Studio C
Start Up/Shutdown Procedures

Start Up:

1. Turn on air compressor.
2. After compressor stops, drain water from tanks.
3. Verify all circuit breakers are turned on for the showroom.
4. Turn on the master power switch at the bottom of the rack.
5. Turn on both D.T.U.’s (Gray boxes on the computer room wall).
6. Turn on each DVD player…The green light will be lit when they are on.
7. Touch manager panel.
8. Enter the manager password and press “Enter”.
9. Select “Start-up” from the menu.
10. When prompted enter the birthday names if desired.
11. When prompted, run diagnostics if desired.
12. The show will begin shortly.

Shut Down:

1. Touch manager panel.
2. Enter manager password and press “Enter”.
3. Press shut down from the menu.
4. The show will stop after the skit in progress ends.
5. Verify the park light is lit on all laser disc players.
6. Turn off both D.T.U.’s (Grey boxes on computer room wall).
7. Turn off master power switch at the bottom of the rack.
8. Turn off the air compressor.
9. Turn off the circuit breakers for the Roboscans/Robocolors.
Installing the DVD players

1. Make sure there are no discs in the players.
2. Press and hold the MENU button on the remote for 5 seconds.
3. Use the down arrow to cycle through the settings (Fig 2 / Fig 3).
4. Use the right arrow to change the value.
5. Use the up and down to select the item to change.

Correct Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEKLY TIMER</td>
<td>OFF</td>
</tr>
<tr>
<td>POWER ON START</td>
<td>OFF</td>
</tr>
<tr>
<td>TITLE PLAY MODE</td>
<td>SINGLE</td>
</tr>
<tr>
<td>REPEAT MODE</td>
<td>OFF</td>
</tr>
<tr>
<td>BAUD RATE</td>
<td>9600bps</td>
</tr>
<tr>
<td>TRAY LOCK</td>
<td>OFF</td>
</tr>
<tr>
<td>BLACKBOARD LOCK</td>
<td>OFF</td>
</tr>
<tr>
<td>STILL MODE</td>
<td>FIELD</td>
</tr>
<tr>
<td>D.R. COMP</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Fig 2

Step 1

Remote

Correct Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>page 1/2</td>
</tr>
<tr>
<td>MARK FRAME SQUELCH</td>
<td>OFF</td>
</tr>
<tr>
<td>SQUELCH DUR SEARCH</td>
<td>ON</td>
</tr>
<tr>
<td>SYNC OUT(DURING SQ)</td>
<td>OFF</td>
</tr>
<tr>
<td>STACK MODE OSD</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Fig 3

Step 2

1. Press MENU 1 time (Exits the screen menu).
2. Press MENU 1 time (Enters the menu selection).
3. Press enter to select INITIAL (Fig 4) (This screen will display if no discs are in the player).
4. Use the down arrow to select B.G. COLOR, press enter (Fig 5).
5. Use the down arrow to select the green square and use the left arrow to turn it all the way down (Fig 6).
6. Use the down arrow to select the blue square and use the left arrow to turn it all the way down (Fig 6).
7. Press Enter. You are now ready to insert the discs.

Fig 4

Fig 5

Fig 6
Understanding the Tech Terminal is an important part of troubleshooting your show. We will attempt to cover all the basic operations of the Tech Term in this article. We have also listed all the movements (Bits) in both the #1 and #2 DTUs (Digital Terminal Units).

Let’s start by selecting DTU #1, the top DTU. You can do this 2 different ways. The first way is by plugging the Tech Term into one of the two “phone type” jacks at the front of your stage. The other way is to plug the Tech Term directly into the gray DTU box located behind the stage. This can be done by, unplugging the “phone type” cable that is plugged into the right side of the gray box. You can then plug the Tech Term directly into that “phone type” plug.

