R.C.P. BRIDGE
OPERATION GUIDE

R.C.P. DEVELOPMENT KIT | LENS CONTROL

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COMPLIANCE STATEMENTS

INDUSTRIAL CANADA EMISSION COMPLIANCE STATEMENTS

This device complies with Industry Canada license-exempt RSS standards RSS 139 and RSS 210. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENTS

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.

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the users authority to operate this equipment.

NOTE: This device complies with Part 15 of the FCC Rules.

Operations subjected to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including that may cause undesirable interference.

CAUTION: Exposure to Radio Frequency Radiation.

The device shall be used in such a manner that the potential for human contact is minimized.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

CAUTION: Regulations of the FCC and FAA prohibit airborne operation of radio- frequency wireless devices because there signals could interfere with critical aircraft instruments.

CAUTION: If the device is changed or modified without permission from RED, the user may void his or her authority to operate the equipment.

AUSTRALIA AND NEW ZEALAND STATEMENTS

RED declares that the radio equipment described in this document comply with the following international standards.

- IEC 60065 – Product Safety
- ETSI EN 300 328 – Technical requirement for radio equipment

RED declares digital devices described in this document comply with the following Australian and New Zealand standards.

- AS/NZS CISPR 22 – Electromagnetic Interference
- AS/NZS 61000.3.2 – Power Line Harmonics
- AS/NZS 61000.3.3 – Power Line Flicker

JAPAN STATEMENTS

This is a Class B product based on the standard of the Voluntary Control Council for Interference (VCCI) for information technology equipment. If this equipment is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

本機器は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づくクラスB情報技術装置です。 この装置は家庭環境で使用することを目的としていますが、ラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをしてください。

EUROPEAN UNION COMPLIANCE STATEMENTS

RED declares that the radio equipment described in this document comply with the R&TTE Directive (1999/5/EC) issued by the Commission of the European Community.

Compliance with this directive implies conformity to the following European Norms (in brackets are the equivalent international standards).

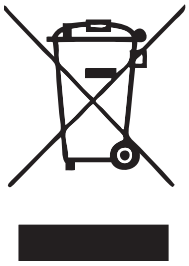
- EN 60065 (IEC 60065) – Product Safety
- ETSI EN 300 328 Technical requirement for radio equipment
- ETSI EN 301 489 General EMC requirements for radio equipment.

INFORMATION

Products with the CE marking comply with the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Product Family Standards.

- EN 55022 (CISPR 22) – Electromagnetic Interference
- EN 55024-1 (CISPR 24) – Electromagnetic Immunity
- EN 61000-3-2 (IEC610000-3-2) – Power Line Harmonics
- EN 61000-3-3 (IEC610000) – Power Line Flicker
- EN 60065 (IEC60065) – Product Safety

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)



The Waste Electrical and Electronic Equipment (WEEE) mark applies only to countries within the European Union (EU) and Norway. This symbol on the product and accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product to designated collection points where it will be accepted free of charge. Alternatively, in some countries you may be able to return your products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with you national legislation.

For business users in the European Union, if you wish to discard electrical and electronic equipment, contact your dealer or supplier for further information.

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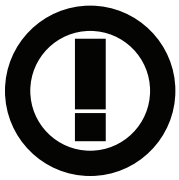
USAGE RESTRICTIONS FOR PRODUCTS THAT INCORPORATE R.C.P.



Products that fall into this category are denoted by inclusion of the Class 2 identifier symbol (exclamation mark in a circle) accompanying the CE Mark on the products regulatory label, example to the left.

FRANCE

Usage Restrictions - Geographic Area Where Restriction Applies : France

For mainland France

- 2.400 - 2.4835 GHz (Channels 1-16) authorized for indoor use
- 2.400 - 2.454 GHz (Channels 1-10) authorized for outdoor use

Restrictions d'utilisation - Zone géographique où les restrictions s'appliquent : France

Pour la France métropolitaine

- 2.400 - 2.4835 GHz (Canaux 1 à 16) autorisé en usage intérieur
- 2.400 - 2.454 GHz (Canaux 1 à 10) autorisé en usage extérieur

NORWAY

This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund

Dette gjelder ikke for det geografiske området innenfor en radius av 20 km fra sentrum av Ny-Ålesund

RESPONSIBLE PARTY

RED Digital Cinema

34 Parker

Irvine, CA 92618

USA

SAFETY INSTRUCTIONS

- DO NOT use the camera or accessories near water. Avoid exposing your camera to moisture. The unit is not waterproof, so contact with water could cause permanent damage to the unit as well as electric shock and serious injury to the user. DO NOT use the camera in the rain or under other conditions with high moisture without appropriate protection, and immediately remove power source if camera or accessories are exposed to moisture.

