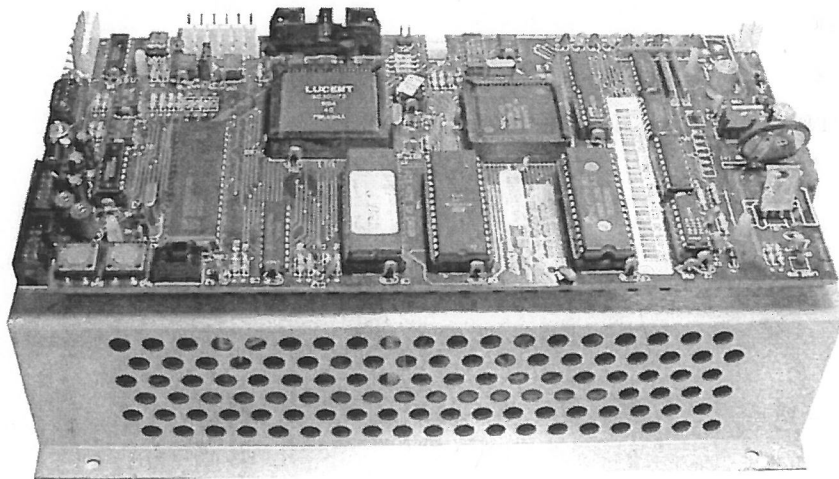
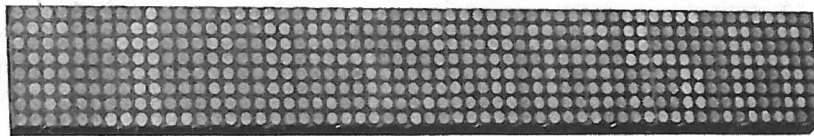


**PROGRESSIVE  
GAMING**  
INTERNATIONAL CORPORATION

# **CHAMII+™**

## **Logic Board**

### **Progressive Controller/Display Driver**



## **User Manual**

August 17, 2005

[www.progressivegaming.net](http://www.progressivegaming.net)

990-241-38 Rev B

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Progressive Gaming International Corporation™

CHAMII+™

Windows 95®

Windows 98®

Windows NT®

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## About This Manual

### Who Should Use This Manual

This manual is intended for site operators, service technicians, regulatory agencies, and production personnel. It is assumed the reader has general knowledge of gaming devices and electro-mechanical devices.

### Reference Documentation

The following table lists related PGIC documentation. You can access these and other PGIC documents on the PGIC extranet at:

<https://extranet.progressivegaming.net>

If a document has been revised, check the extranet for the latest version.

Document	Part Number
Animation Display Configuration and User Manual	990-250-00
Download for Windows v2.0 User Manual	990-241-18
Progressive System Programmer Software v2.0 Configuration and User Manual	950-051-00

### Contact Information and Feedback

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**Web:** [www.progressivegaming.net](http://www.progressivegaming.net)



## Chapter 1 - Introduction

Casinos constantly look for ways to attract customers. One way to do this is by having exciting games and eye-catching displays showing incrementing progressive jackpots and celebratory wins using high-resolution graphics and sounds. PGIC offers state-of-the-art progressive controllers and display products including the CHAMII+ logic board.

The CHAMII+ logic board is both a standalone progressive controller and a display driver. It is mounted inside a slot machine and it communicates with the slot machine, visual displays, and an external progressive controller (if used).

Available in various kits, the CHAMII+ logic board, along with a power supply, wiring harnesses, and up to four displays, offers a complete solution for creating standalone and linked progressive systems.

The CHAMII+ logic board can operate in three different modes:

- In a **Standalone** configuration, the CHAMII+ acts as a progressive controller, monitoring coin-in activity and calculating progressive jackpots for a single machine. It displays the progressive values on an in-machine meter.
- In a **Linker** configuration, a separate controller operates the progressive and sends the information to the CHAMII+ to display on an in-machine meter. The CHAMII+ is simply a display driver.
- In a **Linked Combo** configuration (a combination of the Standalone and Linker configurations), the CHAMII+ operates as a progressive controller and display driver. It runs a standalone progressive in a single machine and displays information from a linked progressive run by another controller.

When you combine several progressives with the PGIC SuperLink system, you can manage and monitor multi-site progressives from one central location. This provides you with constant information on how your progressives are doing.

The CHAMII+ supports serial return protocol for all major slot machines. It supports numerous graphical display effects, such as the traditional scrolling odometer or flipping and rotating numbers, that enable you to create a unique look for your casino. The CHAMII+ also offers many expansion capabilities for custom applications, including small in-machine graphics panels.

This document describes how to configure and use the CHAMII+ logic board.

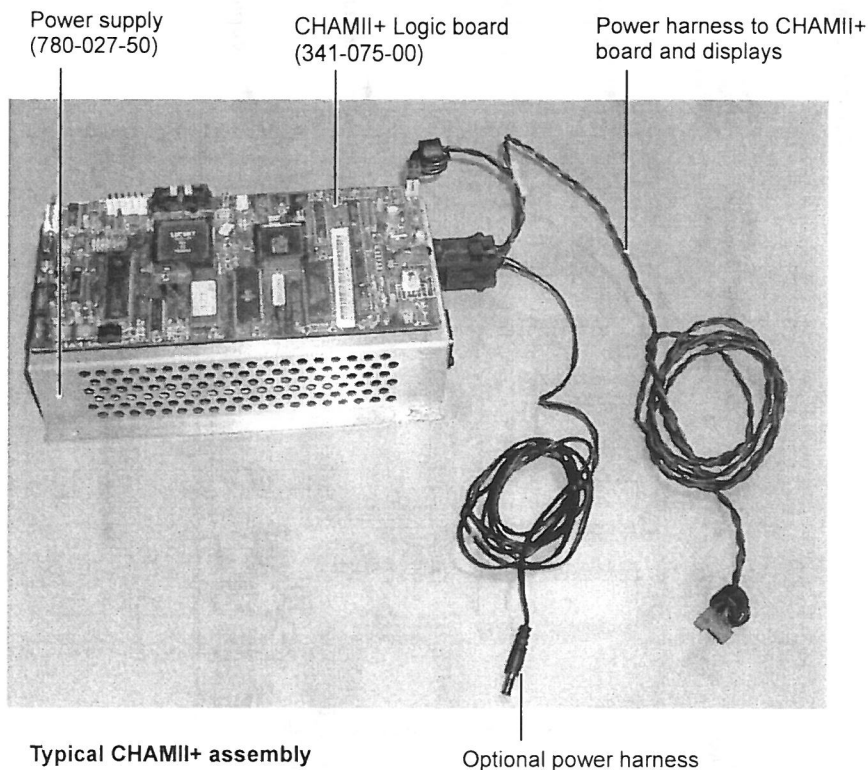


## Chapter 2 - CHAMII+ Logic Board Hardware

This chapter describes the CHAMII+ logic board hardware including the connectors, status LEDs, memory chips, and configuration switches.

### CHAMII+ Assembly

The CHAMII+ logic board (341-075-00) is available in different kits that include a power supply (780-027-50) and various types of displays depending on the application. The kits also include mounting hardware and the required wiring harnesses.



## Board Layout

The CHAMII+ logic board is a controller board that interfaces with the slot machine, external progressive controllers, and displays. Figure 2.1 shows the CHAMII+ board layout including connectors, status LEDs, memory, and configuration switches. The CHAMII+ logic board is mounted inside the slot machine (base or top box) with the power supply and machine-specific wiring harnesses. Appendix A provides harness drawings for various types of slot machines and applications.

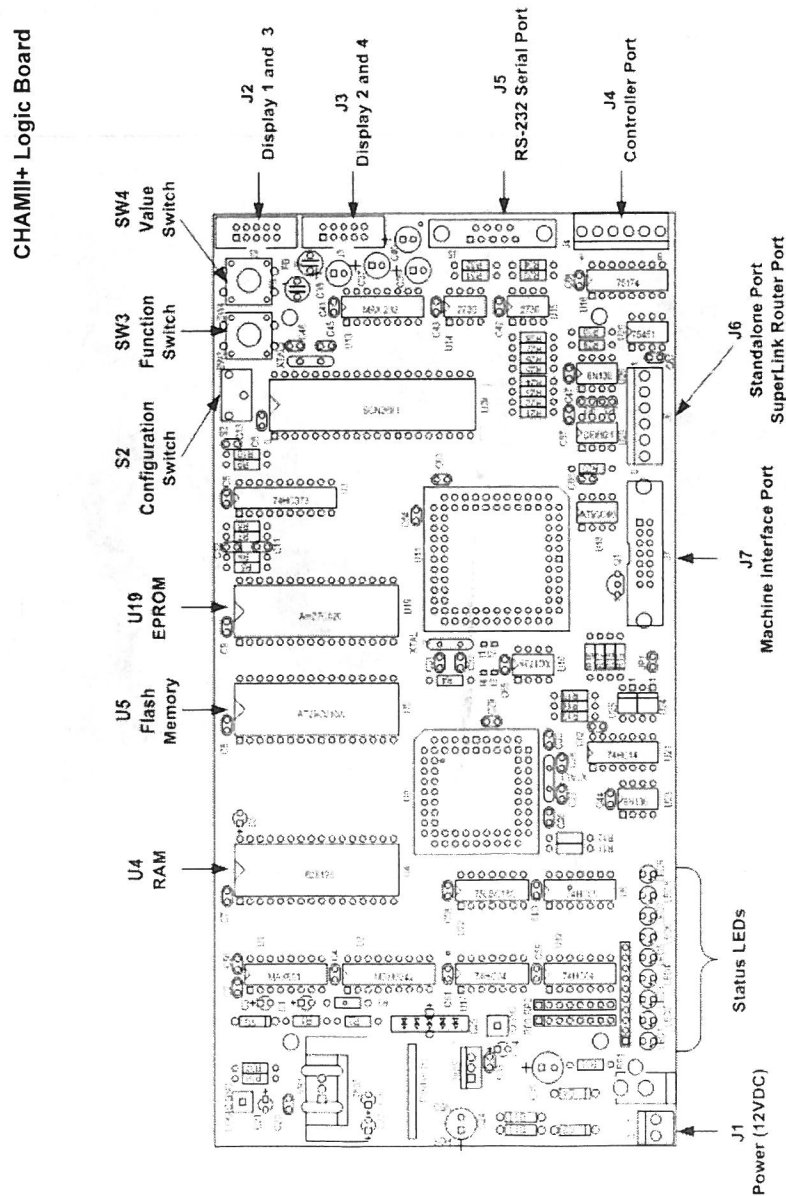


Figure 2.1 CHAMII+ Logic Board

## Connector Ports

The CHAMII+ logic board has seven connector ports—J1 through J7. Table 2.1 lists the pinout information for each connector.

- J1, Power - Power input (12 VDC) to the CHAMII+ board
- J2, Display 1 and 3 - Outputs to displays 1 and 3
- J3, Display 2 and 4 - Outputs to displays 2 and 4
- J4, RS-422 Controller Port - I/O port to the CON2 controller
- J5, RS-232 Serial Port - I/O port to a PC
- J6, RS-485 Port - Multi-drop router port
- J7, Machine Interface Port - Connects CHAMII+ to the slot machine

Table 2.1 CHAMII+ pinout information

Pin	Connector Port Signals						
	J1	J2	J3	J4	J5	J6	J7
1	GND	GND	GND	I/O GND	CD	No Connection	
2	12VDC	BLNK_TOP	BLNK_BOT	TX+	TXDC	TX+	RXD2 (current loop)
3		GND	GND	TX-	RXDC	TX-	Machine Input 1
4		STRB_TOP	STRB_BOT	RX-	No Connection	RX-	Machine Input 2 (not used)
5		GND	GND	RX+	GND	RX+	TXD2+ (current loop)
6		No Connection	No Connection	No Connection	No Connection	No Connection	TXD2- (current loop)
7		GND	GND		RTSC		RI+ (RX+, RS-485)
8		DATA_TOP	DATA_BOT		CTSC		RI- (RX-, RS-485)
9		GND	GND		No Connection		DO+ (TX+, RS-485)
10		CLK_TOP	CLK_BOT				DO- (TX-, RS-485)
11							Serial Return
12							GND
13							GND
14							Voltage I/O

## Status LEDs

The Status LEDs, located next to the J1 connector port, indicate the status of the CHAMII+ logic board during normal operation. Table 2.2 lists the LEDs and functions.

