

## CHAPTER 17: THE VIRGO VIDEO FADER/ SWITCHER



### INTRODUCTION

The *Virgo Video Fader/ Switcher (VFS)* is one of the *Intelligent Controllers* that comprise the *Universal Theater Control System (UTCS)*. The *Virgo VFS* switches between one of seven video input sources and handles smooth fading to and from video black in user specified fade durations of 0 to 999 seconds. Additionally, the *Virgo VFS* can also manipulate the brightness and contrast of the video signal to allow for fine tuning.

There are two *Virgo VFS* models available. One handles NTSC standard composite video signals, and the other S-Video signals. Composite and S-Video signals can not be sent to the same *Virgo VFS*. Electronic video switching is achieved during the vertical interval of the current video signal, providing the cleanest switching possible. The cleanliness of signal switching is most apparent when using genlocked video sources.

The *Virgo VFS* does not convert the computer RGB video signal from a computer to a composite or S-Video signal. To send PowerPoint Presentations, computer slide shows, or Internet images through the *Virgo VFS*, a computer RGB to composite or S-Video converter would need to be included in the system. However, to maximize the projected computer video quality, it is recommended that the computer RGB Video be run directly to the video projector and bypass the *Virgo VFS*. Contact ECCS for more information.

The *Virgo VFS* is used to control the attributes of the video signals, and does not control the video sources or projectors in any way. Another *UTCS Intelligent Controller*, the *Virgo Video Device Controller (VDC)* is designed to control the various video source such as DVD, Laser Disc and S-VHS player as well as several CRT and LCD video projectors. *UTCS* installations that need complete control of the theater's video display system will have both the *Virgo VDC* and the *Virgo VFS* installed.

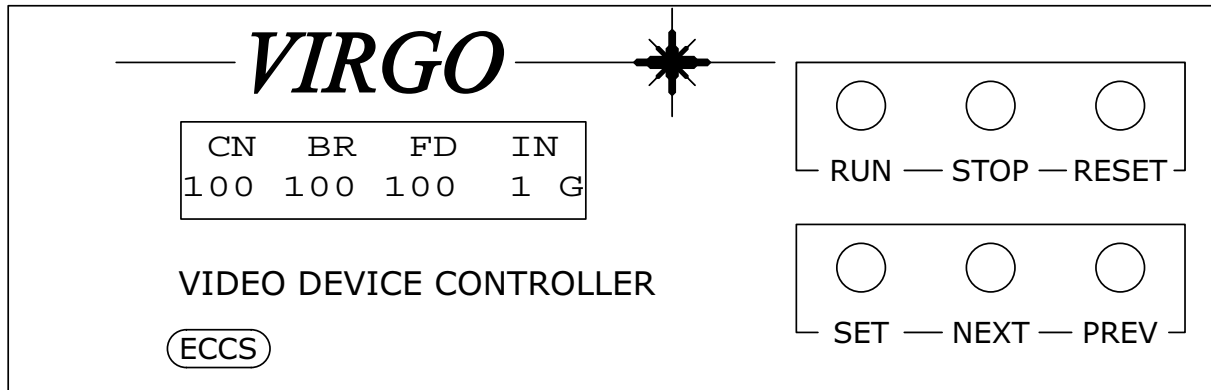
The *Universal Theater Control System (UTCS)* can have up to 64 *Intelligent Controllers* attached to the communication network. This allows direct access to up to 256 devices. All functions can be automated using the *Hercules Central Processor*, or manually operated with the *Cygnus Manual Control System*.

The *Virgo VFS* and the other *Intelligent Controllers* in the *UTCS* are 'smart boxes' that can be periodically updated with newer internal software to enhance and/ or increase their capabilities. These upgrades are done over the *UTCS* network and can be performed by theater personnel. This means the theater can continue to expand without the need for downtime and expensive service calls.

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## THE VIRGO VFS FRONT PANEL LCD DISPLAY AND CONTROLS

During normal operation, the LCD display will appear as illustrated below:



### **LCD Display:**

When first turned on, the LCD display will show the software version currently installed in the *Virgo VFS*. This screen will be replaced with the one illustrated above as soon as the *Hercules Show Control Software* issues a command to the *Virgo VFS*, or the front panel menu is accessed. The top line of the display shows the video signal properties controllable by the *Virgo VFS*. The bottom line displays current settings for each of those properties. The properties and possible settings are shown in the table below.

