



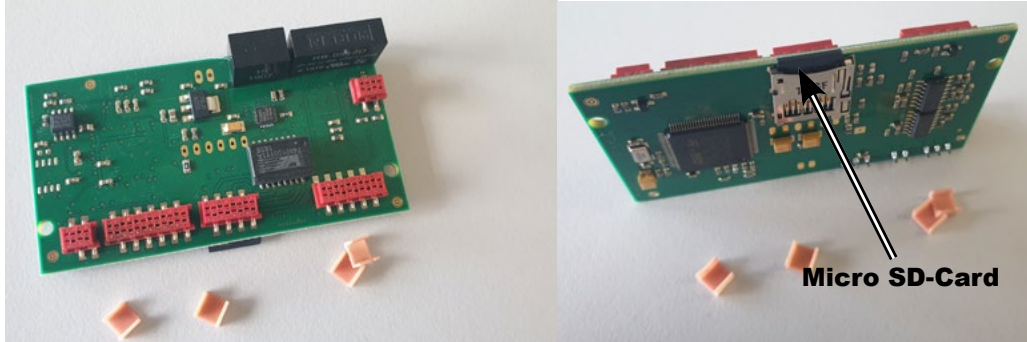
Implementation instructions for the ShowNET laser mainboard

1. Introduction

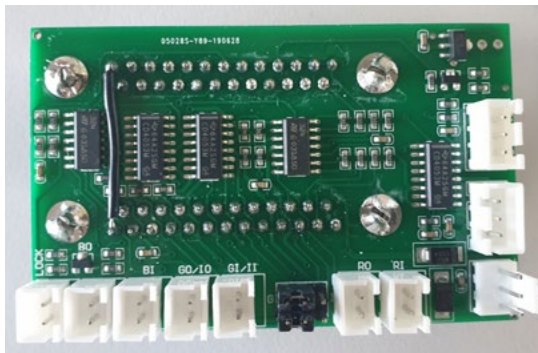
The ShowNET laser mainboard is a multi-feature board that adds intelligent features to show laser light systems. Details on the features as well as downloads for firmware, tools and additional data are available on www.laser-interface.com

2. Contents of the ShowNET Integrators Package

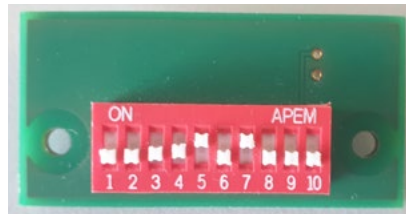
1 x ShowNET mainboard with Micro SD card



