This document contains Selection Guides and Wiring Diagrams in the Appendix sections. Paper copies of these items can be obtained from Document Control

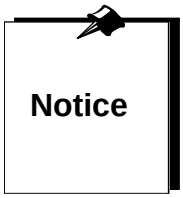
ProLINK™ Progressive Controller

USER/REFERENCE MANUAL

23-00036-01

April, 1997

Casino Data Systems™



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Document Conventions

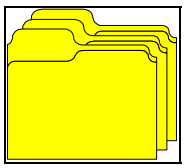
This document uses the following conventions:

- "Preliminary" appears at the top and bottom of each page of the first release of a User/Reference or Hardware Manual. This does not appear on subsequent releases of a manual.
- The last two digits of the document number show the release number of the manual. The first release is numbered -00. Therefore, 23-00106-02 indicates the third release of the manual.
- The effective date of the manual is shown at the bottom of each page.

Typographical Conventions

This document uses the following typographical conventions:

Convention	Type of Information	Example
Bold type	Dialog box labels and options.	Select the **Spaces** check box.
	Dialog box titles.	The **Open** dialog box contains a list of folders.
	Menu commands.	On the **File** menu, click **Open**.
	Menu names.	Select **Insert** from the menu bar.
	Type the information exactly as it appears.	Type **open**.
ALL CAPS	File names.	Open CDSTEST.EXE.
< SMALL CAPS > with brackets	Press the named key.	Press < ENTER >.
"Quotation Marks"	Program display messages.	At the "More Input?" prompt…
	Field names.	Highlight "Player Name" on the "Slot Club" screen.
	Screen names.	The "User Maintenance" screen appears.
	Section headings within the document.	See "Overview" for more information.
Italics	Book titles.	Refer to *The Elements of Style* for details.
	New terms and emphasis.	*Never* remove the warning label.
	Placeholder for information provided by the user.	Type *password.*
Title Caps	Folders and directories	My Documents
	Icons	Click the Microsoft Word icon.
	Named windows	Help window
< KEY1 >+< KEY2 >	Press and hold down the first key while pressing the second key, then release both keys.	Press < CTRL >+< B >.
< KEY1 >,< KEY2 >	Press and release the keys one after the other.	Press < CTRL >, < B >.



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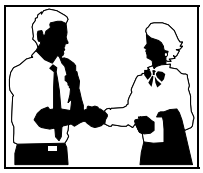
Note: This Table of Contents change was added to this manual on 10/2/97 to reflect the addition of Appendix P.



Introduction

This document provides reference materials for the ProLINK™ Progressive Controller. Notes on installation are furnished along with information on operation. Technical reference materials are included, as well as a section on troubleshooting. An appendix containing wiring and cable diagrams concludes the manual.

Overview

The ProLINK Progressive Controller, referred to as a ProLINK, provides alternative progressive capabilities for machines that are not part of the OASIS II System and, therefore, do not contain Sentinel® boards.

The following section defines some of the basic terms used in a progressive system and throughout this manual.

Progressive System Terms

Progressive Link - includes the games, progressive controllers, and progressive signs that control and display a progressive jackpot amount that changes based on coins played (coin in) and jackpots won on the machine or machines in the system. For example, a jackpot may increment 1 cent for every dollar played (1% of coin in) until a player wins; then it will be reset to a specified amount and start incrementing again.

Progressive controller - device that collects coin in and jackpot information from games, calculates the amount the jackpot should increment and sends the new jackpot amount to the progressive meters.

Progressive jackpot amount - amount of money a player will win if the machine hits the right combination.

Progressive escrow amount - often referred to as 'hidden' amount. The amount of money contributing to the next jackpot after the current one is hit.

Progressive display/progressive meter - where the current progressive jackpot amount is shown. This can be an in-machine or overhead meter.

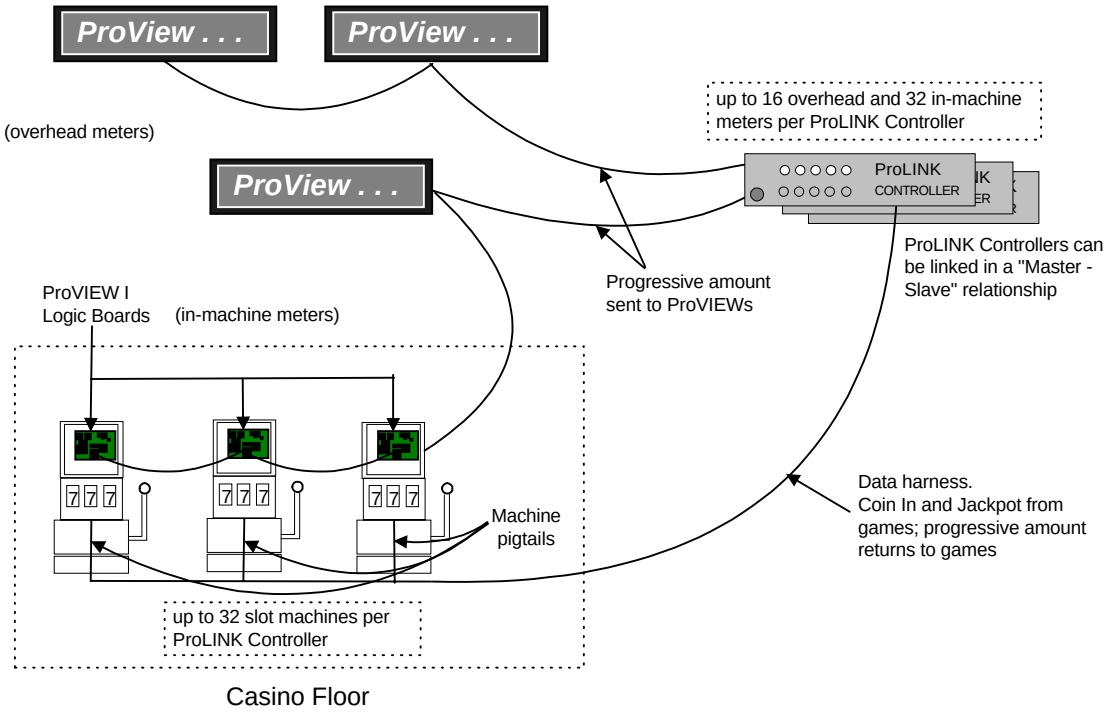
Rate of Progression - the amount that the progressive jackpot amount increments, based on a percentage of the amount of money that is played on the machines in the link for that jackpot.

