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MIKOHN JACKPOT HOST SYSTEM Hardware Version 1.1 Technical Manual

****DRAFT****

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SYSTEMS

Heralded as the dominant leader in progressive jackpot systems, Mikohn continues to expand its offerings of sophisticated electronic systems to include the linking of multi-site casinos, advanced management information and player tracking innovations, related module enhancements, and bonusing technology.

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Mikohn continues to broaden its staple of proprietary table games which include our new branded specialty games. Designed to bring variety to the gaming floor and attract players, these games encourage greater play through their novel looks and concepts, progressive jackpot systems, and outstanding display features.

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1 Mikohn Jackpot Host System Description

The MIKOHN JACKPOT HOST SYSTEM (JHS) is a powerful communications and control device that collects data, provides protocol conversions, and controls peripheral devices. The JHS is a modified Data Collection Unit designed to conform to the NSW regulations for gaming equipment.

The JHS is designed with RAM and EPROM memory that can be expanded to extend additional communications channels and processing abilities. In addition, other devices can be connected to the JHS, such as sound cards, jackpot trigger devices, and displays (signs).

The JHS consists of the modified DCU, the HYPERLINK WATCHMAN interface boards installed on each Electronic Gaming Machine (EGM), and can also include the MIKOHN Jackpot Reset Device – with the WATCHMAN board installed (optional).

1.1 JHS Features and Functions

The JHS incorporates a large variety of features and functions, as shown below:

- Four Mystery Progressive levels supported.
- Up to 110 devices (EGMs or displays) supported.
- Programmable by keypad on the JHS casing.
- A four-line, 40-character, illuminated LCD (Liquid Crystal Display) for programming and audit and status information reporting.
- Allows hard meter recording of Jackpot hits (for each level), Jackpots paid (for each level), and total turnover (Coin-In). Has nine hard meters, displayed on top casing.
- Time, date, GMID (EGM number), and amount of jackpot are historically maintained (back to the last 100).
- Display outputs use RS-485 communication routing, which provides for high noise immunity and Full-Duplex multi-drop. Four bi-directional serial ports that can use specific vendor protocols, support 110 machines, and gather cumulative information from Watchman. In addition, Progressive and Mystery pays can be displayed as data on an EGM screen.
- Real Time Clock standard used for time/date stamping information.
- Sixteen LED indicators monitor transmission, receiving, resetting, power, and watchdog timing functions.
- Wired with Latching Connectors and Ejectors on cables to provide optimum attachment and detachment reliability.
- Designed for ease of service and upgrade modifications so that removing the top cover provides access to all JHS circuitry.
- Lithium battery backup.
- NVRAM backup of current progressive data per each $100 contribution in turnover.

1.2 WATCHMAN Interface Boards

The WATCHMAN board is an interface board designed to comply with NSW gaming regulations. There are two models– the HYPERLINK WATCHMAN and a MIKOHN Jackpot Reset Device WATCHMAN–that

serve different purposes. The physical components on the boards are identical in both models. The difference lies in the firmware installed in the EPROM (Electronically Programmed Read Only Memory) of each WATCHMAN model, and additional hardware that can be added to the boards.

1.2.1 MIKOHN Jackpot Reset Device WATCHMAN

The WATCHMAN board, contained in the MIKOHN JACKPOT RESET DEVICE, is an optional board. The JACKPOT RESET DEVICE can be installed on any of the communication channels of the JHS. This WATCHMAN interfaces solely with the JHS to initiate jackpot group resets. It is packaged inside a metal case with four button switches and one physical hard key installed in the outer panel. The button switches are wired to connectors on the WATCHMAN board that correspond with jackpot groups 0 – 3. When one of the buttons is pushed, the WATCHMAN sends a signal to the JHS to reset the corresponding jackpot group.

1.3 JHS Machine Connection Overview Drawing

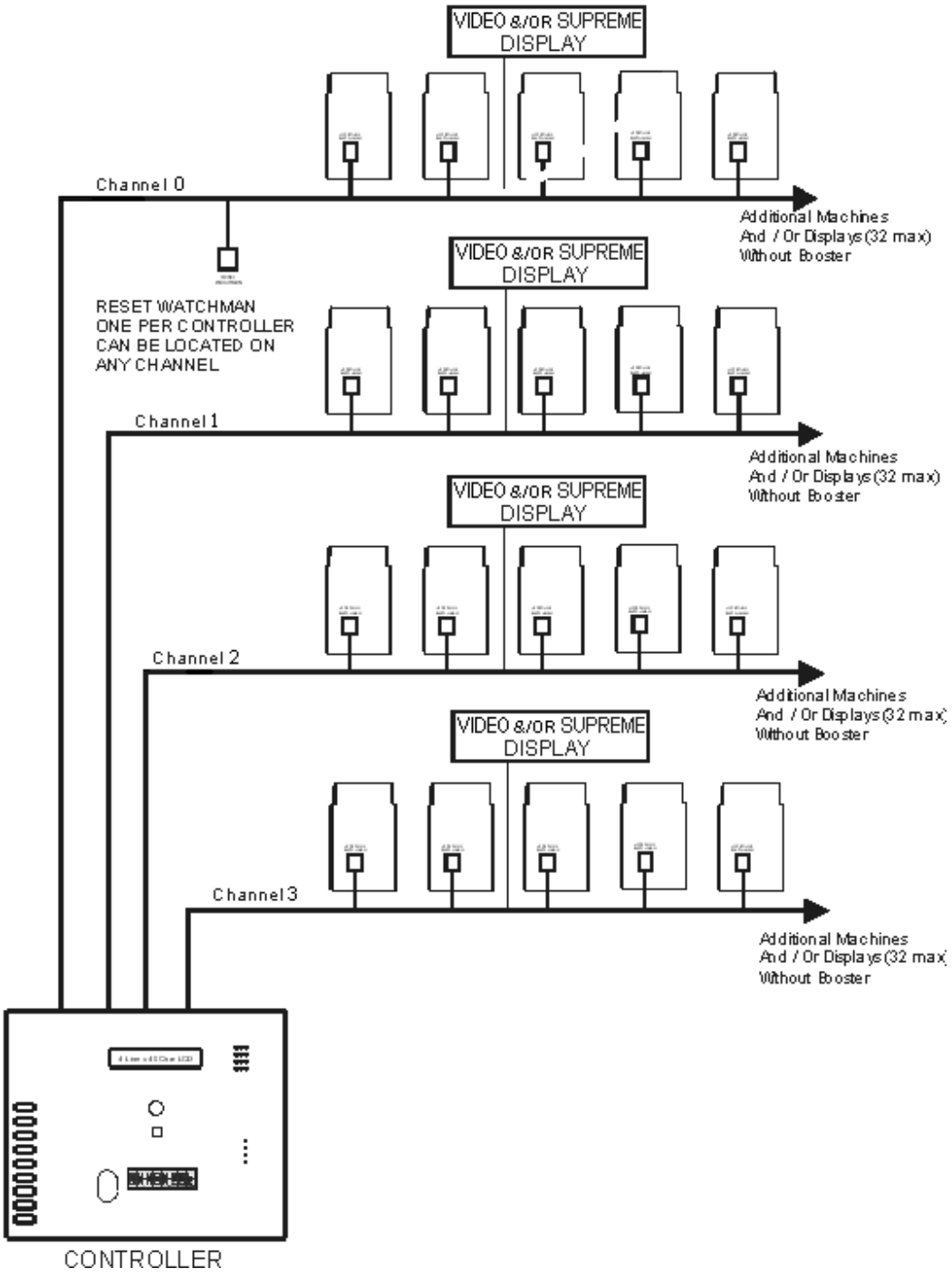

Figure 1.1 *Overview of Watchmans and EGMs connected to the JHS by channels*

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2 Hardware Components

The JHS contains the following components, both on the casing and within the unit. These components are described in the following sections

1. Modified Data Collection Unit Logic Board
2. JHS Front Panel
    3. Configuration Access Key
    4. Keypad
    5. LCD
    6. LED Display Board
7. Hard Meter Board

The main board is the standard JHS logic board (see Figure 2.1), which is connected to the Hard Meter board with a ribbon cable and a six-pin phone cable. The LED display board is connected to the JHS via the Hard Meter board.

