# SmartSensor Advance

USER QUICK-REFERENCE GUIDE

1   Install the SmartSensor Manager Advance (SSMA) software

1. Download the setup file **SSM Advance Setup.exe** by going to the www.wavetronix.com.
2. Click **Support** and select **SmartSensor** from the **Start by** drop-down list.
3. Select **SmartSensor Advance** from the SmartSensor Support list.
4. Double-click on the file and follow the steps included in the install wizard.

2   Make a connection

1. Make a connection between your computer and the sensor. This can be done with a Click communication module. The Click module must be mounted on the same T-bus as the Click 200/222/223 surge protector.
2. Select **Communication** on the SSMA main menu.
3. Select the type of connection you want to make (Serial, Internet or Virtual).
4. Click **Connect**.
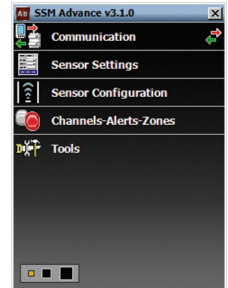
3   Enter the sensor settings

1. Select **Sensor Settings** on the SSMA main menu.
2. Edit the following fields (if necessary):
- **Sensor ID –** Text field.
- **Description/Location –** Text field.
- **RF Channel –** Prevents radars from interfering.
- **Units –** English or Metric.
- **Source –** Antenna, Replay or Diagnostic.
- **Baud Rate –** Allows you to set the baud rate for RS-232 and RS-485 communication. The green arrow shows the communication link on which SSMA is connected. The default value is 9600 bps.
- **Response Delay –** Allows you to configure how long the sensor will wait before responding to a message received.

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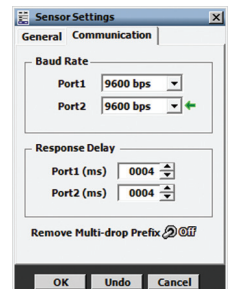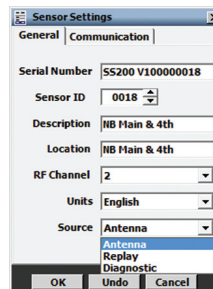
4   Enter installation details

1   Select **Sensor Config** from the SSMA main menu.

2   Select **1. Installation Details** and enter the following information:

- ■ **Stop Bar –** Use the stop bar arrows to indicate distance of sensor from stop bar.
- ■ **Sensor –** Use the sensor arrows to indicate offset from center of lanes of interest.
- ■ **Height –** Enter the height of the sensor.
- ■ **Traffic –** Click the **Traffic** button to change the direction of traffic.
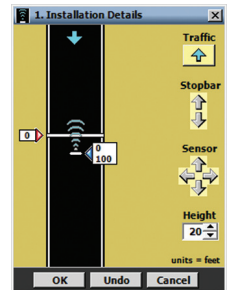
5   Complete radar configuration

1   Select **2. Automatic Radar Configuration**.

2   Click the **Play** button. The **Pause** button pauses the auto-configuration process; the **Stop** button will terminate auto-configuration.

3   Click the **Close** button once the sensor is configured.

4   Click on the **3. Manual Radar Adjustment** link to view the thresholds.

5   Select any threshold ranges (range bins) that may need adjusting.

6   Click the **Edit** button (pencil icon) and reselect any range bins by dragging down the list.

7   Make the sensitivity level adjustments and click **Enter**.

8   Click the **OK** button to accept the modifications and close the Edit Sensitivity window.
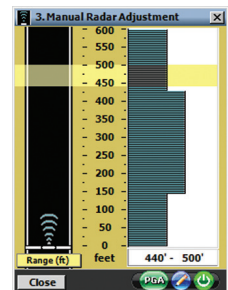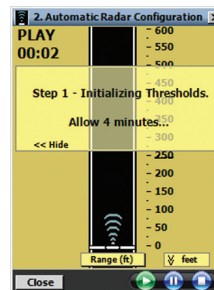
6   Set up the channel outputs

1   Once you are done configuring the sensor, click on **Channels-Alerts-Zones** on the main menu.

2   Click the **Setup Channels-Alerts-Zones** button.

3   Enable a channel by checking the **Enabled** checkbox.

4   Select **Simple** from the **Type** drop-down list.

5   Adjust the size of the zone by either using the **Range (feet):** up/down arrows or by manually grabbing the zone's blue arrows and dragging them anywhere on the roadway.

