

ikan

ikan Corporation

IKW1 Wireless Transmitter/Receiver System

Operating Instructions



SDI **HDMI™**

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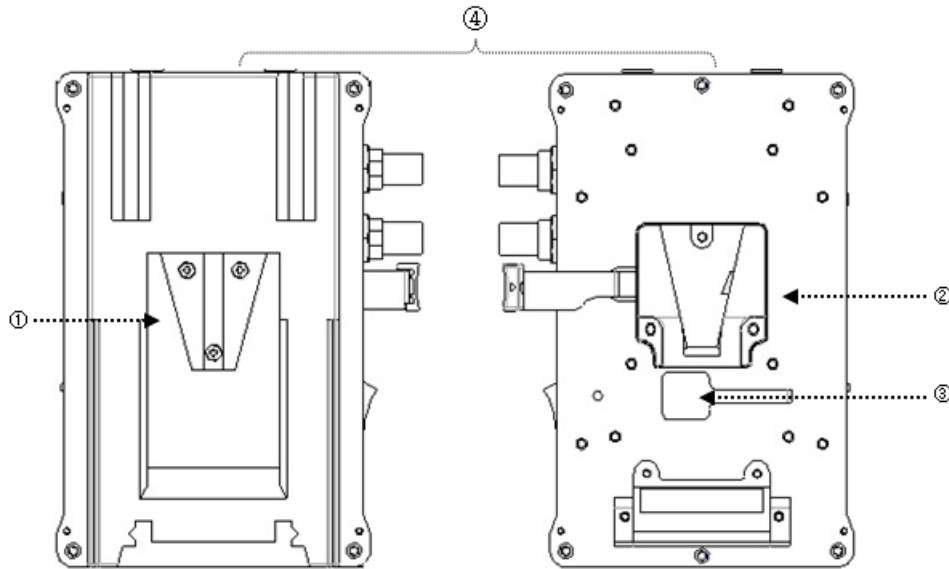
I. SAFETY INSTRUCTIONS

- ⤴ Connect only one power source at a time. Either plug in the devices or power from battery. Using both AC power and battery simultaneously may result in electronic failure.
- ⤴ If the Transmitter or Receiver are roughly handled, physical damage or device malfunction may result.
- ⤴ To prevent electric shock, do not stick metal objects into ports on the device.
- ⤴ High powered wireless frequencies given off by power or telephone lines, as well as radio antennas, may jam signal transmission between devices.
- ⤴ Do not expose units to extreme climates or operate in harsh environments.
- ⤴ If you notice any unusual sounds or smells, or if you see smoke coming from devices, turn them off, remove their power sources and contact manufacturer.
- ⤴ No service will be provided to units which have been modified, disassembled, or tampered with.
- ⤴ This product is not designed to be used in rescue or emergency situations.

II. FEATURES

- Distance up to 500 feet (150 m)
- Distance up to 1500 feet (500 m) with directional dish antenna
- Transmits Multi-Format Signal up to 1080/60p (on 3G-SDI)
- Low Latency (20ms)
- Separate Audio Transmission via Audio Input Port
- Bi-Directional Data Link at 11Kbps
- Time Code Transmission
- Tally Transmission, Tally LED, Return Tally Transmission through GPI Port
- Low Power Consumption (10W)
- Automatic Encoding Rate Adjustment for RF Condition
- 802.11i Compatible Signal Protection with 128 bit AES Encryption
- Supports MIMO (Multi Input / Multi Output)
- No FCC License Required (U-NII-1 and U-NII-3 Frequencies)
- Supports V-Mount Plate attachment to camera and Pro batteries
- Supports V-Mount (included by default) or DV-Mount (optional) batteries

III. PART DESCRIPTION



FRONT / BACK

1) V-Plate Adapter

- a. Unit comes pre-built with V-Mount attachment for V-Mount Batteries.
- b. Anton Bauer batteries can be attached though optional AB Gold Mount plate.

2) V-Mount Adapter

- a. V-Mount adapter is built on reverse side of unit for additional V-Mount connections (e.g. to camera)
- b. This adapter can be replaced with optional DV-Mount, Dual DV-Mount, or AB Gold Mount Adapter.

3) Internal Power Port

- a. Use this port to plug in DV power source. Supports DC 7V ~ 30V.

