CHAPTER 6:
THE CYGNUS EX
MANUAL CONTROL SYSTEM

INTRODUCTION

The *Cygnus EX Manual Control System* adds manual control and automation override capability to the *Universal Theater Control System* (**UTCS**). The *Cygnus EX Manual Control System* is composed of one *Cygnus EX Manual Control Brain* and up to four *Cygnus 12B Button Panels*. Alternatively, one *Cygnus EX Panel* can be used in place of one *Cygnus 12B Button Panel* for enhanced capabilities.

Each *Cygnus EX Brain* constantly monitors the panels in search of manual control activation. Whenever a manual control is activated, the *Cygnus EX Brain* converts the action into the appropriate **UTCS** command that is sent out through the communications network.

Additionally, the *Cygnus EX Manual Control Brain* intercepts and evaluates each command issued from *Hercules Central Processor*. Depending upon the situation, one of the following will occur:

1. If the target device for a received command has no associated manual control on any of the *Cygnus 12B Button Panels* or the *Cygnus EX Panel*, the command is reissued from the *Cygnus EX Brain* to the communication network.

2. If the target device has an associated manual control, but it is set for automation, the command is re-issued from *Cygnus EX Brain* to the communication network.

3. If the target device has an associated manual control, and it is set to manual, the command is terminated and a 'DEVICE IN MANUAL MODE' message is sent to the *Hercules Central Processor*. This allows a device, or devices, to be removed from a programmed *Show Segment*.

Turning the *Cygnus EX Brain* off will remove its manual control panels from the communication network and restore a direct connection between *Hercules Central Processor* and the rest of the **UTCS**.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS EX MANUAL CONTROL BRAIN INSTALLATION

The *Cygnus EX Brain* is a rackmount enclosure measuring 19" wide, 3½" high (2 rack units), and 11½" deep, and is typically mounted in the lower portion of the control console or slope front rack. The *Cygnus EX Brain* should be located near the *Cygnus Manual Control Panels* connected to it. Access to the *Cygnus EX Brain* back panel is needed to complete the installation.

The *Cygnus EX Brain* back panel has two **DB9** connectors for the **UTCS** communications network. The first is labeled '**Gemini**' and connects 'downstream' to the next *Intelligent Controller* in the communications network. The second is labeled '**Hercules**' and connects back to the *Hercules Central Processor*.

There are also two unlabeled **DB9** connectors on the back panel, located below the power entry module. Either one may be used to connect the *Cygnus EX Brain* to the *Aquila Time Code Controller*. This allows the *Cygnus EX Panel* to display the current show time. When the *Cygnus EX Panel* is not included in the system, these connectors are not used.

Next to the communication network **DB9** connectors are four female **DB25** connectors labeled '**BANK A**', '**BANK B**', '**BANK C**', and '**BANK D**'. This is where the ribbon cables from the *Cygnus EX Panel* and *Cygnus 12B Button Panels* will connect to the *Cygnus EX Brain*.

Next to the **DB25** bank connectors are four **DB9** connectors, labeled '**X**', '**Y**', '**Z**', and '**PRJ**'. If a *Cygnus EX Panel* is used to control a slew-zoom projector, then the three axis and slide projector connections will be made here. The two **DB15** connectors on the *Cygnus EX Brain* rear panel labeled '**Display**' and '**Button**' will attach to the LCD display and button cluster of the *Cygnus EX Panel*. If a *Cygnus EX Panel* is not installed, these connectors will remain empty.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS 12B BUTTON PANEL INSTALLATION

The *Cygnus 12B Button Panel* is the actual manual control interface. Each panel holds twelve clusters of five buttons each. The top rectangular button labeled <AUTO/MAN> toggles the cluster between automated and manual control. The remaining four function buttons are labeled <FWD>, <REV>, <UP>, and <DOWN> like typical slide projector control commands, but these buttons can be programmed to generate any **UTCS** command. Each of the function buttons may be assigned two commands. One command can be issued when the button is pressed down, and a different command issued when the button is released. This maximizes the efficiency and flexibility of the control panel.

