TB-100 Bluetooth Transmitter
Hardware Installation Guide

version 1.13

Bluetooth Transmitter Installation Guide

The Bluetooth Transmitter is a device that can be added to new and existing Flashback systems (including Flashback2s, Flashback3s, and FlashbackHDs) to enable bi-directional record transmitting between Flashback system(s) and BWX-100 body worn camera(s).

Bluetooth Transmitter Kit

The Bluetooth Transmitter Kit includes:

- ZAS-TM010001—Transmitter module model TB-100—Qty: 1
- ZAN-001-0001—Antenna—Qty: 1
- ZCA-C22021-6—Cable, antenna—Qty: 1
- ZMC-TM010002—Bracket, antenna mounting—Qty: 1
- HDW-90064A330—Screw, #8 x 1/2 lg, hex head, sheetmetal, drill point, steel—Qty: 4
- HWD-90190A148—Screw, #6 x 1/2 lg, pan head, sheetmetal, steel—Qty: 2
- ZCA-TM010001—Cable assembly, signal and power—Qty: 1
- ZCA-TM010002—Cable assembly, Flashback pigtail—Qty: 1 (Flashback version only)
- 2 x ZCA-TM010003—Cable assembly, Fuse Holder, 2A—Qty: 1
- 2 x CO-159-1622—Butt Splice, 22-16 AWg—Qty: 1

If you are using this Bluetooth Transmitter with a Flashback in-car video system, see "Flashback Version" on the next page.

If you are using this Bluetooth Transmitter with BWX-100 Body Worn cameras only, see "Emergency Lights or Siren Activated Version" on page 10.

Flashback Version

1 **Check your Flashback wiring harness for the gray Aux 2 wire**. If your wiring harness includes the gray Aux 2 wire, proceed to the next step. If your wiring harness does *not* include the gray Aux 2 wire and your Aux 1 wire is already connected to another device, you'll need to order an FB3/FBHD Wiring Harness (W-FB-IO-C Axx), which includes the Aux 2 wire. For assistance, contact Mobile-Vision Sales at 1-800-336-8475.

2 **Disconnect negative lead of vehicle battery**

3 **Mount the transmitter box**
Begin by selecting a location that is:
▪ On a flat surface in the trunk or cabin
▪ Within 4 feet of the proposed antenna location and 10 feet of the Flashback DVR
▪ Away from possible spills.

Next, mount the transmitter box (ZAS-T M010001) to the surface using the self-tapping screws provided.

4 **Mount the antenna**
Begin by selecting a location that is within 4 feet of the Bluetooth Transmitter:
▪ If TB-100 is mounted in the trunk, mount the antenna on the rear deck or C pillar
▪ If TB-100 is mounted in the center console, mount the antenna on the cage or A pillar
▪ If TB-100 is mounted in the rear of an SUV, mount the antenna on the cage or C pillar

Next, mount the antenna (ZAN-001-0001) using the provided bracket hardware (ZMC-TM010002).

