

LaserBarcode 2 Commands & Logo (cont.)

Independent LaserBarcode 2 Commands

There are 26 independent LB2 commands: Fourteen "original" independent LaserBarcode commands and 12 "extended" independent LaserBarcode commands.

Original Independent Commands (CAV, CLV discs unless indicated)

1. **Video On** - Sets the video control attribute to "on." Video is turned on during playback.
2. **Video Off** - Sets the video control attribute to "off." Video is turned off during playback.
3. **Audio Stereo** - Sets the audio control attribute to "analog stereo," plays back left and right analog audio channels simultaneously.
4. **Audio Ch 1/Left** - Sets the audio control attribute to "analog channel 1," plays back analog left channel only.
5. **Audio Ch 1/Right** - Sets the audio control attribute to "analog channel 2," plays back analog right channel only.
6. **Audio Off** - Sets the audio control attribute to "off," mutes both analog and digital audio playback.
7. **Play** - Instructs the player to play the disc:
 - a) If player is in *Park Mode*, the Play command instructs the player to spin up and begin playing the disc.
 - b) If player is in *Still* or *Pause Mode*, the Play command instructs the player to resume playback of the disc from that point.
8. **Pause** - Instructs the player to halt playback of the disc and squelches the video. Pause can be used with both CAV and CLV discs.
9. **Step Forward** - Instructs the player to step 1 frame in the forward direction. Step Forward can only be used with CAV discs.*
10. **Step Reverse** - Instructs the player to step 1 frame in the reverse direction. Step Reverse can only be used with CAV discs.*
11. **Park Disc** - Instructs the player to stop playback, spin down the disc and put the player in *Park Mode*.
12. **Clear** - Instructs the player to clear a stop marker during motion sequences. For example, if a scanned barcode instructs the player to search to frame 1000 and play to frame 3000, sending the Clear command will clear the frame 3000 stop marker and playback will continue beyond that point on the disc.

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* Step Forward and Step Reverse barcodes can also be used with CLV discs played on the LD-V8000.

LaserBarcode 2 Commands & Logo (cont.)

Original Independent Commands

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The final two original independent LaserBarcode commands are designed for use in barcode development and testing. The Debug On and Debug Off commands allow the barcode developer to test printed barcodes to determine their accuracy. They are described below:

13. **Debug On** - Instructs the player to maintain various player settings so that barcodes can be tested. For example: If the Display is turned on by the user through the remote control unit or front panel button, scanning Debug On will instruct the player to maintain that setting for subsequent barcode commands. Normally, when barcodes are transmitted to the player, the Display is turned off. Debug On will also instruct the player to maintain previously set video and audio attributes. So, if the player is set to stereo with the video on, these attributes will be maintained even if the barcode you scan changes the attributes to a different setting. Again, this is done so the developer can test the accuracy of the general operation of the barcode.
14. **Debug Off** - Instructs the player to disable the Debug On mode and allows exact execution of the barcode as defined. Debug Off need only be used if Debug On has been previously set.

Extended Independent Commands (CAV or CLV discs, unless indicated)

15. **Start** - Instructs the player to spin up the disc from a park position and pause at frame 1 (CAV discs) or time number 0:00:00 (CLV discs) with video squelched.
16. **Digital Stereo** - Sets the audio control attribute to "digital stereo," plays back left and right digital audio channels simultaneously.
17. **Digital -Ch 1/Left** - Sets the audio control attribute to "digital channel 1," plays back digital left channel only.
18. **Digital -Ch 1/Right** - Sets the audio control attribute to "digital channel 2," plays back digital right channel only.

NOTE: Many discs do not have digital audio. Digital audio playback can only be implemented if digital audio is encoded on the disc. Please refer to the documentation for the particular videodisc in use.

NOTE: The Slow Forward and Slow Reverse commands below can only be used with CAV discs.

19. **Slow Forward 1*** - Instructs the player to play forward at 1/4 the normal speed.
20. **Slow Forward 2** - Instructs the player to play forward at 1/8 the normal speed.
21. **Slow Forward 3** - Instructs the player to play forward, displaying 1 frame / second.
22. **Slow Forward 4** - Instructs the player to play forward at 1 frame / 3 seconds.
23. **Slow Reverse 1** - Instructs the player to play in reverse at 1/4 the normal speed.
24. **Slow Reverse 2** - Instructs the player to play in reverse at 1/8 the normal speed.
25. **Slow Reverse 3** - Instructs the player to play in reverse, displaying 1 frame / second.
26. **Slow Reverse 4** - Instructs the player to play in reverse at 1 frame / 3 seconds.

* The Slow Forward and Slow Reverse speeds indicated are for Pioneer LB2 compatible players. These barcode commands may execute differently on other manufacturers' players because of the range of playback speeds allowed within the LB2 standard. See **Note** at bottom of page I-4.

LaserBarcode 2 Commands & Logo (cont.)

B. LaserBarcode 2 Search Commands

There are three LaserBarcode 2 Search Commands: Two original search commands and one extended search command.

Original Search Commands

1. **Frame Search - (CAV)** Instructs the player to search to the specified frame and enter *Still Mode*. This command can only be used with CAV discs.
This command was modified to include digital audio playback under LB2.
2. **Chapter Search - (CAV, CLV)** Instructs the player to:
 - a) search to the specified chapter and enter *Still Mode* on CAV discs.
 - b) search to the specified chapter and enter *Pause Mode* on CLV discs. †*This command was modified to include CLV chapter search and digital audio playback under LB2.*

Extended Search Command (CLV discs)

3. **Time Search - (CLV)** Instructs the player to search to the specified time number and enter *Pause Mode*. † This command can only be used with CLV discs.

C. LaserBarcode 2 Segment Play Commands

There are four LaserBarcode 2 Segment Play commands: Two "original" LaserBarcode Segment Play commands and two "extended" LB2 Segment Play commands.

Original Segment Play Commands

1. **Frame Segment - (CAV)** Instructs the player to search to the start frame number and play to the end frame number. When the motion segment is completed, the player enters *Still Mode*. This command can only be used with CAV discs.
This command was modified to include digital audio playback under LB2.
2. **Chapter Segment - (CAV, CLV)** Instructs the player to search to the start chapter number and play to the end chapter number. When the motion segment is completed, the player will:
 - a) enter *Still Mode* on the first frame of the next chapter on CAV discs.
 - b) enter *Pause Mode* on the first frame of the next chapter on CLV discs. †*This command was modified to include digital audio playback under LB2.*

Extended Segment Play Commands

3. **Time Segment - (CLV)** Instructs the player to search to the start time number and play to the end time number. When the motion segment is completed, the player enters *Pause Mode*. † This command can only be used with CLV discs.
4. **Special Effects Segment - (CAV)** Instructs the player to search to the start frame number and play to the end frame number in the slow motion forward or reverse directions. This command can only be used with CAV discs. Specify speed and direction as follows:

Direction	Speed on Pioneer LD Players*
Forward or Reverse	Slow Motion 1 = 1/4 x normal Slow Motion 2 = 1/8 x normal Slow Motion 3 = 1 frame / second Slow Motion 4 = 1 frame / 3 seconds

† On an LD-V8000 player this command will end in *Still Mode*.

* The speeds described in the Special Effects Segment Play Commands above, are specific to Pioneer LB2 compatible industrial videodisc players. See bottom of page 1-4 for range of Slow Forward and Slow Reverse playback speeds of the LB2 Standard.