

XVHD-SAT

Full HD Video System for SATPRO

Ground Module for SATPRO

XVRE | Professional Video Receiver Full HD

Digital, Full HD 1080p

Interface: HDMI, Ethernet

Frequency: 2.4Ghz

Hopping / Fixed Frequency

Codec H.265/H.264

Bit rate 500kbps ~ 5Mbps

Radio Control & Mavlink Telemetry



Air Modules

XVTR | Professional RC Receiver and 2.4Ghz Video Transmitter Full HD

XBO 0 ST24G8W | 2.4Ghz Video Booster for XVTR up to 8W



Full HD Video System | Range Max. Up to **150Km**

Radio Control & Telemetry | Range Max. Up to **250Km**

X LRS
EXTENDED

www.xlrs.eu

VIDEO TRANSMITTER & VIDEO BOOSTER MODULE TECHNICAL SPECIFICATIONS

Line-Of-Sight Range Max.: 150Km. Depending on antennas, RF Power and XBOOST24G video booster module.

Video Ranges: 17Km, 30Km, 50Km, 100Km, 150km.

Frequency: 2.4Ghz: 2408Mhz - 2480Mhz.

Band width: 3Mhz | 5Mhz | 10Mhz | 20Mhz.

Max. RF power: 2W(33dBm) | 4W(36dBm) | 8W(39dBm).

Sensitivity max. with LNA: -92dBm | -96dBm.

Video Bit Rate: 500k-5Mbps.

Resolution: 1080p, 60fps.

Modulation Mode: OFDM.

CODEC: H.265/H.264.

Video Delay: Below 250ms.

UART Port: 115200b (default).

Interfaces: HDMI, Ethernet.

Antennas Connection: MMCX-Female.

Compliance Standards: CE, FCC (Without Booster module).



**RF RADIO RC MODULE (XVTR)
TECHNICAL SPECIFICATIONS**

Receiver: Optional, External (RXLRS) or internal (XVTR).

Line-Of-Sight Range: 250Km. Depending on antennas.

Range RC & Telemetry: CE 100Km, FCC 250Km.

Frequency: CE: 869,4-869,65Mhz +27dBm,
FCC: 902-927,5Mhz. +30dBm,
CUSTOM Multi Band: 313, 433, 470 or 866, 868,
902, 915, 950Mhz.

Max RF power: 0 to 30dBm.
CE 500mW (+27dBm). FCC 1W (+30dBm).

Sensitivity max: -116dBm @50kb.

RF Channels: Max.255 for band (Depend on final configuration).

Separation Channels: 25, 50, 100 or 150Khz according RF band.

Modulation: 2- GFSK. 50 or 100Kb.
FHSS (Frequency Hopping Spread Spectrum)
or fixed channel.

Stability: TXCO +-1ppm.

RSSI: Digital. Calibrated +-1dBm.

RC Packages: 40 per second RC and Telemetry (25msec latency).

Encryption: AES 128.

Data Rate (TELEM Port): 38400, 57600, 115200 bauds.

IP Address (RF Radio): 32-bit Addresses, Configurable List
of authorized transmitters or subnets.

Antennas Connection for RX (RC/Telemetry): SMA-Female.

RF Module: WMX481 (5 Generation XLRS radio).

Compliance Standards: CE, FCC, ETA.

8 CH RC: Multifunction outputs for RC servos.

1 SPPM / CPPM: Up to 16 RC channels through the CH7 port.

1 SBUS: Up to 16 RC channels through the CH8 port.

1 RCBUS: Update and configuration with DMDStudio Software also
for connection XLRS devices for serial communication.

1 i2C: To connect future devices.

1 TELEM port: MAVLINK Telemetry.

1 UART port: To connect future devices.



GENERAL TECHNICAL SPECIFICATIONS

General Leds:

1 Green Led: Power Indicator.

RF RC module Leds:

1 Red Led: TX RF or Transmit RC packets.

1 Blue Led: Link RF or Received RC packets.

TX Video Leds:

1 Greend Led: Link is established.

1 Greend Led: Status Indicator.

Voltage: 9-28V. (Battery 3S - 6S).

Power Connector: XT30 Male.

Consumption: 7.5 - 19W (According to options).

Work Temperature: -20°C to +60°C.

Size: 111 x 72 x 34mm.

Weight: 165g.

Box: Plastic and aluminum.



Professional Receiver Ultra Long Range RC & Telemetry

CE 869Mhz 100Km
FCC 902Mhz 200km
Custom up to 250Km



**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.

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, GCS4.
OSD: XOSD, XOSDV2.

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.

It can be used in different RC models:

UAV, DRONES, VANT, RPAS, UUV, UGV, ROV,
 MULTIROTORS, CARS, HELICOPTERS, BOATS, etc.

TECHNICAL SPECIFICATIONS

- Range RC & Telemetry:** CE 100Km, FCC 200Km.
- Frequency:** CE: 869,4-869,65Mhz +27dBm EIRP.
 FCC: 902-927,5Mhz. +36dBm EIRP.
 CUSTOM: Max +30dBm, 1W.
- Multi Band:** 433 or 866, 868, 902, 915, 950Mhz.
- Max RF power:** CE +22dBm. FCC +30dBm.
- Sensitivity max:** -116dBm @50kb.
- Modulation:** 50 or 100Kb. FHSS.
- Stability:** TXCO +-1ppm.
- Encryption:** AES optional.

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

Consumption: Standby 70mA.

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

Connectivity: RC, Telemetry, USB, RCBUS, SPPM, COM5, MODEM.

Upgradable and Configurable: DMDStudio Soft.
Compatible: ALPHA Commands and DMD devices.

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

Weight: 30g (Without ant.) / 47g (With ant. 5dBi).

Box: Plastic and fiber base 2mm.

**Some product features are optional.*

XLRs
 EXTENDED

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VIDEO RECEIVER TECHNICAL SPECIFICATIONS

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Modulation Mode: OFDM.

CODEC: H.265/H.264.

Video Delay: Below 250ms.

UART Port: 115200b (default).

Interfaces: HDMI, Ethernet.

Main Antenna Connection: SMA-Female.

Compliance Standards: CE, FCC (Without Booster module).





GENERAL TECHNICAL SPECIFICATIONS

Video Booster Leds:

1 Red Led: ON / OFF Indicator.

RCBUS: Communications with SATPRO.

COM5: Communications with SATPRO.

USB: Connect to USB disk for video recording.

Modes to activate/deactivate Booster:

- **Manual.** It is activated manually by command from DMDStudio.
- **RSSI.** It is activated automatically when it has a low RSSI signal.
- **Distance.** It is activated automatically from 200 meters.
- **By default.** It is configured with RSSI + Distance, if RSSI will not work then it is automatically activated by distance.

RX & Booster, Voltage: 9-28V. (Battery 4S, SATPRO).

RX Power Connector: JST GH-7.

Booster Power Connector: XT30 Male.

Work Temperature: -20°C to +60°C.

Size: 126,5 x 109 x 38mm.

Weight: 450g.

Box: Plastic and aluminum.

Prepared to be installed on: SATPRO, Smart Tracker Antenna.