Table 2.2 CHAMII+ LED Status Indicators

LED	Description
LED 1 (Red)	ON during normal operation. Indicates normal power.
LED 2 (Green)	ON during normal operation. Indicates normal initialization of the Xilinx chip.
LED 3 (Red)	Flashes during normal operation. Indicates the CHAMII+ is receiving display information from the controller.
LED 4 (Green)	Flashes when the CHAMII+ transmits display information to the controller. OFF during normal operation.
LED 5 (Red)	Flashes when the CHAMII+ receives data from the machine.
LED 6 (Green)	Flashes when the CHAMII+ transmits data to the machine.
LED 7 (Red)	Flashes when the CHAMII+ receives router data (standalone). OFF otherwise.
LED 8 (Green)	Flashes when the CHAMII+ transmits data to the router (standalone). OFF otherwise.
LED 9 (Red)	ON during normal operation. Indicates normal operation of I/O Power.

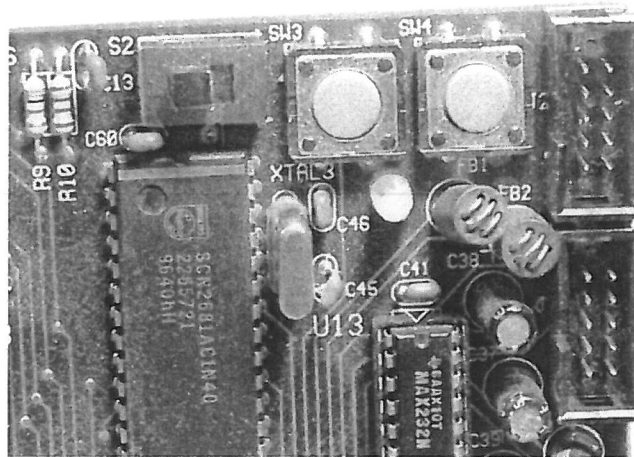
## Memory

The CHAMII+ displays text and jackpot information based on the instructions contained in files stored in its three memory partitions. The three partitions are as follows:

- **RAM** - Partition A located at U4 on the board. This partition is small in size and is used for temporary storage of files.
- **Flash Memory** - Partition B located at U5 on the board. It contains user-created files, which you download to the CHAMII+ using the PGIC Download program. You can also delete and modify any files on this partition.
- **EPROM** - Partition C located at U19 on the board. It contains factory-installed files that you cannot alter.

## Configuration Switches

The CHAMII+ logic board has three switches—S2, SW3, and SW4—located in the top right of the board. These switches enable you to configure various CHAMII+ logic board settings. See “Chapter 4 - CHAMII+ Configuration Settings” on page 13.



- S2 - Sets the logic board in one of two modes: Configuration or Run.
- SW3 (Function Switch) - Scrolls through and selects menu options.
- SW4 (Value Switch) - Scrolls through and selects value settings for individual menu options.



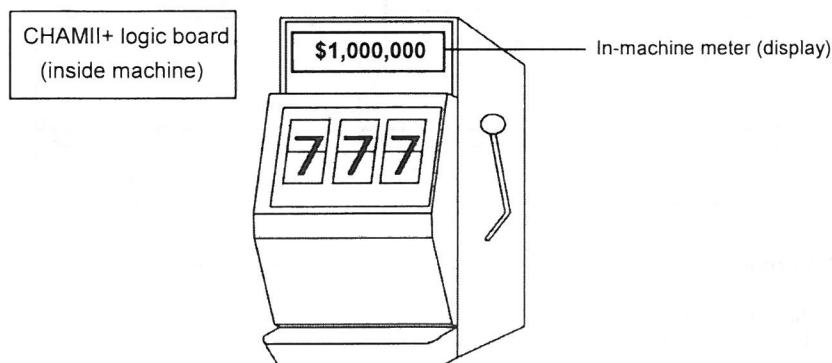
## Chapter 3 - Hardware Configurations

The CHAMII+ can be used in one of three configurations: Standalone, Linker, or Linked Standalone Combo. In all three configurations, the CHAMII+ can drive up to four displays. The CHAMII+ performs different functions depending on the configuration.

- **Standalone** - CHAMII+ controls the standalone (single machine) progressive and drives the in-machine displays.
- **Linker** - A separate controller operates the progressive on a group (link) of machines and sends progressive information to the CHAMII+ for the in-machine displays. The CHAMII+ is simply a display driver.
- **Linked Standalone Combo** - CHAMII+ controls the standalone (single machine) progressive and drives the in-machine displays. A separate controller operates the progressive on a group of machines and sends progressive information to the overhead display.

### Standalone Configuration

In the Standalone configuration, the CHAMII+ controls the jackpot amounts and the amounts shown on the in-machine displays for a single machine. The CHAMII+ receives coin-in data from the machine connected at J7 (Machine Interface Port), increments the progressive jackpot values, and displays them on the in-machine displays connected at J2 and J3.



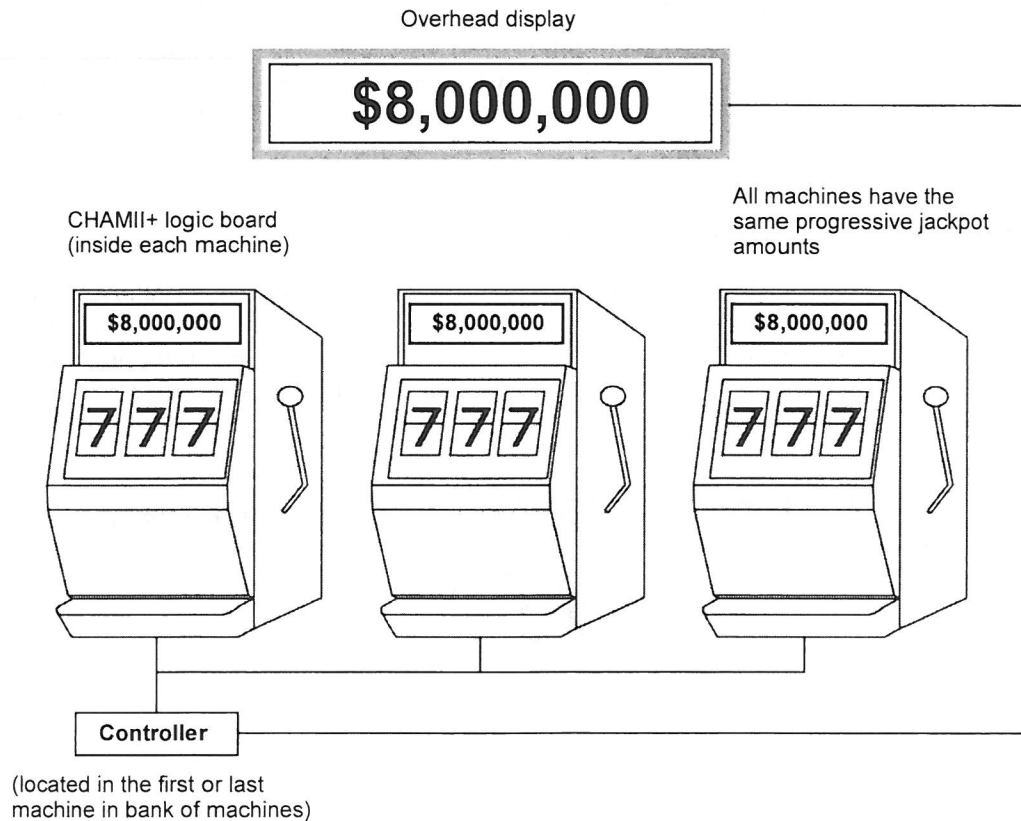
The CHAMII+ controls its own progressive in a Standalone configuration

Figure 3.1 Standalone configuration

## Linker Configuration

In the Linker configuration, a separate progressive controller (such as a PGIC CON2) calculates and controls the progressive jackpots in a bank of machines and an overhead display. In this configuration, the CHAMII+ boards are simply display drivers—they do not control a progressive.

Upon receiving a coin-in signal from a machine, the controller calculates the new jackpot value and sends the information to each CHAMII+ to display on its appropriate in-machine display. The controller also sends the jackpot value to the overhead display. The controller is typically located at the bottom of either the first or last machine in the bank of machines.



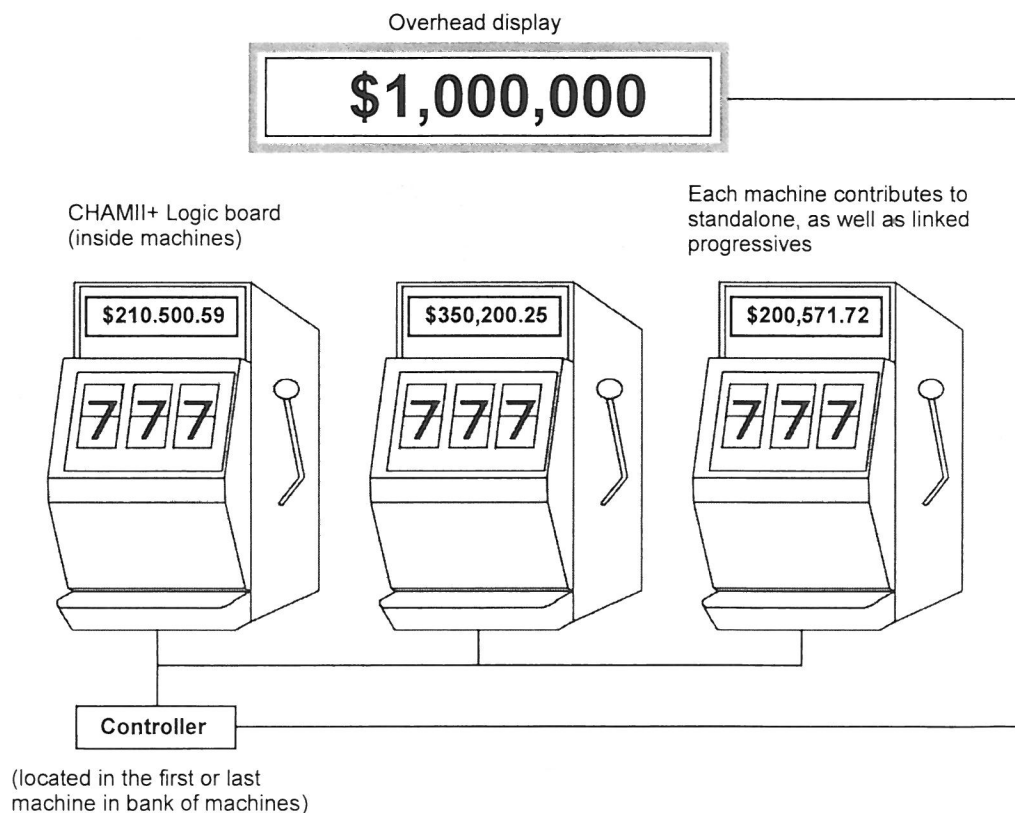
Controller sends progressive data to the CHAMII+ boards in a Linker configuration

Figure 3.2 Linker configuration

## Linked Combo Configuration

The Linked Combo configuration is a combination of the Standalone and Linker configurations. The CHAMII+ calculates and displays its own standalone (single machine) jackpots and also communicates with a separate controller for the linked progressive jackpot amounts.

When the CHAMII+ receives a coin-in signal from the machine connected at J7, it increments its standalone jackpot and displays this new value on the appropriate in-machine display. The CHAMII+ then sends a coin-in signal to the controller connected at J4. The controller calculates and increments the linked progressive jackpot and sends this amount to each CHAMII+ in the group of machines under its control. These machines show this amount on the their in-machine displays. The controller also sends the jackpot amount to the overhead display.



The CHAMII+ controls the standalone progressive, while the controller controls the progressive in a Linked Combo Configuration

Figure 3.3 Linked Combo Configuration



## Chapter 4 - CHAMII+ Configuration Settings

There are two types of settings for the CHAMII+ logic board.

