

**SPEKTRUM®**

**SPEKTRUM SPMVT1000, SPMVT1000EU 5.8GHZ PROGRAMMABLE VIDEO TRANSMITTER**

---

**SPEKTRUM SPMVT1000, SPMVT1000EU 5,8 GHZ PROGRAMMIERBARER VIDEOSENDER**

---

**EMETTEUR VIDEO PROGRAMMABLE SPEKTRUM SPMVT1000, SPMVT1000EU 5.8GHZ**

---

**TRASMETTITORE VIDEO PROGRAMMABILE SPEKTRUM SPMVT1000, SPMVT1000EU DA 5,8GHZ**

---

**NOTICE**

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit [horizonhobby.com](http://horizonhobby.com) and click on the support tab for this product.

**Meaning of Special Language**

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

**WARNING:** Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

**CAUTION:** Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

**NOTICE:** Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

 **WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

**Age Recommendation: Not for children under 14 years. This is not a toy.**

**WARNING AGAINST COUNTERFEIT PRODUCTS**

Always purchase from a Horizon Hobby, LLC authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum technology.

**NOTICE:** This product is only intended for use with unmanned, hobby-grade, remote-controlled vehicles and aircraft. Horizon Hobby disclaims all liability outside of the intended purpose and will not provide warranty service related thereto.

**WARRANTY REGISTRATION**

Visit [www.spektrumrc.com/registration](http://www.spektrumrc.com/registration) today to register your product.

**Table of Contents**

Basic Operation .....	3
Connecting an Antenna .....	3
North American Frequency Chart .....	3
EU Frequency Chart .....	3
Connecting the Video Transmitter to Spektrum Receivers .....	4
Connecting Dsmx Receivers With a Remote Receiver .....	4
Connecting 4648 Serial Receiver .....	4
Connecting 4649T Serial Receiver .....	4
Adding a Ground Wire for Two Battery Systems .....	4
Spektrum Transmitter Setup .....	5
Troubleshooting Guide .....	5
1-YEAR LIMITED WARRANTY .....	5
Warranty and Service Contact Information .....	6

SPECIFICATIONS	SPMVT1000/SPMVT1000EU
Video Format	NTSC
Output Impedance	50 Ohm
Output Power	OFF, PIT, 25mW, 200mW*, 600mW* Selectable
Input Voltage	DC 7V–28V
Camera Output Voltage	DC 5V
Operating Temperature	-10–85°C
Power Consumption	176mA @ 12V @ 200mW
Weight	9.9 grams
Antenna Connector	MMCX Connector with SMA Adapter
Recommended Camera	SPMVC650, SPMVC602, SPMVC621
Recommended Antenna	SPMVX5801, SPMVX5811, SPMVX5821, SPMVX5822

\*SPMVT1000 only

**Box Contents**

- SPMVT1000 video transmitter
- Wire harness
- Antenna adaptor

## Basic Operation

Mount the video transmitter in a secure location where it will be protected in the event of a crash, with adequate air flow for cooling. See the frequency table below to find the desired video channel and band. The video transmitter channel, band and power level are changed using the button on the video transmitter or the Spektrum™ VTX control system.

### Channel and Band Selection:

1. A short press of the B button will change channels. Quickly press and release the button once for each channel until the desired channel is reached.
2. A long press of the B button will change the band. Press and hold the B button for several seconds and release for each band change.

### Power Level Selection\*:

1. Press and hold the A button to change the power output. All green LEDs off means RF is off, one flashing green LED is Pit Mode, one solid green LED is 25mW, two solid green LEDs is 200mW, three solid green LEDs is 600mW.

### Spektrum VTX Control:

1. Connect the Spektrum serial signal connector to the RC system.
2. Select the band, channel, and power output from the VTX menu on compatible Spektrum Transmitters with Spektrum AirWare™ firmware.

\*200mW and 600mW power settings are only available for SPMVT1000. The European version (SPMVT1000EU) is limited to 25mW.

## Connecting An Antenna

The VT1000 video transmitter includes an SMA Antenna Adaptor which connects to the main PCB with an MMXC connector.

1. Insert the MMCX connector into the video transmitter and ensure it is fully seated.
2. Mount the SMA connector through a hole in a mounting plate on the vehicle and secure it with the lock washer and nut.
3. Install a compatible 5.8GHz antenna onto the SMA connector.

