3

Installation

This chapter provides the following information for the slot machine:

- ♦ Installation checklist
- ♦ Environmental requirements
- ♦ Installation procedures
- ♦ Connecting the slot machine to the casino network
- ♦ Powering up the slot machine
- ♦ Verifying hardware functionality

Installation Checklist

To install the slot machine, perform the following tasks:

1. Verify that the site provides the necessary power and space for the machine.
2. Unpack and inspect the machine.
3. Secure the slot machine to its stand.
4. Install the door locks.
5. Connect network cables and hardware.
6. Power up the machine.
7. Verify component operation.

Step-by-step instructions for each task are provided in the sections of this chapter.

> *Important:* After you install the machine and use the MMS diagnostics to test the hardware, configure the machine to casino requirements, using the instructions in Chapter 4, "Configuring the Slot Machine."

Environmental Requirements

The following sections describe environmental requirements.

Power Requirements

Before you install the slot machine, verify that the site's input AC power meets the requirements listed in Table 3-1.

Table 3-1 **Power Requirements**

|	Voltage	Power
Domestic	110–120 Vac @ 50/60 Hz	240 watts
International	220–240 Vac @ 50/60 Hz	240 watts

Space Requirements

The physical dimensions of the slot machine, listed in Table 3-2 and shown in Figure 3-1 on page 3-3, enable you to place Silicon Gaming machines on existing casino slot stands without reconfiguring the stands or machine layout.

Table 3-2 **Physical Specifications**

Height	46 inches
Width	26.50 inches (including handle)
Depth	22.50 inches
Weight	275 lbs.
Minimum spacing between machines	6 inches

Figure 3-1   **Machine Dimensions**
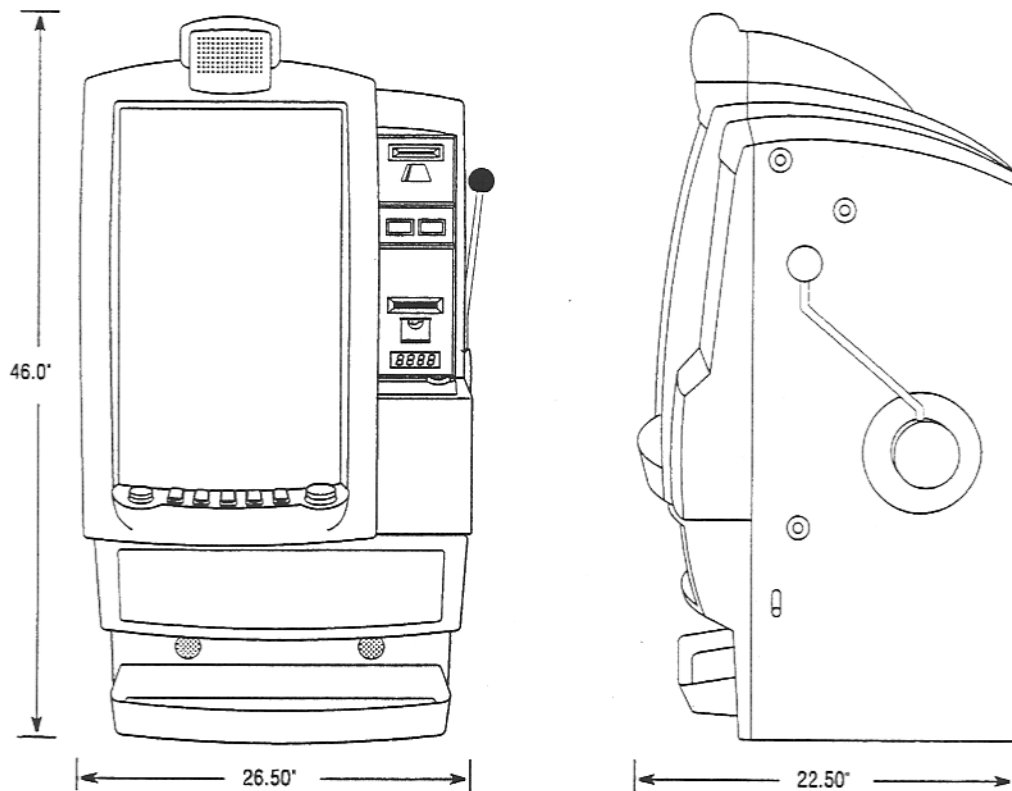
Installation Procedures

The following procedures describe machine installation.

Unpacking and Inspecting the Machine

To unpack and inspect the machine, perform the following steps:

1. Remove the packing from the slot machine and find the hopper drawer assembly that is secured inside the machine by a shipping insert. The power cable is coiled inside the hopper.

2. Verify that, in addition to this book, the following items are included in the shipping package:

   ♦ A bag of miscellaneous parts taped inside the coin tray. The bag contains keys (including the MMS key), three lock cams, lock collars, mounting nuts, bolts, and washers. The two-piece cam is for the bolster door lock. The 1-1/2" cam with offset holes is for the belly door. The large round cam is used with the currency cartridge lock.

   ♦ One currency cartridge inside the machine. A bag containing two small cams is taped to the outside of the cartridge.

      Note: An additional cartridge will be supplied to the casino when the machine is installed.

3. Inspect the outside of the machine for any external physical damage. If you detect any damage, report it to the shipping company and to Silicon Gaming.

4. Perform the procedure described in "Inspecting Internal Components" on page 3-4.

Inspecting Internal Components

Caution: To avoid shock by static electricity, use grounding straps whenever you handle electronic components.

The slot machine is shipped with a keyless lock securing the electronics box door, in the location shown in Figure 3-2. Before installation is complete, replace this lock and install casino locks to secure the currency column door, belly door, and currency cartridge. For more information, see "Installing Door Locks" on page 3-7.

To inspect internal components, perform the following steps:

1. Open the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

2. Verify that a bag containing two small cams is attached to the currency cartridge. At least one of these cams will be used when the lock for the currency cartridge is installed. For more information, see "Installing Casino Locks" on page 3-8.

Figure 3-2   **Machine Lock Locations**
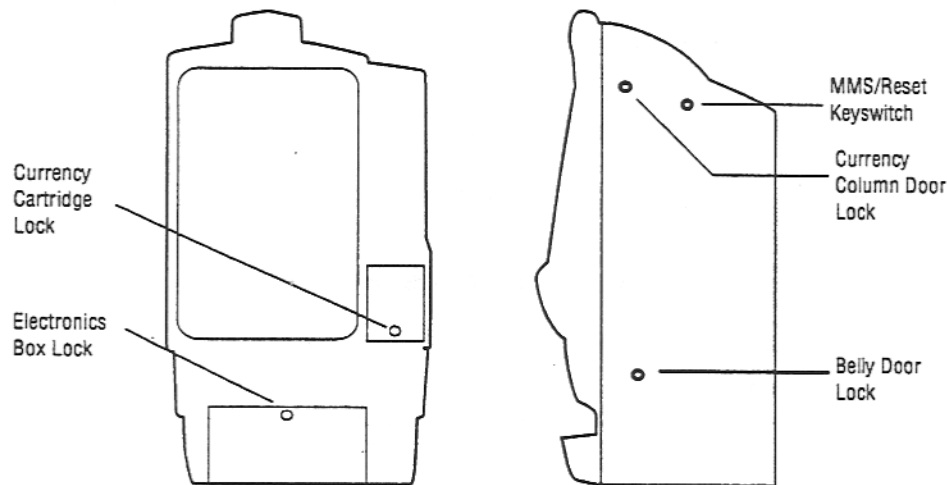
3. Open the belly door. Refer to "Opening the Belly Door" on page 2-9.

4. Remove the insert that holds the hopper and coin tray secure during shipment.

5. Visually inspect all major components within the slot machine for any apparent damage. To identify the location of each component, refer to Figure 1-2 on page 1-3.

6. To access the electronics box, you must remove the hopper drawer. Refer to "Removing the Hopper Drawer" on page 2-9.

7. Open the electronics box door. Refer to "Opening the Electronics Box Door" on page 2-11.

8. Visually inspect the components inside the electronics box, including the circuit boards, hard disk drive, and power supply. To identify the location of each component, wiring connector, and securing screw, refer to Figure 3-3.

> *Caution:* The location of the video controller board and peripheral memory board in the motherboard PCI backplane is different, depending on whether the slot machine is configured with a Pentium Thor or Tucson motherboard. In the Thor configuration, the video controller board is in slot #1 (J4C1) and the peripheral memory board is in slot #2 (J4D1). In the Tucson configuration, the PCI slot numbers on the board are in reverse order. The video controller board is in slot #3 (J4D1) and the peripheral memory board is in slot #4 (J4C1). For more information, see "Replacing a Circuit Board" on page 11-13.

Figure 3-3   **Electronics Box Components, Thor Motherboard Installed**

Video Controller Board

Peripheral Memory Board

SCSI Controller Board

Power Supply

Hard Disk Drive

Motherboard

Transformer

GPIO Box/Board
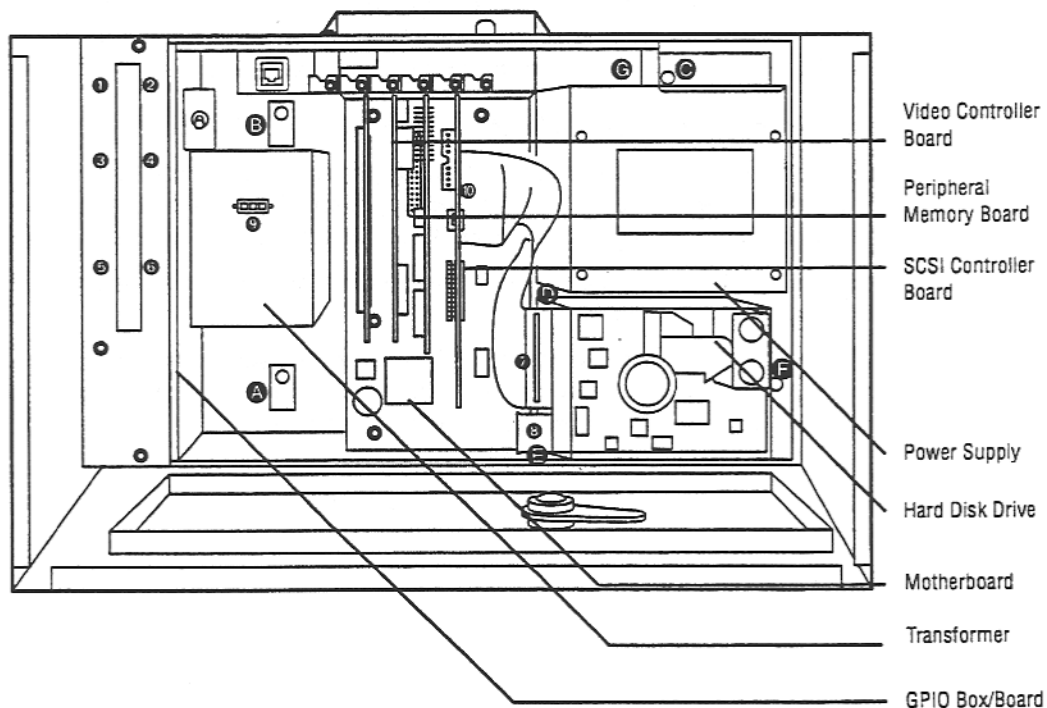
9. Verify that the power selection switch (G on Figure 3-3) on the power supply is set for the AC line voltage present at the installation site: either 115 Vac or 220 Vac. The swich is located on top of the power supply, between the power switch and power cord. The switch is set to the left for 115 Vac and to the right for 220 Vac.

