FREEWAVE VIEWER

WIRELESS LIVE-VIEW REMOTE

USER'S MANUAL

VELLO™

INTRODUCTION

Thank you for choosing the Vello FreeWave Viewer Wireless Live-View Remote. The Viewer displays the live view from the LCD display on your camera and can trigger the shutter from 200 feet (60 meters) away under optimal conditions.

The FreeWave Viewer does not require line-of-sight alignment, as its radio waves pass through and around objects such as walls, windows, and floors.

It features two modes to enhance your shooting experience. A/V mode functions as the Live View on your camera would, allowing you to see what your lens sees. The CCTV mode allows for a wider-angle view from the receiver's built-in camera, allowing you to see action outside the field of view of your camera's lens.

Suggested Uses For Your Live-View Remote:

- Shooting wildlife or other dangerous or elusive subjects from a distance.
- Photographing children and other shy subjects that act differently when in the presence of a photographer.
- Maintaining a view from the camera when the camera is in a hard-to-access location.
- Creating live-view function in cameras that don't possess this feature through use of the built-in CCTV.
- Conserving power on your camera by turning off the LCD.

KEY FEATURES

2.4GHz Radio Frequency: Provides improved signal quality with reduced interference.

Long Range: Over 200ft in optimal conditions.

Multi-Purpose: Real-time monitoring of either your DSLR's Live View or the Transmitter's built-in CCTV camera.

Dual-Function Shutter / Auto Focus Button: Press halfway to focus; press fully to release the shutter.

Clear Viewing: The Receiver features a 3.5" TFT LCD screen with a resolution of 320 x 240 and 10 levels of brightness adjustment.

Power Options: Transmitter and Receiver can be powered by using 4 alkaline, lithium or Ni-MH AA batteries or by connecting to a USB power source. The Transmitter can attach to 5V DC power so you can operate the transmitter indefinitely.

Control Multiple Cameras: You can set the Receiver to control any one of up to four cameras outfitted with Transmitters that are set up within range of the Receiver.

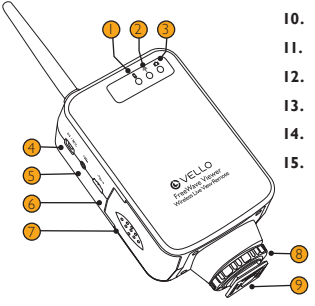
Versatile: The Transmitter works with DSLR cameras from many manufacturers - just use the appropriate Sync cable. With one receiver, you can control cameras from multiple manufacturers.

Your Vello FreeWave Viewer contains:

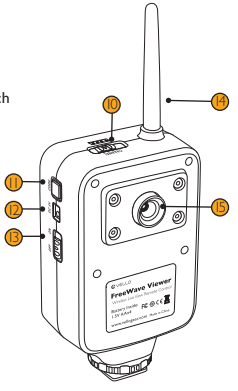
	Canon Kit	Nikon Kit
Wireless Transmitter	✓	✓
Wireless Receiver	✓	✓
Carrying Case	✓	✓
AV Cable	CVC-10 CVC-20 CVC-40	CVC-20 CVC-30
Release Cable	RCC-C1 RCC-C2	RCC-N1 RCC-N2

OVERVIEW OF TRANSMITTER

1. Power LED Indicator
2. Status LED Indicator
3. Shooting LED Indicator
4. Audio Video/Microphone Input (1/8” mini)
5. Remote Shutter-Release Output (sub-mini)
6. USB Power Input
7. Battery Door
8. Shoe-Mount Locking Collar
9. ¼”-20 Threaded Receiver