Because the TB-100 utilizes a "line of sight" signal, it's important to mount the antenna as high as you can so the signal can easily pass through the vehicle's glass.
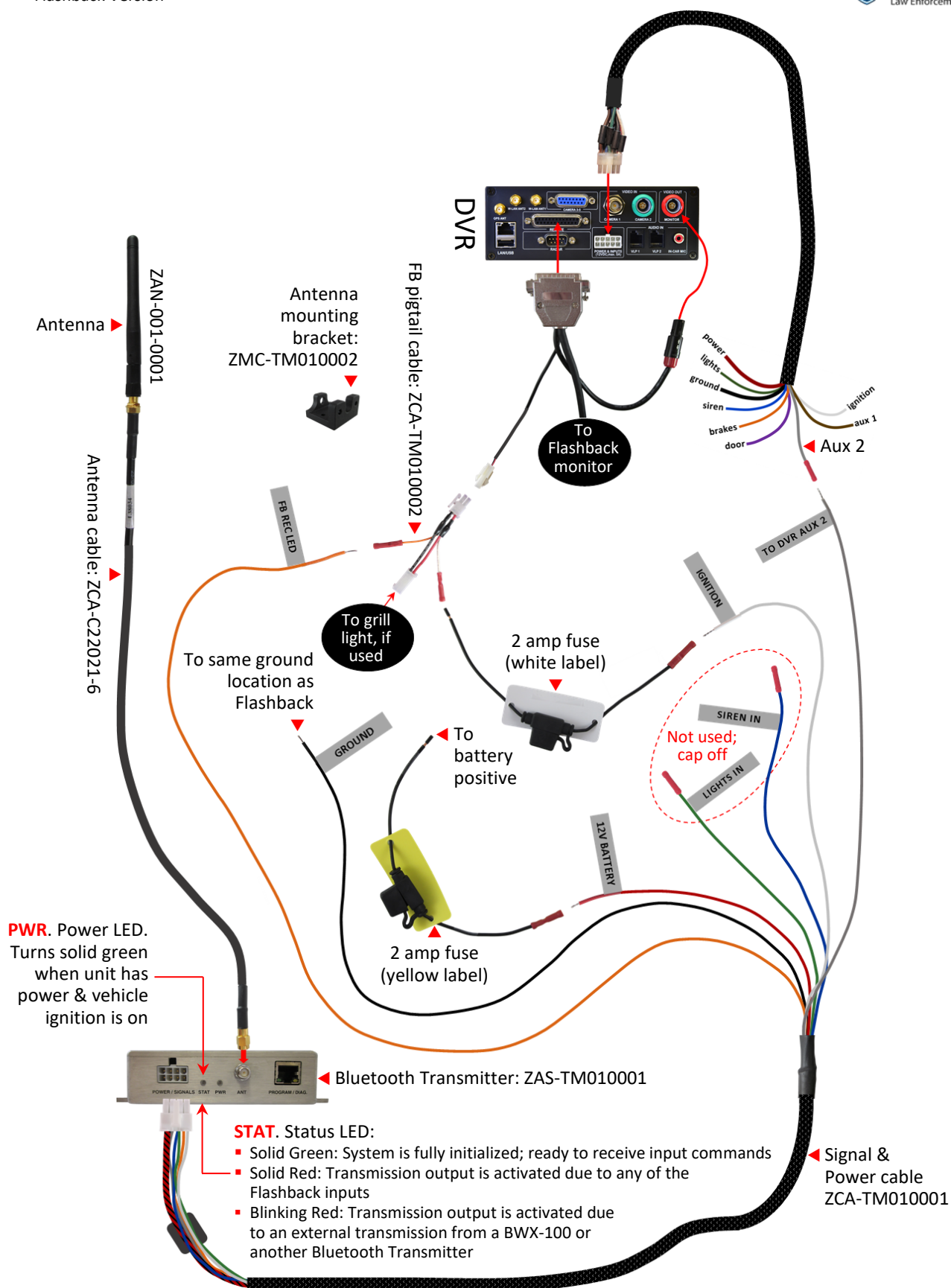
5 **Connect the antenna cable (ZCA-C22021-6) to the antenna (ZAN-001-0001)**

6 **Connect the other end of the antenna cable (ZCA-C22021-6) to the Bluetooth Transmitter**

7 **Plug the Signal & Power cable (ZCA-TM010001) into the POWER/SIGNAL port on the back of the Bluetooth Transmitter**

8 **Make the wiring connections, as pictured in the following diagram**
For a list of connections, refer to the table on page 4.

SAFE FLEET
Law Enforcement

DVR

Antenna ▶

ZAN-001-0001

Antenna cable: ZCA-C22021-6

Antenna mounting bracket: ZMC-TM010002

FB pigtail cable: ZCA-TM010002

To Flashback monitor

power
lights
ground
siren
brakes
door
ignition
aux 1
▶ Aux 2

FB REC LED

TO DVR AUX 2

IGNITION

To grill light, if used

To same ground location as Flashback

2 amp fuse (white label)

GROUND

SIREN IN

Not used; cap off

LIGHTS IN

▶ To battery positive

12V BATTERY

PWR. Power LED. Turns solid green when unit has power & vehicle ignition is on

2 amp fuse (yellow label)

POWER / SIGNALS STAT PWR ANT PROGRAM / DIAG.

▶ Bluetooth Transmitter: ZAS-TM010001

▶ Signal & Power cable ZCA-TM010001

STAT. Status LED:
- Solid Green: System is fully initialized; ready to receive input commands
- Solid Red: Transmission output is activated due to any of the Flashback inputs
- Blinking Red: Transmission output is activated due to an external transmission from a BWX-100 or another Bluetooth Transmitter

Make the wiring connections (cont'd)

