Setcom® CORPORATION

3019 Alvin DeVane Blvd.
Ste. 560
Austin, TX 78741
Phone: (650) 965-8020

Motorcycle Officer Communication System II (MOCS II) Guide

The MOCS II Wireless SpeakerMic and Motorcycle Base Transceiver (MBT) are used for remote PTT control of a portable radio, Public Address (PA) and Cell Phone that are connected to the system. They must be paired for wireless features to function.

Helmet Kit (Helmet not Included)
KA/KE - 24IM (Full Face)
KA/KE - 21S (Half Shell)

SpeakerMic
SBTE-_ or SBTA-_

MBT

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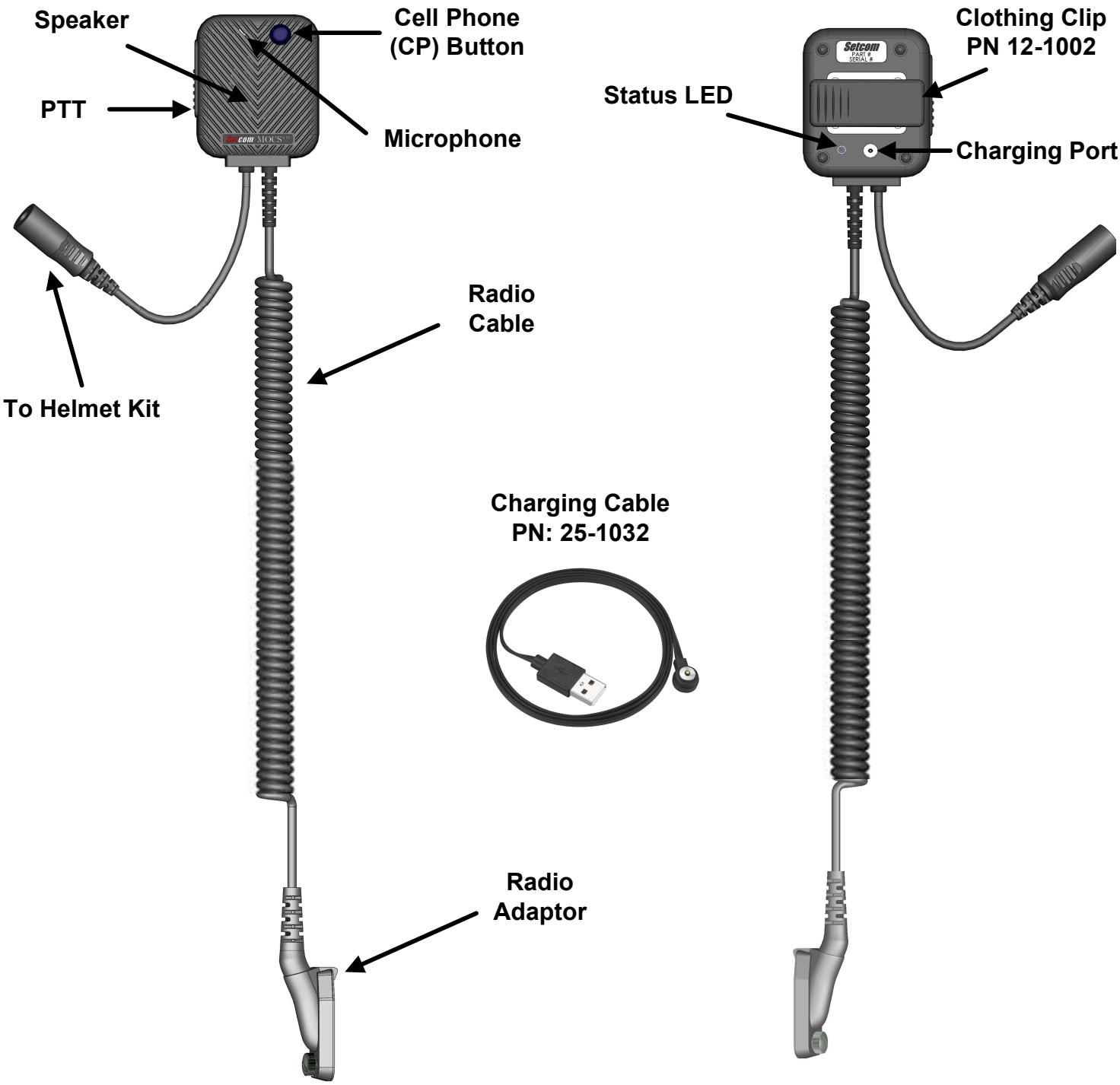
MOCS II SpeakerMic



Several models of SpeakerMic units exist (SBTE-_ or SBTA-_), the specific model number depends on the portable radio model to be used. The MZ4 Radio Adaptor is shown above, please contact Setcom Sales team for available radio models.