10. Verify that the wiring connections to the GPIO box (#1-6), hard disk (#7, 8), the AC transformer (#9), and SCSI controller board (#10) are snug. See Figure 3-3.

11. On the peripheral memory board, verify that the DIP switch settings are as follows:

Dip Switch	Setting
1	Off
2-6	On
7	Off
8	On

12. Verify that the screws (A-C) securing the electronics box to the chassis and the hard disk drive (D-F) to the inside of the electronics box are secure. See Figure 3-3 on page 3-5.

13. Ensure that the On/Off switch on the power supply, inside the electronics box, is set to the On position.

14. Report any damage you detect to the shipping company and to Silicon Gaming.

15. Perform the procedure described in "Securing the Slot Machine to the Stand" on page 3-6.

Securing the Slot Machine to the Stand

Warning: The slot machine weighs approximately 275 lbs. To prevent injury to personnel or damage to the machine, do not attempt to move the machine without a lifting device or enough people to safely lift it onto its slot stand.

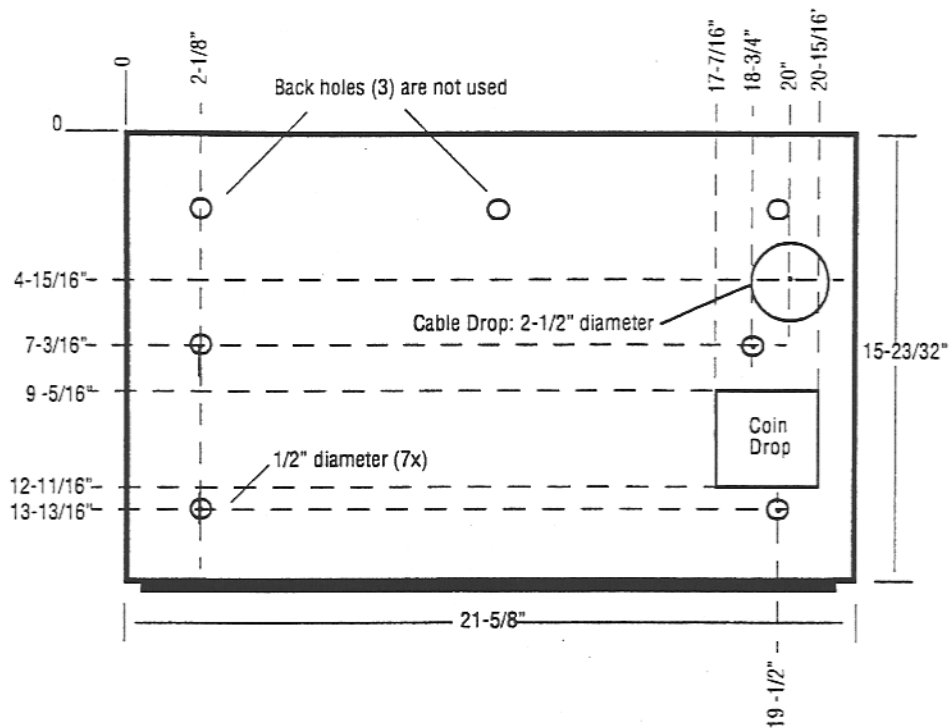To install the slot machine on its stand, perform the following steps:

1. The two rear mounting holes are located just in front of the electronics box. If you haven't already done so, perform steps 2, 3, and 5 in "Inspecting Internal Components" on page 3-4 to access the two rear mounting holes.

   Note: The electronics box does not need to be removed to secure the slot machine to its stand.

2. Referring to the measurements and hole locations shown in Figure 3-4 on page 3-7, drill the required holes for the drop chute, the power cord, and the four bolts that will secure the machine to the slot stand.

   Note: The dimensions shown in Figure 3-4 can be used for any size stand. Typically, bottom coordinates 0,0 are 3" to the right of the stand's left-rear edge. All measurements shown are from 0,0.

Figure 3-4   **Bottom of Slot Machine**

Back holes (3) are not used

0

2-1/8"

17-7/16"
18-3/4"
20"
20-15/16"

0

4-15/16"

Cable Drop: 2-1/2" diameter

7-3/16"

15-23/32"

9 -5/16"

Coin
Drop

1/2" diameter (7x)

12-11/16"
13-13/16"

21-5/8"

19 -1/2"

3. Using a lifting device, place the slot machine on the drilled slot stand.

4. Align the four mounting holes in the bottom of the machine cabinet with the holes in the stand.

5. Route the power cord through both the hole in the bottom right corner of the machine and the power cord hole in the mounting stand.

6. Using the four 2-1/2" x 1/4" bolts and attaching washers and nuts supplied in the shipping package, secure the machine to the slot stand.

7. Inspect the machine to verify that there are no loose cable connections or plugs.

8. Perform the procedures described in "Installing Door Locks" on page 3-7.

Installing Door Locks

The slot machine is shipped with a keyless 5/8-inch barrel type door lock that secures the electronics box door, located in the lower cavity. Lock cams for the currency cartridge, belly door, and currency column door are shipped in a parts bag that is taped inside the coin tray.

Note: Some jurisdictions require keyed Medeco locks for the currency column door, electronics box door, and belly door. Removal and installation of these locks is the same as for the keyless locks.

Removing Keyless Lock

To replace the electronics box door lock with a keylock used by the casino, perform the following procedure:

1. If you haven't already done so, perform steps 1, 2, 4, 6, and 7 in "Inspecting Internal Components" on page 3-4.

2. On the inside of the electronics box door, remove the nut and lock washer securing the lock to the cam. Referring to Figure 3-5, note the position of the cam/ locking arm in the lock assembly, that is, its position relative to the lock, washers, and nuts.

Figure 3-5   **Exploded View of Lock**

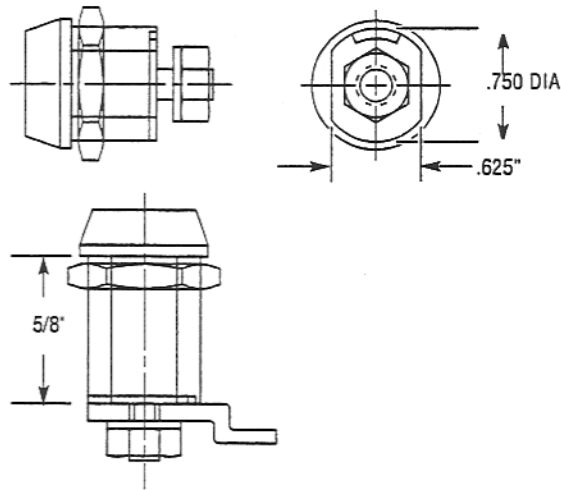Cam/Locking Arm
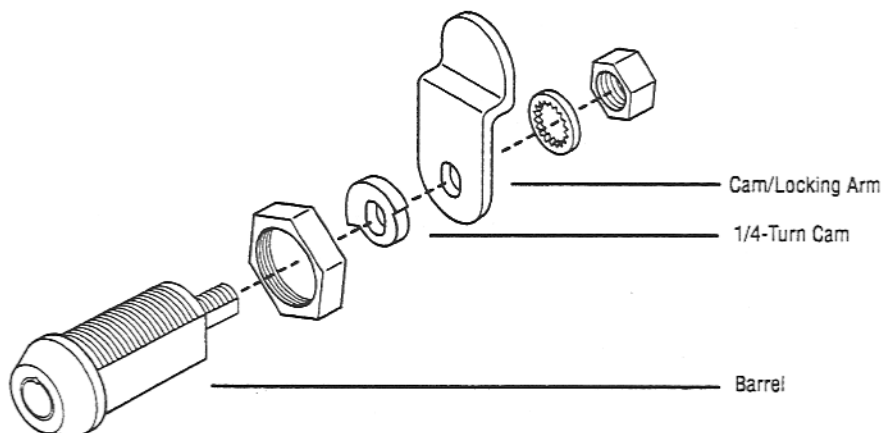
1/4-Turn Cam

Barrel

3. Remove the nut, lock washer, cam/locking arm, 1/4-turn cam, and nut securing the lock barrel to the door. Pull the barrel lock out of the hole in the door/ mounting bracket.

4. Proceed to "Installing Casino Locks."

Installing Casino Locks

The mounting holes for the machine locks are pre-punched to accommodate standard door lock dimensions. Lock mounting dimensions, including barrel length, are shown in Figure 3-6 on page 3-9.

*Figure 3-6*   **Lock Mounting Dimensions**

To install a casino lock, perform the following steps:

1. Insert the keylock supplied by the casino in the hole in the electronics box door. Using the attaching hardware (washers and nuts), secure the cam/locking arm, 1/4-turn cam, and lock barrel to the door. Refer to Figure 3-5 on page 3-8 to determine the position of the cam/locking arm and 1/4-turn cam in the lock assembly, that is, their position relative to the barrel, washer, and nuts.

2. Insert the key in the lock and verify that the cam properly secures the door when the key is in the locked position. For the currency column door, this is when the key is in its furthest clockwise position. For all other locks, this is when the key is in its furthest counter-clockwise position.

3. Repeat steps 1 and 2 for the currency cartridge door, belly door, and currency column door.

4. Close and lock the electronics box door. Refer to "Closing the Electronics Box Door" on page 2-12.

5. Connect the three-wire connector to its mating plug through the front of the electronics box door.

6. Install the hopper drawer. Refer to "Installing the Hopper Drawer" on page 2-10.

7. Close the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.

8. Close the currency column door. "Closing and Locking the Currency Column Door" on page 2-9.

Making Network Connections

The procedures in this section are provided as reference information to use when connecting the slot machine to a CDS, Bally, IGT, GSI, MGM, Caesar's, Mikohn, or Acres Rio casino network. Before making network connections, a third-party system management interface board (SMIB) must be installed under the top cap of the machine. The procedure "Replacing the Network Interface Board" on page 12-12 describes the third-party associated equipment and SGI cables needed to interface to each casino network. For most network connections, SGI's Hubble board, shown in Figure 3-7, is used.

