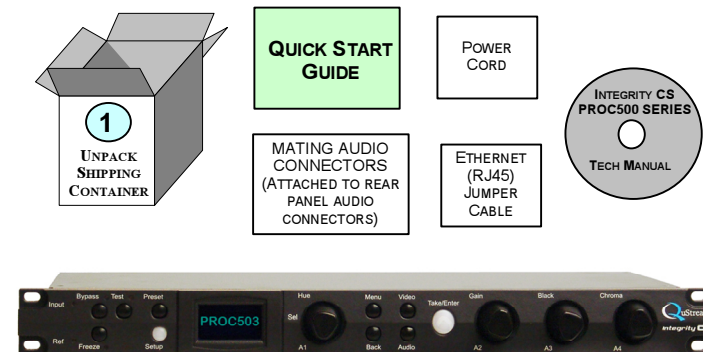


Step 1 UNPACK THE PROCESSOR RACK UNIT

- Carefully unpack your Integrity CS Unit from shipping container and verify package contents against contents listed below.
- Visually inspect the unit for any signs of damage in shipment or transit.
- If any components are missing or damaged, contact QuStream Customer Service.

PACKAGE CONTENTS:



2 VERIFY ALL ITEMS SHOWN ABOVE ARE INCLUDED WITH UNIT

If any components are missing or damaged, contact QuStream Customer Service by phone or e-mail.

Customer Service: 1+ (256) 726-9222
Toll Free: (800) 323-7372 (US and Canada)
Fax: 1+ (256) 726-9268
Email: service@qustream.com

Step 2 GET ACQUAINTED

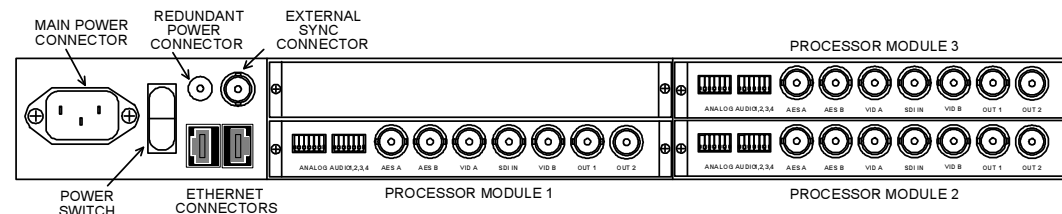
- The Integrity CS PROC500 Series are self-contained ingest synchronizers with recursive noise reduction for analog and SD-SDI signals. Each PROC500 converts composite analog to SD-SDI, syncs SDI to an external reference; plus it contains a full RGB color corrector video legalizer, and an audio embedder/de-embedder. It accepts an input of composite (NTSC/PAL) analog video or SD-SDI digital video and produces 2 SD-SDI outputs.
- Inputs are provided for up to four analog and three AES audio sources* for embedding. De-embedded audio is available as up to 2 AES pairs,* selectable from any de-embedded channel.
- PROC501 contains one processor module, PROC502 contains two modules and PROC503 contains three processor modules. Each module is identical in all three variations.

*AES INPUTS 1 and 2, and AES OUTPUTS 1 and 2 share same rear panel BNC connectors. On-board jumpers determine whether each connector is configured as an input or output connection. It is NOT possible to configure 2 AES INPUTS and 2 AES OUTPUTS simultaneously

Step 2 GET ACQUAINTED (CONT.)

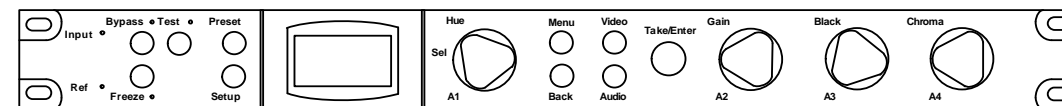
REAR PANEL LAYOUT

- Your Integrity CS PROC500 Series Processor is composed of a 1RU rack frame with a power supply and up to three processor modules, installed in card slots on the rear of the chassis. An illustration of the PROC503 rear panel layout is shown below. PROC502 contains two processor modules and PROC501 contains one module.



