U.S.A. 540MVP

VIDEO GAMING MACHINE

OPERATOR MANUAL

AM-1911501-02

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CAUTION

All functions of the machine are controlled by complex electronics. Unqualified personnel must not interfere with any mechanisms or controls as this may permanently damage the machine and lead to expensive repairs or component replacement, and will render the warranty void.

Important Safety Information

This document contains important information about the use of the equipment and hazards involved in owning and operating the equipment to which it relates. The equipment can be very hazardous if used other than in accordance with this document.

Inform yourself and your staff

You must read this document before using the equipment or opening any part of the equipment. Ensure your staff do too.
The equipment itself is marked with important warning labels detailing dangers.

- Check for warning labels whenever opening any part of the equipment.
- Read and comply with all warning labels you see when operating or opening the equipment.
- Under no circumstances remove or alter any warning label.

Be careful

If you don't follow the directions in this manual and on warning labels you increase the risk of the following things occurring:

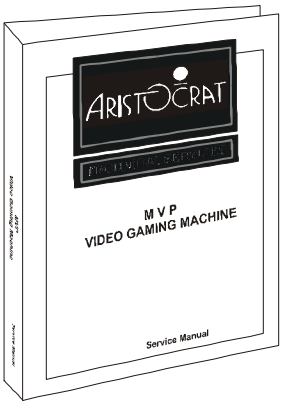
- **serious personal injury**, including electrocution and amputation. Unless you are a trained technician, tampering with the machine can kill you;
- serious damage to the equipment;
- serious damage to other equipment;
- serious damage to the premises housing the equipment.

Aristocrat MVP Manuals

Operator Manual

Primarily intended for operators of Aristocrat MVP Video Gaming Machines. The Operator Manual:

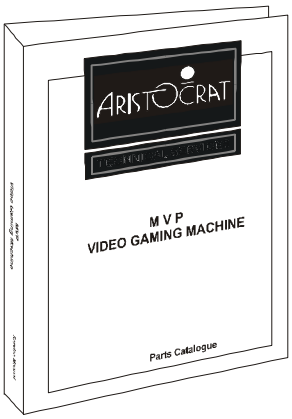
- gives a general overview of the hardware and software
- provides procedures for daily operations and simple maintenance.



Service Manual

Primarily intended for service technicians. The Service Manual:

- gives a general overview of the hardware and software
- provides instructions for installation and fault finding
- describes in detail each of the major components of the machine.



Parts Catalogue

Primarily intended for operators and service technicians. It enables operators and service technicians to order machine parts. The Parts Catalogue:

- shows an illustration of each of the components of the machine
- links each illustration with a part number.

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Foreword

How To Use This Manual

Purpose of the Manual

This manual provides procedures for the operation of the gaming machine. Machine installation, service, and repair must be carried out by licensed technicians.

Warnings, Cautions and Notes

WARNING

A warning immediately precedes an operating procedure or maintenance practice which, if not correctly followed, could result in personal injury or loss of life.

CAUTION

A caution immediately precedes an operating procedure or maintenance practice which, if not strictly observed, could result in damage to or destruction of the equipment, or corruption of the data.

Note

A note immediately precedes or follows an operating procedure, maintenance practice or condition which requires highlighting.

About Aristocrat Leisure Industries

Aristocrat Leisure Industries (ALI) commenced operations in 1953 and is one of the oldest and most successful gaming machine manufacturers. ALI has supplied machines to every country and region in the world where gaming machines are legal, including Austria, France, Germany, Holland, Malaysia, China, the Philippines, Africa, Singapore, Russia, South America, and the USA.

Aristocrat Leisure Industries employs over 1,400 people and has the largest gaming research and development facility in the southern hemisphere.

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Chapter 1

General Description

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1.1 Physical Description

The Aristocrat MVP Video Gaming Machine is the latest model of a range of advanced gaming machines that incorporates the following features:

- Advanced, high-performance electronics based on ARM RISC technology,
- Advanced software enabling a wider variety of games and simpler machine operations,
- Complete range of machine attachments enabling note and coin currency, communication links, progressive systems, and custom options,
- Comprehensive security options,
- Modular design and construction,
- A multi-voltage power supply assembly,
- Easier servicing and maintenance,
- High resolution video displays, advanced animation and graphics, and improved sounds and tunes,
- Variety of aesthetic cabinet types, colours, and game and score displays.

The machine is assembled from various sub-assemblies and major components (modules) which are described in detail in other chapters of this manual.

Figure 1-1 shows a typical external view of the machine with a bill acceptor fitted and Figure 1-2 shows an internal view.

The following table briefly identifies the various modules of the gaming machine.

Table 1-1 Video Gaming Machine Modules

Machine Module	Description
Cabinet, Door and Top Box.	The physical outer enclosure which provides for the location and mounting of other modules.
Belly Panel Door	This door is located on the main door, below the mid trim, and provides access to the note stacker (where fitted) and main door fluorescent tube. This door is fitted with a lock and a battery-backed security switch.
Video Monitor	High resolution 640 x 400 pixels for improved-quality graphics. The monitor is the main medium for displaying game operation and status to the player.
Main Board	The Main printed circuit board (PCB) provides primary control of the gaming machine. The Main Board is interfaced (via the Backplane) to all the major components of the machine. The board receives signals from, and sends control signals to machine components. The Main Board houses the central processor and other logic components for game generation, video and stepper drivers, security items, power control, memory storage, and communications.
Backplane (may also be called the Interface Board).	The Backplane houses an array of connectors which are used to electrically connect (via direct mechanical coupling or through looms and ribbon cables) the various electrical components of the machine to the Main Board.
I/O Driver Board	The I/O Driver Board drives the lamps, receives inputs from the pushbuttons, interfaces with the coin handling system, and provides a battery-backed circuit for security monitoring.
Communication Configuration Board	The Communication Configuration Board (CCB) 'piggy-backs' to the Main Board. The board is used to set up the communications channels of the Main Board (up to three) for external networks, bill acceptor, printer, and touchscreen.
Logic Cage	The logic cage consists of a secure, steel cabinet which houses the Main, Communications Configuration, and I\O Driver PCBAs. The section of the Interface Board that interfaces with the Main Board and the I/O Driver Board is also located within the logic cage.
Power Supply Assembly	The power supply assembly converts the AC mains input voltage into low voltage DC power for the various machine modules and circuits. Power is directed via the Interface Board to the machine components. The video monitor and the fluorescent lighting system receive AC power directly from the power supply assembly.
Coin Handling System	The function of the coin handling system is to check the validity of coins inserted, establish a count and pass signals to the Main Board. The coin handling system directs coins to either the hopper, cash box, or coin tray. The MkV Series II is compatible with several different coin handling systems.

Hopper (if used)	The hopper acts as a holding unit for coins. When instructed by the main board, the hopper returns coins to the player. For each coin ejected, the hopper sends a signal to the Main Board. When the required number of coins have been dispensed, the Main Board signals the hopper motor to stop.
Bill Acceptor and Soft Drop Analyser (if used)	The function of the bill acceptor is to accept valid note currency and register the appropriate number of credits for gameplay. A note stacker is used to store the notes and to record monetary and statistical information. The information stored in the stacker may be read by a PC-based system away from the gaming floor without opening the stacker.
Player Communication (if used)	The function of player communication is to allow a player, using an identification card, to 'log on' to a network system when playing a machine. The network system maintains a record of player transactions, and allows messages to be sent to individual players. The player communication module can be attached to the side of the gaming machine or fitted in the top box.
Mechanical Meter Board (if used)	Electromechanical meters are used to record accounting data in a physical format. The signals for the meters are received from the Main Board, via the Backplane.
Ticket Printer (if used)	The ticket printer is an electronic device mounted within the cabinet, it is used for providing the player with a printed ticket for redeemable credits. The printer may also keep a second copy of all tickets printed for additional audit information.
Communications Interface (if used)	The function of the communications interface is to enable the machine to be linked to a network and/or subsidiary equipment. The communications interface may be linked to various machine modules, including security, and transmits signals from these inputs as each one changes status.
Light Tower (if used)	Multi-level light towers may be used to provide an additional level of customer service and security.

Figure 1-1 Typical MVP Video Gaming Machine with Bill Acceptor - External View

Figure 1-2 Typical MVP Video Gaming Machine with Bill Acceptor - Internal View

Machine Keys

The gaming machine requires keys for the following locks and switches to establish effective security and correct operation. A key may only be removed from its lock or key switch after it has been returned to the locked position. Refer to Figure 1-1 for lock and keyswitch positions.

Table 1-2 Machine Keys

Name	Function
Cabinet Door Lock	Allows the operator to open the cabinet door. Insert the cabinet door key and turn it 180° clockwise, then lift the latch to release the door.
Audit Key Switch	Enables entry to the Operator Mode Menu (see Machine Modes). Insert the Audit Key and turn it 180° clockwise.
Jackpot Reset Keyswitch - also called the Cancel Credit Key Switch	Allows the operator to reset the machine after a machine fault has been corrected (see Machine Modes). Insert the Cancel Credit key, turn it 90° clockwise then back again.
Belly Panel Door	Allows the operator access to the bill acceptor note stacker and door fluorescent tube.
Logic Cage Lock (if fitted)	Allows the operator access to the PCB logic cage. Insert the logic cage key and turn it 180° clockwise.
Bill Acceptor Cage Door Lock(s) (optional)	Allows operator access to the bill acceptor stacker lock(s) and to remove the stacker. Turn keys 180° clockwise to open.
Bill Acceptor Stacker Lock	Allows the operator to remove the notes from the stacker. Insert the key and turn it 90° clockwise, open the door and remove the notes.

1.2 Basic Operation

The gaming machine functions are controlled by an advanced software and hardware platform that gives operators greater control over machine functions, easier maintenance, and simplified machine setup. New games developed with the software provide higher quality graphics, new sounds, and a wider variety of features.

The machine has two major modes of operation: ***Play*** mode and ***Operator*** mode.

The machine is in Play Mode when the cabinet door is closed and locked, the Audit key switch is in the OFF position and there are no fault or lock-up conditions.

The machine is in Operator Mode when the Audit key switch is in the ON position. The operator mode provides a range of operational procedures, data displays, and specific machine functions, all of which are fully controlled by the Operator Mode Menu system and the on-screen guidance. The functions of the operator mode are explained in detail in the chapter Machine Modes.

When the machine is in operator mode, normal game operation is not possible. However, demonstration mode and combination test mode enable gameplay without using currency.

1.2.1 Play Mode

When in Play Mode, the machine:

- operates security and audit features,
- runs self-checking and testing continuously,
- permits gameplay,
- monitors and records gameplay activities continuously,
- displays comments and guidance for players, operators and technicians.

Basic machine operation in Play Mode is shown in Figure 1.3 Depending on the machine configuration, credits may be registered by inserting coins, tokens, or bank notes, or by using a cashless system. With a cashless system, credits are transferred to and from the machine through either a computer link or a smart card. The machine has security features for screening the currency tendered to ensure that only valid currency is accepted.

If the currency is accepted by the machine, the playbuttons on the mid trim become active and flash. The player may then insert more currency, play a game by pressing one of the flashing playbuttons, or have the machine return the current credit total by pressing the CASHOUT pushbutton. The player determines how many credits to wager by pressing one of the BET playbuttons, and the BET meter on the display screen shows the credits wagered.

Once the player starts a game by pressing one of the active playbuttons, the machine runs the game sequence and displays the outcome on the screen. If the result is a winning combination, the player may gamble the win (if the gamble feature is available); otherwise, the machine increments the credits won. If the result is not a winning combination, the player may continue gameplay provided there are credits remaining.

The machine is equipped with electronic audit meters which continuously monitor and record credit movement and game activity. Electromechanical meters may also be fitted. The electronic meters are accessed through the Operator Mode. The information in these meters is used for audit calculations and security purposes.

If the machine encounters an abnormal condition, it alerts the operator by automatically entering Machine Lockup. In lockup, gameplay is disabled to prevent any further player interaction and guidance information is displayed in the game message area. The lockup condition can be identified by examining the Current Lockup screen, which is accessed from the Operator Mode Menu.

1.2.2 Operator Mode

Within Operator Mode (Audit Key ON), the following options are available:

- machine identification
- metering information
- diagnostic information
- operator setup/selection
- miscellaneous
- current lockup mode.

In Operator Mode, the electronic audit meters and the electromechanical meters (if fitted) do not function. Menu selections may be used to review the machine details, select new configurations, and carry out machine tests. Refer to the chapter Machine Modes for detailed information.

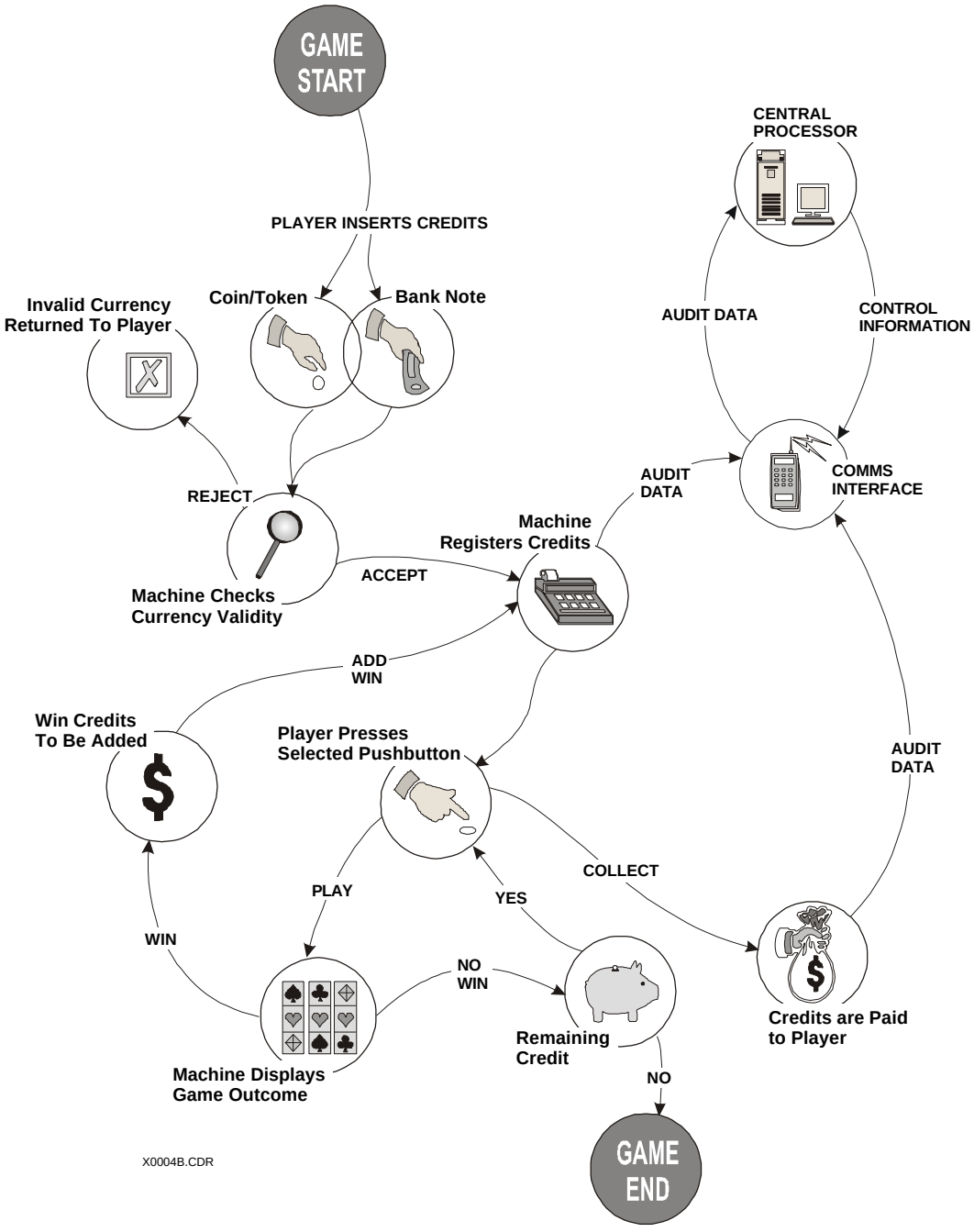


Figure 1-3 Basic Game Operation in Play Mode

1.3 Specifications

Table 1-3 Physical Characteristics

Dimensions (Typical)	
Height of cabinet with high boy top box	1468 mm
Height of cabinet with casino top box	1278 mm
Height of low boy cabinet	897 mm
Width	540 mm
Depth	611 mm
Recommended minimum clearance between machines	180 mm
Weight (Typical)	
With casino top box and bill acceptor	approx. 102 kg

Table 1-4 Power Requirements

The voltage selector switch on the power supply assembly may be set for a mains voltage of either 110/120 V or 220/230/240 V.

Nominal Mains Input Voltage	**120 V**	**240 V**
Minimum	99 V AC	198 V AC
Maximum	132 V AC	264 V AC
Frequency	60 Hz	50 Hz
Mains Input Current		
Gaming Machine Idle	0.7 A	0.4 A
Gaming Machine Maximum	6 A	1.8 A
Gaming Machine Maximum plus Convenience Load Maximum	9 A	4.8 A
Power Consumption at Nominal Voltage		
Gaming Machine Idle	84 W	96 W
Gaming Machine Maximum	720 W	432 W
Gaming Machine Maximum plus Convenience Load Maximum	1180 W	1152 W
Gaming Machine Typical Power Consumption	310 W	380 W

Table 1-5 Environment

	Operating	**Storage**
Minimum Temperature	0° C	-20° C
Maximum Temperature	50° C	80° C
Relative Humidity	0 - 80% non-condensing	0 - 95% non-condensing

Table 1-6 Compliances

Compliances	Explanation
UL22 (Pending)	Standard for Safety Amusement and Gaming Conditions
FCC-CFR47-Pt15	Radiated EMI for ITE standard
AS1099 (Pending)	Environmental testing for electro-technology over a specified temperature and humidity range

Chapter 2

Installation

List of Figures:

2.1 Pre-Installation Requirements

The following items are required to install a machine (see Figure 2-1, Figure 2-2, and Figure 2-3):

- verification of jurisdictional approval.
- a floor plan (only required for new installations).
- a suitable base on which to mount the machine.
- adequate clearance between the sides of adjacent machines to allow the doors to be opened (a clearance of 180 mm is recommended).
- access to mains power outlets and connection cables of peripheral devices.
- machine keys (if locks are fitted).

Important Note
All mains power wiring must be installed by a qualified electrician and comply with Australian standard AS3000-1991, or equivalent national/jurisdictional standards for mains wiring.

WARNING
The gaming machine must be transported and handled with care. Ensure the machine is not dropped or severely bumped.

