MCS-ClipShot

Tactile Graphic Control Surface

Users Manual

JLCooper Electronics

MCS-ClipShot User's Manual, Second Edition (June 18, 2009)
Part Number 932093

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Introduction

Thank you for purchasing the MCS-ClipShot. The MCS-ClipShot allows you to control video, audio and show control applications in an intuitive manner. No longer do you have to use a mouse and keyboard to cue clips, you can now use a tactile interface with graphic buttons.

The MCS-ClipShot has numerous interface options. It has two slots to accommodate the MCS-Interface Cards. These are available in:

- RS-232
- RS-422
- Quad RS-422
- USB
- Ethernet
- GPI (8 in / 8 out)

Additionally, the MCS-ClipShot has an expansion port, which allows it to be connected to an MCS-3000 series controller as a peripheral or to connect to other MCS-3000 series peripherals.

Note: This manual covers features contained in v1.32 and later firmware.

Unpacking

When you receive your MCS-ClipShot, you should receive the following items:

- MCS-ClipShot
- This Users Manual
- Universal Power Supply
- Power cord appropriate for your location

If you have also purchased any optional MCS-Interface cards with the MCS-ClipShot, the card or cards may be preinstalled in the correct slot.

Note: The MCS-ClipShot on the front cover is shown with the optional simulated stone wrist rest.

Please take a moment to register your product at:

http://www.jlcooper.com

This will allow us to notify you of important updates and changes to software or features.

Setup

If the MCS-ClipShot will be used as a "stand alone" controller, that is without an MCS-3800, an MCS-Interface card must be installed and, the internal jumpers labeled JB1, JB2 and JB3 must be in the MASTER position. The interface card, which communicates with the host or a controlled device (VTR, video server, switcher, etc), must be installed into Slot 1. An optional second MCS-Interface card (such as the MCS-GPI Interface) can be installed in Slot 2.

When used with an MCS-3800, MCS-3400 or MCS-3000, the internal jumpers labeled JB1, JB2 and JB3 must be in the SLAVE position. Additionally, any cards in Slot 1 or 2 will be ignored.

Installation and Use

Connecting the MCS-ClipShot

Connecting the MCS-ClipShot is straightforward. If you are using RS-422 to connect to an Odetics compatible deck or video server, there are 3 options available to you:

- One MCS-3000 Series RS-422 Card #920320
- Two MCS-3000 Series RS-422 Cards #920320
- One MCS-3000 Series Quad RS-422 Card #920353

Install the RS-422 interface into Slot 1. Make sure that the jumpers on the RS-422 interface are set to "Machine". A second RS-422 card allows you to control two decks. While Quad RS-422 card allows you to control up to four decks.

The MCS-ClipShot also has the capability of connecting to a Doremi V1 video server using the Ethernet Interface. If you are using Ethernet, install the MCS-3000 Series Ethernet Interface into the Expansion Slot 1. The Ethernet interface can be connected to your network hub or switch using a standard, straight through, Cat5 cable. The Ethernet interface can also be connected directly to your deck or host computer using a "crossover" cable. The Ethernet interface is capable of operating at 100Mbs or 10Mbs and will auto select the correct port speed. Configuring the IP settings is covered in the Technical Reference section of this manual.

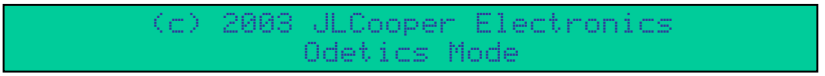
If you are using USB to connect to your host computer, install the USB interface into the expansion slot. Configuration and driver installation is covered in the Technical Reference section of this manual.

If you are using RS-232 to connect to your host computer, install the RS-232 interface into the expansion slot. Make sure that the jumpers on the RS-232 interface are set to the desired port speed.

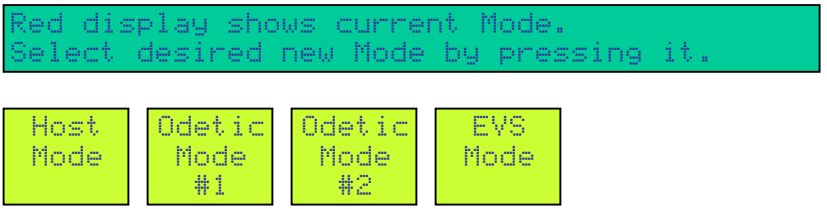
Setting the mode of operation

Since the MCS-ClipShot is capable of being used in several modes, it is possible that it has been initiated in a mode other than Odetics. Upon power up, the LCD display should display one of the following:

Then one of the following:



If the MCS-ClipShot is not in the proper mode for your system, you can change it by pressing and holding the SHIFT button, then pressing the F8 button. The ClipShot will display:



Pressing the button labeled Host Mode will place the unit into the host mode of operation. In this mode of operation, the MCS-ClipShot is intended to work with a software application that directly supports the controller. Refer to your application documentation for more details.

Pressing the button labeled `Odetic Mode #1` will place the unit into the Odetics mode of operation. In this mode of operation one of the following configurations must be satisfied:

- One or two MCS-3000 Series RS-422 Interfaces
- One MCS-3000 Series Quad RS-422 Interface
- One MCS-3000 Series Ethernet Interface

If multiple RS-422 ports are present, this will allow the MCS-ClipShot to control multiple decks. Additionally, it allows the playback of multiple, time offset clips.

Pressing the button labeled `Odetic Mode #2` will also place the unit into the multiple deck Odetics mode of operation. However, it adds the ability to define various multimachine playout parameters on a per clip basis. In this mode of operation one of the following configurations must be satisfied:

- Two MCS-3000 Series RS-422 Interfaces
- One MCS-3000 Series Quad RS-422 Interface
- One MCS-3000 Series Ethernet Interface*

**Future addition.*

Pressing the button labeled `EVS Mode` will place the unit into the EVS mode of operation. In this mode, the ClipShot will is intended to control the maXS Universal Production Server from EVS Broadcast Equipment. In this mode of operation one of the following configurations must be satisfied:

- One MCS-3000 Series RS-422 Interface
- One MCS-3000 Series Quad RS-422 Interface
  (Only the first port will be used)

Note: EVS Mode requires v1.32 or later firmware.

