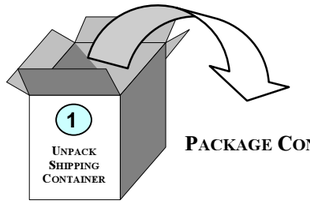
START

INTEGRITY CS SERIES A2HD516 PROCESSOR

Quick-Start Guide

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:

POWER CORD

COAXIAL JUMPER CABLE

ETHERNET (RJ45) JUMPER CABLE

MATING AUDIO CONNECTORS (ATTACHED TO REAR PANEL AUDIO CONNECTORS)

QUICK START GUIDE

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*

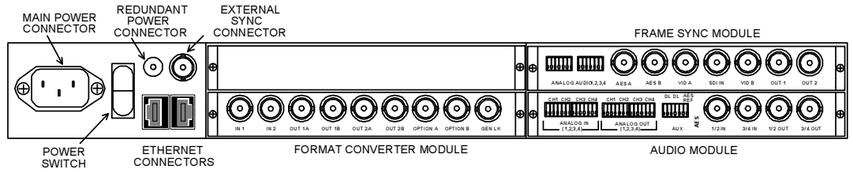
Step 2 GET ACQUAINTED

- The Integrity CS A2HD516 is a self-contained format converter and audio embedder/de-embedder. It accepts an input of composite (NTSC/PAL) analog video or SD-SDI digital video and produces outputs of HD-SDI, SD-SDI and option outputs selectable as SD-SDI or composite analog.
- The included side-column keyer accepts an input of HD SDI video.
- Inputs are provided for both AES and analog audio sources for embedding. De-embedded audio is available as both AES pairs and analog, selectable from any de-embedded channel

Step 2 GET ACQUAINTED (CONT.)

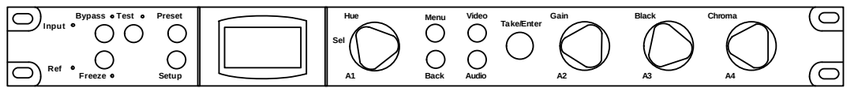
REAR PANEL LAYOUT

- Your Integrity CS A2HD516 is composed of a 1RU rack frame with a power supply and three processing modules, installed in card slots on the rear of the chassis. An illustration of the rear panel layout is shown below.



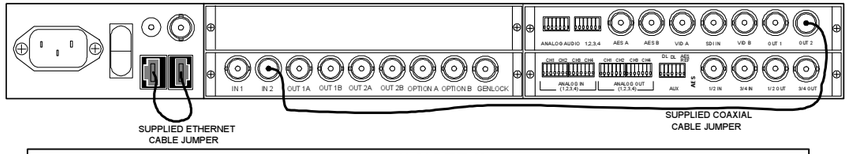
FRONT PANEL LAYOUT

- In most installations, the processor control panel is installed directly to the chassis frame. If your system is equipped with the remote panel option, a blank front panel with status LEDs is attached to the chassis. Whether local or remote, the control panel layout is as shown in the illustration below.



Step 3 INSTALL REAR PANEL JUMPERS

- Your Integrity CS Series processing product requires installation of rear panel jumpers for proper operation. These jumper cables are removed for shipping, but are included in the package with the processor.
- Refer to the following figure, and perform the steps to install these necessary jumper cables prior to use of the processor.



!! NOTE !!

Your Integrity CS Processor WILL NOT function unless these connections are completed.

- Locate supplied coaxial cable jumper and supplied Ethernet cable jumper shipped with your Integrity processor.
- Install coaxial jumper between connector labeled Output (OUT) 2 on frame sync module and connector labeled Input (IN) 2 on format converter module. Refer to figure when installing this cable.
- 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 A2HD516 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

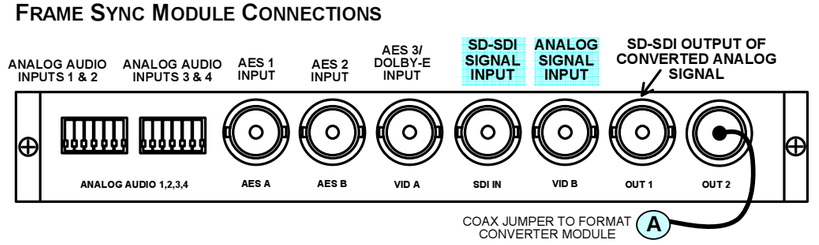
!! NOTE !!

