

Headless Ghost

User Manual

PROGRAMMING THE HEADLESS GHOST

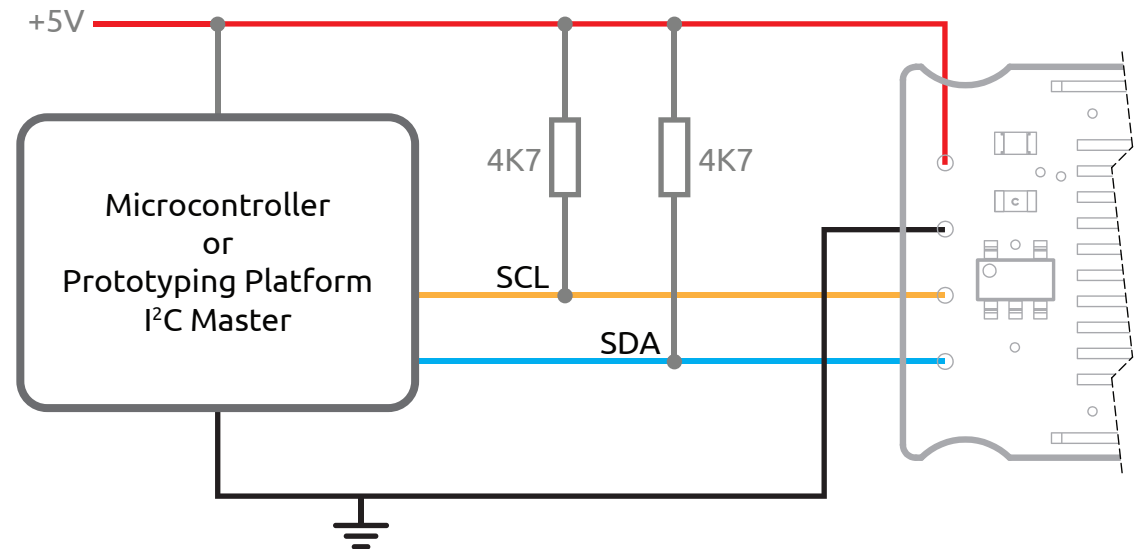
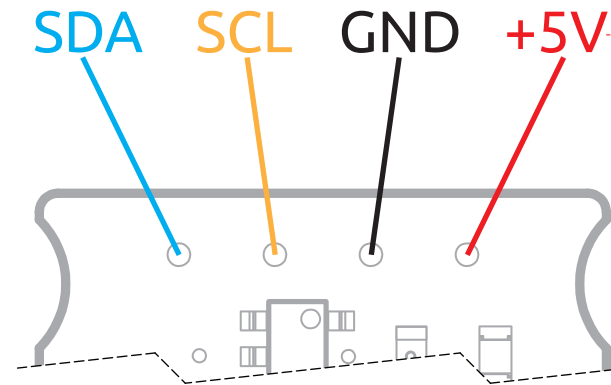
Headless Ghost/NewerTeach Headless modules are fitted with a Microchip [24AA02T-I/OT](#) or compatible I2C EEPROM memory chip. The EEPROM stores the EDID data which identifies the Headless Ghost as a display device to the operating system.

The clock (SCL), data (SDA), power and ground pins on the EEPROM device are connected to the HDMI connector on the module and to the four programming pads along the top of the module.

The programming pads are on a 0.1" pitch and will mate with most spring loaded [pogo pins](#). It is very easy to make a breadboard friendly programming adaptor using some [strip board](#) and [square pin headers](#).

There are no I²C pull up resistors on the Headless Ghost, so you must add them to the programming circuit to allow for proper communication between the I²C bus master and the EEPROM.

The EEPROM can be read from and written to by connecting these pins to a suitable microcontroller /development board (e.g. [Arduino](#), [STM Discover](#) or [Raspberry Pi](#)), or serial interface (e.g. [Bus pirate](#) or [mBed+RealTerm](#)).



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The EEPROM can also be read from and written to by connecting these pins to a suitable memory programmer e.g. MiniPro TL866 or SP200S.

Programming the EEPROM on a Headless Ghost/ NewerTech Headless module using a dedicated memory programmer does not require the additional pull up resistors.

