

PATLITE

8144-A
T95100126

AirGRID

Wireless Data Communication System

Instruction Manual

[TYPE: WD]

Digest version

Thank you for purchasing the **AirGRID** wireless data communication system. Read this instruction manual carefully prior to use. This manual contains information to ensure correct use. Keep this instruction manual in a safe place. Also read this manual when maintenance, an inspection, or repair is needed. If you have any questions, contact one of the sales offices or the technical center listed on the last page.

This is a digest version of the General Instruction Manual. For more details on subjects such as settings and wiring, download the General Instruction Manual from our websites.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

-Safety Precautions-

To prevent injury to the user or other people and property damage, the following precautions must be observed.

◆This manual classifies the precautions into the following two categories depending on the degree of injury or damage caused by failure to follow them:

	Warning Failure to follow a warning may cause death or serious injury.
	Caution Failure to follow a caution may cause personal injury or physical damage.
◆The meanings of symbols used in this manual are as shown below:	
	This symbol indicates what the user MUST NOT DO (Prohibited).
	This symbol indicates what the user MUST DO (Mandatory).

	Warning
	- Do not disassemble or modify the product. Failure to follow this instruction may cause fire or electric shock.
	- Do not use the product where condensation can form. Failure to follow this instruction may cause fire or electric shock.
	- Do not use or install the receiver (WDR-L/U) near water or other liquids, in a place where oil may spatter, or in a moist or dusty place. Failure to follow this instruction may cause fire, electric shock, or malfunction.
	- Do not use this product near pacemakers or electric medical equipment because radio waves may affect these devices and equipment.
	- This product is not intended to be installed in or control facilities or equipment affecting human lives, including medical equipment, nuclear facilities and equipment, aerospace equipment, and transportation facilities and equipment, and facilities and equipment requiring high reliability. We assume no responsibility for any accident causing injury or death or property damage arising from use of this product with such facilities, equipment, or control systems.
	- Turn off this product in airplanes, hospitals, or other places where radio waves may affect surrounding equipment or the use of wireless devices is prohibited.
	- The receiver (USB connection type: WDR-U) is driven by power supplied by a USB bus. Connect it to a USB port. Using it with other ports may cause fire, electric shock, or smoke.
	- Turn off the product during wiring or installation. Failure to follow this instruction may cause an electric shock.
	- Ensure that the power supply voltage does not exceed the allowable voltage range. Failure to follow this instruction may cause fire or malfunction.
	- If the installation of this product involves construction work, have it installed by a professional. Failure to follow this instruction may cause fire, electric shock, or fall.
	- If smoke, odor, or other abnormalities are present, immediately stop supplying power to this product. Using it under such abnormal conditions may cause fire or electric shock.

	Caution
	- Do not splash any liquid onto the receiver (WDR-L/U) nor bring it into contact with metal objects. Failure to follow this instruction may cause fire or electric shock.
	- Ensure that the polarity of the power supply is correct. Incorrect polarity may cause a malfunction.
	- Do not use this product near fire, in a hot and humid place, or in a place where a corrosive or combustible gas is generated. Failure to follow this instruction may cause a malfunction, preventing the product from working properly.

We assume no liability for any malfunction arising from failure to observe these warnings or cautions, disassembling or modification, or natural disasters. Do not use this product for purposes other than those specified in this manual.

	Attention
Do not use or store this product in the following places. Doing so may cause a glitch or malfunction.	
- Poorly ventilated places	- Near fire or a hot and humid place
- Near equipment that generates an intense electric field or ferromagnetic field	
- A place subject to direct sunlight	- A place subject to shock and vibration
- Near heating devices	- A place where a lot of dust or iron powder is generated
- A place from which the product is likely to fall	- A place exposed to salt air
Pay attention to the following precautions:	
- Because of the nature of radio waves, noise or casing may make it impossible to establish communication even within the access range.	
- Do not eat, drink, or smoke near this product. Food or beverages or cigarette ashes may cause a malfunction.	
- Do not use chemicals near this product. Some chemicals may cause the product to melt or deform if they come into contact with it.	

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

1. Type labeling

a) Transmitter		■Specifications 6M: For use with the Φ60 signal tower LME 5E: For use with the Φ50 signal tower LE
b) Receiver		■Specifications L: LAN connection type U: USB connection type
c) Application software (Sample version)		

2. URLs for downloads

Download the General Instruction Manual and the application software driver from one of our websites.
Download them according to the instruction of the screen after clicking the WD banner.
URL : <http://www.patlite.com/>

3. Part names

a) Transmitter		
	Dedicated bracket	Top cover (common)
	Dedicated bracket	Lens unit (common)
b) Receiver		
	Power supply LED	Power supply LED
	Output LED (For more details, refer to the General Instruction Manual.)	