WARNING: To reduce the risk of fire or electric shock, do not expose the camera to rain or moisture.

- DO NOT expose the camera to laser beams, as laser beams may damage the sensor.
- DO NOT expose your camera to excessive vibration or impact (shock). Be careful not to drop your camera. Internal mechanisms may be damaged by severe shock. Mechanical alignment of optical elements may be affected by excessive vibration.
- ELECTROMAGNETIC INTERFERENCE: The use of devices using radio or other communication waves may result in the malfunction or interference with the unit and/or with audio and video signals.
- Clean only using a dry cloth. When cleaning your camera, remember that it is not waterproof and moisture can damage electronic circuitry. DO NOT rinse or immerse any element of the camera, lens or other accessory, keep them dry at all times. DO NOT use soaps, detergents, ammonia, alkaline cleaners, and abrasive cleaning compounds or solvents. These substances may damage lens coatings and electronic circuitry.
- Maintain sufficient ventilation—DO NOT block any ventilation openings or obstruct cooling fan airflow.

CAUTION: Proper camera ventilation requires a minimum 0.5" (1.25 cm) clearance between the camera ventilation openings and external surfaces. Verify that objects that can block the fan intake and exhaust ports do not impede airflow. Failure to permit adequate airflow may result in overheating of the camera, degraded operation and in extreme situations, damage to the camera.

- DO NOT operate or store near any heat sources such as radiators, heat registers, stoves, or any other apparatus that produce heat. Store in a protected, level and ventilated place. Avoid exposure to temperature extremes, damp, severe vibration, strong magnetic fields, direct sunlight or local heat sources during storage. Remove any batteries from the camera before storage. Recommended storage and usage temperatures for your camera, lenses and other accessories are:
  - Operating range: 0°C to 40°C (32°F to 104°F)
  - Storage range: –20°C to 50°C (–4°F to 122°F)
- If there are any performance issues with your camera or accessories when operating within this temperature range, submit a Support ticket at https://support.red.com.
- Modules, expanders, and lens mounts are NOT HOT SWAPPABLE, meaning you cannot remove or install these items while the camera is turned on. Before installing or removing these items, you MUST turn off the camera. Failure to do so may result in damage to the item or camera that is not covered under warranty.
- DO NOT bypass the third prong of the grounding-type plug on the power cord of the DSMC AC Power Adaptor. A grounding-type plug has two blades and a third "grounding" prong. The third prong is provided for your safety. A grounding-type plug shall be connected to an outlet with a protective earthen connection. If the grounding-type plug does not fit into your outlet, do not attempt to modify the plug or outlet, consult a qualified electrician.
- Protect all power cords from being pinched, walked on or driven over by a vehicle. Replace any power cords suspected of sustaining damage due to crushing or other forms physical damage.

Products marked with this symbol are class 2 devices. These devices are not provided with a grounding type plug.

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CAUTION: The power cord plug for the DSMC AC Power Adaptor is used as the power disconnect. To disconnect all power from the DSMC AC Power Adaptor, unplug the power cord plug from the wall outlet. During use, the power cord plug should remain easily accessible at all times.

- Lithium-ion batteries may be subject to special handling requirements pursuant to federal and local laws. Refer to specific shipping instructions included with your battery regarding proper transport of your battery. Do not handle your battery if it is damaged or leaking. Disposal of batteries must be in accordance with local environmental regulations. For example, California law requires that all rechargeable batteries must be recycled by an authorized recycle center. Storing batteries fully charged or in high temperature conditions may permanently reduce the life of the battery. Available battery capacity may also be temporarily lessened after storage in low temperature conditions.

WARNING: DO NOT expose the battery to excessive heat.

WARNING: Danger of explosion if an incorrect battery is charged with the RED Charger or is used to power the camera and accessories. Replace only with the same or equivalent type battery.

CAUTION: Refer all service and repair to qualified RED service personnel. To reduce the risk of electric shock, and damage to the camera or accessories, DO NOT attempt to perform any servicing other than any procedures that are recommended in the operating instructions.

INDOOR USE ONLY: Products marked with this symbol are designed for use indoors only.

