

## Optional



Ground Control Station for Radio Control, Mavlink Telemetry / Transparent Data Link, Video, Maps and Navigation for all types of applications with Aerial, Land or Maritime Vehicles



Optional, with XLRSD5 systems, links up to  
 Radio Control & Telemetry | Range Max. **250Km**  
 Full HD Video System | Range Max. **150Km**  
 Analog Video System | Range Max. **100Km**

## Applications

Drones, Multirotors, Aircraft, Helicopters, Cars, Boats, Robots, RPA, UAS, UAV, UUV, UGV, ROV, USV, ASV...

**XLRSD5**  
 EXTENDED

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Manufactured by DMD. Digital Micro Devices. ©2023



Of the XLRSD series of individual Ground Controls Stations, the GCS D5 is the largest and most powerful, designed with the latest XLRSD system technology of 2023, 17.3" high-brightness screen, more powerful PC, color LCD screen.

Prepared for longer duration operations, the battery has a duration of 6 hours, having a specific controller for the battery and control of the energy systems on the ground and in the vehicle.



Allows operators to have full control over the direction, speed, altitude and other flight or navigation variables of their vehicles during operation.

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### Main Benefits of using GCSD5



Full control of the vehicle.

Large 17,3" screen for viewing the video system or second PC screen.

Powerful high-performance PC for navigation, mapping, etc.

RC/Telemetry links up to 250Km (LOS) with external XLRs radio module (WMX481).

Connection with analog or digital video systems, up to 100-150Km (LOS) with XLRs systems.

Compatibility with other telecommunications systems: Data Links, standard RC transmitters, digital video systems, etc.

Instruments with color screens showing the current status of GCSD5 and other external XLRs devices.

More than 24 programmable objects that can be assigned to one or more RC channels: Buttons, switches, Microjosticks, encoders... all configurable for different types of vehicles.

Communication with second XLRs remote control for Copilot or Observer.

Compatibility with XLRs devices: Radio module (WMX481), SATPRO tracker antenna and others.

6 hours of autonomy.

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## Functioning with XLR5 systems

### RC & Mavlink Telemetry up to 250Km (LOS)

Through the RCBUS connector on the side of the suitcase you can connect the radio transmitter module (WMX481) to have Radio Control and Telemetry Mavlink / Transparent Data Link up to 250Km (LOS), this is connected by a 7 meter cable allowing it to be placed on a tripod or a tracker antenna (SATPRO), without having RF losses, since the radio module is integrated into the RF antenna.



## Video System

Analog Video up to 100km (LOS), Digital Video up to 150Km (LOS):