In figure 1, the Tech Term is displaying the two options it is capable of performing. The first option is “Configuration”. Every show has two DTUs, one for the character movements and one for the lights. Both DTUs are identical, in order for the computer to send the right information to the right DTU we must first tell the DTUs which one is #1 and which one is #2. To perform this option, press the #1 on the keypad to enter into the configuration mode.

At this point your display should like figure 2. This tells you that the DTU you are plugged into is configured as #1 <1-64>, which is correct for the top DTU.

Repeat the same procedures to set the bottom DTU #2. It should be set to Bank #02 <65-128> as shown in figure 3.

If you should have to change from Bank #01 (Character Movements) to Bank #02 (Lighting) press the arrow up or down button to toggle between the two. You should only have to do this if you have just received a new DTU.

**Important Note:**

When done, always exit by pressing the Menu button until you see a blank screen. This will save your current settings.

---

**Important Note:**

It is important to understand that when you first plug in the Tech Term you will only see a flashing cursor on the on the LCD display. This is normal, press the menu button to show the display in figure 1.
Important Note:
If you turn on a movement (Bit) in “Diagnostics” and leave it on, it will stay on until you power down the DTU. Always remember to turn the movement (Bit) off before disconnecting the Tech Terminal from the DTU.

Studio C Tech Terminal

The next option in figure 1 is “Diagnostics”. This function will allow you to do 2 things, turn on a movement (Bit) or Blind a movement.

Press the #2 “Diagnostics” on the tech terminal to enter into the screen shown in figure 4. Let’s start by turning on the “Arm out (R)” movement on Chuck E Cheese, this is done by pressing F2 on the Tech Term. Chuck E’s arm should move and the corresponding led should light. Press F2 again and the bit (LED) will go off. You select other movements (Bits) by using the arrow keys.

Now let’s look at the BL/CL (Blind/Clear) command. This command is used to stop a movement (Bit) from functioning. If for example, Chuck E’s arm breaks in the middle of a party, you would want to blind that movement until you could repair it when the party was over. If you leave it blinded and exit using the menu button until you see the blank screen, it will stay that way until you go back in and unblind it by pressing F1 again.

The “Blind” feature should only be used in case of an emergency as in the example above.

Studio C DTU Fan Filter

You should clean your Computer and DTU fan filters once every two weeks. This will keep your system cool and dust free. In the future this will be included on your PM calendar.
# Studio C Bit Chart

