**INSTALLATION AND MAINTENANCE INSTRUCTIONS**

**SYSTEM SENSOR®**

# WAV-RL, WAV-WL, WAV-CRL and WAV-CWL Wireless L-Series AV Base

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For use with System Sensor L-series AV devices: See Table 1 for complete list.

## SPECIFICATIONS

| | | | |
|---|---|---|---|
| RF Operating Voltage Range: | 3.3 VDC | Battery Type: | 8 Panasonic CR123A or 8 Duracell DL123A |
| RF Maximum Current Draw: | 5 mA (LED On) | Battery Life: | *RF batteries:* 2 year minimum. |
| AV Operating Voltage Range: | 12 VDC | | *AV batteries:* See Tables 2 and 3 for AV battery life. |
| AV Maximum Standby Current: | 6.5 mA | Battery Replacement: | Replace during annual maintenance or when TROUBLE BATTERY LOW displays. |
| AV Maximum Alarm Current: | 550 mA | | |
| Standby Current: | 210 µA @ 3.3 VDC (LED blink enabled) | Dimensions (Wall): | Height 6" (15 cm); Width 5.1" (13 cm); Depth 1.6" (4 cm) |
| Maximum Transmit RF Power: | 17 dBm | | |
| Radio Frequency Range: | 902-928 MHz | Dimensions (Ceiling): | Diameter 7.4" (19 cm); Depth 1.6" (4 cm) |
| Operating Humidity Range: | 10% to 93% Relative Humidity, Non-condensing | Weight: (Wall) | 17.6 oz (499 g) installed with 8 batteries |
| Operating Temperature Range: | 32°F to 120°F (0°C to 49°C) | Weight (Ceiling): | 20.0 oz (567 g) installed with 8 batteries |

This audio visual (AV) wireless base must be installed in compliance with the control panel system installation manual, the AV notification appliance manual and the SWIFT Wireless Manual. The installation must meet the re-quirements of the Authority Having Jurisdiction (AHJ). Notification appliances offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

### GENERAL DESCRIPTION

Models WAV-RL, WAV-WL, WAV-CRL and WAV-CWL provide a wireless base for use with compatible System Sensor L-Series AV notification appliances (listed in Table 1). The AV notification appliance is attached directly to the wireless AV base. (See Figure 1.) The wireless AV base communicates through a wireless mesh to a gateway. The gateway sends information to/from the Fire Alarm Control Panel (FACP).

The wireless AV base provides power through 2 sets of 4 batteries – one set provides power for the RF communication and the other set provides power to the audible and/or visible output on the notification appliance. (See Figure 2.) The life of the AV set of batteries depends upon the activation time of the audible and/or visible output as indicated in Table 3. The AV base includes 2 optional battery cartridges to ease battery replacement. (See Figure 2.) Batteries can be inserted directly into the AV base or pre-loaded into the battery cartridge and inserted as two groups of 4 batteries. The battery compartment and cartridge indicate the correct orientation of the batteries. Carefully align the batteries with these markings and do not force them into place.

Rotary dial switches are provided on the wireless base to set the device address. (See Figure 2.) Notification appliance settings are adjusted through the notification appliance directly. Temporal 3 and continuous tone patterns are available and set directly on the notification appliance. Refer to the specific notification appliance manual for available setting options.