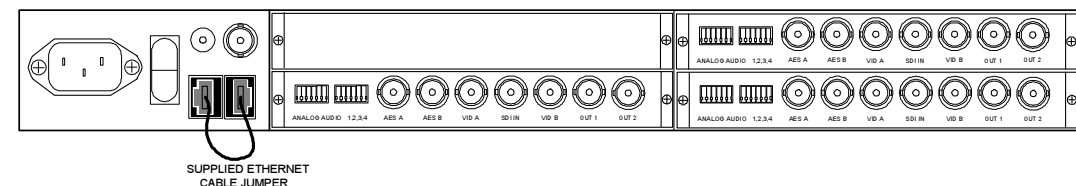
FRONT PANEL LAYOUT

- A typical Integrity CS control panel layout is shown in the illustration below.



Step 3 INSTALL REAR PANEL ETHERNET JUMPER

- In most installations the Integrity CS processor is controlled by a **LOCAL** control panel installed to front of chassis frame, as shown above. However, if you have multiple CS units it is possible to control all of them from one or more controls panels located remote from the chassis frame. If remote panel option is used, the front control panel is replaced with a front panel equipped with status lights, but no operating controls. Wiring rear panel connectors for remote operation is discussed in the last step of this section.
- If you are using the **LOCAL** control panel installed on the front of the Integrity CS processor frame, you **MUST** install the Ethernet jumper cable to the rear panel connectors for proper operation. This jumper cable is removed for shipping, but is included in the package with the processor.
- Refer to the following figure, and perform the steps to install this cable prior to use of the processor.



NOTE

Your Integrity CS Processor **WILL NOT** function unless this connection is completed.

- Locate supplied Ethernet jumper cable shipped with your Integrity processor.
- If you are using the LOCAL control panel on the front of the frame to control this unit, install Ethernet cable jumper between the two Ethernet (RJ45) port connectors on rear panel of processor.
- If you are using a REMOTE control panel over the facility LAN, use an Ethernet switch or hub to provide an active network connection to BOTH rear panel Ethernet ports.

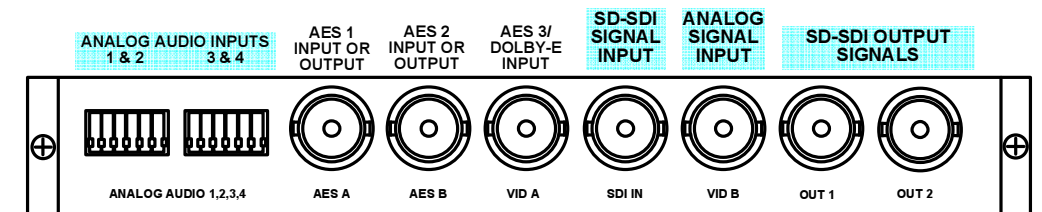
Step 4 MOUNT PROC500 SERIES CHASSIS FRAME

- Considerations for mounting location include proximity to signal sources/destinations, availability of primary power and availability of a source of external sync.
- Mount the chassis frame in an equipment rack and secure frame to rack using four rack mount screws.
- Do not apply power until all external connections are made and verified.

Step 5 VIDEO/AUDIO CONNECTIONS

- Each PROC500 Series processor module is fully independent. If your frame is a PROC502 or PROC503 that contains multiple modules, each module is a stand-alone processor.
- Complete video and audio connections to each processor module using the diagram below as a reference. Highlighted connection points indicate major function connections.

PROCESSOR MODULE CONNECTIONS

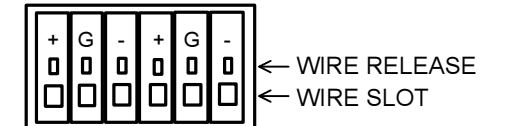


ANALOG AUDIO CONNECTORS

- The illustration and chart identify pin-out for a typical 6-pin analog audio connector.