<table>
<thead>
<tr>
<th>DTU #1</th>
<th>DTU #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ARM OUT</td>
<td>33 BIRD MOUTH</td>
</tr>
<tr>
<td>2 ARM SWING</td>
<td>34 BIRD BOW</td>
</tr>
<tr>
<td>3 ELBOW UP</td>
<td>35 BIRD TURN</td>
</tr>
<tr>
<td>4 WRIST TURN</td>
<td>36 BIRD WINGS</td>
</tr>
<tr>
<td>5 WAVE</td>
<td>37 BIRD SPARE</td>
</tr>
<tr>
<td>6 ARM OUT</td>
<td>38 BIRD SPARE</td>
</tr>
<tr>
<td>7 ARM SWING</td>
<td>39 BIRD SPARE</td>
</tr>
<tr>
<td>8 ELBOW UP</td>
<td>40 PHONE SWING</td>
</tr>
<tr>
<td>9 WRIST TURN</td>
<td>41 PHONE SPARE</td>
</tr>
<tr>
<td>10 WAVE</td>
<td>42 PHONE SPARE</td>
</tr>
<tr>
<td>11 LEFT ARM FORWARD</td>
<td>43</td>
</tr>
<tr>
<td>12 BODY FORWARD</td>
<td>44 CURTAIN OPEN</td>
</tr>
<tr>
<td>13 BODY LEFT SIDE BEND</td>
<td>45 CURTAIN CLOSE</td>
</tr>
<tr>
<td>14 BODY RIGHT</td>
<td>46</td>
</tr>
<tr>
<td>15 TORSO TWIST RIGHT</td>
<td>47</td>
</tr>
<tr>
<td>16 TORSO TWIST LEFT</td>
<td>48</td>
</tr>
<tr>
<td>17 RIGHT ARM FORWARD</td>
<td>49 PHONE SPARE</td>
</tr>
<tr>
<td>18 HEAD TURN LEFT</td>
<td>50</td>
</tr>
<tr>
<td>19 HEAD TURN RIGHT</td>
<td>51</td>
</tr>
<tr>
<td>20 HEAD UP</td>
<td>52</td>
</tr>
<tr>
<td>21 MOUTH</td>
<td>53</td>
</tr>
<tr>
<td>22 HEAD TILT RIGHT</td>
<td>54</td>
</tr>
<tr>
<td>23 HEAD TILT LEFT</td>
<td>55</td>
</tr>
<tr>
<td>24 EYE BLINK DOWN</td>
<td>56</td>
</tr>
<tr>
<td>25 EYE BLINK UP</td>
<td>57</td>
</tr>
<tr>
<td>26 NOSE</td>
<td>58</td>
</tr>
<tr>
<td>27 EYE TURN LEFT</td>
<td>59</td>
</tr>
<tr>
<td>28 EYE TURN RIGHT</td>
<td>60</td>
</tr>
<tr>
<td>29 EYEBROWS UP</td>
<td>61</td>
</tr>
<tr>
<td>30 EYEBROWS DOWN</td>
<td>62</td>
</tr>
<tr>
<td>31 EARS</td>
<td>63</td>
</tr>
<tr>
<td>32 FOOT TAP</td>
<td>64</td>
</tr>
</tbody>
</table>
MASTER SYMETRIX 571 SPL SETTINGS

REAR VIEW OF MASTER SYMETRIX
Gameroom Amp PIP-RPA Module

DIP Switch settings:

1 - ON
2 - ON
3 - ON
4 - OFF
5 - OFF
6 - OFF
7 - OFF
8 - OFF
Show Room PIP-BEQ Module

Dip switch settings:

<table>
<thead>
<tr>
<th>Dip Switch</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>S200</td>
<td></td>
</tr>
<tr>
<td>S201</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ON</td>
</tr>
<tr>
<td>2</td>
<td>OFF</td>
</tr>
<tr>
<td>3</td>
<td>OFF</td>
</tr>
<tr>
<td>4</td>
<td>ON</td>
</tr>
<tr>
<td>5</td>
<td>ON</td>
</tr>
<tr>
<td>6</td>
<td>ON</td>
</tr>
<tr>
<td>7</td>
<td>OFF</td>
</tr>
<tr>
<td>8</td>
<td>OFF</td>
</tr>
<tr>
<td>9</td>
<td>ON</td>
</tr>
<tr>
<td>10</td>
<td>ON</td>
</tr>
</tbody>
</table>

This section is not used
STUDIO C CPU CARD

U1 - DS1233
U2 - ECS-300C "DUOSC" 16MHZ
U3 - MC68HC11F1CFN4
U4 - AT27C256R "PROM"
U5 - DS14C232CN
U6 - U7 - N/A
U8 - MC74HCT245AN
U9 - SP74HCT138N
R1 - 10K RES PACK (9413)
F1 - .5 - 1 AMP PICO FUSE

NOTE:
ALL CPU CARDS ARE THE SAME WITH THE EXCEPTION OF THE SOFTWARE ON THE PROM. IN ORDER FOR THE CPU TO WORK IN THE COP CONTROLLER YOU MUST MAKE SURE YOU HAVE A JUMPER ON JP6 PINS 2 AND 3. IN THE FUTURE ALL BOARDS WILL HAVE THIS FEATURE AS DEFAULT. YOU CAN USE A JUMPERED BOARD IN THE DTU OR TRANSMITTER CARD WITHOUT REMOVING THE JUMPER.
STUDIO C TRANSMITTER CARD

