

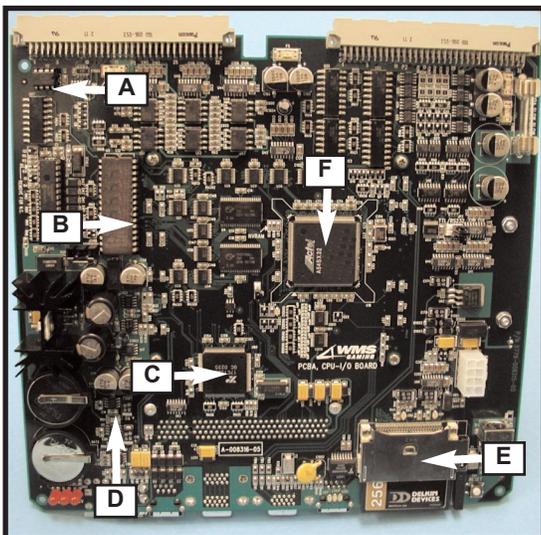


PARTS AND TOOLS NEEDED	<input checked="" type="checkbox"/> CPU-NXT Upgrade Kit	MODEL(S) AFFECTED	550, 3601	
	<input checked="" type="checkbox"/> OS, Game, and RAM Clear CompactFlash™ cards & EPROMs		UNIT AFFECTED	Software/CPU
	<input checked="" type="checkbox"/> EPROM extraction tool			THEME
	<input checked="" type="checkbox"/> ESD wrist strap		ESTIMATED TIME	
<input checked="" type="checkbox"/> ESD mat				
<input checked="" type="checkbox"/> 3/16", 11/32", 7/16", and 7/8" nut drivers				

Installing the CPU-NXT (A-008316-xx)

WMS Gaming Inc. is introducing a new upgrade to the electronic hardware and software for the Upright (550) and Slant Top (3601) models. The custom electronic circuit board mates with the existing cabinet backplanes and supports most existing peripherals, such as the Coin Acceptor, Bill Acceptor, and Hopper. The CPU-NXT board (A-008316-xx) supports the original complement of existing I/O such as lamps, player panel buttons, bell, knocker, and key switches.

The CPU-NXT upgrade approach allows games currently in the field to utilize just the new hardware and software, which offers casino operators the opportunity to enhance an existing product without having to incur the cost of a new game.



CPU-NXT (A-008316-xx)

- A - Jurisdictional ID Chip
- B - BIOS EPROM
- C - OCTAL UART
- D - NVRAM
- E - Compact Flash Drive
- F - Custom Logic Device

This bulletin details the installation and configuration of CPU-NXT on the Upright (550) and Slant Top (3601) models, which utilize the CPU board.

This bulletin also includes the steps for installing the EMI In-Line Power Filter kit and the Belly Door Interlock Switch Kit (for 550 models only). The In-Line Power Filter kit, which is available for both 110-120V and 220-240V games, protects the CPU boards from electrical fast transients. The Belly Door Interlock Switch allows for the monitoring of the Belly Door switch.

Reference the *Part Number Information* section on page 2 for kit part numbers, as well as information on additional parts that may be required for the upgrade.

IN THIS BULLETIN	Part Number Information	2
	Replacing the Host Communication Cable(s)	3
	Installing the In-Line Power Filter Kit	4
	Removing the Card Cage Door and Boards	6
	Installing the Belly Door Interlock Switch (550)	7
	Preparing for Procedure	11
	Installing the CPU Board	12
	Performing a RAM Clear	13
	Installing Game Software & New Card Cage Door	14
	Configuring the Game	15
	Calibrating the Touch Screen	16
	Setting the Game Denomination	18
	Setting the Paytable(s)	19
	Setting Devices	20
Setting the Max Bet	20	
Setting the Date and Time	21	
Setting the Comm	23	
Comm Field Definitions	24	
Setting Machine Info	25	
Configuring the Game - Setting the Volume	26	
Software Configuration Pending Tilts - Reference	27	
Beginning Game Play	27	



Part Number Information

Prior to beginning the CPU-NXT installation, ensure the correct kit and other required parts are available. The kit type required depends on the legacy model you are upgrading, the available voltage in the installation region, and the game theme, as some themes require the 512 MB RAM CPU to operate.

CPU-NXT Kits	
WMS Part Number	Description
A-011548-00-00	Kit: CPU-NXT Upgrade (550 - 110V); 256 MB RAM CPU
A-011548-00-01	Kit: CPU-NXT Upgrade (550 - 220V); 256 MB RAM CPU
A-011548-00-02	Kit: CPU-NXT Upgrade (3601 - 110V); 256 MB RAM CPU
A-011548-00-03	Kit: CPU-NXT Upgrade (3601 - 220V); 256 MB RAM CPU
A-011548-00-04	Kit: CPU-NXT Upgrade (550 - 110V); 512 MB RAM CPU
A-011548-00-05	Kit: CPU-NXT Upgrade (550 - 220V); 512 MB RAM CPU
A-011548-00-06	Kit: CPU-NXT Upgrade (3601 - 110V); 512 MB RAM CPU
A-011548-00-07	Kit: CPU-NXT Upgrade (3601 - 220V); 512 MB RAM CPU

Parts included in all CPU-NXT Kits	
A-008316-xx	CPU Board, rev. xx
H-008680-02	DC power cable
5556-006347-00	Torroid: large hex
02-4640	Spacer: 4-40 MF hex threaded (2)
A-010433	Card Cage door assembly

Additional Parts

Please note that additional parts are required to install CPU-NXT. All software must be ordered separately, as there are a variety of theme and jurisdiction-dependent aspects that affect the ordering process. If the model being upgraded utilizes a hinged Card Cage door, a replacement door (01-010729) must be ordered. Reference *page 6* for more information and photos of the two existing Card Cage door styles.

Up to three cables are installed when upgrading to CPU-NXT. The existing Bill Validator Interface cable, H-005564-01 (550) or H-005698-01 (3601), is replaced to address false tilt conditions on both legacy platforms. If upgrading a ticket in/ticket out printer legacy game, the legacy game host communication cable, H-005746-03 (550) or H-005745-02 (3601), is removed from the game. This harness is replaced by two cables on the 550 model and a single cable in the 3601. See *page 3* for detailed information on installing the new cables.

Parts that vary by kit type	
H-005564-01	Cable: Universal Bill Validator Interface (550)
H-005698-01	Cable: Universal Bill Validator Interface (3601)
A-004367	Kit: Belly Door Interlock Switch (550 kits ONLY)
A-010368-00	Kit: 110 - 120V In-line power filter (see kit parts below)
A-010368-01	Kit: 220 - 240V in-line power filter (see kit parts below)
01-010011	Bracket: EMI filter mouting
5102-009216-00	Filter: EMI in-line power filter
4408-01128-00	8-32 keps (2)
5850-009386-00	Shielded line cord (110-120V kit)
5850-010590-00	Shielded line cord (220-240V kit)
16-002040-00	Caution label (for line cord)

Parts to be ordered separately, if applicable	
01-010729	Card Cage door (hinged door), if required
H-010266-00	Cable: Dual host communication (550 and 3601)
H-006846-01	Cable: Printer/Hopper (550 ONLY)
vary by theme, version, and jurisdiction	CPU-NXT RAM Clear CF Card
	CPU-NXT OS CF Card
	CPU-NXT Game CF Card
	CPU-NXT BIOS EPROM
	CPU-NXT Jurisdictional ID Chip



Replacing the Host Comm and Bill Validator Cable



CAUTION

Disconnect the power supply cord from the outlet before servicing to avoid electrical shock.

Complete the following steps to replace the legacy cables. The Bill Validator cable replacement is required, while the Host Comm cables depend on the current configuration of the game:

1. Unlock and open the Main Door.
2. Turn the game power off at the PDU and disconnect the game from the outlet.
3. On the 550, remove the Coin Tray and Hopper. On the 3601, lift and slide the coin chute towards you, **Image 1**.
4. Disconnect the existing Bill Validator Interface cable, H-005564-00 (550) or H-005698-00 (3601). This cable is no longer needed.
5. Disconnect the existing Host Comm cable, H-005745-03 (550) or H-005745-02 (3601). This cable is no longer needed.
6. Connect the new cables as follows:

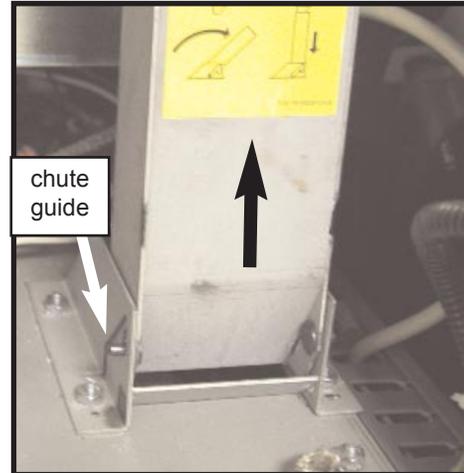


Image 1. Lift and slide the coin chute down the guide, leaning the chute towards you as shown on the label.

550 cables	
Bill Validator Interface cable, H-005564-01	
P1	BILL VALIDATOR on Backplane, Image 2 (A)
P2	Bill Validator Door switch:
fast-on: black/orange wire	NC1 terminal
fast-on: black/gray wire	COM1 terminal
P3	12V DC power supply on PDU
P4	Player Tracking System (not to the Cashbox Missing switch)
P5	Bill Validator connector
Printer/Hopper cable, H-006846-01	
P1	PRINTER/HOPPER on Backplane, Image 2 (B)
P2	Hopper
P3	Printer
3601 Bill Validator Interface cable, H-005698-01	
P1	BILL VALIDATOR on Backplane
P2	12V DC power supply on PDU
P3	Slant Hatch Door switch:
fast-on: black/green wire	NC1 terminal
fast-on: black/gray wire	COM1 terminal
P4	Bill Validator Door switch:
fast-on: black/orange wire	NC1 terminal
fast-on: black/gray wire	COM1 terminal
P5	Cashbox Missing switch, if used:
fast-on: black/brown wire	NC1 terminal
fast-on: black/gray wire	COM1 terminal
P6	Bill Validator connector
Dual Host Comm cable, H-010266-00 (550 and 3601)	
P1	Primary host
P2	Secondary host
P3	HOST COMM on Backplane, Image 2 (C)

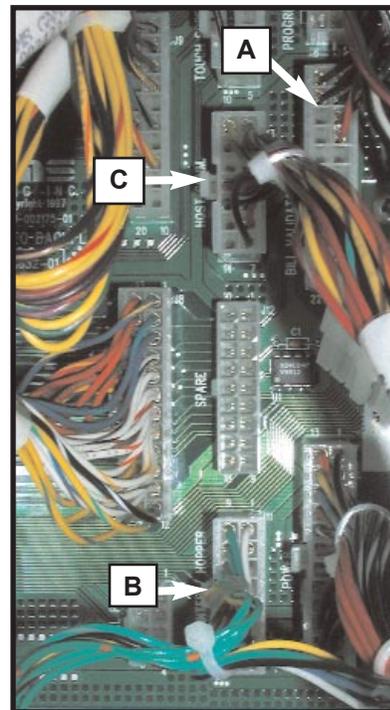


Image 2. Dual Host Comm and Printer/Hopper cables installed (550).



