EMORANDUM

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O: JOHN LOHMEYER, CHAIRMAN X3T9.2

ROM: BILL SPENCE, TEXAS INSTRUMENTS

UBJECT: POSSIBLE TERMS FOR TAPE GLOSSARY

IN LINE WITH DAL ALLAN'S SUGGESTION AT PHOENIX, THE FOLLOWING IS SUBMITTED AS
AN ATTEMPT AT BRINGING ORDER TO THE TERMS USED IN 1/4" AND 1/2" TAPE. TERMS
UNIQUE TO HI/TC AND WELL DEFINED IN THE HI/TC-1 STANDARD ARE NOT INCLUDED.
REV. 1 IMPROVES BOM AND EOM DEFINITIONS IN LINE WITH SUGGESTIONS AT MINNEAPOLIS.
COMMENTS ARE INVITED.

X3T9.2/86-26--SMALL COMPUTER SYSTEMS INTERFACE--SCSI

GLOSSARY OF MAGNETIC TAPE TERMS USED IN SECTION 9 RE SEQUENTIAL-ACCESS DEVICES

NOTE: These terms are most fundamentally defined in the ANSI Standards X3.40-
1983 and X3.55-1982 for 1/2" reel-to-reel tape and 1/4" cartridge tape, respec-
tively. They are also used in other standards, in vendors' manuals, and in
common usage in the industry. There are significant differences among these
various usages. This glossary presents usages which are consistent with this
standard.

BOM (Beginning-of-Medium). A drive status which indicates that the tape is
at BOT (qv) or LP (qv) in the first or only track of a tape or tape partition.

BOT (Beginning-of-Tape). Referenced to the tape-position sensing apparatus,
the extreme point in the beginning direction along the tape which the drive
can access (excluding use of UNLOAD command). In 1/2" reel-to-reel tape, this
is the same point as BOM and LP and is marked by a reflective marker near the
upper or front edge of the tape as prescribed in X3.40. The beginning direction
is toward the rim, or free, end. In 1/4" cartridge tape, this point is marked
by two holes in line across the tape, as prescribed in X3.55, and the beginning
direction is toward the empty reel when the reels have been spooled to the limit
in the clockwise direction. (The repetition of the BOT pattern is redundant.)

EEW (Early Early-Warning). Used only in reference to writing in the last or
only track of a tape or tape partition. A device-specific point whose location
is computed so as to provide EW (qv) functionality early enough to ensure that
all data buffered in the SCSI device can be written to tape.

EOD (End-of-Data). The end of meaningful data in a tape or tape partition.
(There may be non-meaningful data farther on which is left over from previous
use.) The marking of EOD may be device-specific, including nothing recogniz-
able by the device (as in the original 1/2" reel-to-reel tape usage); or it may
be controlled by the EOD field in Mode Select.

NOTE: Logical end-of-data is same as EOD, Physical end-of-medium is same as EOT

EOM (End-of-Medium). A drive status which indicates that the tape has passed
EW (qv) or EEW (qv) in the last or only track of a tape or tape partition.

EOT (End-of-Tape). Referenced to the tape-position sensing apparatus, the
extreme point in the ending direction along the tape which the drive can access.
In 1/2" reel-to-reel tape, the setting of this point is device specific. It may
be not defined short of the absolute physical end of the tape, or it may be
defined in terms of a distance (e.g., 18 feet) past the EW (qv) marker in the
ending direction along the tape. In 1/4" cartridge tape, this point is marked
by one hole near the lower edge of the tape, as prescribed in X3.55. (The
repetition of the EOT pattern is redundant.) In both cases the ending direction
along the tape is opposite to the beginning direction as defined under BOT.
NOTE: ANSI X3.40 uses EOT to designate the the EW marker in 1/2" reel-to-reel
tape. This usage is irreconcilable with X3.55, with this standard, and with
actual practice in many modern drives. It is here deprecated.

EW (Early-Warning). Referenced to the tape-position sensing apparatus, the
point at which device-specific suspension-of-writing protocols are invoked
(unless earlier invoked by EEW). Also serves as LP when writing a serpentine
track whose direction is from EOT to BOT. In 1/2" reel-to-reel tape, this
point is marked by what is also called the EOM marker (also sometimes called
the EOT marker--deprecated)--a reflective marker near the lower or rear edge of
the tape as prescribed in X3.40. In 1/4" cartridge tape, this point is marked
by one hole near the upper edge of the tape, a few feet from the EOT marker, as
prescribed in X#.55. Upon reaching EW (or EEW) when writing in the last or
only track of a tape or tape partition, warning of the approach of EOT is made
available to the initiator by use of the EOM bit in the Sense data.

LP (Load-Point). Referenced to the tape-position sensing apparatus, the point
nearest to BOT at which writing to the tape commences. Also serves as EW
when writing a serpentine track whose direction is from EOT to BOT. In 1/2"
reel-to-reel tape, this point is marked by what is also called the BOT or BOM
marker. In 1/4" cartridge tape, this point is marked by one hole near the
upper edge of the tape, a few feet in from the BOT marker, as prescribed in
X3.55.

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NOT TO SCALE                                    Forward Direction of Tape Motion --->

HUB                    + - - - - EOM when writing           BOM      RIM
END               v         v                                 v      END

                                                           + - - - +
                                                           + - - - +


              + - - - +
              + - - - +
       ^      ^       ^       ^   Magnetic-side view of 1/2" tape  ^  ^  \
        \    /        |       |      (Markers on back side)        |   \
         \  /         |       |                                    |    \
         EOT         EW      EEW                                   LP    BOT
          |           |       |                                    |      \
          v           v       v                                    v       \

                      o                                      o        o
          o                                                           o

              ^           ^   Magnetic-side view of 1/4" tape   ^
              |           |                                     |
              + - - - - - | EOM when writing in last track    BOM in 1st track
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