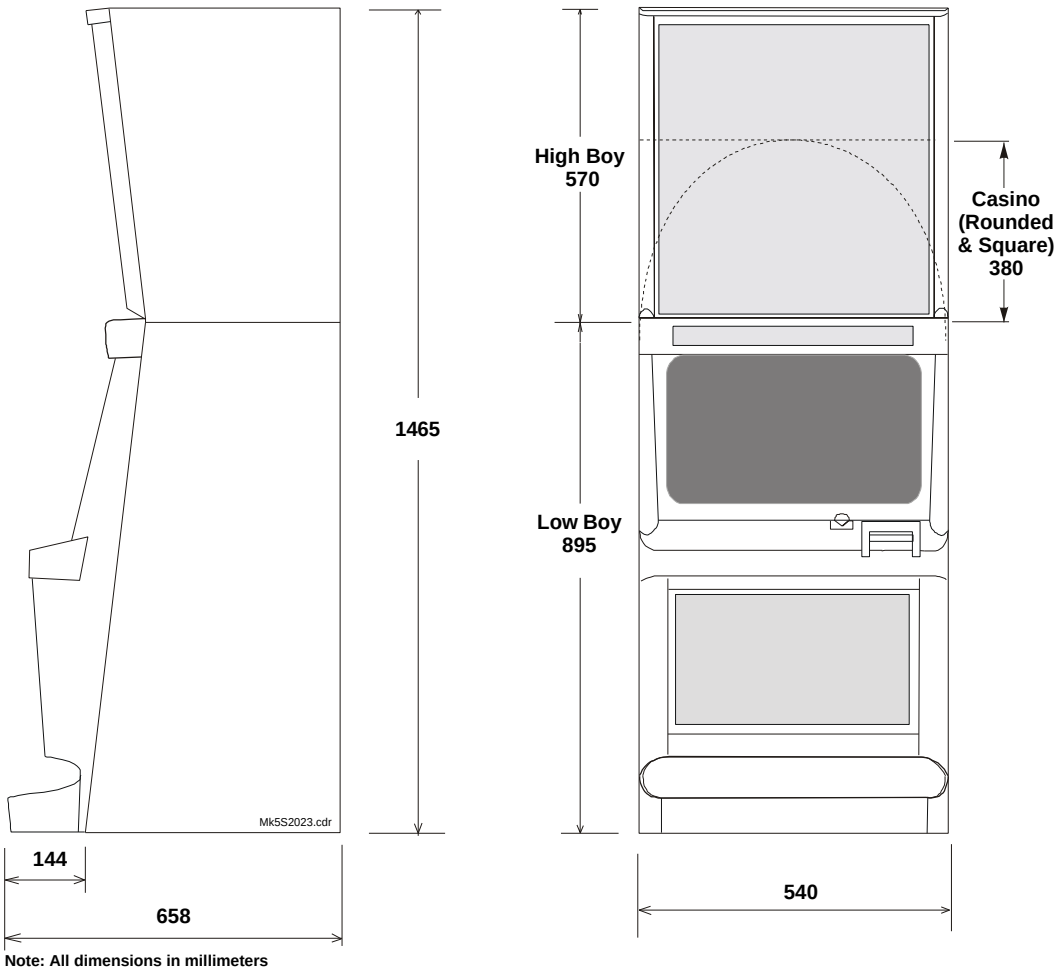


Figure 2-1 Machine Dimensions

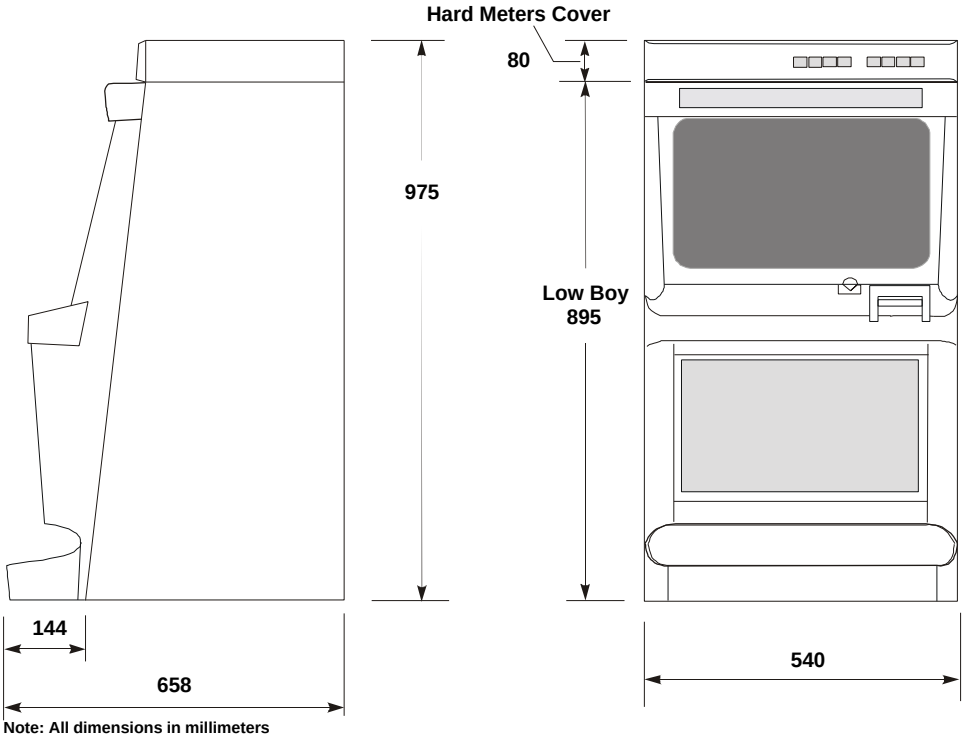
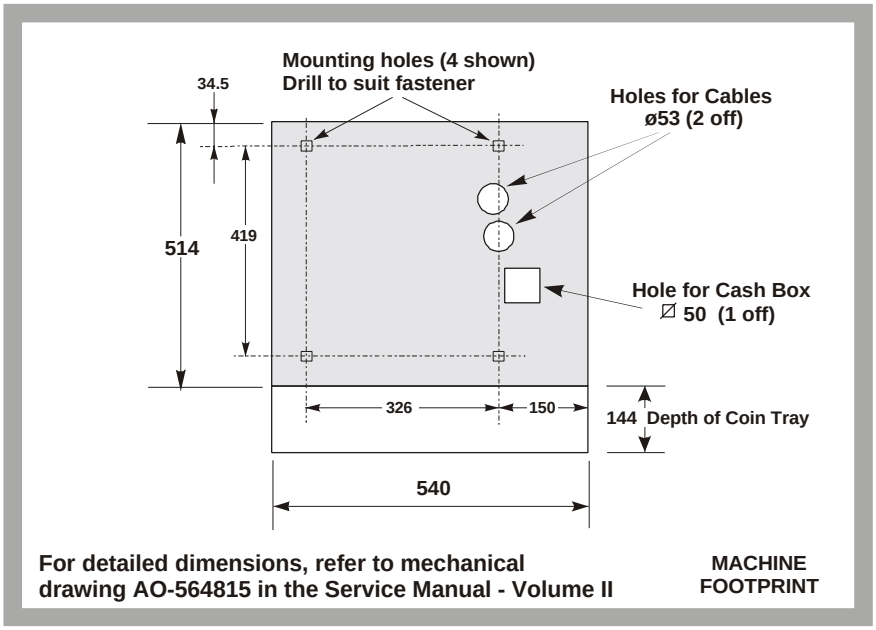
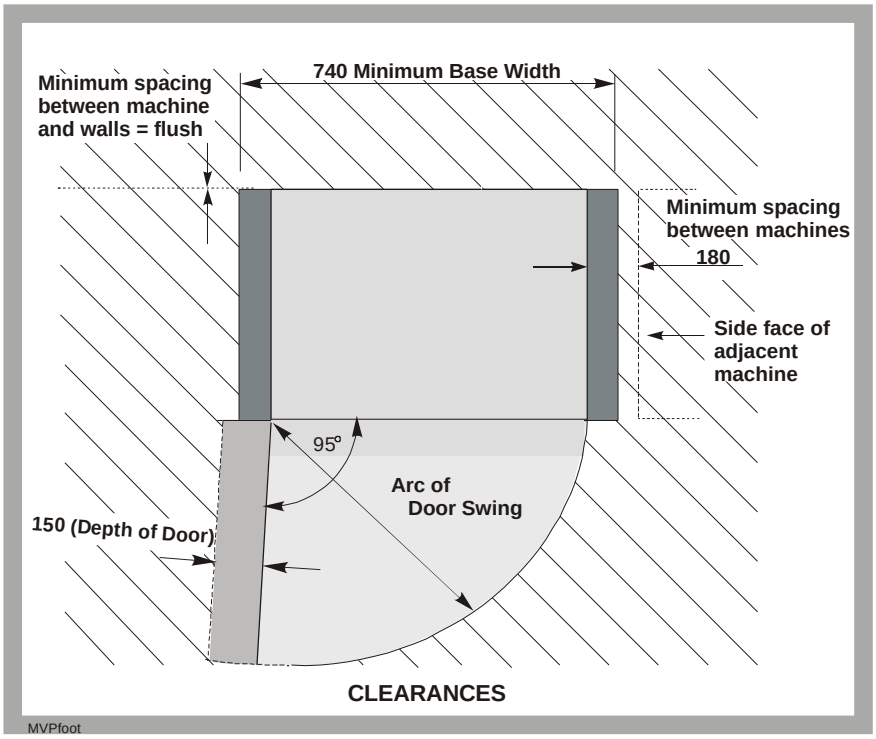


Figure 2-2 Machine Dimensions - Low Boy with Hard Meters





Note: All dimensions in millimeters

Figure 2-3 Machine Footprint and Clearances

2.2 Inspection on Delivery

Inspect all exterior panels of the cabinet for damage that may have occurred during transportation. Report any damage to your supervisor.

2.3 Installation Procedure

Installation and commissioning of machines must be carried out by an appropriately licensed technician and must comply with the regulations of the jurisdictional authority.

The following procedures are for mounting, connecting, and commissioning the gaming machine into service.

2.3.1 Mounting

WARNING
The gaming machine is a heavy item. Follow the national standard and code of practice for manual handling.

Mount the machine to the cabinet base as follows:

1. Position the machine on the cabinet base, aligning it with the cash box and cable holes (refer to Figure 2-3). Drill holes in the cabinet base to match four rectangular mounting holes. The machine **must** be fixed in four positions, two at the front and two at the back, to meet stability requirements.
2. Secure the machine to the base using either bolts and nuts or the special-purpose fasteners provided.

2.3.2 Pre-start Connections, Checks and Power Up

Perform the following machine connections and checks:

1. Check that the printed circuit board assemblies (PCBAs) in the logic cage are firmly seated. The PCBAs are:

   - Main Board
   - Backplane Board
   - Extended USA I/O Driver Board
   - Communications Configuration Board
   - Pulse Mechanical Meter Board

   Note

   For accessing PCBAs, refer to the relevant chapter in the Service Manual.

2. The machine power supply and monitor isolation transformer (Ceronix only) are set at the factory for a mains input voltage of 240 V (or 110 V in North America), unless clearly labeled otherwise. Should there be a need to change the mains input voltage setting:

   WARNING

   Make sure the machine is disconnected from mains power before adjusting voltage settings.

   WARNING

   Selecting the wrong power supply and/or monitor isolation transformer voltage will cause considerable damage to the power supply and/or monitor transformer.

   a. Set the voltage selector switch on the power supply for the correct mains input voltage. The switch is mounted on the metal housing of the power supply assembly, which is located at the back of the cabinet, in the bottom right-hand corner.

   b. Where a Ceronix monitor with a manually-switched isolation mains input transformer is used, set the mains input switch on the transformer to match the mains input voltage.

3. Make sure that the mains power switch is OFF. Connect the mains power cable to the machine. The power cable may enter the cabinet either via a hole in the base of the cabinet or via a hole in the rear wall of the cabinet. A hole is provided in the base of the cabinet, near the cable entrance, to allow a clamp to be fitted to the mains cable. The purpose of this clamp is to prevent the mains

power cable from being accidentally disconnected. This clamp should be fitted if there is a reasonable risk that the mains power cable may be accidentally disconnected.

WARNING

Visually check that the insulation of the mains power cable is sound. Check that all machine earth wires (green/yellow stripe or braid) and screws that were moved during installation are correctly attached.

4. If the machine is fitted with a coin comparator (as opposed to a coin validator), then a sample coin (or token) must be placed in the coin comparator sensor assembly (refer to Figure 2-4) which is mounted to the reflector panel on the inside of the main door. To install a sample coin:
   a. Slide (without lifting) the scanner unit to the right.
   b. Insert the sample coin into place and carefully release the scanner unit. The coin should automatically seat itself.
   c. Check that the sample coin is seated firmly between the scanner unit and the ribs of the rail insert.

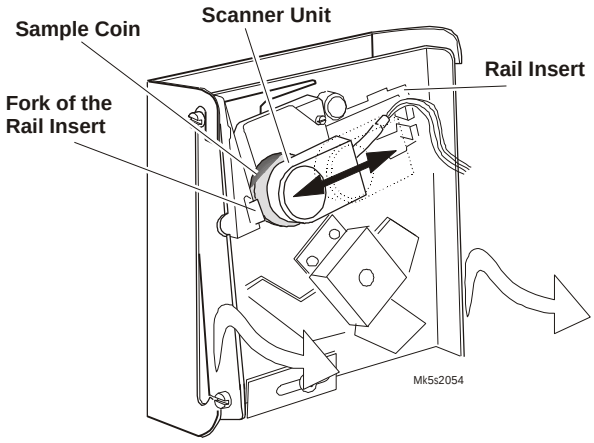


Figure 2-4 Coin Comparator (CC-62 shown)

5. Switch ON the machine and close the main door within 5 seconds (see item 6 below). The monitor and fluorescent lighting system will then be powered up. The machine will perform self-testing procedures for a few moments and any faults detected will be highlighted by a message on the video screen. To fix detected faults, refer to Fault Mode in the chapter Machine Modes.

6. If the monitor exhibits colour aberrations, this may be the result of magnetic interference. Degaussing the monitor and cabinet, as described below, can remove the colour aberrations.
    a. Power down the machine and wait for a 30-minute period to elapse. This time delay enables the monitor circuit varistors to cool sufficiently and create enough energy to degauss both the monitor's ferrous content and that of the cabinet.
    b. Power up the machine and close the door within 5 seconds. Automatic degaussing will now occur.
    c. Should colour aberrations persist, use a degaussing wand to degauss the monitor and cabinet.

2.3.3 Commissioning the Machine

Carry out the following procedures to commission the machine:

1. Check that the machine program type and variation match the customer order. Use the Operator Mode menu and the options described in the chapter Machine Modes.
2. If the machine is fitted with a hopper, fill the hopper as described below.

Important Note
The procedure for filling the hopper is dependant on house rules.

    a. Obtain the correct number of coins required to fill the hopper.
    b. Open the cabinet door. If the jurisdiction requires that the hopper be weighed, turn OFF the machine before removing the hopper.
    c. Place the coins in the hopper, and close and lock the cabinet door.
    d. In some markets, the hopper refill amount must be recorded in the machine memory. To do this, insert and turn the Audit Key to enter Operator Mode, select Record Refill (may be under Miscellaneous Operations) and press the appropriate buttons to record the refill amount. Turn the Audit key back to return to Play Mode.
    e. Record the number of coins placed in the hopper in the refill register.
3. Where the Operator permits, monitor gameplay operations for any faults:
    a. For machines that accept bank notes, insert a valid bank note (in good condition) and confirm that it is accepted and credited correctly. If the bank note is not accepted on the second attempt, repeat the test on another note. If the second bank note is also rejected, refer to the Fault Finding section in the Bank Note Acceptor chapter of the Service Manual.
    b. For machines that accept coins, check that coins are accepted, credited, and paid out correctly.

Retrieve bank notes and coins inserted during testing.

4. Machines operating on a network system may now be connected and installed onto the network. For installation procedure refer to the manual for the particular communications network used.
5. For machines fitted with a ticket printer, carry out the general maintenance procedures as detailed in the Printer chapter of the Service Manual or the Care and General Maintenance chapter of the Operator Manual.
6. Request an Operator to record the values of the hard audit meters (if fitted) and the soft audit meters (as required by the applicable jurisdictional authority).
7. Log installation data as specified by the appropriate jurisdictional requirements.

The machine may now commence operation.

Notes

Chapter 3

Machine Modes

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3.1 Modes of Operation

The gaming machine is operated in two main modes, Play Mode and Operator Mode. Play Mode permits gameplay while the machine is fully operational and the cabinet door is closed. Operator Mode allows the operator to configure the machine, view audit information, carry out machine tests, and reset machine faults. Turning the Audit Key ON switches the machine from Play Mode to Operator Mode.

The gaming machine may be configured to play one of several types of games, the most common being spinning reel games and poker games. Although spinning reel games are featured in this chapter, the explanations and information given can be easily adapted to other game types. The options and procedures outlined are similar for all game types.

3.2 Play Mode

The machine is in Play Mode when the cabinet door is closed and locked, and there are no active lockup conditions. In Play Mode the machine:

- shows game displays in readiness for player operation,
- carries out gameplay,
- continuously monitors and records play activities,
- continuously runs the self-test processes,
- displays comments and guidance for players, operators, and technicians.

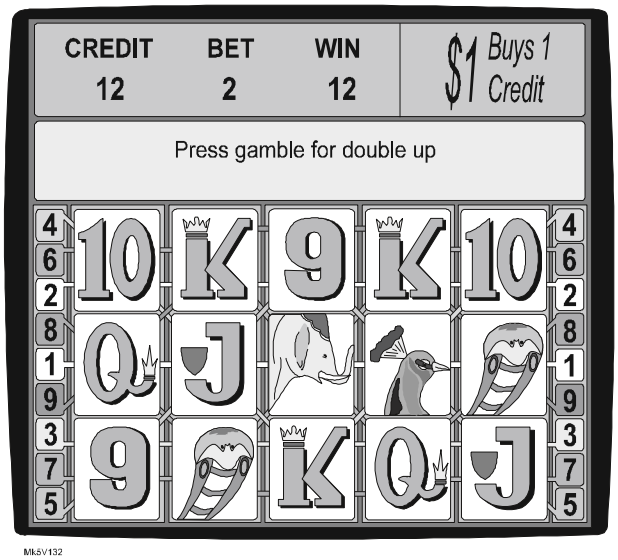


Figure 3-1 Typical Format of Game Display

Figure 3-1 shows the format of a game display. The symbols on the screen will vary depending on the particular game software being used. The CREDIT, BET, and WIN game meters show the number of credits applicable at the current stage of the game. Comments appear in two message lines to guide players and operators as the game progresses. Machine conditions, including security alerts, are also displayed in the message area.

Examples of comments are:

- Game Over
- Main Door Open
- Coin Diverter Fault
- COMBINATION TEST

Lockup fault messages are listed in Section 3.3.8, Fault Mode - Current Lock Menu.

In Play Mode the machine operates with full security features. For example, the machine monitors operations and alerts operators should malfunction or tampering occur. Electronic meters and electromechanical meters (if fitted) record details of gameplay and machine operations in Play Mode.

Options

Besides being able to alter machine controls to suit house preferences, the machine provides menu controls for setting important game and player preferences, including:

- Game percentage,
- Links to house and stand-alone progressives in various levels,
- Hopper coin-collect limit,

- acceptable bill ($ note) denominations
- Volume settings for sounds and tunes.

See Section 3.3.5, Operator Setup/Selection Mode.

The base credit value (a game credit), machine token amount for coin entry, and game gamble option are set using the DIP switches on the I/O Driver Board.

Note
Jurisdictional requirements must be followed when configuring machines.

3.2.1 Player Operation

When the machine is switched on and the cabinet door is closed and locked, the fluorescent tubes light up and the machine automatically initiates a self-test. If no faults are detected, gameplay may begin.

Spinning Reel Games

When a player inserts a coin or note, the machine either accepts or rejects the currency. If the machine accepts the currency, it increments the CREDIT meter on the game video display by the number of credits. The mid trim pushbuttons become active and flash. The player may now either insert more currency or press one of the pushbuttons to play the game. The player selects the number of credits to bet and this number is shown on the BET meter on the video display. A beep sound is heard when any of the BET playbuttons are pressed.

The reels then start to spin and after a short interval come to rest. When the spinning reels stop, the line combinations are evaluated. If the result is a winning combination, a selected win tune is played. The video display shows the number of credits won in the WIN meter.

Some games incorporate a win gamble feature that provides players with the chance to double their WIN amount. This feature is initiated by pressing the GAMBLE pushbutton. The GAMBLE feature may be selected a maximum of five times in succession. If players do not wish to gamble their WIN, they may press the TAKE WIN button to add the WIN to the CREDIT meter.

Due to the limit on the number of coins that can be held in the hopper, as well as other payout considerations, there is a limit to the number of coins that the machine can pay out. This is called the Hopper Limit and is set via the Operator Mode Menu ⇒ Operator Setup/Selections screen.

A player can collect coins up to the Hopper Limit amount by pressing the CASHOUT pushbutton. When the CASHOUT button is pressed, the machine prevents functions such as gameplay and entry of currency until the hopper has dispensed the coins into

the coin tray. The hopper photo-optic detector counts the coins being dispensed. The CREDIT meter decrements to zero.

