Desktop" display on the TV monitor **after** you complete a couple of more settings). Selecting "Clone" will change the  field to read **Display Pair**.

10. Use the Display Pair dropdown to select **Analog Display + TV**.

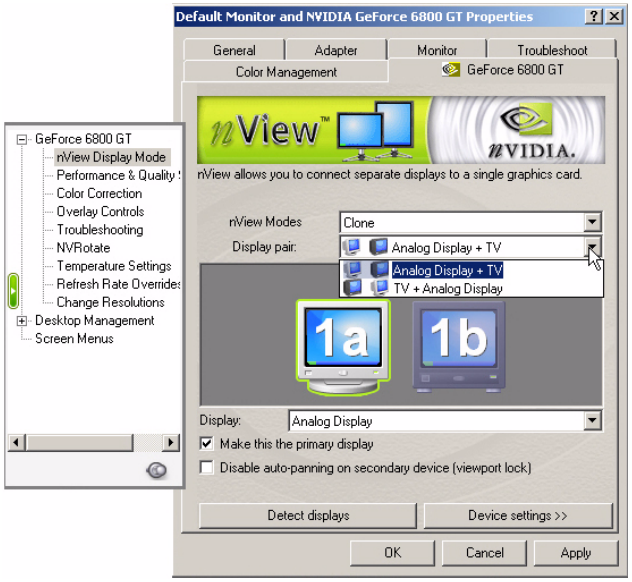


Figure 5-6. "nView Display Mode" controls on the GeForce 6800 GT tab

11. Single-click the **1a** icon at left, so that it is outlined in green. Be sure to select the checkbox **Make this the primary display** and make sure to "un-select" the checkbox **Disable auto-panning on secondary device (viewport lock)**.

12. Now, in the same menu, single-click the **1b** icon at right, so that it is outlined in green. *Make sure to click this icon, and confirm that it is outlined in green; the controls you will be using in the following steps must be dedicated to the appropriate monitor output.*
13. Press the **Apply** button. Don't close any windows yet.
14. Turn your attention to the TV monitor that you've been setting up, with its representation of HyperX's PC desktop.

    As stated earlier, the display should be **re-sized** and **positioned** so that the Lyric Canvas occupies the TV monitor's entire picture. You may have to alternate between adjusting positioning and adjusting the display's **resolution** (see the next step).

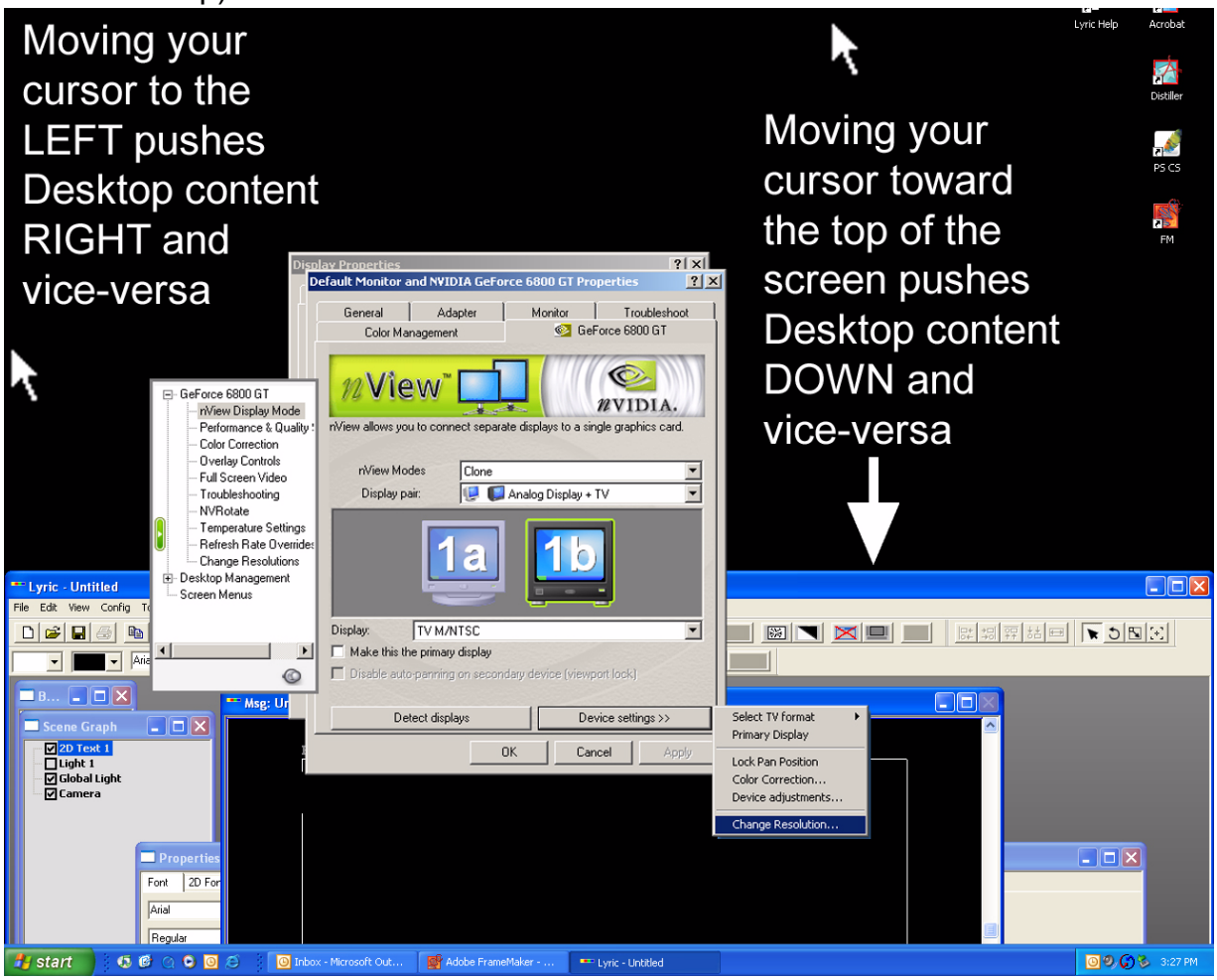


Figure 5-7. HyperX Desktop as seen on TV monitor, with graphics card controls, center

15. To change the display resolution, click the rectangular **Device Settings** button near the bottom of the **Default Monitor and NVIDIA GeForce 6800 GT Properties** window. On the child menu that appears at lower right, select **Change Resolution**. (Do NOT use the "Change Resolution" selection on the sub-menu at left.)

16. The Change Resolution menu appears:

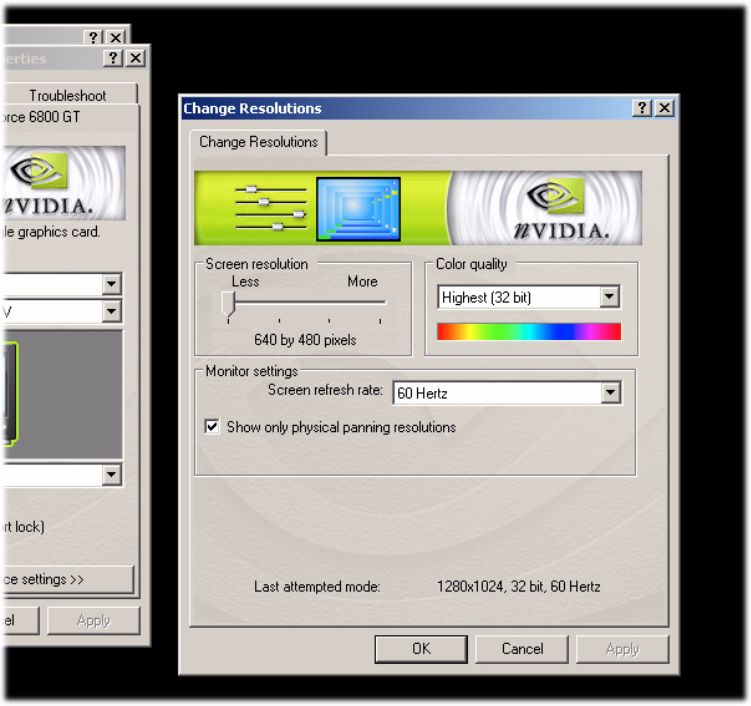


Figure 5-8. The graphics card's Change Resolutions menu

You may have to experiment with the **Screen Resolution** slider at various settings (pressing **Apply** with each variation). Be sure to keep the **Screen refresh rate** at 60 Hertz.

When changing resolutions, the monitor will go black for a moment, and then return. When it does, you will see the **Confirm Display Settings** dialog box:

17. Press **Yes**.
18. Understand that you have (temporarily) configured your Preview monitor to "pan" around the Desktop display. Therefore, you must be careful of where you point your mouse during this part of the procedure! That is why you were advised to set up the Lyric interface ahead of time in Step 3, and to move the graphics card control window to the center of the screen in Step 6.

    Once the Lyric Canvas is centered and properly sized on the TV monitor, return to the **GeForce 6800 GT Properties** tab, as pictured in Figure 5-6. On that tab, you must now **select** the **Disable auto-panning on secondary device (viewport lock)** checkbox.
19. Click **Apply** and close all the Display Control Panel windows.

CAUTION

Changing the Screen Resolution slider may cause an unwanted change in the Screen refresh rate setting. Screen refresh rate can easily be reset to the proper value. HOWEVER, if this occurs with the VGA monitor (the **1a** icon in Step 11 or Step 12) selected, that monitor could go completely black in response to an unsuitable refresh rate being set. That is why, in Step 12, you were cautioned to make sure the **1b** icon is selected, so that the TV monitor is the device being adjusted.

HINT

IF YOUR VGA MONITOR GOES BLACK because this has happened, use the TV monitor display of HyperX's PC interface to navigate. Refer to Step 11 to regain control of the VGA monitor's display. Press the Device Settings button, and reset that monitor to the appropriate Refresh rate.

5.4.2 Graphics Card Alternate Monitor Connections

5.4.2.1 DVI-to-VGA Adapter

Depending upon your needs, you may use this included adapter to connect a conventional VGA monitor to the graphics card's DVI output (see Section 4.3).

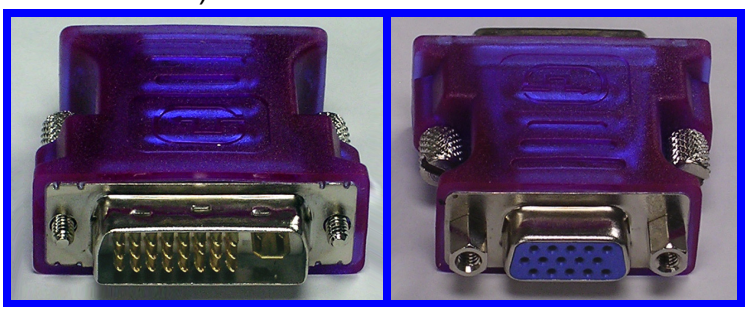


Figure 5-9. The included DVI-to-VGA monitor adapter

5.4.2.2 S-Video-to-Composite Video Adapter

Depending on your needs, you may use this included adapter cable to feed a composite video monitor from the graphics card's S-Video output (see Section 4.3).

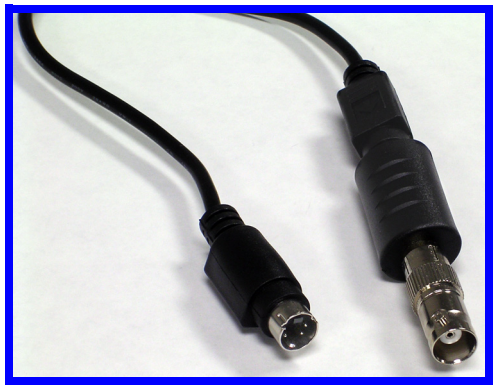


Figure 5-10. S-Video-to-Composite Video adapter cable.
Left, S-Video connector; right, BNC connector

Section 6: Maintenance

6.1 Computer Safety

HyperX, like any Windows-based system, is vulnerable to viruses, worms and other covertly installed destructive software. These measures are recommended to protect the integrity of your HyperX system.

6.1.1 Firewalls

Chyron strongly encourages the use of an **external** firewall in production/broadcast environments where Windows-based systems are connected to a computer network. Due to the adverse performance impact of “personal firewalls”, these products are not recommended for use in live or real-time television production.

6.1.2 Windows Updates

Not all Windows updates from Microsoft are recommended by Chyron for installation in HyperX. Before installing Windows Service Packs or patches, check the Chyron website at http://www.chyron.com/support/ for the latest update of our **Statement Regarding Chyron Systems and Computer Security**. Many of the updates offered by Microsoft *are* recommended for use with HyperX. However, your machine should NOT be configured for automatic download and installation. All such modifications to your operating system should be performed during scheduled down times and manually overseen. If you are in doubt about installing any software update, contact Chyron Customer Service.

6.1.3 Anti-Virus Software

Your HyperX system may have been shipped with an evaluation version (temporary license) of the Norton Anti-Virus product current at the time of the system’s manufacture. The installation, use and maintenance of anti-virus software is **strongly encouraged**. Where HyperX is used in live or other critical real-time production situations, Chyron endorses **cautious** use of the latest Norton Anti-Virus product, observing the following guidelines:

1. **Do not enable 'auto-protect'**; such operation of the anti-virus product may degrade the responsiveness of the system.
2. **Scan and update these systems during maintenance periods**. Since anti-virus products use a stored database of current and new viruses, it is crucial to update these products frequently. These updates should be scheduled during periodic maintenance or other downtimes. Remember that rebooting may be required.

3. **The following extensions should be excluded from scans**:

.301	.iff	.rgb
.avi	.jpg	.sgi
.bmp	.lyr	.swf
.cal	.mod	.tga
.clp	.mov	.tif
.csf	.pcx	.vpb
.dcx	.pct	.wav
.dlf	.png	.xbm
.efx	.psd	.xwd
.ica	.ras	

6.2 Hostile Physical Environments

Production trucks and other mobile installations may present extraordinary hazards to HyperX's mechanical integrity. Dust, vibration, temperature and humidity can affect the system's operation or reliability.

6.2.1 Temperature and Humidity

Please be mindful of these limits:

- Operating Temperature: 32° - 122° F / 0° - 50° C
- Operating Humidity: 5% to 95% non-condensing

6.2.2 Recommended Check-Ups

- Every six months, open HyperX's chassis and blow out any accumulated dust, using compressed or canned air.
- Periodically examine the circuit boards to make sure that they are securely in their slots, and make sure any hold-down brackets are in place.
- Periodically check all cables connected to the machine. Make sure that all the signal and power connections are secure, but we recommend that you go one step further: Check to see if any of the connectors are subject to excessive stress. You might want to pay special attention to the thick, heavy cables associated with the Internal Clip Player hardware. Investing the time in a quick inspection and adding a cable tie or two behind your equipment rack could avert major headaches!

6.3 Connections to the Front Panel

Major repairs to HyperX should be performed by Chyron Customer Service personnel. However, you may wish to learn a little about the connections between HyperX's CPU board and the system's front panel. In Figure 6-1, the front panel is seen in isolation.