4) Primary Mini USB Port (Female) to flash future firmware releases.

SIDE (of Transmitter)

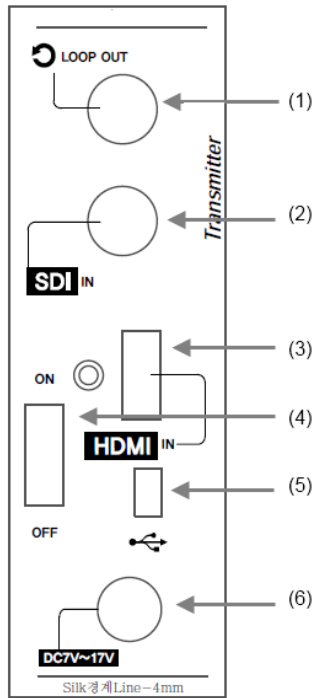


FIGURE 1

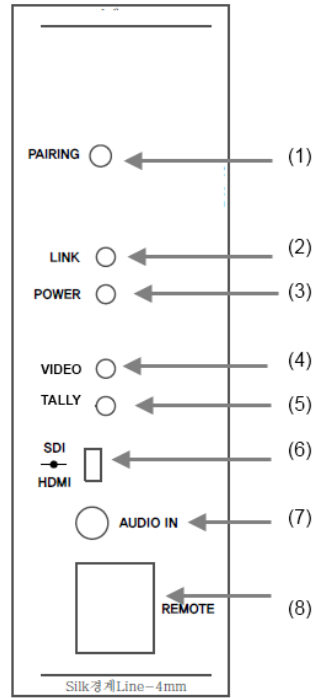


FIGURE 2

FIGURE 1

- 1) SDI Out
 - a. Supports Loop-through via SDI input (Figure 1-2).
- 2) SDI Input
 - a. 3G-SDI input in compliance with SMPTE standards. Supports audio input signal through 3G-SDI.
- 3) HDMI Input
 - a. HDMI Input with audio signal.
 - b. **NOTE 1:** Some DSLR cameras do not send audio signal through camera's HDMI out.
- 4) Power On/Off
- 5) Secondary Mini USB firmware port for updates.
 - a. **NOTE 2:** Contact manufacturer before flashing firmware to minimize

installation problems.

6) DC 12V input. Supports 7~30V when using battery.

FIGURE 2

1) Pairing Button

a. Use this button when pairing multiple receivers to one transmitter or when using multiple transmitters at the same time.

2) Link LED

a. LED light turns on when connection between transmitter and receiver is confirmed.

3) Power LED

4) Battery LED

a. LED will blink when battery source is low.

5) Tally LED

a. Indicates Tally Control is in use.

6) SDI/HDMI Switch to choose between SDI or HDMI input

7) Audio In

a. Use this input to receive stereo audio source independent of video input (e.g. from an external microphone).

8) Remote Port for tethered Tally Controller

9) Infrared Remote Control Sensor

Side (Of Receiver)

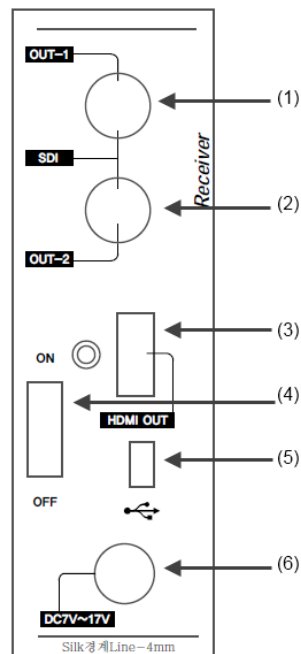


FIGURE 3

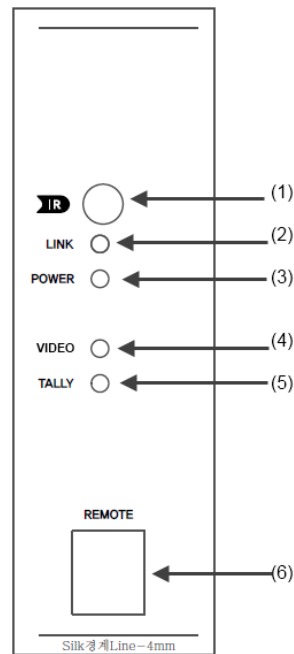


FIGURE 4

FIGURE 3

- 1) SDI Out 1
- 2) SDI Out 2
- 3) HDMI Out
- 4) Power On/Off
- 5) Secondary Mini USB firmware port for updates.

