***imaging* Series**

# Quartet

## Guide to Installation and Operation

M028-9900-300

*imaging*
Housing Frame


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*Quartet*

# *WARRANTY POLICIES*

***Warranty Statement***

Miranda Technologies Inc. warrants that the equipment it manufactures shall be free from defects in material and workmanship for a period of two (2) years from the date of shipment from the factory. If equipment fails due to such defects, Miranda Technologies Inc. will, at its option, repair or provide a replacement for the defective part or product.

Equipment that fails after the warranty period, has been operated or installed in a manner other than that specified by Miranda, or has been subjected to abuse or modification, will be repaired for time and material charges at the Buyer's expense.

All out-of-warranty repairs are warranted for a period of ninety (90) days from the date of shipment from the factory.

Miranda Technologies Inc. makes no other warranties, expressed or implied, of merchantability, fitness for a particular purpose or otherwise. Miranda's liability for any cause, including breach of contract, breach of warranty, or negligence, with respect to products sold by it, is limited to repair or replacement by Miranda, at its sole discretion.

In no event shall Miranda Technologies Inc. be liable for any incidental or consequential damages, including loss of profits.

Effective January 1, 1999

***Warranty Exchange Policies***

Miranda Technologies Inc. warrants that the equipment it manufactures shall be free from defects in materials and workmanship for a period of two (2) years from the date of shipment from the factory. If equipment fails due to such defects, Miranda will provide repair of the failed unit under the terms of the Miranda warranty.

If the equipment has been proven to be defective on arrival, Miranda will ship a new product in exchange, usually within 36 hours of factory notification.

If the equipment to be repaired is essential and the customer so requests, Miranda will, at its option, provide a service replacement or loaner part or product, usually within 36 hours of factory notification, weekends and holidays excluded.

All warranty exchange or loaner parts or products shall be shipped to the Buyer with a packing list clearly describing the items and stating the date of shipment. Repaired parts or products will be shipped to the Buyer with a similar packing list.

In the case of exchange, the defective products or parts must be returned to Miranda within fifteen (15) days from receipt by the customer of the exchange product.

In the case of a loaner, the loaned products or parts must be returned to Miranda within fifteen (15) days from receipt by the customer of the repaired equipment.

If the equipment is not returned within fifteen (15) days, as described for either exchanges or loans, A Rental Invoice will be generated. Rental terms will be fifteen (15) percent of the current list price of the products or parts per month or a fraction thereof.

Before returning the equipment to Miranda Technologies Inc., for any reason, the Buyer must first obtain a Return Authorization Number from Miranda Technologies Inc.

Miranda Technologies Inc will pay freight and insurance charges for the delivery of the loaner or exchange products or parts. Freight and insurance charges for the return of the defective product or part will also be paid by Miranda Technologies.

***Out-Of-Warranty Repair Policy***

Miranda will service out-of-warranty repairs using the following model:

Miranda will charge 10% of the current list price of the product, with a minimum charge of $100.
Products whose list price is under $100 will be replaced at a charge equal to current list prices.
In the case of obsolete products, the last published list price for the products will apply.

In the case of a product deemed beyond repair, the customer must purchase a new product at current retail prices.

All out-of-warranty repairs are warranted for a period of 90 days from the date of shipment from the factory.

Before returning the equipment to Miranda Technologies Inc., for any reason, the Buyer must first obtain a Return Authorization Number from Miranda Technologies Inc.

The Buyer will pay freight and insurance charges for the return of the defective product or part to the manufacturer for repair. Miranda Technologies will pay freight and insurance charges for the return of the repaired product or part to the Buyer.

***Out-Of Warranty Equipment Updates and Spare Parts Policy***

Miranda Technologies will charge cost plus 20% of the parts costs and $40.00 shipping and handling for out-of-warranty equipment updates, or the sales of spare parts.

## *SAFETY COMPLIANCE*

*This equipment complies with:*

*- CSA C22.2 No. 1-94 / Standard for audio, video, and similar electronic equipment.*
*- UL No. 1419 / Standard for professional video and audio equipment.*

***An appropriately listed mains supply power cord with following characteristics must be used for the connection of the equipment.***

***- Listed 3 pin grounding type***
***- 18/3 AWG, type SVT or SJT***

*- EN60065: 1993 (EN60065-1:1985/ A2:1989/ A3:1992) Part 1 /European Standard - Safety requirements for mains operated and related apparatus for household and similar general use.*

## *ELECTROMAGNETIC COMPATIBILITY*

*- This equipment has been tested for verification of compliance with FCC Part 15, Subpart B, class A requirements for Digital Devices.*

*- This equipment complies with the requirements of EN55022 Class A, Electromagnetic Emissions, En 60555-2 & -3, Disturbance in Supply Systems and EN50082-1, Electromagnetic Immunity.*

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# 1 imaging Quartet Housing Frames

## 1.1 Introduction

The *imaging* Quartet housing frame family support and provide power to a maximum of 4 *imaging* series modules in the same single rack unit housing frame. A Quartet, Quartet-C or Quartet-M housing frame can accommodate any combination of *imaging* series **video** modules; a Quartet-A-75, -A-110, -M-A-75 or –M-A-110 housing frame can accommodate any combination of *imaging* **audio** modules (combination of video and audio modules are not possible within the same housing frame).

Two *imaging* Quartet housing frames can be interconnected via a rear panel connector in order to provide power redundancy. In a redundant dual housing frame installation, the power supply installed in the second frame is in back-up mode, which maintains DC power levels in case of a local power supply failure. Refer to section 3.2, *DC Power Redundancy* for more details.

Some Quartet housing frames are equipped with an RS-422 serial interface providing remote configuration of *imaging* modules using Miranda's ICP-S application. An RS-422 loop-through allows Quartet housing frames to be daisy chained together and controlled by a host computer.

Audio modules can now be installed in Quartet housing frame supporting 75 ohm or 110 ohm I/O connections.

## 1.2 Features

The following features are common to all Quartet housing frames.

- Houses and powers up to 4 *imaging* series modules
- Universal power supply
- Front panel status LEDs
- 1 RU construction

Table 1.1 indicates the Quartet housing frames which support the following features.