U1 - MC74HC245AN
U2 - "SDT" 7130 / SA55J / S9721P
U3 - CD74HCT588E
U4 - MC74HCT245AN
U5 - CD74HCT04E
U6 - "XP" 68C681CJ
U7 - U8 - DS75176BN
U9 - N/A
U10 - DS1867-050
U11 - LM358AN
U12 - LM1881N

U13 - U14 - ZX74HCT244-2N
U15 - U18 "NEC" PS2501-4
U19 - U20 - UCN5801A
X1 - "ECLIPTEK" EC074 / 7.3728 MHZ
   (ADD A 47K RES ACROSS PINS)
R1 - R13 - R14 - R18 - 10K RES PACK (9413)
R15 - R16 - 1K RES PACK (9417)
F1 - 1 AMP PICO FUSE NOT USED AT THIS TIME
To enable the fire alarm feature in the software, go to the DOS prompt of the computer, and type:

```
edit cybrstar.ini
```
and press <Enter>

Use the arrow keys to go down to the line

```
Alarm=None
```

and change it to

```
Alarm = Fire
```

Go to the Edit program's "File" menu by pressing <Alt> F, and use the arrow keys and <Enter> key to save the changes, and then to exit the edit program.

When the alarm contacts open, the computer will immediately mute the show audio and display the word "Fire" in the lower lefthand corner of the computer's monitor, and then it will exit the Cyberstar program and return to DOS in approximately 1 second.
Studio C Curtain Control Box Wiring

Valve = L12BB452B
Bird/Phone Cable Hookups in DTU #1

Move adapter from Bird control box to DTU #1

Pin 1 (Red)

Power Supply
VOLUME CONTROL CABLE

DB9 FEMALE ON TRANSMITTER CARD

SYMETRIX 571 SPL TERMINAL BLOCK

LENGTH 3 FT

USE MINIMUM 22 AWG MULTI CONDUCTOR NON-SHEILDED


Interactive Console

Kid Switcher cable pinout

<table>
<thead>
<tr>
<th>Pin #1</th>
<th>Black</th>
<th>Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin #2</td>
<td>White</td>
<td>Switch #1 (Scan Cam)</td>
</tr>
<tr>
<td>Pin #3</td>
<td>Red</td>
<td>Switch #2 (Chroma Key)</td>
</tr>
<tr>
<td>Pin #4</td>
<td>Green</td>
<td>Switch #3 (Spy Cam #1)</td>
</tr>
<tr>
<td>Pin #5</td>
<td>Brown</td>
<td>Switch #4 (U-Too Cam)</td>
</tr>
<tr>
<td>Pin #6</td>
<td>Blue</td>
<td>Switch #5 (Spy Cam #2)</td>
</tr>
<tr>
<td>Pin #7</td>
<td>Orange</td>
<td>Lamp #1 (Scan Cam)</td>
</tr>
<tr>
<td>Pin #8</td>
<td>Yellow</td>
<td>Lamp #2 (Chroma Key)</td>
</tr>
<tr>
<td>Pin #9</td>
<td>Violet</td>
<td>Lamp #3 (Spy Cam #1)</td>
</tr>
<tr>
<td>Pin #10</td>
<td>Gray</td>
<td>Lamp #4 (U-Too Cam)</td>
</tr>
<tr>
<td>Pin #11</td>
<td>Pink</td>
<td>Lamp #5 (Spy Cam #2)</td>
</tr>
<tr>
<td>Pin #12</td>
<td></td>
<td>not used</td>
</tr>
</tbody>
</table>

