

## Control

*This chapter describes the keypad presses and remote control commands required to use your **Prima LT Plus***

### 4 Command and Control Summary

There are three ways to control the **Prima LT Plus**: the front panel keypad and display, a remote terminal, or the optional Windows<sup>®</sup> Remote Control program. You can enter all commands and access all functions by working through the command menu using the built in cursor controls, alphanumeric keypad and LCD display. A computer (running any terminal emulation program) or terminal can connect to the **Prima LT Plus** for configuration and control using the built in commands and the powerful PLL (Prima Logic Language) command language. Using a computer or terminal makes it possible to send and execute a large number of commands and actions to a far end **Prima** series codec, including a **CDQPrima**, **Prima LT** or **Prima LT Plus**. An easy-to-use Windows<sup>®</sup> Remote Control program is also available for configuring and controlling up to 30 locally attached and far-end **Prima** series codecs, and adds features not available with the other control methods.

Only the basic **Prima LT Plus** functions will be discussed here. More advanced control functions, such as Prima Logic Language and psychoacoustic parameter adjustments are discussed in the **CDQPrima Technical Reference Manual**, available from MUSICAM USA or on-line at [www.musicamusa.com](http://www.musicamusa.com).

The **CDQPrima Remote Control Manual**, available upon request, discusses the full command syntax for the nearly 200 commands available to control the **Prima LT Plus** from a terminal. Please note that on-line help is available for all commands.

All three methods of **Prima LT Plus** control are discussed in this guide. For each function, the terminal commands and the Windows ‘clicks’ are shown next to the menu commands. Function and syntax details of each command are available on-line or can be found in the [CDQPrima Remote Control Manual](#).

#### 4.1 Menu Navigation using Keypad and Display

Most **Prima LT Plus** functions can be set from the front panel keypad using the menu on the LCD display.

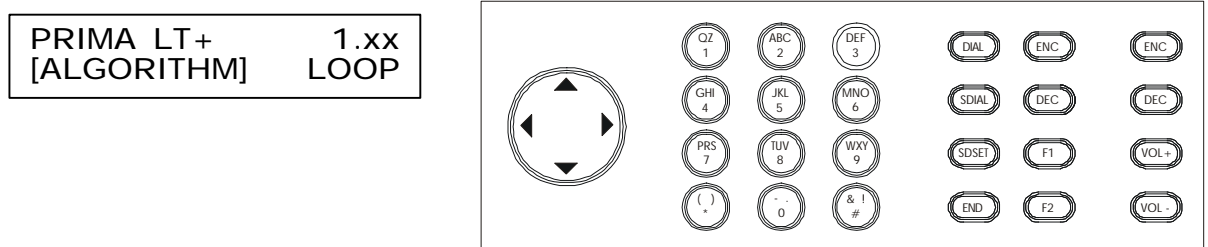
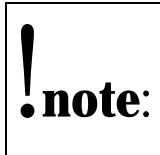


Figure 4-1 **Prima LT** Display and Keypad

The following discussion of menu navigation is based on the keypad and display as shown in Figure 4-1. To use the keypad and display, use the arrow keys to move the cursor (the [ ] brackets) to the desired selection. Press the **ENTER** key to execute that selection or move down one layer of the menu tree. Pressing the up arrow key at any time will bring you up one layer of the menu tree. *At any given time, only a limited number of the available options may be shown on the screen. Several presses of the left and right arrow keys may be required to scroll to the desired selection.*

Most functions, such as Encoder and Decoder Configuration and Terminal Adapter Setup, use “top-down” or “step-through” programming. This allows for rapid configuration, in a logical order, without excessive button presses. In addition, the **Prima LT Plus**’s menu structure will not allow improper configuration.

The alphanumeric portion of the keypad is used to enter numbers or text for those commands that require it. Each key of the alphanumeric keypad represents up to four characters. For example, pressing the “QZ1” key once will enter a “1.” The second press of the same key will enter a “Q,” the third press a “Z,” and the fourth press will enter a space. Once the first character of the string is displayed, use the right arrow to move to the next character until all desired characters are displayed, then press **ENTER** to execute the command. **A space is added**



**to the character string by pressing the “1” key four times, not by moving the cursor to the next position with the arrow key.**

Two shorthand notations will be used throughout the remainder of this manual. Examples are shown here:

**A complete, pull-out *Prima LT Plus* menu tree can be found in Appendix C.**

			ISO
		MPEGL2	CCSN
			CCSO
	Decoder	MPEGL3	
		G722	
Loopback			
Interface			

and

<Algorithm><Encoder><MPEGL2><ISO>

Both notations shown above have the same meaning: Start at the top of the menu tree, move the cursor (the square brackets) to “Algorithm” and press **ENTER**. Next, select “Encoder” and press **ENTER**, move the cursor to “MPEGL2” and press **ENTER**. Finally, move the cursor to “ISO” and press **ENTER**.