Using as a Host Controller

This section covers operation of the MCS-ClipShot operated with a host such as a computer based application. In this mode of operation, the MCS-ClipShot can be a Master or Slave. In Master operation, the MCS-ClipShot connects directly to the host via an MCS-3000 Series Interface card in slot 1. The interface card can be one of the following:

- MCS-3000 Series Ethernet Card #920394
- MCS-3000 Series USB Card #920384
- MCS-3000 Series RS-422 Card #920320
- MCS-3000 Series RS-232 Card #920321

Additionally, certain MCS peripherals can connect to the MCS-ClipShot using the Expansion port. Set the MCS-ClipShot to Master operation by placing the internal jumpers to the "MASTER" position.

In Slave operation, the MCS-ClipShot acts as a peripheral and connects to an MCS-3800 (or 3400 or 3000) which is the master. The MCS-ClipShot connects to the MCS-3800 using the supplied expansion cable. The JLCooper part numbers are:

620014	18 inch expansion cable
620017	28 inch expansion cable

Set the MCS-ClipShot to Slave operation by placing the internal jumpers to the "SLAVE" position. To use the MCS-ClipShot with the MCS-3800, power up the MCS-ClipShot and any other peripherals first, then power up the MCS-3800 last. The MCS-3800 will identify all peripherals connected to it.

Using as an Odetics Controller

This section covers operation of the MCS-ClipShot operated with Odetics Video Servers. The MCS-ClipShot must have v1.13 or newer firmware. An RS-422 interface card must be plugged into Slot #1, nearest to the 1/4" jack. The jumpers on the RS-422 card must be set for "Hook up to Machine".

The contents of memory can be uncertain at this point so, it is recommended to initialize the memory. This can be done by:

1. Pressing F4 SHIFT + F7
2. Pressing ENTER

This will initialize the names "Clip 1" thru "Clip 300" into the name memory locations and set all the In and Out points to 00:00:00:00.

Operation

After the power-on messages have finished, the display will show:

This will be the display of the Time response of the attached machine. Just after power up, the unit will be in the Clips page, which allows the user to select and manage clips. Pressing the button above the Page 2 label will place the unit into a setup and options page.

Transport and Clip Management Buttons

These buttons appear in both the Clips and Page 2 pages.

In Point

This will send a "In Data Preset" command to the Odetics Video Server. This may be pressed while in the Stop or Play operation, and will signify the start point of a clip.

Out Point
This will send a "Out Data Preset" command to the Odetics Video Server. This may also be pressed while in Stop or Play operation, and will signify the stop point of a clip.

Save Clip
Pressing this will turn it red, and cause display to show:

At this time, select a Bank, then press a button. The unit will send a Save Segment command to the Odetics Video Server, which will cause it to save the In/Out points to the selected clip (segment) number. After a clip number has been selected, the button will change from red to green.

If the user wishes to not save a clip, pressing the "Save Clip" button again will cancel the operation.

Holding the Save Clip button for approximately one second will allow you to erase a clip from memory and from the video server. Just press and hold the Save Clip button and select the button associated with the clip you wish to erase.

Step ◄
Pressing this button will move the deck back one frame.

Step ►
Pressing this button will move the deck forward one frame.

Pressing this button will send a Step Forward command to the Odetics Video Server, which will step the current time up one frame. These two buttons allow for rapid fine control of position prior to pressing an In Point or Out Point button.

Holding down the Step < or Step > button will cause a stream of commands to be issued at approximately half of play speed.

Transport

These are the standard Rewind, Fast Forward, Stop, Play and Record buttons. They will change from orange to green (or red in the case of the Record button) when the Tally from the Odetics Video Server is received.

Clips Page

Clip Buttons

This page allows rapid access to up to 300 clips, along with basic transport control and clip management. The top three rows of LCD buttons are the Clip buttons. When initialized, they say "Clip #1" thru "Clip #30". Pressing one of the Bank buttons allow access to 30 x 10 = 300 clips.

When a clip button is pushed, that clip number is either immediately sent to the Odetics Video Server unit, or cued up to be played upon press of the Play button, depending on the mode chosen (See Clip Mode under Page 2 Options below.) The button's color will change from orange to green for the duration of the clip's playback.

Multiple buttons may be pressed one at a time, and the MCS-ClipShot will cue up those clips for seamless playback. "Pending" clip buttons will blink green, go steady green while playing, and return to orange upon finish. A loop of clips may also be played (see Loop Mode under Page 2 Options below.)

Relabeling Clip buttons

Each of the 300 clip buttons may have its label changed by the user. Up to 3 lines of 6 characters may be placed on a button.

1. Press the F1 LABEL button. The display will show:

2. If not already on desired Bank, select a new one, then press the LCD button to be relabeled. Lets assume that Bank #2, Button #12 is selected.

3. The display will change to:

   This will show that line 1 of the button currently has the letters "Clip" on it, that line 2 has "#42" on it, and line 3 is blank. The letter "C" has a blinking cursor to indicate current editing position.

4. A QWERTY keyboard has appeared on the LCD buttons. The F4 (SHIFT) button will allow a change to upper case, and the F2 (SYMBOLS) allows access to special characters such as “?” or “%”. The F2 and F4 buttons may be pressed at any time during the editing process.

   As the QWERTY buttons are pressed, their letter, number or symbol will be placed at the current editing position on the display. The left and right arrows under the display allow moving the cursor around, and the CLEAR key will clear the whole display.

