DENSITÉ series

HMP-1801
High Definition Media Player
Guide to Installation and Operation

M864-9900-108
21 Mar 2012

Miranda
Technologies Inc.
3499 Douglas-B.-Floreani
St-Laurent, Québec, Canada H4S 1Y6
Tel. 514-333-1772
Fax. 514-333-9828
www.miranda.com

© 2012 Miranda Technologies Inc.

Electromagnetic Compatibility

This equipment has been tested for verification of compliance with FCC Part 15, Subpart B requirements for Class A digital devices.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been tested and found to comply with the requirements of the EMC directive 2004/108/CE:

- EN 55022 Class A radiated and conducted emissions
- EN 61000-3-2 Harmonic current injection
- EN 61000-3-3 Limitation of voltage changes, voltage fluctuations and flicker
- EN 61000-4-2 Electrostatic discharge immunity
- EN 61000-4-3 Radiated electromagnetic field immunity – radio frequencies
- EN 61000-4-4 Electrical fast transient immunity
- EN 61000-4-5 Surge immunity
- EN 61000-4-11 Voltage dips, short interruptions and voltage variations immunity

How to contact us:

For technical assistance, please contact the Miranda Technical support centre nearest you:

Americas
Telephone:
+1-800-224-7882
e-mail:
support@miranda.com

Asia
Telephone:
+852-2539-6987
e-mail:
asiatech@miranda.com

China
Telephone:
+86-10-5873-1814
e-mail:
asiatech@miranda.com

Europe, Middle East, Africa, UK
Telephone:
+44 118 952 3444
e-mail:
eurotech@miranda.com

France (only)
Telephone:
+33 (0) 1 55 86 87 88
e-mail:
eurotech@miranda.com

Visit our web site at www.miranda.com

Table of Contents

1 HMP-1801 High Definition Media Player 1
1.1 Introduction 1
1.2 Features 1
1.3 Block Diagram 2
1.4 Front Card-edge Interface 2
1.4.1 Compression Format 3
1.4.2 Flash Memory 3
1.4.3 Web Interface 4
1.5 Applications 4
1.5.1 Apology Clip or Full Screen Promo Playback 4
1.5.2 Animated Curtains into Up/Down/Cross ARC 4
1.5.3 Fill & Key 5
1.5.4 Direct Capture 5
1.5.5 Advanced Workflow Option 6
2 Installation 7
2.1 Installation of Rear Connector Panels 7
2.2 Card Installation 8
2.3 Installing Densité-2 Cards and Rear Modules in a Densité-3 Frame 8
2.4 Rear Connector Panels 10
2.4.1 Ethernet Port Configuration 10
2.4.2 GPI Connector 11
2.4.3 VDCP Connector 12
3 Operation 13
3.1 Control options 13
3.2 Card-Edge Status LED 13
3.2.1 Playback Mode 13
3.2.2 Record Mode 14
3.3 Local control using the Densité frame control panel 14
3.3.1 Overview 14
3.3.2 Menu for local control 15
3.4 Remote control using iControl 15
3.4.1 The iControl graphic interface window 15
3.4.2 The *Status* panel 18
3.4.3 The *Setting* panel 19
3.4.4 The *Playback* panel 25
3.4.5 The *Record* panel 28
3.4.6 The *Media Manager* panel 29
3.4.7 The *Reference* panel 29
3.4.8 The *Thumbnail* panel 31
3.4.9 The *RALM* panel 31
3.4.10 The *Factory / Presets* panel 33
3.4.11 The *Options* panel 33
3.4.12 The *Alarm Config* panel 35

3.4.13 The *Info* panel 38

4 Web Control Panel 40

4.1 Ingest and Configuration Utility 40
4.1.1 Playback 41
4.1.2 Record 43
4.1.3 Library 45
4.1.4 Jobs 56
4.1.5 Backup 60
4.1.6 Refresh All 61
4.1.7 Online / Offline 62
4.2 Firmware Upgrade 62
4.2.1 Using the Miranda Interface Updater (MIU) 62
4.2.2 Using the HMP-1801 webpage 63

5 Specifications 65

ANNEX 1 – HMP-1801 User Interface (local menu structure) 67

A) HMP-1801 in PLAYBACK mode 67
B) HMP-1801 in RECORD mode 69

ANNEX 2 – VDCP Commands Supported by HMP-1801 71

ANNEX 2 – VDCP Commands Supported by HMP-1801 71

System Commands 71
Immediate Commands 71
Preset / Select Commands 72
Sense Requests 73
Deferred (Time Line) Commands 73
Macro Commands 73

1 HMP-1801 High Definition Media Player

1.1 Introduction

The Densité HMP-1801 module is a solid-state video clip server that can playback or record HD and SD video sequences or stills. The HMP is ideal for frequently used full screen promos or for always available animated apology sequences. The HMP-1801 can also be used to add animated side panels when performing aspect ratio conversion using the Miranda XVP-1801 Up, Down, Cross and aspect ratio converter.

Clip selection and playback can be controlled manually with GPI contacts or using the VDCP protocol. Clips can also be controlled with iControl and created or edited using a dedicated web interface.

The HMP-1801 relies on widely-available low-cost Flash Memory (Compact Flash) for media storage and makes no use of moving mechanical parts for maximum long-term reliability and fast access times. JPEG2000 Video compression is used to maximize storage space while preserving broadcast quality. Content can be transferred to the card via the card's dedicated 10/100Mbit Ethernet media transfer port.

The card can be genlocked using SD or HD reference signals or run on its own timebase-accurate oscillator. Multiple cards installed in the same frame can be locked to an in-frame reference generated by the optional REF-1801 card.

1.2 Features

- Capture and playback of video, audio and ANC, such as closed captioning, timecode, AFD, Name dropper and Dolby E metadata
- Playback of a single clip or a sequence of clips (called a "clip list")
- Supports SD and HD 525, 625, 1080i and 720p @ 50 and 59.94 Hz frame rates
- Uses low-cost Compact Flash memory cards for media storage
- Reference input with loop-through capability (loop-through available only on DRP rear module)
- Dedicated 10/100 Ethernet port for Media access and upload
- Dual HD/SD-SDI Outputs (2nd output only available on DRP and 2OUT-3SRP rear modules)
- Easy control & monitoring with iControl including Thumbnail for output confidence
- Support for 6 GPI In and 6 GPI out
- Built-in Web Server for configuration and file management.
- Import .wav audio files at 48KHz only
- 16, 20 and 24 bit resolution supported, plus 32 bit for TGA only
- Supports multiple mono files (up to eight channels) or a single multi-channel file. Groups 1-4 are supported, with individual mute for each channel
- Supports a useful subset of VDCP commands
- Supports video key generation using 2nd output on DRP and 2OUT-3SRP rear modules only

1.3 Block Diagram

This block diagram shows the functionality of the HMP-1801.

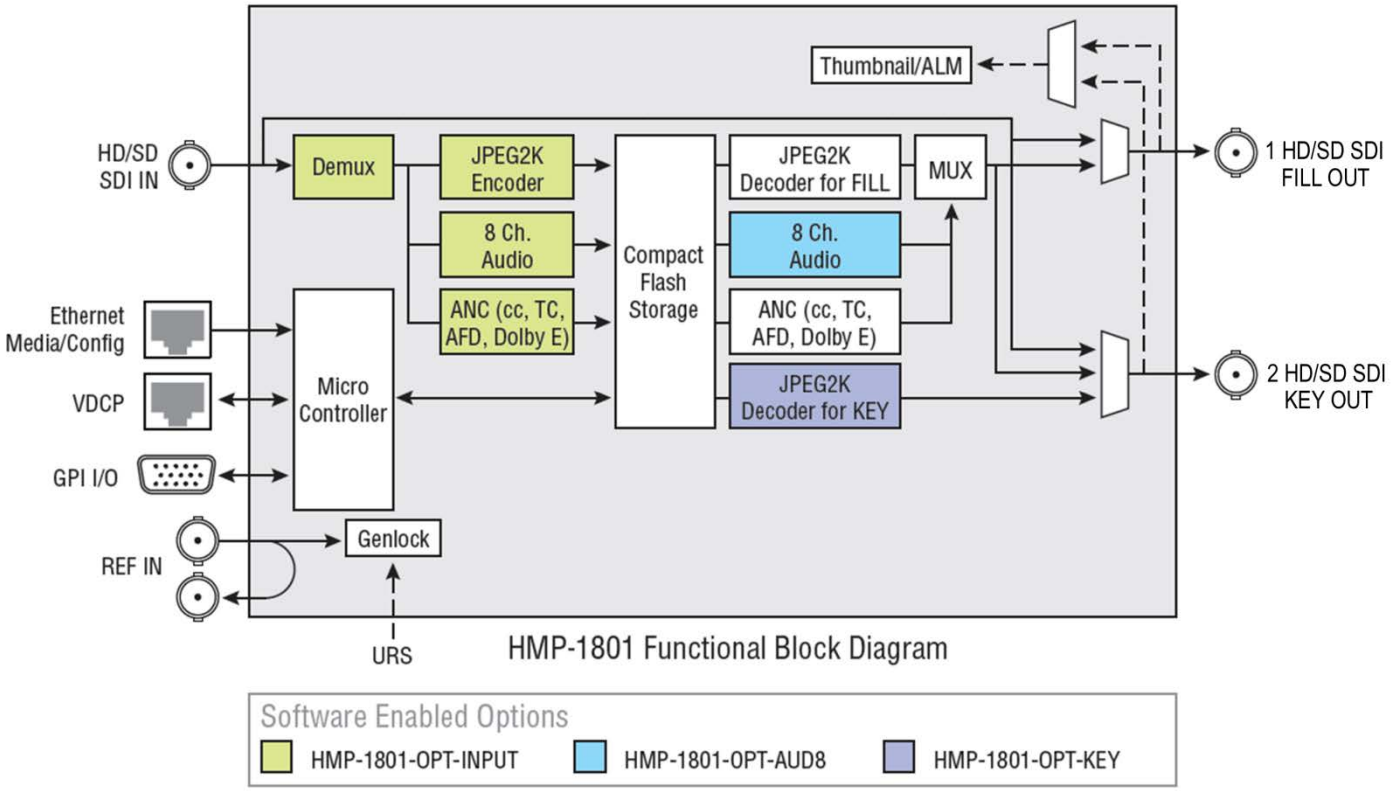


Figure 1.1 *Functional block diagram of the HMP-1801*

1.4 Front Card-edge Interface

The front card-edge of the HMP-1801 incorporates four elements:

- Status LED (see section 3.2)
- Select Button (see section 3.3)
- Compact Flash status indicator
- Ethernet Status indicator

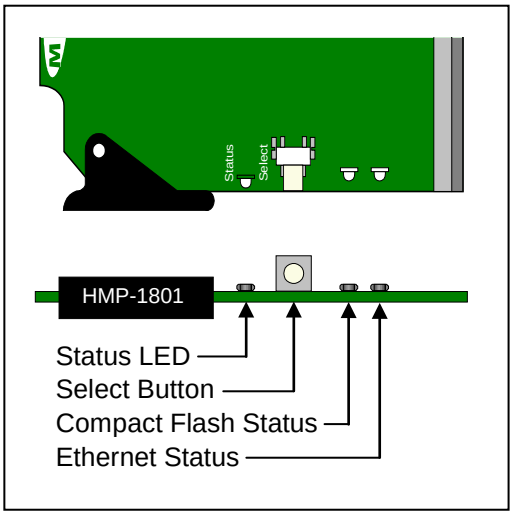


Figure 1.2 *Front card-edge layout*

1.4.1 Compression Format

The HMP-1801 utilizes the JPEG2000 compression algorithm for high-quality video. This technique uses wavelet transforms rather than the discrete cosine transforms used for JPEG and MPEG compression. JPEG2000 does not use temporal or interframe compression. Each frame is processed individually.

The artifacts of JPEG2000 encoding are less visible than those of conventional MPEG, appearing as a gradual blurring or smoothing of the image rather than the blocking or mosquito noise encountered in MPEG images, and JPEG2000 supports mode encode/decode cycles than other formats. Furthermore, the images can undergo a higher compression before artifacts appear. The HMP-1801 import tool will encode video at 100Mbps for HD video and 25Mbps for SD contents.

The HMP-1801 allows the export and import of compressed data files, and it is convenient to use this approach when exchanging video essences between cards. The HMP-1801 can import these file formats:

- Sequence or still BMP
- Sequence or still JPG
- Sequence or still 24 bit TGA without alpha channel
- Sequence or still 32 bit TGA with alpha channel
- Morgan MJ2K compressed AVI
- QuickTime file with Advanced workflow option

Note: The HMP-1801 will output the original content without applying any filters. It is the responsibility of the artist to generate a video sequence that is compliant with the SMPTE standards

1.4.2 Flash Memory

Video essences and clip definitions are stored in Compact Flash memory on board the HMP-1801 card. The memory card is removable, and is physically located as shown in the diagram below. .

- Since the memory card is not formatted as a standard Windows device, it cannot be replaced by an off-the-shelf card

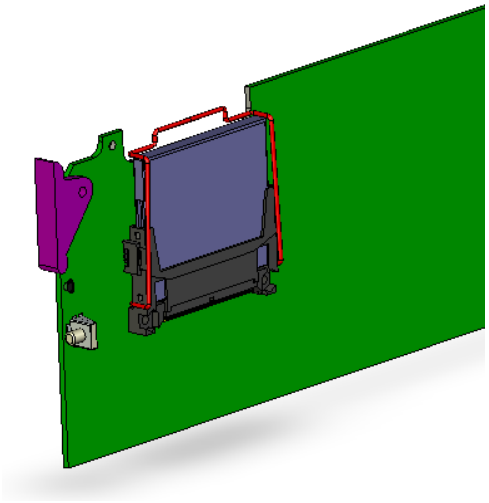


Figure 1.3 *Location of Flash Memory Card*

1.4.3 Web Interface

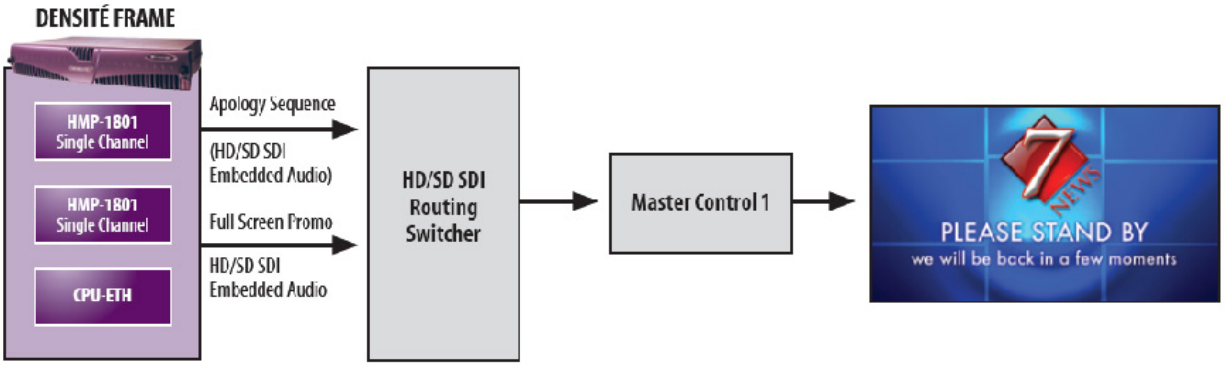
The HMP-1801 incorporates its own ethernet interface, independent from the Densité frame's interface. This independent interface is used to load data, configure and manage clips and upgrade card's firmware.

- This interface is described in detail in Section 4.

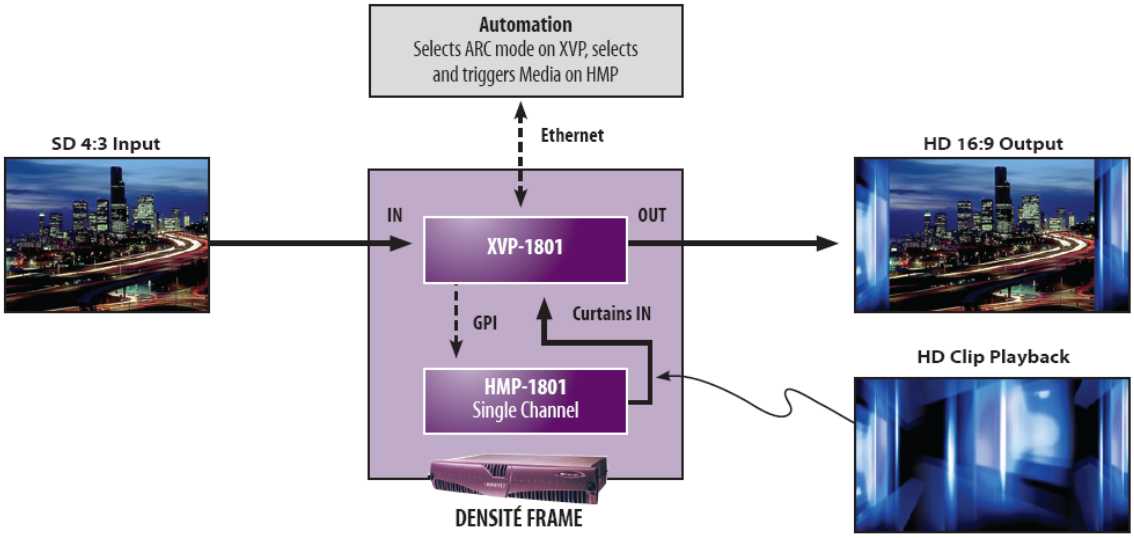
1.5 Applications

The following diagrams show some typical applications for the HMP-1801.

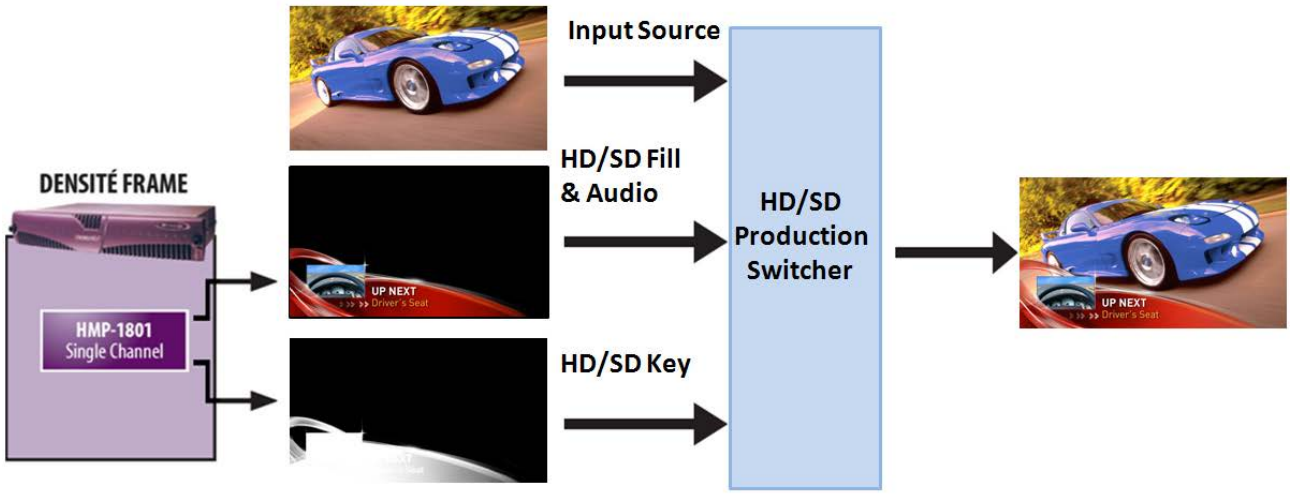
1.5.1 Apology Clip or Full Screen Promo Playback



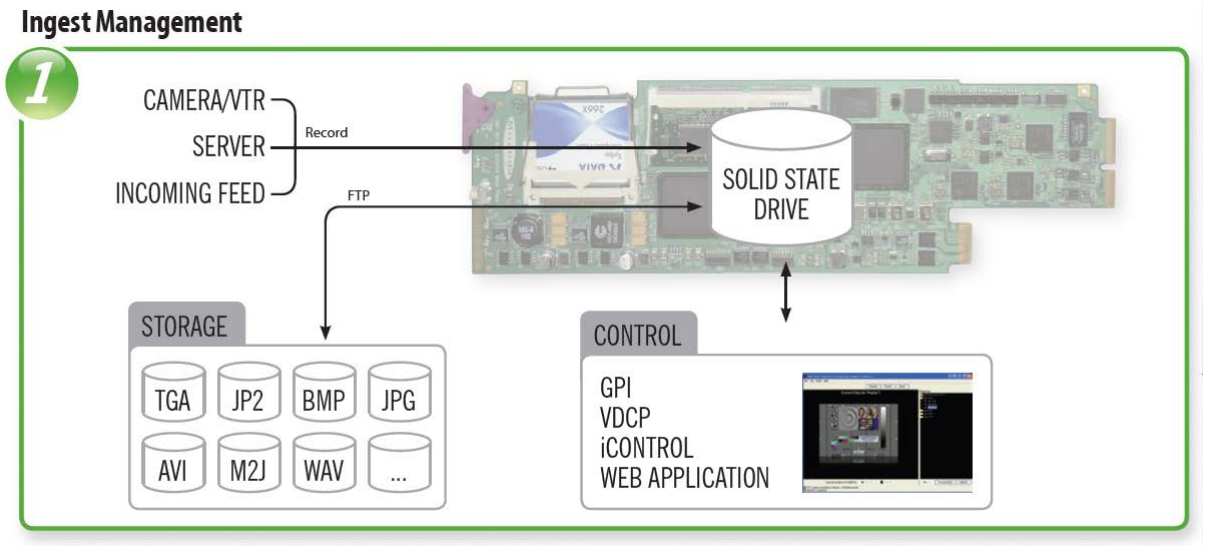
1.5.2 Animated Curtains into Up/Down/Cross ARC



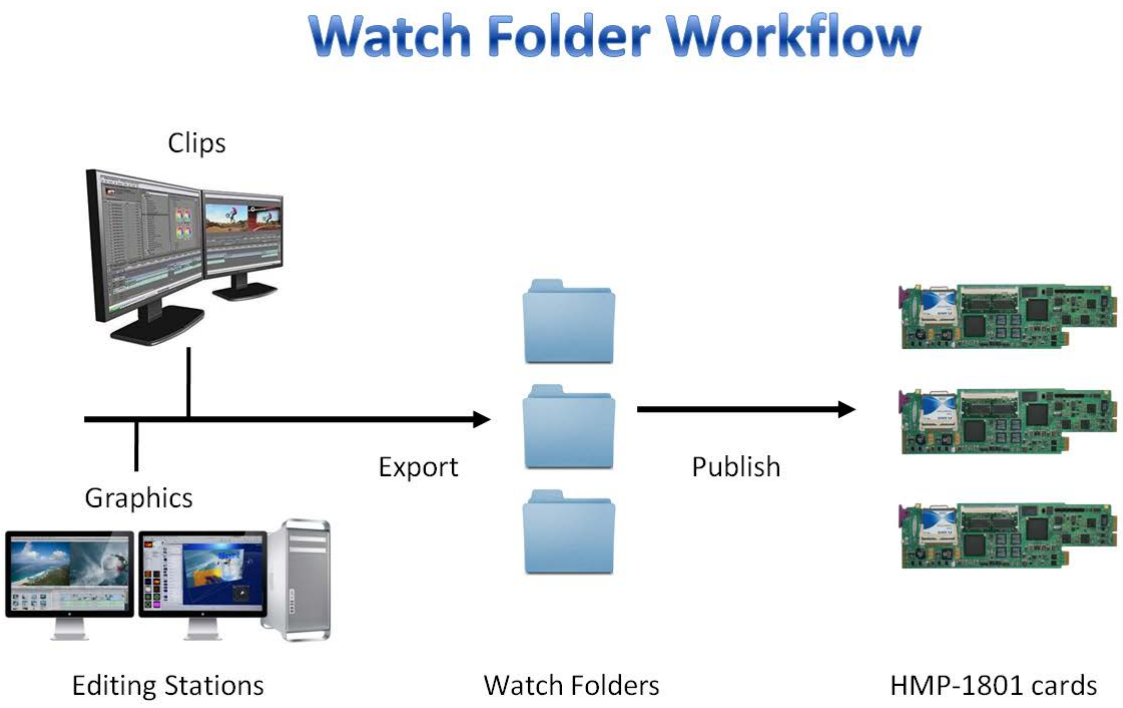
1.5.3 Fill & Key



1.5.4 Direct Capture



1.5.5 Advanced Workflow Option



2 Installation

2.1 Installation of Rear Connector Panels

Miranda Densité-series cards are each associated with a rear connector panel, which must be installed in the Densité frame before the card can be inserted.

The HMP-1801 card is sized to fit into Miranda's Densité-2 frame. One rear connector panel is available to fit the Densité 2 frame:

- HMP-1801-DRP

With the use of an available adapter, the HMP-1801 can be installed in a Densité-3 frame (see section 2.3 below). Two different rear connector panels for the HMP-1801 are available for this frame:

- HMP-1801-3SRP
- HMP-1801-2OUT-3SRP

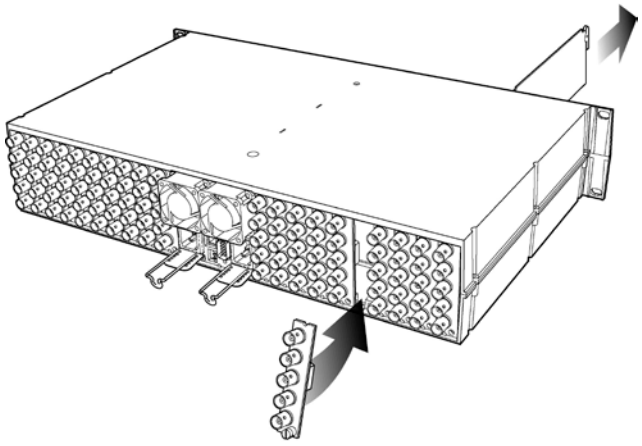
The Densité-2 rear panel can also be used in a Densité-3 frame, with the addition of an available adapter:

- HMP-1801-DRP + DENSITE DRP-3RU

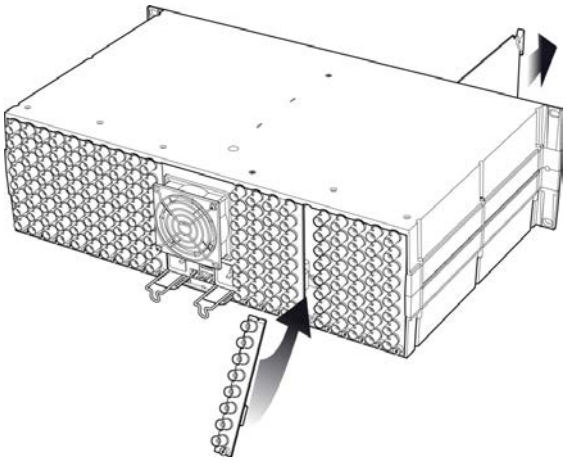
All cards and rear panels can be installed with the frame power on. The card has connectors which plug into a mid-frame mother board for distribution of power and for connection to the controller card, and a second connector which plugs directly into the rear connector panel for input and output.