- **On-board settings** - Accessed through configuration switches on the CHAMII+ board. These settings include addressing, display parameters, and test functions. These settings must be configured for every CHAMII+ board. The settings required depend on whether the CHAMII+ is used as a progressive controller or a display driver.
- **Progressive settings** - Downloaded from a PC to the CHAMII+ board using the PGIC Progressive System Programmer (PSP) software. These settings are only required if the CHAMII+ is being used as a progressive controller. They configure the progressive parameters such as starting value, upper limit, increment rate, etc. The PSP program is also used to configure other PGIC progressive controllers such as the CON2.

Refer to the PGIC Progressive System Programmer Software v2.0 Configuration and User Manual, P.N. 950-051-00 for detailed instructions.

The settings required for the three CHAMII+ configurations are as follows:

### Standalone Configuration

- Configure the on-board settings required for progressive operation.
- Use the PGIC Progressive System Programmer (PSP) software to configure the standalone progressive on the CHAMII+.

### Linker Configuration

- Configure the on-board settings required for display driver operation.
- Use the PGIC Progressive System Programmer (PSP) software to configure the linked progressive on the progressive controller (such as a CON2).

### Linked Combo Configuration

- Configure the on-board settings required for progressive operation.
- Use the PGIC Progressive System Programmer (PSP) software to configure the standalone progressive on the CHAMII+.
- Use the PGIC Progressive System Programmer (PSP) software to configure the linked progressive on the progressive controller (such as a CON2).

This chapter describes how to configure the on-board CHAMII+ settings and provides a description of each.

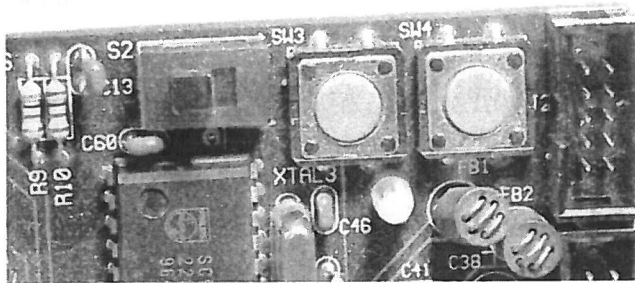
For programming the progressive settings, refer to the Progressive System Programmer Software v2.0 Configuration and User Manual, P.N. 950-051-00.

## Configuring the On-Board Settings

The CHAMII+ logic board must be in Configuration mode to change any of its on-board settings. In Configuration mode, the display shows the three menu items—ADDR, DISP, and SYST—from which you can access the Address group, Display group, and System group settings. Table 4.1 on page 15 lists the settings and their value ranges.

To configure the on-board settings:

1. Power on the CHAMII+ board and make sure the display is connected to J2.
2. Place the CHAMII+ logic board into Configuration mode by sliding **S2** away from **SW3**.



3. Press **SW3** to move through the three menu items.
4. With the desired menu item showing on the display, press **SW4** to move through the menu's functions. For details on each setting, see Table 4.1 on page 15.
5. With the desired function showing on the display, press **SW3** to change its value.



If you scroll past the desired value, you can move backwards through the values by pressing SW3 and SW4 simultaneously.

6. To save configuration settings, move **S2** away from **SW3**. This places the CHAMII+ into Run mode.



If you have difficulty setting up the CHAMII+, contact PGIC Customer Service.

## Settings

Table 4.1 CHAMII+ Address, Display, and System settings

Menu	Function	Value
MENU = ADDR	PROTO	CON2 or CASLNK
	GRADR	0-255 (default value is 255)
	IDADR	1-64 (default value is 64)
	RTR ADDR	1-32, OFF
	M ID	00000000-99999999
	MACH ADDR	1-32
MENU = DISP	JPLIMIT	YES or NO
	#DISPLAYS	1-4
	JP GRP	0-7, SA (standalone)
	MFILE	0-16
	ODSPEED	0-100 (default value is 10)
	FONT	FLIP17
		FLIP18
		FLIP27
		FLIP28
		ROTATE7
		ROTATE8
		ODMTR7
		ODMTR8
		ODMTR8W
		ODMTR8S
		MORF8
	SIZE	48, 60, 64, and 70
MENU = SYST	TEST	OFF (default value)
		Display
		Machine
		UART
		Burn-In
		Normal (all memory)
		Time
		All (all above)
	BIRTH	OFF or ON
	Show Load	YES or NO
	Show C1	YES or NO
	Symbol	NONE or Country Code
	Sound	ENABLED or DISABLED

## Address Group Settings (ADDR)

From the Address menu, you can set the protocol, group address, ID address, router address or machine ID, and the machine address. The following sections describe the Address menu functions.

### Protocol (PROTO)

PROTO defines the communication protocol between the CHAMII+ and the controller. This function has two settings: CON2 and CASLNK. CON2 is the communication protocol between the CHAMII+ and the PGIC CON2 controller, while CASLNK is used with the Progressive Service Module (CasinoLink add-on module).

### Group Address (GRADR)

GRADR is the display address for a group of machines and tells the CHAMII+ where to send the progressive display data. This value ranges from 0 to 255.

### ID Address (IDADDR)

IDADDR is the address of the display and tells the CHAMII+ where to send display data. This value ranges from 1 to 64.

### Router Address (RTR ADDR)

RTR ADDR is available only if the protocol is set to CON2 and identifies the router to which the machine is connected. The RTR ADDR value is either OFF or ranges from 1 to 32. The RTR ADDR value should be OFF, unless the CHAMII+ connects to a PGIC SuperLink system. The SuperLink system supports multiple progressive displays.

### Machine ID (M ID)

M ID is available only if the protocol is set to CASLNK. The M ID is a unique ID assigned to each machine. The M ID value ranges from 00000000 to 99999999.

### Machine Address (MACH ADDR)

MACH ADDR is only available when one or more JP GRP (jackpot group) is set to standalone mode. To set the JP GRP, refer to "Display Group Settings (DISP)" on page 17, MACH ADDR is a value ranging from 1 to 32 that identifies a machine in a bank of machines.

## Display Group Settings (DISP)

From the Display menu, you can specify the jackpot limit and set the number of displays, number of jackpot groups, MFILE, odometer speed, font, and display size. The following sections describe the Display menu functions.

### Jackpot Limit (JPLIMIT)

The jackpot limit is the highest value that a jackpot can reach. The JPLIMIT function allows you to specify that there is a jackpot limit. The JPLIMIT value is either NO or YES. If the JPLIMIT is set to YES, the jackpot will stop incrementing when it reaches the limit.

### # of Displays (# DISPLAYS)

The # DISPLAYS function allows you to set the number of in-machine displays that will run from the CHAMII+ logic board. The # DISPLAYS value ranges from 1 to 4.

### Jackpot Group (JP GRP)

A machine can have up to eight different jackpot groups. JP GRP specifies the number of jackpot groups. The JP GRP value is either SA, for a Standalone configuration, or a number ranging from 0 to 7, for a Linker configuration or linked standalone combo.

### Meter File (MFILE)

The MFILE specifies how jackpot amounts appear on the display. Table 4.2 lists the MFILE values and descriptions. When the MFILE value is 0, the CHAMII+ displays the jackpot in user-defined formats as specified by the **jpot.do** file. **Jpot.do** is a binary file that you can create and download to the controller using the PSP software.

MFILE values 1 through 16 are preset display formats. Justify refers to the alignment of the jackpot amount on the display. Paint means that the jackpot value will change colors from top to bottom. Color refers to the color of the jackpot amount on the display. The color is Red, Green, Yellow, or dazzle (each digit of the jackpot value appears in a different color).

Table 4.2 MFILE Values and Descriptions

Value	Justify	Paint	Color	Description
0	N/A	N/A	N/A	User-defined jpot.do file
1	Center	No	Red	Internal message with token for active JP GRP
2	Center	No	Green	Internal message with token for active JP GRP
3	Center	No	Yellow	Internal message with token for active JP GRP
4	Center	No	Dazzle	Internal message with token for active JP GRP
5	Center	Yes	N/A	Internal message with token for active JP GRP
6	Center	Yes	N/A	Internal message with token for active JP GRP
7	Center	Yes	N/A	Internal message with token for active JP GRP
8	Center	Yes	N/A	Internal message with token for active JP GRP
9	Right	No	Red	Internal message with token for active JP GRP

Table 4.2 MFILE Values and Descriptions (Continued)

10	Right	No	Green	Internal message with token for active JP GRP
11	Right	No	Yellow	Internal message with token for active JP GRP
12	Right	No	Dazzle	Internal message with token for active JP GRP
13	Right	Yes	N/A	Internal message with token for active JP GRP
14	Right	Yes	N/A	Internal message with token for active JP GRP
15	Right	Yes	N/A	Internal message with token for active JP GRP
16	Right	Yes	N/A	Internal message with token for active JP GRP

### Odometer Speed (ODSPEED)

ODSPEED indicates how fast the displayed jackpot amount increments to catch up to the actual jackpot amount. The ODSPEED value ranges from 0 to 100 and has the following effect:

- 0 to 9: The displayed jackpot amount immediately increases to the actual jackpot amount as coin is played. There is no lag. The effect is the same for all values 0 through 9.
- 10 to 100: The displayed jackpot amount lags behind the actual jackpot amount. The lower the value the less the lag and the closer the displayed and actual amounts are to each other.

### Font

FONT indicates how the jackpot value looks and increments on the display. The FONT function has eleven options as listed in Table 4.3.

Table 4.3 CHAMII+ fonts

Name	Description
FLIP17*	Number flips over (7 pixels high)
FLIP18*	Number flips over (8 pixels high)
FLIP27*	Number flips upside down and then flips right side up to the next number (7 pixels high)
FLIP28*	Number flips upside down and then flips right side up to the next number (8 pixels high)
ROTATE7*	Number rotates left to right (7 pixels high)
ROTATE8*	Number rotates left to right (8 pixels high)
ODMTR7	Number rolls up (7 pixels high)
ODMTR8	Number rolls up (8 pixels high)
MORF8*	Number changes into the next number (8 pixels high)
ODMTR8W	(Odometer WIDE) – Number rolls up (8 pixels high)
ODMTR8S	(Odometer SKINNY) – Number rolls up (8 pixels high)

## Size

SIZE refers to the number of pixels that make up the width of the display. The SIZE function has four options: 48, 60, 64, and 70 pixels.

## System Group Settings (SYST)

From the System menu, you can test various system components, as well as configure system settings such as the currency symbol or sound. The following sections describe the System menu functions.

### Test

The TEST function allows you to run built-in tests for various aspects of the CHAMII+ and display, individually or all together. The TEST function has eight options: Off, Display, Machine, UART, Burn-In, Normal, Time, and All. OFF is the default value and the TEST function must be set to OFF for the CHAMII+ to function properly. All other options are for testing purposes only.

- OFF – Default condition. TEST must be off for the CHAMII+ to work.
- Display – Tests the display for column and row shorts and color matching. In this testing mode, the display will show the CHAMII+ firmware version and then flash various colors and patterns across the display.
- Machine – Tests the coin-in and jackpot signals from the machine to the CHAMII+. If the CHAMII+ is not receiving any coin-in or jackpot data at the time this test is executed, the display will show MACHINE TEST with no other details.
- UART – Tests the serial ports. Only PGIC Customer Service can perform this test, as special adapters are required for the test to pass. See “Contact Information and Feedback” on page iii.
- Burn-In – Tests the RAM. In this testing mode, the display will show various colors and patterns, the Reset value, and the results of the RAM test.
- Normal – Tests the display and CHAMII+ to ensure normal functionality. In this testing mode, the display will show the CHAMII+ firmware version, Reset value, results of the RAM and ROM tests, time, date, and UART test results.
- Time – Shows the date and time on the display. When the CHAMII+ is not in test mode, you can set the date and time using PSP software.
- All – Runs through all the above tests.

### Birth

BIRTH is a factory reset function that clears the RAM (except the RAM drives) and resets all the CHAMII+ settings to the factory default values. BIRTH has two settings: OFF and ON. PGIC recommends this function always be set to OFF, unless advised by a PGIC Service Technician to change this setting to ON.

