

NAME

srec_tektronix – Tektronix hexadecimal file format

DESCRIPTION

The Tektronix hexadecimal file format is no longer very common. It serves a similar purpose to the Motorola and Intel formats, usually used to transfer data into EPROM programmers.

The Lines

Most Tektronix hex files contain only Tektronix hex lines (see the next section), which always start with a slash (“/”) character. There are only two types of lines – data lines and a termination line.

Data Lines

Data lines have five fields: address, length, checksum 1, data and checksum 2. The lines always start with a slash (“/”) character.

/	Address	Length	Checksum1	Data	Checksum2
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Address This is a 4 character (2 byte) address that specifies where the data in the record is to be loaded into memory.

Data Length

The data length field is a 2 character (1 byte) field that specifies the number of character pairs (bytes) in the data field. This field never has a value of zero.

Checksum 1

The checksum 1 field is a 2 character (1 byte) field. Its value is the 8-bit sum of the six 4-bit values which make up the address and length fields.

Data The data field contains character pairs (bytes); the number of character pairs (bytes) is indicated by the length field.

Checksum 2

The checksum 2 field is a 2 character (1 byte) field. Its value is the least significant byte of the sum of the all the 4-bit values of the data field.

Termination Line

Termination lines have three fields: address, zero and checksum. The lines always start with a slash (“/”) character.

/	Address	Zero	Checksum
---	---------	------	----------

Address This is a 4 character (2 byte) address that specifies where to begin execution.

Zero The data length field is a 2 character (1 byte) field of value zero.

Checksum

The checksum 1 field is a 2 character (1 byte) field. Its value is the 8-bit sum of the six 4-bit values which make up the address and zero fields.

Size Multiplier

In general, binary data will expand in sized by approximately 2.4 times when represented with this format.

EXAMPLE

Here is an example Tektronix hex file. It contains the data “Hello, World” to be loaded at address 0.

```
/00000D0D48656C6C6F2C20576F726C640A52  
/00000000
```

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srec_cat version 1.47

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AUTHOR

Peter Miller	E-Mail:	pmiller@opensource.org.au
^/*	WWW:	http://miller.emu.id.au/pmiller/