

CHAPTER 11: THE CASTOR SLIDE PROJECTOR INTERFACE



INTRODUCTION

The *Castor Slide Projector Interface* provides the necessary electronics to allow the *Gemini General Purpose Controller* to control a standard slide projector such as the Kodak EktaGraphic Series. The *Castor* transforms the low voltage control signals from the *Gemini* into the higher power signals needed to operate slide projectors. In addition, the *Castor* senses several slide projector attributes, and transforms them into low voltage signals which are returned to the *Gemini* for reporting to the *Hercules Central Processor*.

Each *Castor* is equipped with four channels to control slide projector power, lamp dimming, tray forward, and tray reverse. When properly attached to the slide projector, the *Castor* can sense when the slide tray is in 'HOME' position (slide position zero), when the projector is ready to advance or reverse the slide tray, and when the lamp has failed.

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INSTALLATION

Each *Castor Slide Projector Interface* can control any standard slide projector that uses the seven pin **Kodak** connector to access the lamp and tray functions. In addition, a round **DIN** plug is used to access the tray home sensor on compatible projectors. Use the following procedure to connect the *Castor* to the slide projector and the *Gemini General Purpose Controller*.

1. Plug the slide projector power cord into the receptacle on the rear of the *Castor*.
2. Plug the seven pin **Kodak** connector from the *Castor* into the appropriate receptacle on the rear of the projector.
3. Plug the round **DIN** plug from the *Castor* into the appropriate receptacle on the rear of the projector.

Note: It is very easy to insert this plug incorrectly. Be careful to align the indentation in the round metal shroud of the plug with the key of the receptacle to insure correct connection.

Note: If the projector does not have this connector, then this projector does not have a tray home sense switch. Simply coil the cable and place it aside. Take special note of programming precautions for projectors without home sense capabilities that will be presented later in the manual.

4. Plug the *Castor* power cord into a convenient receptacle.

Note: The *Castor* and the *Gemini* that control it must be on the same electrical power phase to insure that lamp dimming will occur correctly. The easiest way to insure this is to connect the *Castor* and the *Gemini* to the same power circuit.

5. Connect the female end of the wedge shaped 9-pin (**DB9**) control cable to the male plug on the rear of the *Castor*. The two screws can be tightened to insure that the cable will not be accidentally pulled out of the *Castor*.
6. Connect the male end of the wedge shaped 9-pin (**DB9**) control cable to one of the control ports on the rear panel of a *Gemini*. The two screws can be tightened to insure that the cable will not be accidentally pulled out of the *Gemini*.
7. Use the front panel menu to select the 'SP - CASTOR' option for the control port to which the *Castor* is connected.

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CONFIGURATION FILE EXAMPLE

The example below uses from a default *Configuration File* which is distributed with new *Hercules* program disks. *Intelligent Controllers* and their devices do not need to added to the *Configuration File* in any particular order, but the default *Configuration File* should be used as a guide to help create some sort of consistency between installations.

<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	
1	L1	SLD PROJ LEFT 1	SP	1	1	0	-	-	0	100	
2	L2	SLD PROJ LEFT 2	SP	1	2	0	-	-	0	100	
3	C1	SLD PROJ CENTER 1	SP	1	3	0	-	-	0	100	
4	C2	SLD PROJ CENTER 2	SP	1	4	0	-	-	0	100	
5	R1	SLD PROJ RIGHT 1	SP	2	1	0	-	-	0	100	
6	R2	SLD PROJ RIGHT 2	SP	2	2	0	-	-	0	100	
7	INFO1	INFO SLIDE GROUP 1	GP	0	0	0	-	-	0	100	
8	INFO2	INFO SLIDE GROUP 2	GP	0	0	0	-	-	0	100	
9				0	0	0	-	-	0	100	
10				0	0	0	-	-	0	100	
11				0	0	0	-	-	0	100	
12				0	0	0	-	-	0	100	
13				0	0	0	-	-	0	100	
14				0	0	0	-	-	0	100	
15				0	0	0	-	-	0	100	
16				0	0	0	-	-	0	100	

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

The example shows two different *Gemini* units. **Unit 1** controls four slide projectors, so it has four *Castors* connected to the control ports. **Unit 2** controls two slide projectors, so it has two *Castors* connected to the control ports.

The **Unit Number** is user defined and can be any previously unassigned value from 1 to 64. 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. The correct **Device Type** for a *Castor* controlled slide projector is 'SP'.

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SLIDE PROJECTOR COMMANDS (TYPE SP)

Remember that all commands must be issued from the *Hercules* and directed at a particular device. The following table lists all the commands available to control a slide projector using a *Castor Slide Projector Interface*:

Hercules Command	Command Name	Command Description
#A	# Sec Alternate (0.1 ≤ # ≤ 999.9)	Changes state of lamp (on to off or off to on) in a ramp of # seconds duration.
#D	# Sec Dissolve (0.1 ≤ # ≤ 999.9)	Changes state of lamp in ramp of # seconds duration. Slides are advanced by one tray position at the end of the down ramp.
#N	# Sec Dissolve On (0.1 ≤ # ≤ 999.9)	Lamp 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)	Lamp dims down in ramp of # seconds duration. Slides are advanced by one tray position at the end of the down ramp.
#FNF	# Sec Dissolve Off (No Forward) (0.1 ≤ # ≤ 999.9)	Lamp dims down in ramp of # seconds duration. Slides are advanced by one tray position at the end of the down ramp.
FA	Fast Alternate	Changes state of lamp (on to off or off to on) instantly. Slide trays are not advance when lamp turns off.
HC	Hard Cut	Changes state of lamp (on to off or off to on) instantly. Slide trays are not advance when lamp turns off.
LN	Lamp On	Turns lamp on to a level of % (Limit).
LF	Lamp Off	Turns lamp off. Slide trays do not advance.
FZ	Freeze	When issued during a lamp ramp, the ramp will freeze at that level. When issued again, the lamp ramp will resume.
PLMP	Pulse Lamp	Triggers ½ second lamp pulse.
F#,#	Flash Lamp #1, #2 (0 ≤ # ≤ 99)	Flashes lamp at regular intervals. #1 represents 'on' time in system heartbeats; #2 represents 'off' time in system heartbeats. FO,0 disables flashing. This command is a layered command. The lamp must be ramped on with another command to see the effect. After the lamp is faded down, a FO,0 cue must be entered to disable the flash.
FS#	Find Slide # (0 ≤ # ≤ 80)	Access slide in tray position #.
PF	Projector Forward	Advances tray position by one slide.
PR	Projector Reverse	Reverses tray position by one slide.
PH	Projector Home	Turns lamp off. Reverses tray until home sensor is reached, or until tray has been reversed 81 times.
PWRON	Power On	Activates projector power manually.
PWROFF	Power Off	Returns projector power to automatic cycling.