MPH® Industries

BEE III™

Automatic Same Direction™ Traffic Radar

(Canadian Version)

Operation Manual

Getting Started - An introduction to the BEE III

This step-by-step guide will help you get started using the BEE III and show you how to operate its different modes. Working through this tutorial will take less than an hour, and it will teach you everything that is necessary to take full advantage of the BEE III's capabilities. This guide is not intended to replace the BEE III's normal testing procedure.

We encourage our customer's to copy these pages and use them as a checklist for training. Checkboxes are provided to keep track of your progress.

☐ Turn the BEE III on.

Press and release the "Power" button on the readout to turn on the Bee III. When first turned on, the BEE III will power up in standby mode with the range set to maximum. After initial power up the unit will return to the mode in which it was turned off.

☐ Perform a self-test.

Press the "Test" button, located approximately in the middle of the remote control. This causes the radar to perform an internal test of the processing circuitry. First the radar will light up all of its display elements in a segment test. Next the radar will tell you the software revision, for example "bEE III 022" for BEE III revision 2.2. Finally the radar will test itself with two Doppler tones, first in stationary mode at 32 kph and then at 32/32 in moving mode. You will also hear the Doppler audio associated with these test speeds. If all of the checks are successful, the radar will respond with a double "test OK" beep. Otherwise the radar will indicate a "fail" condition by displaying "Err".

Immediately after passing the internal test, the letter "F" will be displayed in the target window for approximately 30 seconds. This "F" indicates that the radar is in tuning fork test mode, a test lab requirement of the International Association of Chiefs of Police (IACP). Tuning fork tests are not required in some Canadian provinces, as is the case with some US jurisdictions. See page 22 for full testing details.

The BEE III periodically tests itself while in operation. If an error is detected it will indicate this by displaying "Err" and ceasing to display target speeds. If errors are not detected, the radar will give indication of this with a "test OK" double beep. In the event of a test related failure, the radar must be removed from service until the problem can be resolved. *The BEE III will not process speeds while an error condition is present.*

☐ Select the operating mode.

Look at the radar's remote control. You will notice a cluster of raised rubber buttons on the top portion of the remote. Two of these buttons, the half-moon shaped ones, are used to select the operating mode. The left button selects opposite direction while the right button selects same direction. Press "Opp".

Now press the "Mov/Sta" button. The radar will enter moving mode. You can tell this because the "Mov" icon is lit below the middle window. In stationary mode, the "Sta" indicator would be illuminated.

Press the "Front" button. The front antenna will now transmit if one is connected to the radar. Notice that the radar responds to all commands with a beep, letting you know that the BEE III understood and executed the action.

The selected mode will be illustrated in the MODE window, which is located on the BEE III's front panel. The green car is lit (meaning that you are not in Standby), and since you are in opposite direction moving mode on the front antenna, the arrow in the opposite lane of traffic ahead of the patrol car is on. In all cases, the arrows indicate the traffic direction that's being monitored.

Now, press the "Standby" (Stndby) button on the remote. Notice that the red X is illuminated, indicating that the unit is in standby. None of the arrows are on since traffic is not being monitored.

Now press the "Rear" button on the remote (if the radar is equipped with a rear antenna). The arrow that is behind the patrol car in the opposite lane of traffic is lit, since the radar is in opposite direction moving mode and transmitting on the rear antenna.

Now press the "Same" button on the remote. The illuminated arrow moves from the opposite lane of traffic to the same direction traffic, directly behind the patrol vehicle.

Press the "Front" button. The illuminated arrow moves to the front of the green patrol car since same direction traffic in front of the patrol vehicle is being monitored.

You will notice a "Slower" or "Faster" button does not exist like on older same direction radars. This is because the BEE III has Automatic Same Direction™ technology, a patented technology that allows it to process same direction targets

automatically, so you don't have to press a button to tell the radar whether the target vehicle is moving faster or slower than your patrol vehicle.

☐ Try out stationary mode.

Press the "Mov/Sta" button. The radar will enter stationary mode. You can tell this because the "Sta" icon is lit below the middle window and the Patrol window is filled with dashes. In moving mode, the "Mov" indicator would be illuminated.

In stationary mode, you can select the target direction you wish to monitor. When stationary mode is first initiated, operators will notice both arrows illuminated (mode window) in the direction of the antenna you've selected. Similar to conventional radar, this indicates that the BEE III will measure the speed of a target travelling in both directions. As soon as the target's speed has been displayed, the radar will indicate in the mode window the direction of travel. This unique feature helps an operator positively identify which target is being measured.

