GCSD4V2

## **Ground Control Station**

Professional Ground Control Station FPV & LIAV



### **Vehicles**

DRONES, UAV, MULTIROTORS, RPAS, VANT, UAV, AIRCRAFT, HELICOPTERS, UUV, UGV, ROV, USV, ASV, CARS, BOATS, ROBOTS...























### Windows 10.

**Processor: Intel Quad Core of 1.8GHz.** 

4GB RAM and 64GB flash.

1 Touch screen 7".

1 Keyboard.

1 USB 3.0.

1 USB 2.0.

1 Wifi.

1 Bluetooth.

DMDStudio, XLRS devices configurator.

Mission Planner, Ground control station for Plane, Copter and Rover.

Aerosim, FPV simulator (Demo).

\*You can add Others softwares.







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Professional Ground Control Station FPV & LIAV

## **FPV Video Screen**

Size 10,1"

**High Brigthness** 

Visible with sunlight

RX 5.8Ghz

HDMI Input for digital video RX



OSD Shows instrumental with Mavlink and XLRS Telemetry

### **Features**

Receiver 5.8Ghz integrated.

**Resolution: 1920 × 1080.** 

Aspect ratio: 16: 10

Brightness: 600cd / m2

Contrast: 1000: 1.

Controlled temperature.

Speakers.

1 Audio/Video input with jack connector.

1 RCBus Connector to update and configure

5.8Ghz receiver.

1 HDMI input to directly connect a digital video or PC of GCSD4V2.

### SPECIFICATIONS VIDEO RECEIVER

**Frequency** 5.8Ghz.

Channels 8.

5705Mhz, 5685Mhz, 5665Mhz, 5645Mhz, 5885Mhz, 5905Mhz, 5925Mhz, 5945Mhz.

Sensitivity -85dBm.

Antenna Internal.

GCSD4V2 Ready for analog and digital video

Systems.

IPS LED video screen 10.1" Full HD, high brightness, high contrast and anti-glare, makes it an excellent screen to see on indoors and outdoors.



www.xlrs.eu





RC Control independent of the PC.

3 Processors: RC Control and Joysticks.

2 Joysticks RC: proferssional and sensitive.

1 LCD screen easy-to-read, high contrast.

2 OLED screen Black/White for viewing data.

12 Configurable buttons.

3 Encoders with push button.

2 Micro Joysticks for trims and functions.

2 Potentionmeters.

2 Pushbuttons.

4 Switches with 2 positions

2 Switches with 3 positions

1 Buzzer: Alarms, low battery, fail safe, etc.

1 RCBUS: Connection to Video RX XLRS, second XLRS TX and future XLRS devices.

1 Connector antenna: SMA Female.



Start-up Key.

Digital Voltmeter.

Fuse 5A.

12V connector for Vídeo Screen.



2 Safety Switch with protective cover for some specific safety functions.





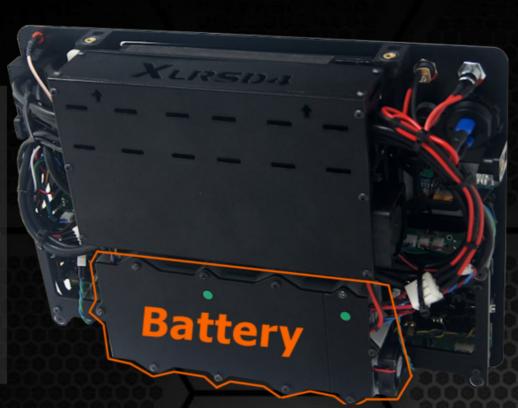
## **Battery**

Lipo 3S/11.1V/5Ah.

Duration approx: 2'5-3h.

Charger 1A.

Input 12-24V.







Shows battery status from digital voltmeter or central screen



Charger included 110 / 220V AC 50Hz



It has a 5A fuse to protect the GCS





Professional Ground Control Station FPV & UAV



Robust

**Dustproof** 

Water resistent

**IP67** certified



### **Features**

Temperature controlled with fans.
Certified with STANAG 4280, DEF STAN 81-41
and ATA 300 standards.
Automatic air pressure compensation valve.
Temperature resistant from -30 ° to + 80 ° C.

Rubber handle for easy transport.

2 eyelets for padlocks (Ø 7.62 millimeters).

Optional accessories: transport belt.

Dimensions: 36.5 x 29.4 x 17 centimeters.

Total Weight: 9Kg.





Professional Ground Control Station FPV & LIAV



Plan, save and load autonomous missions into you autopilot with simple point-and-click way-point entry on Google or other maps.

Compatible with autopilots that use Mavlink Protocol: Pixhawk, APM, Pixhawk Cube, Pix32 and more.