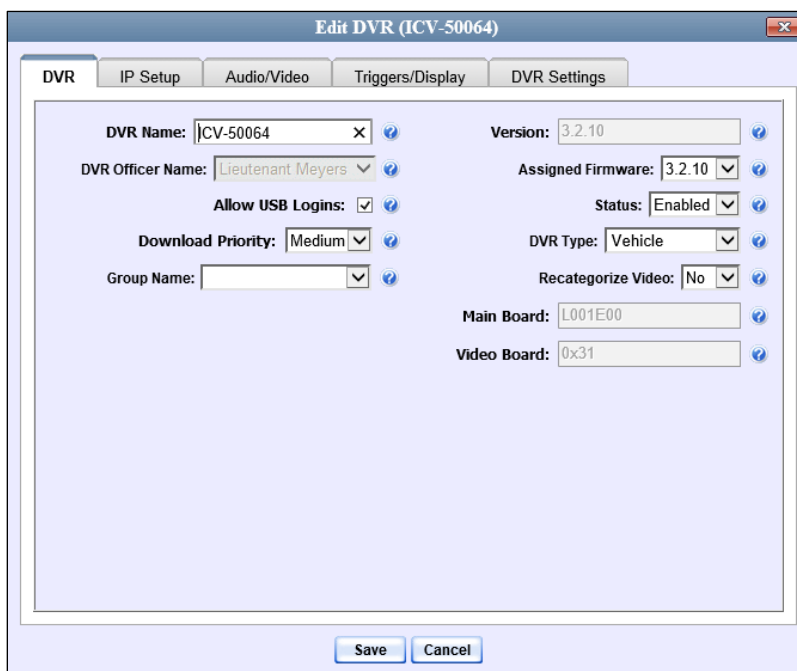| Wire	Color	Connect to…
FB REC LED	Orange	Orange wire on Flashback Pigtail cable
GROUND	Black	Same ground location as Flashback
12V BATTERY	Red	2-amp fuse, then to battery positive
IGNITION	White	2-amp fuse, then to white wire on Flashback Pigtail cable
TO DVR AUX 1 or AUX 2	Gray	To the brown Aux 1 wire or gray Aux 2 wire

9   **Connect the Flashback Pigtail cable (ZCA-TM010002) to the white lead on the back of the Flashback monitor cable**

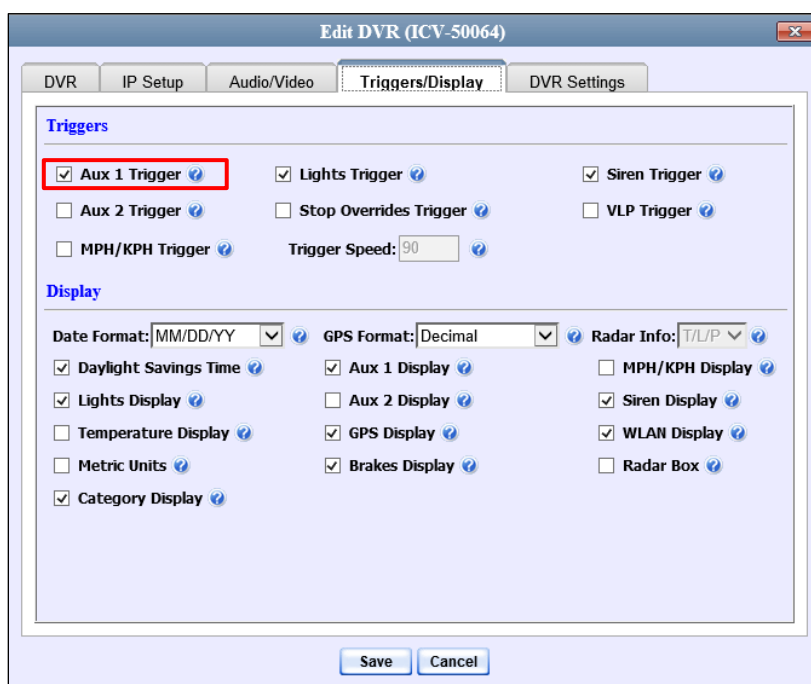**10**   **Reconnect negative lead of vehicle battery**

11   **Configure the Flashback to support remote transmission**. This procedure may vary depending on whether or not your agency is using the Fleet Management feature.
If Fleet Management is *on*, perform this task from the server, as described in "From DES" below. If Fleet Management is *off*, perform this task from the DVR, as described in "From Flashback3 or FlashbackHD" on the next page or "From Flashback2" on page 6.

From DES:

a. Login to your DES video management software as an Admin user.

b. Open the DVR record for the Flashback that will be connected to this Bluetooth Transmitter.
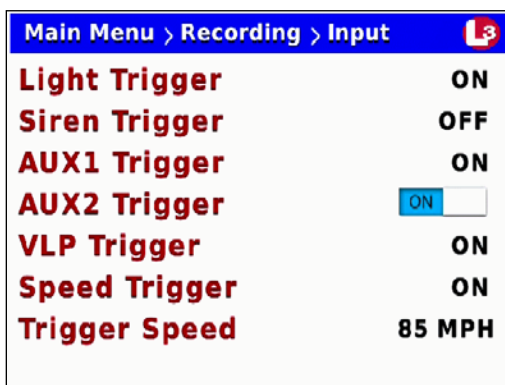
c. Click the **Triggers/Display** tab.

d. Select the *Aux 1 Trigger* or *Aux 2 Trigger* checkbox to indicate which Flashback connection you used for *TO DVR AUX 2* (see wiring diagram on page 3).
e. Click **Save**.

