

LB/LB86™

A Data Base Management System

Now with color support for MS-DOS

Supplemental Documentation



MISOSYS, Inc.

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MS-DOS Installation Procedures

Starting with version 2.3.0 and its support for color handling, LB86 eliminates the requirement for installing the ANSI.SYS driver. All cursor manipulation, screen clearing, and highlighting is performed via the computer's BIOS service calls.

TRS-80 Installation Procedures

In order to fit the LB files onto the "executable" disk, the four JCL files, CREATE, PROGRAM, PROGRAM2, and RUNTIME have been merged into one file, LBGEN/JCL. Invoke the individual procedure via a command of the form:

DO LBGEN (@proc)

where you replace "proc" with the name of the procedure.

TRS-80 Operational Note

LB operates via a set of overlay files. If during a menu selection, the required overlay is either not available or otherwise not accessible, LB will return to the main menu. If the menu overlay is not accessible, LB will abort to DOS.

Normal Start Up Procedures - LB Main Menu

General Information

MS-DOS implementation note

The MS-DOS version provides for user selection of foreground and background color in all screens presented during the operation of LB. A color selection will be specific to a database file, and is defined by the Define File Formats Edit sub-command. LB will use a default of white on blue if no color selection is made.

Each add/edit/update screen can also have its own unique color selection defined using the Define Screen Formats Edit sub-command. It will default to the database-defined color or the default LB color if a database color has not been defined.

Note that if you are upgrading from an earlier release and discover that the database is being presented in a strange color and/or attribute appearance, simply define a color selection using the Define File Formats Edit sub-command.

Several changes have been made in the operation of the LB Menus and command bars to improve the performance and friendliness of LB.

Because of several comments concerning the position of the cursor during sub-command selection in the various LB modules, the cursor is now positioned to the first column of the command bar highlight. As you move the command bar highlight through the various subcommands presented, the cursor will always remain in the first position of the highlight.

Changes to each main command will be summarized in the following sections. Details, where applicable, will be covered in later sections.

Select Database Name - MS-DOS version

LB will now pop-up a window of *.PFL files to choose for selection of a database. The window is a single column of vertically scrollable filenames. Only the current directory is searched.

A database is selected from the list by either entering its corresponding number, or by scrolling through the list with either the <UP ARROW> or <DOWN ARROW> keys to move the highlight and selecting the highlighted database name with an <ENTER>.

The MS-DOS version will examine the current directory for .PFL files; the TRS-80 version will examine all drives.

Run Automatically

For the convenience of selecting job files, LB will pop-up a window display of available jobfile names for selection on Auto Use. Files located in the database path will be displayed in a single column of vertically scrollable filenames; each file will be numbered. Selection may be made by either entering the associated number, or moving the highlight via the <UP ARROW> or <DOWN ARROW> keys then pressing <ENTER>.

If there is not enough memory to obtain the file list, you will instead be prompted to enter a job file name. You will also be informed if no job files are available.

Define Screen Formats

Defining Calculated Fields in Your Display Screen

Calculated fields now permit up to two levels of parentheses which can be used to change the calculation order. For instance, you can now enter a calculation of the form: $-f1*f2+f1/(1-f3)$

Color Selection

MS-DOS users may now select a unique screen color set (foreground/background), different from the database color, for use in each LB ADD/UPDATE screen.

Define Print Formats

Calculated fields now permit up to two levels of parentheses which can be used to change the calculation order. For instance, you can now enter a calculation of the form: $-f1*f2+f1/(1-f3)$

Print definitions now recycle to the "Enter print format..." prompt when you complete definition or editing of a format.

A new module has been added which allows for the automatic generation of *canned* print formats. There are two table formats, one form format, eleven address label formats, one Rolodex™ type card format, and one 5"x3" card format.

Define File Formats

MS-DOS users may now select a unique database color set (foreground/background) for use in all LB screens.

Change Password/Auto Date

Users now have the ability to temporarily suppress the automatic updating of the date in the date last changed field type when records are edited.

DOS Shell

For MS-DOS users, when *DOS Shell* is invoked, the color attributes will be restored to those set when LB is first invoked, and restored to the database color attributes when you exit Shell to return to LB.

Define File Formats

The MS-DOS version adds a facility to edit the database color in the *Edit* sub-command. This displays the various color selections and allows a choice, which is checked for validity.

The database color is used throughout all screens and will be the default for add/update screens. The database color is activated when you first invoke LB or when changing it with Define dit.

