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# **TECHNICIAN'S POCKET GUIDE**

## **INCLUDES:**

**CONFIGURATION MENUS**

**ERROR CODES**

**MACHINE TYPES/SERIAL SETTINGS**

**PSP CONFIGURATION/VALUES/FORMULAS**

**PIN OUTS/JUMPER AND SWITCH SETTINGS**

**TOKEN VALUES**

**P.N. 990-241-39/REVB**

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## DOCUMENT REVISION NOTICE

This revised Technician's Pocket Guide replaces the Revision A (REVA) guide released on May 17, 2001. Changes made in this Revision B (REVB) are listed in the table below:

Page #	Changes									
Front Cover	Date change and Rev B added to the part number									
Front Matter	Added standard copyright, disclaimer, and trademarks information									
2	Added Reference Documentation for Game Manager and Aquarius Controller versions 6.5									
57	<p>Corrected SIB DIP Switch Settings Link Selections # 2 and #3 for IGT 1 &amp; 2, Bally, Williams machines</p> <p>Link Number IDs 2 and 3 both showed ON and OFF opposite of what they should be. They are now corrected as follows:</p> <table><tr><th>Link Number ID</th><th>DIP 7</th><th>DIP 8</th></tr><tr><td>2</td><td>ON</td><td>OFF</td></tr><tr><td>3</td><td>OFF</td><td>ON</td></tr></table>	Link Number ID	DIP 7	DIP 8	2	ON	OFF	3	OFF	ON
Link Number ID	DIP 7	DIP 8								
2	ON	OFF								
3	OFF	ON								

### Contact Information

If you have questions or comments about this guide or any other Mikohn products, please use the information below to contact us.

#### Mikohn Customer Service

Inside Nevada (702) 798-1942  
US excluding NV 1-800-798-1942  
FAX: (702) 263-2834  
E-mail: [800Service@mikohn.com](mailto:800Service@mikohn.com)  
WEB: [www.mikohn.com](http://www.mikohn.com)

#### Mikohn Corporate Headquarters

920 Pilot Road  
Las Vegas, NV 89119  
Telephone: 1-800-336-8449  
(702) 896-3890



## Introduction

### PURPOSE OF THIS GUIDE

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#### NOTE:

This document **replaces** the Pocket Guide, P.N. 950-500-02, October 1995.

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Use this guide as a quick reference for information such as error codes, switch settings, configuration menu structures, pin outs and other useful information on a variety of MIKOHN products such as displays, controllers, and gaming machines.

A Summarized Table of Contents is provided below. To search for more specific items, such as a particular machine, display or controller, use the Index (starts on page 76).

### OTHER MANUALS AND ABBREVIATIONS

For your convenience, a list of useful product manuals is provided on the next page, and page 4 lists the abbreviations used in this guide.

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## Related Technical and User Manuals

Other MIKOHN manuals contain more detailed information and instruction on the products discussed in this guide. This section lists a number of MIKOHN product manuals along with the part numbers.

Use this information to request the individual manuals you need from MIKOHN production.

Product	Manual Type	Part Number
<b>AQUARIUS CONTROLLER/ GAME MANAGER</b>	Technical AC v5.6-v5.7/GM v5.7	990-241-22
	User AC v5.6-v5.7/GM v5.7	990-241-21
	Technical AC v6.5/GM v6.5	990-241-66
	User AC v6.5/GM v6.5	990-241-65
<b>CHAMII+</b>	User (New)	990-241-38
	User (Old)	990-219-01
<b>CON1 Progressive JP System</b>	User	990-000-00
<b>CON2</b>	Installation and User	990-010-00
<b>IGT MYSTERY PROGRESSIVE JP</b>	User	990-211-00
<b>JPTD+</b>	v1.04 Technical	990-300-12
	v1.05 Technical Bulletin	950-400-77
<b>PAYTABLE AND GAME CONFIGURATION</b>	Technician's Pocket Guide	990-241-36

<b>Product</b>	<b>Manual Type</b>	<b>Part Number</b>
<b>PSP v2.0</b>	Configuration/User	950-051-00
<b>SUPERLINK</b>	v1.6 Technical v1.65 User v1.66MD User Remote Reporter - User	990-247-00 990-228-00 990-246-00 990-256-00
<b>SUPREME</b>	User (released in 1997) User (released in 2000)	990-015-02 990-241-40
<b>TABLE GAMES TROUBLESHOOTING (Aquarius/Game Manager)</b>	Pocket Guide	990-241-35

## Abbreviations Used

The following abbreviations are used in this guide:

<b>AC:</b>	Aquarius Controller
<b>AGL:</b>	Animated Graphics Logic
<b>ANSI:</b>	American National Standards Institute
<b>CD:</b>	Carrier Detect (reference to pin outs)
<b>CTS:</b>	Clear to Send (reference to pin outs)
<b>DCU:</b>	Data Collection Unit
<b>DPSMIB:</b>	Dual Port SMIB
<b>DSR:</b>	Data Set Ready (reference to pin outs)
<b>DTR:</b>	Data Terminal Ready (reference to pin outs)
<b>GRND:</b>	Ground (reference to pin outs)
<b>I/O:</b>	Input/Output
<b>IOC:</b>	Input/Output Controller
<b>JGS:</b>	Jackpot Group Selector
<b>JP:</b>	Jackpot
<b>JPTD:</b>	Jackpot Trigger Device
<b>NC:</b>	No Connection (reference to pin outs)
<b>PSP:</b>	Progressive System Programmer
<b>PTM:</b>	Player Tracking Module
<b>RTS:</b>	Request to Send (reference to pin outs)
<b>RX:</b>	Receive
<b>RD:</b>	Receive Data (reference to pin outs)
<b>SA:</b>	Stand Alone
<b>SINFO:</b>	Serial Information Protocol
<b>TX:</b>	Transmit
<b>TD:</b>	Transmit Data (reference to pin outs)
<b>V/I/O:</b>	Voltage Input/Output (reference to pin outs)
<b>VCCIO:</b>	Voltage at the Common Collector – Input/Output (reference to pin outs)



## Configuration Menu: CHAMII+

The configuration menu structures, for both versions older than v2.0 and for the STA version 2.0 and newer, are provided on the next page and include the value ranges for each menu title.

### CONFIGURATION SWITCHES

Switches S2, SW3, and SW4 are used to configure the CHAMII+. Each switch is described in the table below.

Switch	Function
<b>S2</b>	Determines the mode of operation as Configuration or Run (normal operation)
<b>SW3</b>	Scrolls through and selects menu options to configure
<b>SW4</b>	Scrolls through and selects the value setting for a particular menu option.

### ABBREVIATIONS AND CONFIGURATION TIPS

The following abbreviations are used in the CHAMII+ configuration menu structure, which is provided on the next page:

**RTR = Router Address**

**ODMTR = Odometer**

**M ID = Machine ID**

The information below relates to specific configuration menu items that are identified by the same number of asterisks as shown below:

- \*\* MACH ADDR is available only when one or more JP groups are set to SA (Stand Alone) in the DISP Menu
- \*\*\* Mfile $x$ , OD SPEED $x$ , FONT $x$ , and SIZE $x$  must be configured for each JP GRP ( $x$  = JP group #)

**CONFIGURATION MENU STRUCTURE: CHAMII+**

Versions Earlier than v2.0	Version STA v2.0 and Newer
<u>Configuration Menu</u>  <b>ADDR:</b> <u>GRADR</u> (0-255) <u>IDADR</u> (1-64) <u>RTR ADDR</u> (OFF,1-32) <u>MACH ADDR</u> (1-32) **  <b>DISP:</b> <u>JP GRP1</u> (0-7, SA) <i>If JPGRP2 selected, see ***</i> <u>Mfile1</u> (0-16) <u>OD SPEED1</u> (1-100) <u>FONT1</u> (Flip1, Flip2, Rotate, ODMTR, MORF) <u>SIZE1</u> (60, 64)  <b>SYST:</b> <u>TEST</u> (Off, Display, Machine, UART, Burn-in, Normal, Time, All) <u>BIRTH</u> (OFF, ON – exit to complete Factory Reset)	<u>Configuration Menu</u>  <b>ADDR:</b> <u>PROTO</u> (CON2/CASLINK) <u>GRADR</u> (0-255) <u>IDADR</u> (1-64) For <b>CON2</b> next is <u>RTR ADDR</u> (OFF,1-32) For <b>CASLINK</b> next is <u>M ID</u> (0000000–99999999) <u>MACH ADDR</u> (1-32) **  <b>DISP:</b> <u>JPLIMIT</u> (NO, YES) <u>#DISPLAYS</u> (1-4) <u>JP GRP1</u> (0-7, SA) <i>If JPGRP2-4 selected, see ***</i> <u>Mfile1</u> (0-16) <u>OD SPEED1</u> (10-100) <u>FONT1</u> (Flip17, Flip18, Flip27, Flip28, Rotate 8, ODMTR (7,8), MORF (8)) <u>SIZE1</u> (48, 60, 68, 70)  <b>SYST:</b> <u>TEST</u> (Off, Display, Machine, UART, Burn-in, Normal, Time, All) <u>BIRTH</u> (OFF, ON – Then exit to complete Factory Reset) <u>Show Load</u> (Yes, No) <u>Show C1</u> (Yes, No)

## Configuration Menu: JPTD+ v1.05

### CAS/CAS2/CHAMII Protocol Menu Structures

You should be in the Configuration Menu/PRO (Protocol).

CAS or CAS2	CHAMII
<b>PRO</b> (CAS/ CAS2) <b>TEST</b> (OFF/ON) <b>SND</b> : If YES, then: <b>BR</b> (1200, 2400, 4800, 9600, 19200 bps) <b>S1C – S8C</b> (1-256) <b>S1P – S8P</b> (1-656) <b>ATR</b> : If YES, then: <b>ATC</b> (0-255) <b>ATP</b> (0-655) <b>ATR</b> (YES and NO): <b>2MIN</b> : If YES, then: <b>2C</b> (0-255) <b>2MIN</b> (YES and NO), go to next. <b>DFILE</b> (N/1) <b>RELAY</b> : (NO, 1-8) If <b>NO</b> – finished. <b>GRP</b> (0-7, OFF, AUTO) If <b>AUTO</b> then set <b>Dur</b> (0-4999) and <b>Per</b> (0-5000) <b>ADDR</b> (0-255) <b>ID</b> (0-64) <b>OP</b> : If <b>NORML</b> , then: <b>INVERT</b> (Y/N) and return to RELAY. If <b>PULSE</b> , then: <b>INVERT</b> (Y/N) and <b>DUR</b> (0-4999) and return to RELAY. If <b>FLASH</b> or <b>/FLSH</b> , continue. <b>INVERT</b> (Y/N) and <b>Per</b> (0-5000) and <b>Dur</b> (0-4999). Then return to RELAY.	<b>PRO</b> (CHM2) <b>ID</b> (1-32, 64 for Overhead) <b>GADR</b> (1-255) <b>TEST</b> (OFF/ON) <b>DISPLY1</b> (0-7) <b>DISPLY2</b> (–, 0-7) <b>SND</b> : If YES, then: <b>BR</b> (1200, 2400, 4800, 9600, 19200 bps) <b>S1C – S8C</b> (1-256) <b>S1P – S8P</b> (1-656) <b>ATR</b> : If YES, then: <b>ATC</b> (0-255) <b>ATP</b> (0-655) <b>ATR</b> (YES and NO): <b>2MIN</b> : If YES, then: <b>2C</b> (0-255) <b>2MIN</b> (YES and NO) <b>DFILE</b> (N/1) <b>RELAY</b> : (NO, 1-8) If <b>NO</b> – finished. <b>GRP</b> (0-7, OFF, AUTO) If <b>OFF</b> return to RELAY If <b>AUTO</b> then set <b>Dur</b> (0-4999) and <b>Per</b> (0-5000) <b>ADDR</b> (0-255) <b>ID</b> (0-64) <b>OP</b> : If <b>NORML</b> , then: <b>INVERT</b> (Y/N) and return to RELAY. If <b>PULSE</b> , then: <b>INVERT</b> (Y/N) and <b>DUR</b> (0-4999) and return to RELAY. If <b>FLASH</b> or <b>/FLSH</b> , continue. <b>INVERT</b> (Y/N) and <b>Per</b> (0-5000) and <b>Dur</b> (0-4999). Then return to RELAY.