From Flashback3 or FlashbackHD:

a. Turn the vehicle ignition *on*. Once the Flashback has finished booting, proceed to step b.
b. Make sure the door to your DVR is open and Auto mode is *off*. (If necessary, press the 🔴AUTO button until the 🔴AUTO light turns *off*.)
c. Press 🔴M. The Flashback Main Menu displays.
d. Press the ⬛ or ⏯ button until **Recording** is highlighted.
e. Press 🔴R to select the **Recording** option. The Recording menu displays.
f. Press ⏯ *twice* to advance to the **Input** option.
g. Press 🔴R to select the **Input** option. The Input screen displays.
h. Highlight the Flashback connection you used for *TO DVR AUX 2*:
   For *Aux 1*, press ⏯ *two times* to advance to the *AUX1 Trigger* field.
   – OR –
   To *Aux 2*, press ⏯ *three times* to advance to the *AUX2 Trigger* field.
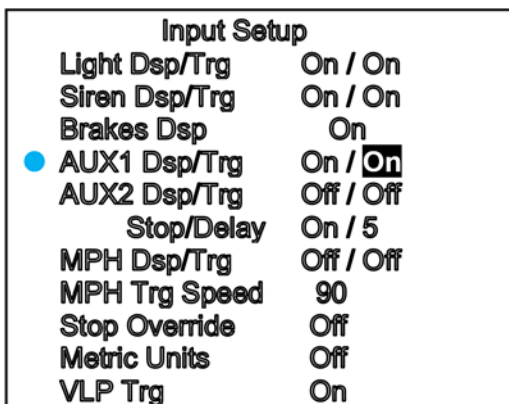i. Press ⏩ to toggle the field value from **OFF** to **ON**.

(Continued)

j. Press ⓜ *twice* to save your changes and exit this option.

From Flashback2:

a. Turn the vehicle ignition on. Once the Flashback has finished booting, proceed to step b.

b. Make sure the door to your DVR is open and Auto mode is *off*. (If necessary, press the 🔴AUTO button until the 🔴AUTO light turns *off*.)

c. Press ⓜ. The Flashback2 Main Menu displays.

d. Press the ▶️ or ◀️ button until **Input Setup** is highlighted.

e. Press 🔴R. The Input Setup screen displays.

f. Highlight the Flashback connection you used for *TO DVR AUX 2*:
    Press ▶️ *six times* to advance to the trigger portion of the **AUX1 Dsp/Trg** field.
    – OR –
    Press ▶️ *eight times* to advance to the trigger portion of the **AUX2 Dsp/Trg** field.

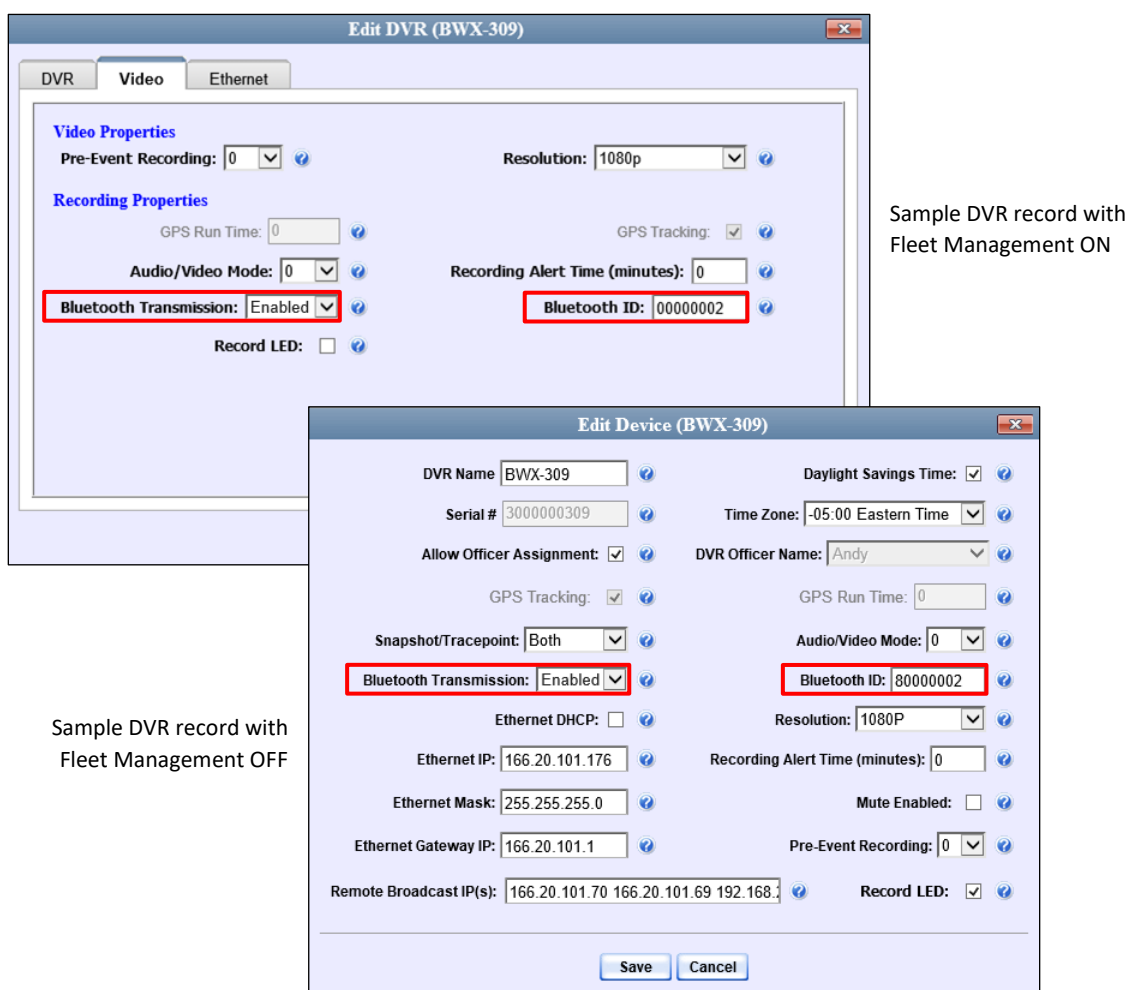g. Press 🔴R. A blue dot displays to the left of the **AUX1 Dsp/Trg** or **AUX2 Dsp/Trg** field.