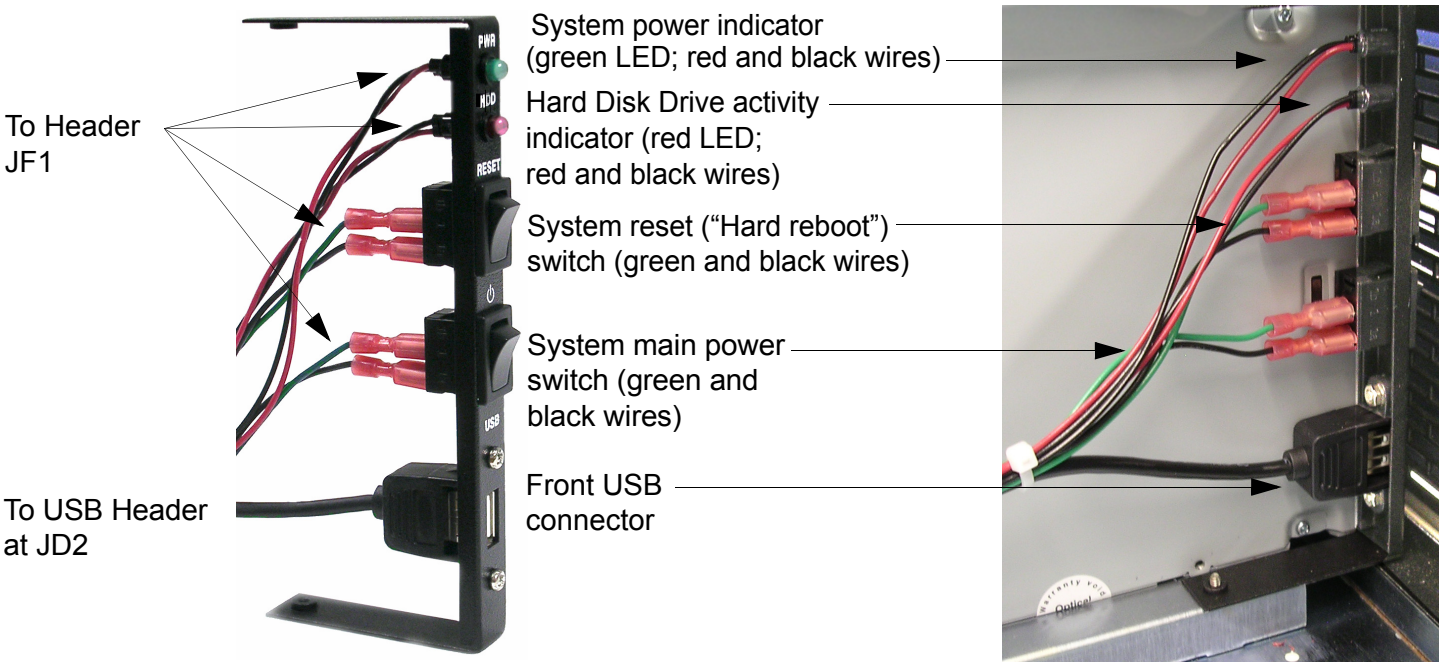


Figure 6-1. HyperX front panel, shown isolated at left and installed at right.

Should it become necessary to take apart and then restore these connections, be sure to follow the color-coding of the wires, and take care in selecting which sets of pins you connect on the Front Control Panel connector header. See Section 7.4 for details on connecting these components to the motherboard (Section 8.4 if your system is based on Supermicro's X5DA-8 motherboard).

6.4 Other Internal Cables

HyperX's PCI card guide cross-bar limits access to many of the cables and connectors discussed in this section, as seen in Figure 6-2 and Figure 6-3.

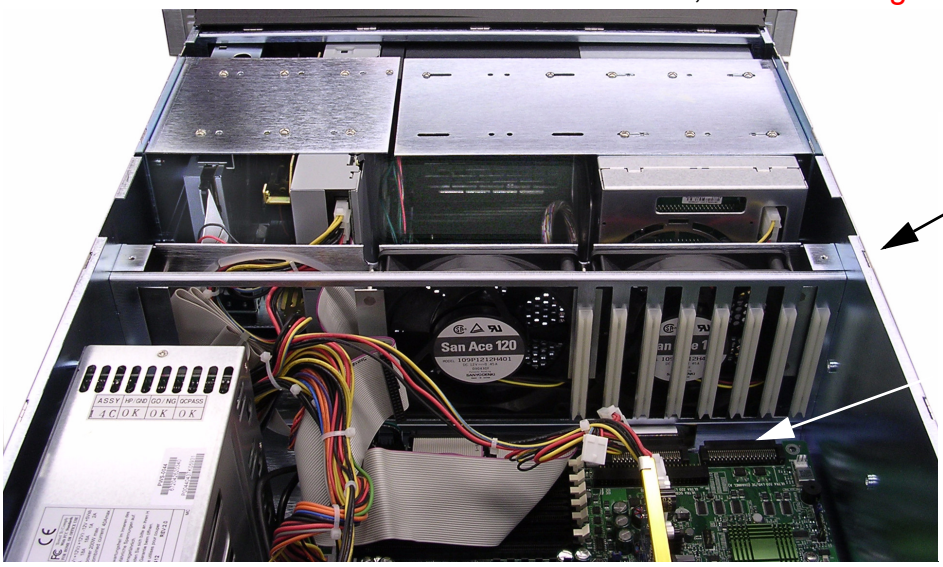


Figure 6-2. HyperX interior, showing rear of disk drives, SCSI connector

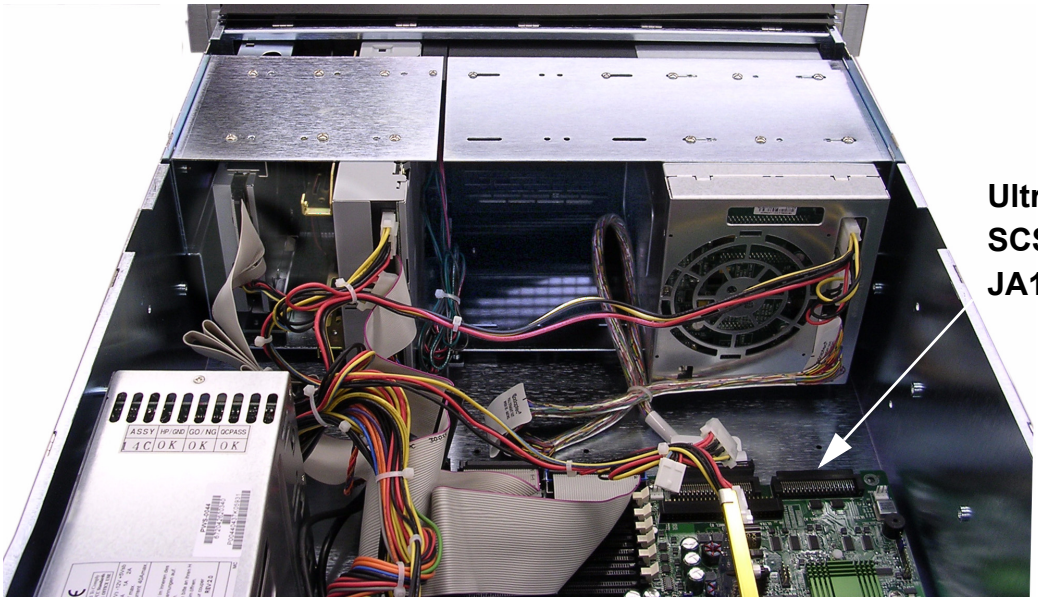


Figure 6-3. HyperX interior, PCI card guide cross-bar removed for visibility

6.4.1 Security Device (Dongle)

The Lyric application includes a number of options that are enabled by the licensing software described in Section 10. The licensing software works with the security device pictured in Figure 6-4.

Figure 6-4. "Dongle" USB security device.

The dongle must remain connected AT ALL TIMES. Under normal circumstances, **there is no need to do anything** with this component.

The dongle is attached to an internal USB cable that connects to the **USB 4/5** header at position **JD3** as seen circled in Figure 6-5.

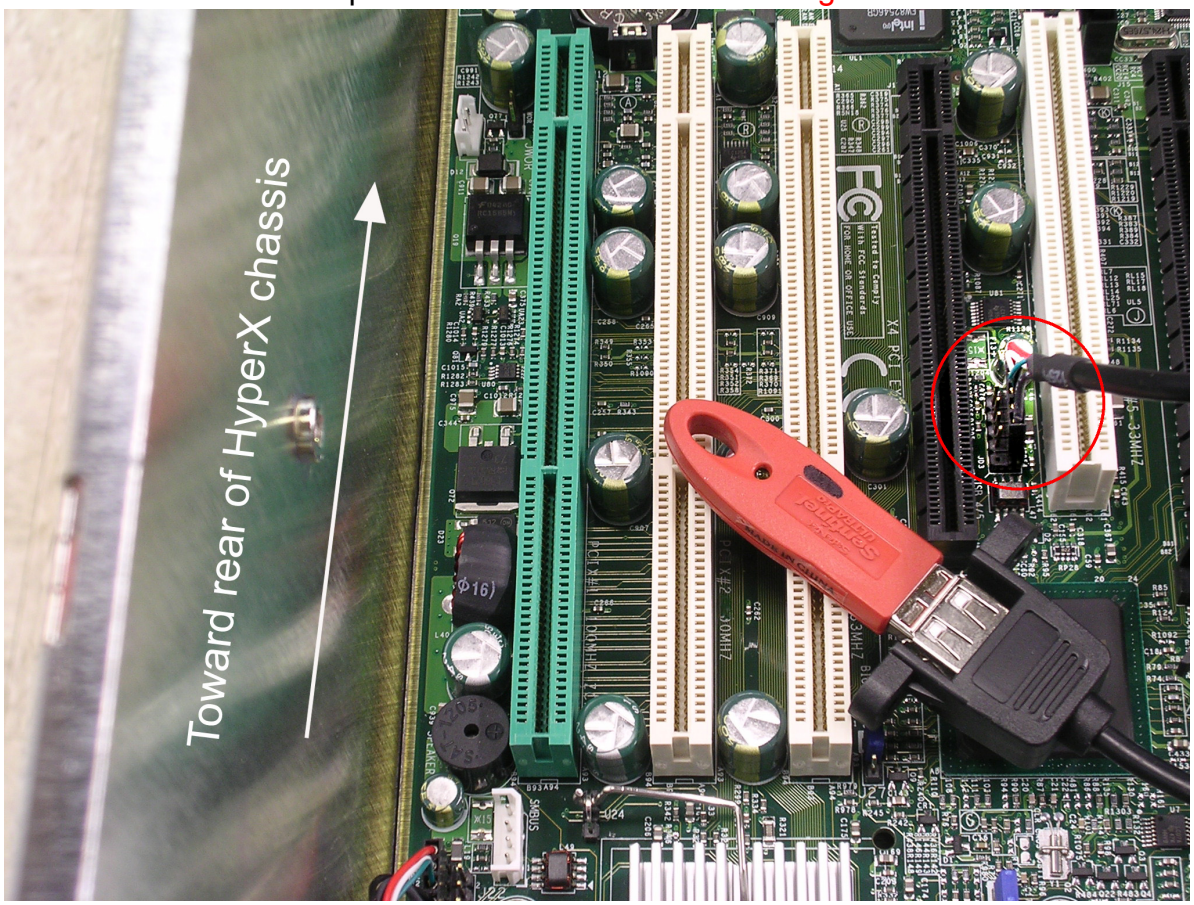


Figure 6-5. The FPUSB 4/5 header at JD3, located between slots #4 and #5. The red "dongle" security device, shown in foreground for reference, is located elsewhere in the system's normal configuration.

6.4.2 Motherboard Connection to SCSI Drive Bay

The SCSI drive bay uses a ribbon cable to connect to the CPU board's Ultra 320 SCSI connector **JA1**.

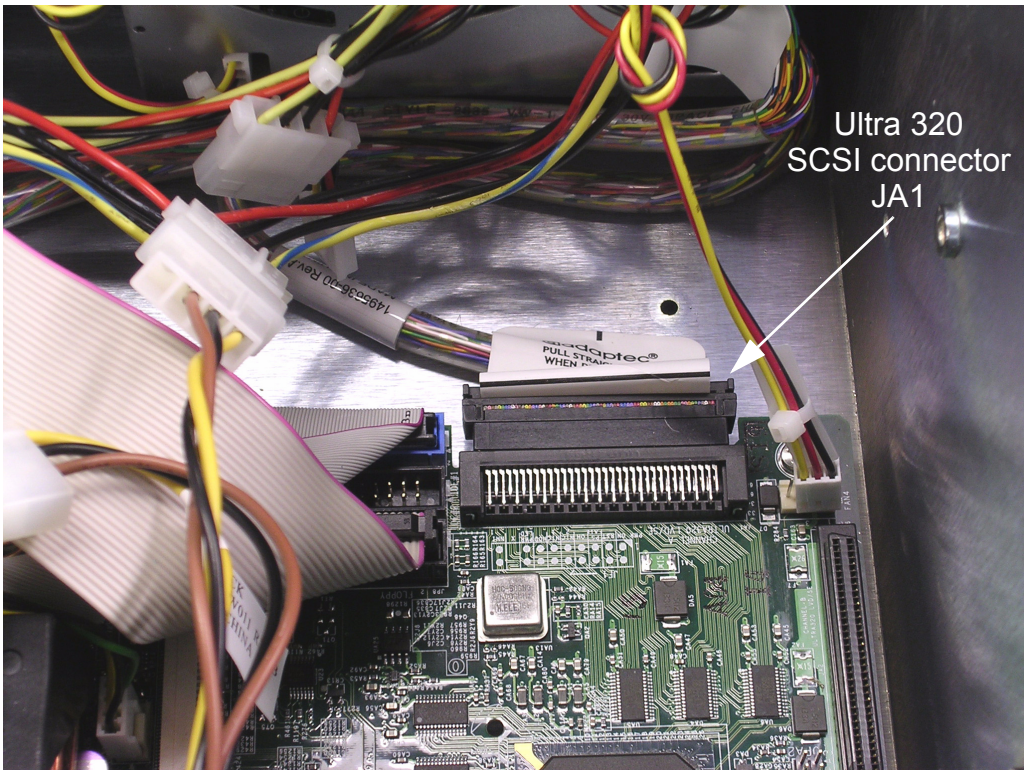


Figure 6-6. Close-up of SCSI connector JA1.

6.4.3 Floppy and DVD-RW Connections

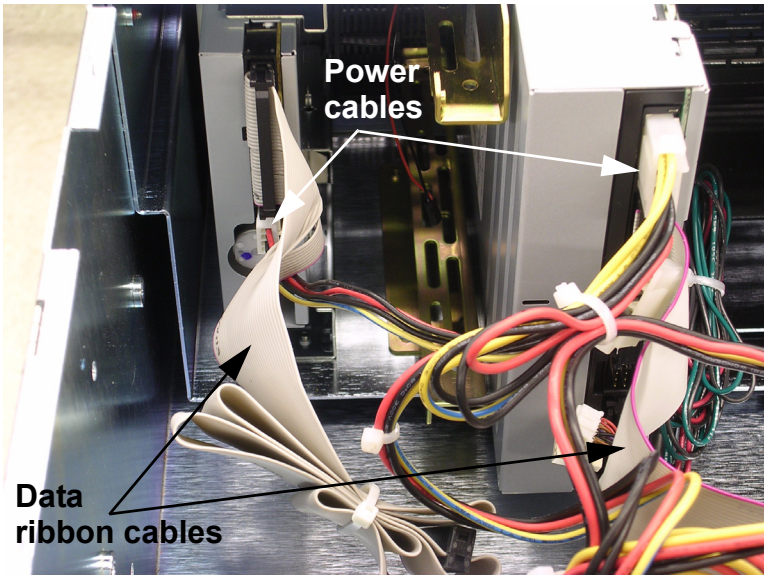


Figure 6-7. Rear view of Floppy disk (left) and DVD-RW drives.

6.5 Power Supply

HyperX is equipped with a 600 watt redundant-module auto-switching power supply. This device is comprised of 3 identical 200-watt modules, each with its own line-cord connector and fan. Under normal circumstances, all 3 of these modules are functioning at all times. If one of the modules fails, it is switched out of the system automatically.

6.5.1 Power Supply Modules at back of system

The power supply modules are **hot-swappable**. They may be removed and replaced, **one at a time**, whether the system is running or not. To replace a power-supply module, pull out the D-ring, move the red latch to the right with your thumb, and pull the module straight out, as seen in Figure 6-8.

