VALD

SmartSpeed Plus

Quick Start Guide

VALD V1.0
2024

Contents

1 Overview

The SmartSpeed Plus system is a comprehensive speed, change of direction and agility training tool used by elite clubs, combines and academies around the world.

2 Components

The base SmartSpeed Plus System consists of the following components:

- 2 x SmartSpeed Plus timing units
- 2 x Reflectors
- 2 x SmartSpeed Plus tripods
- 1 x Rechargeable battery pack

Note: If you purchase one or more gates, you will also receive:

- 1 x SmartSpeed Plus Charging Dock
- 1 x USB-C to USB-A Charging Cable
- 1 x DC Charging Dock Adapter
- 1 x USB Adapter
- 1 x Legacy Accessory Adapter
- 1 x Travel Case (fits up to four timing gates – additional case supplied if more than four gates purchased)

Accessories

2.1 Portable Jump Mat (SmartJump)

The Portable Jump mat enables users to incorporate explosive power measurement and plyometric training into their SmartSpeed drills.

2.2 SmartScan (RFID)

SmartScan lets users automate SmartSpeed sessions. SmartScan identifies a reusable RFID wrist band allowing the SmartSpeed app to identify the wearer performing the drill.

2.3 SmartShoxx

SmartShoxx can be attached to an object such as a target or tackle bag. It then detects a vibration or impact over a desired threshold and records the event with millisecond accuracy.

2.4 SmartPad

Available in two sizes, short and long, SmartPads are hand start pads that connect to a start gate to measure the accuracy of sprint starts. Timing starts after runners have pressed down on the pad, then lifted their hand or foot off to start their movements.

3 Charging Your Timing Units

3.1 Timing units

Each SmartSpeed Plus timing unit, comes with a rechargeable battery pack. These batteries can easily be removed from the unit and placed in the charging dock to recharge.

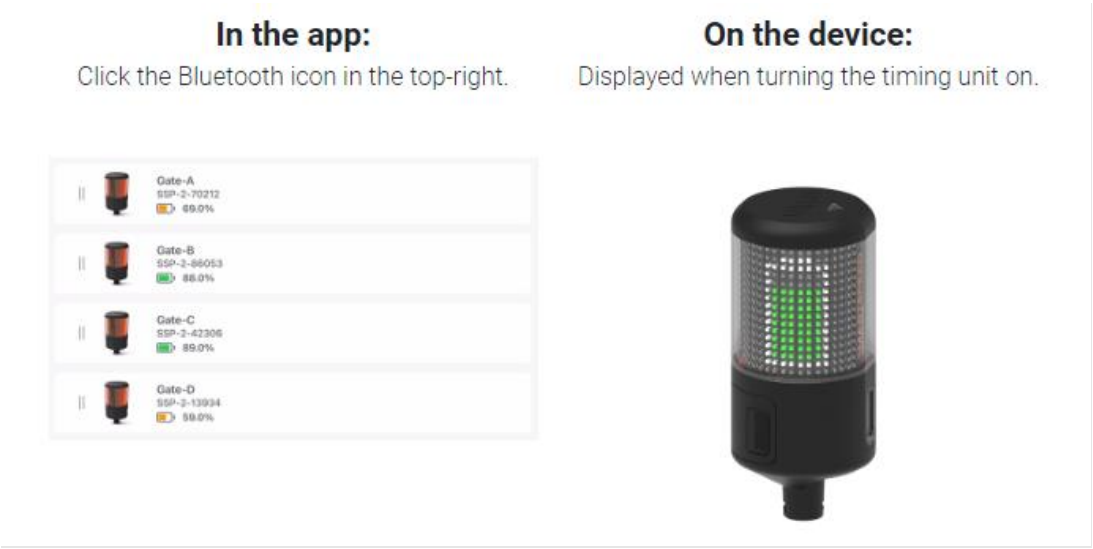
Place each battery into the dock so that the prongs on the battery align with those on the charging dock. Press into place until you hear a click, indicating they are now securely attached and can be charged.