Installing the In-Line Power Filter Kit

Complete the following steps to install the in-Line power filter kit:

1. Disconnect and remove the existing 24-pin DC power cable (H-17965-00) from the PDU and the Backplane. This power cable is no longer needed.
2. Using an $1\frac{1}{32}$ " nut driver, mount the power filter onto the mounting bracket using the two 8-32 hex nuts included in the kit, **Image 3**. For the 550, mount the filter so the filter line cord is on the side with the open slot. For the 3601, mount the filter so the line cord is on the side with the closed slot, **Image 8** on page 5.
3. Unplug and remove the game line cord from the outlet and PDU. The game line cord is replaced with a shielded line cord included in the in-line power filter kit.
4. Verify that the shielded line cord (5850-009386-0x) is equipped with the necessary Caution label (16-002040-00). If not, adhere the label (included in kit) to the line cord within a foot of the outlet plug, **Image 4**.
5. Plug the shielded line cord from the kit into the outlet and route into the game.
6. On the 550 (see step 7 for the 3601):
 - a. Using the $1\frac{1}{32}$ " nut driver, loosen the back left captive hex nut securing the cable clamp, **Image 5**.
 - b. Using the $1\frac{1}{32}$ " nut driver, remove the front left captive hex nut securing the cable clamp, **Image 5**.
 - c. With the open slot, **Image 3**, and line cord facing the back of the cabinet, slide the filter mounting assembly onto the back stud and over the front stud. On the back stud, ensure the mounting bracket is under the cable clamp.

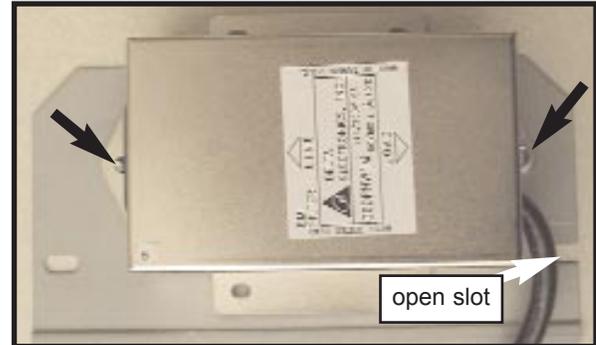


Image 3. In-line power filter secured to mounting bracket with two hex nuts (550).

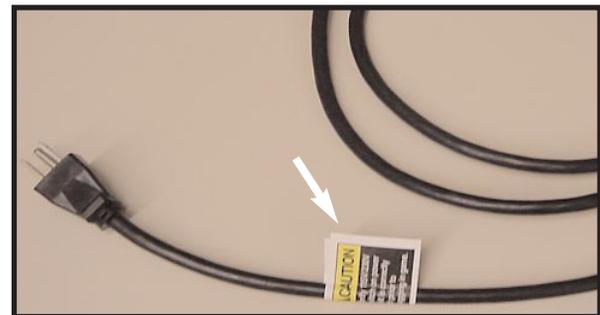


Image 4. Outlet line cord caution label.

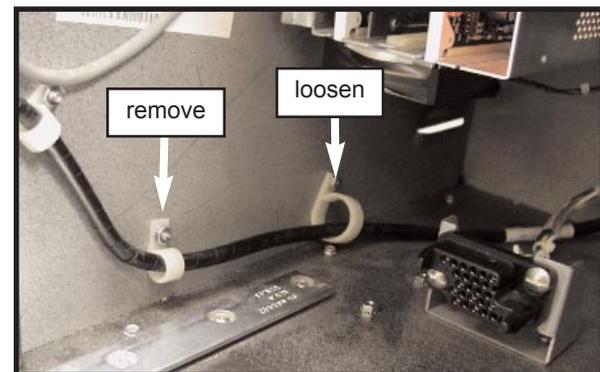


Image 5. Captive hex nuts to loosen and remove (550).



Installing the In-Line Power Filter Kit, cont.

d. Tighten the back captive hex nut and replace the front captive hex nut.

e. Plug the shielded line cord (from the outlet) into the line cord receptacle connector on the power filter, **Image 6**.

f. Route both line cords through the plastic cable clamp, **Image 6**. Ensure the outlet line cord is routed behind the Hopper blind-mate connector and does not block the Hopper guide rail.

g. Replace the Coin Tray and Hopper.

7. On the 3601:

a. Using the $1\frac{1}{32}$ " nut driver, loosen and remove the two existing captive hex nuts, **Image 7**.

b. Mount the power filter assembly over the two available studs, **Image 7 and Image 8**.

c. Secure the assembly by reusing the two captive hex nuts.

d. Plug the shielded line cord (from the outlet) into the line cord receptacle connector on the power filter, **Image 9 (A)**. Route the line cord through the wire duct, exiting the duct close to the filter (**B**).

e. Plug the power filter line cord into the line cord socket on the PDU, **Image 9 (C)**.

g. Lift and slide the Coin Chute to its initial position.

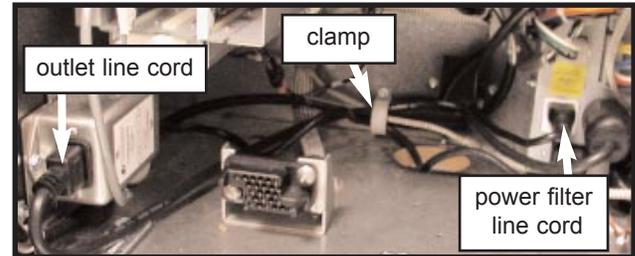


Image 6. In-line power filter connected (550).

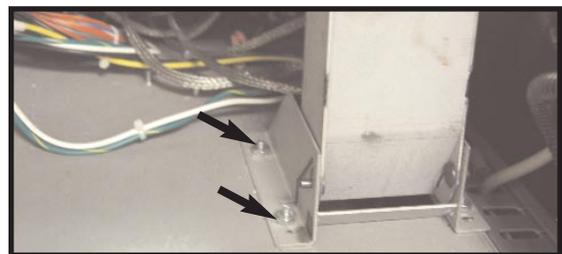


Image 7. Two captive hex nuts to remove (3601).

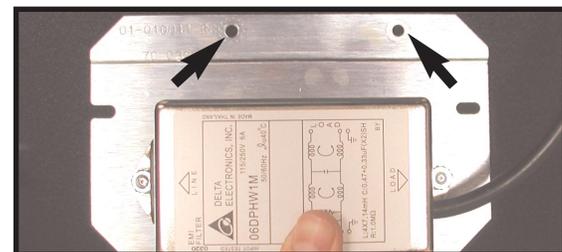


Image 8. In-line power filter assembly. Two holes mount over available studs (3601).

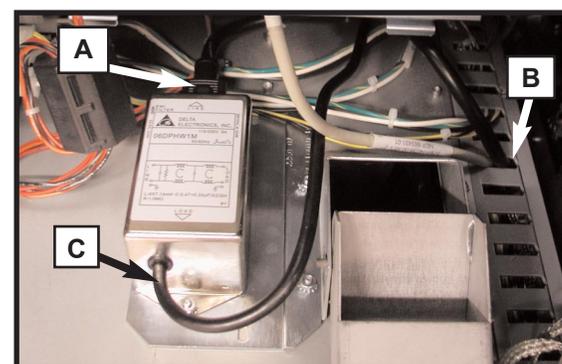


Image 9. In-line power filter Installed (3601).



Removing the Card Cage Door and Boards

Due to a variation in the Card Cage door design, a different door may be required for the installation of CPU-NXT. Some Card Cages may feature a hinged Card Cage door, **Image 11**.

If unsure which Card Cage door is used on this game, identify the Card Cage door by comparing it to **Image 11** and **Image 12**, and by completing the following steps to inspect and then remove the Card Cage door and boards:

1. Verify that game power is off.
2. Disconnect the video cable, **Image 10a** (550) or **Image 10b** (3601).
3. Unlock and open the Card Cage.
4. Inspect the Card Cage door.
 - a) If the door is of the hinged style, **Image 11**, you must order a replacement door (P/N 01-010729). Continue to **step 5a** for removal instructions.
 - b) If the door is the standard door, **Image 12**, continue to **step 5b**.
5. Remove the Card Cage door:
 - a) Using an $1\frac{1}{32}$ " nut driver, remove and save the two captive Keps nuts securing the door to the hinge bracket, **Image 11**. The two Keps nuts will be reused in the installation of the new CPU-NXT door.
 - b) Lift the door and slide it towards you to remove it from the game.
6. Remove the existing CPU and I/O boards. These two boards will be replaced by a CPU-NXT (A-008316-xx).
7. If applicable, remove the lock from the door and save for reuse on the new door.

The new CPU-NXT door is installed later in these procedures.

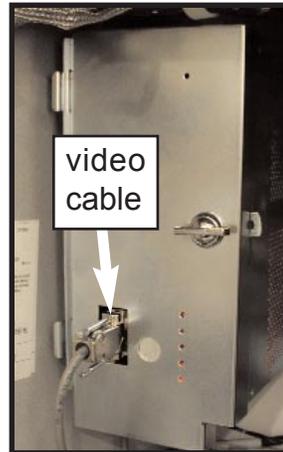


Image 10a. Card Cage and video cable (550)



Image 10b. Card Cage and video cable (3601).



Image 11. Two captive KEPS nuts to remove.

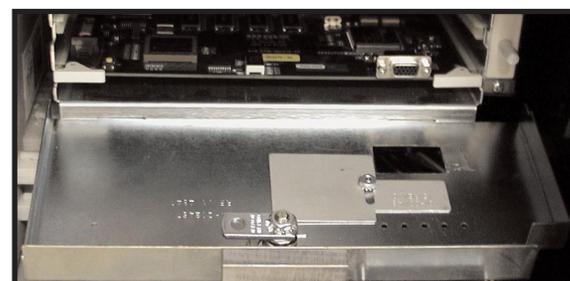


Image 12. Unhinged (standard) door.