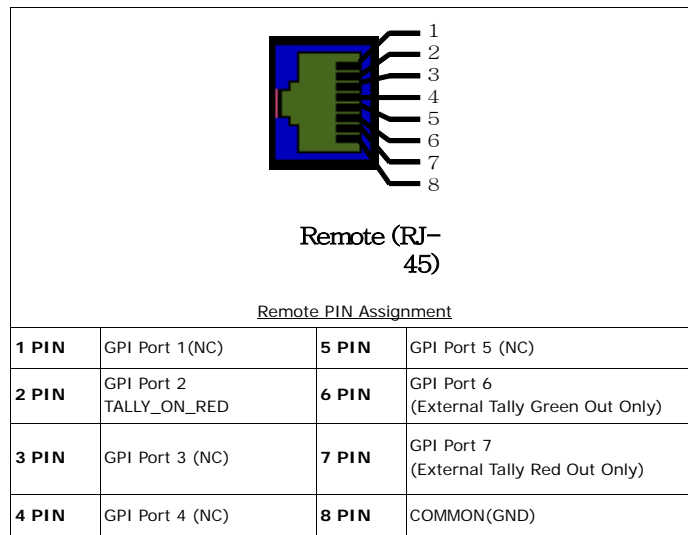
a. **NOTE 3:** Contact manufacturer before flashing firmware to minimize installation problems.

- 6) DC 12V input. Supports 7~30V when using battery.

FIGURE 4

- 1) Infrared Remote Receiver
- 2) Link LED
 - a. LED light turns on when connection between transmitter and receiver is confirmed.
- 3) Power LED
- 4) Battery LED
 - a. LED will blink when battery source is low.
- 5) Tally LED
 - a. Indicates Tally Control is in use.
- 6) GPI Port (Remote RJ-45 Port)
 - a. This port is used to control the device through Ethernet cable (FIGURE 5).
 - b. Pins 1 through 7 are control terminals, Pin 8 is GND terminal.

FIGURE 5
RJ-45 Pin Assignment



IR Remote Control Unit



FIGURE 6

- 1) MENU: View or return to OSD initial screen or return to Display screen.
- 2) UP/DOWN: Use to scroll between menu items.
- 3) ENTER: Select or launch.
- 4) QUIT: Go back a menu.
- 5) SEL: Select transmitter when multiple transmitters are used.
 - a. Press SEL button to use the 2nd transmitter when the 1st transmitter is used.

***NOTE 4:** Remote control maximum distance is 10 ft (3 meters).

IV. OSD MENU

Pairing Procedure Between Transmitter and Receiver

- 1) On the Receiver, pull up Menu > Configure External Inputs and select Receive Mac Address.
- 2) Press the Pairing button on the transmitter. After a few seconds, a confirmation screen, denoting that pairing was successful, will be displayed (FIGURE 7):

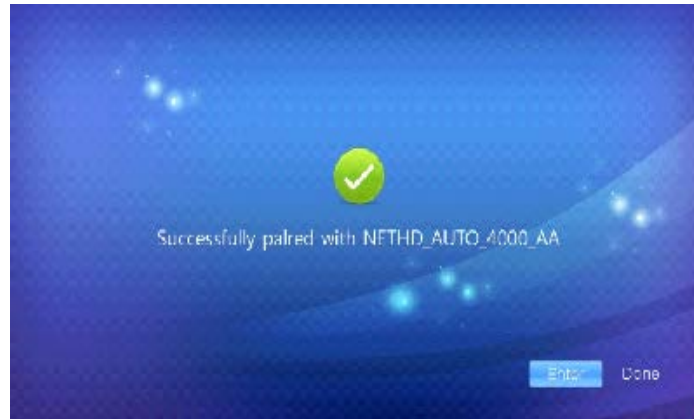


FIGURE 7

- 3) Press Enter and Menu to connect.