Ensure there is power flowing to the charging dock. You will see a solid light on the side of the dock to indicate the dock has power, and an individual light below each battery to show charge status.

Once the batteries are fully charged (approximately **seven hours**), the individual light for each battery will switch off.

When to charge your timing units

The battery packs will last approximately ten hours with average use. You can easily check the battery level of each timing unit in the SmartSpeed Plus app, or on the timing units themselves. The battery life will be displayed as pictured below.



Note:

- **It is recommended that you charge your timing units before every session.**

4 Software setup

4.1 SmartSpeed App

The SmartSpeed app is the data capture application for the SmartSpeed system.

The app is available for iOS devices only and can be downloaded from the App Store – search for **SmartSpeed.**

Your VALD Hub credentials are required to log in to the app.

4.2 VALD Hub

VALD Hub is a cloud-based centralised data analytics and account administration platform for VALD Systems. It includes additional features to the SmartSpeed app, for example the ability to:

- Add and edit teams
- Create custom drills
- View and export results

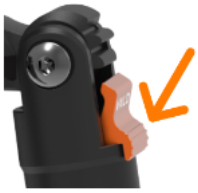
To access VALD Hub visit hub.valdperformance.com and log in with your VALD Hub credentials.

5 Hardware setup

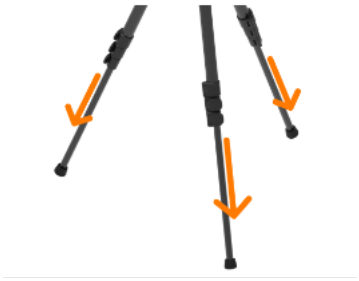
Set up the tripods

1. Take the tripods out of the travel case and rotate the legs away from the neck. You will hear three distinct clicks as you move the legs that indicate the different angles the legs can be positioned at.

2. If you need to readjust the leg angle (wider legs equals more stability), push down on the orange clip at the top of the tripod leg, then pull the legs back in the direction of their starting position.



3. To adjust the height and ensure the beam will break around an athlete's torso, unlock the leg extender locks, and pull out the legs, clipping the leg lock back into place when you are satisfied with the height.



4. You can also adjust the neck height using the twist lock at the top of the head. Twist anticlockwise, then adjust the height of the neck up or down.

Attach the timing units and reflectors

5. Take the timing units out of the small carry case, and the reflectors out of their pouch in the large carry case.
6. With the timing unit in hand, position it directly above the tripod, then lower it down onto the silver end of the tripod. **Push down and twist anticlockwise** to correctly place the unit into the bayonet lock.

7. Repeat step 6 for the reflector on a separate tripod, as well as any other gates you are setting up.

Position the gates

Where you position the gates in-field will depend on the type of drill you wish to run. For a list and explanation of different drills available to you, see your article on **SmartSpeed Drills**.

1. Accurately measure the distance between timing units (use a tape measure).
2. Place a timing unit and a reflector in line with each other (approximately 2 meters apart – see image below).
3. Stand behind a timing unit.
4. Turn on the timing unit – *press and hold the power button on the base of the unit for three seconds (see image below)*
5. Tap (do not hold down) the configuration ((○)) button on the base of the unit (see image below). You will hear a single beep as the device switches to alignment mode and the laser beam becomes active. The LED display will then indicate the alignment status.
   Do not hold down the Configuration button. You will hear three beeps as this attempts to **change the channel ID** *on your timing gate.* ***Simply tap to begin the alignment sequence.***
6. Rotate so that the **arrow on top of the timing unit is pointing directly at the reflector**. To do this, twist anticlockwise on the circular knob at the head of the tripod, then begin to rotate the unit. *If you received the red exclamation mark (!) when beginning the alignment sequence, rotate slowly away from the reflector, then back again.*
7. When you have aligned the laser beam with the reflector properly, the LED will display a **green plus and circle**. Once the circle has completed a full rotation around the green plus, the unit will beep to indicate that the alignment sequence is complete.
8. Turn the knob at the head of the tripod clockwise to tighten the timing unit in place.
9. **Repeat this process with each unit** to align all of your timing gates.

