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LAP6 Modifications

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Abstract

A summary of some of the LAP6 variations which might be of general interest.

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LAP6 Modifications

The modifications described are modifications to LAP6 itself unless otherwise indicated, and can be made with minimal effort to assembled copies of LAP6. The number of LAP6 words changed is indicated for each modification. In the case of some of the longer modifications a program which makes the modification automatically is provided by the modifier.

The abstracted descriptions are necessarily abbreviated; generally if a feature is not mentioned, it is not affected by the change. Full documentation, including LAP6 Handbook¹ and LAP6 Manuscript Listings² supplements and a modification procedure, is supplied by the modifiers, who helped prepare the summary, and who are responsible for the changes. Please contact the modifier directly.

Several of the modifications are compatible; that is, two or more can be made to the same copy of LAP6 without contradiction. It is recommended that the reel of any modified LAP6 tape show the identification code of each modification incorporated.

All known modifications are included except:

1. Those which clearly do not work, or with which the user can get into trouble.
2. Those whose documentation fails to make clear to the user what the modification does or what the modifier is responsible for.

M. A. Wilkes
July 1, 1969

¹Computer Research Lab. Tech. Rep. No. 2, Washington Univ., May 1, 1967.

²Computer Systems Lab., May 1, 1967.

General

LAP6-1D

Change: 5 words
Add: Display program CBMOD-1D
in blocks 270-273.

The COPY BINARY command has the format:

→CB (NAME, UNIT) EOL

If no arguments are stated, any binary programs (e.g., not already in a LAP6 file) can be filed. The present tape blocks, lengths, and starting quarters of the programs to be filed (up to 63) are specified in response to a display program. The unit is fixed. The command uses COPY FILE in its execution.

Modifier: R. M. Joy, Dept. of Pharmacology, Stanford Univ., Palo Alto, Calif. 94304, Oct. 21, 1967.

LAP6-1W

Change: 5 words

The FREE command has the format

→Fx (M, (N,)) (NAME, UNIT) EOL

allowing it to be given arguments; these are left in locations 2371-2377. *M* and *N* are numerical. The command "EXITS" from LAP6.

Modifier: C. C. Bjerke, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc. 53706, Dec. 10, 1967.

LAP6-2W

Change: 9 words

The COPY MANUSCRIPT and COPY BINARY commands have the formats

→CM (BBB, N,) NAME, UNIT EOL

→CB (QBBB, N,) NAME, UNIT EOL

allowing any manuscript or program (e.g., not already in a LAP6 file) to be filed on the other unit of the tape transport. The present tape location of the item to be filed is specified by the *BBB*, *N*, and *UNIT* arguments; starting quarter by *Q*.

Modifier: C. C. Bjerke, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc. 53706, Dec. 21, 1967.

General

LAP6-8W

Change: 21 words

The PRINT INDEX command has the format

→PX (*NAME*,) *UNIT* EOL

allowing a *NAME*, as specified, to be typed at the top of the index printout.

Modifier: D. J. Nichols, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc. 53706, Feb. 9, 1968.

LAP6-9W

Change: 29 words

When the symbols are displayed during either CONVERT or DISPLAY SYMBOLS, striking P will cause the table to be printed on the teletype.

Modifier: A. C. Roochvarg, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc. 53706, Feb. 21, 1968.

LAP6-6W

Change: 17 words

The COPY FILE command has the format

→CF *UNIT* (,*BN*) EOL

allowing it to operate between indices whose tape locations are different. *BN* locates the index on the *UNIT* from which the entries are to be copied.

Modifier: A. C. Roochvarg, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc. 53706, Feb. 21, 1968.

LAP6A

Change: 11/12 words

To correct errors in LAP6. The LAP6 Handbook is not affected. LAP6A is compatible with all modifications described in LINC Document No. 29.

Modifier: M. A. Wilkes, Computer Systems Lab., Washington Univ. 724 S. Euclid Ave., St. Louis, Mo. 63110, June 1, 1968.

General

LAP6-6L

Change: 22 words

The teletype commands PX, LI, and PM operate on either the classic LINC or via buffered teletype on the μ -LINC 300. Knob 3 controls the number of manuscript lines displayed.

Modifier: M. L. Pepper, Computer Systems Lab., Washington Univ.,
724 S. Euclid Ave., St. Louis, Mo. 63110, Oct. 9, 1968.

LAP6-7L

Change: 24 words

The keyboard combination CASE DEL deletes the last character entered on the current line. It does not, however, back into the previous line.

Modifier: M. L. Pepper, Computer Systems Lab., Washington Univ.,
724 S. Euclid Ave., St. Louis, Mo. 63110, Feb. 7, 1969.

LAP6-8L

Change: 4 words

The teletype commands PX, LI, and PM print full 11 inch pages.

Modifier: M. L. Pepper, Computer Systems Lab., Washington Univ., 724
S. Euclid Ave., St. Louis, Mo. 63110, Feb. 14, 1969.

LAP6-9L

Change: 2 words

Instead of displaying the current line marker at the far right, it is displayed at the position of the next character to be entered.

Modifier: M. L. Pepper, Computer Systems Lab., Washington Univ., 724
S. Euclid Ave., St. Louis, Mo. 63110, Feb. 14, 1969.

LAP6-10L

Change: 50 words

LAP6-10L is a combination of LAP6 modifications 6L, 7L, and 8L. It includes:

1. Single character delete
2. Corrections to the teletype routines
3. Compatibility between the classic LINC and the micro-LINC 300.