Pin	Function
+	Positive Audio Signal
G	Shield
-	Negative Audio Signal

SUPPLIED MATING AUDIO CONNECTOR



Step 6 INITIAL POWER UP

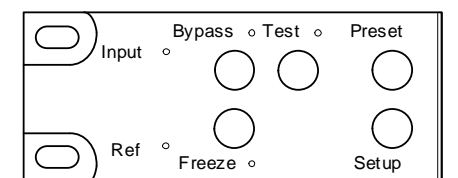
- Inspect all connections to the processor. Ensure that all cables are installed securely.
- Attach power cord to rear panel main power connector and a source of power.
- Move power switch to the "ON" position.

Step 7 BASIC OPERATION

CONTROL PANEL LAYOUT AND OPERATION

Direct Entry Pushbuttons

- Test** – Pressing **Test** switches output signal from active video source to a user-selectable test signal. A second pressing cancels test output and returns to video source. The **Test** LED illuminates when test output is active.



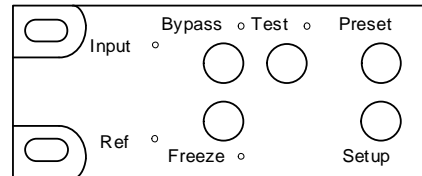
Quick-Start Guide

Step 7 BASIC OPERATION (CONT.)

CONTROL PANEL LAYOUT AND OPERATION

Direct Entry Pushbuttons

- **Freeze** – Pressing **Freeze** freezes video output signal based on a user-selectable freeze frame type. A second pressing cancels freeze output and returns to video source. The **Freeze** LED illuminates when freeze function is active.
- **Setup** – **Setup** causes control panel to access system set-up menu regardless of which menu screen is currently displayed.



System Status Indicators

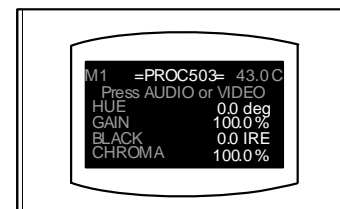
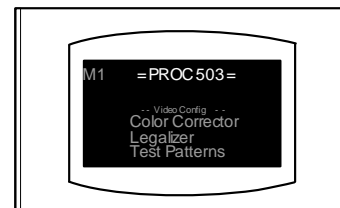
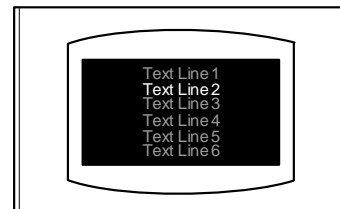
- **Input** – The **Input** LED illuminates if video input signal is lost for any reason.
- **Reference** (Ref) – The **Ref** LED illuminates if genlock reference source is lost for any reason.

Bypass and Preset

- Bypass and Preset pushbuttons and Bypass LED are not used in current configuration of processor.

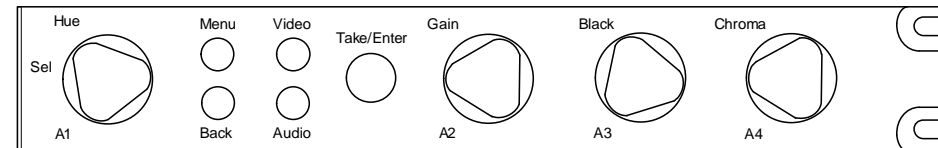
Menu Display Screen

- Menus, operational parameters and system status are displayed on a six line screen, as illustrated.
- Menus are arranged in a tree structure, and in many instances, selecting an item brings up a branch menu with additional entries. Often a menu page has more items than can be shown on the display lines. To navigate these menus, use selector (**SEL**) knob to right of display to scroll through entries until desired entry is highlighted.
- Underscore marks before and after text identify a text entry that describes the function of the menu items below it. Example: Video Config indicates scroll list under entry contains menu selection options for video configuration function.
- Data entry screens allow changes to operating parameters or adjustments to system settings. Integrity CS menu structure uses a highlighted entry to indicate a selectable function modifiable value. In the example shown here, the value of all four entries are highlighted, and can be changed as desired.
- Values and parameters are modified by selecting new value or selection from a scrolling list of available options, or increasing/decreasing numerical values, by using rotary knobs on control panel. Data entry screens have a maximum of four selectable values or functions, each is software mapped to one control knob, beginning with knob A1 for first selectable entry and continuing in sequence to knob A4 for fourth selectable entry. In this example, HUE vector may be selected by rotating control knob A1, GAIN percentage by rotating knob A2, BLACK level by rotating A3 and CHROMA percentage by rotating A4.