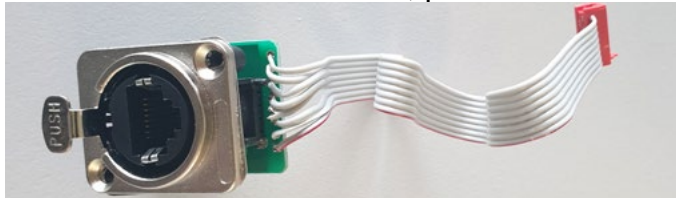
1 x ILDA switch board



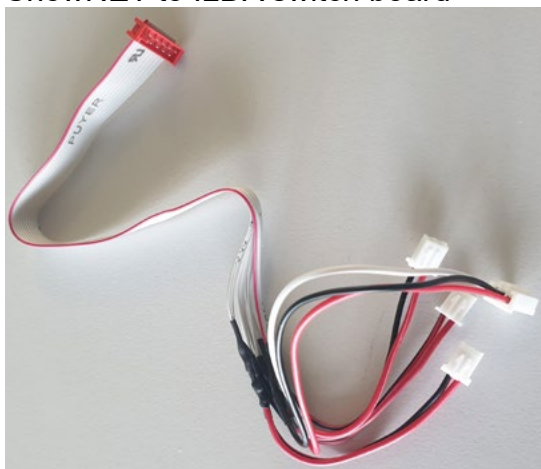
1 x DIP Switch board



1 x RJ-45 connection socket, pre-wired



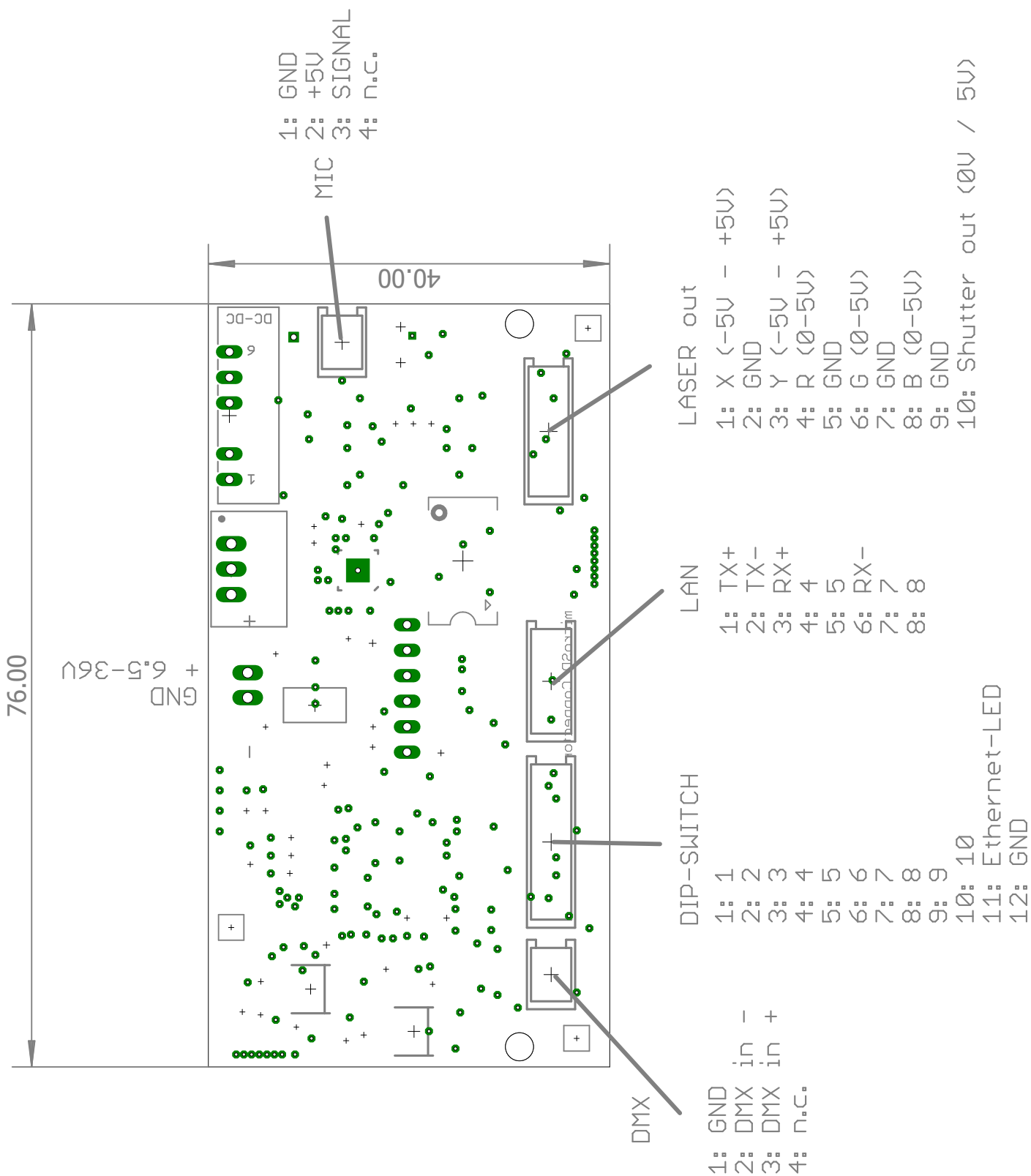
1 x Signal out connection cable from ShowNET to ILDA switch board