## North American Frequency Chart

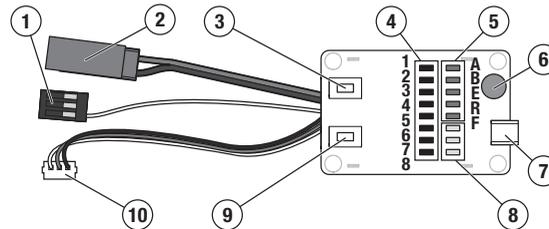
	BAND	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	Band A	5865	5845	5825	5805	5785	5765	5745	5725
B	Band B	5733	5752	5771	5790	5809	5828	5847	5866
E	Band E**	5705	5685	5665	5665	5885	5905	5905	5905
F	FS/IRC	5740	5760	5780	5800	5820	5840	5860	5880
R	RaceBand	5658	5695	5732	5769	5806	5843	5880	5917

## EU Frequency Chart†

	BAND	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	Band A	5865	5845	5825	5805	5785	5765	5745	5745
B	Band B	5733	5752	5771	5790	5809	5828	5847	5866
F	FS/IRC	5740	5760	5780	5800	5820	5840	5860	5860
R	RaceBand	5732	5732	5732	5769	5806	5843	5843	5843

†Frequency sets have been limited to prevent transmitting outside of designated CE Frequencies.

1. Spektrum Serial Connector
2. Power Connector
3. A Button (POWER OUTPUT)
4. Channel LEDs (RED)
5. Band LEDs (BLUE)
6. Microphone
7. Antenna Connector
8. Power Level LEDs (GREEN)
9. B Button (CH, BAND)
10. Camera Connector



**Tip:** The four mounting holes in the corners of the PCB work well with nylon standoff set SPMVX180. For foam aircraft the threads can be inserted into the foam and glued for secure mounting with excellent airflow.

**IMPORTANT:** Do not kink or cut the antenna adaptor or antenna wires. Antenna wires are coaxial wires, therefore kinks or cuts will degrade performance.

**NOTICE:** Powering on the video transmitter without an antenna connected will cause damage to the video transmitter. Damage from powering on the video transmitter without a compatible antenna attached is not covered under warranty.

## Spektrum Programmable Features

The Spektrum SPMVT1000 lets pilots control video transmitter features from a menu in Spektrum Airware™ transmitters without accessing the video transmitter on the model.

From the transmitter pilots can manage:

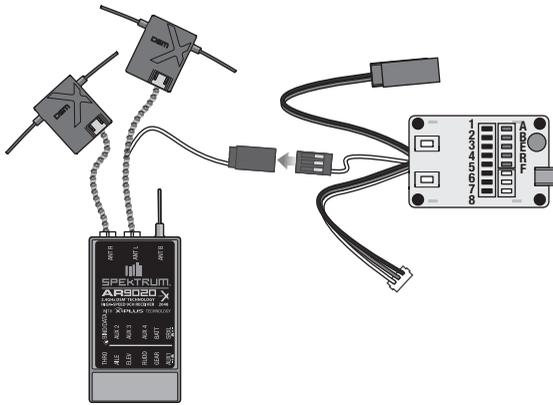
- Video transmitter power output
- Operating frequency

### Connecting the Video Transmitter to Spektrum Receivers

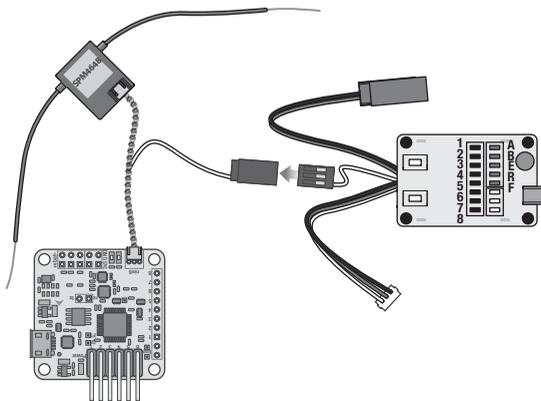
The VT1000 video transmitter is controlled by a Spektrum serial signal. Connect the video transmitter to receivers using one or more remote receivers or in parallel with a serial receiver. The video transmitter does not share power with the receiver, it only picks up the signal.

Use the included Y-Harness or solder the white signal wire from the video transmitter in parallel with the signal wire from the receiver.

### Connecting DSMX receivers with a remote receiver



### Connecting 4648 serial receiver



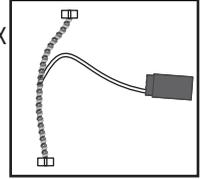
This function requires a Spektrum serial signal. This feature is compatible with Spektrum Airware radio control systems using a full range DSMX® receiver with a remote receiver or a DSMX serial receiver connected to a flight controller.

Registering the transmitter and updating the firmware may be required for access to this feature.

