

Type 2 Liverpool Ringing Simulator

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Contents

Document History	3
Licence	3
RELEASE NOTES.....	4
June 2024	4
Documentation Updates.....	4
Component Costs.....	4
ATmega328P	4
Component Changes.....	4

Document History

Version	Author	Date	Changes
1.0	A J Instone-Cowie	27/06/2024	First Version.

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Cover photograph: Prototype magnet mount, Liverpool Cathedral treble.

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RELEASE NOTES

June 2024

Documentation Updates

After several years, the entire documentation set has now been updated, part numbers checked and amended, and guides updated with the latest tested versions of Simulator Software.

Component Costs

The price of many electronic components and other parts used in the simulator (particularly neodymium magnets) have increased dramatically over the last few years. The indicative cost of an 8-bell simulator with magneto-resistive sensors, which in 2019 would have been around £220, is now closer to £325. The **Cost Estimation Tool** spreadsheet has been updated with current, June 2024, prices. You may be able to reduce costs by sourcing parts from other vendors, but take particular care with low-priced semiconductors (which may not be as described), and with anything with obvious safety implications (such as power supplies).

ATmega328P

Microchip have recently announced that the ATmega328P microcontroller is “no longer recommended for new designs”, the first step towards being discontinued. However, the microcontroller is still widely available. The Simulator Interface code will in theory work on the ATmega168P microcontroller, but changes to the build process are required for this. Contact the project if this applies to your build.

Component Changes

Some minor component changes have been made to reflect changes in availability from vendors:

- The 5V voltage regulator previously specified has been discontinued. An equivalent replacement has been selected.
- Some IC socket part number have been changed, to reflect availability and minimum order quantity changes.
- The Screwfix part number for 20mm closed grommets has changed.