Button Functions

Timing Unit and Reflector

Note:

- If using a SmartScan (RFID) or SmartPad, connect it to the start timing unit using the provided PS2 cable.
- If using SmartShoxx, connect it to the relevant timing unit using the PS2 connector (green end) on the SmartShoxx. Timing units connected to SmartShoxx do not require a reflector.

- If using a Portable Jump Mat, connect it to the relevant timing unit using the PS2 connector on the Portable Jump Mat.
- In windy environments, ensure timing unit is optimally aligned by moving it side by side slightly and ensure it remains aligned with the reflector.

6 Run a Session

6.1 Primary Device

If all of your SmartSpeed Plus timing units are turned on, however, there is a gate missing from the device list in your SmartSpeed Plus app, the anomalous device may be switched to a different channel.

When changing the channel ID, this must be done directly on the timing unit.

Locate the missing gate

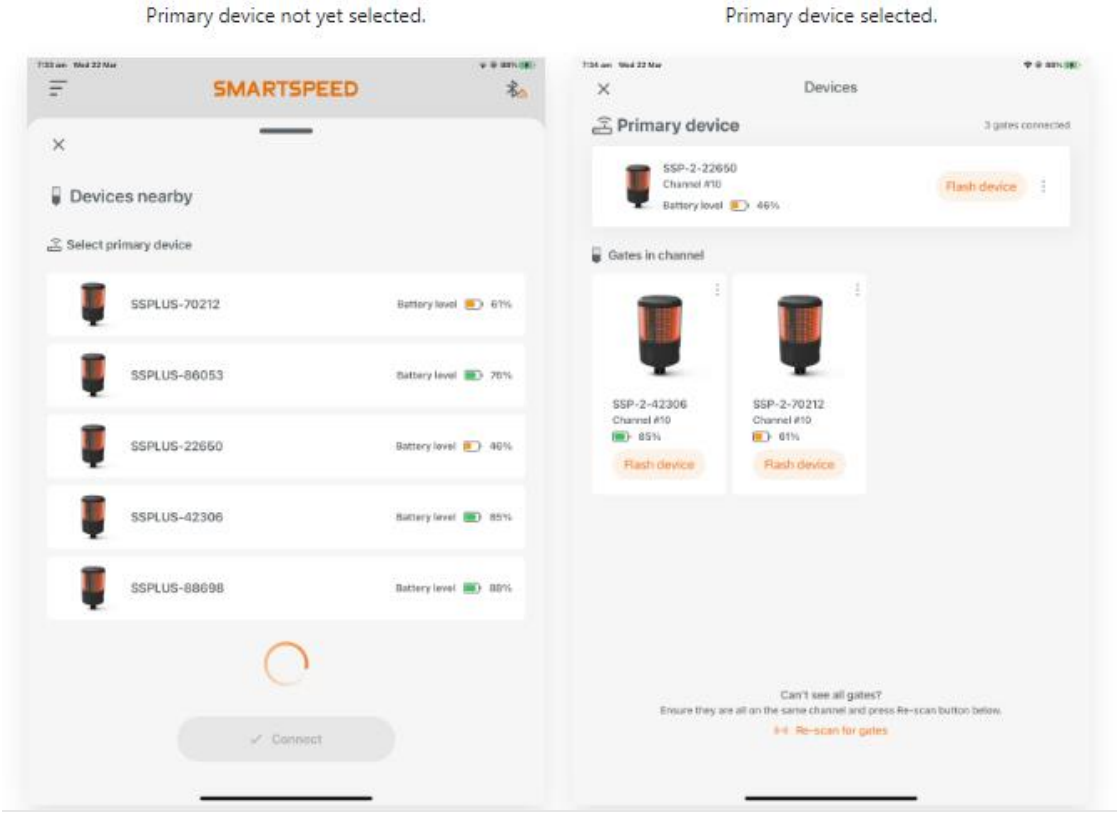
In the SmartSpeed Plus app, click the Bluetooth icon in the top-right.

