

CHECK-IT SOLUTIONS INC.

# Check-It Controller CG-300 Series

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Setup Guide and User Manual

**Document Revision A**

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Please include your contact details in case Check-It needs to contact you to negotiate shipping costs associated with providing the source code. This offer is extended to any person who has purchased a Check-It Controller CG-300. This source code will be distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

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## Notices

### Federal Communications Commission (FCC) Statement

This device complies with Part 15 of the FCC Rules. Operation is subjected 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.

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 the receiver
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for help

CAUTION: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

## Industry Canada Statement

CAN ICES-3 (B)/NMB-3(B)

This device complies with Industry Canada licence-exempt RSS standard(s). 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 equipment complies with Health Canada Safety Code 6 electromagnetic exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance of 20cm between the device and your body.

Cet appareil est conforme la norme d'Industrie Canada exempts de license RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de la appareil.

Cet équipement est conforme avec Santé Canada Code de sécurité 6: Limites d'exposition électromagnétiques fixées pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre l'appareil et votre corps.

## Trademarks

Z-Wave is a registered trademark of Sigma Designs Inc. and/or its subsidiaries.

ZigBee is a registered trademark of the ZigBee Alliance.

## Safety Information

- Before setting up the Controller, carefully read all the manuals that came with the package.
- Before using the product, ensure that all cables are correctly connected and the power cable is not damaged.
- Avoid dust, humidity, and temperatures extremes. Do not place the product in any area where it may become wet.

## Where to Find More Information

For additional information, please visit <http://www.check-it.ca>.

## Specifications

- 1.2GHz ARMv5TE Processor
- 512MB of DDR3 RAM
- 1GB of NAND Flash
- Two (2) USB Ports
- 10/100/1000 Mbps Ethernet Port
- Z-Wave™ radio with external RP-SMA antenna (900MHz)
- ZigBee™ radio with external RP-SMA antenna (2.4GHz)
- Dimensions (WxHxD): 175mm x 35mm x 119mm (6.9" x 1.4" x 4.7")

## Your Check-It Controller CG-300

### About the Hardware

Thank you for buying a Check-It Controller CG-300! Before you start installing your new Check-It Controller, please verify the contents of your box with the list below.

#### Included in the Box

- Check-It Controller CG-300
- 168mm (6.6") 900MHz RP-SMA Antenna (for Z-Wave™)
- 76mm (3") 2.4GHz RP-SMA Antenna (for ZigBee™)
- 12V 2A Power Adapter
- 1.5m Cat 5e Ethernet Cable
- Getting Started paper

#### Indicator LEDs

Table 1: LED Status Indicators

|                  |                            |                                                     |
|------------------|----------------------------|-----------------------------------------------------|
| <b>Power</b>     | On                         | Device is powered.                                  |
| <b>Heartbeat</b> | Blinking – Once per second | Device is booted and running properly.              |
| <b>Internet</b>  | Green                      | The device detects a working Internet connection.   |
|                  | Orange                     | The device cannot connect to the Internet.          |
| <b>Portal</b>    | Green                      | The device is connected to the Check-It Portal.     |
|                  | Orange                     | The device is not connected to the Check-It Portal. |
| <b>LAN</b>       | On                         | Ethernet Link.                                      |
|                  | Blinking                   | Ethernet Activity.                                  |
| <b>WLAN</b>      | <i>n/a</i>                 | <i>Reserved for future use.</i>                     |
| <b>WWAN</b>      | <i>n/a</i>                 | <i>Reserved for future use.</i>                     |
| <b>Z-Wave™</b>   | On                         | Z-Wave™ radio is initialized and active.            |
|                  | Blinking                   | Z-Wave™ radio is transferring data.                 |
| <b>ZigBee™</b>   | On                         | ZigBee™ radio is initialized and active.            |
|                  | Blinking                   | ZigBee™ radio is transferring data.                 |