5. When you are satisfied with the new text, press the ENTER key. This will store the new label in memory.

6. The unit will return to step 1, ready for a new button to be selected. When you are finished with the relabeling process, press F1 to return to normal operation.

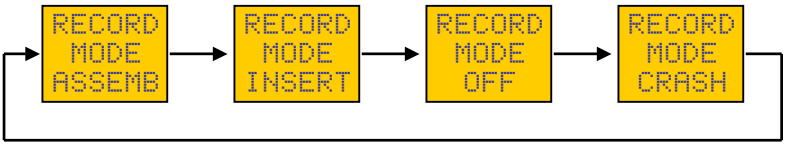
Page 2

Pressing the button over the words "Page 2" will bring up the Setup and misc. controls page. To return to the Clip Page, push the button over the word "Clips".

As of this writing, the various options are:

Record Mode

Pressing this button will change the Record Mode from in the following manner:



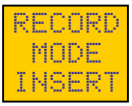
Track Buttons

As the button is pushed, buttons 2 thru 8 will change colors to reflect the new mode. For instance, in Crash Mode, all will be red to indicate that Video and all Audio tracks will be affected by entry into Record. In Insert Mode, the individual Video and Audio buttons may be pressed to allow just the desired track to be recorded to.

OFF disables the record strobe message from being sent to the deck when the record button is pressed.

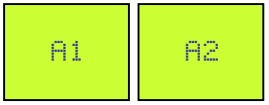
CRASH sets the MCS-ClipShot to send a crash record to the deck when the record button is pressed.

ASSEMB places the deck into assemble record mode.

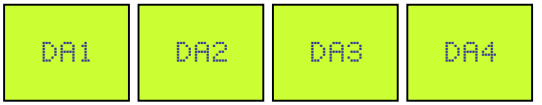


INSERT places the deck into insert record mode.

Video arms or disarms the video track for insert recording.



A1 and A2 arms or disarms the audio tracks for insert recording. These are the analog audio tracks. These are sometimes referred to cue tracks. Some decks will interpret these messages as DA1 and DA2 messages and arm those tracks accordingly.



DA1, DA2, DA3 and DA4 arms or disarms the digital audio tracks for insert recording. These are sometimes referred to the Hi-Fi tracks. Some decks will interpret the DA1 and DA2 messages as A1 and A2 messages and arm those tracks accordingly. These buttons are selectable only if Record Msg is set to Long.

Record Message length
This selects the length of the Edit Preset message between one and two bytes. Notice that selecting the "Short" length turns off the lighting for DA1 thru DA4, indicating that they may not be defined with the short message. When the Record Message is set to short, the MCS-ClipShot sends only the Insert, Assemble, Video, A1 and A2 flags. When the Record Message is set to long, the MCS-ClipShot additionally sends the DA1, DA2, DA3 and DA4 flags.

Preroll n Sec
Postroll n Sec
Pressing these buttons repeatedly will increment the amount of Preroll or Postroll time from 0 to 9 seconds.

These two buttons only send the appropriate commands to the Odetics Video Server, and don't affect the clip playout operation of the MCS-ClipShot.

Full EE
This turns the Full EE off or on.

Select EE
This turns the Select EE off or on.

Chase Mode
This turns the Chase off or on.

Preview
This will send a Preview Edit command to the controlled machine.

Review
This will send a Review Edit command to the controlled machine.

Auto Edit
This will send an Auto Edit command to the controlled machine.

Auto Mode
This sends an Auto Mode off or on. Auto Mode must be on for the Preview/Review/Auto Edit commands to be recognized.

Eject
This will send an Eject command. Some hard disk based machines such as certain video servers will respond by unmounting all drives.

Count Down Display
Setting this to ON will display the time left in a clip while the clip is being played.

Frame Rate

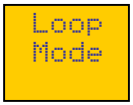
This specifies to the ClipShot the frame rate of the material on the deck. This is used by the STEP> and STEP< commands to correctly step over whole second boundries. For example, if frame rate is set to 25, pressing the STEP< at 00:02:03:00 will command the deck to go to 00:02:02:24.

Link Mode

Link Mode allows the user to link clips together for seamless playout. When this is set to ON, pressing multiple clip buttons will queue all the clips and play them in order. When this is set to OFF, pressing a clip button will immediately cause that clip to play.

Clip Mode

This will toggle the unit between "At Once" and "On Play" modes. In the "At Once" mode, pressing a Clip button will immediately send the Recall Clip command to the Odetics Video Server. If a sequence of Clip buttons are pushed, they will cue up in order, but the first one pushed will immediately start to play. In the "On Play" mode, all Clip button pushes will cue up, and the first one will start to play upon the press of the Play button.



Loop Mode

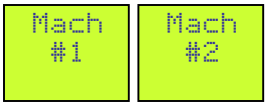
This will toggle the unit between Loop Mode Off and On. When On, the unit will continuously loop one or a series of clips until the Stop button is pushed. In the Off mode, the clip or series of clips will play only once.

Go To

Pushing this button puts the unit into Go To operation. All of the LCD buttons will blank except for a keypad area. As number buttons are pushed, the display will show the desired "Go To" (or Cue with Data) time. The CLR button escapes this operation, and the ENT button sends the GoTo time to the Odetics Video Server. No error checking for correct range of times is made.

Page 3

Pressing the button over the words "Page 3" will bring up the Deck Select and offsets page. To return to the Clip Page, push the button over the word "Clips". To return to Page 2, push the button over the word "Page 2".



