

Emergency Command Parser

Feature Name: Emergency command parser

Feature Name in Annotation: EMERGENCY_PARSER

Source of Information

Releaselog, pull requests, commits, ifdefs with feature annotation name

Strategy Used:

Feature is identified from the latest release log first. The release log also provides the pull request and commits linked to the feature (see the links and tables below), Ifdefs are also used for speeding up feature location.

Feature Release Version: 1.1.0 – RC7

Time took to Identify and Locate the feature: 0.5 hour

Time took to Understand the Implementation: 1.5 hour

Feature Description

This feature adds an emergency command parser in MarlinSerial which is located in MarlinSerial's RX interrupt. This increased the reliability of the emergency command. The parser tries to find and execute M112, M108, M410 before the commands disappear in the RX-buffer.

M112 - Emergency stop.

M108 - Break out of heating loops (M109, M190, M303). With no controller, breaks out of M0/M1. (Requires EMERGENCY_PARSER)

M410 - Quickstop - Abort all planned moves

This enables Marlin to receive and respond to the Emergency command at all times - regardless of whether command buffers are full or not. It remains to convince host software to send the commands. To inform hosts about the new feature a new entry in the M115-report was made. "EMERGENCY_CODES:M112, M108, M410;".

The parser is fast. It only needs two switch decisions and one assignment of the new state for every character.

Feature Information and Statistics:

PR No.	Merged Time	PR	Commits	Files	Line Added	Line deleted
#4226	8 Jul 2016	MarlinSerial emergency-command parser (with M108)	6	29	249	56

Ratios of sources (%)

RL	PR	CM	Ifdef	DK	CC	SC	GD
50	30	5	15	0	0	0	0

RL: Release Log; **PR:** Pull Request; **CM:** Commit, **Ifdef:** Ifdef Expression; **DK:** Domain Knowledge; **CC:** Code Comment; **SC:** Source Code; **GD:** G-Code Documentation.

Pull Request Links:

<https://github.com/MarlinFirmware/Marlin/pull/4226/files>

Feature Characteristics:

Feature Name	LoFC	SD	TD	Completely Wrapped by ifdef
Emergency Command Parser	236	11	3	Yes

Feature's relevant historical data

Related Pull Request:

M190 and M109 may lead to zombie state #4198

<https://github.com/MarlinFirmware/Marlin/issues/4198>

Introduce the reprobe and rewipe features #3553

<https://github.com/MarlinFirmware/Marlin/issues/3553>