Define Screen Formats

Automatic screen generation

A “^G” sub-command has been added to the Define screen sub-menu, the purpose of which is to automatically generate an Add/Update/Delete screen for entering or viewing data. The sub-command uses the following procedure to automatically create a screen:

- If the length of any field name and its field length exceeds 78, that field will be skipped.
- If the maximum field name length plus the maximum field length exceeds 78, the screen is generated on a fully left alignment, horizontally centered in the screen area. Otherwise, the screen is column aligned so that all field entries start in the same column. The longest field name+length is centered.
- Field names precede field entry; a colon-space is used as a separator.
- A maximum of 21 fields can be displayed; one per screen line. If there are less than 20 fields, a centered title (the name of the database), is inserted.
- If a calculated field is being handled, the normal screen prompts are generated for entry of calculation string and format.

Once complete, the user remains in screen define mode; use <F3> as normal to initiate escape to the *Define* sub-command menu so that the screen can be *Saved*, or continue to edit the screen definition for customization.

Displayed Screen Number

The default screen number is now updated when escaping to Edit or Define another screen.

Editing Screen Color

The MS-DOS version now has a facility to edit the screen color in the *Edit* sub-command. Choosing color edit, the screen will display all combinations of the valid color selections and allow you to make your choice. The screen attributes will temporarily change according to your selection which will become permanent only after you *Save* the revised screen.

Line-Draw Facility

The screen *Define* command now includes a line-draw facility. The MS-DOS version uses conventional dual-line line draw screen characters. Although the TRS-80 has similar characters using the graphic character set, because it cannot simultaneously display reverse video with graphics characters, that version uses ASCII characters in line draw mode.

Note that in order to provide exact equivalence of a database file set across implementations, the screen files will store the PC extended line drawing characters; conversion from line draw characters to ASCII characters will be handled during the display of the screen.

By entering a <CTRL-W>, the cursor will be placed into line-draw mode. You will be prohibited from either drawing through a field placement, or of initiating line-draw when the cursor is currently positioned within a field. Drawing is accomplished by pressing any of the four <ARROW> keys to indicate a direction of movement. The four borders of the viewable screen area will inhibit further movement in that direction. Either another <CTRL-W> or an <ESC> will terminate line-draw mode.

Two forms of line-draw are supported:

- **Set** will draw a line for each movement of the cursor;
- **Reset** will erase the character currently under the cursor for each position of movement.

You can flip back and forth between *Set* and *Reset* modes by entering <CTRL-F>. The current mode will be displayed in the status line. Line-draw will be initially in *Set* mode. In *Reset* mode, a <SPACE> character is entered for cursor movement.

The line-draw facility will automatically produce the correct line draw character where crossovers occur due to connecting line segments. Reverse video highlighting is supported, as well, in line-draw mode.

Define Print Formats

This version incorporates changes to improve the ease with which print formats can be created, as well as improves the flexibility of print format control.

Control Codes

A **TAB** control has been added to permit you to tab-to-a-column. This will place the next character of the print screen on the print line imaged at the location of the tab setting. Note that the tabbed location may be prior to the current print position; however, you must ensure that you do not overlap print strings. In order to accommodate the tab control, the print module's output has been converted to a line buffer from direct character output. This means that a line of output will not be transferred to the output device until the line image has been complete.

A **TAB** control uses the specification, "\nnn\ ", with "nnn" designating a position in the printed width (i.e. Columns Per Record) relative to the first column numbered 0. The actual line buffer position is calculated as [(Records Printed Across * Columns Per Record) + Left Margin Setting + nnn]. The result must, of course, be less than the Physical Line Length.

Print Parameters

You can now suppress, via a "Print Parameters" option, any print line in the text area of the print screen which has field entries, but all entries are blank. This feature could typically be used in multi-line address labels where you wish to *button-up* a line which included a blank field to improve the cosmetic appeal of the printed image.

Note that since the suppression occurs only for data in the text area of the print screen, if you want to ensure proper paging of labels, you may need to set the 1 Rec parameter.

Print Parameters and Control Codes

Embedded newlines (\N) are now counted as a printed line during output; handling of an embedded newline will also generate the *left margin*, if any. The former now provides direct handling of print parameters based on the true page length without monkeying around with manual reductions based on how many embedded new lines are part of the screen file. If you have existing screens which include embedded newlines, please make the necessary corrections to your print parameters.