The rear connector panel must be installed with the card out of the frame.

- To remove an existing card from the slot, tilt up the swivel handle on the front of the card to lever the connectors apart, then use the handle to pull the card straight out of the slot.



Densité-2 frame – rear panel installation



Densité-3 frame – rear panel installation

To install the connector panel:

(NOTE - if you are installing a Densité-2 rear panel plus adapter in a Densité-3 frame, please go to section 2.3)

1. If a card is installed in the slot whose rear panel is being changed, remove it as described above.

2. Remove the existing panel (either blank or belonging to an existing card that is being changed) by releasing the captive screw(s) at the bottom.

3. Position the new panel and secure it in place with the captive screw(s) at the bottom.

2.2 Card Installation

Once a matching rear connector panel has been installed, install the HMP-1801 card as follows:

1. Open the front panel of the frame.

2. Slide the HMP-1801 card into the slot and push gently on the handle to seat the connectors.
   - If the card is used with the HMP-1801-DRP double-width rear panel, it should be inserted into the right-hand slot. Inserting the card into the wrong slot will not damage the card, and will be flagged by the on-card status LED flashing red to indicate that there is no connection to the rear panel.

3. Close the front panel of the frame.

2.3 Installing Densité-2 Cards and Rear Modules in a Densité-3 Frame

The Densité-3 frame supports many Miranda Densité-2 series cards, including the HMP-1801. Should you wish to install the HMP-1801 card in your Densité-3 frame, you will need an adapter for the card. You may use one of the two 3 RU rear panels that are available for the HMP-1801 (HMP-1801-3SRP or HMP-1801-2OUT-3SRP), or you may use the 2 RU rear panel (HMP-1801-DRP). In the latter case, an adapter will also be required for the rear panel, as described above. These adapters extend the height of the Densité-2 devices so that they will fit into the slots of the 3 RU Densité-3 frame.

Card adapters:

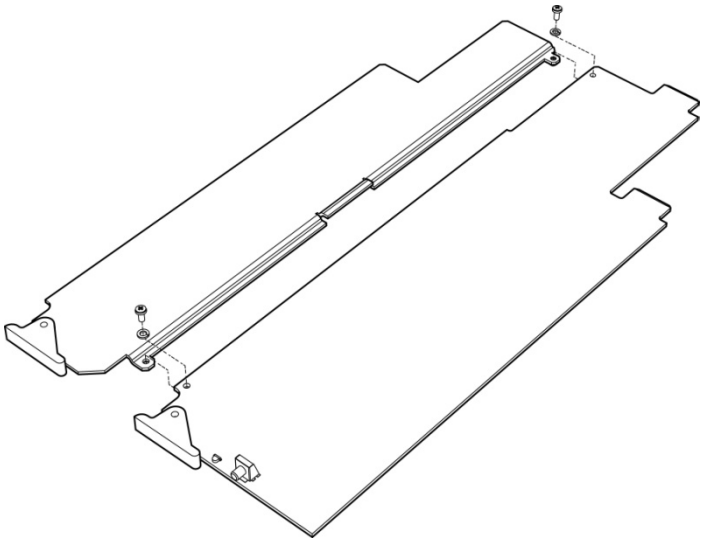
There are 3 different types of adapter available, depending on the Densité 2 card geometry, so be sure to order the adapter designed to fit the HMP-1801 card.

Densité 3 – EXT A

Install the adapter on the HMP-1801 as follows:

1. Fit the top edge of the card into the holding slot along the bottom edge of the adapter.

2. Align the holes in the top of the card with the holes on the adapter, and secure them together with the two provided screws and lock washers, as shown in the figure.



Rear adapters:

A 3-RU rear module adapter is available for double-slot-width Densité-2 rear panels:

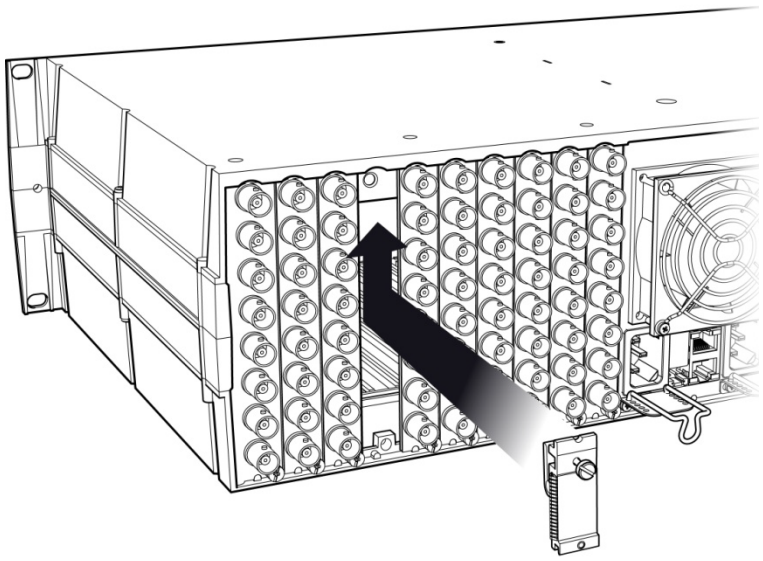
- DENSITE DRP-3RU

Install it as follows:

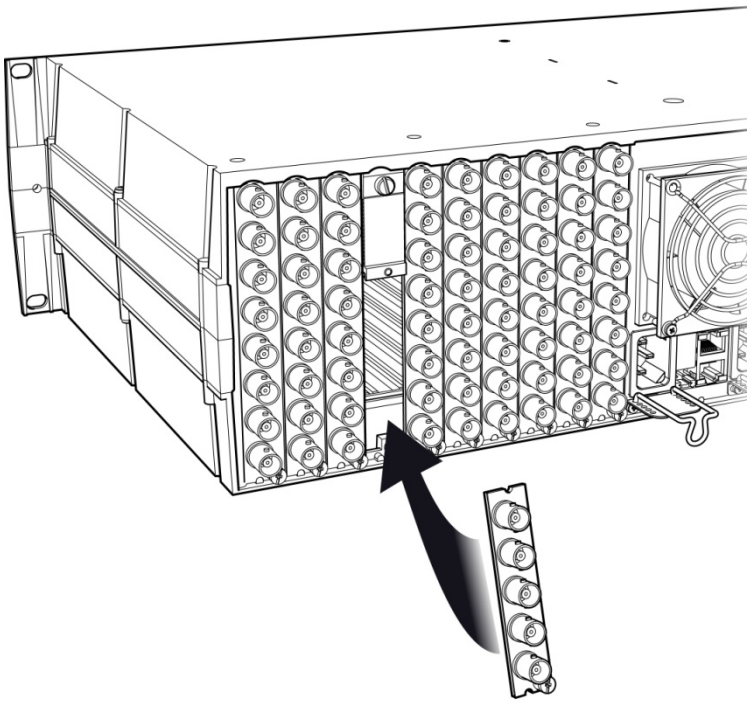
1. Position the adapter at the top of the empty slots on the rear of the frame.

2. Use the captive screw in the adapter to fasten it securely in position.

(the figures show a single-width adapter and rear panel, but the installation procedure is identical)



3. Slip the top of the 2RU rear panel into the slot at the bottom of the adapter, and secure it to the frame using the captive screw at the bottom of the panel.



2.4 Rear Connector Panels

The HMP-1801 requires a dual-slot rear in the Densité 2 frame, and a single-slot or dual-slot rear in the Densité 3 frame:

DRP (2RU)

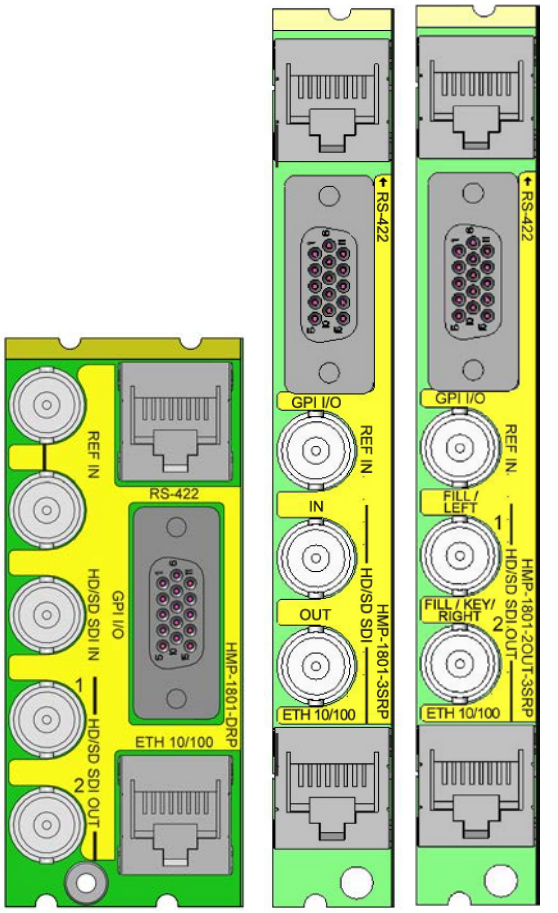
- One reference input and one loop
- One video input for video recording
- Two video outputs
- One HD15 connector for GPI I/O lines (6 in / 6 out) (Miranda's NSH-15M wiring terminal adapter can be used to connect the GPI lines to this connector)
- One RJ-45 for media transfer over Ethernet
- One RJ-45 (RS422) for control over VDCP protocol

3SRP (3RU)

- One reference input
- One video input for video recording
- One video outputs
- One HD15 connector for GPI I/O lines (6 in / 6 out)
- One RJ-45 for media transfer over Ethernet
- One RJ-45 (RS422) for control over VDCP protocol

2OUT-3SRP (3RU)

- One reference input
- Two video outputs
- One HD15 connector for GPI I/O lines (6 in / 6 out)
- One RJ-45 for media transfer over Ethernet
- One RJ-45 (RS422) for control over VDCP protocol



DRP (Densité 2) 3SRP (Densité 3) 2OUT-3SRP (Densité 3)

Figure 2.1 *Rear Panel Connectors*

With the double-width rear panel installed in a Densité-2 frame, the HMP-1801 must be installed in the right-most of the two slots covered by the panel in order to mate with the panel's connectors.

If it is placed in the wrong slot, the front panel LED will flash red. Move the card to other slot for correct operation. No damage will result to the card if this occurs.

2.4.1 Ethernet Port Configuration

The ethernet port must be configured before it can be used to download media into the HMP-1801.

- Using iControl: See section 3.4.3.1 for instructions.
- Using the local control panel: See section 3.3 for instructions and use the menu found in the Annex on page 67.

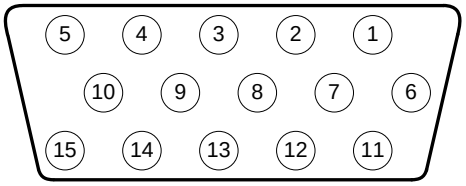
In order to communicate with the HMP-1801, the following network ports should be opened:

- HTTP: 80
- FTP: 20 and 21
- Control: 5200 and 5201

2.4.2 GPI Connector

The HD-15 GPI connector carries 6 GPI IN and 6 GPI OUT lines. The pinout of the GPI connector is:

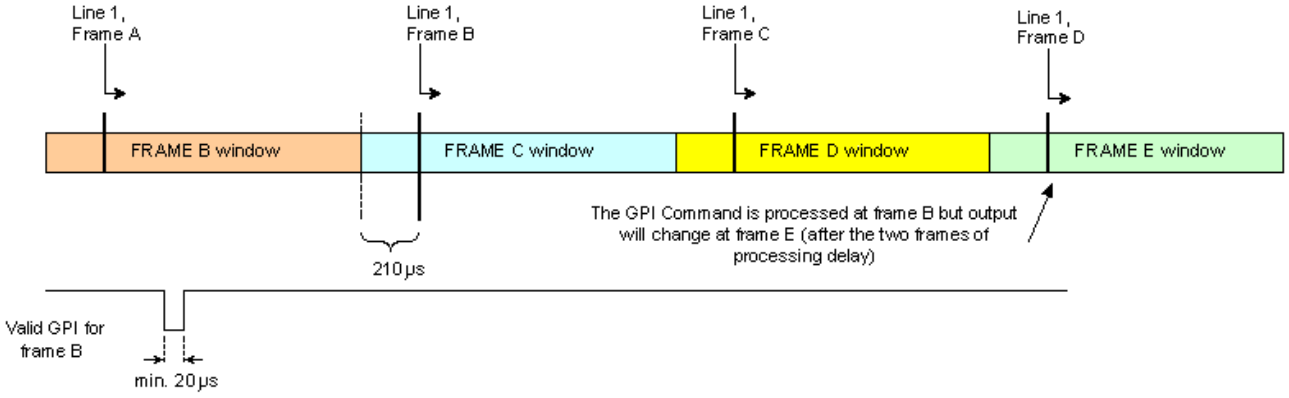
Pin	Function
1	GPI-IN 2
2	GPI-IN 5
3	GND
4	GPI-OUT 2
5	GPI-OUT 5
6	GPI-IN 1
7	GPI-IN 4
8	GND
9	GPI-OUT 1
10	GPI-OUT 4
11	GPI-IN 3
12	GPI-IN 6
13	GND
14	GPI-OUT 3
15	GPI-OUT 6



Note: *Miranda's NSH-15M wiring terminal adapter can be used to connect the GPI lines to this connector*

The GPI IN lines are control lines, whose function is assigned via the GPI I/O Config panel in an iControl environment (see Section 3.4.3.7), or via the Densité frame control panel using the menu shown in the Annex on page 67.

- The window to accept a GPI command for the next frame starts at line 1 of the current frame, and ends 210 µs before the start of line 1 of the next frame
- To be considered as valid, a GPI must stay low for at least 20 µs

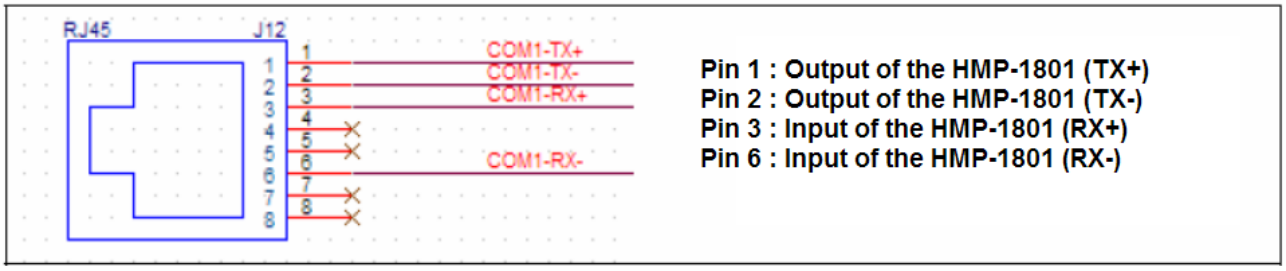


The GPI OUT lines are tallies for their corresponding inputs, and are only activated once the command has been successfully executed.

2.4.3 VDCP Connector

The HMP-1801 can interface to a remote recorder using the VDCP protocol via the RS-422 port on the rear panel.

This interface is implemented on an RJ45 connector to save space.



The HMP-1801 supports a subset of the VDCP protocol. A detailed description of the supported commands is contained in Appendix 2 to this document, beginning on page 71.

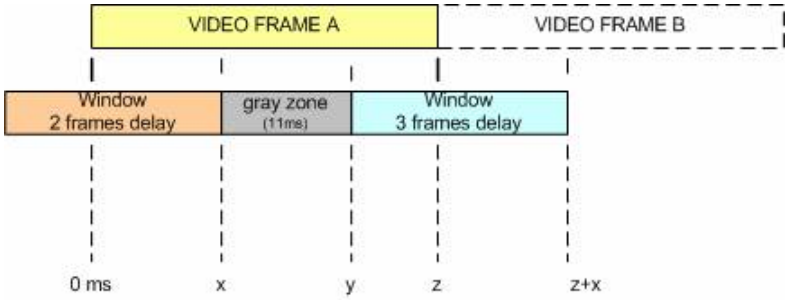
The VDCP response delay of the HMP-1801 is not constant. Particular attention was paid to the “immediate commands” where it is necessary to respond within a frame.

A window of validity has been defined where the response time is constant and guaranteed. The chart and diagram following illustrate the concept and show the timing for various video formats.

- For VDCP, the 11 ms gray zone, where the processing time may be either 2 or 3 frames, is to be avoided.

FORMAT	Acceptance Zone	Windows FPGA
525	10 ms	21 ms
625	17 ms	28 ms
1080i59.94	10 ms	21 ms
1080i50	17 ms	28 ms
*720p59.94	4 ms	15 ms
720p50	6 ms	17 ms

*720p59.94 is the worst case



FORMAT	x (ms)	y (ms)	z (ms)
525	10	21	33
625	17	28	40
1080i59.94	10	21	33
1080i50	17	28	40
720p59.94	4	15	16
720p50	6	17	20

3 Operation

3.1 Control options

The HMP-1801 can be controlled in five different ways:

- The local control panel and its push-buttons can be used to move through a menu of parameters and to adjust parameter values (see section 3.3).
- Miranda's iControl system can be used to access the card's operating parameters from a remote computer, using a convenient graphical user interface (GUI). (see section 3.4)
- The loading and management of program content is handled via a dedicated web interface (Java-based Applet), accessed through a dedicated ethernet port (see section 4).
- A GPI interface allows remote cue/play/stop/pause control (see sections 2.3.2 and 3.4.3.7).
- VDCP Interface (RS-422) (see section 2.3.3)

3.2 Card-Edge Status LED

The status monitor LED is located on the front card-edge of the HMP-1801, and is visible through the front access door of the DENSITÉ frame. This multi-color LED indicates the status of the HMP-1801 by color, and by flashing/steady illumination.

The chart shows how the various error conditions that can be flagged on the HMP-1801 affect the LED status.

- If a cell is gray, the error condition cannot cause the LED to assume that status
- If more than one LED status is possible for a particular error condition, the status is configurable. See Section 3.4.12 for details.
- The factory default status is shown by a ✪

The LED will always show the most severe detected error status that it is configured to display, and in the chart error severity increases from left to right, with green representing no error/disabled, and flashing red the most severe error.

3.2.1 Playback Mode

	LED Status			
Error Condition	Green	Yellow	Red	Flashing Red
No errors	✪			
No ref			✪	
Ref mismatch			✪	
Lock on the internal reference		✪		
Hardware Failure / No Rear				✪

3.2.2 Record Mode

Error Condition	LED Status			
	Green	Yellow	Red	Flashing Red
No errors	✪			
No Input			✪	
Memory Low		✪		
Out of Memory			✪	
Hardware Failure / No Rear				✪

If the LED is Flashing Yellow, it means that the card is selected for local control using the Densité frame's control panel. See Section 3.3 for details.

3.3 Local control using the Densité frame control panel

3.3.1 Overview

Push the SELECT button on the HMP-1801 card edge (see Section 1.4) to assign the local control panel to operate the HMP-1801. Use the control panel buttons to navigate through the menu, as described below.

All of the cards installed in a Densité frame are connected to the frame's controller card, which handles all interaction between the cards and the outside world. There are no operating controls located on the cards themselves. The controller supports remote operation via its Ethernet ports, and local operation using its integrated control panel.

The local control panel is fastened to the controller card by a hinged connector, and when installed is located in the front center of the frame, positioned in front of the power supplies. The panel consists of a display unit capable of displaying two lines of text, each 16 characters in length, and five pushbuttons.

The panel is assigned to operate any card in the frame by pushing the SELECT button on the front edge of that card.

- Pushing the CONTROLLER button on the control panel selects the Controller card itself.
- The STATUS LED on the selected card flashes yellow.

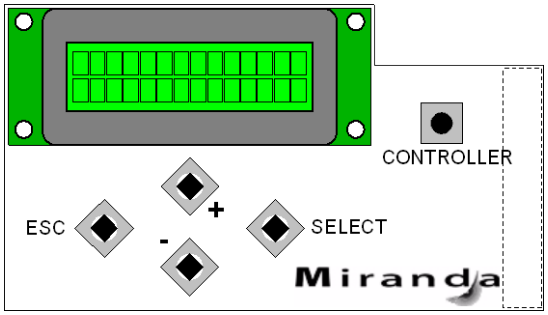


Figure 3.1 *Densité Frame local control panel*

The local control panel displays a menu that can be navigated using the four pushbuttons located beneath the display. The functionality of the pushbuttons is as follows:

[+] [–] Used for menu navigation and value modification

[SELECT] Gives access to the next menu level. When a parameter value is shown, pushing this button once enables modification of the value using the [+] and [–] buttons; a second push confirms the new value

[ESC] Cancels the effect of parameter value changes that have not been confirmed; pushing [ESC] causes the parameter to revert to its former value.

Pushing [ESC] moves the user back up to the previous menu level. At the main menu, [ESC] does *not* exit the menu system. To exit, re-push the [SELECT] button for the card being controlled.

If no controls are operated for 30 seconds, the controller reverts to its normal standby status, and the selected card's STATUS LED reverts to its normal operating mode. If a parameter was changed on the card but not submitted (SELECT was not pressed) and the 30 second timeout occurs, the parameters will be confirmed as if the SELECT key had been pressed.

3.3.2 Menu for local control

The HMP-1801 has operating parameters which may be adjusted locally at the controller card interface.

- Press the SELECT button on the HMP-1801 front card edge to assign the Densité frame's local control panel to the HMP-1801
- Use the keys on the local control panel to step through the displayed menu to configure and adjust the HMP-1801.

The complete menu structure is shown in the Annex to this document, beginning on page 67.

3.4 Remote control using iControl

The operation of the HMP-1801 may be controlled using Miranda's iControl system.

- This manual describes the control panels associated with the HMP-1801 and their use.
- Please consult the iControl User's Guide for information about setting up and operating iControl.

In iControl Navigator or iControl Websites, double-click on the HMP-1801 icon to open the control panel.

3.4.1 The iControl graphic interface window

The basic window structure for the HMP-1801 is shown in figure 3.2.

The window identification line gives the card type (*HMP-1801 in this example*) and the slot number where the card installed in its Densité frame.

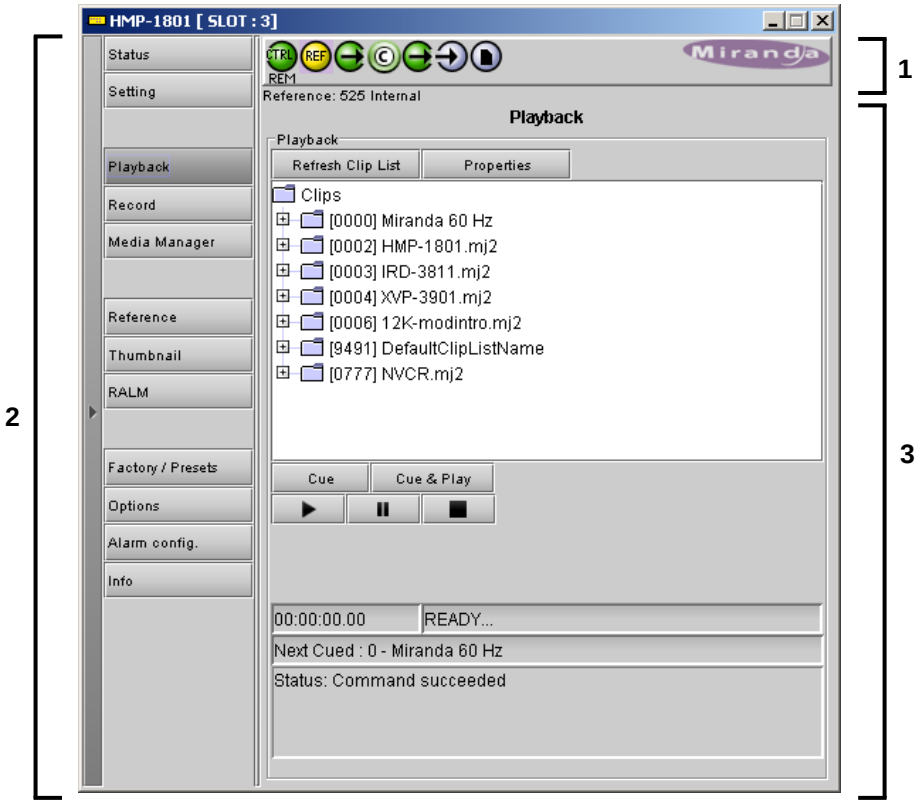


Figure 3.2 *The iControl interface for the HMP-1801*

There are three main sections in the window itself, identified in figure 3.2:

1. The Status Icon area shows a series of seven icons that report the status of some card parameters. The meaning of the various forms that may appear is as follows:

Icon 1 – Control status

Green – Remote Control via iControl

Yellow – Local control at the Densité frame using the menu

Icon 2 – Reference status

Green – Playback mode – Locked to external reference

Red – Playback mode – card is configured in external reference mode but no external reference is detected

Yellow – Playback mode – card is configured in internal reference mode

Gray – Reference DISABLED – HMP-1801 is in Record mode

Icon 3 – Output 1 reference mismatch

Green – OK (no mismatch)

Red – mismatch detected in playback mode

Gray – DISABLED – HMP-1801 is in the Record mode

Icon 4 – Record / Playback status

Green – Clip playing

Green – Stopped

Green – Clip cued

Green – Clip paused

Green – Card recording

Yellow – Card Post-processing

Icon 5 – Output Format

Green – Output OK – mouse-over to see the format in the message area

Gray – card is in the Record mode; input signal appears on the output

Icon 6 – Input Format

Green – valid signal detected at input

Red – no signal detected at input

Gray – card is in the Playback mode and input is disabled

Icon 7 – Memory Level

Green – Sufficient memory space available

Red – Memory low - available space less than error threshold

Gray – card is in the Playback mode and this function is disabled

Move the mouse over an icon and a status message appears below the icon providing additional information. If there is an error, the error status message appears in the message area without mouse-over.