Joystick cable pinout

<table>
<thead>
<tr>
<th>Pin #1</th>
<th>Red</th>
<th>Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin #2</td>
<td>Blue</td>
<td>Down</td>
</tr>
<tr>
<td>Pin #3</td>
<td>White</td>
<td>Left</td>
</tr>
<tr>
<td>Pin #4</td>
<td>Orange</td>
<td>Right</td>
</tr>
<tr>
<td>Pin #5</td>
<td>Green</td>
<td>Zoom out</td>
</tr>
<tr>
<td>Pin #6</td>
<td>Yellow</td>
<td>Zoom in</td>
</tr>
<tr>
<td>Pin #7</td>
<td>Black</td>
<td>Ground</td>
</tr>
<tr>
<td>Pin #8 Unused</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin #9 Unused</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Note: Button lamps on the joystick panel are wired to the fused (non-chasing) output of the console's chaselight controller.]
DMX WIRING

SHOW RACK
DMX OUT FROM THE TRANSMITTER CARD
TOP 6 PIN MINI DIN

SWITCH 5 ON
(DMX CH #16)
ROBO COLOR CONTROLLER

ROBO SCAN
IN FRONT OF BLUE SCREEN
SWITCH # 4 ON
(DMX CH # 8)

80" MONITOR

XLR TERMINATOR

ROBO SCAN
IN FRONT OF CEC
SWITCH # 1 ON
(DMX CH # 1)

DMX WIRING
Black Burst Generator

Sigma A/V Switcher

Install 75 ohm terminator

Computer

DVD Studio C Sync

DVD #1

DVD #2

DVD #3

12vdc Positive Tip

Video Terminator Switch On

Video Terminator Switch Off

Video Terminator Switch Off

Video Terminator Switch Off
SMALL TOWN
STUDIO C
AUDIO FLOW

Note: C.O.P. Controller II requires Cyberstar version 1.30

SMALL TOWN RPA
WIRING

Audio Out
1L
2R

DVD #1

Audio Out
1L
2R

DVD #2

Audio Out
1L
2R

DVD #3

INS
1
2
3
4
5
6
7
8

OUTS
1
2
3
4
5
6
7
8

SIGMA SERIES 2000
A/V SWITCHER

MGR CTL PANEL

VOLUME
CTL. VIA KEYPAD

PAGE
MIC

COMPUTER

XMTR
P1

C.O.P. Controller II

Audio In
Audio Out
Mike
Level Cntl

CROWN AMP

PIPE-RPA

CH.2
CH.1
MIC
LINE
MIC
LINE

SHOW 70v

GAMES 70v
Gordos Relay Board

Note: There is no ground on this board. To check your 24vdc you must use a ground from your DTU box. You can remove 1 relay and insert your meter leads on pins 3 and 4 of the relay socket and then activate that bit (Turn on the led), using your tech term on the DTU, you will then read 24vdc when the light is on.
DTU MAIN BOARD B

Notes: MAX1480 will need connection to OE pin if this board wants to talk back to host.

 Pull of 3k will be required on DOUE.
Transmitter Card A
Transmitter Card B
Kid Switcher
Characters do not move.

Is the compressor on.

Are the DTU’s turned on

Do the show lights work

Yes

Check for loose connections inside the #1 DTU. Check to make sure the #2 DTU has a jumper on the terminator next to the phone plug going into the board.

No

Is the green and red LED lit in the middle of the main board on DTU #1 and DTU #2.

Yes

Check your 5vdc and 24vdc at the power supply inside the DTU.

No

Check for loose connections inside the #1 DTU. Check to make sure the #2 DTU has a jumper on the terminator next to the phone plug going into the board.

Check and make sure the configuration on DTU #1 is set to #1 1-32. Make sure the daughter board (CPU) has not come loose from the main board.

Change the configuration on the #1 DTU to #2 33-64 and try to make a movement happen. Change it back when you are done with this step.

Swap the DTU #1 daughter board (CPU) with the DTU #2 daughter board (CPU). Make sure you use the Tech Terminal to change the configuration since they have been moved, #1 to #1, 1-32 and #2 to #2, 33-64.

Call Technical Support 785-862 6002
Manager Control Panel is locked up or not functioning

Power the manager control panel off and then on. Then reboot the show.

Does the display glow on the manager control panel?

