

To Whom it may concern

Subject : HEDD1® - Best practice - Workshop results based on observations during latest trials and demos/ high contamination areas

Bonn, 01.08.2010

We herewith like to provide you with the latest recommendations in regards to performance tests with HEDD1®.

- (A) Storage: Always separate the storage location of HEDD1® from explosives storage locations such as EOD vehicles. Having HEDD1® stored together with (large amounts of) explosives for some time, needs at least 1 day for the device to come back to its regular modulation and charge.
- (B) Prior to the use of HEDD1®, we strongly recommend to use the tester and “calibrate” the operator/ HEDD1® unit. Being on line with the tester will tell you the perfect handling position. Any detection before or after the tester needs to be adjusted by changing the HEDD1® position related the body (e.g. higher/lower or more to the front, back or side of the body). This “calibration” doesn’t require more time than 1 minute and will reduce localization tolerances in terms of accuracy. Try to hold HEDD1® in a very “open” position (see pictures below).



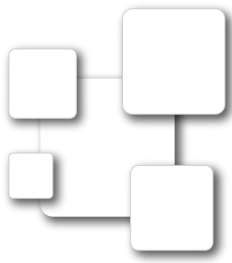
- (C) Avoid from “empty runs” prior to tests, as these runs will cause too many modulated and interfering magnetic fields (which will be explained in detail in the drawing at the end of this statement).
- (D) Stay away from huge amounts of active source (explosive). People, vehicles etc., which are exposed to explosives (at a close distance to them) will be effected after some time (1 - 5 minutes) and will be detected by HEDD1®.

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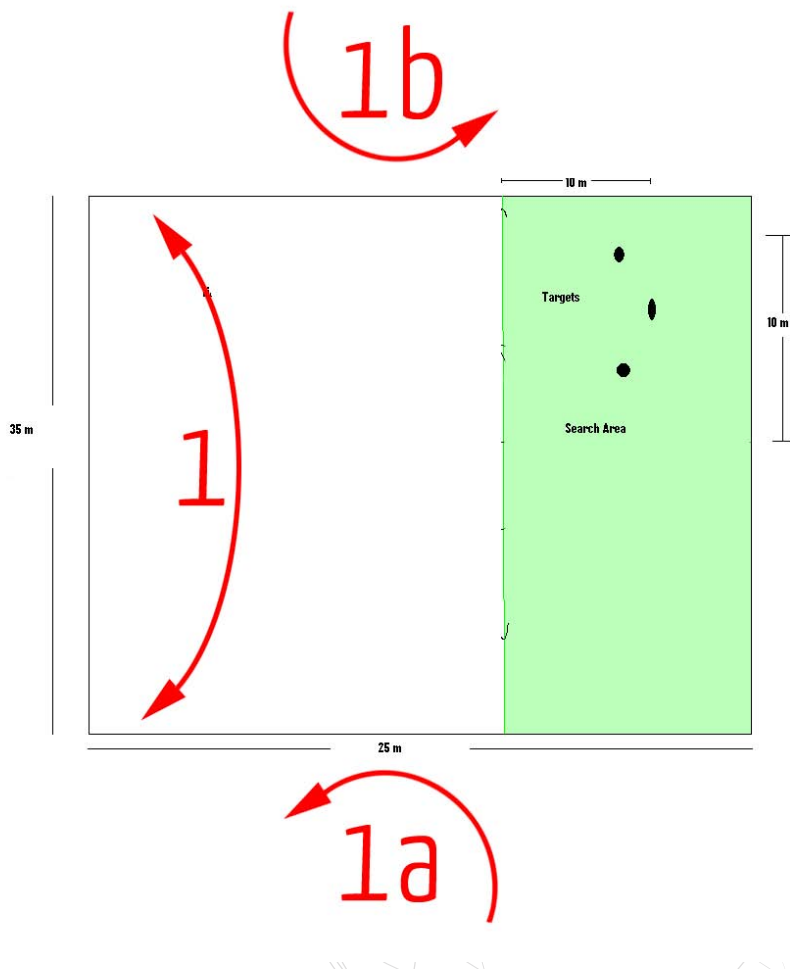


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- (E) Walking in complete 360° circles, if operating in areas with expected high contamination, will not lead into best detection results, as too many modulated fields outside and possibly inside the test area will be activated.
- (F) Therefore and as a result of (D), we recommend walking straight lines, straight lines with slight curves and diagonals. Best practice will be trained in special training scenarios, which have to be close to real scenarios. (see pictures below).
- (G) As a further result of (D), we recommend that the operator should always use a certain angle for localization of explosives, where the test area is always visible to him (focus on the possible area of threat). (see pictures below).