A left margin is also generated when an automatic wrap occurs. Therefore, please make sure your *Indent on wrap* parameter is set for the correct indent you want .

Output Sub-command

The printed output of this sub-command now includes all additional features of print support (i.e. tab, average, printer initialization and deinitialization strings). A form feed will be sent at the conclusion of the output.

Screen Command

In order to properly handle a tab control regardless of tab direction, a control code line buffer separate from the print output line buffer is established. These buffers are synchronized as required; however, there are limitations. For a string of control codes followed by text followed by control codes (i.e. `\ctr\ctr\...text...\ctr\ctr\`), the number of adjacent text characters must be greater than the preceding string of control codes when output (i.e. `"\27"` represents one control code).

Screen Autogen

The Define Print module now includes an *Autogen* command to automatically generate various structures of formatted output reports. These structures include a narrow (8.5" wide by 11" long) *Table* report of one record per line of output, a wide (14.875" wide by 11" long) *Table* report of one record per line of output, a Form report (8.5" by 11") which prints one record per page, an address *Label* reports using user selection of twelve different label sizes, a Rolodex™-type card output, and a 3"x5" (specified as a 5" wide by 3" long) card output.

Autogen is supported by a new module automatically invoked from Define Print. When Autogen concludes, control will return to Define Print unless a significant error is encountered, at which point control should return to the main menu.

Autogen uses a simplistic PRINTER.DEF printer definitions file which allows for easier input of selected printer control selection (i.e. characters per inch - cpi). You are prompted to input a printer selection via a scrollable window of printer names, followed by a selection of characters per inch (cpi).

Autogen provides *Printer*, *Format*, *Design*, and *Save* subcommands to step you through your selection criteria. These commands may be entered in any order, however, Design can only proceed after both a printer and a format have been selected.

You may design and save a separate report format to different print files before exiting the screen autogen command.

Screen Autogen Printer

This command will read the PRINTER.DEF file (which must be in the current directory for MS-DOS) and pop up a window containing the printer names. The file has the codes needed for initiating 10, 12, 14, 15, and 17 characters per inch (cpi); cpi entries are used to validate the cpi query which follows. Blank fields indicate non-support. The file also stores fields for enabling/disabling Bold, Underline, and Italic - none of which are currently used.

The available printer data is displayed in a single column vertically scrollable list. To make a printer selection, simply enter the number corresponding to the printer, or move the printer highlight with either <UP ARROW> or <DOWN ARROW> to highlight a printer name then press <ENTER> to select it.

Based on the printer cpi data, you will next be asked to select a cpi to use for the report. Your selection will establish the values for the Print Parameters *Printer Initialization Strings* ("printer init" and "printer deinit"). Print widths, margins, etc., are also calculated based on the cpi and embedded measurements for the various formats which are stored in eighths of an inch.

Screen Autogen Format

The *Format* sub-command allows you to select one of four report "Formats"; a facsimile of each type is displayed on the screen as a memory jogger. These four types are as follows:

- N Narrow (8.5" x 11") Table report - 1 record per line.
- W Wide (14-7/8" x 11") Table report - 1 record per line.
- F Form (8.5" x 11") report prints 1 record per page; fields are printed left flush to a right flush field description and are printed one per line (max of 58 fields).
- L Eleven different label sizes varying from a 3-1/2" by 15/16" label to a 4" by 1-15/16" label. for address mailing purposes; a Rolodex™-sized (4" by 2-1/4" card for address and

telephone data; and a 5" x 3" card sized form for address and telephone data, as well as a comment field.

The N and W types will include a header of two blank lines; a title line of *Date* and *Time* left oriented, database *name* centered, and *page number* right oriented; a blank line; a line of *field descriptions*; and a line of "=" characters. N and W types also include a footer of "=" characters followed by two blank lines. The calculated field type, 'C', is excluded.

Tables add right and left margins of approximately 0.5" each. The left margin is achieved by setting the Print Parameters *Left Margin* to cpi/2; the right margin is achieved by reducing the Print Parameters *Printed Columns* (PCOLS) by cpi/2. Thus for 10 cpi, the left margin is five SPACE characters (0.5"), for 12 cpi it is six SPACE characters (0.5"), and for 17 cpi it is eight SPACE characters (0.47").

The F format header is similar to that for the N-type but omits the blank line followed by field descriptors; it has no footer. Any field which cannot fit on a line will get a reduced PLEN. All field types are used; however, only the first 58 fields will be included.