***NOTE 5:**

- 1) *When using two or more transmitters, maintain a connection between the first transmitter and its receivers before turning on additional units. Do not pair more than four receivers to one transmitter at a time—signal loss may occur.*
- 2) *In such case, re-link units manually (to reauthenticate WiFi connection). Turn on transmitter and wait until LED is on before turning on additional transmitter.*
- 3) *To prevent interference between transmitters, keep transmission units a minimum of three feet (1 meter) apart.*

Configure External Inputs (FIGURE 8)



FIGURE 8

1) When the receiver is connected to an external monitor, you can select Configure external input mode and save the preference. Options in this menu are shown in FIGURE 9

- a. RENAME: Change device name to minimize confusion between devices in the future.
- b. FORGET: Disconnect receiver from transmitter to manually reconnect.



FIGURE 9

System Settings (FIGURE 10)



FIGURE 10

Signal Strength - Show current signal strength.

Reset to Factory – Resets unit to factory default settings.

V. FIRMWARE UPDATE

To flash firmware updates, use the following procedure:

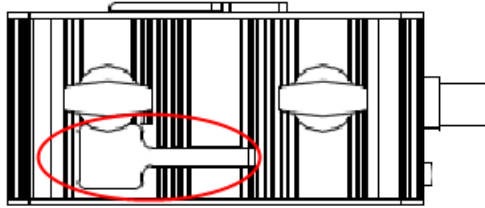


FIGURE 11

**NOTE: Use Primary USB port on top (FIGURE 11), not on side (Secondary)*

Transmitter Firmware

- 1) Download the software on a USB flash drive. The file name will be similar to *cavm_netHD.bin*.
- 2) Turn off device.
- 3) Plug USB Flash drive with downloaded firmware into transmitter using a Female USB to USB Mini Male Adapter.
- 4) Turn the power on and update will start (approx 3-4 minutes).
- 5) Link LED will turn off during this process. Upon completion, Link LED should turn back on.

Receiver Firmware

- 1) Download the software on a USB flash drive. The file name will be similar to *cavm_netHD.bin*.
- 2) Turn off device.
- 3) Plug USB Flash drive with downloaded firmware into transmitter using a Female USB to USB Mini Male Adapter.
- 4) Turn the power on and update will start (approx 3-4 minutes).
- 5) Link LED will turn off during this process. Upon completion, Link LED should turn back on.
- 6) Monitor screen will be displayed when complete.

VI. SPECIFICATIONS

Transmitter

Input	1 x BNC	3G/HD/SD-SDI, 2.97G/1.485G/270M
	1 x HDMI	HDMI (with HDCP v.1.1), 19pin Female
Audio Input	1 x Audio Jack In	3.5mm TRS, Line Level Input
Output	1 x BNC	SDI Active Loop Output
Video Formats	HD : 1920x1080 (60p, 59.94p, 50p) 1920x1080 (60i, 59.94i, 50i, 30p, 29.97p, 25p, 24p, 23.98p) 1920x1080 (30psf, 29.97psf, 25psf) 1280x720 (60p, 59.94p, 50p) SD : NTSC, PAL	
Radio	Frequency	U-NII-1 (5.15~5.25 GHz), U-NII-3 (5.725~5.85 GHz)
	Transmission Power	20mW (13.5dBm)
	Transmission Distance	500 ft (150m) (included antenna), 1500ft (500m) (directional antenna)
	Latency	20ms
	Encoding/Decoding	H.264 Base Profile @4.2
	2 x Antenna	SMA Female
	Security	802.11i compatible signal protection by 128 bit AES encryption
General	1 x GPIO	GPI-7 Port, RJ-45P Jack
	2 x mini USB	Firmware Update (MAIN, MICOM)
	4 x LED	Power, Link, Video, Tally
	3 x Switch	Pairing, Input Selection, Power
	Battery	V-Mount, DV-Mount, Anton Bauer Mount
	Power Requirements	DC (7V~30V) With AC Adapter(100 ~ 230V, 50Hz/60Hz)
	Power Consumption	10W
	Operating Temperature	32°F ~ 104°F (0°C - 40°C)
	Operating Humidity	20% ~ 80% RH
	Included Accessories	<ul style="list-style-type: none"> • AC Power Cable • 2 Antennas • DC Adapter
Optional Accessory	<ul style="list-style-type: none"> • Carrying Case • 20dBi Directional Antenna • DV Battery Mount • Anton Bauer Mount 	