4. Installation and wiring

	Warning
	- Turn off the product during wiring or installation. Failure to follow this instruction may cause an electric shock.
	- Be sure to connect the wires correctly. Incorrect wiring may burn the internal circuits, causing a fire.

	Caution
	- If the transmitter (WDT-6M/5E) is installed in a high-voltage signal tower (100 VAC/220 V), ensure that the power consumption including that of the LED unit does not exceed 300 mA. Failure to follow this instruction may cause a malfunction of the product, preventing it from working properly.
	* For more details, refer to the General Instruction Manual.
	- Be careful not to install the dedicated bracket in signal towers other than those that are compatible. Failure to follow this instruction may cause a malfunction of the product.
	- Do not leave the product with the center screw loosened. Failure to follow this instruction may cause the LED unit, the head cover, and the dedicated bracket, which come out easily, to fall and break.

	- Be careful not to apply undue force to the signal tower. Failure to follow this instruction may cause the LED unit to deform, preventing the product from working properly.
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a) Transmitter	
	Install the transmitter according to the drawing below. This drawing is a reference drawing for the LE series. The LME series has a dedicated bracket.
	① Remove the head cover from the signal tower when storing it.
	② Check the snap alignment position and then install the dedicated bracket to the tower so that the snaps align with the snaps of the dedicated bracket.
	③ Attach the top cover to the lens unit so that the triangle marks match.
	④ Install this part so that the sizes of the clips match.
	Top cover/Lens unit
	Use the center screw of the signal tower as it is. (Tightening torque: 0.3 N·m)
	Dedicated bracket (for LE: WDT-5E)
	Signal tower (LE series)

Note
- The factory default for the power supply of the transmitter is the white signal line of the signal tower. Power the white line of the signal tower.
* The transmitter can be powered via other signal lines. For more details, refer to the General Instruction Manual.
- The MAC address is necessary to identify the equipment. Record the installed signal tower (device).

b) Receiver	
	Install and wire the WDR-L according to the drawing below. Connect the WDR-U directly to the USB port of your personal computer.
	In order to fix the cover in place, open the cover and use M4 screws or tapping screws with a nominal diameter of 4. (Screws are not included.)
	Wire entry hole (rear surface) * Remove the lid using a tool such as a nipper if you use this hole.
	Wire entry hole (bottom surface) * If the hole is too small, cut the lid using a tool such as a nipper to widen the hole.

LAN connector (RJ45) used for LAN communication		Use the guides (in two locations) for wiring.
USB-B connector (receptacle) used for USB communication		
Power terminal block (24V DC input)		
	Internal WDR-L	

Note
- USB hub connections are not supported. Connect the WDR-U directly to the USB port of your personal computer.
- The power must be input either from the power terminal block or the DC jack.
- Do not let the personal computer go into modes such as suspend, sleep or stand-by. Doing so will disable data communication between the receiver and the personal computer.
* For more details, refer to the General Instruction Manual.
- LAN communication is not available during USB communication. Do not connect a LAN cable.

5. Usage

Be sure to refer to the General Instruction Manual for the usage instructions.

6. Specifications

Item	Transmitter specification	
Model	WDT-6M	WDT-5E
Compatible signal tower	LME series *	LE series *
Rated voltage	24V DC (No polarity)	
Allowable voltage range	21.6V DC to 26.4V DC	
Consumption current	35mA ± 5mA	
Operating ambient temperature	-10°C to 60°C	
Relative humidity	85% RH or less (no condensation)	
Storage ambient temperature	-20°C to 70°C (no icing)	
Number of connected transmitters	The recommended number is 20. (It differs depending on the installation location and the communication environment.)	
Installation direction	Proper direction only (indoor use only)	
Protective structure	In compliance with the installed signal tower	
Weight	52g ± 5g	

Item	Receiver specification	
Model	WDR-L	WDR-U
Rated voltage	24V DC	5V DC (USB bus powered)
Allowable voltage range	21.6V DC to 26.4V DC	4.5V DC to 5.5V DC
Consumption current	70mA ± 10mA	80mA ± 10mA
Operating ambient temperature	-10°C to 60°C	5°C to 40°C
Relative humidity	85% RH or less (no condensation)	85% RH or less (no condensation)
Storage ambient temperature	-20°C to 70°C (no icing)	-5°C to 50°C (no icing)
Installation direction (Indoor use only)	Upright direction (installed onto the wall) Lateral direction (horizontal installation)	All directions * Connected to the USB port of the PC
Protective structure	IP20	-
Weight	160g ± 10g	10g ± 2g

* Refer to the General Instruction Manual for the detailed specifications and compatible signal towers.
* The specifications are subject to change due to improvement without notice.

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