- ICP-S interface to remote station, allowing up to 16 Quartet, 16 Symphonie, and 16 Solo housing frames to be linked on a single daisy chain providing access to up to 336 *imaging* modules.
- DC power redundancy
- Multi-purpose RJ-45 I/O connector
- 75 ohm I/O connector
- 110 ohm I/O connector
- Power supply remote monitoring

**Table 1.1** *imaging* Quartet features

| | ICP-S | Power redundancy | Power Supply Remote Monitoring | RJ-45 I/O | 75 ohm I/O | 110 ohm I/O |
|---|---|---|---|---|---|---|
| Quartet * | | ✓ | | | | |
| Quartet-C | ✓ | | | | | |
| Quartet-M | ✓ | ✓ | ✓ | ✓ | | |
| Quartet-A-75 | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Quartet-A-110 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Quartet-M-A-75 | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Quartet-M-A-110 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

* In this table and in section 2.2.1, the name *Quartet* designates a basic frame. Frames with more features are designated by their suffixes such as –C, -M, etc.
In this manual, the term *Quartet* generally refers to all models when installation, power supply, module installation and similar subjects are concerned.

# 2 Overview

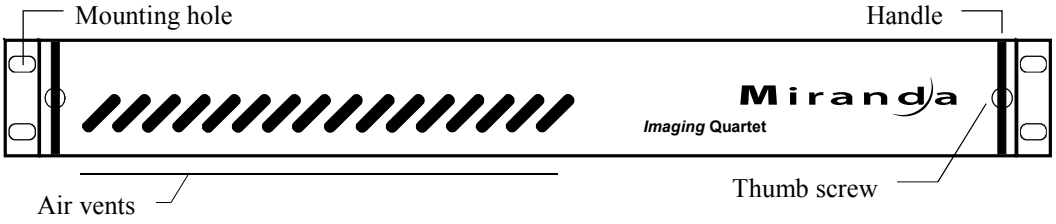
## 2.1 Front Panel

The front panel consists of 4 mounting holes for rack mount installation, 2 handles, 2 thumb screws, and a set of air vents. Make sure the air vents are never blocked. This may cause the housing frame to overheat and possibly breakdown.

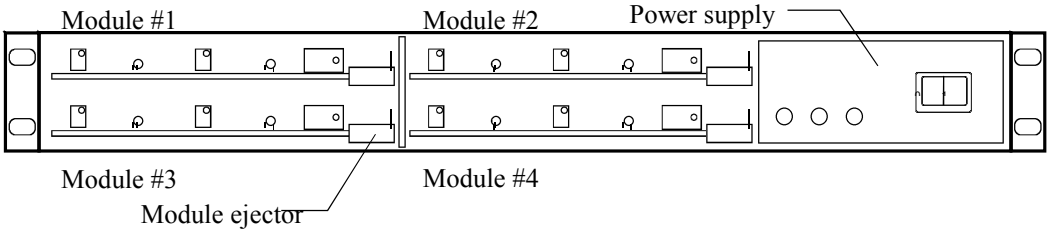
To remove the front panel, rotate the thumb screws counter clockwise and pull on the handles. Referring to Figure 2.1, Quartet houses up to 4 *imaging* series modules and a power supply. Each module includes a module ejector for easy module removal. For proper cooling, do not leave the front panel removed for a long period of time when power is on.

**Figure 2.1** *imaging* Quartet front panel

**Front Panel - Exterior**




**Front Panel - Interior**

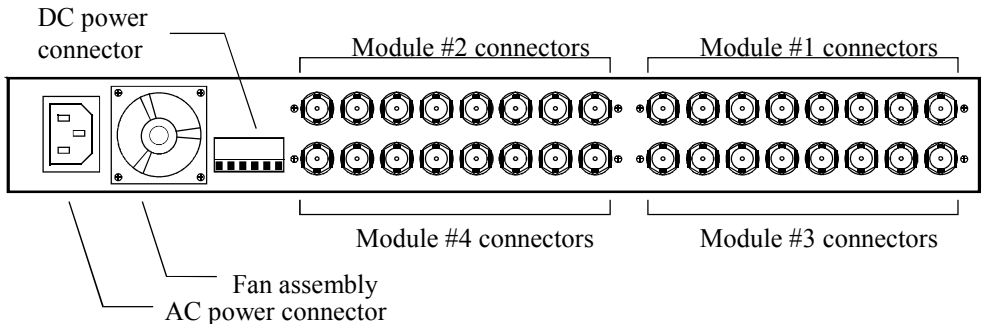


## 2.2 Rear Panel

### 2.2.1 Quartet

The Quartet rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, and 32 BNC connectors. The BNC connectors are combined to form groups of 8. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.2 for module and BNC referencing.

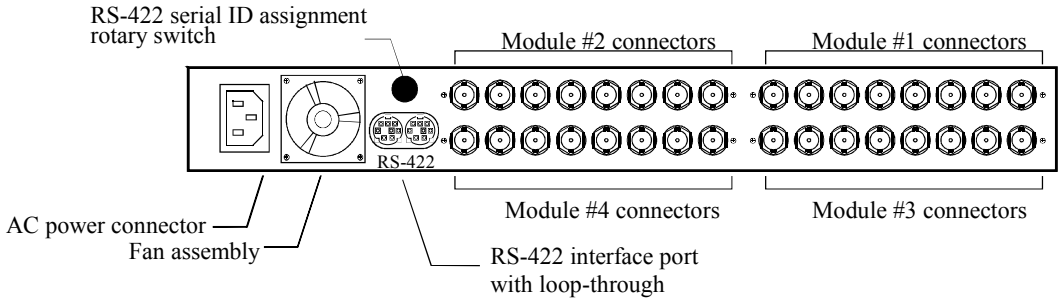
**Figure 2.2** Quartet rear panel




### 2.2.2 Quartet-C

The Quartet-C rear panel is very much similar to that of Quartet's. It is composed of an AC receptacle, a fan assembly, an ICP-S (RS-422) interface port with loop-through, a rotary switch required for ICP-S serial ID assignments in a daisy chain installation, and 32 BNC connectors. The BNC connectors are combined to form groups of 8. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.3 for module and BNC referencing.