Progressive return signal - the signal that indicates the new jackpot amount, returned to the games by the ProLINK Controller.

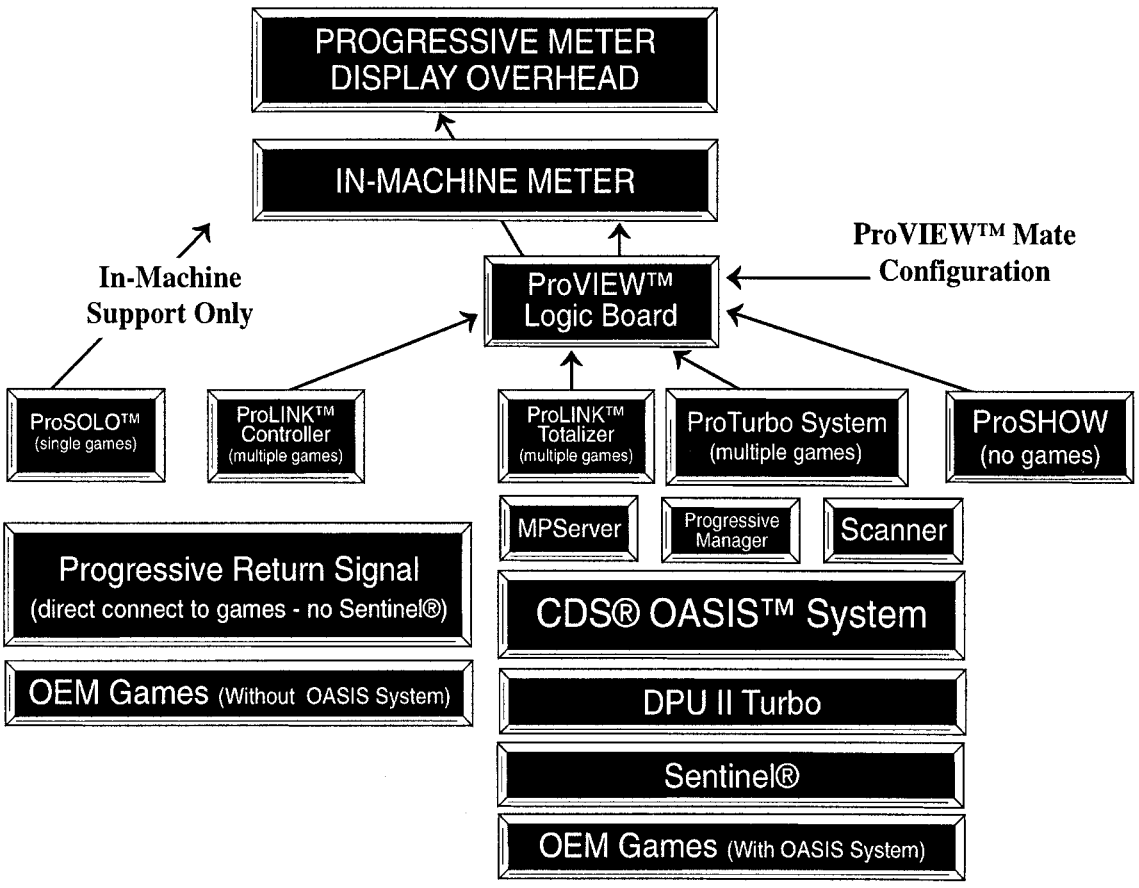
Jackpot group or levels - different progressive amounts on the same link. Different pay combinations on the game will trigger different groups or levels (for example, a royal flush will trigger a higher level than a straight flush).

Data harness - The communication line that links the gaming machines in a progressive link.

Machine pigtail - Wiring that ties individual gaming machines to the data harness. Connectors on the pigtail plug into connectors spaced along the data harness.



ProLINK Progressive System Components



CDS Progressive Products

Each gaming machine and each ProVIEW-driven meter in the progressive link is connected to the ProLINK Controller, which is usually located in the drop area under the first machine in the progressive link.

Each ProLINK can monitor thirty-two gaming machines, which may be a mix of supported types and denominations.. Each ProLINK has two meter ports, providing control for a total of 48 meters (16 overhead and 32 in-machine meters in a series) by a single ProLINK with no additional hardware.

ProLINKs can be linked together to create progressive links with more than 32 machines.

ProLINK Controller, front and back views

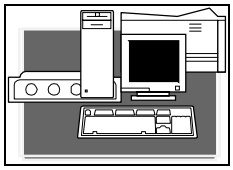
The ProLINK collects coin in and jackpot signals from the machines in the link. It uses these signals to compute how much the progressive jackpot should increment, and then sends the new jackpot amount(s) to the ProVIEW boards connected to the overhead or in-machine progressive meters.

ProLINK controllers interface with many current video and reel machines without additional hardware. However, some machines will need progressive conversion hardware to interface with ProLINK.

Machines from different manufacturers, or of different models or denominations, can be connected together. Contact CDS for special harnessing and game compatibility information.

ProLINK tracks up to eight separate jackpots. Each jackpot has a start amount, maximum jackpot and escrow amounts, and rates of progression. Escrow jackpots are base jackpot amounts that grow along with (but usually at a slower rate than) the current jackpot. When a jackpot is hit, the escrow amount becomes the new jackpot amount and the escrow resets to the base jackpot amount.

When the maximum jackpot has been reached (for jackpot or escrow), ProLINK switches to the secondary percentage rate. If this percentage is set to zero, the jackpot stops incrementing.