Panels offer different feature sets across the various models. As a result, certain features may be available on some control panels, but not on others. The possible feature sets available with Models WAV-RL, WAV-WL, WAV-CRL and WAV-CWL include:
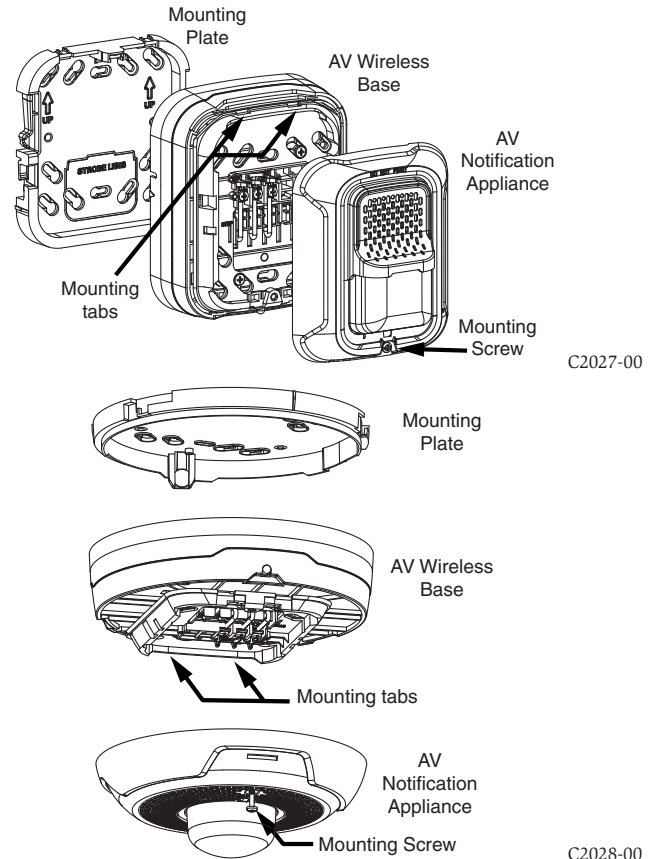
- An LED on the wireless base is controlled by the panel to indicate device status. Operational modes include red, green and amber colors in various solid or blink patterns.

- A magnet test feature allows the individual AV appliance to be turned on/off for testing purposes reducing the activation time needed during testing of the horn and/or strobe in support of longer battery life (refer to the SWIFT Wireless Gateway Manual for complete instructions).

- Custom and Temporal 4 patterns generated through the FACP.

The Models WAV-RL, WAV-WL, WAV-CRL and WAV-CWL require compatible addressable communications to function properly. Connect these devices to listed compatible control panels only. Please refer to the operation manual for the UL listed control panel for specific operation.

The wireless AV base and notification appliance will synchronize both audio and visual indications between devices located within the same mesh network. Synchronization of a wireless AV device with a wired notification appliance requires a synchronization module (W-SYNC) available from System Sensor or your FACP provider. Synchronization is only available through notification appliances that use the System Sensor synchronization protocol.

### FIGURE 1. AV MOUNTING ASSEMBLY (WALL, CEILING)



Mounting Plate
AV Wireless Base
AV Notification Appliance
Mounting tabs
Mounting Screw
C2027-00

Mounting Plate
AV Wireless Base
Mounting tabs
AV Notification Appliance
Mounting Screw
C2028-00

## SPACING

System Sensor recommends spacing AV notification appliances in compliance with NFPA 72. For specific information regarding notification appliance placement and special applications, refer to NFPA 72 or the Audible Visible Appliance Reference Guide, available from SystemSensor.com.

Wireless technologies can exhibit communication disruption if devices are spaced too close together. To avoid this form of disruption, SWIFT devices should not be placed closer than 2 feet (60 cm) apart without an intervening structure.

## MOUNTING

To mount the wireless AV notification appliance, secure the wireless AV base mounting plate to a permanent structure. An optional tamper resistance feature can be activated (refer to TAMPER RESISTANCE section for details). The mounting plate can be surface mounted. To avoid interference with the wireless network metal electrical boxes are NOT recommended. To install models

WAV-CRL and WAV-CWL, align the arrow on the mounting plate with the light pipe on the AV base, and rotate the AV base clockwise onto the mounting plate. To install models WAV-RL and WAV-WL, align the arrow on the right side of the mounting base to the arrow on the side of the AV base, and slide the AV base down onto the mounting plate. (See Figure 3.) To attach the System Sensor L-series notification appliance to the wireless AV base, hook the tabs on the top of the product housing into the grooves on the wireless AV base. Then, hinge the product into position to engage the pins on the product with the terminals on the wireless AV base. Make sure that the tabs on the back of the product housing fully engage with the wireless AV base. Secure the notification appliance by tightening the single mounting screw in the front of the product housing. (See Figure 1.)

NOTE: Attach the wireless AV base in a way that it cannot be moved after placement. If attaching to temporary structures such as removable ceiling tiles, permanently secure the structure, or mount the detector across a ceiling panel support.