10. Channel Selection Switch
11. Code-Matching Button
12. 5V DC Power Input
13. Power-Switch
14. Antenna
15. CCTV Camera



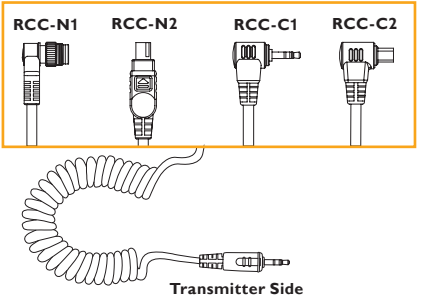
OVERVIEW OF REMOTE CAMERA CABLES

RCC-N1 – Nikon
10-Pin Connection

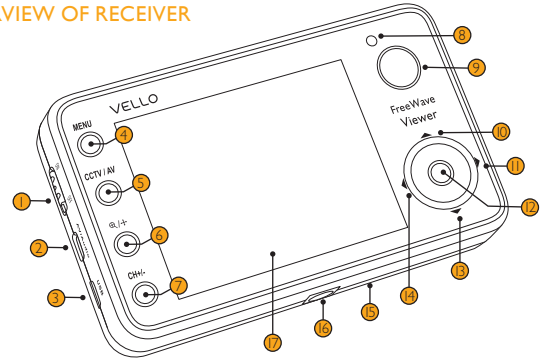
RCC-N2 – Nikon
DC2 Connection

RCC-C1 – Canon
Sub-Mini Connection

RCC-C2 – Canon
3-Pin Connection



OVERVIEW OF RECEIVER



1. Power Switch
2. Audio Video/Audio Output
3. USB Power Input
4. MENU Button
5. CCTV (Transmitter's Built-In Camera)/ AV (Camera's Live View) Selection Button
6. Video Enlarge Button (for Transmitter's Built-In Camera)
7. Channel Switch/Sleep Mode Button
8. Status LED
9. Shutter/Auto Focus

10. Volume Up/Navigate Up (When in Enlarge mode)

11. Increase Screen Brightness/Navigate Right (When in Enlarge mode)

12. OK Button

13. Volume Down/Navigate Down (When in Enlarge mode)

14. Decrease Screen Brightness/Navigate Left (When in Enlarge mode)

15. Battery Door (Not pictured/On back of Receiver)

16. ¼"-20 Threaded Receiver

17. LCD Display

OVERVIEW OF CAMERA VIDEO CABLES

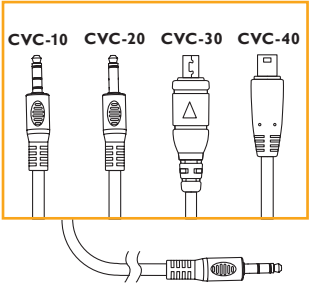
CVC-10 – **Canon** 5D Mark II

CVC-20 – **Canon** G11, G12, G1 X, Rebel XS, Rebel XSi, 40D, 50D

Nikon D90, D300s, D700

CVC-30 – **Nikon** D5100, D7000

CVC-40 – **Canon** Rebel T1i, Rebel T2i, Rebel T3i, 60D, 7D, 1D Mark IV, 5D Mark III



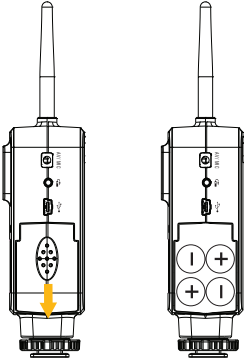
Transmitter Side

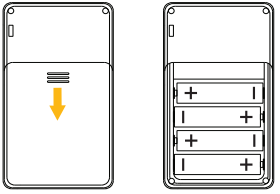
SAFETY WARNINGS

- Confirm the FreeWave Viewer and camera are powered OFF before installing the device.
- External environmental frequencies may hinder the overall performance of this product, as with most radio controlled devices.
- Do not forcibly pull on the cables once they're connected to the camera.
- This electronic device is NOT waterproof. Exposure to moisture and immersion in water can permanently damage the FreeWave Viewer.
- Prolonged vibration may result in product failure.
- When the FreeWave Viewer is not in use for a prolonged period, remove the batteries from both the Transmitter and the Receiver.
- Do not expose the FreeWave Viewer to extreme temperatures, high humidity, or direct sunlight.
- Do not use flammable gases when operating this electronic device.
- Dispose of batteries in accordance with local environmental regulations.

SETTING UP

1. Slide and open the battery door on the Transmitter and insert 4 alkaline, lithium or Ni-MH AA batteries as specified by the diagram within the battery compartment. Close the battery door.

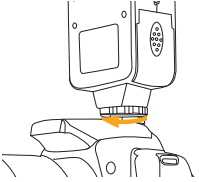




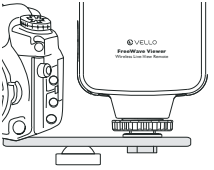
2. Slide and open the battery door on the Receiver and insert 4 alkaline, lithium or Ni-MH AA batteries as specified by the diagram within the battery compartment. Close the battery door.

SETTING UP

3. Mount the Transmitter to your camera's hot shoe, a cold shoe or to a ¼"-20 threaded stud on any mounting adapter or support device.



a. For shoe-mounting, loosen the locking collar by turning it counterclockwise and slide the Transmitter's foot forward into the shoe. Twist the locking collar on the Transmitter clockwise to tighten until the unit is secure.