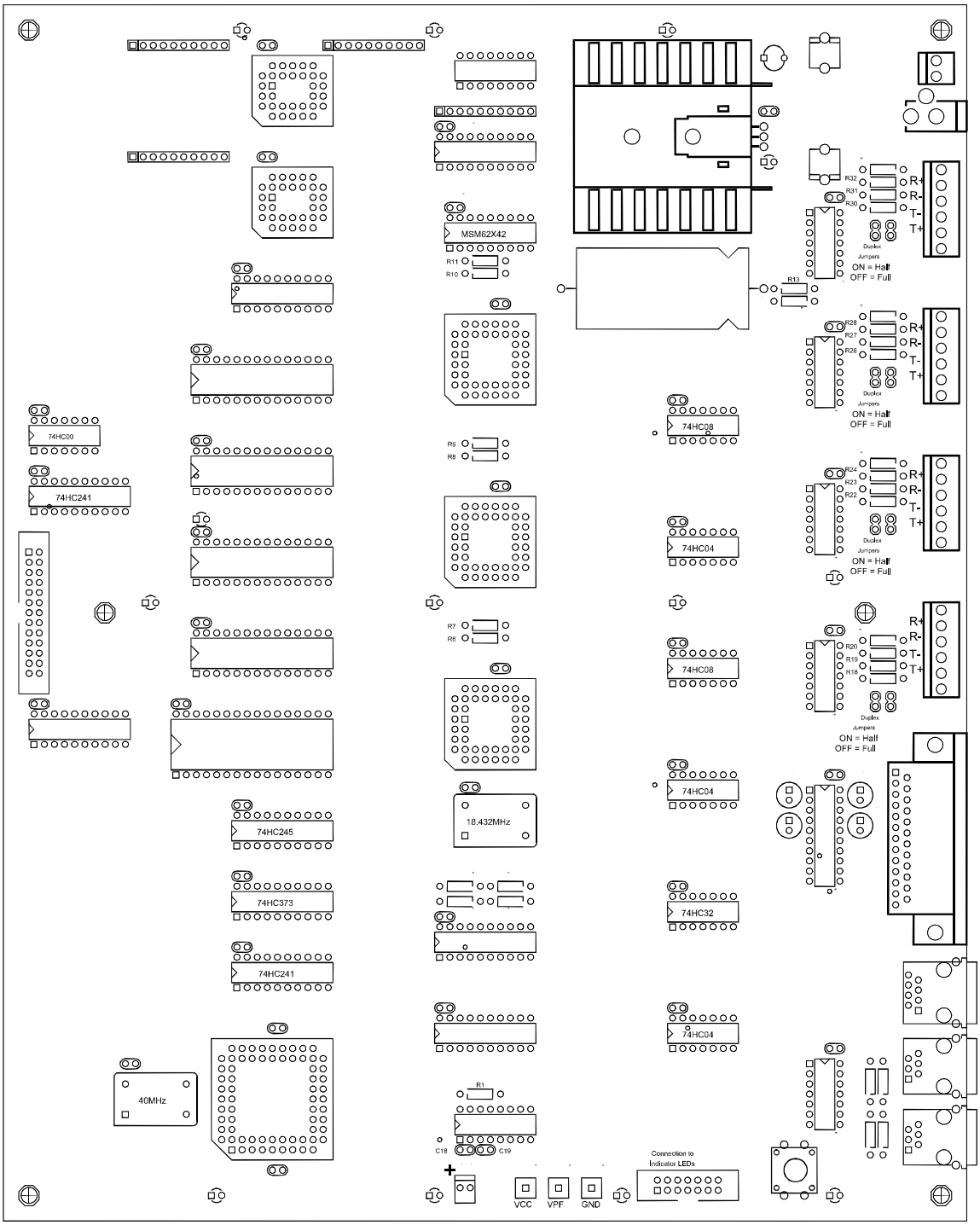

Figure 2.1 *The JHS Logic Board*

2.1 Standard JHS Logic Board

The JHS Logic Board has thirteen connectors mounted on the perimeter of the board. The connectors are defined in Table 2.1, below.

Table 2.1 *Logic Board Connectors*

Connector	Connector Function
J1	J1 mates with J5 on the Hard Meter board and is used to route signals to the Hard Meter board.
J2	J2 provides a 3.6-Volt Lithium battery backup connection location.
J3	J3 mates with P2 on the Display logic board and is used to route signals to the LED indicators.
J4 J5	Serves as an RS422/RS485 communications port. Serves as an RS422/RS485 communications port.
J6	J6 serves as a communication port from the JHS to the Hard Meter Board. It is an RJ45 connector and is a standard RS232, 9600-baud input and output protocol proprietary to Mikohn Gaming Corporation. Performs optimally at distances at up to 50 feet (15.25 meters). Use RS232 boosters for distances greater than 50 feet.
J8, J9, J10, J11	J8, J9, J10, J11 serve to connect to WATCHMANs and/or visual displays. The JHS communicates with games through the WATCHMANs. Have bi-directional RS422 compatible communications port that supports 9600 baud. Perform optimally at distances at up to 2000 feet (609.60 meters). Use RS422 boosters for distances greater than 2000 feet. Output is RS422 standard-drive capable and is disabled (high impedance mode) when not transmitting.
J12 J13	12 Volt DC @ 1.5 Amp JHS power input jack. It is a barrel plug connector. 12-Volt DC input connector. Pin 1 is Ground and Pin 2 is Positive. Is a two-in IDC connector.

2.1.1 JHS Logic Board Fuse

The Main Power Fuse (F1) is mounted in fuse clips and is located on the JHS logic board, next to the power connectors. The fuse rating is 250 Volts at 2 Amps. The remaining components on the JHS logic board are set at the factory and are not customer serviceable.

2.1.2 JHS Power Supply

The JHS uses an auto-ranging power supply, which permits safe operation domestically as well as offshore. The power pack sits inside the JHS casing. The plug connector end of the power supply cord is installed into plug connector J13. The power supply specifications are as follows:

AC Input

100 – 240 Volts

1.4 – 0.7 Amps

50 – 60 Hz

DC Output

+12 Volts at 2.5 Amps

2.2 JHS Front Panel Layout

Figure 2.2 shows a drawing of the JHS casing front panel. Figure 2.3 illustrates what displays in the LCD screen. Each component shown here is described in the following sections.

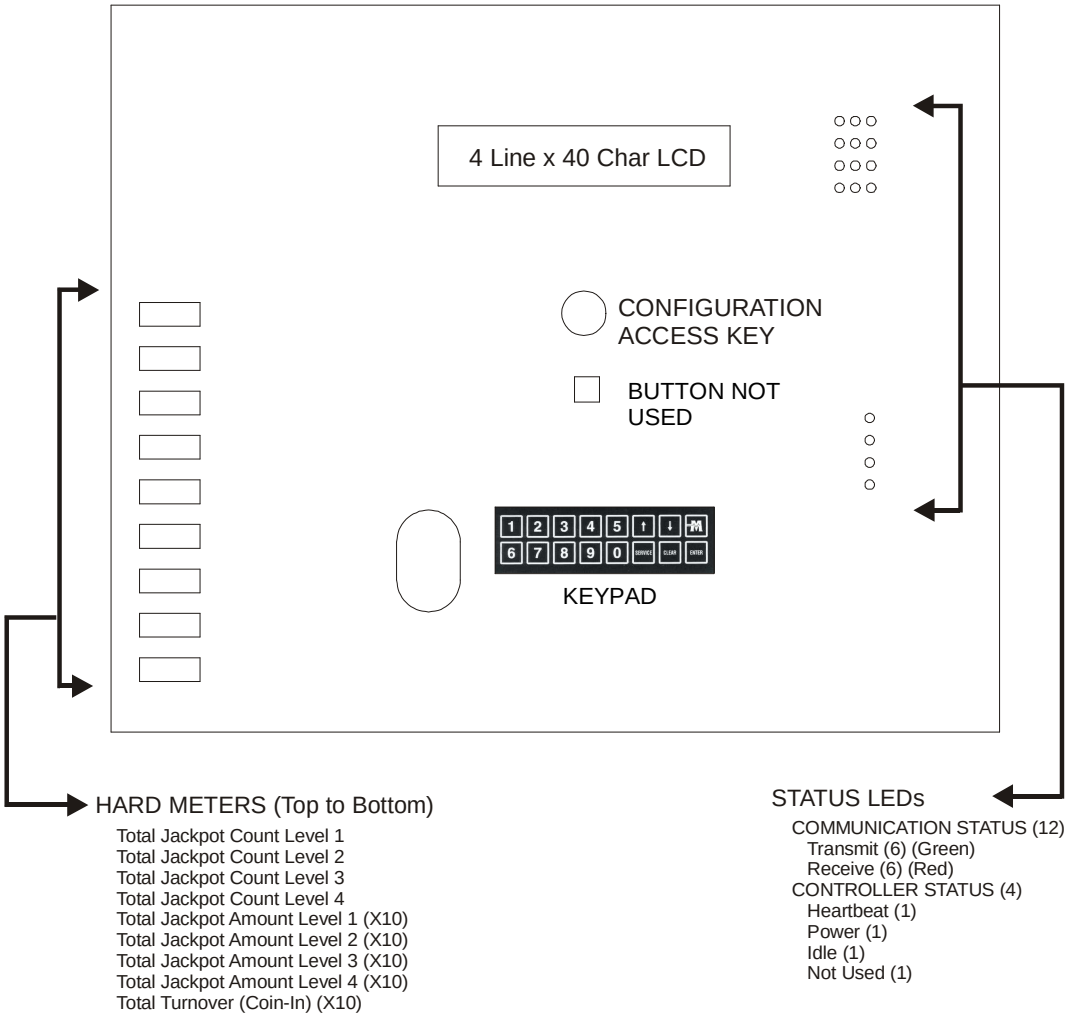

Figure 2.2 *Drawing of the JHS Front Panel*

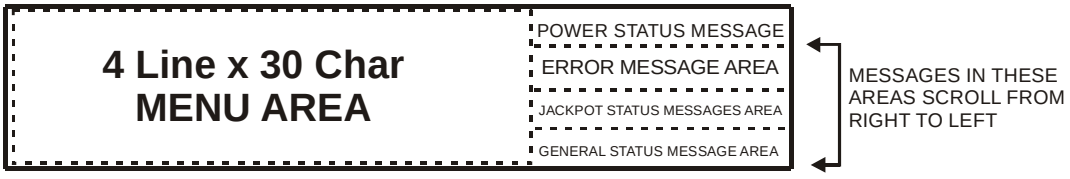

Figure 2.3 *LCD Screen*

2.2.1 Configuration Access Key

You must have a Configuration Access Key to perform any configuration on the JHS. You will turn the key to the right to activate it.

2.2.2 Keypad and Key

The MIKOHN keypad (shown in Figure 2.4) is the primary method of entering data into the JHS. You must have a key (different from the Configuration Access Key) to access it. The keypad is used to enter programming data, select menu options, and query the JHS for audit information. Several of the buttons on the keypad are used to navigate the menus, as shown below in the section How to Use the Keypad.

