

Section 3

IC Chip and Flash Memory Card Procedures

This section describes the use of key chip setup procedures available as an option in the Operator Menu in Vision Series software.

Information in this section includes:

- **Section 3.1, IC Chip Replacement** – describes procedures to follow when replacing the IC chips on the Vision Slot processor board.
- **Section 3.2, Key Chip Procedure** – provides procedures for using the key chip to set up certain options.
- **Section 3.3, Flash Memory Cards** – explains use of the flash memory cards used in the LCD for bonus games and customized attract mode displays.
- **Section 3.4, Updating the LCD Operating System** – describes procedures for updating the LCD operating system to run the current version of software.



3.1 IC Chip Replacement

To remove or install integrated circuit (IC) chips on the processor board, see Figure 3-1 and proceed as follows.

Note: Check with state and local laws, and record the accounting data before removing game program chips. Chip removal clears all current accounting data.

For jumper locations on the processor board, see the processor board schematic in the appropriate electronic diagrams and parts manual.

3.1.1 IC Chip Removal

The ICs intended for field replacement are the two game EPROMs (U19 and U46) and the base EPROM (U21) shown in Figure 3-1.

Caution: Chip removal and replacement instructions should be followed carefully to avoid damaging both the individual program chips and the circuit board itself. These devices are static-sensitive and should be handled by qualified personnel only.

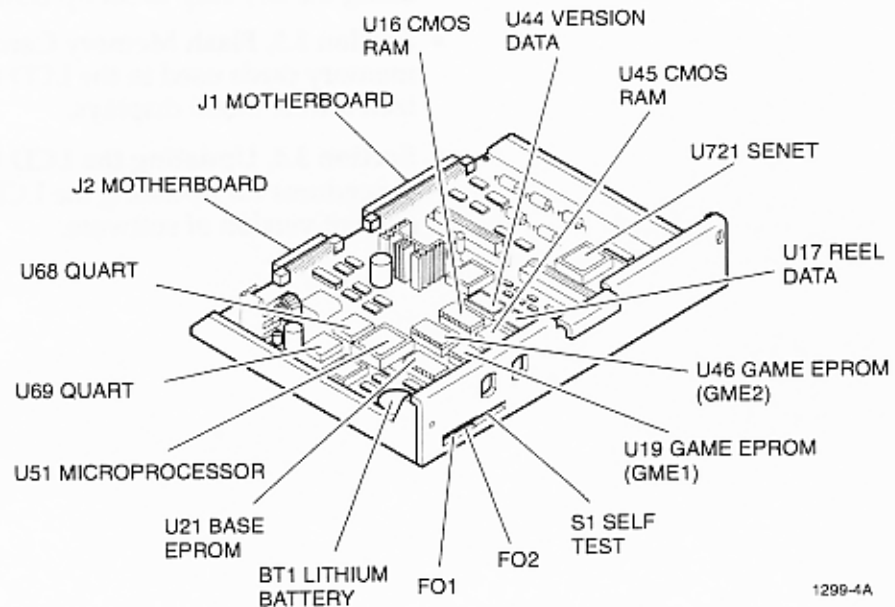


Figure 3-1. Processor Board (p/n 757-105-0X) Component Locations.



1. Open the machine door and turn the **power off**.
2. Remove the processor tray.
3. Place the processor tray on a stable, flat surface.

Important: Ground yourself to neutralize static electricity that can damage both the ICs and the processor board.

4. Locate the chip(s) to be replaced and, after grounding yourself, carefully remove it with a chip extractor.

Caution: Prying against the circuit board with a pointed object may damage the traces under the IC socket.

3.1.2 IC Chip Installation

1. Handling the computer chip only by the ends, visually align it by matching the orientation notch, located at one end of the chip, with the notched outline on the processor board.

Caution: If the computer chip is placed into its socket in the wrong direction or with one or more pins ("legs") out of position, the chip may be irreversibly damaged when the machine power is turned on.