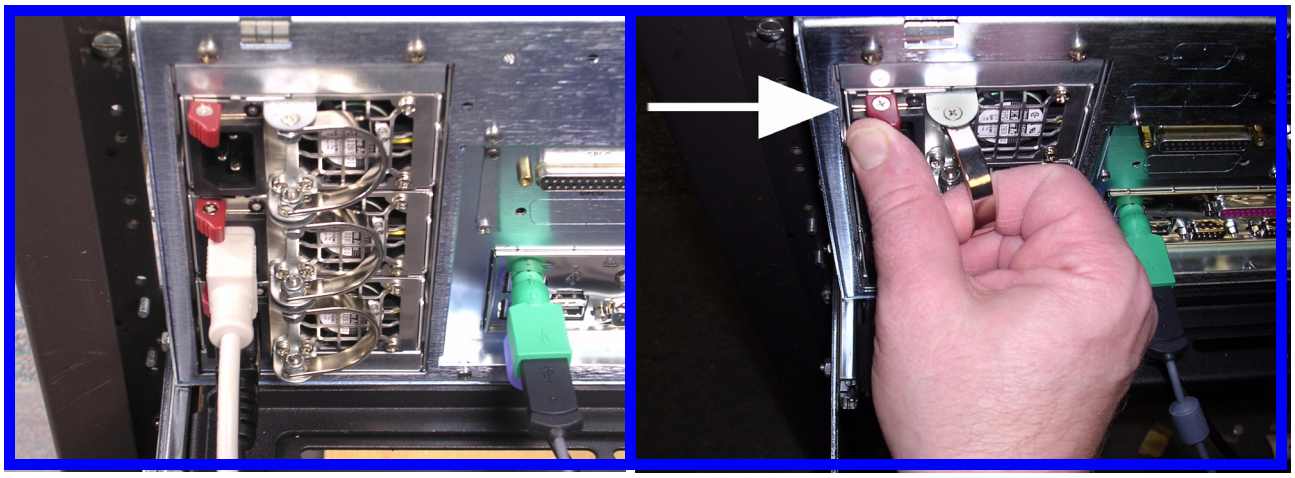


Figure 6-8. Replacing a power supply module

You may wish to have spare modules on-hand for quick replacement. Power supply modules can be purchased by contacting Chyron Customer Service. Specify part number **22M0013**.

Connection of the power supply modules to AC mains is discussed in Section 4.1.

6.5.2 Indicator Lights and Alarms

A green indicator light on each power supply module shows that it is receiving current and operating properly.

If any portion of the power supply fails, its light goes out and an audible alarm sounds.

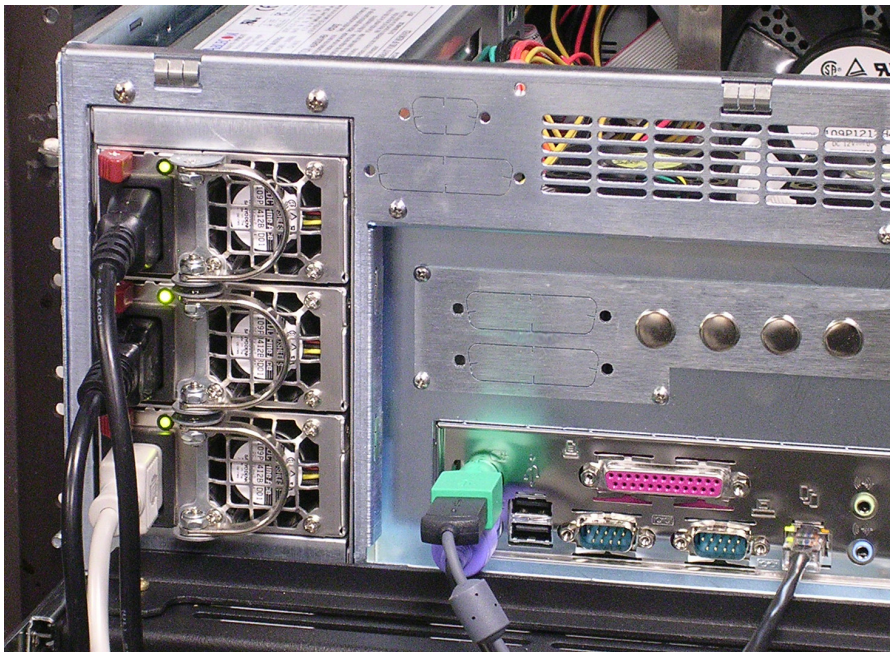


Figure 6-9. Indicator lights on each power supply module; other rear panel details may vary.

6.5.3 Internal Power Connections

Figure 6-10 is a close-up of the CPU and ATX power supply connectors on the motherboard to help you get your bearings in the event that you must undo and restore these connections.

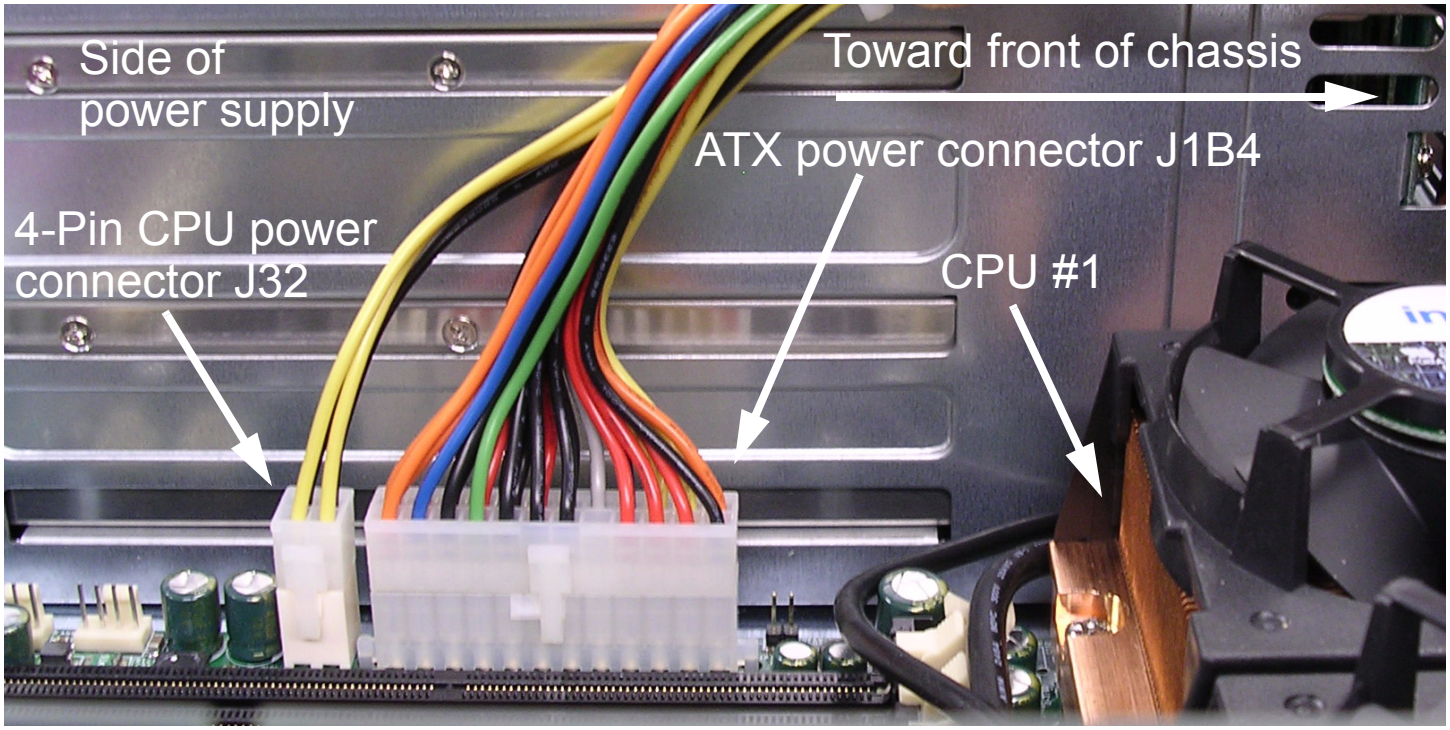


Figure 6-10. CPU power connector, left, with ATX power connector, center.

6.6 SCSI Multiple-Drive Bay

Duet HyperX is equipped with a 5-slot hard drive bay as seen in Figure 6-11. This drive bay is specifically designed for “hot-swappable” **80-pin SCA-2 drives**.

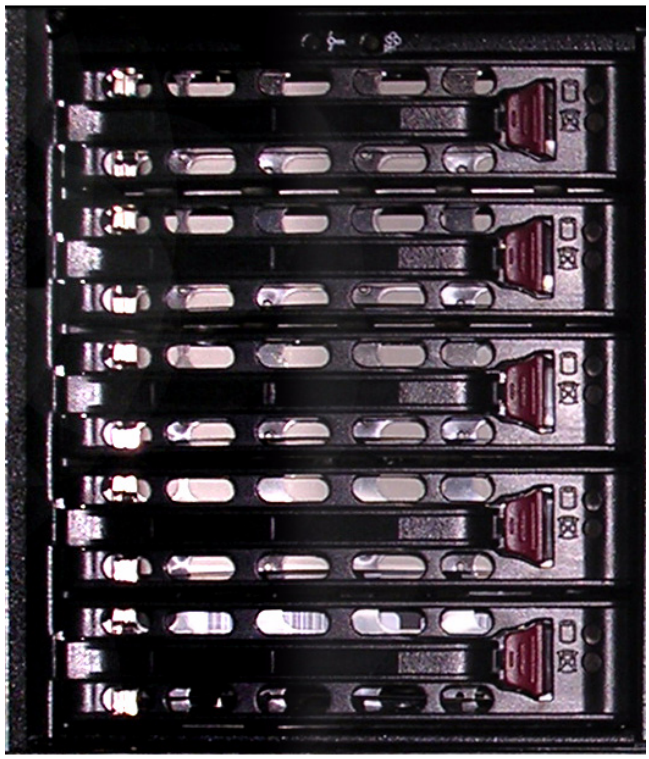


Figure 6-11. HyperX’s SCSI multiple-drive bay

Factory-installed main hard drives are in the bottom-most trays of the drive bay. New drives should be added to the system, from the lowest available tray, up. Note the empty space between the front panel’s power switch and drive bay pictured above; that space may be used for future addition of a second drive bay.

6.6.1 Connection to On-Board SCSI Host Adapter

Normally, the SCSI multiple drive bay is connected to the motherboard’s built-in SCSI controller via the Ultra 320 SCSI connector designated **JA1**. This connection is shown in detail in Figure 6-6.

6.6.2 System Fan Power

HyperX has two system fans, mounted as pictured in Figure 6-12 and Figure 6-13.

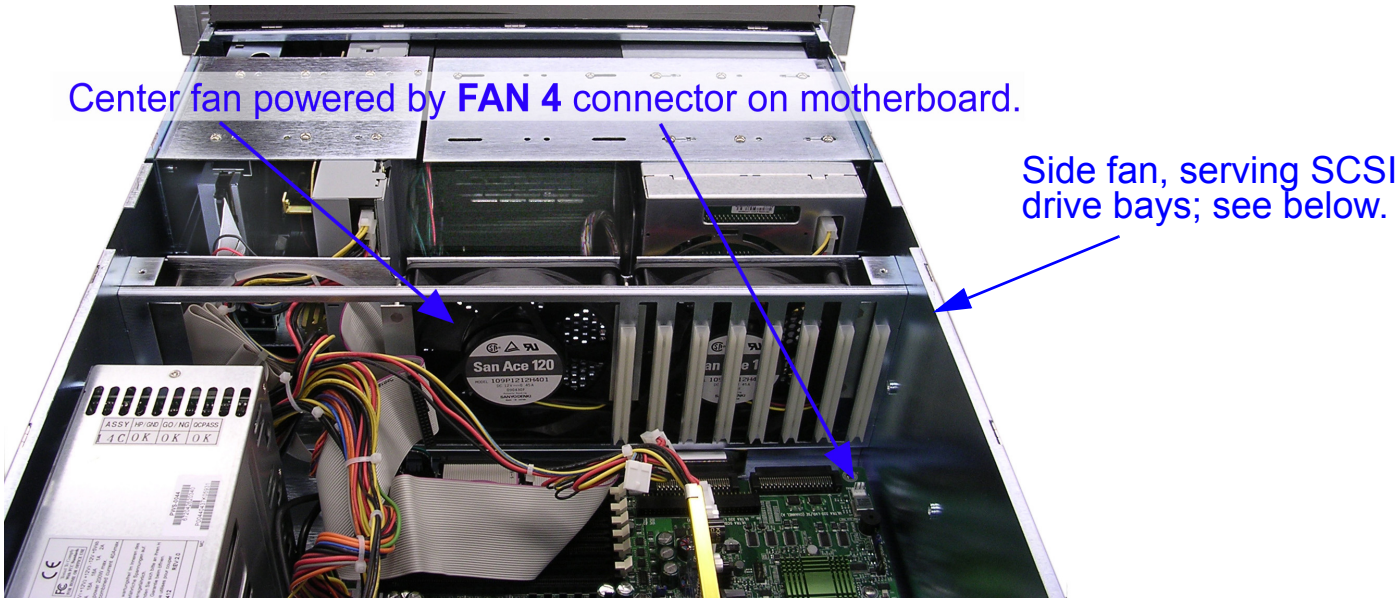


Figure 6-12. Power connection to center system fan

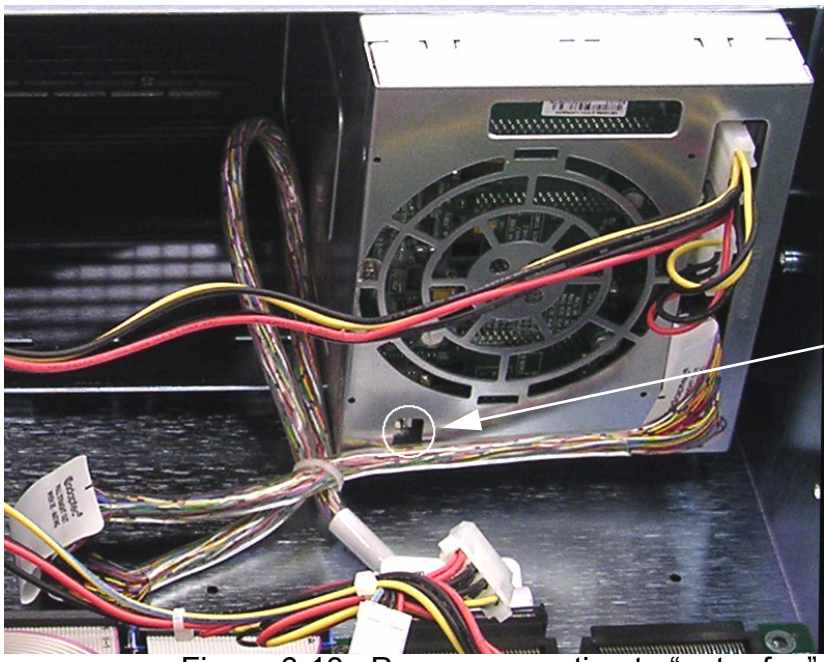


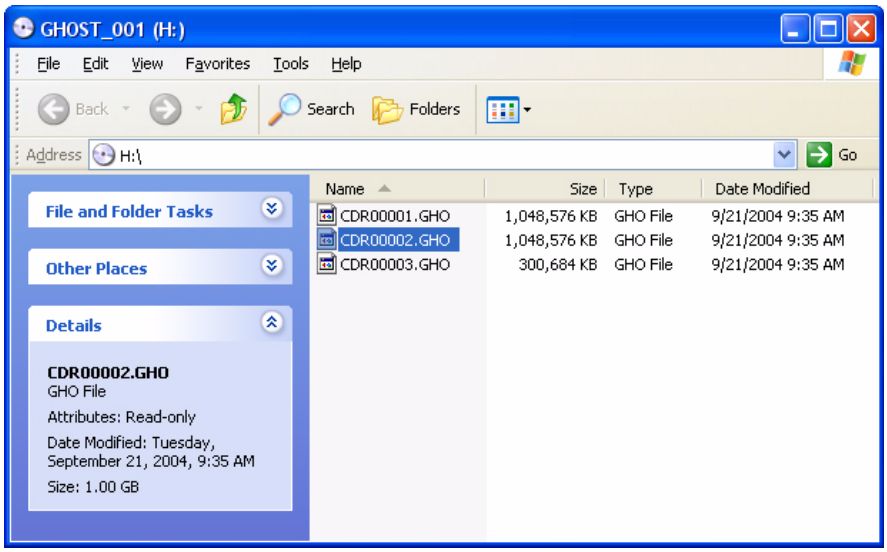
Figure 6-13. Power connection to “outer fan” which serves SCSI drive bays

As pictured in Figure 6-12, the fan in the center of the mounting hardware draws power from the **Fan 4** connector on the motherboard itself. The fan located directly behind the drive bay draws power from the connector located on the rear of the bay, toward the bottom, circled in white.

