System Description Document for the Turntable Universal Automatic Indexing Controller (TUAIC)

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# Objective

To design, build, and produce a turntable control system that exceeds the current performance metrics of existing products at a lower price point. This document details the requirements and design of the Turntable Universal Automatic Indexing Controller (TUAIC) component of the integrated turntable control system.

# System

TUAIC rotational Speed shall vary monotonic at either end of movement

TUAIC shall support at least 42 positions.

TUAIC position accuracy shall be ¼ of code 100 rail head = 0.25mm = 0.010” = 1/32 of a degree

TUAIC position shall be stored at interruption of power

In an event of misalignment, re-calibration shall be accomplished with a single point

Rotational Speed shall vary monotonic at either end of movement

# User Interface

The UI shall support the three modes: Manual, Auto, and Config.

The UI shall depict rotation direction

The UI shall show current mode: Manual, Auto, Cal, Busy, Complete

The UI shall have power switch

The UI power shall be supplied from either AC or DC source defined by customer

## Modes

### Manual Control Mode

Shall turn CW/CCW with variable speed

### Automatic Control Mode

Continuous Display Rotations

Select “Head” or “Tail” to defined track

### Configuration Mode