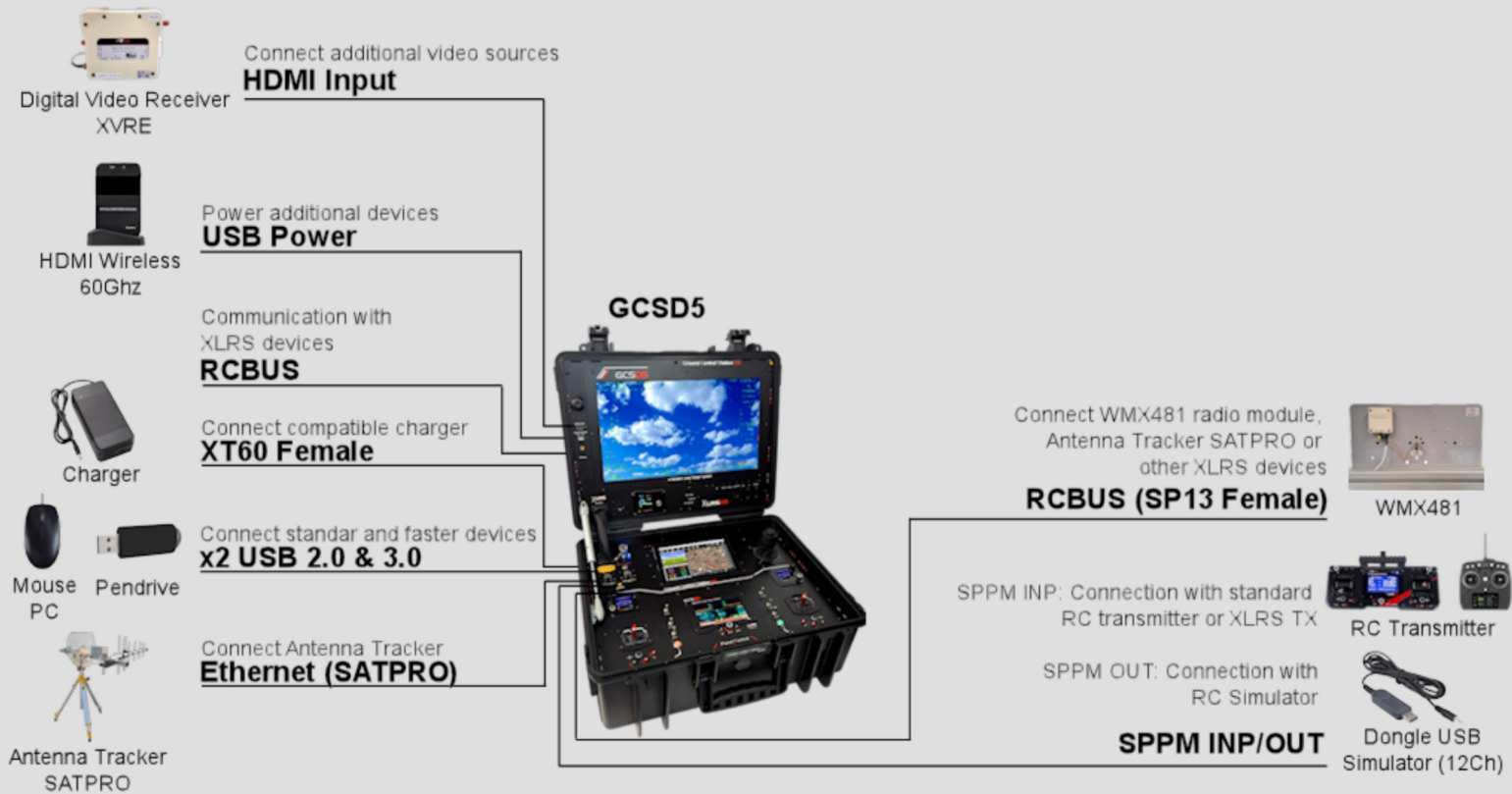
You can also connect to a Smart Antenna Tracker (SATPRO) to obtain an automatic tracking system of the vehicle and have more robust link with the (WMX481) transmitter radio module and if you want you can place an analog (XVID3V2) or digital video (XVHD) or other system and thus have a complete system with Radio Control, Mavlink Telemetry and Video.



**XVRE**  
Digital Video Receiver

## Functioning with other telecommunications systems

You can use the GCS without XLRs radio system, which allows the use of other telecommunication systems for Radio Control, Telemetry and Video.



**Radio Control:** The GCS has an SPPM signal to send up to 16 RC channels, which allows you to assign various objects (Joysticks, Buttons, Switches, etc.) of the GCS to different RC channels and these will be sent to your RC system.

**Telemetry:** If your system sends telemetry data through Serial TTL, COM or USB, you can connect it directly via USB to the GCS D5 PC and communicate with any compatible software such as: Mission Planner, QGroundControl, UgCS or similar.

**Digital Video:** To receive the video signal you can directly connect the HDMI connector of the GCS screen.

## Status information in real time



In the center of the GCSD5 there is a TFT IPS color screen with 4.3" high resolution that shows the current status of the GCS at all times, battery level, alarm messages, etc.

If you connect an external XLRs radio (WMX481) you will be able to see in real time the current status of the RSSI, RF Noise, TX and RX signal level in graph and dBm, etc.

If you have a tracker antenna (SATPRO) connected, will be able to see the current status of the antenna, X and Y position in degrees and graph, battery level, etc.

From the GCSD5 the operator will be informed of the operation and current status of each XLRs device.

## Embedded PC



PC based on Intel Core™ m3-8100Y, is a Dual-Core 1.1GHz CPU that bursts up to 3.4GHz, Intel® UHD Graphics 615 integrated into the processor deliver enhanced media conversion, fast frame rates, and 4K Ultra HD (UHD) video.

### Features

- Intel® Core™ M3-8100Y, Dual-Core, 1.1-3.4GHz.
- Intel® UHD Graphics 615.
- 8GB Memory.
- Dual-Band 2.5GHz/5GHz Wi-Fi & Bluetooth 4.2.
- Windows 10.
- 1 Gigabit Ethernet.
- 1 USB 2.0.
- 1 USB 3.0.
- 1 PC Power Button.
- 1 Touch Display 7", IPS, 178° visual Angle, 1024x600 high resolution.