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CHAPTER 1:
R.C.P. OVERVIEW

INTRODUCTION

The R.C.P.™ Bridge is a wireless module that attaches to the rear of the EPIC or SCARLET BRAIN, or other compatible DSMC rear module, and provides communication support for third-party app development. As part of the

R.C.P. Development kit, the R.C.P. Bridge uses the RED Command Protocol (R.C.P.) to communicate information between the camera and your application.

Additionally, the R.C.P. Bridge can be used as part of the RED® 3-Axis Lens Control System to wirelessly operate the focus and iris motors in supported Canon® and Nikon® lenses. In this scenario, the R.C.P. Bridge assumes the role of the RED® W.M.D. (Wireless Motor Driver), while the RED® T.H.C. (Tactical Hand Controller) remains the wireless remote.

The R.C.P. Bridge is capable of supporting wireless communication up to a range of approximately 50 feet. As with all wireless devices, the communication range may be affected by the environment and any radio frequency (RF) interference that may be present.

NOTE: The R.C.P. Bridge is compatible with EPIC and SCARLET® cameras.

NOTE: The R.C.P. Bridge requires that your camera is on firmware v5.2.8 or later.

R.C.P. DEVELOPMENT KIT INCLUDED COMPONENTS

At this time, the R.C.P. Bridge is available as part of the R.C.P. Development Kit, and is not available as a standalone item.

The items listed below ship with the R.C.P. Development Kit (P/N 720-0028):

- R.C.P. Bridge
- USB 2.0 flash drive, pre-loaded with the R.C.P. SDK, sample apps, and additional resources
- R.C.P. Bridge Launch Sequence

HARDWARE AND SYSTEM REQUIREMENTS

NOTE: The R.C.P. Bridge requires that your camera is on firmware v5.2.8 or later.

REQUIREMENTS FOR CONNECTING TO AN APP

- The app must have been programmed using the R.C.P. SDK, which is available through the R.C.P. Development Kit.
- The camera must be on firmware v5.2.8 or later.

REQUIREMENTS FOR FOCUS LENS CONTROL

- The T.H.C. must be on firmware v703 or later.
- The Canon or Nikon lens must be electronically supported by the camera.
- The camera must be on firmware v5.2.8 or later.

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ADDITIONAL RESOURCES

The following resources offer additional information about RED, the DSMC® system, and the RED community:

- **RED.com**: Check the official RED website for the latest information about RED products.
- **RED Learn Articles**: RED offers in-depth technical articles about RED cameras, post-production, and digital cinematography.
- **RED Downloads**: Go to RED Downloads to download the latest firmware, operation guides, and post-production software.
- **DSMC Toolkit**: Go to RED Downloads to find the DSMC Toolkit, which offers many helpful tools and resources to customize and improve your camera workflow.
- **RED Support**: Check the RED SUPPORT site for FAQs, or to file a support ticket.
- **In-Camera Help**: Select the Help button on an in-camera screen to open up the help for that screen.
- **REDUSER**: Discuss all things RED on the REDUSER third-party forum.

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CHAPTER 2:

R.C.P. BRIDGE CONNECTOR AND LEDS

R.C.P. BRIDGE CONNECTOR

Figure: R.C.P. ™ Bridge Connector

#	CONNECTOR	DESCRIPTION
1	AUX (6-pin 0B)	Connect the R.C.P. Bridge to a T.H.C. for wired pairing

COMPATIBLE CABLE

- 790-0444: R.C.P.-to-T.H.C. Connector Cable (3')

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6-PIN 0B AUX CONNECTOR PINOUT

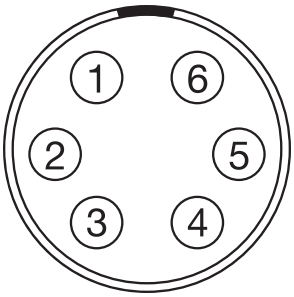

Figure: 6-Pin 0B AUX Connector

6-PIN 0B AUX CONNECTOR	
PIN	**SIGNAL**
1	GND
2	Rx
3	Tx
4	Pwr Out
5	Pwr In
6	-

R.C.P. BRIDGE LEDS

LED	COLOR/FLASHING	DESCRIPTION
Power Indicator LED	Off	The R.C.P. Bridge is not powered: The camera is powered off and turned off
	Green	The R.C.P. Bridge is powered: The camera is powered on and turned on
	Amber	The camera is upgrading R.C.P. Bridge firmware
Link Indicator LED	Off	Wireless disabled
	Green	Connected to wireless access point; ad-hoc network connection available
	Green flashing	The camera is upgrading R.C.P. Bridge firmware
	Amber	Searching for wireless access point
	Red	Error

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CHAPTER 3:
INSTALL THE R.C.P. BRIDGE

This chapter explains how to install and power the R.C.P.™ Bridge.