Machine Select
These buttons only appear if either of the following are installed:

- Two MCS-3000 Series RS-422 Interfaces #920320
- One MCS-3000 Series Ethernet Interface #920394

These buttons only appear if the following is installed:

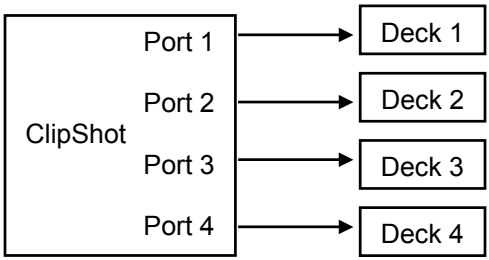
- One MCS-3000 Series Quad RS-422 Interface #920353

In either of these cases, the ClipShot will allow the user to control multiple decks. Pressing the buttons will enable or disable control of a deck on the selected port. The buttons will turn green when the port is enabled and orange when it is disabled. The ClipShot will use the lowest numbered enabled port for the timecode indication on the LCD.

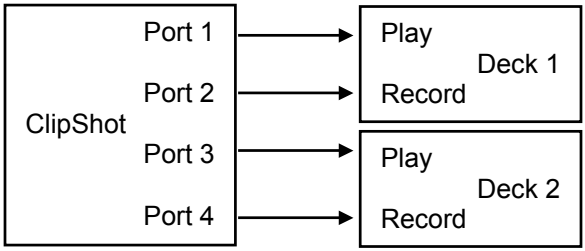
Machine Mode
This sets how the Machine Select buttons work. There are 3 modes:

- Independent Machines
- 1R-1P
- 1R/P

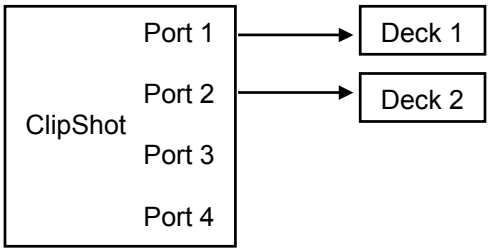
Independent Machines mode allows the user to select 2 or 4 standalone decks. In this mode, each port is directly connected to a deck or video server.



The 1R-1P mode is intended for use with Doremi video servers. In this mode, the video server separates the record and playback functions into two logical decks. This allows the user to fully control and view the timecode of either the record channel or playback channels. The video server must be configured for this mode of operation.



The 1R/P mode is also intended for use with Doremi video servers. In this mode, the video server combines the record and playback functions into one logical deck. Only the Record command is sent to the record channel while all other commands are sent to the playback channel. The video server must be configured for this mode of operation.

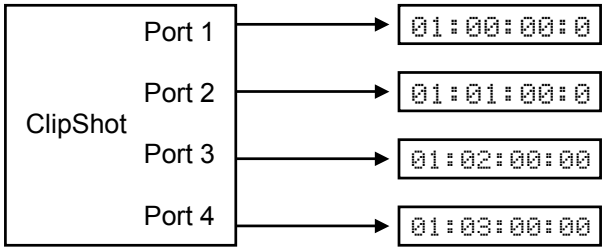


Offset

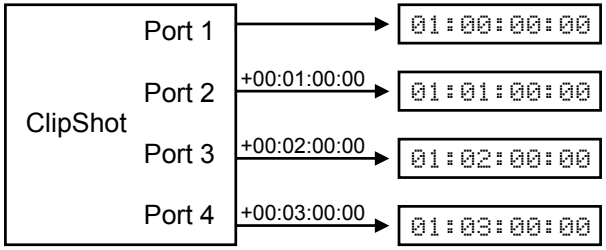
This allows the user to offset the various machines connected to the ClipShot. This is done by offsetting the various timecode commands such as the CUE UP WITH DATA, IN PRESET and OUT PRESET commands that are sent to the decks on the various ports.

Timecode from the deck attached to port 1 is used as the reference. Pressing the offset button below the decks MACHINE SELECT button will capture the time code from that deck and will calculate the difference between the timecode returned by that deck and the timecode returned by the deck connected to port 1.

In the case below, deck 2 is offset from deck 1 by +00:01:00:00. Pressing the Offset button below the Mach 2 button will store this offset in the ClipShot.



When the ClipShot sends timecode commands such as CUE UP WITH DATA, the command will be sent to deck 1 unchanged but, the command to deck 2 will have an offset of +00:01:00:00.

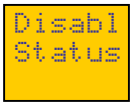


The ClipShot can store and calculate an offset for decks 2, 3 and 4.

Offset Lock
The Offset Lock button lock the deck offsets in the ClipShot, which will prevent accidental changes.

Step Method
This selects the way in which the ClipShot carries out the STEP> and STEP< commands. When this is set to CUE UP, the ClipShot uses the current timecode returned from the deck, calculates a destination timecode and issues a CUE UP WITH DATA command. When this is set to SPEC1, the ClipShot sends the STEP FORWARD or STEP BACKWARDS command that is used by Doremi video servers.

Download Clips
This will download all the clip names available in the video server and place them on the clip buttons in the Clips page. In EVS mode, this will also download all keywords associated with those clips.



Disable Status
This is a diagnostic setting. When this is set to ON, the ClipShot will not request time and status from the deck. The ClipShot will however, send commands such as PLAY and STOP. Set this to OFF for normal operation.

> *Note: Clips cannot playout correctly if* `Disable Status` *is set to* `ON`.

Clip Data Dump
This initiates the download Clip and System data to the ClipShot Backup and Restore software available separately.

Using as a Multiple Odetics Controller

Odetics 2 mode includes all Odetics mode features with the addition of allowing certain settings to be defined on a "per clip" basis. Those settings are:

- Clip Looping
- Clip overwrite Protection
- Machine Selection

To access these settings, the following conditions must be met:

- The ClipShot must be on Clips page,
- a deck must be connected and selected on Page3 and,
- the deck must not be in PLAY or PLAY PEND.