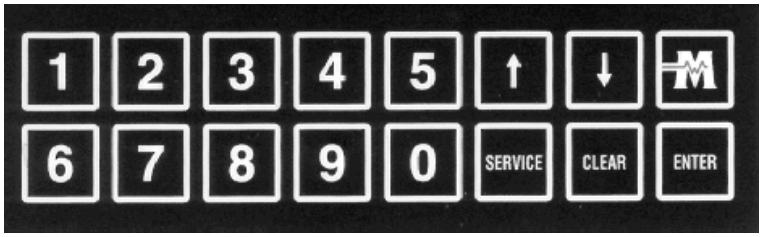

Figure 2.4 *JHS Keypad*

How to Use the Keypad

- **Up Arrow button**: Move cursor up 1 line
- **Down Arrow button**: Move cursor down 1 line
- **"1" button**: Page up one screen (3 lines).
- **"2" button**: Page down one screen (3 lines)
- **"M" button**: Send the cursor to Home (upper left)
- **ENTER**: Yes / OK response to prompt
- **CLEAR**: No / Cancel response to prompt

2.2.3 The LCD (Liquid Crystal Display)

The LCD on the front panel is a four-line, 40-character text screen you use to configure and program the JHS. See Figure 2.5 for more detail.

2.2.4 LED Indicators

The 16 LED (Light Emitting Diode) indicators on the front panel show communication and JHS status (see Figure 2.5). The information indicated by the LEDs is shown in Table 2.2 below.

Table 2.2 *Front Panel LED Description*

Description	Color	Status Indicator	Format
Heartbeat	Red	JHS	When lit indicates the JHS is on
Power	Green	JHS	When lit indicates power to the JHS is connected
Not Used	Red	JHS	Not used
Idle	Green	JHS	Lit when processor is idle
CH. 0 RX	Red	Communication	Channel 0 receiving data from J11
CH. 0 TX	Green	Communication	Channel 0 transmitting data from J11
CH. 1 RX	Red	Communication	Channel 1 receiving data from J10
CH. 1 TX	Green	Communication	Channel 1 transmitting data from J10
CH. 2 RX	Red	Communication	Channel 2 receiving data from J9
CH. 2 TX	Green	Communication	Channel 2 transmitting data from J9
CH. 3 RX	Red	Communication	Channel 3 receiving data from J8
CH. 3 TX	Green	Communication	Channel 3 transmitting data from J8
M.P. RX	Red	Communication	Monitor Port—not used (no PC hookup)
M.P. TX	Green	Communication	Monitor Port—not used (no PC hookup)
IOC RX	Red	Communication	Input/Output Controller—not used (no PC hookup)
IOC TX	Green	Communication	Input/Output Controller—not used (no PC hookup)

2.3 Hard Meter Board

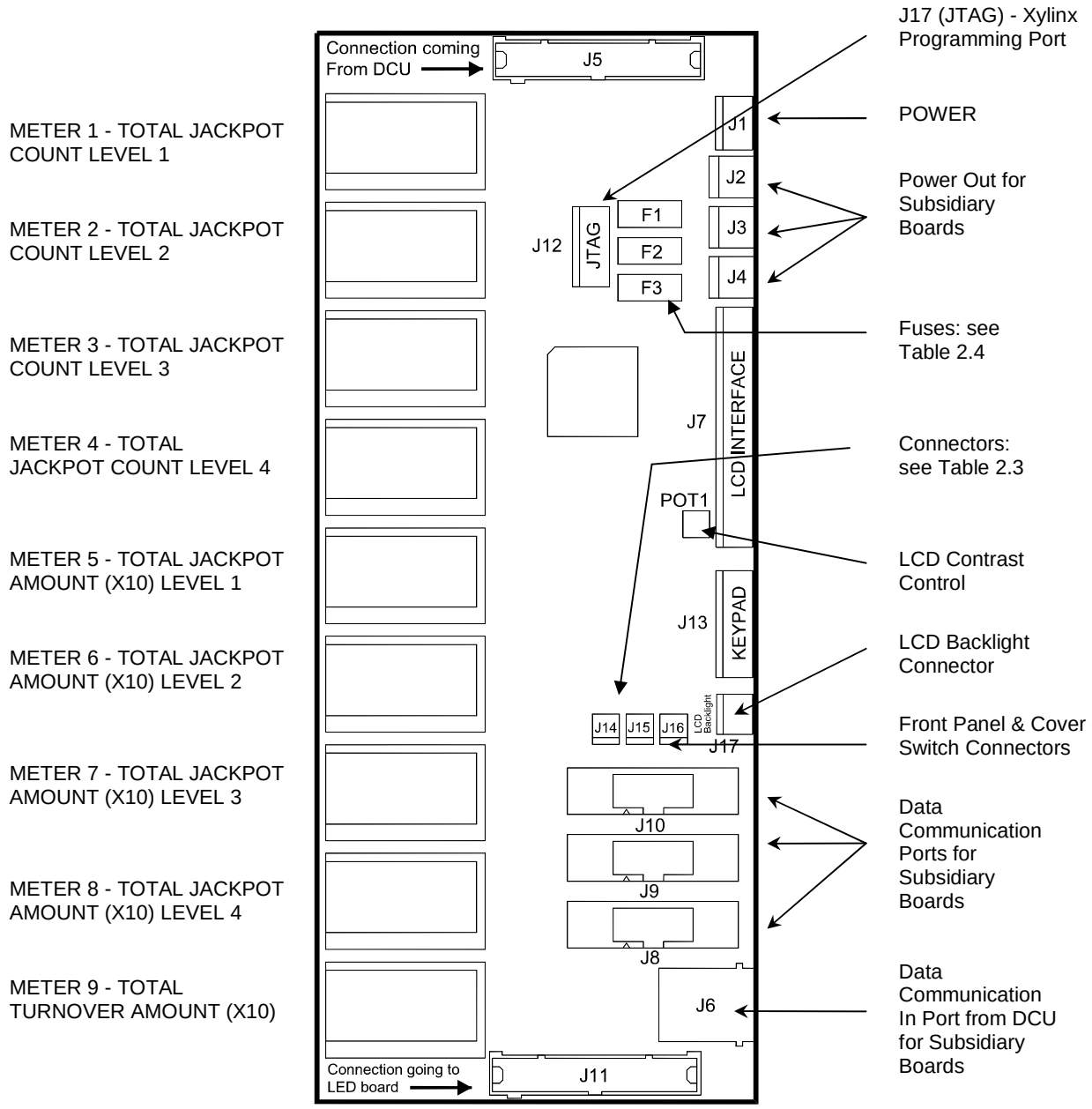

Figure 2.5 *JHS Hard Meter Board P.N. 321- 033-73 Rev B*

2.3.1 Front Panel and Cover Switch Connectors (J14, J15, J16)

Table 2.3 *Front panel and cover switch connectors on Hard Meter Board*

Connector	Purpose
J14	Configuration Access Key
J15	Cover Open/Close Security Switch
J16	Not used

2.3.2 Fuses (F1, F2, F3)

Table 2.4 *Fuses for power connectors on Hard Meter Board*

Fuse	Purpose
F1	Fuse for Power Connector J2
F2	Fuse for Power Connector J3
F3	Fuse for Power Connector J4

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3 Configuration Procedures

NOTES:

- Perform a Factory Reset Cycle before any Cold Start, especially if you install a new Firmware Version. See Section 6.2,.

3.1 Menu Structure

Table 3.1 is an outline of the JHS menu, which you will access from the JHS Keypad (see Section 2.2.2) and view on the LCD (see Section 2.2.3).

Table 3.1 *JHS Menu Structure Viewed on the LCD*

JHS Menu Structure on the LCD Display
MAIN MENU (5)
1. CONFIGURATION
1.1 HOST DATA (COLD START)
1.2 PROGRESSIVE (COLD START)
1.2.1 LEVEL 1
1.2.2 LEVEL 2
1.2.3 LEVEL 3
1.2.4 LEVEL 4
1.3 EGM ADD/REMOVE MENU
1.3.1 ENABLE NEW ENROLLMENT
1.3.2 REMOVE INACTIVE EGM
1.4 SET MACHINE PCID
1.5 ENABLE / DISABLE EGMS
1.5.1 ENABLE ALL EGMS
1.5.2 DISABLE ALL EGMS
1.6 RESET MEMORY ERROR
1.6.1 CRC FAIL / FLASH RECOVER
1.7 FACTORY RESET
1.7.1 CLEAR METER & FLASH
1.8 CONTROLLER SHUT DOWN
1.9 SYSTEM TEST
1.9.1 TEST LEVEL 1
1.9.2 TEST LEVEL 2
1.9.3 TEST LEVEL 3
1.9.4 TEST LEVEL 4
1.10 POWER SAVE MODE SET
1.11 JACKPOT BROADCAST TIME
1.12 CELEBRATION DURATION

JHS Menu Structure on the LCD Display

2. AUDIT
    - 2.1 HOST DATA
    - 2.2 PROGRESSIVE LEVEL DATA
        - 2.2.1 LEVEL 1
        - 2.2.2 LEVEL 2
        - 2.2.3 LEVEL 3
        - 2.2.4 LEVEL 4
    - 2.3 MACHINE DATA
    - 2.4 METERS
    - 2.5 ERROR LOG
    - 2.6 JP HISTORY
    - 2.7 EVENT LOG
    - 2.8 COMM. ERROR
    - 2.9 HOST MODE & ERR STATUS

3. JPOT RESET
    - 3.1 RESET LEVEL 1 JP
    - 3.2 RESET LEVEL 2 JP
    - 3.3 RESET LEVEL 3 JP
    - 3.4 RESET LEVEL 4 JP

4. OTHER
    - 4.1 SET DATE / TIME
        - 4.1.1 SET DATE
        - 4.1.2 SET TIME

5. HELP
    - 5.1 SCREEN NAVIGATION

NOTE:

When you select a menu, you will see a submenu with a number in parentheses (#) to its right. This number indicates how many items are under that submenu.

3.2 Configuration: Getting Started (COLD START)

The procedures outlined in the sections listed below explain in detail how to configure the JHS. The following lists gives an overview of the four procedures you must perform first to use the JHS for the first time or after a factory reset. Perform them in the order shown. See the cross-references listed with each procedure.

