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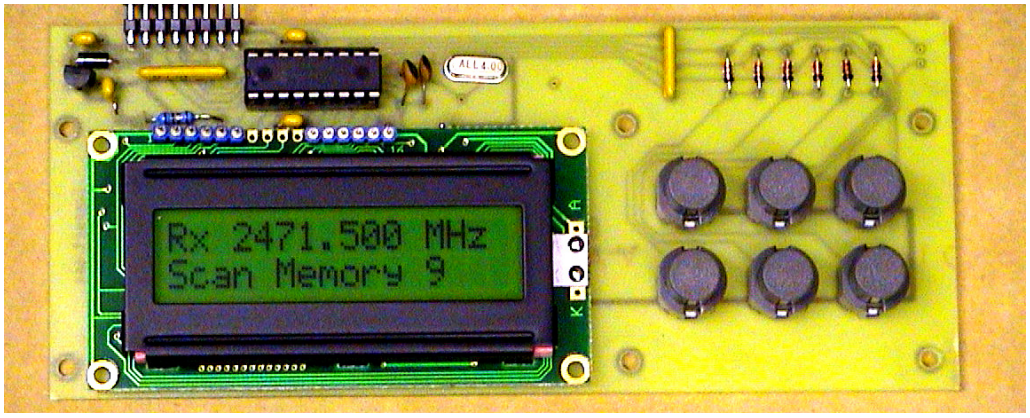
Receiver controller connection information supplement



Introduction

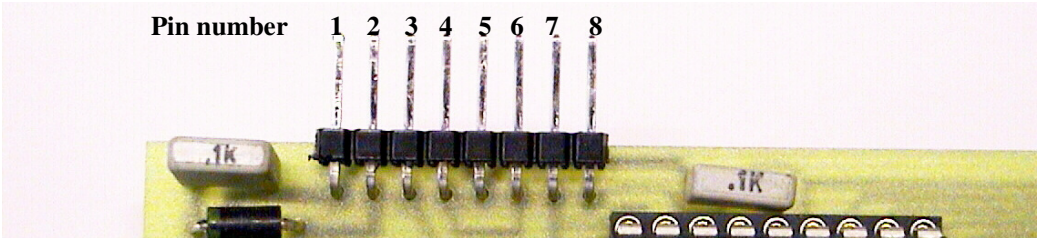
This supplementary information shows how to connect a G1MFG.com LCD controller to a G1MFG.com receiver. Operating information is supplied separately in the 'Microwave Receiver' manual. This document is provided as-is, without any warranty.

Installation

Switch off the receiver. Remove the 18 pin PIC chip (if fitted) from its socket on the receiver PCB. The PIC is no longer required and may be used for your own experiments.

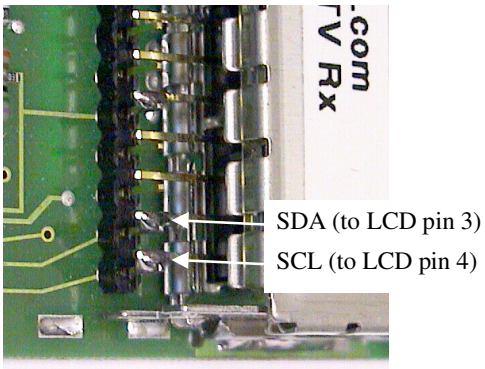
Identifying the connections

This is the pinout of the LCD controller. Note that the metal pins are not fitted to all versions.



Controller pin	Function (this differs slightly from the text on the PCB foil pattern)
1	0V (ground) from power supply
2	+12V nominal from power supply
3	SDA (serial data) to receiver module
4	SCL (serial clock) to receiver module
5	0V (ground)
6	Not used
7	Not used
8	Not used

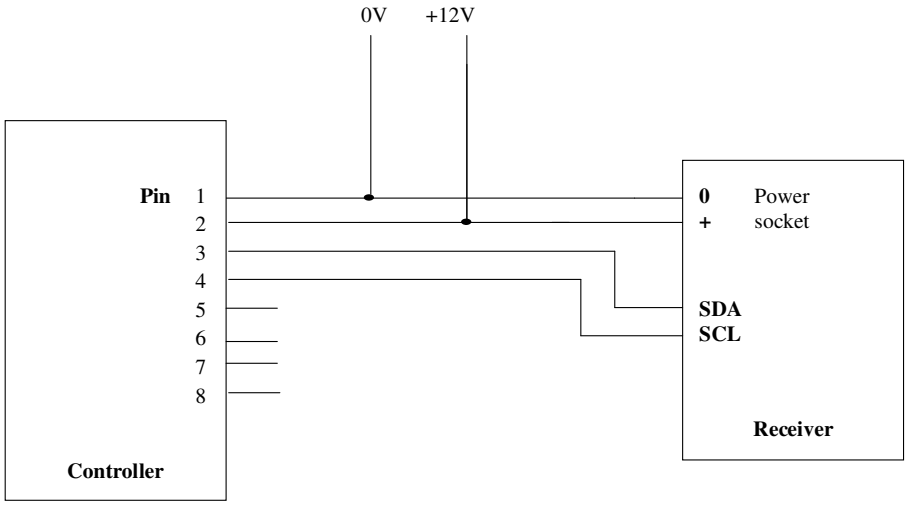
Identify the SCL and SDA pins on the receiver module. The SCL pin is the bottom one, and the SDA pin is the next one up.



Connection instructions

The controller must be used fairly close to the receiver module. We recommend that the connections are no more than about 300mm (12"). The fundamental limitation of interconnection length is the capacitance to ground and to each other of the SCL and SDA wires, which should not exceed about 200pF. You may be able to get away with longer interconnections by using low-capacitance cabling but we cannot guarantee success.

Wire up the LCD controller to the receiver as shown in the diagram.



If you want to mount the receiver a long way from the controller, you can use Philips I^2C Bus Extender ICs type P82B715. You will need one at each end of the control cable. We have used these ICs to control a receiver via more than 50m of cable. P82B715 ICs are available from Farnell and other suppliers.

Important note about your receiver

Power supply

The receiver requires a supply of supply of 12 to 15V DC, tip (centre) positive at about 300mA (including controller supply). Reverse polarity will cause very serious damage. Do NOT use less than 12V. If your receiver has two voltage regulators mounted on heatsinks then we recommend operating it from 12V. Supplies above 14V will make the regulators run very hot.