6.7 System Restore from Image Disc

6.7.1 Image Disc Content and Purpose

Included with HyperX is an **image DVD-ROM** containing essential files that should be reinstalled following a data-loss incident. The DVD can also be used to set up, partition and install system files to a newly-installed replacement main hard disk drive. The DVD contains three files; together; they comprise an image of HyperX's main hard drive contents as they were at the time the system was shipped. When the Restore operation is in progress, each file is opened as it is needed.



6.7.2 Details of Procedure

HyperX's BIOS (Basic Input/Output System) should already be configured to seek "boot" information on the DVD-ROM drive, should the system fail to find a viable operating system on the hard disk drive. However, the procedure outlined in Section 6.7.2.1 is included as a contingency measure, in case the system fails to boot from a loaded system-restore DVD.

6.7.2.1 Setting HyperX to Boot from DVD Drive

The BIOS is completely separate from the Operating System software on your hard drive, so you may perform this procedure even following a hard drive failure. Remember that all user actions in the BIOS are accomplished via the keyboard. Also note that the term **CD-ROM Drive** in HyperX's BIOS ***does*** represent the DVD drive.

1. Power down and **re-start** the system.
2. During power-up, press the **Delete** key, slowly and repeatedly; This action gives you access to the system's BIOS.

3. In the BIOS's first screen, "BIOS SETUP UTILITY", take note of the menus: **Main**, **Advanced**, **Security**, **Boot** and **Exit**.

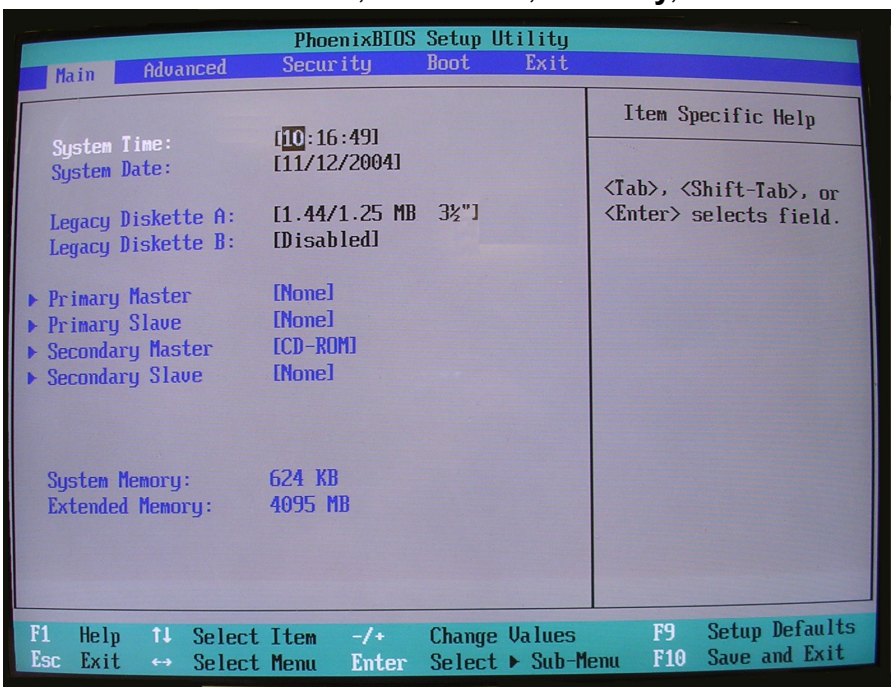


Figure 6-14. BIOS main screen

4. Use the keyboard's arrow keys ✣ to cursor left-to-right to the **BOOT** menu, and press **Enter**. The screen seen in Figure 6-15 appears.

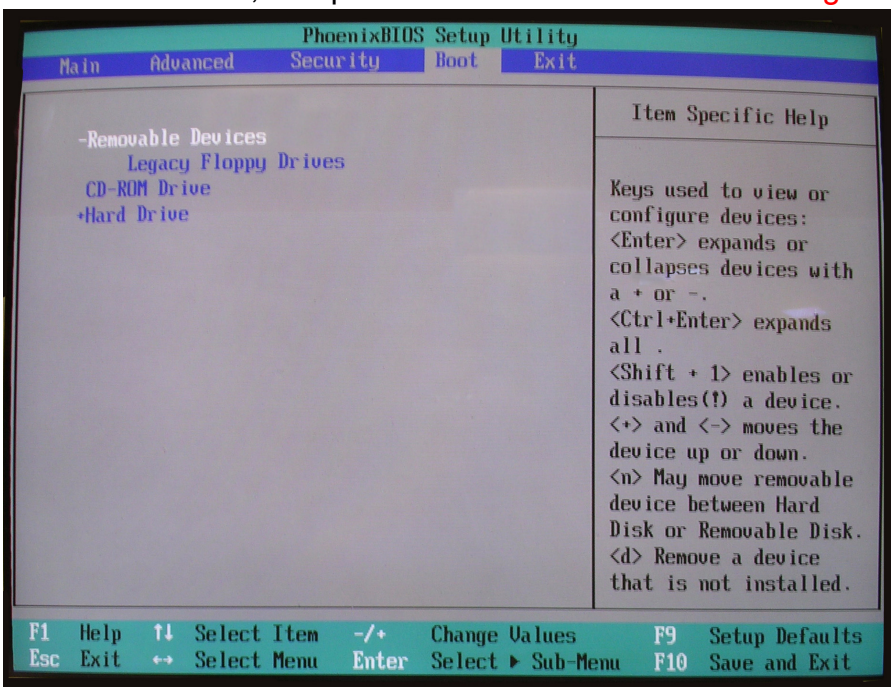


Figure 6-15. BIOS Boot screen

5. In the Boot menu, use the arrow keys to select **CD-ROM Drive**. Follow the instructions on the right side of the screen under **Item Specific Help** to designate **CD-ROM Drive** as the First Boot Device.
6. Press **F10** and confirm that you wish to **Exit and Save Changes**. This action also causes HyperX to begin re-booting from the drive that you designated to boot first.

6.7.2.2 Using the Image Disc

1. Load the **Chyron Image** DVD-ROM.
2. After a couple of moments, Norton Ghost launches. In the first Ghost screen, you may see an "About Norton Ghost" pop-up. If you do, press OK to close it.
3. The screen in Figure 6-16 appears, at first without the sub-menu at the extreme right:

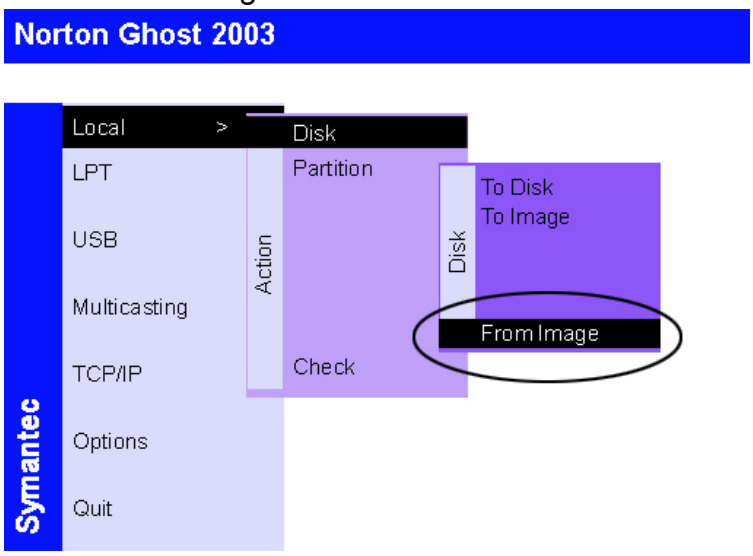


Figure 6-16. Choosing the desired Norton Ghost operation

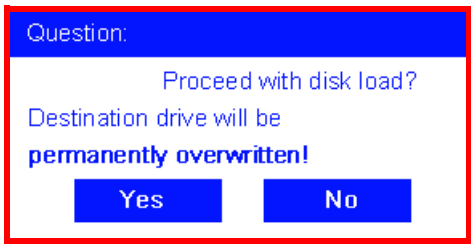
4. Select **Local > Partition**. Allow the system a few moments to create the partition.
5. Next, select **Local > Disk > From Image**.This tells the system that you will be restoring the contents of a local disk from a Norton Ghost **image** file.
6. In the next window, locate the **Look In** dropdown menu. Choose: **h: [GHOST_00.1] CD-ROM Drive**.
7. Select the file **CDR00001.GHO**.
8. Select the local disk destination to which this file will be copied and installed. Choose the system drive, which is **DRIVE 1**. DO NOT CHOOSE DRIVES 2 OR 3, IF PRESENT IN YOUR SYSTEM, AS THE DESTINATION.

9. The next screen, **Destination Drive Details**, appears. Choose: **Partition 1 Primary FAT16**.

   DO NOT CHOOSE PARTITION 2. Press **OK**.

   In this step, Norton Ghost may identify the partitions by the drive letters you assigned in Steps 5 - 7.

10. A new screen that will show the status of the upcoming operation appears. However, at first, a dialog box, entitled **QUESTION**, is superimposed over the screen. The dialog asks "Proceed With Disk Load?". Press **Yes**.



   Norton Ghost proceeds to decompress and copy the appropriate files from the image CD to Duet's hard drive. A Progress bar, Statistics and Details windows will keep you apprised of the status of the operation, as well as showing the source file and destination disk.

11. When the operation is complete, this dialog appears:

   BEFORE YOU DO ANYTHING ELSE, EJECT THE DVD-ROM FROM ITS DRIVE!! This will prevent the system rebooting from the DVD the next time you restart.

12. Next, press **Reset Computer**. HyperX will reboot from the newly restored files on its hard drive.

NOTE

IF YOU HAVE HAD REASON TO ALTER THE BOOT SEQUENCE (OR ANYTHING ELSE) IN YOUR SYSTEM'S BIOS, BE SURE TO RETURN TO THE BIOS AND RESET THE BOOT MENU SO YOUR SYSTEM PERFORMS START-UP OPERATIONS FROM THE HARD DISK.

Section 7: Super Micro X6DA8-G2 Motherboard

7.1 Supermicro's "SuperO Doctor" Software

This software is installed on your system and ready to use.

This icon appears on HyperX's desktop: , labelled "Supero Doctor III Client". Double-click the icon to launch the application. SuperO Doctor offers convenient monitoring of CPU and system temperature, fan speeds and other variables in its physical condition.

SuperO Doctor's menus allow the user to set up automatic system-conditions alerts to be sent via pager or e-mail. The monitored values that trigger alerts can also be user-defined.

Refer to the enclosed CD from Supermicro for further documentation about this software.

Figure 7-1. SuperO Doctor's "Summary" screen

7.2 Processors

Dual Intel Nocona™ processors, 3.2 GHz; each with 1 MB of L2 cache.

7.3 Memory

Standard on the motherboard is two 1-GB modules of PC-3200 Registered DIMM memory. You may notice that 6 DIMM slots are unpopulated in the factory-configured Duet HyperX system, but Chyron strongly recommends AGAINST adding more memory.