***MT/MT2/Sevy Protocol Menu Structures***

You should be in the Configuration Menu/PRO (Protocol).

MoneyTime (MT)	MoneyTime 2 (MT2)
<b>PRO MT</b> <b>MODE:</b> (ID, BP, OVR) If <b>IN</b> set <b>ID</b> (1-128) If <b>SND</b> set <b>BP</b> (0-655) <b>TEST</b> (ON/OFF) <b>RELAY:</b> (NO, 1-8) If <b>NO</b> – finished. <b>GRP</b> (0-7, OFF, AUTO) If <b>AUTO</b> then set <b>Dur</b> (0-4999) and <b>Per</b> (0-5000) <b>OP:</b> If <b>NORML</b> , then: <b>INVERT</b> (Y/N) and return to RELAY. If <b>PULSE</b> , then: <b>INVERT</b> (Y/N) and <b>DUR</b> (0-4999) and return to RELAY. If <b>FLASH</b> or <b>/FLSH</b> , continue. <b>INVERT</b> (Y/N) and <b>Per</b> (0-5000) and <b>Dur</b> (0-4999). Then return to RELAY.	<b>PRO MT2</b> <b>TEST</b> (ON/OFF)
	<b>SEVY</b> <b>PRO SEVY</b> <b>ID</b> (1-32, 64 for Overhead) <b>GADR</b> (1-255) <b>TEST</b> (ON/OFF)

**JPTD+ v1.05 Configuration Value Ranges, Defaults, and Options**

The menu titles are listed in alphabetical order.

**About the ID Value Ranges:**

CHAMII and SEVY: Limit 32 devices. Value range: 1 – 64. Values 33 – 63 are not used. Value 64 is reserved for an Overhead display.

MONEYTIME: Uses full value range of 1 – 128. Value 128 is reserved for an Overhead display.

JPTD Menu Title	Description	Not Displayed if:
<b>2C</b>	2-Minute Message Code = byte to be sent <b>Value Range:</b> 0-255 <b>Default Value:</b> 10	SOUND=NO 2 MIN=NO
<b>2MIN</b>	2-Minute Message Mode: Send 2-Minute Message Code to serial port 1 when <i>Display 2 minute</i> message bit is set <b>Value Range:</b> YES/NO <b>Default Value:</b> NO	SOUND=NO
<b>ADDR</b>	Group Address with which to associate Relay <b>Value Range:</b> 0 – 255 <b>Default Value:</b> 255	RELAY = NO
<b>BP</b>	Bonus Period: how often (in Bonus Mode) to activate relay 8 for one second <b>Value Range:</b> 0 – 655 <b>Default Value:</b> 20	PRO is <i>not</i> MT and MODE is <i>not</i> SND
<b>BR</b>	Baud rate for serial port 1 <b>Value Range:</b> 1200/2400/4800/9600/19200 (bps) <b>Default Value:</b> 9600	SOUND=NO
<b>CTime</b>	Length of time for Celebration in HOT POTATO for a win <b>Value Range:</b> 1 – 255 <b>Default Value:</b> 255	PRO is <i>not</i> HOTP
<b>DFILE</b>	Default file settings for the relays <b>Value Range:</b> NO, 1 <b>Default Value:</b> NO	PRO=MT, MT2, SEVY or HOTP

JPTD Menu Title	Description	Not Displayed if:
<b>DSPLY1</b>	Configures Super Mini Photon Display 1 to show a jackpot groups value <b>Value Range:</b> 0 – 7 <b>Default Value:</b> 0	PRO is <i>not</i> CHM2
<b>DSPLY2</b>	Configures SUPER MINI PHOTON DISPLAY 2 to show a jackpot groups value <b>Value Range:</b> (-) or 0 – 7 <b>Default Value:</b> (-)	PRO is <i>not</i> CHM2
<b>Dur</b>	Relay # duration How long Relay # will be activated if R#G=AUTO (Cannot be greater than relay # period) <b>Value Range:</b> 0 – 655 (seconds) <b>Default Value:</b> 1.0	RELAY=NO or OP=NORML
<b>GADR</b>	Group address of the JPTD+ <b>Value Range:</b> 1 – 255 <b>Default Value:</b> 255	PRO is <i>not</i> CHM2
<b>GRP</b>	JP group assigned to activate relay <b>Value Range:</b> 0 – 7, OFF, AUTO <b>Default Value:</b> 0	RELAY=NO
<b>ID</b> (as main menu item)	ID address of the JPTD+ Important: <i>See note above this table for Value Range information</i> <b>Value Range:</b> ----- <b>Default Value:</b> 64	PRO=CAS, CAS2 or HOTP
<b>ID</b> (as subordinate menu item)	Relay Group ID <b>Value Range:</b> 0 – 64 <b>Default Value:</b> 64	PRO is <i>not</i> CAS or CAS2 RELAY = NO
<b>INVERT</b>	Whether or not the relay attribute will be inverted. <b>Value Range:</b> Y/N <b>Default Value:</b> N	RELAY=NO
<b>MODE</b>	Protocol Operating Mode <b>Value Range:</b> OVR/IN/SND <b>Default Value:</b> OVR	PRO is <i>not</i> HOTP or MT

<b>JPTD Menu Title</b>	<b>Description</b>	<b>Not Displayed if:</b>
<b>OP</b>	Relay Operation mode <b>Value Range:</b> NORML, FLASH, /FLSH, PULSE <b>Default Value:</b> NORML	RELAY = NO
<b>Per</b>	Relay Period: how often relay is activated <b>Value Range:</b> 0 – 655 (seconds) <b>Default Value:</b> 2.0	RELAY=NO or OP=NORML or PULSE
<b>PRO</b>	Protocol between controller and JPTD+ <b>Value Range:</b> CAS/CAS2/CHM2/SEVY/HOTP/MT/MT2 <b>Default Value:</b> CHM2	Always displayed if set for configuration
<b>RELAY</b>	Number of relay being configured, or NO relays being configured <b>Value Range:</b> 1-8 or NO <b>Default Value:</b> NO	PRO=SEVY, MT2 or HOTP
<b>SND</b>	Sound Mode <b>Value Range:</b> YES/NO <b>Default Value:</b> NO	PRO=MT2, SEVY or HOTP
<b>TEST</b>	Test mode <b>Value Range:</b> ON/OFF <b>Default Value:</b> OFF	Always displayed if set for configuration

## Error Codes

The tables in this section contain error codes displayed on Mikohn LED displays when there are problems with the display or the controller

### CHAMII DISPLAY ERROR CODES

Code	Description
<b>C1</b>	Communication loss controller to display
<b>C2</b>	Value too long for display on current programmed JP
<b>C3</b>	Test pattern written to RAM on logic when read back has been corrupted
<b>C4</b>	PROM limit overflow. The current jp value exceeds the fixed limit value in the EPROM
<b>C8</b>	Sentinel Timeout (CHAMII, v3.02 only)
<b>C9</b>	Loss of configuration (CHAMII only)
<b>C10</b>	Checksum of a value in the controller has failed



**CHAMII+ DISPLAY ERROR CODES**

Code	Description
<b>C1</b>	Communication Link is down
<b>C2</b>	Metered Amount is too large to fit in window
<b>C5</b>	In MultiLink mode: Jackpot Token is not set to <b>8</b> in JPOT.DO file (PSP Message Programming)
<b>C10</b>	Progressive is not set up (use PSP to initialize progressive)
<b>C12</b>	Current Amount is greater than Limit
<b>C14</b>	The selected Machine Serial setting is not supported
<b>C15</b>	Progressive not set up correctly ( <b>Base&gt;Limit</b> or <b>Base&gt;Current</b> or <b>Hidden&gt;Limit</b> )
<b>C52</b>	In MS10 Machine Serial setting: A serial machine has gone off-line

**CON2 CONTROLLER ERROR CODES**

Code	Description
<b>C11</b>	Fiber bus communication error in the UART. Over 20 errors have been received from the fiber bus
<b>C12</b>	Programmed JP limit is less than current JP
<b>C13</b>	Over 20 errors have been received from the Tandy 102 or other laptop
<b>C14</b>	Slot machine interface communication error in UART. Over 20 errors have been received from the slot machine interface
<b>C15</b>	Power up JP limit failure
<b>C16</b>	Power brown-out
<b>C17</b>	RAM signature error
<b>C18</b>	Hidden JP (Minimum Value) is equal to or greater than the JP limit (Maximum Value)
<b>C19</b>	Current JP is greater than the JP limit (Maximum Value)
<b>C20</b>	Random Jackpot System Only – Coin-in Buffer
<b>C21</b>	Digit overflow

Code	Description
<b>C30</b>	Slave controller does not detect a master controller
<b>C31</b>	Slave being polled but has not been acknowledged after 20 retries
<b>C32</b>	Slave resend RAM failure
<b>C33</b>	Slave has ACK'd more coins than possible
<b>C34</b>	Master's fiber pass through has failed after three attempts
<b>C50</b>	MULTI-COM is not responding
<b>C51</b>	Transmission/reception failure
<b>C52</b>	Serial Transmission/reception failure
<b>C53</b>	Serial machine Mystery Pay is not available
<b>C54</b>	Bally MultiComm error: Bad CRC
<b>C55</b>	Bally MultiComm error: Non BCD value
<b>C56</b>	Bally MultiComm error: Invalid group ID
<b>C58</b>	Bally MultiComm error: Wrong sequence number
<b>C59</b>	Bally MultiComm error: Invalid machine ID
<b>C60</b>	Event driven bonus not available.
<b>C61</b>	Event driven bonus Threshold value is 0
<b>C77</b>	Database error
<b>C80</b>	Slave controller does not detect a master present on a Random Bonus game
<b>C81</b>	Slave coin buffer overflow
<b>C82</b>	Random coin matrix buffer overflow
<b>C83</b>	Random coin buffer overflow
<b>C84</b>	Denomination multiplier overflow