Installing the Belly Door Interlock Switch (550 ONLY)

1. Install the Belly Door interlock switch (P/N 5643-14246-00) into the switch holder of the Belly Door Switch Mounting Bracket (P/N 01-004352), **Image 13**.
2. Install the Actuator (P/N 03-004353) over the Belly Door switch mounting bracket Actuator pin, **Image 13**. Ensure the flat portion of the Actuator faces the front.
3. Verify the game power is off and the game is not plugged into an outlet.
4. Open the Main Door.
5. From the inside of the Main Door, remove self-tapping screws that secure the Coin Mechanism cable clamps, **Image 14**.
6. Pull down the Bill Validator handle, **Image 15**, and slide the acceptor out of the game.
7. Unlock and open the Bill Validator housing and remove the Cash Box.
8. Using a Phillips screwdriver, remove and save the four Phillips screws securing the Bill Validator inner chassis, **Image 16**.

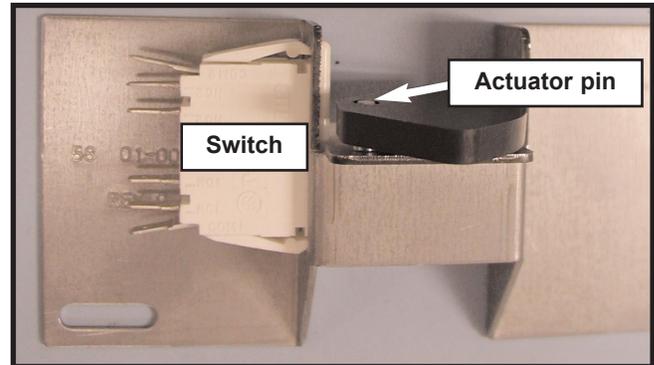


Image 13. Belly Door interlock switch and actuator on mounting bracket.

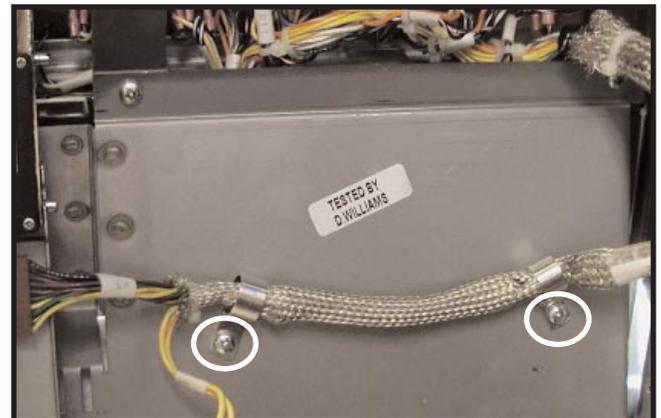


Image 14. Two screws to remove.



Image 15. Removing the Bill Validator.



Image 16. Four Phillips screws to remove.



Installing the Belly Door Interlock Switch (550 ONLY), cont.

9. Lift the Bill Validator inner chassis up and place to the side, **Image 17**, to access the Main Door Interlock Switch. You may leave the Bill Validator connected.
10. Disconnect the existing Main Door interlock switch terminals, **Image 18**.
11. Route the end of the Belly Door switch harness with four connectors towards the Main Door interlock switch.
12. Connect the Belly Door Interlock switch harness, **Image 19**, as follows:
 - a) Pink connector (black wire) to the top (COM1) terminal on the Main Door interlock switch, **Image 19, 20 (A)**.
 - b) Pink connector (red wire) to the second from top (NC1) terminal on the Main Door interlock switch, **Image 19, 20 (B)**.
 - c) Red connector (red wire) to vacated pink connector (black/gray wire), **Image 19, 20 (C)**.
 - d) Red connector (black wire) to vacated pink connector (black wire), **Image 19, 20 (D)**.

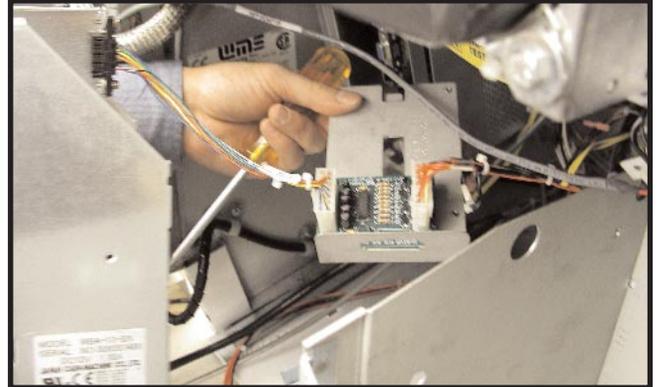


Image 17. Placing the Bill Validator RS232 board and housing to the side.

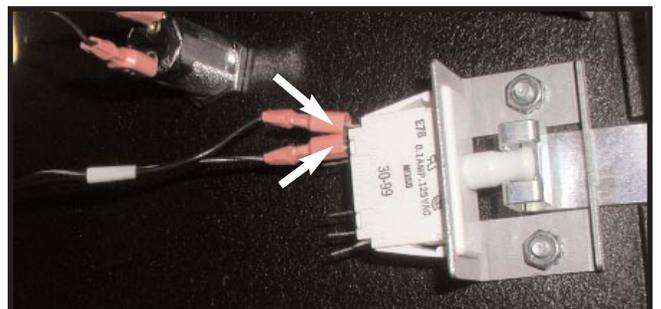


Image 18. Main Door interlock switch terminals to disconnect.

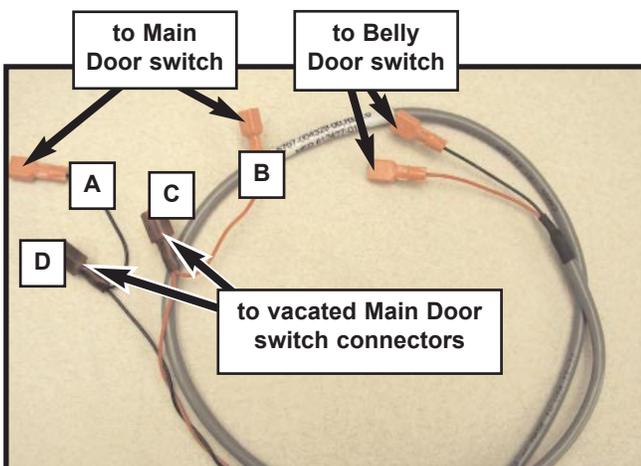


Image 19. Belly Door switch harness (P/N 5797-004329-00).

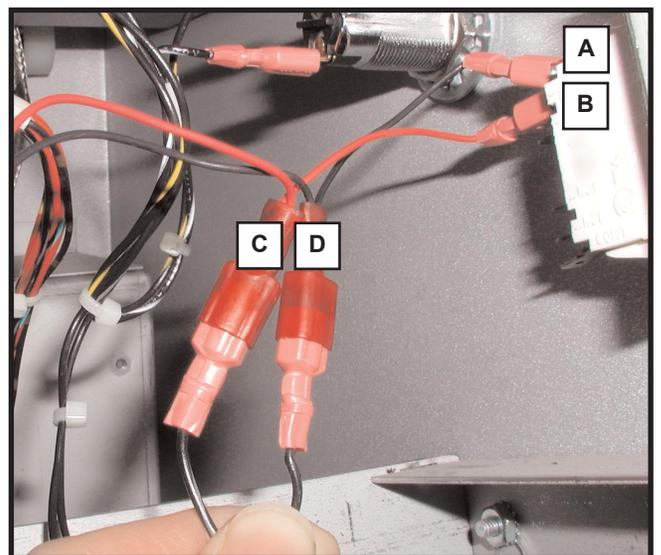


Image 20. Connecting the belly door switch harness.



Installing the Belly Door Interlock Switch (550 ONLY), cont.

13. Route the switch harness through the three existing plastic cable clamps towards the Belly Door, **Image 21**.
14. Using an $1\frac{1}{32}$ " nut driver, loosen the door hinge cable clamp and route the switch harness through the clamp, **Image 22**.
15. Route the switch harness through the opening between the barrier panel and door hinge, **Image 22**.
16. Replace the screw securing the door hinge cable clamp.
17. Unlock the Belly Door and pull the latch pin, **Image 23**, to release the door.

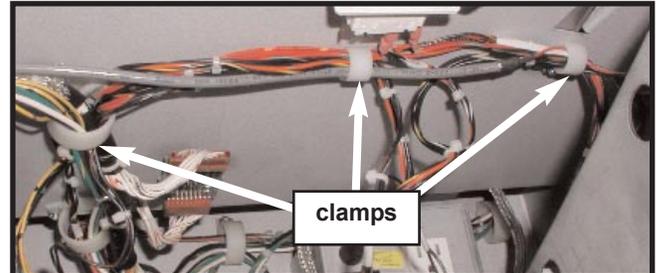


Image 21. Routing the belly door switch harness through three existing cable clamps.

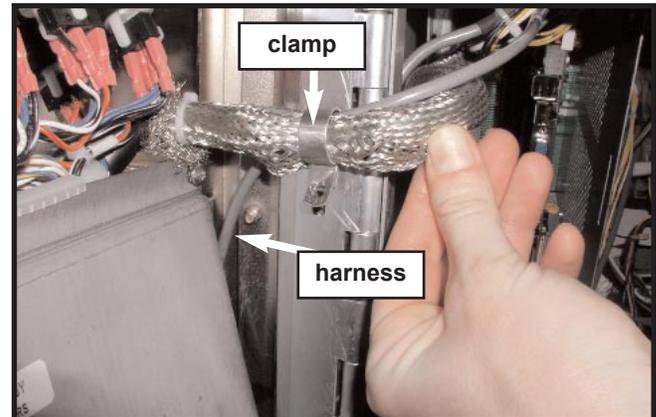


Image 22. Routing the Belly Door switch harness through the door hinge cable clamp.



Image 23. Opening the Belly Door.



Installing the Belly Door Interlock Switch (550 ONLY), cont.

18. Mount the Belly Door interlock switch bracket using the two Phillips screws included in the kit, **Image 24**. Ensure the bracket is oriented as shown--with the Actuator facing upward.
19. From the inside of the Main Door, use an $1\frac{1}{32}$ " nut driver to secure the Coin Mech cable clamps to the mounting with the two captive Keps nuts included in the kit, **Image 25**.
20. Connect the harness to the switch. The black wire connects to a COM terminal; the red wire connects to an NC terminal, **Image 24**.
21. Close and lock the Belly Door.
22. Replace the Bill Validator housing and secure with the saved four Phillips screws.
23. Replace the cash box and Bill Validator.