NOTE: The R.C.P. Bridge is HOT SWAPPABLE, meaning you can remove or install the module while the camera is powered on.

DOCK THE R.C.P. BRIDGE

1. Slide the R.C.P. Bridge over the V-Mount on the back of the camera or compatible rear module.

   You will hear a click, which indicates that the R.C.P. Bridge is securely attached. The R.C.P. Bridge is automatically powered when connected.

UNDOCK THE R.C.P. BRIDGE

- Press the release buttons on both sides of the R.C.P. Bridge, and slide the module upward.
- Remove the R.C.P. Bridge.

POWER THE R.C.P. BRIDGE

The camera automatically powers the R.C.P. Bridge when the R.C.P. Bridge is connected to the camera and the camera is powered.

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CHAPTER 4:

CONNECT R.C.P. BRIDGE TO AN APP

The R.C.P.™ Bridge provides a communication pathway for your app to interface with the camera. In order for this pathway to operate properly, you must enable WiFi in the camera and wirelessly connect the R.C.P. Bridge to your device. There are two ways to connect the R.C.P. Bridge to a device:

- **Ad-Hoc mode**: The R.C.P. Bridge and your device connect to each other.
- **Infrastructure mode**: The R.C.P. Bridge and your device both connect to an access point, and communicate through that wireless network.

CONNECT VIA AD-HOC MODE

In Ad-Hoc mode, the R.C.P. Bridge and your device connect to each other. To connect the R.C.P. Bridge to your device via an ad-hoc network, follow the instructions below:

1. Dock the R.C.P. Bridge to the camera. Go to "Dock the R.C.P. Bridge" on page 11.
2. Go to **Menu** > **Settings** > **Setup** > **Communication**.
3. Select the **WiFi** tab.
4. Select **Ad-Hoc** from the **Mode** drop-down menu.

Figure: Select Ad-Hoc

5. Select a wireless channel from the **Channel** drop-down menu. The default is Ch1, and you can select one out of 11 channels.
6. Select a security option from the **Camera Encryption** drop-down menu:
   - **NONE**: The connection is unsecured.
   - **WEP**: The connection is encrypted via WEP.

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7. If you selected WEP as the encryption option, type the passphrase that is required to access the network. The passphrase must meet the following WEP requirements:
   - The passphrase must be exactly 10 characters long.
   - The passphrase must be in hexadecimal format (only 0–9, A–F).
8. Close the WiFi screen.
9. Connect your device to the ad-hoc network created by the R.C.P. Bridge. The steps in this procedure depend on what type of device and operating system you are using. For example, if you are connecting an iOS device, go to **Settings** > **Wi-Fi** > **Devices**, and select the camera name. The camera is identified by the SSID, which also displays on the WiFi screen in-camera.
10. If you created a passphrase for the network, enter that passphrase.

    The camera and your device are now connected.

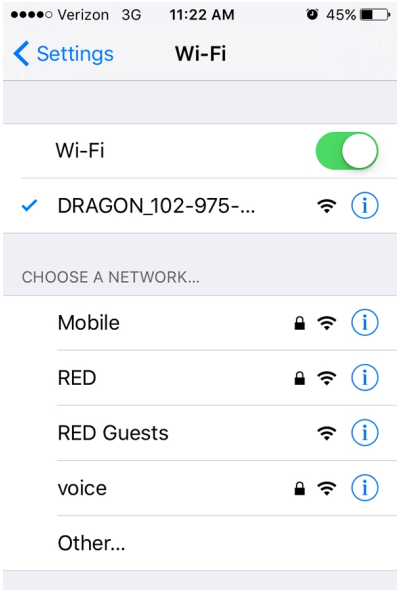

Figure: Connect Your Device to the Ad-Hoc Network Created by the R.C.P. Bridge

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CONNECT VIA INFRASTRUCTURE MODE

In Infrastructure mode, the R.C.P. Bridge and your device both connect to an access point, and communicate through that wireless network. To connect the R.C.P. Bridge to your device via an existing wireless network, follow the instructions below:

1. Connect your device to a wireless network. The access point for the network must have DHCP enabled.
2. Make sure that you know the name and password for the network, since you need that information to connect the camera to the same network.
3. Dock the R.C.P. Bridge to the camera. Go to "Dock the R.C.P. Bridge" on page 11.
4. Go to **Menu** > **Settings** > **Setup** > **Communication**.
5. Select the **WiFi** tab.
6. Select **Infrastructure** from the **Mode** drop-down menu.