The *Cygnus 12B Button Panel* measures 19" wide by 5¼" high (3 rack units). The *Cygnus 12B Button Panel* must be mounted in an equipment rack, or securely attached to an existing console, with approximately 2 inches of rear clearance for the circuit boards attached to the back of the panel.

During manufacture each *Cygnus 12B* is given a bank assignment, '**A**' through '**D**', which allows the *Cygnus EX Brain* to manage up to four banks at a time. The bank assignment of the *Cygnus 12B* is indicated on the ribbon cable attached to the rear of the panel. After the *Cygnus 12B* is mounted into the control console or rack, attach the **DB25** connector at the end of the ribbon cable to the matching connector on the *Cygnus EX Brain* back panel.

The *Cygnus 12B* buttons will momentarily be brightly lit, possibly in a random pattern, each time the *Cygnus EX Brain* is turned on. The button light level will then drop to a lower level. The <AUTO/MAN> button will remain slightly brighter than the function buttons. If all the *Cygnus 12B* buttons remain bright or randomly lit, check that the *Cygnus 12B* bank assignment matches the bank connector it is attached to on the *Cygnus EX Brain*.

The *Cygnus 12B* is programmed with default button assignments matching devices defined in the default *Hercules Configuration File* when it leaves **ECCS**. Once installed, the button assignments can be reprogrammed by the user to match the devices present in the theater. As devices are added, removed, or repositioned the *Cygnus 12B* can be reprogrammed to keep pace with the needs of the theater.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS EX PANEL INSTALLATION

The *Cygnus EX Panel* can be thought of as a standard *Cygnus 12B* with extras. The *Cygnus EX Panel* includes the twelve button clusters of the *Cygnus 12B* as well as a 40 character LCD display, a six button cluster similar to those on most *Intelligent Controllers*, and six button/ potentiometer groups.

The first four button/ potentiometer groups connect directly to the *Cygnus EX Brain* to control a slew-zoom projector. The remaining button/ potentiometer groups can be connected to a high current dimmer or the *Pleiades Cove Light Controller* for lighting control.

The LCD display provides a readout of the rates for the X and Y mirrors and the Zoom lens of a slew-zoom projector.

The <AUTO> button sets the entire **UTCS** system to automated operation while the <MAN> button sets the entire UTCS system to manual operation. Pressing the <HOME> button twice in succession will send a HOMESYS command to the entire **UTCS**.

The *Cygnus EX Panel* measures 19" wide by 10½" high (6 rack units). The *Cygnus EX Panel* must be mounted in an equipment rack, or securely attached to an existing console, with approximately 2 inches of rear clearance for the circuit boards attached to the back of the panel.

The *Cygnus EX Panel* is given a bank assignment, 'A' through 'D', which allows the *Cygnus EX Brain* to manage up to four banks at a time. The bank assignment of *Cygnus EX Panel* is indicated on the ribbon cable attached to the rear of the panel. After the *Cygnus EX Panel* is mounted into the control console or rack, attach the **DB25** connector at the end of the ribbon cable to the matching connector on the *Cygnus EX Brain* back panel.

Attach the output from the 'X', 'Y', 'Z', and '**PRJ**' button/ potentiometer groups to the appropriate **DB9** connectors on the *Cygnus EX Brain* back panel.

Attach the output from the LCD display and the six button cluster to the appropriate **DB15** connectors on the *Cygnus EX Brain* back panel.

The *Cygnus EX Panel* buttons will momentarily be brightly lit, possibly in a random pattern, each time the *Cygnus EX Brain* is turned on. The button light level will then drop to a lower level. The <AUTO/MAN> button will remain slightly brighter than the function buttons. If all the *Cygnus EX Panel* buttons remain bright or randomly lit, check that the *Cygnus EX Panel* bank assignment matches the bank connector it is attached to on the *Cygnus EX Brain*.

CYGNUS EX MANUAL CONTROL SYSTEM

CONFIGURATION FILE ENTRY

Before the individual buttons or button clusters can be programed, the *Cygnus EX Brain* must be defined in the *Hercules Configuration File*. This allows the *Hercules Central Processor* to address the *Cygnus EX Brain*.

