



#533

IDENTIFICATION

UNIVERSAL DUMP

704 Program

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PURPOSE

This program produces a printed image of the contents of core memory, drum memory, or tapes. Various modes of printout are available: Octal, Decimal integers, Decimal fractions, Floating-point decimal, and Symbolic listing.

The bulk of the program is stored on the Combination SAP-FORTRAN tape at this installation. It is operated by a one card loader identified as "UNIV DUMP".

OPERATING INSTRUCTIONS

After completing the requirements at the input/output devices listed below, the LOAD CARDS button is pressed.

CARD READER	UNIV DUMP card
PRINTER	MURA 2 Board
TAPE NO. 1	Combination SAP-FORTRAN tape
TAPE NO. 4	erasable tape

Instructions for obtaining the desired type and mode of dump via the sense switches appear at the printer.

Upon completion of the dumping process, or after any intermediate halt, core storage (except regs. 0-19) and the machine registers (except the MQ and index reg. 4) are restored to enable continuation of a program previously in progress.

The erasable tape on drive no. 4 is not destroyed by UNIVERSAL DUMP. If backspaced one record, continued use of this tape can be made from the point at which dumping began.

SEQUENCE OF EVENTS

1. Core registers 20-8191 are saved on tape 4 in two records.
2. The current sense-switch settings are printed.
3. Instructions for obtaining the desired mode and type of dump are printed:

SENSE SWITCHES 1-3

down, down, down	Octal
down, up, down	Decimal integers
up, down, down	Decimal fractions
up, up, down	Floating point decimal
up, up, up	Symbolic listing

SENSE SWITCHES 4 & 5

down, down	Core dump
up, down	Drum dump
down, up	Tape dump, binary mode*
up, up	Tape dump, BCD mode*

* Refers to tape 2.

SENSE SWITCH 6 (for tape dumps only)

up	Pushing Start button skips a record
down	Pushing Start button begins dumping

4. A halt at 17 (octal) occurs.
5. If a core or drum dump is specified, the first and last locations to be dumped are entered manually (ENTER MQ key) in the decrement and address portions respectively.
6. The computer is returned to automatic and the START button pressed.
7. The type of dump is printed. If core or drum, the first and last locations are also printed.
8. The contents of the AC, index register 1, and index register 2 are printed.
9. The sense lite positions are printed.
10. Statements to the effect that the print mode may be changed at any time via sense switches 1-3, and the dump may be interrupted by reversing position of sense switch six are printed.
11. The dump is made. Blocks of cleared locations are not printed. All printing during the dump is of one-cycle duration per line.
12. If interrupted, a statement to that effect is printed.
13. A statement to the effect that another dump may be reselected is printed.
14. Core locations 20-8191 and machine registers except the MQ and index register 4 are restored.
15. A halt at 17 (octal) occurs.

OCTAL PRINT MODE

Four registers are printed per line, preceded by a five digit octal location of the first register of the line. The tag is separated by spaces from the decrement and address in each register.

DECIMAL INTEGER PRINT MODE

Four registers are printed per line. To the left of the line appears the locations of the leftmost register in both five digit octal and four digit decimal. Leading zeros and plus signs are suppressed for the registers and the decimal location. A maximum of 11 digits is printed for each register.

DECIMAL FRACTION PRINT MODE

The print-out is similar to the decimal integers with one exception. The most significant digit of each register is preceded by a decimal point.