**Figure 2.3** Quartet-C rear panel

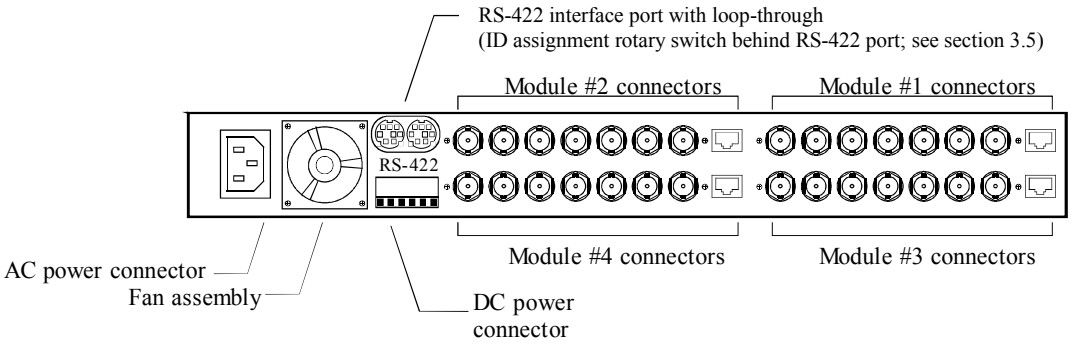


### *2.2.3 Quartet-M*

The Quartet-M rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, an ICP-S (RS-422) interface port with loop-through, and 4 groups of 7 BNC/1 RJ-45 connectors. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.4 for module and BNC referencing.

For a pin-out of the RJ-45 connector, refer to the module's user manual.

**Figure 2.4** Quartet-M rear panel

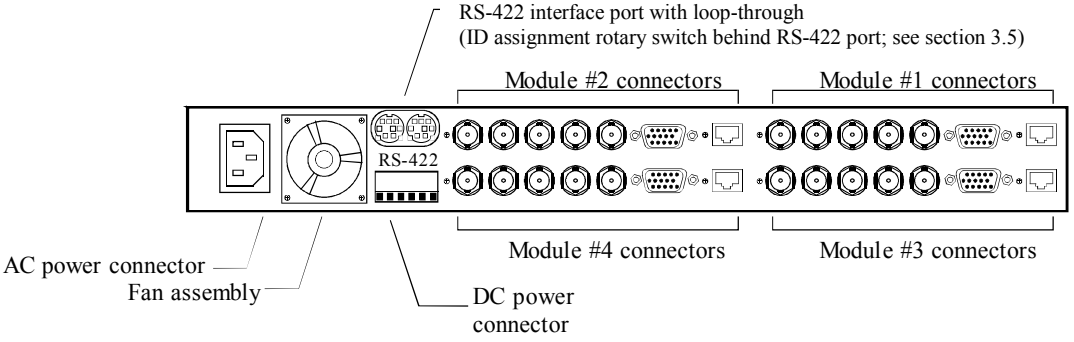



### *2.2.4 Quartet-A-75*

The Quartet-A-75 rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, an ICP-S (RS-422) interface port with loop-through, and 4 groups of 5 BNC/1 HD-15/1 RJ-45 connectors. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.5 for module and BNC referencing.

For a pin-out of the RJ-45 and HD-15 connectors, refer to the module's user manual.

**Figure 2.5** Quartet-A-75 rear panel

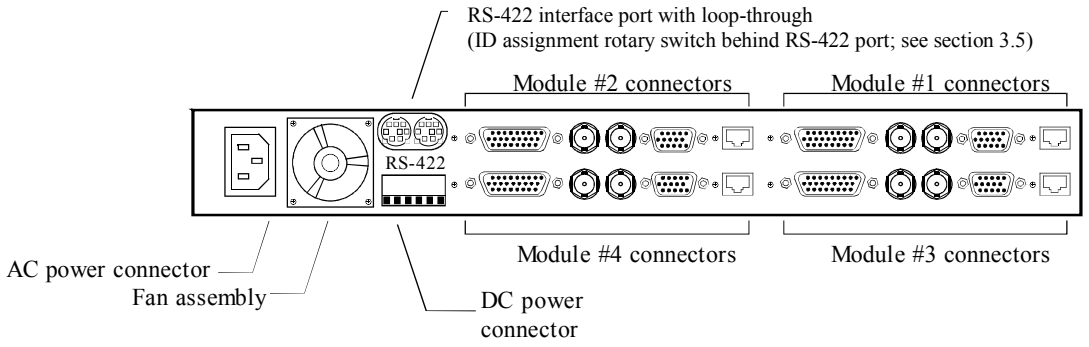


### *2.2.5 Quartet-A-110*

The Quartet-A-110 rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, an ICP-S (RS-422) interface port with loop-through, and 4 groups of 2 BNC/1 HD-26/1 HD-15/1 RJ-45 connectors. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.6 for module and BNC referencing.

For a pin-out of the RJ-45, HD-15, and HD-26 connectors, refer to the module's user manual.

**Figure 2.6** Quartet-A-110 rear panel

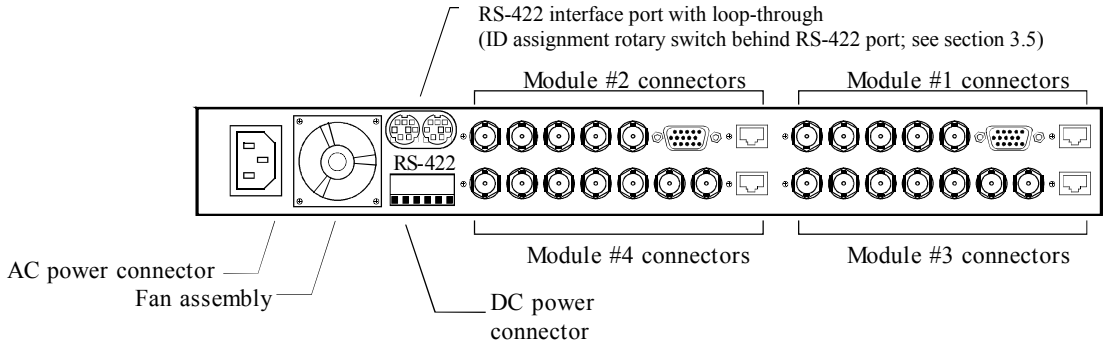



### *2.2.6 Quartet-M-A-75*

The Quartet-M-A-75 rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, an ICP-S (RS-422) interface port with loop-through, 2 groups of 5 BNC/1 HD-15/1 RJ-45 connectors as in the Quartet-A-75, and 2 groups of 7 BNC/1 RJ-45 connectors as in the Quartet-M. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.7 for module and BNC referencing.