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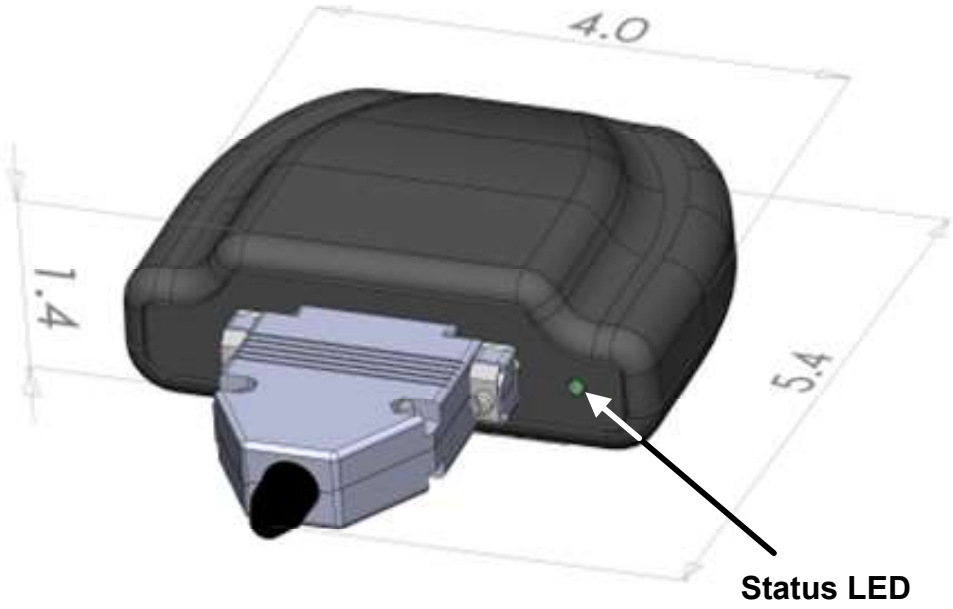
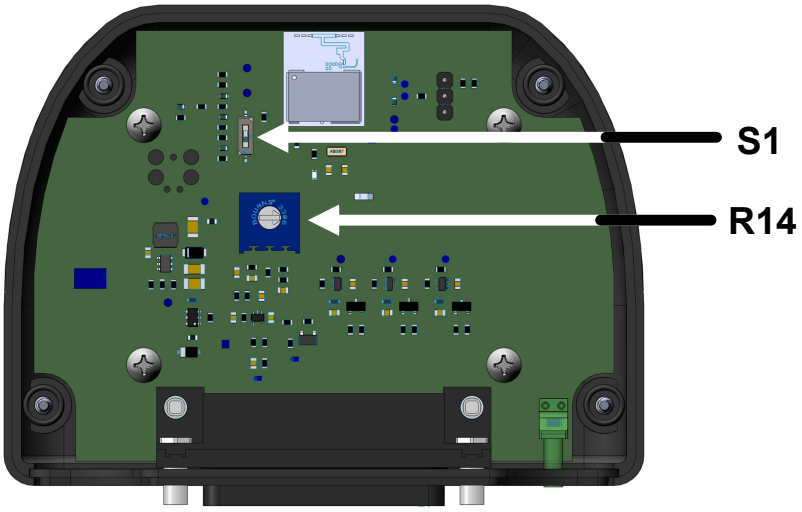
MOCS II Base Transceiver (MBT)



PA Adjustments



Switch S1 is for PA Gain Adjustment, it is normally in the Off position. Setting it to the On position will increase the gain to the PA by about 9dB

Adjusting R14 Clockwise increases the volume to the PA

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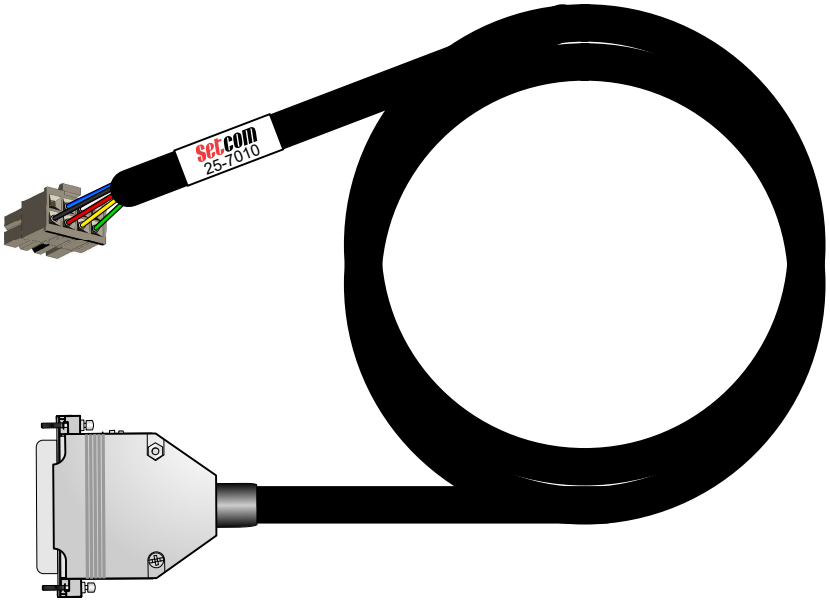
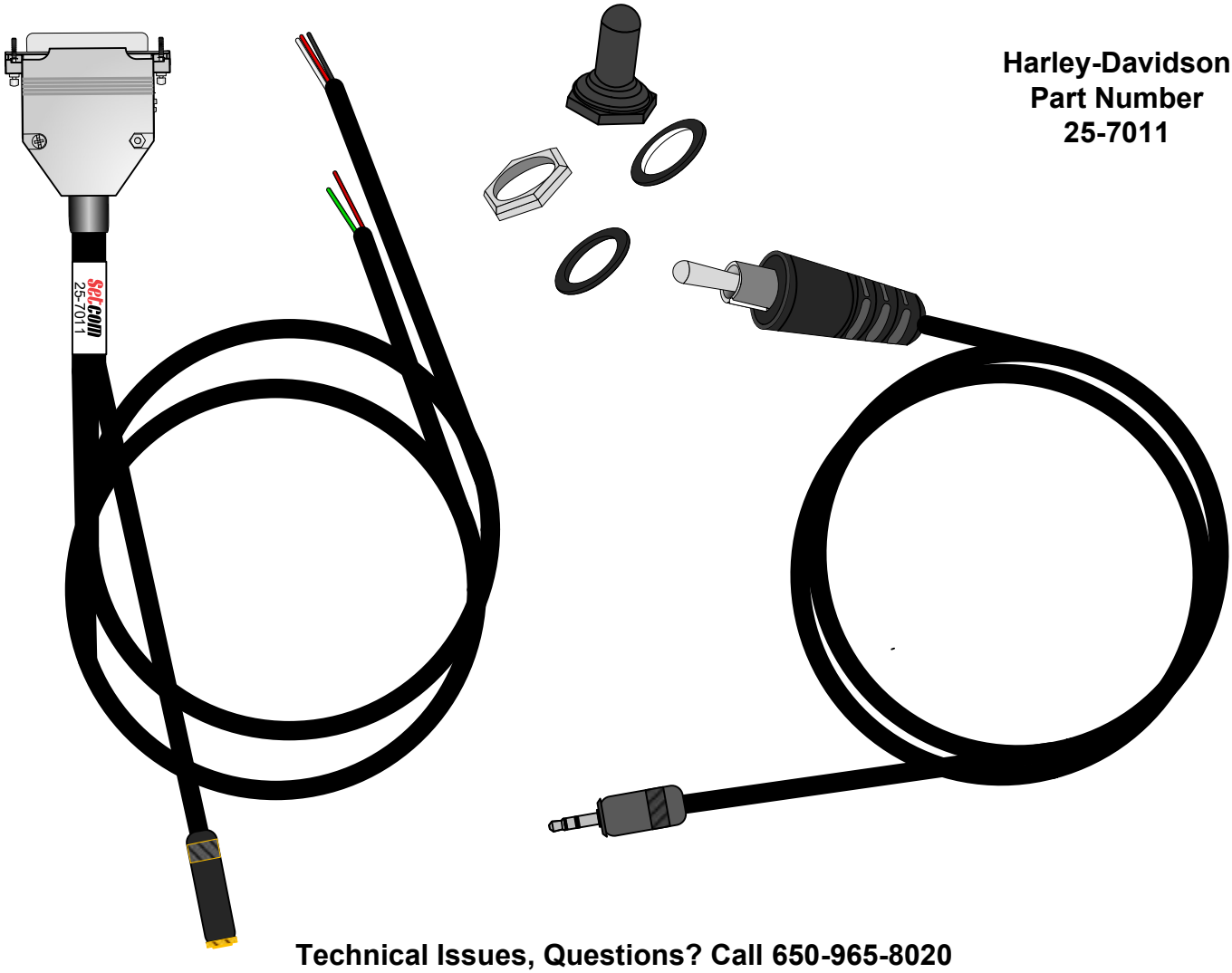
MOCS II Motorcycle Cable Assembly