## TABLE 1. SYSTEM SENSOR L-SERIES AV COMPATIBLE DEVICES

Note: ULC-listed models have all required languages.

| Model (UL listed) | Model (ULC listed) | Description |
|---|---|---|
| CHRL | CHRLA* | Chime Red Wall |
| CHSCRL | CHSCRLA* | Chime/Strobe Red Ceiling |
| | CHSCRLA-E | Chime/Strobe Red Ceiling, English |
| | CHSCRLA-F | Chime/Strobe Red Ceiling, French |
| CHSCWL | CHSCWLA* | Chime Strobe White Ceiling |
| | CHSCWLA-E | Chime/Strobe White Ceiling, English |
| | CHSCWLA-F | Chime/Strobe White Ceiling, French |
| CHSRL | CHSRLA* | Chime Strobe Red Wall |
| | CHSRLA-E | Chime/Strobe Red Wall, English |
| | CHSRLA-F | Chime/Strobe Red Wall, French |
| CHSWL | CHSWLA | Chime Strobe White Wall |
| | CHSWLA-E | Chime/Strobe White Wall, English |
| | CHSWLA-F | Chime/Strobe White Wall, French |
| CHWL | CHWLA | Chime White Wall |
| HCRL-LF | HCRLA-LF† | 520Hz Sounder Red Ceiling |
| HRL | HRLA | Horn Red Wall |
| HRL-LF | HRLA-LF† | 520Hz Sounder Red Wall |
| HCWL-LF | HCWLA-LF† | 520Hz Sounder White Ceiling |
| HGRL-LF | — | 520Hz Sounder Red Compact |
| HGWL-LF | — | 520Hz Sounder White Compact |
| HWL | HWLA | Horn White Wall |
| HWL-LF | HWLA-LF† | 520Hz Sounder White Wall |
| P2RL | P2RLA* | Horn/Strobe 2-wire Red Wall |
| | P2RLA-E | Horn/Strobe 2-wire Red Wall, English |
| | P2RLA-F | Horn/Strobe 2-wire Red Wall, French |
| P2RL-LF | P2RLA-LF† | 520Hz Sounder/Strobe Red Wall |
| P2RL-P | P2RLA-P | Horn Strobe 2-wire Red Wall, Plain |
| P2RL-SP | — | Horn Strobe 2-wire Red Wall, Fuego |
| P2WL | P2WLA | Horn Strobe 2-wire White Wall |
| | P2WLA-E | Horn/Strobe 2-wire White Wall, English |
| | P2WLA-F | Horn/Strobe 2-wire White Wall, French |
| P2WL-LF | P2WLA-LF† | 520Hz Sounder/Strobe White Wall |
| P2WL-P | P2WLA-P | Horn Strobe 2-wire White Wall, Plain |
| P2WL-SP | — | Horn Strobe 2-wire White Wall, Fuego |

| Model (UL listed) | Model (ULC listed) | Description |
|---|---|---|
| PC2RL | PC2RLA* | Horn Strobe 2-wire Red Ceiling |
| | PC2RLA-E | Horn/Strobe 2-wire Red Ceiling, English |
| | PC2RLA-F | Horn/Strobe 2-wire Red Ceiling, French |
| PC2WL | PC2WLA* | Horn Strobe 2-wire White Ceiling |
| | PC2WLA-E | Horn/Strobe 2-wire White Ceiling, English |
| | PC2WLA-F | Horn/Strobe 2-wire White Ceiling, French |
| SCRL | SCRLA* | Strobe Red Ceiling |
| | SCRLA-E* | Strobe Red Ceiling, English |
| | SCRLA-F | Strobe Red Ceiling, French |
| SCWL | SCWLA* | Strobe White Ceiling |
| | SCWLA-E | Strobe White Ceiling, English |
| | SCWLA-F | Strobe White Ceiling, French |
| SCWL-CLR-ALERT | — | Stobe White Ceiling Clear Lens Alert |
| SRL | SRLA* | Strobe Red Wall |
| | SRLA-E | Strobe Red Wall, English |
| | SRLA-F | Strobe Red Wall, French |
| SRL-P | SRLA-P | Strobe Red Wall, Plain |
| SRL-SP | — | Strobe Red Wall, Fuego |
| SWL | SWLA* | Strobe White Wall |
| | SWLA-E | Strobe White Wall, English |
| | SWLA-F | Strobe White Wall, French |
| SWL-ALERT | — | Strobe White Wall, Amber Lens |
| SWL-CLR-ALERT | — | Strobe White Wall, Clear Lens |
| SWL-P | SWLA-P | Strobe White Wall, Plain |

*Bilingual Canadian model

†Add suffix "E" for English, "-F" for French, and "-P" for plain version (no text).