The Headless Ghost module can be connected to the programmer using flying leads or using a dedicated adapter board as per the design included. An 8-pin DIP socket provides a convenient body to solder flying leads to (Fig.1). Flying leads can be connected to the programming port using pogo pins or to the main connector by splicing them on to a HDMI socket (Fig.2).

The programming adapter is designed to work with programmers that have a 40 PIN ZIF socket where Pin 1 is in the top left hand corner of the device. Some programmers are 'bottom justified' and the programming adapter will require modification to work properly.

To use the programming adapter, insert it into the ZIF socket on the programmer and lock it into place. Push the Headless Ghost module into the HDMI socket (Fig.3). Program the EEPROM by selecting the 8-pin P, SN, ST or MS variants of the device from the programmer software.

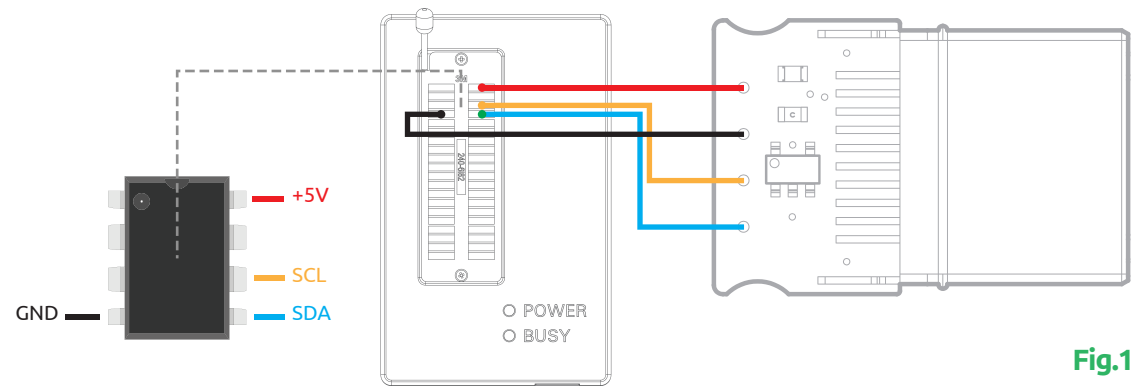


Fig.1

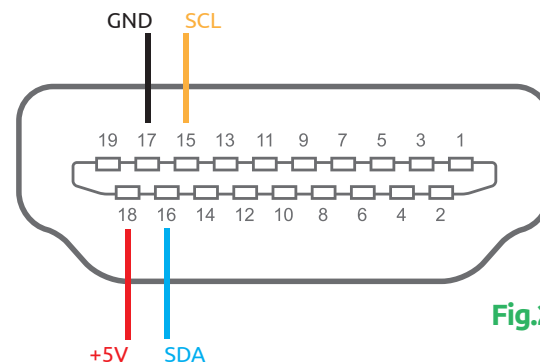


Fig.2

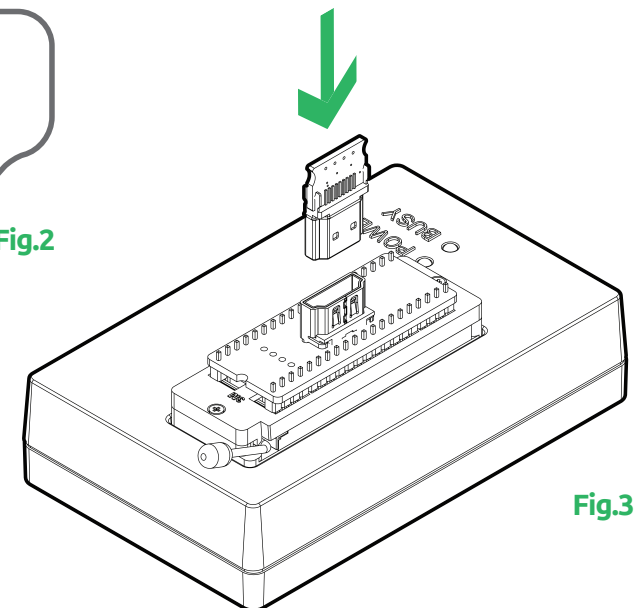


Fig.3