BMW
Part Number
25-7010



Harley-Davidson
Part Number
25-7011

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Pairing a SpeakerMic and MBT

- With the SpeakerMic attached to the portable radio, hold down the PTT button on the SpeakerMic and turn on the radio, the Status LED will slowly flash RED twice, then it will begin fast GREEN flashing.
- Release the PTT button, unit is now in Pairing Mode.
- Turn on the power to the MBT, the Status LED will flash RED once and then flicker Red once, it then must enter Search Mode or Sleep Mode, It must not be in Linked Mode.
- Tap the PTT button for the MBT 3 times rapidly “triple-tap”, the MBT will enter Pairing Mode.

Once the SpeakerMic and MBT are placed into Pairing Mode, they will establish a “Link” within a few seconds followed by a short low to high tone, sounding like a – “boop-beep” -. Once this happens, the Status LED on both units will briefly flash GREEN every 2 seconds to indicate the units are Linked. Wireless PTT function from the MBT will now operate. A SpeakerMic and MBT that have been Linked will retain that Link information when powered off. When powered on again, they will re-establish the Link within a few seconds. If they come unlinked you will hear a short high to low tone, sounding like a - “beep-boop” -.

Only one SpeakerMic can be paired to one MBT at any time, there cannot be multiple pairings.

Pair only one SpeakerMic and MBT at a time, this is to prevent accidently paring to another user’s SpeakerMic or MBT.

Simply follow the procedures above if for any reason it is necessary to pair a SpeakerMic or MBT to a different unit than the one it is currently paired with.

Status LED Chart

LED Indications		Status
RED flashes		Seen during power on, 2 flashes on the SpeakerMic, 1 flash and 1 flicker on the MBT.
GREEN flashing		**Fast -** Indicates that a SpeakerMic or MBT is in Pairing Mode and is seeking another unit that is also in Pairing Mode, to establish a “Link”. **Slow (every 2 seconds) -** Indicates that a SpeakerMic or MBT is in Linked Mode. **Slow (SpeakerMic Only - every 5 seconds) -** Indicates that a SpeakerMic is connected to the charging cable and is fully charged
ORANGE flashing		**Fast -** Indicates that a SpeakerMic or MBT is in Search Mode and searching for its previously Linked “partner”. **Slow (SpeakerMic Only) -** Indicates that the SpeakerMic has been turned Off, turned back On and is waiting/searching for its previously Linked “partner”.
LED turns off after power up RED flash(s)		Indicates the SpeakerMic or MBT is in Sleep Mode and is not paired to another unit.
Steady RED		Indicates an Error, see Troubleshooting Tips p14.
Steady Green		**(SpeakerMic Only) -** Indicates that the SpeakerMic is connected to the charging cable and is charging

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Pairing Cell Phone

Equipment needed:

Helmet Kit
MBT w/Interface cable
Portable Radio(s)
SpeakerMic
Cell Phone with Bluetooth capabilities

Pairing a SpeakerMic and Cell Phone:

Make sure that the SpeakerMic and MBT have been paired prior to connecting to a Cell Phone

Plug in the headset to the SpeakerMic - Cell Phone operation requires the Headset to be plugged in to the SpeakerMic.