When a player presses the CASHOUT pushbutton and the value of the game credits is greater than the Hopper Limit:

- the message **Call attendant - Cancel Credit $99.99** is displayed ($99.99 is the value of credits to be paid out).
- the attendant hand pays the value of the credits and then resets the machine by turning the Jackpot Key ON then OFF.
- the message **Credits paid out $99.99** is displayed on the screen.
- the CANCEL CREDIT electronic meters and electromechanical meters record the number of credits paid out.
- the game CREDIT on the screen and the CREDIT electronic meters are reset to zero.

Types of Games

Machines generally have one of three game types: multiplier, multiline, and multiline-multiplier:

Multiplier- A multiplier game allows a player to gamble more than one credit per game on a single winning line. Each additional credit gambled generally multiplies the value of the prize by the value of the credits staked.

Multiline- A multiline game allows a player to specify multiple lines on which to bet for a winning combination. The win total is calculated by adding each of the win lines.

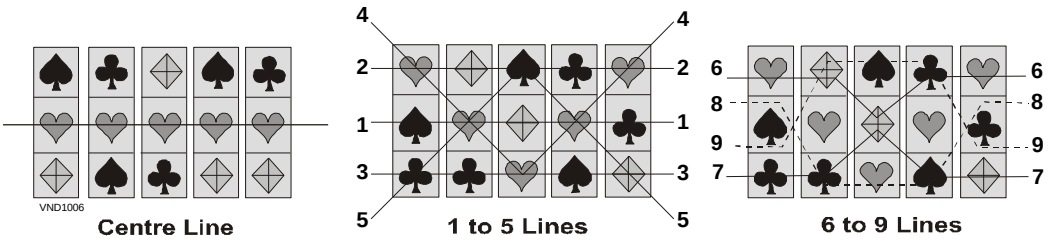


Figure 3-2 Centre Line and Multi Line Combinations

3.2.2 Video Display

The video display unit provides high-resolution graphics based on 256 colors. The unit is able to display attractive game illustrations and animations, as well as player messages, operator menus and information displays.

The simulated spinning reels take up most of the screen area. The area at the top of the screen displays CREDIT, BET, and WIN information, as well as the coin denomination accepted. Between these two areas is the message display area.

3.2.3 Sounds and Tunes

Sounds and tunes are used, in combination with the graphics and animation, to increase game appeal.

Different sounds are played to signify various machine conditions, such as alarm, reel spin/stop, win, lose, double-up win, jackpot bell, coins entering machine, and coins falling to coin tray. Each game has its own specific sounds and tunes.

The volume of the sound system can be adjusted in the Sound System Setup menu.

3.2.4 Light Tower

Multi-level light towers are fitted to provide an additional level of customer service, security and house control. The tower is color coded to identify the machine's denomination.

Typical light tower functions are as follows:

CONDITION	DOOR CLOSED		DOOR OPEN	
	Top Light	Bottom Light	Top Light	Bottom Light
Idle	OFF	OFF	OFF	FAST FLASH
Service	ON	OFF	ON	FAST FLASH
Tilt	SLOW FLASH	OFF	SLOW FLASH	FAST FLASH
Hand Pays	SLOW FLASH	SLOW FLASH	SLOW FLASH	FAST FLASH

The Light Tower indicates one of four possible machine states:

The **IDLE** state: the default state when no other state exists.

The **SERVICE** state: when the 'Service' button has been being pressed and it is lit.

The **TILT** state: the machine will be considered to be in this state when one of the following conditions exists:

- a lockup fault condition (excluding Main Door Open and the Handpays state), such as Logic Door Accesses or Bill Acceptor Error.
- a non-lockup fault condition, such as Bill Stacker Full or Printer Paper Low.

The **HANDPAYS** state exists when one of the following conditions occur:

- a Jackpot lockup,
- a Cancelled Credit lockup, or
- a Progressive Link Jackpot lockup.

Note

After the Main Door has been closed, the bottom tier light should remain lit (unless it is otherwise flashing) until the start of the next game.

3.2.5 Pushbuttons

A typical layout of the pushbuttons is shown below. The pushbuttons are labelled and have the following functions: CASHOUT, SERVICE, PLAY 1/5/10/15/20 LINES, BET 1/2/3/5/10 CREDITS, TAKE WIN, GAMBLE, and RED and BLACK, which refer to features of the gamble option.

Each pushbutton has a lamp behind it that may either be lit, unlit, flashing, or flashing at double speed, depending on the circumstances and the machine mode.

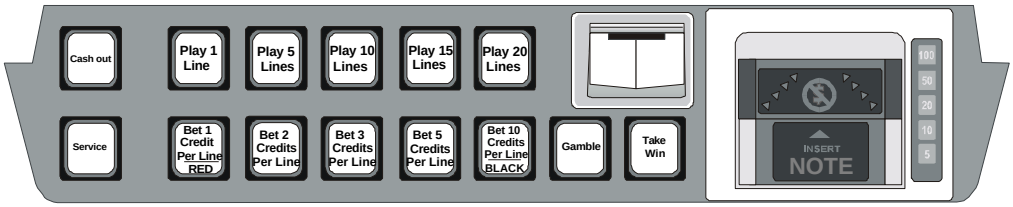


Figure 3-3 Typical Pushbutton Layout

Cash Out Button

The enabled Cash Out button is used to initiate a player credit payout from the machine in the form of a hopper pay, a printer cash ticket, or a cancel credit handpay procedure.

The Cash Out button will be disabled if there is no credit on the credit meter, a hopper payout is in progress, or the machine is in the process of playing a game. Otherwise, this button will be lit to indicate it is enabled.

Service Button

This button is used by the player to request service. Pressing this button will toggle the button lamp on and off, and will toggle the Service tier of the light tower on and off.

The Service tier of the light tower is also used to signal non-lockup errors. The on-screen error message is cleared by pressing the Service button again. The error is cleared when the fault has been corrected. The following faults are non-lockup faults:

- Bill acceptor disconnected fault
- Bill stacker fault
- Bill stacker full
- 5 Bills rejected
- Printer paper low.

3.2.6 Machine Self-Monitoring

Self-test

When the machine is switched on, it automatically initiates a self-test that continues in the background as long as the machine is in play mode. During the self-test, the machine checks the electronic meter data held in computer memory and also carries out an audit calculation using essential meter counts.

This self-audit calculation is defined by the formula:

CASH IN + HOPPER REFILLS + TOTAL CREDITS WON + JACKPOT HANDPAYS
=
TOTAL CREDITS BET + CANCEL CREDIT + COIN OUT

The memory holds up to three copies of the electronic meter data, METER SET 1, METER SET 2 and METER SET 3. If the data in one meter set does not match that in the other two sets, the data of the two identical sets overwrites the single set.

Security

When the machine is in Play Mode, it continuously operates the following security features:

Coin Comparator. The coin comparator scans inserted coins and compares them with a sample coin held in the comparator. Invalid coins are diverted to the coin tray. Accepted coins are directed past the comparator's internal photo-optic detector and on to the coin accept chute.

The machine software monitors the speed and direction of travel of the accepted coins. For coins travelling too slowly or travelling in the wrong direction, an error signal is generated and the machine locks up, with the appropriate error message being displayed on the screen.

If the inserted coin is valid and no error conditions are encountered, the appropriate credits are registered in the game CREDIT display and gameplay may take place. The Jurisdictional Meters CASH IN and CREDIT and the electromechanical meter CASH IN (if fitted) are incremented accordingly.

Hopper. If the hopper is empty and the player is in credit and presses the CASHOUT pushbutton, the machine locks up and displays a HOPPER EMPTY message and the electronic meter HOPPER EMPTY increments. The hopper is refilled in these circumstances according to house rules, after which gameplay may resume.

During a payout, the hopper disc rotates and passes coins onto the coin runner where they are counted by the hopper photo-optic detector. After passing the detector, they are deposited in the coin tray for the player to collect. Also:

- the CREDITS COLLECTED electromechanical meter and the TRUE OUT electronic meter are incremented by the amount paid out.
- the game CREDIT on the screen and the CREDIT electronic meter are decremented by the amount paid out.
- a payout message is displayed on the screen showing the value paid out.

The machine monitors the hopper operation and the coin’s passage from the hopper to the coin tray. Unusual conditions and faults are registered by increments in the Diagnostic Meters, video messages and machine lockups. These fault conditions are ILLEGAL COIN OUT, HOPPER EMPTY, HOPPER JAMMED, and HOPPER DISCONNECTED.

Bill (Bank Note) Acceptor. The Bill Acceptor consists of an optical scanning unit and a bill stacker contained in a high-security housing. The scanning unit achieves a

high percentage of acceptances, and a second-level scanning option can be initiated for high-denomination bills.

During operation, the acceptor registers acceptances and rejections. Bills accepted increment the BILLS INSERTED electronic meter and electromechanical meter (where fitted). Detailed information is recorded in the Bill Acceptor meters, which may be accessed from Operator Mode / Accounting Information Menu. These meters record the value and quantity of each note accepted. A record is also kept of the last five notes accepted.

The machine monitors the bill acceptor operation and unusual conditions and faults are registered by increments in the Diagnostic Meters, and by display messages and machine lockups. The lockups and video messages are BILL ACCEPTOR ERROR and BILL ACCEPTOR OUT OF SERVICE. Should the bill stacker door be opened, the alarm sounds and the message BILL STACKER REMOVED is displayed.

A lockup occurs should the bill acceptor stacker become full. The lockup description and video message is BILL ACCEPTOR FULL.

The belly panel door which provides access to the bill stacker is monitored by a mechanical security switch (see below for further details).

Door Access

The main door, cash box door, belly panel door, and logic cage door are monitored by battery-backed mechanical security switches. If a door fitted with a security switch is opened, the following actions occur:

- One of the following messages is displayed on the screen: DOOR OPEN MAIN, DOOR OPEN CASH BOX, DOOR OPEN BILL ACCEPTOR, or SECURITY CAGE OPEN MAIN BOARD.
- The alarm sound is heard.
- One of the following lockups occurs: MAIN DOOR OPEN, CASH BOX DOOR OPEN, BILL ACCEPTOR DOOR OPEN, or LOGIC DOOR OPEN.
- gameplay is suspended.
- One of the following electronic Diagnostic Meters is incremented: MAIN DOOR ACCESSES, CASH BOX ACCESSES, BILL ACCEPTOR ACCESSES, or LOGIC ACCESSES.

The condition is reset by closing the appropriate door.

3.2.7 Electronic Meters

The electronic meters (soft meters) record a variety of details relating to machine operation, gameplay and player interaction, as well as a variety of statistical counts, security events and past games. Players have the assurance that there is a record kept of recent win or pay situations.

When the machine is switched on, it automatically initiates a self-test that continues in the background as long as the machine is in play mode. During the self-test, the machine checks the electronic meter data held in memory.

Some jurisdictions require electronic metering data to be stored in triplicate in three separate battery-backed RAM chips. In the case of a meter malfunction, where none of the meters sets match, the machine displays the error message 3-WAY MEMORY ERROR and the machine locks up. This message indicates a serious machine malfunction.

Failure in the self audit calculation also causes a machine lockup with the message SELF AUDIT ERROR being displayed.

Resetting Metering and Self Audit Errors

To clear a metering or self audit error, it is necessary to rectify the memory fault and re-establish correct operations with all corrupted meters set to zero. The lockup is removed by turning the Audit Key ON, following the on-screen guidance, and then turning the Audit Key OFF to return to gameplay. After recovering from a memory error, all electronic meters will be reset to zero. The information held in the electronic meters includes Accounting Information Menu items, Diagnostic Information Menu items, and Operator Setup / Selections Menu items as detailed in the Operator Mode.

3.3 Operator Mode

Operator Mode addresses the jurisdictional and accounting / management information requirements, allows the machine configuration to be changed, and facilitates machine testing and fault finding. Entry to Operator Mode is achieved by turning the Audit (Operator) key ON. The various options can be selected by following the on-screen guidance and pressing the appropriate pushbutton.

Note

The screen displays and options covered in this chapter are typical; however, slight variations may occur between markets.

The Operator Mode structure is shown in Figure 3-5 and the Operator Mode Menu screen is shown below.

Table 3-1 Typical Operator Mode Menu

OPERATOR MODE MENU

Machine Identification
Accounting Information
Diagnostic Information
Operator Setup/Selections
Miscellaneous
Current Lockup

Play 1 Line - Press to select next item
Play 5 Lines - Press to select previous item
Play 10 Lines - Press to choose selected item
Service - Press to return to previous menu
Operator Key - Turn off to exit

Note

"Operator Key - Turn off to exit" message will not be displayed if a Lockup is present.

Instructions are given on each screen to guide the operator through the various menus and options available. Any active lockups are indicated by a flashing message at the bottom of the screen.

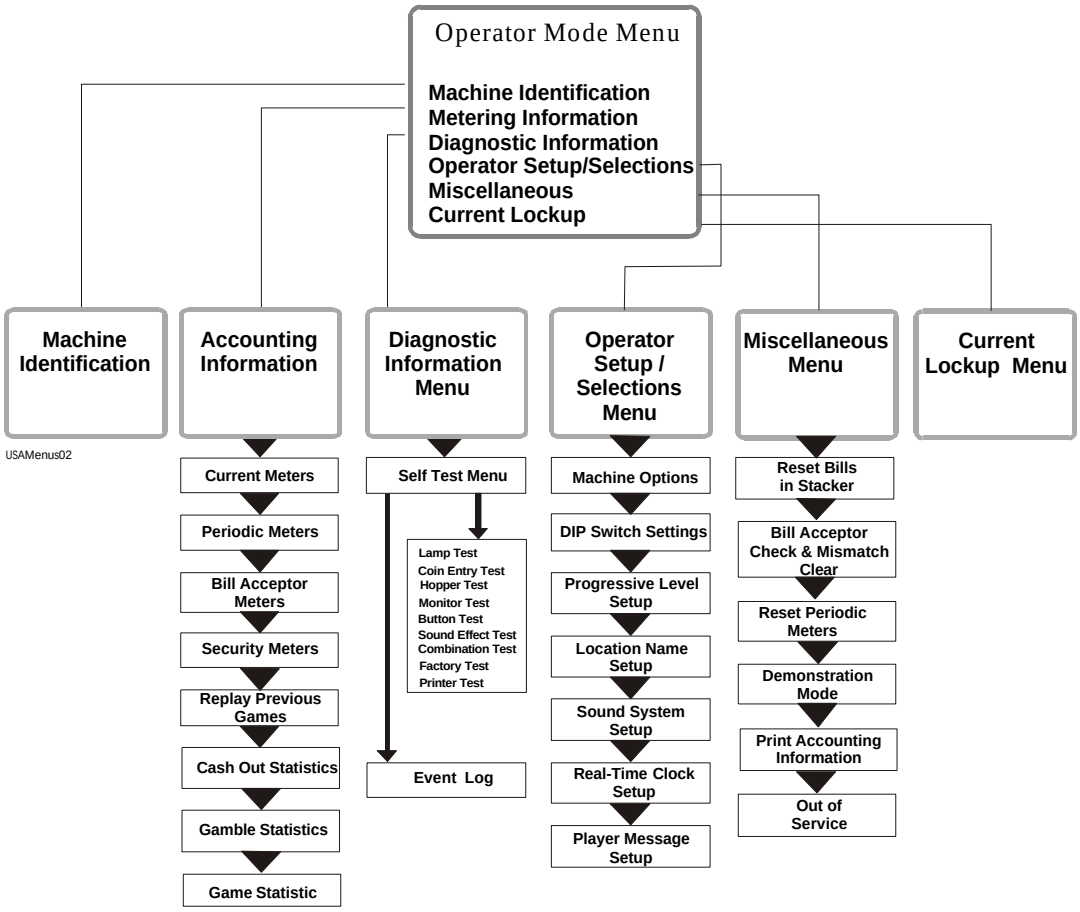


Figure 3-4 Operator Mode Menu Displays - Typical Structure

3.3.1 Machine Identification

The Machine Identification screen provides essential machine information, such as Game Eprom Id, Credit Value, Percentage Return, and Jackpot Limit.

Table 3-2 Machine Identification Display

MACHINE IDENTIFICATION AND CONFIGURATION

Game Eprom Id (UCI):	0100090V (17264)
Value of 1 Credit:	$1.00
Variation (% and no):	87.890% 99
Actual Operating Percentage:	123.00%
Venue Name:	Casino Name
Machine Number (GMID):	0
Mikohn Address:	1
Progressive Links Supported:	3
Comms Protocol Supported:	Broadcast Dacom
Hopper or Printer Installed:	Hopper selected
Hopper Payout Limit:	9999999 Coins
Jackpot Win Limit:	9999999 ($99999)
Maximum Credit Limit:	$1199.99

Service - Press to return to previous menu
Operator Key - Turn off to exit

3.3.2 Metering Information

The Metering Information displays provide information for government authorities, as well as additional financial and statistical details, including periodic performance details, game replay, and game and gamble statistics. Most of the information can not be altered; although some details may be changed through Operator Setup / Selections ⇒ Machine Options.

The various screen displays may be accessed by following the on-screen guidance and pressing the appropriate pushbuttons.

Table 3-3 Metering Information Menu

ACCOUNTING INFORMATION

Current Meters
Periodic Meters
Bill Acceptor Meters
Security Meters
Replay of Previous Game
CASH OUT Statistics
Gamble Statistics
Game Statistic

Play 1 Line - Press to select next item
Play 5 Lines - Press to select previous item
Play 10 Lines - Press to choose selected item
Service - Press to return to previous menu
Operator Key - Turn off to exit

Current Meters

The Current Meters provide the financial counts of machine activity. Items include turnover, total wins, and amounts inserted in the coin entry and the bill acceptor devices. In depth statistical information is also provided by the Game and Gamble displays.

Table 3-4 Current Meters Display - Screen 1

CURRENT METERS - MAIN

	METER SET 1	METER SET 2	METER SET 3
Current Credits:	nn	nn	nn
Total Games Played:	nn	nn	nn
Total Credits Bet:	nn	nn	nn
Total Credits Won:	nn	nn	nn
True In (Coins Inserted):	nn	nn	nn
Bills Inserted:	nn	nn	nn
Coin Drop (Cashbox):	nn	nn	nn
Gross Drop (Gross In):	nn	nn	nn
True Out:	nn	nn	nn
Cashout Handpays:	nn	nn	nn
Jackpot Wins:	nn	nn	nn
Total Handpays:	nn	nn	nn

Play 1 Line - Press to display next meter screen
Service - Press to return to previous menu
Operator Key - Turn off to exit

Table 3-5 Current Meters Display - Screen 2

CURRENT METERS - OTHER			
	METER SET 1	METER SET 2	METER SET 3
Power Up (count):	n	n	n
Games Since Power Up:	n	n	n
Games Since Door Open:	n	n	n

Play 1 Line - Press to display next meter screen
Play 5 Lines - Press to display previous meter screen
Service - Press to return to previous menu
Operator Key - Turn off to exit

Table 3-6 Current Meters Display - Screen 3

CURRENT METERS - LINK PROGRESSIVES			
	METER SET 1	METER SET 2	METER SET 3
Occurrences of			
Jackpot 0:	n	n	n
Jackpot 1:	n	n	n
Jackpot 2:	n	n	n
Jackpot 3:	n	n	n
Jackpot 4:	n	n	n
Jackpot 5:	n	n	n
Mystery Pay	n	n	n
Accumulative Value of			
Jackpot 0:	$n.nn	$n.nn	$n.nn
Jackpot 1:	$n.nn	$n.nn	$n.nn
Jackpot 2:	$n.nn	$n.nn	$n.nn
Jackpot 3:	$n.nn	$n.nn	$n.nn
Jackpot 4:	$n.nn	$n.nn	$n.nn
Jackpot 5:	$n.nn	$n.nn	$n.nn
Mystery Pay	$n.nn	$n.nn	$n.nn

Play 1 Line - Press to display next meter screen
Play 5 Lines - Press to display previous meter screen
Service - Press to return to previous menu
Operator Key - Turn off to exit

The items recorded in the Current Meters screens are explained below.

Current Credits	Credits currently available to be bet or collected.
Total Games Played	Total number of games played.
Total Credits Bet	Accumulated value of all credits bet.
Total Credits Won	Accumulated value of credits won that is paid out : - to the credit meter, - as a hopper payout, or - a winning cash ticket.