In the F format report, each field will be printed on a separate page (i.e. the *I Rec* parameter will be specified). Each field will be preceded by its field description.

Note that the automatic generation of Table and Form formats is fixed at 11"-long paper. The only fixed limitation of this is the setting of the two Print Parameters, *Physical Lines Per Page* and *Printed Lines Per Page*. If you are using other than 11" paper, simply edit the Print Parameters manually and make the proper adjustment.

The available Label formats will be popped up in a window permitting you to choose by entering the corresponding label number or by moving the highlight via the <UP ARROW> or <DOWN ARROW> key to highlight your selection then pressing <ENTER>. Choose from the following list:

3-1/2 x 15/16 x 1	3-1/2 x 31/16 x 1	4 x 31/16 x 1
3-1/2 x 15/16 x 2	4 x 15/16 x 1	Tph 4 x 2-1/4 x 1
3-1/2 x 15/16 x 3	4 x 23/16 x 1	Card 5 x 3 x 1
3-1/2 x 15/16 x 4	4 x 23/16 x 2	
3-1/2 x 23/16 x 1	4 x 23/16 x 3	

The numbers represent the width followed by height followed by the number of labels across the carrier.

Address labels will automatically select the fields to use for the following label format:

"First Name" "Last Name"
"Company Name"
"Address"
"City" "State" "Zip"
"Country"

This produces a maximum of five printed lines on a six or more line label. The fields will be selected from your database by matching the database field names against the above strings (without regard to case). Matching uses a string similarity algorithm requiring a minimum similarity of 50%; the first field with the highest percentage of match will be chosen. The format will not select a field if no field name provides at least a 50% match similarity.

If your database field names do not provide the needed similarity to these strings, simply edit the screen after saving the print file and returning to the define print formats command menu.

Address labels reduce the printed columns (Print Parameters *Columns Per Record*) by cpi/5 to add a slight margin; they also set *Suppress* blank lines to eliminate a blank line when printing, for instance, "Company", and *1 Rec* to ensure that all lines of a label or output (i.e. trailing blank lines).

Note that when using multiple across labels, a blank line can only be suppressed if it is blank in all labels across.

The Rolodex™ card adds "Telephone" as a sixth line; the 5" x 3" card adds both "Telephone" as a sixth line and "Comments" as a seventh. Rolodex and Card add left and right margins of cpi/4 (approximately 0.25"). As in the Table format, the left margin is achieved by setting the Print Parameters *Left Margin*; the right margin is achieved by reducing the Print Parameters *Printed Columns*. Rolodex and Card do not set blank line *Suppress* or *1 Rec* so blank lines are output in place; the Physical Lines Per Page is set to the page length of the respective cards.

Screen Autogen Design

When you have completed your printer and format selection, the *Design* sub-command will automatically create the print screen. The time it takes to create it depends on the speed of your machine. Nevertheless, as it performs its auto-design, it will display the first 80 columns of the constructed screen file. It will conclude its generation with a brief prompt. If you wish to view the entire screen for those generations which utilize more than 80 columns of viewing area, simply *Save* the screen, then view it via the normal Screen *Edit* sub-command of the Define Print Formats menu.

You must use the *Autogen Save* command to save the generated screen file. After saving the screen, you can return to the Define Print Formats module by *Quitting* the Autogen module.

Screen Autogen Save

The *Save* sub-command works just like the *Save* command in the normal Define Print module. If you wish to save the screen in a file other than your initial selection, just follow the prompts.

ADD Records

Color support

MS-DOS version: This module now will utilize the color data stored in the screen file. The color will be initialized when a valid screen file is opened. The color, if any, is switched to the database color on exit of the module.

Date last changed field type

The status of Auto-dating of the *date last changed* field type will be displayed in the status line. It will display either: "Date:On" or "Date:Off". The method of handling the field type may be altered by using the **Edit Password/Auto Date** command; password privileges are required for its alteration.

Update or Delete Records

Find sub-command

The *Find* sub-command now allows you to search for a record, when using an index file, using both key1 and key2 of a sorted index file. The *Find* prompt will display the second key field name if an index is active and in use and the primary key is one of the field types A, B, L, or U. A match string is entered as, "first\second". Note that the first or key1 string must be sufficiently unique in the ordered sequence of records to satisfy the ability to find the second key. Note that you do not have to enter a string for key2.

Editing key addition

LB includes an additional function in field editing. The <HOME> key under MS-DOS or the <SHIFT-F1> key under TRS-80 will move the cursor to the start of the field being edited; the mode will revert to overstrike.