Your A2HD516 Processor is shipped from the factory with the UDC operating mode selected. This mode allows the processor to function as an analog or SD-SDI to HD converter WITHOUT using the included side column keyer function.

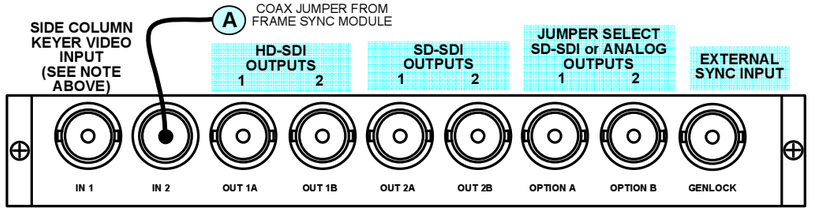
If you wish to use the side column keyer, you MUST provide an HD input signal for use as the keyer insert video source, and you MUST change the processor to the UCP operating mode as shown in Step 8 of this guide. If UCP is selected as the operating mode and an HD signal is not applied to the key video input connector, the A2HD516 WILL NOT function properly!!

- Complete video and audio connections to the A2HD516 using the diagrams below as a reference. Highlighted connection points indicate major function connections.

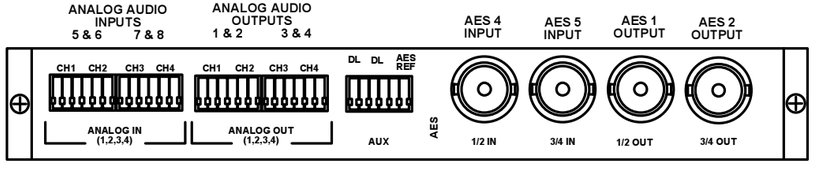
FRAME SYNC MODULE CONNECTIONS



FORMAT CONVERTER CONNECTIONS



AUDIO MODULE CONNECTIONS



Audio Module Connector Pin-Outs Shown on Next Page

INTEGRITY CS SERIES
A2HD516 PROCESSOR

Quick-Start Guide

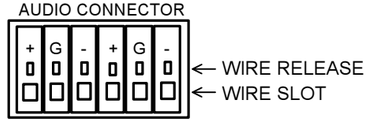
QuStream PESA FORTELDTV

Step 5 VIDEO/AUDIO CONNECTIONS (CONT.)

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



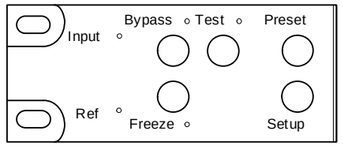
Step 6 INITIAL POWER UP

- 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.
- **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

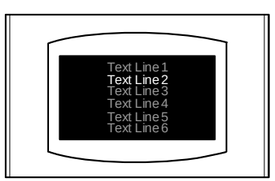
- **Input** – The **Input** LED illuminates if video input signal is lost for any reason.
- **Reference** (Ref) – The **Ref** LED illuminates if genlock reference source is lost for any reason.

Bypass and Preset

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

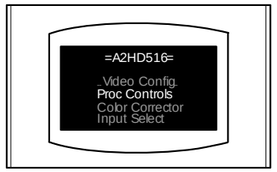
Menu Display Screen

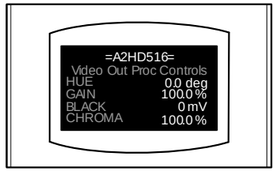
- Menus, operational parameters and system status are displayed on a six line screen, as illustrated.