For a pin-out of the RJ-45, and HD-15 connectors, refer to the module's user manual.

**Figure 2.7** Quartet-M-A-75 rear panel

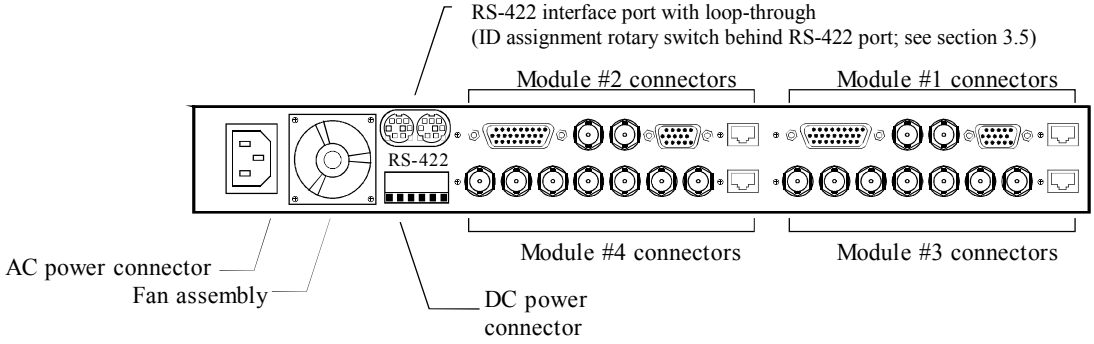


### *2.2.7 Quartet-M-A-110*

The Quartet-M-A-110 rear panel is composed of an AC receptacle, a fan assembly, a DC power connector for power redundancy, an ICP-S (RS-422) interface port with loop-through, 2 groups of 2 BNC/1 HD-26/1 HD-15/1 RJ-45 connectors as in the Quartet-A-110, and 2 groups of 7 BNC/1 RJ-45 connectors as in the Quartet-M. Each group belongs to one of the housing frame's internal modules. Refer to Figure 2.8 for module and BNC referencing.

For a pin-out of the RJ-45, HD-15, and HD-26 connectors, refer to the module's user manual.

**Figure 2.8** Quartet-M-A-110 rear panel



# 3 Installation

## 3.1 Rack Mount Installation

Quartet housing frames can be mounted in a standard 19" rack. The unit's front panel is secured to the rack by installing the appropriate rack screws and nylon washers. The front panel's paint finish may be damaged if nylon washers are not used.

For proper ventilation, make sure that the front panel is installed and that the front panel air vents and rear panel fan assembly are not blocked when power is on.

## 3.2 DC Power Redundancy

For those Quartet housing frames supporting DC power redundancy, the external DC power supply connector may be used to get DC power from a second Quartet housing frame or a Quartet-RPS frame. Interconnecting two Quartet frames equipped with a DC connector is possible if the total power consumption for all *imaging* modules installed into the two housing frames (for a maximum of 8) does not surpass the current capacity of one power supply. To find out how much current is required for the installed modules, refer to the *Specifications* section of the module's *Guide to Installation and Operation*. If the total consumption surpasses the current capacity, a dedicated redundant power supply may be installed in a Quartet-RPS frame which may hold up to three power suplies for redundancy purpose. In both cases, during normal operation both power supplies are active. If a power supply fails, the other power supply instantaneously provides power to all modules. The **FAIL** LED will be switched on in the defective unit to indicate its malfunction. In Quartet-RPS and Quartet frames listed in Table 1.1, a dry contact may be wired to a remote monitoring system to indicate the power supply failure. Refer to section 4 *Power Supply* for more details.

Figure 3.1 indicates how to interconnect two *imaging* Quartet housing frames. Refer to figures 3.2 and 3.3 for cable construction.

**Figure 3.1** Dual Quartet Frame Interconnection

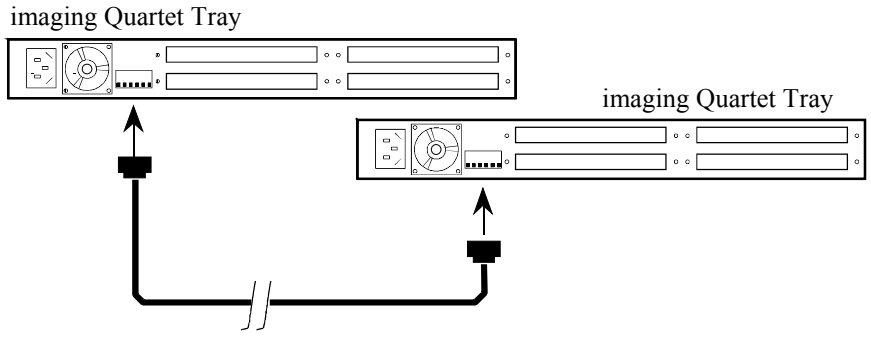


Figure 3.2 describes the cable required to interconnect the Quartet frames. As shown in this diagram, #18 AWG wires are connected between the two terminal strips (shipped with the frames) in a pin-to-pin fashion. Make sure the terminal screws are secured tightly. Figure 3.3 provides the DC connector's pinout viewed from the rear panel of a Quartet frame.

**Figure 3.2** DC cable construction

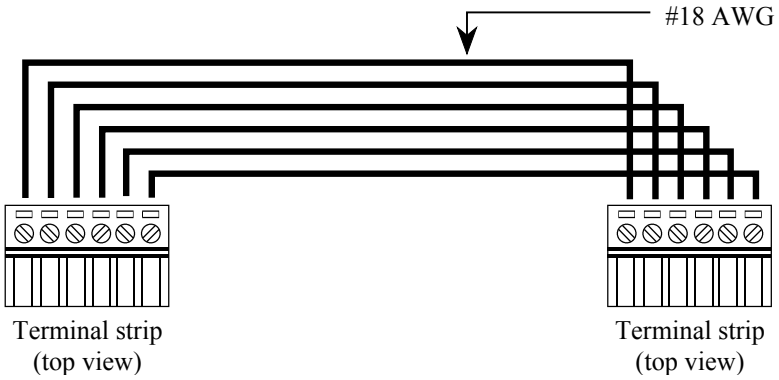
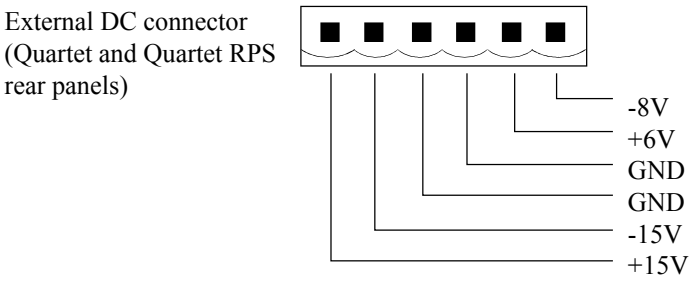



**Figure 3.3** DC connector pinout




## *3.3 Power Supply Removal and Installation*

Follow these steps in order to remove the Quartet power supply.