- **Disconnect all Machines (if attached).**
- **Disconnect Door Switch.**
- **RAM clear non-volatile memory** (Menu 1.7.1 Section 6.2)
- **RAM clear volatile memory** (Turn off and disconnect battery for 1 minute)
- **Configure the JHS**: set the GMID (Menu 1.1, see Page 18, Section 3.3)
- **Configure the Progressive Levels**: set levels and their parameters (Menu 1.2.1/2/3/4, see Page 19, Section 3.4)
- **Connect Machines and Door switch**.
- **Enroll EGMs**: add the EGMs to the JHS (Menu 1.3.1, see Page 29, Section 3.5)
- **Enter the PCID's :** The "house number" ID can be used for display when jackpot is hit (Menu 1.4, Section 3.6).
- **Set Date and Time (Menu 4.1.1 & 4.1.2).**
- **Program Displays.**
- **Test Jackpots on Displays** (Menu 1.9.1/2/3/4) {can be done at any time, Controller can be sealed but it will disable machines}.
- **Enable all EGMs**: This is the last step in the configuration procedures, to enable all EGMs on the system (Menu 1.5.1, see Page 30, Section 3.7)
- **Cup of Coffee.**

3.3 How to Configure the JHS GMID

1. DISCONNECT ALL MACHINES & RESET.
2. Insert the Security Key into the JHS and turn the key.
3. From the MAIN MENU (5), use the ↓ key on the keypad to select option **1 CONFIGURATION**. Press the ENTER key on the keypad.
4. From the CONFIGURATION MENU (8), select option **1.1 HOST DATA (COLD START)** and press the ENTER key. The Controller will ask to open the cage (door). Open the cage (door) and press the ENTER key.
5. From the HOST DATA menu (3), select **GMID**. Press the ENTER key. You will see the following display on the LCD.

```
NSW GMID SETUP                              POWER OK
GMID RANGE:    1,  999999
ENTER GMID:    00 0000

                                          CH 2-0, 0
```

Figure 3.1 *Setting the JHS GMID LCD display*

6. At the prompt, enter the six-digit GMID. Use the ↓ and ↑ keys to cursor back and forward within the entry. You can find the GMID on the placard attached to the top of the JHS casing. (*The Gaming Authority assigns the GMID.*) Press the ENTER key. Note that the LCD text will change to show 'GMID ENTERED:' and the number you typed will appear.
7. The **CONFIRM ENTER/CLEAR (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the GMID information is correct. If the GMID information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat steps 4 and 5 to re-enter the data.
8. Press the **M** key and press the ENTER key to return to the HOST DATA (COLD START) menu.
9. For non-NSW jurisdiction the Serial Number is often used.

3.4 How to Configure the Progressive Levels

The following list shows the basic steps to configure the Progressive Levels. To configure the parameters in each level, follow the instructions in the subsections following this section. Each parameter is separately defined because the steps are lengthy. Although you are not required to configure all the parameters, once you exit from the progressive menu you cannot return to it. **Make sure you perform all level configurations at one time before exiting to the CONFIGURATION MENU (8).** To program progressive levels, perform the following steps:

1. DISCONNECT ALL MACHINES and the JACKPOT RESET.
2. Insert the Configuration Access Key into the JHS and turn the key.
3. From the MAIN MENU (5), use the ↓ key on the keypad to select option **1 CONFIGURATION**. Press the ENTER key on the keypad.
4. From the CONFIGURATION MENU (8), select option **1.2 PROGRESSIVE (COLD START)** and press the ENTER key on the keypad. (*Cold Start* means that it is initial setup or after a factory reset.) A Polling EGMs for Status Notice will be displayed on the LCD.

```
+---------[ NOTICE! ]-------+   POWER OK
| Polling For EGM StatUs... |
|  (Please Wait a few Secs) |
+---------------------------+  CH 2-0, 0
```

Figure 3.2 *Polling Status Notice Displayed on the LCD*

5. From the PROGRESSIVE MENU (6), select a **LEVEL** (1 through 4) to configure and press the ENTER key. See the following subsections for configuration instructions for each of the four Levels to be used.
6. From the LEVEL # MENU (#), select a parameter and press the ENTER key. At the prompt, configure the parameter. Table 3.2, on Page 20, shows the parameters you can choose from and provides a cross-reference to the page where each is discussed.

NOTE: Jackpots are to set up with the largest at Menu 1.2.1 through to the smallest.

NOTE:

Please note that the parameters BASE and THEORETICAL % RETURN are ***not user-configurable***. These parameters are automatically set.

BASE: (Not viewable) Automatically set equal to the MIN value.

THEORETICAL % RETURN: Uses the PRTP% value (not a calculation).

Table 3.2 *Parameters to configure for every progressive level (addresses disabled V44 on)*

Parameter	Option #	What you do with it	Page
TYPE	3.4.1	select the progressive: regular or mystery	21
MIN, MAX, PRTP%	3.4.2	MIN: set the minimum value for a mystery progressive MAX: set the maximum value for a mystery progressive PRTP%: set the progressive percentage rate	22
CURRENT	3.4.3	set the current progressive value	24
~~SIGN ADR ID~~	~~3.4.4~~	~~set the identification address of the jackpot group sign that will show for this level only~~	~~24~~
~~SIGN GRADR~~	~~3.4.5~~	~~set the group address of a sign for this level only~~	~~26~~
~~JPTD ADR ID~~	~~3.4.6~~	~~set the identification address of JPTD for the level (can be the same as the SIGN ADR ID)~~	~~27~~
~~JPTD GRADR~~	~~3.4.7~~	~~set the group address of JPTD for this level (must be different from the SIGN GRADR)~~	~~28~~

7. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the information is correct. If the information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 5 to re-enter the data.
8. Press the **M** key and then press the ENTER key to return to the LEVEL MENU heading.

NOTE:

If at any time you get an INVALID RANGE error, do not press the CANCEL button. Simply press the correct number on the keypad and the range field will change accordingly. When the value is correct, press the ENTER key on the keypad. If you do get an INVALID RANGE error, it is probably because you did not use leading zeros.

3.4.1 How to Set the Progressive Type to **MYS**TERY

The *only* valid entry for this parameter is **MYS**. The TYPE parameter shows whether this level is programmed for a regular or mystery progressive. You must set the progressive TYPE to MYS. To set this parameter, perform the following steps:

9. From the LEVEL # MENU (#), select **TYPE** and press the ENTER key. You will see the following on the LCD.

```
SElect Controller Type          POWER OK
 (Up/Dwn Arrow to Scroll)
COntroller Type: UNDEF
                                CH 2-0, 0
```

Figure 3.3 *Configuring progressive levels for the TYPE parameter LCD display*

10. Use the ↓ and ↑ keys to scroll to MYS and Press the ENTER key to select. The LCD text will change to say "Type Selected:" and the MYS type will be displayed.
11. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the TYPE information is correct. If the TYPE information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
12. Proceed to the next section to configure the next parameters, MIN, MAX, and PRTP%, for this Level.

3.4.2 How to Set the Minimum, Maximum and PRTP% Values

The MIN parameter is the minimum value for Mystery progressives. The MAX parameter is the maximum value for Mystery progressives. The PRTP% parameter is the total percentage of machine Turnover that the Link will pay out as Jackpots. Includes StartUp % and Increment% (Contibution).

If you want to keep the MIN, MAX, *and* PRTP% at zero, which is the default, bypass this configuration level.

NOTE:

- The MIN, MAX, and PRTP% settings are made sequentially. After configuring one setting and confirming, the Host will automatically be positioned to configure the next setting.
- When configuring the MIN, MAX, and PRTP% values, if the **CLEAR** key is used at the "Please Confirm" prompt, the LCD will revert back to the last setting configured. **For Example**: When the MIN value is set and confirmed, the Host then displays the MAX setting. If the **Clear** key is pressed to *not* confirm the MAX setting, the Host displays the MIN setting, which must be reconfirmed prior to moving to the MAX setting again.

To set the MIN, MAX, and PRTP% values, perform the following steps:

13. From the LEVEL # MENU (#), select **SET MIN, MAX, PRTP%** and press the ENTER key. You will see the following on the LCD.

```
Select MIN Value                    POWER OK
 (Up/Dwn Arrow to ScroLl)
MIN VALUE:          0.00
                                   CH 2-0, 0
```

Figure 3.4 *Configuring progressive levels for the MIN parameter LCD display*

14. To configure the minimum value parameter (MIN), perform the following steps:

    a. Use the ↓ and ↑ keys to scroll through the preset values until the desired value is displayed. Press the ENTER key. Note that the LCD text will change to show 'MIN SELECTED:' and the value selected appears.

    b. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the MIN information is correct. If the MIN information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.

15. To configure the maximum value parameter (MAX), perform the following steps:

    a. Use the ↓ and ↑ keys to scroll through the preset values until the desired value is displayed. Press the ENTER key. Note that the LCD text will change to show 'MAX SELECTED:' and the value selected appears.

16. To configure the progressive percentage rate (PRTP%), perform the following steps:

    b. Use the ↓ and ↑ keys to scroll through the preset values until the desired value is displayed. Press the ENTER key. Note that the LCD text will change to show 'PRTP% SELECTED:' and the value selected appears.

17. Proceed to the next section to configure the next parameter for this Level, CURRENT.

3.4.3 How to Set the Current Amount

NOTE:

Once you have configured the MIN parameter, the JHS automatically sets the Current Amount to the same value as the MIN.

The CURRENT parameter is the Current Progressive Value. To set the CURRENT, perform the following steps:

18. From the LEVEL # MENU (#), select **CURRENT** and press the ENTER key. You will see the following on the LCD.

```
CURRENT SETUP                                POWER OK
CUR.    RANGE:   0.00,     10000.00
ENTER   CURRENT:      000 000.00
                                          CH 2-0, 0
```

Figure 3.5 *Configuring progressive levels for the CURRENT parameter LCD display*

19. Type a number between the range of 0 to 10,000. Use the ↓ and ↑ keys to cursor back and forward within the entry (or simply type zeros until you get to the entry you want to fill). Note that the LCD text will change to show 'CURR ENTERED:' and the number you typed appears.
20. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the CURRENT information is correct. If the CURRENT information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
21. Proceed to the next section to configure the next parameter, SIGN ADR ID, for this Level.