h. Press ▶️ to toggle the field value from **Off** to **On**.

i. Press ⓜ three times to save your changes and exit this option.

12 **Configure your BWX-100 device(s) in DES to support Bluetooth transmission.**

a. If you have not done so already, log into your DES video management software as an Admin user.

b. Display the BWX-100's DVR record.

c. If there are tabs at the top of the record, click **Video**. Otherwise proceed to the next step.

d. Set the *Bluetooth Transmission* field to **Enabled**.

e. Enter a unique code in the *Bluetooth ID* field (must be 1 - 12 characters long and consist of a combination of numbers from 1 - 9 and/or letters from a - f). This will ensure that your Bluetooth Transmitter only communicates with devices[*] that share the same Bluetooth ID.

Sample DVR record with Fleet Management ON

Sample DVR record with Fleet Management OFF

f. Click **Save**.

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[*] May include Flashbacks, BWX-100s, and/or Bluetooth Transmitters. Just remember to assign the same Bluetooth ID to all devices in the same group!

13 **Use the Bluetooth Transmitter Configuration Tool application provided by Mobile-Vision to configure the new Bluetooth Transmitter**. This involves installing the Bluetooth Transmitter Configuration Tool on your mobile data computer, connecting that PC to the Bluetooth Transmitter via an Ethernet cable, then logging into the software and selecting your Bluetooth Transmitter settings. For detailed instructions, refer to the *Bluetooth Transmitter Software Configuration Guide*, which is available for download at:

https://l3mvicrm.blob.core.usgovcloudapi.net/mvicrm/Manuals/Bluetooth%20Transmitter%20Manuals/Bluetooth%20Transmitter%20Software%20Config%20Guide%201_1%20CURRENT.pdf

14 **Manually sync the BWX-100 with the Bluetooth Transmitter**

a. If you have not done so already, turn the vehicle's ignition *on*. Doing so will power on the Flashback and Bluetooth Transmitter. To ensure that the Bluetooth Transmitter is ready to send and receive signals, check the STAT and PWR lights on the back of the unit. Both lights should be solid green.

b. Press and hold the BWX-100's Select button until the LCD screen reads "BLUE SYNC ON", then release the button. Wait approximately 10 seconds. Once the screen reads "SELECT DEVICE", proceed to step c.

c. Press the Select button again. A device name[*] or serial number will display.

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[*] If you entered a value in the Config Tool's "Name/Unit #" field, the device name displays. If not, the serial number displays

d. If the displayed device name or serial number matches the Bluetooth Transmitter, press the Select button.
– OR –
If the displayed device name or serial number does *not* match the Bluetooth Transmitter, use the arrow buttons on your BWX-100 to display the correct record, then press Select.

Once the BWX-100 has successfully synced with the Bluetooth Transmitter, a confirmation message displays.

e. Repeat steps a – d for all BWX-100s you wish to sync with your Bluetooth Transmitter.