1. Remove the front panel by rotating the thumb screws counter clockwise. Pull on the handles.

2. Turn off the power supply by placing the Power switch in the "0" position.

3. Remove the AC power cord from the rear panel.

4. Using a flat-edge screwdriver, detach the power supply from the housing frame by unscrewing the power supply retaining screw. The retaining screw is spring-loaded and remains at all times fastened to the power supply.

5. Pull gently on the power supply handle.

Follow these steps in order to install a power supply within a Quartet housing frame.

1. Remove the front panel by rotating the thumb screws counter clockwise. Pull on the handles.

2. Insert the power supply in its assigned slot and gently push the power supply towards the rear of the housing frame. Firmly push the power supply in order to attach it to the back plane.

3. Using a flat-edge screwdriver, secure the power supply to the housing frame by screwing the power supply retaining screw.

4. Install the AC power cord to the rear panel.

## *3.4 RS-422 Serial Connection*

For those Quartet housing frames supporting ICP-S, the rear panel includes 2 identical RS-422 ports which may be used interchangeably as the source or daisy chain loop-through. This port directs communication between a series of housing frames and a remote Windows NT workstation. A module's configuration may be modified from this workstation without the need to push buttons or position jumpers. Refer to the following steps for a single Quartet or multi-Quartet to remote Windows NT workstation installation.

***Single Quartet Installation:***

1. Connect the RS-422 cable of Figure 3.7 between the PC/RS-422 converter and one of the RS-422 ports situated on Quartet's rear panel.

2. Connect the Windows NT workstation and the PC/RS-422 converter with a proper cable. Refer to the converter vendor documentation.

3. The final step in a single Quartet installation is the serial identification assignment required for the housing frame. Refer to section 3.*5 RS-422 Serial ID Assignment*.

***Multi-Quartet Installation:***

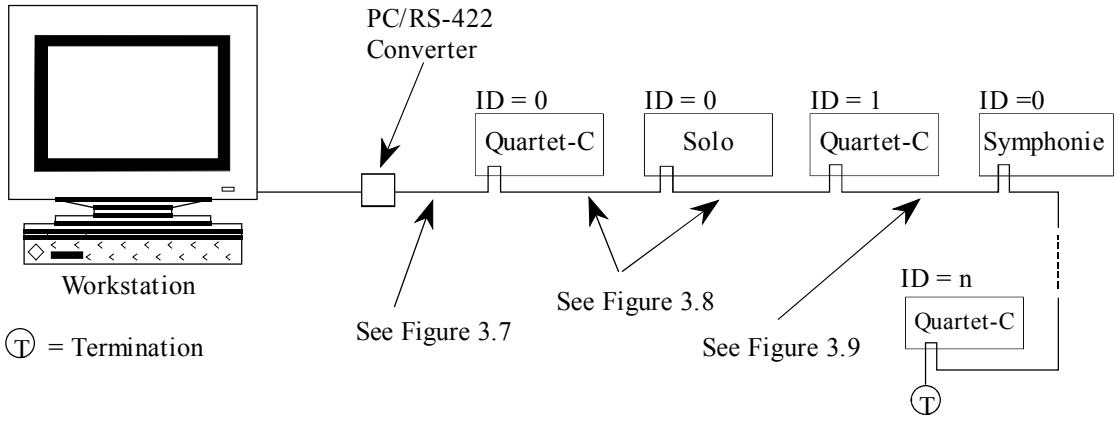
1. Connect the RS-422 cable of Figure 3.7 between the PC/RS-422 converter and one of the RS-422 ports situated on the first housing frame in the daisy chain.

2. Connect the Windows NT workstation and the PC/RS-422 converter with a proper cable. Refer to the converter vendor documentation.

3. A maximum of 16 Quartets, a maximum of 16 Symphonies, and a maximum of 16 Solos can be daisy chained together. Therefore, interconnect the housing frames as shown in Figure 3.4 using appropriate cables (refer to section 3.6). The final housing frame requires the supplied termination.

4. The final step in a multi-housing frame installation is the serial identification assignment required for each individual housing frame. Refer to section 3.5 *RS-422 Serial ID Assignment*.

**Figure 3.4** Daisy chain installation



## *3.5 RS-422 Serial ID Assignment*

In a multi-housing frame installation, each frame must be recognized by the workstation. The only way to accomplish this is to assign an identification code to each member of the daisy chain. This is similar to assigning different addresses to buildings on a street. Follow these steps in order to identify each housing frame in the daisy chain.

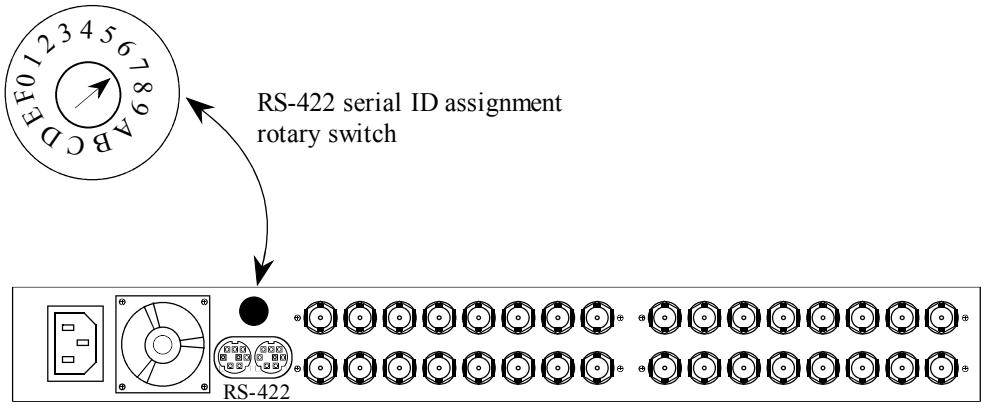
***Assigning the RS-422 Serial ID on Quartet-C***

1. Locate the ID rotary switch on Quartet-C's rear panel. Refer to Figure 3.5.

2. Using a small flat-edge screwdriver, identify each housing frame by setting a unique address to each. The available addresses are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F producing a total of 16 ID assignments. Two Quartet housing frames **cannot** have the same address. However, a Quartet housing frame, a Symphonie housing frame and a Solo housing frame can have the same address.