- If there are multiple errors, the error messages cycle so all can be seen
- The icon whose status or error message is shown is highlighted with a mauve background

2. The left-hand side of the panel contains a series of buttons that control the contents of the main window (i.e. section 3). Click on one to access the indicated controls. The selected button is highlighted (darker) and the main panel heading matches the button name.

3. This section contains the main operating controls and displays for managing the HMP-1801's feature set. The contents are selected by clicking one of the buttons on the left-hand side of the screen.

The left side of the window, containing section 2, can be hidden or revealed by clicking the arrow icon at the center of the left side border.

Each of the panels associated with the groups accessed from the buttons in Section 2, and shown in Section 3, is described individually below.

3.4.2 The *Status* panel

Ethernet tab

The data box reports on the current status of the rear-panel ethernet port.

This is set in the General/Network tab of the Settings Panel (see section 3.4.3).

- If a fixed status is set there, it will be reported here
- If the “Auto negotiate” option is chosen there, then look here to see the actual status

Figure 3.3 *Status – Ethernet panel*

Hardware tab

This tab reports on various aspects of the performance of the HMP-1801 hardware

The upper section reports on usage of the CPU and the compact flash media.

- Click the *Refresh CPU Status* button to update the reported values.

The lower portion reports the size of RAM and Compact Flash memory installed in the HMP-1801.

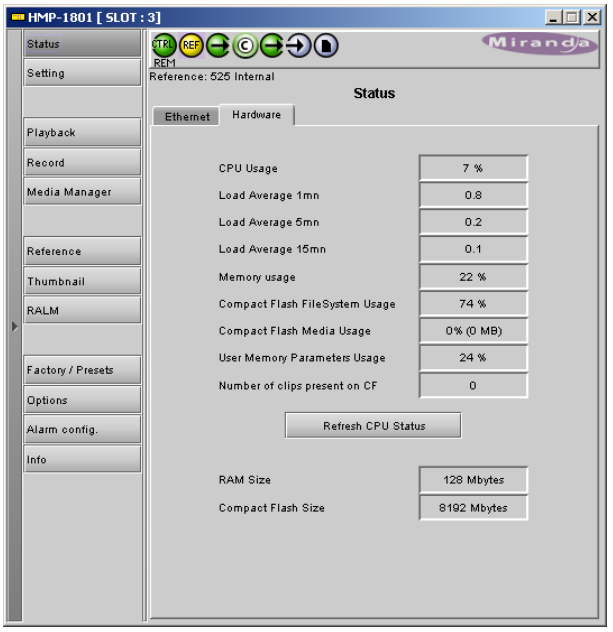


Figure 3.4 *Status - Hardware panel*

3.4.3 The *Setting* panel

This panel has three primary tabs:

(1) General, dealing with network configuration and storage

(2) Playback
(3) Record
} only one of these will be active, corresponding to the current operating mode of the card as set in the Playback and Record panels (sections 3.4.3.3 and 3.4.3.8 respectively)

3.4.3.1 The General / Network tab

This panel is used to set the network configuration for the rear-panel ethernet port on the HMP-1801.

- The settings on this panel do not affect the Densité frame's ethernet port. The settings for that port are configured through the frame's controller card.

Figure 3.5 *Settings – General/Network tab*

Hostname

The data box shows the current hostname for this HMP-1801 card

- To change the hostname, type a new name into the data box
- Click the *Apply Hostname* button to install the new hostname
- Click the *Cancel* button to leave the old hostname unchanged

IP Address / Mask / Gateway

The three data boxes show the IP address, subnet mask and gateway for the rear-panel ethernet port.

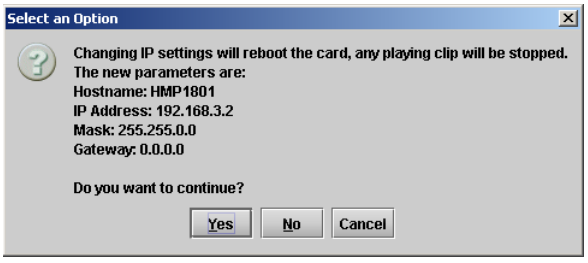
- To change any of these values, type a new address directly into the data box
- Consult with your network manager if necessary to obtain the appropriate addresses within your LAN.
- Click the *Apply* button to install the new addresses. The card will automatically reboot with the chosen parameters. The IControl panel will disappear on reboot and you'll need to re-open it.
- Click the *Cancel* button to leave the old addresses unchanged

Reset IP Configuration to Factory Default

Click this button to initiate an IP configuration reset.

Resetting the IP Configuration will reboot the card, and any clip that is playing will be stopped

- A confirmation screen will open reminding you of the consequences of changing the IP settings, listing the default settings that will be applied, and asking if you want to continue.



- Select the appropriate option in the confirmation screen. The IControl panel will disappear on reboot and you'll need to reopen it.

ETH Speed Duplex

Options: Auto negotiate, 100 BASE-TX FD, 100 BASE-TX HD, 10 BASE-T FD, 10 BASE-T HD

3.4.3.2 The General / Storage tab

Use the slider in this tab to set the memory level threshold.

This is the threshold at which the card will flag a ***memory low*** error.

Figure 3.6 *Settings - General / Storage tab*

3.4.3.3 The General / Protocol tab

Use the pulldown to select the protocol.

Choices:

- Oxtel
- VDCP

(note: available only for firmware versions 5.1.0 and up)

Figure 3.7 *Settings - General / Protocol tab*

3.4.3.4 The Setting / *Playback* tab

The Playback tab in the settings panel is only available when the HMP-1801 is in the *Playback* mode

- When the HMP-1801 is in the *Record* mode, this tab will be gray and non-functional
- To change over to *Playback* mode when in *Record* mode, open the Playback panel and click the Enable Playback button (see section 3.4.4)

When enabled, the Playback tab displays four sub-tabs, which are described below:

- Playback / Video
- Playback / Audio (requires Audio option)
- Playback / ANC
- Playback / GPI

Figure 3.8 *Setting / Playback / Video tab*

3.4.3.5 The *Playback / Video* tab

Default Clip – use the pulldown to select the default clip – the clip that will be loaded by default whenever no other clip is selected or the system is reset, etc.

Output Config – set the configuration of Output #2

- **Auto:** Output 2 will be the Key output when Fill/Key mode is active, or the right eye when stereoscopic playback is active
- **Copy of Output #1:** Always, even when Fill/Key mode is activated.

3.4.3.6 The *Playback / Audio* tab

The HMP-1801 allows the playback of up to 8 audio channels. This panel allows the user to enable and assign the audio file to the output audio channels.

- Audio option required

Audio Input channels: The channels from the audio file during the playback.

Destination audio Channels: The output of HD/SD SDI embedded audio channels

- Use the checkboxes in the matrix to assign inputs to outputs.
- Use the *En* checkboxes to enable output groups

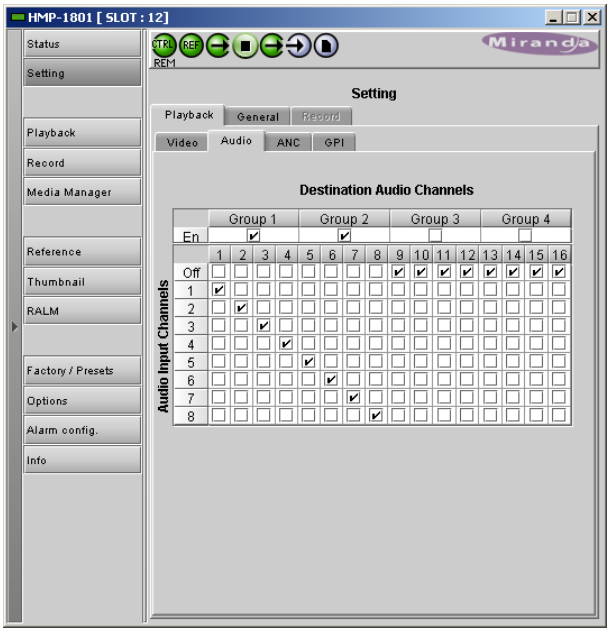


Figure 3.9 *Setting / Playback / Audio tab*

3.4.3.7 The *Playback / ANC* tab

AFD – Insertion – control AFD insertion into the output data stream:

- Auto: pass an existing AFD, and insert a user-defined AFD when the input has no AFD
- Fixed: insert a user-defined AFD at all times
- OFF: the output will have no AFD

Figure 3.10 *Setting / Playback / ANC tab*

AFD – Line Insert – select the line into which the AFD will be inserted at the HMP-1801 output when AFD Insertion is AUTO or FIXED, for each of the six indicated signal formats:

SD525	SD625
1080i59	1080i50
720p59	720p50

Note: *in Fill and Key mode, the AFD associated with the Fill essence will be inserted into both Fill and Key outputs.*

Time Code – Insertion – turn time code insertion into the output data stream ON or OFF

Time Code – Line Insert – select the line into which the time code will be inserted at the HMP-1801 output when Time Code Insertion is ON, for each of the six indicated signal formats:

SD525	SD625
1080i59	1080i50
720p59	720p50

Time Code – Duplication (available in SD only) – Insert a second copy of the timecode into the signal, nominally two lines later. This makes detection of the analog time code signal more reliable.
Closed Caption – Insertion – turn closed Caption insertion into the output data stream ON or OFF

Dolby Metadata – Insertion – turn Dolby metadata insertion into the output data stream ON or OFF

Dolby Metadata – Line Insert – select the line into which the Dolby Metadata will be inserted at the HMP-1801 output when Dolby Metadata Insertion is ON, for each of the six indicated signal formats:

SD525	SD625
1080i59	1080i50
720p59	720p50

Dolby Metadata – Packet SDID – the HMP-1801 supports only one Dolby stream, so the user must specify the ID of the packet to be inserted.

Name Dropper – Insertion – Use the pulldown to set Namedropper insertion ON or OFF

- Name Dropper embeds program-specific control signals for downstream graphics inserters into the output data stream.

Conflicts between various metadata for SD video are possible because of the limited space available to carry ANC data. In most cases, combinations of ANC data cannot be placed on the same line. The only exception is AFD & Dolby Metadata, which can co-exist on the same video line.

3.4.3.8 The *Playback / GPI* tab

This tab allows the user to configure the functionality of the 6 GPI IN lines accessible on the rear panel GPI connector (see Section 2.3.2).

For each of the six GPI inputs:

- Use the *GPI IN Function* pulldown to select the action that will be taken when the GPI is triggered. The choices are:

  OFF – no action

  CUE – cue a clip (see next bullet)

  CUE & PLAY – cue a clip, and play it immediately when cued

  PLAY – play the cued clip

  PAUSE – pause the clip that is playing.

  ➢ Use PLAY to resume playback from the same place.

  STOP – stop the clip. Must be re-cued before it can be played again

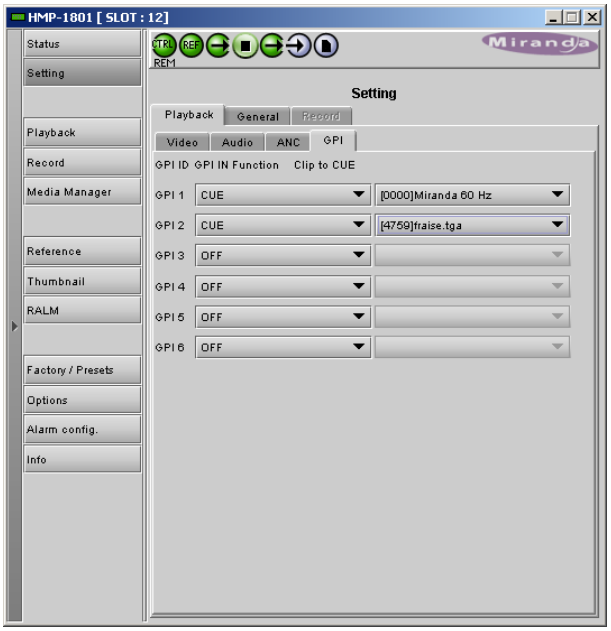


Figure 3.11 *Setting / Playback / GPI tab*

- If CUE or CUE & PLAY is selected, the *Clip to Cue* pulldown is activated, showing all available clips. Select the clip that will be cued or cued and played when this GPI is triggered.

3.4.3.9 The Setting / *Record* tab

The Record tab in the settings panel is only available when the HMP-1801 is in the *Record* mode

- When the HMP-1801 is in the *Playback* mode, this tab will be gray and non-functional
- To change over to *Record* mode when in *Playback* mode, open the Record panel and click the Enable Record button (see section 3.4.5)

When enabled, the Record tab displays four sub-tabs, which are described below:

- Video
- Audio (requires Audio option)
- ANC
- GPI

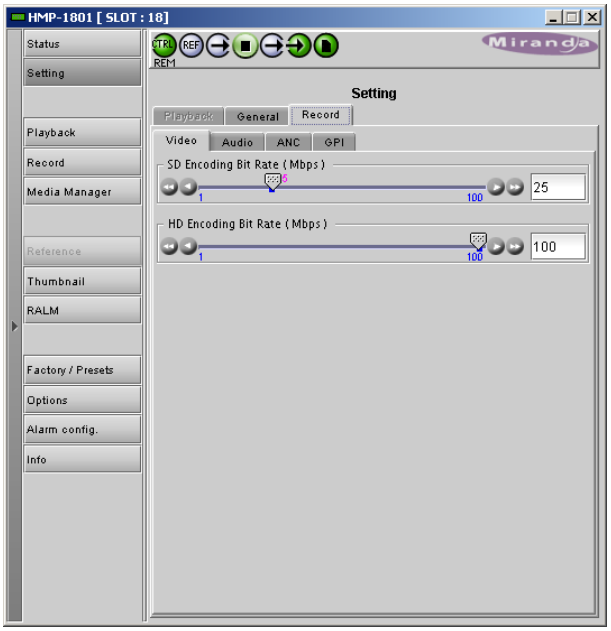


Figure 3.12 *Setting / Record / Video tab*

3.4.3.10 The Record / Video tab

This panel allows the user to set the encoding bit rate for the recording process.

SD and HD bitrates are set separately.

- Maximum is 100 Mbps

Use the sliders or type directly into the databox to set the appropriate values.

Default values are:

- SD: 25 Mbps
- HD: 100 Mbps

Note that the maximum bitrate for the Key output is 50 Mbps.

3.4.3.11 The Record / Audio tab

The HMP-1801 allows the capture of up to 8 audio channels, of the 16 available at the input. This panel allows the user to enable and assign the input audio channels to the audio file that will be recorded.

- Requires the Audio option

Audio Capture: Click the checkbox to enable the capture of audio during the record process.

Audio Input channels: The embedded audio channels of the input HD/SD SDI signal

Destination Audio Channels: The audio channels of the audio file that will be ingested.

- Click the checkboxes in the matrix to assign input channels to destination channels.

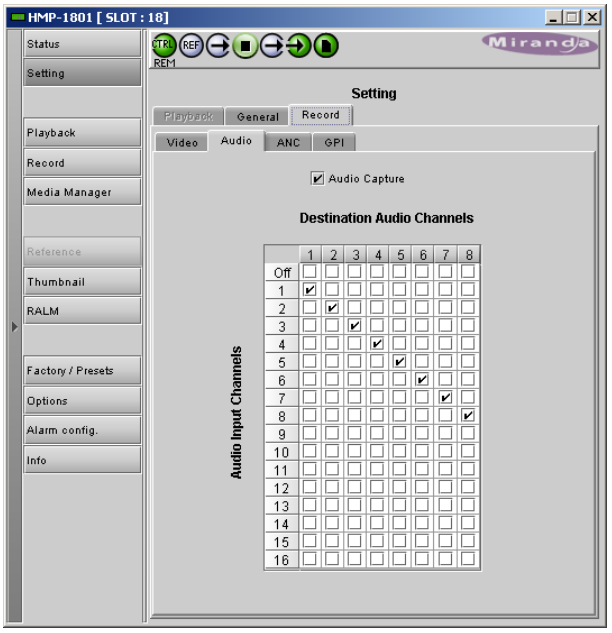


Figure 3.13 *Setting / Record / Audio tab*

3.4.3.12 The Record / ANC tab

AFD – Extraction – If enabled, the AFD code will be captured during the record process.

Time Code – Extraction – If enabled, the time code will be captured during the record process.

Closed Caption – Extraction – If enabled, the closed caption will be captured during the record process.

Dolby metadata (SMPTE 2020) – Extraction – If enabled, the Dolby metadata will be captured during the record process.

Dolby metadata (SMPTE 2020) – Packet SDID – Select the ID of a single Dolby stream to extract

Name Dropper – Extraction – Use the pulldown to set Namedropper extraction ON or OFF
Name Dropper refers to program-specific control signals for downstream graphics inserters in the data stream.

Figure 3.14 *Setting / Record / ANC tab*

3.4.3.13 The Record / GPI tab

This panel allows the user to configure the functionality of the 6 GPI IN lines accessible on the rear panel GPI connector (see Section 2.3.2).

For each of the six GPI inputs:

- Use the *GPI IN Function* pulldown to select the action that will be taken when the GPI is triggered. The choices are:

  OFF – no action

  RECORD – Start the record process

  STOP – stop the record process.

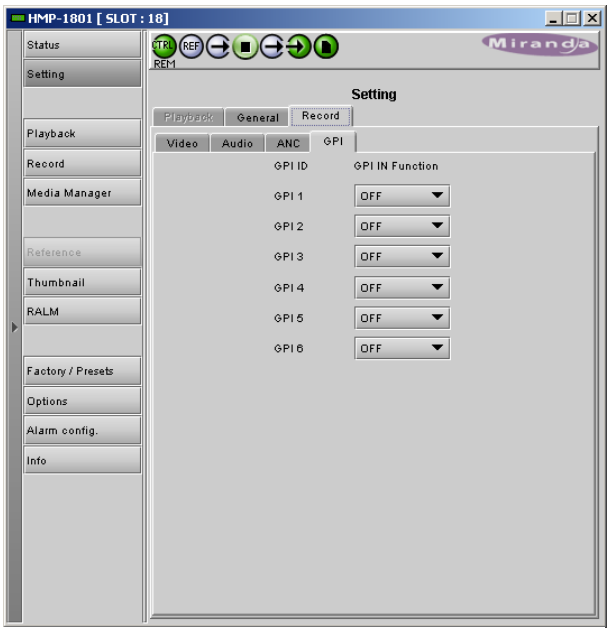


Figure 3.15 *Setting / Record / GPI tab*

3.4.4 The *Playback* panel

This panel provides controls for operating the playback features of the HMP-1801.

If the HMP-1801 is currently in RECORD mode, this panel will display a single button:

Click on this button to switch the HMP-1801 from Record mode to Playback mode.

The panel display will change to show the playback operating controls, as described here.

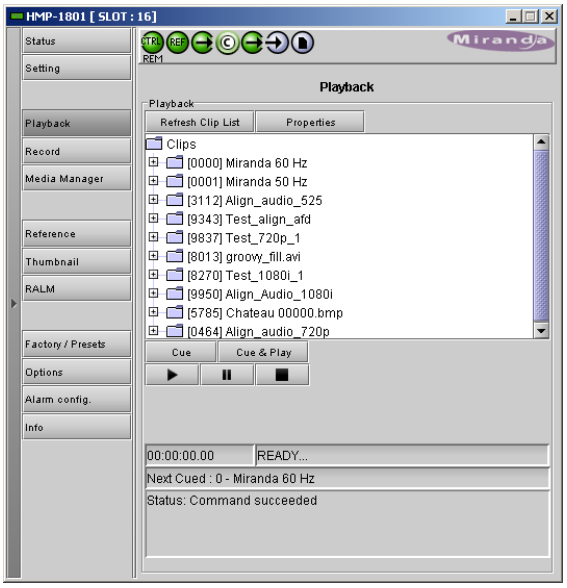


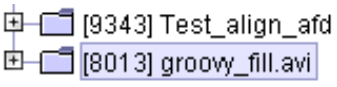
Figure 3.16 *Clip Playback panel*

The window lists all the Clip Lists currently available for playback on this card

- Click the Refresh Clip List button to update the list (useful when maintenance operations are in progress)

Click on a Clip List in the window to select it.

- The selected Clip List is highlighted
- The selected Clip List can be cued and played using the controls beneath the window, as detailed below



The characteristics of the selected Clip List can be displayed by clicking the Properties button above the window.

- These characteristics are specified using the *Ingest and Configuration Utility*, as described in Section 4.1.3.3.
- They cannot be changed here

The Clip List properties are:

Parameter	Contents
Number of clips	Number of clips in the Clip List
End Clip Behavior	What happens when the clip is finished playing. Possible values are: • Black, Hold last frame, Cue first frame
Auto Play	If this Clip List is cued with Auto Play ON, it will begin playback automatically.
Loop Count	Number of times the Clip List will be repeated
Video Format	Format of the video essence.

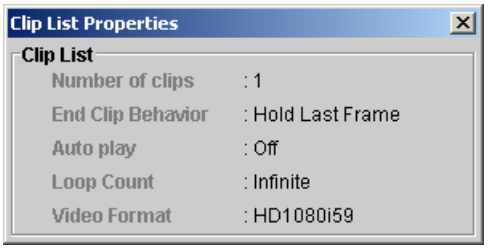
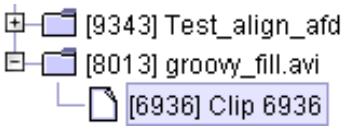


Figure 3.17 *Clip List Properties*

Click on the ⊞ box beside a Clip List to expand it and see its contents



It will contain the number of individual clips indicated in the Clip List properties window described above.

Click on a clip in the expanded Clip List to select it

- The selected clip is highlighted

The characteristics of the selected clip can be displayed by clicking the *Properties* button above the window.

- These characteristics are specified using the *Ingest and Configuration Utility*, as described in Section 4.1.3.3.
- They cannot be changed here

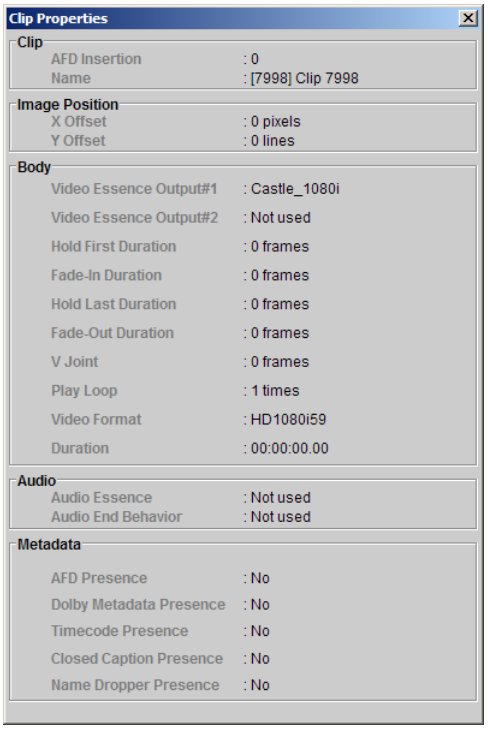


Figure 3.18 *Clip Properties*

Parameter	Contents
AFD Insertion	Gives the static AFD code of the clip
Name	Name of the clip
Image position	Location of the top-left corner of the image on the screen, in pixels (X=horizontal, Y=vertical)
Video essence Output #1	The name of the video essence used in this clip. This is the Fill essence in a Key/Fill operation. Left eye in stereoscopic playback
Video essence Output #2	Key essence: must be of the same video format & duration as the Fill essence. It must be coded with a bit rate less than 70 Mbps in 60 HZ, and less than 60 Mbps in 50 Hz. Right eye in stereoscopic playback
Hold First Duration	How many frames to hold the first frame after Play is activated, before beginning to play the clip.
Fade-in Duration	How many frames to fade up from black when play is activated

Hold Last Duration	How many frames to hold the last frame while playing, before implementing the end behavior.
Fade-out Duration	How many frames to fade down to black at the end of the clip
V-Joint	How many frames for a fade down to black or fade up from black. A V-Joint will occur when a clip is played more than one time. 0 means no V joint.
Play Count	Number of times the clip is to be repeated before the end behavior is activated.
Video format	Format Format of the video essence.
Duration	Duration of the clip
Audio Essence	The name of the audio essence used in this clip.
Audio End Behavior	What happens when the audio clip is not the same duration as video • Audio follows Video • Video holds until Audio ends
Metadata	Indicates the presence of certain metadata types (YES or NO) [AFD, Dolby Metadata, Timecode, Closed Caption, Name Dropper]

3.4.4.1 Operating the card using this panel

Figure 3.19 shows the operating controls on the Playback panel.