**SUPERLINK v1.63 AND NEWER ERROR CODES**

<b>Code</b>	<b>Description</b>
<b>C10</b>	RAM failure is caused by bad checksum or wrong data type
<b>C11</b>	Fiber port serial error
<b>C12</b>	Jackpot group limit error: Current >Limit
<b>C13</b>	Programming port serial error
<b>C14</b>	Serial machine port serial error
<b>C15</b>	Power-up limit failure
<b>C16</b>	Power failure
<b>C17</b>	RAM signature failure: Causes complete factory reset
<b>C18</b>	Jackpot group limit error: Minimum exceeds Limit
<b>C19</b>	Jackpot group limit error: Random
<b>C20</b>	Random coin-in buffer error: Non-BCD value
<b>C21</b>	Digit overflows: a result was larger than 10 digits
<b>C22</b>	Battery backup data recovered ok
<b>C23</b>	Payout amount does not exist in pay-table
<b>C24</b>	Pay-table is invalid: Payout weights do not add up to 100%
<b>C25</b>	Increment value is too large: Value> 0.100 000 00
<b>C26</b>	Machine denomination mismatch
<b>C29</b>	Controller's password has been expired
<b>C30</b>	Fiber time-out: Slave has not been polled
<b>C31</b>	Fiber time-out: Slave has not been acknowledged
<b>C32</b>	Slave re-sends RAM failure: Bad checksum or wrong data type
<b>C33</b>	Slave has acknowledged more coins than possible
<b>C34</b>	Master's fiber pass through has failed after 3 attempts
<b>C35</b>	SIB power-up reset
<b>C36</b>	SIB false jackpot
<b>C37</b>	SIB false jackpot canceled

Code	Description
<b>C40</b>	Merchandise controller: Bonus mode is active
<b>C41</b>	Merchandise controller: Bonus mode is inactive
<b>C42</b>	DCU controller: Jackpot queue is overflow, clear jackpot queue
<b>C50</b>	Bally MultiComm time-out: MultiComm not responding to poll
<b>C51</b>	No serial machine is on-line
<b>C52</b>	Serial machine or SIB has gone off-line
<b>C53</b>	Serial machine Mystery Pay is not available
<b>C54</b>	Bally MultiComm error: Bad CRC
<b>C55</b>	Bally MultiComm error: Non BCD value
<b>C56</b>	Bally MultiComm error: Coin buffer overflows
<b>C57</b>	Bally MultiComm error: Invalid group identifier
<b>C58</b>	Bally MultiComm error: Wrong sequence number
<b>C59</b>	Bally MultiComm error: Invalid machine number
<b>C60</b>	Gaming Device: General Tilt
<b>C61</b>	Gaming Device: Power Up Reset or Game Reset
<b>C62</b>	Gaming Device: Coin In Error
<b>C63</b>	Gaming Device: Coin Out Error
<b>C64</b>	Gaming Device: Game RAM or EPROM Error
<b>C65</b>	Gaming Device: Bill Validator Error
<b>C66</b>	Gaming Device: Hopper Empty or Hopper Error
<b>C67</b>	Gaming Device: Reel Tilt
<b>C68</b>	Gaming Device: Reset During Payout
<b>C70</b>	Gaming Device: Game Door Open
<b>C17</b>	Gaming Device: Game Door Close
<b>C72</b>	Gaming Device: Drop Door Open
<b>C73</b>	Gaming Device: Drop Door Close
<b>C74</b>	Gaming Device: Bill Door Open

Code	Description
<b>C75</b>	Gaming Device: Bill Door Close
<b>C77</b>	Machine ID RAM failure: bad checksum or wrong data type
<b>C80</b>	Slave indicates no response from master
<b>C81</b>	Slave coin-in buffer overflows
<b>C82</b>	Random coin-in matrix overflows: more than 99 coins
<b>C83</b>	Random coin-in buffer overflows: more than 9999 coins
<b>C84</b>	Denomination multiplier overflows: result > 9999
<b>C90</b>	Single/Multi-Link: Controller mode is corrupted.
<b>C91</b>	Single/Multi-Link: Jackpot Group number is out of range
<b>C92</b>	Single/Multi-Link: Duplicated machine number
<b>C93</b>	Single/Multi-Link: Link Number is out of range
<b>C94</b>	Multi – Site: Jackpot coin-in contribution is already reported
<b>C95</b>	Communication between SIB - - Gaming Machine is off
<b>C96</b>	Communication between SIB - - Gaming Machine is on
<b>C97</b>	Communication between Controller – SIB is off
<b>C98</b>	Communication between Controller – SIB is on
<b>C99</b>	Auto-Polling Error: Coin-in values lower than previous poll

## Front End Commands Commands: SUPREME

### SUPREME DISPLAY

#### *ANSI (American National Standards Institute) Terminal Settings*

<b>Baud</b>	9600
<b>Date</b>	8
<b>Parity</b>	NONE
<b>Stop</b>	1
<b>Emulate</b>	VT100

**Commands:** Terminal connected to SUPREME (J8 – pin 1 and 5 jumpered)

*The table on the next page lists System, File, Meter, and other miscellaneous commands.*

**SUPREME COMMANDS: SYSTEM/FILE/METER/MISCELLANEOUS**

<p><b><u>System Commands</u></b></p> <p><b>Time</b> – set system time</p> <p><b>Date</b> – set system date</p> <p><b>Birth</b> – reset system</p> <p><b>Panel</b> – set type and number of panels</p> <p><b>Dir</b> – list files on drive</p> <p><b>Token</b> – show token values</p> <p><b>Memory</b> – show memory used</p> <p><b>Display</b> – dump memory</p> <p><b>A:</b> change to drive A</p> <p><b>B:</b> change to drive B</p> <p><b>C:</b> change to drive C</p> <p><b>Status</b> – show system status</p> <p><b>State2</b> – show EEPROM contents</p> <p><b><u>Miscellaneous</u></b></p> <p><b>Cls</b> – clear ANSI terminal screen</p> <p><b>Help</b> or <b>?</b> – show help file</p> <p><b>Run</b> – run previously configured file</p>	<p><b><u>File Commands</u></b></p> <p><b>Build</b> – create new file</p> <p><b>Close</b> – close file</p> <p><b>Copy</b> – copy file</p> <p><b>Del</b> – deletes file</p> <p><b>Type</b> – type a file</p> <p><b>Edit</b> – edit a file</p> <p><b>Dump</b> – dump file contents</p> <p><b><u>Meter Commands</u></b></p> <p><b>Prog</b> – set value on meter</p> <p><b>Slow</b> – control Frame Rate</p> <p><b>Setc1</b> – enable/disable showing C1</p> <p><b>Commtime</b> – set C1 time-out (default = 5 sec)</p> <p><b>Noload</b> – disable loading msg</p> <p><b>Denom</b> – set denom</p> <p><b>Comma</b> – set comma type</p> <p><b>Period</b> – set period type</p> <p><b>Suffix</b> – use suffix or prefix</p>
---	---

## Machine Type Tables

This section shows the data lines used for specific jackpots, coin-in and coin-out for each Machine Type.

### *Jackpot Types:*

**SNGL** = Single JP

**HID1** = Hidden JP type 1

**HID2** = Hidden JP type 2

**HID3** = Hidden JP type 3

**ARRW** = Double progressive with arrows

**HIGH** = Double progressive highest JP paid

**MANY** = Multiple JPs

### **M-00, M-01, AND M-03**

Machine Type M-00 and M-01 are the same except that M-01 requires an 8 – 12 second pulse on input line A (or C and D if set for 2BET).

Machine Type M-03 is identical to Machine Type M-00 except that M-03 accepts a coin pulse as short as 20ms.

JP Type	A	B	C	D
SNGL	Coin/Jp0	---	---	Coin-Out
HID1	Coin/Jp0	Jp2	Jp4	Coin-Out
HID2	Coin/Jp0	Jp1	---	Coin-Out
HID3	Coin/Jp0	Jp2	Jp4	Coin-Out
ARRW	Coin/JpA	---	---	Coin-Out
HIGH	Coin/JpH	---	---	Coin-Out
MANY	Coin/Jp0	Jp1	Jp2	Coin-Out
2BET	Coin 0	Coin 1	Jp0	Jp1



**M-02**

M-02 separates coin-in from JP0.

JP Type	A	B	C	D
SNGL	Coin	Jp0	---	Coin-out
HID1	Coin	Jp0	Jp2	Coin-out
HID2	Coin	Jp0	Jp1	Coin-out
HID3	Coin	Jp0	Jp2	Coin-out
ARRW	Coin	JpA	---	Coin-out
HIGH	Coin	JpH	---	Coin-out
MANY	Coin	Jp0	Jp1	Coin-out
2BET	Coin 0	Coin 1	Jp0	Jp1

**M-04**

Coin-in on input line A looks for signals no longer than 50ms. Eight JP groups can be multiplexed on line A. Coin-out is on input line D. JPs are represented by a header and number of pulses. Similar to M-07, M-08, and M-09 except the JP header length is much longer.

JP Pulses	1	2	3	4	5	6	7	8
SNGL	Jp0	---	---	---	---	---	---	---
HID1	Jp0	Jp2	Jp4	Jp6	---	---	---	---
HID2	Jp0	Jp1	---	---	---	---	---	---
HID3	Jp0	Jp2	Jp4	Jp6	---	---	---	---
ARRW	JpA	---	---	---	---	---	---	---
HIGH	JpH	---	---	---	---	---	---	---
MANY	Jp0	Jp1	Jp2	Jp3	Jp4	Jp5	Jp6	Jp7
2BET	-----Not Used-----							

**M-05**

JP values are assigned to input signal lines A – D on connector J1. Similar to M-00 except line D is used for JP signals instead of coin-out signal when appropriate.

JP Type	A	B	C	D
SNGL	Coin/Jp0	---	---	Coin-out
HID1	Coin/Jp0	Jp2	Jp4	Jp6
HID2	Coin/Jp0	Jp1	---	Coin-out
HID3	Coin/Jp0	Jp2	Jp4	Jp6
ARRW	Coin/JpA	---	---	Coin-out
HIGH	Coin/JpH	---	---	Coin-out
MANY	Coin/Jp0	Jp1	Jp2	Jp3
2BET	Coin1/Jp0	Coin2/Jp1	Coin3/Jp2	Coin4/Jp3

**M-06**

Used exclusively with older electro-mechanical slot machines. To reset a JP, the machine door must be closed for approximately 3 seconds, which enables the coin-in and JP signals.

JP values are assigned to input signal lines A – D on connector J1.

JP Type	A	B	C	D
SNGL	Coin	Jp0	Dr open	Jp reset
HID1	Coin	Jp0	Dr open	Jp reset
HID2	Coin	Jp0	Dr open	Jp reset
HID3	Coin	Jp0	Dr open	Jp reset
ARRW	Coin	JpA	Dr open	Jp reset
HIGH	Coin	JpH	Dr open	Jp reset
MANY	Coin	Jp0	Dr open	Jp reset
2BET	-----NOT USED-----			

**M-07**

Nevada Reg. 14 machine type. Coin-in signal sent without a header (ignored if sent). Recommend using M-08 if at all possible. JP signal requires three headers.

JP Pulse	1	2	3	4	5	6	7	8
SNGL	Jp0	---	---	---	---	---	---	---
HID1	Jp0	Jp2	Jp4	Jp6	---	---	---	---
HID2	Jp0	Jp1	---	---	---	---	---	---
HID3	Jp0	Jp2	Jp4	Jp6	---	---	---	---
ARRW	JpA	---	---	---	---	---	---	---
HIGH	JpH	---	---	---	---	---	---	---
MANY	Jp0	Jp1	Jp2	Jp3	Jp4	Jp5	Jp6	Jp7
2BET	-----Not Used-----							

**M-08**

Nevada Reg. 14 machine type. Similar to M-07, except there can be 1 – 3 JP headers.