Abbreviation	Meaning	Setting Range
CN	Contrast	$0 \leq \# \leq 200$
BR	Brightness	$0 \leq \# \leq 200$
FD	Fader Level	$0 \leq \# \leq 100$
IN	Input Select	$1 \leq \# \leq 7$

In addition to the current setting for each video signal property, the last character on the bottom line of the LCD display shows whether or not a good video signal is present. If the last character is a 'G', then a good video signal is present at the selected input. If the last character is a 'B', then a bad or no video signal is present at the selected input.

The LCD display will also show any error messages that are generated during operation. Error messages will overwrite the top line of the display. Error messages will be visible until the successful execution of a subsequent command takes place, or until the front panel menu is accessed.

The LCD display is used in conjunction with the six front panel buttons to set the **Unit Number** and operational mode of the *Virgo VFC*.

### **LCD Display Backlight:**

The LCD display is equipped with a backlight to make it easier to read. When the *Virgo VFS* is in the **Normal Mode** of operation, not the **Settings Mode**, the backlight can be turned on by pressing the <NEXT> button. Pressing the <PREV> button turns the backlight off.

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## USING THE FRONT PANEL BUTTONS FOR LOCAL CONTROL OF THE VIRGO VFS

The front panel buttons are divided into two functional groups. The top trio of buttons provide a basic amount of 'local' control over fading and switching.. Pressing the <RUN> button ramps the **Fader** setting up to 100% over three seconds. Pressing the <STOP> button ramps the **Fader** setting down to 0% over three seconds. Pressing the <RESET> button twice in succession activates a reset sequence that sets all video signal properties to 100% and returns the input selection to Input 1.

## USING THE FRONT PANEL CONTROLS TO CONFIGURE THE VIRGO VFS

The lower trio of buttons, in conjunction with the LCD display, provide a convenient menu-driven method for setting the operating characteristics of the *Virgo VFS* for use with the **UTCS**. Menu settings may be viewed or altered at any time.

To view or change menu selections, enter **Settings Mode** by pressing the <SET> button. The top line of the LCD display shows the current setting selected, while the bottom line shows the current option selected for the setting. The <NEXT> and <PREV> buttons navigate through the options for the current setting. To select a particular option, press the <SET> button. This keeps the current option displayed for the setting and moves to the next menu setting. Pressing <RESET> once, will exit the **Settings Mode** without stepping through all the settings.

After stepping through all the settings, the *Virgo VFS* will return to operating in **Normal Mode**. Any changes made will be maintained until they are changed again, even if the *Virgo VFS* is powered down between uses.

If while attempting to change a setting, the 'LOCKED!!' message appears, the setting must be 'unlocked' before any changes may be made. Press the <SET> button until the last setting, 'SET LOCK:', is reached. Press either the <NEXT> or <PREV> button to 'unlock' all settings. The bottom line in the 'SET LOCK:' setting should say 'EDIT SETTINGS OK' when 'unlocked', and 'SETTINGS LOCKED' when 'locked'.

The table shown below provides a list of the settings, options for each setting, and a description for each option available through the *Virgo VFS* front panel menu.

## VIRGO VDC SETTINGS AND OPTIONS

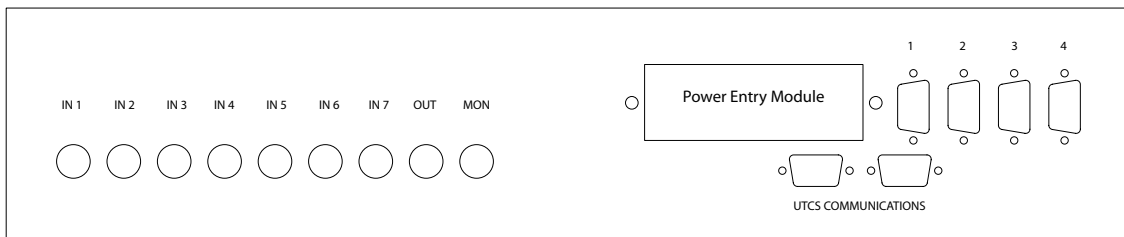
<u>Setting</u>	<u>Option</u>	<u>Description</u>
SET UNIT NUMBER:	1 - 64	Set <i>Intelligent Controller</i> <b>Unit Number</b> for <b>UTCS</b> identification.
SET MODE:	OPERATE TEST	Default setting. For normal operations. For initial calibration and checkout. ( <b>ECCS</b> use only.)
SET MV DECODE:	ON OFF	Macrovision decode on. Macrovision decode off. Default setting.
SET LOCK:	EDIT SETTINGS OK SETTINGS LOCKED	Allows settings to be changed. Prevents settings from being changed.