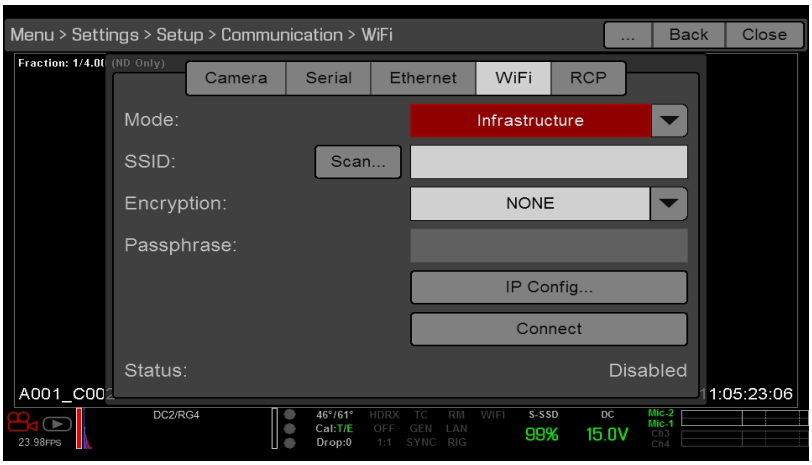

Figure: Select Infrastructure

7. Select **Scan** to search for available wireless networks.

   The available wireless networks (access points) display. The R.C.P. Bridge can connect to access points that are either not encrypted or use WPA or WPA2 encryption.

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8. Select the wireless network that you want to connect to and press the **Select** button.

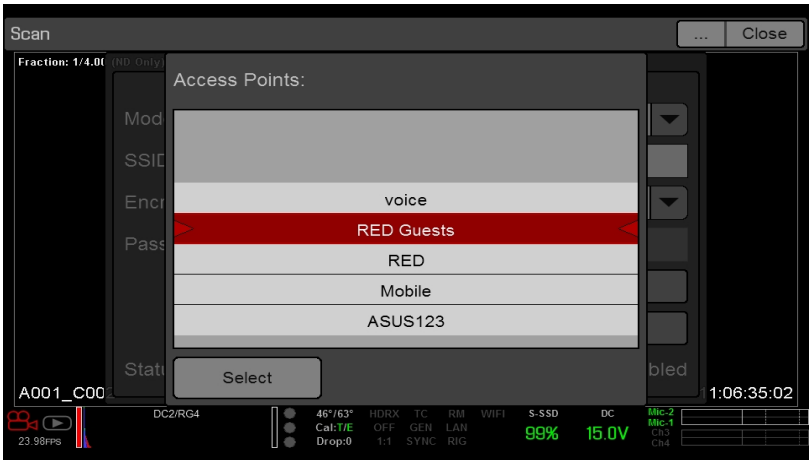

Figure: Select Wireless Network

9. If you select an encrypted network, follow the instructions below to enter the passphrase for the network:
   A. Select the encryption type from the **Encryption** drop-down menu.
   B. Tap or select the **Passphrase** text box.
      The Passphrase screen opens.
   C. Type the passphrase to access the network. The passphrase is limited to alphanumeric characters (0–9, A–Z).
   D. Select **OK**.
10. Select **Connect**.
    The IP address of the access point displays on the WiFi screen after the R.C.P. Bridge connects to the access point.

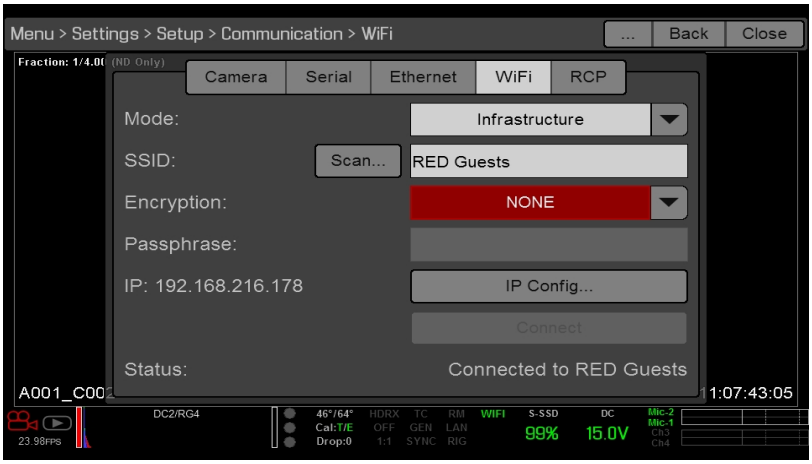

Figure: Connect to Network

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11. Connect your device to the same wireless network that the camera is connected to. The steps in this procedure depend on what type of device and operating system you are using. For example, if you are connecting an iOS device, go to **Settings** > **Wi-Fi**, and select the wireless network.