1 x Connection cable from DIP-Switch board to ShowNET



3. General wiring schematics

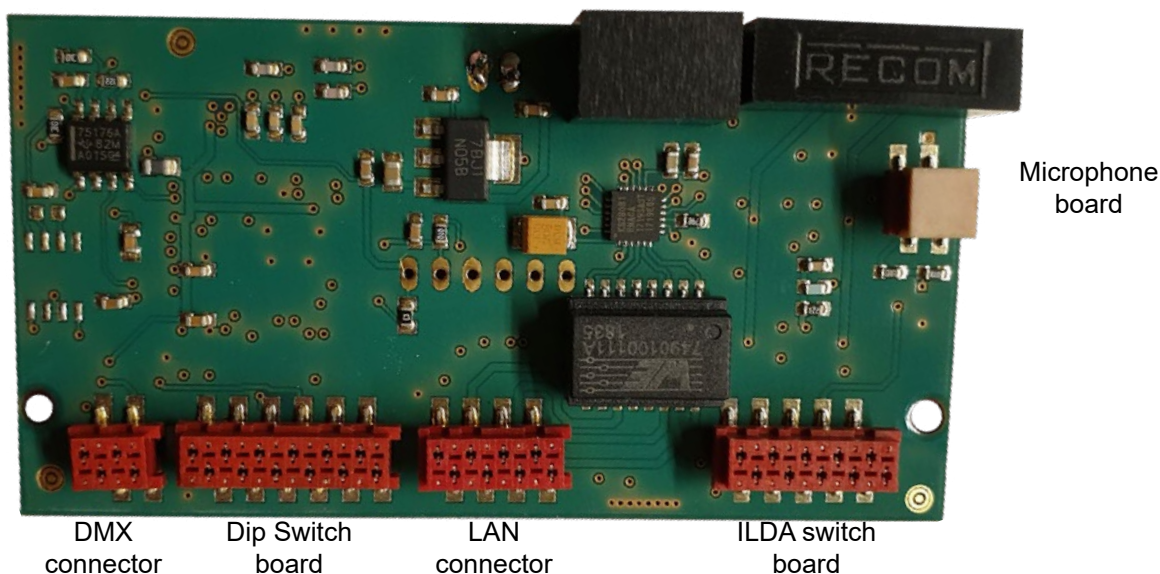


4. Step-by-step instructions and general description

The integration of the ShowNET as mainboard is not complicated. The whole ShowNET installation package consists of several break up boards, so the position or the very boards can be varied inside the laser system. This makes it easy to implement the ShowNET even in very small housings.

These instructions only consider the technical implementation of the components. They do not consider any aspects of mounting the components, as this has to be sorted individually.

Component description:



4.1. Mount ShowNET mainboard

Find a suitable position for the ShowNET mainboard, so it can be firmly mounted to the ground plate, or any other solid metal part. make sure to find a place where the ShowNET cannot overheat due to missing heat dissipation. It usually makes sense to wire the ShowNET board in an unmounted state and attach it after all the wires have been connected.

The red connectors on the ShowNET are so called „Micro-Match“ connectors. They are used for wiring with flat cables and are a small-footprint connection option.

First Pin (1) is always at the side of the Micro-Match connector with the lug. All flat wires should therefore have the marking on the side of the lug.

4.2. Connect the DIP Switch board

The DIP switch board allows for setting different operation modes for the ShowNET board. It should be accessible to users to change settings. Under certain circumstances it is possible to run the ShowNET board without the DIP Switch board being accessible by the user.

Connect the DIP Switch board to the ShowNET by using the provided flat cable.

4.3. Connect the RJ-45 / LAN Port to the ShowNET

The LAN port can either be used for direct control of the ShowNET (use as DAC from Software), for configuring the ShowNET with the Admin Tool, or for triggering the ShowNET via ArtNET. It is also required for troubleshooting procedures.

Pin 1 needs to be connected on the lug side of the flat cable (also 1 - so 1 goes to 1).

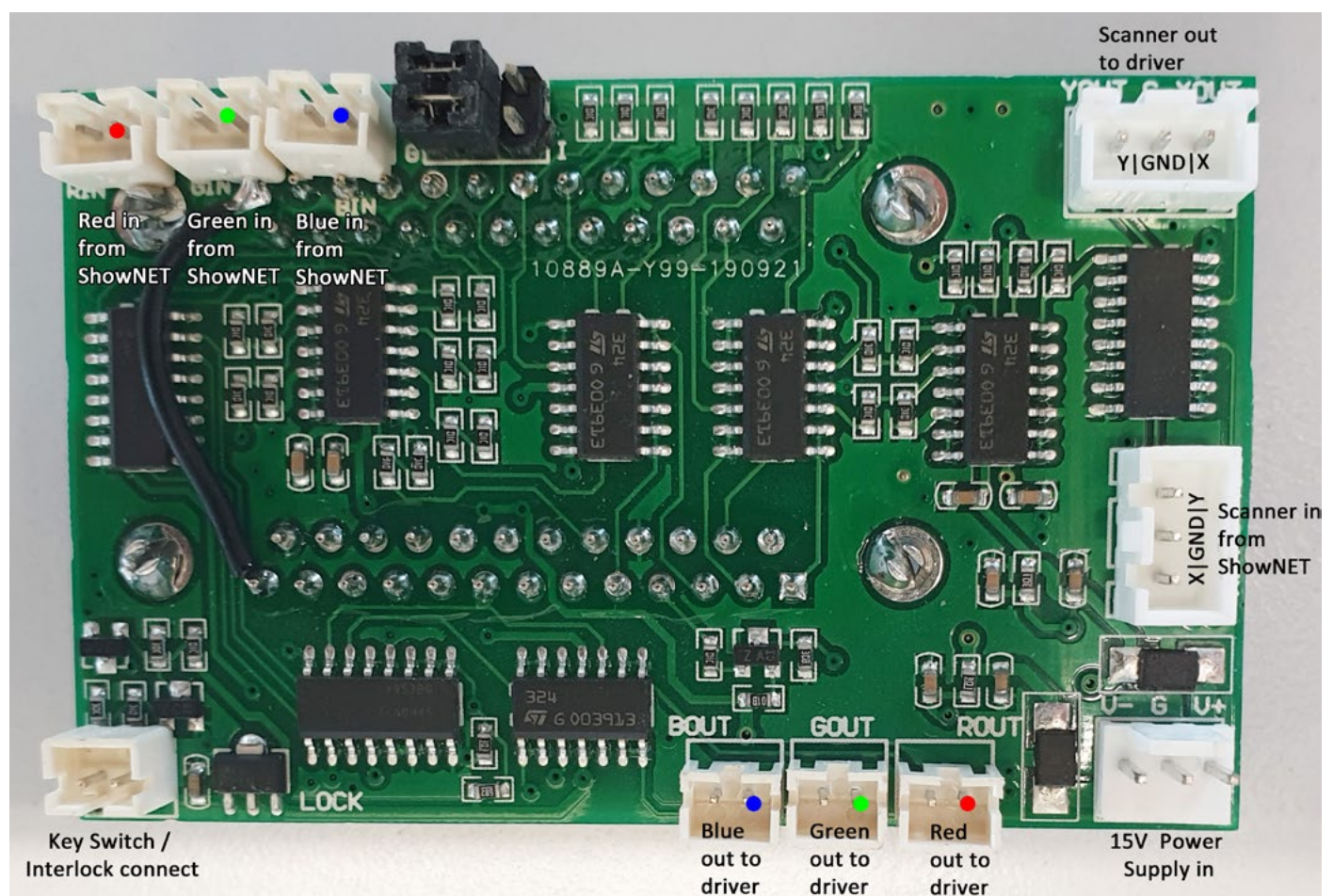
4.4. Connect the signal output of ShowNET ...

