

UNIVAC 1050

SYSTEM AND LIBRARY TAPE CONVENTIONS

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Note: 3C tapes will be in compatible mode at 556 BPI.

SYSTEM TAPE CONVENTIONS

1.0 LOAD BLOCK (165 Characters in Length)

The first two (2) blocks of the master tape are tape load blocks occupying memory location 17000g to 17600g.

Position 0	L (Block Type)
Position 1-3	Binary block count
Position 4-25	Not used
Position 26-29	Starting address
Position 30-31	Numbers of characters to be loaded this block
Position 32-143	Data to be loaded
Position 144-164	Not used

These blocks are generated only by the AJAX tape utility routine as the first two blocks on tape (see Figure 1) when called for by parameter 3 of the Inout card of AJAX.

2.0 PROGRAM HEADER BLOCK (165 Characters in Length)

Position 0	Q (053) Block Type
Position 1-3	Block number (binary)
Position 4-7	Run ID
Position 8-164	Not used

This block must precede all object programs on tape. It is automatically generated by the PAL Freestanding Tape Assembler.

3.0 'R' BLOCK (165 Characters in Length)

Position 0	R(054) Block Type
Position 1-3	Block number (binary)
Position 4-5	Not used
Position 6-9	Relative address of assembly
Position 10-12	Total number of locations assigned to program
Position 13-15	Number 1 higher than highest location into which information will be loaded
Position 16-135	Not used
Position 136-139	0777777777
Position 140-143	Run ID
Position 144-145	Load Key
Position 146-147	02001 (R in col. 74)
Position 148-164	Not used

4.0 'S' BLOCK (165 Characters in Length)

Position 0	S (065) Block Type
Position 1-3	Block number (binary)
Position 4-135	Not used
Position 136-139	07777777
Position 140-143	Segment ID
Position 144-145	Load Key
Position 146-147	01200 (S in col. 74)
Position 148-164	Not used

Segment ID is Run ID (or last segment ID) plus decimal 01.

5.0 'INSTRUCTION' BLOCK (165 Character Block in Length)

Position 0	W (071) Block Type
Position 1-3	Block number (binary)
Position 4-5	Not used
Position 6-25	Relocation mask
Position 26-29	Starting address
Position 30-31	Number of characters to be loaded from this block
Position 32-143	Data to be loaded
Position 144-145	Check sum
Position 146-147	Blank
Position 148-164	Not used

6.0 'T' BLOCK (165 Characters in Length)

Position 0	T (066) Block Type
Position 1-3	Block number (binary)
Position 32-36	Not used
Position 37-38	Jump instruction to start of program
Position 39-143	Program (excluding routine header) or segment card count
Position 144-145	Not used
Position 146-147	Check sum
Position 148-164	01100 (T in col. 74)
	Not used

7.0 'LDKEY' BLOCK (165 Character Block in Length)

Position 0	Any allowable key supplied by the use of the 'LDKEY' assembler directive
Position 1-3	Block number (binary)
Position 4-5	Not used
Position 6-25	Relocation mask
Position 26-29	Starting address
Position 30-31	Number of characters to be loaded from this block
Position 32-143	Data to be loaded
Position 144-145	Check sum
Position 146-147	Blank
Position 148-164	Not used

8.0 PROGRAM SENTINEL BLOCK (165 Characters in Length)

Position 0	Y (073) Block Type
Position 1-3	Block number (binary)
Position 4-164	Not used

This block must follow all object programs on tape. It is automatically generated by the PAL tape assembler.

9.0 TAPE SENTINEL BLOCK (165 Characters in Length)

Position 0	Z (074) Block Type
Position 1-3	Block number (binary)
Position 4-164	Not used

This block is the last block on tape. There are always two (2) present.

10.0 SOURCE PROGRAM or PROC HEADER BLOCK (165 Characters in Length)

Position 0	D (027) Block Type
Position 1-3	Block number (binary)
Position 4-7	Run ID
Position 8-164	Not used

11.0 SOURCE PROGRAM or PROC SENTINEL BLOCK (165 Characters in Length)

Position 0	F (031) Block Type
Position 1-3	Block number (binary)
Position 4-164	Not used

11.1 Block types 10 and 11 are produced on tape from 80 or 90 column cards through use of AJAX (which see). The tape block positioning of information corresponds with column positioning on cards.

11.2 Type 10 must precede all source programs or PROCS and type 11 must follow all source programs or PROCS that are being filed on tape from cards.

12.0 SOURCE CODE BLOCK (87 Characters in Length)

Position 0	E (030) Block Type
Position 1-3	Block number (binary)
Position 4-5	Unused
Position 6-79	Characters 7-80 of source code
Position 80-86	Page-Line-Insert number

12.1 NOTE:

Object header and sentinel cards correspond character for character with object header and sentinel blocks when filing cards on tape.