**TABLE 2. BATTERY LIFE AT TEMPORAL 3 HIGH, AMBIENT CONDITIONS**

| Model | Model Type | Battery Life (Hours,minutes), permodel and Candela Setting | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No Strobe | 15 cd | 30 cd | 75 cd | 95 cd | 110 cd | 115 cd | 135 cd | 150 cd | 177 cd | 185 cd |
| Chime-only | Wall | 127h 23m | — | — | — | — | — | — | — | — | — | — |
| | Ceiling | — | — | — | — | — | — | — | — | — | — | — |
| Horn-only | Wall | 31h 51m | — | — | — | — | — | — | — | — | — | — |
| | Ceiling | — | — | — | — | — | — | — | — | — | — | — |
| Strobe-only | Wall | — | 20h 44m | 14h 09m | 8h 20m | 7h 22m | 6h 02m | — | 5h 11m | — | — | 4h 01m |
| | Ceiling | — | 21h 45m | 14h 09m | 8h 02m | 6h 39m | — | 5h 39m | — | 4h 43m | 3h 57m | — |
| Chime-Strobe | Wall | — | 18h 12m | 12h 55m | 7h 58m | 6h 31m | 5h 18m | — | 4h 26m | — | — | 3h 37m |
| | Ceiling | — | 18h 35m | 12h 44m | 7h 41m | 6h 28m | — | 5h 24m | — | 4h 29m | 3h 45m | — |
| Horn-Strobe | Wall | — | 16h 31m | 12h 03m | 7h 22m | 6h 17m | 5h 30m | — | 4h 33m | — | — | 3h 38m |
| | Ceiling | — | 12h 34m | 9h 54m | 6h 14m | 5h 24m | — | 4h 46m | — | 4h 07m | 3h 31m | — |
| Low-Freq. Sounder-Only | Wall | 8h 15m | — | — | — | — | — | — | — | — | — | — |
| Low-Freq. Sounder-Strobe | Wall | — | 9h 6m | 7h 45m | 5h 39m | 4h 56m | 4h 54m | - | 4h 12m | — | — | 3h 18m |

NOTE: Battery life will decrease using continuous tone or other coded patterns and under non-ambient environmental conditions.

## BATTERY REPLACEMENT

When a low battery trouble is indicated in the system, replace the batteries in the device. This message is an indication that approximately one week of RF battery life remains or one week of AV battery life plus the alarm time referenced in Table 3. Separate indications are provided for the AV battery and Radio battery groups. Each battery group can be replaced independently.

To replace the batteries in a wireless device use the following steps:

1. Have 4 CR123A (or DL123A) batteries available for each battery group (AV and/or RF) being replaced.

2. Remove the AV device and AV base as one unit from the mounting plate to access the battery compartment. An optional tamper-resist feature may be engaged see TAMPER RESISTANCE section for operational instructions.

3. Batteries can be inserted directly into the AV base or pre-loaded into the battery cartridge and inserted as two groups of 4 batteries. Remove the used batteries and replace with new batteries. The battery compartment and cartridge indicate the correct orientation of the batteries. Carefully align the batteries with these markings and do not force them into place. Inserting batteries in the wrong orientation could physically damage the battery contacts.

