

1.0 | Overview

This document describes version 0.0.2-alpha of Gridline's Grid binary file format.

The Grid File is the native file format for spreadsheets within Gridline. The purpose of the Grid file is to describe the graphical appearance of spreadsheets and store cell contents in a cross-platform and cross-application manner.

2.0 | Syntax

This chapter discusses the data representation and structure of a Grid file on an object and file scope.

2.1 | Character Set

Grid files, on an atomic level, comprise a sequence of 8-bit bytes. Its character set is a subset of the American Standard Code for Information Interchange (ASCII). There are three classes of characters: *text*, *delimiters*, and *whitespace*. These classes apply to all characters in the character set except those within higher-level entities (see Section ??); in such cases, separate rules apply.

Whitespace characters (see Table 2.1) separate contiguous *lexemes* that would otherwise combine to form a single *token*. Some whitespace characters, may additionally serve as markers denoting the end of a line. Such characters are called *newline* characters.

Table 2.1: Whitespace characters with their respective representations.

Dec	Hex	Symbol	Name
09	09	HT	Horizontal Tab
10	0A	LF	Line Feed
13	0D	CR	Carriage Return
32	20	SP	Space

When a Carriage Return character (CR) immediately precedes a Line Feed character (LF), it will be recognized as a single newline character, which indicates an End of Line (EOL) marker. By themselves, the CR and LF characters are also newline characters. However, they do not,

by themselves, constitute an EOL marker.

Delimiter characters (see Table 2.2) denote the start and end of a higher-level entity such as a string or formula. Like whitespace characters, delimiter characters separate sequences of characters that will otherwise combine to form a *token*. Delimiters should be balanced such that every open delimiter has a corresponding closing delimiter of the same type. These characters are not part of the entities they terminate or instantiate.

Table 2.2: Delimiter characters with their respective representations.

Dec	Hex	Symbol	Name
37	25	%	Percent Sign
40	28	(Open Parenthesis
41	29)	Close Parenthesis
60	3C	<	Less Than
62	3E	>	Greater Than

Text characters are all printable characters except whitespace and delimiters.