- Yes
  - Power down the manager control panel. Apply pressure to the upper left corner of the screen on the manager control panel while powering the unit up. Check the settings to make sure they are:
    - Baud rate - 57600, Parity - none, Data bits 8, Stop bits -1
    - Press done when you are finished checking.

- No
  - Remove the display from the wall and check the 12vdc power from the wall wart transformer.
    - Yes I have 12vdc and the interface board is connected
      - Call Technical Support 785 862 6002
    - No
      - Check the manager control panel cable that connects to P1 on the back of the computer in the rack. Then check to make sure it is connected to the back of the manager control panel.

Unplug P1, at the octopus on the back of the computer, on the rack. Attach your keyboard to the main computer.

Turn the “Num Lock” and the “Caps Lock” on the keyboard on. Press enter and watch the lower left corner of your main computer monitor on the rack. It will prompt you for your password. Use the number keys to enter your store password. It will then display a selection of items you can do, [S]tart up, etc. If you are starting the first show in the morning you must select “S” for start up.

Call CEC Technical Support 785 862 6002
Chroma Key (BVS Masterkey) Adjustment

1. Be sure the Chroma key unit in the rack is turned on (toggle switch on back).
2. Be sure the JVC camera inside the camera prop has power (green LED on rear of camera).
3. Be sure the floodlights above the blue screen stage, are turned on, and that the fluorescent lights behind the blue screen are turned.
4. Adjust the iris (brightness) and focus and zoom on the lens of the JVC camera for the best picture, with a person or other large object in front of the camera. Zoom in all the way, so that none of the inside of the camera prop is visible, and that none of the area outside the edges of the blue screen are visible. Zoom and focus are independent in these lenses, so the lens must be refocused if the zoom is changed.
5. If there is no picture at all, it is possible that the REF OUT and PROGRAM IN parts of the cable from JVC camera are switched. There have been instances in the past when a mistake by the cable fabricator has switched those, which are the short black and gray cables coming from the larger black cable.
6. The remaining adjustments need video fill, which can be had either by starting up the show, or by simply turning on the DVD players and pressing “PLAY.” The Sigma A/V switcher will pass video by its default settings if the show has not been started up.
7. Remove the cover from the front of the chroma key unit in the rack. Adjust these pots shown in the drawing below.

Gain: Turn clockwise to maximum (until you hear a very soft click).
Slope: Turn clockwise until the camera image is replaced entirely by the fill video image, then turn counterclockwise until you the camera image returns without being transparent.
8. Adjust the “SC” pot in the JVC camera to fully counterclockwise, to adjust the color of the fill video.

9. It may be necessary to remove one or both of the fluorescent lights from the bottom of the camera prop, in order to reduce or eliminate reflected glare at the bottom of the image. Lower wattage lamps may also help. The reflection of the red light on top the camera prop is unavoidable, but minimal.

10. For better picture, change fluorescent lamps at bottom of camera to 25 watt (2 lamps).

11. If you still have issues related with the picture quality, try turning on dips 1, 2, 3, and 8 one at a time to find best picture.
Studio C Emergency Startup Procedure Using The Keyboard

The computer keyboard is an important part of your show. It is important that you only connect your keyboard to your computer in the event you have a problem. This procedure should only be used in the event that your manager control panel fails to operate.

If your manager control panel should fail, you will be able to start the show using the following procedure.

**Note:** The Caps lock must be on before you start

- **<Press> F3** (Selects the manager's password screen)
- **<Type>** The correct password  **(Example: Type "1554")**
- **<Press>** B until you see Start/Stop  **(This will move the cursor down)**
- **<Press>** Enter  **(The display says press F2 to start the show)**
- **<Press>** F5  **(This will start your show. (This = F2)**

Follow the prompts to enter birthday names or enter diagnostics.

To shut the show down - **<Press>F4 = F1**

Other Functions on the Keyboard

- **F1 - Live Show**
- **F-2 Birthday Show**
- **A - Moves the cursor up**