Color support

MS-DOS version: This module now will utilize the color data stored in the screen file. The color will be initialized when a valid screen file is opened. The color, if any, is switched to the database color on exit of the module.

Date last changed field type

The status of Auto-dating of the *date last changed* field type will be displayed in the status line. It will display either: "Date:On" or "Date:Off". The method of handling the field type may be altered by using the Edit Password/Auto Date command.

Sort or Select Records

A duplicate record *Find* sub-command in the sort/select module enhances the usefulness of LB by allowing you to locate potential duplicate records. The facility operates by comparing specified fields of adjacent records with a similarity checking algorithm. The function requires an index file to compare records in a particular sorted order and will automatically use, as the comparative strings, the fields by which the index file was sorted.

You will be asked to supply a threshold which will be considered the lowest limit for percentage of similarity before a record pair is considered a match. The record numbers of matched records will be written to another index file of your designation.

You will be given the choice of generating the record number of the first record of a match, the second record of a match, or both records of a match. Where there is known to be a total similarity of data, you may wish to have only one of the record pairs identified in the index file for automatic deletion by using the LBMANAGE utility program. When you need to manually inspect the individual records which pass the similarity threshold, you should have both records identified in the index for use with the *Update/Delete* command.

Print Records

Output crLf option

Normally under MS-DOS, an end of line indicator is the character pair CR-LF. This character pair is what LB will normally generate for all print screen output. However, if the output is going to be used for subsequent control as an auto input jobfile, then the line feed character must be suppressed. The MSDOS version of LB now includes an option in the Print command module to print a CR-LF or just a CR, so that the line feed can be eliminated.

Output Sheet option

This option allows you to now handle single sheet forms which must be individually fed. When Sheet is turned on, LB will perform a page-end pause and await a key entry prior to continuing to print the report .

Print option

The print engine will now check for an output device error during printing. If an error is detected, LB will now prompt for ESC/BRK or RET. Also, the output device will be re-initialized to reset any end-of-file condition which would preclude normal operation while within LB.

Status Display

If you are printing with an index file attached, then escape to another print file, LB will now retain the attachment of the index file making it easier to generate different reports from the same set of data records.

If the print file selected has no fields defined, PRINT will now re-prompt for another print file instead of returning to the main menu. This treatment is identical to the re-prompt if the print file requested doesn't exist.

Change Password/Auto Date

One field type provided by LB is *date last changed*. This field, when included in your database definition, will be automatically changed by LB whenever the data record is edited. There may be times when you wish to make a small change to your data record(s) without altering the *date last changed*. You may suppress this automatic feature with the ***Change Password/Auto Date*** command. Note that if your database has been assigned a database password, the operator must have password privileges to alter the *date last changed* suppression; this is a security safeguard.

The edit/update screen display will reflect the status of the *date last changed* field to provide positive feedback as to its setting.

LBMANAGE

Copy command

LBMANAGE now checks only field types and field lengths when comparing two data base files for a match; it excludes comparing field names and print flag.

Color support

MS-DOS version: LBMANAGE will now switch to the database color when opening a valid database file set; this is a cosmetic enhancement. If a database has not been assigned a color, the screen will use white on blue - provided you are using a color adaptor card not in MONOCHROME mode.

LBREDEF

Color support

MS-DOS version: LBREDEF will now switch to the database color when opening a valid database file set; this is a cosmetic enhancement. If a database has not been assigned a color, the screen will use white on blue - provided you are using a color adaptor card not in MONOCHROME mode.

Editing data base field information

Data conversion has been improved to allow you to change a D-field to an F-field and vice versa. Note that when onverting from a D-field to an F-field, the fractional part is truncated, not rounded.

There was also a change to the algorithm which handled the conversion of N and R to D or F which may have previously caused an incorrectly positioned conversion string.

LBCONV Database Conversion Utility

General Information

LBCONV is a database conversion utility which can translate between LB and other selected database models. Its menu structure and operation is similar to other LB commands. LBCONV will directly convert the following database structures to LB: dBASE2 and dBASE3, Fixed record length packed files, Data Interchange Format (DIF), pfsFILE-4, and Profile-4

LBCONV will directly convert an LB database to one of the following file types: DIF, dBASE2 and dBASE3, TAB or Comma delimited, and ASCII strings.