## Show Load

Show Load has two settings: YES and NO. When set to YES, the display shows when it receives new downloaded settings, such as a new **jpot.do** or **mess.do** file. (You can create **jpot.do** and **mess.do** files with PSP software.)

## Show C1

The CHAMII+ shows error codes on the display when the system is experiencing an error. Refer to "Appendix B - Error Codes" on page 41 for a list of error codes. The C1 error code, which indicates the display is not receiving data from the controller, is the only error code that you can set to display or not display when this error occurs. SHOW C1 has two settings: YES and NO.

## Symbol

Symbol represents the type of currency shown on the display, such as dollar or pound sterling. This setting is either NONE or any country symbols available with the CHAMII+. If the CHAMII+ setting is NONE and you have downloaded a symbol setting to the CHAMII+ using PSP, then the CHAMII+ shows this symbol on the display.

## Sound

Sound has two settings: ENABLED and DISABLED. This tells the CHAMII+ whether or not to execute sound commands. You can download sound commands to the CHAMII+ using DOWNLOAD software. If set to ENABLED, the CHAMII+ transmits sound codes via the RS-232 port. During transmission, you will not be able to use this port (DB9 pin connector) with PSP or any other communications program.

## Chapter 5 - Displaying Text and Progressive Information

The CHAMII+ comes with default factory-installed files (in memory Partition C). These include default batch files (.bat), progressive definition files (.pdf), and font files (.fnt). The CHAMII+ looks for user-defined .bat, .pdf, and .fnt files in Partition A, and then in Partition B. If it does not find any files in either of these two partitions, then it reads the defaults in Partition C.

### Batch Files

Batch files are ASCII text files that contain commands telling the CHAMII+ what to display and when to display it. The CHAMII+ reads batch files from top to bottom and then back to the top when it reaches the last line in the file. There are two batch files the CHAMII+ reads—**backgrnd.bat** and **jpwinX.bat**.

The CHAMII+ continuously reads the **backgrnd.bat** file until the machine hits a jackpot, at which time it reads the **jpwinX.bat** file, where X is the jackpot group number. In a Standalone configuration, if the CHAMII+ does not find a **jpwinX.bat** file, it looks for a **jpwin.txt** file; if it does not find a **jpwin.txt** file, then it performs a default celebration. In the Linker and Linked Combo configuration, if the CHAMII+ does not find a **jpwinX.bat** file, it performs the default celebration. The CHAMII+ returns to reading the **backgrnd.bat** file once the jackpot has been cleared.

In the Standalone configuration, the default **jpwin.txt** file tells the CHAMII+ to display the text JACKPOT, followed by the winning amount, then the text CURRENT, and the current progressive amount. You can also create a **jpwin.txt** file to display other text rather than the default text—JACKPOT and CURRENT. Figure 5.1 shows a user-defined **jpwin.txt** file. If Jackpot Group 1 hits a jackpot, the CHAMII+ substitutes the text in the first two lines for JACKPOT and CURRENT respectively, the third and forth lines if Jackpot Group 2 hits, the fifth and sixth for Jackpot Group 3, and the seventh and eighth for Jackpot Group 4. For example, if Jackpot Group 3 hits a jackpot, the CHAMII+ shows Prize2, the winning amount, Current2, and the current progressive amount on the display.

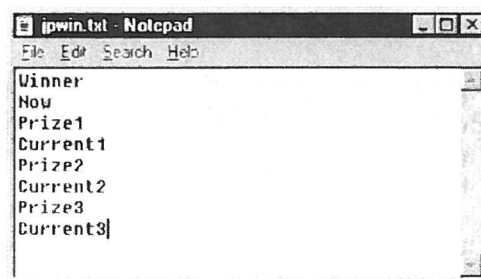


Figure 5.1 Sample user-defined jpwin.txt file

If the CHAMII+ protocol is CON2 and the CHAMII+ does not find a **jpwinX.bat** or a **jpwin.txt** file (in a Standalone configuration), then it performs a default celebration. During the default celebration, the CHAMII+ displays the jackpot amount in red, followed by the machine number and then the machine ID (if enabled) in green. It cycles through this two times. It then displays the current progressive in yellow, once, before repeating this series starting with the jackpot amount.

If the CHAMII+ protocol is CASLNK, the CHAMII+ requires a **jpwinX.bat** file to tell it what to display.

## Batch File Commands

Batch files can contain REM, PRGSV, and TEXT commands. Figure 5.2 shows a sample batch file with each of these commands.

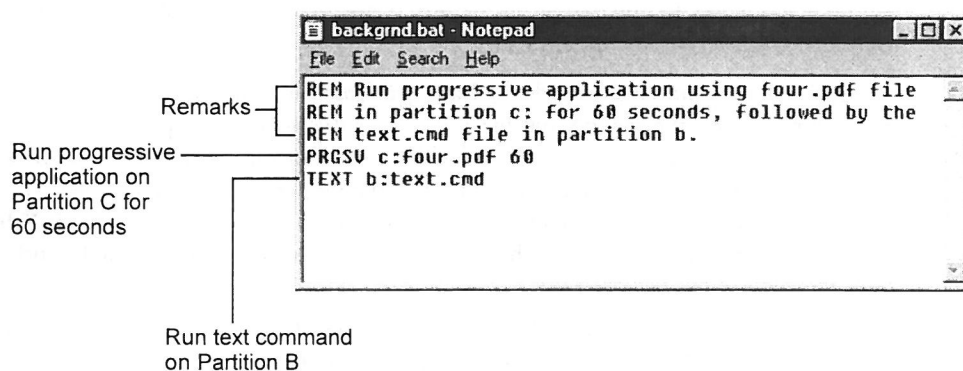


Figure 5.2 Sample .bat file

### REM Command

The REM command allows you to comment out instructions in a batch file. When the CHAMII+ reads the batch file, it ignores these lines. The REM command has the following format: REM[text].

### PRGSV Command

The PRGSV command tells the CHAMII+ to execute a particular progressive application (.pdf file). The PRGSV command has the following format: PRGSV c:four.pdf [time]. Four.pdf is the CHAMII+ default .pdf file. Time is the number of seconds the CHAMII+ will run the .pdf file. See Figure 5.2 for an example of this command.



The **jpwinX.bat** file should not contain the PRGSV command because it will cause the CHAMII+ to display \$0.00.

The .pdf file is an ASCII file that contains all the details about the windows that make up the display, including the window locations and sizes and the message files for each window. Because you can actually set the display parameters using the CHAMII+ SW4 and SW3 switches (see “Configuring the On-Board Settings” on page 14), you do not actually need to create a new .pdf file. However, if you create a new .bat file, you must include a PRGSV command and the CHAMII+ default .pdf file (c:four.pdf); this tells the CHAMII+ to use the CHAMII+ switch settings.

Figure 5.3 shows an example of a .pdf file, which has the following format:

**Wn:x1,y1,x2,y2,[Jackpot Group],[MFILE]**

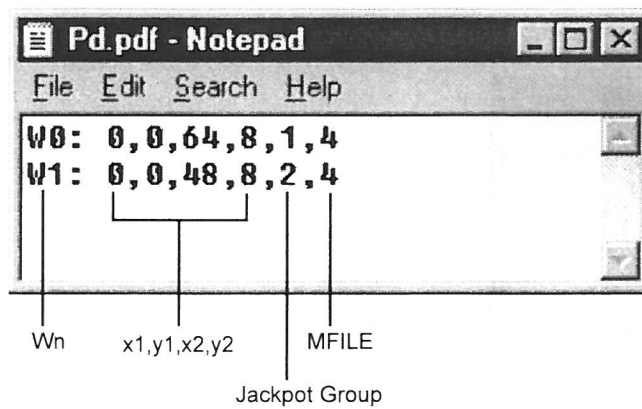


Figure 5.3 Sample .pdf file

- **Wn** - Window or display, where n is the window number. Because the CHAMII+ supports only four displays, you can have settings for W0 through W3, where W0 represents Display 1, W1 represents Display 2, and so on.
- **x1,y1,x2,y2** - Window coordinates (in pixels). The coordinates (x1, y1) are the top left corner of the window, while (x2,y2) are the coordinates for lower right corner. In Figure 5.3, W0 has the x1,y1 coordinates of (0,0) and the x2,y2 coordinates of (64,8).
- **Jackpot Group** - A machine can have up to eight jackpot groups—0 through 7. This number represents the particular jackpot group information that appears in that window. For example, in Figure 5.3, Jackpot Group 1 information will display in W0 and Jackpot Group 2 in W1.
- **MFILE** - Predefined format that specifies how jackpot amounts appear on the display. See “Meter File (MFILE)” on page 17 for a list and description of all the MFILE values.

## TEXT Command

The TEXT command tells the CHAMII+ to execute a particular text application file (.txt or .cmd). The TEXT command has the following format:

```
TEXT b:[filename.txt]
```

See Figure 5.4 for an example of this command.

Text application files are ASCII text files that tell the CHAMII+ what text to show on a display and how it should look.

The sample text file in Figure 5.4 shows the print command. The statement tells the CHAMII+ to print **Winner!** on the display. The parameter \n tells the CHAMII+ to insert a new line. See “Appendix C - Text Application Commands” on page 43 for a list of text application commands that you will use to create a .txt file.

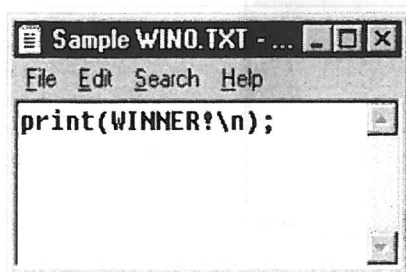


Figure 5.4 Sample .txt file

Using the print command, you can also program the CHAMII+ to display a winning amount, machine number, machine ID, progressive amount, and comment text by including a statement like `Print (n)` where `n` is one of the following parameters. An example of this statement is `Print (\JW)`.

- \JW – Jackpot winning amount
- \JM – Jackpot winning machine number
- \JI – Jackpot winning machine ID (if the protocol is set to CASLNK)
- \JP – Current progressive amount
- \JC – Comment or location text message



You can specify the alignment of the jackpot information by including \c (center) or \r (right flush) before the jackpot commands.

## Creating .bat, .pdf, and .txt Files

If you have PGIC Download for Windows v2.0 software, you can use it to create .bat, .pdf, and .txt files. Refer to the Download for Windows v2.0 User Manual, P.N. 990-241-18. Older versions of PGIC Download software do not include this capability, so you will have to use a separate text editor program to create these files.

To create .bat, .pdf, and .txt files using a text editor program:

1. Open a text editor program, such as Notepad.
2. Type command statements in the body of the text editor program. Refer to "Batch File Commands" on page 22 for command statement syntax.
3. On the File menu, click **Save As**.
4. Select the drive from the **Save in** drop-down list.
5. Select **All Files** from the **Save as type** drop-down list.
6. In the **File name** field, type the filename with the appropriate extension. For example, type filename.bat for a batch file, filename.pdf for a progressive definition file, or filename.txt for a text file.
7. Click **Save**.
8. Download the file to the CHAMII+ using PGIC Download software. Refer to the Animation Display Configuration and User Manual P.N. 990-250-00 for detailed instructions on using PGIC Download software. See "Reference Documentation" on page iii.