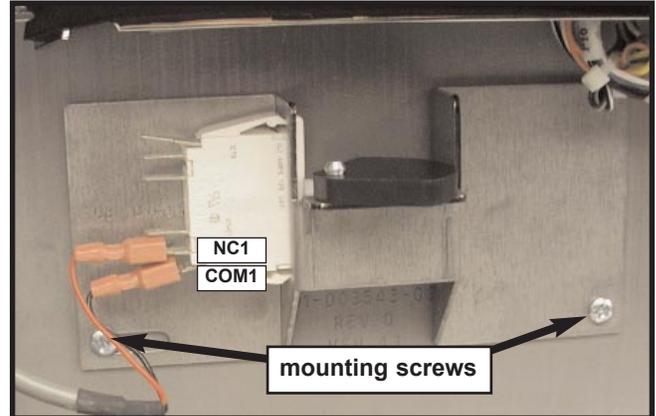


Image 24. Belly Door interlock switch installed.

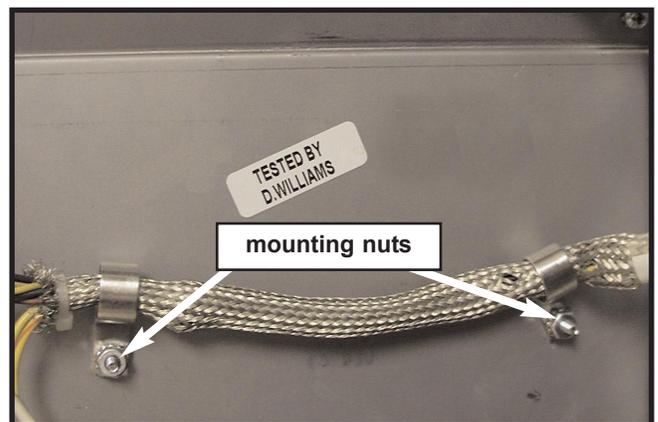


Image 25. Two Keps nuts, inside of Main Door.



Preparing for Procedure



ELECTROSTATIC DISCHARGE (ESD) WARNING

Electrostatic discharge (ESD) damage causes complete and/or intermittent failures to video game components. Take all necessary precautions to avoid damage.

Use the following anti-static steps before proceeding.

1. Fasten the ESD wrist strap on arm and ensure that it makes good skin contact, **Image 26**.
2. Connect the clip end of the strap to a ground point.
3. Remove the CPU board (A-008316-xx) from anti-static packaging and place directly on ESD mat.
4. Install the Jurisdictional ID (SPI) chip at U2 and the BIOS EPROM at U3, **Image 27**. Ensure the notch in the EPROM and ID chip are properly aligned with the notches on the sockets.
5. If not already installed, use a $\frac{3}{16}$ " nut driver to install the two 4-40 hex spacers (P/N 02-4640) onto the Primary VGA connector, **Image 24**. These spacers secure the video cable connection to the CPU board later in this bulletin.

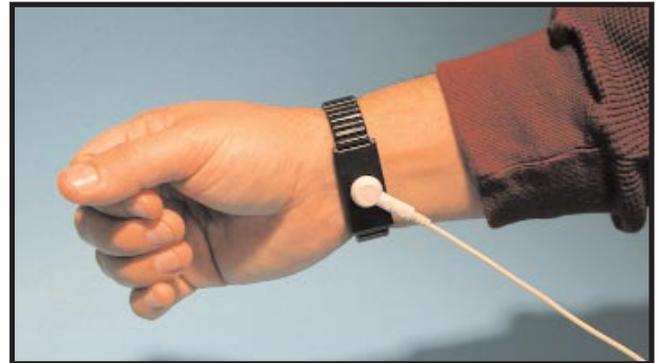


Image 26. ESD strap on arm.

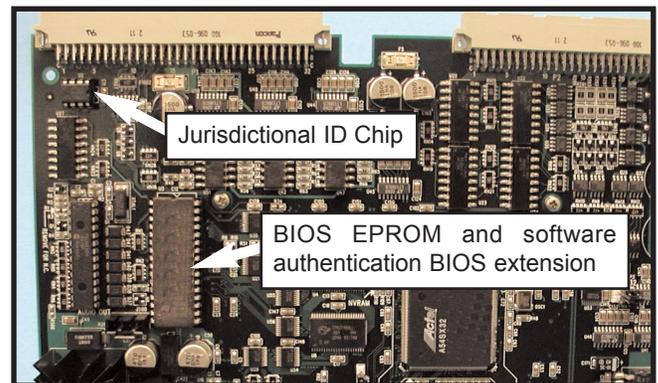


Image 27. EPROMs installed.

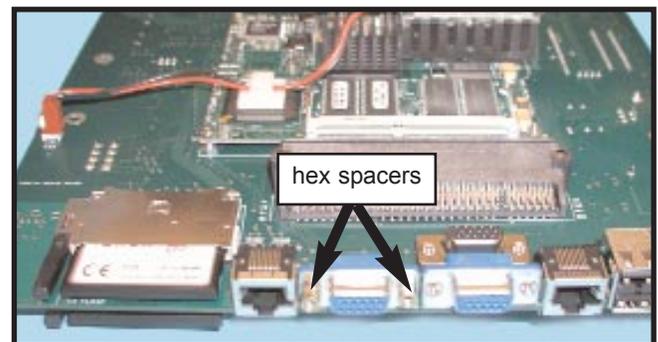


Image 28. Board hex spacer locations.



Installing the CPU Board

1. On the 550, install the CPU board (A-008316-xx) securely in the right-most slot, (formerly I/O) in the enclosure, **Image 29a**. On the 3601, install the CPU board in the top (formerly I/O) slot, **Image 29b**.
2. Install the new DC power cable (H-008680-02) by connecting P1 to the 24-pin connector on the PDU; P2 to the 24-pin Power connector on the Backplane; and the P3 into the 6-pin connector on the CPU board, **Image 30**.
3. Install the ferrite (5556-006347-00) as close as possible to the P3 (6-pin) connector on the new DC power cable (H-008680-02). Wrap the cable around the ferrite three turns (four passes) and close the ferrite. Once installed, the ferrite hangs at the CPU connector or directly outside the card cage door.
4. Reconnect the video cable to the primary VGA CPU board connector (bottom connector on the 550 and right on the 3601), **Image 30**.



Image 29a. CPU board installed (550).

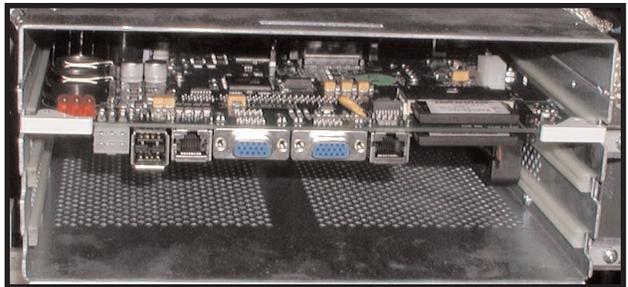


Image 29b. CPU board installed, (3601).

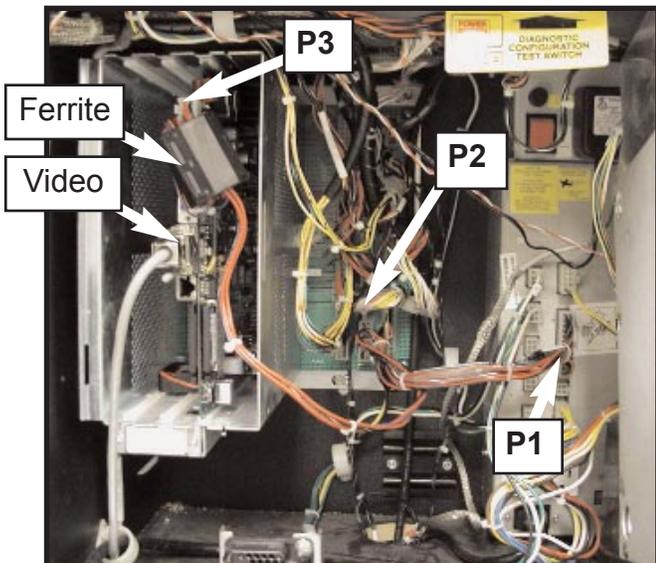


Image 30a. DC power cable installed (550).

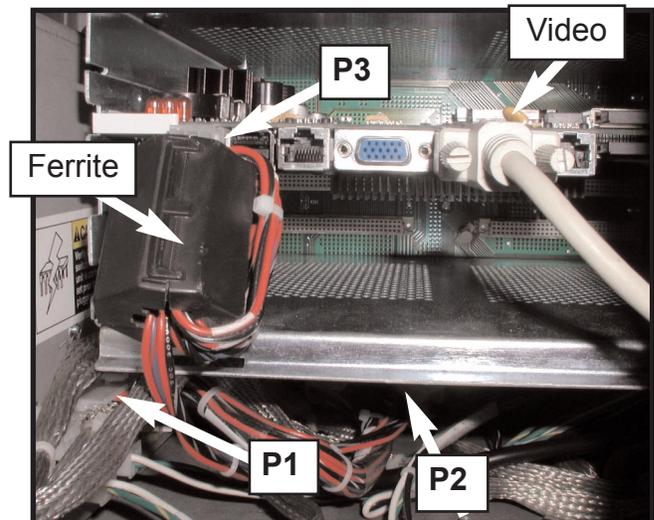


Image 30b. DC power cable installed (3601).



Performing a RAM Clear

1. Insert the RAM Clear CompactFlash card into the OS flash drive on the CPU. Use the direction indicator on the CompactFlash card to ensure proper insertion. Ensure the RAM Clear version matches that of the OS CompactFlash version.



This process may take several minutes.

2. Turn the game power to On. This boots the game. A progress indicator with the *WMS Gaming Inc.* logo displays while the RAM Clear process initializes, *Image 31*.



Image 31. Game initialization screen.

3. Once the game is booted, the RAM Clear options are presented, *Image 32*.

4. Select **Clear NVRAM and EEPROM**.

5. Select **Perform Selected Action** to begin the RAM Clear.

6. The following status messages display while the RAM Clear (**Clear NVRAM and EEPROM** option) progresses:

- a) **Clearing NVRAM**
- b) **NVRAM Cleared**
- c) **Clearing EEPROM**
- d) **EEPROM Cleared**
- e) **Verifying EEPROM**
- f) **EEPROM Cleared**

At the final **EEPROM Cleared** message, *Image 32*, power the game Off.

7. Remove the RAM Clear CompactFlash card.

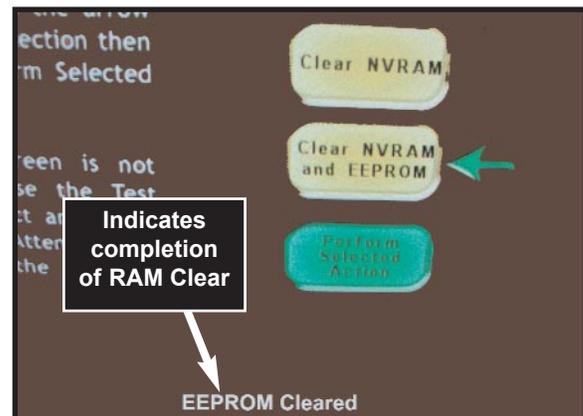


Image 32. RAM Clear options and completion message.