6   Click the **Speed** and **ETA** checkboxes to activate the Speed and ETA parameters.

7   Set the speeds from 35 mph on the low end to 100 mph on the high end. Set ETAs to 2.5 seconds on the low end and 5.5 seconds on the high end.

8   Name the channel "Advance" and click **OK** to save the channel settings.
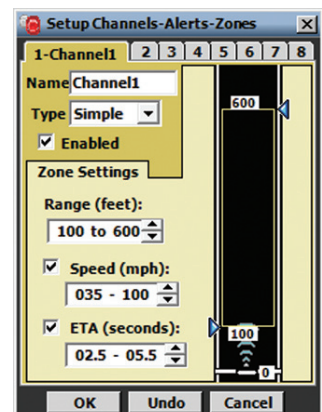
7 Place a zone

An advance detection channel as shown in step 6 is the most commonly used of the SmartSensor Advance. Often this channel is used in conjunction with a queue reduction channel to provide green extension while the queue is dissipating at low speeds. This queue reduction channel can also be configured using a simple channel by following the steps below:

1   Click the second tab on the top of the Setup Channels-Alerts-Zones screen.
2   Enable the channel by clicking the Enabled checkbox.
3   Select **Simple** from the **Type** drop-down list.
4   Adjust the size of the zone to 100–150 feet from the stop bar.
5   Click the **Speed** checkbox to activate this filter and select speeds from 1–35 mph.
6   Name the channel "QReduce" and click **OK** to save the channel settings.
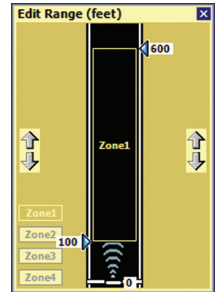


8 Add other types of channels

While simple channels can be used in many applications, it is sometimes necessary to use the additional options provided by other types of channels. These other types of channels provide output timers (delay, extend, max), logical combinations of zones (alerts) and additional zone filtering parameters (qualified count).

Consult the SmartSensor Advance User Guide for the technical details of these options and published Application Notes for guidance on recommended parameter configurations. For example, there are Application Notes on the use of SmartSensor Advance for Advance Detection (AN0001), Queue Management (AN0009), and Advanced Warning Systems (AN0002).

9 Verify your CAZ programming

The Verify Channels-Alerts-Zones screen contains both configuration and detection information. You can use this screen to verify channel programming via the roadway display and right sidebar.

Detections shown in the roadway view will change color when they meet selected criteria. At the same time, channel output indicators will light up in the right sidebar. The left sidebar also allows you to record a tracker log file for playback at a later time.
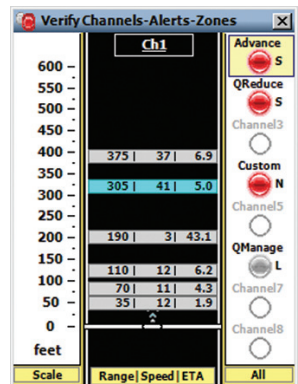
10 Set up the communication with the detector rack cards

You can use SmartSensor Advance with the Click 112/114 (Z4 protocol) or the Click 104 (Z4 protocol) contact closure modules. Communication from the sensor can be set up using the rack cards or by using SmartSensor Manager.

To set up communication via the Click 112/114/104 modules:

1   Plug in the rack card and connect a jumper cable to the correct data push port.
2   Hold down the push button on the faceplate until the green LED comes on and then release it.
3   Press the button once to select autobaud on the data bus (bus 1 on the card).
4   Press the button again to begin the autobaud process.
5   Verify that detections are registering on the Channel LEDs.

To set up communication via SmartSensor Manager

1   From the Channels-Alerts-Zones screen, click on **Setup Output Communication**.
2   Select **Port 2** from the transmit output drop-down list. Port 2 is the data bus.
3   Select **Z4** from the output format drop-down list to set up communication with the Click 112/114. Select **Simple** from the output format drop-down list to set up communication with the Click 172/174.
4   Click **OK** to save the communication changes.
5   Verify that detections are registering on the rack card. (Close SmartSensor Manager if you are connected over the data bus.)
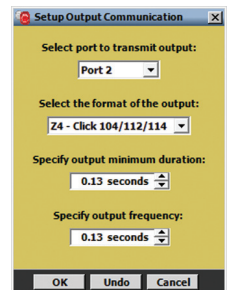
See the *Click 100–400 Series User Guide* for Click 104 instructions and more complete contact closure information.