## Appendix A - Harness Drawings

This section provides wiring harness diagrams and pinout information for slot machine interfaces to the CHAMII+ board. These include:

Atronic .....	page 27
Bally .....	page 28
Bally Alpha (MS25) .....	page 29
Konami (MS25) .....	page 31
IGT Vision, S+, Players Edge+ .....	page 33
P&M .....	page 34
Sigma .....	page 35
Sigma MS10 .....	page 36
Williams .....	page 37
Williams 550 and Bluebird (MS25) .....	page 38

### Atronic

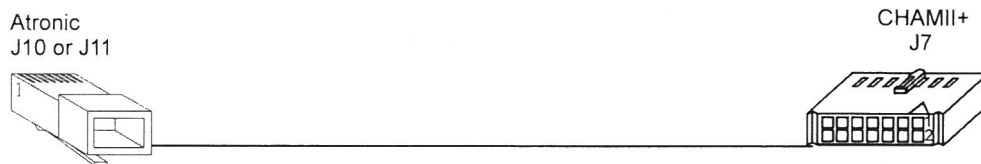


Figure A.1 Atronic to CHAMII + harness 311-205-05

Table A.1 Atronic pinout information

Atronic Game J10 or J11 Ports	CHAMII+ J7 Port
Pin 1 or 2	Pin 14 (Voltage I/O)
Pin 6	Pin 9 (DO+)
Pin 5	Pin 10 (DO-)
Pin 3	Pin 7 (RI+)
Pin 4	Pin 8 (RI-)
Pin 7 or 8	Pin 13 (Gnd)

Bally

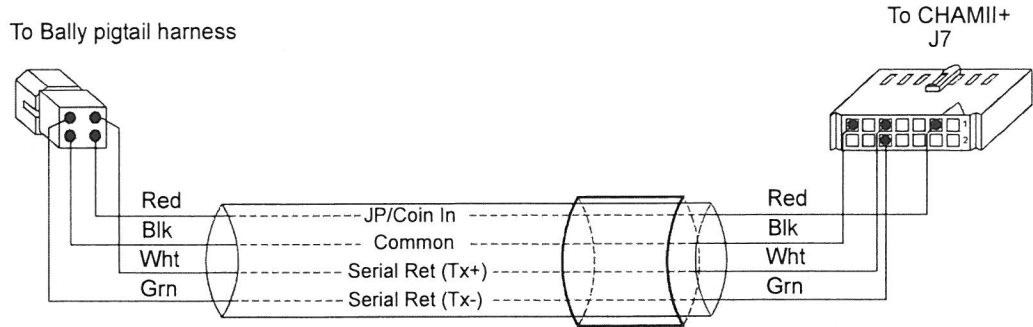


Figure A.2 Bally to CHAMII+ harness 311-205-10/11

Table A.2 Bally pinout information

Bally Pigtail	CHAMII+ J7 Port
Pin 1	Pin 3 (Machine Input 1)
Pin 2	Pin 13 (Gnd)
Pin 3	Pin 9 (DO+)
Pin 4	Pin 10 (DO-)

## Bally Alpha (MS25)

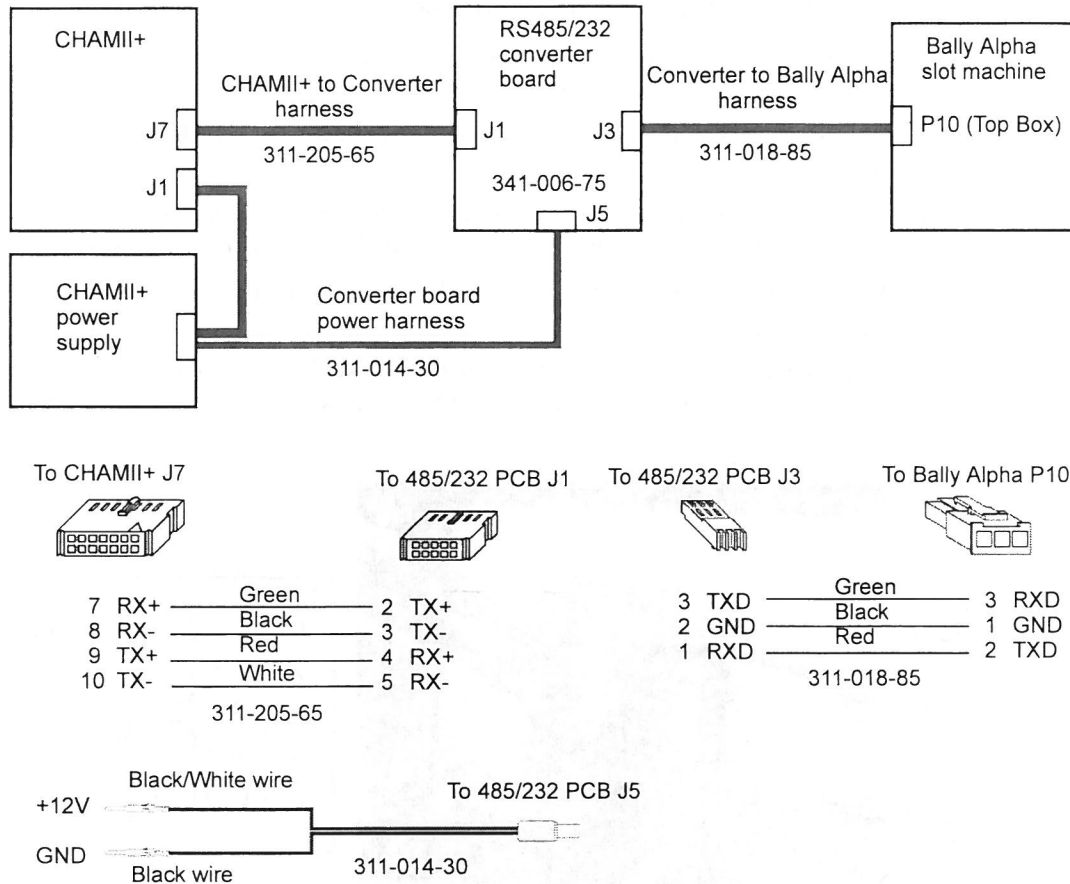


Figure A.3 Bally Alpha (MS25) to CHAMII+ harnesses

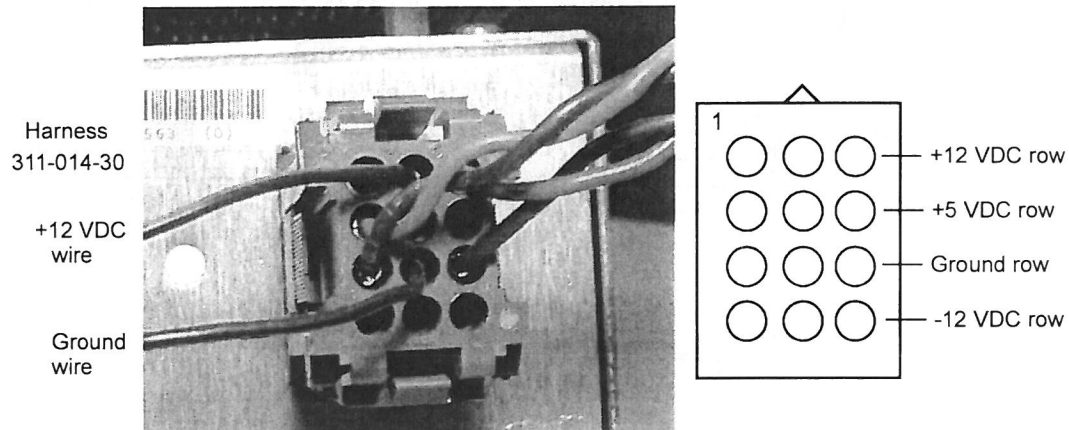
Connecting the CHAMII+ board to the Bally Alpha machine requires kit 385-060-50, which includes the following parts.

Table A.3 Kit 385-060-50 parts

Part Number	Description	Quantity
311-018-85	Harness, Converter to Bally Alpha	1
311-205-65	Harness, CHAMII+ to Converter	1
311-014-30	Harness, CHAMII+ power supply adapter	1
341-006-75	PCB, 485 to 232 Converter	1
517-001-10	Tie wrap	2
851-001-00	Heat shrink tubing, 2 inch diameter	6 inches

## Installation Procedure

1. Plug the 10-pin connector on the CHAMII+ to Converter harness (311-205-65) into J1 on the RS485/232 converter board (341-006-75).
2. Plug the 3-pin connector on the Converter to Bally Alpha harness (311-018-85) into J3 on the RS485/232 converter board.
3. Plug the barrel connector on the Converter Power harness (311-014-30) into J5 on the RS485/232 converter board.
4. Place the heat shrink tubing (851-001-00) over the RS485/232 converter board and harnesses and use the two tie wraps to secure both ends over the harnesses.
5. Plug the 14-pin connector on the CHAMII+ to Converter harness into J7 on the CHAMII+ board.
6. Plug the black wire w/stripe on the Converter Power harness into an available + 12 VDC pin (any pin in top row) on the CHAMII+ power supply connector as shown below.



7. Plug the black wire on the Converter Power harness into an available ground pin (any pin in 3rd row from top) on the CHAMII+ power supply connector.
8. Plug the 3-pin connector on the Converter to Bally Alpha harness into P10 (Top Box) on the Bally Alpha machine.

## Konami (MS25)

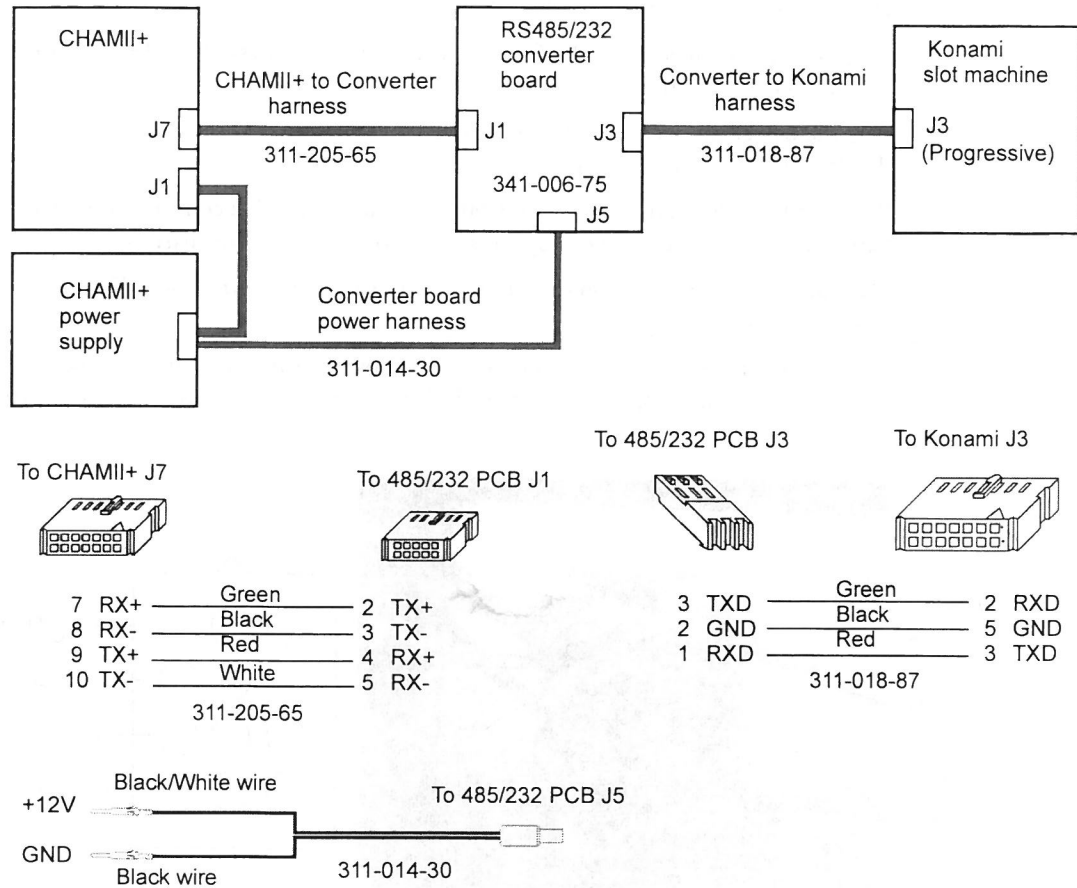


Figure A.4 Konami (MS25) to CHAMII+ harnesses

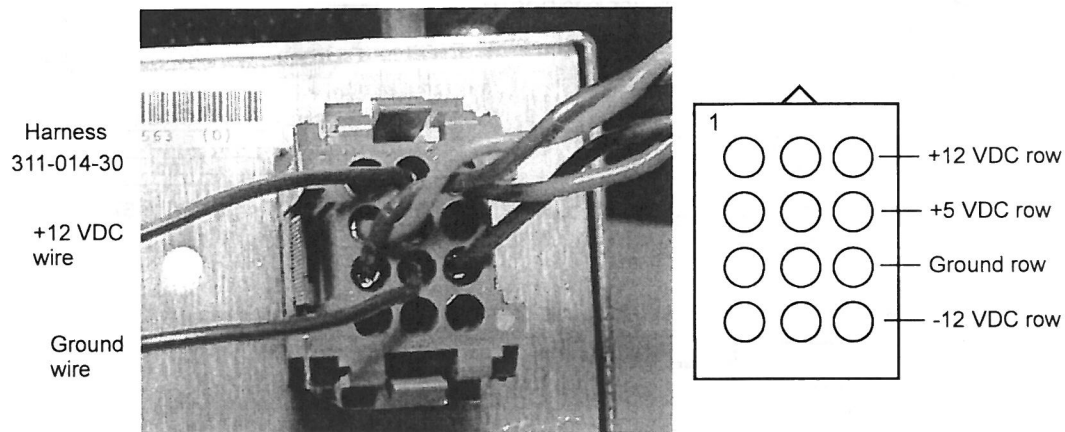
Connecting the CHAMII+ board to the Konami machine requires kit 385-060-52, which includes the following parts.