### Software Included

DMDStudio, XLRSD5 devices configurator.

Mission Planner, Ground Control Station for Plane, Copter and Rover.

Aerosim, FPV Simulator (Demo).

\*You can add others softwares.

## Display Panel

IPS Led 17,3"

High brightness

600 - 1000nits

178° Viewing Angle

Visible with Sunlight

Analog Video Receiver



IPS LED video screen 17,3" Full HD 1920 x 1080 @60Hz, high brightness with 600-1000 nits and 1000:1 high contrast and 178° viewing angle.

From the screen you can view the vehicle's video or have a second screen for the PC.

The display panel has a button to select between HDMI input for the video or auxiliary devices or HDMI for the PC.

## Features

Analog video Receiver 5.8Ghz integrated.

Resolution: 1920 x 1080, 60Hz.

Aspect ratio: 16: 10.

Brightness: 600 - 1000cd / m2.

Contrast: 1000: 1.

Viewing Angle: 178°/178°.

HDMI Bi-Directional Switcher.

Controlled temperature.

2 Speakers.

1 RCBus: Communication with XLRSD5 devices.

1 USB Power: Power additional devices, such as HDMI Wireless 60Ghz or other devices.

1 HDMI input: Connect an digital video receiver, cameras and additional video sources.



## Specifications Analog Video Receiver

Frequency 5.8Ghz.

Channels: 8.

5705Mhz, 5685Mhz, 5665Mhz,

5645Mhz, 5885Mhz, 5905Mhz,

5925Mhz, 5945Mhz.

Sensitivity: -85dBm.

Antenna: Internal.



## Mission Planning



From the PC you can use any mapping software, that supports the Mavlink telemetry protocol, such as Mission Planner, QGroundControl, uGCS or similar, to be able to plot routes, establish waypoints and program specific tasks for your vehicle if you use an compatible autopilot (Cube, Pixhawk, APM or similar).

### More than 24 programmable objects

You can assign any (Encoders, Potentiometers, Buttons and Switches) to specific RC channels of the XLR5 receiver which will allow you to completely customize your control experience, adapting it to your needs and preferences for each specific vehicle.



#### Customizable objects:

7 Buttons, 4 Switches with 2 positions, 2 Switches with 3 positions, 2 Push buttons, 2 MicroJoysticks of 4 positions + Enter, 2 Encoders with push button, 2 Potentiometers, 2 Joysticks RC, Auxiliary joystick of 3 axes (X, Y and Z) with push button, and much more.

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## Joystick for video camera or auxiliary functions

This specialized joystick with its folding design allows you to have smooth control over functions of your vehicle's camera, X, Y and Z position, Zoom, configurable button for photo or other specific functions.

Of course it can be used for other special applications (robotic arm control, excavator control, etc).



## Stability and Connectivity Assured

**Gas Spring for Stability:** It has a built-in gas spring that secures the display panel, avoiding unexpected closures caused by gusts of wind. This design ensures constant, uninterrupted viewing, even in adverse weather conditions.

**Integral Cable Protection:** The communication and power cables between the two parts of the GCS are carefully protected with strong mesh and corrugated pipe. This measure not only ensures protection from the elements, but also maintains a reliable and long-lasting connection in all conditions.

This meticulous approach to design not only improves operational stability, but also extends the life of the GCS, providing a robust solution for challenging environments.



## Remote Control for Copilot or Observer

GCS D5 has the ability to connect a second portable XLRS remote control to suit various applications, allowing a co-pilot or observer to actively participate in the operation.

Effective Collaboration.

Gimbal Control.

Takeoff and Landing Support.

Role Flexibility.

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## Software - RC Simulator



Connect the USB dongle of your RC simulator to the SPPM input of the GCS D5 to control up to 16 RC channels and simulate their operations with the GCS D5 controls.

On the GCS D5 PC a demo of the AEROSIM software is included, FPV simulator for Drones.



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

### Training Simulator

Learn to fly with the navigation instrumentation of the XLRs system

### Integrated Plugin OSD644DMD.

Training Program for the beginner.

Flight Modes: Manual, Attitude, GPS.

On-board Camera.

All common Aircraft types: Trainer, Sport, Glider...