Installing Game Software & New Card Cage Door

1. Install the operating system (OS) CompactFlash card in the OS flash drive, **Image 33**.
2. Install the game CompactFlash card in the game flash drive, **Image 33**.
3. Disconnect the DC power cable from the CPU board.
4. Prepare to install the new Card Cage door:
 - a. Remove the shipping lock on the door, **Image 34 (A)**.
 - b. Install the lock removed from the old door.
5. Ensure the CPU board is installed securely in the correct slot: the right-most slot on the 550; the top slot on the 3601.
6. On standard Card Cages (see **Image 12**, page 6), install the new door by engaging the door hinges. On the hinged Card Cages (see **Image 11**, page 6), mount the new door onto two existing studs and secure with the two 8-32 captive Keys nuts saved from removing the old door.
7. Close and lock the Card Cage door and reconnect the video and power cables, **Image 35**.
8. On the 550, secure the power cable using the existing plastic cable clamp below the Monitor shelf, **Image 36**.

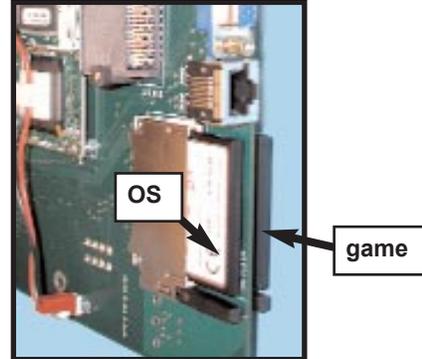


Image 33. CompactFlash drives.

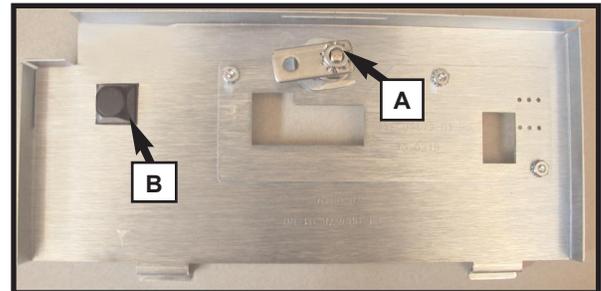


Image 34. Inside the new Card Cage door.

NOTICE: Do not remove the rubber bumper on the back of the door, **Image 30 (B)**. The bumper keeps the CPU board in place and protects the board whenever the game is moved.

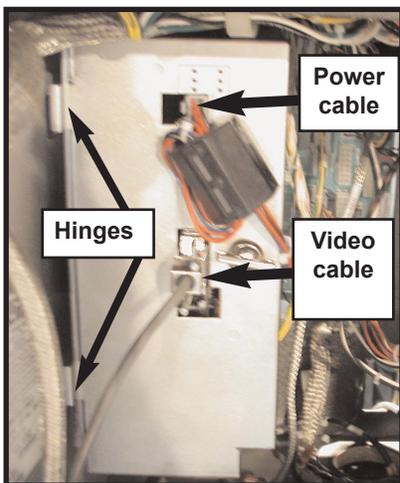


Image 35. New door installed (550).



Image 36. Cable clamp for power cable, located below the Monitor shelf (550).



Configuring the Game

Once the RAM is cleared, the game must be configured prior to starting the game. Complete the instructions on the following pages in the order presented to configure the game.

1. Power the game On at the PDU. This initializes the game.



This process may take several minutes.

2. The Monitor Config screen displays with the **DEFAULT** option selected (indicated by the green arrow), *Image 37*. If the game monitor is a legacy model*, press the DIAGNOSTIC button to select the **LEGACY** option.

*Legacy Monitors (Wells-Gardner):

WGT1730-S1DS78G
 WGT1730-S1DS71H
 WGT1930-M1TS14E
 WGT1930-S5TS48H
 WGT1930-S5TS10J
 WGT1930-S5TS21K
 WGT1930-S5TS39F

Otherwise, leave the setting at **Default**.

3. Turn the Attendant Key to select the monitor configuration option. This reboots the game.



This process may take several minutes.



CAUTION

Do not press the DIAGNOSTIC button until the game reboot is complete.

4. Upon rebooting, if the monitor does not display correctly, the incorrect Monitor Config option was selected. To change this setting, repeat the **RAM Clear** procedure on *page 13*.
5. Once the *Loading Game* message at the bottom of the monitor no longer displays, *Image 38*, press the DIAGNOSTIC button. This displays the *Administration Menu*, *Image 39*.
6. Select **Setup**. This displays the *Setup Menu*, *Image 39*.



Image 37. Monitor Config screen.

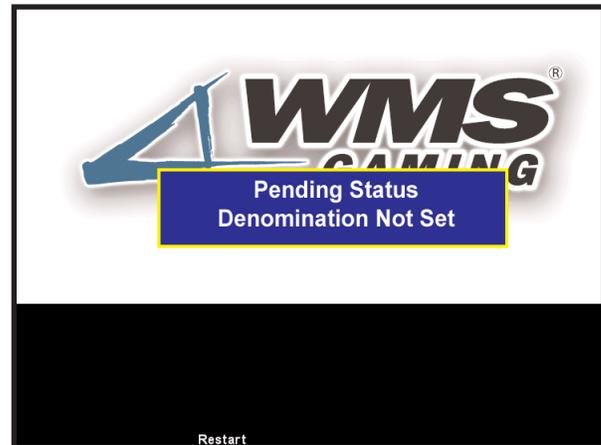


Image 38. Game reboot completed.



Image 39. Setup Menu.



Configuring the Game - Calibrating the Touch Screen

Calibrating the touch screen is a two-step process used to test the accuracy of screen placement. The actual calibration is performed first, then the accuracy is tested using the **Test Touch Screen** button.

Calibrating the Touch Screen

1. Select **Touch Screen Setup**. This displays the *Touchscreen Calibration* screen, **Image 40**.
2. Turn the Attendant key on the right side of the game.
3. Touch the symbol in the lower left-hand corner, **Image 41**.
4. Touch the symbol in the upper right-hand corner, **Image 42**. The screen is now calibrated.
5. Turn the Attendant key to exit and return to the *Setup Menu*.



Image 40. Touchscreen Calibration screen.



Image 41. Touchscreen Calibration Set screen.

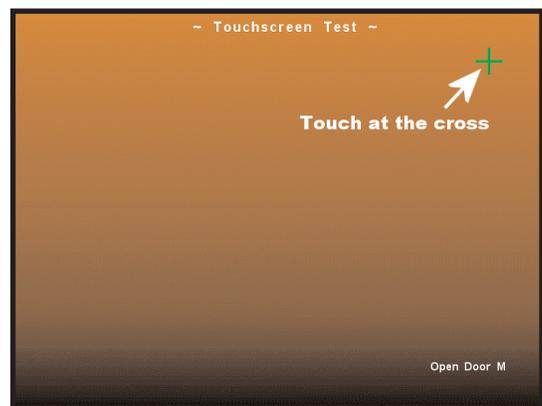


Image 42. Second Touchscreen Calibration Set screen.



Configuring the Game - Calibrating the Touch Screen, cont.

Testing the Touch Screen

1. After you have calibrated the touch screen, select **Test Touch Screen**, *Image 43*, to test the accuracy of the calibration.
2. Depending on your software OS version, do one of the following:
 - a) OS 1.14.23 (CompactFlash™ P/N SSOS-000-1200) and later: Touch a single location on the touch screen. The selected pixels display, *Image 44*.
 - b) Previous OS releases: Using your fingertip, draw an object on the touch screen. The pixels drawn should reflect the exact track of your fingertip, *Image 45*. If they do not (if, for example, you draw in mid screen as shown, but the representation displays in the lower left-hand corner), recalibrate the screen. If the touch screen still fails to track accurately, notify WMS Gaming Inc.
3. Turn the Attendant key to exit and return to the *Setup Menu*.

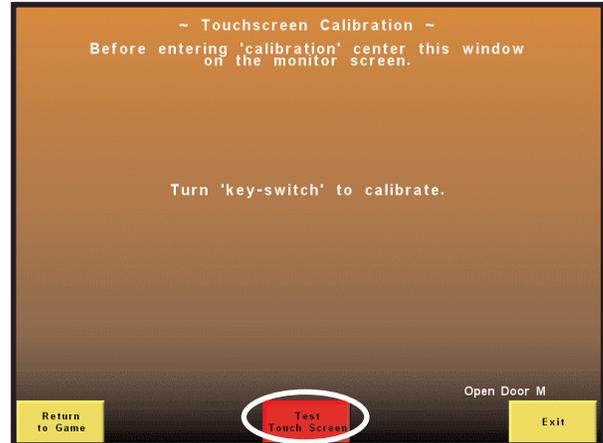


Image 43. Selecting the Test Touch Screen button.

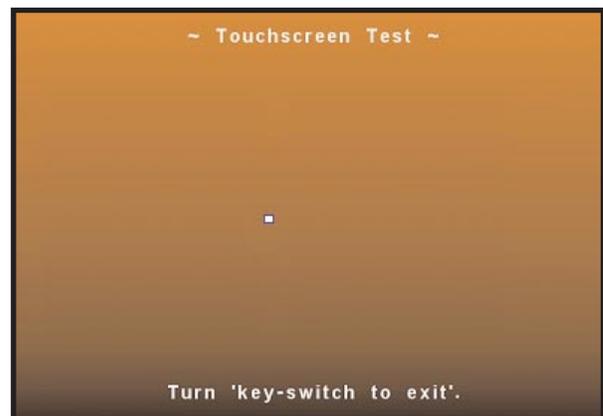


Image 44. Drawing an object on the Touchscreen Test screen.

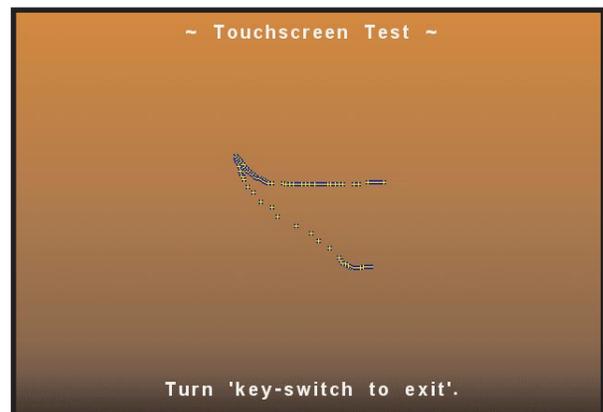


Image 45. Drawing an object on the Touchscreen Test screen.



