

# CU9-6081-001 USER MANUAL

## Features

The CU9-6081-001 main board provide a totally integrated GPS receiver, color video LCD controller and color fish finder (optional). The GPS receiver tracks up to 13 satellites simultaneously. The optional fish finder presents vivid underwater images on a high quality LCD.

The main features are

- LCD display output (5.7-inch or 7-inch color LCD) with brilliance control.
- Internal GPS receiver provides highly accurate position information.
- External GPS antenna connection available.
- SD card slot accepts SD and SDHC cards for external storage of data and settings.
- CAN bus interface.
- USB 2.0 optional connection (OTG).
- Integrated WiFi module with internal antenna.
- External WIFI antenna connection available. Only one WIFI antenna works at time (internal or external) due to integrated antenna switch.
- SPI keyboard connector.
- 2Gbyte NAND memory.
- 512Mbyte DDR memory.
- 10-32VDC power supply.

## LCD display connector

The main board has two LCD connectors P401 as standard and P400 as option.

The P401 connector is for 7" LCFAX060-10-070006 CIVUE LCD display (or equivalent). In this case the connection between the LCD and the man board uses an 40 pin pitch 0.5 FCC cable.

The P400 connector is for 5.7" FAX060-10-057002 CIVUE LCD display (or equivalent). In this case the connection between the LCD and the man board uses an 33 pin pitch 0.5 FCC cable.

## GPS receiver

The GPS receiver is based on the NEO-6Q UBLOX module.

An internal active antenna can be used connected to P60 connector, while the external active antenna can be connected to the P601 connector.

If an external antenna is connected, an integrated antenna switch disconnects the internal antenna and connects the external one.

Remember to put the internal antenna not very close to the mainboard to improve the GPS signal receiver quality.

## SD card and USB connector

Connecting the BKE69 interface to the P51 connector it is possible to have the SD card and USB connections.

SD card slot accepts SD and SDHC cards.

The USB connector uses the micro USB device standard (OTG as option).

## CAN BUS interface

The CAN bus interface complies with the NMEA-2000 standard.

On this interface you can connect GPS Receiver, Weather Station, FI-50 (instrument series), Satellite Compass, etc.

**WiFi Interface**

The circuit is a full featured WiFi 802.11b/g/n single system module based that includes support for IEEE 802.11i security and IEEE 802.11e QoS. It integrates the WiFi technology into the system making possible data exchange with WiFi Access Points and Hot Spots.

For detailed specification of the WIFI module used, please refer to the APM6981 data-sheet.

The internal antenna has to be connected to P911 MHF connector. The internal antenna gain is 5dBi. It is available the TAOGLAS model WLP2450 antenna that can be supplied separately (max gain 5dBi).

The external antenna has to be connected to P912 SMA reverse connector. The external antenna gain is 5dBi. It is available the INTELLINET model I-WL2-ANT3 (max gain 5dBi) that can be supplied separately. Only this external antenna or similar type with a maximum gain of 5dBi shall be used with this device.

The system uses a single antenna output at a particular time (by a RF switch), so the two antennas cannot work together.

**SPI keyboard**

On the P550 connector you can connect an SPI keyboard (i.e. board BKE67).

In this way the user interface can use some keys to select the proper operation.

**System memory**

The CU9-6081-001 main board has inside 2 Gbytes of NAND memory and 512Mbyte of DDR memory (volatile).

**Power supply**

The module is powered using a 10-32VDC voltage. The max power consumption depends on the option installed and it can be 12W.

The connection of the power supply is been done using the P801 connector

**Fish Finder**

Using the the P101 connector, the module can be connected to the BXE58 board. In this way you can connect a fish finder transducer (500-200KHz) and add the fish finder capability to the E43 board.