4. Return the device to its original location.

**TABLE 3. HORN-STROBE BATTERY LIFE AT TEMP 3, HIGH SETTING AFTER 2 YEARS NORMAL OPERATION***

NOTE: Normal operation over 2 years defined as standby with 30 second alarm once per month.

| | Battery Life (hours, minutes), per Candela Setting | | | | |
|---|---|---|---|---|---|
| Device Type | 15 cd | 95 cd | 110 cd | 177 cd | 185 cd |
| Ceiling | 10h15m | 4h04m | — | 2h31m | — |
| Wall | 11h32m | — | 3h33m | — | 2h25m |

**FIGURE 2. BATTERY COMPARTMENT AND ROTARY DIAL SWITCHES**



AV Battery Compartment

RF Battery Compartment

Rotary Address Switches

Battery Cartridge

C2029-00, C2030-00

**FIGURE 3. ALIGNMENT ARROWS**



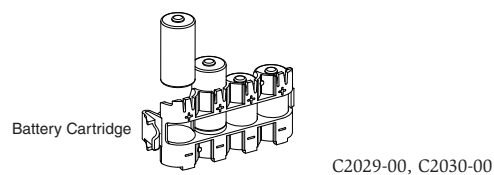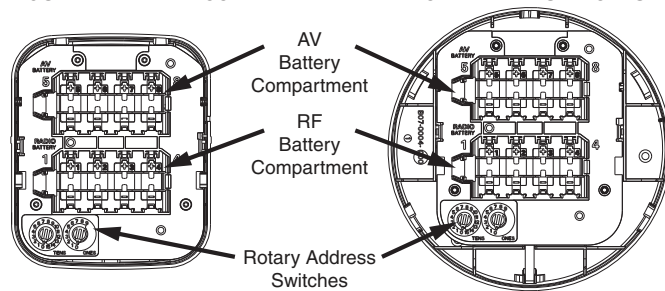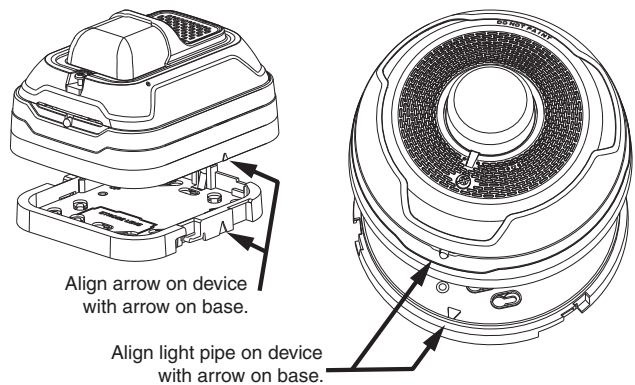Align arrow on device with arrow on base.

Align light pipe on device with arrow on base.

C2031-00

## TAMPER RESISTANCE

The wireless AV bases include a tamper-resistant capability that prevents their removal from the mounting plate without the use of a screwdriver or similar tool. To activate this feature, use diagonal wire cutters to break the tab on the wireless AV mounting plate as shown in Figure 4. Then install the AV base. To remove the device from the mounting plate once the tamper-resist feature has been activated, insert a screwdriver into the notch, as indicated in Figure 4 to press the plastic lever. For models WAV-CRL and WAV-CWL rotate the AV base counter clockwise while pushing the tamper-resistance lever. For models WAV-RL and WAV-WL slide the AV base up while pushing the tamper-resist lever.

The tamper-resist feature can be defeated by cutting and removing the plastic lever from the base. However, this prevents the feature from being used again.

The base also includes a magnet for tamper resistance. The magnet activates a supervisory tamper fault at the panel if the wireless AV base is removed from the mounting plate.
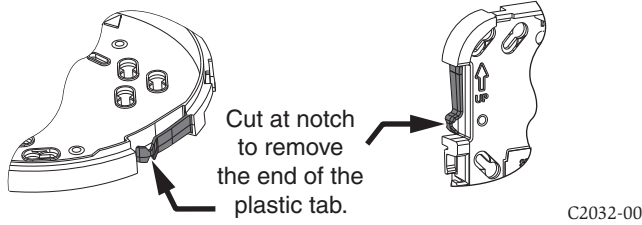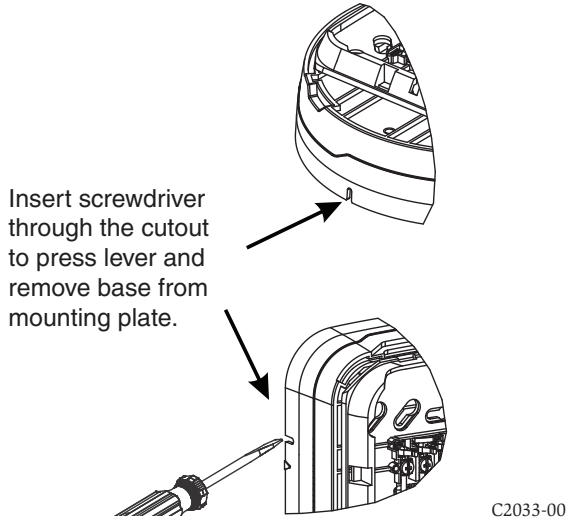
## FIGURE 4. TAMPER RESIST FEATURE