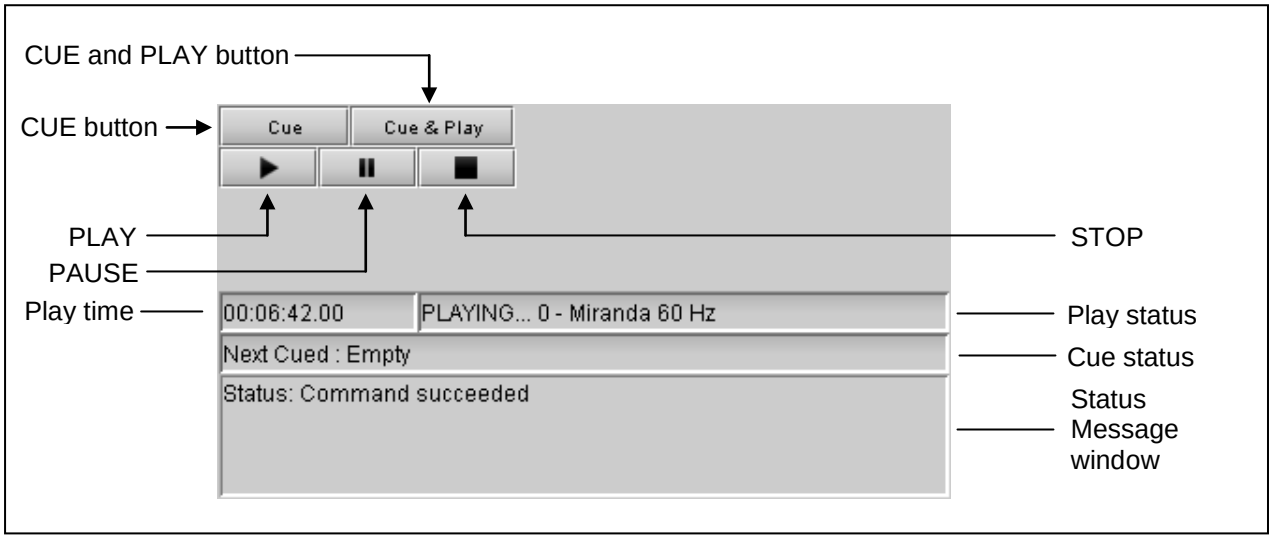


Figure 3.19 *Operating Controls on the Playback panel*

Click on a clip in the window to select it

Click on the ***Cue*** button to cue the clip to the first frame

- The name of the clip will appear in the Cue status box when the clip is cued.*
- "READY" will appear in the Play status box when the clip is cued
- A clip may be cued while another clip is playing or paused, but ONLY if it is the same format.
- Attempts to cue an item with a different format will fail, and a message will appear in the Status Message window explaining why.

Click on the ***Cue & Play*** button to cue the clip to the first frame, and then play it immediately

Click on the ***Play*** button to play the item

- The Play status box will show PLAYING… and the name of the clip
- The Cue status box will show Empty until another item is cued

Click on the ***Pause*** button to pause the playback

- The clip will stop playing and freeze on the last frame played
- The Play status box will show PAUSED… and the name of the clip
- The Cue status box will show Empty until another item is cued

Click on the ***Stop*** button to stop the playback

- The clip playback will be stopped
- The output will go to black
- Any Cued item will be removed from the cued status, and the Cue Status box will report *Empty*

Note 1: When a second clip is cued while playing, pressing PLAY again will terminate the current play and automatically start the second clip.

Note 2: When a second clip is cued while in pause, pressing PLAY will restart the current clip. Pressing PLAY again will start the second clip

3.4.5 The *Record* panel

This panel provides controls for operating the recording features of the HMP-1801.

If the HMP-1801 is currently in PLAYBACK mode, this panel will display a single button:

Click on this button to switch the HMP-1801 from Playback mode to Record mode.

The panel display will change to show the Record mode operating controls, as described here.

Figure 3.20 *Record panel*

This panel has three user-activated functions:

Record button – click to initiate a recording

- ➢ The recording will automatically stop if there is no more space on the local drive, or if the input status changes

Stop button – click to stop a recording in progress

- Recording Name data box – click in the box and type a name for the clip being recorded

There are also some status indicators beneath these operating controls:

- Time window – shows the elapsed time of the current recording
- Status window – shows the status of the most recent play or stop command

Status icon area:

Status icons are provided for these functions:

- AFD
- Dolby metadata
- Time code
- Closed Caption
- Name Dropper
- Audio (16 channels)

3.4.6 The *Media Manager* panel

The Media Manager panel has a single button, located in the center of the panel:

Click this button to open the HMP-18x1 Ingest and Configuration Utility.

- Note that an Ethernet connection to the HMP-1801 rear panel is required to load the media management utility

This utility is used to import and export video and audio essences and Clip Lists to/from the HMP-1801, and to configure the characteristics of those essences.

- See section 4.1 for a complete explanation of this utility

3.4.7 The *Reference* panel

3.4.7.1 The *Reference / Reference* tab

The status icons in the Reference Presence area indicate the presence or absence of an external reference, or the Densité frame's URS signal.

Use the radio buttons in the Reference Source area to select from the following options:

- Auto – this mode selects the first source detected in this order of priority:
  - External reference
  - URS
  - Internal reference
- External – selects the signal connected to the rear-panel REF IN connector
- URS (Universal Reference Signal) – selects the internal reference from the backplane of the Densité frame (from an REF-1801 card if present)
- Internal – uses an internal free-running sync generator.

URS Format – use the radio buttons in the URS Format area to select whether the URS is OFF, 29.97 Hz or 25 Hz.

Note that changing the reference input while the card is playing a clip will stop the playback.

Figure 3.21 *Reference panel – Reference tab*

This table shows the reference formats that work for the various output formats available on the HMP-1801.

		Reference Types					
		525	625	1080i59.94	1080i50	720p59.94	720p50
Output Formats	525	X					
	625		X				
	1080i59.94	X		X			
	1080i50		X		X		
	720p59.94	X				X	
	720p50		X				X

3.4.7.2 The *Reference / Timing* tab

Fill Output

The HMP-1801 will select the timing based on the clip format, so the card output can be timed correctly for all formats.

- Vertical control is +/- 1 frame in increments of 1 line
- Horizontal control is from 0 to 1 line in pixels

The controls are provided in the form of sliders with a data box.

- The data box displays the current value.
- Values can be changed by moving the slider or by typing a value directly into the data box
- The delay introduced here affects both Fill and Key outputs

NOTE: The sliders change the timing values for the active output format only. Each format has its own set of timing values. In internal mode, the timing alignment feature is disabled.

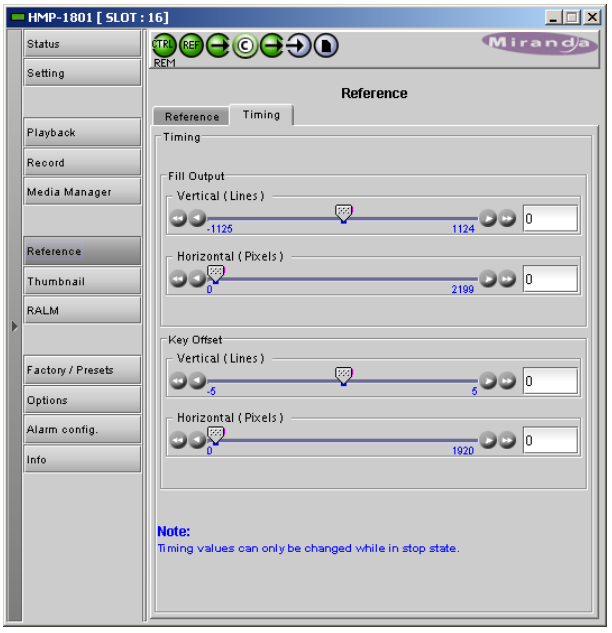


Figure 3.22 *Reference panel – Timing tab*

Key Offset

These controls allow the user to apply additional delay to the key output to compensate for timing differences introduced into the system by cabling differences between the key and fill paths.

Use the sliders or data boxes to insert a delay between the fill and key outputs:

- Vertical: +5 lines to -5 lines
- Horizontal: 0 to 1 line, in pixels (actual value is format-dependent)

Note: *the output timing and key offset adjustments cannot be made while the clip is playing. Make the adjustments first, then cue and play the clip.*

3.4.8 The *Thumbnail* panel

The thumbnail panel displays a thumbnail image of the HMP-1801 output.

Enable – Click the radio buttons to select whether the thumbnails will be streamed from this HMP-1801

- OFF – streaming is disabled
- Video – streaming is enabled

Size – choose the thumbnail size:

- small, medium, large

Player – Click the radio buttons to select whether the thumbnails will be displayed in this HMP-1801 panel.

Quality – choose the quality of the displayed image

- Poor, Normal, HiQ

Rate – select the desired refresh rate from the pull-down box. The choices are:

[Fast, 1 sec, 2 sec, …, 9 sec, 10 sec.]

Figure 3.23 *Thumbnail panel*

Source – Use the pulldown to select the source of the thumbnail, from among these choices:

[Output #1, Output #2]

3.4.9 The *RALM* panel

The Remote Audio Level Meter (RALM) panel displays audio level meters that can be assigned to the audio channels of the HMP-1801.

- Each of the four meters displays two audio channels
- Use the pulldowns in the RALM Remote Control section at the bottom of the panel to select the source for each meter display Options are:

  OFF

  Embedded Ch 1&2

  Embedded Ch 3&4

  ….

  Embedded Ch 15&16

Once the meter display is enabled, use the controls in the RALM Connections tab to turn individual meter-pairs on and off.

Speed **–** select the meter response from the pull-down list, options are [slow, medium, fast]

RALM Connections tab

Use the radio buttons to turn the meter display ON (RALM) or OFF for the indicated channels. The meter appears directly above the controls.

Reset Counter: click this button to reset the overload counter on

Figure 3.24 *RALM panel*

the ALM display to zero. See the next section for instructions on setting up the overload counter.

Meter Ballistics Config tab

Type – select a type of meter from the pull-down list

The meter is divided into three zones, and the dividing points and color of each zone are individually configurable in this tab.

Upper Zone Limits – select the crossover level between the upper and middle zones of the meter (the range of values shown in the pull-down list depends on the type of meter selected)

Lower Zone Limits – select the crossover level between the middle and lower zones of the meter (the range of values shown in the pull-down list depends on the type of meter selected)

Color samples – the three samples show the current selected color for the upper, middle and lower zones of the meter.

- Click on the color sample of a zone to open a color selection panel to choose a different color for that zone

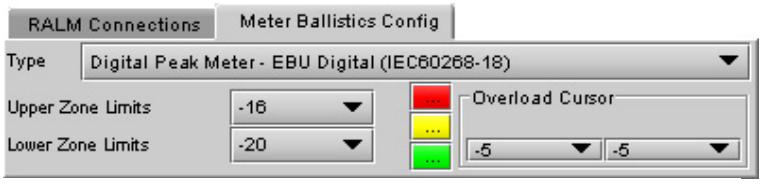


Figure 3.25 *Meter Ballistics Config tab*

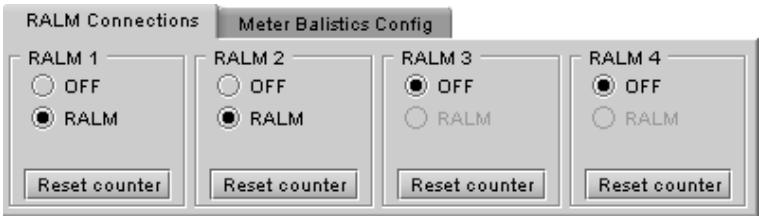


Figure 3.26 *RALM Connections tab*

Overload Cursor – The overload cursor appears on the meter as an arrowhead in the meter scale. The two pulldown boxes set the position of the overload cursor on the left and right meters. If the audio level on that channel goes above the cursor, the Overload Counter at the top of the meter is incremented.

The *Overload Counter* shows a running count of the number of overloads detected. The Overload level is shown by a marker beside the meter, and its position can be set under the *Meter Ballistics Config* tab

The *Phasemeter* (located at the bottom of the RALM meter display) is a small meter that represents the phase correlation factor between the two channels of a pair.

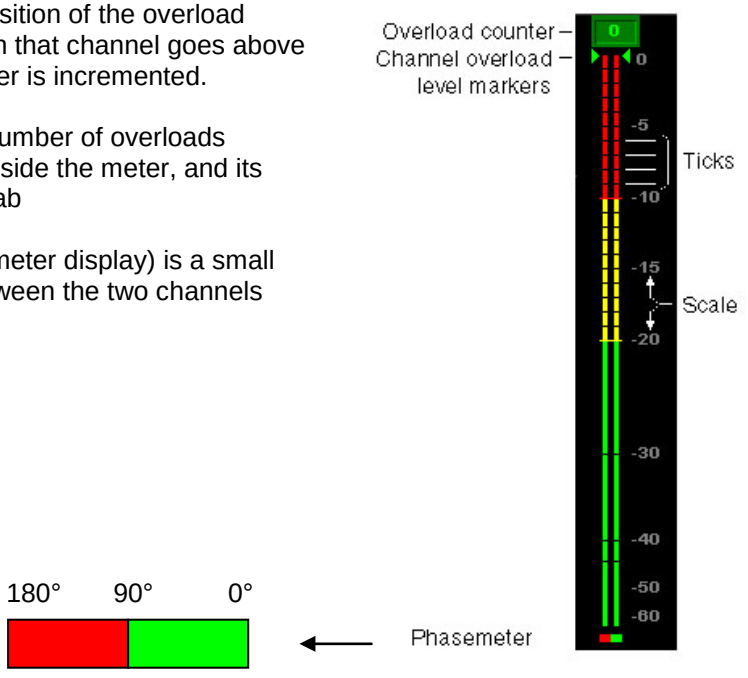


Figure 3.27 *RALM meter details*

3.4.10 The *Factory / Presets* panel

The HMP-1801 maintains “Factory Default” settings in its memory, to which it can be restored at any time.
Click the *Load Factory* button to restore the card to its Factory default settings.

Figure 3.28 *Factory / Presets panel*

User Presets

The HMP-1801 has memory registers which can hold up to 5 sets of user-defined parameter settings.

- IP parameters are *not* included in the saved data

Select any one of the five presets using the pulldown list. The name of the currently-selected User Preset is shown on the on the pulldown icon (e.g. *User1*, *User2*,… *User5*)

- Click *Load* to load the contents of the selected User Preset into the HMP-1801. All parameter settings and values will be replaced by the contents of the selected User Preset.
- Click *Save* to store the current parameter settings and values from the HMP-1801 into the selected User Preset. The existing contents of the preset will be overwritten.

3.4.11 The *Options* panel

There are three options available on the HMP-1801.

HMP-1801-OPT-AUD8 option (Audio)

This option enables the playback and embedding of eight channels of audio for the HMP-1801 card.

Miranda supplies an activation key when the option is purchased. The panel includes a data entry box “Enter Key” where the activation key can be entered.

- Enter the Key in the data box, and click the *Enable Option* button to activate the feature.

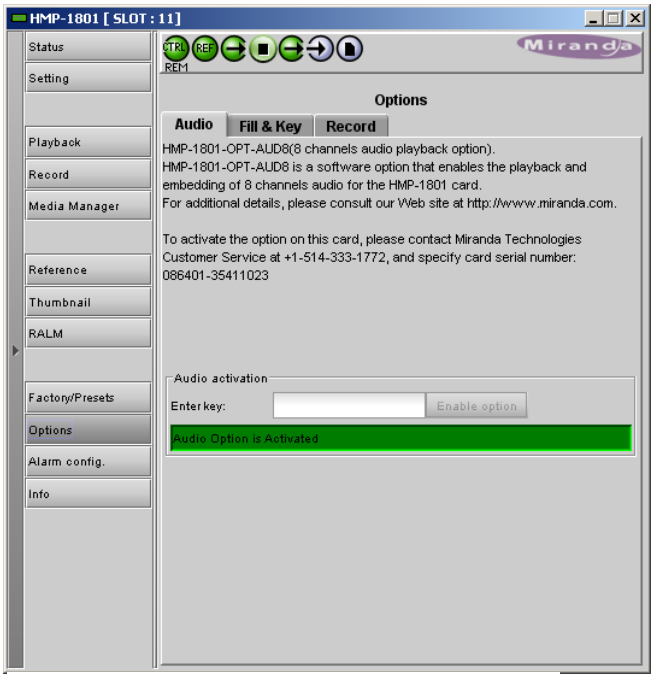


Figure 3.29 *Options panel - Audio*

HMP-1801-OPT-KEY option (Fill & Key)

This option provides the extraction of a Key signal that is sent to output 2 of the HMP-1801. This enables the use of the two HMP-1801 outputs as Fill and Key, for applications where the HMP-1801 is feeding a downstream keyer that will insert its output into a video program stream.

Miranda supplies an activation key when the option is purchased. The panel includes a data entry box “Enter Key” where the activation key can be entered.

- Enter the Key in the data box, and click the *Enable Option* button to activate the feature.

Once activated, the Fill/Key mode can be enabled or disabled using the *Output Configuration* buttons in the Card Config panel (see Section 3.4.3)

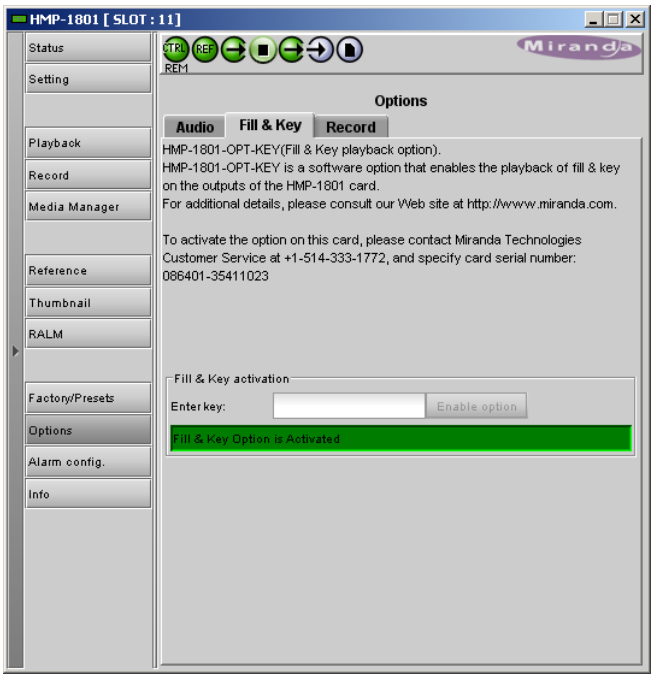


Figure 3.30 *Options panel - Fill & Key*

HMP-1801-OPT-INPUT (Record)

This option enables the recording feature of the HMP-1801.

Miranda supplies an activation key when the option is purchased. The panel includes a data entry box “Enter Key” where the activation key can be entered.

- Enter the Key in the data box, and click the *Enable Option* button to activate the feature.

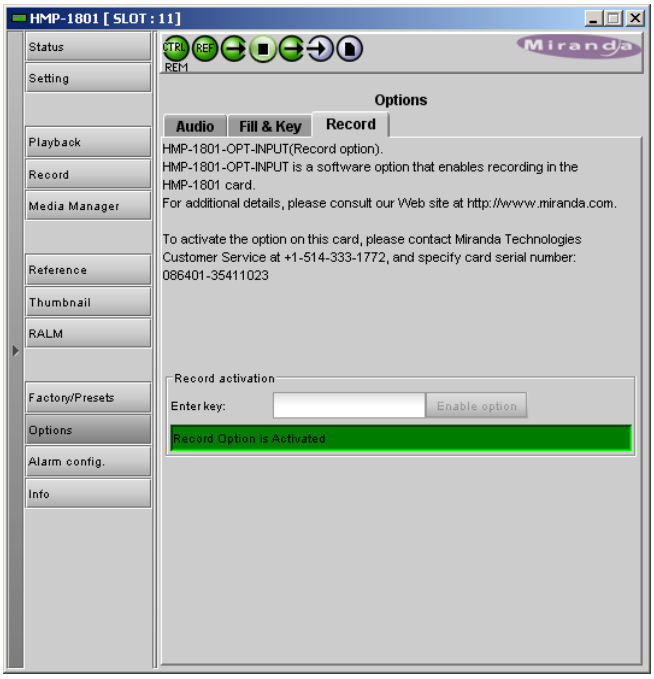


Figure 3.31 *Options panel - Record*

3.4.12 The *Alarm Config* panel

This panel allows the alarm reporting of the HMP-1801 to be configured. The panel opens in a new window when the button is clicked, and can be resized if needed.

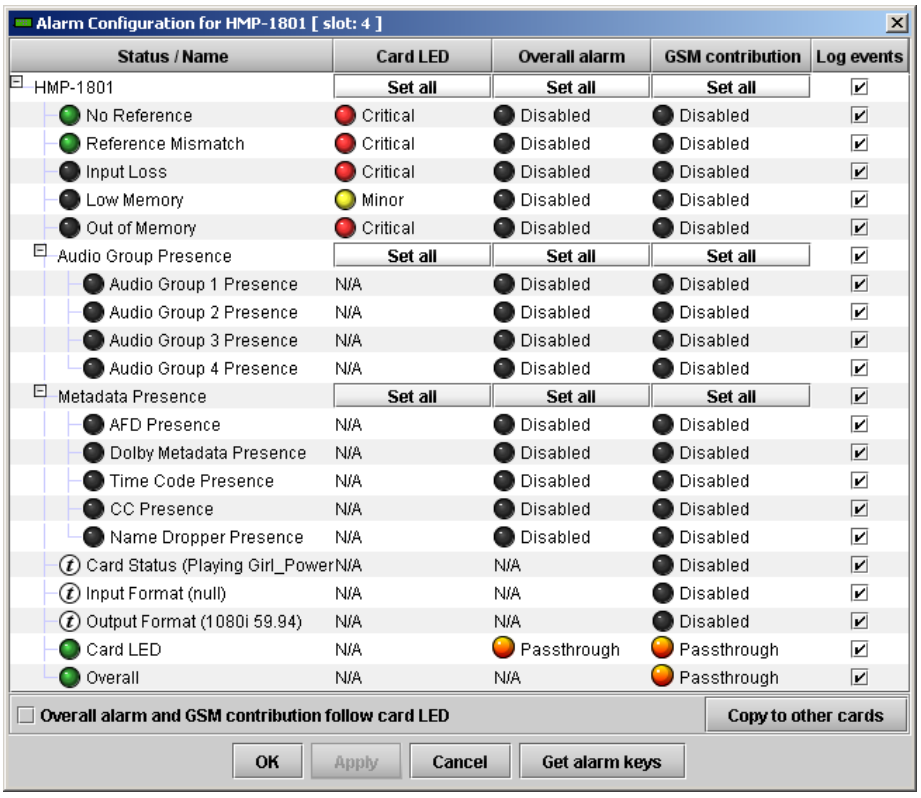


Figure 3.32 *Alarm Configuration Panel*

The panel is organized in columns.

Status/Name
This contains an expandable tree listing all the alarms reported by this HMP-1801 card.

- Each alarm name includes an icon that shows its current status

The **Card LED**, **Overall alarm** and **GSM contribution** columns contain pulldown lists that allow the level of contribution of each individual alarm to the alarm named in the column heading to be set.

- If there is no arrowhead in the box, there is no pulldown and the alarm is not user-configurable

➢ ***CARD LED***
This column allows configuration of the behavior of the HMP-1801's card-edge Status LED.

➢ ***Overall Alarm***
This column allows configuration of the contribution of each individual alarm to the Overall Alarm associated with this card. The Overall Alarm is shown in the upper left corner of the iControl panel, and also appears at the bottom of the Status/Name column.

➢ ***GSM Contribution***
This column allows configuration of the contribution of each individual alarm to the GSM Alarm Status associated with this card. GSM is a dynamic register of all iControl system alarms, and is also an alarm provider for external applications. The possible values for this contribution are related to the Overall alarm contribution:

- If the Overall alarm contribution is selected as Disabled, the GSM alarm contribution can be set to any available value
- If the Overall alarm contribution is selected as any level other than disabled, the GSM contribution is forced to follow the Overall Alarm.

Levels associated with these alarms:

The pulldown lists may contain some or all of the following options:

Disabled	The alarm makes no contribution (black icon)
Minor	The alarm is of minor importance (yellow icon)
Major	The alarm is of major importance (orange icon)
Critical	The alarm is of critical importance (red icon)
Passthrough	The alarm exists but has no effect (used for text and composite alarms)

Shortcut: *if you click on "Set All" in one of the columns beside a major heading in the Status/Name column, you will open a pulldown list that lets you assign a level to all alarms in that section of the column simultaneously.*

Log Events

iControl maintains a log of alarm events associated with the card. The log is useful for troubleshooting and identifying event sequences. Click in the checkbox to enable logging of alarm events for each individual alarm.

At the bottom of the window are several other controls:

Overall alarm and GSM contribution follow card LED

Click in the checkbox to force the Overall alarm and GSM contribution to be identical to the Card LED status

- All Overall alarms for which there is a Card LED alarm will be forced to match the Card LED alarm
- All Overall Alarms for which there is no Card LED alarm will be forced to Disabled

A warning box will open allowing you to confirm the action, since it will result in changes to the configuration and there is no *undo* function.

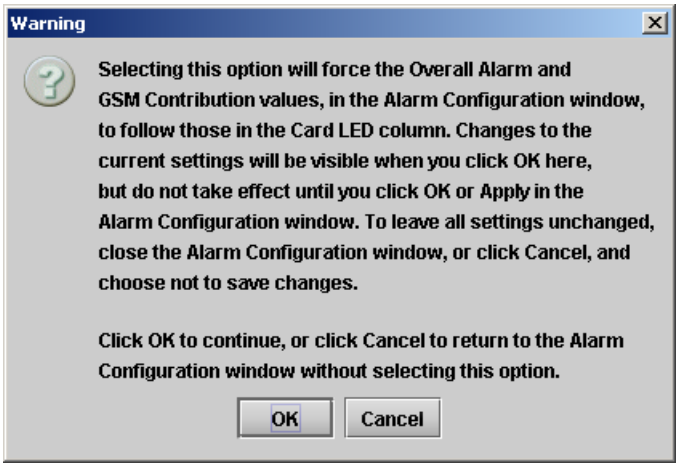


Figure 3.33 Warning for Follow LED change

Copy to other cards

Click this button to open a panel that allows the alarm configuration set for this card to be copied into another HMP-1801 card.

- Select one or more destination cards from the list in the window by clicking in the checkboxes, or all of them by clicking in the *All* checkbox

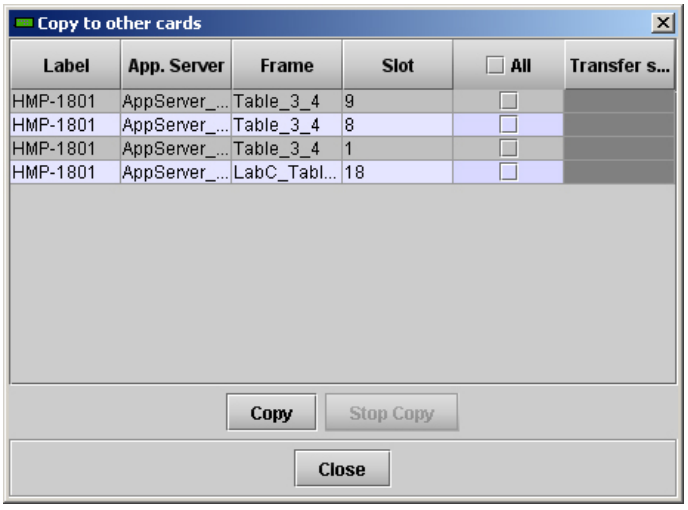


Figure 3.34 *Copy to other cards*

Get alarm keys

Click this button to open a save dialog where you can save a file containing a list of all alarms on this card and their current values, along with an Alarm Key for each. The alarm keys are useful for system integration and troubleshooting.