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## REAR PANEL CONNECTIONS

The *Virgo VFS* has six wedge-shaped, nine pin (**DB9**) connectors on the rear panel. All input and output connections are made here. The four male **DB9** connectors to the right of the power entry module are manual control ports, with port one closest to the power module. The two **DB9** connectors, one male and one female, below the power entry module are the **UTCS** communication network connectors.

There are 9 connectors for video signal input and output on the lower left section of the rear panel. Composite video units use BNC connectors, and all video signal cabling should be high quality 75 ohm coaxial cable. S-Video units use 4-pin mini-din connectors, and all video signal cabling should be high quality S-Video cables. Cables and adapters are available from **ECCS**.



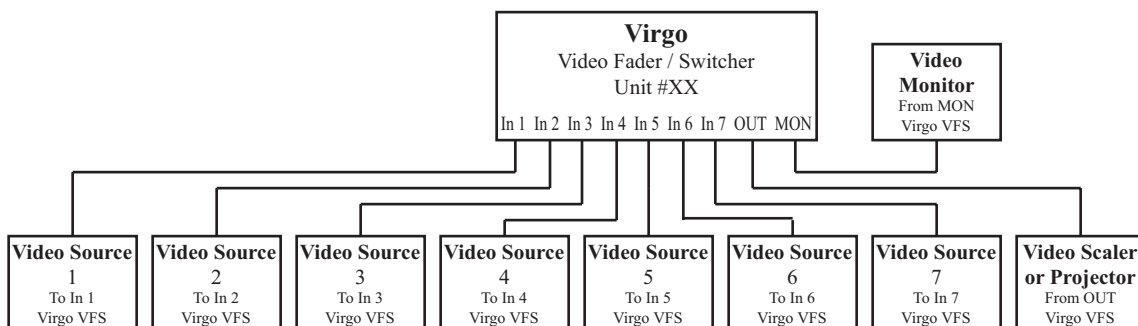
**Note:** Future versions of *Virgo VFS* units may include control of **Contrast**, **Brightness**, **Fader** level, and **Input Selection** through the manual control ports.

## VIDEO CONNECTIONS

The video output from each video source, such as DVD, Laser Disc, or S-VHS players, connects to one input on the *Virgo VFS* rear panel. Remember that composite and S-Video signals cannot be mixed. For special cables or converters, consult **ECCS**.

The *Virgo VFS* connector labelled 'OUT' connects to the video projector (or video signal scaler, etc.). This output supplies the selected, fadable video signal to the video output device.

The connector labelled 'MON' connects to a video monitor, if installed, to provide a video preview. This connector supplies the same video signal going to the video output device except that the signal cannot be faded.



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## COMMUNICATION NETWORK CONNECTORS

The *Virgo VFS* receives commands sent from the *Hercules Central Processor* or the *Cygnus Manual Control System* over the **UTCS** communication network. The communication network can support up to 64 *Intelligent Controllers*, but each *Intelligent Controller* must have a unique **Unit Number**. The *Virgo VFS Unit Number* is set using the front panel menu and button controls.