Configuring the Game - Setting the Game Denomination

1. Select **Credit Setup**.
2. Touch the Base Denom field, **Image 46 (A)**. This displays a numeric window, **(B)**.
3. Using the numeric window, enter the denomination for this game. Enter this value carefully, as a RAM clear will be required if the incorrect denomination is entered.
4. Select **Enter**, **Image 46 (C)**, to save the Base Denomination setting.
5. Enter each limit value per your jurisdiction.
6. If applicable to your jurisdiction or location, you may Enable or Disable the **Multi-Denom** setting, **Image 46 (D)**. This is a toggle field that may be set to **Enabled** and **Disabled**.
7. Select **Set**, **Image 46 (E)**.
8. Select **Denom Config**. A pay table must be matched with each desired denomination. Select **Denom Config** to begin this process, **Image 46 (F)**.

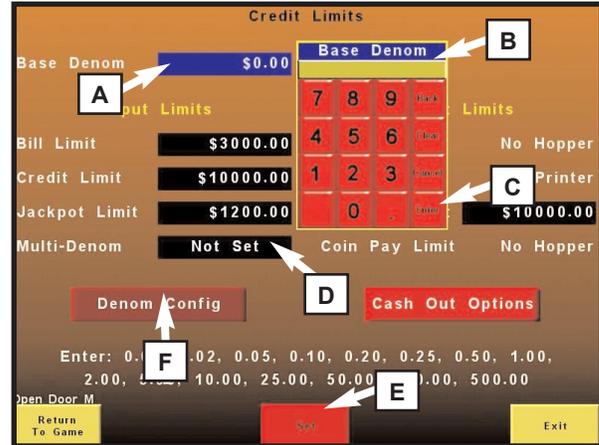


Image 46. Denomination Setup.



Configuring the Game - Setting the Paytable(s)

1. Select the denomination to configure, **Image 47**. This displays the available pay tables.
2. Select the correct pay table from the options, **Image 48**, and press **Set**.
3. If Multi-Denom is enabled, repeat *steps 1* and *2* until all valid denominations are assigned pay tables. Until **Save** is selected, the denominations for which you are setting pay tables are highlighted, with the field changed to a green background.
4. Select **Save**. This displays the *Setup Menu*.

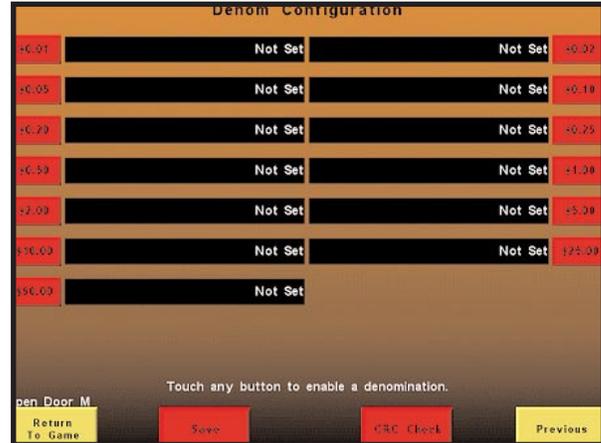


Image 47. Denom Configuration.

NOTICE

Paytable names follow the "game name-line configuration-percentage" naming convention.

For example, selecting ReelEmIn-9-84 84% will assign a denomination as a 9-line 84% game percentage.

If different line configurations are mixed within a game, ensure that the mechanical buttons are properly configured to match all the different active line configurations.

The top row "LINES SELECT" will be mapped as follows for each line configuration:

- 5-line: 1, 2, 3, 4, 5
- 9-line: 1, 3, 5, 7, 9
- 15-line: 1, 3, 5, 9, 15
- 20-line: 1, 5, 9, 15, 20

For example, if game is set to have \$0.05 and \$0.25 as available denominations and the \$0.05 denomination is assigned ReelEmIn-9-92 and the \$0.25 denomination is assigned to ReelEmIn-20-88. The LINE SELECT mechanical buttons would be 1, 3, 5, 7, 9 for the \$0.05 denomination and 1, 5, 9, 15, 20 for the \$0.25 denomination.

The above situation may be undesirable and lead to player confusion because the numbers shown on the mechanical buttons may not match their selections. WMS recommends that each machine be set to a single line configuration.

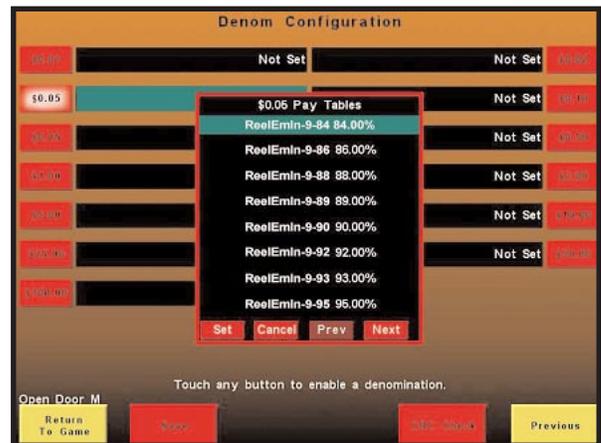


Image 48. Selecting the game denom and assigning the Pay Table.



Configuring the Game - Setting the Max Bet

Some of the Max Bet options are predetermined based on jurisdictional limits and restrictions. The Max Bet options may be controlled by the Jurisdictional ID (SPI) chip, which may set the available denominations, as well as the Max Bet. This functionality is available in OS 1.14.23 (CompactFlash™ P/N SSOS-000-1200) and later.

1. Select **Game Setup**. This displays the *Game Setup* screen, *Image 49*.
2. Select each available denomination, *Image 49 (A)*.
3. Select the **Available Max Bet** value for the denomination, *Image 49 (B)*.
4. If applicable, repeat *steps 2 and 3* until all available denominations are configured.
5. Select **Save** and **Exit**. This displays the *Setup Menu*.

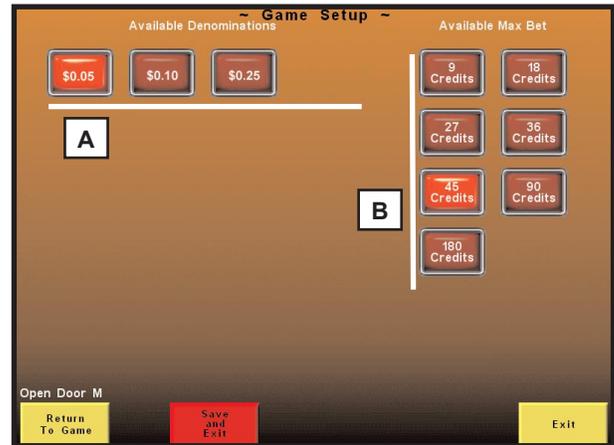


Image 49. Game Setup screen.

Configuring the Game - Setting Devices

1. Select **Machine Setup**.
2. Select **Device Setup**. This displays the *Device Config* screen, *Image 50*.
3. Touch inside each device field to scroll through the available device options until the correct device is selected.

Notice: When selecting the Ticket Printer, ensure the correct printer model type is selected. Two options for the Seiko printer exist: *Seiko PSA-66T*, *Seiko Netplex*. Use the *Seiko PSA-66T* option if using a non-Netplex version of the printer.

4. When each device is correctly set, press **Save**. This displays the *Setup Menu*.



Image 50. Device Config screen.



Configuring the Game - Setting the Date and Time

1. Select **Clock Setup**. This displays the *Date/Time* screen, **Image 51**.
2. Select the Change **Time Zone** button, **Image 51 (A)**. This displays the *Time Zone List* screen, **Image 52**.
3. Select the appropriate time zone from the list and touch **Set**. If applicable, a secondary *Time Zone List* screen displays, **Image 53**. See page 22 for more information on selecting GMT Time Zones.
4. Choose the appropriate time zone and select **Set**. This displays the *Date/Time* screen, **Image 51**.
5. Touch inside each **Time** and **Date** field to set the information. Each time a field is selected, a numeric pad displays for value entry, **Image 51 (B)**.
6. Enter each value and press **Enter** on the numeric pad.
7. Select **Set** to save your settings. This displays the *Setup Menu*.

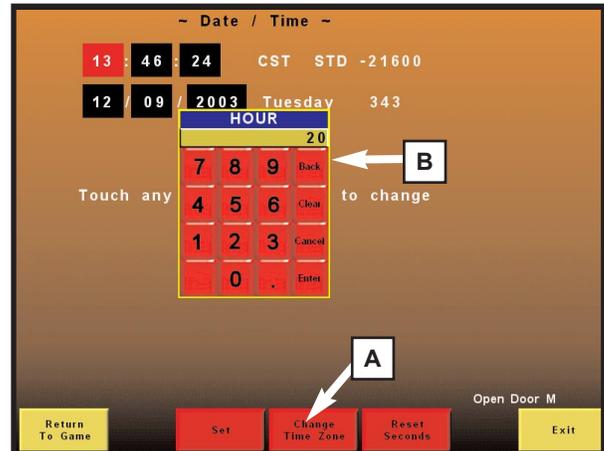


Image 51. *Date/Time* screen.



Image 52. *Primary Time Zone List* screen.



Image 53. *Secondary Time Zone List* screen.



Configuring the Game - Setting the Date and Time, cont.

Use the secondary Time Zone List screen to select a Time Zone. For GMT Time Zones, you may select **Etc** to view the GMT Time Zone options. Selecting Etc displays a *Secondary Time Zone List* screen with multiple GMT options, *Image 54*.

NOTICE

GMT Time Zone designations are defined as follows:

Time Zone	Option
Greenwich Mean Time (GMT)*	Universal, Zulu, GMT+0, UCT, UTC, GMT-0, GMT0, Greenwich, GMT
East of GMT	GMT-**
West of GMT	GMT+**

*Multiple options denote the GMT time zone. Each of the listed options identifies the same time zone.

**Number of hours difference from GMT.



Image 54. Secondary Time Zone List screen (GMT options).



Configuring the Game - Setting the Comm

The Comm setup allows you to set the protocol(s) of your host system. The instructions below provide a generic Dual Host setup, with Host Comm 1 set to SAS Primary and Host Comm 2 set to SDS. Complete this portion of the game configuration based on the specific jurisdiction and site requirements. See *page 24* for *Comm Field Definitions*.