Step 7 BASIC OPERATION (CONT.)

- Pushbuttons and rotary controls located to right of display screen navigate menu screens and select or modify parameters.



Function Select Pushbuttons

- **Menu** – Pressing **Menu** advances to next level of menu tree structure as determined by highlighted menu screen selection.
- **Back** – Pressing **Back** causes previous menu to be recalled.
- **Video** – Pressing **Video** accesses top level video status screen.
- **Audio** – Pressing **Audio** accesses top level audio configuration menu.
- **Take/Enter** – When **Take/Enter** pushbutton is illuminated green, it is “live” and used in the current menu to execute a function or command. Once commands is executed, LED in button extinguishes. **Take/Enter** performs a function only when illuminated green.
- Some menus use Function Pushbuttons to execute commands on screen. Any button press required is prompted on individual menus.

Rotary Controls

- **A1 (Sel)** – The Select (**Sel**) control, also labeled **A1**, scrolls through menu entries on scrollable screens. On data entry screens, **A1** selects commands or values for entry mapped to it.
- **A2 thru A4** – On data entry screens with more than one selectable entry, control knobs **A2 thru A4** are software mapped sequentially to data entry prompts.

SYSTEM INITIALIZATION

- On power-up, a system initialization boot-up procedure commences. Upon completion of initialization, the screen message shown here is displayed.
- Press **SETUP** to advance to next screen.



PANEL SETUP SCREEN

- Panel Setup options allow operator to check status and change panel operating parameters.
- To initiate operation of PROC500, use **SEL** knob to highlight **Select Frame/Card** menu entry, as shown to right.
- Press **MENU** to advance to next screen.



SELECT CARD SCREEN

- This screen allows selection of frame or device to control.
- Use **SEL** knob to highlight PROC50x menu entry, as shown to right. PROC503 is shown here for reference.
- Press **MENU** to advance to next screen.



Step 7 BASIC OPERATION (CONT.)

SELECT MODULE SCREEN

- This screen allows selection of module to control when frame is equipped with multiple modules.
- Use **SEL** knob to highlight desired module entry, as shown to right. Module 1 is shown here for reference.
- Press **MENU** to advance to next screen.



PROC500 TOP LEVEL MENU SCREEN

- Top level screen identifies currently selected module in upper-left corner, operating temperature of module and displays current setting of processor operating parameters, as shown. From this screen you can adjust each displayed setting using front panel control A1 – A4; or you can branch to main video and audio operation menus.
- Press **VIDEO** to select main video menu screen.
- Press **AUDIO** to select main audio menu screen.



PROC500 VIDEO - TOP LEVEL MENU SCREEN

- Video configuration menus and sub-menus are accessed through the Video Config screen, as shown to right.
- Use **SEL** knob to highlight desired menu entry, as shown.
- Press **MENU** to select desired configuration menu screen.



PROC500 AUDIO - TOP LEVEL MENU SCREEN

- Audio configuration menus and sub-menus are accessed through the Audio Config screen, as shown to right.
- Use **SEL** knob to highlight desired menu entry, as shown.
- Press **MENU** to select desired configuration menu screen.



MENU SCREEN ACCESS CODE

- Certain menus are password protected. When a protected menu is accessed, password entry screen is displayed, as shown at right.
- Use rotary knobs to set four highlighted digits to **0999**, as shown.
- Press **TAKE** to enter password and access desired configuration menu screen.



IN THE EVENT OF TROUBLE

If you have any problems with or questions about your QuStream PROC500 Series processor, contact QuStream Customer Service by phone or e-mail.

Customer Service: 1+ (256) 726-9222
Toll Free: (800) 323-7372 (US and Canada)
Fax: 1+ (256) 726-9268
Email: service@qustream.com

MENU TREE REFERENCE

THIS PORTION OF THE PROC501, 502 AND 503 QUICK START GUIDE PROVIDES A LISTING, INDENTED BY LEVEL, OF ALL MAIN AND SUB MENUS AND THE ASSOCIATED COMMANDS FOR VIDEO AND AUDIO CONFIGURATION FUNCTIONS OF THE PROCESSOR.

