

Support G2/G3 with R parameter

Feature Name: Support G2/G3 with R parameter

Feature Name in Annotation: G2_G3_R_Parameter

Source of Information

Releaselog, pull requests, commits, G-code document, 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 – RC8

Time took to Identify and Locate the feature: 0.2 hour

Time took to Understand the Implementation: 0.25 hour

Feature Description

G2 and G3 are the G codes that add an arc movement to the planner. G2 added a clockwise arc move to the planner while G3 adds a counter-clockwise arc. An arc move starts at the current position and ends at the given XYZ, pivoting around a center point offset given by I and J. Arc moves actually generate several short straight-line moves, the length of which are determined by the configuration_option 'MM_PER_ARC_SEGMENT'(default 1 mm). Any change in the Z position is linearly interpolated over the whole arc.

This feature makes use of R method instead of providing I and J of specifying an arc with G2 and G3.

If R is given then:

- Either X or Y is also required.
- Including I or J will throw an error.
- If the destination is the same as the starting point, an error will be thrown.
- The center of the arc-circle is calculated using the standard formula.

Feature Information and Statistics:

PR No.	Merged Time	PR	Commits	Files	Line Added	Line deleted
#4840	21 Sep 2016	Add support for G2/G3 with R parameter	1	2	51	9

Ratios of sources (%)

RL	PR	CM	Ifdef	DK	CC	SC	GD
50	20	5	5	0	0	0	20

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/4840>

Feature Characteristics:

Feature Name	LoFC	SD	TD	Completely Wrapped by ifdef
Support G2/G3 with R parameter	32	1	0	Yes

Feature's relevant historical data

Request(issue) proposed

Time: 21 Aug 2016, by: Bob-the-kuhn

<https://github.com/MarlinFirmware/Marlin/issues/4676>