

DEVELOPMENT GUIDE

Please ensure that this information remains strictly confidential and restricted within the internal confines of your organisation.

Congratulations!

You have started your journey to become a pioneer in digital scent detection. Here is your guide to unboxing, setting up and running your first test phase.

If there are any issues or problems with your development package or tests, please refer to your Altered Carbon representatives for assistance.

What to expect

We have provided you with engineering samples to enable you to run your first test phase. This is to enable an early training scenario to establish the feasibility for the baseline of your environment and response to your target scent. After this phase, you must book an AI engineer review, where we will advise on how to proceed.

Unboxing & Sensor Unit Registration

1. Carefully open the package and take out the K9Sense devices and any included accessories.
2. Plug in K9Sense devices and leave to charge for a **minimum of 3 hours**.
3. Register an account on the Scent Studio Platform via the link.
www.scentstudio.ai
4. Turning on device
 - a. **Locate** the power button at the back of the unit.
 - b. Press the power button once to turn on the device. The light will turn **green** briefly (first boot scenario).
 - c. The device will reset automatically after turning green.
 - d. **Press** the power button again after the reset. The light will **turn blue**.
 - e. Once the light turns blue, it means the device is **ready for connection setup**.
 - f. **Wait 20 seconds**. The unit will then enter discovery mode.

5. Connect to computer

- a. **Open** Wi-Fi connectivity settings on your device (phone, computer, etc).
- b. Look for a network named "**Scent Studio**" on the available networks.
- c. Double-click to connect network.
- d. Once connected either navigate to IP address **192.168.1.4** or your system may automatically do this, If automatically, skip the next step (e).
- e. Enter your Wi-Fi network name (SSID) and password in the provided fields
- f. If there is a dropdown menu for Quick Connect, select your Wi-Fi network from the list.
- g. Click "**Connect**" or a similar button to establish the Wi-Fi connection.
- h. Once connected, the device's light should **flash green** and then go into the main program.
- i. If the light does not flash green, it indicates an issue. Contact your representative in this case.
- j. After inputting Wi-Fi details, the device will load the application, and the blue light will stay on for a minute enabling the sensor to settle.
- k. Once the blue light turns off, the device will start reporting to the platform.

6. Register each sensor unit on Scent Studio.

- a. **Scan the QR code** on the sensor unit to be taken to the 'Scent Studio' registration page.
- b. Follow the Instructions via: **www.scentstudio.ai**

Phase 1 - First Test

Experiment Brief

Controlling the environmental conditions during data collection will help with proof of concept feasibility. This can include fluctuations in temperature, humidity, and airflow. Keep these conditions as constant as possible at this stage.

1. Establish a baseline of your environment by placing the sensor unit in the environment without exposing it to your target event.
2. Next, introduce the compound or scent that you want to train for.
3. Between each exposure, obtain absorption and desorption data. This will be beneficial for your first stage review as the engineer will be able to understand the speed of detection as well as its response to the target.

Step-by-step Instructions

Measurements and data collection:

1. **Clean air reference test.**
For experimentation, we advise running one test with clean samples for reference. You do this by starting with a clean sample for 30 mins, then letting the sensor recover for another 30 mins.
2. **Target 'scent' test.**
Expose the sensor to a sample for 30 mins, then let the sensor recover for another 30 mins. Depending on your application, this could be a wide range of things. This step is to expose the sensor to your target 'scent' of interest. *While the sensor may respond instantly be sure to follow the full 30 mins as this is crucial for background data.*
3. **Repeat steps 1 and 2** for a total of three more times to gather your first data set.
4. After this testing phase, you will be asked to **set up an R&D call** with our engineers and our AI expert. They will review your tests and advise on the next phase of development.

The reason for the length of time is to guarantee that the sensor signal saturates from the exposure, giving a full signal to examine. We will be able to bring the exposure time down in practice after this experimentation phase, via our 'Scent

Studio' AI platform. We provide extended development guidelines for subscribers and of course plenty of engineering support.

Sensor Unit Maintenance and Use

- 1.** Press the button on the rear to turn on the device.
- 2.** If you haven't set up the device, then follow the instructions in the sensor set-up guide.
- 3.** Upon turning on the device, you will see a blue light signalling sensor initiation. When the blue light turns off the unit is ready to collect data. If a red light is shown, then there is a fault and you must contact your representative immediately.
- 4.** The green light indicates that the unit is logging data.
- 5.** Remote device usage lasts between 5-10 Hours in battery life. You must charge the device for a minimum of 3 hours between use and a maximum of 12 hours.
- 6.** Check battery status via unit management on the Scent Studio platform before each test.

Phase 8 - AI Engineer review

After this initial 1 test, you must share your data with an Altered Carbon Engineer and book an appointment for a data review with our AI engineer. This is so we can analyse your data and advise on the best practice for the next phase of testing.

- 1.** Use this meeting Link to Book an appointment.
- 2.** Review your testing with the engineer.
- 3.** The engineer will create a custom testing plan for the next phase which involves further data collection to build your first AI model.