- The file is saved in .csv format

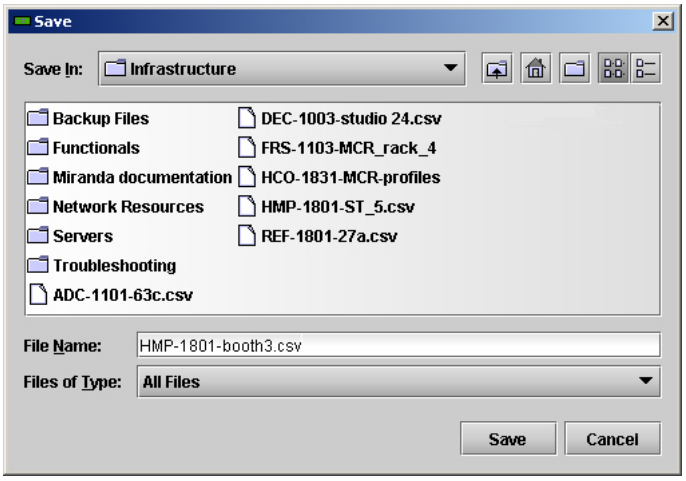


Figure 3.35 *Get alarm keys save dialogue*

OK, Apply, Cancel

- ***OK*** accepts the settings and closes the window once the card confirms that there are no errors.
- ***Apply*** accepts the settings, but leaves the window open
- ***Cancel*** closes the window without applying any changes, and leaves the previous settings intact.

3.4.13 The *Info* panel

When the HMP-1801 is included in an iControl environment, certain information about the card should be available to the iControl system. The user can enter labels and comments that will make this card easy to identify in a complex setup. This information is entered here, into data boxes with a white background.

Label: type the label that appear for this HMP-1801 when it appears in iControl applications

Short Label type the short-form label that iControl uses in some cases (8 characters)

Source ID type a descriptive name for this HMP-1801

Comments: type any desired text

The remaining data boxes show manufacturing information about this card.

Figure 3.36 *Info panel*

Three buttons give access to additional information and controls:

- Details…: Reports the Firmware version, service version, and panel version for this card

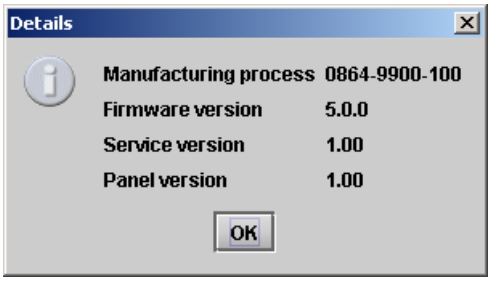


Figure 3.37 *Details window*

- Advanced…: Shows the Miranda LongID for this card. The Miranda LongID is the address of this HMP-1801 in the iControl network.

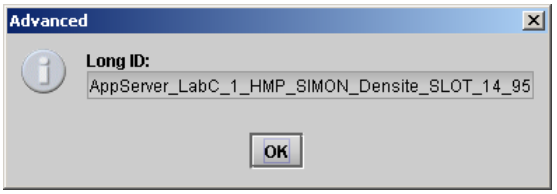


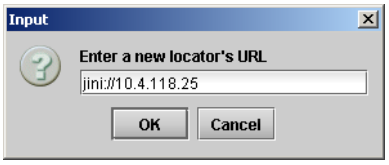
Figure 3.38 *Advanced window*

- Remote System Administration – opens the Joining Locators data box, which lists remote lookup services to which this HMP-1801 is registered.

Add: Force the iControl service for this HMP-1801 to register itself on a user-specified Jini lookup service, using the following syntax in the Input dialog:

jini://<ip_address>

where <ip_address> is the ip address of the server running the lookup service



Remove: select one of the services listed in the window by clicking on it, and click *Remove* to delete it from the window.

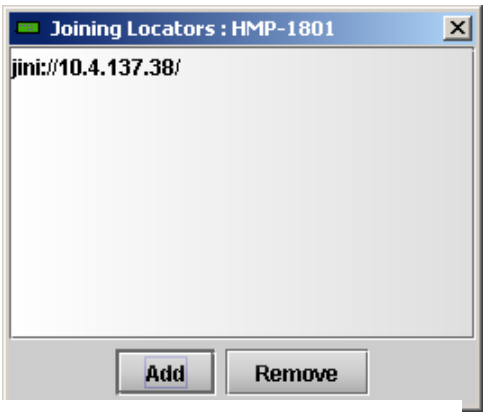


Figure 3.39 *Joining Locators window*

4 Web Control Panel

The HMP-1801 is provided with a dedicated ethernet port on its rear panel, in order that it may communicate with outside systems independently of the Densité frame controller and independently of the iControl system.
In addition, the card includes an on-board FTP server. These elements allow the creation and management of clips from a remote computer.

When the remote computer connects to the HMP-1801 card by typing its IP address into a web browser, the on-board web server sends a page giving access to two resources:

1. The Ingest and Configuration Utility (see Section 4.1)
2. The Firmware Upgrade (see Section 4.2)

Click on the link to access the desired resource.

Figure 4.1 *Onboard Web Server Home Page*

4.1 Ingest and Configuration Utility

The Ingest and Configuration Utility of the HMP-1801 can be accessed via either of two methods:

- Navigate to the HMP-1801's rear panel ethernet port's IP address using a browser, and click on the "Start the Configuration Utility…." link in the onboard webserver's home page (see Figure 4.1)

- Click on the ***Media Manager…*** button in the HMP-1801's iControl panel and then click the *Load Media Management Utility* button in the panel (see Section 3.4.6)

In both cases, the Ingest and Configuration Utility window will open. Using this window, your can import, export, and record video essences to the HMP-1801, and configure clips using those essences. You can also trip or crop the video essences as required.

*Note – the screen captures shown here are from version **511** of the utility*

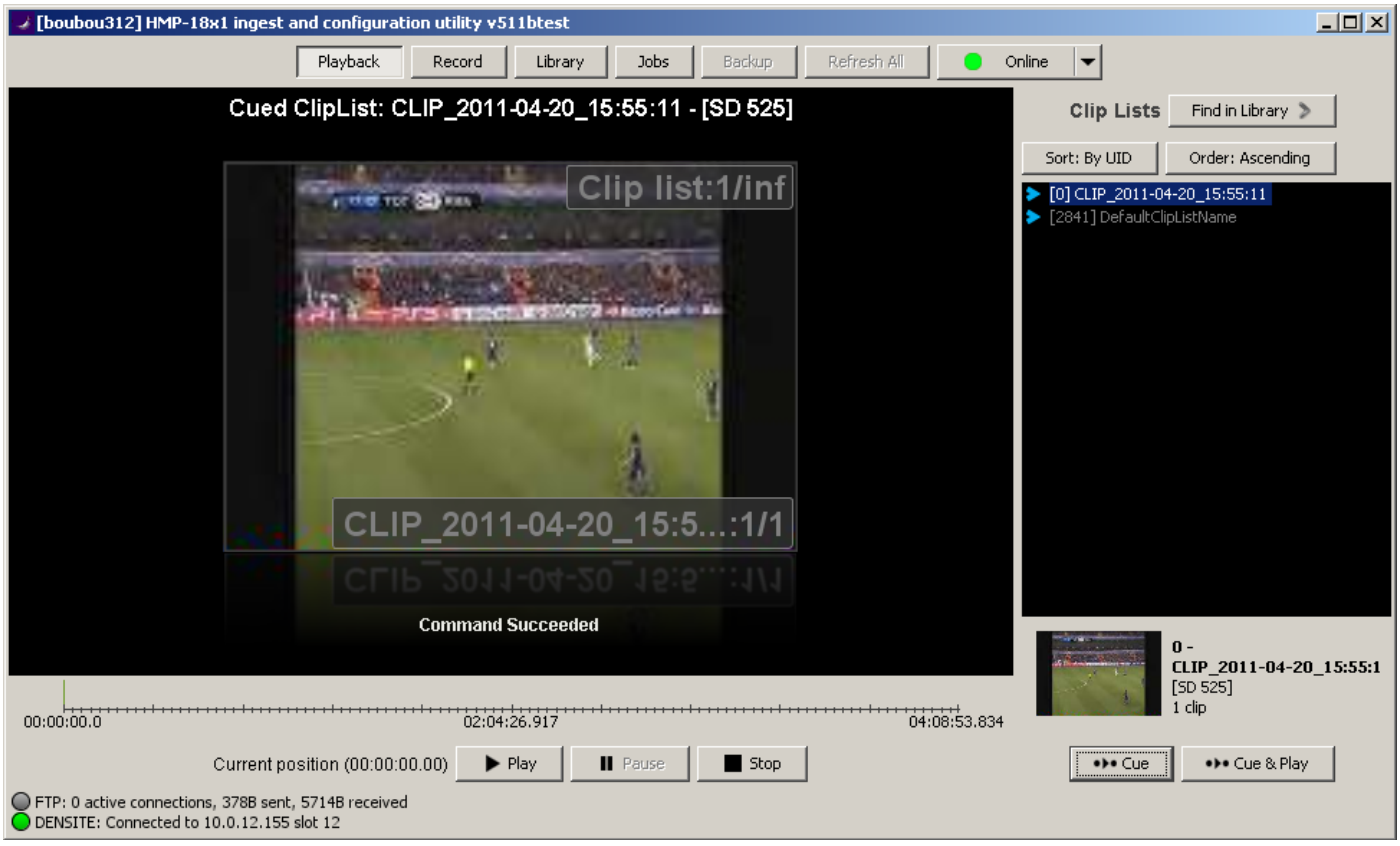


Figure 4.2 *Ingest and Configuration Utility window*

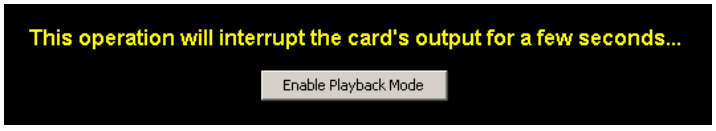
Across the top of the window are 5 buttons: Playback, Record, Library, Jobs, Refresh All and one pulldown list and staus indicator: Online/Offline

Click on one of these to open the relevant window display and control panel.

4.1.1 Playback

The Playback panel provides resources to select a Clip List, cue it and play it.

If the card is currently in Record mode, this window displays an *Enable Playback Mode* button



- Click the button to switch the card to Playback mode
- This is equivalent to switching the card mode via the iControl interface – see Section 3.4.4 on page 25
- This will interrupt the card's output for a few seconds

Once the card is in the Playback mode, the window display appears as shown in the figure below.

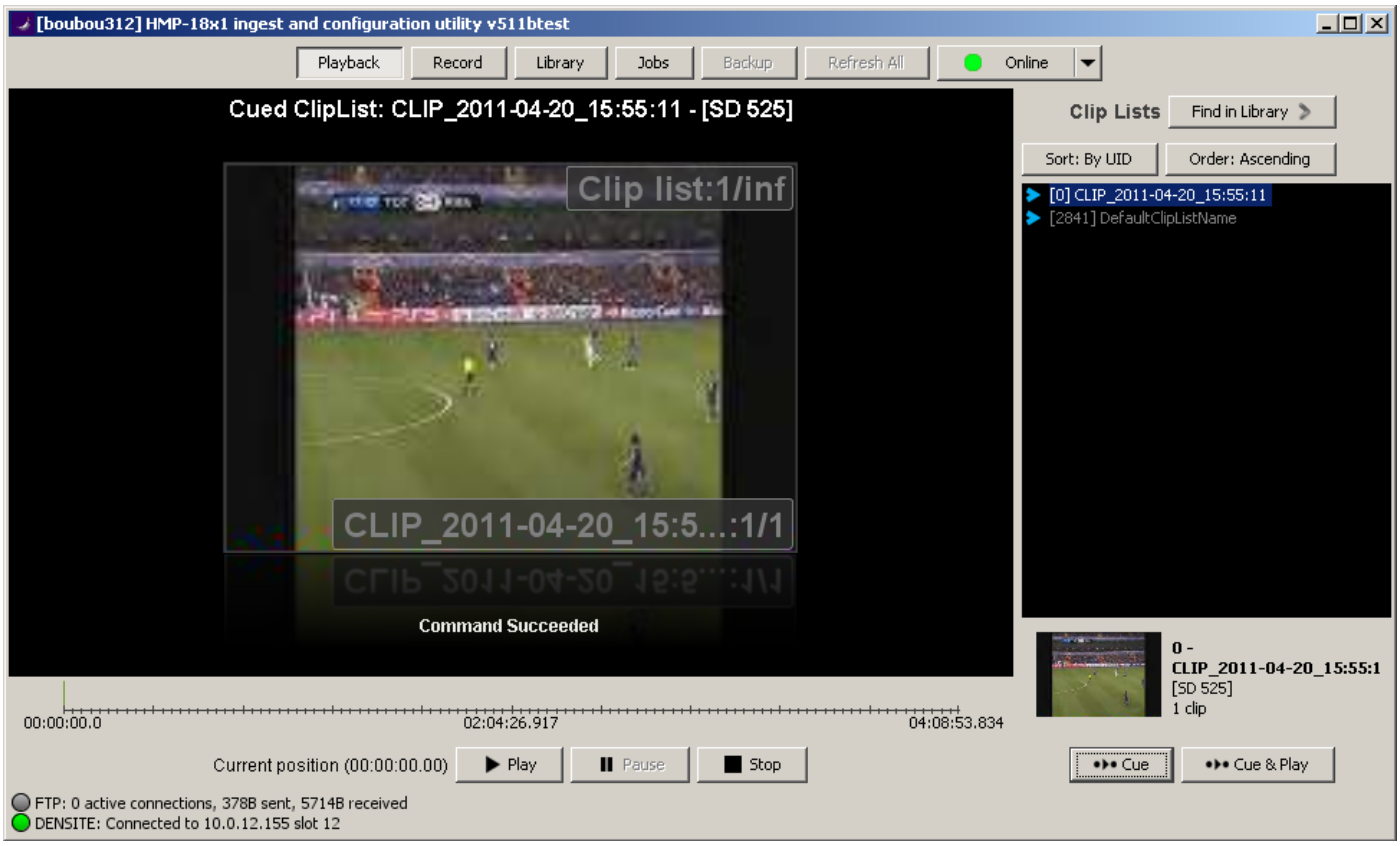


Figure 4.3 *Ingest and Configuration Utility - Playback panel*

The ***Playlists*** window on the right of the panel lists all the Clip Lists that are stored in the HMP-1801's on-board memory.

- Two pulldowns allow you to decide how to display the list:
  - Sort – by UID or by name
  - Order – ascending or descending
- If you do not have the Clip List you need in the onboard memory, but it exists elsewhere, you must upload it to the HMP-1801. Click the ***Find in Library>*** button to move to the Library panel, from which you may proceed to locate and upload the Clip List. See section 4.1.3.1 for a description of how to do this.

Click on a Clip List to select it

- The selected Clip List will be highlighted in the Playlists window
- Below the Playlists window you will see an image of the first frame in the Clip List.
- Beside the thumbnail are given the name of the selected Clip List, its video format, and the number of clips it contains.
- To see the clips contained in the selected Clip List, double-click on it in the Playlists window to expand it; double-click again to contract it.

Click the **Cue** button below the Playlist window to cue the selected Clip List

- The cued Clip List will be identified at the top of the main window, by name and format
- The first-frame thumbnail will appear in the main window

Click the **Cue & Play** button to cue the item and then play it immediately.

Click **Play** (below the main window) to play the cued item

- The control is not functional unless a Clip List has been cued.

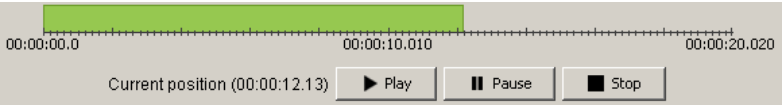
Superimposed on the thumbnail image in both cued and play modes are two information windows:

- Clip List (at the top): shows the number of loops programmed for this list, and the current status (e.g. if the Clip List has been programmed to repeat three times, and is currently playing for the second time, this item will read Clip List: 2/3)
- Clip (at the bottom) shows which clip within the Clip List is currently playing.

During playback, the bar graph beneath the window shows the time line of the clip being played, and the current time is shown numerically beside the Play button

- Note that the time will continue to increment when the clip reaches the end, if the end clip behavior is set to Hold Last Frame.

.



When a Clip List is playing, click **Pause** to freeze it.

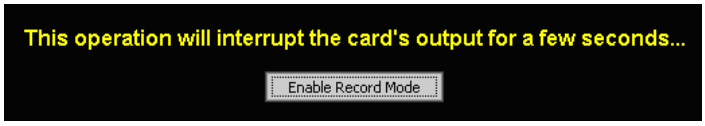
- Click Play to resume playback from the same spot
- Click Stop to end playback – the pause location is lost

When a Clip List is playing or paused, click **Stop** to end playback.

4.1.2 Record

The Record panel provides resources to record video through the card's input.

If the card is currently in Playback mode, this window displays an *Enable Record Mode* button



- Click the button to switch the card to Record mode
- This is equivalent to switching the card mode via the iControl interface – see Section 3.4.5 on page 28
- This will interrupt the card's output for a few seconds

Once the card is in the Record mode, the window display appears as shown in the figure below.

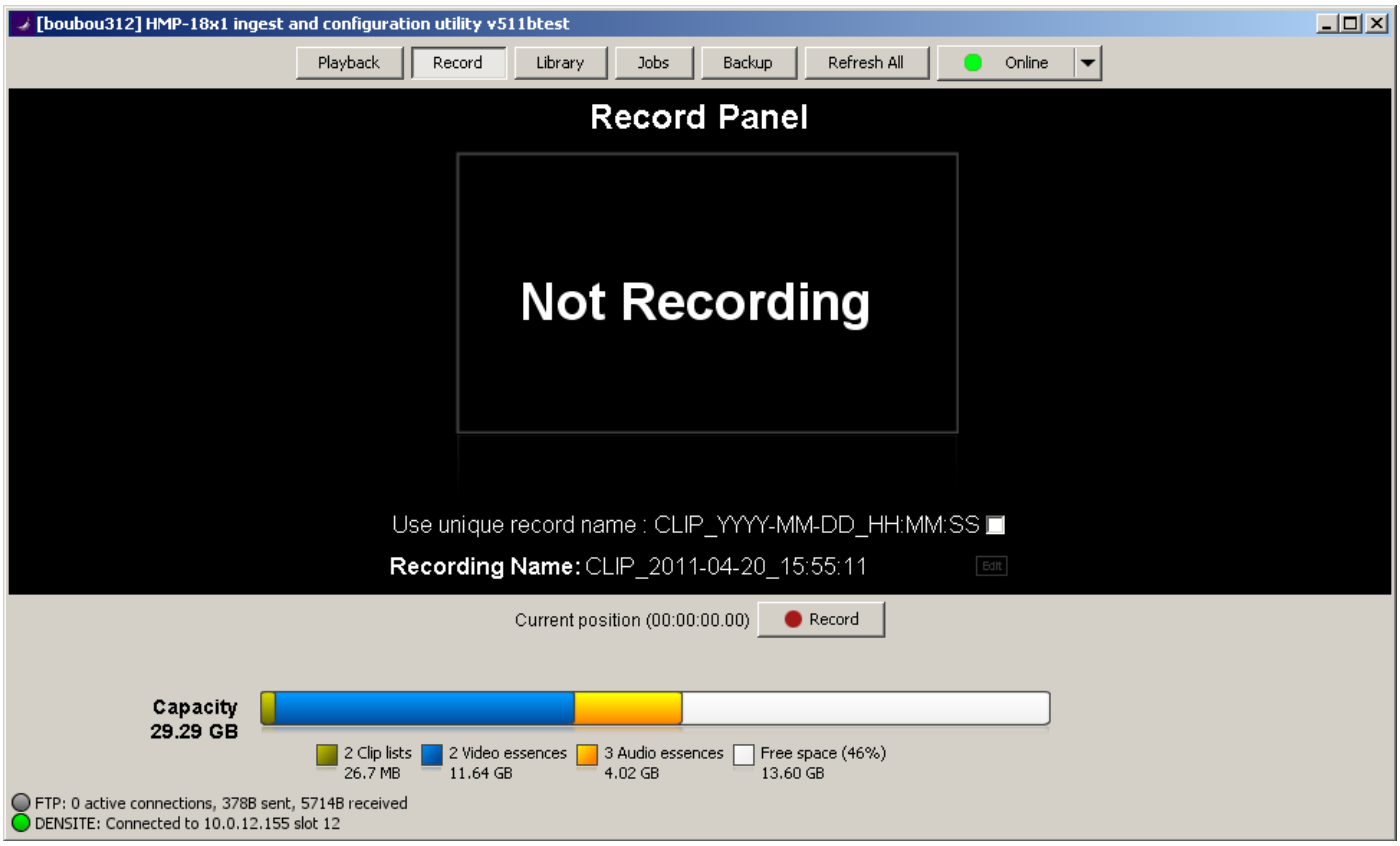
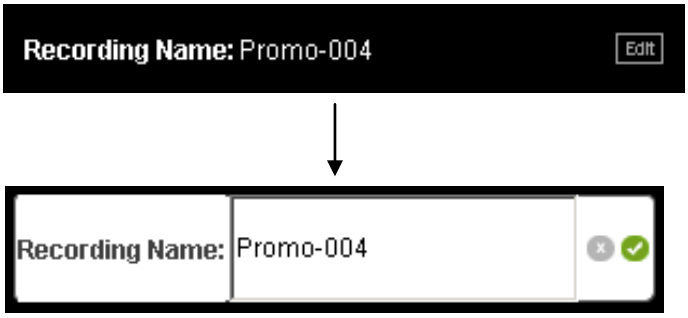


Figure 4.4 *Ingest and Configuration Utility - Record panel*

To name the clip to be recorded, click on the **Recording Name** display at the bottom of the screen

- the Edit icon beside this item is a reminder that it is editable



Use the cursor to select the current name, and type in the data box to edit or replace it.

- Click the cancel [ ] icon at the right to exit the edit mode and leave the old name unchanged
- Click the accept [ ] icon at the right to exit the edit mode and use the new name. Clicking in the “Recording Name:” area has the same effect.

The bar chart at the bottom of the panel shows the memory usage on the HMP-1801’s flash memory. Use it to determine whether there is enough free memory to complete your recording.

Click on the Record button to begin recording the current input and saving it under the name shown below the screen.

- The elapsed time of the recording is shown beside the Record button

- A Stop button will be shown when the recording is in progress
- The recording will automatically stop if there is no more space on the local drive, or if the input status changes

4.1.3 Library

The Library panel provides resources for managing the essences and Clip Lists stored on the HMP-1801.

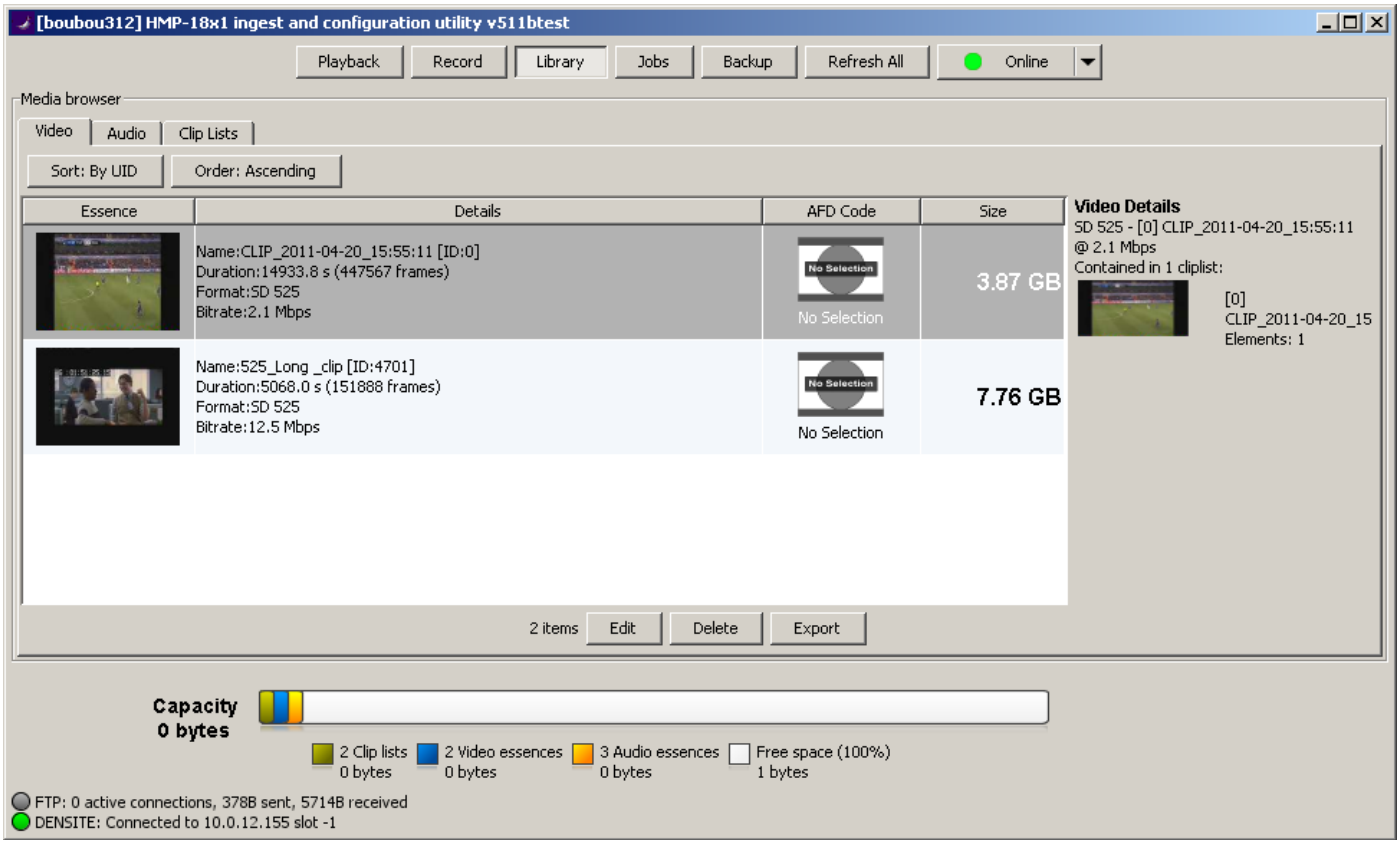


Figure 4.5 *Ingest and Configuration Utility - Library panel*

The bottom portion of the screen shows the current memory allocation and availability, and status for the FTP (import and export) and Densité frame connections.