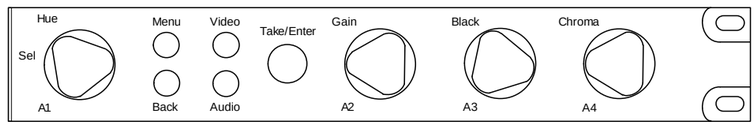
Step 7 BASIC OPERATION (CONT.)

- 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.
- 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.

Step 7 BASIC OPERATION (CONT.)

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 A2HD516, 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 **A2HD516** menu entry, as shown to right.
- Press **MENU** to advance to next screen.

A2HD516 TOP LEVEL MENU SCREEN

- Top level screen displays status of input and output signals and major/minor alarm status, as shown. From this screen you can branch to main video and audio operation menus.
- Press **MENU** or **VIDEO** to select main video menu screen.
- Press **AUDIO** to select main audio menu screen.

A2HD516 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.

A2HD516 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.

Quick-Start Guide

Step 7 BASIC OPERATION (CONT.)

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.

Step 8 USING SIDE COLUMN KEYER (IF DESIRED)

Your A2HD516 Processor is shipped from the factory with the **UDC** operating mode selected. This mode allows the processor to function as an analog or SD-SDI to HD converter **WITHOUT** using the included side column keyer function.

To use the side column keyer, you MUST provide an HD keyer input video signal and change the processor to the **UCP** operating mode.

NOTE

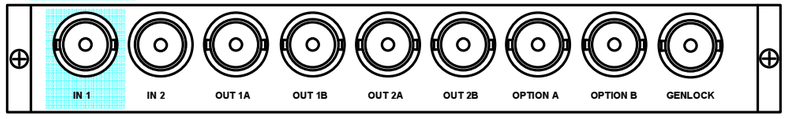
If **UCP** is selected as the operating mode and an HD signal is not applied to the key video input connector, the A2HD516 **WILL NOT** function properly!!

CONFIGURING A2HD516 FOR SIDE COLUMN KEYING

- Connect the keyer video source to the Input (IN) 1 BNC on the rear panel of the format converter module as shown below. This video source must be an HD signal.

SIDE COLUMN KEYER VIDEO INPUT

KEYER VIDEO INPUT (FORMAT CONVERTER MODULE)



- Access the Change Mode function from the Video Configuration menu as directed in the A2HD516 Video Configuration command listing of the Menu Tree Reference portion of this guide.
- Access to the Change Mode function is password protected, as shown at right.
- Use rotary knobs to set four highlighted digits to **0999**, as shown.
- Press **TAKE** to enter password and access Change Mode menu screen.
- Rotate the Select (**Sel**) control (A1) until the "Switch to UCP" option is displayed, as shown.
- Press **TAKE** to reboot the processor and change operating mode of processor.
- If you wish to return to UDC mode, access Change Mode and select the "Switch to UDC" option and press **TAKE** to change operating mode.

MENU TREE REFERENCE

THIS PORTION OF THE A2HD516 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.

A2HD516 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}

Proc Controls (A1 – Hue, A2 – Gain, A3 – Black, A4 – Chroma)
- Hue (A1 to adjust setting)
- Gain (A2 to adjust setting)
- Black (A3 to adjust setting)
- Chroma (A4 to adjust setting)

Color Corrector
- White Balance
  - Red (A2 to change value)
  - Green (A3 to change value)
  - Blue (A4 to change value)
- Black Balance
  - Red (A2 to change value)
  - Green (A3 to change value)
  - Blue (A4 to change value)
- Gamma Balance
  - Red (A2 to change value)
  - Green (A3 to change value)
  - Blue (A4 to change value)
- Black
  - Blk Stretch (A2 to change value)
  - Blk Lvl (A3 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

Input Select
- Input Sel
  - Input 1,2 (A1 to select desired setting)
- OnVidLoss
  - Off, Black (A2 to select desired setting)

Anlg-SD Select
- SDI, Analog-A, Analog-B (A1 to select desired setting)