Conversion from dBASE2 and dBASE3

In the conversion from dBASE 2 and dBASE 3 files, the first 'D' field will be converted to LB type '\ (date of last update); all other 'D' fields will be converted to type 'L'. 'C' fields will be converted to LB type 'L'; 'N' fields will be converted to LB type 'N'; and 'L' fields will be converted to LB type 'A'.

Conversion from Fixed record length packed files

Fixed record length packed files can be explicitly described. Supported field types are string, signed integer, unsigned integer, MS single and double precision [The MS-DOS version supports IEEE single and double precision as well].

Conversion from Data Interchange Format (DIF)

For DIF files, all fields are defined as type 'L'. LBCONV supports LABEL and SIZE titles

Conversion from pfsFILE-4

For pfsFILE4 data files (identified by files which include a header string of "Type 3"), all fields are defined as LB type 'L'. LBCONV will

LB Data Manager

automatically scan the pfs data file to calculate the field size of every field; LB fields will then be fixed according to the maximum fields sizes found. For the LB datafile definition, field names will be extracted as the rightmost 19 characters of the screen description.

Even though the default field types are initially defined as literal, you will be able to edit any field to change the type to another LB field type.

Note that LBCONV is unable to retrieve the data associated with pfs's Attachment page type forms.

Conversion from Profile-4

For the conversion from Profile-4, LB's field names and field lengths will be extracted from the Profile MAP file. Field types will be initially set at '*' to designate an ASCII field; then all screen files will be scanned for field designations. The first non-'*' found for a given field will establish that field's type. The following table describes LB's treatment of Profile field specifiers:

Profile types	LB type
<, ?, /	"must fill" Literal
!	Edit-protected Literal
), (, *	Literal
>	must fill N
#, +, -	Numeric
"	Dollar
.	Dollar
&, @	\ (Date last updated)

Once the default field types are derived from the screen file scan, you will be able to edit any field to either change the type, or delete the field from being converted.

Conversion from LB to DIF

In the conversion from LB to DIF, LABEL and SIZE titles will be generated from the LB database's field names and field lengths. Field

types F, D, R, and N will be generated as numeric values; all other fields are converted as strings.

Conversion from LB to dBASE2 and dBASE3

LBCONV will convert field type N to a dBASE type D; field types A, B, L, and U will be converted to dBASE type C; and F, D, R, and N to dBASE type N. Field names will be truncated to 11 characters to conform to dBASE's name limit.

Conversion from LB to TAB or Comma delimited

LBCONV will strip trailing spaces from all fields in the conversion to TAB or Comma delimited files. Note that if any of your fields contain embedded commas, you may not get the results you expect from comma-delimited conversion.

Conversion from LB to ASCII strings

The ASCII string conversion is virtually identical to the comma delimited conversion; however, all field data will be placed within double quotes.

Invoking LBCONV

On a hard disk system, from the appropriate subdirectory, typing the command:

LBCONV

will start the program and bring up the main menu.

MS-DOS floppy start up

Boot the computer with the normal start up disk in the system drive. Be sure that the diskettes normally used to run LBDM are in the proper drives. Remove the diskette from drive A:, insert the diskette containing the LBCONV program, and type the command LBCONV. When the initial sign on message and prompt appear, you may remove the LBCONV disk and insert the disks in drive A: associated with the data conversion desired.

TRS-80 floppy start up

Boot the computer using the normal LBDM start up disk. At the prompt for the Runtime or Creation disk, press the <BREAK> key to return to the DOS Ready prompt. Place the LBCONV disk in the first floppy and type the command LBCONV. When the initial sign on message and prompt appear, remove the LBCONV disk and insert the disks associated with the data conversion desired in your disk drives.

Main menu commands

Once started, the screen should show the following prompt:

LB Data Database Conversion Utility - Version 2.3.0
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- | | |
|-----------------------|---------------------------|
| 1) Fixed record to LB | 7) LB to dBASE2 |
| 2) dBASE2 to LB | 8) LB to dBASE3 |
| 3) dBASE3 to LB | 9) LB to DIF |
| 4) DIF to LB | 10) LB to ASCII string |
| 5) Profile4 to LB | 11) LB to TAB delimited |
| 6) pfsFILE4 to LB | 12) LB to comma delimited |

_____ LB Data Conversion _____

Select Convert Quit

The main menu simply provides for *Selecting* the conversion type and then initiating the *Conversion*.

Converting to an LB Database

Selection types 1-6 are used to convert a non-LB database or file to an LB database. Convert will provide you subcommands of *Quit*, *Input*, *Convert*, and possibly *Edit*. Input is used to specify the source database.