Table A.4 Kit 385-060-52 parts

Part Number	Description	Quantity
311-018-87	Harness, Converter to Konami	1
311-205-65	Harness, CHAMII+ to Converter	1
311-014-30	Harness, CHAMII+ power supply adapter	1
341-006-75	PCB, 485 to 232 Converter	1
517-001-10	Tie wrap	2
851-001-00	Heat shrink tubing, 2 inch diameter	6 inches

## Installation Procedure

1. Plug the 10-pin connector on the CHAMII+ to Converter harness 311-205-65 into J1 on the RS485/232 converter board (341-006-75).
2. Plug the 3-pin connector on the Converter to Konami harness (311-018-87) into J3 on the RS485/232 converter board.
3. Plug the barrel connector on the Converter Power harness (311-014-30) into J5 on the RS485/232 converter board.
4. Place the heat shrink tubing (851-001-00) over the RS485/232 converter board and harnesses and use the two tie wraps to secure both ends over the harnesses.
5. Plug the 14-pin connector on the CHAMII+ to Converter harness into J7 on the CHAMII+ board.
6. Plug the black wire w/stripe on the Converter Power harness into an available + 12 VDC pin (any pin in top row) on the CHAMII+ power supply connector as shown below.



7. Plug the black wire on the Converter Power harness into an available ground pin (any pin in 3rd row from top) on the CHAMII+ power supply connector.
8. Plug the 14-pin connector on the Converter to Konami harness into J3 (Progressive) on the Konami machine.

## IGT Vision, S+, Players Edge+

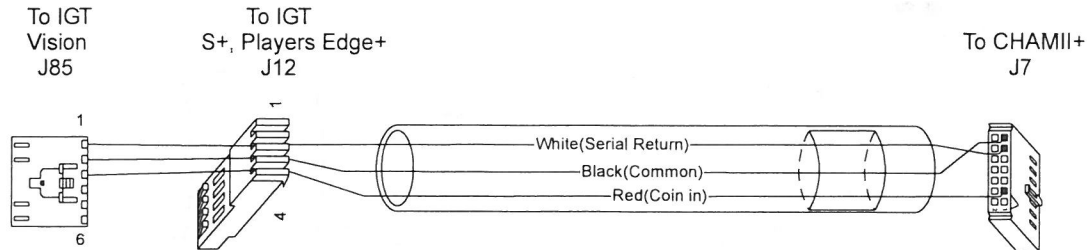


Figure A.5 IGT Vision, S+, Players Edge+ to CHAMII+ harness 311-205-32 Rev C

Table A.5 IGT pinout information

IGT Vision J85 Port	IGT S+, PE+ J12 Port	CHAMII+ J7 Port
Pin 1	Pin 2	Pin 11 (Serial Return)
Pin 2	Pin 3	Pin 13 (Gnd)
Pin 3	Pin 4	Pin 3 (Machine Input 1)

## P&M

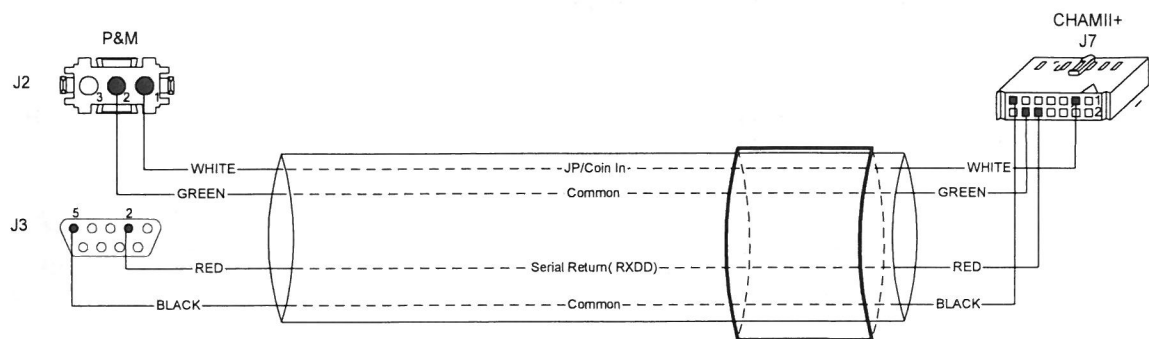


Figure A.6 P&M to CHAMII+ harness 311-205-50

Table A.6 P&M pinout information

P&M	CHAMII+ J7 Port
J2 Port - Pin 1	Pin 3 (Machine Input 1)
J2 Port - Pin 2	Pin 12 (Gnd)
J3 Port - Pin 2	Pin 10 (DO-)
J3 Port - Pin 5	Pin 13 (Gnd)

## Sigma

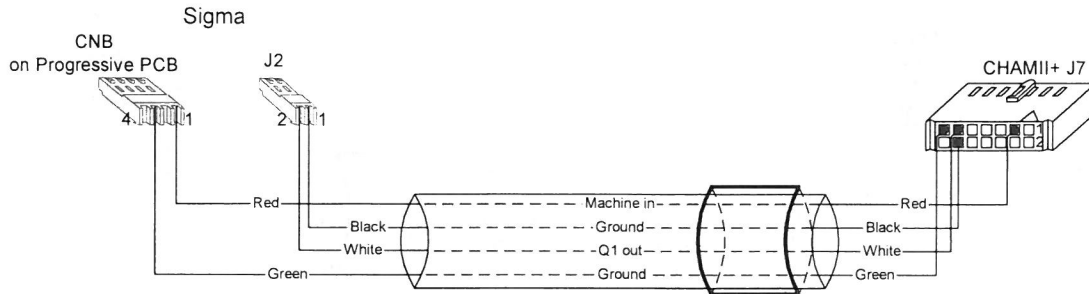


Figure A.7 Sigma to CHAMII+ harness 311-205-40/41

Table A.7 Sigma pinout information

Sigma	CHAMII+ J7 Port
J2 Port - Pin 1	Pin 12 (Gnd)
J2 Port - Pin 2	Pin 11 (Serial Return)
CNB on Progressive PCB - Pin 1	Pin 3 (Machine Input 1)
CNB on Progressive PCB - Pin 3	Pin 13 (Gnd)

## Sigma MS10

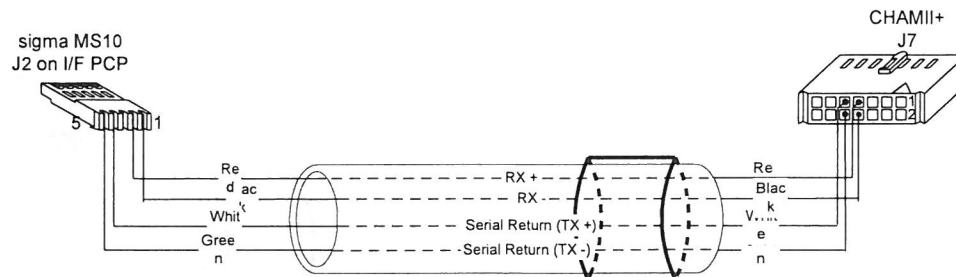


Figure A.8 Sigma MS10 to CHAMII+ harness 311-205-42

Table A.8 Sigma MS10 pinout information

Sigma MS10 J2 on I/F PCB	CHAMII+ J7 Port
Pin 1	Pin 8 (RI-)
Pin 2	Pin 7 (RI+)
Pin 4	Pin 9 (DO+)
Pin 5	Pin 10 (DO-)

## Williams

Williams  
Progressive Port J18

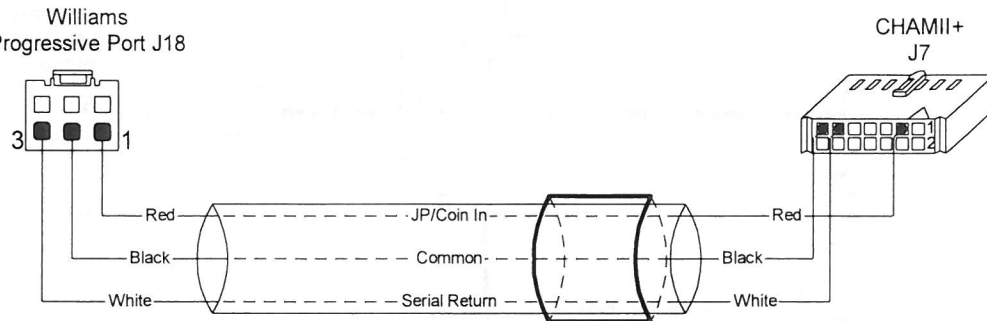


Table A.9 Williams to CHAMII+ harness 311-205-20/21

Table A.10 Williams pinout information

Williams Progressive Port J18	CHAMII+ J7PPort
Pin 1	Pin 3 (Machine Input 1)
Pin 2	Pin 13 (Gnd)
Pin 3	Pin 11 (Serial Return)