Modifier: M. L. Pepper, Computer Systems Lab., Washington Univ., 724
S. Euclid Ave., St. Louis, Mo. 63110, Feb. 17, 1969.

General

LAP6-1M

Change: 8 words
Add: One block operating
program FILEPACK.

When entries are permanently deleted from the LAP6 Index, both Index and file are "packed" to eliminate unused segments between used segments of the Index, and unused blocks between file entries. This modification works only with configurations of LAP6 which have no lower file, and whose index is at 136, e.g., configurations 3, 8, and 9. It assumes that entries already in the file are arranged sequentially. The modification is primarily intended for efficient handling of filed data.

Modifier: C. M. Malpus, Dept. of Physiology, School of Medicine, The University, Leeds LS2 9NL, England, Feb. 28, 1969.

LAP6-11L

Change: 17 words

Location statements can include any expressions which are legal for the right side of an equality statement.

Modifier: M. Seiden, Computer Systems Lab., Washington Univ., 724 S. Euclid Ave., St. Louis, Mo. 63110, Mar. 21, 1969.

LAP6-2H

Change: 75 words

The COPY FILE, PRINT INDEX, DISPLAY INDEX commands have the formats:

→CF (BNF, (BNT),,) UNIT_{EOL}

→PX UNIT (,BN)_{EOL}

→DX UNIT (,BN)_{EOL}

The added arguments allow communications between different configurations of LAP6. They are also useful to create non-standard indices on unit 1 to convert it into a very large file. When a destination block is specified in CF, filing only occurs above that block.

Modifier: G. W. Johnson, Institute of Oceanography, Dalhousie Univ., Halifax, Nova Scotia, Canada, June 18, 1969.

For the LINC-8

LAP6-3L

Change: 22 words

The teletype commands PX, LI, and PM operate via buffered teletype attached to the LINC-8 on channel 14. The Relay Register is not used. The mnemonics EXC and PDP represent the codes 740 and 513 respectively. The mnemonic MTT is not recognized. CASE 1 and CASE 2 locate displays in the forward direction. CASE 0 is not used.

Modifier: M. A. Wilkes, CSL, Wash. Univ., 724 S. Euclid Ave., St. Louis, Mo. 63110, Aug. 14, 1967.

LAP6-5W

Change: 27 words

For the LINC-8 which requires space on the tape for PROGOFOP, m blocks starting at block 0 are automatically excluded from the LAP6 file area. $0 \leq m \leq$ upper boundary of lower file (e.g., 270).

Modifier: C. C. Bjerke, Laboratory Computer Facility, Univ. of Wisc., 83 Medical Sciences Bldg., Madison, Wisc., 53706, Dec. 18, 1967.

LAP6-1C

Change: 29 words

The teletype commands PX, LI, and PM operate via buffered teletype attached to the LINC-8 on channel 14. The Relay Register is not used. LI and PM pause for aligning fan-fold paper and generate fan-fold page size pages. The mnemonics TYP, PDP, SKP, and EXC represent the codes 514, 513, 467, and 740 respectively. The mnemonics ENI, PIN, and MTT are not recognized. CASE 1 and CASE 2 locate displays in the forward direction. CASE 0 is not used.

Modifier: W. H. Calvin, Univ. of Wash., Sch. of Medicine, Seattle, Wash. 98105, Feb. 1, 1968.

LAP6-1H

Modification to: LAP6-3L

Change: 7 words

The teletype commands LI and PM generate nearly 11 inch pages. The commands PX, LI, and PM use either high-speed punch, or teletype, or both, depending on the settings of sense switches 0 and 1.

Modifier: G. W. Johnson, Institute of Oceanography, Dalhousie Univ., Halifax, Nova Scotia, Canada, May 7, 1968.

For the μ -LINCs

LAP6-2L

Change: 6 words

The teletype commands PX, LI, and PM operate via unbuffered teletype attached to the μ -LINC 1 on channel 2. The Relay Register is not used. The mnemonic SPG represents the code 600. The mnemonic LMB is not recognized.

Modifier: M. A. Wilkes, CSL, Wash. Univ., 724 S. Euclid Ave., St. Louis, Mo. 63110, July 31, 1967.

LAP6-1S

Change: 8 words

The teletype commands PX, LI, and PM operate via buffered teletype attached to the μ -LINC-300. The Relay Register is not used. Knob 3 controls the number of manuscript lines displayed.

Modifier: F. T. Davidson, Spear, Inc., 335 Bear Hill Rd., Waltham, Mass. 02154, Sept. 18, 1967.

LAP6-2S

Change: 11 words

The teletype commands PX, LI, and PM operate via buffered Kleinschmidt printer attached to the μ -LINC-300. LI and PM generate fan-fold page size pages. The code for a slash (/) is substituted for the vertical bar (|) during printing. The Relay Register is not used. Knob 3 controls the number of manuscript lines displayed.

Modifier: F. T. Davidson, Spear, Inc., 335 Bear Hill Rd., Waltham, Mass. 02154, Sept. 18, 1967.

LAP6-3S

Change: 7 words

The teletype commands PX, LI, and PM operate via unbuffered teletype attached to the μ -LINC-300.

Modifier: F. T. Davidson, Spear, Inc., 335 Bear Hill Rd., Waltham, Mass. 02154, Sept. 18, 1967.

LAP6-4L

Change: 2 words

For μ -LINCs with no knobs the manuscript display is fixed at n lines per frame. $1 \leq n \leq 17_8$.

Modifier: M. A. Wilkes, CS., Wash. Univ., 724 S. Euclid Ave., St. Louis, Mo. 63110, Dec. 1, 1967.