True In	The total number of all coins inserted (and accepted) into machine.
Bills Inserted	The total credits of all bills inserted (and accepted) into the machine.
Coin Drop	Total number of all coins that are diverted to the cashbox.
Gross Drop	The total credit value of all money (coins and bills) accepted by the machine.
True Out	The total credits of all cashouts paid out by the machine, either by: - hopper payout, or - printer ticket (CASH OUT Tickets and CASH WIN Ticket).
Cashout Handpays	The total of all credits paid out as handpays as a result of cashouts exceeding the Hopper Payout Limit (or the Printer Payout Limit).
Jackpot Wins	The total of all credits paid out as handpays as a result of wins exceeding the Jackpot Win Limit
Total Handpays	The total credits of all combined handpays including : - Cashout Handpays, - Jackpot Handpays, - Win Handpays, and - Progressive Handpays (Links and Mysterys).
Power Up	The number of times the power has gone down.
Games Since Power Up	The number of games played since the power was last restored.
Games Since Door Open	The number of games played since the main door was last opened.
Occurrences of Link Progressives	The number of times each level of link progressive has been won.
Accumulative Value of Link Progressives	The total value won (when returned by the progressive equipment) for each link progressive level.
Occurrences of Mystery Progressives	The number of times each level of mystery progressive has been won.

Accumulative Value of Mystery Progressives	The total value won (when returned by the progressive equipment) for each mystery progressive level.

Periodic Meters

The Periodic Meters screens contain the same information items as the Jurisdictional Meters, but the values held usually relate only to a specified period determined by the club management. The periodic meters can be reset via the Miscellaneous option from the Operator Mode Menu.

Bill Acceptor Meters

This screen provides a record of the number of notes of each denomination received, the last five notes accepted, the total value of notes received, the total value of bills in the note stacker, the number of bills accepted / rejected, and the amount of change money obtained.

To maintain the accuracy of this information, the Bill Acceptor Meters must be reset when the stacker is emptied. To reset the meters, select Miscellaneous ⇒ Reset Bills in Stacker.

Table 3-7 Bill Acceptor Information Display

BILL ACCEPTOR INFORMATION

NUMBER OF NOTES RECEIVED		LAST FIVE NOTES RECEIVED	
$1 Notes Received:	n	Last:	Nothing
$2 Notes Received:	n	Second Last:	Nothing
$5 Notes Received:	n	Third Last:	Nothing
$10 Notes Received:	n	Fourth Last:	Nothing
$20 Notes Received:	n	Fifth Last:	Nothing
$50 Notes Received:	n		
$100 Notes Received:	n		
Total Value of Notes Received:		$n.nn = n credits	
Bills In Stacker:		n	
Bills Validated:		n	
Bills Rejected:		n	
Change Credits Obtained:		nn	

Service - Press to return to previous menu
Operator Key - Turn off to exit

Security Meters

The Security Meters record the number of occurrences of specific security accesses and machine faults.

Table 3-8 Security Meters Display (Page 1)

SECURITY METERS	
Main Door Accesses:	n
Cash Box Accesses:	n
Logic Door Accesses:	n
Bill Acceptor Door Accesses:	n
Mechanical Meters Disconnected:	n
Printer Faults:	n
Printer Disconnected:	n
Paper Depleted Faults:	n

Play 1 Line - Press to display next meter screen
Service - Press to return to previous menu
Operator Key - Turn off to exit

Table 3-9 Security Meters Display (Page 2) - Example

SECURITY METERS	
Coin Optic Faults:	n
Coin Acceptor Faults:	n
Coin Diverter Faults:	n
Reverse Coin Attempts:	n
Illegal Coin Out:	n
Hopper Empty:	n
Hopper Jammed:	n
Hopper Disconnected:	n
Bill Acceptor Faults:	n
Bill Acceptor Disconnected:	n
Bill Stacker Removals:	n
Bill Stacker Full:	n
5 Consecutive Bills Rejected:	n

Play 5 Lines- Press to display previous meter screen
Service - Press to return to previous menu
Operator Key - Turn off to exit

The following events are recorded in the Security Meters:

Main Door Accesses	Incremented when the main door is opened.
Cash Box Accesses	Incremented when the cash box door is opened.
Logic Door Accesses	Incremented when the logic security cage is opened.

Bill Acceptor Door Accesses	Incremented when the belly panel door is opened.
Mechanical Meters Disconnected	Incremented if the meter board is disconnected.
Printer Faults	Incremented when the printer indicates that an internal fault occurred.
Printer Disconnected	Incremented when the printer is detected as being disconnected.
Paper Depleted Faults	Incremented when the printer indicates that the paper roll has been completely depleted.
Coin Optic Faults	Incremented if the coin comparator detects a coin jam.
Coin Acceptor Faults	Incremented if the coin acceptor pulse exceeds 50 ms.
Coin Diverter Faults	Incremented when the software detects that the coin diverter isn't operating correctly.
Reverse Coin Attempts, (may also be referred to as Yo-Yo attempts)	Incremented when the coin comparitor device detects a coin passed through the coin optics in the reverse direction.
Illegal Coin Out	Incremented when the machine is not in hopper collect, but a coin passes the hopper optic.
Hopper Empty	Incremented when in hopper collect two consecutive 4 second attempts to pay out a coin fail.
Hopper Jammed	Incremented when the hopper optic is blocked for more than 200 ms.
Hopper Disconnected	Incremented when hopper is disconnected (checked once every second).
Bill Acceptor Faults	Incremented when a bill acceptor fault is detected.
Bill Acceptor Disconnected	Incremented when a bill acceptor has being disconnected.
Bill Stacker Removals	Incremented when a bill stacker is removed.
Bill Stacker Full	Incremented when a bill stacker is full.
5 Consecutive Bills Rejected	Incremented when 5 consecutive bills are rejected

Replay Previous Games

This Replay Previous Games screen allows the operator to replay the most recent games played on the machine. The most recent game is game number 1, and approximately twenty of the most recent games are normally available to be replayed. Because these game histories are stored dynamically in memory, the number of games available to be recalled will vary depending on the available memory.

Table 3-10 Previous Game Display

GAME REPLAY

No. Of Games Available To Replay: nn
Replay Game Number: nn

During replay, press any key to pause the game

Play 1 Line - Press to select next game
Play 5 Lines - Press to select previous game
Play 10 Lines - Press to see replay selected game
Service - Press to return to previous menu
Operator Key - Turn off to exit

CASHOUT Statistics

The CASHOUT Statistics screen displays, for each range of CASHOUT credits, the number of times players CASHOUT the total credits.

Table 3-11 CASHOUT Statistics Display

COLLECT STATISTICS

COLLECT Amount (Credits)			Times COLLECTED
1	-	10	n
11	-	20	n
21	-	30	n
31	-	40	n
41	-	50	n
51	-	75	n
76	-	100	n
101	-	200	n
201	-	300	n
301	-	500	n
501	+		n

Service - Press to return to previous menu
Operator Key - Turn off to exit

The following text provides an explanation for the information in the CASHOUT Statistics:

CASHOUT Amount (Credits)	Specifies the range of CASHED OUT amount in credits, eg., 1 - 10, 11 - 20, 21 - 30, 31 - 40, 41 - 50, 51 - 75, 76 - 100, 101 - 200, 201 - 300, 301 - 500, 501+

Times CASHED OUT	The number of times that a player CASHED OUT credits in that range.

Gamble Statistics

The Gamble Statistics screen displays the gamble statistic of the machine. For each winning amount within a winning range, the selected gambled or Take win is recorded.

Table 3-12 Gamble Statistics

GAMBLE STATISTICS

Win Amount		Gambled	Take Win	Chosen	Won
1	-4	n	n	Red	Red
5	-9	n	n	0	0
10	-19	n	n		
20	-29	n	n	Black	Black
30	-49	n	n	0	0
50	-99	n	n		
100	-199	n	n		
200	-499	n	n		
500	-999	n	n		
1000	-1999	n	n		
2000	-4999	n	n		
5000	+	n	n		

Service - Press to return to previous menu

The following text provides an explanation for the information in the Gamble Statistics:

Win Amount	Specifies the range of winning amount in credits.
Full Gambled (if applicable)	The number of times that a player chooses to Double after a winning play.
Half Gambled (if applicable)	The number of times that a player chooses to halve the win and double the remainder
Take Win	The number of times that a player chooses to take the win after a winning play.
Won	Total number of times that card beat the dealer card.

Game Statistics

Details of game play are recorded and displayed through the Game Statistics option. The types of bets and lines chosen are analysed, and the number of games played and the money won is displayed for each sub-division.

Table 3-13 Game Statistics Display

GAME STATISTICS

Bet	Lines	Games Played	Money Won	Bet	Lines	Games Played	Money Won
1	1	4	$30.00	5	1	0	$0
1	5	0	$0	5	5	0	$0
1	10	0	$0	5	10	0	$0
1	15	0	$0	5	15	0	$0
1	20	0	$0	5	20	0	$0
2	1	0	$0	10	1	0	$0
2	5	0	$0	10	5	0	$0
2	10	0	$0	10	10	0	$0
2	15	0	$0	10	15	0	$0
2	20	0	$0	10	20	0	$0
3	1	0	$0				
3	5	0	$0				
3	10	0	$0				
3	15	0	$0				
3	20	0	$0				

Service - Press to return to previous menu
Operator Key - Turn off to exit

3.3.3 Diagnostic Information Menu

The Diagnostic Information Menu provides access to the Self Test Mode and the Error Log display.

Table 3-14 Diagnostic Information Menu

DIAGNOSTIC INFORMATION MENU

Self Test Mode
Event Log

Play 1 Line - Press to select next item
Play 5 Lines - Press to select previous item
Play 10 Lines - Press to choose selected item
Service - Press to return to previous menu
Operator Key - Turn off to exit

Self Test Mode

Self Test Mode addresses the repair and maintenance tasks for the machine. The items on the Self Test Mode Menu are designed to test various machine components and features. The Self Test screen is displayed below.

Self Test Mode can only be entered when the following conditions are met, otherwise a warning screen will be displayed:

- Credit is zero,
- Main door is open,
- No other lockups active, and
- No game is currently in progress.

Table 3-15 Self Test Mode Menu

SELF TEST MODE MENU	
Lamp Test	Sound Effect Test
Coin Entry Test	Combination Test
Hopper Test	Factory Test
Monitor Test	Printer Test
Button Test	

Play 1 Line - Press to select next item
Play 5 Lines - Press to select previous item
Play 10 Lines - Press to choose selected item
Service - Press to return to previous menu
Operator Key - Turn off to exit

Lamp Test

This screen allows the operator to test the pushbutton lamps, animation lamps and light tower lamps. The state of individual lamps can be set to either on, off, flashing slow, or flashing fast. The operator can then observe the lamps to verify correct operation.

Table 3-16 Lamp Test

```
                TEST MODE - LAMP TEST
Light Tower     Animation     Player Key
Lamp #          Lamp #        Lamp #
1               1               1       6              ALL
2               2               2       7
3               3               3       8
4                               4       9
                                5
Current Function:   ON   OFF   FLASH SLOW   FLASH FAST

Press 1 Line        - Press to select next lamp
Press 5 Lines       - Press to select previous lamp
Press 10 Lines      - Press to select function (on/off/flash)

Service    - Press to return to previous menu
Operator Key - Turn off to exit
```

Coin Entry Test

This screen allows the operator to test the coin entry devices. The operator can change the reject state of the coin comparator, change the diverter state, and turn the optic emitter on and off. A message is displayed if a fault occurs.

Table 3-17 Coin Entry Test Screen

```
            TEST MODE  - COIN ENTRY TEST SCREEN
COIN ENTRY
            Reject state:       Chip Tray
            Validator:          Inactive
            Optic A:            Unblocked
            Optic B:            Not Used

CASHBOX
            Diverter state:     Chip Tray
            Optic A:            Not Used
            Optic B:            Not Used
MESSAGE

            Press 1 Line        - Press to change reject state
            Press 5 Lines       - Press to change diverter state

            Service    - Press to return to previous menu
            Operator Key - Turn off to exit
```

Hopper Test

Open the main door and select Hopper Test from the menu, the hopper will then pay out 10 coins. Place the coins back into the hopper and close the main door. If a fault, such as Hopper empty, jammed, etc, occurs, a message is displayed on the screen.

Table 3-18 Hopper Test Screen

```
TEST MODE - HOPPER TEST

Hopper Test Payout          n
Coin Reinserted:            n
Last Hopper Event        none

Cashout   - Press to activate payout
Service   - Press to return to previous menu
Operator Key - Turn off to exit
```

Monitor Test

This screen display allows a range of tests to be conducted on the video monitor. The operator inspects the display to display whether the tests have been passed or failed. The available monitor tests are described below.

Table 3-19 Video Monitor Test Screen

```
                TEST MODE - VIDEO MONITOR TEST MENU

Screen Frame Test              Vertical Regularity Test
Tilt Test                             Horizontal Regularity Test
Horizontal Curvature Test             Red Colour Purity Test
Vertical Curvature Test               Green Colour Purity Test
Geometrical Linearity Test     Blue Colour Purity Test
Barrel Distortion Test                Basic Colours Test
Screen Regulation Test                Mode Colours Test

          Press 1 Line      - Press to select next test
          Press 5 Lines     - Press to select previous test
          Press 10 Lines    - Press to choose selected test

          Service   - Press to return to previous menu
          Press Any Button to exit chosen test
```

Screen Frame	Displays a white rectangle on the extremities of the screen.
Tilt	Displays the screen frame with a vertical line and a horizontal line halfway across the screen.
Horizontal Curvature	Displays a series of vertical lines that will highlight any horizontal distortion.
Vertical Curvature	Displays a series of horizontal lines that will highlight any vertical distortion.
Geometrical Linearity	Displays the series of horizontal and vertical lines on the same screen.
Barrel Distortion	Tests for distortion at the edges of the monitor.
Screen Regulation	Tests the effects of high current on screen size.
Vertical Regularity	Compares the size of red, green and blue pixels.
Horizontal Regularity	Compares the size of red, green and blue pixels.
Red Color Purity	Activates all red pixels.
Green Color Purity	Activates all green pixels.
Blue Color Purity	Activates all blue pixels.
Basic Colors	Displays a four colored rectangles, one of red, green, blue and white.
Mode Colors	Displays all of the 256 colors available on the monitor.

Button Test

The Button Test allows the operator to test the function and operation of each playbutton.

Table 3-20 Button Test Screen

BUTTON TEST

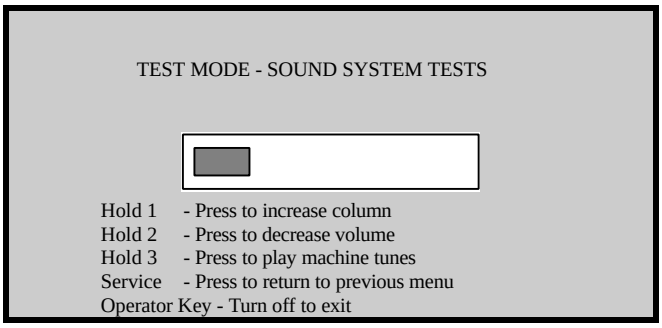
PLAYER KEY 1	Cashout
PLAYER KEY 2	Service
PLAYER KEY 3	Hold 1
PLAYER KEY 4	Hold 2
PLAYER KEY 5	Hold 3
PLAYER KEY 6	Hold 4
PLAYER KEY 7	Hold 5
PLAYER KEY 8	Bet 1-5
PLAYER KEY 9	Deal/Draw

Service - Press to return to previous menu
Operator Key - Turn off to exit

Sound Effects Test

This screen allows the operator to change the volume setting of the machine and to listen to all the sound effects used by the machine.

Table 3-21 Sound System Test Screen



Combination Test

The combination test allows the operator to select a combination of cards to be dealt. This test is used to check the graphics and sound output associated with any winning combination.

Table 3-22 Self Test Mode.- Combination Test Display

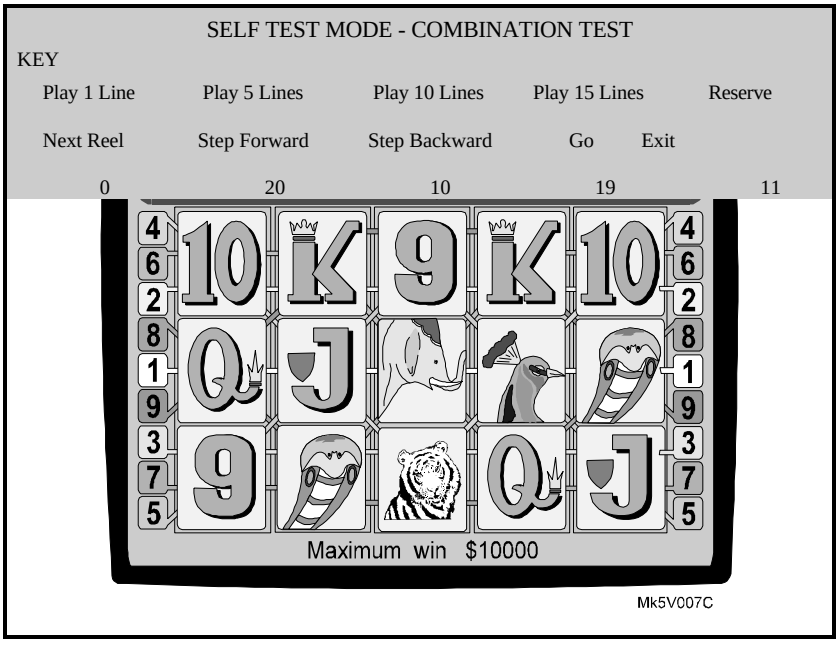
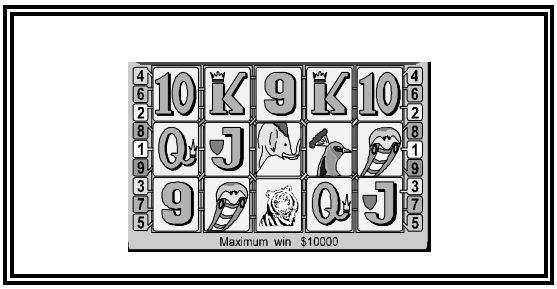


Table 3-23 Self Test Mode - Combination Test Result Display



Factory Test

The Factory Test option automatically conducts several tests simultaneously. Tests conducted include coin validator, coin diverter, door switch, video monitor tests, and sound system tests. Failed tests are displayed on the screen. The Factory Test continues until stopped by the operator or until an error occurs, in which case the type of failure is displayed on the screen.

Table 3-24 Factory Test Screen

TEST MODE - FACTORY TEST

Cycle Count:	1
Test Description:	Coin Entry Validator Test
Time:	n
Error Type:	ccccc

Hold 1 - Press to start factory test

Service - Press to return to previous menu
Operator Key - Turn off to exit

Printer Test

This test allows the operator to test various aspects of the printer. If a printer is not fitted or enabled then the message “Printer not enabled or available” will be displayed

Table 3-25 Self Test Mode - Printer Test Display

PRINTER TEST

**********TEST PRINT**********

Abcdefghijklmnopqrstuvwxyz1234567890
ABCDEFGHIJKLMNOPQRSTUVWXYZ!@#$%^&*()

Error Log Display

This screen displays the date, time, and type of the most recent error messages recorded in SRAM. The log holds information on the last eighty errors.

Table 3-26 Error Log Display

ERROR LOG (1)

Event #	Date	Time		Error Type
0	dd-mm-yy	hh:mm		Main Door Open
1	dd-mm-yy	hh:mm		Operator Mode Entered
2	dd-mm-yy	hh:mm		Cash Credit Hand Pay $ 15.60
3	dd-mm-yy	hh:mm	...	
4	dd-mm-yy	hh:mm	...	
5	dd-mm-yy	hh:mm	...	
6	dd-mm-yy	hh:mm	...	
7	dd-mm-yy	hh:mm	...	
8	dd-mm-yy	hh:mm	...	
9	dd-mm-yy	hh:mm	...	
80.....				

