



SAAB

User guide PDDNG

1 PDD overview



1. Head harness	4. PCU (Personal Computer Unit)
2. Body harness	5. Laser detectors
3. GPS antenna (advanced configuration)	6. Player ID Number



1. Battery Unit (BU)
(advanced configuration)

2. Miniature Remote
System Interface (MRSI)
(advanced configuration)

2 General

The Personnel Detection Device (PDD) is a man worn simulator system that simulates casualty from direct and indirect fire. The individual wearing the PDD will get feedback through the built in speaker and all training data is stored for after action reviews.

The PDD is available in 3 different configurations:

- **Basic:** This configuration is suited for initial laser assisted training. All events are recorded and time stamped. The data can be extracted after an exercise and turned into statistics for the unit.
- **Medium:** This configuration is ideal for full tactical training in smaller units. All events including tracking of position of the user are recorded. The AAR features includes replay on 3D map with individual soldier animation.
- **Advanced:** This configuration is ideal for full tactical training from smaller units up to large battalion exercises. The AAR features includes replay on 3D map with individual soldier animation, all monitored in real time for EXCON. Capabilities such as AWES, MOUT training and indoor tracking is available in this configuration.

3 Installation

3.1 Body harness

1. Put on the body harness.

2. Attach the chest buckle. Put the front straps around the combat harness belt and tighten the straps.



3. Put the rear straps around the combat harness belt and tighten the rear straps



Advanced configuration:

4. Tighten the instrumentation kit straps on both sides



5. Adjust the vest and make sure no detectors or the GPS antenna are covered.

— **Note!** —

The MOLLE system on the back of the harness can be used to fix the harness tighter to the combat harness.

3.2 Head harness

1. Attach the four hooks around the helmet.



Note!

It is easier to start with the rear hooks to attach the head harness.

- Put on the helmet. The electronic unit should be placed in the back.



3.3 Battery installation

3.3.1 Safety conditions



WARNING!

Prevent Batteries from:

- **Damage**
 - **Short circuit**
 - **Exposure to temperatures above 60°C (140°F)**
 - **Being dismantled**
 - **Immersion in liquids**
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3.3.2 Battery

The body harness and the head harness is powered by a battery. When a body harness battery reaches low charge, the audio cue "Low Battery" is heard. This cue is repeated every 5 minutes and the battery should be replaced as soon as possible.

3.3.3 Battery installation basic / medium configuration

1. Open the battery lid on the PCU to install the battery. The positive (+) pole should point upwards.



2. Verify that the vest sounds "System OK" or "Tampering Kill"
3. Close the battery lid.

3.3.4 Battery installation advanced configuration

Safety conditions

— **Note!** —

No battery is needed in the PCU. Any battery left in the PCU is still protected from charging and return currents when using the central battery in Advanced mode.

1. Pull the Velcro flap and open the battery pocket.
2. Install the battery. Make sure that the battery locks in the battery holder.



3. Verify that the PDD sounds "System OK" or "Tampering kill".
4. Close the battery pocket.

3.3.5 Head harness and soft cap

1. Open the Velcro flap and battery lid to install the battery in the head harness.



2. Close the battery lid and pocket.

4 Operation

4.1 The PCU interface



1	Battery Compartment	4	Push buttons
2	Loudspeaker	5	Hit-LED
3	IR-port and status LED		

4.1.1 Battery compartment

The PCU contains an AA-cell battery compartment.

4.1.2 Loud speaker

All environmental sounds and spoken messages are given from the loud speaker, placed in front of the PCU.

4.1.3 IR-port and status led

The IR port and status LED is available under a cap. The IR-port is always automatically activated and is used to associate the PDD NG with other devices. Three status LED (red, yellow, green) is available beside the IR-port

4.1.4 Push buttons

Button 1: Push the button to adjust the volume between low, medium and high. Default volume when the system starts up is set to high.

Button 2: Is not used.

Button 3: Generates a BIT and if the PDD is in wounded status, will wounded body parts also be reported. When pressing the button twice (<1sec), will the PCU report full system status audio feedback.

4.1.5 Hit-LED

The PDD has a visible high intensive Hit-LED placed in the front of the PCU

4.2 Events and audio cues

The PDD generates the following types of audio cues/messages via the built-in speaker:

- near miss sounds
- wound status
- killed
- artillery sound with distance and compass direction
- minefield effect

Hit evaluation:

When the PDD evaluates a hit an attention noise is generated. This is followed by a message as to wound type or a killed statement.

The PDD will disable the weapon SAT for about 30 seconds to simulate the shock of being hit. This prevents immediately return fire.

If the hit is evaluated as a kill or a severe/lethal wound the SAT will continue to be disabled. Only light wounds result in the ability to continue firing after 30 seconds.

The simulated wound type will dictate the remaining time to live from an untreated wound. In the event of "kill" the wearer presents a combat target and should not move around. If moving around an unrealistic situation during the After Action Review is caused.

5 Optional Equipment

5.1 Installation of soft cap

1. Attach the four hooks around the soft cap. The electronic unit should be placed in the back of the soft cap.



2. Put on the soft cap and adjust the size with lacing and quick lock.



5.2 EFD

5.2.1 Preface

The EFD is placed on the wrist and associated to the PDD. The EFD improves the ability to sense a simulated wound/kill state and detected near miss, by vibration, LED and sound. The Buddy Aid function provides the possibility to perform a simulated first aid on a wounded person.



5.2.2 Battery installation

1. Open the battery lid.



2. Install the battery with the battery's positive (+) terminal to the plate. Use CR-2 battery.

Note!

The battery typically needs to be replaced every 14th day.

5.2.3 Associate the EFD to the PDD

1. When the battery is installed, the EFD generates one beep, one Signal LED flash and a short vibration. The battery LED turns solid yellow. The EFD is now in association mode.



2. Hold the EFDs IR-window against the PDDs IR-port.



3. The PDD will generate the audio message "ID" and the yellow battery LED on the EFD is turned off.

— **Note!** —

The EFD is associated to the PDD until it is associated with another PDD. Even if the battery is changed.

6 Troubleshooting

6.1 PDD troubleshooting

Symptom	Cause	Corrective action
No indication of a hit	Detectors covered or dirty	Make sure that the detectors are clean and facing forward.
	No power	Push the volume control. If no sound, check the battery.
	Head harness not powered up.	Move the head band (sleep mode?).
		Check the battery.

Symptom	Cause	Corrective action
No sound from the speakers	No battery in PDD	Install battery.
	Low volume	Press the volume control button.
	Battery discharged in PDD	Check the battery.
"System Error" from speakers.	Error	Contact O/C (see BIT error list).

7 Maintenance

7.1 Clean the equipment

1. Remove all loose dust and dirt with a soft brush.
2. Clean all parts with a damp sponge.
3. Clean optical surfaces with a lens cleaning tissue.
4. Dry all equipment with a dry cloth.

8 Regulatory Statements

8.1 FCC Certification

The United States Federal Communication Commission (FCC) has established certain rules governing the use of electronic equipment.

8.2 Part15, Class B

- 1 This device is FCC Certified FCC ID: R4APDDNG.
- 2 This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:
 - 2.1 This device may not cause harmful interference, and
 - 2.2 This device must accept any interference received, including interference that may cause undesired operation. 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.

8.3 User Information



CAUTION!

Any changes or modifications not expressly approved by the party responsible for compliance, namely Saab Defense and Security USA LLC, Training and Simulation, could void the user's authority to operate the Equipment.