JP Pulse	1	2	3	4	5	6	7	8
SNGL	Jp0	---	---	---	---	---	---	---
HID1	Jp0	Jp2	Jp4	Jp6	---	---	---	---
HID2	Jp0	Jp1	---	---	---	---	---	---
HID3	Jp0	Jp2	Jp4	Jp6	---	---	---	---
ARRW	JpA	---	---	---	---	---	---	---
HIGH	JpH	---	---	---	---	---	---	---
MANY	Jp0	Jp1	Jp2	Jp3	Jp4	Jp5	Jp6	Jp7
2BET	-----Not Used-----							

**M-09**

Nevada Reg. 14 machine type. Recommended that M-08 be used if possible. Coin-in signal with header of 100ms followed by a 50ms pulse for each coin wagered (input line A). Coin-out signal on input line D, B, and C not used. JP signal has header and number pulses for JP won. JP header can be 1 – 3 headers.

<b>JP Pulse</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
SNGL	Jp0	---	---	---	---	---	---	---
HID1	Jp0	Jp2	Jp4	Jp6	---	---	---	---
HID2	Jp0	Jp1	---	---	---	---	---	---
HID3	Jp0	Jp2	Jp4	Jp6	---	---	---	---
ARRW	JpA	---	---	---	---	---	---	---
HIGH	JpH	---	---	---	---	---	---	---
MANY	Jp0	Jp1	Jp2	Jp3	Jp4	Jp5	Jp6	Jp7
2BET	-----Not Used-----							

## Machine Serial Settings (Protocols MS00-MS30)

Machine-to-Controller Communication (controller's protocol).

**NOTE:** No Cycling is **recommended** for use with IGT machines.

F8 Key	Protocol	JP Groups	Cycling	HID Swap
MS00	MIKOHN/SINFO			
MS01	Bally Multicom			
MS02	IGT 3 Group	JP0, JP1, JP2	No Cycling	No
MS03	IGT 3 Group	JP0, JP1, JP2	Cycling	No
MS04	IGT 1 Group	JP0	No Cycling	No
MS05	IGT 8 Group	JP0 – JP7	No Cycling	Yes
MS06	IGT 3 Group	JP0,JP2,JP4	No Cycling	Yes
MS07	IGT 3 Group	JP0,JP2,JP4	Cycling	Yes
MS08	IGT 1 Group	JP0	Cycling	No
MS09	IGT 8 Group	JP0 – JP7	Cycling	Yes
MS10	sigma	Reg. 14		
MS11	UGI	Reg. 14		
MS12	Games of Nev.	Reg. 14		
MS13	IGT 2 Group	JP0,JP1	No Cycling	Yes
MS14	IGT 2 Group	JP0,JP1	Cycling	Yes
MS15	IGT 4 Group	JP0 – JP3	No Cycling	Yes
MS16	IGT 4 Group	JP0 – JP3	Cycling	Yes
MS17	IGT 5 Group	JP0 – JP4	No Cycling	No
MS18	IGT 5 Group	JP0 – JP4	Cycling	No
MS19	IGT 6 Group	JP0 – JP5	No Cycling	No

F8 Key	Protocol	JP Groups	Cycling	HID Swap
MS20	IGT 6 Group	JP0 – JP5	Cycling	No
MS21	IGT 7 Group	JP0 – JP6	No Cycling	No
MS22	IGT 7 Group	JP0 – JP6	Cycling	No
MS23	IGT/Mystery	Reg. 14		
MS24	Bally/5-way	Reg. 14		
MS25	Aristocrat/ Mystery	Reg. 14		
MS26	Not Allocated			
MS27	MIKOHN internal protocol			
MS28	Not Allocated			
MS29	Not Allocated			
MS30	Not Allocated			

## **PSP Configuration for Suggested Machine Type**

This section contains the controller configuration for the suggested Machine Type set in PSP. The Machine Type designation is associated with particular machines from specific manufacturers.

### **ARISTOCRAT**

**Older machines** (Esprit and some Microstars) are only capable of one progressive JP, and use the short coin, long JP method.

Recommended machine type is M-00 or M-05.

**Newer machines** need more JP outputs so they implement the pulse train. Recommended machine type is M-08.

### **BALLY**

**Older machines** (E series) are only capable of one progressive JP and use the short coin, long JP method. Recommended machine type is M-00 or M-05.

**Newer machines** (5000 and newer) support two styles of interface:

One style is a relay board capable of up to three JPs.

Recommended machine type is M-00 or M-05 if coin and JP0 are multiplexed, or M-02 if coin and JP0 are separate. The newer setting uses the pulse train (M-08) with Serial Return (MS-00).

The other style uses a RS-232 port and Multicomm. Recommended machine type is M-05 with machine serial set for MS01. The MultiComm has been replaced recently with the SMART I/F. The settings for this are M-05, with the setting MS-10 for most links and MS-24 for the 5-way progressive.

## IGT

**Older machines** (Fortune 1, II, some S-Slot and Player's Edge software) support only one progressive JP and use the short coin, long JP method. Recommended machine type is M-00 or M-05.

**Newer machines** support multiple JPs and Nevada Reg. 14 signals with a pulse train. Recommended machine type is M-08.

## SIGMA

**Older machines** support only one progressive JP and use the short coin, long JP method. Recommended machine type is M-00 or M-05.

**Newer machines** support multiple JPs and need to support Nevada Reg. 14 signals. The following signal styles are supported:

A modified RS-422 signal: A machine with the machine serial MS10, which is bi-directional is recommended.

## UNIVERSAL

**Older machines**: Some have problems with JP signals locking ON. Recommended machine type is M-01.

**Common machines** are capable of two and sometimes three progressive JPs. The method used is short coin, long JP. Each JP is on a separate line. Recommended machine type is M-00 or M-05.

**Newer machines** use the SMART I/F to support Nevada Reg. 14 and must be set for M-05 and MS-10 (machine IDs are set to 001).



## PSP Denomination/Increment Values and Formulas

**Currency Format Calculation**  
(F7 of program page 1 set to \$\$\$\$)

Currency Increment Rate = Denomination * Progressive Rate
---

**Coin Format Calculation**  
(F7 of program page 1 set to COIN)

Coin Increment Rate = Progressive Rate
--

Currency Format for Machine Denomination				
% Rate	.05	.25	\$1.00	\$5.00
1/16	.000031	.000156	.000625	.003125
1/10	.000050	.000250	.001000	.005000
1/8	.000062	.000312	.001250	.006250
1/5	.000100	.000500	.002000	.010000
1/4	.000125	.000625	.002500	.012500
3/10	.000150	.000750	.003000	.015000
3/8	.000187	.000937	.003750	.018750
2/5	.000200	.001000	.004000	.020000
1/2	.000250	.001250	.005000	.025000
3/5	.000300	.001500	.006000	.030000
5/8	.000312	.001562	.006250	.031250
3/4	.000375	.001875	.007500	.037500
4/5	.000400	.002000	.008000	.040000
7/8	.000437	.002187	.008750	.043750
1	.000500	.002500	.010000	.050000
1-1/8	.000562	.002812	.011250	.056250
1-1/4	.000625	.003125	.012500	.062500
1-3/8	.000687	.003437	.013750	.068750
1-1/2	.000750	.003750	.015000	.075000
1-5/8	.000812	.004062	.016250	.081250
1-3/4	.000875	.004375	.017500	.087500
1-7/8	.000937	.004687	.018750	.093750

Currency Format for Machine Denomination				
% Rate	.05	.25	\$1.00	\$5.00
2	.000100	.005000	.020000	.100000
2-1/4	.001125	.005625	.022500	.112500
2-1/2	.001250	.006250	.025000	.125000
2-3/4	.001375	.006875	.027500	.137500
3	.001500	.007500	.030000	.150000
3-1/4	.001625	.008215	.032500	.162500
3-1/2	.001750	.008750	.035000	.175000
3-3/4	.001875	.009375	.037500	.187500
4	.002000	.010000	.040000	.200000
4-1/2	.002250	.011250	.045000	.225000
5	.002500	.012500	.050000	.250000

## Pin Outs and Jumper Settings

### AGL GRAPHICS LOGIC BOARD PIN OUT

Ribbon Cable Connections	J1 RS422 Connector	J2 and J3 RS232 Connector
<b>J1:</b> RS-422 Port	<b>Pin 1:</b> Ground	<b>Pin 3:</b> RX
<b>J2:</b> RS-232 Port	<b>Pin 3:</b> TX+	<b>Pin 5:</b> TX
<b>J3:</b> RS-232 Port	<b>Pin 5:</b> TX-	<b>Pin 9:</b> GRND
<b>J6:</b> Lower Panels Port	<b>Pin 7:</b> RX-	
<b>J7:</b> Upper Panels Port	<b>Pin 9:</b> RX+	

### AC LOGIC BOARD: J1, J6, J7

Pin #	J1 (5-pin) Logic Power	J6 (3-pin) Factory Configured Jumper	J7 (2-pin) Door Switch
1	5volts		Normally Open (red)
2	GRND	TX	GRND/Common (Black)
3	GRND	RX	
4	24volts		
5	Power Fail Detect		

**B&B CONVERTERS PIN-OUT*****422CON: RS-232 to RS-422 Converter***

<b>RS-232 to B&amp;B DB25 Male</b>	<b>RS-422 DB25 Female</b>
<b>Pin 2 – RX</b>	<b>Pin 2 – TX-</b>
<b>Pin 3 – TX</b>	<b>Pin 14 – TX+</b>
<b>Pin 7 – Ground</b>	<b>Pin 5 – RX-</b>
	<b>Pin 17 – RX+</b>

***422NOIC: Optically Isolated***

<b>RS-232 to B&amp;B DB25 Male</b>	<b>RS-422 Terminal Block</b>
<b>Pin 2 – RX</b>	<b>TD(A) – TX-</b>
<b>Pin 3 – TX</b>	<b>TD(B) – TX+</b>
<b>Pin 7 – GRND</b>	<b>RD(A) – RX-</b>
	<b>RD(B) – RX+</b>

**Note:** If converting 422 to 232, connect RTS of 232 device to pin 4, 5, 6, 8, or 20 on the converter.

***485CON: RS-232 to RS-485 Converter***

<b>RS-232 to B&amp;B DB25 Male</b>	<b>RS-422 DB25 Female</b>
<b>Pin 2 – RX</b>	<b>Pin 2 – TX+</b>
<b>Pin 3 – TX</b>	<b>Pin 14 – TX-</b>
<b>Pin 4 and 5 – Enable</b>	<b>Pin 5 – RX+</b>
<b>Pin 7 – GRND</b>	<b>Pin 17 – RX-</b>

**CD40 SOUND DEVICE PIN OUT***J1 pin out*

Pin	Sound	Pin	Sound
1	D0	6	D5
2	D1	7	D6
3	D2	8	D7
4	D3	9	DGND
5	D4		

*J3 on CD40 to Supreme*

J3 on CD40 DB9-pin	Supreme DB9-pin	Function
Pin 3	Pin 2	TX (Red)
Pin 2	Pin 3	RX (Green)
Pin 5	Pin 5	GRND (Black)

**CHAMI PIN OUT***In-Machine Stand Alone***J4 Machine Inputs**

<b>Multiplexed Coin-in/ JP signals</b>	<b>Separate Coin-in/ JP signals</b>
<b>Pin 8:</b> Coin-in/JP input	<b>Pin 8:</b> Coin-in
<b>Pin 4:</b> Machine Select	<b>Pin 7:</b> JP Input
	<b>Pin 4:</b> Machine Select