Play 1 Line - Press to scroll forward by one line
Play 5 Lines - Press to scroll backward by one line
Play 10 Lines - Press to scroll forward by one page
Play 15 Lines - Press to scroll backward by one page
Cash Out - Press to display extra information (if available)
Service - Press to return to previous menu
Operator Key - Turn off to exit

3.3.4 Operator Setup/Selections

The Operator Setup/Selections menu gives the operator access to configurable options of the gaming machine.

Table 3-27 Operator Setup/Selection Menu

OPERATOR SETUP/SELECTIONS MENU
Machine Options DIP Switch Settings Progressive Level Setup Location Name Setup Sound System Setup Real Time Clock Setup Player Message Setup Play 1 Line - Press to select next item Play 5 Lines - Press to select previous item Play 10 Lines - Press to choose selected item Service - Press to return to previous menu Operator Key - Turn off to exit

Machine Options

The Machine Options Setup screen allows the operator to control and change some aspects of machine operation. Options are selected and changed by following the on-screen guidance and pressing the appropriate pushbuttons. The machine options are stored in the first EEPROM on the Main Board.

Note

Approval from the jurisdictional authority is required before the items in the Machine Options screen can be changed.

The logic door must be open to save changes to machine options.

Table 3-28 Operator Setup Mode - Machine Options Display

```
                        MACHINE OPTIONS

                (The Logic Door must be opened to complete the change)
MACHINE ID                      000123          ACCEPT $1   NOTES       NO
MIKOHN GAME ADDRESS 0                       ACCEPT $2   NOTES       YES
                                            ACCEPT $5   NOTES       YES
BLACK BUTTON:           Black and Maxbet    ACCEPT $10  NOTES       YES
MAX BET LIMIT           9999999             ACCEPT $20  NOTES       NO
HAND PAY LIMIT          $200.00             ACCEPT $50  NOTES       NO
MAX CREDIT LIMIT        $1200.00            ACCEPT $100 NOTES       NO
MAX BACC LIMIT          $100.00
BET BUTTON              Continuous          ENABLE BILL JACKPOT
JACKPOT WIN LIMIT (CREDIT)      100000      HOPPER/PRINTER :Hopper select
JACKPOT BELL LIMIT (CREDIT)     100000
JACKPOT BELL TRIGGER:  TRIGGER AT LIMIT

                Play 10 Lines - Press to increment a digit
                Play 15 Lines - Press to select another digit

                Play 1 Line - Press to select next option
                Play 5 Lines - Press to select previous option
                Play Bet 1 Credit - Press to save new setting
                Service    - Press to return to previous menu
                Operator Key - Turn off to exit
```

Explanation of Terms

MACHINE ID: a number between 0 and 999999.

MIKOHN GAME ADDRESS: a number between 1 and 32 or DISABLED.

GAMBLE: enables/disables gamble option (if available and applicable).

MAX BET LIMIT: limit for maximum bet.

HAND PAY LIMIT: limit for hand pay.

JACKPOT WIN LIMIT: the Jackpot Win Limit is the maximum win for one game that does not need to be verified by an attendant (in the form of a Jackpot Handpay).

JACKPOT BELL LIMIT: the Jackpot Bell Limit is the minimum win for one game that will cause the jackpot bell to be activated.

MAX CREDIT LIMIT: the Max Credit Limit is the maximum value of credits that can be stored on the credit meter by the player.

ACCEPT NOTES: the bill acceptor can be programmed to accept only specified denominations. The DIP switches on the bill acceptor should be configured to match these settings.

ENABLE BILL ACCEPTOR: enables/disables the Bill Acceptor.

To save the changes made to the machine options, press the save button. Changes to all the machine options will be saved in this way. The Logic Door must be open at the time otherwise the changes will not be saved.

To exit from the machine options screen without saving any of the changes made, press the return to previous menu button.

Machine DIP Switch Settings

This screen displays the functions of the two 8-bit DIP switch banks on the I/O Driver Board.

The first DIP switch bank allows the coin/token value and the base credit value of the machine to be set. These values can only be reset during initial setup or during a 3-way metering error.

The second DIP switch bank allows the Gamble, Max Bet Coin Reject, and Rounding Gamble features to be enabled/disabled. Changes to these settings only take effect during power-up.

Refer to the I/O Driver Board chapter of the Service Manual for details of the DIP switch settings and the procedure for changing the switch settings.

Table 3-29 Dip Switch Settings

```
                MACHINE DIP SWITCH SETTINGS

BANK 1 - DENOMINATION VALUES
                1 - 4 Coin Value    - $1.00
                5 - 8 Credit Value  - $0.25
                Conversion Factor : 1 Coin Buys 4 Credits
BANK 2
                1       : Gamble              -   Gamble Allowed
                2       : Max Bet Coin Reject -   Max Bet Coin Reject Allowed
                3       : Not Used
                4       : Bill Acceptor           VFM4 - No CRC Check
                5       : BACC Denomination       Dollar ($)
                6 - 8   : Not Used
Service    - Press to return to previous menu
Operator Key - Turn off to exit
```

Progressive Level Setup

This screen allows the operator to set each winning hand to correspond to a link progressive jackpot. The operator selects the desired Winning Hand to be modified. Then the level may be changed by pressing the appropriate button to increase or decrease the level. A non-existent level (blank) implies that there is no link progressive level associated with that hand, and hence the normal credit win value will be won. Otherwise a number between 0 and 5 will appear and this indicates the level of the link that will be won.

Table 3-30 Progressive Level Setup

PROGRESSIVE LEVEL SETUP

Mikohn Address	Disabled
Protocols Selected	Type #25 Serial
Link Id	1
Winning Combinations	Levels
Mystery Pay	JP5

Play 10 Lines - Press to increment a digit
Play 15 Lines - Press to select another digit
Play 1 Line - Press to select next option
Play 5 Lines - Press to select previous option
Play Bet 1 Credit - Press to save new setting
Service - Press to return to previous menu
Operator Key - Turn off to exit

Location Name Setup

This screen allows the operator to enter the name of the venue. This name is displayed in the Machine Identification Screen and is printed on cash tickets and metering tickets.

Table 3-31 Venue Name Setup

VENUE NAME SETUP

Venue Name : Casino Name

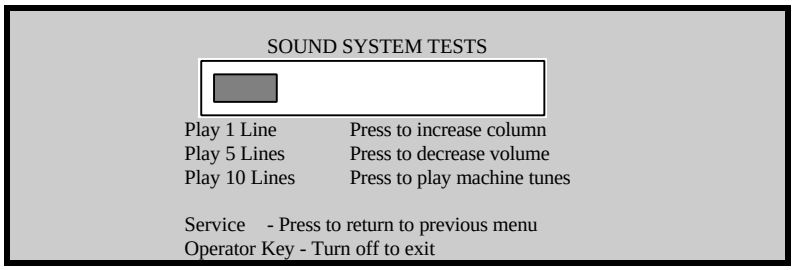
Play 1 Line	- Press to select next character
Play 5 Lines	- Press to select previous character
Play 10 Lines	- Press to increment the selected character
Play 15 Lines	- Press to decrement the selected character
Bet 1 Credit	- Press to save the current venue name

Service - Press to return to previous menu

Sound System Setup

This screen allows the operator to change the volume setting of the machine and to hear all the sound effects used by the machine.

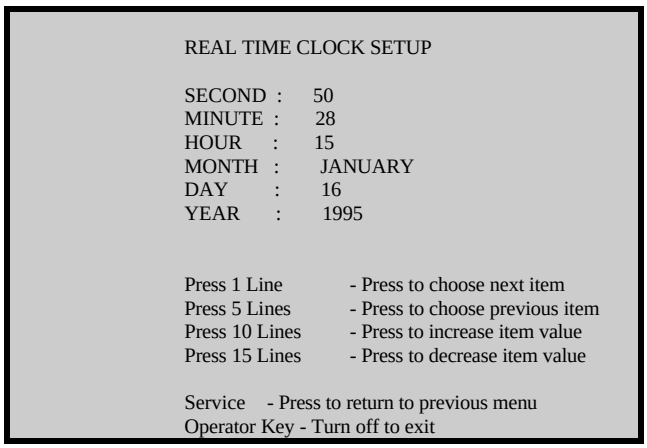
Table 3-32 Sound System Setup



Real Time Clock Setup

This screen allows the real time clock to be set.

Table 3-33 Real Time Clock Setup



Player Message Setup

The contents of the Player Message screen display is shown on the Game Screen during game play.

Table 3-34 Player Message Information

PLAYE R MESSAGE SETUP

PLAYER MESSAGE: ENGLISH

Play 10 Lines - Press to select item
Service - Press to return to previous menu
Operator Key - Turn off to exit

3.3.5 Miscellaneous Menu

The Miscellaneous Menu provides a range of operational features relating to the Bank Note Acceptor, Periodic Meters, demonstrations, accounting print outs, and removing the gaming machine from service.

Table 3-35 Miscellaneous Menu

MISCELLANEOUS MENU

Reset Bills In Stacker
Bill Acceptor CRC Check & Mismatch Clear
Reset Periodic Meters
Demonstration Mode
Print Accounting Information
Out of Service

Play 1 Line - Press to select next item
Play 5 Lines - Press to select previous item
Play 10 Lines - Press to choose selected item
Service - Press to return to previous menu
Operator Key - Turn off to exit

Reset Bills In Stacker

This screen allows the operator to reset the Bills In Stacker meter. This meter should be reset each time the Note Stacker is emptied.

Table 3-36 Reset Bills in Stacker

RESET BILLS IN STACKER
Play 1 Line - Press to RESET BILLS IN STACKER meter
Service - Press to return to previous menu Operator Key - Turn off to exit

Bill Acceptor CRC Check and Mismatch Clear

This security procedure enables a CRC check to be carried out by an authorised attendant at a suitable time.

Table 3-37 Bill Acceptor CRC Check and Mismatch Clear

BILL ACCEPTOR CRC INFORMATION	
Current Saved CRC Value	00000000
Current Saved CRC Seed Value	00000000
BACC Program ID:	XXXXXXXXXXX
Play 1 Line: Press to upload and run CRC BACC Program	
Service - Press to return to previous menu Operator Key - Turn off to exit	

Reset Periodic Meters

This screen allows the operator to reset all periodic meters.

Table 3-38 Reset Periodic Meters Screen

RESET PERIODIC METERS
Play 1 Line - Press to RESET PERIODIC METERS
Service - Press to return to previous menu Operator Key - Turn off to exit

Demonstration Mode

Demonstration Mode enables gameplay without any money being inserted or any payouts being made.

This option is only available when player credits are zero, the main door is open, and no other lockups are active. To enter Demonstration Mode, the operator must close the main door and turn the Audit key OFF.

To exit from Demonstration Mode and return to the Operator Mode Menu, turn the Audit key ON.

If certain conditions are not met when selecting Demonstration Mode item then a warning screen will be displayed:

Table 3-39 Demonstration Mode Screen

DEMONSTRATION MODE

Entry to this mode is not permitted unless
- a) Credit is zero
- b) Main Door is open
- c) No other lockups active
- d) Game is not currently in progress

Service - Press to return to pervious menu
Operator Key - Turn off to exit

If the previous conditions are met, and the machine is NOT currently in Demonstration Mode then the following information is displayed:

Table 3-40 Demonstration Mode Screen (Error Mode)

```
Operator Key        - Turn off to start DEMONSTRATION MODE
            after first closing main door

Service     - Press to return to pervious menu
            without entering Demonstration Mode

To exit from demonstration mode, return to operation mode menu
            and choose Miscellaneous Menu / Demonstration Mode
Operator Key - Turn off to exit
```

When the machine is in Demonstration Mode then the following information is displayed:

Table 3-41 Demonstration Mode Screen (Normal Mode)

```
DEMONSTRATION MODE complete - Normal Mode entered


Service     - Press to return to previous menu

Operator Key - Turn off to exit
```

Print Accounting Information

A range of functions is provided when a Ticket Printer is installed. Selection of each of the Print Accounting Information items results in a printed ticket with a variety of details. See selected formats following the menu display below.

Table 3-42 Print Accounting Information Menu

```
PRINT ACCOUNTING INFORMATION

Current Accounting Data
Last Day End Accounting Data
Win Category Data
Previous Games
Cash Out History

Play 1 Line - Press to select next items
Play 5 Lines - Press to select previous item
Play 10 Lines - press to choose selected item

Service   -   Press to return to previous menu
Operator Key - Turn off to exit
```

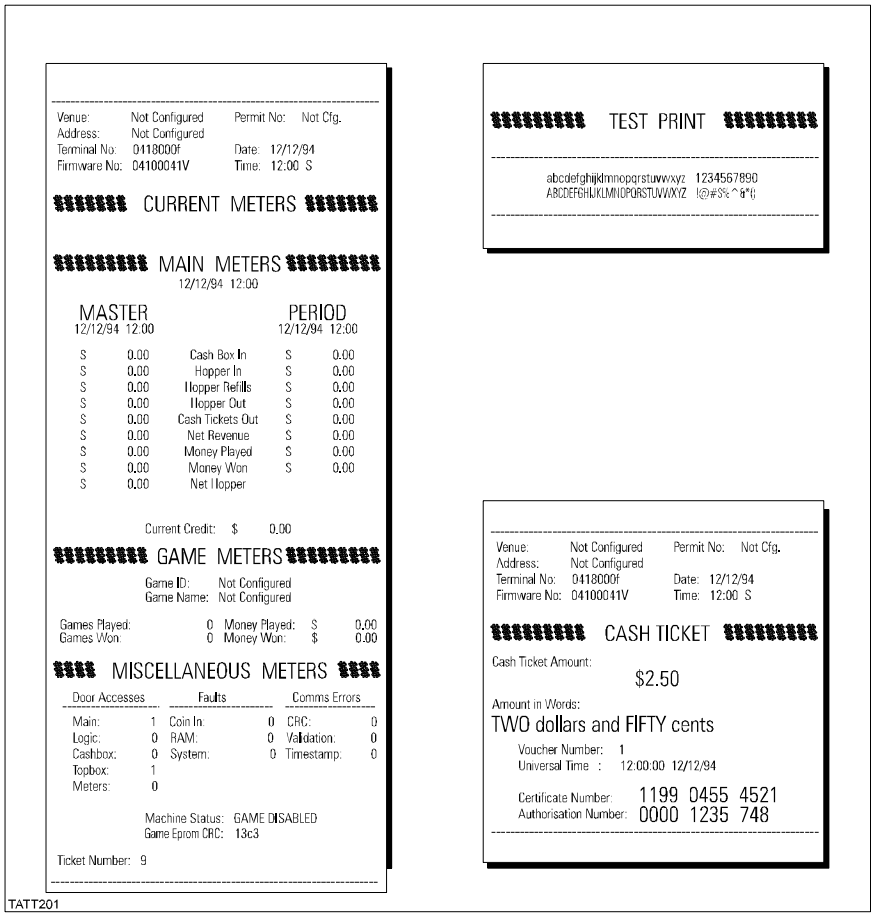


Figure 3-5 Examples of Typical Printer Tickets

Out of Service Option

This operational option enables a floor attendant to place an EGM into, or remove a machine from, the Out of Service mode as required.

Table 3-43 Out of Service Screen

OUT OF SERVICE	
Operator Key	Turn off to start Out of Service Mode
Service Key	Press to return to previous menu without entering Out of Service Mode
Operator Key	Turn again to EXIT Out of Service Mode Turn Reset Key to reset lockups detected in Out of Service Mode

3.3.6 Current Lockup Menu Items

The gaming machine has an extensive system of self-monitoring and should any abnormal conditions be detected, the machine will automatically enter a lockup condition. In lockup, the game is disabled to prevent any further player interaction and the game message area displays guidance information.

Lockup conditions are handled by the Operator Mode Menu item Current Lockup. The menu is displayed and the conditions requiring attention are highlighted by the characters ***. Each lockup condition has an associated help screen outlining the procedure for fixing the fault.

The Current Active Lockup Menu is shown below, followed by a summary of the associated help screens.

Table 3-44 Current Lockup Screen Display

CURRENT ACTIVE LOCKUPS

	Attendant Handpay	**Coin Faults**		**Bill Acceptor**
***	Cash Out Handpay	Coin Acceptor Fault		Bill Acceptor Error
	Jackpot Win	Coin Jam/optic Fault		Signature Error
	Win Handpay	Yoyo		Bill Acceptor Failed
	Mystery Handpay	Coin Diverter Fault	***	Stacker Full
				Stacker Removed
	Memory Errors	**Hopper Faults**		Bill Acc OOS
	3 Way Memory Error	*** Hopper Empty		
	GameEPROMs Changed	Hopper Jammed		**Printer Faults**
	Self Audit Error	Illegal Coin Out		Printer Disconnected
	Machine Options	Hopper Disconnected		Printer Fault
	DIP Switch Settings			Paper Depleted
	Mikohn Faults			**Miscellaneous**
	Mikohn Disconnected			Battery Low
	Mikohn Comm Error			Meters Disconnected
				Out of Service
	Door Faults			
	Main Door Open			
	Logic Door Open			
	Cashbox Door Open			
	Bill Acceptor Door Open			

The characters *** are next to active lockups
Play 1 Line - Press to select next lockups
Play 5 Lines - Press to select previous lockups
Cashout - Press to see selected lockup help
Service- Press to return to previous menu
Operator Key - Turn off to exit

Table 3-45 Lockup Help Displays

CURRENT ACTIVE LOCKUP HELP SCREENS	
Lockup	HELP Screen Explanation and Advice
Cash Out Handpay	To reset: Complete any relevant book work, and turn Reset Key on then off.
Jackpot Win	To reset: Complete any relevant book work, and turn Reset Key on then off.
Win Handpay	To reset: Complete any relevant book work, and turn Reset Key on then off.
Mystery Handpay	To reset: Complete any relevant book work. Turn the Reset Key on then off. Wait for the Mikohn equipment to reset.
Three Way Memory Error	To reset this fault - Follow the instructions at the main menu.
Game Eproms Changed	To reset this fault - Follow the instructions at the main menu.
Self Audit Error	To reset this fault - Follow the instructions at the main menu.
Machine Options Setup	To reset this fault, enter the Machine Options setup menu. Set options as required, then save options.
Mikohn Disconnected	Open the main door, check loom and reconnect the Mikohn, or close the main door, or disable the "Mikohn Game Address" from the Machine Option Menu.
Mikohn Comm Error	Caused due to 5 transmission failures, open the main door, close the main door
Main Door Open	To reset this fault, close the Main Door.
Logic Door Open	To reset this fault, close the Logic Cage Door.
Cashbox Door Open	To reset this fault, close the Cashbox Door.
Bill Acceptor Door Open	To reset this fault, close the Bill Acceptor Door. (Note: Requires the Bill Acceptor Door and the Belly Panel Door to be closed)
Coin Acceptor	To reset this fault, open main door, correct problem, then close main door.
Coin Optic Fault	To reset this fault, open main door, correct problem, then close main door.
Yoyo	To reset this fault, open main door, correct problem, then close main door.
Coin Diverter Fault	To reset this fault, open main door, correct problem, then close main door.
Dip Switch Settings	To reset this fault, power the machine off. Set the legal coin and credit values. Power the machine on. Return to Operator Mode Menu and reset the static RAM
Hopper Empty	Check if the hopper is empty - if so refill the hopper. Open main door, correct problem, then close main door.
Hopper Jammed	Open main door, clear the reason for the hopper jam - check the hopper coin out sensor, close the main door.
Illegal Coin Out	To reset this fault, open main door, correct problem then close main door.
Hopper Disconnected	Open main door, reconnect the hopper, then close the main door.
Bill Acceptor Error	To reset this fault, disconnect and then reconnect power to bill acceptor.
Signature Error	BACC Signature Mismatch. To reset this fault, go to the Miscellaneous Menu, select Bill Acceptor CRC Check and follow instructions.
Bill Acceptor Failure	To reset this fault, empty the stacker, reset meter values, disconnect and then reconnect power to bill acceptor.
Stacker Full	To reset this fault, empty the stacker, reset meter values, disconnect and then reconnect power to bill acceptor.
Stacker Removed	Replace the stacker.
Bill Acceptor Out Of Service	To reset this fault, reconnect the Bill Acceptor, then close the main door. Alternatively, disable the Bill Acceptor via the Machine Options Setup screen
Printer Disconnected	Open the main door, reconnect the Printer, close the main door.
Printer Fault	Open the main door, repair or replace the Printer, then close the main door.
Paper Depleted	Open the main door, insert new paper roll and close the main door.
Battery Low	To reset this fault, replace the battery (Note: this will result in a metering error).
Meters Disconnected	To reset this fault, open the main door and the logic door, reconnect the mechanical meters then close the logic door and the main door.
Out of Service	To exit, turn the Operator Mode Key on. After exiting from Out of Service mode, the Out of Service lockup can be cleared by turning the Reset Key on and off.

