

Cove Light Control Commands

Premise

Each color is composed of four independent effect banks. Each effect bank can have independent settings of all of the effect variables. The effect variables are *lamp level*, *chase pattern*, *bulb pattern*, and *chase speed*. You must activate a chase *and* issue a lamp command in order to see an effect. (This means effects can be faded!) For your convenience, effect bank 0 in each color is defined as 'all lamps on' upon Pleiades startup. This allows operation of normal cove light operations without having to 'set' them. The manual control input to the Pleiades varies the intensity of effect bank 0 only.

In a standard cove system setup, 64 channels of control per color will be available. There will usually be 64*n number of lighting fixtures. Channel numbering starts at the rear of the dome and increases as you move clockwise as viewed from above.

The Configuration file will have four entries per color, one entry for each effects bank. The device codes for each Pleiades may look something like 'BLUCOVE', 'BLUEFF1', 'BLUEFF2' and 'BLUEFF3'. These codes correspond to names such as 'BLUE COVE LIGHTS' (really 'blue effect bank 0'), 'BLUE EFFECT BANK #1, etc. The device type should be set to LO (Lamp Only) for each entry. The unit # will be the unit # that has been assigned to that Pleiades unit by means of its front panel menu, and the slot number will be 1-4, with BLUCOVE assigned to slot 1 and working upwards.

Remember when programming the cove lights that the lamp commands (LN, LF, #N, #F, etc.) are valid and necessary. The lamp commands are logically 'ANDed' with the chase effect variables, so that if you start a chase but don't turn the lamps on, the chase will progress, but will be invisible. (That's useful....Ha)

The Flash command is valid. **Fx,y** flashes the cove effect bank at regular intervals. x is lamp 'on' time in system heartbeats, y is lamp 'off' time in system heartbeats. F50,50 flashes lamp on for 1/2 second, then off for 1/2 second. F0,0 disables flashing. The range for both numbers is 0<=#<=99. This command is a layered command. The effects bank must be turned on with another lamp command (LN, LF, #N, #F, etc) to see the effect.

Cove chase and wipe effects have a beginning and an end. They are not 'circular' in nature. These means that if an effect's parameter is changed while the chase is in progress, the new effect will 'walk into' the cove from the point of origin while the old chase exits the cove at the point of departure. The point of origin, the point of departure, and the direction of the effect is set by **CP=#**. To construct a perfectly 'circular' chase, the effect parameters must be set such that the total number of lamps involved in the smallest unique chase segment (set by **BPx,y**) can be evenly divided into 64 (the number of channels in each color).

Effects can be limited to certain areas through a process known as 'masking'. Each of the four effects banks has a mask that can disable any combination of lamps from participating in the chase. Commands that affect masks are **Dx,y** (Disable channels x through y) and **Ex,y** (Enable channels x through y). For example, if you want to limit an effect to the front half of the dome, you need to disable the channels in the rear half by means of the following command:

D49,16 disable channels 49 through 16 BLEFF1 Blue Effect 1

Masks are applied individually to each effects bank, so that each effect can have a different mask. All channels on all banks start out enabled. Disabled channels can be reenabled by means of the **Ex,y**, **PH**, or **HOMESYS** commands.

Example: Fade in a basic center out chase

Cue#	DvcCmd	Command Description	DvcCode	Device Description	Parm
0000	MQ	Manual Cue			
0001	BP1,3	Bulb Pattern 1,3	BLEFF1	Blue Effect 1	
0002	BD=5	Bulb Duration = 5	BLEFF1	Blue Effect 1	
0003	CP3	Chase Pattern #3	BLEFF1	Blue Effect 1	
0004	3N	3 Sec dissolve On	BLEFF1	Blue Effect 1	
0005	MQ	Manual Cue			

Once the above effect is running, try changing individual parameters and see how the effect changes. Also try overlapping different effects on different banks of the same color and different banks of different colors. Remember that each color has four independent effects banks that can all be active with different effects simultaneously. When multiple effects are used simultaneously, they are 'ored', or added, together.

In addition to the effects described above, it is possible for the user to define the state of any single lamp in the cove system. In order to do this, one must think of the 64 channels per color as 8 groups of eight channels each. We use the **SB#** (Set Bank, where 1<=#<=8) command to set which group of eight lamp channels that we'd like to address, then use the **VAL=#** (Value, 0<=#<=255, in decimal) command to set the correct on/off status for those 8 lamp channels. To preset an entire color to a predetermined lamp channel setting in this manner requires 16 commands.