1) Open the Bluetooth Connection Settings on the Cell Phone, enable Bluetooth if not already done. Look at the available devices, the Setcom SpeakerMic will appear with the name POWMICxxxx where “xxxx” is the unique identifier for that SpeakerMic, shown in Hexadecimal format, 0 to F, for example “9F70” would appear as “POWMIC9F70.

2) Select the SpeakerMic name, the Phone will begin the pairing process, and prompt for permission to pair with the SpeakerMic, allow this. There will be a very short high tone heard in the Headset - “ping” - when a successful connection is established.

After Pairing to the Cell phone, it is recommended to verify the operation

✓ Check the connections settings to verify that calls and audio are enabled and working properly. Depending on what type of Cell Phone is being used – Apple, Android, etc. may require different settings. See the Cell Phone documentation for those if needed. For an example, on an iPhone the “Audio Device Type” would be set to “Headphone”.

✓ Check and verify the audio connection, play an audio file on the Phone – a YouTube audio file, Podcast, audiobook, etc. It should be heard clearly in the Headset. Volume is adjusted on the Cell Phone.

Status Tone Chart (Heard in the Headset Only)

Tone Indications	Status
Boop-Beep	Indicates the SpeakerMic and MBT have established a Link
Beep-Boop	Indicates the SpeakerMic and MBT have become Unlinked
Ping	Indicates SpeakerMic has Connected to a Cell Phone
Pong	Indicates SpeakerMic has Disconnected from a Cell Phone

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General Cell Phone Operation

General Operation:

Making Phone Calls:

Simply make a call as you would normally do.

Answering Incoming Phone Calls:

The Phone's ring tone will be heard in the Headset as the call is coming in. Press the CP Button on the front of the SpeakerMic firmly for 1/2 of a second and release, the call audio will be connected to the mic and speakers of the Headset. Volume is adjusted on the Phone.

Hanging-up Phone calls:

On the front of the SpeakerMic, Press the CP Button firmly for 1/2 of a second and release, the call will end.

Cell Phone Operating Notes:

- Depending on the phone. If an audio file is playing when an incoming call is answered, the audio file may continue to be heard in the Headset unless they are manually shut off, some phones may automatically mute and restart the audio file.
- If the Headset is unplugged while playing an audio file, the file will be paused. Cell Phone audio will only be heard for a couple of moments from the SpeakerMic as the headset sensing feature detects the loss of the Headset connection. After that, audio will not be heard from the SpeakerMic. Audio will resume in the Headset if it is plugged back in, however the audio file may need to be manually re-started.
- If the Headset is unplugged while a phone call is in progress, the call will be suspended (on hold) until the Headset is plugged back in – it will automatically resume. Some Phones will give an audible indication that the phone call has resumed.
- The Cell Phone connection to the SpeakerMic can be un-paired from the Cell Phone by telling the Phone to disconnect from the SpeakerMic, however the SpeakerMic will continue to prompt the Phone to re-pair, unless the SpeakerMic has been told to 'forget' the Phone.
- If needed, the SpeakerMic can be "told to forget" the current Cell Phone pairing it has in memory. To do this, press and hold the CP Button on the front of the SpeakerMic for 3 to 5 seconds and release. A short low tone will be heard in the Headset - "pong" -, this indicates the connection has been terminated.
- If streaming audio, it can be Stopped/Started by pressing the CP Button.
- If streaming audio, it will mute when an incoming call ring is heard. Simply answer the call by pressing the CP Button, when the call is completed by pressing the CP Button, the streaming audio resumes automatically.
- When pressing the PA switch, streaming will mute, and the PA will function normally, when finished with the PA, pressing the CP Button will restart the streaming.
- If on a phone call, pressing the PA switch will put the call 'on-hold', when finished with the PA function, the call will resume.
- Phone calls or Streaming is muted on PTT, however, it is not muted on Receiving a radio call.

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Charging and Installation

Charging the SpeakerMic:

The SpeakerMic only needs to be charged in order to hear the indication tones and use a cell phone. It does not need to be charged to transmit over the Radio or PA.

Connect the charging cable (USB A Male to 2 Pin round magnetic connector) by plugging th USB A end into a power source and then connection the 2 Pin round magnetic connector to the SpeakerMic. The 2 Pin round magnetic connector will automatically snap in place when it is within 1 inch of the mating connector on the back of the SpeakerMic.

The SpeakerMic will disconnect from the wireless connections while charging, once the charging cables is removed the SpeakerMic will revert back to the last known state.

While charging, the LED will be lit Steady Green, once fully charged it will Flash Green every 5 seconds

If the SpeakerMic battery is fully discharged, it will take about 2 1/2 to 3 hours to fully charge.
The SpeakerMic will last 12 hours with continuous Talk/listen on a fully charged battery

Wiring the MBT:

Connect either the 25-7010 (BMW) or 25-7011 (Harley-Davidson) MOCS II Wireless Motorcycle Cable Assembly to the MBT.

25-7010 (BMW), plug the 8pin connector into Header #6 - Helmet Headset Interface of the BMW Radio Box Connections.

25-7011 (Harley-Davidson) 2 wire DC Power, connect the Green wire to a good ground point, and the Red wire to a fused +12Vdc source (1A fuse is recommended). The MBT draws minimal power but it is recommended it be connected to a switched DC source – Accessory power is typically used. A separate switch can be wired always hot to be used to turn On/Off the MBT, by doing this, the MBT will work when the motorcycle is turned off.

3 wire Public Address (PA), connect the White wire to PTT, Red wire to MIC + and the Black/Drain wires to Ground, see page 13 for wiring to a 1/4 inch TRS plug.