3.4.4 ~~How to Set the Sign Address ID~~ DO NOT ALTER DEFAULTS

NOTE:

The SIGN ADRID parameter is automatically pre-configured but can be changed.

The SIGN ADRID parameter is the identification address of sign for this level. To set the SIGN ADRID, perform the following steps:

22. From the LEVEL # MENU (#), select **SIGN ADR ID** and press the ENTER key. You will see the following display on the LCD.

```
Sign ADRID Setup                    POWER OK
 (Up/Dwn Arrow to Scroll)
Select ADRID: 1
                                   CH 2-0, 0
```

Figure 3.6 *Configuring progressive levels for the SIGN ADR ID parameter LCD display*

23. Use the ↓ and ↑ keys to scroll through the available settings until the desired setting is displayed. Press the ENTER key. Note that the LCD text will change to show 'ADRID SELECTED:' and the number you selected appears.
24. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the SIGN ADRID information is correct. If the SIGN ADRID information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
25. Proceed to the next section to configure the next parameter, SIGN GRADR, for this Level.

3.4.5 ~~How to Set the Sign Group Address~~ DO NOT ALTER DEFAULTS

NOTE:

The SIGN GRADR parameter is automatically pre-configured but can be changed.

The SIGN GRADR parameter is the Group Address of sign for this level. To set the SIGN GRADR, perform the following steps:

26. From the LEVEL # MENU (#), select **SIGN GRADR** and press the ENTER key. You will see the following display on the LCD.

```
Sign GRADR Setup                    POWER OK
 (Up/Dwn Arrow to Scroll)
Select GRADR: 1
                                   CH 2-0, 0
```

Figure 3.7 *Configuring progressive levels for the SIGN GRADR parameter LCD display*

27. Use the ↓ and ↑ keys to scroll through the available settings until the desired setting is displayed. Press the ENTER key. Note that the LCD text will change to 'GRADR SELECTED:' and next to it, the number you selected appears.
28. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the SIGN GRADR information is correct. If the SIGN GRADR information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
29. Proceed to the next section to configure the next parameter, JPTD ADR ID, for this Level.

3.4.6 ~~How to Set the JPTD Address ID~~ DO NOT ALTER DEFAULTS

NOTE:

The JPTD ADRID parameter is automatically pre-configured but can be changed.

The JPTD ADRID is the ID address of JPTD for this level. To set the JPTD ADRID, perform the following steps:

30. From the LEVEL # MENU (#), select **JPTD ADRID** and press the ENTER key. You will see the following display on the LCD.

```
JPTD ADRID Setup                    POWER OK
 (Up/Dwn Arrow to Scroll)
Select ADRID: 1
                                    CH 2-0, 0
```

Figure 3.8 *Configuring progressive levels for the JPTD ADR ID parameter LCD display*

31. Use the ↓ and ↑ keys to scroll through the available settings until the desired setting is displayed. Press the ENTER key. Note that the LCD text will change to show 'ADRID SELECTED:' and the number you selected appears.
32. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the GMID information is correct. If the GMID information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
33. Configure the next parameter, JPTD GRADR, for this Level (proceed to the next section).

3.4.7 ~~How to Set the JPTD Group Address~~ DO NOT ALTER DEFAULTS

NOTE:

The JPTD GRADR parameter is automatically pre-configured but can be changed.

The JPTD GRADR parameter is the Group Address of JPTD for this level. To set the JPTD GRADR, perform the following steps:

34. From the LEVEL # MENU (#), select **JPTD GRADR** and press the ENTER key. You will see the following display on the LCD.

```
JPTD GRADR Setup                    POWER OK
 (Up/Dwn Arrow to Scroll)
Select GRADR: 1
                                    CH 2-0, 0
```

Figure 3.9 *Configuring progressive levels for the JPTD GRADR parameter LCD display*

35. Use the ↓ and ↑ keys to scroll through the available settings until the desired setting is displayed. Press the ENTER key. Note that the LCD text will change to show 'GRADR SELECTED:' and the number you selected will show.
36. The **PLEASE CONFIRM (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the JPTD GRADR information is correct. If the JPTD GRADR information is not correct, press the CLEAR key for NO (**N**). You will be returned to the previous menu. Repeat step 2 to re-enter the data.
37. This is the last parameter to configure for a Level. If you are **completely** finished configuring this Level, press the **M** key and then press the ENTER key to return to the PROGRESSIVE MENU (#). You will see the messages shown below in Figure 3.10.

```
+---------[ NOTICE! ]-------+
| Saving data on Flash.     |
|             Please wait...|
+---------------------------+
```

```
+---------[ NOTICE! ]-------+
|      Flash Backup OK.     |
|                           |
+---------------------------+
```

Figure 3.10 *Flash Backup Screen Messages*

38. Repeat these procedures, which start on page 18, to configure the next Level. Only configure those Levels that are to be used.
39. Press the **M** key and then press the ENTER key to return to the PROGRESSIVE MENU.
40. Press the **M** key and then press the ENTER key to return to the CONFIGURE MENU.
41. Press the ENTER key to return to the MAIN MENU (5).
42. After you have configured all the applicable Progressive Levels (be sure to read NOTE on the next page), proceed to the next section, How to Enroll the EGMs, to continue the configuration process.

NOTE:

After all necessary parameters in all applicable Levels have been set, the JHS is configured. The Configuration Options you have set (above and on the previous pages) are now permanently set. You must perform a RAM clear or Factory Reset to re-enter the above configuration menus.

3.5 How to Add the EGMs to the JHS System

This is the next step in configuring the JHS, after setting all applicable Progressive Levels. To enroll (add) the EGMs to the JHS system, perform the following steps:

1. Ensure all machines and the jackpot reset are connected.
2. Insert the Configuration Access Key into the JHS and turn the key.
3. From the MAIN MENU (5), use the ↓ key on the keypad to select option **1 CONFIGURATION**. Press the ENTER key on the keypad.
4. From the CONFIGURATION MENU (8), select option **1.3 EGM ADD/REMOVE MENU** and press the ENTER key on the keypad.
5. Open the cage (door) and press the ENTER key. Close the cage again.
6. From the EGM ADD/REMOVE MENU (2) select option **1.3.1 ENABLE NEW ENROLLMENT.** The LCD screen shows the following notice (see Figure 4.1).

```
+--( EGM ENROLLMENT MODE )--+   POWER OK
|  New EGM EnrollmeNT NOW   |
|   in effect....           |
+---<Hit any key to STop>---+  CH 2-0, 0
```

Figure 3.11 *EGM ENROLLMENT MODE as shown on LCD screen*

5. Check the scrolling status display at the lower right of the LCD. When the number of ENROLL EGMs *matches* the number of EGMs known to be connected to the system, press any key to exit the Enrollment Mode.
6. Press the **M** key and press the ENTER key to return to the EGM ADD/DELETE MENU.
7. Press the **M** key and press the ENTER key to return to the Configuration Menu.
8. Press the **M** key and press the ENTER key one more time to return to the Main Menu.
9. Proceed to the next section to continue configuration procedures (Machine PCID Labels).

3.6 How to Set Machine PCID (HOUSE NUMBER) Labels

This procedure (optional) is the next step, after enrolling the EGMs, in configuring the JHS. The PCID is a venue-defined game description. It is not required. If it is not used, the GMID will be used instead. To set the Machine PCID Labels, perform the following steps:

1. Disconnect machines.
2. Insert the Configuration Access Key into the JHS and turn the key.

3. From the MAIN MENU (5), use the ↓ key on the keypad to select option **1 CONFIGURATION**. Press the ENTER key on the keypad.
4. From the CONFIGURATION MENU (7), select option **1.4 MACHINE DATA** and press the ENTER key on the keypad.
5. Open the cage (door) and press the ENTER key. Close the cage again. A list of EGMs appears.

GMID	PCID	DEN	CF	ST	CH	POWER OK
021738		001		Ok	0	
048555		001		Ok	0	
123440		001		Ok	0	CH 2-0, 0

Figure 3.12 *Selecting an EGM to configure its PCID label LCD display*

6. Select an EGM using the ↓ key and press the ENTER key.
7. Type the PCID for the EGM and press the ENTER key. The Controller will exit to the previous screen (see step 4). If the CLEAR key is pressed, the Controller will erase the PCID field and exits to the previous menu.
8. Repeat steps 5 through 6 for all GMIDs that are to be assigned PCIDs.
9. The RESET should appear with a default GMID of "999999" and be included in the count of machines in the Total and the channel it's attached to.
10. Press the **M** key and press ENTER key to return to the CONFIGURATION MENU (8).
11. Reconnect machines.

NOTE:

- Although it is not required to set the JHS date and time, if the date and time **do** need to be changed it is strongly advised to make those changes **prior** to enabling the EGMs (more efficient process). See Section 4.2 and Section 4.3 for procedures.
- The system will NOT PERMIT duplicate values.
- To change the date and time after enabling the EGMs, you must open the Security Cage. This action automatically disables all EGMs.
- The Security Cage (door) on the Controller and the Reset **must** be closed prior to enabling the EGMs (see the procedures in the section below).
- The Jackpot Reset will appear with a default GMID of 999999.

3.7 How to Enable all EGMs

This is the last step in configuring the JHS. To enable all EGMs, perform the following steps:

1. Ensure machines are connected.
2. From the MAIN MENU (5), select the option **1 CONFIGURATION** using the ↓ key. Press the ENTER key on the keypad.

3. From the CONFIGURATION MENU, select the option **1.5 ENABLE / DISABLE EGMS** and press the ENTER key.
4. From the EGM EN/DISABLE MENU(2), select the option **1.5.1 ENABLE ALL EGMS** and press the ENTER key.
5. To Enable the EGMs, press the ENTER key. (Press ENTER, can be repeated if desired)
6. Press the **M** key and press the ENTER key to return to the CONFIGURATION MENU.
7. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

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4 Miscellaneous Procedures

4.1 Add/Delete EGMs

4.1.1 How to Delete an Inactive EGM

Purpose for this procedure: When an EGM is removed from the floor and the data maintained for that machine, which resides in the JHS, is to be cleared.