### **Features**

Connect the autopilot telemetry to the XLRS systems.

Setup, configure, and tune your vehicle for optimum performance.

Download and analyze mission logs created by your autopilot.

Monitor your vehicle's status while in operation.

Record telemetry logs which contain much more information the the on-board autopilot logs.

View and analyze the telemetry logs.











Professional Ground Control Station FDV & HAV

## Software - AEROSIM

**Training Simulator** 

Learn to fly with the navigation instrumentation of the XLRS system

Integrated Plugin OSD644DMD





Realistic Drone Simulator for the beginner pilot who needs to practise many hours before flying the real thing.

### **Features**

Training Program for the beginner.

Flight Modes: Manual, Attitude, GPS.

On-board Camera.

Stabilized Camera Gimbal.

All common Aircraft types: Trainer, Sport, Aerobatic, Glider, Delta Wing.

Power: Glow, Gas, Electric, Jet.

Functions: Flaps, Brakes, Retractable Landing Gear.

and much more...





Professional Ground Control Station FPV & LIAV

## Software - DMDStudio

Compact, you can use multiple instances.

Multiple simultaneous DMD devices.

Auto adaptable to DMD devices.

DMD Alpha command language.

**Graphics and text console.** 

Free for DMD systems users.



Configuration software and utilities for all DMD products manufactured since 2014.



For Windows 7 or higher.

Device firmware update (BOOT).

Connectivity Prepared for IOT devices. (Internet of things).

Multiple communications ports: COM, USB, UDP, TCP.

Several TCP and TCP servers depending on the device.

Connection to the DMD Cellular software.

Configuration of the specific characteristics of each device.





Professional Ground Control Station FPV & LIAV

Professional Ground Control Station FPV & UAV

CE 869Mhz FCC 902Mhz Custom...

### INTEGRATED XLRS RADIO

Manufactured with the latest technology of radio system 5th generation of DMD, that provides great radio link security for long distances.

Integrated XLRS radio with SMA-Female output for coaxial cable antenna 1 to 3m maximum length.



### TECHNICAL SPECIFICATIONS XLRS RADIO

Range of Work 100Km.

Maximum Range 200Km.

**Frequency** CE: 869,4-869,65Mhz.

FCC: 902-927,5Mhz.

CUSTOM: 433Mhz, others...

Multi Band GCSD4V2-89: 866, 868, 902, 915,

950Mhz.

GCSD4V2-43: 433Mhz.

**Max RF power** CE: +27dBm.

FCC: +30dBm. CUSTOM: +30dBm.

Sensitivity max -116dBm @50kb.

Modulation 50 or 100Kb. FHSS. 2-GFSK.

**Stability** TXCO +-1ppm.

**Antenna** SMA-Female. **Connector** 

**Encryption** AES 128 bits.

**Connectivity** RC, TELEMETRY, USB, BLUETOOTH, WIFI, RCBus.

Upgradable

& Configurable DMDStudio Soft.





## Professional Receiver

### Professional Receiver Ultra Long Range RC & Telemetry

CE 869Mhz FCC 902Mhz Custom...



Radio Control & Telemetry

Powerful and Safe with control

### **New Concept**

Configuration of the mixes, button activation and assignment of encoders are performed in the RX and not in the TX XLRS as is usual in amateur RC systems.

### TECHNICAL SPECIFICATIONS

Range of Work 100Km

Maximum Range 200Km

**Frequency** CE: 869,4-869,65Mhz.

FCC: 902-927,5Mhz.

CUSTOM: 433Mhz, others...

Multi Band RXLRS-89-200: 866, 868, 902,

915, 950Mhz.

RXLRS-43-200: 433Mhz.

Max RF power CE: +27dBm.

FCC +30dBm.

CUSTOM: +30dBm.

Sensitivity max -116dBm @50kb.

**Modulation** 50 or 100Kb. FHSS. 2-GFSK.

**Stability** TXCO +-1ppm.

**Encryption** AES 128 bits.

Voltage 5V. Min 4.5V. Max 6Vcc.

**Consumption** Standby 70mA.

Max. TX(500mW) 540mA@12mS.

Connectivity: RC, Telemetry, USB, RCBus,

SPPM, COM5, MODEM.

**Dimension:** 70,78 x 35,75 x 14,78mm.

Weight: 30g (Without ant.)

47g (With ant. 5dBi).

### **FEATURES**

Control max up to 16 CH RC. Using the 7CH physical and

the autopilot CH through SPPM in CH7.

**8 Multifunction outputs** for RC servos.

**1 SPPM / CPPM:** 12 RC channels in CH7.

**1 Micro USB:** Update and configuration.

1 i2C: To connect future devices, Oled display, sensors.