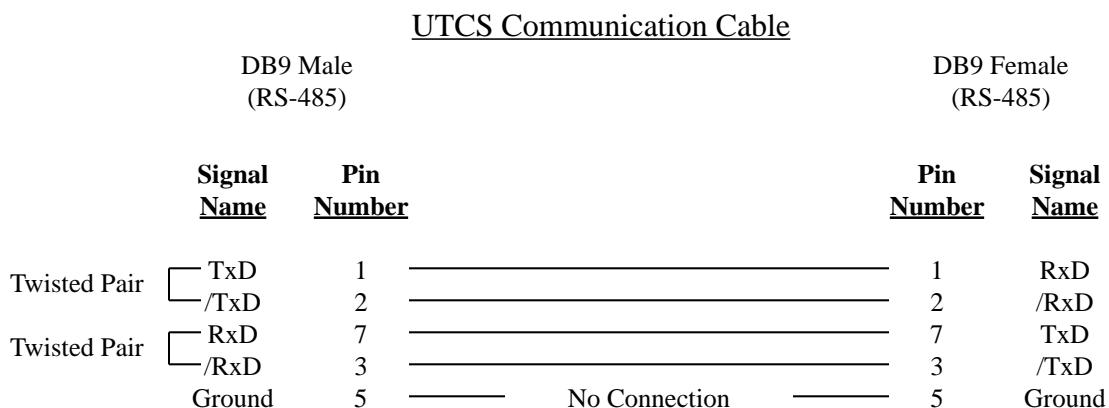
The communication network connectors are located on the *Virgo VFS* rear panel. There are two **DB9** connectors, a male and a female, labeled '**UTCS Communication**'. In a typical installation, the male connector will connect towards the *Hercules Central Processor*, and the female will connect towards the next *Intelligent Controller*.

The *Virgo VFS* can be 'inserted' anywhere in the existing communication network **Daisy Chain**, or as the last *Intelligent Controller* in the **UTCS** network. Placement of the unit is dependent only convenience and ease of operation.

## COMMUNICATION CABLE WIRING

All communications are four conductor cables with a male **DB9** connector at one end and a female **DB9** connector at the other.

Communication cables are wired straight through, with pin 1 on the male end tied to pin 1 on the female end, pin 2 to pin 2, pin 3 to pin 3, and pin 7 to pin 7. For optimal performance, the wires should be twisted pairs with one pair on pins 1 and 2 and the other on pins 3 and 7. The pin diagram is illustrated below.



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## UNIT SETUP CHECKLIST

Use the following checklist to insure that the *Virgo VFS* is installed into the theater **UTCS** and ready to be added to the system *Configuration File*.

1. The *Virgo VFS* has been securely placed in convenient location near the video sources in the theater, and the **UTCS** communication network connections have been made.
2. Connect all video sources to the video input connectors on the rear panel. Connect to most commonly used video source to Input 1.

**Note:** Input 1 is the default Input Selection. The *Virgo VFS* will go to the default when it is first powered on or when the unit receives a **RESET** command from either the front panel menu or *Hercules*.

3. A unique **Unit Number** has been selected for the *Virgo VFS* using the front panel menu system.
4. Make sure the **SET MODE:** option of the *Virgo VFS* is set to **OPERATE**.
5. Once all necessary changes have been made to the *Virgo VFS* options, use the front panel menu to select the **SET LOCK:** option and set it to **SETTINGS LOCKED**. This keeps any of the options from being accidentally changed.
6. The *Virgo VFS Unit Number* has been noted for entry into the *Configuration File*.

**Note:** If a Barco CRT Video Projector is used, it is recommended that a video source that always generates a video signal is connected to Input 1 of the *Virgo VFS*. Most DVD, Laser Disc, and Hard Disk devices fulfill this requirement. Tape based S-VHS players do not, and should not be connected to Input 1 for best Barco operation.

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## CONFIGURATION FILE EXAMPLE

The following example shows the entries needed to add a *Virgo VFS* and the video control options to the *Configuration File*.

