

1. Introduction

The Color Track – Realtime application was made to monitor and record the realtime data which is generated during a coffee roast. It collects information from a various sensors (Color Track Laser, Thermocouples, Temperture and humidity sensors, etc.) This information is displayed in easy to read form using both graph and table views. Also, each roast's data is saved in an individual file which can be easily accessed through the Tracks panel. This system provides a very user friendly interface for quick and easy navigation.



9. Changing the Thermocouple Settings

The screenshot displays the ColorTrack-Realtime software interface. A 'Thermocouple Options' dialog box is open, allowing users to configure the system. The dialog has two sections: 'Units' and 'Devices'. In the 'Units' section, 'Fahrenheit (°F)' is selected. In the 'Devices' section, 'National Instruments Thermocouple NI 9211' is selected. The 'COM PORT' is set to 'COM1'. The background shows a dashboard with a large temperature display of 107.0 and 48.0, and an 'Exhaust Temp (°F)' display of 67.1. A data table is visible at the bottom right of the dashboard.

| BaseElapsedTime | BaseColorTrackReading | B |
|-----------------|-----------------------|---|
| 00:00 | 52.4 | 4 |
| 00:01 | 49.8 | 4 |
| 00:02 | 49.8 | 4 |
| 00:03 | 49.8 | 4 |
| 00:04 | 49.8 | 4 |
| 00:05 | 52.1 | 4 |
| 00:06 | 48.8 | 4 |
| 00:07 | 51.5 | 4 |
| 00:08 | 47.2 | 4 |
| 00:09 | 49.9 | 4 |
| 00:10 | 51.5 | 4 |
| 00:11 | 50.3 | 3 |
| 00:12 | 50.3 | 3 |
| 00:13 | 48.2 | 3 |
| 00:14 | 51.9 | 3 |
| 00:15 | 51.8 | 3 |
| 00:16 | 50.6 | 3 |
| 00:17 | 49.8 | 3 |
| 00:18 | 51.1 | 3 |
| 00:19 | 51.5 | 3 |
| 00:20 | 51.5 | 3 |
| 00:21 | 53.6 | 3 |

To change the units of the system from Fahrenheit to Celsius simply click the desired units in the window. The user may also click the type of thermocouple device they are using to read temperature data.