Figure 3-7   **Hubble Board Connectors**
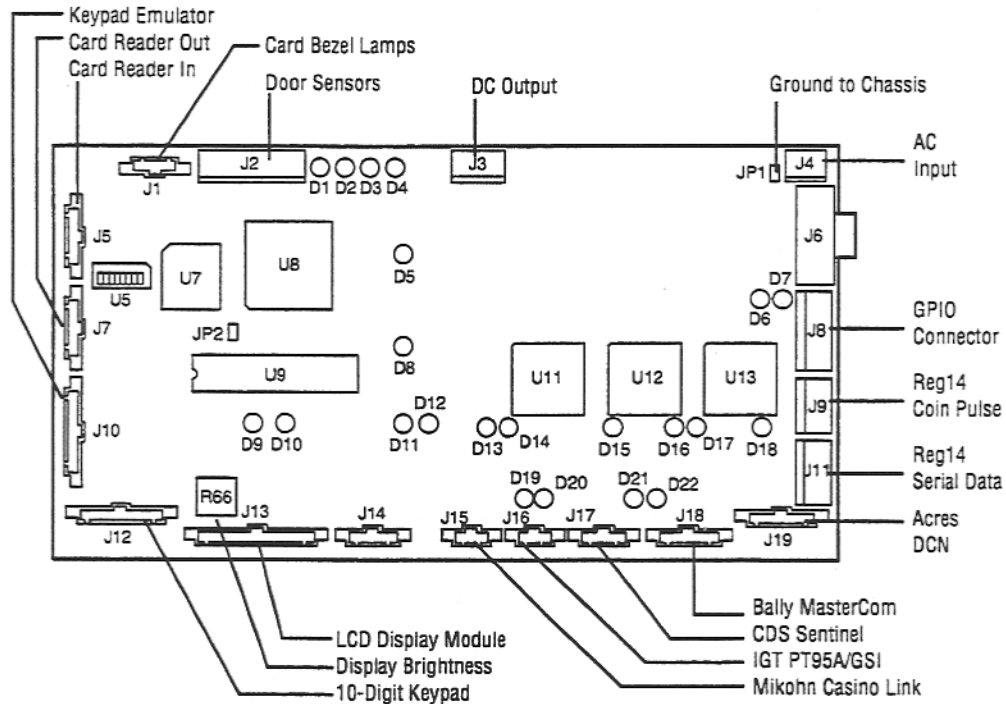
Important: The installation and maintenance of the player tracking system is the casino operator's responsibility. Silicon Gaming is not responsible for ensuring the connection to a casino's player tracking network or the implementation of third-party player tracking equipment.

Some of the third-party associated equipment needed to interface to the casino network is listed in Table 3-3.

Table 3-3   **Player Tracking Associated Equipment**

CDS w/ SGI-based SAS Support	Bally w/ SGI-based SAS Support	IGT w/ SGI-based SAS Support
CDS display, card reader and keypad: on currency column	Bally display, card reader, and keypad: on currency column	IGT card reader, keypad, and IGT emulated display: on currency column (LCD)
CDS Sentinel board: under top cap	Bally MasterCom 220/DMK interface board under top cap	IGT PT95A SAS interface board: under top cap
CDS 9 Vdc: in drop stand	Bally 9 Vdc: in drop stand	Hubble power supply
CDS cables (3)	Bally cables (2)	SGI IGT 110 Vac and SGI cables (4)
SGI cables (5)	SGI cables (6)	

Table 3-4 provides detailed information about the SGI cables listed in Table 3-3.

Table 3-4   **SGI Player Tracking System Cables**

CDS w/ SGI-based SAS Support	Bally w/ SGI-based SAS Support	IGT w/ SGI-based SAS Support
DC Power Cable, Sentinel	Door Sensors Cable, MasterCom	LCD Display Cable, 3', PT95
AC Power Cable, Hubble	DC Power Cable, MasterCom	Slot Interface Cable, PT95
Serial Interface Cable, Hubble	Serial Interface Cable, MasterCom	AC power Cable, PT95
Door Sensors Cable, Sentinel	AC Power Cable, Hubble	Serial Interface Cable, Hubble
Serial Interface Cable, Sentinel	Extended VFD Cable, 3', MasterCom	
	Serial Interface Cable, Hubble	

Connecting Odyssey to a CDS SAS Network

The Odyssey-to-CDS network interface is shown in Figure 3-8. SGI's Hubble translator board provides the interface between the slot machine and the CDS Sentinel II system management interface board (SMIB), converting Acres C3 protocol to IGT's SAS protocol. The Sentinel II drives the display, card reader, and keypad.

Figure 3-8   **Hubble -> CDS Network Interface**
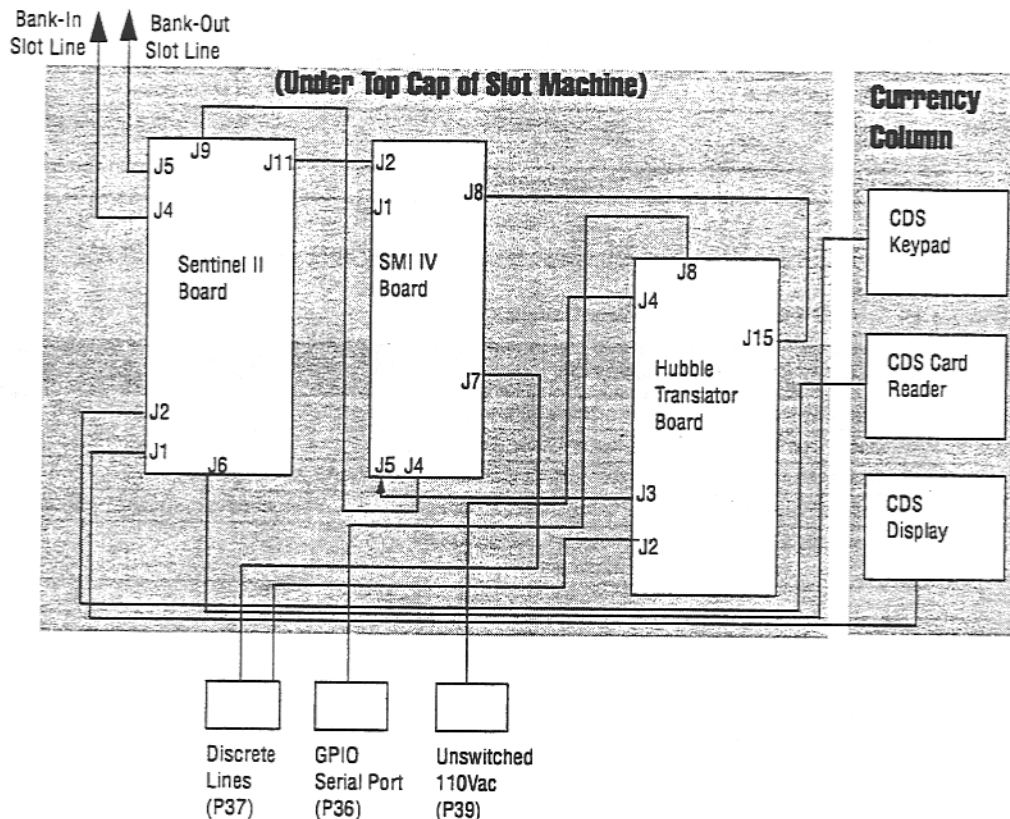
To connect the Odyssey to a CDS SAS network, perform the following steps:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

    The CDS player tracking system includes a system management interface (SMI IV) board and Sentinel II board mounted on a plate. The location of the system network components vary, depending on whether an Acres or Hubble translator board is installed. Figure 3-9 on page 3-13 shows component locations for an Acres configuration.

    Note: In jurisdictions with loss-limit regulations that prevent players from losing more than $500 per day, a CDS loss lockout board is installed. The board is provided by the casino and is located on the player-tracking mounting plate. For installation instructions, see the casino operator.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Looking at the top area of the slot machine, align the screw holes in the player-tracking mounting plate with the standoffs on the top of the machine. Secure the plate (containing the two CDS network boards) to the machine by pushing the plate onto the standoffs.

Figure 3-9   **Location of CDS Boards**

Top View of Slot Machine
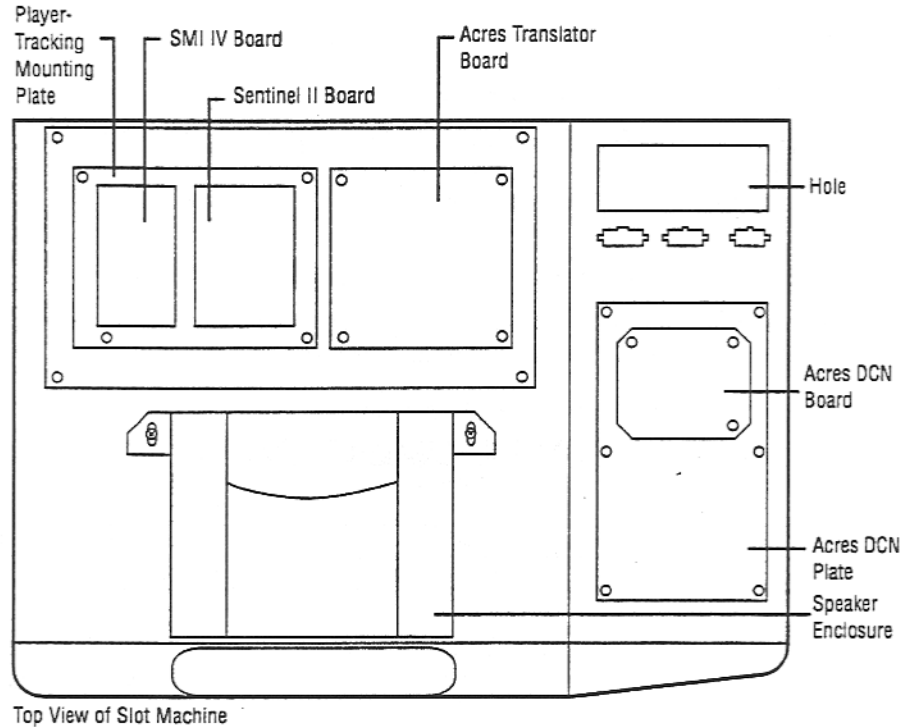
4. Refer to Table 3-5 and make the following discrete signal connections:

Table 3-5   **CDS Discrete Signal Connections**

Signal	From	To
Discrete door signals	GPIO port P37	SMI IV board connector J7 and Hubble connector J2
Card reader interface	CDS card reader	Sentinel II connector J2
Keypad interface	CDS keypad	Sentinel II connector J6
CDS display interface	Sentinel II connector J1	CDS display

Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

5. Refer to Table 3-6 and make (or verify) the following serial data signal connections:

Table 3-6   **CDS Data Signal Connections**

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8
Serial data interface	Hubble connector J15	SMI IV board connector J8
Serial data interface	SMI IV board connector J2	Sentinel II connector J11

6. Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

7. Route the slot line cables from the Sentinel II board, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

8. refer to Table 3-7 and make the following slot line connections:

Table 3-7   **CDS Slot Line Connections**

Signal	From	To
Serial data interface	Sentinel II connector J4	Bank in slot line
Serial data interface	Sentinel II connector J5	Bank out slot line

9. Refer to Table 3-8 and make the following power connections:

Warning: Verify all player tracking connections are secure before you plug the power cable into the Hubble translator board.