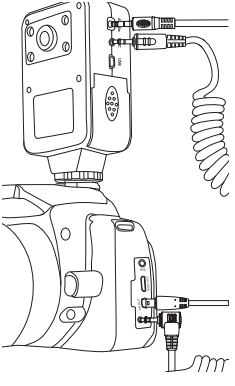


b. For mounting to a ¼"-20 threaded stud – for example a tripod, stand adapter, accessory clamp or camera bracket – line up the male screw's thread with the Transmitter's female receiver and rotate the screw until the connection is tight.

SETTING UP

4. Insert the transmitter side of the Remote Shutter Release Cable into the transmitter's Sync port, and insert the camera side of the cable into your DSLR camera's shutter release port.

5. Insert the transmitter side of the AV cable into the transmitter's AV/Mic port, and insert the camera side of the cable into the camera's A/V output.



Note: Ensure that all devices are turned off when making connections, that cables are seated properly and that battery doors are securely closed.

SYNCHRONIZING TRANSMITTER AND RECEIVER

1. Turn on the Transmitter by sliding the power switch upward. When Transmitter power is on, the Power LED Indicator shines red.

Note: If battery power for the Transmitter is low, the Transmitter's Power LED Indicator will flash red. This means that the batteries should be replaced or recharged immediately.

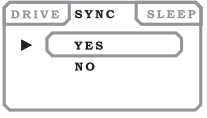
2. Turn on the Receiver by sliding the power switch upward. The Receiver will show the FreeWave Viewer start-up screen graphic and then seek out a signal.

Note: If battery power for the Receiver is low, the Receiver's Power LED Indicator will flash red and an icon of a battery will flash on the LCD screen. This means that the batteries should be replaced or recharged immediately.

3. If no signal is found, "Disconnected" will display at the bottom of the screen. Make sure the Transmitter is on and that the Transmitter and Receiver are set to the same channel – the switch on the top of the Transmitter should be set to the same number as the number shown at the top left corner of the Receiver's LCD screen.

SYNCHRONIZING TRANSMITTER AND RECEIVER

4. If a signal is still not found, Sync-Code Matching is necessary. Press the Menu button on the Receiver, and use the Left and Right selection buttons to select Sync. Use the Up and Down selection buttons to select Yes, and press the OK button. (The Status LED Indicator will glow green while this Sync process occurs.) Then press and hold the Code button on the Transmitter for two seconds. The Status LED Indicator will flash red until the process is finished.

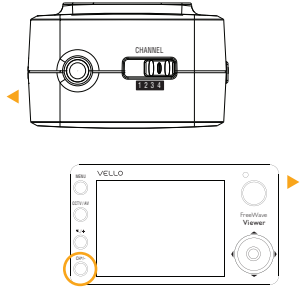


5. When the signal of the Transmitter is found, the Receiver LCD screen will show the real-time view of either the Transmitter's camera or the DSLR camera's LCD.

CHANNEL SELECTION

1. To establish Sync between the Receiver and a Transmitter, both devices must be set to the same channel. In the event that you are using one Receiver to control and monitor more than one camera, the Transmitters will need to be assigned to separate channels. Simply adjust the top Channel Switch to select a channel for each Transmitter (1, 2, 3, or 4).

Note: Switching channels will often relieve erratic performance due to environmental interference. If you are having trouble establishing or maintaining Sync, try an alternate channel.



2. To change the channel of the Receiver, press the Channel Switch (CH +/- button) until you see the proper number (1, 2, 3, or 4) appear at the top left of the screen.

3. This Channel Switch also functions as the Sleep button. Press and hold the button for 2 seconds to put the Receiver to sleep. Press any button on the Receiver (besides the Shutter Trigger) to wake it back up.

VIDEO SOURCE SELECTION

You can choose between AV and CCTV modes by pushing the CCTV/AV button on the front of the unit.

AV Mode: Replicates the view of your camera's LCD while it is in Live View.

CCTV Mode: Provides a view from the receiver's built-in camera.

Suggested Uses for CCTV Mode:

1. Enables a wider view than that given when using telephoto lenses. This can be useful when trying to time subjects coming into your field of view such as wildlife, children, or moving vehicles.
2. Enables live-view abilities for cameras that don't possess live view.