**NOTE:** Jumper Pins 3 and 8 to display Hidden Jackpot

*LED4 Logic Board*

<b>J1 Display Connector</b>	<b>J3 Power Connector</b>
<b>Pin 1:</b> Data -	<b>Pin 1:</b> GRND
<b>Pin 2:</b> Data +	<b>Pin 2:</b> +12 vDC

*In-Machine (Linker) Logic Board*

<b>J3 Power Connector</b>	<b>J4 Display Connector</b>
<b>Pin 1:</b> +5vDC	<b>Pin 1:</b> Data -
<b>Pin 2:</b> 12 vDC	<b>Pin 2:</b> Data +
<b>Pin 3:</b> +12 vDC	
<b>Pin 4:</b> GRND	

**CHAMII PIN OUT*****CHAMII Logic Board J1 and J4***

Pin #	J1 (2-pin) Power	J4 (6-pin) Data input from Master Aquarius
1	GRND	
2	12volts	
4		RX –
5		RX +

**CHAMII+ PIN OUT*****Logic Board (Cycle Stealer) J1-J4***

Pin #	J1 Power	J2	J3	J4 Display
1	GRND	GRND	GRND	I/O GRND
2	+12vDC	BLNK_TOP	BLNK_TOP	TX I+
3		GRND	GRND	TX I-
4		STRB_TOP	STRB_TOP	RX I-
5		GRND	GRND	RX I+
6		N/C	N/C	VCCIO
7		GRND	GRND	
8		DATA_TOP	DATA_TOP	
9		GRND	GRND	
10		CLK_TOP	CLK_TOP	

***CHAMII+ Logic Board (Cycle Stealer) J1-J4***

Pin #	J5	J6	J7
1	CO	N/C	
2	TXDC	TX+	RXD2
3	RXDC	TX-	Mach. Input 1
4	NC	RX-	Mach. Input 2
5	GRND	RX+	TXD2-
6	N/C	N/C	TXD2+
7	RTSC		RI+
8	CTSC		RI-
9	N/C		DO+
10			DO-
11			Serial Return
12			GRND
13			GRND
14			Voltage I/O

***CHAMII+ to Bally Harness***

CHAMII+ (14-pin)	Bally Harness (4-pin)	Function
Pin 3	Pin 1	JP/Coin-in
Pin 9	Pin 3	Serial Return (TX+)
Pin 10	Pin 4	Serial Return (TX-)
Pin 13	Pin 2	Common



***CHAMII+ to IGT Motherboard***

<b>CHAMII+ (14-pin)</b>	<b>IGT Motherboard (4-pin)</b>	<b>Function</b>
<b>Pin 3</b>	<b>Pin 4</b>	JP/Coin-in
<b>Pin 11</b>	<b>Pin 2</b>	Serial Return
<b>Pin 13</b>	<b>Pin 3</b>	Common

***CHAMII+ to sigma Interface Board***

<b>CHAMII+ (14-pin)</b>	<b>Sigma (2 connectors)</b>	<b>Function</b>
<b>Pin 3</b>	<b>Pin 1 (4-pin connector)</b>	Machine in
<b>Pin 11</b>	<b>Pin 2 (2-pin connector)</b>	Q1 out
<b>Pin 12</b>	<b>Pin 1 (2-pin connector)</b>	GRND
<b>Pin 13</b>	<b>Pin 3 (4-pin connector)</b>	GRND

***CHAMII+ to Williams Motherboard***

<b>CHAMII+ (14-pin)</b>	<b>Williams (3-pin)</b>	<b>Function</b>
<b>Pin 3</b>	<b>Pin 1</b>	JP/Coin-in
<b>Pin 11</b>	<b>Pin 3</b>	Serial Return
<b>Pin 13</b>	<b>Pin 2</b>	Common

**CON1 CONTROLLER PIN OUT*****J1 Input Connector:***

Pin #	Function
16-1	Machine Select #1-16
17	Data B (Based on Machine Type)
18	Data A (Based on Machine Type)

***J2 Input Connector:***

Pin #	Function
16-3	Machine Select #17-30
17	Data D (Based on Machine Type)
18	Data C (Based on Machine Type)

***J3 Display Output:***

Pin #	Function
1-2	Circuit A+, Circuit A-
3-4	Circuit B+, Circuit B-
5-6	Circuit C+, Circuit C-
7-8	Not Connected

**CON1I CONTROLLER PIN OUT*****J1 Input Connector:***

Pin#	Function
16-1	Machine Select (Coin-in/JP) #1-16
18	IGT Ground (Mikohn input)

***J2 Input Connector:***

Pin#	Function
16-3	Machine Select (Coin-in/JP) #17-30

***J3 Display Output***

Pin#	Function
1-2	Data A+, Data A-
3-4	Data B+, Data B-
5-6	Data C+, Data C-
7-8	Data D+, Data D-

**CON2 CONTROLLER PIN OUT*****J1 and J2 Connectors***

J1 Machine Select Connector:	J2 Accounting Port
Pins 1-4: Coin-in/JP signal (Data A-D)	Pin 1: CD
Pins 9-40: Machine Select #1-32	Pin 2: TX
	Pin 3: RX
	Pin 4: DTR
	Pin 5: GRND
	Pin 6: DSR
	Pin 7: RTS
	Pin 8: CTS
	Pin 9: RI

***J3 and J4 Connectors***

<b>J3 Machine Serial</b>	<b>J4 Programming Port</b>
<b>Pin 1:</b> Serial+	<b>Pin 1:</b> GRND
<b>Pins 2-4:</b> I/O GRND	<b>Pin 2:</b> TX
<b>Pins 5-6:</b> RX A-	<b>Pin 3:</b> RX
<b>Pins 7-8:</b> RX A+	<b>Pin 4:</b> NC
<b>Pin 9:</b> TX A-	<b>Pin 5:</b> GRND
<b>Pin 10:</b> TX A1-	<b>Pin 6:</b> NC
<b>Pin 11:</b> TX A+	<b>Pin 7:</b> RTS
<b>Pin 12:</b> TX A1+	<b>Pin 8:</b> CTS
<b>Pins 13-14:</b> VI/O1F	<b>Pin 9:</b> NC

***J5-J6 Display Output***

<b>J5 and J6 Pin#</b>	<b>Function</b>
<b>1</b>	I/O GRND
<b>2</b>	RX M+
<b>3</b>	RX M-
<b>4</b>	TX M1-
<b>5</b>	TX M1+
<b>6</b>	VI/OF

**M = Meter*****Atronics to CON2 Harness Pin Out***

<b>CON2 J3</b>	<b>Atronics J10/J11</b>
<b>Pin 5:</b> RX A-	<b>Pin 4:</b> TX Inverse
<b>Pin 7:</b> RX A+	<b>Pin 3:</b> TX
<b>Pin 9:</b> TX A-	<b>Pin 5:</b> RX Inverse
<b>Pin 11:</b> TX A+	<b>Pin 6:</b> RX

**Notes:**

1. Requires Atronics power supply with RJ45 (J10/J11)
2. Pin out information is valid for CON2I also.

***Sigma to CON2 Harness Pin Out***

<b>Sigma Interface PCB J2 (5-pin)</b>	<b>CON2 J3 (14-pin)</b>
<b>Pin 5: RX-</b>	<b>Pin 9: TX-</b>
<b>Pin 4: RX+</b>	<b>Pin 11: TX+</b>
<b>Pin 2: TX+</b>	<b>Pin 7: RX+</b>
<b>Pin 1: TX-</b>	<b>Pin 5: RX-</b>

**Note:** Pin out information is valid for CON2I also.

**CON2I CONTROLLER PIN OUT*****J1 Machine Select Connector***

**Pin 1**            I/O Ground  
**Pins 9-40**     Machine Select #1 – 32

***IGT Vision Comm Board to CON2I Harness Connections***

<b>IGT 6-pin</b>	<b>CON2I</b>	<b>Function</b>
<b>Pin 1</b>	<b>J3 Pin 1</b>	Progressive in (Orange)
<b>Pin 2</b>	<b>J1 Pin 1</b>	Ground (Gray)
<b>Pin 3</b>	<b>J1 Machine Select</b>	Progressive out (White)

***IGT Fortune2, S-SLot Plus, and Player's Edge to CON2I Harness Connections***

<b>IGT 4-pin</b>	<b>CON2I</b>	<b>Function</b>
<b>Pin 2</b>	<b>J3 Pin 1</b>	Serial Return
<b>Pin 3</b>	<b>J1 Pins 9 – 40</b>	Machine Select
<b>Pin 4</b>	<b>J1 Pin 1</b>	Common

**DCU to IOC COMM LINE PIN OUT***RJ45 jack to DB9S pin out*

DB9S (IOC)	RJ45 Jack (to DCU)	Function
Pin 3	Pin 4	TX (red)
Pin 2	Pin 5	RX (green)
Pin 5	Pin 6	Ground (yellow)

**DUAL PORT SMIB PIN OUT***J3 = RS-485 for PTM applications*

Pin#	Function
1 and 2	+12VDC
3	TX+
4	TX-
5	RX+
6	RX-
7 and 8	GRND

*J5 = RS-485 for Progressive Controller Communications*

Pin#	Function
1	RX+
2	RX-
3	TX-
4	TX+
5	GRND

***DPSMIB Jumper Settings and Functions***

<b>Jumper</b>	<b>Setting</b>
<b>JP1</b>	RAM Clear
<b>JP2</b>	Install if an EPROM larger than 2 Megabits is used
<b>JP3</b>	Reset the board
<b>JP4</b>	Switches between the Reset Output and Contrast Adjustment for the LCD interface
<b>JP5</b>	Enables the Pull-up resistor on the Opto output for the Game Port
<b>JP6</b>	Enables the Pull-up resistor on the Opto output for the Progressive Port
<b>JP7</b>	Selects the RS-485 interface for the Progressive port (see note)
<b>JP8</b>	Selects the RS-232 interface for the Progressive port (see note)
<b>JP9</b>	Enables the backlight voltage for the LCD interface
<b>JP10</b>	Installed for half-duplex communication on the Merchandising System port
<b>JP11</b>	Installed for half-duplex communication on the Merchandising System port
<b>JP12</b>	Enables the terminating resistor for the Merchandising System port
<b>JP13</b>	Installed for half-duplex communication on the Merchandising System port
<b>JP14</b>	Selects the RS-232 interface for the Game port
<b>JP15</b>	Installed for half-duplex communication on the System port
<b>JP16</b>	Enables the terminating resistor for System port
<b>JP17</b>	Installed for half-duplex communication on the System port
<b>JP18</b>	Installed for half-duplex communication on the System port

**NOTE:** JP7 and JP8 should not be installed at the same time. Only one or the other should be active.

**MULTI-VOLTAGE COIN INTERFACE PIN OUT***Hard Meter Input to Controller***12 VDC Signal:**

**Input** J1 pins 7 and 8: Polarity unimportant

**Output** J2 pin 1: standard controller  
machine select J2 pin 2, standard controller data A line

**24 VDC Signal:**

**Input** J1 pins 5 and 6: Polarity unimportant

**Output** J2 pin 1: standard controller  
machine select J2 pin 3, standard controller data A line

**24 VAC Signal:**

**Input** J1 pins 3 and 4: Polarity unimportant

**Output** J2 pin 1: standard controller  
machine select J2 pin 4, standard controller data A line

**48 VAC Signal:**

**Input** J1 pins 1 and 2: Polarity unimportant

**Output** J2 pin 1: standard controller  
machine select J2 pin 4, standard controller data A line



**PC SERIAL PORT PIN OUT**

Function at PC	AT-DB9 (Pin#)	XT-DB25 (Pin#)
Transmit	3	2
Receive	2	3
Request to Send	7	4
Clear to Send	8	5
Data Set Ready	6	6
Signal Ground	5	7
Received Line Signal Detector	1	8
+Transmit Current Loop Data	N/C	9
-Transmit Current Loop Data	N/C	11
+Receive Current Loop Data	N/C	18
Data Terminal Ready	4	20
Ring Indicator	9	22
=Receive Current Loop Return	N/C	25

**CHAM1 LINKER and SA POWER CONNECTOR PIN OUT**

Pin#	Function
1	+5VDC
2	-12VDC
3	+12VDC
4	GND

**RS485 DISTRIBUTION BOARD JUMPER SETTINGS/PIN OUTS*****RS485 Distribution Board Jumper Settings***

If Input is...	Install Shunts on Jumpers...
FIBER	JP18, JP12, and JP17
RS232	JP20, JP21, JP13, and JP19*
RS485	JP16, JP14, and JP15

\*JP19 shunt is normally installed. **Remove** JP19 shunt when using RTS signal.