Output

{Output Config}
- Primary Output
  - Format
    - A1 to select desired video format from listing
  - Freeze Frame
    - Frame, Field 1, Field 2 (A2 to select desired setting)
  - TAKE to set Aspect Ratios
    - UC-AspRatio
      - A1 to change value
    - DC-AspRatio
      - A1 to select desired setting
    - DC-AR TrimH
      - A1 to change value
    - DC-AR TrimV
      - A1 to change value
- Sec Asp Ratio
  - 4X3-Crop, 4X3-Squeeze, 16X9-Lbox
    - A1 to select desired setting
- HD Config

{HD Config}
  - HD CloCap
    - Off, On (A1 to select desired setting)
  - HD TimeCode
    - Off, On (A1 to select desired setting)

{HD Timing}
  - HD H Phase
    - A1 to change value
  - HD V Phase
    - A1 to change value
  - HD H Video Pos
    - A1 to change value
  - HD V Video Pos
    - A1 to change value
- SD Config

{SD Config}
  - SD CloCap
    - Off, On (A1 to select desired setting)
  - Translate Timecode
    - Off, On (A1 to select desired setting)
  - SD 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

MENU TREE CONTINUED ON NEXT PAGE

Quick-Start Guide

MENU TREE REFERENCE (CONT.)

{SD Timing}
SD H Phase
A1 to change value
SD V Phase
A1 to change value
SD H Pos
A1 to change value
SD V Pos
A1 to change value
Genlock Source
Frame Connector, Board Connector
A1 to select desired source
Frame Rate
A1 to select desired frame rate setting
Test Pattern
A1 to select desired test pattern output from listing
Encoder Mode
On, Test Bars, Off (A1 to select desired setting)

Noise Reduction
Recursive Filter
Off, Auto, High, Low (A1 to change value)
Measured SNR (display)

Hot Switch
A1 to select desired Hot Switch action from listing

Status and Alarms
OvrTempThr
Over Temperature Alarm Threshold (A1 to change value)
Error Secs
Press TAKE to reset error seconds display

User Reset
Press TAKE to initiate User Reset

Change Mode
Password Prompt Screen
Use A1, A2, A3, A4 to select “0999”
Press TAKE to proceed to Change Mode screen
Change Mode
UDC, UCP (A1 to select desired setting)
Press TAKE to toggle mode selection

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
{Engineering Cnfgs}
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
{Module1 Cnfgs}
Vid Processing
Full YUV Gamut
ON, Off (A1 to select desired setting)
Press TAKE to advance to next menu
NoiseReduce
On, Off (A1 to select desired setting)
NR Level
A1 to change value
Detail Enh
A1 to change value

{Module2 Vid Cnfgs}
Test Patterns
Test Pattern (A1 to select desired test pattern from listing)
Dynamic Filters
En/Dis (Press TAKE to enable/disable dynamic filter)
Coring (A1 to change value)
Luma Filter
Wide, Soft, Shaped, Dynamic (A2 to select desired setting)
Chr Filt
Flat, Shaped Dynamic, Flat Dynamic (A3 to select desired setting)
Averaging
Off, Forced, High, Medium, Low (A4 to select desired setting)
Video-In Proc
Hue (A1 to adjust setting)
Gain (A2 to adjust setting)
Black (A3 to adjust setting)
Chroma (A4 to adjust setting)

{Analog In Config}
Comb Mode
Off, 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)
Video TBC
Off, On, Auto (A1 to select desired setting)
Video AGC
Off, On (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
A1 to set desired position
V Video Pos
A1 to set desired position
Freeze Mode
Frame, Field 1, Field 2 (A1 to select desired setting)

Configure VBI
Config Line/Field
10/1, 10/2….22/1, 22/2 (A1 to select desired setting)
Signal
A2 to select desired signal type from listing
Setup
0.0, 7.5 IRE (A3 to select desired setting)
Comb
Off, On (A4 to select desired setting)
User Reset
Press TAKE to initiate User Reset

MENU TREE CONTINUED ON NEXT PAGE

Quick-Start Guide

MENU TREE REFERENCE (CONT.)