    The camera and your device are now connected.

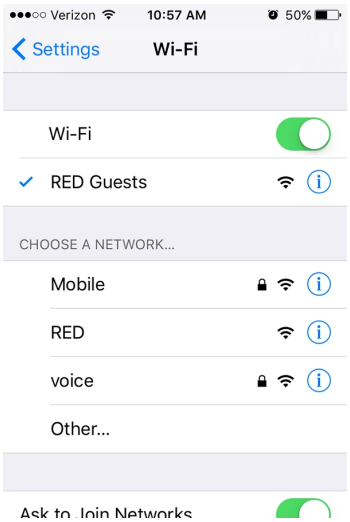

Figure: Connect Device to Network

12. To ensure that your app can communicate with the camera, ensure that there is a way to connect your app to a specific camera. Since there may be multiple cameras in the area, select your specific camera in the app itself.

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CHAPTER 5:

CONTROL LENSES VIA R.C.P. BRIDGE

Use the R.C.P.™ Bridge with a RED® T.H.C. (Tactical Hand Controller) to control Canon® and Nikon® lenses. When used with the R.C.P. Bridge, the RED T.H.C. can perform the following:

- Control Focus and Iris for Canon and Nikon lenses
- Set Focus and Iris lens limits for Canon and Nikon lenses
- Initialize remotely

This chapter explains how to pair the T.H.C. with the R.C.P. Bridge, as well as how to control Focus and Iris with the T.H.C.

For detailed instructions for using all components of the RED 3-Axis Lens Control System, see the RED 3-Axis Lens Control System Operation Guide, available at www.red.com/downloads.

NOTE: In order to use the T.H.C. with the R.C.P. Bridge, the T.H.C. must be on firmware v703 or later. To download T.H.C. firmware, go to www.red.com/downloads.

PAIR THE T.H.C. WITH THE R.C.P. BRIDGE

You can pair the T.H.C. with the R.C.P. Bridge using either a wired or unwired connection. This section describes both methods.

PAIR THE T.H.C. WITH THE R.C.P. BRIDGE WIRELESSLY

1. Dock the R.C.P. Bridge Bridge to the camera.
2. Power off the T.H.C. by toggling the power switch to **Cable** mode.
3. Press and hold the **Focus Limit** button, and toggle the power switch to **Battery** mode.

   The Focus and Iris LEDs alternate flashing in a ping-pong manner.
4. After a few seconds, release the **Focus Limit** button. The Iris Limit and Focus Limit LEDs flash to tell you what the current channel is:
   - **Iris Limit LED**: Flashes to represent the tens.
   - **Focus Limit LED**: Flashes to represent the ones.

   For example, if the Iris Limit LED flashes twice, and the Focus Limit LED then flashes once, then the channel is currently 21.

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5. After the LEDs stop flashing, press the Iris Limit and Focus Limit buttons to set the new channel:
   - **Iris Limit button**: Press to set the tens.
   - **Focus Limit button**: Press to set the ones.

   For example, if you want the channel to be 14, press the Iris Limit button once, and then press the Focus Limit four times.

Figure: Set Channel with Limit Buttons

6. Wait a few seconds, and the Iris Limit and Focus Limit LEDs flash to tell you what the new channel is.
7. Power off the T.H.C. by toggling the power switch to **Cable** mode.
8. Power on the T.H.C. by toggling the power switch to **Battery** mode.

   The Wireless LED remains solid blue once it connects to the channel.
9. In the camera menu, go to **Menu** > **Settings** > **Setup** > **Motor Control**.
10. Select the **Wireless** tab.
11. Select the **Enable Wireless Controller** check box.
12. Select the channel from the **Channel** drop-down menu. The default is Channel 1, and you can select one out of 42 channels.
13. Select the strength of the wireless signal from the **Power** drop-down menu:
    - **Low**: The low power setting balances range and low power and is appropriate in most cases.
    - **High**: For maximum range, the high power setting can be used.