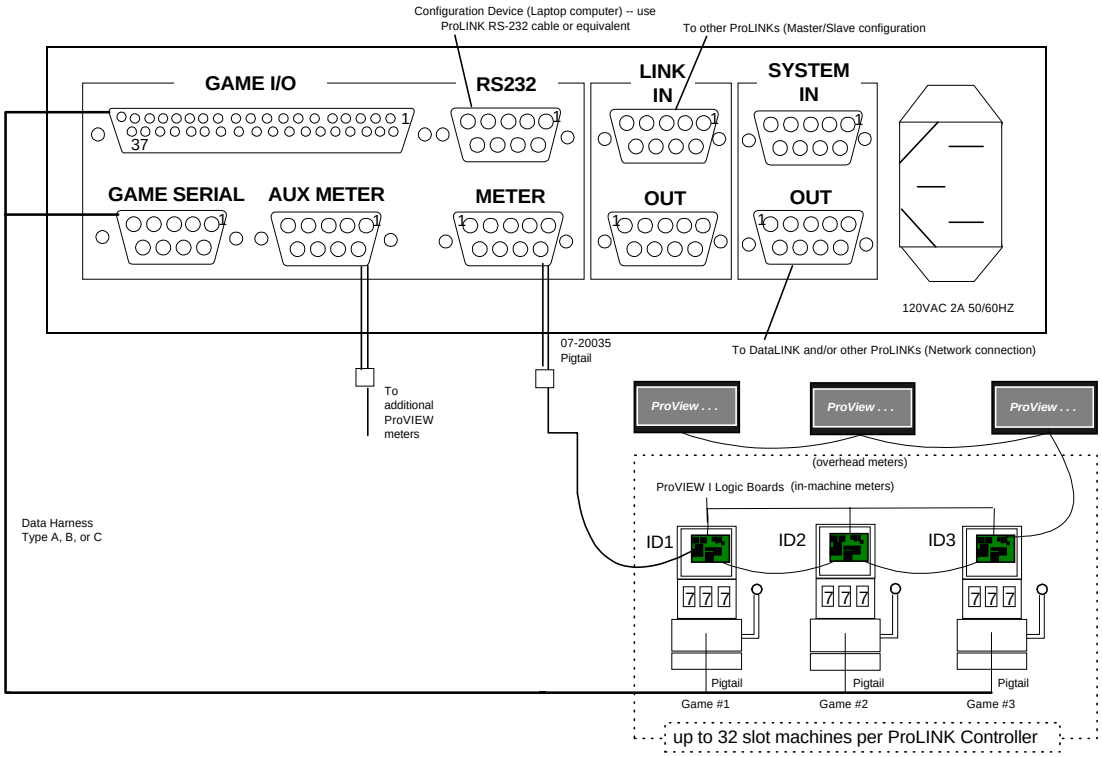
Installation

Planning for Installation

The address for each ProLINK is hard-coded into the controller at the time of configuration and must be unique for each controller that is connected to a network.

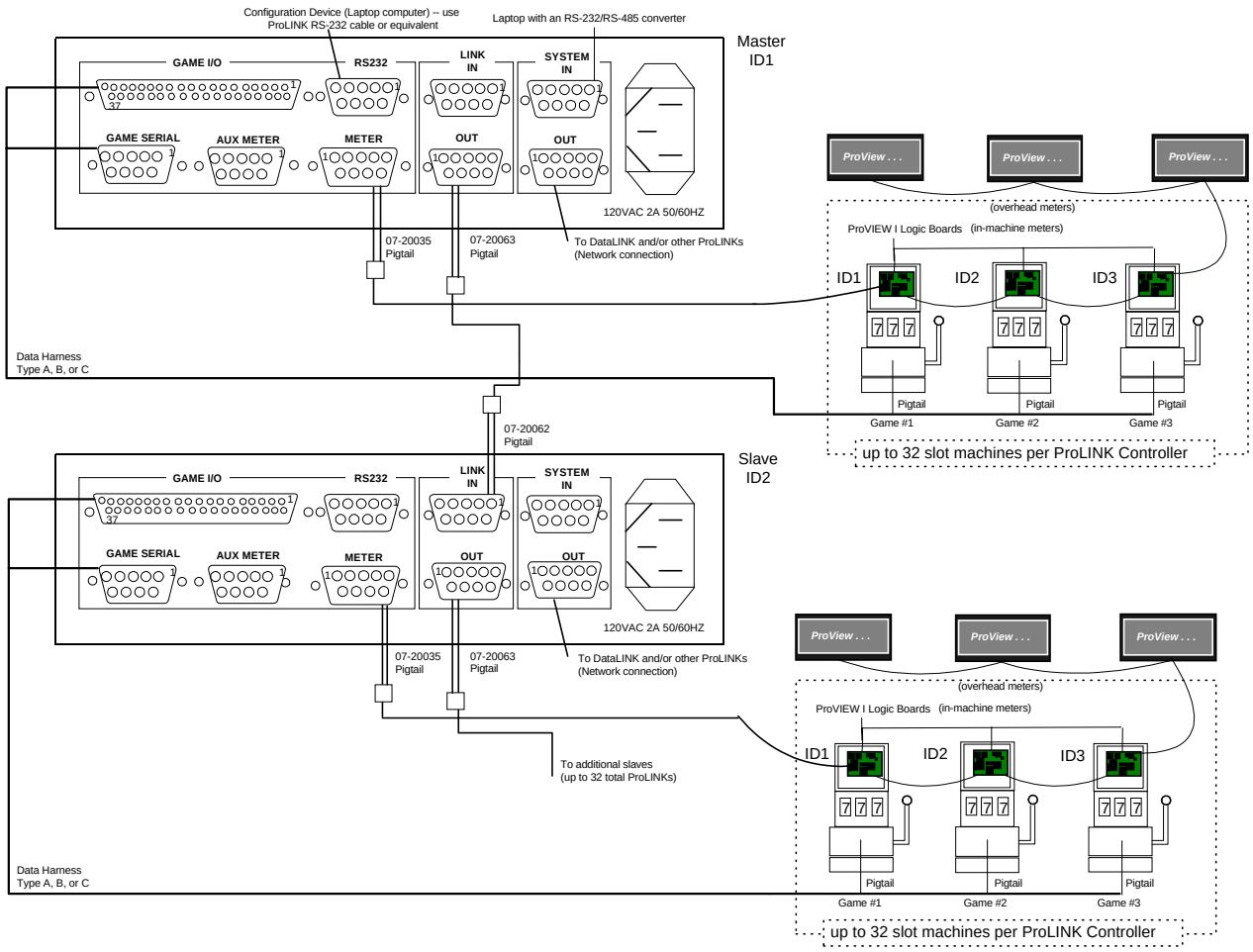
Different manufacturers use different connectors. The discrete wiring of machines may use a maximum of one thousand feet of twenty-two (22) AWG stranded wire (CDS P/N 05-10009). The wiring for ProVIEW signs requires two pair (4) conductor, twenty-two (22) AWG stranded, shielded, twisted pair wire, as does the linking for progressive controllers.

