Introduction

Transparent Data Link

Brief description

DL1TX Transmitter and DL1RX Receiver.

Professional telemetry radio system, Transparent Data Link / Mavlink Telemetry, prepared for all types of FPV or DIY projects by default with 700mW of RF power and -116dBm of sensitivity to work between 25-50Km (LOS) and with a maximum range of 100km.

Two options available for free ISM band 863-950Mhz or 433Mhz.

Data Link / Mavlink packets are secure with the AES128 encryption algorithm.

The systems are preconfigured for CE(Europe), FCC(America), ETA(India), 433Mhz or Custom regulations, they are shipped with the appropriate configuration for each country or customized according to user configuration.

Basic Operation

Radio set (DL1TX and DL1RX) is a Transparent Data Link / Mavlink Telemetry, it allows you to connect to a autopilot (Pixhawk, APM…) and a computer with software (Mission Planner, QGroundControl…) with Mavlink protocol.

Also this set allows it to be used for DIY projects, point-to-point systems, receiving data from special sensors to ground, etc.

The data inferface in DL1RX is throught the serial port TTL 3.3V "MODEM" (GND, TX, RX) and for DL1TXV2 it can be connected by Micro USB (Micro-B), by the serial port TTL 3.3V "COM5" (GND, TX, RX) or Wifi.**Default Port Settings**

RXDL1, "MODEM" port: Set to 38400 baud.

TXDL1V2, "USB" port or "COM5" port: Set to 115200 baud.

TXDL1V2, "Wifi" port: (In preparation) Wifi Name: Wifi_TXDL1V2 | IP: 192.168.1.100 | Gateway: 192.168.1.1 | Network: 255.255.255.0

Notes:

TXDL1V2, to send transparent data or telemetry can only work on a single port: USB, COM5 or Wifi, to communicate with the device by "CMD" commands you can use the ports that are free.

There are limits to sending a certain amount of data in time. The speed of the radio link by default is 100kb (upload + download) so it must be taken into account so as not to saturate the RF channel if we use more speed in the COM, USB or Wifi ports. You can send data with more speed in the ports than in the radio but with adequate pauses or times, as long as the equivalent maximum baud rate of the total streaming is somewhat less than the modulation of the radio link (100kb by default).**Mavlink Telemetry**

The XLRS system is compatible with any autopilot that works with the Mavlink protocol: Pixhawk, Pixhawk Cube, APM, Mini Pix, etc.

It is also compatible with any route software with mavlink protocol such as: Mission Planner, QGround Control, etc.

The RXDL1 receiver connects directly to the autopilot through the MODEM port and Telemetry port.