The settings can be accessed by pressing the F8 button. After pressing the F8 button, the following can be seen in the display:

The Clip button 1 in Bank 1 will be lit green to indicate that it is selected. You can select any other Clip button and/or Bank by merely pressing the desired Clip or Bank button.

Pressing the button above LOOP will cause the clip associated with the button to loop indefinitely with the button is pressed. This is indicated by the letter L on the bottom line of the Clip button.

Pressing the button above PROT will cause the clip associated with the button to be write protected. That is, the clip information cannot be erased or overwritten.

This is indicated by the letter P on the bottom line of the Clip button.

Pressing the button above MACH will select which machines will be sent the clip play out commands when the button is pressed. This is entered by pressing and holding the button above MACH and pressing Bank buttons 1, 2, 3 or 4 for machines 1, 2, 3 or 4 respectively.

This is indicated by the numbers 1, 2, 3 and 4 on the bottom line of the Clip button.

> *Note: Only the timecode and tally from the lowest numbered deck will be reflected on the ClipShot.*

Any arbitrary combination of loop, protect and machines can be selected.

To exit this mode, simply press F8 again.

Using as an EVS Controller

EVS mode includes most of the Odetics mode features with the addition of allowing certain feature specific to the EVS maXS Video Servers. Those features are the ability to:

- Download Clip ID names.
- Download Keywords associated with Clips.
- Create Clips and Clip ID names in the umID or LSM ID format.
- Create keywords for clips
- Erase Clips
- Cue up and playback clips using clip names

ID Name Downloads

The ClipShot has the ability to download clip ID names. The ClipShot also supports the Odetics method of using clip names to cue up the clips within the server.

Currently, this feature is accessed in the ClipShot's EVS operational mode.

The download is affected by means of the Download Clips button found on Page 3. After pressing it, a warning message will appear in the LCD display. Press ENTER to start the download, or CLEAR to cancel.

Note: As of v1.31 firmware, it is not possible to define and ID name at the ClipShot and upload it to the Servers other than EVS units. This feature may be added in later versions for firmware for other manufacturers. Contact the factory with any questions.

EVS Specific Functions

Features that specifically support EVS servers include the ability to upload (defined locally) clip names to the EVS server, and to up/download Keywords to/from the EVS server.

Clip Names

To define a Clip's ID name:

1. Define an IN POINT.
2. Define an OUT POINT.
3. Press SAVE CLIP.
4. Select a bank and button to associate with the clip.
5. Enter a text description for the clip.
6. Press ENTER.

The user will be instructed to select a button by pressing the desired Bank then the button. An ASCII keyboard will then appear. The name is entered (up to 8 characters), then the ENTER button is pressed. The name, along with the selected IN/OUT points will be uploaded to the EVS.

Since the EVS may be in either umID or LSM ID mode, some mention should be made here for the differences.

- When in umID, any 8 characters may be entered for the name. This ID will appear on the button selected, BUT when a subsequent download operation is performed, the ID names will appear in alphabetical order.

- In LSM ID mode, the names must be in a form like 114A/00 with a space after the trailing zero. The number part describes the Page/Bank/Clip number of the clip, the letter describes the Camera, and the 00 is the machine number.

  To aid the user, the LSM ID Init function may be turned enabled on Page 3. This will append "/00" to the name when

naming a clip. If a machine number other than 00 is desired, the user may overwrite that part of the field with the desired number manually.

Keywords

Uploading and downloading of keywords is possible with the ClipShot.

- To download existing keywords in the EVS video server, go to Page 3 on the ClipShot and press the Download Keyword button. A warning appears on the LCD display. Press ENTER to proceed, or CLEAR to cancel.

- Keywords are displayed by pressing the F5, F6 and F7 buttons, corresponding to the three possible Keywords assignable to any Clip. When one of these F keys is depressed, the buttons will display the Keywords. Pressing an F key a second time will revert the buttons to display the clip name instead.

- Clip names may be defined (up to 12 characters) and uploaded to the EVS server. To do this:

    1. Select F5, F6, or F7 for keyword number. Notice that the SAVE CLIP button changes to SAVE KEY.
    2. Press the SAVE KEY button. You will be instructed to select a bank and button as with Clip naming.
    3. After having done this, enter the keyword on the ASCII keyboard and press ENTER.
    4. The keyword will be uploaded to the EVS, and stored in the ClipShot's internal memory.

Page 2

Pressing the button over the words "Page 2" will bring up the Setup and misc. controls page. To return to the Clip Page, push the button over the word "Clips".

As of this writing, the various options are similar to the Odetics and Odetics 2 modes.

Page 3

Pressing the button over the words "Page 3" will bring up the Deck Select and offsets page. To return to the Clip Page, push the button over the word "Clips". To return to Page 2, push the button over the word "Page 2".

As of this writing, the various options are similar to the Odetics and Odetics 2 modes with the addition of the following EVS specific functions:

LSM ID Init.
This is intended for use with EVS video servers. This will append “/00” to the clip name when a new clip is created.

Download Keyword
This is intended for use with EVS video servers. This will download the current keywords assigned to all the clips in the video server. Keywords are accessed in the Clips display by pressing the buttons labeled F5, F6 and F7.

Configuring Target Devices

Configuration for Doremi Video Servers

Using RS-422

Configuring the RS-422 Interface Card(s)

To configure the MCS-3000 Series RS-422 Interface Card for use with a Doremi V1 or MCS Video Server:

1. Remove power from the MCS-ClipShot.
2. Remove the MCS-3000 Series RS-422 Interface Card(s) from the MCS-ClipShot.
3. Set the 5 jumpers found on the card to the "Machine" position.
4. Insert the MCS-3000 Series RS-422 Interface Card into Slot 1 of the MCS-ClipShot.
5. An additional RS-422 Interface Card can be inserted into Slot 2.