7.4 Front Panel Connectors

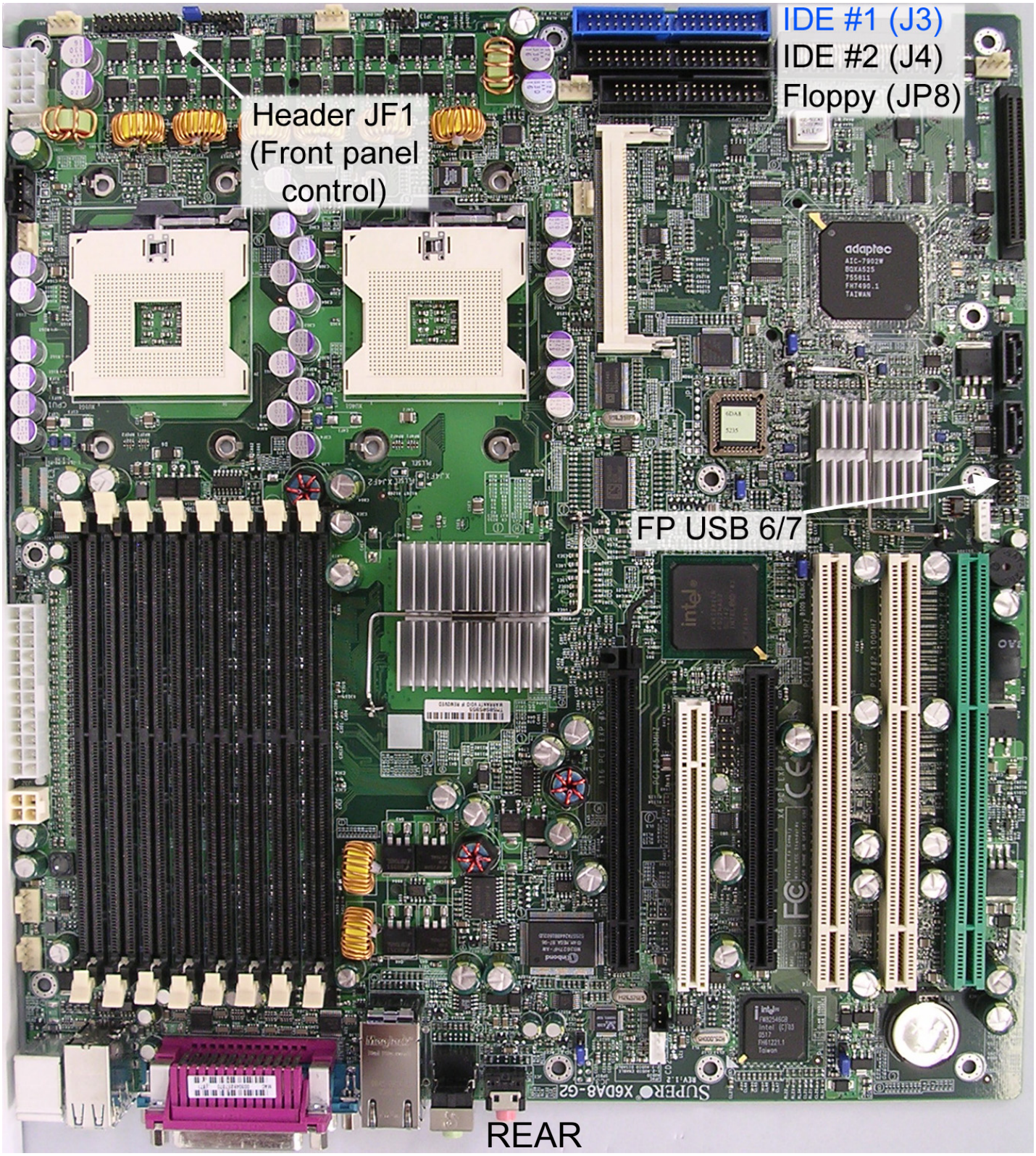
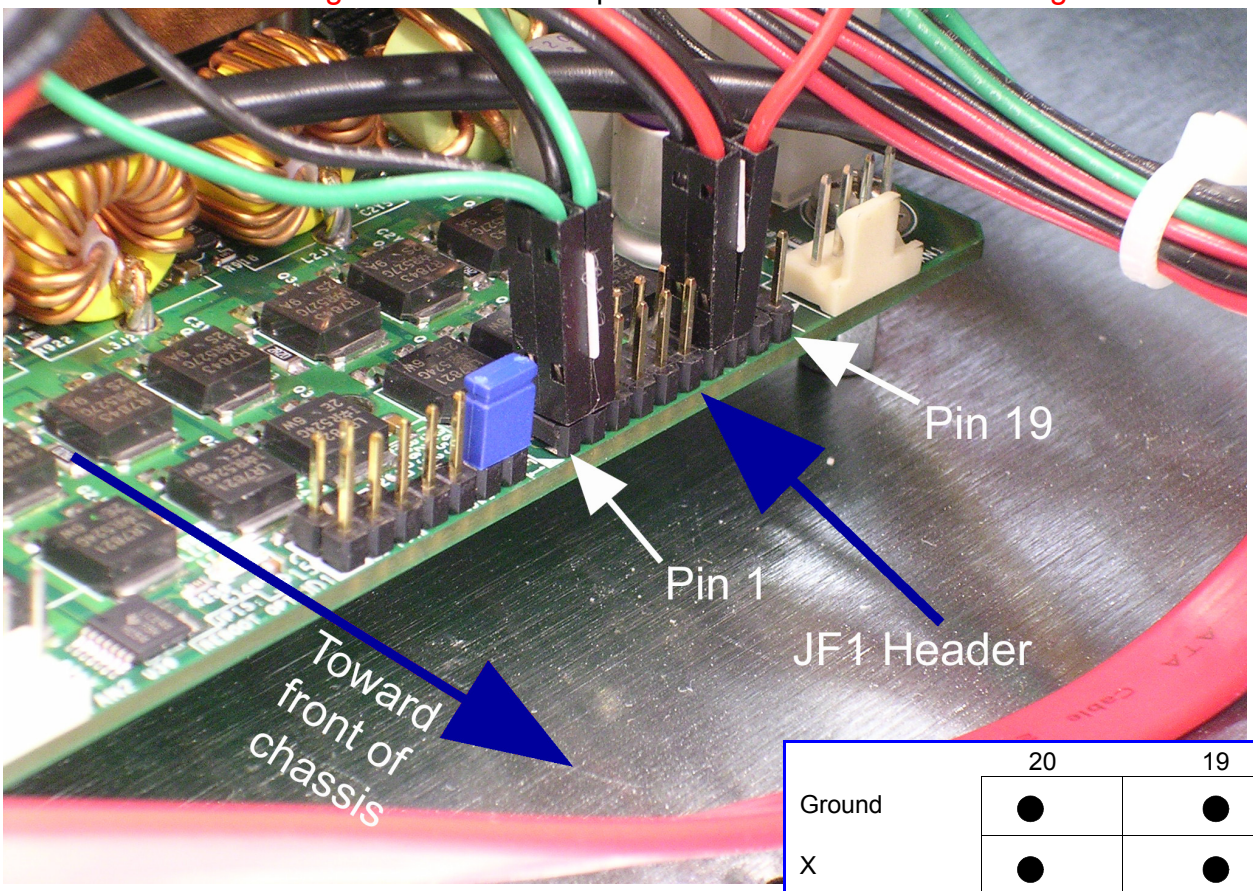
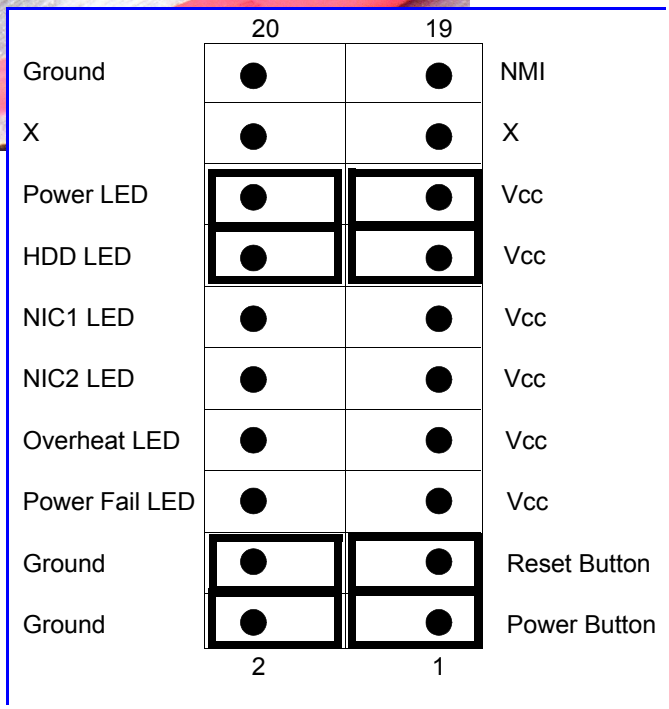


Figure 7-2. X6DA8-G2 motherboard

7.4.1 Power & Reset Switches, LEDs and Front USB Jack

See Section 6.3 for details on connecting the motherboard components seen in this section to front panel switches, indicator LEDs and USB jack. Their locations are shown in Figure 7-2. A close-up view of header JF1 is seen in Figure 7-3.





The Power LED connects to pins 15 and 16.
The HDD Activity LED connects to pins 13 and 14.
The Reset switch connects to pins 3 and 4.
The Power switch connects to pins 1 and 2.

Figure 7-3. Header JF2, close-up, at left. Labelled sketch at lower right.

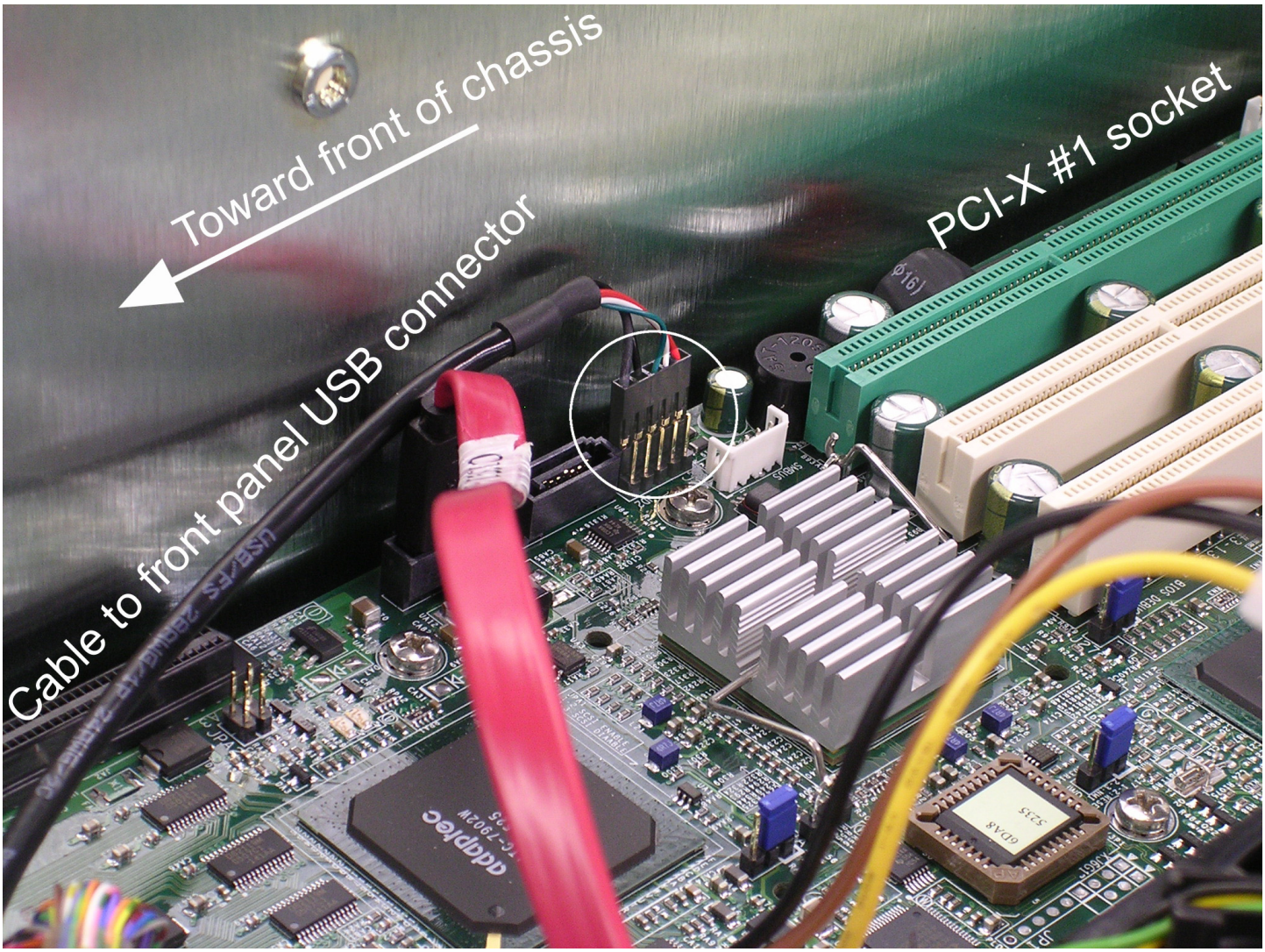


Figure 7-4. Close-up view of motherboard's USB connector, circled.
Note that the **black** cable goes to the front USB connector.

7.4.2 Floppy Disk and DVD-RW Drives

Again, refer to Figure 7-2 for a look at the Floppy drive connector and the IDE #1 (DVD-RW) connector on the motherboard.

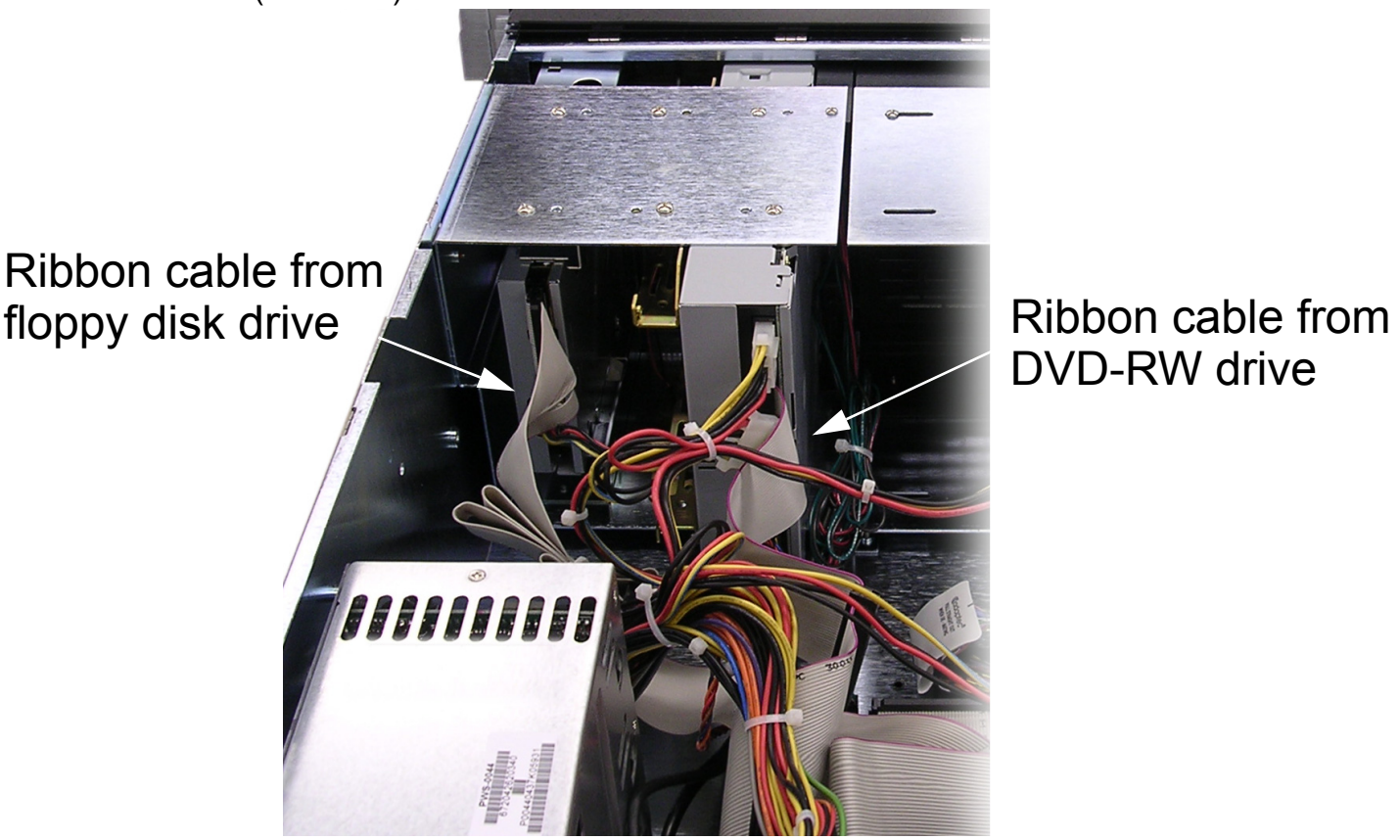


Figure 7-5. Rear view, floppy disk and DVD-RW drive cables

7.5 SCSI Controller Connections

The X6DA8-G2 motherboard includes an on-board SCSI controller. This device manages the drive(s) installed in the system's drive bay (see Section 6.4.2).

The on-board SCSI controller is normally served by header JA1. Refer to the motherboard's User's Manual for additional help in locating components on the board.

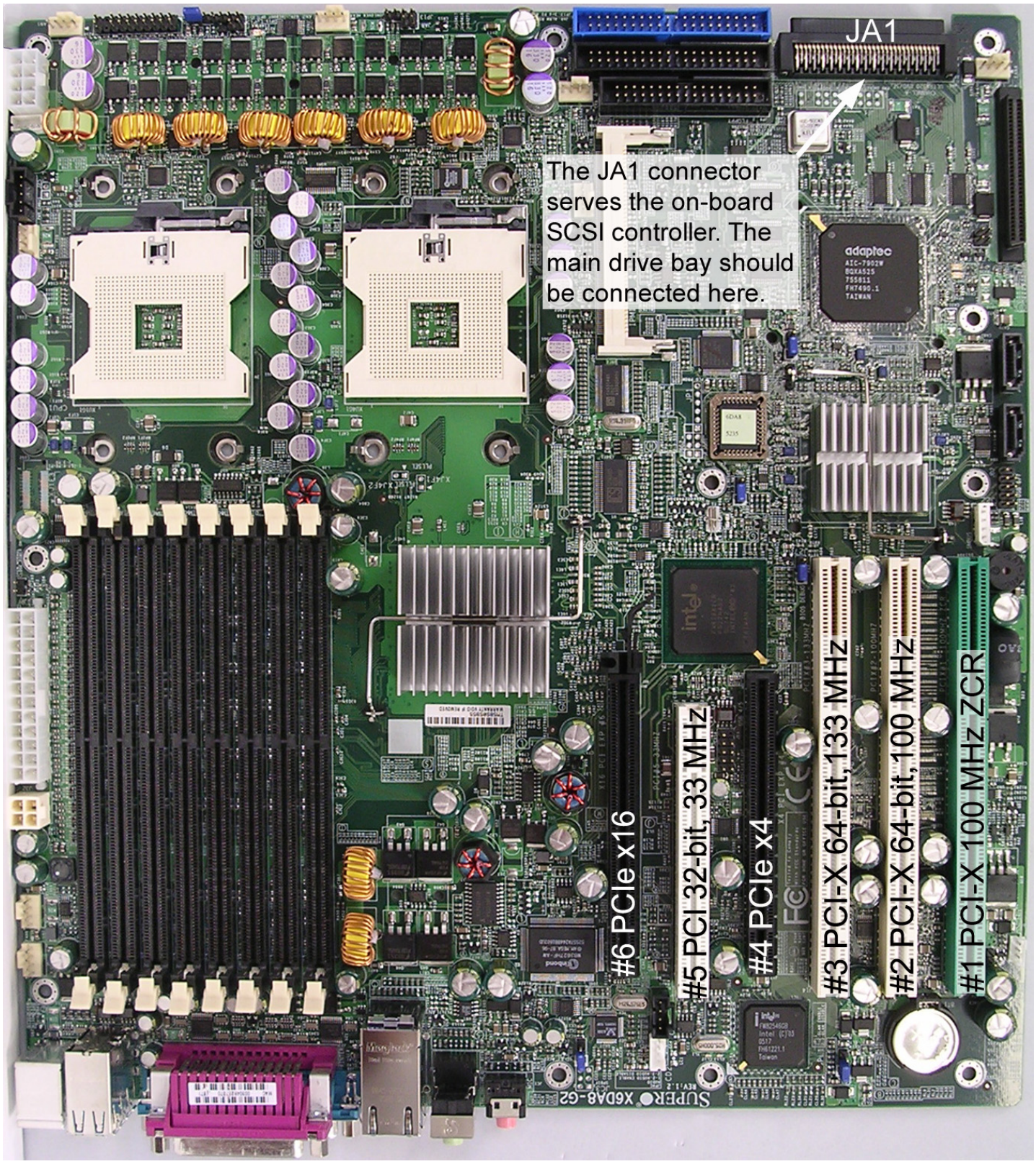


Figure 7-6. HyperX's X6DA8-G2 motherboard, Header JA1 and expansion slots called out.