The default *Hercules Configuration File* assigns the *Cygnus EX Brain* to **Device Number** 256. The **Device Name** is 'CYGNUS'. The **Device Description** is '**MANUAL CONTROL**'. The **Device Type** is left blank. The **Unit Number** must be set to 65. All other entries should blank or unchanged.

The default *Configuration File* is show below.

```
<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

241                                          0     0     0     -    -    0  100
242                                          0     0     0     -    -    0  100
243                                          0     0     0     -    -    0  100
244                                          0     0     0     -    -    0  100
245                                          0     0     0     -    -    0  100
246                                          0     0     0     -    -    0  100
247                                          0     0     0     -    -    0  100
248                                          0     0     0     -    -    0  100
249                                          0     0     0     -    -    0  100
250                                          0     0     0     -    -    0  100
251                                          0     0     0     -    -    0  100
252                                          0     0     0     -    -    0  100
253                                          0     0     0     -    -    0  100
254   DUMMY      DUMMY FOR BLANKS           0     0     0     -    -    0  100
255   AQUILA     TIME CODE CONTROL         99     0     0     -    -    0  100
256  <CYGNUS  > MANUAL CONTROL             65     0     0     -    -    0  100


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

If the *Configuration File* was changed to add the *Cygnus EX Brain*, remember to save before exiting back to *Hercules*.

CYGNUS EX MANUAL CONTROL SYSTEM

PROGRAMMING THE CYGNUS MANUAL CONTROL PANELS

The *Cygnus 12B Button Panel* and *Cygnus EX Button Panels* are programmed using the *Hercules Show Control Software*. Each button and potentiometer is addressed by *Hercules* and then a command is associated with the button press, button release, or pot movement. The button functions are written to the memory of the *Cygnus EX Brain*. The button function command can be sent to a single device or a **Group** that has been defined in the *Configuration File*.

BUTTON CLUSTER NUMBER

The *Cygnus EX Brain* can control from one to four banks. The banks are labeled '**BANK A**', '**BANK B**', '**BANK C**', and '**BANK D**'. Each panel, whether *Cygnus 12B* or *Cygnus EX*, has twelve button clusters. Each cluster has five buttons. The four of function buttons, <FWD>, <REV>, <UP>, and <DOWN>, are programmable, but the <AUTO/MAN> button is not.

In order to program any *Cygnus 12B* button, the button must identified first by button cluster number and then by button function number.

The button cluster number of any bank is given by the table below.

Cygnus 12B Cluster Position	Bank A	Bank B	Bank C	Bank D
1	5	21	37	53
2	6	22	38	54
3	7	23	39	55
4	8	24	40	56
5	9	25	41	57
6	10	26	42	58
7	11	27	43	59
8	12	28	44	60
9	13	29	45	61
10	14	30	46	62
11	15	31	47	63
12	16	32	48	64

BUTTON FUNCTION NUMBER

The button function numbers in a button cluster are listed below,

Cygnus Button Function (as labeled)	Button Action	Button Function Number
LAMP UP	Press	1
LAMP UP	Release	2
LAMP DN	Press	3
LAMP DN	Release	4
FUNCTION FWD	Press	5
FUNCTION FWD	Release	6
FUNCTION REV	Press	7
FUNCTION REV	Release	8

CYGNUS 12B BUTTON PANEL PROGRAMMING COMMANDS

The specialized *Hercules* commands used to assign button functions are listed below.

Hercules Command	Command Name	Command Description
WRITRDY	Write Ready	Enables *Cygnus EX Brain* to accept button redefinitions.
SCN,BF	Set Cluster Number, Button Function S($1 \leq$ **CN** ≤ 68), ($1 \leq$ **BF** ≤ 8)	Set starting point for button redefinition.
WRTITGO	Write Go	Saves redefined button functions.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS 12B BUTTON PANEL PROGRAMMING EXAMPLE #1

The following example defines normal slide projector functions to the first cluster of '**BANK A**' for slide projector **L1**.