The diagram on the next page shows the wiring and connections for a stand alone ProLINK configuration.



Stand alone ProLINK Configuration

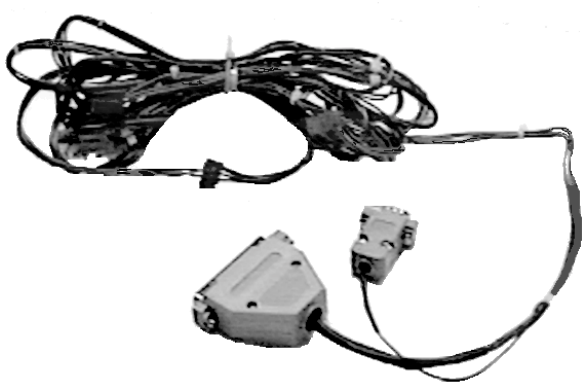
The second diagram, on the following page, shows the wiring and connections for a master/slave ProLINK configuration.



Master/Slave ProLINK Configuration

In both configurations, be sure the games are connected to the correct pins on the Game I/O connector (for example, game #1 should be connected to pin #1, game #2 to pin #2, and so on). Proper connection ensures that a winning jackpot will be reflected properly on the ProVIEW meters.

Pigtails act as the connection from slot or video machine to the ProLINK Game I/O data harness.



Example of a Data harness

Example of a Pigtail

If a problem arises within a particular machine, the pigtail may be disconnected without disconnecting the entire cable harness. The progressive system will remain on line despite the malfunctioning machine.

Game layout must be considered when ordering a data harness. For example, if there are multiple banks, steps between games, and so on, extra connections or a specialized harness will be required.

Game Incompatibilities

Most serial protocols are different for each manufacturer. ***Machines with different progressive returns or different serial protocols cannot be connected to the same ProLINK.***

Meter Considerations

When configuring CDS meters with ProLINKs, be sure that the communication IDs are set properly. In-machine meters must have IDs 1–32 matching the machine input to the ProLINK. IDs 33–48 are used for overhead meters.

Setup

After the ProLINK is connected to the gaming machines, it must be configured. CDS provides the software program required to do the configuration. The software requires the following hardware as a minimum:

- a 286 PC-compatible desktop or laptop computer.
- one 3.5-inch floppy disk drive.
- one serial port.
- 1 MB RAM.

DOS 6.0 or later is also required and a hard drive is desirable.

Follow the steps below to configure a ProLINK:

1. Change to the directory in which the OASIS II Field Service programs are located.

2. Type **PL** and press < ENTER > to start the ProLINK Configuration Program.

   The prompt “Com Port:” appears at the top of the screen.

3. Type the number of the laptop COM port to be used (usually 1).

4. Using the standard configuration cable (CDS 07-20322), connect the COM port of the laptop to the RS-232 on the ProLINK Progressive Controller.

   Refer to Drawing #F100327FE in the “Troubleshooting” section for a wiring diagram of a ProLINK Controller that shows the RS-232 port location.

ProLINK Configuration Program Menu

The ProLINK Configuration Program menu is divided into two screens, as follows:

```
                    Casino Data Systems
              ProLINK Configuration Program-Version 1.08
              ------------------------------------------

 "A" - Set Alternate Machine              "C" - Set Prog Return Com Format
 "D" - Set ProLINK Date & Time            "E" - Set Current Escrow Amount
 "G" - Get ProLINK Setting                "I" - Set ProLINK Communication ID
 "K" - Disable Progressive after JP       "L" - Set Link Type
 "M" - Set Default Machine Type           "N" - Set ProLINK Name
 "O" - Set Machine Serial Protocol        "P" - Set Progressive Jackpot
 "R" - Reset or Clear a Jackpot           "S" - Set Current Jackpot Amount
 "T" - Set or Clear Test Mode             "V" - Configure ProVIEW Logic Board
 "X" - Download Message to ProVIEW        "0" - Zero ProLINK Memory & config
 "1" - Set Auxiliary Sign Protocol        "2" - Set ProSOLO General Config
 "3" - Set Meter Sync Config              "4" - Set ProSOLO Meter Scripts
 "5" - Set ProSOLO JP Level Display Format
 "Q" - Quit Program

Enter Command:
```

1. Commands that store information or send information to the ProLINK (the screen shown above that is displayed when the PL program is started).

2. Commands that recall information from the ProLINK (the screen shown below is displayed when option "G" is selected). This information may be entered and retrieved through the listed commands.

```
                      Get ProLINK Setups menu
                      -----------------------

   "A" - Get Jackpot Amount               "D" - Get ProLINK Date & Time
   "E" - Get Escrow Amount                "H" - Get Jackpot History
   "I" - Get ProLINK Communication ID     "J" - Get Active Jackpots
   "L" - Get ProLINK Link Type            "M" - Get Machine Configuration
   "N" - Get ProLINK Name                 "P" - Get Progressive Configuration
   "R" - Get Reset History                "S" - Get Slave Communication Info
   "V" - Get ProLINK EPROM Version        "W" - Get JP Decrement Amounts
   "1" - Get Auxiliary Sign Protocol      "2" - Get ProSOLO General Config
   "3" - Get Meter Synchronization        "4" - Get ProSOLO Meter Scripts
   "5" - Get ProSOLO JP Level Display Config

Get what:

Enter Command:
```

ProLINK Set Up

Do the following steps to set up the ProLINK Progressive Controller. The remaining menu options are not required during the initial start-up.

1. If the ProLINK Progressive Controller is being set up for the first time, press < 0 > (zero) to clear the RAM of any previous configuration data.

2. Press < I > to select the *Set ProLINK Communication ID* option.

   While standalone controllers may have any ID number, those linked together must have a unique address to communicate with a network server or other ProLINKs.

3. Type the new ID number and press < ENTER >.

   Valid ID numbers range from 1–32.