2. The two sets of "legs" on each computer chip are generally spread a little wider apart than the openings in the receptacle. If the legs appear too wide for the receptacle, adjust the alignment by using a chip installation tool of the correct size.

If an installation tool is not available, it may be possible to spring the legs into alignment by placing the chip on its side on a flat, non-metal, surface and gently tilting the chip just enough to bend all of the legs inward a little on each side.

3. When the chip is properly aligned, use gentle hand pressure to push it into the socket. Check both sides of the chip to be sure that all legs are engaged correctly before pushing all the way down into position.
4. Install the processor tray and lock into place if necessary.



5. Turn the machine **power on**. Refer to Section 2, Program Software Menus, for information about selecting programmable game options. Refer to the *Troubleshooting: Game Machines* (p/n 821-283-00) manual to resolve any error messages that may appear on the displays.
6. Close and lock the machine door.

3.1.3 SS EPROM Installation

Use the previous removal and installation instructions but insert this chip with the unnotched end closest to the unmarked end of socket U17. This chip has 28 pins but the socket has 32. See Figure 3-2 for details.

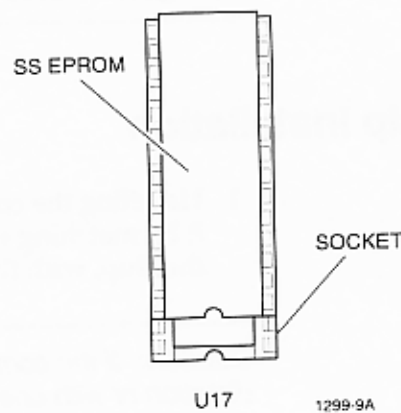


Figure 3-2. SS EPROM Installation.



3.2 Key Chip Procedure

The key chip is required to change machine parameters such as denomination or pay table. Use the following procedure to use the key chip.

Note: *The key chip version number must match the number on the base EPROM on the processor board being changed.*

1. Verify that there are no credits available on the machine.
2. Use the procedure in Section 3.1 to remove the Base EPROM (U21) from the processor board and replace it with the key chip.
3. Reinstall the processor board in the machine.
4. Turn the machine **power on** and watch the row of LEDs at the edge of the processor tray. When the key chip has been recognized, the two yellow LEDs farthest from the operator switch light and remain on.

Note: *If the LEDs do not light correctly, repeat the procedure.*

5. Turn the machine **power off** and replace the key chip with the base EPROM.
6. Reinstall the processor board in the machine.
7. Turn the machine **power on** and the key chip menu will appear on the LCD.
8. Perform the setup changes necessary and exit the key chip menu.



3.3 Flash Memory Cards

Flash memory cards are used in the Vision Slot machines to display bonus games and standard and customized attract modes on the LCD.

3.3.1 Flash Card Removal and Installation

There are two flash card locations on the LCD; one on top of the unit and one on the side opposite the hinge.

The top location is for the flash card used for the bonus games, it must always be installed for the machine to operate.

The side location is for the optional custom attract mode flash card.

Caution: *Do not* remove flash memory cards from the LCD unit without first turning the machine **power off**. Damage to the flash card or the LCD electronics may result.



Removal

1. Open the machine door and turn the **power off**.
2. Remove the top box glass. Refer to the appropriate maintenance procedures manual for details.
3. See Figure 3-3 and press the release button for the flash card to be removed. Carefully pull the flash card straight out of the LCD unit.