PROC500 VIDEO CONFIGURATION

VIDEO CONFIGURATION MENU SCREEN



- Video configuration menus and sub-menus are accessed through the Video Config screen, as shown to right.
- Use SEL knob to highlight desired menu entry, as shown.
- Press MENU to select desired configuration menu screen.
- Follow menu tree screen and command listings below

Video

{Video Config}

Color Corrector

White Balance

- Red (A1 to change value)
- Green (A2 to change value)
- Blue (A3 to change value)

Black Balance

- Red (A1 to change value)
- Green (A2 to change value)
- Blue (A3 to change value)

Gamma Balance

- Red (A1 to change value)
- Green (A2 to change value)
- Blue (A3 to change value)

Black

- Blk Stretch (A1 to change value)
- Blk Lvl (A2 to change value)

CC Memory Save

- Mem Bank (A2 to select desired memory location)
- Press TAKE to save settings to memory location

CC Memory Recall

- Mem Bank (A2 to select desired memory location)
- Press TAKE to recall settings from memory location

Legalizer

Luma Limit

- Off, Loose, Nominal, Tight (A1 to select desired setting)

Encoded Limit

- Off, Loose, Nominal, Tight (A1 to select desired setting)

RGB Limit

- Off, Loose, Nominal, Tight (A1 to select desired setting)

VBI Legalizer

- Is Off, Follows Main (A1 to select desired setting)

Video

{Video Config} (Cont.)

Test Patterns

- Test Pattern (A1 to select desired test pattern from listing)
- Saved Frame
- FREEZE desired video frame to save
- Press TAKE to save video frame to memory

Noise Filters

- Recursive Filter
- Off, Auto, High, Low (A1 to change value)
- Measured SNR
- Display of SNR reading

Video Input

- Analog-A, Analog-B, SDI (A1 to select desired input source)

{Analog In Config}

Video TBC

- Off, On, Auto (A1 to select desired setting)

Video AGC

- Off, On (A1 to select desired setting)

Analog Black

- 7.5 IRE, 0.0 IRE (A1 to select desired setting)

{Additional Config}

Video Standard

- Displays current operating video standard: NTSC/525 or PAL/625
- Press TAKE to toggle between NTSC and PAL standards

Video Timing

- Genlock
 - Genlock Status
 - Genlock Source Status Display (OK)
 - Genlock Source
 - Frame Connector, Board Connector (A1 to select desired source)
 - Genlock Timing
 - V Phase (A1 to change value)
 - H Phase (A2 to change value)

Video Pos

- H Video Pos
 - H Video Pos (A1 to set desired position)
- V Video Pos
 - V Video Pos (A1 to set desired position)

Min Delay

- Min Delay (A1 to change value)

Freeze Mode

- Frame, Field 1, Field 2 (A1 to select desired setting)

Hot Switch

- A1 to select desired Hot Switch action from listing

Video

{Additional Config} (Cont.)

Configure VBI

- Config Line/Field
 - 10/1, 10/2....22/1, 22/2 (A1 to select desired setting)
- Signal
 - A1 to select desired signal type from listing
- Comb
 - Off, On (A1 to select desired setting)

User Reset

- Press TAKE to initiate User Reset

Info

- Module 1 Info
 - Displays operational parameters for selected module
- Frame Info
 - Displays operational parameters for chassis frame

Eng Config

- Password Prompt Screen
 - Use A1, A2, A3, A4 to select "0999"
 - Press TAKE to proceed to Eng Config screens
- Vid Cnfg Module 1 --
- Dynamic Filters
 - En/Dis (Press TAKE to enable/disable dynamic filter)
 - Coring (A1 to change value)
 - Luma Filter
 - Wide, Soft, Shaped, Dynamic (A1 to select desired setting)
 - Chr Filt
 - Flat, Shaped Dynamic, Flat Dynamic (A1 to select desired setting)
 - Averaging
 - Off, Forced, High, Medium, Low (A1 to select desired setting)

