

T A N D B E R G

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T O S 2 1

Version 1.2

System Documentation

TOS 21 1.4

INSTALLATION

OP. INSTR

Jump table for user callable routines (page 9-10 in TOS manual) is amended as follows:

Replacements:

9A	CBBS	Backspace a block on cartridge
B5	CBBSW	Backspace and wait for completion

Additions:

(These will be further specified when the TOS manual is updated).

CB	RD32	Read a cartridge header block
D0	VERIFY	Check a header block type
D3	HXLOAD	Receive a program for execution (XMON/S and XMON/SD only).

Expanded definition:

When RCVI is used to receive characters, the most significant bit (80H) of the character will be set to 1 if an error was detected in transmission (parity, overrun, framing).

2. The monitor now supports a printer with "busy" loop. Note that this will cause programs using #lp: solely to reduce output speed (e.g. (#co;#lp;) not to work anymore.
3. To enable a user to independently control transmission, an address may be put in location 277AH (XINT). The user will then receive control on receive and transmit interrupts, and must handle both. Registers except BC may be used freely. Exit by RET-instruction.

TOS 2.1 1.4

INSTALLATION

OP. INSTR

Part numbers:

Available
revision level:

Page.3

960431 TOS21 diskette	Level 1
960432 TOS21 cartridge	Level 1

Applicable firmware monitors:

960429 XMON/D (diskette only)	Level 2
960430 XMON/C (cartridge only)	Level 0
960459 XMON/CD (diskette and cartr.)	Level 1
960615 XMON/DD (3 diskette units)	Level 0

Note:

* TOS21 version 1.2 (Revision level 1) may be used also with
. XMON/D revision level 1.

OP. INSTR
INSTALLATION
TOS 2.1 1.4

Version 1.2 supports the features described in "TOS21 User's Guide" with the following exceptions:

- IBM formatted I/O on diskette is only partially supported, since the utilities have not yet been expanded (DIR, FORMAT, ALLOC etc.). Input and output will, however, work as described.
- Alias is only partially supported. When a dataset for which aliases are defined, are deleted, the aliases will not automatically be deleted although space is released.
- FORMAT may create non-system diskettes only.
- DIR does not suppress listing of elements with I attribute set.

Compared to TOS version 1.1, some of the improvements that have been made are:

- Cartridge is now fully supported. Extension of one dataset from one track to another at end of tape will not be implemented.
- IBM formatted diskette I/O (both EBCDIC and ASCII) is now partially supported.
- The utility XREF has been replaced by an improved version.
- The following other utilities has been corrected or improved:
 - ANALYZ
 - DCOPY (contents are now read back and verified)
 - DELETE (cartridge support added)
 - RENAME (cartridge support added)
 - FORMAT (cartridge support added, readable error message feature included)
 - DIR (cartridge support added)
 - EDIT (extra line shows control chars in buffer)
- The following new utilities have been added:
 - ALIAS (see users guide section 3.4)
 - DDUMC (see below)
 - DRSTC (see below)
 - FF (see below)
 - MDUP (see below)
 - RESCUE (see users guide section 3.4)
 - TPGEN (see below)
- Readable error message feature has been included. When an error occurs, and the diskette on unit 0 contains a diskette formatted by TOS, both the error number and a 31 character readable message will be given on the screen.

TOS 21 1.4

INSTALLATION

OP. INSTR

- As in TOS version 1.1, TOS will automatically be loaded Page 5
when a diskette is inserted after Power on.

Cartridge based systems must use
a Rn command (n=4, 5, 6 or 7)
which will load from cartridge
unit 0, 1, 2 and 3 respectively.

- As in TOS version 1.1, TOS will determine whether the
display logic is in ROLL mode, and issue ROLL UP when
required.

TOS 2.1 1.4

INSTALLATION

OP. INSTR

Note that time to load utility programs from cartridge in TOS version 1.2 is not optimal, due to the algorithm used to allocate datasets to individual tracks. This algorithm will be improved in TOS version 1.3, planned to be released 1/9 - 77.

XREF

XREF will create a symbol cross reference list out of a source file.

The program is invoked by:

```
XREF SI=inputfile,SL=outputfile
or
XREF SI=inputfile
```

In the latter case, SL=7CO is used as the default output file.

Input is assumed to be in Intel 8080 Assembly Language format. (See "FDV-2100 Assembler User's Manual" for reserved words).

All words which are not reserved words in the assembly language, are included in the cross reference list.

The output file contains the symbol name and the line numbers where it is used. To distinguish the line where a symbol was defined, that line number is succeeded by # (23 hex).

REMAP

If the diskette map is destroyed, REMAP will attempt to re-establish it by going through the file directory.

The program is invoked by:

```
REMAP$
or
REMAP@unit
```

It depends on the condition of the directory whether the attempt will be successful. If any illegal track or sector number is detected, the operation will be aborted.

FF

The program will output 100 linefeed characters to printer. It is invoked by:

```
FF
```

TOS 2.1 1.4
INSTALLATION
OP. INSTR

MDUP

The program will copy the contents of the cartridge on unit 0 to the cartridge on unit 1. The program may be used on cartridges with any blocksize (within the limit of 2048 characters imposed by the drive).

It is invoked by:

MDUP

TPGEN

The program TPGEN will copy all files (except formatting files) from the diskette on unit 0 to the cartridge on unit 0.

It is invoked by:

TPGEN

DDUMC

The program will dump the entire contents of the diskette on unit 0 onto track 0 of the cartridge on unit 0. The format is 13 sectors per block. (Note that this diskette format may not be read by the filehandling routines in IOS directly, it is only intended for backup purposes).

It is invoked by:

DDUMC

DRSTC

The program will restore the entire contents of the diskette on unit 0 from track 0 of the cartridge on unit 0. The cartridge is assumed to have been created by DRSTC.

It is invoked by:

DRSTC

TDS 21 1.4

INSTALLATION

OP. INSTR

The format described for header blocks on TOS cartridges are slightly altered. Also the support to extend a dataset from one track to another will not be supported for the time being.

A few internal control variables have been moved. This should not affect user programs.

TOS 2.1 1.4

INSTALLATION

OP. INSTR