Table 3-8   **CDS Network Power Connections**

Signal	From	To
9Vdc	Hubble connector J3	SMI IV connector J5 or Sentinel II 9Vdc
9Vdc	SMI IV connector J4	Sentinel II connector J9
110Vac	Odyssey unswitched power supply	Hubble connector J4

10. When the Hubble translator board is installed, you can verify that the board is communicating with the slot machine and the network board by checking that the LEDs at the Hubble board locations listed below are flickering.

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to CDS boards	D9, D10

11. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

12. Configure the MMS for the CDS casino network. See "Configuring Slot Accounting" on page 4-21.

Connecting Odyssey to a Bally SDS Network

The Odyssey-to-Bally network interface is shown in Figure 3-10. SGI's Hubble translator board provides the interface between the slot machine and the Bally MasterCom 220 system management interface board (SMIB), converting Acres C3 protocol to Bally simple serial protocol.

Figure 3-10   **Hubble -> Bally Network Interface**
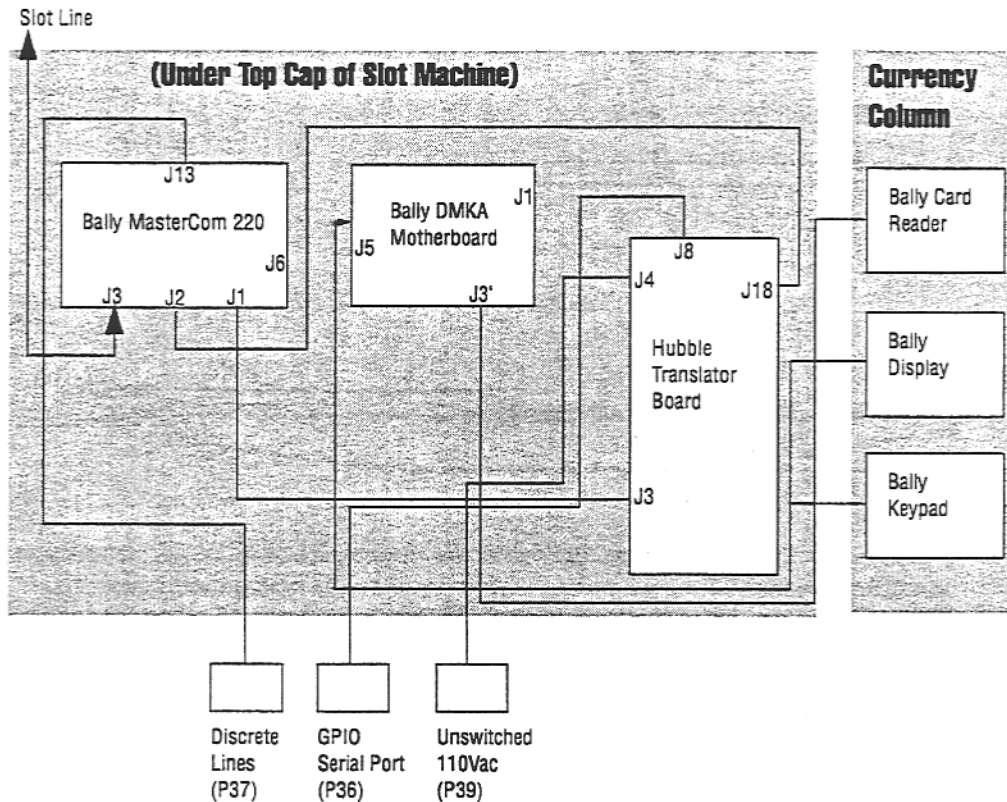
To connect the Odyssey slot machine to a Bally SDS network, perform the following steps:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

   The Bally player tracking system includes a DMKA motherboard and MasterCom 220 SMIB. The location of system network components varies, depending on whether an Acres or Hubble translator board is installed. Figure 3-11 on page 3-16 shows the The locations of components in a Hubble configuration.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Align the four screw holes in the Bally MasterCom 220 board with the four standoffs in the player-tracking mounting plate and secure the board to the plate by pushing the board onto the standoffs.

4. Looking at the top area of the slot machine, align the four screw holes in the Bally MasterCom 220 board with those in the Odyssey's player-tracking mounting plate and secure the board to the plate, using the screws provided.

Figure 3-11   **Location of Bally Boards**

Player-Tracking Mounting Plate — Bally MasterCom 220 Network Board — Bally DMKA Board

Hubble Translator Board

Speaker Enclosure
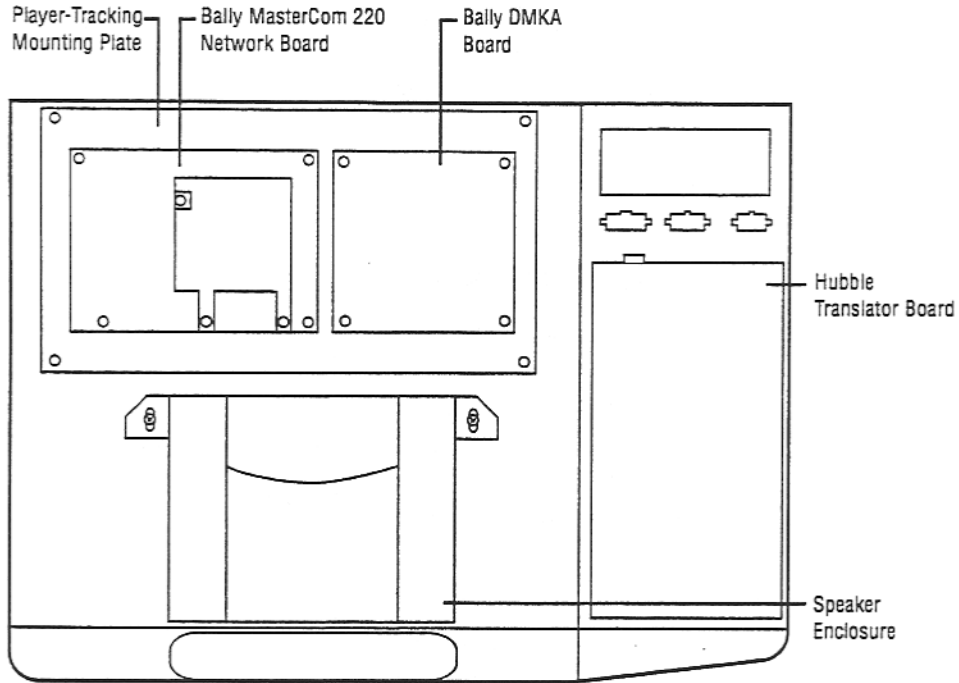
Top View of Slot Machine

5. Referring to Figure 3-11, align the four screw holes in the Bally DMKA board with the four standoffs in the mounting plate and secure the board to the plate by pushing the board onto the standoffs.

6. Refer to Table 3-9 and make the following discrete signal connections:

Table 3-9   **Bally Discrete Signal Connections**

Signal	From	To
Discrete door signals	GPIO port P37	MasterCom 220 connector J13
Card reader interface	Bally card reader	DMKA connector J3
Keypad and display interface	Bally keypad and display	DMKA connector J6

Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

7. Refer to Table 3-10 and make (or verify) the following serial data signal connections:

Table 3-10   **Bally Data Signal Connections**

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8
Serial data interface	Hubble connector J18	MasterCom 220 connector J2

8. Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

9. Route the slot line cables from the SMIB, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

10. Refer to Table 3-11 and make the following slot line connection:

Table 3-11   **Bally Slot Line Connection**

Signal	From	⇐ To
Serial data interface	MasterCom 220 connector J3	Slot line

11. Refer to Table 3-12 and make the following power connections:

> ◆ *Warning:* Verify all player tracking connections are secure before you plug the power cable into the Acres or Hubble translator board.

Table 3-12   **Bally Network Power Connections**

Signal	From	To
9Vdc	Hubble board connector J3	MasterCom 220 connector J1
110Vac	Odyssey unswitched power supply	Hubble connector J4

12. When the Hubble translator board is installed, you can verify that the board is communicating with the slot machine and the network board by checking that the LEDs at the Hubble board locations listed below are flickering.

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to Bally boards	D13, D14

13. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

14. Configure the MMS for the Bally casino network. See "Configuring Slot Accounting" on page 4-21.

Connecting Odyssey to an IGT SAS Network

The Odyssey-to-IGT network interface is shown in Figure 3-12. SGI's Hubble translator board provides the interface between the slot machine and IGT's PT95A SAS interface board, converting Acres C3 protocol to IGT SAS protocol.