To remove an inactive EGM from the system, perform the following steps.

1. Insert the Configuration Access Key into the JHS and turn the key.
2. From the MAIN MENU (5), use the ↓ key on the keypad to select the option **1 CONFIGURATION**. Press the ENTER key on the keypad.
3. From the CONFIGURATION MENU (8), select the option **1.3 EGM ADD/DELETE MENU** and press the ENTER key on the keypad.
4. Open the cage (door) and press the ENTER key. Close the cage again.
5. From the EGM ADD/REMOVE MENU (2) select option **1.3.2 REMOVE INACTIVE EGM.** A list of not communicating EGMs appears.
6. Select an EGM using the ↓ key and press the ENTER key.
7. Key in "1" to confirm that you want to remove or key in "0" to cancel. Press the ENTER key to accept the selection.
8. Press the ENTER key again to confirm.
9. To delete more EGMs, repeat step 6 through 8.
10. Press the **M** key and press the ENTER key to return to the EGM ADD/DELETE MENU.
11. Press the **M** key and press the ENTER key to return to the Configuration Menu
12. Press the **M** key and press the ENTER key one more time to return to the Main Menu.

4.1.2 How to Add the EGMs

NOTE:

- Make sure that all enrolled EGMs (in the Controller database) , those no longer in the Link are removed (see **1.3.2 Add/Delete EGMs**) Before adding EGMs.
- Make sure that new EGM is correctly set up (E.g. GMID, denomination, RTP, probability, CCCE enable…) prior adding the EGMs.

To add EGMs to the system, perform the following steps:

1. Insert the Configuration Access Key into the JHS and turn the key.
2. From the MAIN MENU (5), use the ↓ key on the keypad to select option **1 CONFIGURATION**. Press the ENTER key on the keypad.
3. From the CONFIGURATION MENU (8), select option **1.3 EGM ADD/DELETE MENU** and press the ENTER key on the keypad.
4. Wait until the LCD shows "Please open the cage door and press ENTER", then open the cage door and press the ENTER key. Close the cage (door) again.
5. From the EGM ADD/REMOVE MENU(2) select option **1.3.1 ENABLE NEW ENROLLMENT.** The LCD screen shows the following notice (see Figure 4.1 below).

```
+--( EGM ENROLLMENT MODE )--+   POWER OK
|  New EGM Enrollment NOW   |
|   in effEct....           |
+---<Hit aNy key to Stop>---+  CH 2-0, 0
```

Figure 4.1 *EGM ENROLLMENT MODE as shown on LCD screen*

6. Check the scrolling status display at the lower right of the LCD. When the number of ENROLL EGMs matches the number of EGMs connected to the JHS, the ENROLLMENT process is complete. Press any key to exit the Enrollment Mode.
7. Press the **M** key and press the ENTER key to return to the EGM ADD/DELETE MENU.
8. Press the **M** key and press the ENTER key to return to the Configuration Menu
9. Press the **M** key and press the ENTER key one more time to return to the Main Menu.

4.2 How to Set the JHS Date

NOTE:

The Controller parameters (under **1.1 and 1.2 PROGRESSIVE Coldstart**) must be configured before it allows you to access menu option **4 OTHER**

1. From the MAIN MENU (5), select option **4 OTHER** using the ↓ key. Press the ENTER key on the keypad.
2. From the OTHER FEATURES MENU (2), select option **4.1 SET DATE / TIME** and press the ENTER key.
3. Open the cage (door) and press the ENTER key. Close the cage again
4. From the DATE / TIME SET MENU (2), select option **4.1.1 SET DATE** and press the ENTER key. You will see the following display on the LCD.

```
CONTROLLER DATE SET MENU                    POWER OK
FORMAT:         DD/MM/YY
ENTER NEW DATE: 23/09/99
                                           CH 2-0, 0
```

Figure 4.2 *Configuring the JHS Date*

5. At the prompt, enter the correct date using the ↓ and ↑ keys to cursor back and forward (respectively) within the entry. Press the ENTER key. The LCD text changes to 'DATE ENTERED:' and the date you typed appears.
6. The **CONFIRM ENETR/CLEAR (Y/N)** prompt will show at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the DATE information is correct. If the DATE information is not correct, press the CLEAR key for NO (**N**), which returns you to the previous menu. Repeat step 3 to re-enter the data.
7. Press the **M** key and press the ENTER key to return to the OTHER FEATURES MENU (2).
8. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

4.3 How to Set the JHS Time

NOTE:
The Controller parameters (under **1.2 PROGRESSIVE**) must be configured before it allows you to access menu option **4 OTHER**

1. From the MAIN MENU (5), select the option **4 OTHER** using the ↓ key. Press the ENTER key on the keypad.
2. From the OTHER FEATURES MENU (2), select the ption **4.1 SET DATE / TIME** and press the ENTER key.
3. Open the cage (door) and press the ENTER key. Close the cage again
4. From the DATE / TIME SET MENU, select the option **4.1.2 SET TIME** and press the ENTER key. The LCD screen appears as shown in Figure 4.3.

```
CONTROLLER TIME     SET MENU          POWER OK
RANGE HOUR: 0-23,   MIN: 0-59
ENTER NEW TIME:     16:57
                                    CH 2-0, 0
```

Figure 4.3 *Configuring the JHS Time*

5. At the prompt, enter the correct time using the ↓ and ↑ keys to cursor back and forward (respectively) within the entry. Press the ENTER key. The LCD text changes to 'TIME ENTERED:' and the time you typed appears.
6. The **CONFIRM ENETR/CLEAR (Y/N)** prompt appears at the bottom left of the LCD. Press the ENTER key for YES (**Y**) if the TIME information is correct. If the TIME information is not correct, press the CLEAR key for NO (**N**), which returns you to the previous menu. Repeat step 3 to re-enter the data.
7. Press the **M** key and press the ENTER key to return to the OTHER FEATURES MENU (2).
8. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

4.4 Enable/Disable EGMs

4.4.1 How to Enable All EGMs

Purpose for this procedure: In addition to using this procedure after configuring the JHS (see Section 3.7), the Enable All EGMs procedure is also used when all EGMs have been disabled.

For example: The JHS has a limitation of eight pending jackpots for each progressive level. Once this limit is reached without a jackpot reset, all EGMs are automatically disabled. At this point, once an EGM's jackpot is reset, that particular EGM will automatically be re-enabled.

After all jackpots have been reset, to enable all other EGMs (without pending jackpots), perform the procedure below to manually enable them:

1. From the MAIN MENU (5), select the option **1 CONFIGURATION** using the ↓ key. Press the ENTER key on the keypad.
2. From the CONFIGURATION MENU, select the option **1.5 ENABLE / DISABLE EGMS** and press the ENTER key.
3. From the EGM EN/DISABLE MENU (2), select the option **1.5.1 ENABLE ALL EGMS** and press the ENTER key.
4. To Enable the EGMs, press the ENTER key.
5. Press the **M** key and press the ENTER key to return to the CONFIGURATION MENU.
6. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

4.4.2 How to Disable all EGMs

Purpose for this procedure: Use this procedure if it is necessary to disable all EGMs at once, such as a venue-wide problem or malfunction. Also a regular test of Watchmen, if an interface won't disable RAM clear it or if still fails, replace it.

1. From the MAIN MENU (5), select the option **1 CONFIGURATION** using the ↓ key. Press the ENTER key on the keypad.
2. From the CONFIGURATION MENU, select the option **1.5 ENABLE / DISABLE EGMS** and press the ENTER key.
3. From the EGM EN/DISABLE MENU (2), select the option **1.5.2 DISABLE ALL EGMS** and press the ENTER key.
4. To Disable the EGMs, press the ENTER key.
5. Press the **M** key and press the ENTER key to return to the CONFIGURATION MENU.
6. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

4.5 CONTROLLER SHUT DOWN

NOTE:

When the Controller is in the "Shut Down Mode" , you have to power OFF the Controller.

The "Controller Shut Down" Mode disables all EGMs and prepares for power off. To place the JHS into "Controller Shut Down" mode, perform the following steps:

1. Insert and turn the configuration access control key.
2. Select CONFIGURATION from the MAIN MENU (5) and press the ENTER key.
3. From the CONFIGURATION MENU (8) menu, select the option 1.8 CONTROLLER SHUT DOWN and press the ENTER key.
4. The following notices will appear on the LCD in the order shown:
    c. Attempt to Disable All EGMs, Please Wait 20 seconds...
    d. Polling for EGM status... , (Please Wait a few secs)
    e. All EGMs are now Disabled...
    f. It's ready to power down the Controller.
5. The JHS is now ready for power off.

Note: If the LCD shows "not all machine are in Idle" then perform step 3 through 4 again.

4.6 SYSTEM TEST MODE

NOTE: CONTROLLER IS NOT OPENED

The test can be done for each level. When a test level is selected, the Controller will send jackpot's messages to the displays and JPTD+. Please check the correspondence level identification on the JPTD+ and celebration on the display. The test jackpot value will not registered in the system. The test will automatically stop after 30 seconds.

The Test Mode disables all EGMs and make sure that all EGMs are in IDLE. To do a system test, perform the following steps:

1. Insert and turn the configuration access control key.
2. Select CONFIGURATION from the MAIN MENU (5) and press the ENTER key.
6. From the CONFIGURATION MENU (8) menu, select the option 1.9 SYSTEM TEST and press the ENTER key.

7. The following notices will appear on the LCD in the order shown:
    a. Attempt to Disable All EGMs, Please Wait 20 seconds...
    b. Polling for EGM status... , (Please Wait a few secs)
    c. All EGMs are now Disabled...
    d. The JHS will enter the System Test Menu 1.9.
8. Using the ↓ key to select a test level e.g. **1.9.1 Test Level 1** and press the ENTER key.
9. The LCD shows "Test Command is being sent" for 30 seconds and automatically return.
10. To test more levels, repeat step 7 through 8.
11. Press the **M** key and press the ENTER key to return to the CONFIGURATION MENU.
12. Press the **M** key and press the ENTER key to return to the MAIN MENU.