Chapter 4

Day-to-Day Operations

4.1 Opening and Closing Cabinet Door

To open the cabinet door:

1. Insert the cabinet door key, and turn it 180° clockwise.
2. Insert finger into latch access, lift the door latch, and pull the cabinet door open.

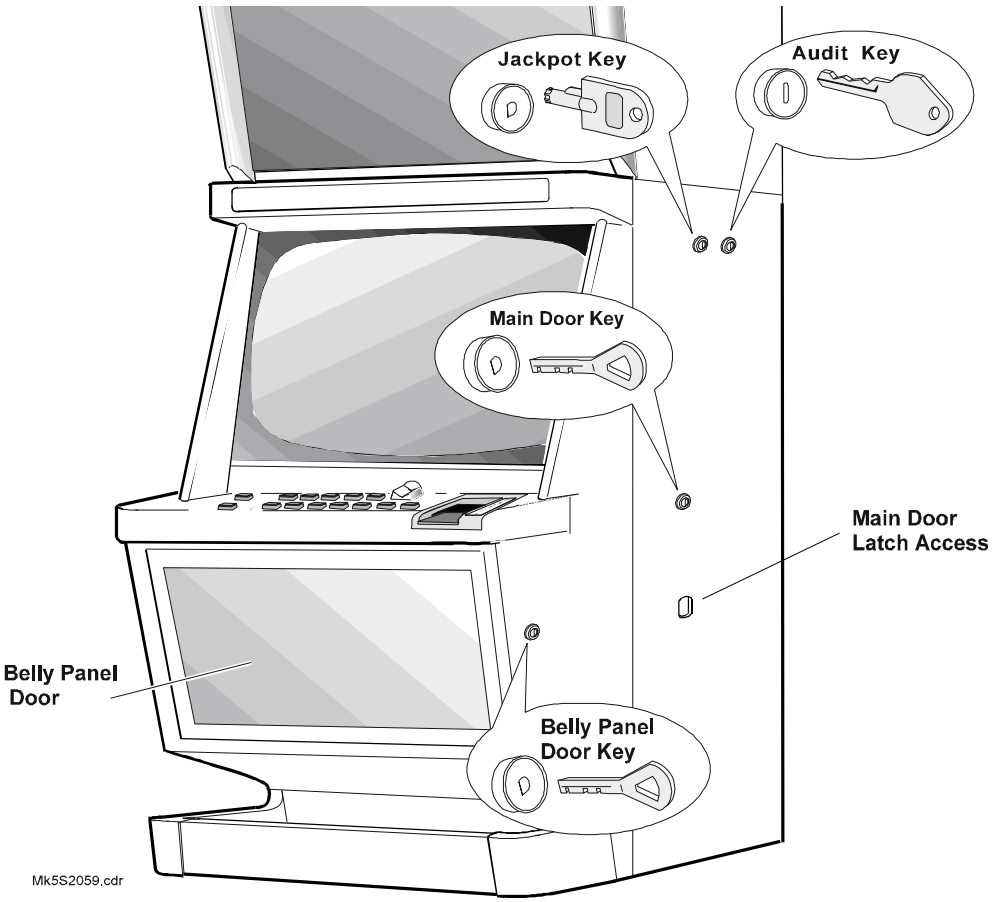


Figure 4-1 Cabinet Key Locations

To close the cabinet door:

1. Push the cabinet door closed
2. Insert the cabinet door key, turn it 180° anticlockwise and remove.

4.2 Switching Machine On or Off

WARNING

Dangerous voltages are present inside the machine when mains power is on. Always turn off mains power before touching any internal parts with bare hands or with metal objects held in the hands.

To switch the machine ON or OFF:

1. Open the cabinet door.
2. Switch the main power switch ON or OFF.
3. Close and lock the cabinet door.

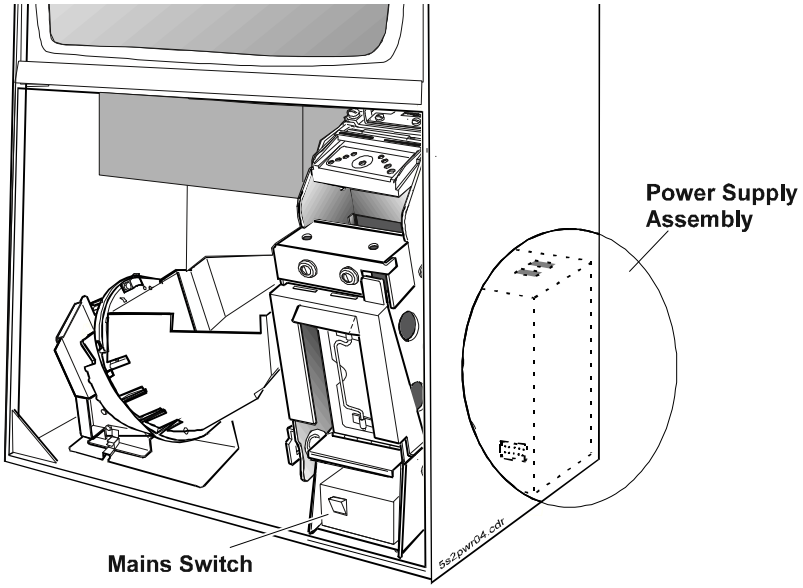


Figure 4-2 Switching Machine On or Off

4.3 Refilling Hopper

When the hopper needs refilling, the machine will lock up and display a **Hopper Empty** message.

To perform a hopper refill:

1. Obtain the correct number of coins required to fill the hopper.
2. Open the cabinet door (the machine will display a **Door Open - Main** message).
3. Place the coins into the hopper.
4. Close and lock the cabinet door; the machine will remain in fault mode.
5. Insert the Jackpot Reset (Cancel Credit) key and turn it 90° clockwise, then back again and remove. This will clear the lockup Hopper Empty.
6. Record the refill amount in the refill register.

If coins were owing to the player before the hopper refill, the machine will now dispense the coins into the coin tray.

4.4 Clearing Coin and Note Jams

4.4.1 Coin Comparator

When a coin jams in the coin comparator, coins stack up at the coin entry slot. To clear the coin jam, take the following action (see Figure 4-3):

1. Open the cabinet door, and switch OFF the machine.
2. Remove the comparator sensor assembly:
   a. Remove the looms from the sensor assembly. Do not pull on the wires.
   b. Push the comparator sensor assembly upwards to the full extent of the top locating groove. This action causes the sensor assembly to come free of the bottom locating groove.
   c. Remove the sensor assembly from the reflector panel.
3. Remove any jammed coins.
4. Replace the sensor assembly:
   a. Position the sensor assembly at an angle and slide it into the top locating groove on the mounting bracket.
   b. Push the bottom of the sensor assembly inwards, and slide it down until it locks into position in the bottom locating groove.
   c. Reconnect the looms to the sensor assembly.
5. Switch ON the machine, and close and lock the cabinet door.

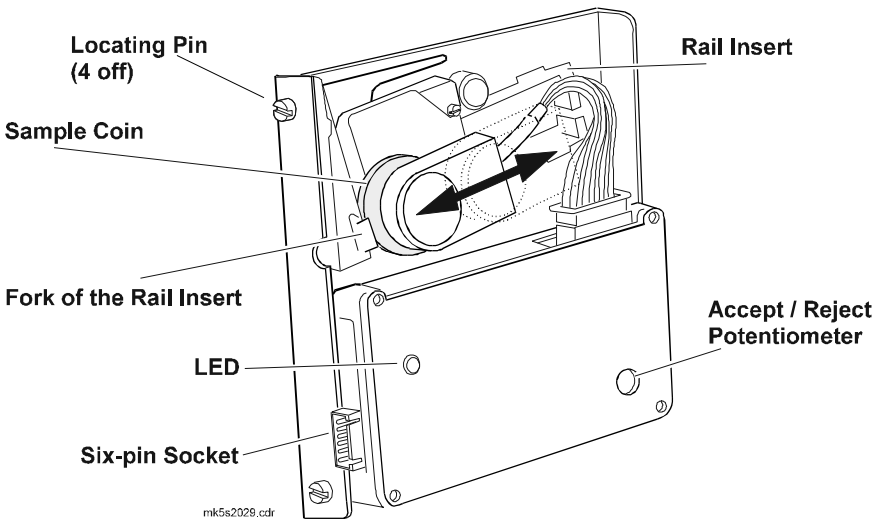


Figure 4-3 Coin Comparator Sensor Assembly

4.4.2 Coin Chute Assembly

When a coin jams in the coin-in chuting, the machine locks up and provides the following alerts:

- The machine displays the message COIN ACCEPTOR FAULT or COIN OPTIC FAULT.
- The machine sounds an alarm.

To clear the coin jam, take the following action:

1. Open the cabinet door, and switch OFF the machine.

CAUTION
Take care not to damage the coin chuting.

2. Clear any jammed coins from the coin chuting. (for additional information, refer to the chapter Coin Chute Assembly in the Service Manual).
3. Ensure that the chute is clear by dropping a coin through the chute while the cabinet door is still open.
4. Switch ON the machine, and close and lock the cabinet door.
5. To reset the machine, insert the Jackpot Key into the Jackpot key switch and turn it 90° clockwise, then back again and remove.
6. Carry out the coin chute test as outlined in the chapter Machine Modes.

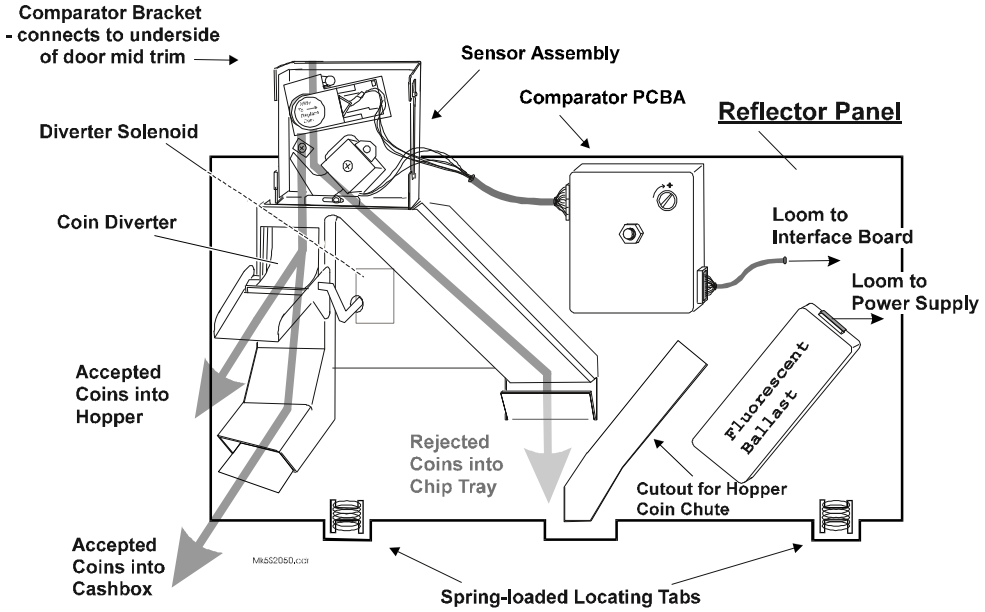


Figure 4-4 Coin Comparator and Coin Chuting

4.4.3 Hopper Photo-optic Detector and Coin Chute

CAUTION
Avoid handling the second coin wiper spring. If bent, it may cause an incorrect coin payout, and the machine to lock up with the message ILLEGAL COIN OUT.

If a coin passes or jams in the hopper photo-optic detector when the player has not pressed the CASH OUT button for a payout, the machine locks up and provides an alert by displaying the message ILLEGAL COIN OUT or HOPPER JAMMED.

Take the following action:

1. Open the cabinet door, and switch OFF the machine.
2. Clear any jammed coins from the hopper photo-optic detector.
3. Check that the hopper coin chute is aligned with the slot in the reflector panel.
4. Switch ON the machine, and close and lock the cabinet door. The machine will automatically reset after the door is closed.

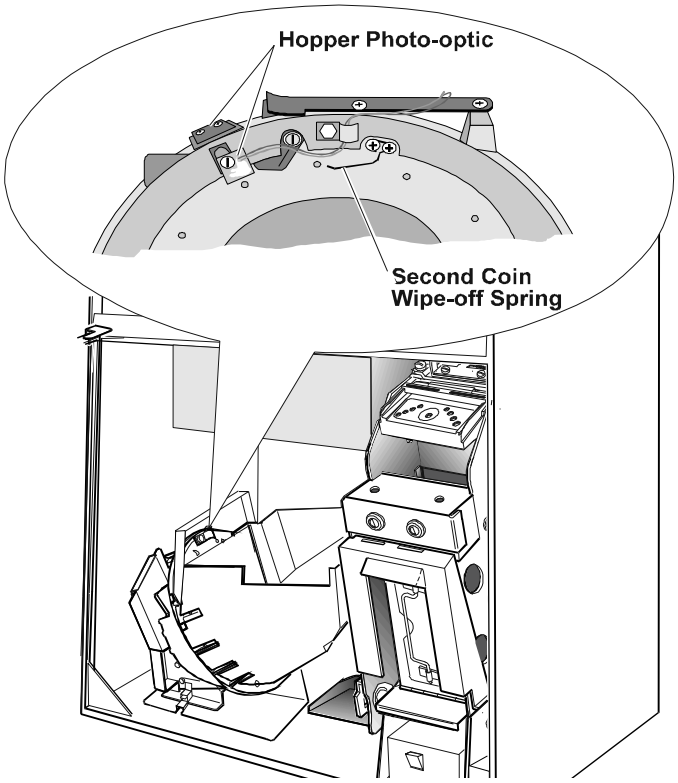


Figure 4-5 Clearing Hopper Photo-optic Detector

4.4.4 Bill Acceptor

If a note jams in the bill acceptor, it will automatically try (five times) to reverse the note out of the bill acceptor. If the automatic clearance fails, the machine will lock up and display a fault mode message. The intelligent bezel will also signal a fault by illuminating the first pair of greens LEDs.

CAUTION

The Bill Acceptor is controlled by complex electronics. Unqualified personnel must not interfere with the unit.

The scanning and transport channel of the bill acceptor passes currency directly to the stacker. Should a note become lodged within the scanning channel, the following steps will enable the jam to be cleared:

CAUTION

Ensure the power is turned off before any maintenance procedures are carried out on the bill acceptor, stacker and dual cage doors.

To clear a jam in the bill acceptor (refer to Figure 4-6 and Figure 4-7):

1. Open the cabinet door and switch OFF the machine.
2. Unlatch the dual cage assembly from the cabinet (1).
3. Gently swing the assembly out of the cabinet until it is against the stop. This will give limited access to the note channel**.**
4. Unclip the upper guide from the lower guide and remove the jammed note.
5. If you need to remove the bill acceptor:
   a. Disconnect the loom from the bill acceptor to the host machine (2).
   b. Pull the retaining clip out to release the bill-acceptor locating pin (3, 4).
   c. Lift the bill acceptor up and away from the back of the housing.
6. Unclip the upper guide channel from the lower guide channel and remove the jammed note.

Replacing the bill acceptor and dual cage housing is a reversal of the removal procedure.

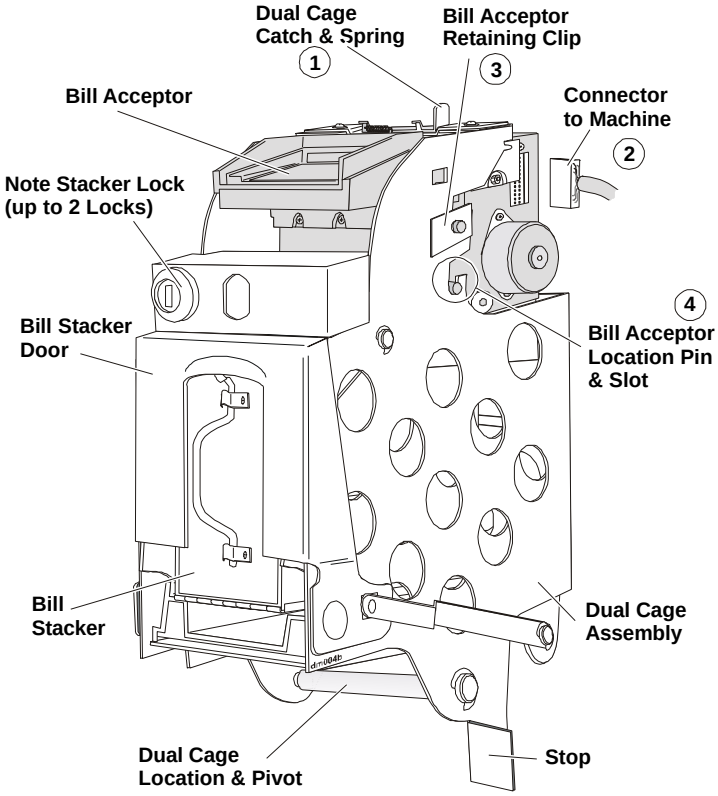


Figure 4-6 Dual Cage Housing and Bill Acceptor Access

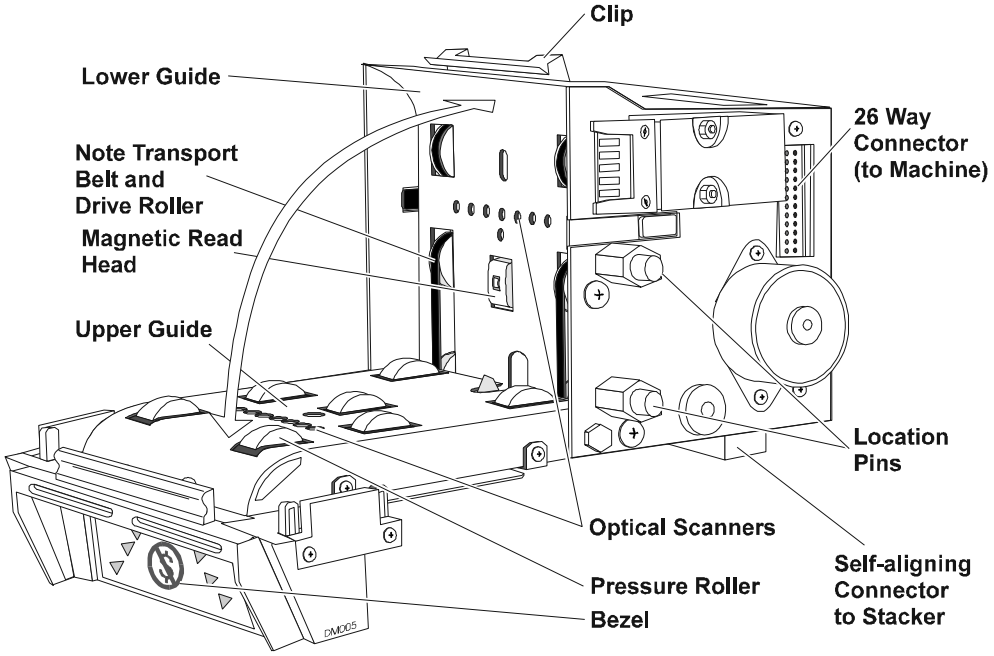


Figure 4-7 Bill Acceptor

4.5 Cancelling Credit

When a player has credit that is below the preset Hopper Payout Limit and the player presses the Cash Out button, the machine dispenses the credit amount into the chip tray.