## Initial Setup

### Connecting the Controller

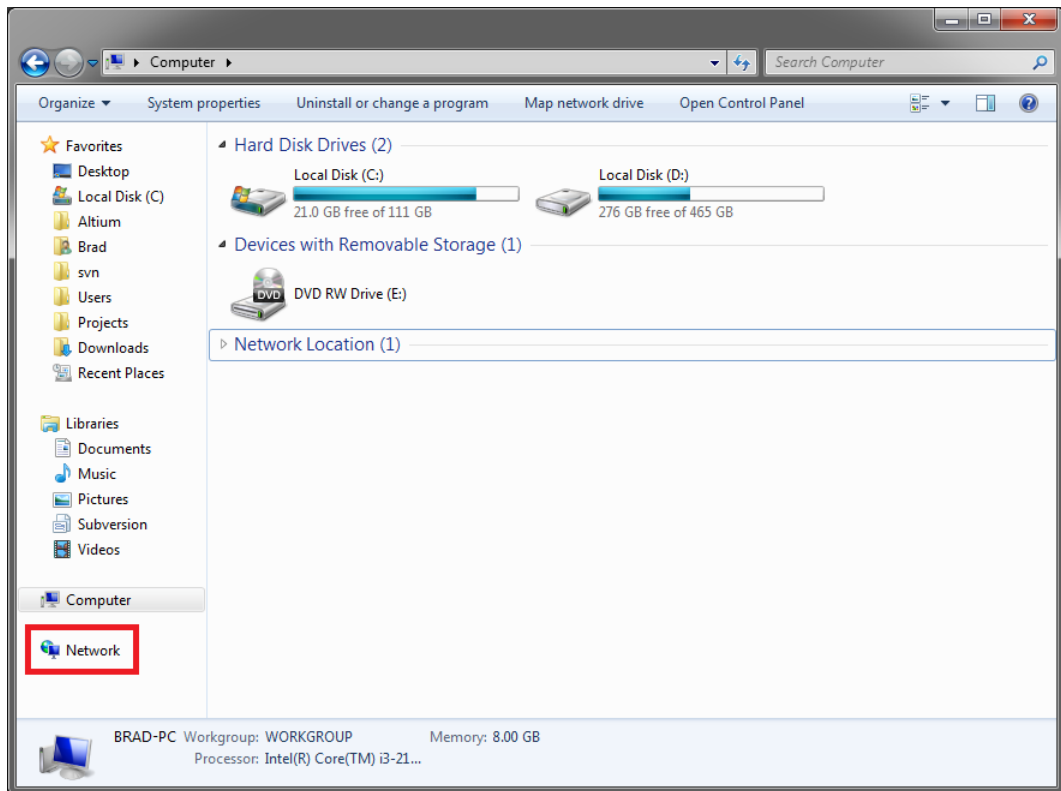


Figure 1: From left to right: Z-Wave™ antenna connector (dark blue), power connector (red), reset button (green), Ethernet jack (orange), USB ports (blue), and ZigBee™ antenna connector (pink).

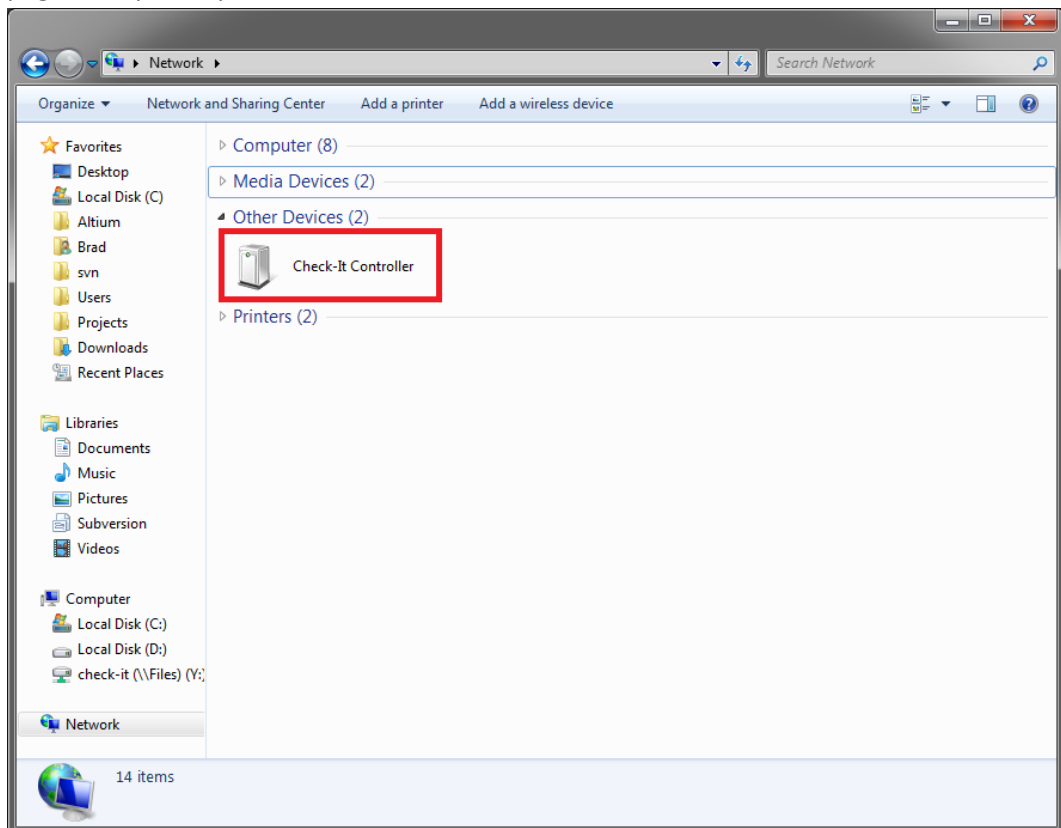
- 1) Install the **long** (168mm, 900MHz) antenna on the **Z-Wave™** RP-SMA antenna connector (dark blue) on the back of the device.
- 2) Install the **short** (76mm, 2.4GHz) antenna on the **ZigBee™** RP-SMA antenna connector (pink) on the back of the device.
- 3) Plug one end of the included Ethernet cable in to the Ethernet port (orange) on the back of the Controller, and plug the other end in to your Internet-connected network (for example: a gateway/router).
- 4) Connect the power adapter to the Controller, and plug it in to a power outlet. The *Power* LED will glow to indicate that the unit has power.
  - When the device is fully booted (this can take up to 2.5 minutes), the *Hearbeat* LED will blink. Please wait for the device to boot before attempting to continue to configuration.
  - If there is an internet connection available to the device (required for typical installations), the *Internet* and *Portal* LEDs will also glow green.