Primary device not yet selected (see image below – bottom left):

If you have not yet selected a primary device, all active gates will be displayed – regardless of channel. You will firstly need to select a primary device, click Connect, then navigate back to the Bluetooth window.

Primary device selected (see image below – bottom right):

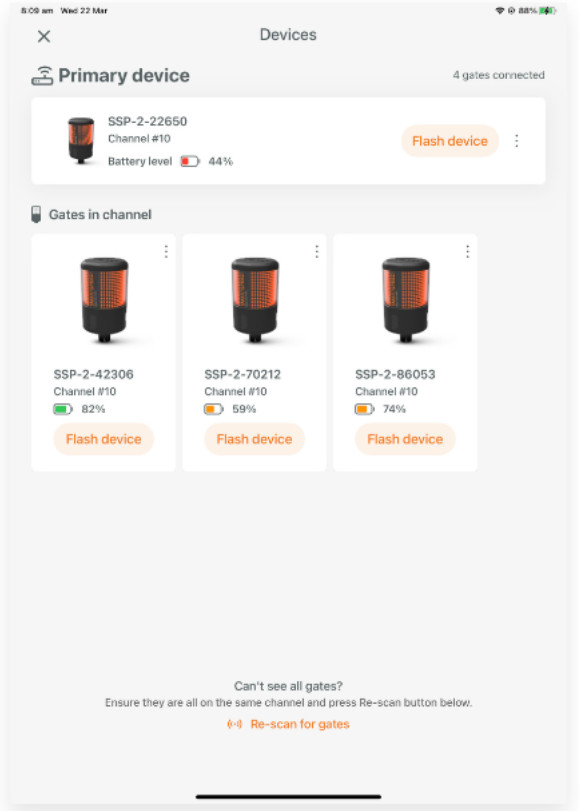
If you have already selected the primary device, the app will only show gates on the same channel as the primary device. Any gates that are on a different channel will not be displayed.



To locate the missing gate, take note of the gate names in the SmartSpeed Plus app (e.g. SSP-2-42306). This alpha-numeric name will be shown on the LED display on the corresponding timing unit in-field. Click Flash device on each gate in the app to determine which gate is missing. The gate that does not flash is on the incorrect channel.

Change the channel ID

1. Once you have located the device on the wrong channel, approach the timing unit in-field and **hold down** the **Configuration** button on the base of the device for **three seconds or until you hear three consecutive beeps**. This will change the LED display to show the current channel ID. *Do not tap on the Configuration button as this will begin the alignment sequence. Hold down for three seconds or until the Channel ID appears on the LED display.*
2. Now in the channel select workflow, repeatedly tap the **Configuration** button on the device to rotate through the different channels until the channel matches that of the primary device (show in app).
3. Hold down the **Configuration** button for three seconds until the channel ID disappears and the gate serial number returns. This will save the new channel ID for the gate.
4. On the SmartSpeed Plus app, click **Re-scan for gates** at the bottom of the Devices list. The gate list will be refreshed, and the new device will be added.



6.2 Set up a Drill in the SmartSpeed Plus App

Once you have completed the above steps, you can set up a session in the SmartSpeed Plus app and start running a drill.

Refer to **SmartSpeed Protocols** for suggested drills.

