



EYE-View™ EV-TX-4600 Owner's Manual

K&A Wireless, LLC
2617 Juan Tabo Blvd, NE, Suite A
Albuquerque, NM 87112

Toll Free (888) 536-5207
Phone (505) 338-2380
Fax (505) 338-2382

URL: <http://www.ka-wireless.com>
E-mail: sales@ka-wireless.com

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SAFETY NOTICES

I. THIS DEVICE IS FOR PART 90 LICENSED OR EXPORT USE ONLY. Equipment may be operated only with a Part 90 license issued by the FCC. The user is responsible for operating the equipment in compliance with FCC rules. Operation of this equipment without a valid FCC license could result in the issuance of fines to the user, or the seizure of the equipment.

II. This product is intended for use in occupational/controlled conditions, where users have full knowledge of their exposure and can exercise control over their exposure to meet FCC limits. This device is not authorized for general population, consumer or any other use.

III. This is NOT an intrinsically safe device. Do not take into area where intrinsic safety is required. Bodily harm may result if warning is ignored.

IV. DURING INSTALLATION, DO NOT OPERATE TRANSMITTER WITHOUT ANTENNA CONNECTED TO ANTENNA PORT. Failure to do so will result in damage to the unit and void the warranty.

V. The transmitter is FCC approved under FCC ID: OPH-EV4600. Changes or modifications not expressly approved by K&A Wireless, LLC will void the user's authority to operate the equipment.

VI. This product must be professionally installed. Additional installation instructions will be provided to professional installers to insure compliance with RF exposure requirements and must be for occupational use only and cannot be used in public applications.

VII. The radio and its antenna is required to be mounted and kept at least 20 cm away from any part of the user's torso or head and must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC NOTICE

The equipment has been tested and found to comply with the limits of a CLASS B device pursuant to PART 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference.

Emission designator for the EV-TX-4600 series transmitter unit is: 16M5F3F.

The transmitter label is shown below. Please confirm that the label on the transmitter is conforms to the label shown. Any transmitters having a non-conforming label will be in violation of the license.



Figure 1. FCC label on every EV-TX-4600 series unit.

PARTS LIST

The EV-4000 series Analog Video Transmission system comes complete with the following items:

1. EV-TX-4600 transmitter
2. TX-S-2018-MMCX-RTA antenna

The transmitter operation can be confirmed by using a EV-RX-4600 series receiver unit from K&A. This receiver series displays the video images on an NTSC compatible (PAL compatible, if your camera source is PAL) monitor.

Additional accessories available through K&A Wireless:

1. Dipole antenna for receiver
2. 12-dB panel antenna for receiver
3. 5-dB vehicle-mounted antenna with magnetic base for receiver
4. 7-dB vehicle mounted antenna for receiver
5. 9-dB vehicle-mounted antenna for receiver
6. 11-dB vehicle mounted antenna for receiver

PRODUCT DESCRIPTION

The EV-TX-4600 series transmitter is a two-channel analog FM, video transmitter operating in the 2.4 GHz ISM band. The EV-TX-4600 series provides a cost effective solution to long-range transmission available for industrial, government/municipality or for export applications.

The ISM band is a harmonized band and is available worldwide. In the US, however, the EV-TX-4600 series

transmitter is designated for PART 90 use and requires a license to be obtained by the end user.

In addition to the enhanced performance, the EV-TX-4600 series provides a rudimentary security feature, which decreases the ability of unwanted parties from receiving and re-broadcasting the transmitted signal. Keep in mind that with the addition of the security feature, the receiver and transmitter will not work with off-the-shelf transmission systems.

Transmitter

The EV-TX-4600 series transmitter is shown in Figure 1. The transmitter is packaged for integration inside a camera only. It has four (4) wires available - two wires (black - and red +) for power, two (2) wires for video (yellow + and purple -) and a channel change wire (ground for channel 2, open for channel 1). ***The system must be installed to operate at a minimum of 20 cm away from all persons.***



Additional documentation may be provided for specific installations.

RF Exposure

The FCC mandates that care be taken in the installation of the antenna to insure that RF exposure limits are adhered to.

For Occupational Applications, like firefighting, industrial and law enforcement, etc., the integrated unit may be used in handheld applications. In many handheld applications, the 20cm requirement is restricted to the head and the torso. In these cases, end user training must be provided and disclosures regarding RF exposure must be provided.

The modular nature of the transmitter requires that the antenna be mounted at least 20cm away from any persons under normal operating conditions.

Any changes to the manufacturing process must be approved in writing.

SPECIFICATIONS

Specifications for the EV-TX-4600 SERIES

RF		
Operating Frequencies	2458 MHz 2474 MHz	Channel 1 Channel 2
Frequency Stability	+/- 0.005%	
Output Power	10-900 mW factory set (+10 to 29.2 dBm)	
Output Impedance	50 ohms MMCX Female Connector	
Modulation	Direct Wideband FM	
Modulation Designators	2 Channel Transmitters	16M5F3F
Spurious and Harmonics	less than 35 dBc	
Video		
Formats	NTSC or PAL	
Pre-Emphasis	CCIR 405-1	
Frequency Response	<10 Hz to 5.5 MHz (+/-3dB)	
Video Input Levels and Impedances	1 Volt Pk/Pk @75 ohms (Transmitter Terminated)	
	1 Volt Pk/Pk @ 6K ohms (Customer Terminated)	
Distortion	Less than 2% for all types	
Modulation Sense	Positive Input increases Frequency (Negative Sense Available)	
Modulation Sensitivity	100 KHz per Volt	
Distortion	less than 2% THD	

Input Power	
Input Voltage	5 to 24 volts DC (30 volt surge)
Input Current	225 mA @ 12 Volts DC (typical @ 750mW)
Input Power	2.7 watts nominal (750mW RF output power)
Reverse Polarity Protection	Resettable Fused DC Input current limited to 1.5A @ 25 Degrees C DC Input current limited to 30 ma during accidental polarity reversal @ 24 VDC in.
Low Battery Shutdown	Adjustable 4 to 20 Volts DC
Microprocessor ON/OFF	Open Drain/Collector (Low for Shutdown)
Environmental	
Operating Temperature	-20 to +60 C (Case Temperature)
Humidity	95% Non-Condensing
Mechanical	
Size	2.92 X 1.30 X 0.30 inches
Weight	1.5 Ounces
Other	
FCC ID	OPH-EV4600

TROUBLESHOOTING