In converting from a non-LB datafile, LB CONV will prompt with "Enter source file path:", for which you identify the path containing the source file set; this is then followed by a prompt, "Enter source filename:". Enter a file extension only for pfsFILE and FIXED; for types dBASE2, dBASE3, DIF, and Profile, LB CONV automatically adds the proper extension.

Fixed Record to LB

If you are converting from a fixed format packed data file, you need to enter the length of each record (i.e. the logical record length of the file) in response to, "Enter the total length of a record".

In order to describe an input field, you will need to supply answers to three prompts. For each input field defined, the following prompts will appear in the order listed:

- 1) Numeric type, ENTER if ASCII IS,IU,BS,BD,ES,ED ..
- 2) Enter field starting byte in record
- 3) Enter field length ...

The first prompt determines the field type. If the given field contains ASCII information, just press <ENTER> in response to this prompt.

If the field which you are defining contains *compressed* numeric information, you will need to enter the two characters which describe the type of numeric information. The allowable compressed numeric types are:

IS	2 byte signed integer
IU	2 byte unsigned integer
BS	4 byte single precision value, stored in BASIC format
BD	8 byte double precision value, stored in BASIC format
ES	4 byte single precision value, stored in IEEE format
ED	8 byte double precision value, stored in IEEE format

After the field type has been entered, a second prompt will appear for the starting location of the field within the record. The appropriate value should be entered in response to this prompt, keeping in mind that relative

byte positions are offset from 1 (e.g. if the field begins at the very first byte in the record, the starting byte should be entered as 1).

The last prompt will appear only if the field is an ASCII field. At this point, the length of the field (in bytes) should be entered. If the field type is a compressed numeric type, the field length will default to the appropriate value (as shown in the table).

After all entries have been made for the definition of a field, additional fields may be defined. Upon the completion of entering input fields, you may press <ESC> in response to any of the prompts to return to the menu.

Field definition follows a free format, in that the fields do not have to be defined in the order of appearance in the record (e.g. field 1 can be defined as starting at position 10 in the record, while field 2 can start at position 1). It is also allowable to "overlap" field definitions. Furthermore, you need only define those fields in the record that you want to convert.

The only restriction in defining fields is that no field can extend beyond the end of the record, based on the LRL of the file. Entries which would cause such an occurrence will be ignored, and you will be re-prompted to enter the information.

If you make any error in your definition of the record field layout, the *Edit* sub-command allows you to go back and change the information entered for any field.

All other types to LB

After you have identified the source file set, LB CONV will scan the input file set to determine field description data; the results are displayed on screen. The following screen facsimile illustrates the results of such a scanning.

1> Name: Last Name	Type: <	Len: 16	File: 0	Pos: 0
2> Name: Parent	Type: !	Len: 16	File: 0	Pos: 16
3> Name: Student	Type: <	Len: 12	File: 0	Pos: 32
4> Name: Grade	Type: #	Len: 2	File: 0	Pos: 44
5> Name: Session	Type: !	Len: 1	File: 0	Pos: 46
6> Name: Fee	Type: .	Len: 5	File: 0	Pos: 47
7> Name: ST	Type: <	Len: 2	File: 0	Pos: 52
8> Name: ZIP Code	Type: !	Len: 5	File: 0	Pos: 54
9> Name: Guardian	Type: <	Len: 1	File: 0	Pos: 59
10> Name: Baptism	Type: !	Len: 1	File: 0	Pos: 60
11> Name: Communion	Type: !	Len: 1	File: 0	Pos: 61
12> Name: Confirmation	Type: !	Len: 1	File: 0	Pos: 62
13> Name: Date Last PD	Type: (Len: 8	File: 0	Pos: 63
14> Name: extra	Type: *	Len: 2	File: 0	Pos: 71
15> Name: extra	Type: !	Len: 2	File: 0	Pos: 73
16> Name: extra	Type: *	Len: 2	File: 0	Pos: 75
H:\VPSR91000.MAP_____ 5) Profile4 to LB_____				
Quit	Input	Convert	Edit	

Only the FIXED and Profile4 conversion modes add an Edit sub-command which can be used to select or change the field type prior to conversion.

All conversions to LB

When you are satisfied that the fields described reflect your data, Convert is used to perform the actual conversion. You will be prompted with "Enter target data base file name" which is used to select the name of a new LB database. Once the name is entered, LB will prompt for the four path specifications to store the various files associated with an LB data base.