Figure 3-12   **Hubble -> IGT Network Interface**
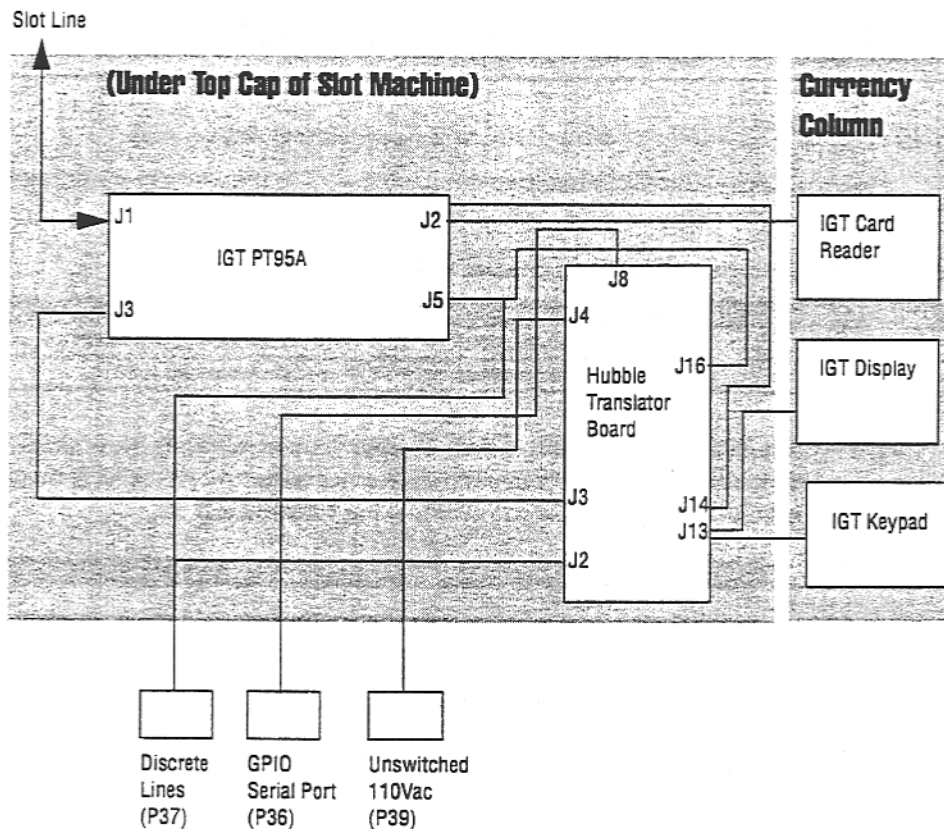
To connect the slot machine to the IGT SAS network, perform the steps below.

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

   Figure 3-13 on page 3-19 shows the location of IGT network system components.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Looking at the top area of the slot machine, align the screw holes in the IGT board with the standoffs on the player-tracking mounting plate. Secure the board to the plate by pushing the board onto the standoffs.

Figure 3-13   Location of IGT's and Caesar's Board

Top View of Slot Machine
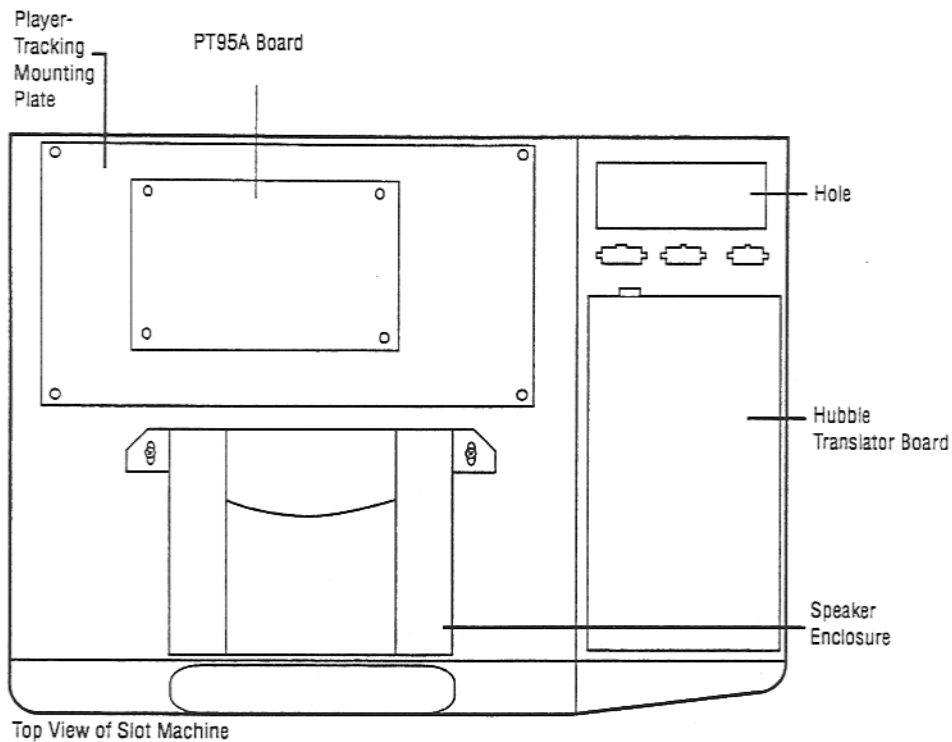
4.   Refer to Table 3-13 and make the following discrete signal connections:

Table 3-13   IGT Discrete Signal Connections

Signal	From	To
Discrete door signals	GPIO port P37	PT95A connector J5 and Hubble connector J2
Card reader interface	IGT card reader	PT95A connector J2
Display interface	Hubble connector J14	
Keypad and display interface	IGT display and keypad	Hubble connector J13

> Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

5.   Refer to Table 3-14 and make (or verify) the following serial data signal connections:

Table 3-14   IGT Data Signal Connections

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8
Serial data interface	Hubble connector J16	PT95A connector J5

6.   Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

7. Route the slot line cables from the PT95A, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

8. Refer to Table 3-15 and make the following slot line connection:

Table 3-15   **IGT Slot Line Connection**

Signal	From	To
Serial data interface	PT95A connector J1	Slot line

9. Refer to Table 3-16 and make the following power connections:

> ◆ *Warning:* Verify all player tracking connections are secure before you plug the power cable into the Hubble translator board.

Table 3-16   **IGT Network Power Connections**

Signal	From	To
9Vdc	Hubble connector J3	PT95A connector J3
110Vac	Odyssey unswitched power supply	Hubble connector J4

10. To verify that the Hubble board is communicating with the slot machine and the network board, check that the LEDs at the Hubble board locations listed below are flickering.

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to IGT board	D11, D12

11. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

12. Configure the MMS for the IGT casino network. See "Configuring Slot Accounting" on page 4-21.

Connecting Odyssey to a GSI SAS Network

The Odyssey-to-GSI network interface is shown in Figure 3-14. SGI's Hubble translator board provides the interface between the slot machine and the GSI slot machine interface board (SMIB), converting Acres C3 protocol to IGT SAS protocol.

Figure 3-14   **Hubble -> GSI Network Interface**
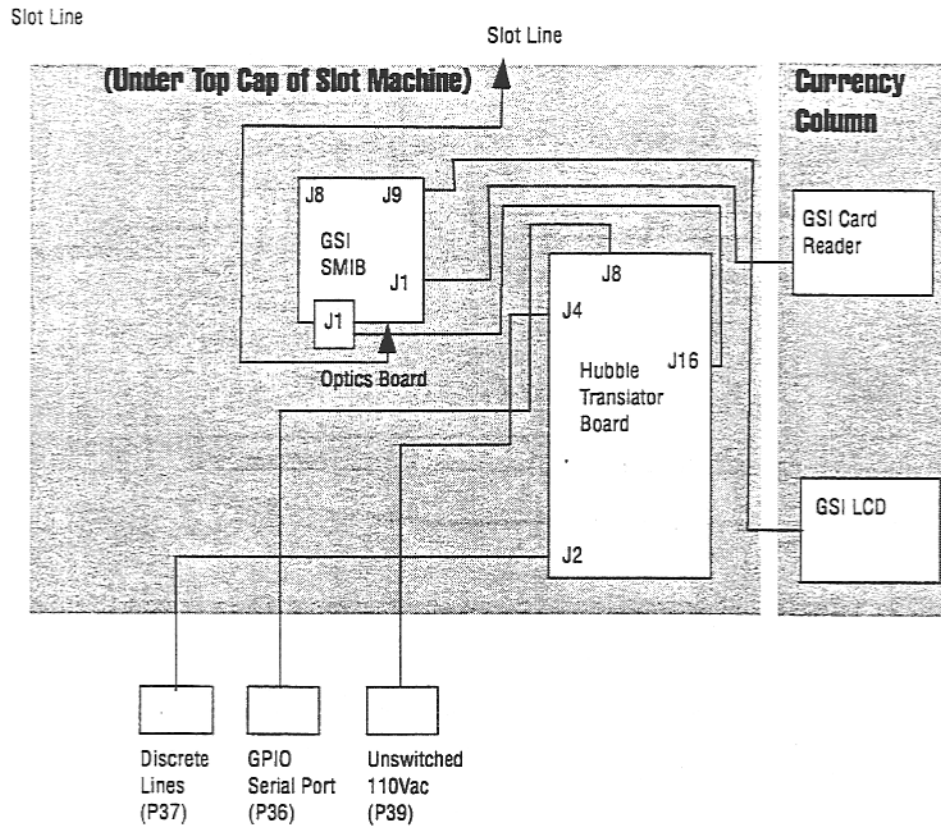
To connect the Odyssey slot machine to a GSI SAS network, perform the following steps:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Looking at the top area of the slot machine, align the screw holes in the GSI board with the standoffs on the player-tracking mounting plate. Secure the board to the plate by pushing the board onto the standoffs.

Figure 3-15   **Location of GSI Board**

Top View of Slot Machine
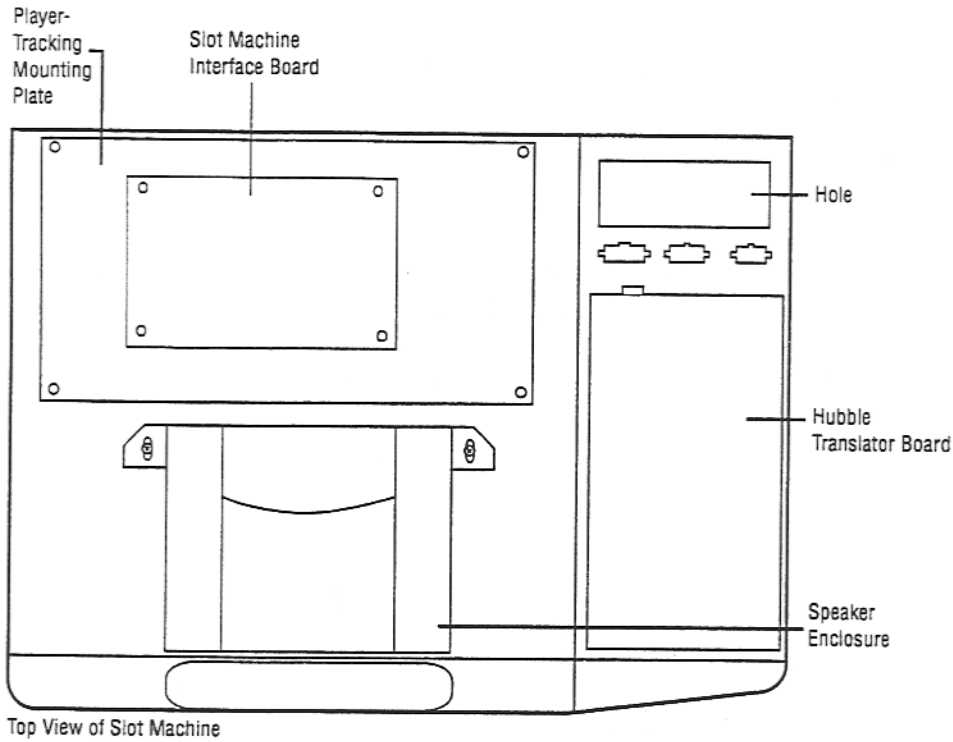
4. Refer to Table 3-17 and make the following discrete signal connections:

Table 3-17   **GSI Discrete Signal Connections**

Signal	From	To
Discrete door signals	GPIO port P37	Hubble connector J2
Card reader interface	GSI card reader	SMIB connector J1
Display interface	SMIB connector J9	GSI LCD

Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

5. Refer to Table 3-18 and make (or verify) the following serial data signal connections:

Table 3-18   **GSI Data Signal Connections**

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8
Serial data interface	Hubble connector J16	SMIB connector J1 (optics board)

6. Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

7. Route the slot line cables from the SMIB, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

8. Refer to and make the following slot line connection:

Table 3-19   **GSI Slot Line Connection**

Signal	From	To
Serial data interface	SMIB RJ-11 connector J7	Slot line

9. Refer to Table 3-20 and make the following power connections:

   ◆ *Warning:* Verify all player tracking connections are secure before you plug the power cable into the Hubble translator board.