However, when a player's credit exceeds the preset Hopper Payout Limit and the player presses the Cash Out button, the machine locks up. When this occurs, the machine provides an alert in the following way:

- The machine displays the message CANCEL CREDIT.
- The machine plays a distinctive tune.

Take the following action:

1. In the payout book, record the CREDIT amount displayed on the screen.
2. Pay the player or direct the player to collect the credit amount from the cashier.
3. Reset the machine by inserting the Jackpot Key and turning it 90° clockwise, then back again. This cancels the credit.

Note
If the amount of credit available does not equate to whole coins, the hopper pays out the whole coin amount and the player may either play off the balance of credits or collect the balance as a book payout.

4.6 Resolving Disputed Win Claims

Note
Verifying a player's claim may require the attendance of club management.

When a player claims a win that the machine has not credited, take the following action:

1. Note and study the symbols on the machine display.
2. Check that the player has correctly placed a bet.
3. Check the game outcome against the pay table.
4. Check the current game display against the last game played information in the Operator Mode Menu ⇒ Metering Information Menu ⇒ Replay Previous Games (refer to the chapter Machine Modes).

If the dispute cannot be resolved immediately, record all symbols and information on the current and last game, including credits and lines bet, for future resolution.

4.7 Clearance of Coins and Notes

4.7.1 Cash Box Clearance

The cash box is accessed via the security door in the cabinet base. The door may be fitted with a battery-backed mechanical security switch to detect accesses. The procedure for clearing the cash box is controlled by house management.

4.7.2 Bill Acceptor Stacker Clearance

The procedure for clearing the bill acceptor stacker must be strictly controlled by house management. To remove the stacker:

1. Open the belly panel door. The alarm sounds, the machine locks up, and the message DOOR OPEN BILL ACCEPTOR is displayed.
2. Unlock and open the stacker cage door.
3. Grasp the stacker handle and withdraw the stacker from the machine.

4. Once removed, the note stacker itself must be unlocked before the notes inside can be withdrawn. Each stacker may be numbered to assist accounting and control operations.

To replace the note stacker, reverse the above procedure.

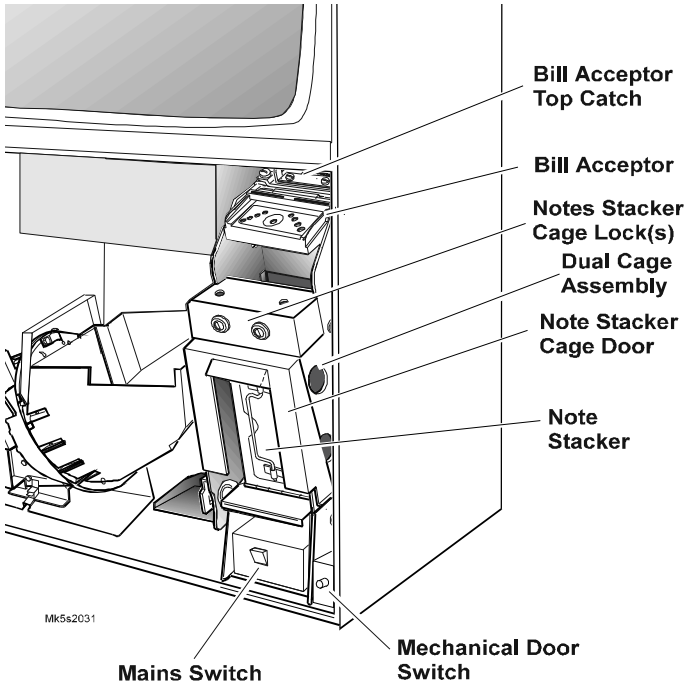


Figure 4-8 Removing Bill Stacker

4.8 Performance and Audit Calculations

NOTE
Cash flow calculation formulas can vary between jurisdictions as well as through the allocation of individual electronic meters.

Accounting and security-type calculations are facilitated by the Operator Mode Menu ⇒ Metering Information displays. Machine auditing is carried out by analysing the meter information in conjunction with hopper fill amounts, cash box and note stacker clearances, and the hand-pay payout registers.

Performance Calculations

The TRUE WIN PERCENTAGE can be calculated as follows:

$$\text{TRUE WIN \%} = \frac{(\text{TOTAL CREDITS BET} - (\text{TOTAL CREDITS WON} + \text{JACKPOT WINS})) \times 100}{\text{TOTAL CREDITS BET}}$$

The actual number of credits won by the house is given by:

HOUSE CREDITS = TOTAL CREDITS BET - (TOTAL CREDITS WON + JACKPOT WINS)

The Periodic Meters can be used to provide performance information that relates to a specific period of time.

Audit Calculations

The cash flow cycle is described by the following calculation:

CASH IN + HOPPER REFILLS + TOTAL CREDITS WON + JACKPOT HANDPAYS
=
TOTAL CREDITS BET + CANCEL CREDIT + COIN OUT

Chapter 5

Care and General Maintenance

CAUTION
All functions of the gaming machine are controlled by complex electronics. Unqualified personnel must never interfere with any mechanisms or controls inside the machine as this may permanently damage the machine and could lead to expensive repairs or costly component replacement, and will render the warranty void.

5.1 Cabinet

CAUTION
On gold-plated surfaces, do not use abrasive cleaning products or strong solvents. To clean, use a soft chamois and water, or a proprietary cleaning fluid that contains mild solvents and silicone.

To clean the exterior of the cabinet and the top box, use a non-abrasive household cleaning solution or spray. Ensure that all exterior parts are thoroughly dry, particularly the coin tray.

Note
Call the Aristocrat service organisation to carry out all adjustments and repairs.

5.2 Fluorescent Tubes

WARNING
High voltages are present when the machine is switched ON. These voltages are potentially lethal.

5.2.1 Top Box Tube

The top box tube is 15 W to AS 1201 (IEC 81) standard.

To replace the top box tube (refer to Fig 5-1):

1. Open the cabinet door, and switch OFF the machine.
2. Remove the top box door by lifting it up to disengage the locating tabs.
3. Rotate the tube 90°, and gently remove it from the sockets.
4. To insert the new tube, push the tube into the sockets.
5. Lock the tube into place by rotating it 90° in either direction.
6. Replace the top box door.
7. Switch ON the machine, and close and lock the cabinet door.

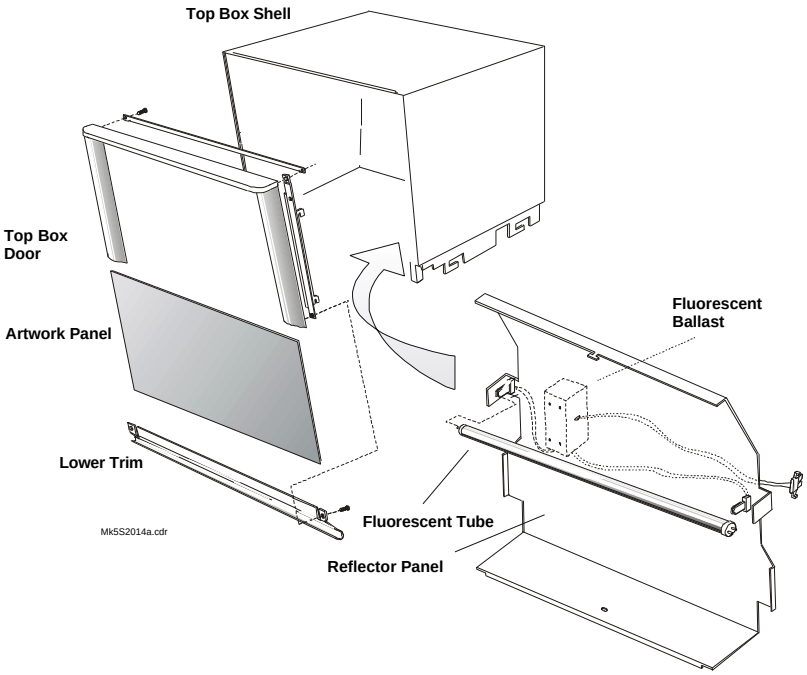


Figure 5-1 Replacing Top Box Tube

5.2.2 Cabinet Door Fluorescent Tubes

The cabinet door fluorescent tubes are mounted to the reflector panel on the inside of the door.

To replace a cabinet door fluorescent tube (refer to Fig 5-2):

1. Open the cabinet door, and switch OFF the machine.

Warning
When the lighting system is working, the fluorescent tube becomes very hot.

2. Open the belly panel door.
3. Rotate the tube and carefully remove from its sockets. Insert the replacement fluorescent tube.
4. Close and lock the belly panel door.
5. Switch ON the machine, check the lighting system, and close and lock the main door.

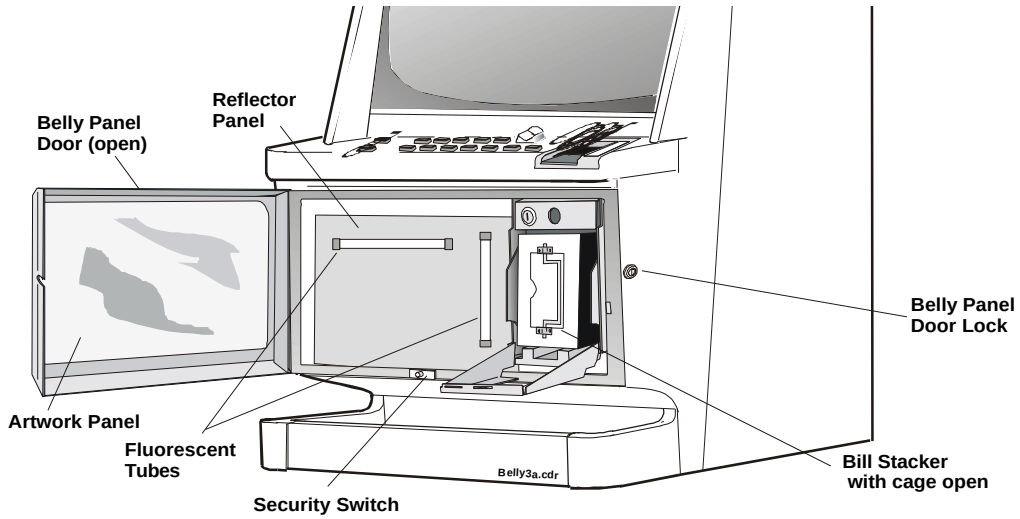


Figure 5-2 Cabinet Door Fluorescent Tube

5.3 Playbuttons

5.3.1 Playbutton Lamps

Warning
Lamp and logic looms operate on different voltages - incorrect wiring may damage the machine or cause improper operation. The playbutton lamps are wedge base, 24 V DC, 3 W.

To replace a playbutton lamp:

1. Open the cabinet door, and switch OFF the machine.
2. Grasp the microswitch and lamp holder unit between the thumb and forefinger, and pull out the faulty lamp.
3. Push in the replacement lamp.
4. Replace the microswitch and lamp holder unit by inserting it with a rocking action into the playbutton body.
5. Push up the microswitch and lamp holder unit until it snaps into place.
6. Switch ON the machine, and close and lock the cabinet door.

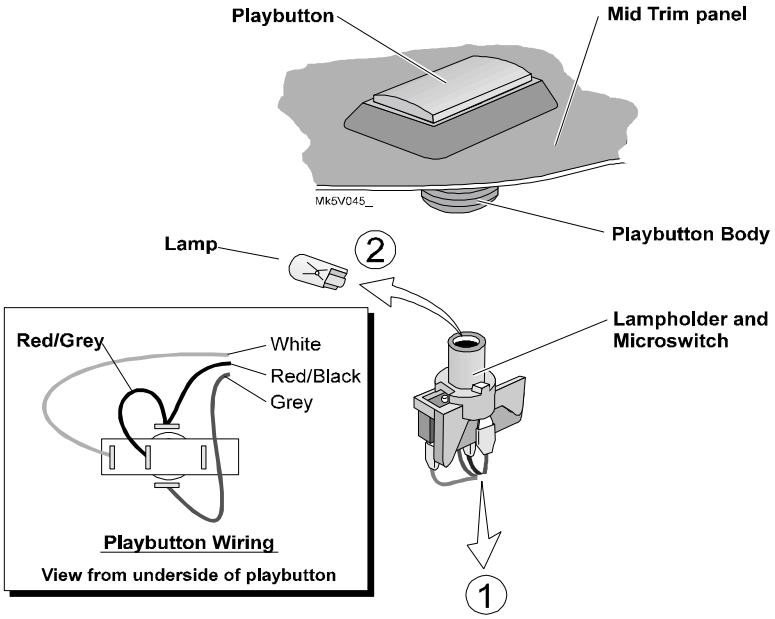


Figure 5-3 Playbutton Lamps

5.4 Hopper

5.4.1 Removing and Replacing

CAUTION
Always use the handles to lift the hopper. Never lift the hopper by the motor and the end of the bowl, as this action may bend the motor spindle. Avoid handling the second coin wipe-off spring. If this spring is damaged, it may cause an incorrect coin payout and the machine to lock up.

To remove the hopper from the cabinet (refer to Figure 5-4):

1. Open the cabinet door, and switch OFF the machine.
2. Lift the spring-loaded release pin.
3. Rotate the hopper 90° by sliding the left-hand side outwards. This action is necessary because part of the hopper bowl actually sits behind the bill acceptor (where fitted).
4. Slide the hopper straight out of the machine.
5. Lift the hopper by grabbing the handle with one hand and placing the other hand under the base of the bowl.

To replace the hopper in the cabinet:

1. Lift the hopper by its handles.
2. Slide the hopper into the guides on the base of the cabinet until the hook on the right-hand side is in place.
3. Push on the hopper handle to pivot the hopper 90° until the spring-loaded pin is engaged in the retaining hole.
4. Switch ON the machine, and close and lock the cabinet door.

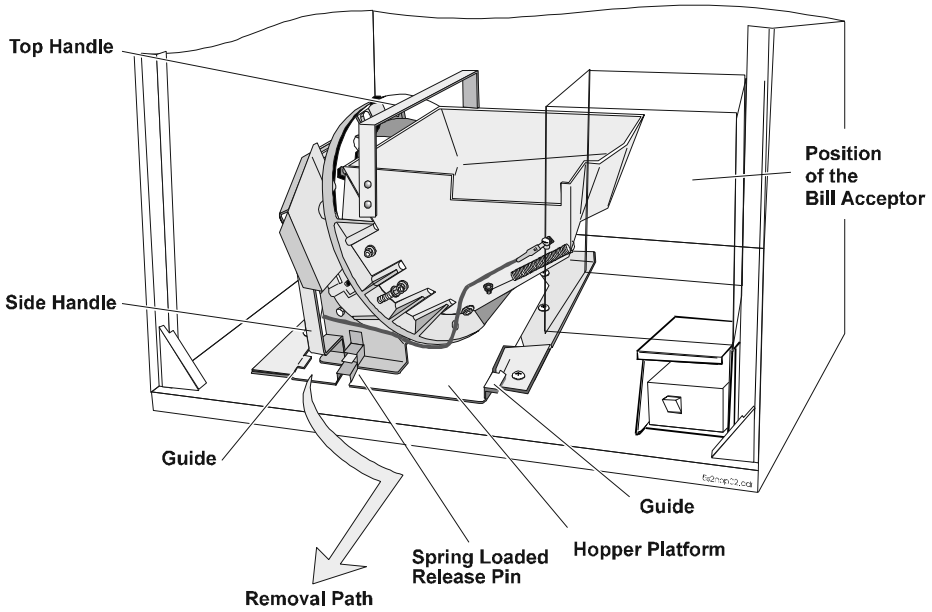


Figure 5-4 Hopper Removal

5.4.2 Cleaning

CAUTION
Avoid handling the second coin wiper spring. If bent, it may cause an incorrect coin payout and the machine to lock up with the message ILLEGAL COIN OUT displayed.

Remove any dust and dirt from the hopper photo-optic with a soft paint brush or blow it away using a straw (refer to Fig 5-5).

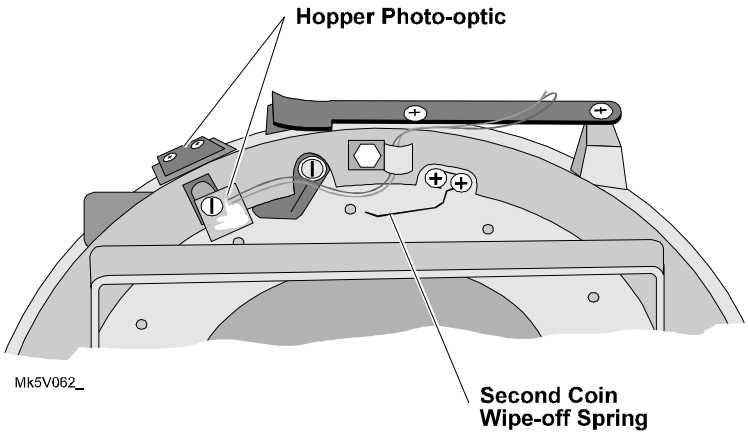


Figure 5-5 Hopper Photo-optic

5.5 Coin Comparator

5.5.1 Removing and Replacing

Refer to Clearing Coin and Note Jams in the chapter Day-to-Day Operations.

5.6 Bill Acceptor Unit

The bill acceptor requires a small amount of regular attention to maintain operations. A service technician will be required if machine malfunction occurs.

5.6.1 Removing and Replacing

Refer to Clearing Coin and Note Jams in the chapter Day-to-Day Operations.

5.6.2 Maintenance

The bill acceptor and stacker requires only a minimal amount of care which can be provided while the units are in the operating position.

Occasional wiping of the plastic bezel surface, with a soft cloth dampened with a 90% solution of isopropyl alcohol, is all that is required to remove surface deposits and smudges.

CAUTION

Caution must be exercised not to flood the bezel area with liquids due to the electronics in the bezel unit and because liquids must not seep down into the bill acceptor unit below the bezel area.

Do not use a solvent other than isopropyl alcohol as permanent damage to the bezel assembly and other items may result.

Over a period of time, dirt from the surface of inserted notes will accumulate on the pressure rollers, drive belt surfaces and bill acceptor optics. These areas should be cleaned to ensure reliable operation.

The procedure to clean rollers, belt surfaces, and validation optics is as follows (if necessary, see Removal and Replacement Procedures in the Service Manual):

1. Disconnect the loom from the side of the bill acceptor assembly.
2. Remove the bill acceptor from the dual cage housing.
3. Swing down the upper guide assembly to give complete access to the note channel, as shown in Figure 4-7.
4. Using a soft lint cloth dampened with 90% isopropyl alcohol, wipe the note channel surfaces on both the upper and lower guides to remove any surface dirt. Pay particular attention to the optics area and the magnetic head when removing deposits from the surfaces.
5. On the upper guide assembly, clean the surface of the pressure rollers. The belt surface may be cleaned by rotating one of the drive rollers while holding the cleaning cloth against the surface of the belt. Again, care should be taken to prevent excess liquid from reaching the bill acceptor internals.

Chapter 6

Machine Conditions and Messages

6.1 Machine Alerts

The gaming machine functions with a variety of operational alerts that provide for security, customer service and maintenance events.

The machine responds to events by showing messages in the game display, by causing a machine lockup and by sounding an alarm. The intelligent bill acceptor bezel also provides an indication of certain machine conditions and lockups.

Note
Machine alerts and messages can vary between jurisdictions and machine models.

Some machine functions and operational controls are configured during machine setup. See Operator Setup / Selections Mode in the chapter Machine Modes.

6.1.1 Operational Messages

The video display unit shows messages, operator menus and information displays to assist in identifying and resolving machine conditions. The on-screen messages provide operators and players with guidance and information while the machine is in Play Mode.

Examples of screen messages are:

- **Game over**
- **Door Open - Main**
- **Coin Diverter Fault**
- **COMBINATION TEST**

The message may simply be an indication of normal game or operational processes requiring no remedial action. However, if the message indicates a lockup condition, follow the procedure below.

6.1.2 Machine Lockup

The gaming machine has an extensive system of self-monitoring and should any abnormal conditions be detected, the machine will automatically lockup, i.e. activate fault mode.

In fault mode, the game message area displays guidance information and the game is disabled to prevent any further player interaction. Fault mode conditions are dealt with via the Operator Mode ⇒ Current Lockup Menu.