Set individual lamp channels

Cue#	DvcCmd	Command Description	DvcCode	Device Description	Parm
0000	MQ	Manual Cue			
0001	SB1	Set Bank 1	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB2	Set Bank 2	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB3	Set Bank 3	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB4	Set Bank 4	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB5	Set Bank 5	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB6	Set Bank 6	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB7	Set Bank 7	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0001	SB8	Set Bank 8	BLEFF1	Blue Effect 1	
0002	VAL=1	Value = 1	BLEFF1	Blue Effect 1	
0005	MQ	Manual Cue			

The previous example simply sets the 1st lamp channel on in each of the 8 lamp channel banks, which could have been done much more easily by means of the example which follows.

Cue#	DvcCmd	Command Description	DvcCode	Device Description	Parm
0000	MQ	Manual Cue			
0001	BP1,7	Bulb Pattern 1,7	BLEFF1	Blue Effect 1	
0002	BD=5	Bulb Duration = 5	BLEFF1	Blue Effect 1	
0003	CP0	Chase Pattern #0	BLEFF1	Blue Effect 1	
0004	INIT	Initialize	BLEFF1	Blue Effect 1	
0005	MQ	Manual Cue			

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>>> All lamp commands are valid <<<

- CP#** Set Chase Pattern to # and Start Chase. This command sets the effect's point of origin, point of departure, and route traveled during the effect. Valid #'s are as follows:
- 0 = Stop Chase
 - 1 = Full Circle from Left
 - 2 = Full Circle from Right
 - 3 = Center Out Split Chase
 - 4 = Center In Split Chase
 - 5 = 8 Segment Chase
 - 6 = Popcorn
- In most cases, **BPx,y** and **BD=#** will usually be set before **CP#** invokes the effect.
- BD=#** Set Chase Speed by Setting Bit (or Bulb) Duration. # = Length of time each bulb is on before moving to the next bulb (in powerline zero crossings, i.e. set **BD=120** for one change/second; set **BD=12** for one change every 1/10 second, etc.) For many chase effects, **BD** in the range of 4 to 6 works well.
- BPx,y** Set Chase Bit (or Bulb) Seed Pattern. x = # of bulbs on, y = # of bulbs off. For example, **BP1,3** sets the chase seed pattern as one lamp on, then three off. This is good for many traditional chases. **BP4,28** sets chase seed as 4 lamps on and 28 off. This will create two bands of light that can whip around the dome. **BP99,0** sets 99 lamps on and 0 off. This is used for 'wiping' the coves on. (**BP0,99** 'wipes' the coves off.)
- INIT** Initialize a cove effect bank to the previously designated Bit Seed Pattern. When **INIT** is not used, a cove effect will 'walk in' from its point of origin (set by **CP#**). When **INIT** is used, the entire effect bank will be instantly preset to the pattern determined by the most recent (**BPx,y**).
- Dx,y** Disables channels. Channels from x to y will be prevented from participating in an effect. This is valid on an effects bank by effects bank basis.
- Ex,y** Enables channels. Channels from x to y will be allow to participate in an effect. (All channels start enabled.) This is valid on an effects bank by effects bank basis.

VAL=# Sets 8 lamp channels to an on/off status which corresponds to the binary equivalent of the entered decimal number ($0 \leq \# \leq 255$). The group of 8 lamp channels to be set must be previously defined with the **SB#** (Set Bank #) command. Examples of number translations follow:

VAL=0	00000000	All 8 lamps off
VAL=1	00000001	
VAL=2	00000010	
VAL=3	00000011	
VAL=4	00000100	
VAL=8	00001000	
VAL=16	00010000	
VAL=32	00100000	
VAL=64	01000000	
VAL=128	10000000	
VAL=255	11111111	All 8 lamps on

SB# Sets which bank of 8 lamps will be addressed by the next **VAL=#** command. ($1 \leq \# \leq 8$).

NXTBANK Sets to the next bank of 8 lamps as the one which will be addressed by the next **VAL=#** command.

PH Projector Home - Resets the effect parameters to their default for that bank.

Note that only the lamp and flash status of the cove effects are currently 'Followed'.