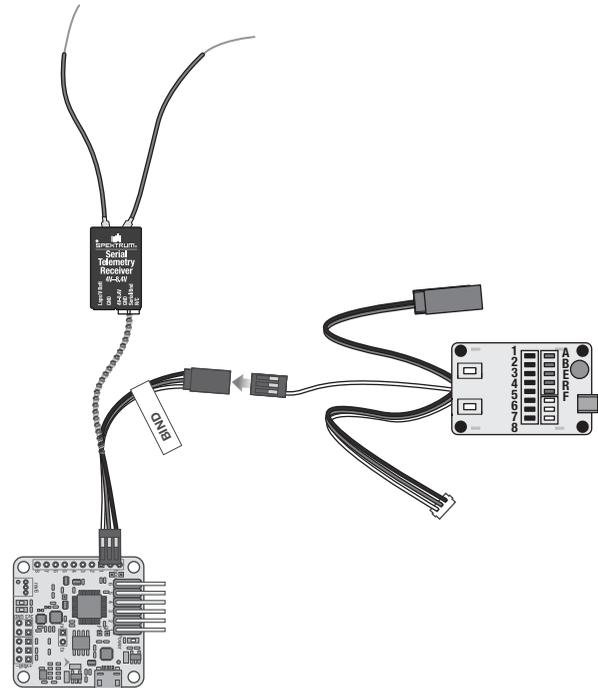
For more information on Spektrum Telemetry visit: <http://www.spektrumrc.com>

### Compatibility

The VT1000 can be used with conventional Spektrum DSMX receivers that use a remote receiver, as well as the 4648 and 4649T serial receivers.

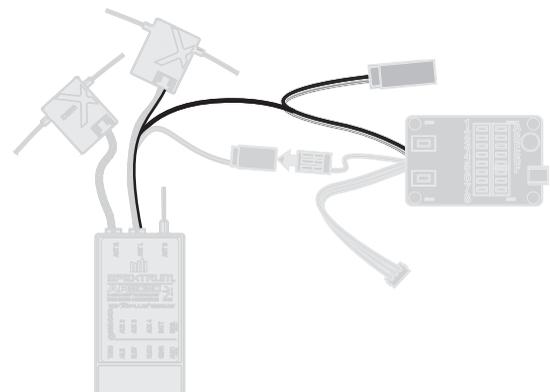


### Connecting 4649T serial receiver



### Adding A Ground Wire For Two Battery Systems

The wire harness is configured for use with aircraft that use a single battery for video and control systems, so there is a common ground. If separate batteries power the video and control systems, a ground wire will need to be connected along with the signal wire for the frequency control system to work.



## Spektrum Transmitter Setup

In the VTX control menu, define the band, frequency and power level, then press send to apply the changes. The model must be bound (connected) and the receiver and video transmitter must be powered on for the function to operate.

Pit mode puts the video transmitter in a very low power mode for testing in the pits. The video transmitter must be properly connected and powered on for the change to take place.



## Troubleshooting Guide

Problem	Possible Cause	Solution
Frequency control system not working	Serial signal not connected properly	Confirm the serial signal is properly connected.
	Separate power supply for the video transmitter and no common ground connected	Connect ground between video transmitter and control receiver
	Model not powered on or not bound (connected)	Confirm model is powered on and bound to the transmitter
Very short video range	PIT mode selected	Select 25mW, 200mW or 600mW for use
	Antenna adaptor or antenna damaged	Replace antenna adaptor or antenna
	Power supply is insufficient to deliver required power	Connect power supply for video transmitter directly to battery or use a separate battery
	RP-SMA antenna used so the antenna is effectively not connected	Using an RP-SMA antenna on an SMA connector will burn out the video transmitter. Replace the RP-SMA antenna with a standard SMA antenna

## 1-YEAR LIMITED WARRANTY

**What this Warranty Covers** - Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship for a period of 1 year from the date of purchase.

### What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

### Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

### Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

### Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

### WARRANTY SERVICES

#### Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions

or assistance, please visit our website at [www.horizonhobby.com](http://www.horizonhobby.com), submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

### Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center). If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**NOTICE: Do not ship LiPo batteries to Horizon. If you have any issue with a LiPo battery, please contact the appropriate Horizon Product Support office.**

### Warranty Requirements

For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

### Non-Warranty Service

Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center).

**ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.**

## Warranty and Service Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	4105 Fieldstone Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com. 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
EU	Horizon Technischer Service	service@horizonhobby.eu	Hanskampring 9 D 22885 Barsbüttel, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	

## Compliance Information for the European Union



**EU Compliance Statement:** Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the RED directive.

A copy of the EU Declaration of Conformity is available online at:  
<http://www.horizonhobby.com/content/support-render-compliance>.

### Instructions for disposal of WEEE by users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.