## Williams 550 and Bluebird (MS25)

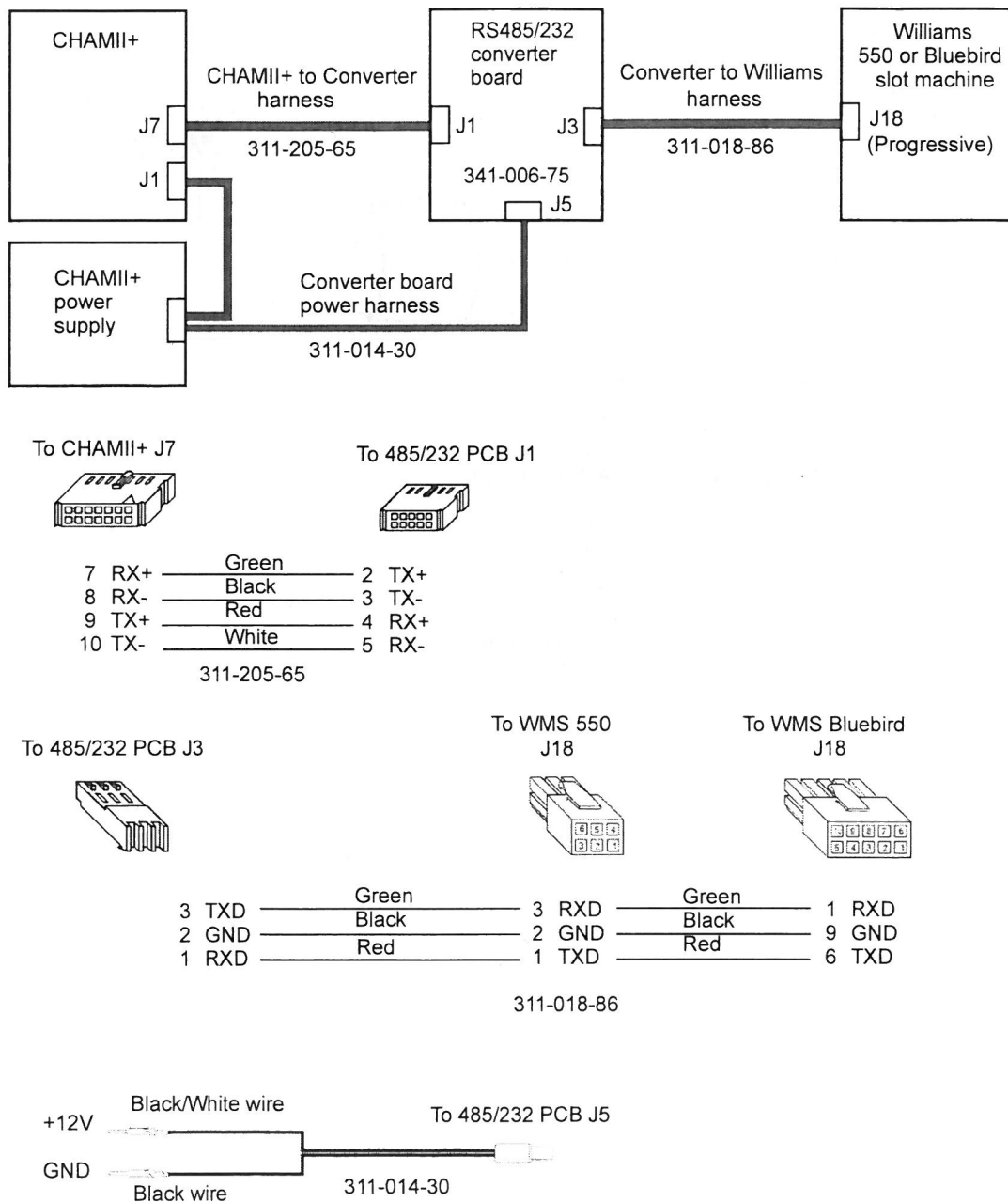


Figure A.9 Williams 550 or Bluebird to CHAMII+ harnesses

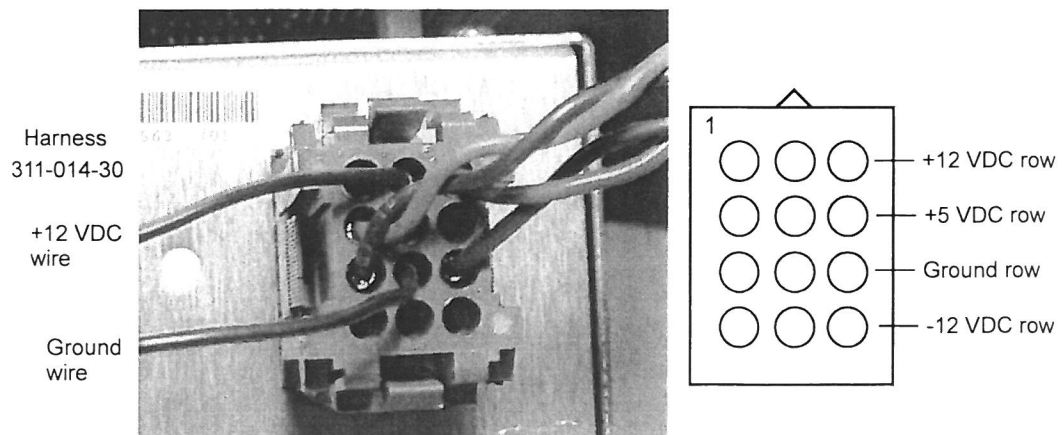
Connecting the CHAMII+ board to the Williams 550 or Bluebird machine requires kit 385-060-51, which includes the following parts.

Table A.11 Kit 385-060-51 parts

Part Number	Description	Quantity
311-018-86	Harness, Converter to Williams	1
311-205-65	Harness, CHAMII+ to Converter	1
311-014-30	Harness, CHAMII+ power supply adapter	1
341-006-75	PCB, 485 to 232 Converter	1
517-001-10	Tie wrap	2
851-001-00	Heat shrink tubing, 2 inch diameter	6 inches

## Installation Procedure

1. Plug the 10-pin connector on the CHAMII+ to Converter harness (311-205-65) into J1 on the RS485/232 converter board (341-006-75).
2. Plug the 3-pin connector on the Converter to Williams machine harness (311-018-86) into J3 on the RS485/232 converter board.
3. Plug the barrel connector on the Converter Power harness (311-014-30) into J5 on the RS485/232 converter board.
4. Place the heat shrink tubing (851-001-00) over the RS485/232 converter board and harnesses and use the two tie wraps to secure both ends over the harnesses.
5. Plug the 14-pin connector on the CHAMII+ to Converter harness into J7 on the CHAMII+ board.
6. Plug the black wire w/stripe on the Converter Power harness into an available + 12 VDC pin (any pin in top row) on the CHAMII+ power supply connector as shown below.



7. Plug the black wire on the Converter Power harness into an available ground pin (any pin in 3rd row from top) on the CHAMII+ power supply connector.
8. Plug the appropriate (6-pin or 10-pin) connector on the Converter to Williams harness into J18 (Progressive) on the Williams 550 or Bluebird machine.



## Appendix B - Error Codes

Table B.1 lists the CHAMII+ error codes. These codes appear on the display when the CHAMII+ experiences a fault.

Table B.1 Error codes

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



## Appendix C - Text Application Commands

Appendix C lists the text application commands which you can use in your .txt file. You can group more than one text command in a line; however, the maximum line-length is 64 characters and the CHAMII+ will truncate any line at the 64<sup>th</sup> character. You can also add comments to a text file by adding two forward slashes (//) in front of the comment.



All text commands must end with a semicolon (;).

Command	Function
BCOLOR (color)	<p><b>Background Color</b> - Sets the background color. Background colors can be specified as a number or as a word describing the color. Colors specified as numbers are 0 = Black (the default background color), 1 = Green, 2 = Red, 3 = Yellow.</p> <p>For example:</p> <pre>BCOLOR (2) ;    // selects red background color.</pre> <pre>BCOLOR (RED) ;  // also selects red background color.</pre>
BOX (x1, y1, x2, y2)	<p><b>Hollow Box</b> - Draws a hollow box from the corners (x1,y1) to (x2,y2) using the current foreground color. The (x1,y1) coordinate pair defines the top left corner of the box, and (x2,y2) defines the bottom right corner of the box. The x1 coordinate should always be less than or equal to the x2 coordinate, and the y1 coordinate should always be less than or equal to the y2 coordinate.</p>
CLREOL ()	<p><b>Clear to End-Of-Line</b> - Clears the line from the current cursor position using the current background color and font size without moving the cursor position.</p>
CLRSCR ()	<p><b>Clear Screen</b> - Clears the entire screen using the current background color and locates the cursor one row down and one column to the right from the upper left corner of the screen (coordinate (2,2)). This allows the background color to completely surround any text which will be printed, thus providing a clearer image. If so desired, the cursor can be moved to the absolute upper left corner by issuing a GOTEXY (1, 1) command after the CLRSCR () command.</p>
COLOR (color)	<p><b>Foreground Color</b> - Sets the foreground color. The foreground color is the color the text will display in. Colors specified as numbers are 0 = Black, 1 = Green (the default foreground color), 2 = Red, 3 = Yellow.</p>
DISPLAY ()	<p><b>Update the Display</b> - Copies the current image to the display. For further information, see the MODE () command.</p>

Command	Function
FBOX (x1, y1, x2, y2)	<b>Filled Box</b> - Draws a filled box from the corners (x1,y1) to (x2,y2) using the current foreground color. The (x1,y1) coordinate pair defines the top left corner of the box, and (x2,y2) defines the bottom right corner of the box. The x1 coordinate should always be less than or equal to the x2 coordinate, and the y1 coordinate should always be less than or equal to the y2 coordinate.
FONT (font)	<b>Font Select</b> - Sets the type of font to use. Special effect fonts do not contain the standard character set, therefore do not use them in text applications. See "Font" on page 18 for a list of fonts the CHAMII+ supports. An example of this command is FONT (C:ODMTR7 . fnt) .
GOTOXY (x, y)	<b>Locate the Cursor at Position (x,y)</b> - Moves the cursor to the coordinate position specified by (x,y) where x is the horizontal position and y is the vertical position. Minimum values for the x and y coordinates are 1, while maximum values are dependent upon the display size—typically 180 for x and 112 for y. Any value greater than the display dimensions will be limited to the maximum valid dimension. Any value less than 1 will cause an error, and the CHAMII+ will skip this command.
LINE (x1, y1, x2, y2)	<b>Line Draw</b> - Draws a line from the corners (x1,y1) to (x2,y2) using the current foreground color. The (x1,y1) coordinate pair defines the endpoint of the line, and (x2,y2) defines the other endpoint of the line.
MODE (type)	<p><b>Set the Display Update Mode</b> - Sets the display mode for automatic display updating (type = 0) or manual display updating (type = 1). The default display mode is automatic, so all commands that produce images, such as CLRSCR (), BOX (), and LINE ()—will automatically appear on the screen. When set for automatic display updating, the CHAMII+ updates the display after it executes each command. This can appear as though the display blinks when changes are made to the image. To avoid this blinking, set the mode to manual display updating before changing the image. Changes made to the image are not sent to the display until the CHAMII+ executes the DISPLAY () command. This way you can make many changes to the image and the CHAMII+ will update them at one time, eliminating the blinking effect. The MODE () can be changed back and forth within the command file to achieve various effects.</p> <p><b>NOTE:</b> When the SCROLL () feature is enabled, the CHAMII+ always updates the screen.</p>

Command	Function
PRINT(string)	<p><b>Print the String Starting at the Cursor Position</b> - Prints the string using the font and color from the current cursor position. If the string is too long for the line, it wraps around to the next line (except at the bottom line which is truncated).</p> <p>To display the winning amount, machine number, machine ID, progressive amount, and comment text, use the Print command with any of the following parameters:</p> <p>\JW – Jackpot winning amount</p> <p>\JM – Jackpot winning machine number</p> <p>\JI – Jackpot winning machine ID (if the ID is set up in the controller)</p> <p>\JP – Current progressive amount (this value has no odometering on, just the current amount)</p> <p>\JC – Jackpot machine message (only available in CSP V3.1X)</p> <p>Use each command on a new line in the text file (do not put text in front or behind the \JW). You can also include the following commands in the string:</p> <p>\n – <b>New line</b>: Moves the cursor down one line and to the left edge (similar to a carriage return).</p> <p>\f – <b>Form feed</b>: Causes the entire display to scroll up and reveal a new page (similar to the way a printer works). After a form feed, the cursor is located at position (2,2).</p> <p>\t – <b>Tab</b>: Causes the cursor to move to the next column on the same line. If the tab causes the cursor to go past the right edge of the display, the cursor will be located at the first column of the next line.</p> <p>The following three examples show the print command followed by an example of how the results would appear on the display.</p> <p>Example 1</p> <pre>PRINT (PGIC\nDISPLAYS\n) ;</pre> <div data-bbox="716 1388 1180 1520" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> PGIC DISPLAYS </div> <p>Example 2</p> <pre>PRINT (TAB\tEXAMPLE\n) :</pre> <div data-bbox="716 1640 1180 1772" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <div style="display: flex; justify-content: space-between;"> <span>TAB</span> <span>EXAMPLE</span> </div> </div>