**FCC**

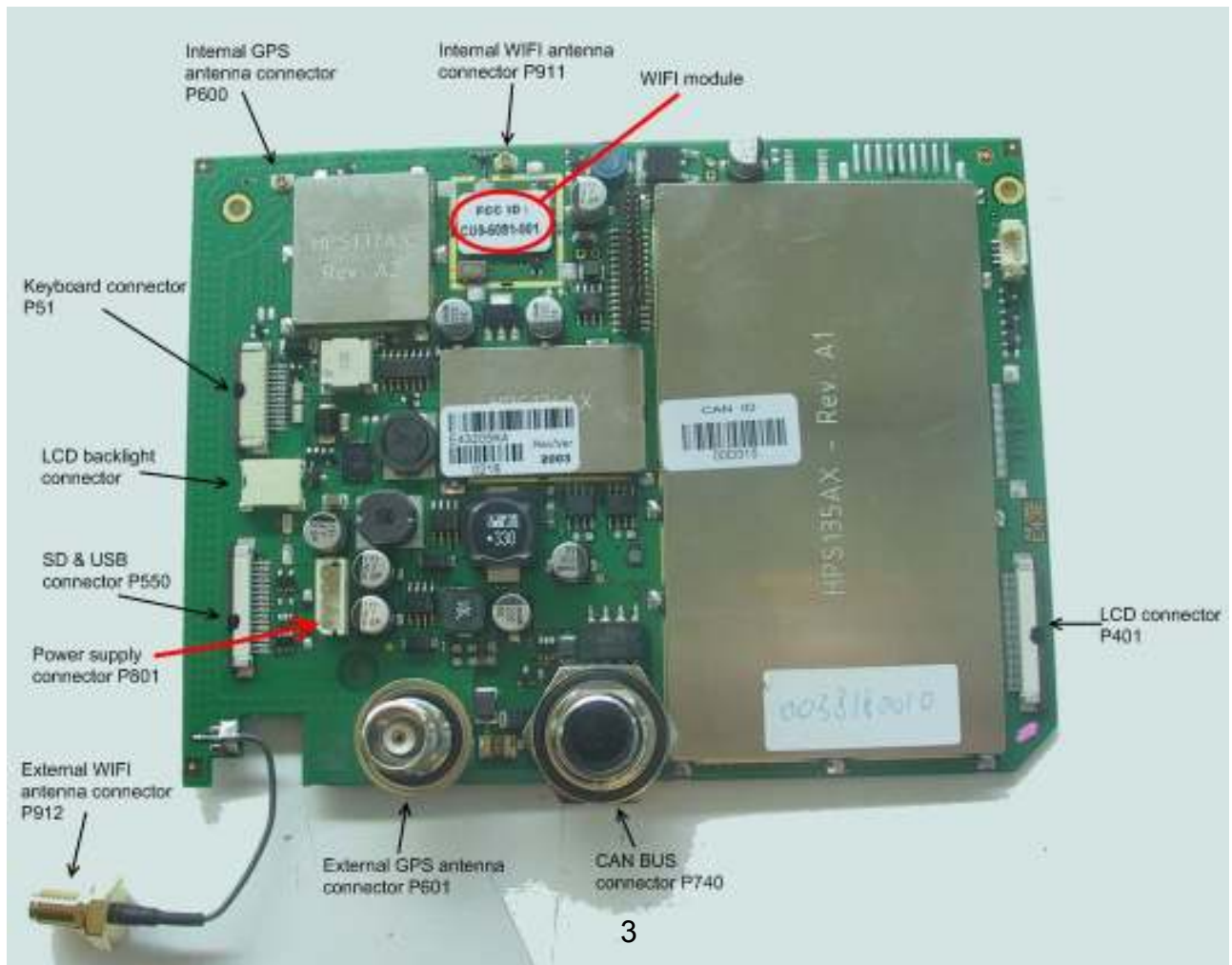
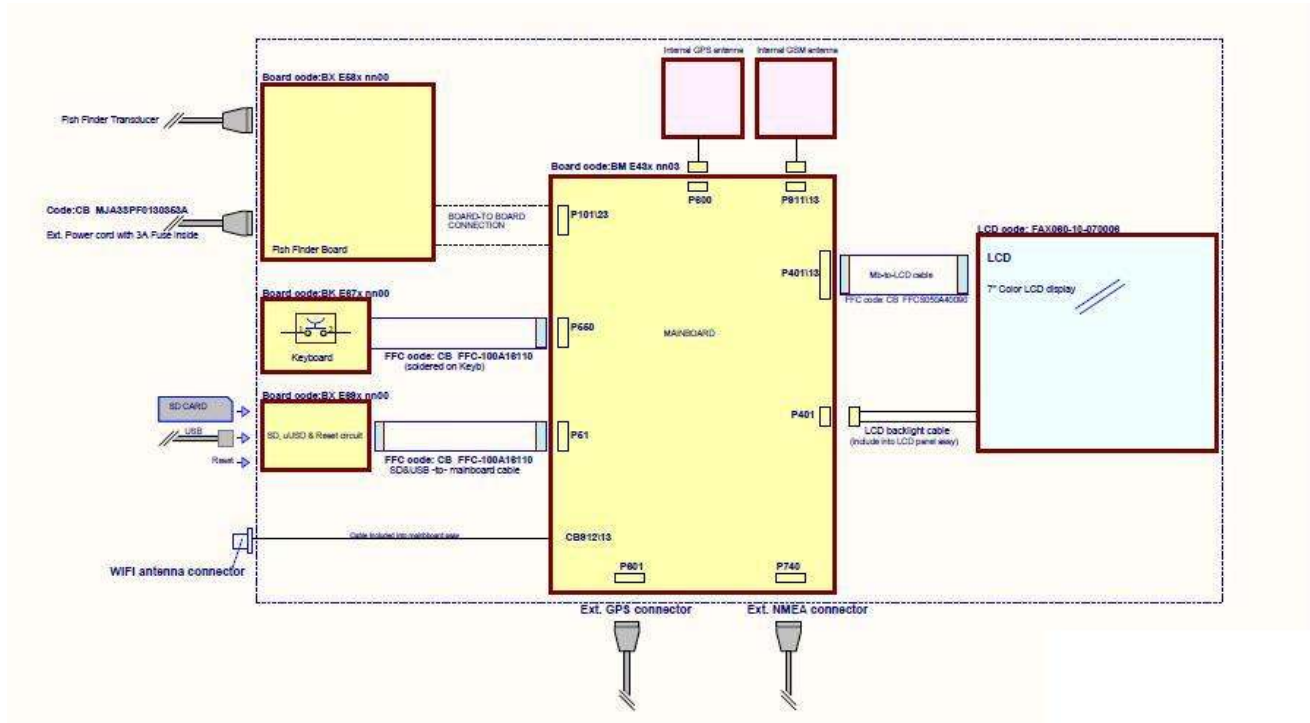
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