Now, press the "Same" button on the remote. You will notice that only the arrow corresponding to the patrol car's lane is illuminated. This indicates that the radar will only measure the speed of motor vehicles travelling in that direction (moving away from the patrol vehicle on the front antenna and approaching the patrol vehicle on the rear antenna). The radar will only measure the speeds of vehicles moving in the same direction as the patrol car, regardless of whether there's a stronger target moving in the opposite direction. The BEE III 's directional capability enables the radar to discriminate based upon direction allowing operator's to focus on specific traffic.

Now press the "Opposite" (Opp) button on the remote. You will notice that the arrow moves over to the other lane of traffic in the Mode window. In this mode, the radar will only display the speed of motor vehicles moving in that direction (moving toward the patrol vehicle on the front antenna and away from the patrol vehicle on the rear antenna). Like in the previous example, the radar will only measure the speed of motor vehicles moving in that direction.

Operators can toggle between the direction you want to monitor by pressing the "Same" and "Opp" buttons. If you wish to go back to monitoring both directions simultaneously, press the "Mov/Sta" button twice.

☐ Try locking in a speed.

This is a good time to try the lock function. While the readout is displaying a speed in the Target window, press the remote's "Lock" button. Note that the target speed is locked in the middle window. Also the T-lock icon (**T🔒**), which is located directly under the BEE III's middle window is illuminated, designating that the speed in the middle window is a locked target speed.

Every time the "Lock" button is pressed, the radar will transfer the speed in the Target window over to the middle window. Also if you place the radar into Standby, the operating mode at the time the speed was locked will be displayed in the Mode window.

To clear a locked speed, press either the "Front" or "Rear" antenna button once. This will clear the locked speed regardless of whether or not there's a target speed currently displayed in the Target window.

Locked speeds can also be erased in other ways. If the radar is placed into Standby, the locked speed is preserved, but if the BEE III is then made to transmit again, the locked speed is cleared (IACP requirement). Also locked speeds are automatically cleared 15 minutes after locked to preserve evidence integrity. The automatic clearing is preceded by a 30 second countdown if the BEE III is in Standby to inform the officer.

A double click of the "Lock" button will also clear the lock window.

☐ Try the menu system.

Press and release the "Menu" button on the remote control. The middle speed window of the readout will indicate "A— ". You can adjust the Audio volume with the "+" and "—" buttons while "A— " is displayed, where the "—" will be the current volume setting.

Press and release the "Menu" button twice on the remote control. The middle speed window of the readout will indicate "S n". This indicates that the Squelch is "on" and Doppler audio is only present when a target speed is being displayed.

Now, do not push any buttons for 5 seconds. You will notice that the "S n" in the middle window disappears. In all cases, after the menu buttons have not been pressed for 10 seconds the Bee III will revert back to its normal operating mode.

Press the "Menu" button twice again. While the "S n" is being displayed, press the "—" button on the remote. The middle speed will now read "S f", indicating that the Squelch is now turned "off" and that the Doppler audio will be amplified at all times, even when no target is present. As you have noticed, the "—" button also acts as an "off" button for the menu. You can turn the Squelch "on" by pressing the "+" button while the "S" is present in the middle window or turn it "off" by pressing the "—"button.

Press and release the "Menu" button three times on the remote control for Dynamic Stationary. The middle window will display "dSn" if a speedometer interface is detected. If not detected the middle window will indicate "dSf". Please note earlier models do not contain this menu option.

Wait until the middle window clears again and then press the "Menu" button four times. The middle window will display "r __", where the "—" is the current Range setting. Pressing the "—"button will decrease the Range setting by one each time the button is pressed. To increase the Range setting, press the plus "+" button.

If you press the "Menu" button five times, you'll notice that the radar will display a "P" in the middle window. This initiates the POP™ mode, which will be discussed in the section on advanced features of the Bee III.

Place the radar back into standby. You'll notice the word "Ci" or "Hi in the Patrol window. This indicates whether the radar is in City or Highway mode. City mode should be used for low patrol speeds as it reduces combining. Highway mode should be used for higher patrol speeds, say over 65 kph, to resist shadowing.

Take a look at the remote control. One of the buttons is marked "Pat Bl" in blue and "Low/Hi" in red. When the button is pressed by itself, it allows operators to toggle the radar between City (Low) and Highway (Hi) modes using the "+" and "—" buttons.

☐ Use the fastest button.