Table 3-20   **GSI Network Power Connections**

Signal	From	To
110Vac	Odyssey unswitched power supply	SMIB connector J8
110Vac	Odyssey unswitched power supply	Hubble connector J4

10. To verify that the Hubble board is communicating with the slot machine and the network board, check that the LEDs at the Hubble board locations listed below are flickering:

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to GSI board	D11, D12

11. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

12. Configure the MMS for the GSI casino network. See "Configuring Slot Accounting" on page 4-21.

Connecting Odyssey to an MGM SAS Network

SGI's Hubble translator board provides the interface between the slot machine and the MGM Universal Interface Board (UIB), converting Acres C3 protocol to SAS.

To connect the Odyssey slot machine to an MGM SAS network:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

2. Disconnect the power cable from Hubble connector J4.

3. Looking at the top area of the slot machine, align the screw holes in the UIB board with the standoffs in the Odyssey's player-tracking mounting plate. Secure the board to the plate by pushing down on the board until it is secured by the standoffs.

Figure 3-16   **Location of MGM Board**
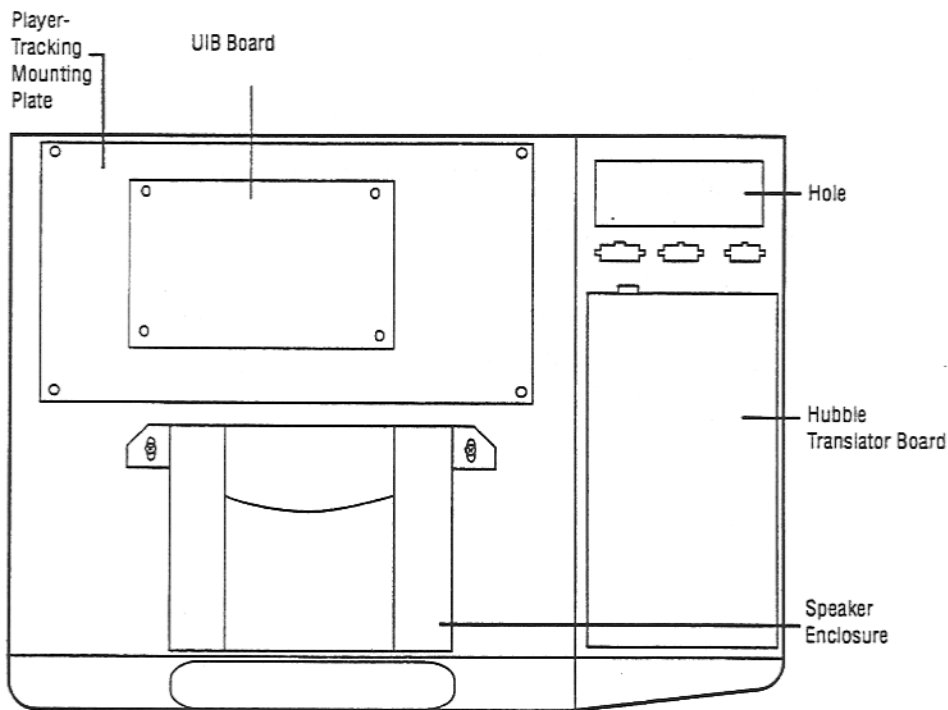
Top View of Slot Machine

4. Connect the C3 communications by plugging the Odyssey P36 connector into the Hubble J8 connector.

5. Connect the door sensors cable for the drop-door switch by plugging the Odyssey P37 connector into the UIB J4A/B connector.

6. Connect the slot lines. Slot line connections are supplied by MGM.

7. Make any other connections supplied by MGM.

8. Refer to Table 3-21 on page 3-25 and make the following network power/serial connections:

◆ *Warning:* Before plugging the power cable into the Hubble translator board, verify all player tracking connections are secure.

Table 3-21   **Hubble/MGM Network Power/Serial Connections**

| Signal	From	To
110Vac	Odyssey unswitched power supply P39	Hubble connector J4
9Vdc	Hubble connectors J5 and J3 (split cable)	UIB connector JW2 and UIB connector JW5

Connecting Odyssey to a Caesar's SAS Network

SGI's Hubble translator board provides the interface between the slot machine and the PT95A, converting Acres C3 protocol to SAS protocol. Installation of the PT95A is the same as the installation for IGT.

To install the PT95A, see "Connecting Odyssey to an IGT SAS Network" on page 3-18.

Connecting Odyssey to a Mikohn SAS Network

The Odyssey-to-Mikohn network interface is shown in Figure 3-17. SGI's Hubble translator board provides the interface between the slot machine and Mikohn's SAS SMIB, converting Acres C3 protocol to Mikohn SAS protocol.

Figure 3-17   **Hubble -> Mikohn Network Interface**
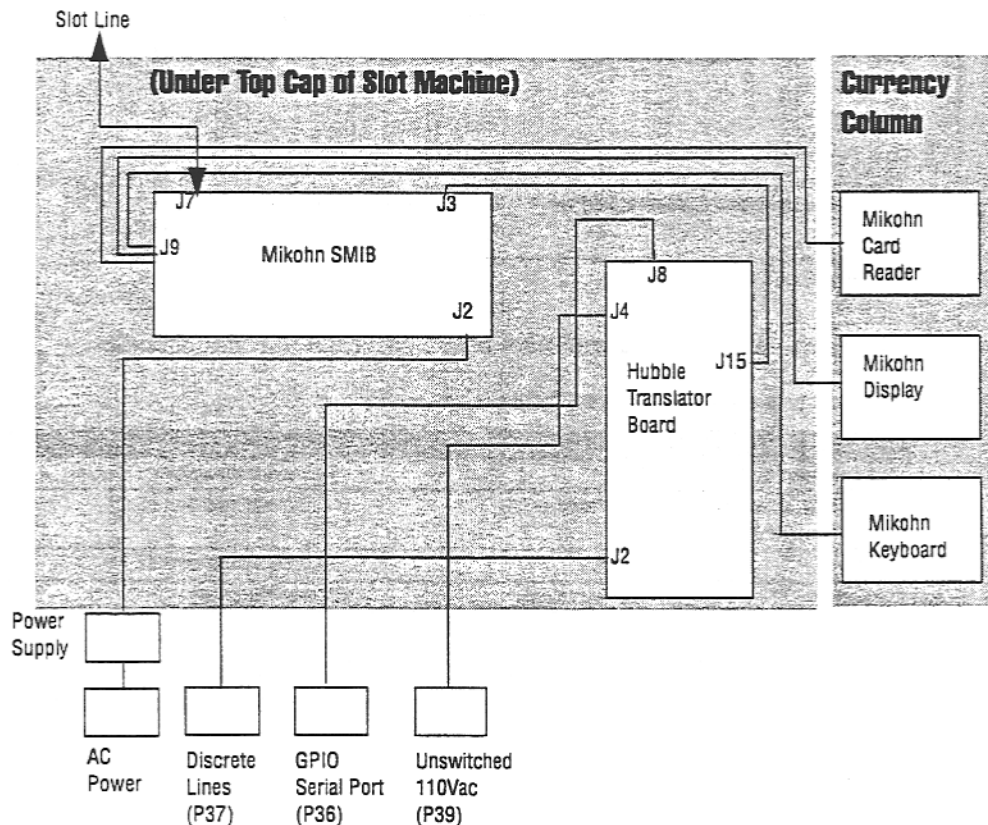
To connect the slot machine to the Mikohn SAS network, perform the steps below:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

   Figure 3-18 shows the locations of Mikohn network system components.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Looking at the top area of the slot machine, align the screw holes in the Mikohn board with the standoffs on the player-tracking mounting plate. Secure the board to the plate by pushing the board onto the standoffs.

