OPTO 22

Replacing the B3000 Flash EEPROM

Introduction

These instructions show you how to upgrade the flash EEPROM chip in a B3000 brain. Upgrading the chip replaces the firmware for the brain so it can take advantage of the newest SNAP input/output modules from Opto 22.

Replacing the chip erases the following information on the brain. If necessary, you will need to download this data again to flash EEPROM after replacing the chip:

- Default configuration
- Module types
- Event/reactions

Before You Begin

Tools Needed

- Phillips screwdriver
- PLCC Chip Extractor (AMP 821903 or equivalent)

Identifying the Brain

First, make sure the brain you have is the model that requires the chip replacement. If the PGM LED lights up momentarily when power to the brain is turned on, you do not need to replace the chip. If the PGM LED stays off when power is applied to the brain, use the following steps to replace the chip.

Caution!

Always use anti-static procedures before handling EEPROM chips or circuit boards.

Always handle boards by their edges. Avoid touching board components or solder connections on the back.

Replacement Steps

1. Turn off power to the brain and remove the brain from the rack.

2. Unscrew the four small screws that secure the brain's top cover plate, and remove the plate.

   Inside you can see the three boards that make up the circuit board assembly.
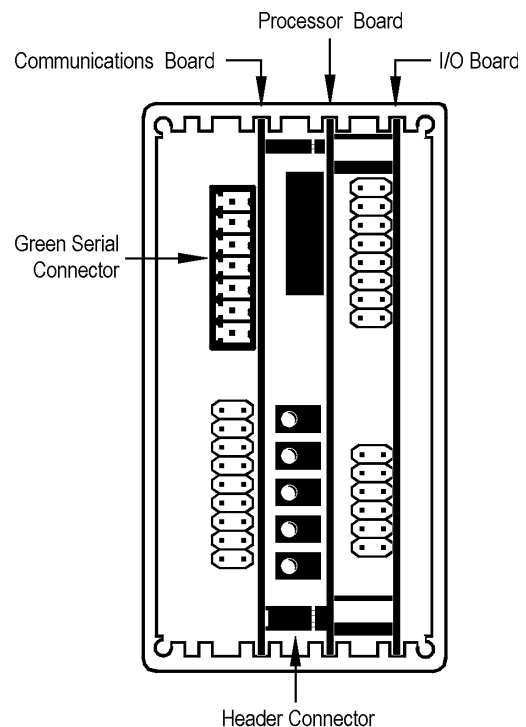
B3000 Brain Circuit Board Assembly

3. Carefully slide the circuit board assembly out of the can.

   The communications board is connected to the processor board by a header connector and two small connectors.

4. Using extreme care, separate the communications board from the processor board. Set the communications board aside.

5. On the processor board, locate the chip labelled 9143.
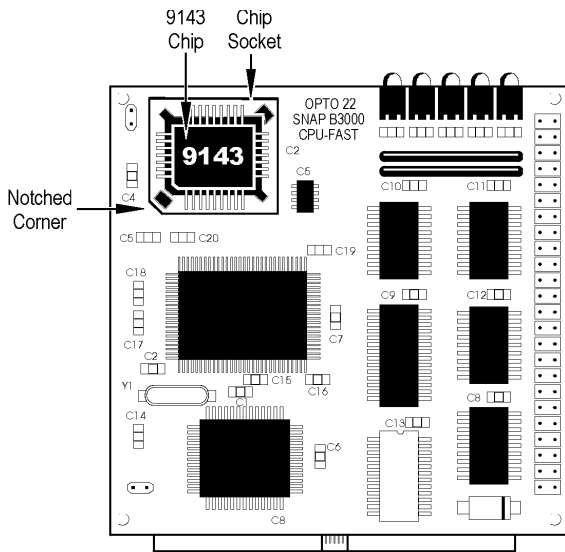
Processor Board Showing 9143 Chip

6. Using the PLCC chip extractor, gently remove the 9143 chip. DO NOT USE A SCREWDRIVER!! Using a screwdriver will damage the socket and make the processor board unusable.

7. Verify that the part number on the replacement chip is 9143, and that the label is colored yellow (to distinguish it from the older chip). With the new chip's label side up, carefully align the notched corner of the new chip with the notched corner of the chip socket. Using your fingers, gently but firmly push the chip into place.

If the chip does not fit in the socket, STOP!! Forcing it will destroy the chip. Make sure the chip is label-side up and that the notched corners of the chip and the socket are lined up.

8. Lining up the pins on the header connector, reconnect the communications board to the processor board.

9. Put the board assembly back into the can, inserting the card edges into the U-channels inside the can and making sure the rack connector aligns with the hole in the bottom plate.

10. Replace the top cover plate and the four screws.

11. Replace the brain on the rack and turn it on. Make sure the RUN LED is solidly on.

If the RUN light is blinking, the header connector may not be properly seated, or you may have the wrong brain (see "Identifying the Brain" on page 1).

12. If necessary, replace default configuration, module type, and event/reaction data in the brain's flash EEPROM.

Chip replacement is complete, and the brain can now use the latest Opto 22 modules.

For Help

If you have problems replacing the flash EEPROM, contact Opto 22 Product Support Monday through Friday, 8 a.m. to 5 p.m. Pacific Time.

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