Command	Function
PRINT(string) continued	<p>Example 3</p> <pre>PRINT(\n\nFORMFEED EXAMPLE\n); PRINT(THIS WILL SCROLL\n); PRINT(\fAFTER FORMFEED\n);</pre> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 10px; margin: 10px;"> <p>FORMFEED EXAMPLE THIS WILL SCROLL</p> <p>↑</p> </div> <div style="margin-left: 10px;"> <p>↑</p> </div> <div style="margin-left: 10px;"> <p>The text is near the center of the display as a result of the two new line commands. The arrows indicate that the text is scrolling up.</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 10px; margin: 10px;"> <p>THIS WILL SCROLL</p> <p>↑</p> </div> <div style="margin-left: 10px;"> <p>↑</p> </div> <div style="margin-left: 10px;"> <p>The text scrolls up, pushing the first line off the top of the display.</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 10px; margin: 10px;"> <p>AFTER FORMFEED</p> </div> <div style="margin-left: 10px;"> <p>↑</p> </div> <div style="margin-left: 10px;"> <p>Once the first and second line have completely scrolled off the top of the display, the next text displays.</p> </div> </div>
SCROLL(type)	<p><b>Set the scrolling method:</b> Specifies the type of scrolling to be used. A value of 0 disables scrolling (the default method). A value of 1 is the fastest scroll, while 10 is the slowest. All other values are ignored.</p>
TSPACE(col, row)	<p><b>Set the text spacing:</b> Specifies the blank columns between characters in the col parameter and blank rows between lines of text in the row parameter. The minimum value is 0, while the maximum values are the width of the display for the col parameter and the height of the display for the row parameter. The default text spacing is one blank column and one blank row. For example:</p> <pre>TSPACE(2, 3); // Sets two blank columns between characters                and three blank rows between lines of text.</pre>
WAIT(time)	<p><b>Wait for Specified Time:</b> Causes the display to wait for the specified time before moving on to the next command. The time is specified in 1/10th of a second intervals. The maximum value for the time is 6500 seconds. If a time setting of 0 is specified, the display waits indefinitely. For example:</p> <pre>WAIT(10); // Waits for 1 second WAIT(600); // Waits for 1 minute (60 seconds) WAIT(0); // Waits forever</pre>

## Examples of Command Files

### Example 1:

```
BCOLOR(0); CLRSCR();// clear the screen
COLOR(1); FONT(0);// define the font and color
PRINT(This is example one\n);// print a title
PRINT(Hello, World\n);// print a greeting
```

This is example one Hello World
------------------------------------

### Example 2:

This example uses the tab \t to align data along columns.

```
BCOLOR(0); CLRSCR();// clear the screen
COLOR(1); FONT(0);// define the font and color
PRINT(Item\t\t#\tCost\n);// print a heading
COLOR(2);          // change colors before printing items
PRINT(Widget\t\t1\t$1.50\n);// print an item
PRINT(Ball\t\t2\t$2.95\n);// print another item
PRINT(Cube\t\t3\t$5.99\n);// print the last item
```

Item	#	Cost
Widget	1	\$1.50
Ball	2	\$2.95
Cube	3	\$5.99

**Example 3:**

This example uses the tab \t to align data along columns.

```
BCOLOR(0); CLRSCR();           // clear the screen
COLOR(1); FONT(0);             // define the font and color
PRINT(P/C\t\tT/C\tVOLUME\n\n); // print a heading
COLOR(2);                      // change color item name
PRINT(FIAT\n);                 // print an item
COLOR(3);                      // change color for data
PRINT(5702\t5694\t2390\n);     // print item data
COLOR(2);                      // change color item name
PRINT(IBM\n);                  // print next item
COLOR(3);                      // change color for data
PRINT(113\t11. 1/8\t1124200\n); // print item data
COLOR(2);                      // change color item name
PRINT(DIGITAL EQ.\n);         // print an item
COLOR(3);                      // change color for data
PRINT(63. 5/8\t63\t458100\n);  // print item data
WAIT(0);                      // wait forever
```

P/C	T/C	VOLUME
FIAT		
5702	5694	2390
IBM		
113	111. 1/8	1124200
DIGITAL EQ.		
64. 5/8	63	45810

## Glossary

<b>ASCII</b>	American Standard Code for Information Exchange. A code that represents alphanumeric information.
<b>batch file</b>	ASCII text file that contains one or more command lines for the controller. A batch file determines the appearance sequence of text and progressive information on a display.
<b>binary file</b>	File type that contains printable and non-printable characters and requires a special program to interpret it.
<b>BIRTH</b>	CHAMII+ factory reset function that restores the settings stored in the RAM (except the RAM drive) to its default values and the test counters back to zero.
<b>Burn-in</b>	CHAMII+ test function setting that tests the RAM.
<b>casino</b>	Site or venue. A gaming location.
<b>CasinoLink</b>	PGIC real-time management system that offers a fully integrated suite of modules to provide concise slot accounting, player and revenue tracking, progressive and mystery jackpots, and overall management functions for standalone and multi-site gaming operations.
<b>CHAMII+</b>	Visual display logic board that uses LED technology to display progressive values.
<b>coin in</b>	Value of coins wagered in a gaming machine.
<b>CON2</b>	PGIC controller. See controller.
<b>controller</b>	Device that controls progressive game information such as jackpot amounts and contribution percentages.
<b>display</b>	Electronic (LED) sign used to communicate a wide range of information, such as Jackpot values and win celebrations, promotions, and advertising.
<b>EPROM</b>	Erasable Programmable Read Only Memory. A chip that stores programs or data.
<b>Flash</b>	Type of NVRAM, named for the speed with which its memory cells can be erased.
<b>font</b>	Set of text characters with a particular format and size.
<b>function</b>	Program or one part of a module that may be represented by icons or text in menus or taskbars.
<b>GRADR</b>	Group Address. The address assigned to a group of items, such as jackpots, visual displays, jackpot trigger devices, or machines. There are up to 255 group addresses.
<b>IDADR</b>	ID address. The address assigned to a group of items with a group (see GRADR), such as jackpots, visual displays, jackpot trigger devices, or machines. There are up to 64 ID addresses.

<b>I/O</b>	Input/Output port.
<b>jackpot</b>	Prize awarded to a game player upon receiving a winning combination in a game.
<b>Jackpot Reset switch</b>	Key-activated switch on a slot machine used to access meters, option settings, and self tests. Also used to acknowledge handpays and reset the machine's internal progressive parameters (if applicable) after a jackpot.
<b>JP GRP</b>	Jackpot Group. The CHAMII+ handles up to eight different progressive jackpot amounts, also called jackpot groups, for a single machine.
<b>JPLIMIT</b>	Jackpot Limit. This is the highest value that the jackpot can reach.
<b>LED</b>	Light-Emitting Diode. A technology used in visual displays.
<b>level</b>	Classification of jackpot amounts. A machine can have up to eight jackpots. The top award is designated as Level 0, the next highest is Level 1, and so on.
<b>link</b>	Group of machines that jointly contribute to the same progressive.
<b>logic board</b>	Integrated circuit board that contains a processor, memory, and logic chips for controlling various functions.
<b>MACH ADDR</b>	Machine Address. A unique number that identifies a particular machine or bank of machines.
<b>Machine ID</b>	Unique number used to identify a particular machine in a system.
<b>meter</b>	Overhead visual display showing the incrementing numbers of a progressive jackpot.
<b>MFILE</b>	Meter File. MFILE is a CHAMII+ display setting where the MFILE value corresponds to a pre-defined jackpot amount format.
<b>PGIC Download Software</b>	PGIC application that allows transfer of files back and forth between a computer and CHAMII, AGL, and Supreme logic boards.
<b>PGIC Download for Windows software</b>	PGIC application that allows transfer of files back and forth between a computer running Microsoft Windows 95, 98, or NT, and a Supreme, AGL, or Mark 2 logic board.
<b>NVRAM</b>	Non-Volatile Random Access Memory.
<b>ODSPEED</b>	Odometer Speed. The rate at which the jackpot value displayed by the CHAMII+ increases to catch up to the actual jackpot value.
<b>PGID</b>	Progressive Group Identification. The PGID is the number, from 0-7, given to a particular progressive jackpot group. A Progressive Group is a collection of Progressive Levels.

<b>progressive (jackpot)</b>	A gaming machine or network of machines that contribute a fixed percentage of wagers to a continuously incrementing Jackpot. A player wins the progressive jackpot by playing a progressive game with qualifying wagers. An overhead visual display usually installed above the bank of machines linked to the progressive shows the current amount of the jackpot.
<b>PSP</b>	Progressive System Programmer. PGIC software that allows you to program the controller's settings and the progressive jackpot information.
<b>PRGSV</b>	Batch file command that tells the CHAMII+ to read a particular progressive definition file.
<b>PROTO</b>	Protocol. Rules for communicating between two end points.
<b>RAM</b>	Random Access Memory. Memory used for temporary data storage.
<b>REM</b>	Programming command allows you to comment out instructions or add comments in a batch file. When the controller reads the file, it ignores these lines.
<b>RS-232</b>	Recommended Standard-232C. A standard electrical interface approved by the Electronic Industries Alliance (EIA) for connecting serial devices.
<b>RS-422</b>	Recommended Standard-422. A standard electrical interface approved by the EIA for connecting serial devices. Uses differential signals to support higher data rates than RS-232 with greater immunity to electrical interference
<b>RS-485</b>	Recommended Standard-485. A standard electrical interface approved by the EIA for connecting serial devices. Similar to RS-422 but it can support more nodes per line because it uses lower-impedance drivers and receivers.
<b>ROM</b>	Read Only Memory.
<b>router</b>	Device that determines the best network path to send packets of information from the origin to the destination.
<b>RTR ADDR</b>	Router Address. A number that identifies which router a machine is connected to.
<b>standalone</b>	CHAMII+ configuration in which the CHAMII+ acts as the controller, gathering and calculating progressive jackpot information and sending the jackpot amount to the display.
<b>test function</b>	Software mode that allows processor board input and output tests and enables option selections.
<b>TEXT</b>	Batch file command that tells the CHAMII+ to read a particular text file.
<b>site</b>	Casino or venue. A gaming location.
<b>SuperLink</b>	Computer that links a number of PGIC Super Controllers.
<b>UART</b>	Universal Asynchronous Receiver Transceiver. An integrated circuit that enables serial communication between a transmitter (parallel-to-serial converter) and a receiver (serial-to-parallel converter).



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# Technical Bulletin



## CHAMII+: STA v2.11 Firmware Changes

<b>Part Number</b>	950-407-30
<b>Date</b>	June 29, 2005

### Overview

This bulletin describes changes made between STA v2.09 and STA v2.11.

<b>Replaces version</b>	STA v2.09
<b>Checksum</b>	37E9
<b>Kobetron</b>	2PFC
<b>EPROM</b>	Installed at U19 on the logic board
<b>Special requirements</b>	STA v2.11 is intended for use with any Mikohn/PGIC controller.

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### Changes

This section describes the STA v2.11 changes.

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## Corrected Communications Problem with IGTS2000

**Issue:** Some IGTS2000 machines expected messages to have a stop bit in the 8th position, while other IGTS2000 machines expected a stop bit in the 9th position. Communication errors occurred when the stop bit was not in the expected position.

**Solution:** Added a second stop bit to messages for IGTS2000. This enables machines that expect 8 bits of data and machines that expect 9 bits of data to receive a stop bit in the appropriate position, thus eliminating the communication errors.

## Added Support for MS25 Protocol

**Enhancement:** CHAM II+ firmware now supports the MS25 protocol. If the CHAM II+ will be connected to a machine, you must configure it to use the proper MS25 protocol for that machine type. If you need assistance, contact PGIC Customer Service.

## Reference Documentation

The following table lists related PGIC documentation. You can access these and other PGIC documents on the PGIC extranet at:

<https://extranet.progressivegaming.net>

If a document has been revised, check the extranet for the latest version.

Engineering Change Orders (ECO) and Software Change Orders (SCO) provide complete information about PGIC products. ECOs and SCOs are generally for internal PGIC use, but may also be valuable to regulatory agencies and customers.

Document	Part Number	ECO	SCO
CHAMII+ User Manual	990-241-38	303062-E02	N/A
CHAMII+: STA v2.11 Firmware Changes Technical Bulletin	950-407-30	N/A	303062-S01

## Contact Information

Contact PGIC Customer Service if you have questions or comments about this document or any other PGIC product.

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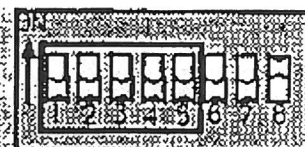
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**Web:** [www.progressivegaming.net](http://www.progressivegaming.net)

# MiniChameleon ID Chart

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



## MiniChameleon JGS Switch

DIP Switch positions 6, 7 and 8 select jackpot group. If Switch 8 is off, your programmed JPOT.DO message is used. If Switch 8 is on, the internal jackpot display message is used.

Switch Number			Jackpot Group
6	7	8	
0	0	0	JP0
1	0	0	JP1
0	1	0	JP2
1	1	0	JP3
0	0	1	JP0 Internal message
1	0	1	JP1
0	1	1	JP2
1	1	1	JP3