> **Do I have to perform the manual sync procedure at the beginning of each recording session?** That depends on your assigned vehicle and camera. If you always use the *same vehicle* and the *same BWX-100*, you do not have to perform this procedure again. However, officers who use different vehicles and/or different BWX-100s on a day-to-day basis will need to perform the manual sync procedure at the beginning of each recording session.

15 **Field test the transmission function**.
- *Test Flashback-to-BWX Transmitting*: Manually start a Flashback recording. Verify that the BWX-100 started recording, then manually stop both recordings.
- *Test BWX-to-Flashback Transmitting:* Manually start a BWX-100 recording. Verify that the Flashback started recording, then manually stop both recordings.

Emergency Lights or Siren Activated Version

In this application, the Bluetooth Transmitter is used for sending a signal that can be received by other Bluetooth-Transmitter-enabled Flashback systems or transmission-enabled BWX-100s. It does *not* re-broadcast a signal received by other Bluetooth Transmitters or BWX-100s.

1 **Disconnect negative lead of vehicle battery**

2 **Mount the Bluetooth Transmitter**
Begin by selecting a location that is:
- On a flat surface in the trunk or cabin
- Within 4 feet of the proposed antenna location
- Away from possible spills.

Mount the Bluetooth Transmitter (ZAS-TM010001) to the surface using the self-tapping screws provided.

3 **Mount the antenna**
Begin by selecting a location that is within 4 feet of the Bluetooth Transmitter, such as on the vehicle's back deck, cage wall, or A-pillar. Next, mount the antenna (ZAN-001-0001) using the provided bracket hardware (ZMC-TM010002).
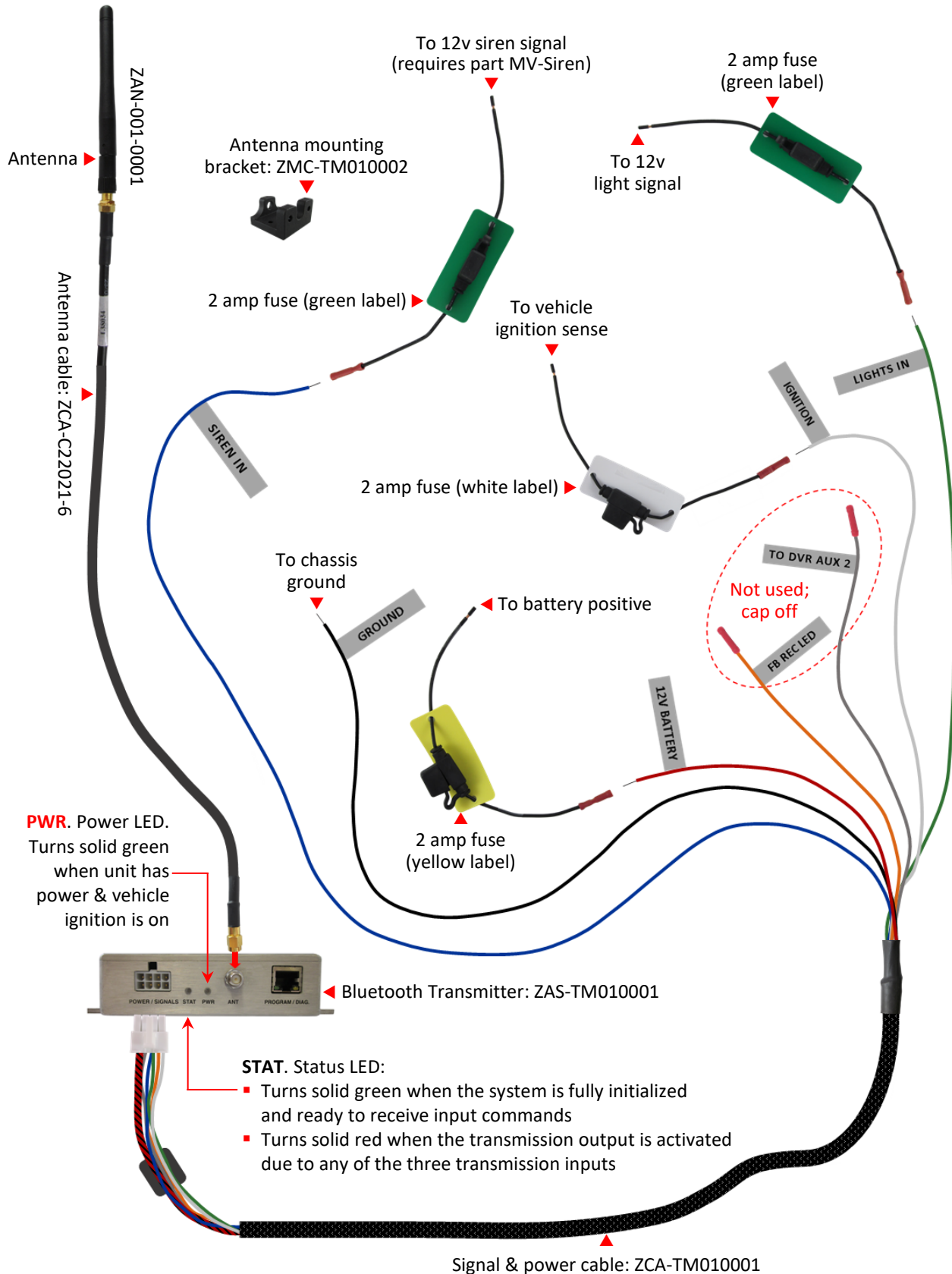
4 **Connect the antenna cable (ZCA-C22021-6) to the antenna (ZAN-001-0001)**