7.6 Graphics Card

In contrast with previous configurations, HyperX systems built on the X6DA8-G2 motherboard now require a **PCI** graphics card (as opposed to an AGP card). At the time of this writing, HyperX systems are most commonly equipped with a Verto GeForce 6800 GT graphics card from PNY Technologies.

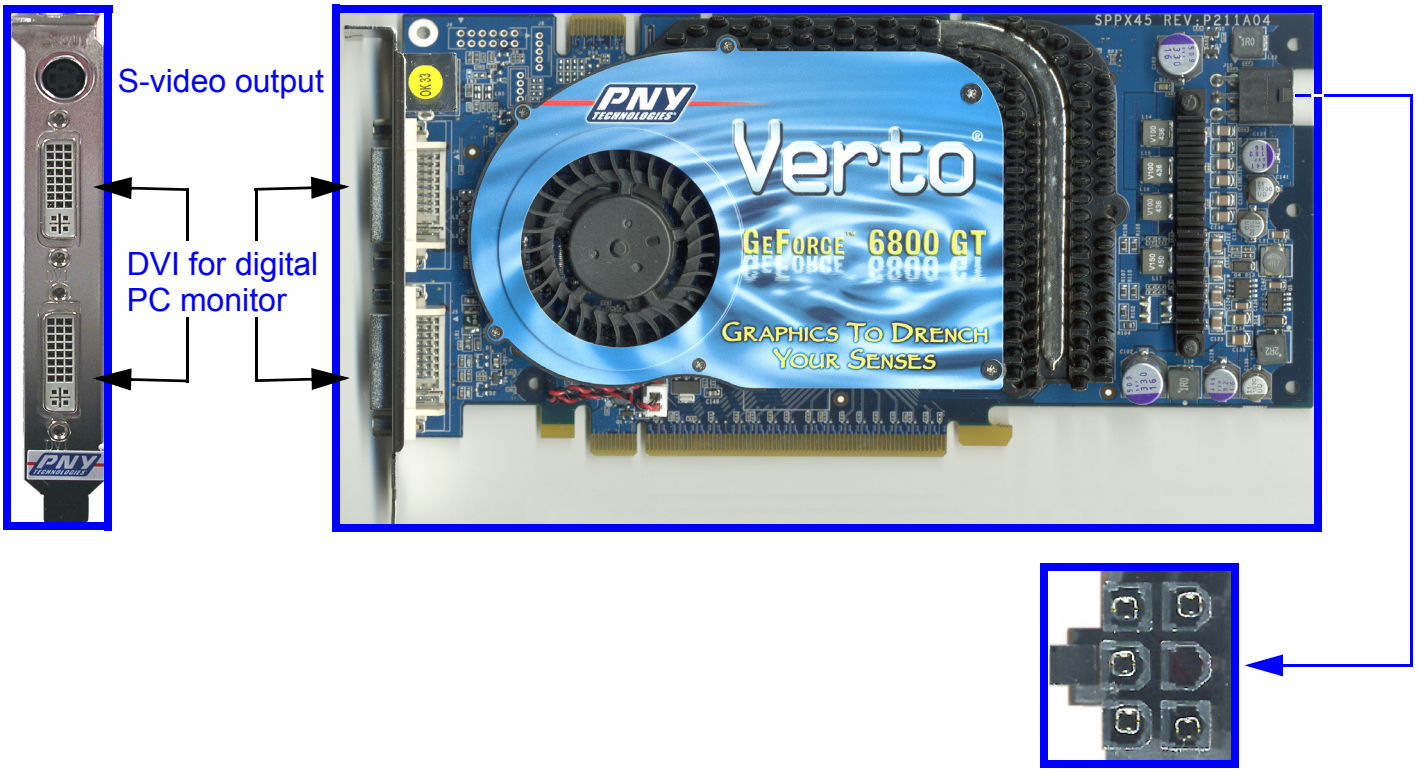


Figure 7-7. GeForce 6800 GT card. Left: Signal connectors.
Bottom: Close-up of 5-pin Molex power connector.

7.6.1 Power Connectors

The graphics card draws power through the PCI-e bus and a six-pin Molex connector. Power to this connector comes from **either** a direct cable from the power supply, **or** with an adapter cable that draws power from two of the four-pin Molex connectors from the power supply.

When using the adapter cable, the two four-pin connectors must come from **two different** cables from the power supply. If two connections from the same cable are used, or if the six-pin power connector is not connected at all, the graphics card will still function, but performance will be degraded and an alarm will sound.

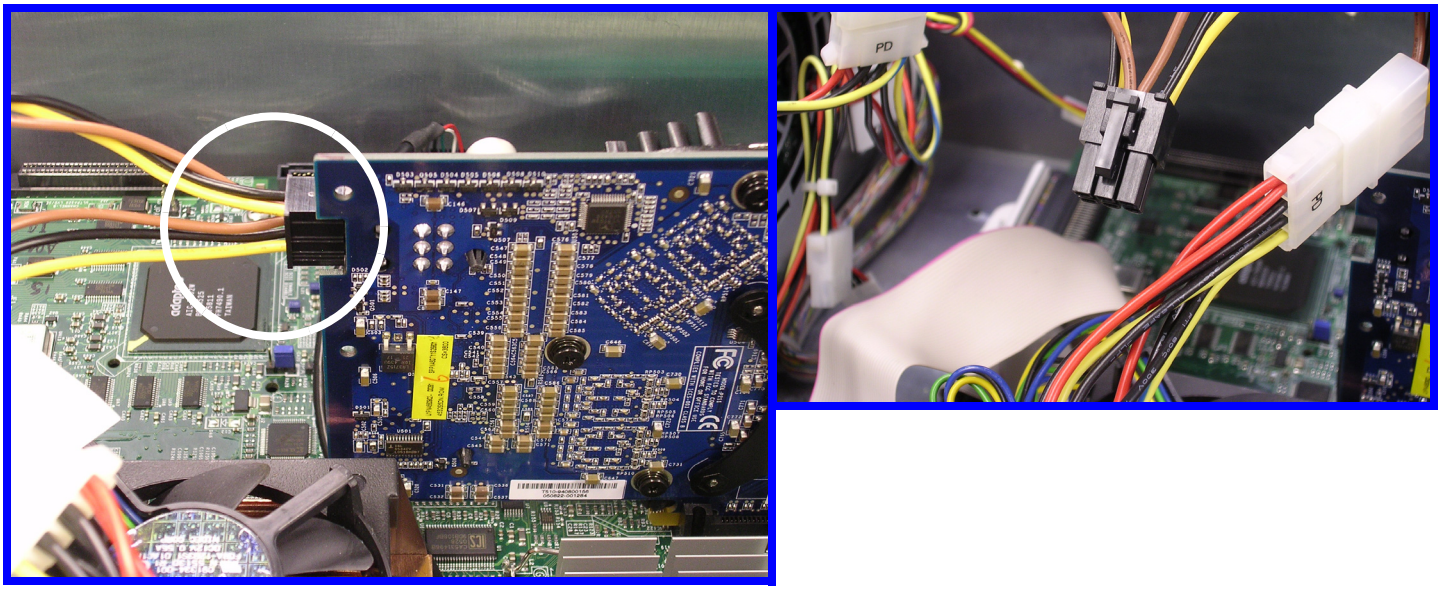


Figure 7-8. The graphics card's Molex power connector.
At right, the connector is seen close-up, disconnected to show details.

7.6.2 Connectors

Use the S-video output or the DVI connector for the card's Preview output. If using a conventional analog PC monitor, use the included adapter to connect the monitor to one of the card's DVI outputs. See Section 5.4.1 for a full explanation of configuring the Preview output, and Section 5.4.2 for a discussion of monitor types that may be optionally used.

7.6.3 The graphics card's drivers

It is a good idea to keep your card's driver updated. It is **strongly recommended** that you check with Chyron Customer Service at 888-4-CHYRON before installing new graphics card drivers. Our representatives will be able to tell you about the latest drivers that have been tested with our systems.

7.7 Expansion Slots

HyperX's Supermicro X6DA8-G2 motherboard has six expansion slots.

- PCI: **One** (1) 32-bit, 33 MHz slot.
- PCI-e: **One** (1) x16 @ 4GB/sec.
- PCI EXP: **One** (1) 64-bit.
- PCI-X: **One** (1) 64-bit, 133 MHz slot.
- PCI-X: **Two** (2) 64-bit, 100 MHz slots.

As mentioned earlier, Chyron STRONGLY RECOMMENDS THAT YOU **DO** **NOT** change the slot locations of factory-installed cards.

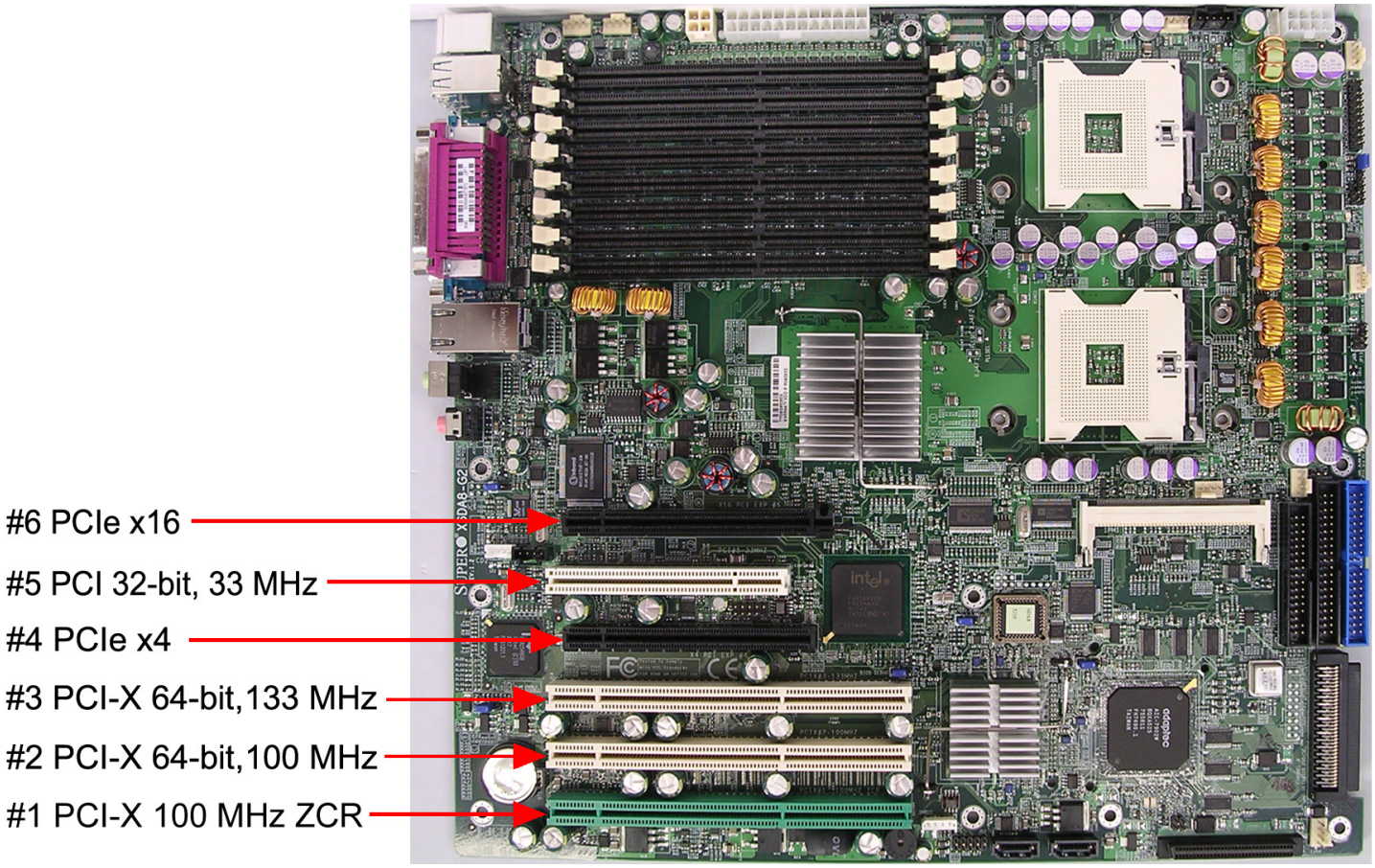


Figure 7-9. X6DA8-G2 expansion slots.

7.7.1 PCI Slots

No currently supported video devices require installation in HyperX's PCI slot.

7.7.2 PCI Express Slots

- The graphics card (see Section 7.6) must be placed in the **x16** PCI Express slot at position #6.
- Most configurations will not call for any device to be installed in the **x4** PCI Express slot at position #4.

7.7.3 PCI-X Slots

Again, HyperX's high definition-capable eFX Boards (Section 4.4) must be placed in PCI-X slots.

Section 8: Super Micro X5DA8 Motherboard

This section is included as a reference for earlier HyperX systems built on the Supermicro X5DA8 motherboard.

8.1 Supermicro's "SuperO Doctor" Software

This software is installed on your system and ready to use.

This icon appears on HyperX's desktop:  , labelled "Supero Doctor III Client". Double-click the icon to launch the application. SuperO Doctor offers convenient monitoring of CPU and system temperature, fan speeds and other variables in its physical condition.

SuperO Doctor's menus allow the user to set up automatic system-conditions alerts to be sent via pager or e-mail. The monitored values that trigger alerts can also be user-defined.

Refer to the enclosed CD from Supermicro for further documentation about this software.

Figure 8-1. SuperO Doctor's "Summary" screen

8.2 Processors

2 Intel Xeon processors, 3.2 GHz; each with 2 MB of L3 cache.

8.3 Memory

Standard on the motherboard is four 1-GB modules of PC-2100 Registered DIMM memory. You may notice that 2 DIMM slots are unpopulated in the factory-configured Duet HyperX system, but Chyron strongly recommends AGAINST adding more memory.