<ALT>	(N)ew	(O)pen	(S)ave	Save(A)s	(D)elete	(P)rint	(Q)uit	Editor			
File: HERCMS.CFG											
Dvc#	DevCode	Description	Type	Unit#	Slot#	Branch	Bank	Scrn	Init	Max	
113	DVD	PIONEER V7400 DVD	VD	33	1	0	-	-	0	100	
114	SONYVP	SONY D50 VID PROJ		33	2	0	-	-	0	100	
115	LCD	PANASONIC VID PROJ		33	3	0	-	-	0	100	
116	VF160	FOSTEX VF160		33	4	0	-	-	0	100	
117				0	0	0	-	-	0	100	
118				0	0	0	-	-	0	100	
119				0	0	0	-	-	0	100	
120				0	0	0	-	-	0	100	
121				0	0	0	-	-	0	100	
122				0	0	0	-	-	0	100	
123	VIDEO	VIDEO	VS	34	3	0	-	-	0	100	
124				0	0	0	-	-	0	100	
125				0	0	0	-	-	0	100	
126				0	0	0	-	-	0	100	
127				0	0	0	-	-	0	100	
128				0	0	0	-	-	0	100	

EDIT DEVICE CODE - Enter (1-8) alphanumeric characters (spaces are illegal).  
The first character must be alphabetic.

The **Unit Number** is user defined. **ECCS** recommends using a number greater than 32, since some *Intelligent Controllers*, with internally set **Unit Numbers**, are limited to a range from 1 to 32.

The **Device Code** and **Device Name** are also user defined. The **Device Code** is limited to eight alphanumeric characters, but spaces are not allowed. The **Device Name** can be up to eighteen alphanumeric characters, and spaces are allowed. Both entries should be as descriptive as possible to make them easy to remember.

The **Device Type** will determine how the *Hercules Central Processor* to correctly display and update the device status. See Chapter 4 for more information about valid **Device Types**.

# VIRGO VIDEO FADER/ SWITCHER

## FADER/ SWITCHER OPERATION

The *Virgo VFS* is used to control aspects of the video signal, specifically video input selection and fading. Remember that the *Virgo VFS* does not control the video sources or video projectors in any way. To control devices such as DVD, Laser Disc, or S-VHS players and video projectors, a *Virgo Video Device Controller (VDC)* is required. Typically, both the *Virgo VFS* and the *Virgo VDC* are required to fully control a theater video projection system via the *UTCS*.

Commands to manipulate the video signal must be issued from *Hercules* and/ or the *Cygnus Manual Control System*. When the *Virgo VFS* receives commands from the *UTCS*, it performs validity tests on the commands. Invalid commands will not be executed, but will generate an error messages that are displayed on the front panel LCD display of the *Virgo VFS*, as well as on the *Hercules* screen.

## VIDEO INPUT SELECTION

The *Virgo VFS* can be instructed to select one of the seven incoming video signals. The *IS#,# (INPUT SELECT)* command can be directed to any defined *Virgo VFS Slot Number*, but to keep things simple, it is suggested this command be directed to the video signal device called 'VIDEO'. The following *Hercules* command selects the desired video input:

Hercules Command	Command Name	Command Description
<i>isa,v</i>	Input Select <i>a</i> , ( $1 \leq v \leq 7$ )	<i>isa,v</i> where <i>a</i> = audio channel number, <i>v</i> = video channel number. The audio input number is a dummy value and will be ignored.  ( $1 \leq v \leq 7$ ) with the following meanings. v = 1: Input 1 v = 2: Input 2 v = 3: Input 3 v = 4: Input 4 v = 5: Input 5 v = 6: Input 6 v = 7: Input 7

The following example shows how to select Input 4 of the *Virgo VFS*.

Cue#	Dev Cmd	Cmd Description	Dev Code	Device Name	Limit
0000	MQ	>>> MANUAL CUE <<<			
0001	IS4,4	Input Select 4,4	VIDEO	VIDEO SIGNAL	
0002					
0003					
0004					

**Note:** Input 1 is the default Input Selection. The *Virgo VFS* will go to the default when it is first powered on or when the unit receives a **RESET** command from either the front panel menu or *Hercules*.



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## VIDEO FADER COMMANDS

The *Virgo VFS* can be instructed to fade video scenes to and from video black. The *Virgo VFS* manipulates the brightness and contrast of the video signal in a predetermined way to present the most pleasing fade. The *Hercules* commands used to control the video fade are the same as those used to control projector lamps or room light fades.