4. Press < L > to select the *Set Link Type* option.

5. Review the information in the "Link Modes" section below before proceeding with step 6.

Link Modes

ProLINK controllers can be linked in a master/slave relationship, as follows:

- The *master* ProLINK calls each address (including itself) and receives the coin-in information for each controller's group of machines.
- The *master* ProLINK combines that information and calculates the new jackpot amount.
- This amount is returned to the slaves and their connected signs.

  Every controller in this type of configuration drives meters and monitors machines. When configured properly, the programmed EPROM within each ProLINK will act as either master or slave, without a switch in hardware.

  When a ProLINK is configured as a master or slave, the RS232 port will be disabled. The ProLINK controller shares the RS232 configuration port with the Link port (master/slave communication). The ProLINK disables the RS232 port ten seconds after a reset and does not enable the port until another reset. If a command is received from the RS232 port before the

port is disabled, then the ProLINK keeps the port enabled for one minute. After each subsequent command, the ProLINK restarts the one minute timer. The best way to configure the ProLINK is to start the configuration program, reset the power on the ProLINK, read the ID (G,R command) to set the one minute timer, then perform the necessary configuration. Keep in mind that an idle time of one minute causes the configuration port to be disabled and the ProLINK will need to be reset to enable the port again.

Note: ProLINKs that are not linked to other ProLINKs always keep the configuration port enabled.

The following table shows the three Link modes that can be specified.

	Mode	**Description**
0	None	This ProLINK runs in standalone mode. It controls the progressive link and will not communicate with other ProLINKs.
1	Master	This ProLINK is connected to others. It controls the progressive link. All other ProLINKs must be set as *slaves*.
2	Slave	This ProLINK is connected to others. It does not control the progressive link. There must be a *master* ProLINK connected to control the progressive link.
3	Monitor	Reserved for ProSOLO™ Configuration.
4	Linked	Reserved for ProSOLO™ Configuration.

6. Press the number that corresponds to this particular ProLINK controller's link configuration (0=None, 1=Master, 2=Slave),as described above.

7. Press < D > to select the *Set ProLINK Date and Time* option.

   When a jackpot is hit, the ProLINK system records the amount, machine, date, and time in the jackpot history file. Selecting this option automatically replaces the ProLINK date and time with the PC's internal date and time.

8. Press < M > to select the *Set Default Machine Type* option.

   This option sets the default machine characteristics. When the option is selected, a prompt requests the number of machines connected to the ProLINK.

Alternate machines on the line may be changed using the *Set Alternate Machines* option (see step 17).

9. Press the number key(s) that corresponds to the number of machines connected to this ProLINK (maximum of 32) and press < ENTER >.

   PL.EXE requests the Default Machine Type next. Machine types are as follows:
   - 1 = Steady JP (CI/JP0 multiplexed).
   - 2 = RBP.
   - 3 = Steady JP (CI separate from JP0).
   - Standard 8 transition.

   Refer to the appropriate Appendix for the settings to use for a particular manufacturer game type.

10. Type the corresponding number for the default machine type and press < ENTER >.

    Next, the program prompts for the Default Denomination. Valid denominations are as follows:
    - 0 - Penny.
    - 1 - Nickel.
    - 2 - Dime.
    - 3 - Quarter.
    - 4 - Half Dollar.
    - 5 - Dollar.
    - 6 - Five Dollar.
    - 7 - Ten Dollar.
    - 8 - Twenty-Five Dollar.
    - 9 - Fifty Dollar.
    - 10 - Hundred Dollar.
    - 11 - Five-Hundred Dollar.

11. Type the corresponding number for the desired denomination default and press < ENTER >.

    The program prompts for house numbers, if desired. House numbers are used by the ProLINK during jackpots and test modes. In these two situations, the ProLINK displays the house number on the ProVIEW meters.

12. If you want to use house numbers, press < Y >. Otherwise, press any other key at the house number prompt and the current house number setting will remain unaltered.

Initially, the house number fields reflect the input pin number to which each game is connected (for example, pins 1 through 32).

13. To use house numbers, type the machine numbers, pressing < ENTER > after each entry.
    Next, PL.EXE prompts for the Progressive Return Com Format and the following list of game types appears:
    - None.
    - IGT (amount only).
    - Chameleon 1.
    - Amount and Jackpot.

    Refer to the appropriate Appendix for the settings to use for a particular manufacturer game type.

    Some video games show the progressive jackpot amount on the screen during play. This option allows the user to select which format the progressive return will take.

    Note: Video games with onscreen displays made by different manufacturers may be connected to the same ProLINK controller ONLY if their Progressive Return Com Formats are the same.

14. Type the corresponding number to select a progressive return type, or press < 0 > (zero) to cancel.

15. Press < ENTER > to return to the Configuration menu.

16. Refer to Appendixes A through N for the appropriate settings for each game type.

17. Press < O > to select the *Set Machine Serial Protocol* option.

    ProLINK is able to monitor slot machines via an RS-422 port in addition to discrete connections (as configured with the **M** option; see step 8).

    Currently, ProLINK supports the Bally Multicom and Sigma Supercontroller protocols and also supplies the Progressive Return Formats.

18. If a serial protocol is required, select the appropriate protocol from the list and press < ENTER >.

Refer to Appendixes A through N for valid selections for each machine type.

If machines of different types are connected to the same ProLINK, do steps 19 through 23; otherwise, skip to step 24.

19. Press < A > to select the *Set Alternate Machine* option. This operates the same as the **M** option, but allows you to change the configuration for an individual slot machine.

    ProLINK prompts you for the machine's input number on the line, *not* the machine's house number.

20. Type the machine's number and press < ENTER >.

21. Type the number that corresponds to the machine's signal type, as listed in step 8 and press < ENTER >.

22. Enter the denomination and press < ENTER >. Refer to step 9 for a list of denominations and codes.

23. Type the machine's house number and press < ENTER >.

    Continue with step 24 for **all** machine types:

24. Press < P > to select the *Set Progressive Jackpot Level* option.

    ProLINK monitors as many as eight (8) different jackpot levels at one time. Each level must be entered separately using the **P** option.

25. Type the appropriate jackpot level number. Level "0" is usually the top jackpot.

    Next, the ProLINK requests a Progressive Type.