```
File: CYGBUTTN
Mode: REAL TIME
Cue#   Dev Cmd    Cmd Description      Dev Code    Device Name      Limit
-------------------------------------------------------------------------
0000   WRITRDY    Write Ready          CYGNUS     MANUAL CONTROL            Write enable Cygnus
0001   S5,1       Set 5,1              CYGNUS     MANUAL CONTROL            Start at CN,BN
0002   2N         2 Sec Dissolve On    L1         SLD PROJ LEFT 1   +100   Lamp Up press =
0003   FZ         Freeze               L1         SLD PROJ LEFT 1          Lamp Up release =
0004   2FNF       2 Sec Off (No Fwd)   L1         SLD PROJ LEFT 1          Lamp Dn press =
0005   NOP        No Operation         L1         SLD PROJ LEFT 1          Lamp Dn release =
0006   PF         Projector Forward    L1         SLD PROJ LEFT 1          Func Fwd press =
0007   NOP        No Operation         L1         SLD PROJ LEFT 1          Func Fwd release =
0008   PR         Projector Reverse    L1         SLD PROJ LEFT 1          Func Rev press =
0009   NOP        No Operation         L1         SLD PROJ LEFT 1          Func Rev release =
0010   WRITGO     Write Go             CYGNUS     MANUAL CONTROL            Save definitions
```

The first line enables the *Cygnus EX Brain* to upload commands. The second line tells the *Cygnus EX Brain* to start with the first button cluster, and the first button function. The *Cygnus EX Brain* only needs to know where to start the redefinition. Each subsequent command automatically advances the *Cygnus EX Brain* to the next button function.

Note: The NOP (NO OPERATION) command tells the *Cygnus EX Brain* that the button function does nothing.

Any number of **Device Commands** can be entered between WRITRDY and WRITGO. The above example defines one button cluster.

The WRITGO command tells the *Cygnus EX Brain* that the button function definitions have been completed, and to save the definitions to memory. The *Cygnus 12B Buttons* should now function as programmed.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS 12B BUTTON PANEL PROGRAMMING EXAMPLE #2

The following example defines video input selections to the last cluster of '**BANK B**'. This example assumes that a *Virgo Video Fader/ Switcher (VFS)* has been added to the **UTCS**, and has been defined in the *Configuration File*.

```
File: CYGBUTTN
Mode: REAL TIME
Cue#   Dev Cmd    Cmd Description      Dev Code    Device Name      Limit
--------------------------------------------------------------------------------
0000   WRITRDY    Write Ready          CYGNUS      MANUAL CONTROL          Write enable Cygnus
0001   S32,1      Set 32,1             CYGNUS      MANUAL CONTROL          Start at CN,BN
0002   IS3,3      Input Select 3,3     VIDEO       VIDEO SIGNAL            Lamp Up press =
0003   NOP        No Operation         VIDEO       VIDEO SIGNAL            Lamp Up release =
0004   IS4,4      Input Select 4,4     VIDEO       VIDEO SIGNAL            Lamp Dn press =
0005   NOP        No Operation         VIDEO       VIDEO SIGNAL            Lamp Dn release =
0006   IS1,1      Input Select 1,1     VIDEO       VIDEO SIGNAL            Func Fwd press =
0007   NOP        No Operation         VIDEO       VIDEO SIGNAL            Func Fwd release =
0008   IS2,2      Input Select 2,2     VIDEO       VIDEO SIGNAL            Func Rev press =
0009   NOP        No Operation         VIDEO       VIDEO SIGNAL            Func Rev release =
0010   WRITGO     Write Go             CYGNUS      MANUAL CONTROL          Save definitions
```

The first line enables the *Cygnus EX Brain* to upload commands. The second line tells the *Cygnus EX Brain* to start with the last button cluster, and the first button function.

The first button function is defined to select '**IN 1**' of the *Virgo VFS* when pressed, and do nothing when released.

The second button function is defined to select '**IN 2**' of the *Virgo VFS* when pressed, and do nothing when released.

The third button function is defined to select '**IN 3**' of the *Virgo VFS* when pressed, and do nothing when released.

The fourth button function is defined to select '**IN 4**' of the *Virgo VFS* when pressed, and do nothing when released.

Note: The first button function is actually the fourth button down in the cluster.

CYGNUS EX BUTTON PANEL EXCEPTIONS

The *Cygnus EX Panel* is given a bank assignment, so that its twelve button clusters can be defined in the same manner as the *Cygnus 12B*. In addition to the *Cygnus 12B* type button clusters, there are four button/ potentiometer groups that are used to control a slew-zoom slide projector, its X and Y mirror axes, and the zoom lens. The special clusters are recognized as follows:

Cluster Name	Cluster Number	Device Code	Possible Device Assignment
Special Cluster #1	65	XSLW	Slew X Axis
Special Cluster #2	66	YSLW	Slew Y Axis
Special Cluster #3	67	ZOOM	Zoom Lens
Special Cluster #4	68	ZPRJ	Zoom Slide Projector

Note: No matter what bank assignment is given to the *Cygnus EX Panel*, '**BANK A**', '**BANK B**', '**BANK C**', or '**BANK D**', the cluster number for the button/ potentiometer groups will start at 65. For example, if the *Cygnus EX Panel* was assigned to '**BANK B**', the last *Cygnus 12B* type button cluster would be 32 and the first button/ potentiometer group would be 65.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS EX BUTTON PANEL PROGRAMMING EXAMPLE #1

The following example defines the first button/ potentiometer group of the *Cygnus EX Panel* as the control for the X axis mirror of a slew-zoom projector.