FLOATING POINT DECIMAL PRINT MODE

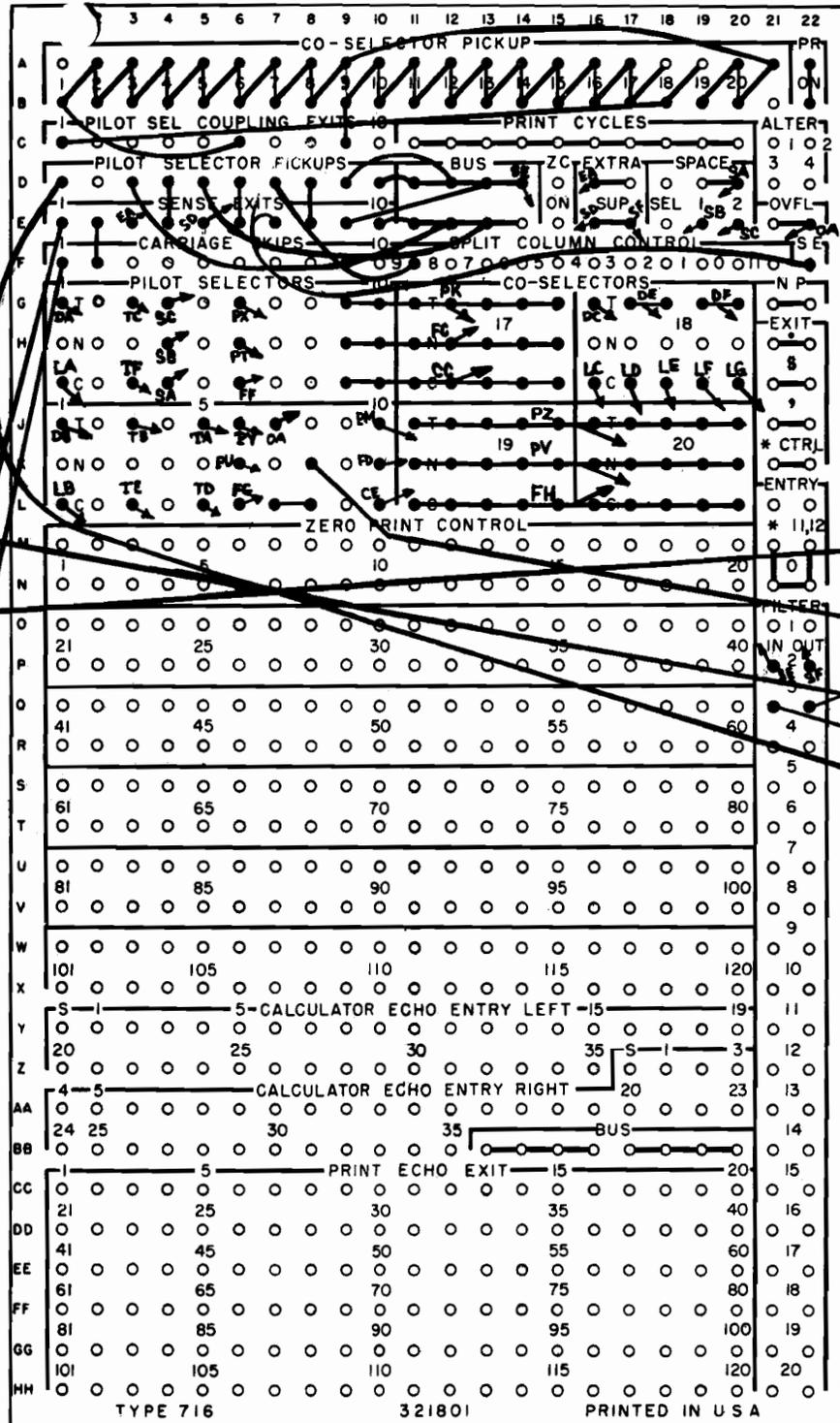
The print-out is similar to the decimal fractions, except the decimal point follows the most significant digit. Seven digits follow the decimal point and two digits describe the power of ten.