26. Press < 1 > to enable the ProLINK with the standard progressive type, or press < 0 > (zero) to disable the progressive type.

    Press < 4 > to enable a special type for IGCA machines (Level 0 only).

    Note: If the progressive type is an IGCA machine, no escrow is used and decrement amounts are used. Any jackpot below Level 0 will decrement the Level 0 JP by specified amounts. Enter the amount to decrement JP by (JP1 - JP 7). If no decrement is desired, enter 0.

The starting jackpot amount must be entered next.

27. Type the amount in dollars and cents and press < ENTER >.

28. Type the amount in dollars and cents for the maximum jackpot and escrow amounts, pressing < ENTER > after each value is entered.

    Note: A maximum escrow amount of 0.00 will disable the hidden jackpot feature.

29. Type the jackpot increment primary and secondary rates in percentages and press < ENTER > after each entry.

    Note: The secondary increment is used after the maximum jackpot amount is reached.

30. Type the jackpot increment primary and secondary rates in percentages for the escrow rates and press < E N T E R > after each entry.

    Note: These values are entered only if the maximum escrow is greater than zero.

31. Press < Y > or < N > to use master/slave link type for the level.

    If the ProLINK is a stand alone version, this option has no effect. If the ProLINK is a master or slave and you select N, *this jackpot level will be treated as a stand alone progressive jackpot, ignoring the input from other ProLINKs.*

    The ProLINK stores all the configuration information and returns to the command prompt.

Other ProLINK Options

The remaining options, listed in alphabetical order, are unnecessary during initial start up. Select them as they are required for your system

E Set Current Escrow Amount

Use this option if the escrow amount needs to be changed without changing the jackpot amount. ProLINK requests a jackpot level.

1. Type the jackpot level number and press < ENTER >.
2. Next, type the new escrow amount and press < ENTER >.

Important: It is a gaming regulation violation to lower the escrow amount unless there was a malfunction, for example, a missed jackpot.

G Get Data From ProLINK

This option retrieves information from the controller. Pressing the **G** hotkey displays the "Get ProLINK Setups Menu:"

Press the key that corresponds to the desired secondary option in the following list:

A Get Jackpot Amount

This option displays the current jackpot amounts for all levels.

D Get ProLINK Date & Time

This option displays the ProLINK current date and time.

E Get Escrow Amount

ProLINK displays the current escrow amount for all levels.

H Get Jackpot History

This option displays the last one hundred jackpots registered on that ProLINK controller. The listing shows the ProLINK record number, the jackpot level, the machine ID, winning jackpot amount, reset amount, date, time, current status, and total Coin In for each jackpot.

I Get ProLINK Communication ID

This option displays the ProLINK communication ID.

J Get Active Jackpots

This option displays jackpots that are currently active. The listing shows record, level, house number, input number, link ID, win amount, reset amount, date, time, and status.

L Get ProLINK Link Type

This option displays the ProLINK's link type: standalone, master, or slave.

M Get Machine Configuration

This displays a listing of machines currently connected to the ProLINK controller, including their ProLINK record numbers, machine signal types, house numbers, denominations, total Coin In, the Progressive Return Communication Formats, and the game serial protocols. The ProLINK scrolls through all thirty-two machines before returning to the command prompt, even if there are fewer than thirty-two machines on the link.

You can press < Q > at any time during the scroll to interrupt the **G** option.

N Get ProLINK Name

This option displays the ProLINK's name.

P Get Progressive Configuration

This option displays the current progressive configuration. The listing shows the jackpot level, progressive type, minimum and maximum jackpot and escrow levels, primary and secondary rates for jackpots, escrows, the current disable after jackpot settings, and use link setting flags.

R Get Reset History

This option displays the records that show when power to the ProLINK controller has been reset. The listing includes record number, date, and time.

S Get Slave Communication Info

This option displays the status of all communications links between the ProLINK controller and other devices. The total number of errors detected is also displayed.

Note: This command is only useful on a master ProLINK. It is also best to use the system In/Out port as the RS232 port is lost when the ProLINKs are communicating in Master/Slave mode.

V Get ProLINK EPROM Version

This option displays the ProLINK EPROM version, date, and checksum.

W Get JP Decrement Amounts

The IGCA-type progressives will return the amounts by which the lower level jackpots increment the JP0. This is used only for the IGCA-type progressive.

1 Get Auxiliary Sign Protocol

Displays either the jackpot or escrow amount that is being displayed on an auxiliary sign.

3 Get Meter Sync Config

Displays the meter configuration selections, if entered using option 3, *Set Meter Sync Config* (see option at end of this list).

K Disable Progressive After JP

Most jurisdictions require that a progressive jackpot be paid before removing it from a casino floor. This option forces the ProLINK to not increment the sign after the next progressive jackpot.

Press < Y > to disable or < N > to enable the progressive after the next jackpot.

N Set ProLINK Name

Enter the name for this ProLINK Controller; up to 30 characters, alphabetic.

Q Quit Program

This option returns the user to a DOS prompt.

R Reset or Clear a Jackpot

Should a false jackpot occur, selecting the **R** option allows the user to edit the jackpot status and reset the jackpot and escrow amounts to their previous levels. When this option is selected, ProLINK requests the jackpot record number.

1. First, determine the record number by pressing < G >, then < H >, at the command prompt to select the *Get Jackpot History* option.

2. Type the desired record number and press < ENTER >.

   ProLINK provides three options for the jackpot record: Cancel, False, and Paid.

3. Type the corresponding option number and press < ENTER >.

   If the process is canceled, the ProLINK returns to the command prompt. If False or Paid is selected, the ProLINK requests a new jackpot amount.

4. Type the new amount and press < ENTER >, or press < 0 > (zero) to leave the amount unchanged.

   ProLINK requests a new escrow amount.

5. Type the new escrow amount and press < ENTER >, or press < 0 > (zero) to leave the amount unchanged.

S Set Current Jackpot Amount

The ProLINK requests the jackpot level. Selecting this option allows you to set the current jackpot to a user-entered amount.

1. Type the jackpot level number and press < ENTER >.
2. Next, type the new jackpot amount and press < ENTER >.

ProLINK returns to the command prompt.