Configuring the Quad RS-422 Interface Card

No configuration is required for MCS-3000 Series Quad RS-422 Interface Card for use with a Doremi V1 or MCS Video Server. Simply insert the MCS-3000 Series Quad RS-422 Interface Card into Slot 1 of the MCS-ClipShot, attach the breakout cable to the interface card and connect the video server to any port on the breakout cable.

Note: When using an MCS-3000 Series Quad RS-422 Interface Card, Slot 2 is not used.

Configuring the Doremi Video Server

To control a Doremi V1 or MCS Video Server from an MCS-ClipShot using RS-422, you will need to configure the Doremi Video Server. Perform the following steps to setup the Doremi Video Server and MCS-ClipShot to communicate via RS-422:

Configure Transport settings on Doremi Video Server

1. Press and hold Option + Up Arrow.
2. Using the Menu buttons, scroll to TRANSPORT.
3. Using the ++ button, scroll to the page that shows the mode of operation.
4. This will be Odetics, Odetics lmtd, VDCP, BVW75, V1 or DVW500.
5. Set it to Odetics. This should take effect immediately but you may want to save it in memory.
6. Press MENU (up or down) until "5 SAVE SETTINGS" is displayed.
7. Press TOGGLE.
8. Press ENTER.

Note: For multichannel Video Servers, you must configure both channels.

Using Ethernet

To control a Doremi V1 or MCS Video Server from an MCS-ClipShot using Ethernet, you will need to configure the Doremi Video Server and the MCS-ClipShot. Perform the following steps to setup the Doremi Video Server and MCS-ClipShot to communicate via Ethernet:

Configure Ethernet settings on Doremi Video Server

1. Press OPTION + MENU (up or down).
2. Scroll to “Page 00 (INFO/MODE)”.
3. Press ++ until “IP nnn.nnn” is displayed.
4. Enter any IP address you designate for the Doremi Video Server. For multichannel Video Servers, see note below.
5. Press MENU (up or down) until “5 SAVE SETTINGS” is displayed.
6. Press TOGGLE.
7. Press ENTER.
8. Power cycle Doremi Video Server.

Note: For multichannel Video Servers, the IP address must be different and adjacent for each channel. For example, if channel1is set to 10.0.2.5, channel 2 must be set to 10.0.2.6.

Configure Transport settings on Doremi Video Server

1. Press and hold Option + Up Arrow.
2. Using the Menu buttons, scroll to TRANSPORT.
3. Using the ++ button, scroll to the page that shows the mode of operation.
4. This will be Odetics, Odetics lmtd, VDCP, BVW75, V1 or DVW500.
5. Set it to Odetics. This should take effect immediately but you may want to save it in memory.
6. Press MENU (up or down) until "5 SAVE SETTINGS" is displayed.
7. Press TOGGLE.
8. Press ENTER.

Note: For multichannel Video Servers, you must configure both channels.

Configure the Ethernet settings on the MCS-ClipShot

1. Press SHIFT + F8 to access the configuration page.
2. Select Odetics or Odetics 2.
3. Press ENTER
4. Press SHIFT + F6.
5. Enter MCS-ClipShot IP address. Press Enter.
6. Enter MCS-ClipShot IP mask. Press Enter.
7. Enter MCS-ClipShot gateway address. Press Enter.
8. Enter MCS-ClipShot IP port. Press Enter.
9. Enter Destination (Doremi) IP address. Press Enter.
10. Enter Destination (Doremi) IP port. Press Enter.
    Note: Doremi Video Servers use TCP port 5000.
11. Power cycle the MCS-ClipShot

Note: You must power cycle the MCS-ClipShot for the Ethernet settings to take effect.

Configuration for EVS maXS Video Servers

Using RS-422

Configuring the RS-422 Interface Card(s)

To configure the MCS-3000 Series RS-422 Interface Card for use with EVS maXS Video Servers:

1. Remove power from the MCS-ClipShot.
2. Remove the MCS-3000 Series RS-422 Interface Card(s) from the MCS-ClipShot.
3. Set the 5 jumpers found on the card to the "Machine" position.
4. Insert the MCS-3000 Series RS-422 Interface Card into Slot 1 of the MCS-ClipShot.
5. An additional RS-422 Interface Card can be inserted into Slot 2.

Configuring the Quad RS-422 Interface Card

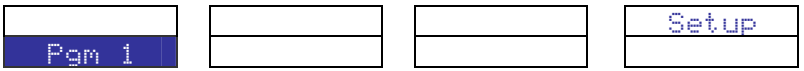
No configuration is required for MCS-3000 Series Quad RS-422 Interface Card for use with EVS maXS Video Servers. Simply insert the MCS-3000 Series Quad RS-422 Interface Card into Slot 1 of the MCS-ClipShot, attach the breakout cable to the interface card and connect the video server to any port on the breakout cable.

Note: When using an MCS-3000 Series Quad RS-422 Interface Card, Slot 2 is not used.

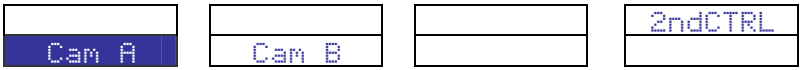
Configuring the maXS video server

To control an EVS maXS video server from an MCS-ClipShot using RS-422, you will need to configure the maXS video server from the LSM XT Remote D. Perform the following steps to setup the maXS video server and MCS-ClipShot to communicate via RS-422:

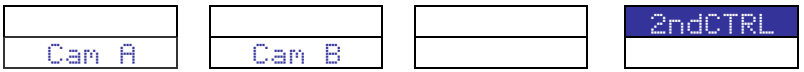
1. Connect LSM XT Remote D "REMOTE" port to "RS422 PORTS (REMOTE) " port 1 of the maXS video server.
2. Connect an RS-422 port of the MCS-ClipShot to "RS422 PORTS (REMOTE) " port 2 of the maXS video server.
3. On the LSM XT Remote D, if the following is shown on the bottom two lines of the display:



press the A/A' button. The bottom two lines of the display should now show the following:



4. On the LSM XT Remote D, press SHIFT + D/D' so the display on the LSM XT Remote D shows 2nd CTRL. The bottom two lines of the display should now show the following:



The EVS maXS is now configured to communicate with the MCS-ClipShot.