Receiver

Output	2 x BNC	3G/HD/SD-SDI, 2.97G/1.485G/270M
	1 x HDMI	HDMI Out
General	1 x IR	Remote Control Unit
	1 x GPIO	GPI-7 Port, RJ-45P Jack
	2 x mini USB	Firmware Update (MAIN , MICOM)
	4 x LED	Power, Link, Video, Tally
	1x Switch	Power
	Battery	V-Mount, DV-Mount
	Power Requirements	DC (7V~30V) With AC Adapter (100 ~ 230V, 50Hz/60Hz)
	Power Consumption	9W
	Operating Temperature	32°F ~ 104°F (0°C - 40°C)
	Operating Humidity	20% ~ 80% RH
	Included Accessories	<ul style="list-style-type: none"> • AC Power Cable • Manual (CD) • DC Adapter • Remote Control Unit • 2 Antennas
	Optional Accessory	<ul style="list-style-type: none"> • Carrying Case • 20dBi directional antenna • DV Battery Mount • Anton Bauer Mount

VII. COMPATIBLE SIGNAL FORMATS

Format	SDI	HDMI
NTSC	O	-
PAL	O	-
1280x720/50P	O	O
1280x720/59.9 4P (*)	O	O
1280x720/60P	O	O
1920x1080/23. 98P (*)	O	O
1920x1080/24 P	O	O
1920x1080/25 P	O	O
1920x1080/25 psf	O	-
1920x1080/29. 97P	O	O
1920x1080/29. 97psf	O	-
1920x1080/30 P (*)	O	O
1920x1080/30 psf	O	-
1920x1080/50i (*)	O	O
1920x1080/59. 94i (*)	O	O
1920x1080/60i	O	O
1920x1080/50 p	O	O
1920x1080/59. 94p (*)	O	O
1920x1080/60 p	O	O

***NOTE 6:**

Starred () formats are more stable regarding stuttering, dropping of frames, or signal loss than others. Stuttering, loss of frames, or signal loss, may also occur due to environmental and/or weather conditions.*

VIII. APPEARANCE

Without Battery Plate

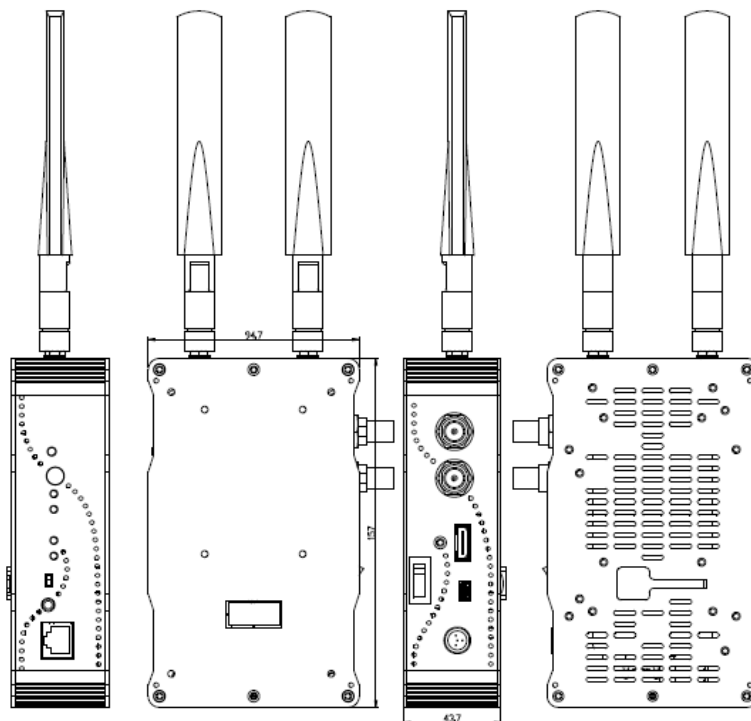


FIGURE 12

Unit	W	H	D
mm	94.7	157	43.7
inches	3.7	6.2	1.7

V-Mount Version (Ships Standard)