Note: If the LCD shows "not all machine are in Idle" then perform step 6 through 8 again.

4.7 ~~The Power Save Mode~~ DO NOT USE

4.7.1 How to Activate the Power Save Mode

NOTE:

The Power Save Mode can be easily **deactivated**, simply by pressing any key on the JHS keypad. To prevent unauthorized deactivation of the Power Save Mode, lock the keypad access panel.

The Power Save Mode disables all EGMs and places the JHS into an idle state. To place the JHS into power save mode, perform the following steps:

1. Insert and turn the configuration access control key.
2. Select CONFIGURATION from the MAIN MENU (5) and press the ENTER key.
3. From the CONFIGURATION MENU (8) menu, select the option 1.10 POWER SAVE MODE SET and press the ENTER key.
4. The following notices will appear on the LCD in the order shown:
    a. Attempt to Disable All EGMs, Please Wait 20 seconds...
    b. Polling for EGM status... , (Please Wait a few secs)
    c. All EGMs are now Disabled...
    d. Power Save Mode ACTIVATED <Press a key to deactivate>

The JHS is in the Power Save Mode when the display shows the message in Step 4.e above.

4.7.2 How to Deactivate the Power Save Mode

When the JHS is in the Power Save Mode the LCD displays the following message:

Power Save Mode ACTIVATED <Press a key to deactivate>

To deactivate the JHS from power save mode, perform the following steps:

1. Press any key, the display will return to the CONFIGURATION MENU (8). The JHS is now in normal operating mode. **Note**: The EGMs are still disabled.

To enable the EGMs, follow procedures in Section 4.4.1.

4.8 The JP BROADCAST TIME - DO NOT USE (USUALLY)

NOTE: MAINLY FOR ROTATING DISPLAYS

JP broadcast time is the time to re-broadcast the jackpot messages. The Purpose for this is to be able to synchronize with the celebration timing in the overhead sign. The default time is 10 seconds.

To enter the new re-broadcast time, perform the following steps:

2. Insert and turn the configuration access control key.
3. Select CONFIGURATION from the MAIN MENU (5) and press the ENTER key.
4. From the CONFIGURATION MENU (8) menu, select the option 1.11 JP BROADCAST TIME and press the ENTER key.
5. Key in the time between 5 and 99 seconds and press the ENTER key.
6. Press the ENTER key to confirm or press the CLEAR key to cancel.
7. Press the **M** key and press the ENTER key to return to the MAIN MENU.

4.9 CELEBRATION DURATION, 33 Seconds Recommended

NOTE:

The duration for jackpot celebration (music and graphics) is up to the club to choose. The default time is 10 seconds.

To enter the new celebration time, perform the following steps:

8. Insert and turn the configuration access control key.
9. Select CONFIGURATION from the MAIN MENU (5) and press the ENTER key.
10. From the CONFIGURATION MENU (8) menu, select the option 1.12 JP BROADCAST TIME and press the ENTER key.
11. Key in the time between 0 and 99 seconds, 33 is recommended and press the ENTER key.
12. Press the ENTER key to confirm or press the CLEAR key to cancel.
13. Press the **M** key and press the ENTER key to return to the MAIN MENU.

5 Auditing Procedures

The procedures in this chapter explain in detail how to audit (view) the various data in the JHS.

5.1.1 How to View Host Data

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.1 HOST DATA** and press the ENTER key.
3. From the HOST AUDIT MENU (7), you can view the following information:
    - GMID
    - Manufacturer ID
    - PDB1 Version Number
    - PDB2 Version Number
    - CDB Version Number
    - EPROM information (version)
    - Prog ID
    - Number of Progressive Levels Supported
    - Total RTP%
4. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).
5. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

5.1.2 How to View Progressive Settings and Current Amounts

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.2 PROGRESSIVE LEVEL DATA** and press the ENTER key.
3. From the PROGRESSIVE AUDIT (4) menu, select a Progressive level using the ↓ key and press the ENTER key.
4. From the LEVELx AUDIT MENU (10), you can view the following parameters:

   - TYPE
   - THEORETICAL % RTN
   - CURRENT
   - MIN
   - MAX
   - INC1 %
   - PROBABILITY
   - SIGN ADR ID
   - SIGN GRADR
   - JPTD ADR ID
   - JPTD GRADR

5. Press the **M** key and press the ENTER key to return to the PROGRESSIVE AUDIT (4) menu.
6. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).
7. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

5.1.3 How to View Machine Data

Purpose of this procedure: Use this menu selection to view the following information on each EGM: GMID, PCID, Denomination, configuration change, Status, and Communication channel number the EGM is connected to.

For example, if the main LCD shows that an EGM is down or disabled–*EGM communication failure*–you would use the Machine Data to determine which specific machine was down (shows **ok** in the ST column for enabled EGMs, **da** for disabled EGMs, and **dn** for down EGMs).

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.3 MACHINE DATA** and press the ENTER key. You will see the following display on the LCD.

```
GMID   PCID   DEN   CF   ST   CH          POWER OK
1224          001        ok    1

                                          CH 2-0, 0
```

Figure 5.1 *Viewing EGM data LCD display*

3. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).

4. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

5.1.4 How to View JHS Soft Meters

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.4 METERS** and press the ENTER key. From the LCD you can view the following information:

- JP TOTAL Lvl1 $
- JP RESET Lvl1
- JP TOTAL Lvl2 $
- JP RESET Lvl2
- JP TOTAL Lvl3 $
- JP RESET Lvl3
- JP TOTAL Lvl4$
- JP RESET Lvl4 $
- TOT TRNOVR SUP $
- TOT TRNOVR LCC $
- TOT SEC DR OPEN
- TOT POWER UPS
- TOTAL JP PAID $
- CCCE PAID Lvl1
- CCCE PAID Lvl2
- CCCE PAID Lvl3
- CCCE PAID Lvl4

3. Press the **M** key and press the ENTER key to return to the AUDIT menu.

5.1.5 How to View the Error Log

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.5 ERROR LOG** and press the ENTER key. You will see the following display on the LCD (with examples of errors shown).

```
ERROR TYPE          HH:MM  DD:MM              POWER OK
POWER RESET         15:21  23-09
RAMErr FACT RESET   15:21  23:09
                                           CH 2-0, 0
```

Figure 5.2 *Viewing the Error Log on the LCD display*

3. Use the ↓ and ↑ keys to scroll through the list of errors.
4. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).

5.1.6 How to View Jackpot History

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.6 JP HISTORY** and press the ENTER key. You will see the following display on the LCD.

```
GMID --JPOT$-- L  HH:MM  DD:MM            POWER OK
123456 108.10  1  09:08  08:07


                                         CH 2-0, 0
```

Figure 5.3 *Viewing Jackpot History on the LCD display*

3. Use the **2** (PgDn) and ↓ or **1** (PgUp) and ↑ keys to scroll through the list of jackpots.
4. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).

5.1.7 How to View the Event Log

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.7 EVENT LOG** and press the ENTER key. You will see the following display on the LCD (with event examples shown).

```
EVENT TYPE        HH:MM  DD:MM            POWER OK
CAGE DOOR OPEN    17:02  24-09
CAGE DOOR OPEN    13:02  23-09
                                         CH 2-0, 0
```

Figure 5.4 *Viewing Events on the LCD display*

3. Use the ↓ and ↑ keys to scroll through the list of Events.
4. Press the **M** key and press the ENTER key to return to the AUDIT MENU (8).

5.1.8 How to View Communications Errors

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2.
3. From the AUDIT MENU (8) select option **2.8 COMM. ERROR** and press the ENTER key. You will see the following display on the LCD.

```
GMID COMM. STATUS                          POWER OK




                                          CH 2-0, 0
```

Figure 5.5 *Viewing Communication Status on the LCD display*

4. Use the ↓ and ↑ keys to scroll through the list of GMIDs.
5. Press the **M** key and press the ENTER key to return to the COMM ERROR menu.

5.1.9 How to View Current Host Mode

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.9 HOST MODE & ERR STATUS** and press the ENTER key.
3. From the JHS Mode & Err Status (2) select option **2.9.1 JHS Mode Operation** and press the ENTER key. The Current Host Mode will be displayed on the LCD.
4. Press the **M** key and press the ENTER key to return to the JHS Mode & Err Status (2) menu.
5. Press the **M** key and press the ENTER key to return to the AUDIT menu.

5.1.10 How to View the Current Host Error Status

1. From the MAIN MENU (5) select option **2 AUDIT** using the ↓ key. Press the ENTER key on the keypad.
2. From the AUDIT MENU (8) select option **2.9 HOST MODE & ERR STATUS** and press the ENTER key.
3. From the JHS Mode & Err Status (2) select option **2.9.2 JHS Err Status** and press the ENTER key. From the LCD you can view the following Error information:
   - Meter Disconnect
   - CRC fail
   - JP Queue Full
   - Less Than 2 EGMs
4. Press the **M** key and press the ENTER key to return to the JHS Mode & Err Status (2) menu.
5. Press the **M** key and press the ENTER key to return to the AUDIT menu.

6 Reset Procedures

6.1 How to Reset a HandPay Jackpot

NOTE:

Normally, the jackpot will be automatically transferred in to the EGM (Poker machine). If the machine is busy (Free Spins, Double Up the CCCE transfer process cannot happen or is installed incorrectly, the Controller will revert to handpay. This means manually reset on the Controller need to be done prior reset jackpot (key off) from the EGM.

On the LCD main screen, you will see the message "*Handpay jackpot level X*" come up on the right side of the screen. When you see it, perform the following steps:

1. RESET BOX (tune its key and press appropriate button).
2. If there is no reset box or it fails go to the controller.
3. Insert the Configuration Access Key and turn the key.
4. From the MAIN MENU (5) select option **3. JACKPOT RESET**. Press the ENTER key on the keypad.