### Configuring Controller Settings Using the Web Interface

- 1) Find the device on your network.
  - a. Windows  
In Windows, go to **Start > Computer** to open Windows Explorer. Click **Network** on the left (as pictured below).



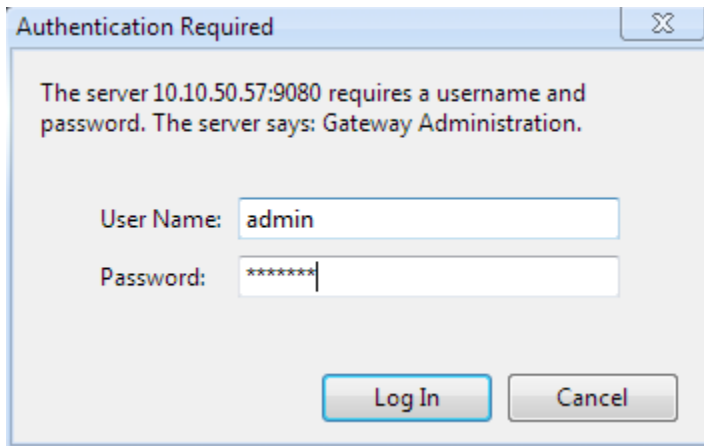
In the **Network** folder, double-click **Check-It Controller** (pictured below). The web configuration page will open in your default browser.



b. Mac

Currently, automatic discovery of the Check-It Controller is not supported in Mac OS X. Check-It recommends checking your network's DHCP server (usually a wireless router/gateway) to find the controller's IP address. Alternatively, a third-party uPnP discovery app can be used to automatically discover the CG-300 in Mac OS X.

- 2) You will be required to log in to proceed.

A screenshot of a web browser's authentication dialog box. The title bar says "Authentication Required". The main text reads: "The server 10.10.50.57:9080 requires a username and password. The server says: Gateway Administration." Below this, there are two input fields. The first is labeled "User Name:" and contains the text "admin". The second is labeled "Password:" and contains seven asterisks "\*\*\*\*\*". At the bottom of the dialog, there are two buttons: "Log In" and "Cancel".

Default user name: **admin**

Default password: **internet**

- 3) Once you log in for the first time, you will be greeted by the Initial Configuration screen. Fill in the fields presented on screen.

|                                   |                                                                                                                                                                                                                                           |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Admin password                    | This is the password you will use to log on to this configuration interface in the future. Choose a strong password that you will remember.                                                                                               |
| Controller Name                   | The display name for this Check-It Controller. This name will be displayed in various locations to help you identify <i>your</i> Controller. This includes: on the Check-It Portal, in the Microsoft Windows <i>Network</i> listing, etc. |
| Time Zone                         | The time zone that the Controller is installed in.                                                                                                                                                                                        |
| Location (Latitude and Longitude) | The physical location of the Controller. This is used for features such as "Dusk and Dawn" triggered programs. <i>These fields will be automatically filled in if you are using location-aware web browser.</i>                           |

- 4) Click the Save button to complete the setup.
- 5) The Controller web interface will display the Controller's serial number and activation key. Record these, as they will be required when configuring your Controller on the Check-It Portal. (You can view these values again at any time by going to the Admin>Status page).

## Troubleshooting

Most problems can be diagnosed quickly and easily by using the LEDs on the front of the device. Follow the following steps to resolve connectivity issues with the controller.

|                                                 | Yes                                     | No                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Is the Power LED illuminated?                | Proceed to 2).                          | Check the power connection at the wall and at the back of the Controller. Check the power cable for any visible signs of damage.                                                                                                                                                                                                                                                                                                                             |
| 2) Is the Heartbeat LED flashing once a second? | Proceed to 3).                          | Allow the Controller up to 2.5 minutes to start up. If the heartbeat does not start flashing, contact Check-It Solutions (see page 6)                                                                                                                                                                                                                                                                                                                        |
| 3) Is the Internet LED illuminated Green?       | Proceed to 4)                           | If the Internet LED is lit orange, the Controller is unable to connect to the internet. Verify the Ethernet cable is connected to the back of the Controller, and verify that the <b>LAN</b> LED is either on or blinking. If the LAN LED is off. Double-check the physical network connections. If the LAN LED is lit/blinking but the Internet light is orange, verify that there is a DHCP server on your network that provides valid configuration data. |
| 4) Is the Portal LED illuminated green?         | Your controller is operating correctly. | Verify that there is not a firewall on your network which is preventing the Controller from communicating with the Check-It Portal.                                                                                                                                                                                                                                                                                                                          |

For further assistance, contact Check-It Solutions. See page 6.

## Contacting Check-It

For additional support, you can contact Check-It Solutions directly.

Email      [support@check-it.ca](mailto:support@check-it.ca)

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