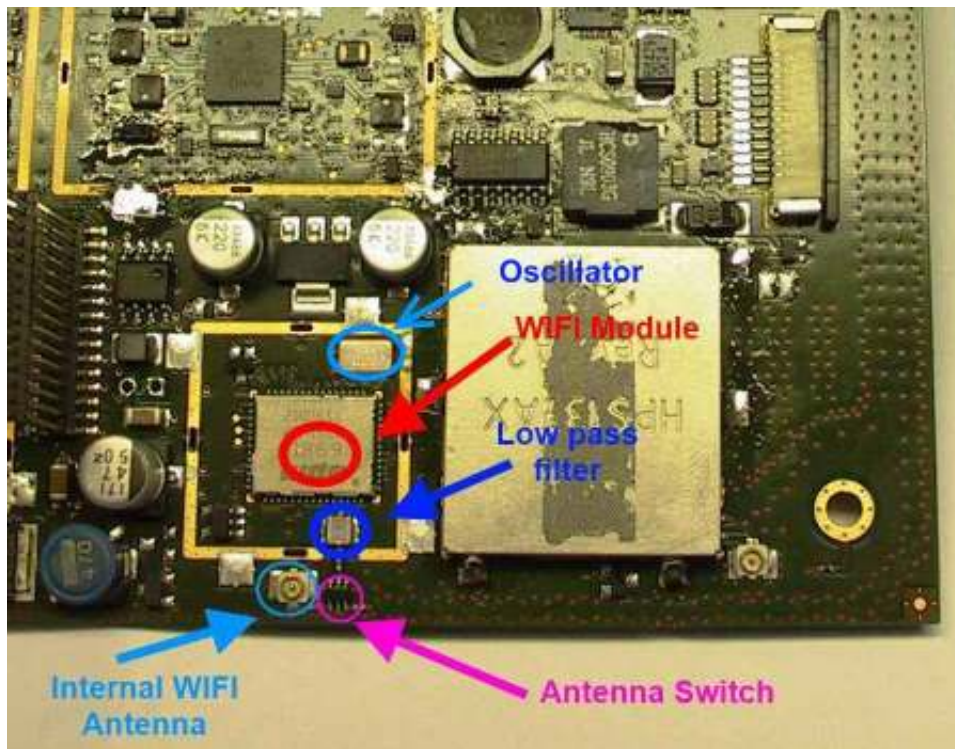
The Federal Communications Commission warns that changes or modifications of the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To follows the FCC requirements, the unit that contains the CU9-6081-001 module have to be externally labelled with "contains Transmitter Module FCC ID: CU9-6081-001". Is there isn't space enough on the label, you can use "contains FCC ID: CU9-6081-001".

## Module typical connections



## WiFi section components location



### **Installation Note**

The mechanical installation of the module is made using the 3 holes that are present on the E43 main board. Also the 3 connector P912, P601 and P740 have been to fixed using the proper nuts and gaskets.

The internal GPS antenna, if it is used, has to be located as far as of the main board. This to have better S/N ratio of the GPS signal reception.

The internal WIFI antenna has to be connected to the P911 MHF connector. Using the WLP2450 kit antenna all the connections are already made, you only have to connect the MHF connector to P911.

The External WIFI antenna has to be connected to the P912 SMA reverse connector.