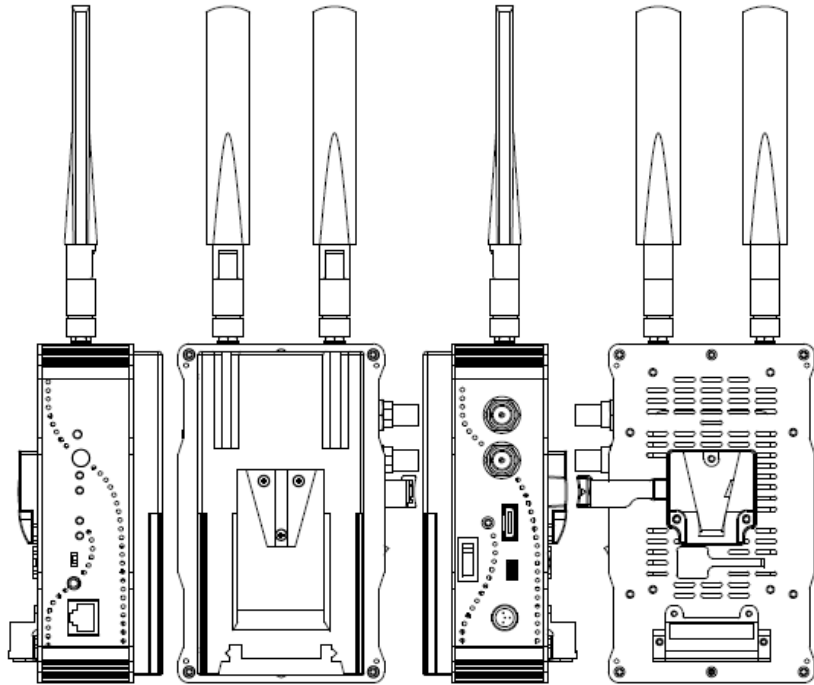


FIGURE 13

Unit	W	H	D
mm	94.7	157	43.7
inches	3.7	6.2	1.7

Anton Bauer Adapter Version

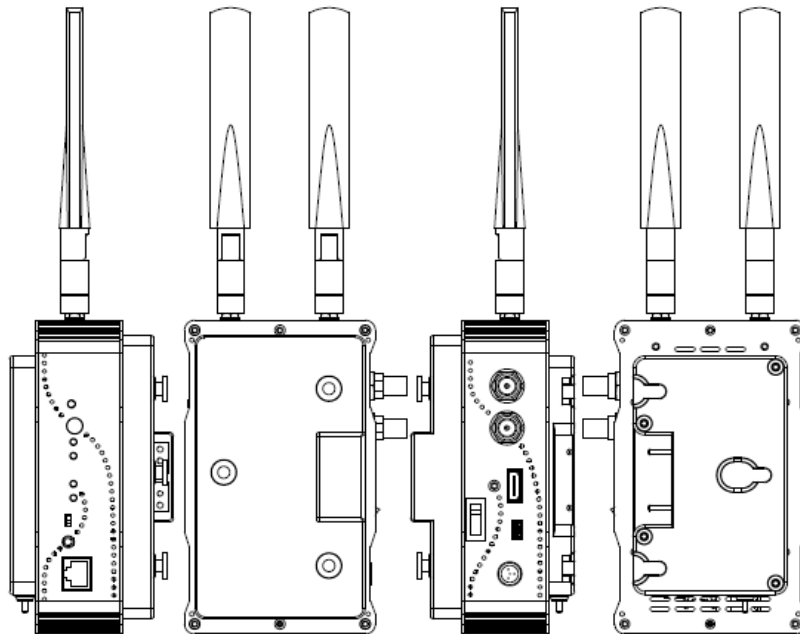


FIGURE 14

Unit	W	H	D
mm	94.7	157	43.7
inches	3.7	6.2	1.7

IX. ACCESSORY KIT

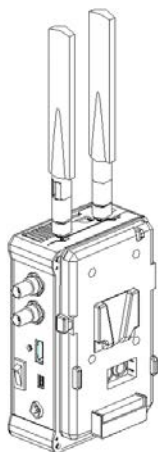


FIGURE 15: V-Mount Battery Adapter

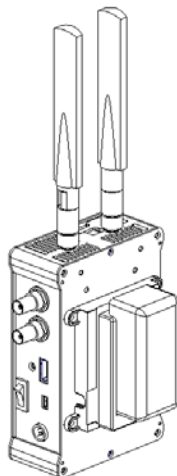


FIGURE 16: DV Battery Mount Adapter

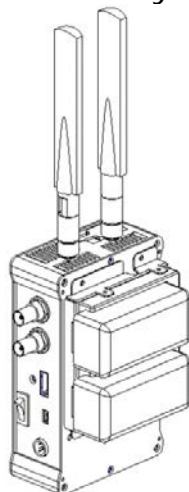


FIGURE 17: Dual DV Battery Mount Adapter

X. ANTENNA ACCESSORY KIT

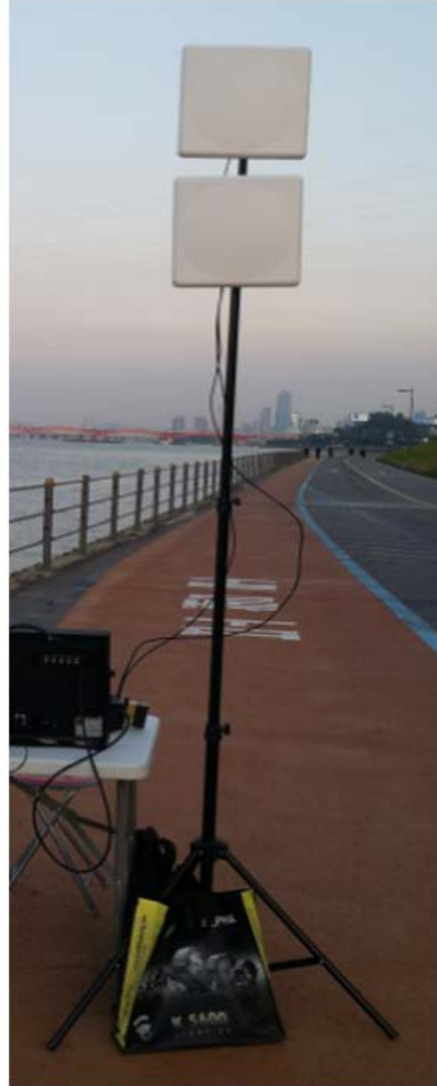


FIGURE 18-A, 18-B, 18-C (Shown clockwise)

XI. TROUBLESHOOTING

Occasionally, the IKW1 units may experience problems or difficulties during operation. Often, these malfunctions are not a result of product defect and can be resolved using the solutions provided below. If you cannot solve the problem after troubleshooting with this guide, contact the reseller or manufacturer directly to get more assistance.

Symptom	Solution
Power does not turn on	Change battery Check battery voltage (should be above 7V) Try with DC adapter
Power turned off while use with battery	Try with full-charged battery (Please note there will be frequent power off when battery is not enough)
Transmitter/receiver not connected	Turn off and on transmitter, or receiver (Try factory reset and pairing once again)
Signal not good even in short distance	Check antennas connection to the device On Receiver's OSD menu, check system settings / signal strength is enough.
Wi Fi connection timed out	Turn the receiver's power off and on