5 **Connect the other end of the antenna cable (ZCA-C22021-6) to the Bluetooth Transmitter**

6 **Plug the Signal & Power cable (ZCA-TM010001) into the POWER/SIGNAL port on the back of the Bluetooth Transmitter**
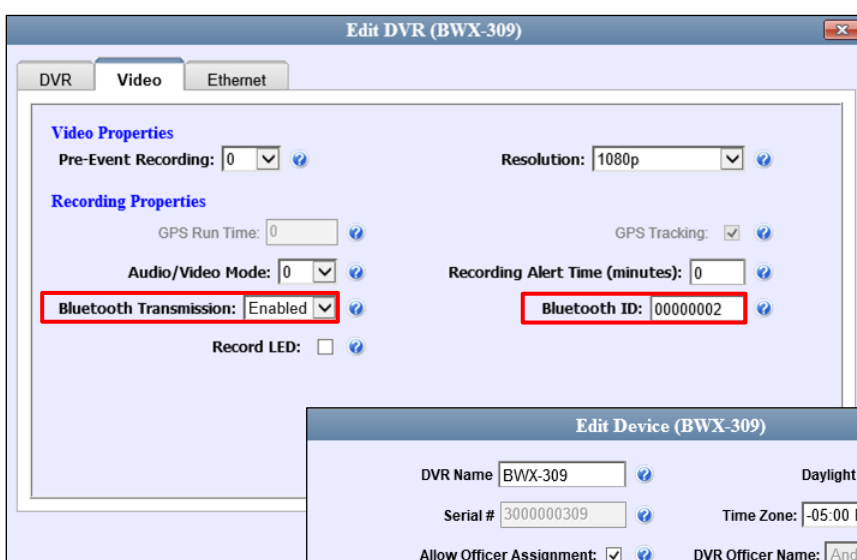
7 **Make the wiring connections (see diagram on the next page)**:

Wire	Color	Connect to…
SIREN IN	Blue	Emergency lights or siren
GROUND	Black	Chassis ground
12V BATTERY	Red	To 2-amp fuse, then to battery positive
IGNITION	White	To 2-amp fuse, then to vehicle ignition sense
LIGHTS IN	Green	Emergency lights or siren

SAFE FLEET Law Enforcement

Antenna ▶ ZAN-001-0001

Antenna cable: ZCA-C22021-6

To 12v siren signal (requires part MV-Siren)

Antenna mounting bracket: ZMC-TM010002

2 amp fuse (green label)

To 12v light signal

2 amp fuse (green label)

To vehicle ignition sense

SIREN IN

IGNITION

LIGHTS IN

2 amp fuse (white label)

TO DVR AUX 2

Not used; cap off

To chassis ground

To battery positive

GROUND

FB REC LED

12V BATTERY

2 amp fuse (yellow label)

PWR. Power LED. Turns solid green when unit has power & vehicle ignition is on

POWER / SIGNALS   STAT   PWR   ANT   PROGRAM / DIAG.

Bluetooth Transmitter: ZAS-TM010001

STAT. Status LED:
- Turns solid green when the system is fully initialized and ready to receive input commands
- Turns solid red when the transmission output is activated due to any of the three transmission inputs

Signal & power cable: ZCA-TM010001

8 **Configure your BWX-100 device(s) in DES to support Bluetooth transmission**.

  a. Log into your DES video management software as an Admin user.

  b. Display the BWX-100's DVR record.

  c. If there are tabs at the top of the record, click **Video**. Otherwise proceed to the next step.

  d. Set the *Bluetooth Transmission* field to **Enabled**.

  e. Enter a unique code in the *Bluetooth ID* field (must be 1 - 12 characters long and consist of a combination of numbers from 1 - 9 and/or letters from a - f). This will ensure that your Bluetooth Transmitter only communicates with devices[*] that share the same Bluetooth ID.