Power: Glow, Gas, Electric, Jet.

Functions: Flaps, Brakes, Retractable Landing Gear and much more...



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## Battery

Type: Li-ion (Lithium ion).

Cells: 4S.

Nominal Voltage: 14.8V.

Capacity: 9600mAh.

Autonomy: 6h (Approximately).  
Duration may vary depending on use  
and operating conditions.



It incorporates a 4S/14.8V/9600mAh Li-ion battery, which has a protection circuit to prevent over-consumption, low and high voltage, temperature, as well as charging current control.



The battery status is clearly displayed on the central display of the GCS, providing real-time information on the remaining charge.

**Battery Alerts:** The battery text and voltage graph changes color and displays warning messages with an audible alarm when the battery reaches a low or high level, ensuring safe and smooth operation.



Battery charging is done through the female XT60 connector.

**Charger included:**

Input: 100V~240VAC.

Output: DC16.8V - 5A.

Connector: Adapter cable with XT60 Male.

## Connectivity

### Control Panel

**ON/OFF Key:** Key to turn on the GCS D5.

**Lipo Batt (XT60 female connector):** To connect a compatible charger and recharge the GCS battery.

**Power PC Button.**

**USB 2.0 PC:** Standard connectivity for devices such as keyboards, mouse and other peripherals.

**USB3.0 PC:** Faster, allows connection of high-performance devices, such as external storage drives and high-resolution cameras.

**Antenna Tracker SATPRO (RJ45 Connector):** Ethernet connection with SATPRO tracker antenna.

**1Gb Ethernet PC:** Allows you to connect to high-speed local, external networks or SATPRO for digital video receiver.

**SPPM INP/OUT:** To connect XLRS remote controllers or other standard RC transmitters to the GCS and use it as a trainer port, you can also connect a USB Dongle for an RC simulator and control the vehicle or drone with the GCS D5 controls.



### Display Panel

**HDMI INP:** You can connect an digital video receiver, cameras and additional video sources via HDMI, allowing you to view and control multiple video sources in real time.

**USB Power:** allows you to power additional devices, such as HDMI Wireless 60Ghz or other accessories.

**RCBUS (Jack-Female):** For communication with XLRS devices.

### Side Suitcase

**RCBUS (Side connector):** For communication with TX radio module (WMX481), Antenna Tracker SATPRO and other XLRS devices.



### Suitcase

Robust

Dustproof

Water Resistant

IP67 certified



Is delivered with a robust suitcase with protective foam, you can take your GCS D5 anywhere safely, your equipment will be protected and ready for use in minutes.

### Features

Temperature controlled with fans.

Robust suitcase, dustproof and airtight, watertight.

Certified with STANAG 4280, DEF STAN 81-41 and ATA 300 standards.

Automatic air pressure compensation valve.

Temperature resistant from -30°C to + 80°C.

Rubber handle for easy transport, optionally a transport belt can be used.

Made from Ultra High-Impact ABS plastic.

2 eyelets for padlocks (Ø 7.62 millimeters).

Dimensions: 51.0 x 41.9 x 21.5 centimeters.

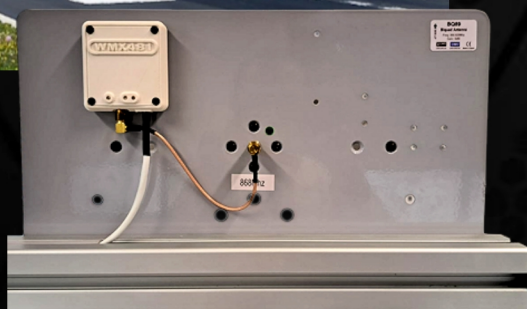
Weight: 13Kg.

**Content**

- x1 GCS D5.
- x1 Key.
- x1 Charger.
- x1 Adapter cable for charger GCS D5 with XT60 male connector.
- x1 HDMI cable.

**Optional depending on version and selected configuration**

- x1 WMX481 radio module (433Mhz or 863-950Mhz).
- x1 SATPRO. Antenna Tracker.
- x1 RCBUS Cable, 7m.
- x1 Dongle USB for software Aerosim.







**GCS D5 Web:**  
GCS D5, Ground Control Station D5.

\* The information and images shown in this datasheet, are only referential and may differ from the final product.  
\* The ranges shown are estimates and in optimal conditions.

*\*Some product features  
are optional.*