In addition, many setup parameters are ordered in a “top-down” or “step-through” configuration. For example, when configuring a terminal adapter, information is entered in a logical order without having to search for parameter menus or scroll past unnecessary parameters. At any time, the up arrow can be pressed to go back up one level in the setup sequence.

## 4.2 Remote Control Considerations

If you will not be using remote control, you can skip the remainder of this chapter.

The **Prima LT Plus** may be completely remote controlled from a host computer or terminal. The computer or terminal can be co-located with the **Prima LT Plus**, or can be located thousands of miles away and connected through a modem. The remote control connection can be made directly, through a modem, or even through the network carrying the compressed audio bit-stream. A rich command set can be used to control the entire operation of the **Prima LT Plus**. See the **CDQPrima Remote Control Manual** and the **CDQPrima Technical Reference Manual** for a complete description of **Prima LT Plus** remote control commands. A powerful and easy-to-use remote control program that operates under Microsoft Windows® is also available. Alternatively, any

terminal emulation program can be used on any computer platform as long as up to 9600 Baud, 8 data bits, 1 stop bit, and no parity is supported.

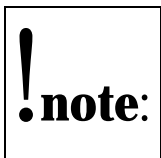
#### 4.2.1 Remote Control

The **Prima LT Plus** can be locally controlled and configured via RS232 or RS485. The RS232 and RS485 port, labeled “REMOTE CONTROL,” is not a standard configuration, and a special cable is required. Refer to Appendix A of this manual for the wiring of the required adapter cables. Control and configuration from a remote location can also be accomplished through the digital network.

#### 4.3 Computer Or Terminal Control

The RS232/RS485 remote control port permits control and operation of the **Prima LT Plus** from an attached terminal or computer. Computer control can be either from a terminal emulation program or from within a user written control program. These user programs can be written in any language that supports RS232 or RS485 I/O, and are beyond the scope of this manual. Any terminal emulation program that supports VT-100 emulation can be used, including those programs that come standard with Microsoft Windows. Terminal emulation programs are available for most platforms, including IBM, Macintosh, and Sun.

Only one RS232 device can be controlled from a single RS232 terminal; however, RS485 control allows multiple **CDQPrima** or **Prima LT** series codecs to be controlled from a single controller in an addressed fashion. Refer to the **CDQPrima Technical Reference Manual** for RS485 remote configuration and other considerations. **Please note that it may be necessary to use the keypad and display method to make the RS232/RS485 control active for the first time. Also note that non-standard cables are required for remote control.** Refer to Appendix A for cable information.



#### 4.4 Windows® Remote Control



You can download a 30-day trial version of the Windows Remote Control Program from our Web Site:

[www.musicamusa.com](http://www.musicamusa.com)

A Windows remote control program is optionally available for use with all **CDQPrima** and **Prima LT** series codecs. This is by far the easiest method of controlling the **Prima LT Plus**, but it does require a computer running Microsoft Windows version 3.0 or higher. No Macintosh version is currently available, but this program will run using most Windows Emulation software packages. This is a full control program using the familiar features of Windows, such as drop-down menus, dialog boxes and icons. Using the RS485 interface, multiple units can be controlled within the same window. As with terminal control, it may be necessary to use the keypad and display method to configure the remote port of the **Prima LT Plus** before the Windows control program can be used. The Windows control program also makes control of the far end **CDQPrima** or **Prima LT** series codec a simple point-and-click procedure. Additional features, such as a VCR-like timer, psychoacoustic parameter adjustment and hot keys are available only when using the Windows Remote Control program with **Prima LT Plus**. A sample screen is shown below:

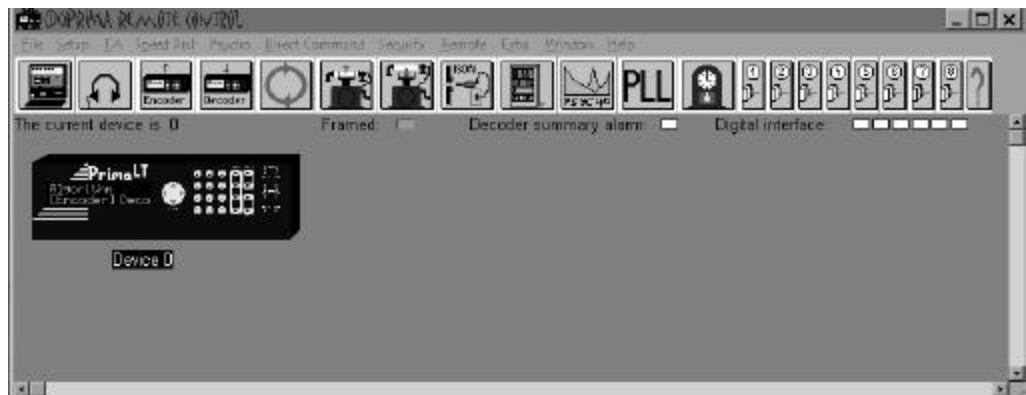


Figure 4-2 Main Screen for Windows Remote Control

**!note:**

Please note that in the following listings, an 'N/A' in the columns representing the Windows 'clicks' means that there are no shortcut 'clicks' for this function. You can still access that function using the 'Direct Command' pull-down window available in the Windows program.

### 4.5 Configuring The Remote Control Port

System Setup	Remote Control	Port Baud	Echo	Protocol	RS232
					RS485 ID Mode

MENU NAVIGATION	COMMAND	WINDOWS RC	DESCRIPTION
<System Setup><Remote Control>	CID	Remote, Settings	Set RS485 ID
<System Setup><Remote Control>	CPC	Remote, Settings	Set RC protocol
<System Setup><Remote Control>	CRB	Remote, Settings	Set RC port baud
<System Setup><Remote Control>	CRE	Remote, Settings	Set RC echo
<System Setup><Remote Control>	CRI	Remote, Settings	Set RS232/RS485
<System Setup><Remote Control>	CRM	Remote, Settings	Set RS485 port mode

The remote control port may need to be configured before it can be used. The factory default configuration is 9600 baud RS232, no parity, 1 stop bit and 8 data bits. If any settings are not as specified in the factory defaults, you must configure the port from the front panel keypad before it can be used.

Please note that non-standard cables are used for both RS232 and RS485 remote control. Refer to Appendix A for cable information.

Set up the remote control interface from the keypad by selecting the

<System Setup><Remote Control>

menu. Next, select the port baud rate. Supported rates are 1200, 2400, 4800, 9600 and 19,200 bps.

Next, select Command Echo (duplex). Under normal conditions, this should be set to YES. Protocol should be set to NO when using a terminal emulation program, YES when using the Windows Remote Control program. For a complete description of command protocol, refer to the ***CDQPrima*** Technical Reference Manual.

Next, select the port configuration, RS232 or RS485. If RS232 is selected, the configuration is complete. If RS485 is selected you must now assign a unique address (1 – 30) to the remote control port and select the interface type: 2 wire, 4 wire master or 4 wire slave. For most

applications, select 4 wire slave. For a complete description of these modes, refer to the **CDQPrima** Technical Reference Manual.

#### 4.5.1 RS485 Terminations

Since RS485 is an addressed bus capable of supporting over 30 devices, terminations must be used on the controlling device and on the last device in the chain. If only a small number of codecs, less than 4, will be connected to the RS485 controller, then you do not need to worry about terminations, unless the total wire length is over 50 feet. For long wire lengths, or more than 4 codecs, you must remove the terminations on all codecs except the last unit on the wire.

Carefully open the **Prima LT Plus**, and you will see two banks of DIP switches near the rear of the unit. Move all switches to the OFF position to deactivate the terminations. If your codec is equipped with the optional opto-relay board, this board will have to be removed to access the switches.

#### 4.6 Far-End Remote Control

When using a terminal or the Windows Remote Control program with your **Prima LT Plus**, you not only have full control of your **Prima LT Plus**, but you also have full control of any **CDQPrima** or **Prima LT** series codec *at the far end!*

This is a very powerful feature, but is beyond the scope of this manual. Please refer to the **CDQPrima** Technical Reference Manual for further details.