***RS485 Distribution Cascade Pin Outs*****Notes:**

1. When cascading (daisy-chaining) RS485 Distribution boards, use **only** Full Duplex Wiring between Distribution boards. Half Duplex or Full Duplex wiring can be used between the last Distribution Board in the chain and the Supreme Display.
2. On all daisy-chained boards, **except** the last board connecting to the display, remove shunts from the Half Duplex jumpers (JP1 through JP10).
3. JP11 is for High Output Fiber.

J2, J3, J4, or J5 on First RS485 Board	J1 on Next RS485 Board
Pin 2: TX+	Pin 5: RX+
Pin 3: TX-	Pin 4: RX-
Pin 4: RX-	Pin 3: TX-
Pin 5: RX+	Pin 2: TX+

**SUPREME DISPLAY PIN OUT***J1 – J4 Pin Out*

Pin #	J1 (2-pin) 5v DC Input	J2 (2-pin) 9-12v DC Input	J3 (6-pin) RS485 Daisy- chain Displays	J4 (6-pin)
1	GRND	GRND		
2	5volts	9-12volts		
4			RX –	RX –
5			RX +	RX +

## **Progressive Settings**

### **BALLY**

#### **Models 5500 and 6000**

In Machine Configuration:

Option

02 – 04 SMPI

07 – 01 #J.P.

78 Lo – Mach. ID.

### **IGT**

Set DIP switches 5 and 8 on MPU board to ON.

## Switch Settings

### AC TABLE ADDRESS DIP SWITCH SETTINGS

Address	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
0 (Master)	OFF	OFF	OFF	OFF	OFF
1	<b>ON</b>	OFF	OFF	OFF	OFF
2	OFF	<b>ON</b>	OFF	OFF	OFF
3	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF
4	OFF	OFF	<b>ON</b>	OFF	OFF
5	<b>ON</b>	OFF	<b>ON</b>	OFF	OFF
6	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
7	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	OFF
8	OFF	OFF	OFF	<b>ON</b>	OFF
9	<b>ON</b>	OFF	OFF	<b>ON</b>	OFF
10	OFF	<b>ON</b>	OFF	<b>ON</b>	OFF
11	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>	OFF
12	OFF	OFF	<b>ON</b>	<b>ON</b>	OFF
13	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>	OFF
14	OFF	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF
15	<b>ON</b>	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF
16	OFF	OFF	OFF	OFF	<b>ON</b>
17	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>
18	OFF	<b>ON</b>	OFF	OFF	<b>ON</b>
19	<b>ON</b>	<b>ON</b>	OFF	OFF	<b>ON</b>
20	OFF	OFF	<b>ON</b>	OFF	<b>ON</b>
21	<b>ON</b>	OFF	<b>ON</b>	OFF	<b>ON</b>
22	OFF	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>
23	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>

Address	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
24	OFF	OFF	OFF	ON	ON
25	ON	OFF	OFF	ON	ON
26	OFF	ON	OFF	ON	ON
27	ON	ON	OFF	ON	ON
28	OFF	OFF	ON	ON	ON
29	ON	OFF	ON	ON	ON

### AC COIN ACCEPTOR ADDRESSING

Player Position	DIP: switch ON or Shunts shunted (using binary code)
1	1
2	2
3	1 and 2
4	3
5	1 and 3
6	2 and 3
7	1, 2, and 3

**CHAM1**

The following tables contain the Mach. ID, JP group, and Test mode switch settings for the CHAM1 Linker logic board.

***Linker Logic Board Machine ID DIP Switch Settings***

MACH ID	SWITCH #					MACH ID	SWITCH #				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	18	1	0	0	0	1
2	1	0	0	0	0	19	0	1	0	0	1
3	0	1	0	0	0	20	1	1	0	0	1
4	1	1	0	0	0	21	0	0	1	0	1
5	0	0	1	0	0	22	1	0	1	0	1
6	1	0	1	0	0	23	0	1	1	0	1
7	0	1	1	0	0	24	1	1	1	0	1
8	1	1	1	0	0	25	0	0	0	1	1
9	0	0	0	1	0	26	1	0	0	1	1
10	1	0	0	1	0	27	0	1	0	1	1
11	0	1	0	1	0	28	1	1	0	1	1
12	1	1	0	1	0	29	0	0	1	1	1
13	0	0	1	1	0	30	1	0	1	1	1
14	1	0	1	1	0	31 Not Used	0	1	1	1	1
15	0	1	1	1	0	35 Overhead Display	1	1	1	1	1
16	1	1	1	1	0						
17	0	0	0	0	1						

**Linker Logic Board Jackpot Group DIP Switch Settings**

Jackpot Group	Switch #		
	6	7	8
JP0	0	0	0
JP1	1	0	0
JP2	0	1	0
JP3	1	1	0
JP0 Internal Message	0	0	1
JP1 Internal Message	1	0	1
JP2 Internal Message	0	1	1
JP3 Internal Message	1	1	1

When the TEST jumper is jumpered the switches place the board into the test modes listed in the table below. **Note:** Turn only one switch ON at a time for TEST modes.

**Linker Logic Board TEST Mode Settings**

Switch Set to ON	Test Mode
1	Character Test Pattern
2	Diagonal Test Pattern
3	All Dots Red
4	All Dots Green
5	All Dots Yellow
6	All Dots Off
7	MESS.DO
8	Software Version
All Off	TEST #0



**CHAMII LED4 LOGIC BOARD – S1 AND S2**

JGS SWITCH (S1)		DISPLAY LIMIT SWITCH (S2)		
Setting	Purpose	Setting	INTG	DECM
0	JP0 (JP Group 0)	0	No Limit	No Limit
1	JP1 (JP Group 1)	1	9.	.09
2	JP2 (JP Group 2)	2	99.	.99
3	JP3 (JP Group 3)	3	999.	9.99
4	JP0 Internal JPOT.DO File	4	9999.	99.99
5	JP1 Internal JPOT.DO File	5	99,999.	999.99
6	JP2 Internal JPOT.DO File	6	999,999.	9,999.99
7	JP3 Internal JPOT.DO File	7	9,999,999.	99,999.99
8	Display MESS.DO File Only	8	99,999,999.	999,999.99
9	Character Set	9	999,999,999.	9,999,999.99
A	Diagonal Pattern	A	9,999,999,999.	99,999,999.99
B	All Dots Red	B	Unused	Unused
C	All Dots Green	C	Unused	Unused
D	All Dots Yellow	D	Unused	Unused
E	All Dots Off	E	Unused	Unused
F	Software Version	F	Unused	Unused

**NOTE:** If the JP is larger than limit selected, a C2 error will show in place of JP every 15 seconds.

**DUAL PORT SMIB (DPSMIB) DIP SWITCH SETTINGS*****DPSMIB Progressive Machine ID Settings***

Machine Number Assign	Switch #				
	1	2	3	4	5
1	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF
6	ON	OFF	ON	OFF	OFF
7	OFF	ON	ON	OFF	OFF
8	ON	ON	ON	OFF	OFF
9	OFF	OFF	OFF	ON	OFF
10	ON	OFF	OFF	ON	OFF
11	OFF	ON	OFF	ON	OFF
12	ON	ON	OFF	ON	OFF
13	OFF	OFF	ON	ON	OFF
14	ON	OFF	ON	ON	OFF
15	OFF	ON	ON	ON	OFF
16	ON	ON	ON	ON	OFF
17	OFF	OFF	OFF	OFF	ON
18	ON	OFF	OFF	OFF	ON
19	OFF	ON	OFF	OFF	ON
20	ON	ON	OFF	OFF	ON
21	OFF	OFF	ON	OFF	ON
22	ON	OFF	ON	OFF	ON
23	OFF	ON	ON	OFF	ON
24	ON	ON	ON	OFF	ON

Machine Number Assign	Switch #				
	1	2	3	4	5
25	OFF	OFF	OFF	ON	ON
26	ON	OFF	OFF	ON	ON
27	OFF	ON	OFF	ON	ON
28	ON	ON	OFF	ON	ON
29	OFF	OFF	ON	ON	ON
30	ON	OFF	ON	ON	ON
31	OFF	ON	ON	ON	ON
32	ON	ON	ON	ON	ON

***DPSMIB Hot Potato and MoneyTime DCU DIP Switch Settings***

Switch 6	Switch 7	DCU Channel
OFF	OFF	Channel 1
ON	OFF	Channel 2
OFF	ON	Channel 3

**Note:** DIP switch 8 is not used.

**SIB DIP SWITCH SETTINGS***Machine ID DIP Switch Settings*

Machine ID	DIP Switch #				
	1	2	3	4	5
1	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF
6	ON	OFF	ON	OFF	OFF
7	OFF	ON	ON	OFF	OFF
8	ON	ON	ON	OFF	OFF
9	OFF	OFF	OFF	ON	OFF
10	ON	OFF	OFF	ON	OFF
11	OFF	ON	OFF	ON	OFF
12	ON	ON	OFF	ON	OFF
13	OFF	OFF	ON	ON	OFF
14	ON	OFF	ON	ON	OFF
15	OFF	ON	ON	ON	OFF
16	ON	ON	ON	ON	OFF
17	OFF	OFF	OFF	OFF	ON
18	ON	OFF	OFF	OFF	ON
19	OFF	ON	OFF	OFF	ON
20	ON	ON	OFF	OFF	ON
21	OFF	OFF	ON	OFF	ON
22	ON	OFF	ON	OFF	ON
23	OFF	ON	ON	OFF	ON
24	ON	ON	ON	OFF	ON
25	OFF	OFF	OFF	ON	ON
26	ON	OFF	OFF	ON	ON
27	OFF	ON	OFF	ON	ON
28	ON	ON	OFF	ON	ON

Machine ID	DIP Switch #				
	1	2	3	4	5
29	OFF	OFF	ON	ON	ON
30	ON	OFF	ON	ON	ON
31	OFF	ON	ON	ON	ON
32 (CON2 Only)	ON	ON	ON	ON	ON