8.4 Front Panel Connectors

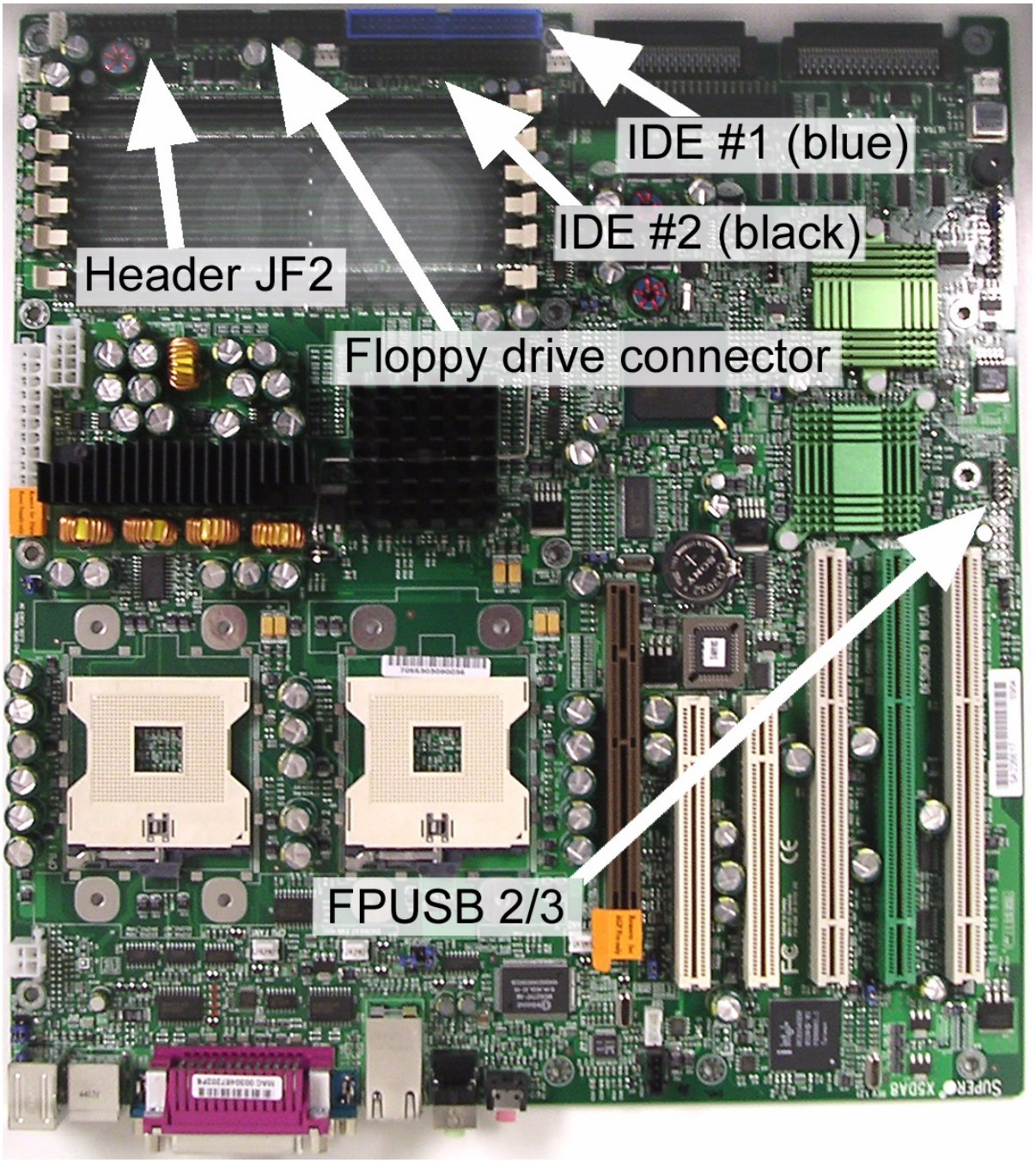


Figure 8-2. X5DA8 motherboard

8.4.1 Power & Reset Switches, LEDs and Front USB Jack

See Section 6.3 for details on connecting the motherboard components seen in this section to the front panel's switches, indicator LEDs and USB jack. The front panel connectors on the motherboard are located at headers JF2 and FPUSB 2/3, the locations of which are shown in Figure 7-2. A close-up view of JF2 is seen in Figure 7-3.

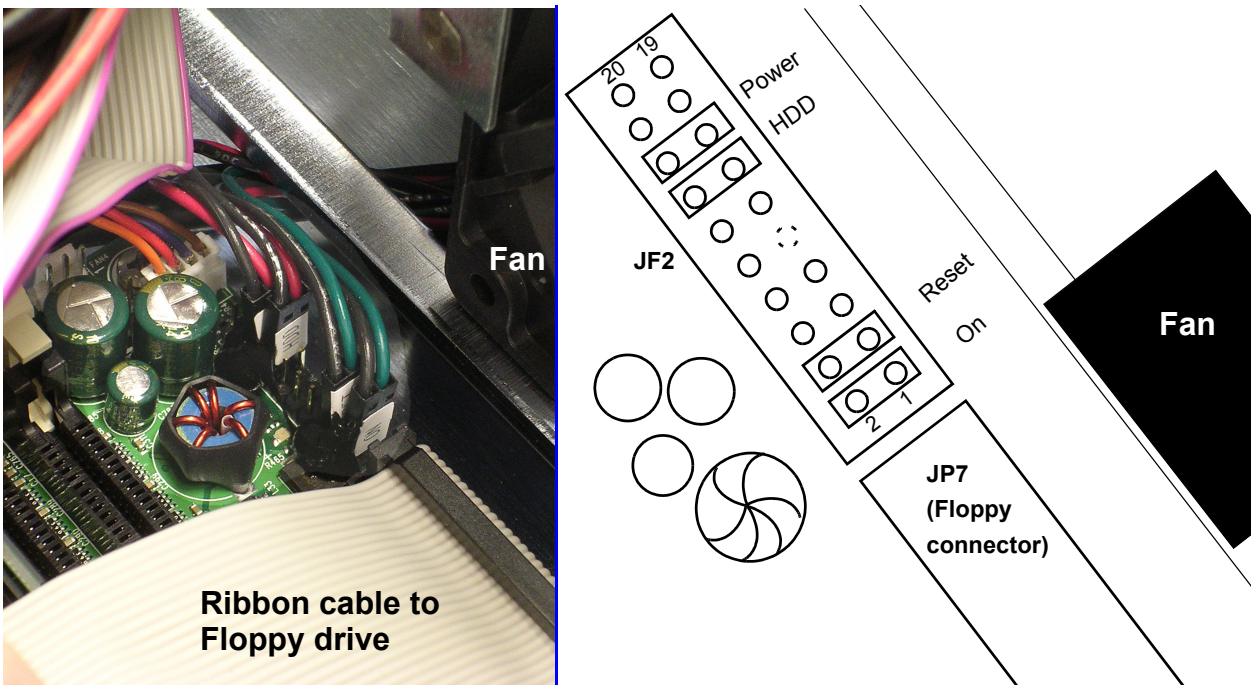


Figure 8-3. Header JF2, close-up, at left. Labelled sketch at right.

The Power LED connects to pins 15 & 16, the HDD Activity LED connects to pins 13 & 14, the Reset switch connects to pins 3 & 4 and the Power switch connects to pins 1 & 2.

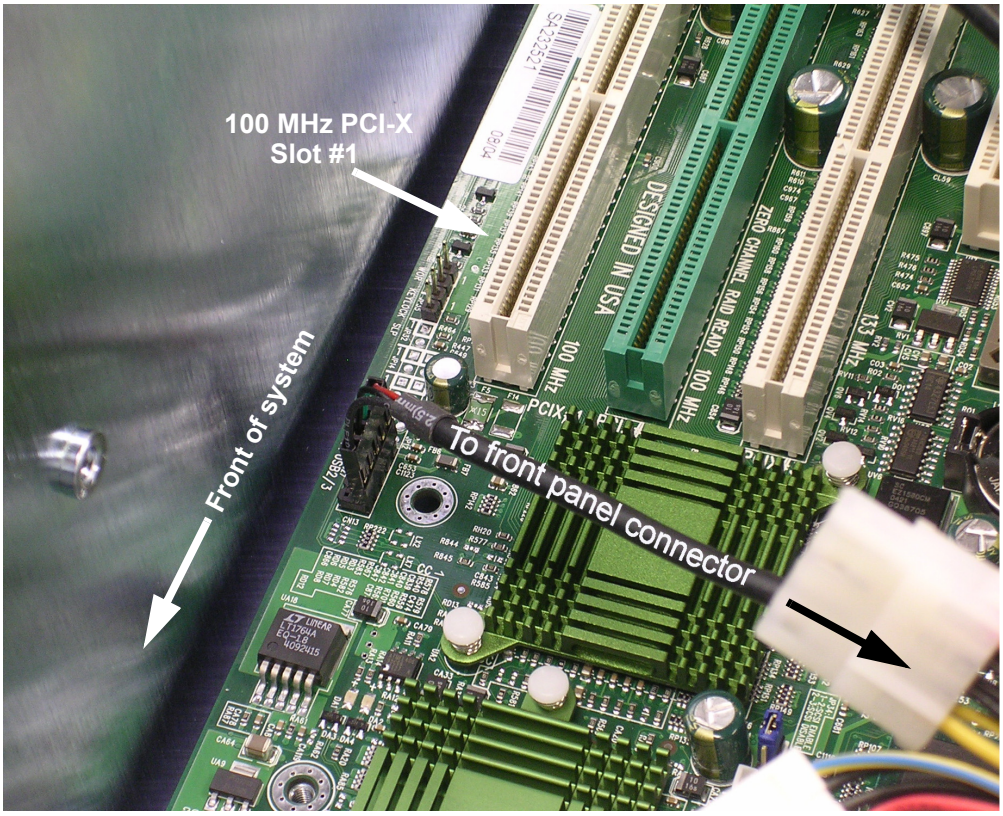


Figure 8-4. Close-up view of motherboard's USB connector

8.4.2 Floppy Disk and DVD-RW Drives

Again, refer to Figure 7-2 for a look at the Floppy drive connector and the IDE #1 (DVD-RW) connector on the motherboard.

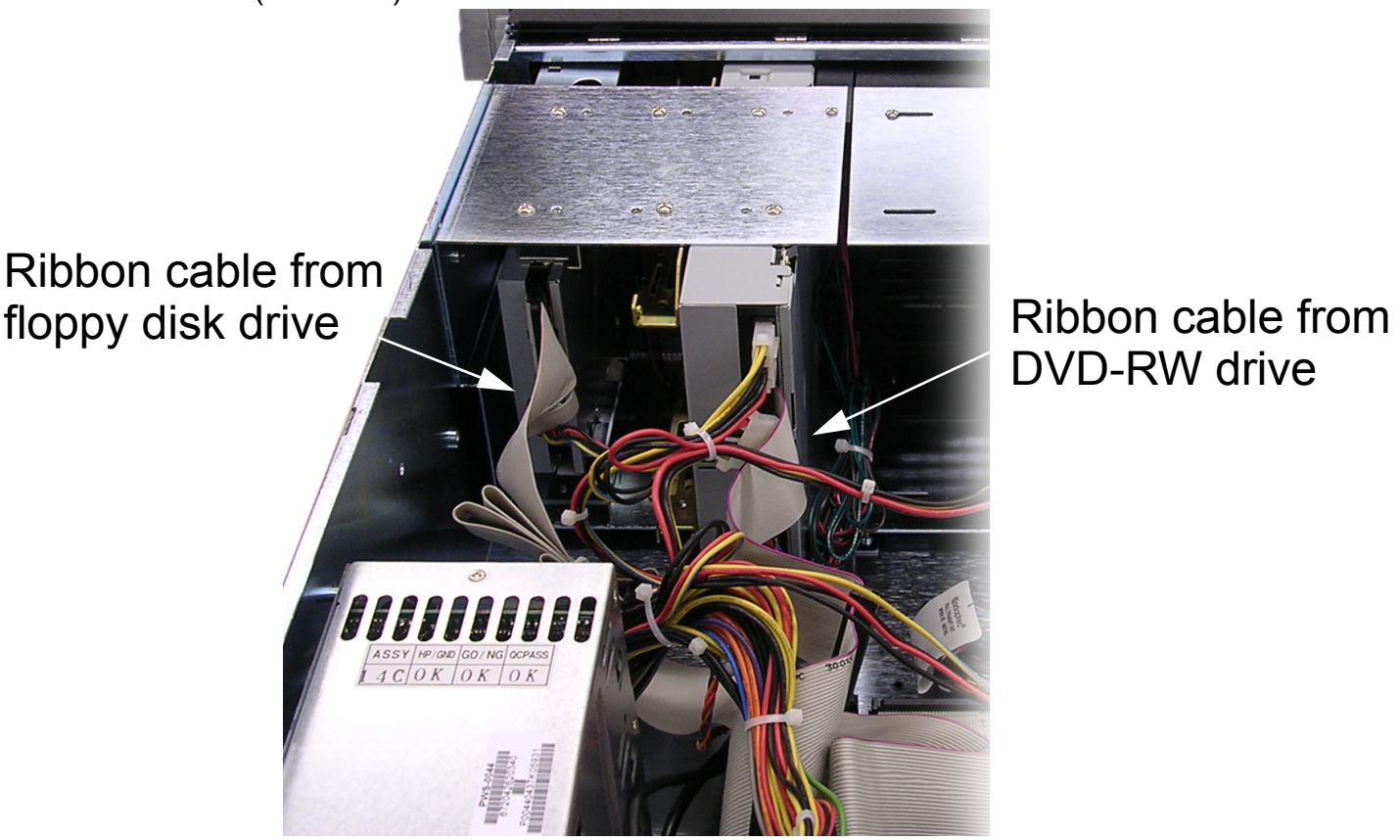


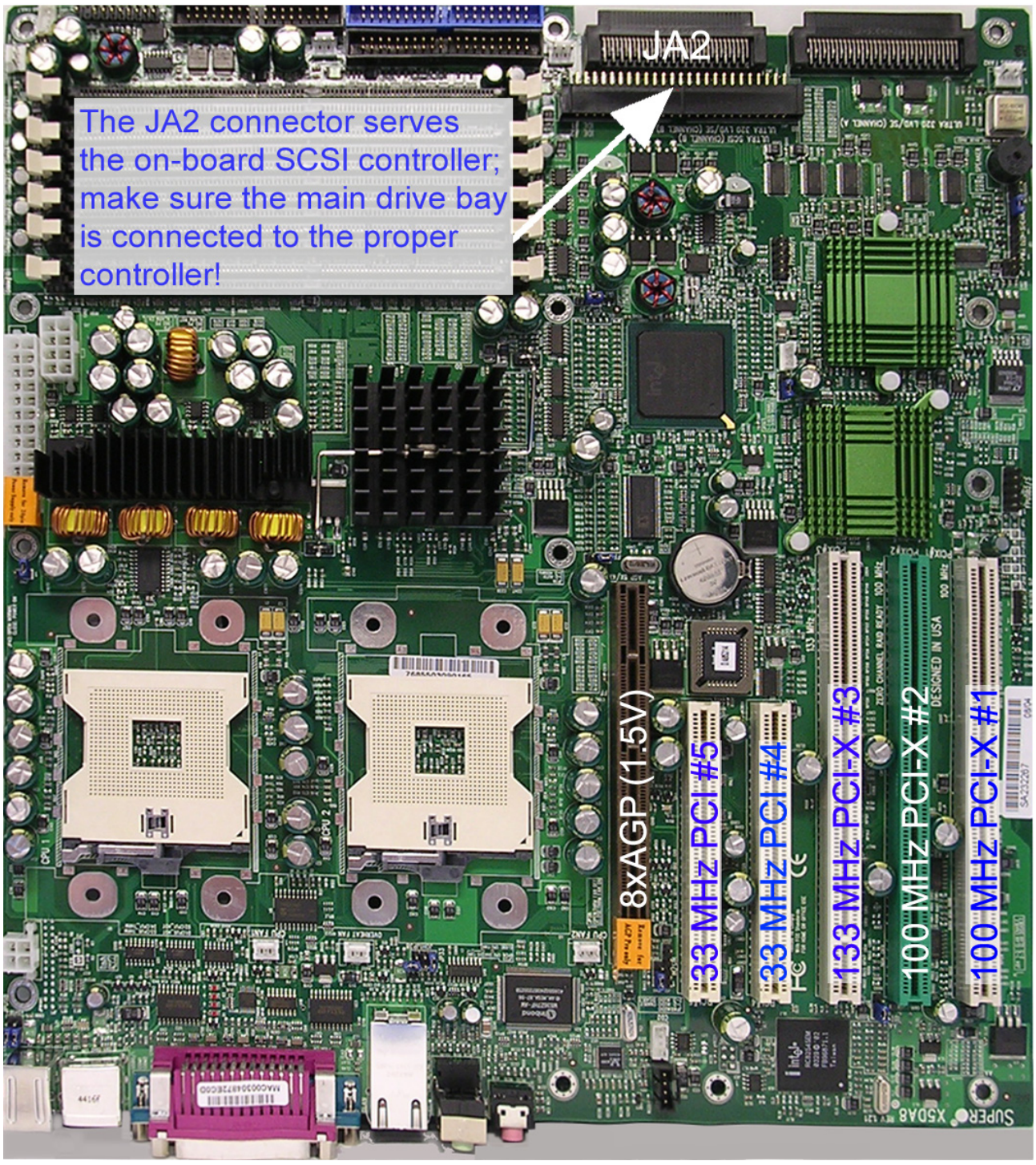
Figure 8-5. Rear view, floppy disk and DVD-RW drive cables

8.5 SCSI Controller Connections

The X5DA8 motherboard includes an on-board SCSI controller. This device manages the drives installed in the system's drive bay (see Section 6.4.2).