Cut at notch to remove the end of the plastic tab.

C2032-00

## FIGURE 5. TAMPER RESIST RELEASE (WALL, CEILING)

Insert screwdriver through the cutout to press lever and remove base from mounting plate.
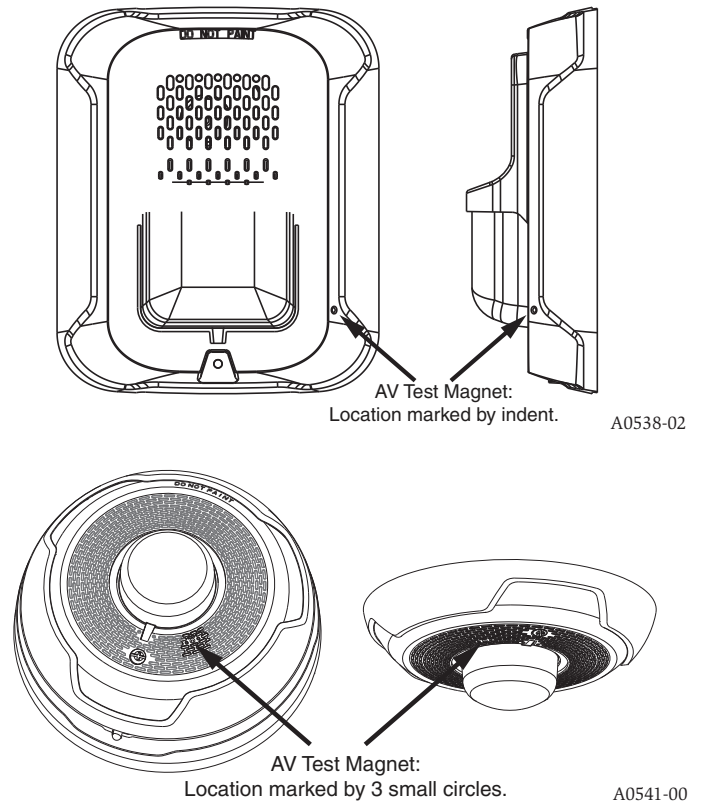
C2033-00

## TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All AV notification appliances must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

Magnet testing allows the AV device to be activated at the device individually to quickly check the audible and/or visible signal. The magnet test can be initiated at the FACP and activated by placing a magnet on the AV device magnet test mark. (See Figure 6.) Refer to the SLC Gateway Manual for additional information.

NOTE: The magnet test mode uses more current consumption than standby mode, therefore, ensure the system is not left in magnet test mode.

## FIGURE 6. AV TEST MAGNET (HORN STROBES SHOWN)

AV Test Magnet: Location marked by indent.

A0538-02

AV Test Magnet: Location marked by 3 small circles.

A0541-00

## Please refer to insert for the Limitations of Fire Alarm Systems

### LICENSING STATEMENT

Use of these products in combination with non-Honeywell products in a wireless mesh network, or to access, monitor or control devices in a wireless mesh nework via the internet or another external wide area network, may require a separate license from Sipco, LLC. For more information, contact Sipco, LLC or Ipco, LLC at 8215 Roswell Rd., Building 900, Suite 950, Atlanta, GA 303350, or at www.sipocollc.com or www.intusiq.com.

### FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation. WARNING: Do not make changes to the equipment. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### IC STATEMENT

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.

### RAPPORT D'IC

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