### ***IGT 1 & 2, Bally, Williams SIB DIP Switch Settings***

Coin/Jackpot Signal Generated	DIP 6
Machine Type 9	OFF
Machine Type 7 & 8	ON

Link Number ID	DIP 7	DIP 8
1	OFF	OFF
2	ON	OFF
3	OFF	ON
4	ON	ON

### ***IGT Single-Link SIB DIP Switch Settings***

Coin/Jackpot Signal Generated	DIP 6
Machine Type 7 & 8	ON
Machine Type 9	OFF

Progressive Levels	DIP 7	DIP 8
Supports 3 Levels (0-2)	OFF	OFF
Supports 4 Levels (0-3)	ON	OFF
Supports 5 Levels (0-4)	OFF	ON
Supports 6 Levels (0-5)	ON	ON

## SMIB DIP SWITCH SETTINGS

**NOTE:** Tables are valid for SMIB versions 3.05 and newer, **except** where indicated in notes at bottom of table.

### SMIB DIP Switches 1 – 4 (Game-Type)

DIP SWITCHES				SLOT PROTOCOL SETTING
1	2	3	4	
ON	OFF	OFF	ON	Aristocrat (Optimized U.S. Dacom Protocol Issue B.3)
OFF	OFF	ON	OFF	Bally 5000 (Bally S500 Communication Protocol 1992)
ON	ON	OFF	OFF	Bally 5500, 7000 (Bally S500 Communication Protocol 1992)
ON	OFF	OFF	OFF	IGT pulse width
OFF	ON	ON	OFF	IGT SAS New, with bill meters, (SAS+ Protocol 5/24/94) <b>[Note: this is the most common setting]</b>
ON	OFF	ON	OFF	IGT SAS Old, without bill meters (SAS+ Protocol before 5/24/94)
OFF	ON	OFF	OFF	Sigma SDS II (11/1/94)
ON	ON	ON	OFF	Universal (SDS Serial Code Ver. 2.4)

### NOTES:

1. **SMIB v3.01:** Williams ACP protocol supported (DIP switches 1, 2, and 3 set to OFF and 4 set to ON).

**SMIB DIP Switches 5 – 8**

DIP SWITCH	POSITION	WHAT IT MEANS
<b>5</b>	<b>ON</b>	The SMIB <b>will not</b> disable if any of the DIP 5 OFF settings are true (see below)
	<b>OFF</b>	<b>Normal operation</b> The game <b>will</b> disable if any of the following occur (must be enabled in MISC_FLAGS): 1. RomSig Failed 2. Denomination mismatch occurred 3. DCU communication lost
<b>6</b>	<b>ON</b>	Enable Diagnostic Port (for debugging)
	<b>OFF</b>	<b>Normal Operation</b>
<b>7</b>	<b>ON</b>	The SMIB will <b>not</b> disable the game if there are no progressive value updates
	<b>OFF</b>	The SMIB <b>will</b> disable the game if progressive value updates are not broadcast at least every seven (7) seconds
<b>8</b>	<b>ON</b>	Enter the “Test Card” (98) mode (after the SMIB is reset)
	<b>OFF</b>	<b>Normal Operation</b>

**NOTE:** Switches 5 and 8 are not used in SMIB v3.09

**S-SLOT Converter: IGT Standalone Tournament**

Uses either S-SLOT1 v3.14 or SLOT1E v3.15

S-SLOT1 v3.14 - Switch Position F

S-SLOT1 v3.15 - Switch Position E, enables MESS.DO  
Switch Position F, disables MESS.DO

**SUPER MINI-PHOTON DRIVER 2 BOARD AND JPTD**

This section contains switch settings for the SUPER MINI-PHOTON DRIVER 2 BOARD and the JPTD.

**Note:** All settings apply to both the MINI-PHOTON and JPTD board switches unless specifically stated otherwise.

**Machine IDs DIP Switch Settings**

Machine ID	DIP Switch #					
	1	2	3	4	5	6
1	OFF	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF	OFF
6	ON	OFF	ON	OFF	OFF	OFF
7	OFF	ON	ON	OFF	OFF	OFF
8	ON	ON	ON	OFF	OFF	OFF
9	OFF	OFF	OFF	ON	OFF	OFF
10	ON	OFF	OFF	ON	OFF	OFF
11	OFF	ON	OFF	ON	OFF	OFF
12	ON	ON	OFF	ON	OFF	OFF
13	OFF	OFF	ON	ON	OFF	OFF
14	ON	OFF	ON	ON	OFF	OFF
15	OFF	ON	ON	ON	OFF	OFF
16	ON	ON	ON	ON	OFF	OFF
17	OFF	OFF	OFF	OFF	ON	OFF
18	ON	OFF	OFF	OFF	ON	OFF



Machine ID	DIP Switch #					
	1	2	3	4	5	6
19	OFF	ON	OFF	OFF	ON	OFF
20	ON	ON	OFF	OFF	ON	OFF
21	OFF	OFF	ON	OFF	ON	OFF
22	ON	OFF	ON	OFF	ON	OFF
23	OFF	ON	ON	OFF	ON	OFF
24	ON	ON	ON	OFF	ON	OFF
25	OFF	OFF	OFF	ON	ON	OFF
26	ON	OFF	OFF	ON	ON	OFF
27	OFF	ON	OFF	ON	ON	OFF
28	ON	ON	OFF	ON	ON	OFF
29	OFF	OFF	ON	ON	ON	OFF
30	ON	OFF	ON	ON	ON	OFF
31	OFF	ON	ON	ON	ON	OFF
32 (CON2 Only)	ON	ON	ON	ON	ON	OFF
35 (CON1 Overhead)	ON	ON	ON	ON	ON	OFF
64 (CON2 Overhead)	ON	ON	ON	ON	ON	ON

***DIP Switch Bank SW0: Test/Operate Mode***

Function	Switch 7	Switch 8
Normal	OFF	OFF
Normal, Internal Flash	OFF	ON
Software Version, Mach. ID, Jackpot Group	ON	OFF
Walkin Digits Mode (Test Mode)	ON	ON

***DIP Switch Bank SW1: Jackpot Limit Switches***

<b>JP Limit</b>	<b>SW1</b>	<b>SW2</b>	<b>SW3</b>	<b>SW4</b>	<b>SW5</b>	<b>SW6</b>	<b>SW7</b>	<b>SW8</b>
.99	<b>ON</b>	OFF	OFF	OFF	OFF	OFF	OFF	OFF
9.99	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF	OFF	OFF
29.99	<b>ON</b>	<b>ON</b>	OFF	OFF	<b>ON</b>	OFF	OFF	OFF
49.99	<b>ON</b>	OFF	<b>ON</b>	OFF	<b>ON</b>	OFF	OFF	OFF
89.99	<b>ON</b>	OFF	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF
99.99	<b>ON</b>	OFF	OFF	OFF	OFF	<b>ON</b>	OFF	OFF
299.99	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF	OFF
499.99	<b>ON</b>	OFF	<b>ON</b>	OFF	OFF	OFF	OFF	OFF
899.99	<b>ON</b>	OFF	OFF	OFF	OFF	<b>ON</b>	OFF	OFF
999.99	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
1,999.99	OFF	<b>ON</b>	OFF	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
2,999.99	<b>ON</b>	<b>ON</b>	OFF	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
3,999.99	OFF	OFF	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
4,999.99	<b>ON</b>	OFF	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
5,999.99	OFF	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
6,999.99	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF
7,999.99	OFF	OFF	OFF	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	OFF
8,999.99	<b>ON</b>	OFF	OFF	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	OFF
9,999.99	<b>ON</b>	OFF	OFF	OFF	OFF	OFF	<b>ON</b>	OFF
19,999.99	OFF	<b>ON</b>	OFF	OFF	OFF	OFF	<b>ON</b>	OFF
29,999.99	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF	OFF	<b>ON</b>	OFF
39,999.99	OFF	OFF	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF
49,999.99	<b>ON</b>	OFF	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF
59,999.99	OFF	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF
69,999.99	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF	OFF	OFF	<b>ON</b>	OFF
79,999.99	OFF	OFF	OFF	<b>ON</b>	OFF	OFF	<b>ON</b>	OFF
89,999.99	<b>ON</b>	OFF	OFF	<b>ON</b>	OFF	OFF	<b>ON</b>	OFF

JP Limit	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
99,999.99	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
299,999.99	ON	ON	OFF	OFF	ON	OFF	ON	OFF
499,999.99	ON	OFF	ON	OFF	ON	OFF	ON	OFF
899,999.99	ON	OFF	OFF	ON	ON	OFF	ON	OFF
999,999.99	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
2,999,999.99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
4,999,999.99	ON	OFF	ON	OFF	OFF	ON	ON	OFF
8,999,999.99	ON	OFF	OFF	ON	OFF	ON	ON	OFF
9,999,999.99	ON	OFF	OFF	OFF	ON	ON	ON	OFF

***DIP Switch Bank SW2: Jackpot Group***

Jackpot Group	Switch 1	Switch 2	Switch 3
JP0	OFF	OFF	OFF
JP1	ON	OFF	OFF
JP2	OFF	ON	OFF
JP3	ON	ON	OFF
JP4	OFF	OFF	ON
JP5	ON	OFF	ON
JP6	OFF	ON	ON
JP7	ON	ON	ON

***DIP Switch Bank SW2: Controller Group Address (CON2 Only)***

Group Address	Switch #			
	4	5	6	7
0	OFF	OFF	OFF	OFF
1	<b>ON</b>	OFF	OFF	OFF
2	OFF	<b>ON</b>	OFF	OFF
3	<b>ON</b>	<b>ON</b>	OFF	OFF
4	OFF	OFF	<b>ON</b>	OFF
5	<b>ON</b>	OFF	<b>ON</b>	OFF
6	OFF	<b>ON</b>	<b>ON</b>	OFF
7	<b>ON</b>	<b>ON</b>	<b>ON</b>	OFF
8	OFF	OFF	OFF	<b>ON</b>
9	<b>ON</b>	OFF	OFF	<b>ON</b>
10	OFF	<b>ON</b>	OFF	<b>ON</b>
11	<b>ON</b>	<b>ON</b>	OFF	<b>ON</b>
12	OFF	OFF	<b>ON</b>	<b>ON</b>
13	<b>ON</b>	OFF	<b>ON</b>	<b>ON</b>
14	OFF	<b>ON</b>	<b>ON</b>	<b>ON</b>
15	<b>ON</b>	<b>ON</b>	<b>ON</b>	<b>ON</b>

***JPTD Only, Settings***

The settings in the following two tables apply **only** to the JPTD board.

**JPTD SW1: Switch 8**

Switch 8 on SW1	
Setting	Function
Switch <b>ON</b>	Triggers device on a Jackpot Hit
Switch <b>OFF</b>	Triggers device after two minutes of machine inactivity

**JPTD Controller Configuration Jumpers**

Controller	JMP1	JMP2	JMP3
CON1	<b>ON</b>	OFF	<b>ON</b>
CON2	OFF	<b>ON</b>	OFF

***SUPER-MINI PHOTON Driver 2 Board Only, Controller Settings***

The settings in the following table apply **only** to the Driver 2 board.