Comb Mode

- Line Adaptive, Frame Adaptive, Normal (A1 to select desired setting)

Comb Sensitivity

- Frame In-Ph (A1 to change value)
- Frame Out-Ph (A2 to change value)
- Line In-Ph (A3 to change value)
- Line Out-Ph (A4 to change value)

-- Vid Cnfg Module 2 --

- Dynamic Filters (Same as for Module 1, above)
- Comb Mode (Same as for Module 1, above)
- Comb Sensitivity (Same as for Module 1, above)

-- Vid Cnfg Module 3 --

- Dynamic Filters (Same as for Module 1, above)
- Comb Mode (Same as for Module 1, above)
- Comb Sensitivity (Same as for Module 1, above)

MENU TREE REFERENCE (CONT.)

Video

{Video Config}

Eng Config (Cont.)

- Frame Config --
 - Set Frame IP
 - A1 moves cursor left and right to select digit to change
 - A2 to change value of highlighted digit
 - Reboot Frame
 - Password Prompt Screen
 - Use A1, A2, A3, A4 to select "0999"
 - Press TAKE to initiate frame reboot
 - Status
 - Status display of frame operating parameters
 - Press TAKE to refresh

PROC500 AUDIO CONFIGURATION

AUDIO CONFIGURATION MENU SCREEN

- Audio configuration menus and sub-menus are accessed through the Audio Config screen, as shown to right.
- Use **SEL** knob to highlight desired menu entry, as shown.
- Press **MENU** to select desired configuration menu screen.
- Follow menu tree screen and command listings below



Audio

{Audio Config}

Output Sources

- Chan (A1 to select channel 1 to 16)
- IsSource (A2 to select source from listing)
- SumWith (A3 to select source from listing)
- SumBalance (A4 to change value)

AES Sources

- AES-1.1 (A1 to select source from listing)
- AES-1.2 (A2 to select source from listing)
- AES-2.1 (A3 to select source from listing)
- AES-2.2 (A4 to select source from listing)

Chan Lvl-Mute-Ph

- Audio Out Level (A1 to select group containing channel to adjust)
(Using Chan 1...4 entry for reference)
 - Ch 1 (A1 to change value)
 - Ch 2 (A2 to change value)
 - Ch 3 (A3 to change value)
 - Ch 4 (A4 to change value)
- Audio Out Mute (Same steps as Audio Out Level, above)
- Audio Out Phase (Same steps as Audio Out Level, above)

Audio

{Audio Config} (Cont.)

Bank Lvl-ALC-Lim

Bank Level

- Bank 1 (A1 to change value)
- Bank 2 (A2 to change value)
- Bank 3 (A3 to change value)
- Bank 4 (A4 to change value)

ALC

- Bank Select 1-4(A1 to select bank)
- ALC Enable
 - Off, On (A2 to select desired setting)
- ALC Level (A3 to change value)
- ALC Rate (A4 to change value)

Limiter

- Bank Select 1-4(A1 to select bank)
- Lim Enable
 - Off, On (A2 to select desired setting)
- Lim Level (A3 to change value)
- Lim Rate (A4 to change value)

Bank Config

- (A1 to assign groups to bank 1)
- (A2 to assign groups to bank 2)
- (A3 to assign groups to bank 3)
- (A4 to assign groups to bank 4)

Lip-Sync

Tracking

- Slow, Medium, Fast (A1 to select desired setting)
- Add Offset (A2 to change value)

Analog In Gain Trim

- Analog In 1 (A1 to change value)
- Analog In 2 (A2 to change value)
- Analog In 3 (A3 to change value)
- Analog In 4 (A4 to change value)

Tone Gen Freq

- Tone Gen 1 (A1 to select desired operating frequency)
- Tone Gen 2 (A2 to select desired operating frequency)
- Tone Gen 3 (A3 to select desired operating frequency)
- Tone Gen 4 (A4 to select desired operating frequency)

Tone Gen Level

- Tone Gen 1 (A1 to change value)
- Tone Gen 2 (A2 to change value)
- Tone Gen 3 (A3 to change value)
- Tone Gen 4 (A4 to change value)

Embed Enable

- On, Off (A1 to select desired setting)