T Set or Clear Test Mode

The ProLINK system provides a method to test ProVIEW meters, controllers, and machines. Selecting this option sets the test mode.

1. At the "Start Coin In Test?" prompt, press < Y > to begin.

   During the test, when a played coin is registered in a machine connected to this ProLINK, all overhead meters and the specific in-machine meter will display the machine house number.

2. Press < T > again when you wish to Clear the Test Mode.
3. At the prompt, press < N > to end.

   If the ProLINK is reset for any reason, it will no longer be in test mode.

V Configure ProVIEW Logic Board.

The ProLINK Configuration Menu provides an ANSI terminal emulator through which you can access the ProVIEW 2.x software.

After selecting this option, connect the PC to the ProVIEW with the DB9 pin to the 3-wire connector.

X Download Message to ProVIEW.

This command is used to download a scrolling text message to a ProVIEW meter.

ProLINK requests the ID of the sign to receive the downloaded message.

1. Type the ProVIEW ID number and press < ENTER >.
2. Type the jackpot level and press < ENTER >.

   ProLINK requests the interval. The interval is the time in seconds (30-2550) between the end of one message and the start of the next.
3. Type the number of seconds and press < ENTER >.

   ProLINK requests the message number. Message numbers range from 0-9 and are displayed in order. ProLINK can store up to ten messages at a time.
4. Type the message number and press < ENTER >.

   ProLINK requests the message speed, which is not active at this time.
5. Press < 0 > (zero) to choose the default speed and press < ENTER >.

   ProLINK requests the message text. The message length depends on the sign size.

0 Zero ProLINK Memory and Config

This option is used to clear the ProLINK RAM. This option should be selected when configuring a ProLINK controller for the first time to clear any parameters that might have been added during testing or a previous configuration.

1 Set Auxiliary Sign Protocol

Allows display of either jackpot or escrow amount on ProVIEWs connected to a ProLINK's auxiliary sign port.

3 Set Meter Sync Config

ProVIEW EPROM Versions 3.11c and later have a mode in which the meters of different ProVIEWs will track each other within a few cents (in other words, will display the same dollar amounts on their respective meters).

Enable the ProLINK Meter Sync mode as follows:

1. Type < Y > to synchronize meters, < N > to leave meters as they are.

   The prompt “Enter lag variances in dollars and cents” appears.

2. Type the dollar amount (999999.99) and press < ENTER >.

   This value should be low, especially if the jackpot does not increment rapidly.

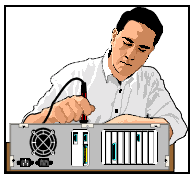
   The prompt “Enter time period in seconds” appears.

3. Type the time period (in seconds) you want to set for the lag and press < ENTER >.

   The time period should be between one and five seconds.

   If the ProVIEW meter does not support this mode, make sure option 3 is set to Off.

   Once enabled, the ProVIEWs will force themselves to reach the current amount minus lag value in ‘time period’ seconds.



Testing

After the ProLINK is installed and configured, the link must be tested before opening the bank of machines.

Follow these steps:

1. Verify that the jackpot amount(s) are displayed properly on all meters and games.
2. If the amounts do not display correctly, troubleshoot the problem(s) and correct them (for example, improper wiring, inaccurate configuration, and so on).
3. Test the game signals by putting the ProLINK in test mode and coin-testing all machines.

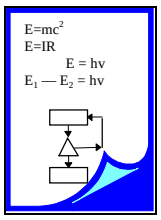
   Verify that when a coin is played, the house number is displayed on the meters.

   If house number does not appear, you need to correct the problem. For example, ProLINK may not be properly connected to this game or either ProLINK or the game is not properly configured. Refer to "Troubleshooting" later in this manual.
4. Take the ProLINK out of test mode.
5. Verify that the Rate of Progression (ROP) is correct by playing coins and watching the meter increment.

   We recommend that you play several coins to ensure that the meter is incrementing properly and no rounding errors occur.

   The rate of progression is the amount a jackpot is increased as a percentage of dollars played. A 1% ROP will contribute one penny to the jackpot for every dollar played (if the machines are quarter denomination, then four coins must be played to increment the jackpot by one penny). The chart on the following page shows various ROPs with the appropriate PL entry and number of coins to incrementa a jackpot by one penny.

ROP (%)	PL.EXE ROP Entry	Number of coins to increment JP by 1 penny		
		Dollar Game	Quarter Game	Nickel Game
1	1.0	1	4	20
1/2	0.5	2	8	40
1/4	0.25	4	16	80
1/8	0.125	8	32	160
1/10	0.1	10	40	200
1/16	0.0625	16	64	320



Technical Reference

Hardware Requirements

See the Setup section in this manual for the minimum hardware requirements.

Hardware/Firmware Prerequisites

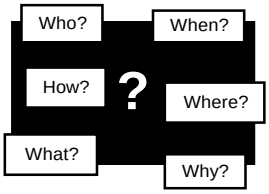
- ProLINK Firmware Version 1.04D as a minimum (Aristocrat ProLINK Pigtail and Bally Serial Pigtail). All others require Version 1.04A as a minimum.
- ProLINK connected as master/slave Version 1.07.
- The discrete wiring of machines may use a maximum of one thousand feet of twenty-two (22) AWG stranded wire (CDS P/N 05-10009).
- The wiring for overhead signs requires two pair (4) conductor, twenty-two (22) AWG stranded, shielded, twisted pair wire, as does the linking for progressive controllers.

Software Prerequisites

PL.EXE Version 1.08.

Supported Devices

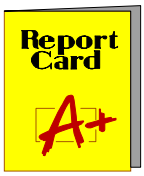
The ProLINK Progressive Controller is compatible with all CDS Progressive meters.



Trouble Shooting

The trouble shooting section is provided to help diagnose any problems encountered with the system.

Problem: ?	**Meters do not increment.**
Solution: ☑	1. Verify ProLINK setup (particularly machine, progressive, and links). 2. Verify game setup. 3. Verify wiring. 4. Check coin pulses for 50 ms accuracy, ±10ms with slope.
Problem: ?	**Meters increment but no jackpot lock up or reset.**
Solution: ☑	Check wiring setup and machine type.
Problem: ?	**Meters increment, jackpot resets when hit, but winning amount does not show on meter.**
Solution: ☑	Check to ensure that all meters have proper ID. In-machine meters (IDs 1–32) show the winning amount only if the specific machine hit.
Problem: ?	**If any of the above problems occur and cannot be fixed, what should we do?**
Solution: ☑	The problem is probably on a component level. Call CDS for assistance.