```
File: CYGBUTTN
Mode: REAL TIME
Cue#    Dev Cmd     Cmd Description      Dev Code     Device Name      Limit
-----------------------------------------------------------------------------
0000    WRITRDY     Write Ready          CYGNUS       MANUAL CONTROL            Write enable Cygnus
0001    S65,1       Set 65,1             CYGNUS       MANUAL CONTROL            Start at CN,BN
0002    RT=0        Rate = 0             XSLEW        SLEW X AXIS               Lamp Up press =
0003    NOP         No Operation         XSLEW        SLEW X AXIS               Lamp Up release =
0004    NOP         No Operation         XSLEW        SLEW X AXIS               Lamp Dn press =
0005    NOP         No Operation         XSLEW        SLEW X AXIS               Lamp Dn release =
0006    NOP         No Operation         XSLEW        SLEW X AXIS               Func Fwd press =
0007    NOP         No Operation         XSLEW        SLEW X AXIS               Func Fwd release =
0008    NOP         No Operation         XSLEW        SLEW X AXIS               Func Rev press =
0009    NOP         No Operation         XSLEW        SLEW X AXIS               Func Rev release =
0010    WRITGO      Write Go             CYGNUS       MANUAL CONTROL            Save definitions
```

Since the button/ potentiometer group consists of a single potentiometer, there is only one button function needed. The RT=0 (RATE = 0) command tells the *Cygnus EX Brain* that the pot will be used as a 'center off' type of control. This means turning the pot clockwise from the center off position will send a positive RT=XX (RATE = XX) command with a value proportional to the pot movement. Conversely, turning the pot counter clockwise from the center off position will send a negative RT=-XX (RATE = -XX) command with a value proportional to the pot movement.

In this example, if the pot is in the middle position, the *Cygnus EX Brain* will send a RT=0 (RATE = 0) command to the 'XSLEW'. If the pot is turned to the extreme clockwise position, a RT=99 (RATE = 99) command is sent to the 'XSLEW', and if the pot is turned to the extreme counter-clockwise position, a RT=-99 (RATE = -99) command is sent to the 'XSLEW'. If the pot is turned to any other position the *Cygnus EX Brain* will send a rate command with a value proportional to the pot setting.

The next seven button functions are not assignable to this group, but should be included to remain consistent with the rest of the *Cygnus 12B* button cluster definitions.

The second and third button/ potentiometer groups are identical to the first, and are defined in the same manner.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS EX BUTTON PANEL PROGRAMMING EXAMPLE #2

The following example defines the fourth button/ potentiometer group of the *Cygnus EX Panel* as the control for the slew-zoom slide projector.

