

3.1 Entering Level II Code with the RCU

Here are the steps for entering *Programming Mode* and entering Level II codes into the LD-V8000 using the RU-V6000T remote control unit (RCU):

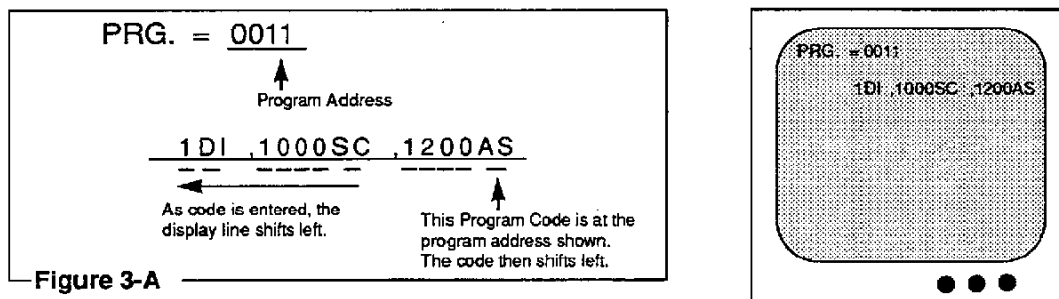
3.1.1 Entering Programming Mode

Pressing the PROGRAM button on the RCU when the player is ON, or when it is in *Manual Mode* (i.e. when a disc has been spun-up, played and stopped) puts the player into *Programming Mode*, ready to receive Level II program code input. You will see an on-screen program address indicator appear on the video monitor attached to the LD-V8000. If no argument is specified before the PROGRAM button is pressed,

programming will begin at address 0. If an argument is used, programming will begin at the specified program address.

3.1.2 Screen Display

When the player is in *Programming Mode*, the monitor displays a four digit (decimal) program address at the upper left of the screen. Mnemonics representing one or more sequential program codes are displayed on a second line. The displayed program address is the address of the rightmost byte of code (command, argument digit, or data) displayed on the second line.



Notice: Each argument digit or command takes up one byte.

The rightmost code byte is special, its value may be replaced by a code entry from the RCU. When a new code replaces an old code, the display shifts to the right so that the next code byte in active memory is displayed as the rightmost mnemonic. While in *Programming Mode*, the PROGRAM button does not enter a replacement code, it preserves the codes displayed and just shifts the second line left to display the next program code. By pressing the PROGRAM button repeatedly, entire program segments can be reviewed and verified.

The displayed mnemonics differ depending upon the contents of each byte. Each argument digit code is displayed as a one-digit numeric character. Other codes are displayed in a three-character area followed by a comma. Most commands are displayed as a 1, 2, or 3-character mnemonic. Other program codes are displayed as a hexadecimal value preceded by an asterisk (i.e. *BA). A code value being entered using the "Hex Code Entry" method starts to appear on screen in Hex, but the code's mnemonic, if any, is used in the display as the code byte shifts left.

For example, the Set Frame Mode command has no single corresponding RCU button. **Appendix B, Alphabetical List of Level II Commands** indicates that the Hex code is 8E and the mnemonic is SFM. As the first Hex digit (the "8") is entered, one can see an "*8" on the screen. However, as the second Hex digit (the "E") is pressed, the display will shift to the left showing the SFM command mnemonic and the displayed program address will be incremented by one.

3.1.3 Entering and Changing Program Code

When the RU-V6000 RCU is used to enter program codes, bytes of code in memory are changed one byte at a time. The program address displayed on the screen indicates the memory location of the code byte that will be changed by an entry. The entry is a simple one-for-one replacement - a code cannot be inserted between other codes in memory. If an erroneous code is discovered, a correct code can be rewritten over the offending code. However, if a code is omitted, a whole section of codes may have to be re-entered.

As codes are entered into RAM with the RCU, the program address is incremented by one each time a byte of code is entered. During entry, press the PROGRAM button instead of entering a code value to "skip over" a byte of code without replacing it.

RU-V6000T Remote Control Unit
Buttons used for Level II Programming

In Programming Mode, the following codes can be sent directly to the Player's memory from the RCU with one button press:

<p>STOP</p> <p>AUDIO 1/L</p> <p>INPUT</p> <p>SEARCH</p> <p>RECALL</p> <p>BRANCH</p> <p>MULTI-SPEED SET Slow Fast</p> <p>MULTI-SPEED PLAY Fwd. Rev.</p> <p>STEP Fwd. Rev.</p> <p>The Digits 0-9</p>	<p>Pressing PLAY prepares the player to receive a two-digit Hex Code entry, using 0-9 and A-F.</p> <p>Buttons A-F can be used for Hex Entries.</p> <p>Buttons 0-9 are used for most arguments.</p>
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Press **PROGRAM** to put the player into *Programming Mode*, ready to receive Level II code. Press **END** to exit *Programming Mode*.

Press **RUN/BRANCH** in *Manual Mode* to execute Level II program code stored in the player's memory. In *Programming Mode* use it to enter a **BRANCH** command to loop back to a specific program address.

Press **CLEAR/HALT** to stop Level II program execution. In *Programming Mode*, it enters a **HALT** command into Level II code.