1. **Turn on all timing units**. When inserting the battery into the timing unit, this should turn the device on automatically. Alternatively, you can turn on each timing gate by pressing and holding the power button at the base of the unit for **three seconds**.
2. If you would loke to complete a jump drill, connect your SmartJump jump mat using the accessory adapter located in the clear bag with your transformers. Plug the accessory adapter into the USB-C port on the base of the unit.
3. **Open the SmartSpeed Plus app** on your smart device and **log in** using your VALD Hub credentials.
4. In the **Devices** tab of the home page, click the 

button. This will search for and display all SmartSpeed devices nearby.
5. From the **Devices nearby** list, select your primary device.

> The primary device must be within a maximum 50-metre range of your smart device at all times to maintain a strong Bluetooth connection between the gates and your SmartSpeed Plus app.

6. Click **Connect**. You will then be returned to the home screen. To double-check what all gates have been connected, click on the **Bluetooth symbol** in the top-right. This will display the primary device, along with any other gates on the same channel.
7. Click **Start a session** to configure your drill setup.

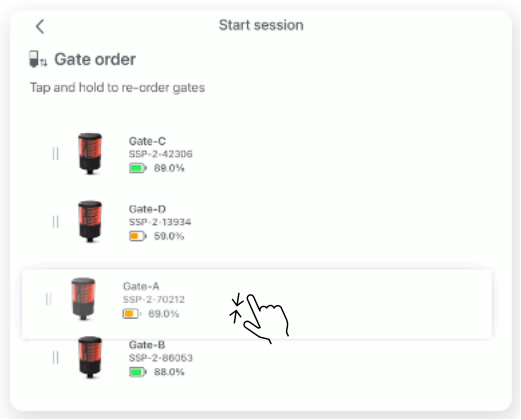
Drill Type	Sprints, change of Direction, Jumps or Interval Protocols. Jumps will only appear as a Drill type if you have a connected jump mat.
Drill Name	This will vary depending on the drill type selected. See our **SmartSpeed Drill List** for more information.
Gate Layout	Based on your drill selection, review the layout of your gates. This can also be done by clicking **Review gates layout.**
Split Distance	The desired distance between each gate in-field.
Profile Selection	Auto select, Manual select, or **RFID**.
Start Type	Break beam or In-beam/Mat.
Signal Type	Lights, Buzzer, or Lights & Buzzer.
Signal Delay	Minimum delay (s) and Maximum delay (s) of signal.
Change of Direction	Random, Left, Right, or Both.
Gate Rearm (ms)	Time for gate to rearm for next athlete (ms).
Error Correction Processing (ECP)	Enable or disable **ECP**.
Trial Validity	Enable or disable tags for each trial. Allows you to mark an athlete's trial as **Valid** or **Invalid**.

8. **Set up your gates in-field** for the drill you have selected.

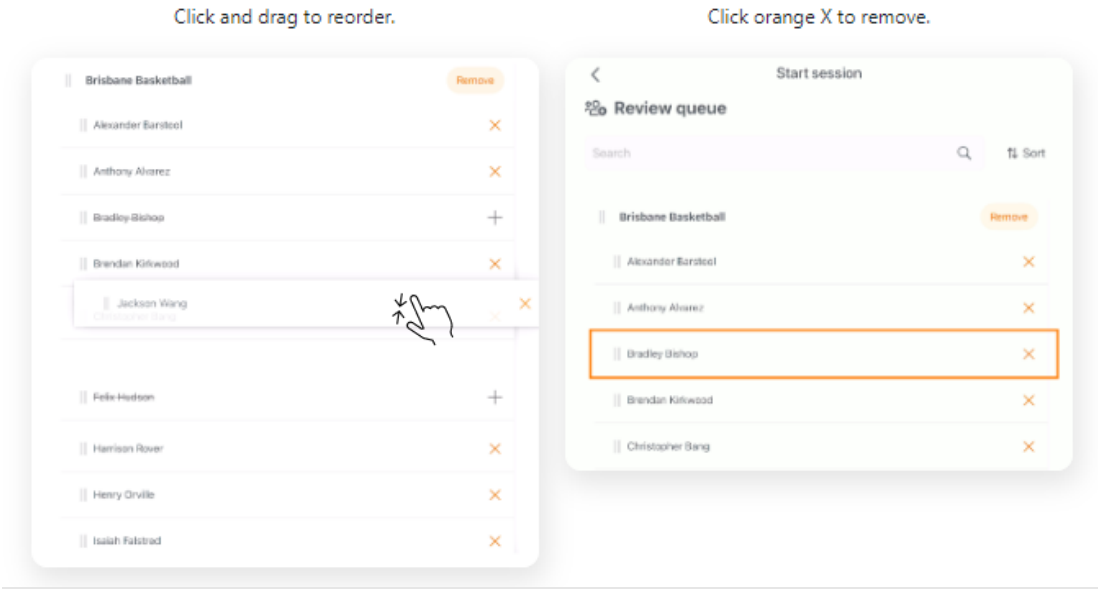
> It is recommended to use a measurement device to correctly measure the spacing between gates.