```
File: CYGBUTTN
Mode: REAL TIME
Cue#   Dev Cmd    Cmd Description      Dev Code    Device Name       Limit
--------------------------------------------------------------------------
0000   WRITRDY    Write Ready          CYGNUS      MANUAL CONTROL            Write enable Cygnus
0001   S68,1      Set 68,1             CYGNUS      MANUAL CONTROL            Start at CN,BN
0002   LN         Lamp On              ZPRJ        ZOOM SLD PROJECTOR        Lamp Up press =
0003   NOP        No Operation         ZPRJ        ZOOM SLD PROJECTOR        Lamp Up release =
0004   NOP        No Operation         ZPRJ        ZOOM SLD PROJECTOR        Lamp Dn press =
0005   NOP        No Operation         ZPRJ        ZOOM SLD PROJECTOR        Lamp Dn release =
0006   PF         Projector Forward    ZPRJ        ZOOM SLD PROJECTOR        Func Fwd press =
0007   NOP        No Operation         ZPRJ        ZOOM SLD PROJECTOR        Func Fwd release =
0008   PR         Projector Reverse    ZPRJ        ZOOM SLD PROJECTOR        Func Rev press =
0009   NOP        No Operation         ZPRJ        ZOOM SLD PROJECTOR        Func Rev release =
0010   WRITGO     Write Go             CYGNUS      MANUAL CONTROL            Save definitions
```

The button/ potentiometer group consists of a single potentiometer and two function buttons. The LN (LAMP ON) command tells the *Cygnus EX Brain* that the pot will be used as a 'counter-clockwise off' type of control. This means turning the pot clockwise from the fully counter-clockwise off position will send a positive LN (LAMP ON) command with a value proportional to the pot movement.

In this example, if the pot is in the fully clockwise position, the *Cygnus EX Brain* will send a LN (LAMP ON) to 99% command to the 'ZPRJ'. If the pot is turned to the center position, a LN (LAMP ON) to 50% command is sent to the 'ZPRJ'. If the pot is turned to any other position the *Cygnus EX Brain* will send a LN (LAMP ON) command with a value proportional to the pot setting.

The next three button functions are not assignable to this group, but should be included to remain consistent with the rest of the *Cygnus 12B* button cluster definitions.

The last four button functions define the two function buttons in the group. For a slide projector, they should be defined as shown, which is the same way slide projector <FWD> and <REV> functions are defined on the *Cygnus 12B* cluster.

CYGNUS EX MANUAL CONTROL SYSTEM

THE CYGNUS MANUAL CONTROL SYSTEM SHOW FILE

The button function list should be saved to a *Show File* called **cygbuttn.shw**, or something similar, and backed up regularly with the other *Show Files*. This *Show File* will serve as the template for the button functions. If the button functions need to be redefined in the future, modifications can be made to this *Show File* and then re-saved.

To make the *Show File* more readable **ECCS** recommends separating the button clusters with labels and MQ (MANUAL CUE) commands. This makes it easier to identify individual button clusters for redefinition in the future.

ECCS also recommends storing the **cygbuttn.shw** *Show File* in a different directory, or folder, from the one with the 'regular' *Show Files*. This will keep it from being opened and the button definitions changed by accident.

The following example shows the first two button cluster definitions of '**BANK A**' for a typical installation. The devices used are defined in the default *Configuration File*.