Install PTT switch assembly (see page 11 & 12) and route the cable to connect to the 3.5mm Jack in the radio box

Checkout:

It is recommended to verify system operation before fastening down any cabling or replacing any body panels that have been removed for access. This requires a portable radio fitted with a SpeakerMic and the cooperation of another radio operator for a radio transmission check.

Before completing the installation, it is important to make sure that any cabling does not impair free movement of the handlebars or radio cabinet, and that the cabling will not be stretched, chafed, or broken by movement of the handlebars or any other part of the motorcycle.

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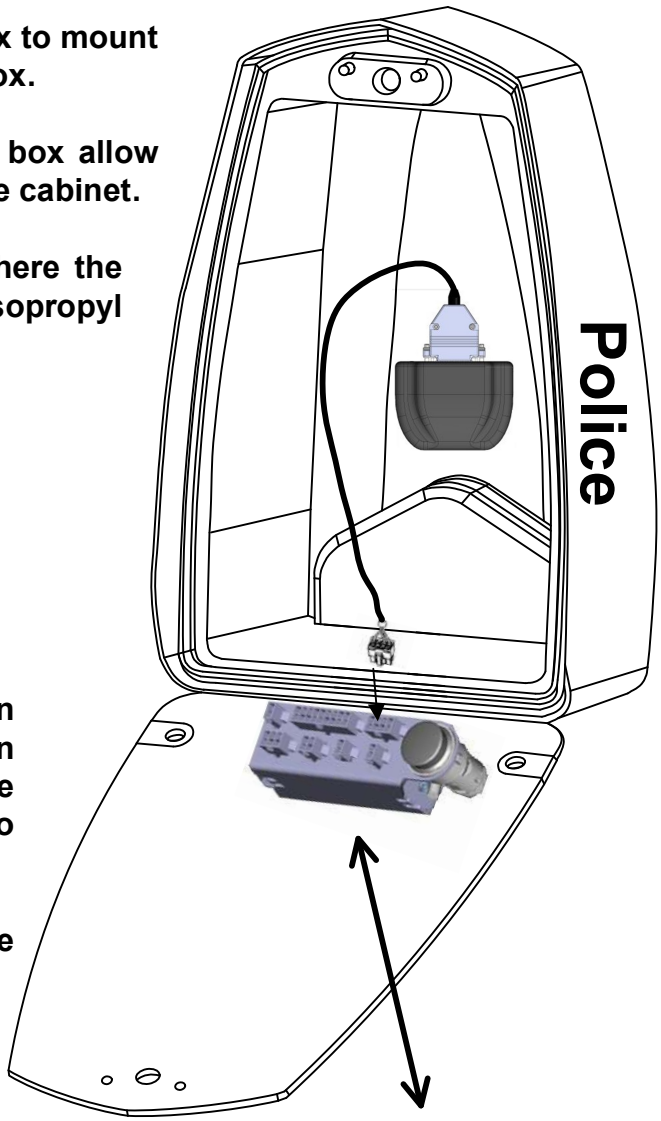
BMW Installation

Choose a position within the Radio Box to mount the MBT to the inner LID of the radio box.

Ensure that the contents of the radio box allow clearance for the MBT when closing the cabinet.

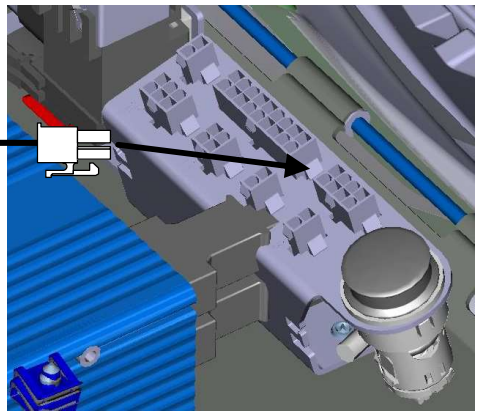
For best results, clean the surface where the MBT will be mounted with 70% Isopropyl Rubbing Alcohol.



Once the selected area has been cleaned and dried, peel the two thin liners from the DUAL LOCK and place the MBT unit into position on the radio box LID.

Use a firm even pressure to apply the MBT to the surface.

Connect the 8-PIN connector to header #6-Helmet Headset Interface.



Use the suppied cable ties to secure the 25-0710 cable:

PA Volume output is adjusted on the Setcom MBT

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Harley- Davidson Installation

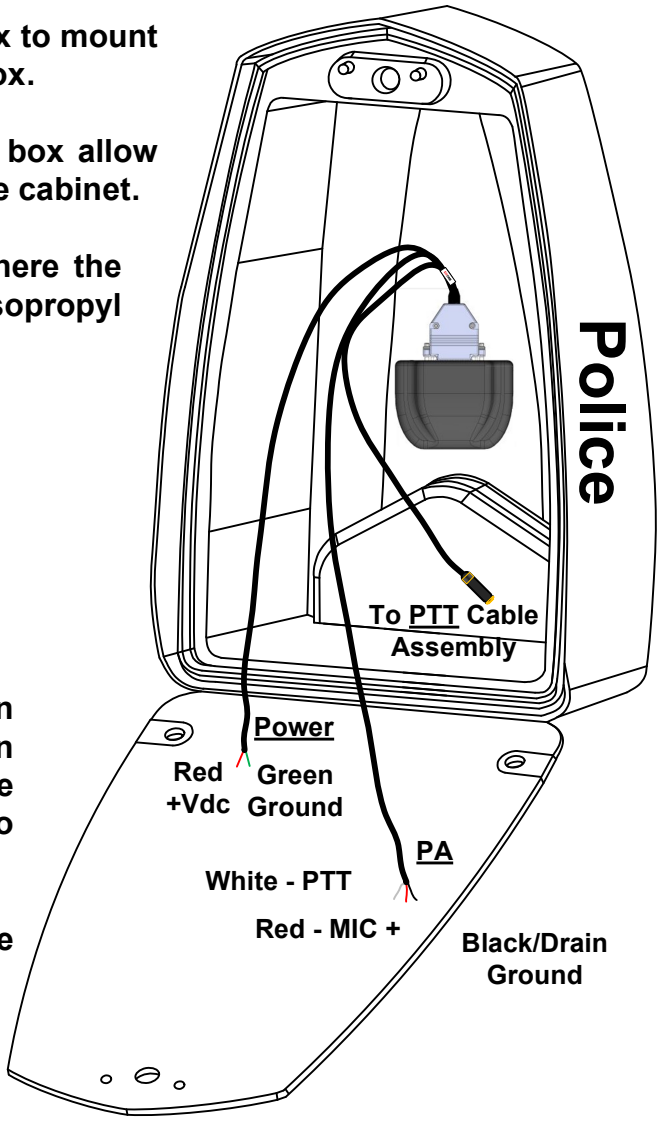
Choose a position within the Radio Box to mount the MBT to the inner LID of the radio box.