9. Click the 

button. Each gate in the app is designated an alphabetical letter, which is shown on the LED display of the corresponding timing unit. You can click **Flash device** if you cannot differentiate devices, as this will flash a white light on the specified unit.
10. Click and drag your gates into the correct order, if necessary, then click confirm.
    If you receive an alert that your gates are not aligned, please **align your gates properly** before continuing.



11. Select the relevant profiles for the athletes that will be completing the drill. You can choose a specific **Group** that you have previously set up in VALD Hub or click into the **Profiles** tab to select athletes individually.
12. Click **Add to queue** and review your athlete list in the queue.
13. You can reorder your athletes at this stage or remove a profile from the current queue*.
    *This will only remove the athlete from the current queue, not from the group in VALD Hub.



14. Click **Confirm** when you are ready to begin your session. You will then see the name of your first athlete appear both in the SmartSpeed Plus app, as well as displayed on the timing gates.
15. When your first athlete is lined up at the starting gate and ready to begin the drill, click **Ready** to arm the timing gates. Once they break the beam on the first gate, their time will begin. As the athlete runs through each gate, their split times will display on the relevant gate.
16. Once the athlete breaks the final gate in the drill, the time will cease and be displayed in the app. If you have more than one athlete in your queue, the next athlete will then be displayed if you have set the profile selection to automatic.
17. When you are ready to end your session, click the **pause button**, then click **Finish**.

> Once you have completed your session, ensure you remove the batteries from the timing units and place them back on charge.

7 Care

The following is recommended to ensure the protection of your SmartSpeed Plus system:

- When not in use, store your SmartSpeed Plus system in the provided hard travel case.
- In the case of wet weather, ensure the SmartSpeed system components are dry prior to storage. They are no waterproof due to plug inserts on the underside.
- Ensure the timing units are turned off after each session.
- Remove the batteries when not in use and place them on charge.
- Your SmartSpeed Plus system should only be charged using the chargers provided.

8 Health and safety information

Precautions when using batteries

- Never use any charger or battery that is damaged in any way.
- Use the battery only for its intended purpose.
- If left unused, a fully charged battery will discharge itself over time.
- Always charge in or as close to room temperature (20 degrees Celsius) as extreme temperatures will affect the charging capacity of the batteries.
- If Batteries will not recharge (batteries provided have a recharge life of 800 times), DO NOT ATTEMPT to change the batteries yourself. Instead contact VALD.

Electronic devices

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from the units.

Pacemakers

Pacemaker manufacturers recommend that a minimum of 15cm should be maintained between the units and a pacemaker.

Hearing aids

Some wireless technology can interfere with some hearing aids. In the event of such interference, you may wish to consult your hearing aid manufacturer to discuss alternatives.

Other medical devices

If you use other personal medical devices, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your Physician may be able to assist you in obtaining this information.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.