BRIGHTNESS AND VOLUME ADJUSTMENT

To adjust output volume, press the Navigate Up and Down buttons. The volume display will time out after a few seconds.

To adjust screen brightness, press the Navigate Left and Right buttons. The brightness display will time out after a few seconds.

ENLARGING VIDEO

In CCTV mode only, you can enlarge the picture that the Receiver's LCD displays and navigate within the enlarged image.

1. Press the Video Enlarge button to enlarge the image.
2. Press the Navigate Up, Down, Left or Right buttons to navigate within the enlarged image.
3. Press the Video Enlarge button a second time to return to the normal viewing.

REMOTE SHUTTER TRIGGERING

1. To trigger your camera's shutter remotely from the Receiver unit, make sure the DSLR camera is on and the Sync cable is connected to the Transmitter and to the DSLR camera.
2. Depress the Shutter/Auto Focus button halfway to engage the camera's auto focus.
3. Depress the Shutter/Auto Focus button fully to trigger the shutter and take a picture.

Note: If the camera is having difficulty focusing, refer to page 22 for troubleshooting solutions.

Tip: When shooting in AV mode, set your camera for image review after capture. Seeing the image change from Live View Mode to Review is confirmation of the camera firing.

REMOTE SHOOTING MODES

The FreeWave Viewer Receiver has four remote shooting modes. All of these are selectable via the Drive screen in the Menu. Press the Menu button and Navigate Left and Right to find the Drive screen.

Single: Single-shot mode replicates single-shot mode on your camera. Press the Shutter/Auto Focus button on your Viewer halfway to focus and all the way to release the shutter and take one image with your camera.

Continuous Shooting: Set the Menu selection to Continuous, and set the DSLR camera's shutter to continuous shooting mode. Pressing the Shutter/Auto Focus button will capture a stream of continuous shots until you press the button again, the memory card becomes full, or the buffer on your DSLR becomes full.

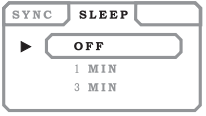
Bulb: For long exposures, set the Menu selection to Continuous, and set the DSLR camera's shutter to bulb mode. Pressing the Shutter/Auto Focus button will open the shutter; pressing it again will close the shutter and the image will be processed by the camera.

Delay Shooting: Set the Menu selection to one of the "Delay" settings (2s, 5s, or 10s for 2-second, 5-second, and 10-second delay, respectively), and set the DSLR camera's shutter to single-shot mode. Depress the Shutter/Auto Focus button halfway to focus; depress the Shutter/Auto Focus button fully to release the shutter after the selected amount of time elapses.

SLEEP FUNCTIONS

You can put the Receiver to sleep immediately or set it to sleep after a certain amount of time.

1. To put the Receiver to sleep immediately, press and hold the Channel Switch button for 2 seconds. Press any button on the Receiver (besides the Shutter/Auto Focus button) to wake it back up.

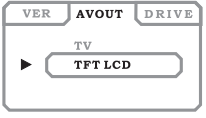


2. To set the Receiver to go to sleep automatically after it's idle for a certain amount of time, press the Menu button and use the Navigate Left and Right buttons to find the Sleep screen.

3. Use the Navigate Up and Down buttons to select among 1 minute, 3 minutes, 5 minutes, and 7 minutes. Press the OK button, and the Receiver will go to sleep automatically after being idle for the selected amount of time. Press any button on the Receiver (besides the Shutter/Auto Focus button) to wake it back up.

SECONDARY DISPLAY OUTPUT

To view the Receiver's screen signal on another display, you can use the included Video Output Cable to send audio and video to a second monitor with a composite video input.



1. Connect the Video Output Cable's male end to the AV/Audio port on the Receiver
2. Using male-to-male extension cables, connect the video input of your secondary screen to the Video Output Cable's female ports for audio and video.
3. Press the Menu button and use the Navigate Left and Right buttons to find the AVOUT screen. Use the Navigate Up and Down buttons to select "TV" and press the OK button.
4. To switch back to viewing on your Receiver, select "TFT LCD" from the same AVOUT Menu screen.

CABLE SELECTIONS

The FreeWave Viewer's Shutter-Release Cable enables the remote to function as a remote shutter-release with certain models of cameras. By using different shutter-release cables, you can use a single FreeWave Viewer Receiver with many other DSLR cameras that are connected to the Transmitter – or to a second, third, or fourth Transmitter.

Vello shutter-release cables are listed to the right. For these cables and cables for other camera models check with your Vello dealer.

