

LaserBarcode 2 Standard Commands & Logo

1. Overview

As of September 1, 1992, the LaserBarcode Association* in Japan officially revised the original LaserBarcode standard command set to include 15 new “extended” commands. The new standard is called the LaserBarcode 2 Standard, or LB2. It includes all of the barcode functions available within the “original” LaserBarcode standard command set, and provides for time searches and time segment plays on CLV discs, slow motion playback on CAV discs and control of digital audio playback. The full complement of LB2 commands, (the “original” and “extended” commands) is supported by videodisc players that claim LaserBarcode 2 compatibility. Pioneer Communications of America, Inc. has adopted the LB2 standard created by the LaserBarcode Association.

The following Pioneer industrial videodisc players support LB2:

- All production units of the LD-V4400 and the CLD-V2400. Units produced before September 1, 1992, however, do not carry the LaserBarcode 2 logo because the standard was not announced at that time.
- LD-V8000 players manufactured after May, 1992, with serial numbers greater than ME3912276. An EPROM Upgrade Kit (Part # LDV8EP92) is available for LD-V8000 players manufactured before September 1, 1992 to make them LaserBarcode 2 compatible. LD-V8000 players manufactured after September 1, 1992 will carry the LB2 logo.

NOTE: The Pioneer LD-V2000 and the LD-V2200 support only the original LaserBarcode commands. They are LaserBarcode (LB) compatible, because they support the complete **original** LaserBarcode standard command set. They are **not** LB2 compatible.

CAUTION: Customers may find that the LD-V2200 and the LD-V2000 will execute LB2 time code searches or time code segment plays. However, these players do not support the full complement of LB2 commands and, therefore, are **not** LB2 compatible. Customers are cautioned not to rely on time code functionality on the LD-V2000 or the LD-V2200, because there is no guarantee that these player models will support LaserBarcode time code searches or segment plays in the future.

* The LaserBarcode Association consists of representatives from several major companies, including Pioneer Electronic Corporation, Sanyo, Sharp, Sony, Toshiba, Toppan Printing, NEC, Matsushita (Panasonic), Yamaha, Dai Nippon Printing, Nippon Colombia, Nippon Marantus, Fujitsu General.

2. The LB2 Standard Command Set

The LB2 Standard Command Set is listed below. Notice that the list is divided into “Original Commands” and “Extended Commands”. LB2 includes all of the “original” LaserBarcode standard commands and adds 15 “extended” commands: 12 new independent commands, one additional search command and two new segment play commands.

LaserBarcode 2 Standard Command Set	
<u>LB2 Independent Commands</u>	
<u>Original LB Independent Commands</u> <ul style="list-style-type: none"> • Analog Audio Stereo • Analog Audio Ch1/Left • Analog Audio Ch2/Right • Audio Off • Audio - No Change • Video On • Video Off • Video - No Change • Play • Pause • Step Forward (CAV) • Step Reverse (CAV) • Debug On • Debug Off 	<u>Extended Independent Commands</u> <ul style="list-style-type: none"> • Start • Digital Audio Stereo • Digital Audio Ch1/Left • Digital Audio Ch 2/Right • Slow Forward 1 (CAV) • Slow Forward 2 (CAV) • Slow Forward 3 (CAV) • Slow Forward 4 (CAV) • Slow Reverse 1 (CAV) • Slow Reverse 2 (CAV) • Slow Reverse 3 (CAV) • Slow Reverse 4 (CAV)
<u>LB2 Search Commands</u>	
<u>Original Search Commands</u> <ul style="list-style-type: none"> • Frame Search (CAV)* • Chapter Search* 	<u>Extended Search Commands</u> <ul style="list-style-type: none"> • Time Search (CLV)
<u>LB2 Segment Play Commands</u>	
<u>Original Segment Play Commands</u> <ul style="list-style-type: none"> • Frame Segment (CAV)* • Chapter Segment* 	<u>Extended Segment Play Commands</u> <ul style="list-style-type: none"> • Time Segment (CLV) • Special Effects Segment (CAV)

Each LaserBarcode 2 command is shown in the charts below with a sample barcode and a description of how the player responds when the code is scanned and transmitted to the player. LaserBarcode 2 Sample Barcodes include: Original Independent Commands; Extended Independent Commands; Original and Extended Search Commands; Original and Extended Segment Play Commands. **NOTE:** LB2 “extended” commands can be identified by a subscript 2 next to the barcode. (See examples on page 4.) Remember, extended LB2 commands are supported only by LB2 compatible players, as indicated on page 1 of this bulletin. (See player compatibility chart, **Figure 3**, on page 10.)

* Under LB2, these commands have been expanded to include control of digital audio playback.