```
<ALT>   (F)ile   (E)dit   (G)oto   (M)ode   (T)imes   (S)pecial   (Q)uit Hercules
File: CYGBUTTN
Mode: REAL TIME
Cue#   Dev Cmd    Cmd Description      Dev Code    Device Name     Limit
--------------------------------------------------------------------------
0000   LABEL      DEFINE                                                        Label - comment
0001   LABEL      CYG 12B                                                       Label - comment
0002   LABEL      BANK A                                                        Label - comment
0003   \                                                                        Empty line - space
0004   MQ         >>> MANUAL CUE <<<                                            Manual Cue - space
0005   WRITRDY    Write Ready          CYGNUS      MANUAL CONTROL               Write enable Cygnus
0006   S5,1       Set 5,1              CYGNUS      MANUAL CONTROL               Start at CN,BN
0007   2N         2 Sec Dissolve On    L1          SLD PROJ LEFT 1     +100     Lamp Up press =
0008   FZ         Freeze               L1          SLD PROJ LEFT 1              Lamp Up release =
0009   2FNF       2 Sec Off (No Fwd)   L1          SLD PROJ LEFT 1              Lamp Dn press =
0010   NOP        No Operation         L1          SLD PROJ LEFT 1              Lamp Dn release =
0011   PF         Projector Forward    L1          SLD PROJ LEFT 1              Func Fwd press =
0012   NOP        No Operation         L1          SLD PROJ LEFT 1              Func Fwd release =
0013   PR         Projector Reverse    L1          SLD PROJ LEFT 1              Func Rev press =
0014   NOP        No Operation         L1          SLD PROJ LEFT 1              Func Rev release =
0015   WRITGO     Write Go             CYGNUS      MANUAL CONTROL               Save definitions
0016   MQ         >>> MANUAL CUE <<<                                            Manual Cue - space
0017   WRITRDY    Write Ready          CYGNUS      MANUAL CONTROL               Write enable Cygnus
0018   S6,1       Set 6,1              CYGNUS      MANUAL CONTROL               Start at CN,BN
0019   2N         2 Sec Dissolve On    C1          SLD PROJ CENTER 1   +100     Lamp Up press =
0020   FZ         Freeze               C1          SLD PROJ CENTER 1            Lamp Up release =
0021   2FNF       2 Sec Off (No Fwd)   C1          SLD PROJ CENTER 1            Lamp Dn press =
0022   NOP        No Operation         C1          SLD PROJ CENTER 1            Lamp Dn release =
0023   PF         Projector Forward    C1          SLD PROJ CENTER 1            Func Fwd press =
0024   NOP        No Operation         C1          SLD PROJ CENTER 1            Func Fwd release =
0025   PR         Projector Reverse    C1          SLD PROJ CENTER 1            Func Rev press =
0026   NOP        No Operation         C1          SLD PROJ CENTER 1            Func Rev release =
0027   WRITGO     Write Go             CYGNUS      MANUAL CONTROL               Save definitions
0028   MQ         >>> MANUAL CUE <<<                                            Manual Cue - space
```

Note: When redefining button clusters separated by MQ (MANUAL CUES), each line should be executed one line at a time. **Do Not** use the <PAGE DOWN> key to execute all lines between the MQ (MANUAL CUE).

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS BUTTON PANEL SYSTEM COMMAND SUMMARY

The following commands are used to program *Cygnus Manual Panel System* type button clusters.

Hercules Command	Command Name	Command Description
WRITRDY	Write Ready	Enables *Cygnus EX Brain* to accept button redefinitions.
SCN,BF	Set Cluster Number, Button Function S(1 ≤ **CN** ≤ 68), (1 ≤ **BF** ≤ 8)	Set starting point for button redefinition.
WRTITGO	Write Go	Saves redefined button functions.

CYGNUS BUTTON PANEL SYSTEM LAMP COMMANDS

The following commands are used to control the brightness of the *Cygnus Manual Panel System* buttons.

Hercules Command	Command Name	Command Description
LN	Lamp On	Turns *Cygnus* button lamps to level indicated by **Limit** field. (0 ≤ **Limit** ≤ 100)
LF	Lamp Off	Turns all *Cygnus* button lamps off.

CYGNUS EX MANUAL CONTROL SYSTEM

CYGNUS MANUAL PANEL SYSTEM MONITORED COMMANDS

The following *Hercules* commands are monitored by *Cygnus Manual Panel System* for related activity and relayed down the communications network:

Hercules Command	Command Name	Command Description
AUTODVC	Set Device Auto	This command can be directed at any device in the theater. The *Cygnus EX Brain* will check to see if the device is defined in MANUAL MODE use with the buttons. If so, the *Cygnus EX Brain* will set the associated panel control to AUTO MODE. This command is reissued to all *Intelligent Controllers* downstream.
MANDVC	Set Device Manual	This command can be directed at any device in the theater. The *Cygnus EX Brain* will check to see if the device is defined in AUTO MODE use with the buttons. If so, the *Cygnus EX Brain* will set the associated panel control to MANUAL MODE. This command is reissued to all *Intelligent Controllers* downstream.
AUTOSYS	Set System Auto	This command is global and affects every device in the system. The *Cygnus EX Brain* will set all panel controls to AUTO MODE. This command is reissued to all *Intelligent Controllers* downstream.
MANSYS	Set System Manual	This command is global and affects every device in the system. The *Cygnus EX Brain* will set all panel controls to MANUAL MODE. This command is reissued to all *Intelligent Controllers* downstream.
HOMESYS	Home All Devices	This command is global and affects every device in the system. The *Cygnus EX Brain* will set all panel controls to AUTO MODE. This command is reissued to all *Intelligent Controllers* downstream.

UNUSED BUTTON CLUSTERS

Unused button clusters should be assigned **NOP** (No Operation) commands to a **DUMMY** device. This will keep strange things from happening in the theater if the unused buttons are accidently pressed. The default *Configuration File* contains the **DUMMY** device definition, as shown below.