1. Select **Comm Setup**.
2. Select **Serial Ports** from the submenu. This displays the *Serial Comm Setup* screen, *Image 55*.
3. Touch inside the **Host Comm I** field to scroll through available options and select the SAS Primary host protocol.
4. Select **Config** (to the right of the Host Comm I field) to set additional features for SAS. This displays the *SAS Setup* screen, *Image 56*.
5. Select the correct settings by touching inside the available fields and scrolling or toggling through the available options until the correct value is selected.
6. Select **Save**. This displays the *Serial Comm Setup* screen, *Image 53*.
7. Touch inside the **Host Comm II** field to scroll through available options and select the SDS host protocol.
8. Select **Config** (to the right of the Host Comm II field) to set additional features for SDS. This displays the *SDS Setup* screen, *Image 57*.
9. Touch inside the **Mode** field to toggle through the available options: **Basic**, **Extended**, **Coupon**, or **Ticket**.
10. Select **Save**. This displays the *Serial Comm Setup* screen, *Image 55*.
11. Select **Set** to save your Comm settings.
12. At the confirmation screen, select **Yes** to confirm the Comm settings. This displays the *Serial Comm Setup* screen, *Image 55*.

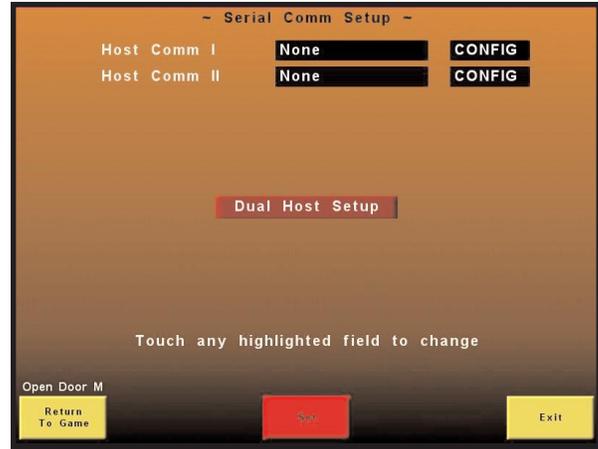


Image 55. Serial Comm Setup screen.

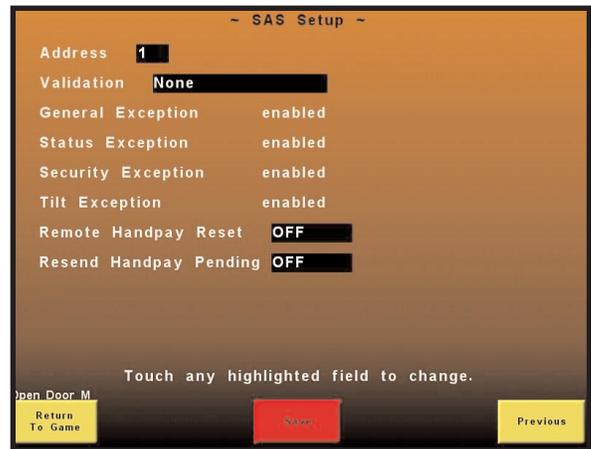


Image 56. SAS Setup screen.

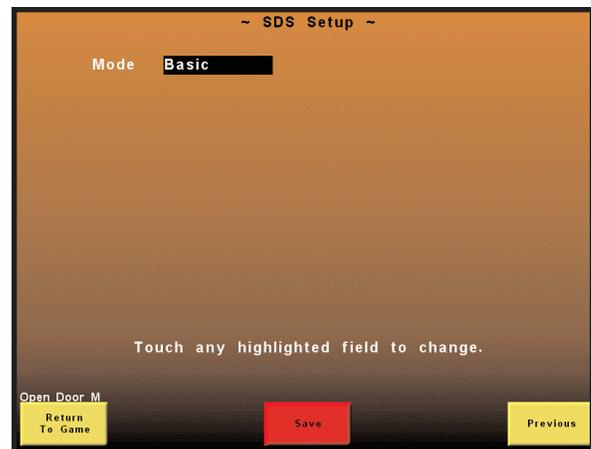


Image 57. SDS Setup screen.



Configuring the Game - Setting the Comm, cont.

13. Select the **Dual Host Setup** button. This displays the *Dual Host Setup* screen, **Image 58**.
14. Touch inside each field to scroll or toggle through the available options until the correct settings are selected.
15. Select **Save**. This displays the *Setup Menu*.



Image 58. Dual Host Setup Screen

Comm Field Definitions

Term	Definition
SAS	
(Slot Accounting Software) is IGT's proprietary communication protocol. SAS allows for three different types of validation in support of ticketing.	
Address	Game identifier. If using point-to-point communication, this setting is usually 1. If using a mutidrop (multipoint) communication, this setting must be assigned by the casino or system administrator.
Validation	<ul style="list-style-type: none"> · Standard Validation - Ticket out capabilities supported, with the Ticket Validation number created by the machine. the Ticket cannot be inserted into another game, as the system is unable to validate the ticket. · System Validation - Ticket in/Ticket ou
Exceptions	
These settings are always enabled and cannot be changed. Exceptions are messages sent by the game to the host to report game events.	
General Exception	General exceptions include messages on the general functioning of the game, door opened and closed, Hopper full, and any hardware or software issues.
Status Exception	Status exceptions include messages on the current game status, such as whether the game is in play mode, tilt condition, idle, or disabled.
Security Exception	Security exceptions include messages that affect game security, such as entering Administrative options, modifying game setup options, or starting or shutting down game play.
Tilt Exception	Tilt exceptions include tilts encountered by the game.
Remote Handpay Reset	Controls whether game supports remote handpay reset by the host.
Resend Handpay Pending	Controls whether the game reports Handpay pending exceptions every fifteen seconds until handpay information is recorded by host.
SDS modes	
Basic	Game supports basic SDS Simple Serial protocol event handling. Simple Serial cannot manage multiple games in a slot machine or multiple bet games.
Extended	Game supports SDS Simple Serial protocol event handling plus Extended Simple Serial message support. Extended Simple Serial supports games that allow multiple denominations and/or multiple games in one slot machine, as well as System Cashless and SDS Coup
Coupon	Game supports SDS Simple Serial and Extended Simple Serial protocol, plus SDS Coupons Extensions, which is a comprehensive set of features that enable casino operators to issue bar-coded coupons to players as part of their casino marketing.
Ticket	Game supports SDS Simple Serial and Extended Simple Serial protocol, plus SDS Ticket Extensions, which allows for machine ticket printing and redemption.



Configuring the Game - Setting Machine Info

The Machine Info settings are optional, and no tilt condition occurs if this setting is not entered during game setup. Machine Info may be used to identify individual games, especially for ticket printing purposes.

1. Select **Machine Setup**.
2. Select **Machine Info Setup**. This displays the Machine Info Setup screen, *Image 59*.
3. Touch inside the **Serial Number** field. This displays a numeric window, *Image 60*.
4. Using the numeric window, enter the Serial Number for this game and select **Enter** on the numeric window. Enter this value carefully, as a RAM clear will be required if the incorrect serial number is entered.
5. Select **Set Serial** to the right of the Serial Number field. This saves the serial number.
6. If applicable, touch inside the **Asset Number** field. This displays a numeric window.
7. Using the numeric window, enter the Asset Number for this game and select **Enter** on the numeric window. Enter this value carefully, as a RAM clear will be required if the incorrect asset number is entered.
8. Select **Set Asset** to the right of the Asset field. This saves the asset number.
9. Press **Exit**. This displays the *Setup Menu*.

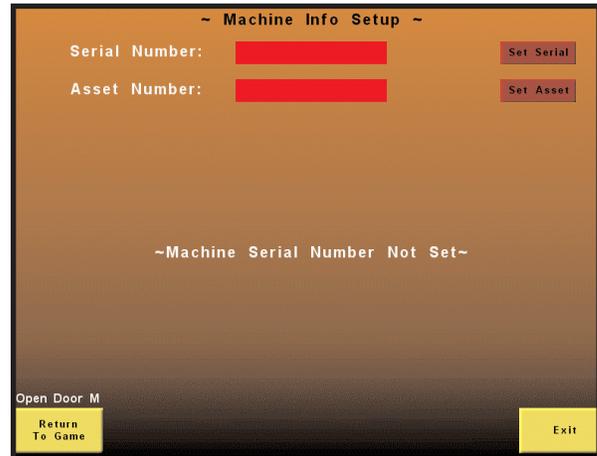


Image 59. Machine Info screen.

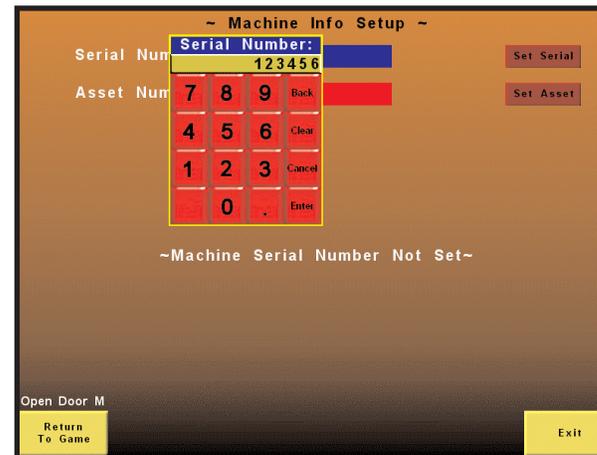


Image 60. Serial number numeric window.



Configuring the Game - Setting the Volume

1. Select **Sound Setup**.
2. Stand directly in front of the game to properly gauge volume settings.
3. Move the **Master** volume slider pair all the way down to minimum level.

Move the left and right sliders simultaneously by touching between the sliders, **Image 61 (A)**, and moving your finger up or down. This ensures the volume slider pairs are set to the same level.

The game produces a sound sample each time the volume slider settings are modified.

4. Move the **Wave** volume slider pair to approximately 80% of the maximum level.
5. Slowly move the **Master** volume slider pair up from the minimum level to the desired sound output level.
6. Once the volume is set to the preferred level, select **Save**. This displays the *Setup Menu*.

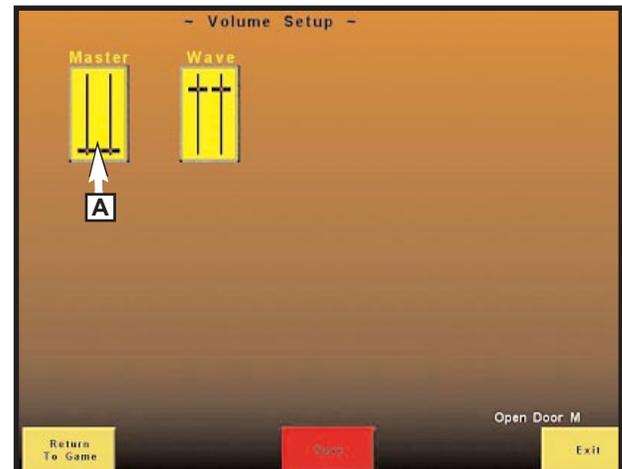


Image 61. Sound controls.



Beginning Game Play

1. Select the **Return to Game** button to close the *Administration Menu* and return the game to play, *Image 62*.
2. Replace the Hopper and Coin Tray.
3. Close and lock the game.
4. Begin game play by inserting coins or bills of the appropriate denomination



Image 62. Ready for play.