Figure 3-18   **Location of Mikohn Board**

Top View of Slot Machine
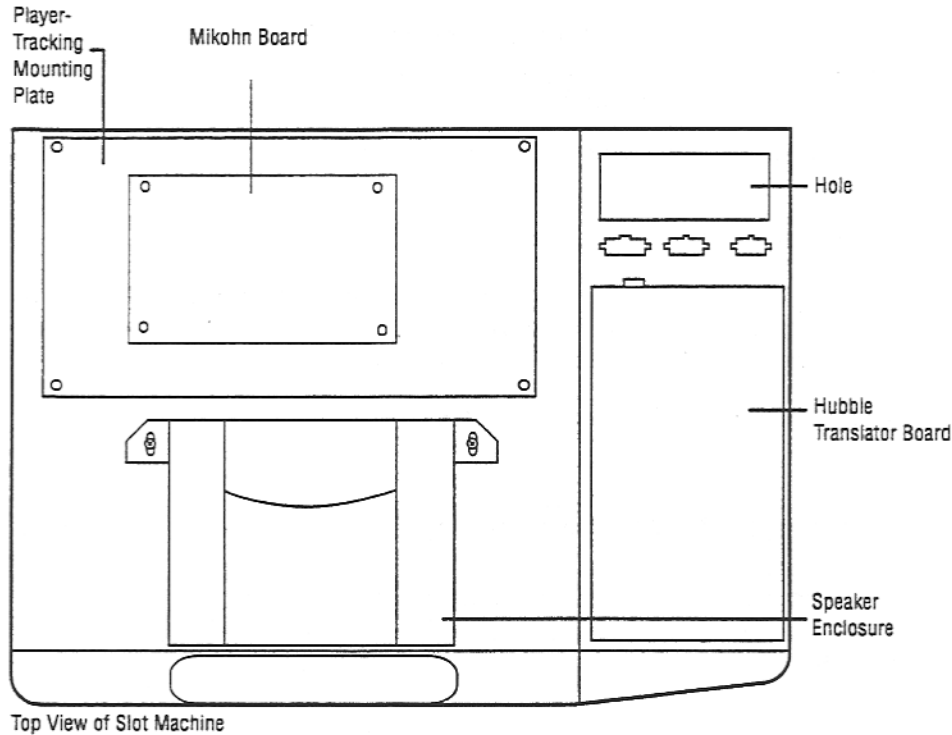
4. Refer to Table 3-22 and make the following discrete signal connections:

Table 3-22   **Mikohn Discrete Signal Connections**

Signal	From	To
Discrete door signals	GPIO port P37	Hubble connector J2
Card reader interface and display interface	Mikohn card reader	Mikohn connector J9
Display input	Mikohn display	Hubble connector J13
Keypad interface	Mikohn connector J9	Mikohn keypad

Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

5. Refer to Table 3-23 and make (or verify) the following serial data signal connection:

Table 3-23   **Mikohn Data Signal Connection**

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8

6. Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

7. Route the slot line cables from the SMIB, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

8. Refer to Table 3-24 and make the following slot line connection:

Table 3-24   **Mikohn Slot Line Connection**

Signal	From	To
Serial data interface	Mikohn connector J7	Slot line

9. Refer to Table 3-25 and make the following network power connection:

  ◆ *Warning:* Verify all player tracking connections are secure before you plug the power cable into the Hubble translator board.

Table 3-25   **Mikohn Network Power Connections**

Signal	From	To
9Vdc	Hubble connector J15	Mikohn connector J3
110Vac	Odyssey unswitched power supply connector P39	Hubble connector J4

10. To verify that the Hubble board is communicating with the slot machine and the network board, check that the LEDs at the Hubble board locations listed below are flickering.

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to Mikohn board	D9, D10

11. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

12. Configure the MMS for the Mikohn casino network. See "Configuring Slot Accounting" on page 4-21.

Connecting Odyssey to an Acres Rio SAS Network

The Odyssey-to-Acres Rio network interface is shown in Figure 3-19. SGI's Hubble translator board provides the interface between the slot machine and the Acres DCN board, converting Acres C3 protocol to Rio's SAS 2.82 protocol.

Figure 3-19   **Hubble -> Acres Rio Network Interface**
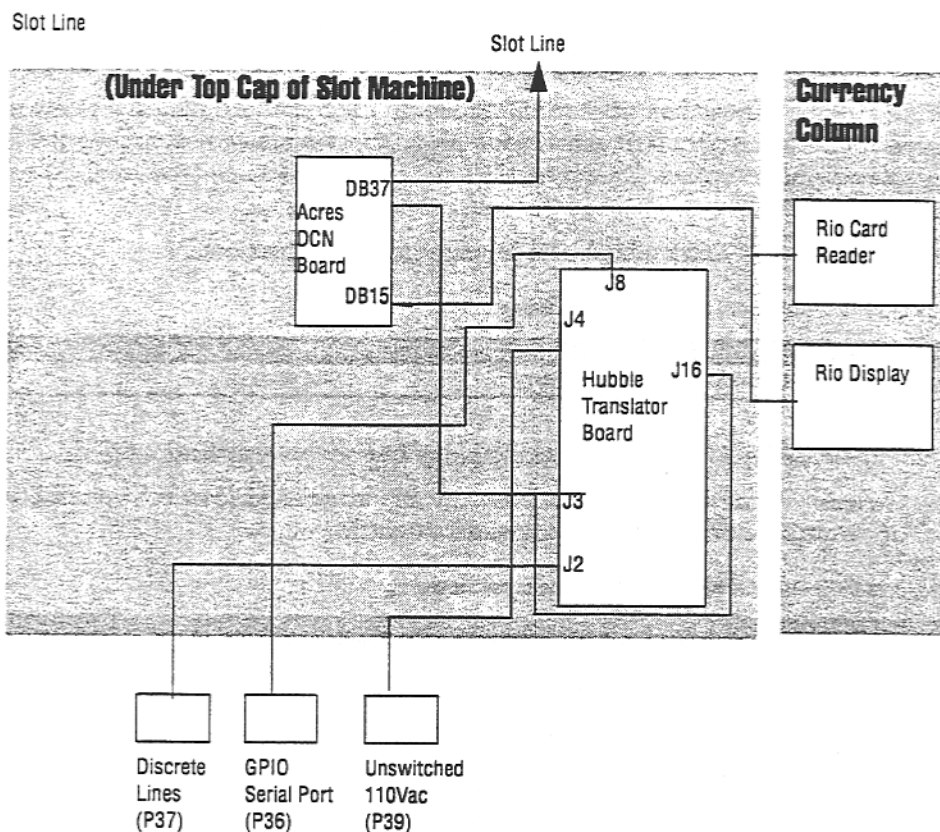
To connect the Odyssey slot machine to an Acres Rio SAS network, perform the following steps:

1. Remove the top cap. Refer to "Removing the Top Cap" on page 2-16.

   The Acres Rio player tracking system includes an Acres DCN board mounted on a plate. The location of the system network components are shown in Figure 3-20.

2. Disconnect the power cable from connector J4 on the Hubble translator board.

3. Looking at the top area of the slot machine, align the screw holes in the player-tracking mounting plate with the standoffs on the top of the machine. Secure the plate (containing the Acres DCN board) to the machine by pushing the plate onto the standoffs.

Figure 3-20   **Location of Acres DCN Board**
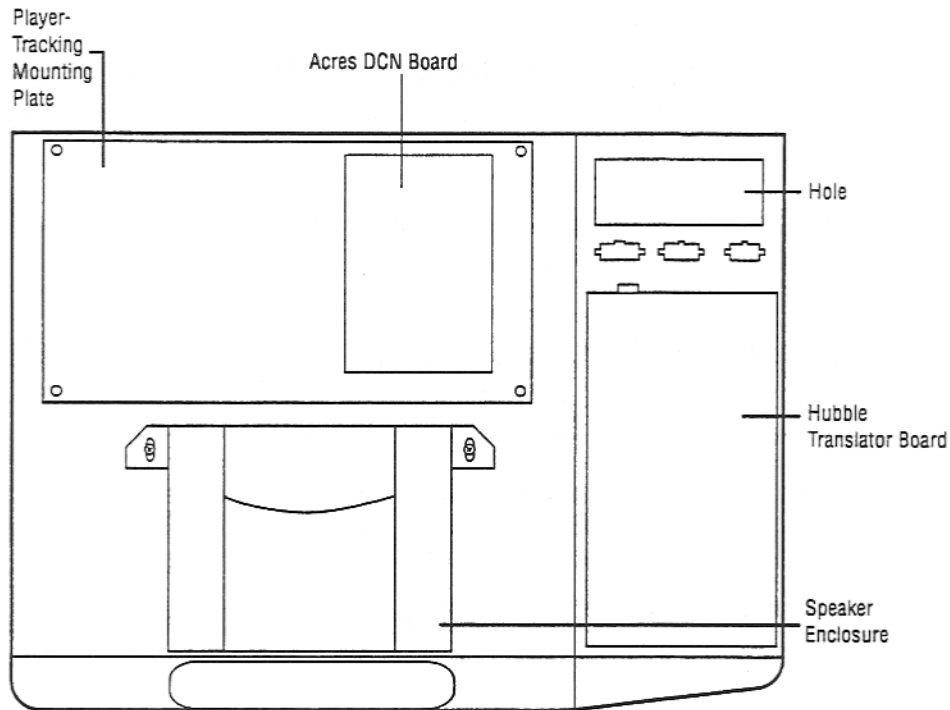
Top View of Slot Machine

4. Refer to Table 3-26 and make the following discrete signal connections:

Table 3-26   **Acres Rio Discrete Signal Connections**

Signal	From	To
Discrete door signals	GPIO port P37	Hubble connector J2
Card reader interface	Rio card reader	Acres DCN connector DB15
Rio display interface	Acres DCN connector DB15	Rio display

Tip: Cables between the slot machine and the Hubble translator board have already been plugged into the appropriate connectors at the factory.

5. Refer to Table 3-27 and make (or verify) the following serial data signal connections:

Table 3-27   **Acres Rio Data Signal Connections**

Signal	From	To
Serial data interface	GPIO port P36	Hubble connector J8
Serial data interface	Hubble connector J16 and Hubble connector J3 (network power)	Acres DCN connector DB37

6. Open the belly door and currency column door. Refer to "Opening the Belly Door" on page 2-9 and "Opening the Currency Column Door" on page 2-8.

7. Route the slot line cables from the Acres DCN board, behind the monitor, and down to the drop hole in the bottom of the machine. To do this, you may have to pull out the display monitor chassis. If so, refer to "Removing the Display Monitor Chassis" on page 2-16.

8. Refer to Table 3-28 and make the following slot line connection:

Table 3-28   **Acres Rio Slot Line Connection**

Signal	From	To
Serial data interface	Acres DCN connector DB37	Slot line

9. Refer to Table 3-29 and make the following power connections:

◆ *Warning:* Verify all player tracking connections are secure before you plug the power cable into the Hubble translator board.

Table 3-29   **Acres Rio Network Power Connections**

Signal	From	To
9Vdc	Hubble connector J3	Acres DCN connector DB37
110Vac	Odyssey unswitched power supply	Hubble connector J4

10. When the Hubble translator board is installed, you can verify that the board is communicating with the slot machine and the network board by checking that the LEDs at the Hubble board locations listed below are flickering.

Communication	Hubble Board LED Locations
Odyssey to Hubble	D15, D18
Hubble to Acres DCN board	D11, D12

11. Install the top cap. Refer to "Installing the Top Cap" on page 2-16.

12. Configure the MMS for the Rio casino network. See "Configuring Slot Accounting" on page 4-21.

Powering Up the Slot Machine

After you have installed the slot machine and completed the preliminary set-up, you are ready to power up the slot machine as described in the following steps. If you are unable to get the machine to boot or if other problems are apparent, such as a blank display screen, refer to Chapter 9, "Component Replacement: Display Hardware."

1. Plug the power cable from the slot machine into a grounded 115 Vac power source.

2. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

3. Pull the door-switch button out (toward you) as far as it will go. The switch will remain in this position, simulating a door-closed condition.

4. Flip the power switch for the slot machine, located on the AC panel behind the currency column door, to the On position.