All fade commands must be directed to the device typically named 'VIDEO'. This device is assigned in the *Configuration File* to *Virgo VFS Slot Number 3*. The following table lists all the commands that the fader understands:

Hercules Command	Command Name	Command Description
#A	# Sec Alternate (0.1 ≤ # ≤ 999.9)	Changes state of video signal (on to off or off to on) in a ramp of # seconds duration.
#D	# Sec Dissolve (0.1 ≤ # ≤ 999.9)	Changes state of video signal (on to off or off to on) in a ramp of # seconds duration.
#N	# Sec Dissolve On (0.1 ≤ # ≤ 999.9)	Video signal dims up in a ramp of # seconds duration to a lamp level of % (Limit). Can be used to ramp from one % (Limit) to new % (Limit).
#F	# Sec Dissolve Off (0.1 ≤ # ≤ 999.9)	Video signal dims down in ramp of # seconds duration.
#FNF	# Sec Dissolve Off (No Forward) (0.1 ≤ # ≤ 999.9)	Video signal dims down in ramp of # seconds duration.
FA	Fast Alternate	Changes state of video signal (on to off or off to on) instantly.
HC	Hard Cut	Changes state of video signal (on to off or off to on) instantly.
LN	Lamp On	Turns video signal on to a level of % (Limit).
LF	Lamp Off	Turns video signal off.

**Note:** When the *Virgo VFS* first powers up, or receives a **RESET** command from *Hercules* or the front panel menu, the fader will return to the 100% level. This allows the video signal to passed through, unchanged.

# VIRGO VIDEO FADER/ SWITCHER

## BRIGHTNESS ADJUSTMENT

The *Virgo VFS* can be instructed to adjust the brightness level of the incoming video signal. Unlike the fader commands, the brightness command can be directed to any defined *Virgo VFS Slot Number*, but to keep things simple, it is suggested this command be directed to the video signal device called 'VIDEO'. The following *Hercules* command sets the desired brightness level:

Hercules Command	Command Name	Command Description
BRI=#	Brightness = (0 ≤ # ≤ 200)	Sets picture brightness to #%.  A value of 100 is normal. A lower value represents reduced brightness. A higher value represents an enhanced brightness.

When determining the appropriate brightness value to use with any given scene, be sure that the fader level is set to 100%. Adjusting the brightness value on a scene that is partially faded out can create unpleasant results when the scene is fully faded up.

**Note:** When the *Virgo VFS* first powers up, or receives a **RESET** command from *Hercules* or the front panel menu, the brightness will return to the 100% level. This allows the video signal to passed through, unchanged.

## CONTRAST ADJUSTMENT

The *Virgo VFS* can be instructed to adjust the contrast level of the incoming video signal. Unlike the fader commands, the contrast command can be directed to any defined *Virgo VFS Slot Number*, but to keep things simple, it is suggested this command be directed to the video signal device called 'VIDEO'. The following *Hercules* command sets the desired contrast level:

Hercules Command	Command Name	Command Description
CON=#	Contrast = (0 ≤ # ≤ 200)	Sets picture contrast to #%.  A value of 100 is normal. A lower value represents reduced contrast. A higher value represents an enhanced contrast.

When determining the appropriate brightness value to use with any given scene, be sure that the fader level is set to 100%. Adjusting the brightness value on a scene that is partially faded out can create unpleasant results when the scene is fully faded up.

**Note:** When the *Virgo VFS* first powers up, or receives a **RESET** command from *Hercules* or the front panel menu, the contrast will return to the 100% level. This allows the video signal to passed through, unchanged.

# VIRGO VIDEO FADER/ SWITCHER

## ALL VIRGO VFS COMMANDS

The following table lists all valid *Hercules* commands for use with the *Virgo VFS*:

Hercules Command	Command Name	Command Description
#A	# Sec Alternate (0.1 ≤ # ≤ 999.9)	Changes state of video signal (on to off or off to on) in a ramp of # seconds duration.
#D	# Sec Dissolve (0.1 ≤ # ≤ 999.9)	Changes state of video signal (on to off or off to on) in a ramp of # seconds duration.
#N	# Sec Dissolve On (0.1 ≤ # ≤ 999.9)	Video signal dims up in a ramp of # seconds duration to a lamp level of % (Limit). Can be used to ramp from one % (Limit) to new % (Limit).
#F	# Sec Dissolve Off (0.1 ≤ # ≤ 999.9)	Video signal dims down in ramp of # seconds duration.
#FNF	# Sec Dissolve Off (No Forward) (0.1 ≤ # ≤ 999.9)	Video signal dims down in ramp of # seconds duration.
FA	Fast Alternate	Changes state of video signal (on to off or off to on) instantly.
HC	Hard Cut	Changes state of video signal (on to off or off to on) instantly.
LN	Lamp On	Turns video signal on to a level of % (Limit).
LF	Lamp Off	Turns video signal off.
DISPON	Display On	Turns on LCD display backlight.
DISPOFF	Display Off	Turns on LCD display backlight.
isa,v	Input Select a, (1 ≤ v ≤ 7)	isa,v where a = audio channel number, v = video channel number. The audio input number is a dummy value and will be ignored.  (1 ≤ v ≤ 7) with the following meanings. v = 1: Input 1 v = 2: Input 2 v = 3: Input 3 v = 4: Input 4 v = 5: Input 5 v = 6: Input 6 v = 7: Input 7
CON=#	Contrast = (0 ≤ # ≤ 200)	Sets picture contrast to #%.  A value of 100 is normal. A lower value represents reduced contrast. A higher value represents an enhanced contrast.
BRI=#	Brightness = (0 ≤ # ≤ 200)	Sets picture brightness to #%.  A value of 100 is normal. A lower value represents reduced brightness. A higher value represents an enhanced brightness.
PH	Projector Home	Resets unit to default settings.  Contrast = 100% Brightness = 100% Fader = 100% Input Select = Input 1
HOMESYS	Home System	Resets unit to default settings.  Contrast = 100% Brightness = 100% Fader = 100% Input Select = Input 1

# VIRGO VIDEO FADER/ SWITCHER

## VIDEO PROJECTOR ISSUES

For optimal planetarium usage, the video projector must be adjusted to provide a truly black background. The *Virgo VFS* fades the video signal down to video black, so the precise adjustment of the video projector itself will result in the best possible video extinction when a scene is faded to black.

The current state of technology dictates that only CRT video projectors are capable of providing a truly black background. LCD and DLP video projectors are not capable of providing a truly black background and can only ever provide a gray background.

Most video projectors will react poorly to the loss and subsequent requisition of video signals, resulting in visual noise on the dome. Supplying the video projector with a constant video black signal during show presentations when video is not being used will help minimize visual noise. Sources of video black signals include many DVD and Laser Disc players, hard disk video systems, and black burst generators. Controlling the video projector with a *Virgo Video Device Controller (VDC)* may allow the video signal to be muted at the projector.

## VIDEO MEDIA COMPARED

There are many different sources of video media, including DVDs, Laser Discs, video hard drives, and video tapes. Each media has positive and negative aspects.

Laser Discs have long been the media of choice for planetariums. However, manufacturers are no longer producing professional Laser Disc players and video media producers are moving away from providing Laser Disc material. Laser discs and players have been the equipment of choice because of their ability to produce video black as the default output. Players also had the ability to provide disc playback at speeds faster and slower than 100%.

DVD Discs and players are replacing Laser Discs as a widely available, cost effective format. However, consumer DVD players may not transmit a video black signal as a default like Laser Disc players. Additionally, while some DVD players are capable of multi-speed play, it is generally at speeds that are slower than 100%, which diminishes some of the functionality of DVD media.

Hard drive video servers are generally capable of being programmed to transmit video black as a default, but may not be capable of multi-speed video segment playback.

Video tape players do not provide as clean or sharp an image as the other options. Additionally, they do not provide a video black signal when idle, so a lot of video noise is generated between video segments.

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## VIDEO SWITCHING NOISE ISSUES

Because most planetarium video sources are not genlocked, or synchronized, some switching noise may be expected. The severity of this problem will depend on several factors, including the make and model of video projector in use.

If using a video projector that is capable of video muting, such as a Barco, use it to hide the switching action. This requires the use of the *Virgo VDC* to control the video projector directly.

If unable to use video muting to eliminate switching noise, then perhaps one of the following hints will help to reduce or mask the problem:

1. Switch with the *Virgo VFS* at minimum fade level.
2. Switch with both the old and new sources 'stilled' on video black.
3. Never switch to a source that is not generating a video signal. For example, start a video tape playing a second or two before switching to it.
4. Switch when a slide, special effect, or other visual distraction can mask the noise.