Press **RECALL** to examine register data. Use **STORE** to load data into registers.

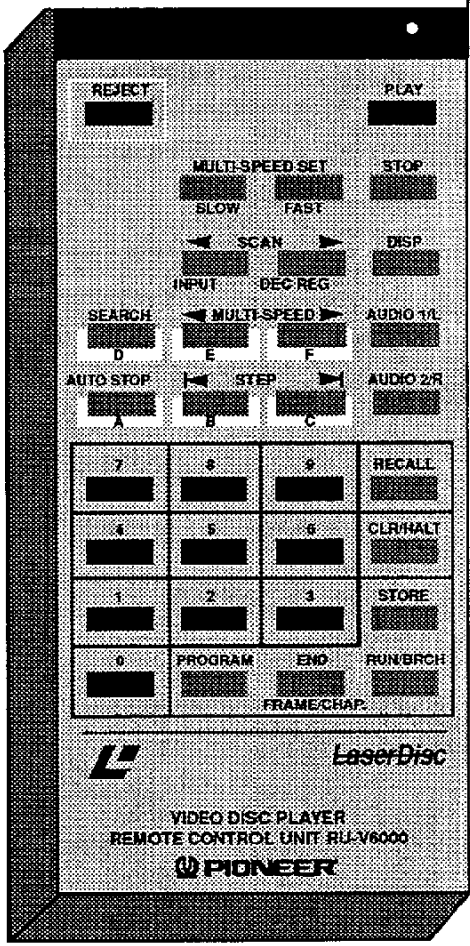


Figure 3-B

For descriptions of specific buttons on the RU-V6000T for Level I control, please see the **LD-V8000 Level I & III User's Manual/Programmer's Reference Guide**.

Chapter Three • LD-V8000 Level II

Level II code can be entered into the player's RAM with the RCU by using either the **Direct Code Entry** method or the **Hex Code Entry** method, as described below:

• **Direct Code Entry:**

This is the one-button press method usually used for entering the command codes which have a single RCU button assigned to them (except Play). Using these convenient one-press entries, the user can enter most arguments and the most commonly used commands with just the RCU's numeric and command keys. The RCU buttons other than REJECT, PLAY, PROGRAM, and END can be used for one button-press entries. If the PROGRAM button is pressed, new data is not written into the current byte - the old value is retained and the next byte of the program memory is displayed.

Example #1: Use the **Direct Code Entry** method. At program address 100, enter the following program:

250 Search, 350 Auto Stop, Halt

To enter and run the program use the following sequence of RCU button presses:

100	PROGRAM	Start entering code at program location 100.
250	SEARCH	Search to frame 250.
350	AUTOSTOP	Play to frame 350.
	HALT	Stops execution of Level II program.
	END	Exits programming mode.
100	RUN	The player will begin to execute the program code at program address 100.

• **Hex Code Entry:**

Commands not represented by an RCU button and most data codes must be entered using a three-button press method. Any and all code values (0 - 255, or 00 to FF) can be entered using this method. After the PLAY button is pressed, use the 0 through 9 digit buttons and the A through F function buttons on the RCU to input a two-digit hexadecimal code value as explained below.

While in *Programming Mode*, press the PLAY button to enable the player to accept entry of a single byte of Hex code. The rightmost mnemonic displayed on the screen changes to *00. Enter a two-digit hexadecimal code using the 0 to 9 and A to F buttons. (For example, the Step Forward button becomes the Hex digit C). Refer to the information in **Chapter 4** and/or **Appendix B** for Hex code equivalents. When the two-digit code has been entered, the corresponding one-byte code is written into the program memory and the program address is increased by one. To enter another byte of code using the Hex Code Entry method, the PLAY button must be pressed again.

Example #2: At Program location 300 enter the following program, using **Direct Code Entry** (one button press) and **Hex Code Entry** (three button presses) as necessary:

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Set Frame Mode, AUDIO OFF
1200 SEARCH, 1350 AUTO STOP
50 WAIT, 300 BRANCH
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Use the RCU button presses below:

300	PROGRAM	Player is put into <i>Programming Mode</i> , beginning at program address 300.
	PLAY 8 E	Set Frame Mode, Hex 8E. (SFM is displayed on screen.)
	PLAY A 0	AFF command turns both Audio channels OFF
1200	SEARCH	Searches to frame 1200.
1350	AUTO STOP	Plays the video segment 1200 to 1350.
50	STOP	Waits for five seconds.
300	BRANCH	Loops to location 300 to repeat the video segment.
	END	Exits <i>Programming Mode</i> .
300	RUN	Begin Level II execution at Program Address 300.

In the previous example, when the 300 RUN command is given, the player will execute the Level II program (*Automatic Mode*), repeating the video sequence over and over because of the 300 BRANCH command. To stop the program execution, press the CLEAR/HALT button (the HALT command) on the RCU. A HALT changes the player's mode from *Automatic Mode* to *Manual Mode*. If the HALT occurs while the AUTO STOP command is being executed, the player will continue playing to the target frame (unless it is subsequently told to do otherwise).

3.1.4 Exiting Programming Mode

Press the END button on the remote control unit to exit *Programming Mode*, usually returning to *Manual Mode*.