The on-board SCSI controller is normally served by header JA2. Refer to the motherboard's User's Manual for additional help in locating components on the board.

Front



Rear

Figure 8-6. HyperX motherboard.

8.6 AGP Video Card

HyperX systems built on the **X5DA8** motherboard are typically equipped with a Verto GeForce 6800 GT *AGP-type* graphics card from PNY Technologies.

Figure 8-7. GeForce 6800 GT card. Left: Signal connectors. Right: Internal power connector.

8.6.1 Power Connectors

The graphics card draws power through both its AGP slot and the 4-pin Molex connector shown in Figure 7-7. The latter MUST remain connected to one of the power connectors on the back of either of the system's drive bays. If this connection is removed, the card will continue to operate, but at a diminished capacity. Also, severing this connection will cause an alarm to sound.

8.6.2 Connectors

Use the S-video output or the DVI connector for the card's Preview output. Connect the system's regular PC monitor to the 15-pin SVGA connector at the bottom of the panel. See Section 5.4.1 for a full explanation of configuring the Preview output, and Section 5.4.2 for a discussion of optional monitor types that may be used.

8.6.3 The graphics card's drivers

It is a good idea to keep your card's driver updated. Driver updates may be downloaded from NVidia's website at http://www.nvidia.com. Follow the "Download Drivers" link near the top of the page.

It is **strongly recommended** that you check with Chyron Customer Service at 888-4-CHYRON before installing new graphics card drivers. Our representatives will be able to tell you about the latest drivers that have been tested with our systems.

8.7 Expansion Slots

HyperX's Supermicro X5DA8 motherboard has five expansion slots.

- PCI: **Two** (2) 32-bit, 33 MHz slot.
- PCI-X: **One** (1) 64-bit, 133 MHz slot.
- PCI-X: **Two** (2) 64-bit, 100 MHz slots.

As mentioned earlier, Chyron STRONGLY RECOMMENDS THAT YOU **DO NOT** change the slot locations of factory-installed cards.

As seen in the illustration below, the two types of slot are distinguished by the PCI-X slot's greater length.

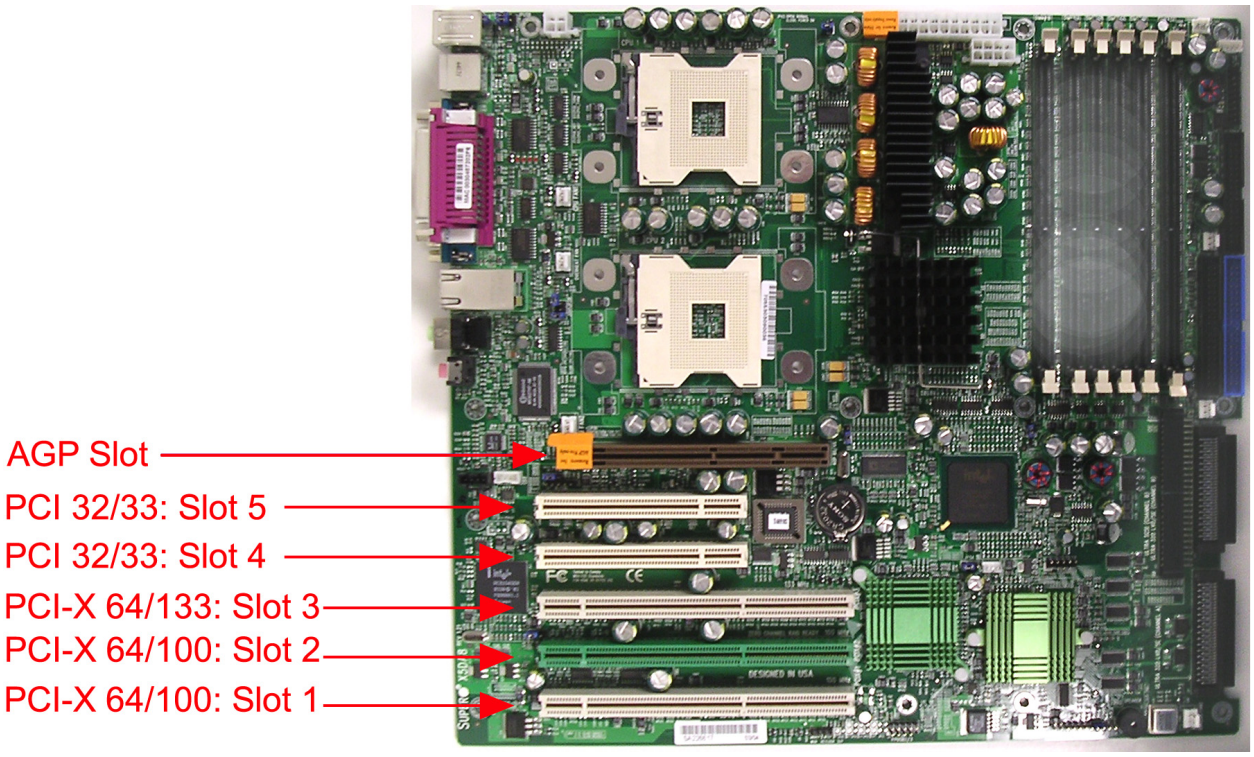


Figure 8-8. PCI and PCI-X slots, numbered at right

8.7.1 PCI Slots

No currently supported video devices require installation in HyperX's PCI slots.

8.7.2 PCI-X Slots

Again, HyperX's **high definition**-capable eFX Boards (Section 4.4) must be placed in PCI-X slots.

Section 9: Appendix - GPI/O Port Adapter

This diagram is relevant only to HyperX's optional PCI slot-mounted GPI/O board and its connectors.

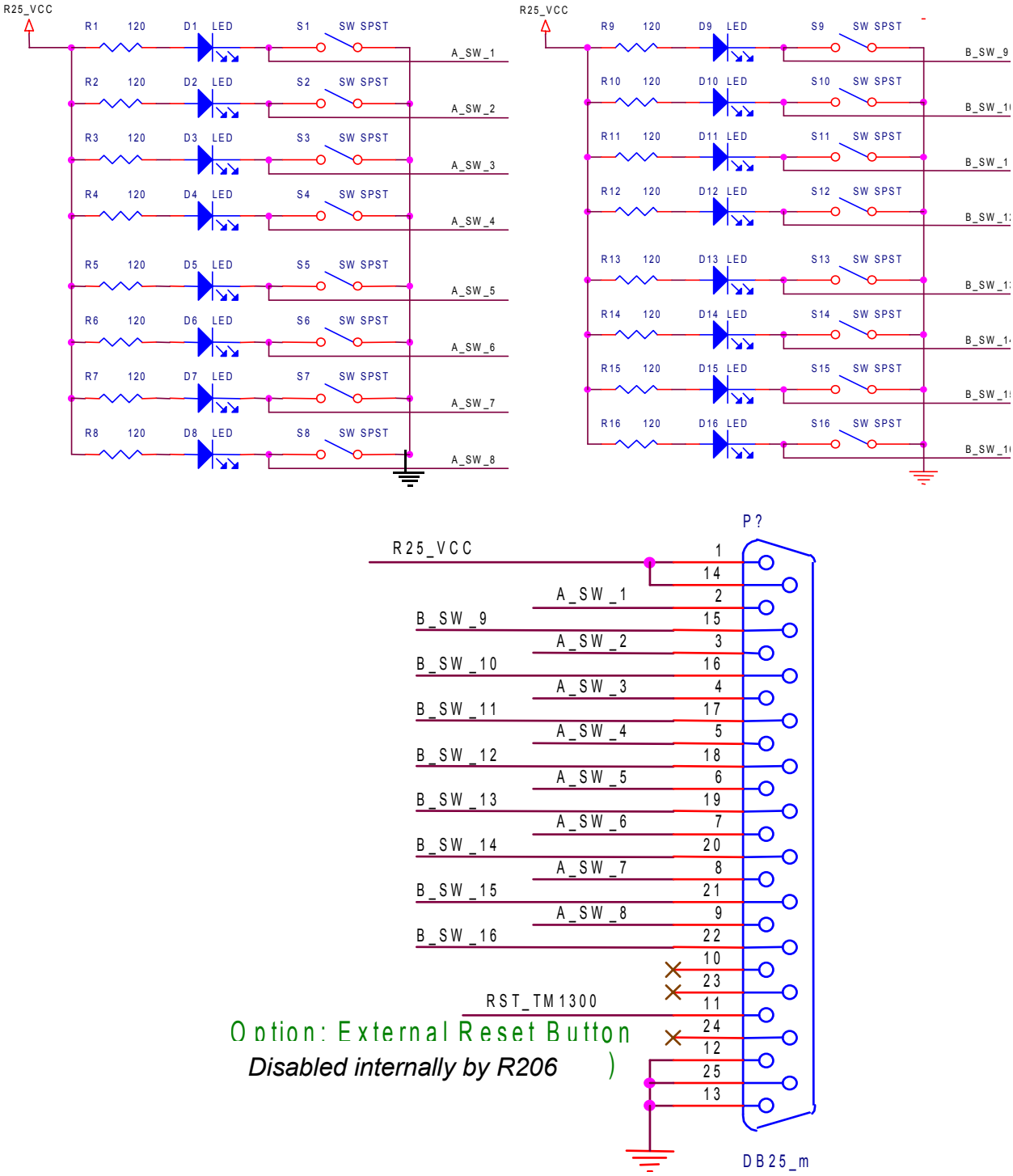


Figure 9-1. 16-Port GPIO Adapter Cabling

Section 10: Lyric Options and Licensing Software

Your licensing software may differ in appearance from that which is pictured here. Consult the Lyric documentation for the most accurate information available on this topic.

10.1 Determining Which Options Are Currently Enabled

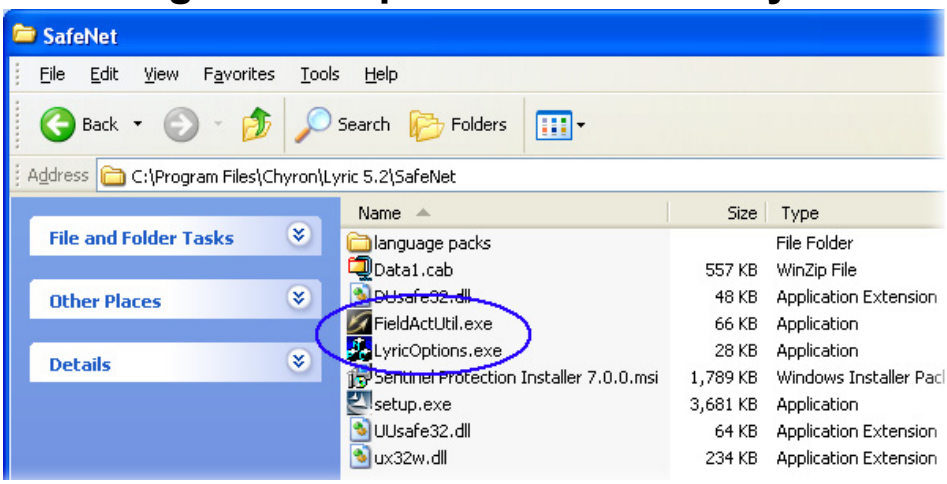


Figure 10-1. Lyric's "Safenet" folder

Run the program **LyricOptions.exe**. As pictured in Figure 10-1, you will find it in the Lyric installation directory's **SafeNet** folder. The window pictured in Figure 10-2 will appear, indicating the Lyric options currently enabled:

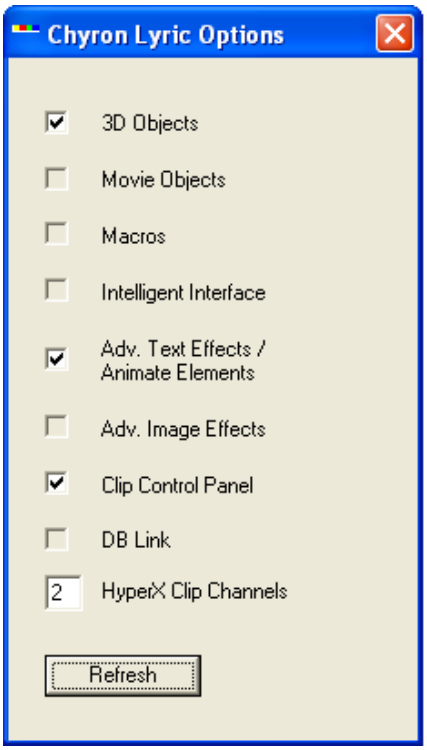


Figure 10-2. Enabled options

If you have made recent alterations to the software's licensing or options status, you may click the **Refresh** button. This action causes Lyric to run a new check of the enabled options.

10.2 Licensing and Enabling Additional Options

To license and enable additional options for your Lyric software, run the program **FieldActUtil.exe**. It is located in the **SafeNet** folder as shown in Figure 10-1. When the window shown in Figure 10-3 appears, press the **Get Locking Code** button. The software displays the locking code in the top text field. Press the button to copy the code string to your system clipboard, or press the button to save the code as a text file (with the extension **.LOC**).

E-mail the code to Chyron Customer Service. Upon completion of the sales transaction for licensing your new option(s), you will receive a new License Code. Paste it into the lower text field using the button. Alternately, the license code may be part of a file (with the extension **.LIC)**, attached to an e-mail. In this case, download the email attachment to your system, and use the button to open the file. This action automatically enters the code string into the text field. Click the **Update License** button and installation of your new options commences. These procedures are described in complete detail in the Lyric documentation.

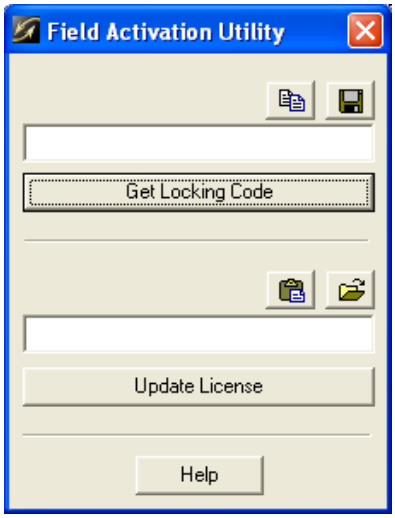


Figure 10-3. Entering Locking and License codes into the FieldActUtil.exe program.