Once you enter and save the path information, LB CONV will proceed to initialize the new LB data set and convert the data. When it completes, it will post a status message of the form, "Copied 57 records <RET> continues" and return to the main menu.

Converting to an LB Database

Conversion to LB commands support designation of Input file set and initiation of Conversion. Once the source file set has been specified, you will have the opportunity to convert either all records or a subset of records which are identified in an index file. This entry is made in response to the prompt, "Give index to use (1-10, <A>, or <N>one)". You may specify any of the ten LB index files, the ADD index file, or choose none to convert all records.

LB CONV will prompt for the target file path and filename to store the converted data. When entering the target filename, do not enter any file extension; LB CONV will automatically provide the correct extension.

LB Data Manager Technical Data

Program File Descriptions

LB2, LB/OV2	This module supports the autogen command of print definition.
PRINTER.DEF	This file stores the printer definitions documented in a later section.

Definition File Structure

The Dbname field has a dimension of 9.

The Dbpswd field has a dimension of 9.

Spare1[2] has been eliminated. It has been replaced by the following two items of data:

char Sheet;	TRUE if single sheet feed & prompt
char LB.Cdate;	Suppress automatic update of last date changed: 'N' = suppress; != 'N' = update

The Aspec field has a dimension of 9.

The Spare2 field's dimension has been reduced to 13; the first element has been replaced with the following data item:

char LB.Color;	stores the default database color.
----------------	------------------------------------

The Pspec field has a dimension of 9.

PRINTER.DEF file format

The printer definition file data is used in the Print Define Autogen command; it uses a fixed-format structure of ASCII data. The file uses

LB Data Manager

records of 63 characters terminated by a RETURN in the 64th position. The file format is as follows:

0-18: Printer name	39-42: Italic off
19-22: Bold on	43-46: 10 cpi
23-26: Bold off	47-50: 12 cpi
27-30: Underline on	51-54: 14 cpi
31-34: Underline off	55-58: 15 cpi
35-38: Italic on	59-63: 17 cpi

All data recorded in the fields from Bold on through 17 cpi are entered as hexadecimal digit pairs; a maximum of two pairs of digits are available for each position. The values 'a' through 'f' may be entered in upper or lower case.

For printer code strings which begin with ESCAPE (hex 1B), omit the ESCAPE code from your entry. For single-byte codes which do not use ESCAPE, prefix the entry with 'FF'. LB will automatically prefix any code string with an ESCAPE unless it begins with 'FF'.

To enter a zero value, enter the code as 'FE'.

If your printer is not in the list, you can easily add to the list using any editor which can save a file in ASCII. Simply add the hexadecimal codes noted in your printer manual into the proper *columns* of the printer record. At least one of the cpi fields must contain an entry. If your printer requires more than ESCAPE plus two codes to invoke a particular cpi, simply insert the two codes; after a print screen has been automatically designed, go back and edit the Print Parameters to correct the *printer init* and *printer deinit* strings as required.

LB/LB86™

LB is about the easiest, most flexible data manager you can use for managing your data. Absolutely no programming is needed to create a database with numerous fields, construct input screens for adding and editing data, and create your own customized reports. **Now with autogen of view screens and report formats!** It's great for address lists, sales records, customer data, or any kind of data storage.

LB supports up to 65534 records; 1024 characters per record; 64 fields per record; 254 characters per field.

LB supports 10 field types: alphabetic, calculated, date-last-changed, dollar, floating point, literal, numeric, right-justified numeric, upper case alphabetic, and upper case literal!

Flexible report generation to printer, console screen, or disk file!

The following Menu will be displayed when running LB on your computer The program is just as easy to use as it looks to be! Select your desired operation, and be prompted for all needed input. And LB gives you the flexibility to customize your reports!

LB Database Manager - Version 2.3.0
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1) Select Data Base Name

- | | |
|-----------------------------|-------------------------------|
| 2) Add Records | 9) Define Print Formats |
| 3) Update or Delete Records | 10) Define File Format |
| 4) Print Records | 11) Set Screen/Add Index |
| 5) Sort or Select Records | 12) Change Password |
| 6) Run Automatically | 13) View Field Definitions |
| 7) Expand Data File | 14) View/Modify Path Settings |
| 8) Define Screen Formats | 15) DOS Shell |

Name: Index: None Screen: 0 Allocated: 0 Used: 0

Enter selection number ..