Ensure that the contents of the radio box allow clearance for the MBT when closing the cabinet.

For best results, clean the surface where the MBT will be mounted with 70% Isopropyl Rubbing Alcohol.

Once the selected area has been cleaned and dried, peel the two thin liners from the DUAL LOCK and place the MBT unit into position on the radio box LID.

Use a firm even pressure to apply the MBT to the surface.



Use the suppied cable ties to secure the 25-0711 cable.

PA Volume output is adjusted on the Setcom MBT and/or the PA amplifier

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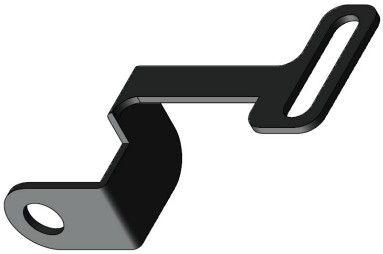
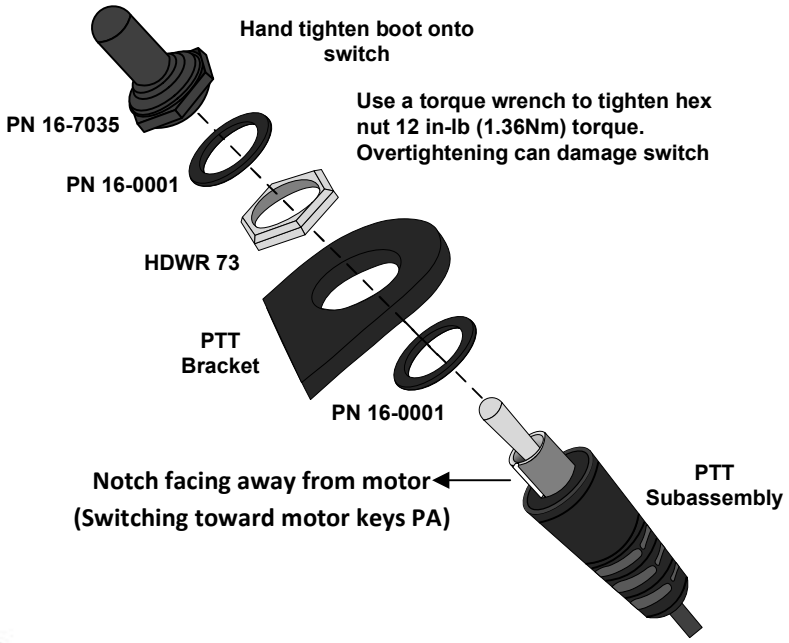
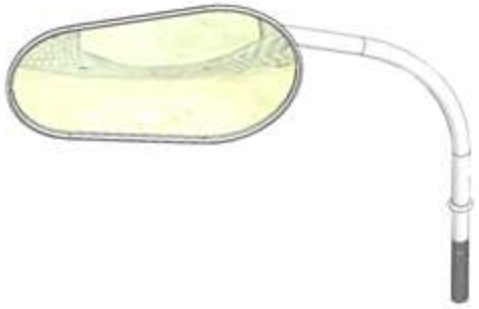
Harley- Davidson PTT Installation



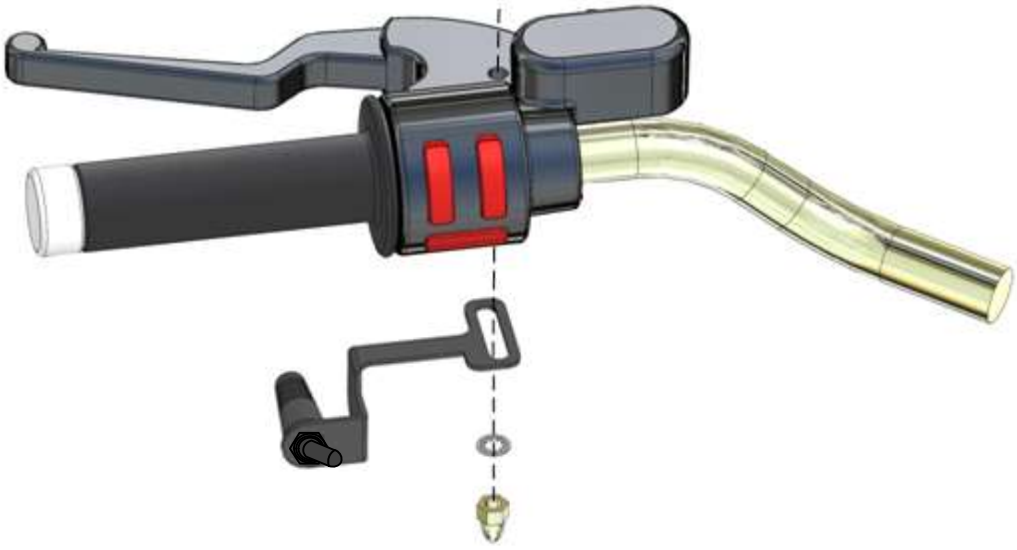
Harley-Davidson
14-0048



Caution: Take care not to scratch bracket when securing hex nut.
The use of a non-marring socket is recommended