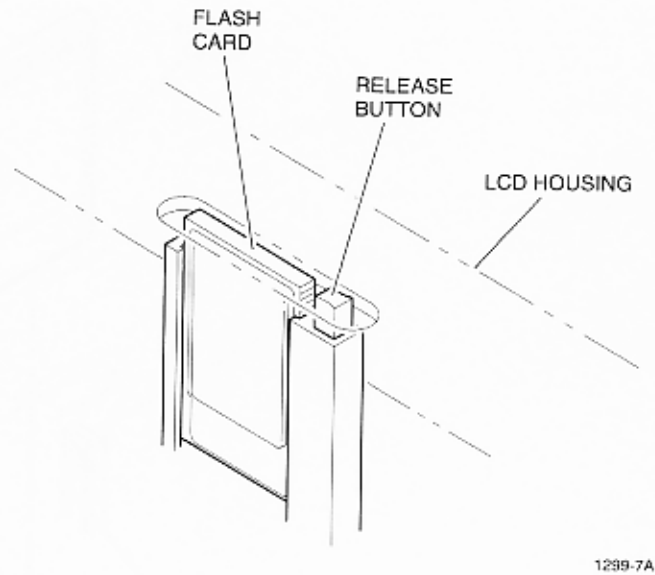


Figure 3-3. Flash Card Removal.

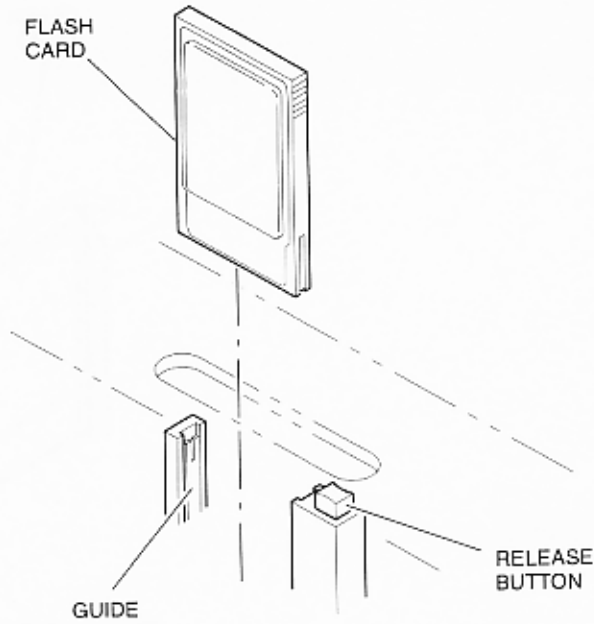
Installation

1. See Figure 3-4 carefully insert the flash card into the socket until resistance is felt.

Note: The flash card will only go into the socket in the correct orientation. If it slides in and stops short of full insertion, pull the flash card out, turn it around and reinsert into the socket.

2. Carefully push the flash card fully into position. The release button will return to its out position and the flash card will be flush with the LCD housing (see Figure 3-3).
3. Turn the machine **power on**. Refer to Section 2, Program Software Menus for information about selecting program-mable attract mode options. Refer to the *Troubleshooting: Gaming Products* manual to resolve any error messages that may appear on the displays.
4. Close and lock the machine door.





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Figure 3-4. Flash Card Installation.

3.3.2 Flash Card Programming with Vision Builder Software

Custom graphic and audio displays are loaded onto flash cards using the Windows[®] 95-based Vision Builder program.

Contact IGT Firmware Engineering for details on this program, PC hardware necessary for operation and compatible programs file formats.



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3.4 Updating the LCD Operating System

The LCD operating system is stored on an onboard flash memory (RFA) that needs periodic updating to function with new releases of the bonusing game software. The following procedure lists the steps for the update.

Note: *Prior to beginning the procedure the machine must be in idle mode with no credits on the machine meter.*

1. Open the machine door.
2. Turn the machine **power off**.
3. Remove the top box glass to access the LCD.
4. Remove the processor board from the machine.
5. Remove the existing bonus game/attract mode flash cards from the LCD.
6. Insert the RFAxx (most current) flash card into the top-most drive on the LCD.
7. Turn the machine **power on**.
8. Observe the LCD display.

Several messages appear, ending with the message that the update is complete. Depending on which program is loading, the processing time can take as long as 7 or 8 minutes.
9. Turn the machine **power off**.
10. Remove the RFAxx flash card.
11. Reinsert the bonus game/attract mode flash cards.
12. Replace processor board.
13. Replace top box glass.
14. Turn the machine **power on** and observe any error messages on the VFD.

Follow the directions appearing on the VFD to correct the errors.
15. Close the machine door.