3. Configure the workstation software to reflect the ID assignments of step 2.

**Figure 3.5** Serial ID rotary switch location




Quartet-C rear panel

***Assigning the RS-422 Serial ID on Quartet-M, Quartet-A-75, Quartet-A-110, Quartet-M-A-75, and Quartet-M-A-110***

1. Remove the power supply from the housing frame. To do so, refer to section 3.3, *Power Supply Removal and Installation*.

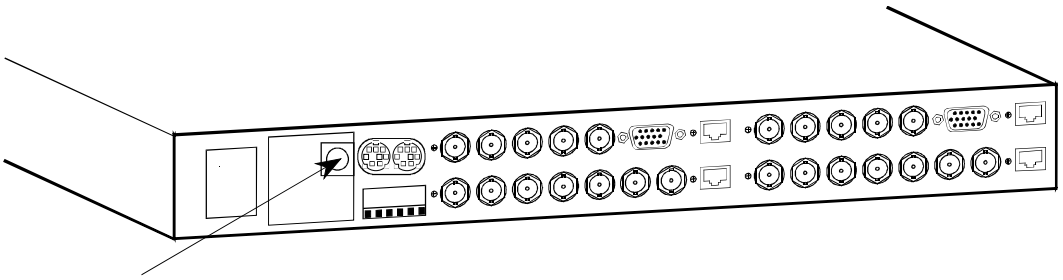
2. Use Figure 3.6 to locate the ID rotary switch behind the RS-422 ports.

3. Using a small flat-edge screwdriver, identify each frame by setting a unique address to each. The available addresses are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F producing a total of 16 ID assignments. Two Quartet housing frames cannot have the same address. However, a Quartet frame, a Symphonie housing frame and a Solo frame can have the same address.

4. Reinstall the power supply. To do so, refer to section 3.3, *Power Supply Removal and Installation*.

5. Configure the workstation software to reflect the ID assignments of step 3.

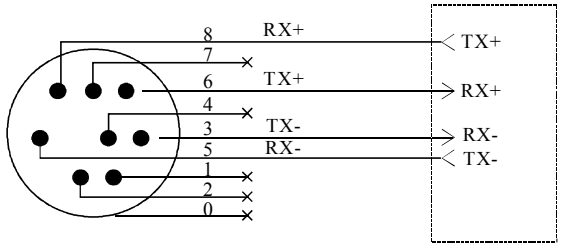
**Figure 3.6** Serial ID rotary switch location (Quartet-M, Quartet-A-75, Quartet-A-110, Quartet-M-A-75, and Quartet-M-A-110)



## *3.6 RS-422 Cable Construction*

Figure 3.7 describes the cable required between a Quartet housing frame and the PC/RS-422 converter. The mini-DIN8 connector is viewed from the back where the actual wire connections are to be made. The cable construction required between Quartet housing frames is described in Figure 3.8. There is a direct pin-to-pin connection between mini-DIN8 connectors. Use Figure 3.9 to construct a cable for connection between Quartet and Symphonie housing frames.

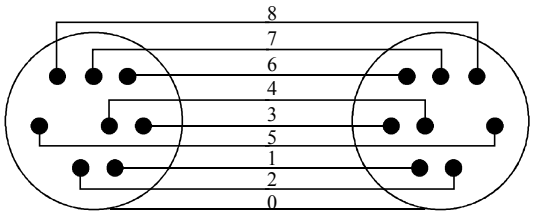
**Figure 3.7** Cable between Quartet-C and PC/RS-422 converter




Male Mini-DIN8 (viewed from back)

PC/RS-422 Converter

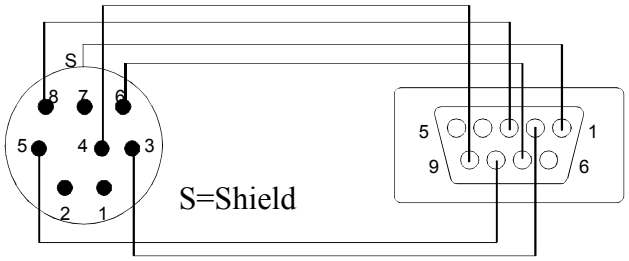
**Figure 3.8** Cable between Quartet-C/Solo housing frames




Male Mini-DIN8 (viewed from back)

Male Mini-DIN8 (viewed from front)

**Figure 3.9** Cable between Quartet-C/Solo and Symphonie housing frames




Mini-Din 8 (back of connector)

Male DE-9 (back of connector)

## *3.7 Installing an imaging Series Module*

It is not necessary to switch off the power when installing a module into a housing frame. To install a module, follow these steps.

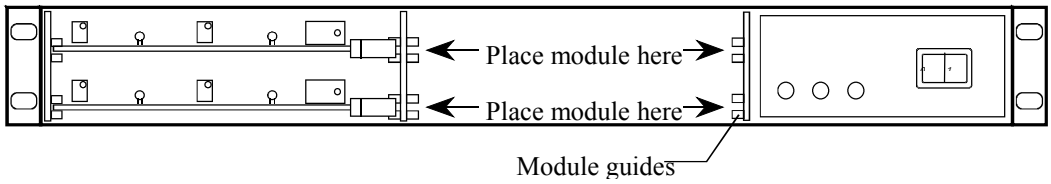
1. Remove the front panel by rotating the thumb screws counter clockwise. Pull on the handles.