Mirror Post



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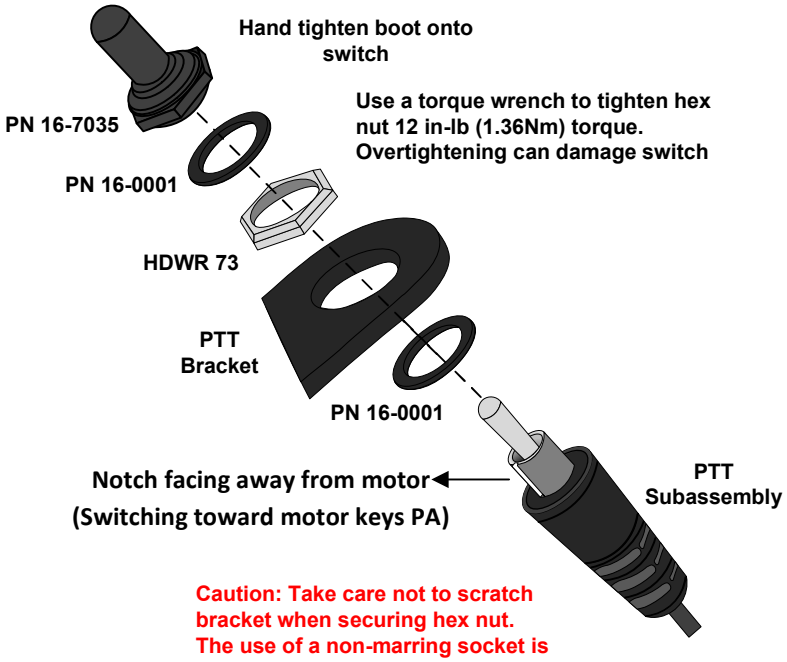
Universal PTT Bracket Installation

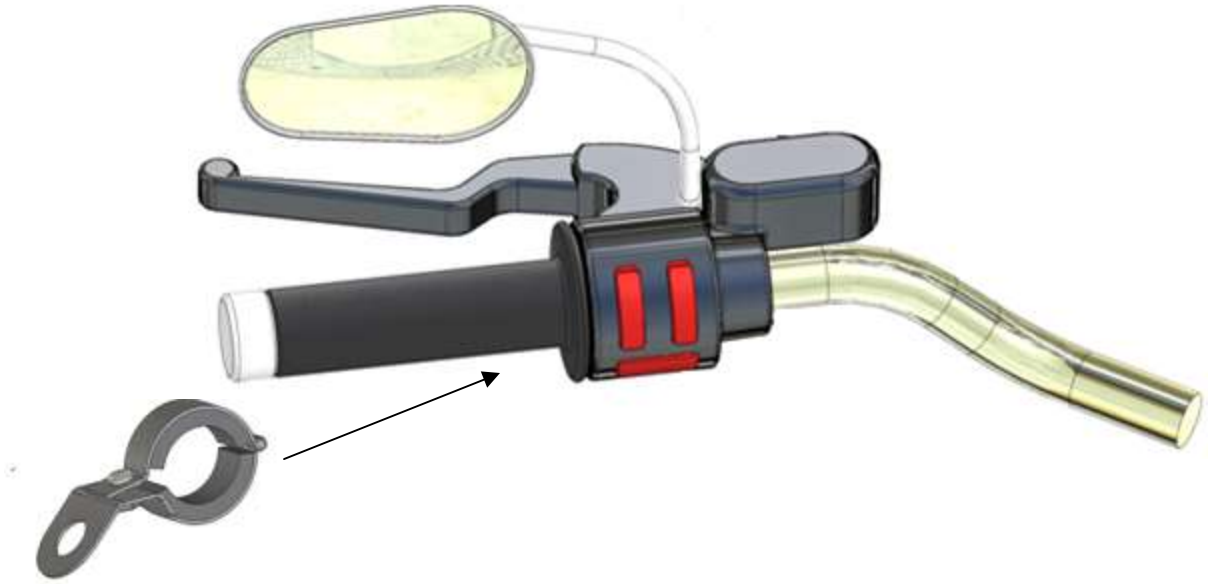
The 14-0083 Universal Bracket is for semi-custom installations where standardized brackets may not be applicable.

The Pushbutton PTT switch assembly is to be installed on the left side grip. The inserts provided allow fitment to a variety of grip diameters.