SYMBOLIC LISTING

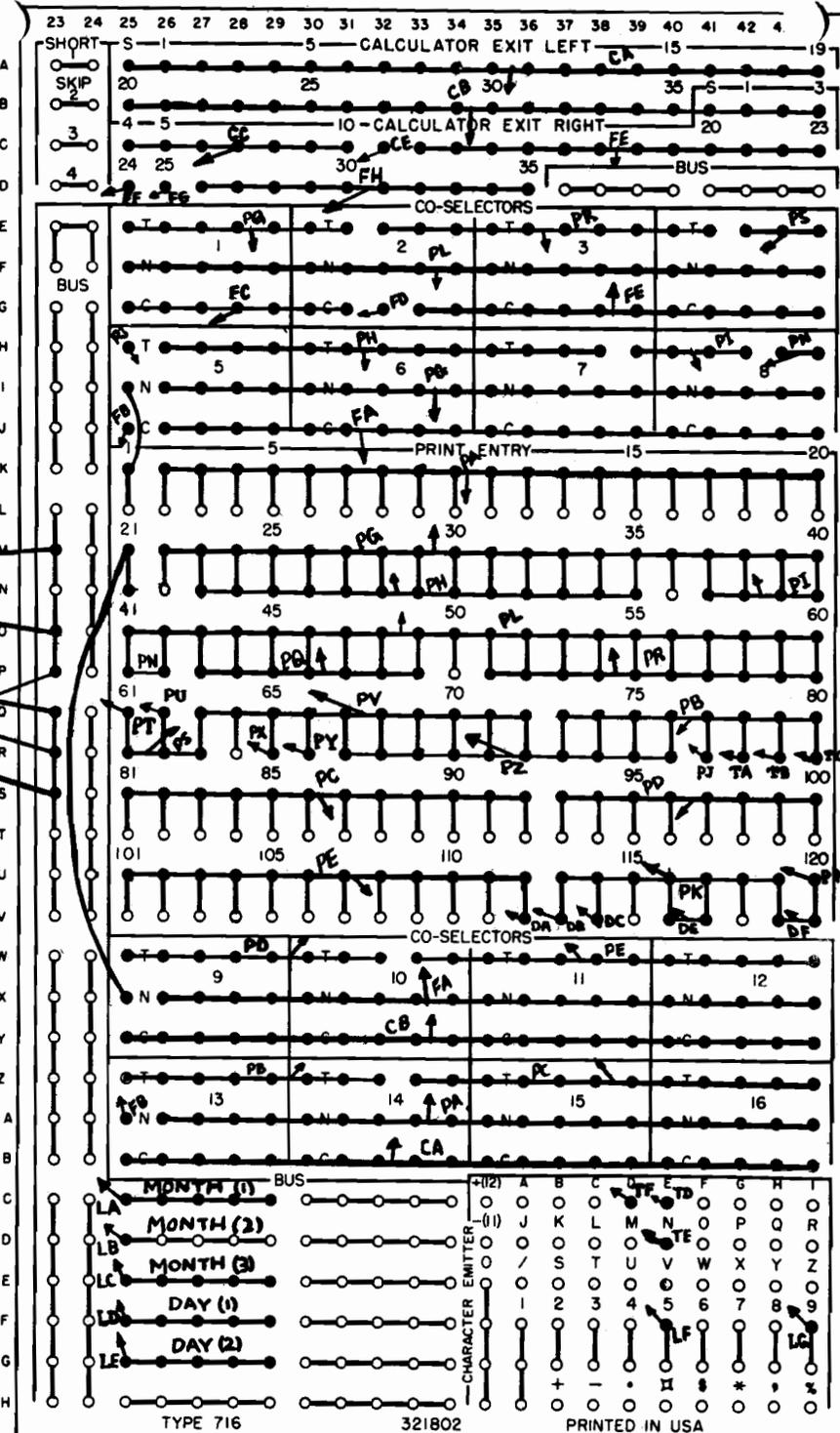
One register is recorded per line. The instruction is printed in three letter mnemonic followed by a decimal or symbolic address, and, if present, a decimal tag and decrement. If any instruction is referred to by another and the referenced instruction is within the block, (manually entered first and last locations if core or drum dump, within the record if tape dump) then it is preceded by a two letter symbolic location (AA-ZZ in ascending order of locations). The octal location and octal value of the register precede this symbolic column. If the instruction is of the transfer type, an asterisk precedes the octal location.

TAPE DUMP

The tape to be dumped must be on tape drive 2. The tape is not rewound before dumping. Records may be skipped via sense-switch six. If a record exceeds 4096 words, only the first 4096 will be dumped. An end of file or tape check is duly recorded. Each record is preceded by its record number and length.



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TYPE 716 321802 PRINTED IN U.S.A.

MURA II - PRINTER BOARD