Best practice No1):

Walk a slight curve (1) in order to cover the complete test area. Alternatively walk to smaller curves outside the test area (1a & 1b) to cover once again the complete test area. You can stop those smaller curves once you're not facing the test area any more! This will prevent from activating maybe other fields in the surrounding, which doesn't belong to the test.

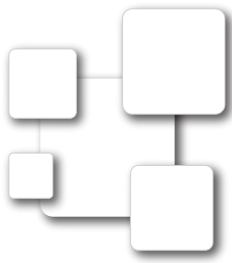


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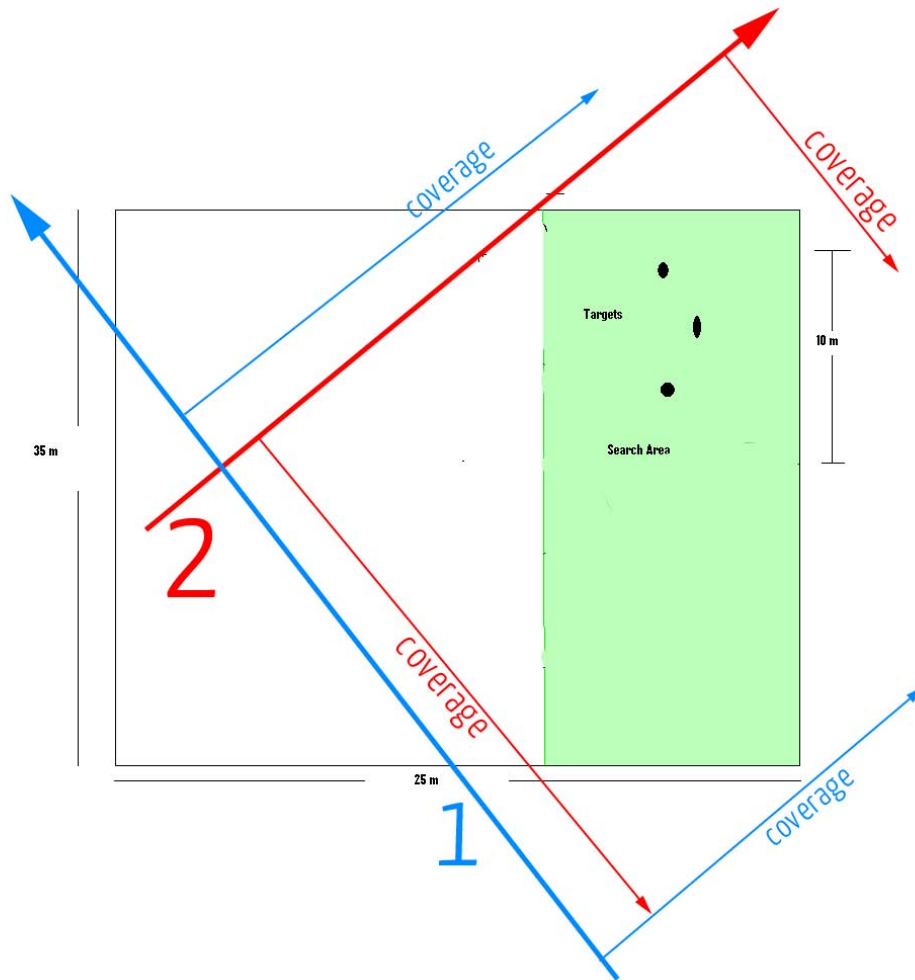
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Best practice No2):

Walk 2 diagonals outside the test area. The thick red and blue line (1 & 2) is showing the general direction. The thinner red and blue lines is showing the coverage of the area, while walking diagonals.



With both alternatives (curves and diagonals), you will receive best detection results.

- (H) We recommend working with 2 operators. The first operator has to concentrate on detection with HEDD1® and the second operator will do the profiling and will memorize and mark the lines, which point into the direction of the explosive(s). After 20 - 30 minutes we recommend to change between the two operators. So operator 1 will do the profiling and operator 2 will become the HEDD1® operator. We also recommend changing the device, if possible/ available.

