

9^A GDS Helpsheet



*World Leaders in Computer Controlled Testing
Systems for Geotechnical Engineers and Geologists*

Hardware

Advanced Controller

Changing Firmware, MkIII Controller

1. Introduction

We at GDS impart the performance characteristics to the digital controller by programming a chip that plugs onto the main printed circuit board. This piece of "hardware" is called an "EPROM" (Erasable Programmable Read Only Memory) and the "software" that is programmed into it is called "firmware".

From time to time we update the firmware with our latest developments and so there may be occasions when we advise you to fit a particular firmware enhancement. The procedure for changing the firmware is given below.

2. Changing Firmware

1. Ensure controller is powered off and the ac power lead is removed.
2. Remove the eight cap headed Allen screws retaining the top plate.
3. With the assistance of a colleague gently raise the control panel end of the top-plate by approximately 100mm, ensuring that no cables are stretched.
4. You may wish to use a 400mm long by 40mm diameter wooden rod (eg a cut down broom handle or a small rolling pin) to support the top plate in this position. If you do, then slide the rod between the top plate and the base just to the right of the control panel. Make sure that you do not damage any of the cables or connectors connected to the top plate when you do this.
5. Move the control panel end of the top-plate backwards by about 70mm, you should now have sufficient access to the printed circuit board (PCB).
6. Remove the small aluminium plate at the bottom right hand corner of the PCB by removing the three cross headed screws.
7. Remove the EPROM (IC32) located as shown on the PCB plan below by using a small screwdriver gently to lever each end of IC32 in turn until the chip can be lifted out easily.

MKIII CONNECTOR LAYOUT

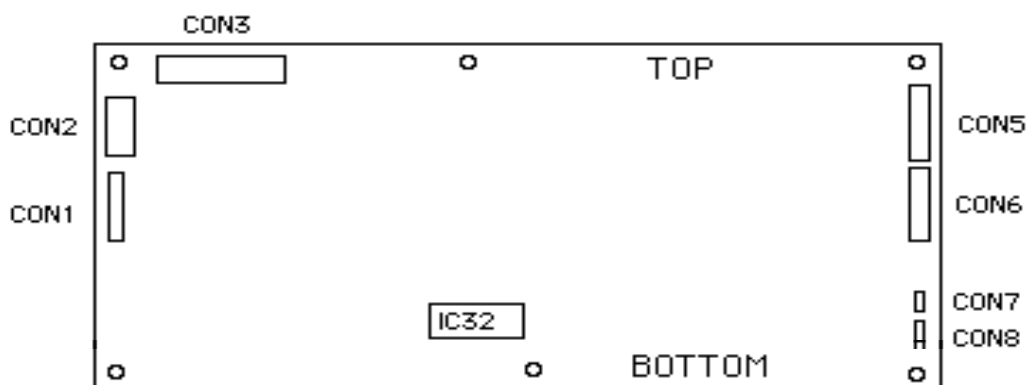


Fig.1 PCB plan

8. Insert the replacement EPROM into the socket for IC32 with the pin1 cutout aligned with the screen printed outline (i.e. to the left), making sure that no legs are left out or bent under.
9. Replace the small aluminium plate and secure it.
10. Remove the wooden rod, replace the top-plate making sure that no cables are trapped and that the rubber strips around the top edge of the base are not displaced. Secure the top-plate with the eight cap headed Allen screws.
11. Carry out the diagnostics as described in section 2.4 of the Users handbook to check that the EPROM has been correctly inserted.

WARNING: We recommend that the above procedure is carried out by someone who is familiar with handling electronic components. The procedure may be helped with the use of IC inserters and extractors.