    NOTE: Be sure to set wireless signal power appropriately. If the wireless signal power is set to **High**, the T.H.C. may not perform as desired or may lose connection if operating in close proximity to the R.C.P. Bridge. When using the High setting, the T.H.C. should be at least one (1) meter from the R.C.P. Bridge for proper operation.

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PAIR THE T.H.C. WITH THE R.C.P. BRIDGE VIA A WIRED CONNECTION

1. Dock the R.C.P. Bridge to the camera.
2. Connect the **AUX** port on the T.H.C. to the **AUX** port on the R.C.P. Bridge using the R.C.P.-to-T.H.C. Connector Cable (3').
3. Toggle the power switch to **Cable** mode.

   The T.H.C. automatically pairs to the R.C.P. Bridge.
4. Install a RED LI BATTERY 7.2V.
5. Toggle the T.H.C. power switch to **Battery** mode.
6. Remove the R.C.P.-to-T.H.C. Connector Cable (3').

   The T.H.C. searches for the wireless connection. The wireless LED stops flashing and remains solid blue when connected.
7. In the camera menu, go to **Menu** > **Settings** > **Setup** > **Motor Control**.
8. Select the **Wireless** tab.
9. Select the **Enable Wireless Controller** check box.
10. Select the channel from the **Channel** drop-down menu. The default is Channel 1, and you can select one out of 42 channels.
11. Select the strength of the wireless signal from the **Power** drop-down menu:
    - **Low**: The low power setting balances range and low power and is appropriate in most cases.
    - **High**: For maximum range, the high power setting can be used.

    NOTE: Be sure to set wireless signal power appropriately. If the wireless signal power is set to High, the T.H.C. may not perform as desired or may lose connection if operating in close proximity to the R.C.P. Bridge. When using the High setting, the T.H.C. should be at least one (1) meter from the R.C.P. Bridge for proper operation.

SET UP FOCUS AND IRIS CONTROL

After the T.H.C. is paired to the R.C.P. Bridge, set up the lens and camera Focus settings so that you can successfully control Focus and Iris.

1. Set the switch on the side of your lens to autofocus. The switch label depends on the type of lens:
   - **Canon**: Switch to AF.
   - **Nikon**: Switch to M/A.
2. In the camera menu, go to **Menu** > **Focus**.
3. Select **Manual** from the **Mode** drop-down menu.
4. Set up additional focus settings, such as Zone and Size, as needed.

   You can now use the Focus wheel and Iris slider to adjust the Focus and Iris, respectively.

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INITIALIZE LENS WITH THE T.H.C.

WHEN TO INITIALIZE

Normally, the lens initializes when you power on the camera or swap the lens. However, sometimes the lens may not operate properly when first connected to the camera.

Manually reinitialize the lens in the following situations:

- The lens is not behaving as expected.
- The focus or zoom was manually changed.
- The focus range was changed using the focus range limiter switch on the lens (only applicable to multi-focus zone lenses).

NOTE: Failing to perform the initialization sequence after any of the situations listed above may result in undefined behavior.

INITIALIZE

Press and hold the Initialize button on the T.H.C. for two (2) seconds.

ADDITIONAL T.H.C. OPERATIONS

For detailed information about performing the following T.H.C. operations, see the RED 3-Axis Lens Control System Operation Guide, available at www.red.com/downloads:

- Set a lens limit
- Remove a lens limit
- Set a lens lock
- Remove a lens lock
- Record Start/Stop
- Upgrade the T.H.C.

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CHAPTER 6:
R.C.P. BRIDGE MAINTENANCE

All RED® products are designed for rugged durability, but precision instruments demand proper care. Take note the special care guidelines in this section.

WARNING: DO NOT attempt to modify, dismantle or open the R.C.P.™ Bridge, as doing so may expose you to electric shock and serious injury. There are no user-serviceable parts inside. Alteration or repairs made to the R.C.P. Bridge, except by a RED authorized service facility, will void the Limited Warranty.

CLEAN SYSTEM COMPONENTS

Clean ONLY using a dry cloth. When cleaning your R.C.P. Bridge, remember that the components are not waterproof and moisture can damage electronic circuitry.

WARNING: DO NOT rinse or immerse any part of the R.C.P. Bridge. Keep components dry at all times.

WARNING: DO NOT use soaps, detergents, ammonia, acetone, alkaline cleaners, abrasive cleaning compounds, or solvents. These substances may damage electronic circuitry.

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CHAPTER 7:

TROUBLESHOOT THE R.C.P. BRIDGE

CAMERA CONTROL VIA AN APP

CANNOT CONNECT VIA INFRASTRUCTURE MODE

SYMPTOM

Cannot connect the camera to a wireless network.