The Media browser section contains the functional controls for clip media management.

At the top of the media browser section are tabs for selecting the type of item to manage, and sub-tabs to order the items in the window (sort by and ascending/descending).

4.1.3.1 Library – Video

This view shows the video essences that are stored on board the HMP-1801.

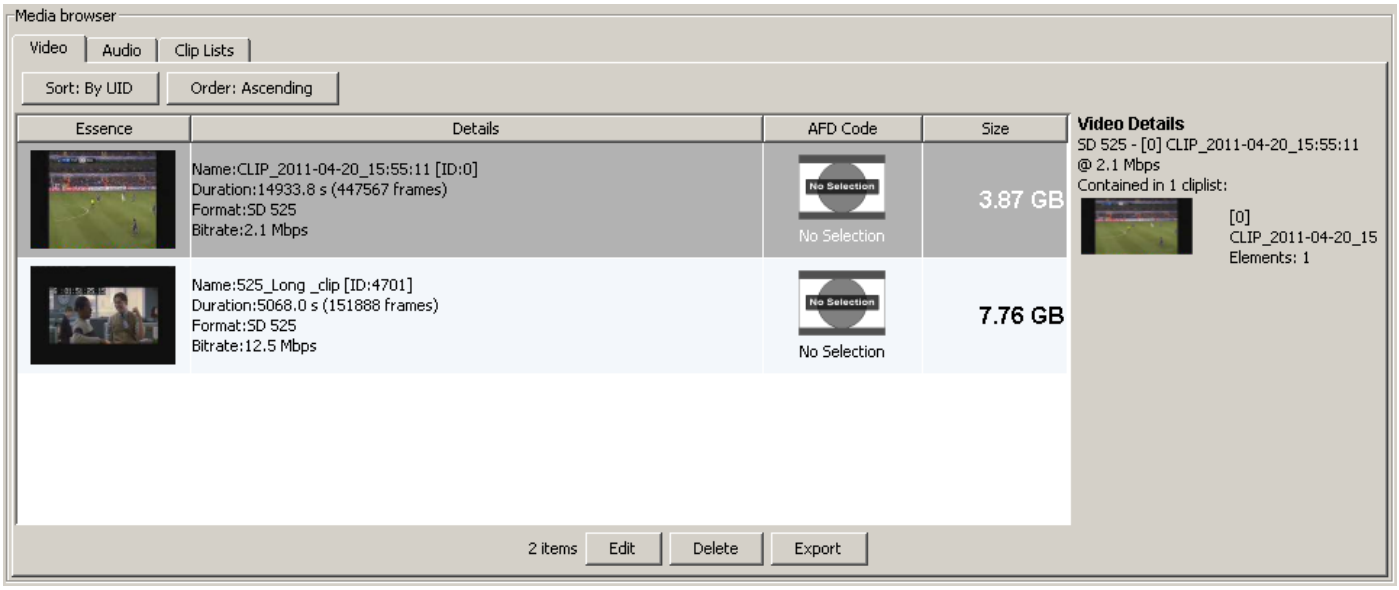


Figure 4.6 *Library panel - Video*

The view is organized by columns:

Essence — shows a preview image of the essence
Note that no thumbnail will be generated if the file is transferred in the .avi format, or if the video is captured when no appserver is connected to the card.

Details — lists specific details about the essence

Name:	name assigned to the essence by the user
Duration:	duration of the essence (time to nearest tenth of a second, also frames)
Format	the video format, e.g. 1080i59.94
Bitrate	in Mbps
(error message)	If there is a problem with this essence, a warning message (in red) will appear below the Bitrate specification.

AFD Code: if the essence carries an AFD code as metadata, the code and an appropriate graphic will be displayed. If there is no AFD code, a “no selection” icon will be shown

Size: Shows the size of the essence, in MB

Use the scroll bar to move up and down the list

The total number of essences in the list is shown beside the Edit button below the main window.

Click anywhere in an essence row to select that essence.

- The Video Details of the selected essence will appear to the right of the window: Format, ID and name
- Below that will appear the icon, ID and name of every currently-defined Clip List that contains this essence

Below the window are three buttons that are used to manage the video essences

- All of the buttons will be enabled only when an essence is selected
- Select an essence by clicking anywhere in its row

Edit

Click the ***Edit*** button to open the essence edit window for the selected essence.

Figure 4.7 *Library panel – Video essence edit window*

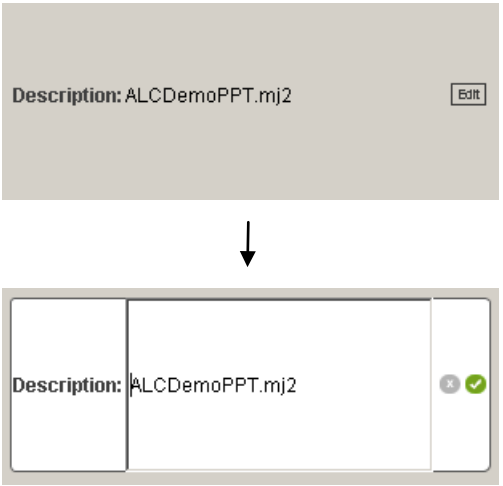
Two features of the video essence can be edited from this window:

- ***Description:*** This is the name for this essence in your system

  To edit the description:

  Click any where near the Description on the right of the panel
  - the Edit icon beside this item is a reminder that it is editable

  The editing data box will open.



  Use the cursor to select the current description, and type in the data box to edit or replace it.
  - Click the cancel [ ] icon at the right to exit the edit mode and leave the old name unchanged
  - Click the accept [ ] icon at the right to exit the edit mode and use the new name. Clicking in the "Description:" area has the same effect.

- ***AFD:*** The AFD is used to signal the preferred presentation of the aspect ratio of the item. An AFD code is inserted in the video output of the HMP-1801, unless No Selection is chosen in the procedure below.
  - The window displays an icon illustrating the currently-selected AFD code.

To change the current selection:

Click on the ***Change AFD*** button beside the AFD icon

- The *Select AFD* window opens, showing icons and descriptions representing the various AFD codes that are available

Click on an icon to select it, and then click OK to confirm it as the new AFD value and close the Select AFD window. If you click Apply, the AFD is selected, but the Select AFD window remains open. If you click Cancel, the selected AFD code does not replace the original one, and the window closes.

- The selected AFD code will be inserted in the video output of the HMP-1801
- If AFD=0 (the first choice in the window) is chosen, no AFD code will be inserted at the HMP-1801 output

Note: *in Fill and Key mode, the AFD associated with the essence will be inserted into both Fill and Key outputs.*

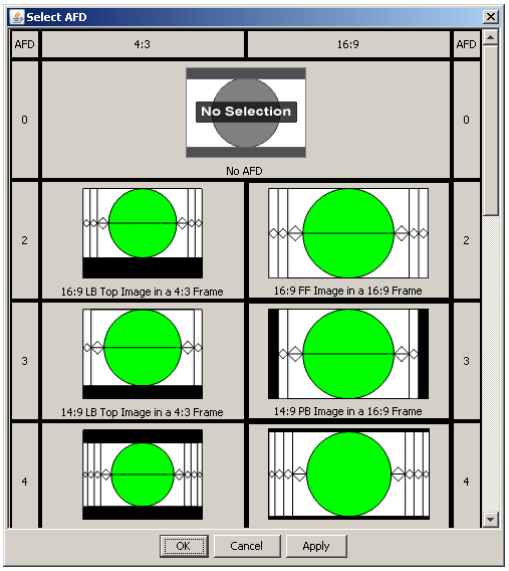
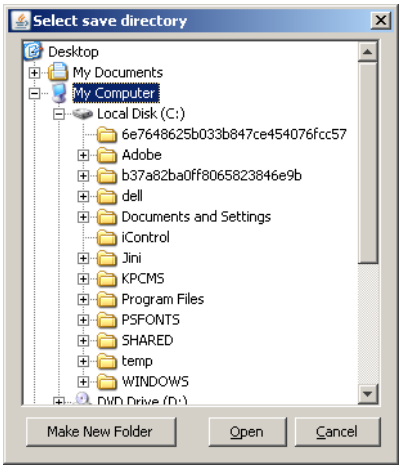


Figure 4.8 *Select AFD window*

Delete: remove the selected essence from the list and delete it from the HMP-1801's memory.

Export: export a video essence to a computer via the rear-panel ethernet port.

- Click the Export button
  - A *Select save directory* window opens showing a tree of the files on the connected computer
- Navigate to the folder in which the essence is to be saved, and click on it to select it
  - You may select Make New Folder
- Click Open at the bottom of the window
  - The file will begin to download to the selected folder
- The *Jobs* window will open
  - The progress of the current export will be tracked
- The essence will be saved as an *.mhv* file



4.1.3.2 Library – Audio

This view shows the audio essences that are stored on board the HMP-1801

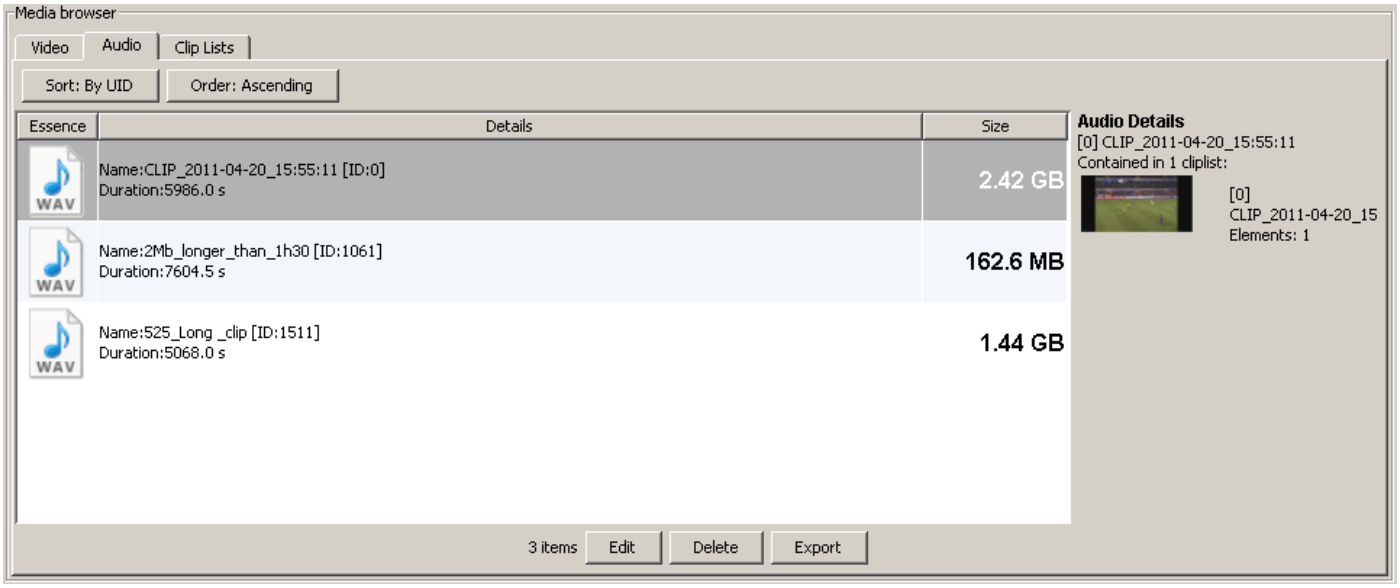


Figure 4.9 *Library panel - Audio*

Essence shows an icon indicating the audio format of the essence

Details lists specific details about the essence
Name: name assigned to the essence by the user, and an ID number
Duration: duration of the essence (time to nearest tenth of a second)

Size: Shows the size of the essence, in MB.

Use the scroll bar to move up and down the list

The total number of essences in the list is shown beside the Edit button below the main window.

Click anywhere in an essence row to select that essence.

The Audio Details of the selected essence will appear to the right of the window: ID and name

Below that will appear the icon, ID and name of every currently-defined Clip List that contains this essence

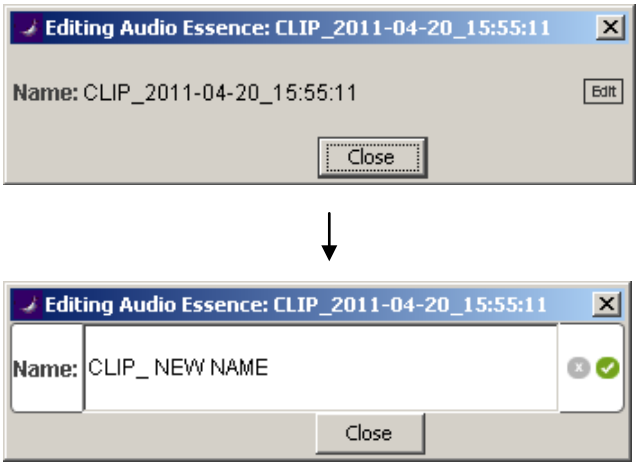
Below the window are three buttons that are used to manage the audio essences

- All of the buttons will be enabled only when an essence is selected
- Select an essence by clicking anywhere in its row

Edit

Click the ***Edit*** button to open the essence edit window for the selected essence.

Use this window to edit the Name of the selected audio essence



To edit the name:

Click anywhere near the name on the panel.

- ➢ the Edit icon beside this item is a reminder that it is editable

The editing data box will open.

Use the cursor to select the current name, and type in the data box to edit or replace it.

- Click the cancel icon [ ] at the right to exit the edit mode and leave the old name unchanged
- Click the accept icon [ ] at the right to exit the edit mode and use the new name. Clicking in the "Name:" area has the same effect.

Click *Close* to end the editing session and return to the Media Browser window.

Delete: Click the Delete button to remove the selected essence from the list and erase it from the HMP-1801's on-board memory.

Export: export an audio essence to the computer via the rear-panel ethernet port.

- Click the Export button
  - ➢ A *Select save directory* window opens showing a tree of the files on the connected computer
- Navigate to the folder in which the essence is to be saved, and click on it to select it
  - ➢ You may select Make New Folder
- Click Open at the bottom of the window
  - ➢ The file will begin to download to the selected folder
- The *Jobs* window will open
  - ➢ The progress of the current export will be tracked
- The essence will be saved as an *.mha* file

4.1.3.3 Library – Clip Lists

This view shows the Clip Lists that are defined and stored on board the HMP-1801.

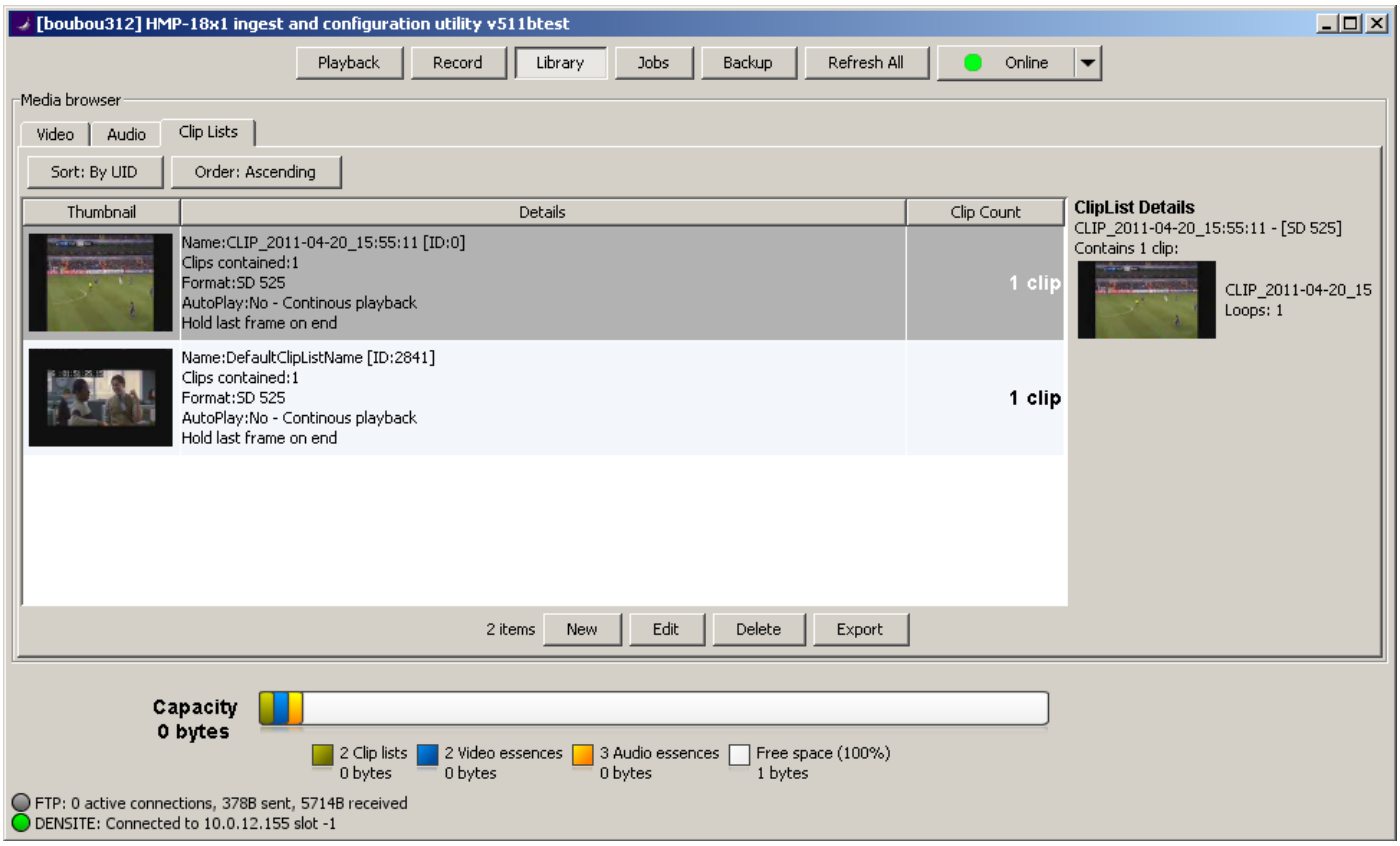


Figure 4.10 *Library panel - Clip Lists*

The view is organized by columns:

Thumbnail shows a preview image of the Clip List

Details lists specific details about the Clip List

Name:	name assigned to the Clip List by the user, plus the ID number
Clips Contained:	the number of individual clips that make up this Clip List
Format:	the video format, e.g. 1080i59.94
Autoplay:	whether the clip will start playing as soon as it is cued
[End behaviour]	Shows how the HMP-1801 will behave once the playout of this Clip List is completed

Clip count: Shows the number of individual clips that make up this Clip List

Use the scroll bar to move up and down the list

The total number of Clip Lists in the list is shown beside the Edit button below the main window.

Click anywhere in a Clip List row to select that Clip List.

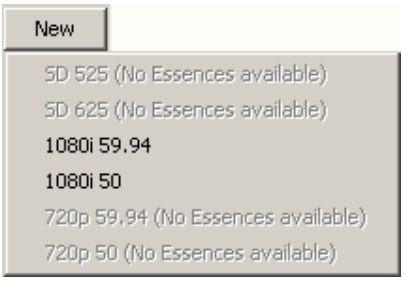
- The Details of the selected Clip List will appear to the right of the window: Name, Format, ID and number of clips contained
- Below that will appear the icon, ID and name of each clip contained in the Clip List

Below the window are four buttons that are used to manage the Clip Lists

- All of the buttons will be enabled only when a Clip List is selected
- Select a Clip List by clicking anywhere in its row

New

Click this button to begin the process of creating a new Clip List.



The button pulls down into a list of the video formats in which the Clip List could be created

- Only formats for which there are video essences available on the HMP-1801 are active
- A Clip List can only contain essences of the same video format

Click on a valid format, and the *Editing Clip List* window opens

The new Clip List is assigned an arbitrary ID and arbitrary default characteristics

- The window opens with one arbitrary blank clip defined, as Clip Lists must by definition include at least one clip.

*Note that this same Editing Clip List window opens when the **Edit** button is clicked after an existing Clip List is selected in the Media Browser window. The descriptions that follow are applicable in both cases – data must be entered completely for a new Clip List, while data may be modified when editing an existing Clip List.*

Edit

Click the ***Edit*** button to open the *Editing Clip List* window for the selected Clip List.

Note that all items appearing in the window with an edit icon

to their right can be edited

- Click anywhere along the row containing the item to open the edit window
  - The edit window may contain a text box, a pulldown list or a multi-value scroll box
- When you have modified a value in the edit window:
  - Click the cancel icon [ ] at the right to close the edit window and leave the old value unchanged
  - Click the accept icon [ ] at the right to close the edit window and use the new value. Clicking on the parameter name has the same effect.

Edit the Clip List characteristics at the top of the window:

- Clip List ID – you can enter any number, but if you enter an existing number you will be asked if you want to overwrite the previously-defined Clip List with the new one you are creating now.
- Clip List Name – enter an y name
- Auto Play – use the pulldown to select YES (the Clip List will play immediately every time it is cued) or NO (a Play command must be received before the Clip List will play)
- End Behavior – use the pulldown to select what will happen after the last frame of the Clip List has been played:
  - Go to black
  - Hold the last frame
  - Cue to the first frame
- Loop Count – you may choose to have the Clip List repeat continuously until stopped manually (0 Continuous Play), or to loop through a specific number of times before initiating the end behavior. Use the scroll box to select the desired number

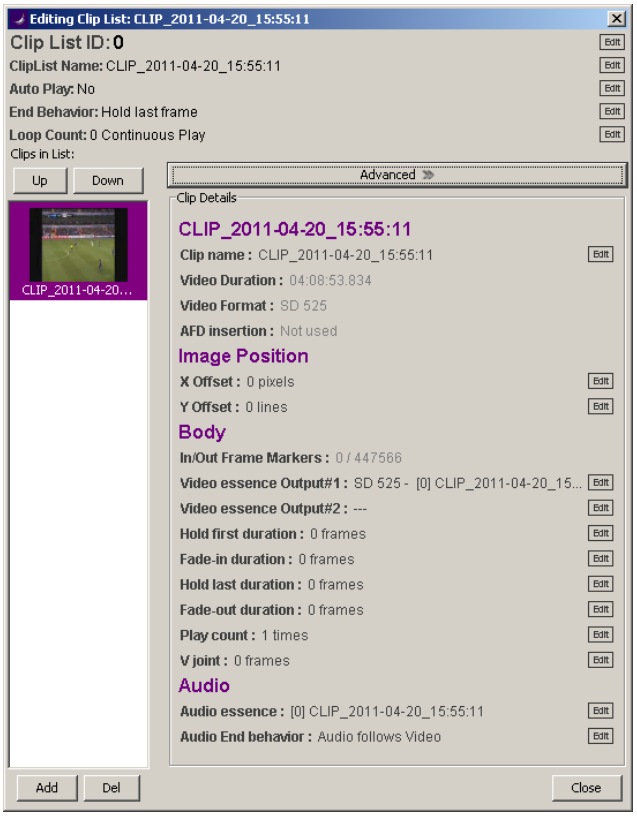


***Figure 4.11** Editing Clip List window – simple view*

A Clip List consists of a sequence of one or more clips, and the lower part of the *Editing Clip List* window is devoted to the definition of the clips that make up the Clip List.

Clips only exist within the context of a Clip List.

Each clip is represented by an icon in the section to the left of the window

- The currently selected clip is highlighted on a purple background
- Scroll up and down the list using the Up and Down buttons at the top (mainly useful if the list has too many clips to show at one time)

To **select** a clip, click on it or use the Up and Down buttons to scroll to it.

To **add** a clip to the Clip List, click the *Add* button at the bottom

- A new blank clip is added to the list
- You must define its contents in the clip details section

To **delete** a clip from the Clip List, select it and click the *Del* button at the bottom

- Video and audio essences associated with the clip are not deleted, and remain in the HMP-1801 memory

The *Clip Details* section on the right shows all the parameters of the selected clip and the

icon shows those that are editable.

- **Clip Name** – enter a suitable name in the text box
- **Video Duration** – calculated from the duration of the video essence, plus any extra frames added before and after (see *Hold First duration* and *Hold last duration* below)
- **Video Format** – as specified when the Clip List was created
- **AFD insertion** – as selected in the video essence edit procedure
- **X-offset** – horizontal image position relative to the top left of the image (0 pixels to max allowed by the format, e.g. 1920 pixels for 1920x1080 video)
- **Y-offset** – vertical image position relative to the top left of the image (0 pixels to max allowed by the format, e.g. 540 lines for 1920x1080 video)
- **In/Out Frame Markers** – shows the frame numbers within the video essence of the start and end of playback (set in the advanced editing controls – see below)
- **Video essence Output#1** – Use the pulldown to select the video essence for this clip. Only essences in the video format of the Clip List are shown. In 3D mode, right eye for stereoscopic playback.
- **Video essence Output#2** – Key source: must be of the same video format & length as the Fill essence, and must be coded with a bit rate less than 70 Mbps in 60 Hz, and les than 60 Mbps in 50 Hz. Essences that do not meet this requirement will appear in red and the reason will be shown in tool tip. In 3D mode, Left eye for stereoscopic playback.
- **Hold first duration** – Select a number of frames to freeze on the first frame after Play is triggered before beginning playback of the Clip
- **Fade-in duration** – Select the number of frames to fade up from black when play is initiated
- **Hold last duration** – Select a number of frames to freeze on the last frame of the clip after the last frame has been played, as part of the clip playback.
- **Fade-out duration** – Select the number of frames to fade down to black at the end of the clip
- **Play count** – select the number of times the clip is to be repeated before the end behavior is activated. 0 means continuous play

- **V joint** – select the number of frames for a fade down to black and fade up from black between plays, when a clip is repeated more than once. This is not the same as Fade-in and Fade-out, which occur at the start of the first playback and the end of the last playback. 0 means no V joint.
- **Audio essence** – Use the pulldown to select the audio essence to be used in this clip
- **Audio end behavior** – Choose what happens when the audio essence is not the same duration as the video essence:
  - Audio follows Video
  - Video holds until Audio ends

Click on the ***Advanced>>*** button above the Clip Details section to expand the window to display editing controls that allow the clip details to be refined.
Note that you cannot use the advanced controls while the card is in Record mode.