2. Select an empty slot.

3. Carefully place the module between the module guides (refer to Figure 3.10) and slowly push the module towards the rear of the housing frame until the module's edge connector is secured to the backplane. Pull lightly on the module verifying that it does not move.

4. Replace the front panel. Make sure to rotate the thumb screws clockwise in order to secure the front panel to the chassis.

**Figure 3.10** Module guide location




## *3.8 Removing an imaging Series Module*

It is not necessary to switch off the power when removing a module from a housing frame. To remove a module, follow these steps.

1. Remove the front panel by rotating the thumb screws counter clockwise. Pull on the handles.

2. Locate the module you wish to remove.

3. Carefully pull the module ejector until the module is detached from the internal PCB edge connector. Slowly pull out the module.

4. Replace the front panel. Make sure to rotate the thumb screws clockwise in order to secure the front panel to the chassis.

## *3.9 Rear Panel Label*

A connector label is shipped with every *imaging* series module. This label is to be installed on Quartet's rear panel in order to identify the module's external connectors. To install the label, follow these steps.

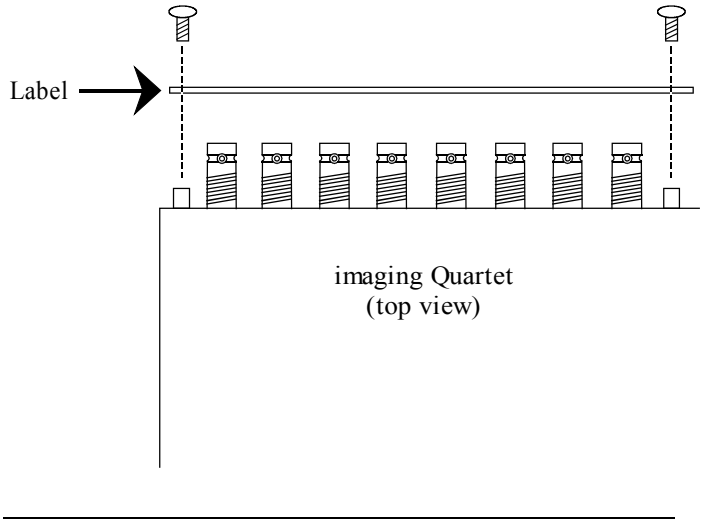
1. On the housing frame's rear panel, locate the appropriate connectors for the front slot where the *imaging* module has been installed as specified in section 3.7.

2. Remove the screws as shown in Figure 3.11.

3. Carefully apply the label to the connectors.

4. Replace the screws making sure not to damage the label.

**Figure 3.11** Rear panel label installation



## *3.10 Air Filter Removal and Cleaning*

The *imaging* housing frame contains a DC powered cooling fan located at the rear. The cooling fan sucks in air via the front panel air vents. Behind the front panel air vents, an air filter prevents dust and air particles from penetrating into the housing frame.

Occasionally, this air filter may have to be removed and properly cleaned in order to maintain proper ventilation within the housing frame. To remove and clean the air filter, refer to Figure 3.12 and follow these directions:

1. Remove the front panel by rotating the thumb screws counter clockwise. Pull on the handles.

2. Carefully remove the lexan membrane and the air filter behind the front panel.

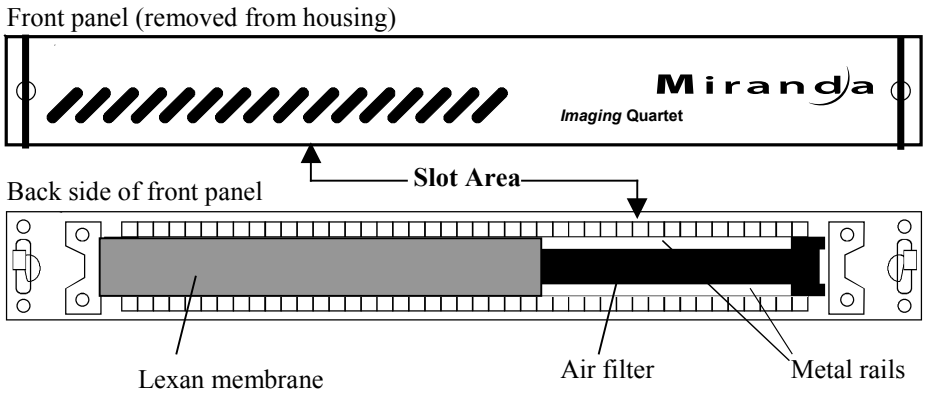
3. Use running water to clean the air filter. Make sure to dry off the air filter before attempting to replace it back into its original location.

4. When replacing the air filter, make sure to tuck it back into place behind the metal rails. Reinstall the lexan membrane to block 2/3 of the air filter, as shown on figure 3.12 below.

5. Replace the front panel. Make sure to rotate the thumb screws clockwise in order to secure the front panel to the chassis.

N.B.: For proper cooling of the imaging modules do not leave the front door removed for a long period of time when power is on.

**Figure 3.12** Air filter location



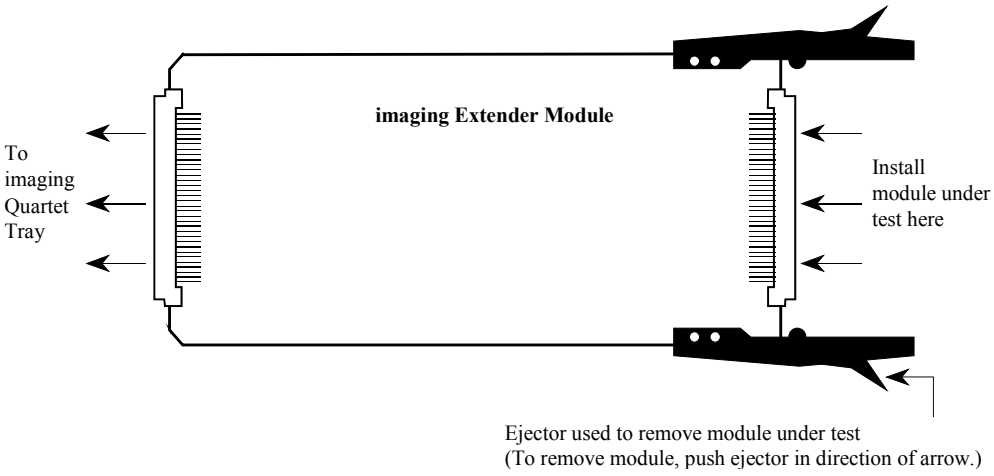
## *3.11 imaging Extender Module*

The optional *imaging* extender module allows easy access to any *imaging* series modules requiring testing, repairs, or calibration. In order to install the extender module, remove the *imaging* module under test from the housing frame. Replace it with the extender module. Insert the module under test in the extender module making sure it is firmly installed. Refer to the Figure 3.13.