RCC-C1 – **Canon** EOS 30 / 33 / 50 / 60D / 300D / 350D / 400D / 450D / 500D / 550D / 600D / 1000D /1100D (Digital Rebel XT / Xti / XSi / T1i / T2i / T3 / T3i / XS) / Power Shot G10 / G11 / G12 **Contax** N / 645 **Pentax** K100D / K110D / K200D / K10D / K20D / K5 / K7 / *ist DS / DS2 / DL2 / DL / D **Samsung** GX1S / GX1L / GX10 / GX20 / NX Series

RCC-C2 – **Canon** EOS 10D / 20D / 30D / 40D / 50D / 5D / 5D Mark II / 5D Mark III / 6D / 7D / 1D / 1Ds Mark I / Mark II Mark II N / Mark III / Mark IV

RCC-N1 – **Nikon** D1 / D1H / D1X / D2 / D3 / D3x / D3s / D2H / D2Hs / D2X / D2Xs / D200 D300 / D300s / D700 **Fuji** S3pro / S5Pro **Kodak** DCS-14N

RCC-N2 – **Nikon** D90 / D600 / D3100 / D5000 / D7000

RCC-N3 – **Nikon** D70s / D80

RCC-O1 – **Olympus** E520 / E510 / E420 / E410 / E400 E450 / E620 / E-P2 / E-PL2 / SP-570UZ SP-560UZ / SP-550UZ / SP-510UZ / XZ-1

RCC-O2 – **Olympus** E-1 / E-3 / E-5

RCC-P1 – **Panasonic** DMC-G1 / DMC-G10 / DMC-G2 DMC-GF1 / DMC-GH1 / DMC-GH2 / DMC-L10 DMC-L1 / DMC-FZ100 / DMC-G3

RCC-S1 – **Sony** a100 / a200 / a290 / a300 / a320 a350 / a380 / a390 / a500 / a500 / a560 a580 / a700 / a850 / a900 / SLT A33 SLT A55

TECHNICAL SPECIFICATIONS

Range:	200' (60m)
Frequency:	2.4 GHz
Transmitter Battery Life:	Standby: 100 Hrs / In Use: 8 Hrs
Receiver Battery Life:	Standby: 500 Hours / In Use: 10 Hours
Number of Channels:	4
Screen Resolution:	320 x 240
Screen Size:	3.5" TFT LCD
Built In Camera:	45mm (35mm Equivalent)

TROUBLESHOOTING

Problems with the FreeWave Viewer can usually be traced to the following most common causes. Perform the following steps to diagnose and correct the problem:

Make sure that your batteries are charged and inserted into your device correctly.

Check that the Sync and AV cables are in good condition and properly connected.

Make sure that the Receiver is powered on and at the correct setting.

Make sure that the Receiver and Transmitter are on the same channel

When using the FreeWave Viewer's shutter release function, your camera may not be able to release the shutter if the lens is set to Auto Focus and focus cannot be achieved on subject. Switch your camera to Manual Focus to ensure proper shutter release.

If the receiver freezes up, turn it off and on again to restore normal function

If the camera is having difficulty focusing, try any of the following solutions:

a. Select a single point of focus in the camera.

b. Use the camera in Manual Focus, if applicable.

c. Switch the Receiver unit to Continuous mode. Press the Shutter/Auto Focus button once to start the camera's Auto Focus. This will continuously send a signal to the camera until the camera focuses and fires. Once the camera fires, press the Shutter/Auto Focus again to terminate the signal.

FCC COMPLIANCE

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, the FreeWave Viewer may cause harmful interference to radio communications. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part15 of the FCC Rules. These limits are designated to provide reasonable protection against harmful interference in a residential installation.

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 ON or OFF, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna;

2. Increase the distance between the equipment and the receiver.

This device complies with Part 15, Subpart B, Class B of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications (including the antenna) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Limited One-Year Warranty

Vello provides a limited warranty that this product is free from defects in materials and workmanship to the original purchaser under normal use for a period of one (1) year from the original purchase date or thirty (30) days after replacement whichever occurs later. Our responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at its option, of any product which fails during normal consumer use. To obtain warranty coverage during the Warranty Period, contact your place of purchase ("Seller") to obtain a return merchandise authorization ("RMA") number, and return to Seller the defective product along with proof of purchase and the RMA number. This warranty does not extend to damage or failure which results from misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, VELLO MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights which vary from state to state.

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