POTENTIAL RESOLUTIONS

- Ensure that the wireless access point that you are trying to connect to has DHCP enabled.
- Move the camera closer to the access point. The R.C.P.™ Bridge supports a wireless communication range of approximately 50 feet. However, as with all wireless devices, the wireless communication range is affected by any RF interference that may be in your area.

LENS CONTROL

CANNOT CONNECT T.H.C. TO R.C.P. BRIDGE

SYMPTOM

Cannot connect a T.H.C. (Tactical Hand Controller) to the R.C.P. Bridge.

POTENTIAL RESOLUTIONS

- You can only connect one T.H.C. to the R.C.P. Bridge at a time. Ensure that the R.C.P. Bridge is disconnected from any T.H.C. before connecting a new one.
- Ensure that the T.H.C. is running the most recent T.H.C. firmware. To download T.H.C. firmware, go to www.red.com/downloads.
- Ensure that the wireless channel you select for the T.H.C. is the same wireless channel selected in-camera. For more information on setting the wireless channel, go to "Pair the T.H.C. with the R.C.P. Bridge" on page 17.

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CANNOT CONTROL FOCUS OR IRIS

SYMPTOM

After successfully connecting the T.H.C. to the R.C.P. Bridge, adjusting the Focus and Iris knobs on the T.H.C. does not change the Focus and Iris of the lens.

POTENTIAL RESOLUTIONS

- Ensure that the switch on the side of your lens is set to autofocus. The switch label depends on the type of lens:
  - **Canon**: Switch to **AF**.
  - **Nikon**: Switch to **M/A**.
- In the camera menu, go to **Menu** > **Focus**, and ensure that **Manual** is selected from the **Mode** drop-down menu.
- The lens function (Focus or Iris) may be locked. For information about how to remove a lens lock, see the RED 3-Axis Lens Control System Operation Guide, available at www.red.com/downloads.

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APPENDIX A:
TECHNICAL SPECIFICATIONS

R.C.P. BRIDGE

SPECIFICATION	DESCRIPTION
Wireless Standard[1]	802.11/b/g/n
Wireless Range[2]	Approximately 50 feet
Frequency	2.4 GHz
Data Rates	1 Mbps to 72 Mbps
Network Modes[3]	Ad-Hoc mode Infrastructure mode
Network Security	WEP
Network Channels	Channel 1 to Channel 11 (when connecting to a device) Channel 1 to Channel 42 (when connecting to T.H.C.)
Output Connector	1x 6-pin 0B auxiliary connector
Dimensions	Height (w/ antenna): 5.17" (13.1 cm) Height (w/o antenna): 4.32" (11 cm) Width: 2.95" (7.5 cm) Depth: 1.06" (2.7 cm)
Weight	0.477 lbs (216 g)
Material	Aluminum
Construction	Machined
Coating	Black anodized coating
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	–20°C to 50°C (–4°F to 122°F)
Operating Humidity Range	0% to 85%, non-condensing
Storage Humidity Range	0% to 85%, non-condensing

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SPECIFICATION	DESCRIPTION
Typical Operating Power Dissipation	220 mA
Peak Operating Power Dissipation	300 mA

1. The R.C.P.™ Bridge is not a wireless access point.
2. As with all wireless devices, the communication range may be affected by the environment and any radio frequency (RF) interference that may be present.
3. Ad-Hoc and infrastructure modes cannot be used at the same time.

R.C.P. DEVELOPMENT KIT PACKAGING

SPECIFICATION	DESCRIPTION
Dimensions	Height: 7.00" (17.78 cm) Width: 6.50" (16.51 cm) Depth: 2.50" (6.35 cm)
Weight	0.75 lbs (340 g)

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APPENDIX B:

R.C.P. BRIDGE COMPATIBILITY

R.C.P. BRIDGE COMPATIBILITY

You can dock the R.C.P.™ Bridge to any of the following:

- EPIC BRAIN
- SCARLET BRAIN
- Module Adaptor
- +1 Adaptor Module
- Pro Battery Module (Dual)
- Pro Battery Module (Quad)
- Pro I/O Module

SUPPORTED LENSES

You can use the R.C.P. Bridge with the T.H.C. (Tactical Hand Controller) to control the Focus and Iris of any Canon® and Nikon® lens that is electronically supported by RED®. For a full list of lenses that are supported, see the camera operation guides, available at www.red.com/downloads.

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