Slide Switch SW3	
Setting	Switch Position
CON1	Slide SW3 toward CON1
CON2	Slide SW3 toward CON2

***Controller Configuration Settings for JPTD and SUPER-MINI PHOTON***

Switch 8 on SW2	
Setting	Switch Position
CON1	<b>ON</b>
CON2	OFF

**TRI-COLOR PHOTON LOGIC BOARD**

Switches are labeled bottom to top (S1 to S2)

Setting	S1 (JGS) Function	S2 (Display Type) Function
<b>0</b>	JP0	Eight Digit Tri-Color Display
<b>1</b>	JP1	Nine Digit Tri-Color Display
<b>2</b>	JP2	Unused
<b>3</b>	JP3	Unused
<b>4</b>	Unused	Unused
<b>5</b>	Unused	Unused
<b>6</b>	Unused	Unused
<b>7</b>	Unused	Unused
<b>8</b>	Displays all 8's in Green	Flashing (8 Digit)
<b>9</b>	Displays all 8's in Red	Flashing (9 Digit)
<b>A</b>	Displays all 8's in Yellow	Unused
<b>B</b>	All Off	Unused
<b>C</b>	Displays \$123,456,78	Unused
<b>D</b>	Displays \$ 50,000.00	Unused
<b>E</b>	Walking Digits	Unused
<b>F</b>	All Off	Unused

*Switches S3 and S4 on next page.*

***Switches are labeled bottom to top (S3 to S4)***

<b>Setting</b>	<b>S3 (Display Limit) Function</b>	<b>S4 (Brightness) Function</b>
<b>0</b>	No Digit Limit Performed	Solid Green Mode
<b>1</b>	0.09 maximum	Solid Red Mode
<b>2</b>	0.99 maximum	Solid Yellow Mode
<b>3</b>	9.99 maximum	Paint (Solid)
<b>4</b>	99.99 maximum	Dazzle
<b>5</b>	999.99 maximum	Wipe Right (Left to Right)
<b>6</b>	9,999.99 maximum	Wipe Left (Right to Left)
<b>7</b>	99,999.99 maximum	Wipe Alternate
<b>8</b>	999,999.99 maximum	Default (Green)
<b>9</b>	9,999,999.99 maximum	Default (Green)
<b>A</b>	No Digit Limit Performed	Default (Green)
<b>B</b>	No Digit Limit Performed	Default (Green)
<b>C</b>	No Digit Limit Performed	Default (Green)
<b>D</b>	No Digit Limit Performed	Default (Green)
<b>E</b>	No Digit Limit Performed	Default (Green)
<b>F</b>	No Digit Limit Performed	Default (Green)

## Gateway Interface Boards and Software

### SUMMARY OF GATEWAY SOFTWARE

- GW: Current versions include SINFO.
- GW1: Gateway software used to communicate Serial Return to IGT machines from CON1 controllers.
- GW2: Allows CON2 controllers to communicate with CHAM1 displays.  
JP Groups 0 – 3 are available for display. Requires CHAM1 v7.15 and PRC (Progressive Chip Controller v6.1 or greater) software.

### GW1 v2.5

Used to provide Serial Return to IGT machines. Recommended SW1 settings are NO Cycling.

SW1	Input Function	SW2	Output Function
0	Normal Mikohn-Cycling	0	Normal Mikohn
1	Hidden Mikohn-Cycling	1	Normal IGT – JPGroup 0
2	Arrow/High Mikohn-Cycling	2	Normal IGT – JPGroups 0&1
3	Normal Mikohn-No Cycling	3	Normal IGT – JPGroups 0 – 2
4	Hidden Mikohn-No Cycling	4	Normal IGT – JPGroups 0 – 3
5	Arrow/High Mikohn-No Cycling		

**Note:** Any combination of the above switch positions are allowed, except when SW2 equals 0. Then SW1 must also equal 0.



**GW2E v2.4**

Used for CON2 to CHAM1 JPGroups JP0 – JP3.

SW1	Input Protocol	SW2	Output Protocol
<b>B</b>	Mikohn 2: 9600 baud, RS-422 @ J2	<b>0</b>	Mikohn 1: Current Loop
<b>E</b>	Current Tech's ASCII: 9600 baud, RS-232 @ J1	<b>B</b>	Not assigned

**GWE v2.6**

General purpose conversions include SINFO.

SW1	Input Function	SW2	Output Function
<b>0</b>	Mikohn CON1	<b>0</b>	Mikohn CON1
<b>1</b>	IGT	<b>1</b>	IGT: JP0, w/cycling
<b>2</b>	Tradematic	<b>2</b>	IGT: JP0 – JP3 w/cycling
<b>3</b>	EDT	<b>3</b>	EDT
<b>4</b>	IGT: using RS422 input	<b>4</b>	Games of Nevada
<b>5</b>	Motronic: with checksum	<b>5</b>	IGT: JP0, no cycling
<b>6</b>	Motronic: without checksum	<b>6</b>	IGT: JP0 – JP3, no cycling
<b>7</b>	Tradematic: without checksum	<b>7</b>	IGT: JP0 – JP2, cycling
<b>8</b>	Mikohn CON1: using RS232 input	<b>8</b>	IGT: JP0 – JP2, no cycling
<b>9</b>	IGT: using RS232 input	<b>9</b>	IGT
<b>A</b>	Tradematic: using RS232 input	<b>A</b>	IGT
<b>B</b>	unused	<b>B</b>	unused
<b>C</b>	unused	<b>C</b>	unused
<b>D</b>	Motronic: using RS232 input	<b>D</b>	unused
<b>E</b>	unused	<b>E</b>	SINFO – HIDE mode swap
<b>F</b>	Tradematic: using RS232 no cycling	<b>F</b>	SINFO – noHIDE mode swap

**GWE v2.7**

## DP Stud Table Game Interface

<b>SW1</b>	<b>Input Function</b>	<b>SW2</b>	<b>Output Function</b>
<b>0</b>	Mikohn CON1	<b>0</b>	Mikohn CON1
<b>1</b>	IGT	<b>1</b>	IGT: JP0, w/cycling
<b>2</b>	Tradematic	<b>2</b>	IGT: JP0 – JP3 w/cycling
<b>3</b>	EDT	<b>3</b>	EDT
<b>4</b>	IGT: using RS422 input	<b>4</b>	Games of Nevada
<b>5</b>	Motronic: with checksum	<b>5</b>	IGT: JP0, no cycling
<b>6</b>	Motronic: without checksum	<b>6</b>	IGT: JP0 – JP3, no cycling
<b>7</b>	Tradematic: ignoring checksum	<b>7</b>	IGT: JP0 – JP2, cycling
<b>8</b>	Mikohn CON1: using RS232 input	<b>8</b>	IGT: JP0 – JP2, no cycling
<b>9</b>	IGT: using RS232 input	<b>9</b>	IGT
<b>A</b>	Tradematic: using RS232 input	<b>A</b>	IGT
<b>B</b>	unused	<b>B</b>	CHAM1
<b>C</b>	unused	<b>C</b>	CHAMII
<b>D</b>	Motronic: using RS232 input	<b>D</b>	unused
<b>E</b>	unused	<b>E</b>	SINFO – HIDE mode swap
<b>F</b>	Tradematic: using RS232 input and ignoring checksum	<b>F</b>	SINFO – noHIDE mode swap

**Note:** To display the table ID on the keypad display, turn the hard key to **servicew** and press **JPOT**.

## Token Values: Jackpot

### TOKEN VALUES FOR CHAMII M\_FILE SETTINGS

\* Internal – Token for active JP group

Value	Justify	Paint	Color	Description
0	NA	NA	NA	User defined JPOT.JACK and MESG
1	Center	No	Red	Internal *
2	Center	No	Green	Internal *
3	Center	No	Yellow	Internal *
4	Center	No	Dazzle	Internal *
5	Center	Yes	Red	Internal *
6	Center	Yes	Green	Internal *
7	Center	Yes	Yellow	Internal *
8	Center	Yes	Dazzle	Internal *
9	Right	No	Red	Internal *
10	Right	No	Green	Internal *
11	Right	No	Yellow	Internal *
12	Right	No	Dazzle	Internal *
13	Right	Yes	Red	Internal *
14	Right	Yes	Green	Internal *
15	Right	Yes	Yellow	Internal *
16	Right	Yes	Dazzle	Internal *

**TOKEN VALUES FOR CON1 STANDARD CONTROLLER**

<b>Value</b>	<b>Description</b>
0	Current Jackpot Amount, JP Group determined by JGS switch
1	Total Number of Jackpots Hit, all JP Groups
2	Total Non-JP Payout Amount from Machines, all JP Groups
3	Total JP Payout Amount, all JP Groups
4	Total Regular and JP Payout Amount, all JP Groups
5	Current JP Amount, JP Group JP0. (JACK files)
6	Current JP Amount, JP Group JP1. (JACK files)
7	Current JP Amount, JP Group JP2. (JACK files)
8	Current JP Amount, JP Group JP3. (JACK files)

**TOKEN VALUES FOR CON2 SUPER CONTROLLER**

<b>Value</b>	<b>Description</b>
00	Current JP Amount, JP Group JP0. (JACK and MESS.DO files)
01	Current JP Amount, JP Group JP1. (JACK and MESS.DO files)
02	Current JP Amount, JP Group JP2. (JACK and MESS.DO files)
03	Current JP Amount, JP Group JP3. (JACK and MESS.DO files)
04	Current JP Amount, JP Group JP4. (JACK and MESS.DO files)
05	Current JP Amount, JP Group JP5. (JACK and MESS.DO files)
06	Current JP Amount, JP Group JP6. (JACK and MESS.DO files)
07	Current JP Amount, JP Group JP7. (JACK and MESS.DO files)
08	Current JP Amount as defined by the settings of switches S3/S4 on the logic board. (JPOT.DO)
09	Total Machine Payout Amount
10	Total Progressive Payout Amount
11	Total Payout Amount
12	Total Jackpot Hits for JP Group JP0
13	Total Jackpot Hits for JP Group JP1
14	Total Jackpot Hits for JP Group JP2
15	Total Jackpot Hits for JP Group JP3
16	Total Jackpot Hits for JP Group JP4
17	Total Jackpot Hits for JP Group JP5
18	Total Jackpot Hits for JP Group JP6
19	Total Jackpot Hits for JP Group JP7

## RAM and ROM Files: AGL and MARK2

### AGL/MARK2 v2.19 AND v2.20 PDF CONTENTS (RAM)

Template: Filename.PDF/Ts where **s** indicates the number of seconds.

W#: x1,y1,x2,y2,JP Group, M\_FILE, Cycle Type

# = Window number

X1,y1 = Upper left coordinates of window

X2,y2 = Lower right coordinates of window

JP Group = JP Group number

M\_FILE = M\_FILE number

Cycle Type = 0 = Standard Cycling Message

1 = Machine number and PCID only

2 = PCID only

### AGL/MARK2 v2.20 – ADDITIONAL ROM FILES

#### *Canned Files*

CJACKx.BAT

CJACKx.PDF

CJACKx.PIC

CJACKx.SH~

Where x = JP Group

#### *Imagineering Keno/Mikohn Graphics Board Settings*

GRADR = 1

IDADR = 1

## Tandy 102 EPROM Start Up Sequence

At the prompt, type the following three commands exactly as shown (press the ENTER key, do not type Enter).

10 CLEAR256,61439:CALL 911 [ENTER key]

SAVE "RAM:SEND.BA" [ENTER key]

MENU [ENTER key]

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