```
<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

241                                     0     0     0     -    -    0   100
242                                     0     0     0     -    -    0   100
243                                     0     0     0     -    -    0   100
244                                     0     0     0     -    -    0   100
245                                     0     0     0     -    -    0   100
246                                     0     0     0     -    -    0   100
247                                     0     0     0     -    -    0   100
248                                     0     0     0     -    -    0   100
249                                     0     0     0     -    -    0   100
250                                     0     0     0     -    -    0   100
251                                     0     0     0     -    -    0   100
252                                     0     0     0     -    -    0   100
253                                     0     0     0     -    -    0   100
254  DUMMY      DUMMY FOR BLANKS        0     0     0     -    -    0   100
255  AQUILA     TIME CODE CONTROL      99     0     0     -    -    0   100
256  <CYGNUS  > MANUAL CONTROL         65     0     0     -    -    0   100


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

The following example shows an unused button cluster in '**BANK A**' defined to the **DUMMY** device.

```
Cue#   Dev Cmd    Cmd Description      Dev Code    Device Name      Limit
-------------------------------------------------------------------------------
0000   WRITRDY    Write Ready          CYGNUS      MANUAL CONTROL
0001   S11,1      Set 11,1             CYGNUS      MANUAL CONTROL
0002   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0003   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0004   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0005   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0006   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0007   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0008   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0009   NOP        No Operation         DUMMY       DUMMY FOR BLANKS
0010   WRITGO     Write Go             CYGNUS      MANUAL CONTROL
```

CYGNUS EX MANUAL CONTROL SYSTEM

RUNNING OUT OF MEMORY

Important things to remember when using the *Cygnus Manual Control System*.

1. All button functions reside in a memory table which is stored in the *Cygnus EX Brain*.

2. Button functions that deal with individual devices can be redefined as often as necessary without requiring additional memory space.

3. Button functions that deal with multiple devices or **Groups**, such as a *Panorama Group*, will require a new chunk of memory every time they are redefined.

4. If button functions are redefined on a regular basis, and several button functions command **Groups**, it is possible for the *Cygnus EX Brain* to run out of memory.

    This will occur only when redefining a **Group** button function. The *Cygnus EX Panel* will display a 'MEMORY FULL' message on the LCD display. If the system only has *Cygnus 12B Button Panels*, the button being redefined will not advance to the next button.

5. The only way to reclaim unused memory is to issue the INIT command from *Hercules Show Control Software* to the *Cygnus EX Brain*. This will wipe all button functions from memory, somewhat like reformatting a floppy disk or computer hard drive.

6. All button functions will need to be defined again using the *Show File* that contains all the button definitions.