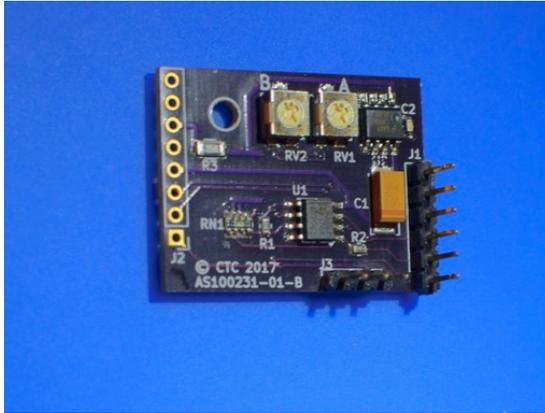


# Motor Encoder Board P/N 100231

## Description

This product is a replacement circuit board for the RA and DEC motor encoders of the Meade LX200 "Classic" Telescope, 8", 10", and 12" models. It does not fit the GPS and later versions of the LX200.



**FIG. 1. P/N 100231 MOTOR ENCODER BOARD**

This is a form/fit/function replacement for the original Meade board, with the same electronic circuit and similar layout and components.

Below is the original for comparison:



**FIG. 2. ORIGINAL LX200 CLASSIC MOTOR ENCODER BOARD.**

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## Installation:

Please read the following procedure through to the end before beginning. If you are not confident of your ability to perform the procedures safely, seek help. There are further resources in the Appendix of this document that will be useful if you are unfamiliar with the process.

We recommend removing the motor assemblies to enable easier replacement of the motor encoder boards. *Ensure power is OFF before beginning.*

For the declination (DEC) motor assembly:

1. The declination motor assembly can be removed by first removing the clutch knob, then removing the DEC drive cover with three small hex nuts. Remove the 6-pin header connector cable on the right-hand side of the encoder board. Unplug the other end of this cable, which is a phone-jack style connector inside the fork arm near the bottom. Follow the cable back to the connector, and disconnect it. Remove the two hex bolts holding the motor assembly to the fork arm. The assembly can now be removed, gently pulling the cable out through the hole in the fork arm behind the motor assembly. Beware of grease.
2. You will see a single hex bolt holding the encoder board to the motor assembly. Depending on your soldering skill and any clamps or assistance you have, you may want to leave that alone, or remove it to free the board for better access. De-solder the five wires soldered to the left-hand side of the board. Be careful to leave the wires in good shape for re-soldering to the new board. Write down the colors and which hole they connect to, or take a photo, so you can attach the new board exactly the same.
3. Attach the new board by soldering the wires you just unsoldered in the same positions as before. Reinstall the motor assembly by reversing the steps you took to remove it.

For the right ascension (RA) motor assembly:

1. Release the RA clutch lever first to free the scope in RA motion. Remove the front panel and disconnect the ribbon cable holding it in place. Lay the telescope carefully on its side so that you can access the bottom, and remove the bottom plate. You will be able to see the motor assembly. Remove the 6-pin header connector cable. You should be able to replace the board in-place.
2. As above, except instead of de-soldering 5 wires you'll be de-soldering 7 or 8 (all of them).
3. As 3. above, except that the assembly would not need to be re-installed.

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## Appendix

For a long and detailed explanation of the motor assemblies on the LX200 Classic:

<http://skymtn.com/mapug-astronomy/ccdastro/decfix.htm>

Some good information and photos for calibration of the board:

<http://www.b82maidbronn.de/lx200.htm>

Lots of useful information on the RA and DEC drives:

<http://skymtn.com/mapug-astronomy/MAPUG/RADrive.htm#repairURL>

Details on installing and de-installing the motor assemblies:

<http://lx200classic.com/files/LX200%20Procedure%20for%20Removal%20of%20PCB.pdf>