For more information on setting parameters, reference the *WMS A-008316 Operator's Guide*.

Software Configuration Pending Tilts - Reference

There are several common tilts incurred during software installation, including the following:

- **Devices Not Set** - see *page 19* for details on setting the devices
- **Denomination Not Set** - see *page 19* for details on setting the denomination
- **Paytable Not Set** - see *page 20* for details on setting the paytable
- **Date Not Set** - see *page 21* for details on setting the date
- **Validation Not Set** - see *page 23* for details on setting the Comm.

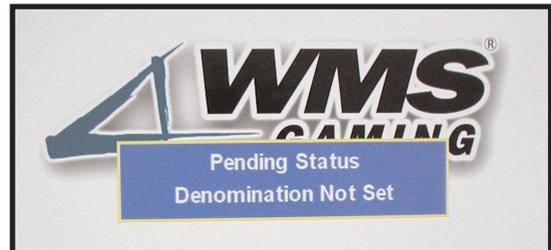


Image 63. Pending Status tilt example.

All existing tilts display in the upper right corner of the monitor for your reference until the necessary settings are entered and saved.



DISTRIBUTE TO:	<input checked="" type="checkbox"/> Sales
	<input checked="" type="checkbox"/> Field Service
	<input checked="" type="checkbox"/> Management
	<input type="checkbox"/> Legal
	<input checked="" type="checkbox"/> Compliance
	<input checked="" type="checkbox"/> Customers

<i>MODEL(S) AFFECTED</i>	Legacy 550/ 3601
<i>UNIT AFFECTED</i>	All
<i>THEME</i>	N/A

CPU-NXT™(A-008316) Supported Peripherals and Conversion Kit Ordering Instructions

Overview

The purpose of this bulletin is to inform you of the peripherals supported by CPU-NXT, as well as to guide the ordering of the CPU-NXT upgrade kit and software. Please note that there are four available kits, with two for each platform, depending on the voltage of the installation site. For the detailed steps on installing CPU-NXT, see 16-009693-xx *Installing CPU-NXT*. For more information on WMS software part numbering, see 16-007028-xx, *Software Part Numbering Conventions*.

Contact your WMS Sales Representative for further information regarding NXT-specific game themes and ordering options.

Required Parts for Conversion

WMS Part Number	Description
A-011548-00-00	Kit: CPU-NXT Upgrade (550 - 110V)
A-011548-00-01	Kit: CPU-NXT Upgrade (550 - 220V)
A-011548-00-02	Kit: CPU-NXT Upgrade (3601 - 110V)
A-011548-00-03	Kit: CPU-NXT Upgrade (3601 - 220V)
SBOT-000001-xxx	CPU-NXT Boot EPROM (version xxx)
SJUR-XXXXXX-xxx	CPU-NXT SPI EEPROM (Jurisdiction ID Chip for jurisdiction XXXXXX, version xxx)
SXXX-000-xxxxCC	CPU-NXT Game Compact Flash Card (XXX theme, version xxxx, CC country/language code)
SSOS-000-xxxxCC	CPU-NXT OS Compact Flash Card (version xxxx, CC country/language code)
SCLR-000-xxxxCC	CPU-NXT RAM Clear Compact Flash Card (version xxxx, CC country/language code)

Associated Technical Bulletins

WMS recommends the cabinet upgrades outlined in the following Technical Bulletins be performed before the installation of CPU-NXT. Access the associated bulletins at <https://secure.wms.com>.

WMS Part Number	Description	Models Affected
16-009693-03	CPU-NXT (A-008316) Installation Bulletin	55x, 3601
16-007245	Asahi Seiko Hopper Reinforced Coin Out Chute Cover Installation Bulletin	55x
16-008325-00	Asahi Seiko Hopper Bowl Probe Adjustment Installation Bulletin	55x
16-009304-01	Asahi Seiko Hopper Groundstrap Installation Bulletin	55x
16-008654	Conductive Monitor Bezel Information Bulletin	55x
16-008655-01	Door Stop Bracket Installation Bulletin (Required in New Jersey)	55x
16-007995-03	ESD Components Information Bulletin	55x, 3601
16-009733-01	Ithaca/Transact Printer Cable Installation Bulletin	55x, 3601
16-007327	Main Door Locking Bar Installation Bulletin	55x
16-008657	3.15 Amp Fuse Installation Bulletin	55x, 3601



CPU-NXT Supported Peripherals

Unit	Mfg Hardware PN(s)	Mfg Firmware PN/Version(s)	WMS Hardware PN(s)	WMS Firmware PN(s)	Associated Cable
Coin Mechanisms					
MC-40*	664602-series	0950-000004	09-006832-series	N/A	H-007329-00 (550) H-007330-00 (3601)
IDX X-10	X10C-series	X1050-3.0 R (or later)	09-004955-series	20-009509-11	5797-14014-00
			09-004659-series		
			09-004663-series		
Hoppers					
Asahi Seiko					
550 standard bowl	DH7541series	N/A	A-006590-series	N/A	H-002341-01 (550)
550 short bowl	DH7571series		A-006591-series		
3601	DH7591 series		A-003788-series		H-19444-01 (3601)
Money Controls					
550	GM205Aseries	N/A	A-006141series	N/A	H-002341-01
Printers					
Ithaca 750	None	75-04644 rev. 22 (or later)	20-006622-10	N/A	5797-005718-03 (550)
			20-006622-11		5797-005717-03 (3601)
			20-006622-12		
Ithaca 850	None	PP8512 rev. 32 (or later)	20-006692-09	N/A	5797-006626-02 (550)
					5797-006627-02 (3601)
Bill Validators					
JCM					
US - JCM WBA-12	WBA-12-SS-USA-501-03	currently approved firmware (varies by jurisdiction)	09-004782-18	A-004583-08	20-003504-48
US - JCM WBA-13	WBA-13-SS-USA-501-03		09-004782-19	A-004928-08	20-003504-48
Cdn - JCM WBA-22	WBA-22-SS-CAN-502-03		09-004782-22	Not released	20-003504-48
Cdn - JCM WBA-23	WBA-23-SS-CAN-502-03		09-004782-23	A-006490-04	20-003504-48



Instructions for Ordering the CPU-NXT Conversion Kit

The following instructions for ordering a CPU-NXT conversion kit correspond to the **line numbers** on the *Conversion Request Form*. This form is available through your regional WMS office or through your Sales Representative, and includes CPU-NXT-specific steps and cabinet upgrade options. Please note that this form must be accompanied by the *EPROM Request Form*, which is a separate document required to order software.

Enter data normally, except as indicated in the following instructions:

3. Software Information

The software and the Compact Flash (CF) medium on which it is resident, is different for CPU-NXT.

3a. From the drop-down menu, select the **NXT protocol**. No other protocol is valid for the NXT upgrade.

3b. The software for CPU-NXT is either multi-denominational or non-denominational. From the drop-down menu, select **M - Multi-Denom/Tokenization** or **Non Multi-Denom/Tokenization**.

7. Coin Mech

Only the IDX-X10 and MC40 coin mechanisms interface to CPU-0NXT. From the drop-down menu, select the **IDX** or **MC-40**.

8. Printer Information

Only the Transact/Ithaca thermal printers and Cole printer kits interface to CPU-NXT. From the drop-down menu, select the size and ticket configuration of one of the following printers or printer kits:

- Ithaca 750 thermal printer
- Ithaca 850 thermal printer
- Cole Thermal printer kit

10. Bill Validator

NXT interfaces with several models of JCM bill validators. From the drop-down menu, select the desired WBA requirements of one the following JCM WBA models:

- WBA 12 USA
- WBA 13 USA
- WBA 22 Canada
- WBA 23 Canada

System	Protocol	Address	Validation	Ticket Handling In/Out
ACRES	SAS*	Usually 1	Enhanced	In/Out
ACSC	SAS*	Usually 1	Enhanced	In/Out
Aristocrat Dacom	SAS*	Usually 1	Enhanced	In/Out
Bally (MC220 GMU)	SDS*	1	Enhanced	None
Bally (MC250 GMU)	SAS*	1	Enhanced	In/Out
CDS	SAS*	Usually 1	Enhanced	In/Out
CDS (DOS)	SAS*	Usually 1	Enhanced	Dependent on game/system configuration
GSI/GRIPS Crystal Web	SAS*	Usually 1	Enhanced	In/Out
GSI/GRIPS SDI	SAS	Usually 1	Standard	Out
IGT EZ Pay	SAS*	Unique (Assigned)	Enhanced	In/Out
IGT IGS/EDT	SAS*	Usually 1	Enhanced	In/Out
Konami/Paradigm/Forcise	SAS*	Unique (Assigned)	Enhanced	In/Out
Mikohn	SAS*	Usually 1	None	None
Sands	SAS*	Usually 1	Enhanced	In/Out

* SAS 5.1 and above is capable of enhanced validation.

** SDS 8.0 and above has ticketing capabilities.

~ SAS Setup ~

Address **1**

Validation **None**

General Exception enabled

Status Exception enabled

Security Exception enabled

Tilt Exception enabled

Remote Handpay Reset **OFF**

Resend Handpay Pending **OFF**

Touch any highlighted field to change.

Open Door M

Return To Game Save Previous

Configuring the Game

One-Time Settable Parameters

Set each of the following carefully, as these values may only be set one time, requiring a RAM Clear to reset:

Parameter	Description
Denomination	Enter game Base Denomination
Multiple Denominations	Set game for Multiple Denominations
Pay Table Percentage	Set game Pay Table Percentage
Machine Serial Number	Enter game cabinet Serial Number
Asset Number	Enter asset number for machine
Ticket Printer Enable & Type	Enter Ticket Printer model
Coin Acceptor Enable & Type	Enter Coin Acceptor model
Hopper Enable & Type	Enter Hopper model
Bill Validator Enable & Type	Enter Bill Validator model
Host Comm	None, SAS Primary or SAS Secondary
Remote Hand Pay Reset	Off, Enabled or Disabled
Remote Hand Pay Pending	Off, Enabled or Disabled
Legacy Bonusing	Off, Enabled or Disabled

1. After the game reboots, **Image 16**, press the DIAGNOSTIC button. This displays the *Administration Menu*.

⚠ CAUTION
Do not press the DIAGNOSTIC button until the game reboot is complete.

Upon rebooting, if the monitor does not display correctly, the incorrect Monitor Config option was selected. To change this setting, repeat the **RAM Clear** procedure on page 2-6.

2. Select **Setup**. This displays the *Setup Menu*, **Image 17**.
3. The settings that must be configured after installing software are available from the *Setup Menu*.



Image 16. Game reboot completed.



Image 17. Setup Menu.