Configuration for Host Mode

MCS-3000 Series RS-422 Interface Card

To configure the MCS-3000 Series RS-422 Interface Card for use with a computer based application:

1. Remove power from the MCS-ClipShot.
2. Remove the MCS-3000 Series RS-422 Interface Card from the MCS-ClipShot.
3. Set the 5 jumpers found on the card to the "Computer" position.
4. Insert the MCS-3000 Series RS-422 Interface Card into Slot 1 of the MCS-ClipShot.

MCS-3000 Series RS-232 Interface Card

To configure the MCS-3000 Series RS-232 Interface Card for use with a computer based application:

1. Remove power from the MCS-ClipShot.
2. Remove the MCS-3000 Series RS-232 Interface Card from the MCS-ClipShot.
3. Set the jumper found on the card to the serial port rate position. The factory default is 38400 bits/second.
4. Insert the MCS-3000 Series RS-232 Interface Card into Slot 1 of the MCS-ClipShot.

MCS-3000 Series Quad RS-422 Interface Card

In host mode, the Quad RS-422 card is intended to reside in Slot 2. No configuration is required for the MCS-3000 Series Quad RS-422 Interface Card. Simply insert the MCS-3000 Series Quad RS-422 Interface Card into Slot 2 of the MCS-ClipShot, attach the breakout cable to the interface card and connect your decks to any port on the breakout cable.

MCS-3000 Series GPI Interface Card

The GPI card is intended to reside in Slot 2. No configuration is required for the MCS-3000 GPI Card. Simply insert the MCS-3000 Series GPI Card into Slot 2 of the MCS-ClipShot.

MCS-3000 Series USB Interface Card

There is no hardware configuration for the MCS-3000 Series USB Interface Card. However, a driver must be installed on your computer. For Windows computers, a driver allows the device with this interface card to appear as a COM port can be downloaded from the JLCooper support web site at:

http://www.jlcooper.com/pages/downloads.html

With the driver, the virtual COM port is configured to communicate at 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and no parity.

MCS-3000 Series Ethernet Interface Card

To set the IP configuration for host mode, perform the following:

1. Press SHIFT + F8 to access the configuration page.
2. Select Host.
3. Press ENTER
4. Press SHIFT + F6 .
5. Enter MCS-ClipShot IP address. Press Enter.
6. Enter MCS-ClipShot IP mask. Press Enter.
7. Enter MCS-ClipShot gateway address. Press Enter.
8. Enter MCS-ClipShot IP port. Press Enter.
9. Power cycle the MCS-ClipShot

Note: You must power cycle the MCS-ClipShot for the Ethernet settings to take effect.

Next, you will need to configure you application software to connect to the MCS-ClipShot.

Technical Reference

Electrical Connections

MCS-3000 Series RS-422 Interface Card

The RS-422 Interface is intended for operation with a VTR, controller or a host computer. It provides the advantages of RS-422, which allows for long cable runs. With low loss, low capacitance cable, the RS-422 Interface Card can accommodate cable runs up to 1km.

The RS-422 Interface has a female D-Sub connector. The interface can be configured to connect to either a deck or a host. Five jumpers on the interface card configure the pinout. All five jumpers must be places in either the "To Computer" or "To Machine" position. The port is configured to communicate at the industry standard of 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and odd parity.

MCS-RS422 Interface Pinout

	Setting on Card	
	"To Computer"	"To Machine"
1	Ground	Ground
2	Transmit A	Receive A
3	Receive B	Transmit B
4	Ground	Ground
5	not used	not used
6	Ground	Ground
7	Transmit B	Receive B
8	Receive A	Transmit A
9	Ground	Ground

Note: These signals are at the RS-422 Interface card.

MCS-3000 Series Quad RS-422 Interface Card

The Quad RS-422 Interface is intended for operation with up to 4 VTRs. It provides the advantages of RS-422, which allows for long cable runs. With low loss, low capacitance cable, the Quad RS-422 Interface Card can accommodate cable runs up to 1km.

The Quad RS-422 Interface has a 25 pin, female D-Sub connector. A supplied cable provides a breakout for 4 RS-422, female, 9 pin D-sub connectors. The port is configured to communicate at the industry standard of 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and odd parity.

	Port 1	Port 2	Port 3	Port 4	Machine
Transmit B	10	12	5	7	3
Transmit A	23	24	18	19	8
Receive B	9	13	4	8	7
Receive A	22	25	17	20	2
Ground	21	11	16	6	1,4,6,9

MCS-3000 Series USB Interface Card

The USB Interface is intended for operation with a host computer. It provides the advantages of a standard interface, which is found on most modern computers. The USB Interface has a female USB B type connector and uses the USB v1.1 protocol.

For Windows computers, a driver allows the device with this interface card to appear as a COM port can be downloaded from the JLCooper support web site at:

http://www.jlcooper.com/pages/downloads.html

With the driver, the virtual COM port is configured to communicate at 38400 bits/sec, 1 start bit, 8 data bits, 1 stop bit and no parity.

MCS-3000 Series RS-232 Interface Card

The RS-232 Interface is intended for operation with a host computer. It provides the advantages of a standard interface, which is found on many computers.

The RS-232 Interface has a male D-Sub connector. The port is configured to communicate at 1 start bit, 8 data bits, 1 stop bit and odd parity. Five jumpers allow the port speed to be set for 38400, 19200, 9600, 4800 and 2400 bits/sec to accommodate various situations.