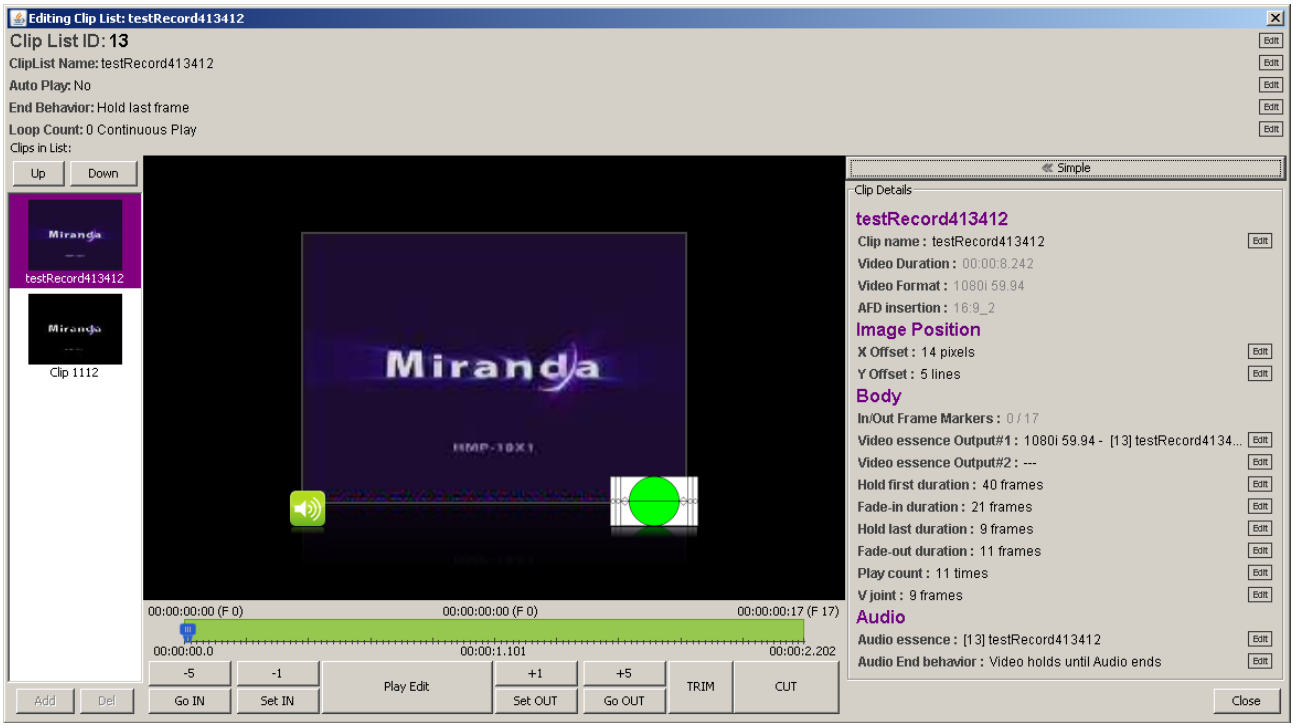


Figure 4.12 *Editing Clip List window - advanced view*

The window shows a thumbnail of the video essence, plus an icon representing the AFD code associated with it, and an icon indicating that there is an associated audio essence, if applicable.

Below the window are controls allowing the in and out points of the video playback to be changed, useful for:

- Setting in or out points based on video content
- Establishing a desired duration for the item

The graphic between the thumbnail window and the control buttons shows the video essence timeline, expressed in H:M:S below (seconds to the nearest thousandth), and H:M:S:F above, with the total frame count shown in brackets. A blue pointer can be moved along the timeline.

The H:M:S:F timeline shows the in and out points, plus the current position of the pointer. The graphic shows the playout portion of the video essence (i.e. the portion between the in and out points) in green.

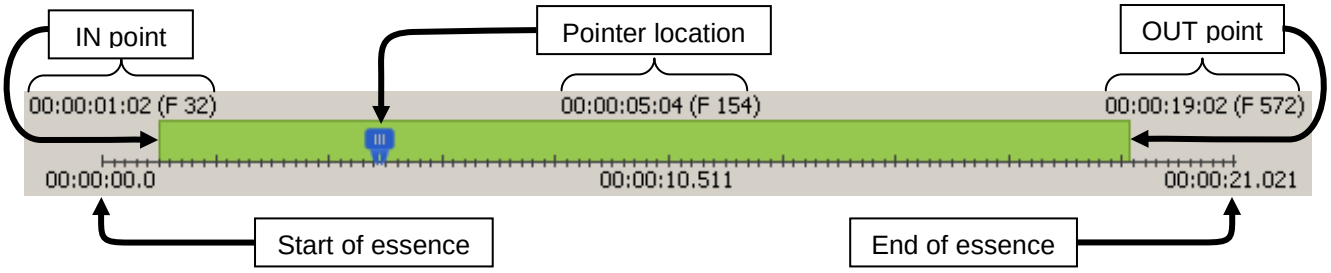


Figure 4.13 *Video essence timeline display*

When a clip is first created, the IN and OUT for playback of the video essence correspond to the first and last frames of the essence as saved in the HMP-1801 memory.

This panel allows the user to move those points in order to optimize the presentation of the video.

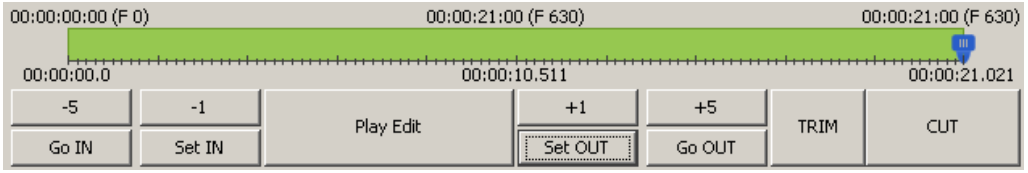


Figure 4.14 *Video essence In and Out point selection controls*

The process is straight-forward:

Move the POINTER to the desired IN point:

- Use the Go IN and Go OUT buttons to move directly to the current IN and OUT points
- Click-and-drag to use the mouse to move the pointer
- Use the [-5, -1, +1, +5] buttons to move the pointer in 1 or 5 frame increments in the desired direction

View the video to base the IN or OUT point selection on scene content.

- The video corresponding to the pointer position is visible at the output when in this mode, allowing the in and out points to be selected to frame accuracy based on scene content

When the desired point has been found:

- Click Set IN to set the current pointer location as the IN point
- Click Set OUT to set the current pointer location as the OUT point

Confirm the choices you have made in one of two ways:

- Click TRIM to save the IN and OUT points, but leave the essence itself untouched
  - ➢ You can go back and revise the IN and OUT points later
- Click CUT to crop the essence to match the IN and OUT points
  - ➢ The video that came before the new IN and after the new OUT is removed from the essence, so you cannot go back later and move the IN earlier or the OUT later

Delete: remove the selected Clip List from the list and delete it from the HMP-1801's memory.

Export: export a Clip List to a computer via the rear-panel ethernet port.

- Click the Export button
  - A *Select save directory* window opens showing a tree of the files on the connected computer
- Navigate to the folder in which the Clip List is to be saved, and click on it to select it
  - You may select Make New Folder
- Click Open at the bottom of the window
  - The file will begin to download to the selected folder
- The *Jobs* window will open
  - The progress of the current export will be tracked
- The Clip List will be saved as an *.mhc* file

4.1.4 Jobs

The *Jobs* window provides resources to manage all encoding and transfer tasks for this HMP-1801. This window is available in both Online and Offline modes, but note that transfers cannot be executed while offline.

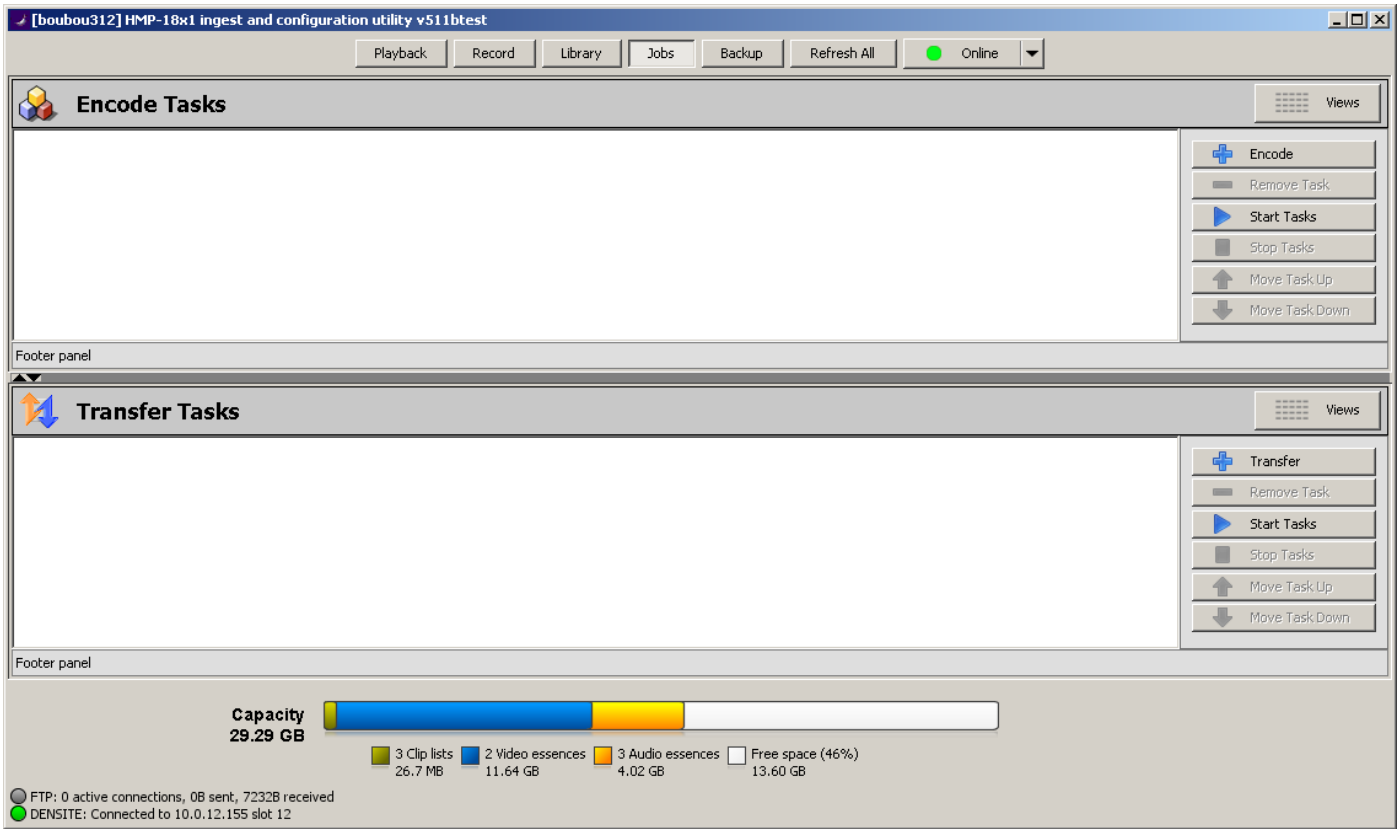
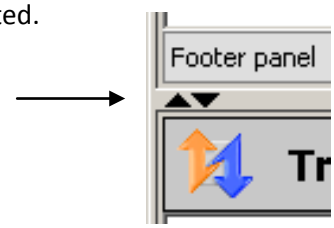


Figure 4.15 *Ingest and Configuration Utility - Jobs window*

Separate panes are provided for Encode tasks and Transfer tasks.

- Use the arrowhead icons at the left between the panes to expand either of these to occupy the whole window if many tasks are listed.



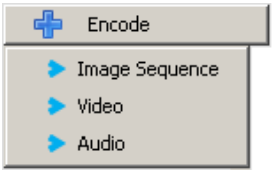
Encode Tasks

This pane provides resources to locate video and audio material to be encoded into formats suitable for use on the HMP-1801, create and manage a list of encoding tasks, and execute the encoding process.
Multiple tasks are queued, and are executed one at a time in list sequence.

- Encode tasks may be executed at any time, independent of the card's current status

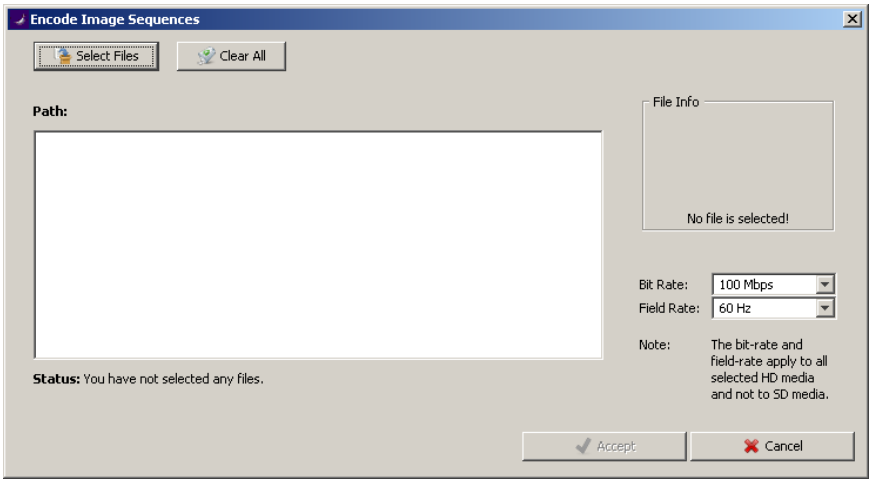
Step 1 – Create a list of encode tasks

Click on the Encode button to display a list of task types.



Click on a task type to open a new window in which files of that type can be selected.

- Encode Image Sequences window



  Click Select Files and navigate to an appropriate file on your computer. Open the file to add it to the list in the window.

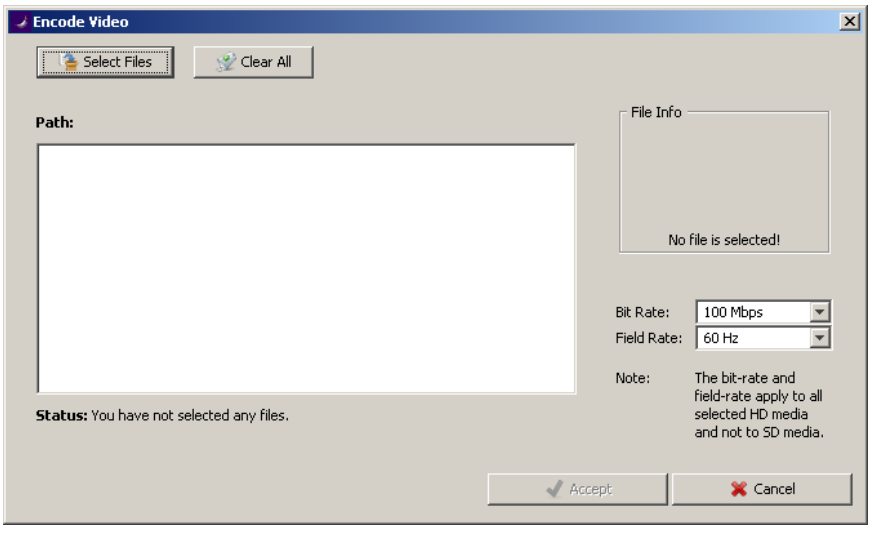
  Appropriate file types are:
  bmp, tga, jpg, jpeg, jpf, jp2, jpx

  - A 32 bit java installation is required in conjunction with Apple Quicktime in order to be able to ingest jp2 images or image sequences. It is possible to install a 32 bit java on a 64 bit system.

  Once a list of files has been accumulated, use the pulldowns to select the bit rate and field rate that will be used to encode all selected HD media in the list (does not apply to SD media)

  Click Accept to add the list of tasks shown in the window to the Encode Tasks pane.

- Encode Video window



  Click Select Files and navigate to an appropriate file on your computer. Open the file to add it to the list in the window.

  Appropriate file types are:

  bmp, tga, jpg, jpeg, jpf, jp2, jpx, avi
  (note: avi with Morgan JP2K codec only)

  Once a list of files has been accumulated, use the pulldowns to select the bit rate and field rate that will be used to encode all selected HD media in the list (does not apply to SD media)

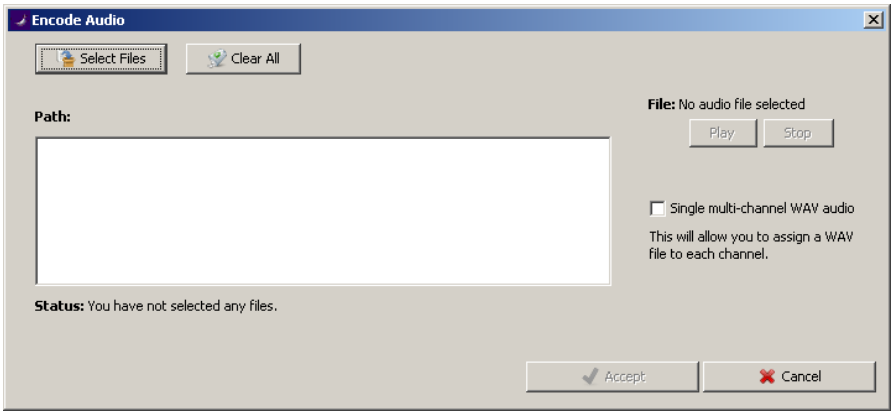
  Click Accept to add the list of tasks shown in the window to the Encode Tasks pane.

- Encode Audio window

  Click Select Files and navigate to an appropriate file on your computer. Open the file to add it to the list in the window.

  Appropriate file types are:
  wav (48 kHz only)

  Click the checkbox to encode the files as single multi-channel WAV audio, so that a WAV file can be assigned to each channel individually.



  Click Accept to add the list of tasks shown in the window to the Encode Tasks pane.

Step 2 – Manage the list of encode tasks

The list of encode tasks will be executed in sequence from top to bottom. Tools are provided to arrange the tasks in a preferred sequence, and to remove tasks that were added in error or subsequently reconsidered.

- Click on a task in the list to select it
- Click Remove Task to delete the selected task from the list
- Click Move Task Up to move the selected task up one place in the list
- Hold CTL and click Move Task Up to move the selected task to the top of the list
- Click Move Task Down to move the selected task down one place in the list
- Hold CTL and click Move Task Down to move the selected task to the bottom of the list

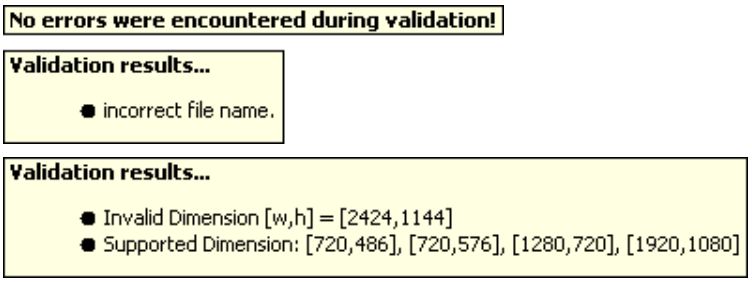
Step 3 – Execute the task list

Click Start Tasks to begin executing the list of tasks in order from the top of the list.

Click Stop Tasks to terminate the task execution process.

Note – If you have selected a file for the list that is not valid for encoding, it will be flagged by a red icon in the list.

Hover the cursor over any task in the list; the results of the validity check will be reported in the tooltip, e.g.:



Transfer Tasks

Step 1 – Create a list of transfer tasks

Click Transfer to open a new window in which files to transfer can be selected.

Browse your computer to locate appropriate files, and Open to add them to the list in the Transfer pane.

Appropriate file types are:
mhv, mha, mhc, mxf
(note: mxf is generated only by Vertigo software. All other files related to this mxf (.mj2, .mj2a, .wav) need to be in the same directory)

Step 2 – Manage the list of transfer tasks

The list of transfer tasks will be executed in sequence from top to bottom. Tools are provided to arrange the tasks in a preferred sequence, and to remove tasks that were added in error or subsequently reconsidered.

- Click on a task in the list to select it
- Click Remove Task to delete the selected task from the list
- Click Move Task Up to move the selected task up one place in the list
- Hold CTL and click Move Task Up to move the selected task to the top of the list
- Click Move Task Down to move the selected task down one place in the list
- Hold CTL and click Move Task Down to move the selected task to the bottom of the list

Step 3 – Execute the task list

Click Start Tasks to begin executing the list of tasks in order from the top of the list.

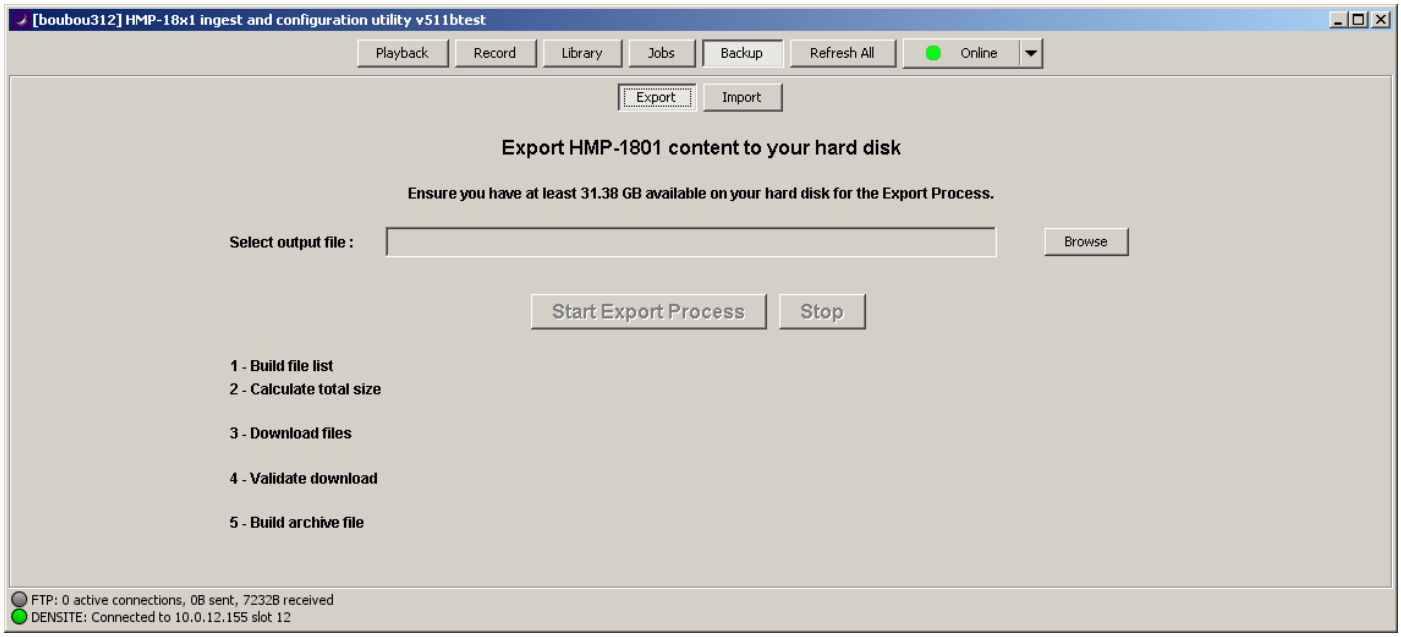
Click Stop Tasks to terminate the task execution process.

Note that if a task is terminated in progress, the transfer will resume on the next Start Tasks if connected to the same card.

4.1.5 Backup

This section allows the user to save the entire contents of the HMP-1801's compact flash memory card to a file on external media, and to retrieve a backup file and restore the HMP-1801 compact flash memory to the saved state.