**1 RCBUS:** Connect XOSD for serial communication.

**1 MODEM port:** MAVLINK Telemetry and transparent

radio modem.

1 Red Led: TX RF or Transmit packets.

**1 Blue Led:** Link RF or Received packets.

1 Connector antenna RC: SMA-Female.

### Compatible with XLRS devices:

TX: BTSD1, XPAD2-2017, XPAD2 V2, XPAD3, GCSD4, GCSD4V2...
OSD: XOSD, XOSDV2, XOSD3...

### Hardware improvements:

Microcontroller with double memory FLASH, RAM and Eeprom.

Improved PCB, more protection in general. Improved box, more robust, screws on inserts.

Internal protection against reverse polarity on  $+\ 5V$  servo connectors.

EDS protection and RF Filters in USB.

ESD protection (static) for all pins including servos. Pins servos protection against short circuits and overloads.

### MAVLINK protocol, compatible with autopilots:

APM, Pixhawk, PX4, etc.

No additional radiomodem is required.

### Compatible with autopilots with S-BUS?

Yes, depending on the autopilot you can connect directly to CH7 (SPPM) or you can use a PPM to S-BUS converter.

\*Some product features are optional.



Professional Ground Control Station FPV & UAV



### CONTENT

- 1- GCSD4V2-89, Portable Ground Control Station.
- 1- RXLRS-89-200, Professional receiver RC and Telemetry.
- 1- DCDC38/5VRC. DCDC adjustable step down module, INP 4-38V, OUT 1.25-32V(Adjustable), Out current 5A.
- 1- BQ89, Biquad antenna 866-920Mhz 9dBi.
- 2- ANTGSM900, Omnidirectional antenna 868-928Mhz 5dBi.



### ACCESSORIES

- 1- Mini bluetooth keyboard.
- 1- LI-PO Battery Balance Charger, 40W 3S/4S.
- 1- LAT54\_SMAH/SMAM. Cable SMA-Female to SMA-Male, 540mm.
- 1- CABLE\_SERVO\_HH. Cable Servo RC Female to Female.
- 1- CABLE\_EXT\_SERVO\_MH. Extensor Cable Servo RC Male to Female.
- 1- CABLE\_PX4\_RX. Adapted Cable for Pixhawk-RX.
- 1- CABLE\_MJJ. Cable Audio Stereo MiniJack 3.5M/M 1m.
- 1- CABLE USB/MICROUSB. Cable USB-A Male to Micro USB-B Male, 2m.
- 1- LAT3\_SMAH/SMAM. Pigtail Cable SMA-Female to SMA-Male, low loss, 3m.
- 1- Clamp U Bolt & U Block for BQ89 antenna tripod.







Professional Ground Control Station FPV & UAV







### CONTENT

- 1- GCSD4V2-43 (433Mhz), Portable Ground Control Station.
- 1- RXLRS-43-200 (433Mhz), Professional receiver RC and Telemetry.
- 1- DCDC38/5VRC. DCDC adjustable step down module, INP 4-38V, OUT 1.25-32V(Adjustable), Out current 5A.
- 1- MX43, Moxon Rectangel Antenna 400-480Mhz 5.5dBi.
- 2- ANTGSM43. Omnidirectional antenna 433Mhz 5dBi.



### ACCESSORIES

- 1- Mini bluetooth keyboard.
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- 1- LAT54\_SMAH/SMAM. Cable SMA-Female to SMA-Male, 540mm.
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- 1- CABLE\_PX4\_RX. Adapted Cable for Pixhawk-RX.
- 1- CABLE\_MJJ. Cable Audio Stereo MiniJack 3.5M/M 1m.
- 1- CABLE USB/MICROUSB. Cable USB-A Male to Micro USB-B Male, 2m.
- 1- LAT3\_SMAH/SMAM. Pigtail Cable SMA-Female to SMA-Male, low loss, 3m.
- 1- Plastic piece to place MX433 antenna on tripod.















### GCSD4V2 Manual:

Manual GCSD4V2.

Manual RXLRS.

Default configuration D4 System.

First steps (Quick guide).

XLRS connection diagrams.

### **DMDStudio Manual:**



### Learn more about:

Servos XLRS.

XLRS objects.

XLRS Radio Links and Radio Control. Basics notions.

Range, RSSI, Noise in environments UAV – Drones.

Range Test XLRS.

RF Band ISM-ICM.



<sup>\*</sup> The information and images shown in this datasheet, are only referential and may differ from the final product.

<sup>\*</sup> The ranges shown are estimates and in optimal conditions.