To remove the module under test, simply push on the ejectors situated at the front of the extender module and pull out the module under test. To remove the extender module, carefully pull on it in order to detach it from the housing frame's rear motherboard.

For complete instructions on module installation and module removal, refer to sections 3.7 and 3.8 respectively.

**Figure 3.13** *imaging* extender module setup



# 4 Power Supply

## 4.1 Powering Up and Local Power Monitoring

To turn on power in a Quartet frame, remove the front panel and place the power switch in the '1' position. The PWR indicator will light up. The following indicators provide information on the power supply's status.

- **PWR**

  The PWR LED turns on to indicate the housing frame is powered.

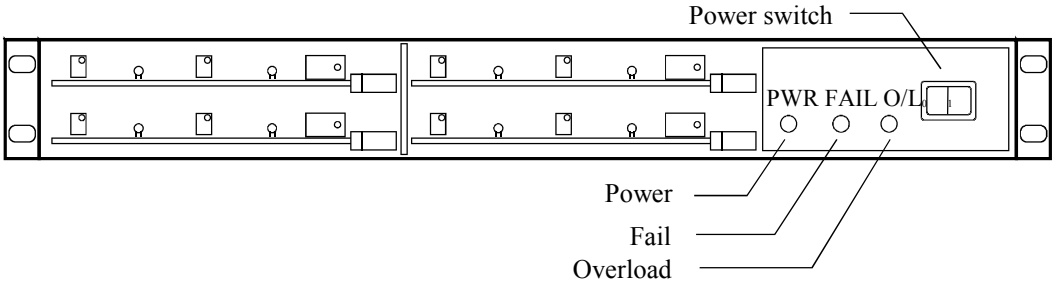
- **FAIL**

  The FAIL LED turns on to indicate that at least one power supply voltage level has failed. This may also occur after a thermal shutdown by the power supply. A thermal shutdown occurs at a temperature of 70°C (158°F) setting all output voltage levels to 0. The power supply will restart only when its temperature has dropped to at least 50°C (122°F).

- **O/L**

  This LED lights up to indicate a current overload has been detected on one of the DC power lines. This indicates a problem with either the power supply or one of the housing frame's modules.

**Figure 4.1** Power supply monitoring

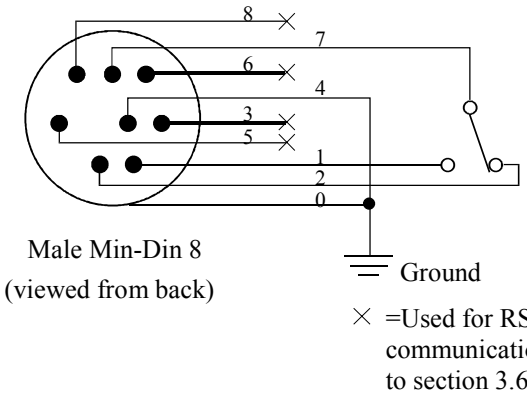


## *4.2 Remote Power Failure Alarm and Cable Construction (optional)*

The power supply remote monitoring feature in Quartet frames detailed in Table 1.1 informs the user of a power supply problem. A power failure alarm is provided by the dry contacts of the rear panel mini-Din 8 connector.

Figure 4.2 describes the pinout of the rear panel mini-Din 8 connector. The mini-Din 8 connector is viewed from the back where the actual wire connections are to be made. The mini-Din 8 rear panel connector provides a normally closed contact and a normally open contact. During normal operation, there is a closed contact between pins 1 and 7 and an open contact between pins 2 and 7. If the power supply fails or experiences a current overload, contact between pins 1 and 7 opens and contact between pins 2 and 7 closes.

**Figure 4.2** Mini-Din 8 connector pinout (alarm condition)



# 5 Specifications

### *Quartet*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (32) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |

### *Quartet-C*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (32) |
| Serial port: | RS-422 on mini-DIN 8 (2) |

### *Quartet-M*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (28)<br>RJ-45 (4) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |
| Serial port: | RS-422 on mini-DIN 8 (2) |
| Power failure alarm: | NC contacts on mini-Din 8 (2) |

### *Quartet-A-75*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (20)<br>HD-15 (4)<br>RJ-45 (4) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |
| Serial port: | RS-422 on mini-DIN 8 (2) |
| Power failure alarm: | NC contacts on mini-Din 8 (2) |

### *Quartet-A-110*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (8)<br>HD-15 (4)<br>HD-26 (4)<br>RJ-45 (4) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |
| Serial port: | RS-422 on mini-DIN 8 (2) |
| Power failure alarm: | NC contacts on mini-Din 8 (2) |

### *Quartet-M-A-75*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (24)<br>HD-15 (2)<br>RJ-45 (4) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |
| Serial port: | RS-422 on mini-DIN 8 (2) |
| Power failure alarm: | NC contacts on mini-Din 8 (2) |

### *Quartet-M-A-110*

| | |
|---|---|
| I/O connectors: | 75 ohm BNC (18)<br>HD-15 (2)<br>HD-26 (2) |

| | |
|---|---|
| | RJ-45 (4) |
| DC power: | Terminal strip 6: -8V, +6V, GND, GND, -15V, +15V |
| Serial port: | RS-422 on mini-DIN 8 (2) |
| Power failure alarm: | NC contacts on mini-Din 8 (2) |

***All Quartets***

| | |
|---|---|
| Power input: | 100-264 VAC / 50-60 Hz, 225 W |
| Maximum DC power capacity: | |
| | 130 W<br>5V / 10 A<br>-8V / 5A<br>±15V / 1A<br>(Re. section 3.2: when calculating total module load, it should never exceed 80% of the maximum value specified) |
| Dimensions: | 1 RU x 327 mm deep (12.9") |
| Weight: | 3.6 Kg (7.9 lbs) |
| Temperature: | 0°C to 40°C |