Sample DVR record with Fleet Management ON

Sample DVR record with Fleet Management OFF

  f. Click **Close**.

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[*] May include BWX-100s and/or Bluetooth Transmitters. Just remember to assign the same Bluetooth ID to all devices in the same group!

9 **Use the Bluetooth Transmitter Configuration Tool application provided by Mobile-Vision to configure the new Bluetooth Transmitter.**
This involves installing the Bluetooth Transmitter Configuration Tool on a laptop, connecting that laptop to the Bluetooth Transmitter via an Ethernet cable, then logging into the software and selecting your Bluetooth Transmitter settings. For detailed instructions, please refer to the *Bluetooth Transmitter Software Configuration Guide*.

10 **Manually sync the BWX-100 with the Bluetooth Transmitter.**

a. If you have not done so already, turn the vehicle's ignition *on*. Doing so will power on the Bluetooth Transmitter. To ensure that the Bluetooth Transmitter is ready to send and receive signals, check the STAT and PWR lights on the back of the unit. Both lights should be solid green.

b. Press and hold the BWX-100's Select button until the LCD screen reads "BLUE SYNC ON", then release the button.
Wait approximately 10 seconds. Once the screen reads "SELECT DEVICE", proceed to step c.

c. Press the Select button again. A device name[*] or serial number will display.

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[*] If you entered a value in the Config Tool's "Name/Unit #" field, the device name displays. If not, the serial number displays

d. If the displayed device name or serial number matches the Bluetooth Transmitter, press the Select button.

– OR –

If the displayed device name or serial number does *not* match the Bluetooth Transmitter, use the arrow buttons on your BWX-100 to display the correct record, then press Select.

Once the BWX-100 has successfully synced with the Bluetooth Transmitter, a confirmation message displays.

e. Repeat steps a – d for all BWX-100s you wish to sync with your Bluetooth Transmitter.

Do I have to perform the manual sync procedure at the beginning of each recording session? That depends on your assigned vehicle and camera. If you always use the same vehicle and the same BWX-100, you do not have to perform this procedure again. However, officers who use different vehicles and/or different BWX-100s on a day-to-day basis will need to perform the manual sync procedure at the beginning of each recording session.

11 **Field test the transmission function**:
a. Turn the vehicle on.
b. Position the BWX-100 within 100 feet of the Bluetooth Transmitter with line-of-sight to the antenna.
c. Turn on the vehicle's emergency lights or siren and verify that the BWX-100 started recording.
d. Manually stop the BWX-100 recording.

FCC Compliance

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

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 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.

To comply with FCC/IC RF exposure limits for general population/uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian Users

This device complies with Industry Canada License-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.

Under Industry Canada regulations, this radio transmitter may only operate using a dipole antenna and a maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This device has been designed to operate with dipole antenna(s), and having a maximum gain of 9 dBi. Dipole antennas having a gain greater than 9 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This device is granted for use in Mobile only configurations in which the antennas used for this transmitter must be installed to provide a separation distance of at least 20cm from all person and not be co-located with any other transmitters except in accordance with FCC and Industry Canada multi-transmitter product procedures.

Utilisateurs Canadiens

Cet appareil est conforme aux normes d'Industrie Canada en ce qui concerne les appareils de type CNR exempts de licence. Son utilisation doit répondre aux deux conditions suivantes: 1) cet appareil ne peut produire d'interférence, et 2) cet appareil doit accepter toute interférence, incluant celle capable de causer son fonctionnement indésiré.

En vertu du règlement d'Industrie Canada, cet émetteur radio ne peut fonctionner que si on utilise une antenne dipôle et un gain maximal (ou moindre) approuvés par Industrie Canada en fonction de l'émetteur. Pour réduire le risque d'interférence radio chez les autres utilisateurs, on recommande de choisir le type d'antenne et son gain de manière à ce que la puissance isotrope rayonnée équivalente (p.i.r.e.) suffise tout juste à assurer une communication efficace.

Cet appareil a été conçu pour être muni d'une antenne dipôle ou plus avec un gain maximal de 9 dBi. Il est strictement interdit d'utiliser des antennes dipôles présentant un gain supérieur à 9 dBi avec cet appareil. L'antenne doit présenter une impédance de 50 ohms.

Cet appareil doit être utilisé uniquement dans les configurations mobiles, alors que les antennes employées avec cet émetteur doivent être installées de manière à présenter une distance de séparation d'au moins 20 cm de tout individu. De plus, elles ne doivent pas se trouver au même endroit que d'autres émetteurs, sauf si on respecte la procédure de la FCC et d'Industrie Canada en ce qui concerne les produits dotés de plusieurs émetteurs.