14-0083 Universal Bracket Shown with HDWR 130 hardware. Kit includes, screw, keep nut and hard rubber inserts to accommodate various diameters of mounting locations



Caution: Take care not to scratch bracket when securing hex nut. The use of a non-marring socket is recommended



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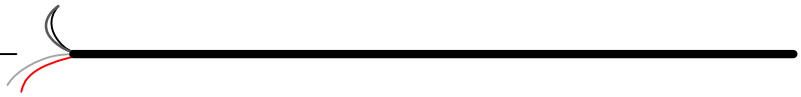
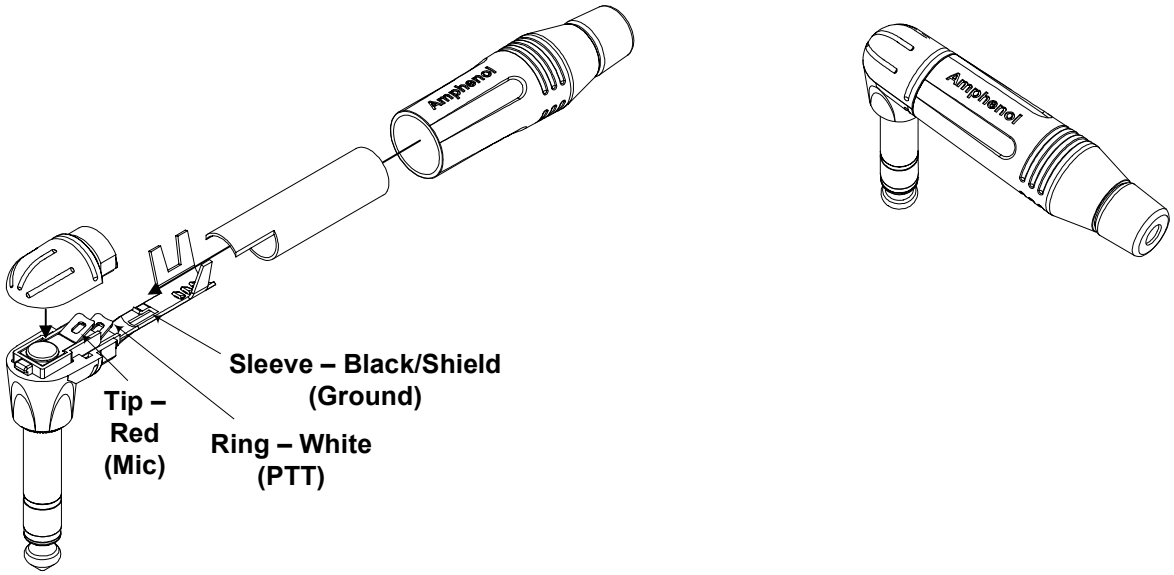
25-7011 Wiring For PA TRS Plug to PA Mic Jack

To Public Address system

Red = MIC (Tip)
White = PTT (Ring)
Black/Shield = GND (Sleeve)



Suggest using a 1/4 inch TRS Plug to MIC Jack on Fairing Setcom PN 11-2090



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Troubleshooting Tips:

Most problems can be resolved by simply checking the cabling and connectors to verify they are in good condition and not damaged. If they are damaged the unit will need to be repaired.

Power:

To verify the unit is getting power – if the LED lights up and flashes when power is turned on, it is getting power.

PTT, Tx, Rx:

Radio connectors on the SpeakerMic can get wet, corroded or have bent pins, this can cause constant or intermittent keying (PTT), Transmit or Receive issues. Check the connector to verify it is in good condition, dry, clean (no corrosion) and no bent pins.

Pairing/Linking:

If the SpeakerMic and MBT fail to Pair or Link, the simplest solution is to turn off power and repeat the Pairing or Linking process, if this does not help, try clearing pairing (see below for instructions) on both units and then pair them again.

If the SpeakerMic is placed into Pairing Mode while already Linked to a MBT the SpeakerMic will communicate to the MBT to forget it's Pairing – You will see a series of LED flashing on both the SpeakerMic and MBT while they are communicating and then the MBT will go into Sleep Mode, this process takes about 30 seconds. If this was done in error, simply put the MBT into Pairing Mode (Triple Tap) after it is in Sleep Mode and the units will pair back up. If for whatever reason the power is turned off on both units, simply go through the pairing process again on both units.

Keep in mind that if you put one unit into pairing mode, you will need to put the other unit into pairing mode also. Therefore, you should only place a unit into pairing mode if you're certain that the SpeakerMic and MBT are not already paired/linked or you are pairing to a different unit.

If either unit shows steady RED on the Status LED, there has been some kind of error. In this case it is best to clear pairing on both units and try the pairing process again.

To clear pairing of a SpeakerMic or MBT:

When a SpeakerMic or MBT enters Pairing Mode (fast GREEN flash) it will erase previous paired data. If the SpeakerMic or MBT is power off while still in Pairing Mode it will enter into Sleep Mode - Pairing is Cleared.

This may not be feasible with the MBT-B "BMW Versions", because power to Header #6 - Helmet Headset Interface of the BMW Radio Box Connections remains on for 30 minutes after the motorcycle ignition or accessory power is turned off.

Complete the Return Merchandise Authorization Form (RMA) - https://setcomcorp.com/rma/ if you need to send a product back for repair or replacement.

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Regulatory Notices

FCC label for Bluetooth SpeakerMics
Contains FCC ID: 2AMWO-FSCBT1026
Contains IC: 23872-FSCBT1026

FCC label for Bluetooth MBT's
Contains FCC ID: QOQ-GM240P
Contains IC: 5123A-GM240P

Module statement

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:

This module operates under Part 15 .247 which is exempt from RF exposure evaluation owing to the very low operating power.

IC Statements

The final host device, into which this RF Module is integrated contains transmitter module IC: 23872-FSCBT1026

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenudans le présentappareilestconforme aux CNR d'Innovation, Sciences et Développement économique 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;
(2) L' appareil doit accepter tout brouillage radioélectrique subi, mêmesi le brouillage est susceptible d' encompromettre le fonctionnement.

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Regulatory Notices Continue

Radio Frequency Exposure Statement for IC

The device has been evaluated to meet general RF exposure requirements. The device can be used in mobile exposure conditions. The min separation distance is 15mm.

Déclaration d'exposition aux radiofréquences pour IC L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF. L'appareil peut être utilis é dans des conditions d'exposition mobiles. La distance de séparation minimale est de 15 mm.