TAPE LAYOUTS - FIGURE 1

MASTER TAPE

Tape Load Block 1
Tape Load Block 2
Program Header Block Operating System
Operating System Instruction Blocks
Program Sentinel Block
Program Header Block Tape Utility
Tape Utility Instruction Blocks
Program Sentinel Block
Program Header Block PAL Pass 1
PAL Instruction Blocks
Program Sentinel Block
Program Header Block Source PROC
Source Coding
Program Sentinel Block
Tape Sentinel 1st Block
Tape Sentinel 2nd Block

LIBRARY TAPE

Program Header Block Source Program #1
Source Program #1
Program Sentinel Block
Program Header Block Source Program #2
Source Program #2
Program Sentinel Block
Tape Sentinel Block #1
Tape Sentinel Block #2

Systems tapes and libraries are constructed through the use of AJAX and OPUS utility programs. (See Figure 1).

14.0 SYSTEM TAPES

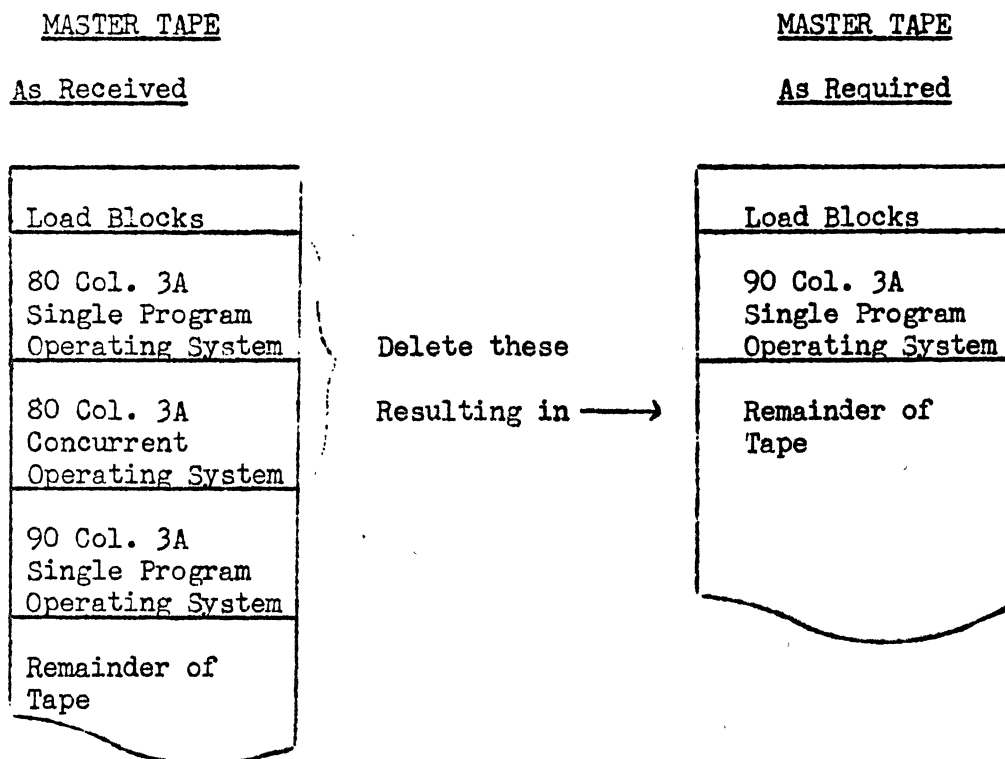
Each system tape contains, immediately following the load blocks, three (3) operating systems. They are:

- 14.1 a. 80 col., 3A, single program
- b. 80 col., 3A, concurrent operation
- c. 90 col., 3A, single program

14.2 The operating system desired by the user must immediately follow the load blocks on tape. Therefore, if the 80 col., 3A, single program version is not desired, the operating systems not desired must be deleted from the tape (use AJAX) in order to have the operating system desired immediately follow the loader. Through the use of AJAX a user may create as many different operating system master tapes as required. If none of the above operating systems is desired, a user may delete them all and file one of the various operating systems available through use of the OPS source code PROC. (See UNIVAC 1050 Operating System documents.)

14.3 EXAMPLE 1.

To create a 90 col., 3A, single program operating system master tape.





14.4 EXAMPLE 2.

If none of these operating systems are desired a user may simply assemble the particular operating system desired and replace the 80 col., 3A, single program operating system with his assembled version or by filing it as the first routine on tape.

TAPE AS  
RECEIVED

Load Blocks
80 Col., 3A Single Program Operating System
80 Col., 3A Concurrent Operating System
90 Col., 3A Single Program Operating System

Replace this  
(by AJAX) with  
\*newly assembled  
desired operating  
system or  
File as 1st pro-  
gram on tape  
(see AJAX).

TAPE AS  
DESIRED

Load Blocks
90 Col., 3A Concurrent Operating System
80 Col., 3A Concurrent Operating System

14.5 \*See operating system documents for information on how to assemble the desired operating system.

15.0 LIBRARY TAPES

Library tapes may be created as desired (see Figure 1) in order to maintain source programs on tape. They may be directly assembled from this library. (See PAL Tape Assembler instructions). Library tapes may consist of either or both object and source code and must follow the tape conventions herein described. All programs either source or object must be preceded by a program header card and followed by a program sentinel card when being filed on tape.

16.0 3C SYSTEM TAPES

Each 3C system tape will contain immediately following the tape load blocks two operating systems. They are:

- 16.1 a. 80 col., 3C, single program  
b. 80 col., 3C, concurrent operation

This tape varies from the standard 3A systems tape in this respect (See 14.0).

NOTE: 3C tapes will be in compatible mode at 556 BPI.