The button with the rabbit icon (🐇) on the remote control activates the fastest target mode while the BEE III is transmitting. Fastest mode is available in stationary and same / opposite direction moving mode. The use of this feature will be described later.

☐ Find some real targets using stationary mode.

Place the BEE III into stationary mode. With a target present, press the "Front" antenna button. The BEE III will beep and turn the front antenna on. A speed will be displayed in the TARGET window.

If you wish to lock in the speed, press the "Lock" button. The target speed will move to the middle display window, and the "T lock" (T🔒) icon below that window will be illuminated. After locking a target, the BEE III will continue to track it until the radar is placed into Standby. The target may be re-locked at any time by pressing the "Lock" button again.

Now place the radar into Standby ("Stndby" button). Notice that the locked speed is preserved in the middle window. It will be erased if the radar is placed back into transmit mode. It will also be automatically erased 15 minutes after it is locked if the radar is not placed back into transmit mode.

☐ Find some real targets using moving mode - opposite direction.

Place the BEE III into moving opposite mode. While driving, once an approaching target is present and within visual range, press the "Front" antenna button. Both your patrol and target speed should be displayed.

Similar to stationary and moving same direction, if you wish to lock in the target speed, press the "Lock" button. The target speed will move to the middle display window, and the "T lock" (T🔒) icon below that window will be illuminated. After locking a target, the BEE III will continue to track it until the radar is placed into Standby. The target may be re-locked at any time by pressing the "Lock" button again.

Locking a target speed does not lock the patrol window until the unit is placed into Standby. Keeping the patrol window active enables the operator to both verify the patrol speed and establish the target's tracking history.

The patrol blanking function is activated by pressing the "Pat Bl" button on the remote control. It works when the unit is in standby with a locked target. Pressing the "Pat Bl" button alternately blanks and unblanks the locked patrol speed in the patrol window.

☐ Find some real targets using moving mode - same direction.

Place the BEE III into moving same direction mode. While driving, once a same direction target is present and within radar range, press either the "Front" or "Rear" antenna button. Both your patrol and target speed should be displayed.

Similar to both stationary and moving opposite direction, if you wish to lock in the target speed, press the "Lock" button. The target speed will move to the middle display window, and the "T lock" (T🔒) icon below that window will be illuminated. After locking a target, the BEE III will continue to track it until the radar is placed into Standby. The target may be re-locked at any time by pressing the "Lock" button again.

Locking a target speed does not lock the patrol window until the unit is placed into Standby. Keeping the patrol window active enables the operator to both verify the patrol speed and establish the target's tracking history.

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BEE III Testing Procedure

Tests are to be conducted by operators at the beginning and end of shift and/or enforcement.

Power up

When the BEE III radar is first powered on it initiates a complete self test. First a light test is performed, in which all display segments / indicators will light, followed by the current software revision. This is followed by an internal circuitry test of 32 kph in both the target and patrol windows. After the internal circuitry test, PAS is displayed followed by the current antenna configuration. A3 for Ka band, A2 for K band, and A0 if no antenna is connected.

Manual self test of the radar

Press the "Test" Button located on the remote control. The radar will then perform an internal test of the processing circuitry. First the radar will light up all of its display elements in a segment test. Next the radar will tell you the software revision, for example "bEE III 022" for BEE III revision 2.2. And finally the radar will test itself with two Doppler tones, first in stationary mode at 32 kph and then at 32/32 in moving mode. You will also hear the Doppler audio associated with these test speeds. If all of the checks are successful, the radar will respond with PAS and a double "test OK" beep. Otherwise the radar will indicate a "fail" condition by displaying "Err".

Immediately after passing the internal test, the letter "F" will be displayed in the target window for approximately 30 seconds. This "F" indicates that the radar is in tuning fork test mode, a test lab requirement of the International Association of Chiefs of Police (IACP). Tuning fork tests are not required in some Canadian provinces however operators must comply with provincial policy and/or guidelines. . Operators are reminded that speed readings should not be taken while the "F" is present.

The BEE III periodically tests itself while the radar is operating. If no errors are detected, the radar will give indication of this with a "test OK" double beep. If an error is detected, the BEE III will indicate this by displaying "Err" and ceasing to display target speeds. In the event of a test failure, the radar must be removed from service until the problem is resolved. The BEE III will not process speeds when an error condition is present.

Road test

When the radar is operated in moving mode, the patrol speed indicated in the patrol window must match the speed of the speedometer within +/- 3 kph. If this is not the case, please check the radar antenna(s) for proper alignment with the roadway. In the event of a test related failure, the radar must be removed from service until the problem can be resolved.

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