User Response Notes

Any errors, omissions, or suggestions for improvement to this manual should be reported to:

Casino Data Systems
3300 Birtcher
Las Vegas, NV 89118

Attn.: Publications Department

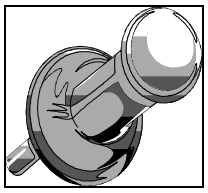
Tel: 1-800-748-4156

Fax: (702) 269-5171

Please let us know how you would rate this manual:

❑ Excellent ❑ Adequate ❑ Needs Improvement

Suggestions for improvement:



Appendices

Appendix A -ProLINK Harnesses

- ProLINK Type “A” Harness (F100101HA).
- ProLINK Type “B” Harness (F100306HA).
- ProLINK Type “C” Harness (F100227HA).

Appendix B - Sigma Con 1 Pigtail (F100691HA) Wiring Diagram

Appendix C - Aristocrat Pigtail (F100673HA) Wiring Diagram

Appendix D - Bally Serial Pigtail (F100307HA) Wiring Diagram

Appendix E - Bally Nonserial Pigtail (F100228HA) Wiring Diagram

Appendix F - IGT Fortune I Pigtail (F100602HA) Wiring Diagram

Appendix G - Games West Pigtail (F100440HA) Wiring Diagram

Appendix H - IGCA ProLINK Pigtail (F100302HA) Wiring Diagram

Appendix I - P & M ProLINK Pigtail (F100690HA) Wiring Diagram

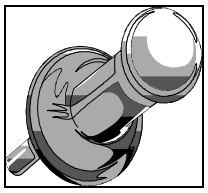
Appendix J - IGT PE/S-Plus Pigtail (F100685HA) Wiring Diagram

Appendix K - IGT S-Slot Pigtail (F100689HA) Wiring Diagram

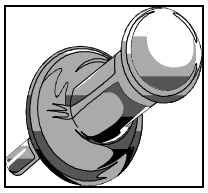
Appendix L - Universal ProLINK Pigtail (F100255HA) Wiring Diagram

Appendix M - CDS VIG-I ProLINK Pigtail (F100714HA) Wiring Diagram

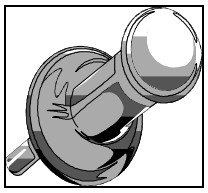
Appendix N - Williams Pigtail (F100584HA) Wiring Diagram



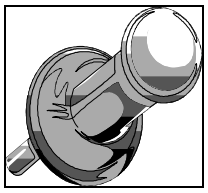
Appendix A - ProLINK Harnesses



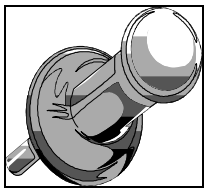
Appendix B - Sigma Con 1 Pigtail (F100691HA) Wiring Diagram



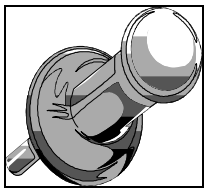
Appendix C - Aristocrat Pigtail (F100673HA) Wiring Diagram



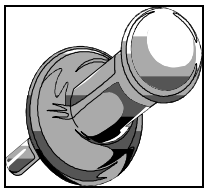
Appendix D - Bally Serial Pigtail (F100307HA) Wiring Diagram



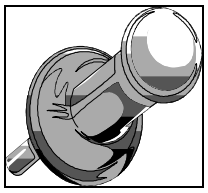
Appendix E - Bally Nonserial Pigtail (F100228HA) Wiring Diagram



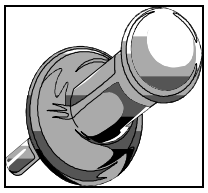
Appendix F - IGT Fortune I Pigtail (F100602HA) Wiring Diagram



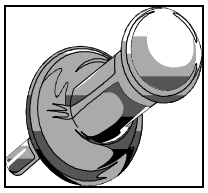
Appendix G - Games West Pigtail (F100440HA) Wiring Diagram



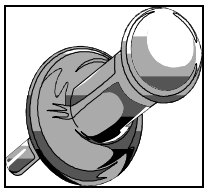
Appendix H - IGCA ProLINK Pigtail (F100302HA) Wiring Diagram



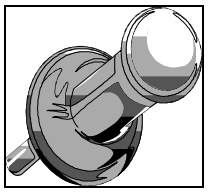
Appendix I - P & M ProLINK Pigtail (F100690HA) Wiring Diagram



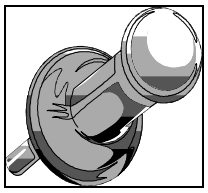
Appendix J - IGT PE/S-Plus Pigtail (F100685HA) Wiring Diagram



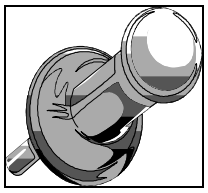
Appendix K - IGT S-Slot Pigtail (F100689HA) Wiring Diagram



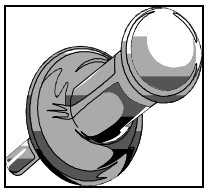
Appendix L - Universal ProLINK Pigtail (F100255HA) Wiring Diagram



Appendix M - CDS VIG-I Pigtail (F100714HA) Wiring Diagram

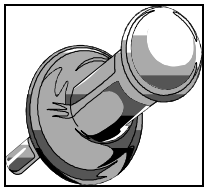


Appendix N - Williams Pigtail (F100584HA) Wiring Diagram



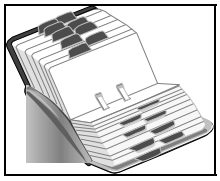
Appendix O - IGT 960 Series (F100783HA) Wiring Diagram

Note: The following Selection Guide and Wiring Diagram were added to this manual on 9/17/97.



Appendix P - Atronic Serial Communications Board (F100785AE) Wiring Diagram

Note: The following Selection Guide and Wiring Diagram were added to this manual on 10/2/97.



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