5. Verify that the following events occur:

   ◆ The fluorescent lamp on the belly door is lit.

   ◆ The bill acceptor goes through a power-up sequence of the motor cycling through a "run-and-stack" operation as if it were accepting a bill.

   ◆ A stable picture of the Silicon Gaming logo is displayed on the monitor.

   ◆ The diagnostic display goes through a sequence of codes, ending, after approximately two minutes have elapsed, at 9999.

      If the display doesn't stabilize at 9999, record the number shown on the diagnostic display and refer to Table 8-1, "Machine Events and Action(s) Required to Clear Them," on page 8-6 to determine the cause of the tilt event.

   ◆ After "9999" is displayed, the Game Menu or the previous game state should be displayed on the display monitor.

6. Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

7. Perform the procedure described in "Verifying Hardware Functionality" on page 3-32.

Verifying Hardware Functionality

Once you have completed installation, you should verify that all major components are functioning properly before configuring or operating the machine. Testing and calibration of hardware components is accomplished using the online **Diagnostics** page of the Machine Management System (MMS).

To invoke the MMS from either a game or the Game Menu, perform the following steps:

1. Invoke the MMS and access the **Diagnostics** page. Refer to "Invoking the MMS" on page 2-23.

2. Verify that all major hardware components are functioning properly by performing each test on the **Diagnostics** page. The sections that follow describe each test.

3. Exit the MMS. Refer to "Exiting the MMS" on page 2-25. To return to the machine's previous state, ensure that all machine doors are closed.

   *Note:* When you exit the MMS, the slot machine returns to the state it was in before you invoked the MMS.

4. If the diagnostic tests indicate that the machine hardware is functioning properly, proceed to Chapter 4, "Configuring the Slot Machine."

    If any of the tests fail to complete successfully, proceed to Chapter 8, "Diagnostics and Troubleshooting."

Determining the Status of the System

If there are tilt or stoppage conditions, a set of messages about the current status of the system cycles at the top of the page. See Figure 3-21.

Figure 3-21   **Status Line**
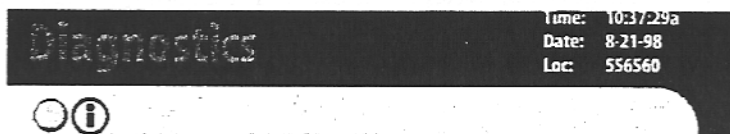
To view all the messages in a list, touch the button to the left of the *i*.

Checking for Valid Software

The *System Checks* scroll box shows whether the installed software is valid. Software includes Boot ROM, Safe RAM, configuration EEPROM, and system software. See Figure 3-22.

Figure 3-22   **System Checks**

The system automatically performs all the tests in the scroll box. If a test fails and you want to retest, press the *Launch Tests* button.

Viewing Component Version Numbers

Touch the button to the left of *Display Component Version Information*. See Figure 3-23.

Figure 3-23   **Component Version Numbers**

> ⬤ **Display Component Version Information**

A list of the version numbers of installed software components is displayed. Versions are included for BIOS, OS, MMS, Play Stoppage, Game Menu, and all installed games.

Figure 3-24   **Component Version List**

Component Version Information

|	
BIOS BOOT ROM	Tucson version 1 checksum 0x5587
O/S	O/S version 05.99.03 - checksum 0x82b2
/4.512/MINT/MINT.MB	US Mint version 01.00.00
/4.512/PBELLE/PBELLE.MB	Phantom Belle version 03.99.01
/4.512/DAZZLING/DAZZLING.MB	Dazzling Diamonds version 03.99.01
/4.512/MMS/MMS.MB	Machine Management System version 03.99.01
/4.512/NAV/NAV.MB	System Navigator version 03.00.00
/4.768/SYSTEM/SYS.MB	System version 03.00.00
/4.768/APP/APP.MB	App System version 01.00.00
/4.768/BIGWIN/BIGWIN.MB	The Big Win version 01.00.00
/4.768/TOPHAT/TOPHAT.MB	TopHat 21 version 03.99.01
/4.768/BUCGOLD/BUCGOLD.MB	Buccaneer Gold version 03.99.01
/4.768/STOPPAGE/STP.MB	Game Stoppage version 03.00.00

OK
✓

Note: This operation takes 20 to 30 seconds.

Testing the Hopper or Ticket Printer

Depending on whether a hopper or a printer is installed, the Hopper or Printer dialog box is displayed in the lower-left corner of the screen.

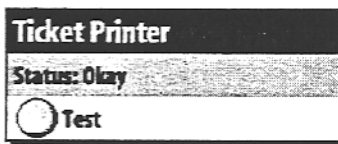To test the hopper, touch the *Pay 10 Coins* button, shown in Figure 3-25.

Figure 3-25   **Hopper Dialog Box**
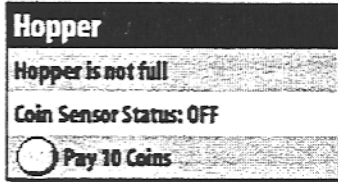
Ten coins are dispensed and the status of the hopper-full sensor and the coin sensor are displayed.

To test the ticket printer, touch the *Test* button, shown in Figure 3-26.

Figure 3-26   **Ticket Printer Dialog Box**

The printer prints a test ticket with the printer's firmware and the character set.

Testing the Image Color

To test the vertical and horizontal display, contrast, and brightness, touch the *Test* button in the lower-left corner of the screen. See Figure 3-27.

Figure 3-27   **Test Display**

A color test screen displays. For alignment and calibrations procedures, see "Aligning and Calibrating the Display Monitor Image" on page 9-24.

Testing the Service Candle

To test the service candle, touch the *Test Candle* button, shown in Figure 3-28.

Figure 3-28   Test Candle

All four service candle lamps flash on and off in sequence to verify they are functioning correctly.

Testing the Audio

To test the audio, touch the *Test Audio* checkbox, shown in Figure 3-29.
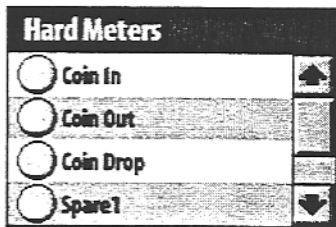
Figure 3-29   Test Audio

A sample sound plays through the speakers. To test the volume, drag the slider back and forth.

Testing the Hard Meters

Touch each of the buttons in the Hard Meters dialog box. If available, touch the scroll bar to display other meters. See Figure 3-30.

Figure 3-30   Hard Meters

The corresponding hard meter increments by one to verify it is functioning correctly.

Testing the Bill Acceptor

To verify that the bill acceptor is accepting and correctly determining the denomination of bills, check the status in the Bill Acceptor dialog box. See Figure 3-31.

Figure 3-31   **Bill Acceptor Dialog Box**

Bill Acceptor
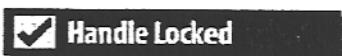Status: Device working
◯ Calibrate
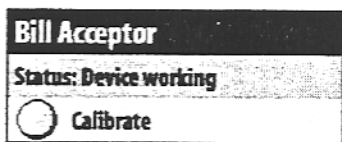
If the status suggests calibration, touch the *Calibrate* button and feed special calibration paper into the acceptor.

Testing the Slot Handle

To test the locking and unlocking of the slot handle, touch the *Handle Locked* checkbox. See Figure 3-32.

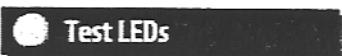*Figure 3-32*   **Slot Handle Test**

✔ **Handle Locked**

When the handle is unlocked and pulled, the display shows the change in the handle position.

Testing the LEDs

To test the LEDs, touch the *Test LEDs* button. See Figure 3-33

*Figure 3-33*   **LEDs Test**

● **Test LEDs**

The credit and the diagnostic LED lights come on to verify that they are functioning. When the tests are completed, the original values are restored.

Testing the Coin Path

To verify operation of the coin acceptor, perform the following steps:

1. After touching the checkbox and button in the Coin Path dialog box shown in Figure 3-34, insert a coin of the correct denomination into the coin head.

   Figure 3-34   **Coin Path Dialog Box**
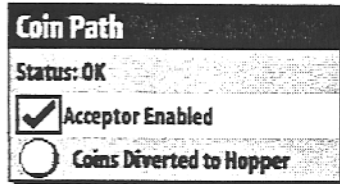
   Each time you touch the *Acceptor Enabled* checkbox, one of the following occurs:

   ♦ A check mark is displayed in the checkbox and the green light on the coin acceptor turns on.

   ♦ The check mark clears from the button and the green light turns off.

   Each time you touch the round button, one of the following occurs:

   ♦ The button name changes to *Coins Diverted to Drop*.

   ♦ The button name changes back to *Coins Diverted to Hopper*.

   Note when the number for *Coin Path* increments.

2. Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

3. Refer to Table 3-30 and perform each of the four tests in the table as follows:

   a. Touch the *Acceptor Enabled* button until you receive the result listed in the Acceptor Enabled Button column.

   b. Touch the *Coins Diverted* button until the *Coins Diverted* label changes to the label listed in the Coins Diverted column.

   c. Insert a coin in the coin acceptor. The coin acceptor passes the test if you receive the valid test result indicated in Table 3-30.

   Table 3-30   **Coin Acceptor Tests**

Test	Acceptor Enabled Button	Coins Diverted	Valid Test Result
1	Contains check mark	to Hopper	Coin is accepted. *Coin Path* increments by one.
2	Contains no check mark	to Hopper	Coin drops into coin tray. *Coin path* does not increment.
3	Contains check mark	to Drop	Coin drops into drop area. *Coin path* increments by one.
4	Contains no check mark	to Drop	Coin drops into coin tray. *Coin path* does not increment.

Testing the Touchscreen

To verify that the touchscreen is operating correctly, refer to Figure 3-35 and the procedure described in "Calibrating the Touchscreen" on page 9-40.

Figure 3-35 Touchscreen Dialog Box
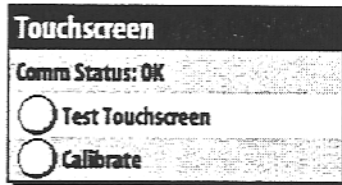
Testing the Mechanical Buttons

To test a mechanical button, press one of the mechanical buttons on the bezel. The button light is illuminated, and the corresponding light in the diagram on the **Diagnostics** page turns on.

Testing the Change and Cash/Credit Buttons

To test, press the *Change* or *Cash/Credit* button on the machine. The button light is illuminated and the corresponding light in the diagram on the **Diagnostics** page turns on.

Testing a Door Sensor

Open any of the machine doors or the remove the currency cartridge. A message is displayed in the diagram. Figure 3-36 shows an example.

Figure 3-36 Door Open Message