Export



To save the contents of the HMP-1801 Compact Flash to an external storage medium:

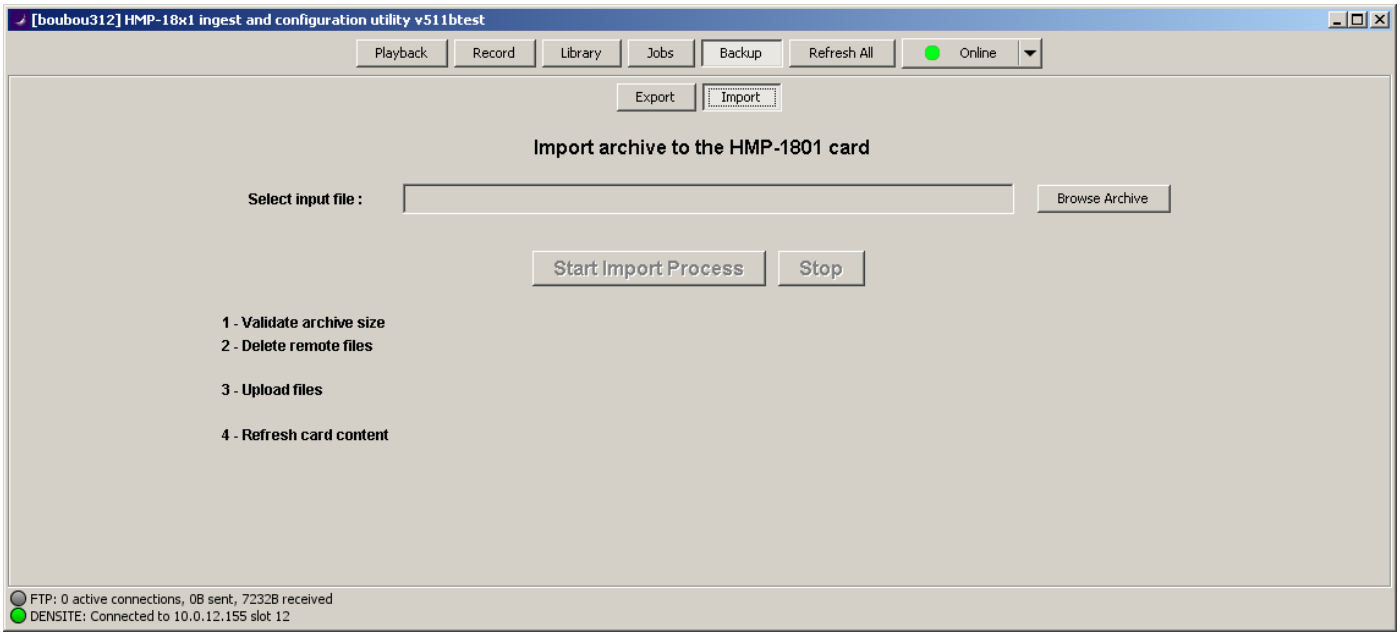
1. Click the export button to gain access to the export file controls.
   - The process saves the entire compact flash memory – partial saves are not supported
   - Be sure to have *the specified number of GB* available on the external storage medium to save the file (the specified number depends on the compact flash contents)
2. Click *Browse* to open a Save dialog
3. Navigate to the location where you wish to save the file

4. Type an appropriate file name in the data box to create a new file

   OR

   Click on an existing file if you want to replace it; its name will appear in the data box
   - HMP-1801 backup files have the file type .mhb
5. Click SAVE; you will be returned to the Export window with the file address in the "Select Output File" window, and the *Start Export Process* button enabled.
6. Click the *Start Export Process* button
   - The status of the export will be indicated in the window beside the 5 steps on the left-hand side
   - Click *Stop* if you want to abort the save

Import



To restore the contents of the HMP-1801 Compact Flash from a file saved on an external storage medium:

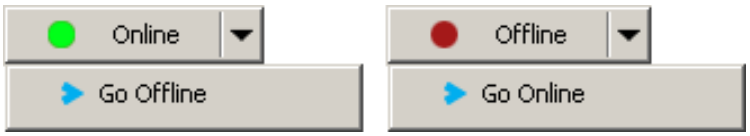
1. Click the import button to gain access to the import file controls.
   - The process restores the entire compact flash memory
2. Click *Browse* to open an *Open* dialog
3. Navigate to the location where you saved the backup file
4. Click on the backup file to select it and then click Open, or, double-click the file
   - HMP-1801 backup files have the file type .mhb
5. You will be returned to the Export window with the file address in the “Select Input File” window, and the *Start Import Process* button enabled.
   - Note that importing an .mhb archive will first remove all the current contents of the CF card, and then replace them with the contents of the archive
6. Click the *Start Import Process* button
   - The status of the import will be indicated in the window beside the 5 steps on the left-hand side
   - Click *Stop* if you want to abort the save

4.1.6 Refresh All

The *Refresh All* button forces a file synchronization with the HMP-1801 card. In normal use, the list should always be up to date and a refresh would not make any difference. However, when many Web applications are started at the same time or if the card is used with the Vertigo XMS software, a refresh might be needed in order to get to files transferred by the other applications.

4.1.7 Online / Offline

The Online / Offline pulldown switches the current operating mode between these two states, and always indicates the current state by its appearance:



The Offline mode is useful for encoding jobs as a background task, but transfers cannot be done while offline.

4.2 Firmware Upgrade

4.2.1 Using the Miranda Interface Updater (MIU)

- Enter the Densite frame's IP Address
- Select the Upgrade file (.tar.gz)
- Check the cards to update
- Press "UPGRADE"
- Wait until the upgrade is completed

Note: *Make sure to put the Densité Controller in Standby mode in iControl before proceeding with a card update.*

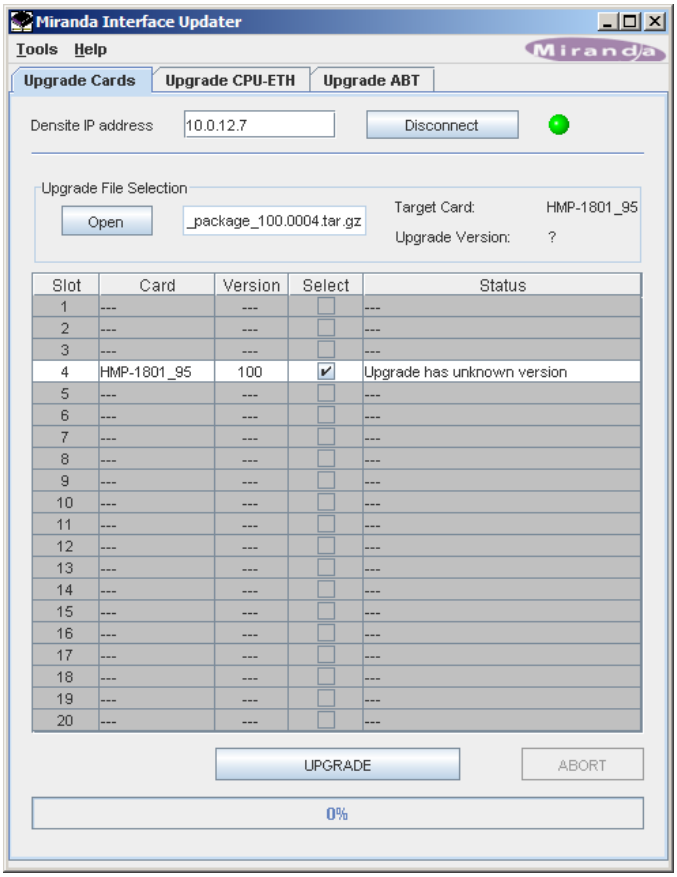


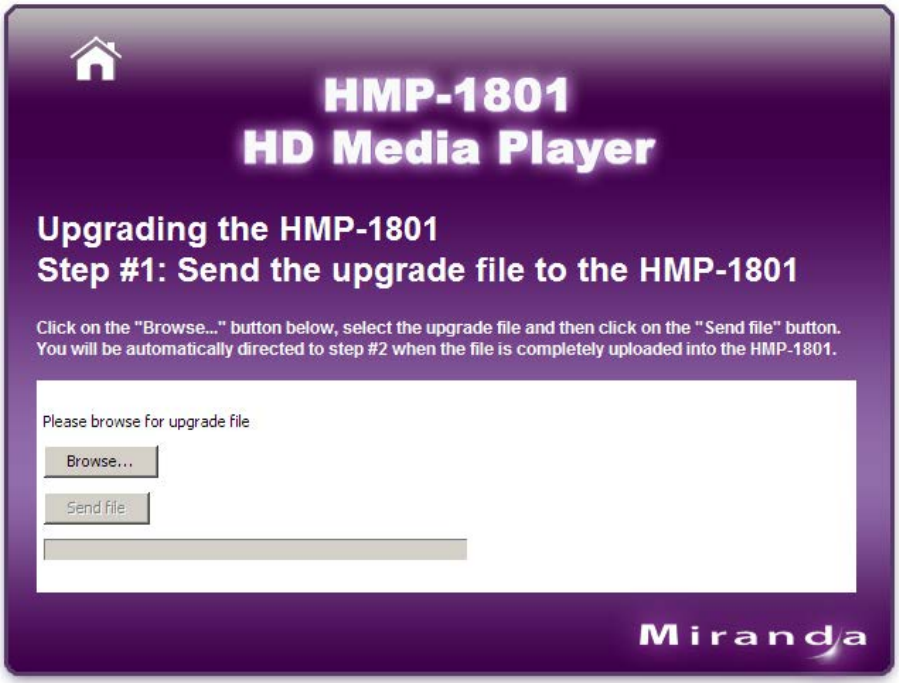
Figure 4.16 *Miranda Interface Updater*

4.2.2 Using the HMP-1801 webpage

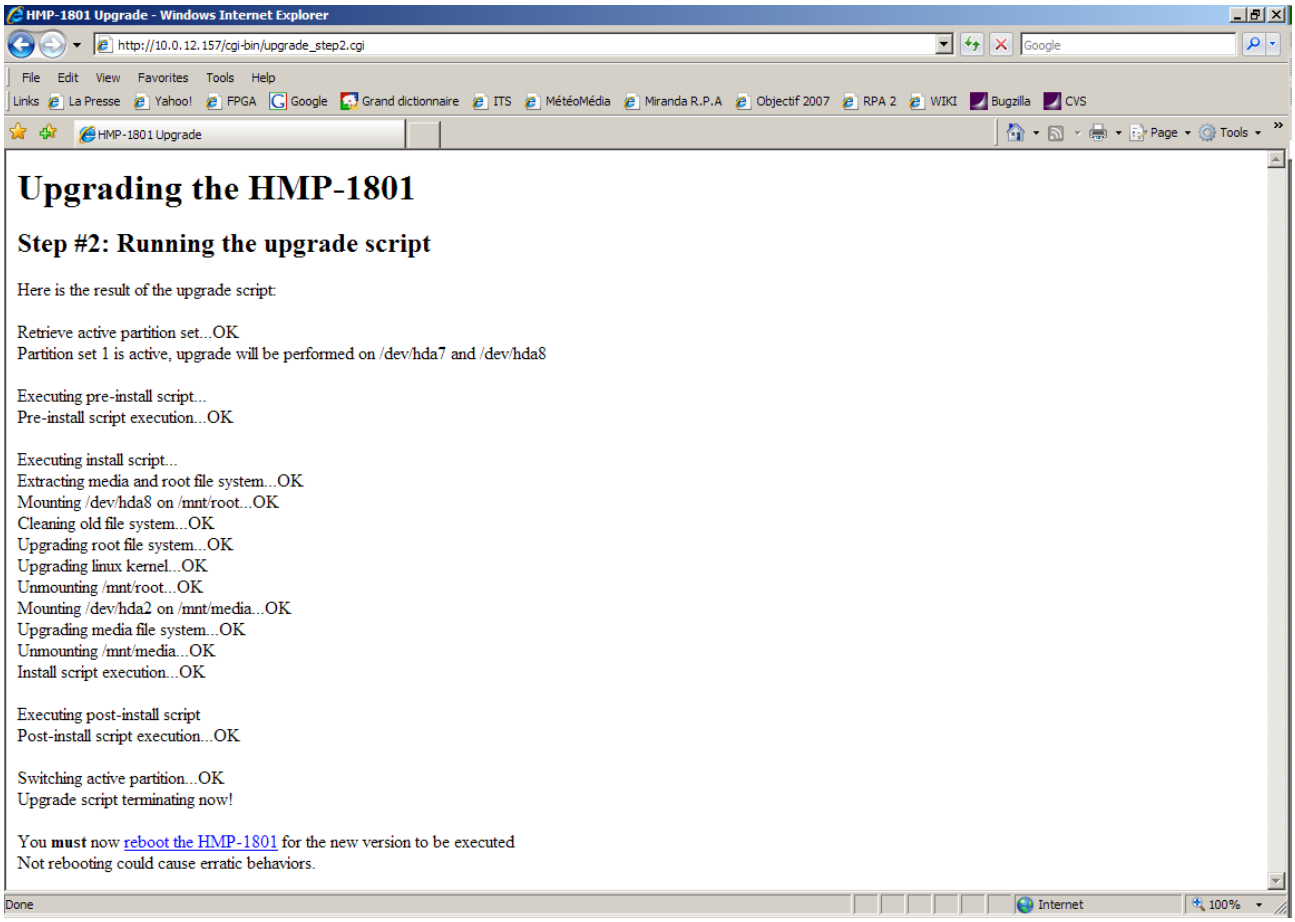
Step 1: Type the IP Address of the card in a web browser to get the HMP-1801 web page

Step 2: Jump to the Updater webpage by clicking on the *"Start HMP Updater…."* button.

Step 3: Select upgrade package



Step 4: Wait until the upgrade is completed



Step 5: Click on the "reboot the HMP-1801" link to apply the changes.

5 Specifications

REFERENCE INPUT

SMPTE 170M/ ITU 624-4/BUT 470-6 or Comp. Sync
SMPTE 274M / SMPTE 296M Tri-Level Sync

INPUTS

SIGNAL (1)	SMPTE-259M-C (270Mbps) and SMPTE-292M (1.485, 1.485/1.001 Gbps)
SUPPORTED FORMATS	SD: 480i59.94, 576i50 HD: SMPTE-274M: 1080i59.94, 1080i50 HD: SMPTE-296M: 720p59.94, 720p50
EMBEDDED AUDIO (8 CH)	SMPTE 299M / 277M
RETURN LOSS	>15 dB, up to 1.5GHz

OUTPUTS

SERIAL DIGITAL OUTPUT

SIGNAL (2)	SMPTE-259M-C (270Mbps) and SMPTE-292M (1.485, 1.485/1.001 Gbps) (teletext is not supported)
SUPPORTED FORMATS	SD: 480i59.94, 576i50 HD: SMPTE-274M: 1080i59.94, 1080i50 HD: SMPTE-296M: 720p59.94, 720p50
EMBEDDED AUDIO (8 CH)	SMPTE 299M / 277M
RETURN LOSS	>15 dB, up to 1.5GHz
JITTER	< 0.2 UI in both SD and HD

STORAGE

On-board Flash memory Offered in 4GB, 8GB, 16GB & 32GB versions

Compact Flash Size	4	8	16	32
Video Bitrate (1-100 Mbps)	100			
Audio (0=OFF, 1=ON)	1			
Metadata (0=OFF, 1=ON)	1			
OS Reserved Space (MB)	500	500	500	500
Video (MB/s)	12.50	12.50	12.50	12.50
Audio (MB/s: 48kHz, 8 ch, 24 bits)	1.10	1.10	1.10	1.10
Metadata (MB/s)	0.50	0.50	0.50	0.50
Total number of seconds	235	506	1047	2129
Duration (min)	3	8	17	35
Duration (s)	55	25	26	29

OTHER

MAXIMUM POWER	10 Watts Max
PHYSICAL FORMAT	Densité, Densité-2, Densité-3

ANNEX 1 – HMP-1801 User Interface (local menu structure)

The contents of the menu depend on the card operating mode – PLAYBACK or RECORD. Both versions are shown below.

A) HMP-1801 in PLAYBACK mode

STATUS	CLIP STATUS (CUED, PLAYING, STOPPED, PAUSED)
	REF 525 / REF 625 / REF 1080i59.94 / REF 1080i50 / REF 720p59.94 / REF 720p50 / URS 525 / URS 625 / INTERNAL REF
	REF MISMATCH
	NO REAR / SINGLE REAR / DOUBLE REAR 3U
	OUTPUT:525/625/720@50p/720@59.94p/1080@50i/1080@59.94i
	ETH STATUS (100BASETX-FD/100BASETX-HD/10BASET-FD/10BASET-HD)
	HARDWARE FAILURE

CARD MODE	[**PLAY**, RECORD]

REFERENCE	SOURCE	[**AUTO**, EXTERNAL, URS, INTERNAL]
	URS FORMAT	[**OFF**, 29.97, 25]

CARD CONFIG	DEFAULT CLIP	[CLIP LIST]		
	TIMING	VERTICAL	[-xxx, …, **0**, …, xxx]	
		HORIZONTAL	[**0**, xxx]	
	AUDIO SOURCE	CHANNEL 1	[MUTE, **1**, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 2	[MUTE,1, **2**, 3, 4, 5, 6, 7, 8]	
		CHANNEL 3	[MUTE,1, 2, **3**, 4, 5, 6, 7, 8]	
		CHANNEL 4	[MUTE,1, 2, 3, **4**, 5, 6, 7, 8]	
		CHANNEL 5	[MUTE,1, 2, 3, 4, **5**, 6, 7, 8]	
		CHANNEL 6	[MUTE,1, 2, 3, 4, 5, **6**, 7, 8]	
		CHANNEL 7	[MUTE,1, 2, 3, 4, 5, 6, **7**, 8]	
		CHANNEL 8	[MUTE,1, 2, 3, 4, 5, 6, 7, **8**]	
		CHANNEL 9	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 10	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 11	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 12	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 13	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 14	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 15	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
		CHANNEL 16	[**MUTE**,1, 2, 3, 4, 5, 6, 7, 8]	
	AUDIO CONFIG	GROUP 1	AUDIO EMBED [ON, **OFF**]	
		GROUP 2	AUDIO EMBED [ON, **OFF**]	
		GROUP 3	AUDIO EMBED [ON, **OFF**]	
		GROUP 4	AUDIO EMBED [ON, **OFF**]	
	OUTPUT #2 CONFIG	KEY SOURCE	[**AUTO**, COPY OF OUT #1]	
		KEY OFFSET	VERTICAL	[-5…**0**…5] all formats
			HORIZONTAL	[**0**…1440] 525 & 625 [**0**…1920] 1080i [**0**..1280] 720p
	METADATA	AFD	INSERTION	[ON, OFF]
			LINE INSERT	[**12**…19] 525 [8..**10**..22] 625 [9..**11**..20] HD

		TIME CODE	INSERTION	[AUTO, OFF]
			DUPLICATE	[ON, OFF]
			LINE INSERT	[10, 20]
		CLOSED CAPTION	INSERTION	[AUTO, OFF]
		DOLBY METADATA	INSERTION	[AUTO, OFF]
			LINE INSERT	[9..20]
			PACKET SDID	[1..9]

ETH OPTION	IP ADDRESS	[XXX.XXX.XXX.XXX]
	SUBNET MASK	[XXX.XXX.XXX.XXX]
	GATEWAY	[XXX.XXX.XXX.XXX]
	MAC	[AA:BB:CC:DD:EE:FF] (RO)
	SPEED/DUPLEX	[**AUTONEGOTIATE**, 10BASET-FD, 10BASET-HD, 100BASET-FD, 100BASET-HD]
	HOSTNAME	
	[RESET TO DEFAULT]	

CLIP PLAYBACK	CUE	OUTPUT 1	[LIST OF CLIPS NAMES]
		OUTPUT 2	[LIST OF CLIPS NAMES]
	PLAY	[**OUTPUT 1**, OUTPUT 2]	
	PAUSE	[**OUTPUT 1**, OUTPUT 2]	
	STOP	[**OUTPUT 1**, OUTPUT 2]	

GPI I/O CONFIG	IN #1	OUTPUT	[**1**,2]
		CUE CLIP #	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	
		[STOP CLIP]	
	IN #2	OUTPUT	[**1**,2]
		CUE	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	
		[STOP CLIP]	
	IN #3	OUTPUT	[**1**,2]
		CUE CLIP	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	
		[STOP CLIP]	
	IN #4	OUTPUT	[**1**,2]
		CUE CLIP	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	
		[STOP CLIP]	
	IN #5	OUTPUT	[**1**,2]
		CUE CLIP	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	
		[STOP CLIP]	
	IN #6	OUTPUT	[**1**,2]
		CUE CLIP	[LIST OF CLIPS NAMES]
		[PLAY CLIP]	
		[PAUSE CLIP]	

		[STOP CLIP]	

CONFIG ALARM	NO REF	ALARM LEVEL	[GREEN, YELLOW, **RED**, FLASH RED]
		ALARM REPORT	[**NONE**, GPI]
	REF MISMATCH	ALARM LEVEL	[GREEN, YELLOW, **RED**, FLASH RED]
		ALARM REPORT	[**NONE**, GPI]

SYSTEM	PERFORM FS CHECK	[START]	(Note: initiates a File System check. This function is not available on the iControl interface)

OPTIONS		

VERSION	HMP-1801: XXX (RO)

FACTORY DEFAULTS	[RESTORE]

B) HMP-1801 in RECORD mode

STATUS	CLIP STATUS (RECORDING, STOPPED)
	CARD MODE (PLAY, RECORD)
	NO REAR / SINGLE REAR / DOUBLE REAR 3U
	INPUT:525/625/720@50p/720@59.94p/1080@50i/1080@59.94i/NO INPUT
	ETH STATUS (100BASETX-FD/100BASETX-HD/10BASET-FD/10BASET-HD)
	HARDWARE FAILURE
	FIRMWARE FAILURE
	AUDIO (AUDIO DETECTED, NO AUDIO)
	AFD (NO AFD, AFD DETECTED)
	DOLBY METADATA (DOLBY MET DETECT, NO DOLBY MET)
	TIME CODE (NO TC, TC DETECTED)
	CLOSED CAPTION (NO CC, CC608 DETECTED, CC708 DETECTED)
	NAME DROPPER (NO NAME DROPPER, NAME DROP DETECT)

CARD MODE	[**PLAY**, RECORD]

CARD CONFIG	RECORD OPTIONS	RECORD BIT RATE	SD	[1…**25**…100] Mbit/s	
			HD	[1…**100**] Mbit/s	
		AUDIO	CAPTURE	[**ENABLE**, DISABLE]	
			CHANNEL EXTRACT	CHANNEL 1	[OFF, **1**…16]
				CHANNEL 2	[OFF, 1, **2**…16]
				CHANNEL 3	[OFF, 1…**3**…16]
				CHANNEL 4	[OFF, 1…**4**…16]
				CHANNEL 5	[OFF, 1... **5**…16]
				CHANNEL 6	[OFF, 1…**6**…16]
				CHANNEL 7	[OFF, 1…**7**...16]
				CHANNEL 8	[OFF, 1…**8**…16]
		AFD	CAPTURE	[**ENABLE**, DISABLE]	
		TIMECODE	CAPTURE	[**ENABLE**, DISABLE]	
		CLOSED CAPTION	CAPTURE	[**ENABLE**, DISABLE]	
		DOLBY METADATA	CAPTURE	[**ENABLE**, DISABLE]	
			INPUT SELECT	[**1**…9]	

		NAME DROPPER	CAPTURE	[**ENABLE**, DISABLE]
	LOW MEM THRESH.	[0 … **25** … 100] %		

RECORDING	[START RECORDING, STOP RECORDING]

GPI I/O CONFIG	IN #1	[**OFF**, RECORD, STOP]
	IN #2	[**OFF**, RECORD, STOP]
	IN #3	[**OFF**, RECORD, STOP]
	IN #4	[**OFF**, RECORD, STOP]
	IN #5	[**OFF**, RECORD, STOP]
	IN #6	[**OFF**, RECORD, STOP]

ETHERNET CONFIG	IP ADDRESS	[XXX.XXX.XXX.XXX]
	NETMASK ADDRESS	[XXX.XXX.XXX.XXX]
	GATEWAY ADDRESS	[XXX.XXX.XXX.XXX]
	MAC ADDRESS	[AA:BB:CC:DD:EE:FF] (RO)
	HOSTNAME	
	SPEED/DUPLEX	[**AUTONEGOTIATE**, 10BASET-FD, 10BASET-HD, 100BASET-FD, 100BASET-HD]
	[RESET TO DEFAULT]	

CONFIG ALARMS	NO INPUT	ALARM LEVEL	[GREEN, YELLOW, **RED**, FLASH RED]
		ALARM REPORT	[**NONE**, GPI]
	MEMORY LOW	ALARM LEVEL	[GREEN, **YELLOW**, RED, FLASH RED]
		ALARM REPORT	[**NONE**, GPI]
	OUT OF MEMORY	ALARM LEVEL	[GREEN, YELLOW, **RED**, FLASH RED]
		ALARM REPORT	[**NONE**, GPI]

SYSTEM	PERFORM FS CHECK	[START]	(note: initiates a File System check. This function is not available on the iControl interface)

VERSION	HMP-1801: XXX (RO)

OPTIONS		

FACTORY DEFAULTS	[RESTORE]

ANNEX 2 – VDCP Commands Supported by HMP-1801

In the tables below:

Supported – Full .....means the command is implemented and respects the VDCP protocol.

Supported – Partial.....means the command will be answered by the appropriate response but the parameters in the answer may not represent reality. Specific details are given in the tables for each case.

Supported – Not .....means the command will be acked and the *Not Supported* bit of the Port Status Request command will be set.

System Commands

Command Name	Supported			Comments
	Full	Partial	Not	
Local Disable			X	
Local Enable			X	
Delete From Archive			X	
Delete Protect ID			X	
UnDelete Protect ID			X	

Immediate Commands

Command Name	Supported			Comments
	Full	Partial	Not	
Stop	X			
Play	X			
Record	X			
Freeze			X	
Still	X			
Step			X	
Continue		X[2]		[2] Continue command is interpreted the same way as the play command, so either the *play* command or the *continue* command can be used to exit the still state.
Jog			X	
Veri. Play			X	
Unfreeze			X	
EE Mode			X	

Preset / Select Commands

Command Name	Supported			Comments
	Full	Partial	Not	
Rename ID			X	
Preset Std. Time			X	
New Copy			X	
Sort Mode			X	
Close Port	X			
Select Port	X			
Record Init	X			
Play Cue	X			
Cue with Data		X[2]		[2] The command can be used to cue a clip but the start position and the duration parameters are ignored.
Delete ID		X[3]		[3] The command is acked but no ID is deleted by the HMP-1801.
Get From Archive			X	
Clear			X	
Send To Archive			X	
% to signal full			X	
Record Init with Data			X	
Select Logical Drive			X	
System Delete ID			X	
Preset			X	
Vid. Compr. Rate			X	
Aud. Sample Rate			X	
Aud. Comp. Rate			X	
Audio IN Level			X	
Audio OUT Level			X	
Vid. Compr. Param.			X	
Select Output			X	
Select Input			X	
Record Mode			X	
SC Adjust			X	
H. Pos. Adjust			X	
Disk Preroll			X	
Copy To File			X	
Delete File From			X	
Abort Copy File To			X	

Sense Requests

Command Name	Supported			Comments
	Full	Partial	Not	
Open Port	X			
Next	X			
Last			X	
Port Status Request		X[1]		[1] Status 1: contains valid status Status 2: Only *IDs Added* and *IDs Deleted* bits are used Status 3: only *Not Supported* errors are flagged for the moment Status 4: all 0 Status 5: all 0
Position Request	X	X[2]		[2] Will always answer with the position to zero (Type 2).
Active ID Request	X			
Device Type Request	X			
Syst. Status Request		X[3]		[3] The HMP-1801 always answers with all parameters set to 0
ID List	X			
ID Size Request	X			
IDs Added to Arch.			X	
ID Request	X			
Compr. Settings Request			X	
IDs Added List	X			
IDs Deleted List	X			
Multi Port Status			X	

Deferred (Time Line) Commands

Deferred (Time Line) commands are not supported by the HMP-1801.

Macro Commands

Macro commands are not supported by the HMP-1801