The screen freezes when signal cable removed from transmitter	This is ordinary to show the last picture just before disconnection. Connect signal cable to the transmitter to continue motion pictures.

XII. SERVICE AND WARRANTY

ikan Corporation warranties to the first end-user, that the product will, under normal use, be free from defects in workmanship and materials when received in its original container for a period of one year from the purchase date, according to the original sales receipt or invoice.

This warranty is extended to the purchasing end-user only and proof of purchase is necessary to honor the warranty. If there is no proof of purchase provided with a warranty claim, the ikan Corporation reserves the right to apply charges for parts and labor where they may be applicable.

This warranty does not apply to product exterior and cosmetics. Misuse, abnormal service or handling, alterations or modifications in design, construction and/or use, void this warranty. No sales personnel, representative, dealer, distributor or any other person is authorized to make any warranty other than the parameters outlined above or to extend the duration of any warranties on behalf of the ikan Corporation beyond the time period described above.

Concerns not addressed in this posting may be brought up in correspondence with our technical support department.

Email: support@ikancorp.com or call +1.713.272.8822 for any further inquiries or to request an RMA Form (needed to request product servicing). You may also download the RMA form by visiting www.ikancorp.com/support.php?page=return

XIII. MODIFICATION OF PRODUCT

Dimensions, specifications or design of the product are subject to change without prior notice for improvement purposes.