Entry to the Current Lockup screen is achieved by turning the Audit (Operator) key switch ON and selecting Current Lockup from the Operator Mode Menu.

The Current Lockup screen is displayed and the conditions requiring attention are highlighted by the symbol *** (See Table 6-1). Each lockup condition has an associated help screen that provides information on the cause of the lockup and the procedure for resetting it. A summary of the lockup help comments is given in Table 6-2.

Table 6-1 Current Lockup Screen Display

CURRENT ACTIVE LOCKUPS

	Attendant Handpay		**Coin Faults**		**Bill Acceptor**
***	Cash Out Handpay		Coin Acceptor Fault		Bill Acceptor Error
	Jackpot Win		Coin Jam/optic Fault		Signature Error
	Win Handpay		Yoyo		Bill Acceptor Failed
	Mystery Handpay		Coin Diverter Fault	***	Stacker Full
					Stacker Removed
	Memory Errors		**Hopper Faults**		Bill Acc OOS
	3 Way Memory Error	***	Hopper Empty		
	GameEPROMs Changed		Hopper Jammed		**Printer Faults**
	Self Audit Error		Illegal Coin Out		Printer Disconnected
	Machine Options		Hopper Disconnected		Printer Fault
	DIP Switch Settings				Paper Depleted
	Mikohn Faults				**Miscellaneous**
	Mikohn Disconnected				Battery Low
	Mikohn Comm Error				Meters Disconnected
					Out of Service
	Door Faults				
	Main Door Open				
	Logic Door Open				
	Cashbox Door Open				
	Bill Acceptor Door Open				

The characters *** are next to active lockups
Play 1 Line - Press to select next lockups
Play 5 Lines - Press to select previous lockups
Cashout - Press to see selected lockup help
Service- Press to return to previous menu
Operator Key - Turn off to exit

Table 6-2 Lockup Help Displays

CURRENT ACTIVE LOCKUP HELP SCREENS	
Lockup	HELP Screen Explanation and Advice
Cash Out Handpay	To reset: Complete any relevant book work, and turn Reset Key on then off.
Jackpot Win	To reset: Complete any relevant book work, and turn Reset Key on then off.
Win Handpay	To reset: Complete any relevant book work, and turn Reset Key on then off.
Mystery Handpay	To reset: Complete any relevant book work. Turn the Reset Key on then off. Wait for the Mikohn equipment to reset.
Three Way Memory Error	To reset this fault - Follow the instructions at the main menu.
Game Eproms Changed	To reset this fault - Follow the instructions at the main menu.
Self Audit Error	To reset this fault - Follow the instructions at the main menu.
Machine Options Setup	To reset this fault, enter the Machine Options setup menu. Set options as required, then save options.
Mikohn Disconnected	Open the main door, check loom and reconnect the Mikohn, or close the main door, or disable the "Mikohn Game Address" from the Machine Option Menu.
Mikohn Comm Error	Caused due to 5 transmission failures, open the main door, close the main door
Main Door Open	To reset this fault, close the Main Door.
Logic Door Open	To reset this fault, close the Logic Cage Door.
Cashbox Door Open	To reset this fault, close the Cashbox Door.
Bill Acceptor Door Open	To reset this fault, close the Bill Acceptor Door. (Note: Requires the Bill Acceptor Door and the Belly Panel Door to be closed)
Coin Acceptor	To reset this fault, open main door, correct problem, then close main door.
Coin Optic Fault	To reset this fault, open main door, correct problem, then close main door.
Yoyo	To reset this fault, open main door, correct problem, then close main door.
Coin Diverter Fault	To reset this fault, open main door, correct problem, then close main door.
Dip Switch Settings	To reset this fault, power the machine off. Set the legal coin and credit values. Power the machine on. Return to Operator Mode Menu and reset the static RAM
Hopper Empty	Check if the hopper is empty - if so refill the hopper. Open main door, correct problem, then close main door.
Hopper Jammed	Open main door, clear the reason for the hopper jam - check the hopper coin out sensor, close the main door.
Illegal Coin Out	To reset this fault, open main door, correct problem then close main door.
Hopper Disconnected	Open main door, reconnect the hopper, then close the main door.
Bill Acceptor Error	To reset this fault, disconnect and then reconnect power to bill acceptor.
Signature Error	BACC Signature Mismatch. To reset this fault, go to the Miscellaneous Menu, select Bill Acceptor CRC Check and follow instructions.
Bill Acceptor Failure	To reset this fault, empty the stacker, reset meter values, disconnect and then reconnect power to bill acceptor.
Stacker Full	To reset this fault, empty the stacker, reset meter values, disconnect and then reconnect power to bill acceptor.
Stacker Removed	Replace the stacker.
Bill Acceptor Out Of Service	To reset this fault, reconnect the Bill Acceptor, then close the main door. Alternatively, disable the Bill Acceptor via the Machine Options Setup screen
Printer Disconnected	Open the main door, reconnect the Printer, close the main door.
Printer Fault	Open the main door, repair or replace the Printer, then close the main door.
Paper Depleted	Open the main door, insert new paper roll and close the main door.
Battery Low	To reset this fault, replace the battery (Note: this will result in a metering error).
Meters Disconnected	To reset this fault, open the main door and the logic door, reconnect the mechanical meters then close the logic door and the main door.
Out of Service	To exit, turn the Operator Mode Key on. After exiting from Out of Service mode, the Out of Service lockup can be cleared by turning the Reset Key on and off.

6.1.3 Door Access and Alarm Sound

The main door, cash box door, logic cage door, and belly panel door are monitored by battery-backed mechanical security switches. When one of these doors is opened, the following actions occur:

- one of the following messages will appear on the screen: MAIN DOOR OPEN, CASH BOX DOOR OPEN, BILL ACCEPTOR DOOR OPEN, LOGIC DOOR OPEN.
- the alarm sound is heard.
- one of the following lockups occurs: MAIN DOOR OPEN, CASH BOX DOOR OPEN, BILL ACCEPTOR DOOR OPEN, LOGIC DOOR OPEN.
- gameplay is suspended.
- one of the following electronic Diagnostic Meters is incremented: MAIN DOOR ACCESSES, CASH BOX ACCESSES, BILL ACCEPTOR ACCESSES, LOGIC ACCESSES.

The condition is reset by closing the appropriate door.

Alarm Sound Level

The volume of machine game and operational sounds can be adjusted via Operator Mode⇒Operator Setup / Selections Menu⇒Sound System Setup.

6.1.4 Intelligent Bezel

The bill acceptor bezel display helps players to correctly align notes for insertion and indicates bill acceptor faults to operators.

To facilitate recognition of the note insertion area, eight green LEDs flash (4 rows of 2, with a wide to narrow shape) in a “runway” type effect when the machine is in idle mode. A ninth, red LED flashes if the bill acceptor operation is inhibited for any reason. Selected green LEDs flash to indicate machine conditions requiring attention.

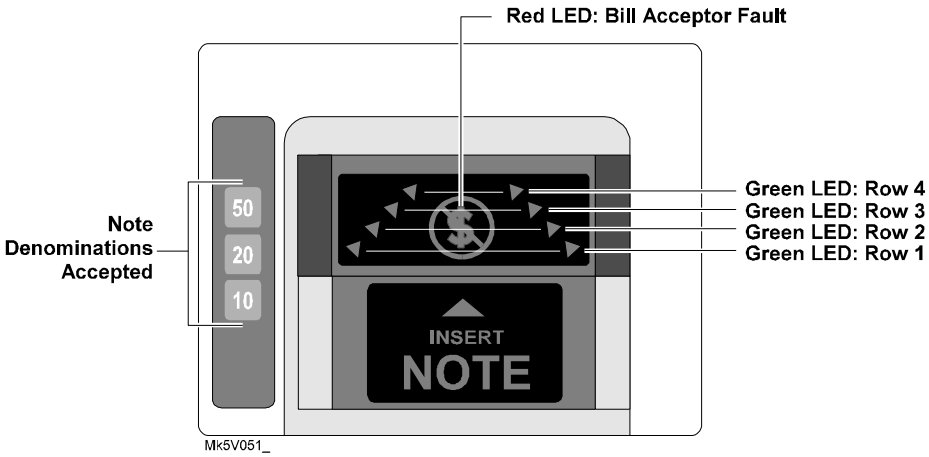


Figure 6-1 Bezel Assembly Indicators - LED Displays

Malfunctions flash different rows of the green LEDs. The pair of LEDs nearest the player is row number 1. The pair nearest the note entry channel is row number 4. The bezel error messages are:

Row Number 1: Hardware fault.

Row Number 2: Stacker full.

Row Number 3: Jam in stacker.

Row Number 4: Jam in currency channel.

The bill acceptor backlight, to the left of the Bezel panel, highlights the accepted note denominations.

6.2 Message Displays and Conditions

The table below shows typical machine condition messages together with the respective lockup status and the appropriate procedures for correcting or removing the lockup. Should the condition persist, call the local Aristocrat service organisation.

Table 6-3 Typical Lockup Messages, Fault Conditions and Corrective Actions

TYPE	MESSAGE	ERROR CONDITION	RESET PROCEDURE
METERS and MEMORY	MEMORY ERROR	3 Way Metering (SRAM) is corrupted.	Enter the Operator Mode and follow the instructions on screen.
	MEMORY ERROR - GAME EPROMS CHANGED	The Game EPROMs are not identical to those previously installed.	Enter the Operator Mode and follow the instructions on screen.
	MEMORY ERROR - MACHINE OPTIONS	The machine options (stored in EEPROM) have been corrupted.	Enter the Operator Mode and check the information saved in the Machine Options screen. Follow the instructions on screen to reset the machine.
	MEMORY ERROR - SELF AUDIT ERROR	This error occurs when an error is detected in the meters that account for all money in and out of the machine.	Enter the Operator Mode and follow the instructions on screen.
	MECHANICAL METERS DISCONNECTED	The mechanical meters have been disconnected or are faulty.	Reconnect mechanical meters. Check looming and sockets.
DOOR SECURITY	DOOR OPEN - MAIN	Main door is detected as being open	Close Main door.
	DOOR OPEN - LOGIC CAGE	Logic door is detected as being open	Close Logic door. If door is already closed, then open and close the door.
	DOOR OPEN - CASH BOX	Cashbox door is detected as being open	Close Cashbox door.
	DOOR OPEN - BILL ACCEPTOR	Belly Panel Door is detected as being open	Close Bill Acceptor door.
COIN HANDLING	COIN ACCEPTOR FAULT	Coin Sense pulse from the coin acceptor is longer than expected, indicating a fault in the unit.	Open Main door, check the coin comparator and the sensor assembly, close Main door.
	COIN OPTIC FAULT	A coin is covering the photo-optic in the Comparator Sensor Assembly, or the unit is faulty.	Open Main door, check coin chute for jammed coins, close Main door.

TYPE	MESSAGE	ERROR CONDITION	RESET PROCEDURE
	REVERSE COIN IN (Yo-Yo)	Coin stringing fault. Occurs when a coin has passed upwards through the Comparator Sensor Assembly.	Open Main door, check coin comparator and sensor assembly, close Main door.
HOPPER	HOPPER DISCONNECTED	Hopper is detected as being disconnected.	Open Main door, check hopper is correctly connected, close Main door.
	HOPPER EMPTY	Hopper empty. Refill the hopper.	Open main door, refill hopper, close main door.
	HOPPER JAM	A coin has become jammed in the hopper optic or mechanical mechanism. Open the main door and remove any such coins.	Open Main door, clear the jam, close main door.
	CALL ATTENDANT - ILLEGAL COIN PAID	A coin was detected passing the coin-out optic when it shouldn't have been.	Open Main door, check hopper is correctly connected, close Main door.
BILL ACCEPTOR	CALL ATTENDANT -- BILL ACCEPTOR ERROR	The BACC has detected an internal fault.	Open the Main door, service or replace the Bill Acceptor, and close the Main door.
	BILL ACCEPTOR FAULT	The BACC has detected a fault. A bill maybe blocking the bill entry slot or stacker entry, or stacker may be jammed. [NON-LOCKUP FAULT]	Open the Main door, remove any jammed notes from the Bill Acceptor, close the Main door.
	BILL ACCEPTOR DISCONNECTED	Bill Acceptor disconnect or broken. [NON-LOCKUP FAULT]	Check or reconnect the Bill Acceptor wiring harness.
	BILL STACKER FULL	Bill stacker has jammed due to being too full. [NON-LOCKUP FAULT]	Open the Belly Panel Door, empty stacker (and reset BACC meters by entering Operator Mode and completing the Bill Stacker Reset procedure), replace stacker, and close the door.
	5 BILLS REJECTED	5 Consecutive bills rejected. [NON-LOCKUP FAULT]	Open and close the Main door, or insert a valid bill.
	CALL ATTENDANT -- STACKER	Bill stacker removed.	Open Belly Panel Door, replace stacker, and close the door.

TYPE	MESSAGE	ERROR CONDITION	RESET PROCEDURE
	REMOVED		
PRINTER	PRINTER FAULT	Printer has detected an internal fault	Open main door, service printer, and close the main door.
	PRINTER DISCONNECTED	Printer cable is disconnected or the printer is not responding.	Open main door, check printer wire harness is connected correctly, close the main door.
	PRINTER PAPER DEPLETED	Paper roll has been depleted.	Open main door, replace paper roll, close the main door.
	PRINTER PAPER LOW	Paper Low. [NON-LOCKUP FAULT]	Open main door, replace paper roll or adjust Paper Low sensor, close the main door.
OTHER	BATTERY LOW	SRAM battery backup is low.	Open main door, replace battery on Main Board, close the main door. Note: this will result in a metering error.
	MIKOHN DISCONNECTED	The Mikohn equipment is not communicating with the gaming machine.	Open main door, check Mikohn wire harness, or disable the Mikohn from the Machine Options setup, close main door.
HANDPAYS	CALL ATTENDANT OR PLAY ON - CASHOUT HANDPAY $123.45	Cashout request above hopper limit.	Complete book entries (where applicable). Turn Reset key ON then OFF.
	CALL ATTENDANT - YOU HAVE WON A JACKPOT $123.45	Non-progressive win above jackpot limit	Complete book entries (where applicable). Turn Reset key ON then OFF.
	CALL ATTENDANT - YOU HAVE WON A CASH WIN $123.45	Non-Jackpot win above the Maximum credit limit, and cannot be paid by hopper.	Complete book entries (where applicable). Turn Reset key ON then OFF.
	CALL ATTENDANT - YOU HAVE WON A LINK JACKPOT - LEVEL X - $123.45	Progressive win (Link or Mystery).	Complete book entries (where applicable). Turn Reset key ON then OFF.

Glossary

ADH	Aristocrat Disc Hopper.
Animation Lamps	Lamps located in the top box for animation purposes.
Any pays	Symbols are read anywhere on the payline, and not necessarily left to right or right to left.
ARM250	Advanced RISC Machine - a type of integrated microcontroller
ASIC	Application Specific Integrated Circuit
Audit key switch	To display the electronic audit meters on the monitor, insert the audit key and turn it 90° clockwise.
Audit meters	See electronic and electro-mechanical meters.
Base	A specially designed box unit on which the cabinet stands. The cash box is usually located securely within the base.
Book pay	After the player presses the COLLECT button, the credits are manually paid out to a player and recorded in the payout book.
Button panel	The series of buttons across the front of the cabinet which the player uses to control game play.
Cabinet	The major cabinet or casing in which the workings of the machine are housed.
Cancel credit	When a player attempts to COLLECT a credit amount greater than the amount that the Hopper can pay out, the machine locks up. When this occurs, the Cancel Credit procedure allows for the player to be paid manually and the credit on the machine cancelled to zero.
Cash box	The high security compartment used to hold any coins not held in the hopper.
Clearance	The value of coins removed from the cash box, usually daily.
CMOS	Channel metal oxide semi-conductor.
Coin comparator	Device that compares a coin inserted by a player with a sample coin of the correct denomination to determine if the inserted coin is valid and acceptable for play.

Coin detectors	See photo-optic detectors.
Coin jam	When coins jam in the coin chute assembly chute.
Coin selector	See coin comparator.
Coin tray	The tray at the bottom of the cabinet into which payout or reject coins are deposited for collection.
Coin validator	See coin comparator.
CASH OUT	To convert the amount shown on the CREDIT meter to cash, the player presses the CASH OUT button which activates the hopper to pay the coins into the coin tray.
Console	See base.
CPU	Central processing unit.
Credit	Coins inserted into the machine register as credits. One coin may equal more than one credit. Prizes are shown as credits until such time as the player chooses to collect them.
D/A	Digital to analog.
DES	Data Encryption System
Electromechanical meters	The electromechanical meters or counters. These meters are non-resettable and are cumulative for the life of the machine.
Electronic meters	The electronic audit meters that provide audit information.
EPROM	Erasable programmable read only memory.
ESD	Electrostatic discharge.
FPLA	Field programmable logic array.
GL5	Communications protocol for the bill acceptor
Hard meters	See electromechanical meters.
HCMOS	High speed CMOS logic.
Hopper	The electronically controlled unit which stores the coins that are played and which pays out the exact number of coins in a credit collect situation.
House	The club, casino or organisation running the games.
IC	Integrated circuit
Illegal coin	A coin which is incorrectly paid out by the hopper.
Intelligent bezel	Sites the accept/reject slot for note placement on the bill acceptor fascia panel.

Installation	A club, casino or other place which has a number of gaming machines.
I/O	Input/output.
Jackpot key switch	To reset the machine after a cashier payout or after a machine fault has been corrected, insert the J key, turn it 180° clockwise and back again.
LAB	New South Wales Liquor Administration Board.
LED	Light emitting diode.
Left to right pay	Symbols are read from left to right for prize determination.
Links	A series of machines are *linked* together by an external progressive controller. Each machine contributes to a common progressively incremented jackpot and is displayed separately for the player to see.
Lockup	A lockup renders the machine unplayable and is triggered either by a malfunction, when a jackpot has been won (if the program permits), or when the player has pressed the CASH OUT pushbutton when there is more than the cancel credit amount in credit.
Manual pay	A book payment made for any amount in excess of the cancel credit limit of the machine.
Max bet	A button which automatically bets the maximum amount possible on a game.
Meters	Electronic (soft) meters and electro-mechanical meters located within the machine that record and display important audit information for the operator.
Microprocessor	The computer component which controls and processes game play instructions.
Multiline	A game in which a player bets on additional lines to multiply the chance of a prize.
Multiplier	A game in which a player bets additional coins on any one game to multiply the value of the prize.
MVP	Gaming machine model name (MVP models were previously known as MkV Series II).
Payline(s)	The line or lines which indicate where the symbols must line up for a player to win.
Payout book	Book used to record hopper refill amount, jackpot amount and cancel credit amount.

PCBA	Printed circuit board assembly.
Play button	One of the illuminated buttons on the button panel, used in game play.
PLD	Programmable logic device.
Progressive jackpot	This is an additional jackpot to the game's normal jackpot. This jackpot increments by a fixed percentage of the machine's turnover and is displayed separately for the player to see.
PROM	Programmable Read Only Memory.
Refill	Money you add to a hopper by opening the door and inserting coins, usually when the machine has run out of coins.
Reserve	A button on the machine which allows a player to indicate to others that the machine is reserved. This reserve message remains lit for 3 minutes.
RISC	Reduced Instruction Set Computer.
Scattered pays	Symbols can be above, below or on the payline to qualify for a prize.
SEF	Subsidiary equipment function.
SESI	Subsidiary equipment serial interface.
Short time out	The machine locks up when a coin jams across the hopper photo-optic detector for more than 0.5 seconds.
Soft meters	See electronic meters.
SPI	Serial Peripheral Interface
SRAM	Static Random Access Memory.
Symbols	The various designs on the reel strips. Common symbols include Jacks, Kings, Aces, Cherries, and Gold Bars.
Top box	The box unit on top of the cabinet which carries the game graphics, rules and score card.
Yo-Yo	A coin travelling in reverse to its normal direction. For example: a coin is dangled through and withdrawn from the coin entry slot of the machine in an attempt to cheat the machine of a coin during game play.

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