NOTE:

Pay a jackpot before you reset it. If there is more than one jackpot, clear jackpots in the order you pay them. If you do clear a handpay jackpot before paying it, you must go to the Audit log (see Section 5.1.6, How to View Jackpot History) and find that jackpot history.

5. From the **JACKPOT RESET MENU (4)** choose the level (1 through 4) that is shown in the Handpay Jackpot message. If more than one level shows in the message, you can clear according to which you pay first. A list of pending jackpots, ordered by GMIDs, shows on the LCD.
6. Use the ↓ and ↑ keys to select the jackpot to be reset. Press the ENTER key to clear the jackpot. All x's will show when the jackpot has been cleared.
7. Press the **M** key and press the ENTER key to return to the RESET MENU (4).
8. Press the **M** key and press the ENTER key to return to the MAIN MENU (5).

6.2 How to Perform a Factory Reset

NOTE:

Correct reset is essential for reliable opperation, procedures must be rigorously followed.

Factory Reset will perform an entire Erase process. All information in the Controller will be erased! (including NV RAM and FLASH memory).

Before perform a Factory reset, All information (hard meters and soft meters) in the Controller should be writen down and kept in a log book. An LAB's request.

1. **Disconnect all MACHINES and the Reset Box.**
2. Insert the Configuration Access Key into the JHS and turn the key.
3. From the MAIN MENU (5), select option **1 CONFIGURATION** using the ↓ key and press the ENTER key.
4. From the CONFIGURATION MENU (8), select option **1.7 FACTORY RESET** and press the ENTER key.
5. From the FACTORY RESET MENU, select option **1.7.1 CLEAR METER & FLASH** and press the ENTER key. *The JHS is now Factory Reset.* The LCD will show the Splash screen and then the MAIN MENU screen.
6. Power down controller.
7. Disconnect volatile memory backup battery from J2.
8. Wait 60 seconds so that all in system capacitance has a time to dissipate.
9. Replace battery.
10. Restart controller.
11. Press "CLEAR" button on keypad as required (2-3 times) till controller is normally operating.
12. Commence COLD-START procedures.

7 Error Handling/Troubleshooting Procedures

After the JHS is set up and working, you may see any of the errors listed in Table 7.1. Refer to the troubleshooting tables to determine the procedures you must follow to fix the problem.

7.1 Visual Display (LCD) Error Messages

Table 7.1 below lists the errors that are shown on visual displays. Procedures to correct the errors begin on the next page.

Table 7.1 *Troubleshooting errors that show on a display (sign)*

Error	Cross-reference for Procedures to Fix Error
C10 - CRC FAIL	Section 7.1.1 on Page 50
C37 - FLASH ERROR WRITE	Section 7.1.3 on Page 50
C38 - FLASH ERROR READ	Section 7.1.4 on Page 51

7.1.1 C10 – CRC FAIL

NOTE:

The security cage door must be open to perform the procedures in this section.

This error code indicates a RAM CRC Failure. To clear this error, perform the following steps:

1. Perform Cold Start after Factory Clearing controller.
2. Use Flash Restore for Progressive Configuration, as follows:

   g. Insert and turn the Configuration Access Key. From the CONFIGURATION MENU (8), select option **1.6 RESET MEMORY ERROR** and press the ENTER button on the keypad.

   h. From the MEMORY ERROR RESET (2) MENU, select option **1.6.2 CRC FAIL/FLASH RECOVER** and press the ENTER button on the keypad. You will see the Confirmation screen "Notice: Polling for EGM status" displayed on the LCD.

   i. When prompted by the Confirmation screen, use the ↓ and ↑ keys to scroll to the option PROCEED, and press the ENTER key.

   j. You must reconfirm the option. Once you have reconfirmed the option the following two notices will appear on the LCD:

      1). "System now clears CRC error and restores data from flash."

      NOTE:

      The following message may appear in Step 1.d.1:
      "Flash data restore Failed Flash Erased…"

      If this message appears, the JHS must be completely reconfigured.

      2). "System has successfully restored data to RAM."

   k. The JHS then automatically power cycles and returns to the Main Menu.

7.1.2 If Flash Restore fails, reconfigure the JHS (see Section 3.2 on Page 17).

7.1.3 C37 – FLASH ERROR WRITE

This error code indicates that the flash is bad. The solution is to **Replace the Flash**.

1. Remove power from the JHS.
2. Remove the JHS top cover.
3. Remove the old flash chip and install new chip (U13).
4. Replace the JHS top cover.
5. Apply power to the JHS.

7.1.4 C38 – FLASH ERROR READ

This error code indicates that the flash is bad. The solution is to **Replace the Flash**.

1. Remove power from the JHS.
2. Remove the JHS top cover.
3. Remove the old flash chip and install new chip (U13).
4. Replace the JHS top cover.
5. Apply power to the JHS.

7.2 Error Messages on JHS LCD

Some of the error messages that show on the JHS LCD display are the same as those that show on the display (sign). Table 0.1 lists the LCD errors and refers you to the previous section for the procedures you must follow to clear the errors.

Table 0.1 *Troubleshooting LCD errors and procedures to clear them*

Error Message Alphabetically listed	**Cause**	**Procedure to Clear, with Cross-References**
Command execution requires CRC failure error condition <Press any key to return>	Attempted to perform an invalid operation	Press any key to return to the menu.
Command execution requires CRC Reset error condition <Press any key to return>	Attempted to perform an invalid operation	Press any key to return to the menu.
CRC FAIL	Indicates a RAM CRC failure	See Section 7.1.1 on Page 50
CRC REST	Indicates the RAM has successfully restored	See Section **Error! Reference source not found.** on Page **Error! Bookmark not defined.**
EGM COMM FAILURE	Inactive Machine Bad Connection to EGMS	Check for the following and correct: Watchman Off-line Machine Off-line Check connections and correct
EGM Enable Failed! JP full has not been reset	Attempted to enable all EGMs with a jackpot queue full condition	Clear some of the jackpots.
EGM POWER DOWN	Reported when a game is turned off	Turn Game Back ON
FLASH ERR	Indicates that the Flash is bad	See Section 7.1.3 on Page 50
Flash data restore Failed! Flash Erased…	You have attempted the Restore from flash procedure and the flash is bad	Replace the flash
Flash data backup Failed! Replace Flash…	You have exited a progressive level and the flash is bad	Replace the flash
Host CRC Fail Error…	Attempted to Enable EGMs with existing CRC Failure condition	Clear the CRC Failure condition. See Section 7.1.1 on Page 50
Host Meter Disconnect Error Command Exec. Fail.	Communication component on Hard Meter board failed and communication was broken between the Hard Meter Board and the JHS board	Check the connection to the hard meter board and replace if necessary.
Less than 2 EGMs Active!	The JHS will not function with less than 2 machines	Add more machines to the system.
Menu item access valid ONLY on Cold Power Up	You have attempted to access Host Data or Progressive when JHS has	Access to these items requires a Cold Start. You must perform a Factory

Error Message Alphabetically listed	**Cause**	**Procedure to Clear, with Cross-References**
	not been Cold Started	Reset.
Menu item requires Security Key Access	Attempted to access the Configuration menu without the Security (Hard) Key inserted and turned	Insert and turn Security Key
Menu item requires Security Cage Door CLOSE Access	Attempted to perform ENABLE procedures with Security Cage door open	Close Security Cage Door.
Not all EGMs are in Idle Mode. Command Exec. Fail.	Some EGMs are still active	Disable all EGMs.
Prog. Config. Data has NOT been setup. Access Denied!	Attempted to access the EGM add/remove menu without having configured the progressive levels	Configure the progressive levels.
SEC. CAGE CLOSED	Reported when JHS Top Cover is replaced	The error message will clear automatically on next Valid Coin-In
SEC. CAGE OPEN	Reported when JHS Top Cover is removed **NOTE: ALL MACHINES ARE DISABLED WITH THIS ERROR**	Replace JHS Top Cover OR Check Cover Switch and Switch Harness

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GLOSSARY

1. **Alphanumeric Display**: A display capable of displaying alphabetical and numerical characters.
2. **Audit**: To review information such as Event or Error logs on the JHS LCD.
3. **Battery Backup**: Battery (Lithium) that supplies power to maintain memory in case of a power failure.
4. **Bi-directional Communications**: Communications paths that can both transmit and receive data.
5. **Coin In**: Turnover.
6. **DCU**: a Data Collection Unit consists of two circuit boards. The DCU Board is the main logic board of the JHS. The Display Board uses LEDs and a LCD display to indicate the JHS status.
7. **EGM**: Electronic Gaming Machine, slot machine.
8. **EPROM**: Erasable Programmable Read Only Memory chip that acts as a storage device for various information such as programs or data.
9. **Firmware**: the code stored within the EPROM.
10. **Flash**: Memory chip.
11. **GMID**: Gaming Machine Identification number as defined by Gaming Regulators.
12. **GRADR**: Group Address.
13. **Hard Meter**: A mechanical counter that collects lifetime totals values such as coins played, jackpot hits, or coins to drop in a gaming machine. It can not be reset.
14. **IDADR**: Identification Address.
15. **JPTD**: Jackpot Trigger Device.
16. **LCC**: Total turnover (in dollars) since the Last Configuration Change. Shows in the AUDIT menu, under option 2.4 METERS.
17. **LCD**: Liquid Crystal Display. A square display area on the JHS can front panel.
18. **LED**: Light Emitting Diode. A light that indicates the JHS and communication status.
19. **PCID**: Generally known as House Number, the venue's unique number for each EGM.
20. **RAM**: Random Access Memory. Used for temporary storage of application data.
21. **RTC**: Real Time Clock. This device keeps time for computer applications.
22. **SUP**: Total turnover (in dollars) since startup.
23. **VLINK**: Virtual Link. A mechanism that allows operators to set up four progressive levels and assign games to those levels.

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7.2.1.1.1 THIS IS NOT FIXED