MCS-RS232 Interface Pinout

1	DCD*
2	Transmit
3	Receive
5	Ground
6	DSR*
8	CTS*

Note: These signals are at the RS-232 Interface card

** These pins are not used by the card and are connected together for ports that require handshake.*

MCS-3000 Series Ethernet Interface Card

The Ethernet Interface is intended for operation with a host computer. It provides the advantages of a standard interface, long cable runs, use over private/public/wired/wireless networks, the ability of being shared among computers and the ability to work with any platform that supports TCP/IP.

The Ethernet Interface can be used to communicate with a host application or the Doremi family of video servers, specifically the V1 and the MCS.

To use the Ethernet Interface in host mode, the software application MUST be written to specifically support the Ethernet Interface. Consult your software's users documentation for details on how to configure the software.

To configure the MCS-ClipShot Ethernet settings, an Ethernet Interface card must be in slot 1. You can verify this by visually checking slot 1 for the presence of an Ethernet card or by referring to the display during power up. If an Ethernet card is present at power up, the display will show:

Host Mode IP Configuration

To set the IP configuration for host mode, perform the following:

1. Press SHIFT + F8 to access the configuration page.
2. Select Host.
3. Press ENTER
4. Press SHIFT + F6 .
5. Enter MCS-ClipShot IP address. Press Enter.
6. Enter MCS-ClipShot IP mask. Press Enter.
7. Enter MCS-ClipShot gateway address. Press Enter.
8. Enter MCS-ClipShot IP port. Press Enter.
9. Power cycle the MCS-ClipShot

Note: You must power cycle the MCS-ClipShot for the Ethernet settings to take effect.

Next, you will need to configure you application software to connect to the MCS-ClipShot.

GPI Output

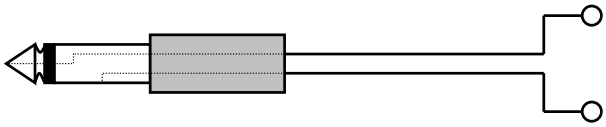


Figure 1: GPI Connection

In certain applications, the ClipShot can output a GPI output. This is a common ¼ inch tip-sleeve phone connector. The output is a standard CMOS output that is either 0 or 5 volts. Since it is a CMOS output, it is rated for a maximum current of 10mA.

Power

The MCS-ClipShot requires a 12 volt DC supply capable of delivering at the minimum, 3 amps. The unit comes with a universal, switching power supply (JLCooper part number 561024) with a power cord appropriate for the country in which the unit was sold. If you need a power cord specific to your location, please contact your local distributor or JLCooper Electronics.

> *Warning: Using a power supply other than the unit specified can result in damage to the MCS-ClipShot and/or other equipment which is not covered by the JLCooper Factory Warranty.*

Troubleshooting

If for some reason the MCS-ClipShot does not give you the expected results, take a moment to do some investigating. The most important concept is that you have your MCS-ClipShot connected properly as outlined in *Installation and Use*. Take a moment to double check your setup.

A common problem is forgetting to turn the power switch on or turning the unit on after the software application has launched.

In addition, the JLCooper website (www.jlcooper.com) will contain current information on drivers, applications and troubleshooting.

If all else fails, you can contact the JLCooper Service Department at: service@jlcooper.com.

Care and Service

If properly cared for, your MCS-ClipShot should provide years of troublefree performance. While the MCS-ClipShot is built in a rugged metal enclosure, please avoid dropping the MCS-ClipShot.

Clean with a soft, damp cloth. Do not allow liquids, dust or other foreign matter to get inside the unit.

There are no user-serviceable parts in the MCS-ClipShot. Please refer to the JLCooper Electronics Limited Factory Warranty on the following page for detailed warranty and service information.

JLCooper Electronics Limited Factory Warranty

JLCooper Electronics ("JLCooper") warrants this product to be free of defects in materials or workmanship for a period of 12 months from the date of purchase. This warranty is non-transferable and the benefits apply only to the original owner. Proof of purchase in the form of an itemized sales receipt is required for warranty coverage. To receive service under this warranty, customers in the United States should contact the JLCooper factory at (310) 322-9990 and talk to a service technician. If necessary, a Return Authorization number may be issued. For our customers outside the United States, it is recommended that you first contact your Dealer or Distributor, since they may offer their own service or support policy. If local support is not obtainable, please send a FAX to JLCooper's Service Department at +1 310 335 0110 with a detailed description of the service required. Upon issuance of return authorization, the product should be packed in the original shipping materials and shipped prepaid and insured to: Service Department, JLCooper Electronics, 142 Arena Street, El Segundo, CA 90245. Please include the following: copy of the sales receipt, your name and address (no P.O. Boxes, please), a brief description of the problem, and any other related items discussed with the service department and considered necessary to evaluate the product or effect a repair. The return authorization number must be clearly written on the outside of the package. JLCooper will at its option, without charge for parts or labor, either repair or replace the defective part(s) or unit. Shipping costs are not covered by this warranty. JLCooper's normal repair turn around time at the factory is approximately 15 business days from receipt of product to shipping. Your actual turn around time will include return shipping. Actual turn around time will vary depending upon many factors including the repeatability of the customer's reported complaint, the availability of parts required for repair, the availability of related products needed to evaluate the product if necessary. Priority services are available at additional cost. These should be discussed with the service technician at the time the return authorization is issued. This warranty provides only the benefits specified and does not cover defects or repairs needed as result of acts beyond the control of JLCooper including but not limited to: abuse, damage by accident/negligence, damage from using incorrect power supply, modification, alteration, improper use, unauthorized servicing, tampering, or failure to operate in accordance with the procedures outlined in the owner's manual; nor for natural or man-made events such as, but not limited to flooding, lightning, tornadoes, earthquake, fire, civil unrest, war, terrorism, etc.

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