## COPY PROTECTION AND ENCRYPTION ISSUES

Many commercially available DVD discs and S-VHS tapes are copy protected and are sold for use only by individuals in their home entertainment systems. These discs and tapes usually have some type of copy protection/ encryption that is designed to protect against illegal copying or performance in a professional setting. Discs and tapes that have protection may not perform well when played through the *Virgo VFS*.

If a DVD or a video tape does not play clearly through the *Virgo VFS*, check to see if it is copy protected. In some cases, taking the output from the 'MON' output of the *Virgo VFS* directly to the video projector will allow the playback of the DVD disk or video tape. The monitor output is switchable, but not fadable, so the video signal cannot be faded with the *Virgo VFS* if this output is used. The responsibility for insuring that any video segments played back in the theater are legal for use lies with the theater personnel. There is a large selection of material that is specifically designed for use in the planetarium or education realm that is not copy protected for this reason.

# VIRGO VIDEO FADER/ SWITCHER

## VIRGO VFS ERROR MESSAGES

Just like all **ECCS Intelligent Controllers**, the **Virgo VFS** checks all commands received from the **Hercules Central Processor** before attempting to execute them. If any problems are detected, command execution is terminated and an error is returned to **Hercules Central Processor** to be displayed on the **Hercules** screen. The following table lists the possible errors along with how they appear both on the **Virgo VFS** LCD display and on the **Hercules** screen. The table also provides explanations for the errors and/ or suggestions to fix the problem.

## POSSIBLE ERROR MESSAGES GENERATED BY HERCULES/ VIRGO VFS COMMUNICATIONS

Errors and Messages	Meaning	Problem or Solution
Virgo LCD: <i>no message</i> Hercules: <i>no message</i>	The last <b>Hercules</b> command was good and is being executed.	No problem.
Virgo LCD: ILLEGAL SLOT # Hercules: ILLEGAL SLOT	The <b>Virgo VFS Slot Number</b> of the device in the last command does not exist.	This is a <b>Hercules Configuration File</b> problem. Edit the device entry in the <b>Configuration File</b> and enter the correct slot #.
Virgo LCD: CMD/UNT MISMATCH Hercules: COMMAND/UNIT MISMATCH	The last <b>Hercules</b> command was not valid for the <b>Virgo VFS</b> or any device controlled by the <b>Virgo VFS</b> .	This is a <b>Show File</b> problem. The programmer is using the wrong <b>Hercules</b> command.
Virgo LCD: CMD/PRJ MISMATCH Hercules: COMMAND/DEVICE MISMATCH	The last <b>Hercules</b> command was not valid for the Device, according to the <b>Virgo VFS</b> .	This is a <b>Show File</b> problem. The programmer is using the wrong <b>Hercules</b> command.
Virgo LCD: ARG OUT OF RANGE Hercules: ARGUMENT OUT OF RANGE	The last <b>Hercules</b> command included a numerical argument that is not valid for the Device, according to <b>Virgo VFS</b> .	This is a <b>Show File</b> problem. The programmer is using the wrong <b>Hercules</b> command.
Virgo LCD: SYNTAX ERROR Hercules: <i>not applicable</i>	The last <b>ASCII</b> text command was not worded correctly, according to <b>Hercules</b> .	This problem can only occur when uploading a new version of firmware to the <b>Virgo</b> . Restart the upload.
Virgo LCD: <i>no message</i> Hercules: COMMUNICATION FAILURE, UNIT #	<b>Hercules</b> could not establish contact with the <b>Virgo VFS</b> .	This is a <b>Hercules/ Virgo VFS</b> Communication problem. The <b>Virgo VFS</b> may be powered off. Also could be a bad cable, a bad connection, or a bad communications chip.
Virgo LCD: CHECKSUM ERROR Hercules: CHECKSUM ERROR	The last <b>Hercules</b> command was garbled.	This is a <b>Hercules/ Virgo VFS</b> Communication Problem. Could be a bad cable, a bad connection, or a bad communications chip.