a) ... to the ILDA switch board

The ILDA Switch board, which is included in the standard ShowNET integration package, is meant for allowing standard ILDA input to the laser besides the general DAC features of the ShowNET, it allows for connecting an external ILDA interface and override the internal ShowNET.

The ILDA Switch board has connectors marked with i and with o, where i = input and o = output. As the ShowNET acts as internal system intelligence for the laser system, it is an input to the ILDA board. Therefore all connectors of the signal out connection cable need to go to the connectors marked with „i“ (please see schematics drawing to identify the correct positions).
MAKE SURE THAT THE POLARITY OF THE CONNECTORS IS CORRECT!

The connectors marked with „o“ on the ILDA Switch board then need to be connected to the control signal in of the very driver board (laser module drivers and scanner drivers).



Make sure to connect a 15V power supply to the power connector in the bottom right corner. The Key Switch / Interlock connector either needs to be connected to a Key Switch and/or Interlock system, or it needs to be bridged (important, otherwise the board does not work correctly!)

b) ... directly to internal drivers

The ILDA Switch board is not directly necessary to be used if no external ILDA features are required: The connectors on the signal out connection cable can also be used for directly controlling the respective drivers inside the laser system. Therefore they need to be connected to the control signal in of the very driver board. Please check above schematica drawing to understand the wiring.
MAKE SURE THAT THE POLARITY OF THE CONNECORS IS CORRECT!

4.5. Optional: Implement a DMX connector

The ShowNET is capable of handling standard DMX trigger signals. They can be connected to the ShowNET board through the specified Micro-Match connector. Please find the wiring details in the general wiring schematics above.

4.6. Optional: Implement Sound-to-Light feature

To use the ShowNET with the Sound-to-light feature, it is necessary to connect a microphone board (can be supplied individually). This board can then easily be connected with the provided flat wire to the respective Micro-Match connector on the ShowNET board.

5. Connectivity Test, Admin Tool

The integrated ShowNET can be tested using the Admin Tool:

It is available for download on:

<https://www.laser-interface.com/en/downloads/firmware-tools>

Please follow the instructions for connecting the ShowNET as described in the general ShowNET manual:

<https://www.laser-interface.com/en/downloads/user-manuals>

Hint: If the connection cannot easily be established, make sure to disable the firewall on the computer. In 99% of the cases the firewall blocks connections.

The ShowNET can also be tested using the Showeditor software (license comes for free with the board): Download on www.showeditor.com

Always consider that only one software can access the ShowNET at one time, so if the Admin Tool already has a connection to the ShowNET, the software cannot find it - and the other way round.

If you require special tools for bulk testing ShowNET interfaces, please mail info@laser-interface.com for assistance.

6. Firmware Upgrades

The latest firmware is made available for download at: <https://www.laser-interface.com/en/downloads/firmware-tools>

Further details and downloads can be found on:

www.laser-interface.com