**3.5.1.2 ASCII TIME CODE B, Year/Day of Year Calendar Variation:**

The format for ASCII Time Code B is as follows:

YYYY-DDDThh:mm:ss.d→dZ

where each character is an ASCII character using one octet with the following meanings:

YYYY = Year in four-character subfield with values 0001-9999

DDD = Day of year in three-character subfield with values 001-365 or -366

T = Calendar-Time separator

hh = Hour in two-character subfield with values 00-23

mm = Minute in two-character subfield with values 00-59

ss = Second in two-character subfield with values 00-59

(-58 or -60 during leap seconds)

d→d = Decimal fraction of second in one- to n-character subfield

where each d has values 0-9 (optional)

Z = time code terminator (optional)

The hyphen (-), colon (:), letter ‘ T’ and period (.) are used as specific subfield separators, and that all subfields must include leading zeros.

As many ‘d’ characters to the right of the period as required may be used to obtain the required precision.

An optional terminator consisting of the ASCII character ‘Z’ may be placed at the end of the time code.

EXAMPLE: 1988-018T17:20:43.123456Z

**3.5.1.3 SUBSETS OF THE COMPLETE TIME CODES:**

When it is desired to use SUBSETS of each of the TWO ASCII time code format variations described above, the following rules must be observed:

1. The ‘calendar’ subset (all subfields to the left of the ‘T’) and the ‘time’ subset (all subfields to the right of the ‘T’) may be used independently as separate ‘calendar’ or ‘time’ formats, provided the context in which each subset is used makes its interpretation unambiguous.
2. When calendar or time subsets are used alone, the ‘T’ separator is omitted.
3. Calendar or time subsets may contain all the defined subfields, or may be abbreviated to the span of interest by deleting the unneeded subfields, either on the left or on the right. However, when subfields are deleted on the LEFT, all separators that had delimited the deleted subfields must be retained (except for the ‘T’ which, by rule b, is dropped if the subset is used alone.) When subfields are deleted on the RIGHT, the separators that had delimited the deleted subfields are dropped.
4. Subsets may NOT consist of partial subfields (e.g., must use ‘ss’, not ‘s’). In particular, consistent use of the complete four-character YYYY subfield is required (e.g., ‘1989’ instead of ‘89’) because of the need to accommodate the upcoming century rollover in only 11 years. It should be noted, however, that each fractional second (‘d’ character) is considered to be a complete subfield, and so any number of fractional seconds may be used.
5. If calendar and time SUBSETS are then brought together to form a single time code format (joined with the ‘T’ separator) the CALENDAR subset may NOT have been truncated from the RIGHT, and the TIME subset may NOT have been truncated from the LEFT. That is, the format must be integral around the ‘T’.
6. Standardization on the use of these time code formats for purposes OTHER than identifying an instant of calendar or time in UTC (e.g., unconventional use as a counter or tool for measuring arbitrary intervals) is not recommended. It is felt such a specialized application can best be viewed not as a time code format but rather as an engineering measurement format. Any such application of these time code formats is considered beyond the scope of this Recommended Standard.

CCSDS 301.0-B-4 Page F-1 November 2010