A2HD516 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}

Audio Config (Demb)

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)

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)

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)

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)

{Adj Audio Board}

DeEmbed to DAS

None, Grp 1, Grp 2, Grp 3, Grp 4 (A1 to select desired setting)

Embed DAS Audio

None, Grp 1, Grp 2, Grp 3, Grp 4 (A1 to select desired setting)

Audio Config (Ext 1)

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)

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)

MENU TREE CONTINUED ON NEXT PAGE

Part No. 81-9059-0647-0 Rev. B

INTEGRITY CS SERIES A2HD516 PROCESSOR

Quick-Start Guide

MENU TREE REFERENCE (CONT.)

Audio Config (Ext 2)
- {Input Control}
- **Input Gain A1 A2**
  - Linking
    - Mono, Stereo (A1 to select desired setting)
  - Gain A1 (Mono), Gain (Stereo), A2 to change value
  - Gain A2 (Mono), Balance (Stereo), A3 to change value
- **Input Gain A3 A4**
  - Linking
    - Mono, Stereo (A1 to select desired setting)
  - Gain A3 (Mono), Gain (Stereo), A2 to change value
  - Gain A4 (Mono), Balance (Stereo), A3 to change value
- **Input Gain D1 D2**
  - Linking
    - Mono, Stereo (A1 to select desired setting)
  - Gain D1 (Mono), Gain (Stereo), A2 to change value
  - Gain D2 (Mono), Balance (Stereo), A3 to change value
- **Input Gain D3 D4**
  - Linking
    - Mono, Stereo (A1 to select desired setting)
  - Gain D3 (Mono), Gain (Stereo), A2 to change value
  - Gain D4 (Mono), Balance (Stereo), A3 to change value
- **Phase/Mute/Bypass**
  - CHANNEL
    - A1, A2, A3, A4, D1, D2, D1-D2, D3, D4, D3-D4
      - A1 to select desired setting
  - Phase
    - Normal, Invert (A2 to select desired setting)
  - Mute
    - Off, On (A3 to select desired setting)
  - Bypass
    - Off, On (A4 to select desired setting)

{Routing Config}
- **Routing Presets**
  - Cfg-A, Cfg-B, Follow-VideoIn (A1 to select desired setting)
- **Dig Source**
  - Group 1, Group 2, Group 3, Group 4, BNC
    - A1 to select desired setting)
- **Source**
  - Output Chan
    - A1, A2, A3, A4, D1, D2, D3, D4
      - A1 to select desired setting
  - Source
    - A1, A2, A3, A4, D1, D2, D3, D4, Tone
      - A2 to select desired setting
  - Sum With
    - A1, A2, A3, A4, D1, D2, D3, D4, Tone
      - A3 to select desired setting

{Configuration}
- **Delay Setup**
  - CHANNEL
    - All, A1, A2, A3, A4, D1, D2, D3, D4 (A1 to select desired setting)
  - Tracking
    - Internal, None, Ext TTL1, Ext TTL2 (A2 to select desired setting)
  - Slew Rate
    - Slow, Medium, Fast (A3 to select desired setting)
  - Offset (A4 to change value)
- **Embedding**
  - Embed to Group
    - Group1, 2, 3, 4, None (A1 to select desired setting)
- **Headroom**
  - Analog 1 (A1 to change value)
  - Analog 2 (A2 to change value)
  - Analog 3 (A3 to change value)
  - Analog 4 (A4 to change value)
- **Test Tone Config**
  - CHANNEL
    - A1, A2, A3, A4, D1, D2, D3, D4 (A1 to select desired channel)
  - Frequency (A2 to change value)
  - Level (A3 to change value)
- **AES Config**
  - Output Sample Rate
    - 32, 44.1, 48, 96 kHz (A1 to select desired setting)
  - Output Word Length
    - 16, 20, 24 bits (A1 to select desired setting)
  - Output Sample Ref
    - AES Blk, Video (A1 to desired setting)

IN THE EVENT OF TROUBLE

If you have any problems with or questions about your QuStream A2HD516 video 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*

Part No. 81-9059-0647-0 Rev. B