

PDP-1 Music
Intermediate Tape Format
(updated 2006-05-11)

Intermediate Tape = 1 to 4 Parts, separated by blank tape

Part = Notes section, 5 blank frames of tape, Bars section

Notes section = Word count (n), n Note words, checksum (1s' complement sum of Note words)

Bars section = Word count (m), m Bar words, checksum (1s' complement sum of Bar words)

Note word = Encoded note OR Bar mark OR Tempo word

Bar mark = 600000 octal (must occur at end of each measure)

Tempo word = 700000 octal + Tempo value (smaller values are faster)

Tempo words are optional (default is 252 octal) and may appear anywhere

Encoded note: 18 bits AATAAPPPPPDDDDDDDD

AAAA: articulation

0: normal (7/8 of duration is sounded, then 1/8 silent)

1: quarter artic. (3/4 sound, 1/4 silent)

2: half artic. (1/2 sound, 1/2 silent)

4: staccato (approx. 3/8 sound, 5/8 silent)

8: legato (1 sound, 0 silent)

T: triplet if 1, normal note if 0

PPPPPP: pitch

0 or 1: rest (silent)

2: pitch C1

3 - 76 octal: equal-tempered notes by semitone (12 to the octave)

77 octal: pitch CS6

DDDDDDDD: duration in 64ths of a whole note

DDDDDDDD is multiplied by 3 if T=0, or 2 if T=1, to get duration in 192nds

Note words are stored in memory (increasing addresses) starting from location "not"

Bar word: offset from "not" where measure begins (will either be beginning of a part, or immediately after a Bar mark); 600000 octal at end of part

A Part in memory is a list of Bar words pointing to Note words