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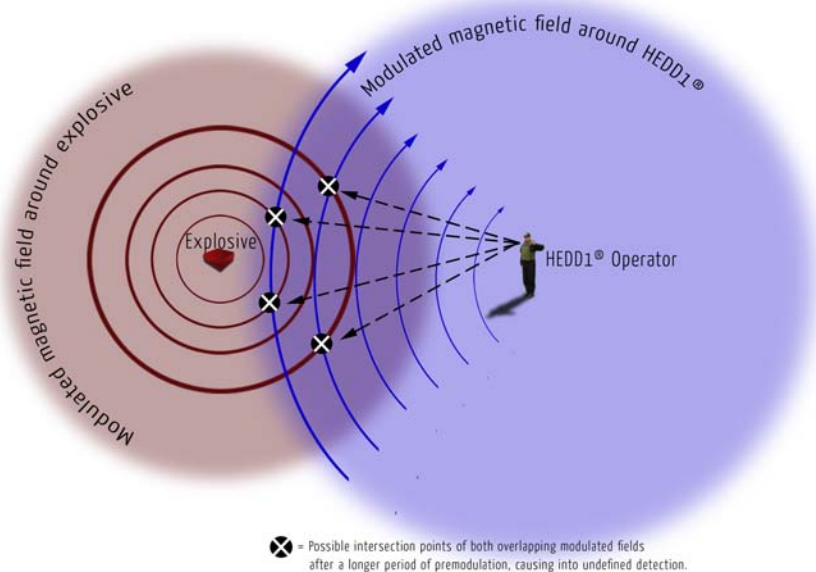


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- (I) Always work in a timely manner. Rely on the first detection result and confirm (if needed and possible, depending on the scenario) with a second run.
- (J) Static scenarios: The position of HEDD1®, related to the operator's body should be high (just below the shoulder), very "open" (away from the body, so that the rotating antenna, especially the pin at the end of the antenna can turn/ rotate towards the center of the body and not to the opposite shoulder).
- (K) Depending on "calibration" results and different capabilities of different operators, 1 to 2 steps of the operator into the direction of the target shall be made (once they are bypassing the operator and instead of keeping the static position) to increase detection results.
- (L) Lower the antenna to 20 - 30 degrees for close range scenarios (like access point scenarios, people/ vehicle check).

Summary:

- "calibrate" yourself
- work outside the test area
- prevent from activating too many modulated fields when checking outside the test area and by walking around inside the test area. Avoid extensive confirmation runs. (see picture below)



= Possible intersection points of both overlapping modulated fields after a longer period of premodulation, causing into undefined detection.

See next page for further explanations.

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Explanation for the drawing from the previous page:

Overlapping and interfering modulated magnetic fields:

*“Empty runs” and working more than 20 - 30 minutes with HEDD1® will cause **undefined detections** ✖. These undefined detections might be 1 or more (4 possible intersection points ✖ are shown above) and depending on the quantity of modulated magnetic fields they might occur all around the operator, but no longer precise to locate explosives.*

In this drawing we show the impact of overlapping magnetic fields around the operator/ HEDD1® and around the explosive even after working too long with the device and/ or pre-modulated fields, caused by empty runs and/ or having made too many “confirmation” runs. Both fields might cross at some intersection points and HEDD1® will point to them.

- Always work promptly during tests and trials in order to prevent from activating too many modulated magnetic field in the test area after some time. HEDD1® is capable of real-time detection, so the first detection result should be relevant for detection.
- Lower the antenna for 20 – 30 degrees.
- Choose the right angle to cover the complete test area and only try to cover the same and nothing more in the surrounding.
- Always work with 2 operators. 1 operator using HEDD1® and the other for profiling and documentation. Don't work more than 30 minutes without a break. Try to changes operators and devices regularly.
- *We are currently intensively exploring the activation of magnetic fields and their degradation. It is therefore important to differentiate between test scenarios and real-life scenarios. Our experience in test scenarios clients is that clients will try to test as many explosives as possible in a test setup/ area. It is important to control these test scenarios in order to avoid detections of previous locations or a track of explosives. To avoid this either the location has to be changed or operators/ HEDD1 devices need to exchanged in order to reduce any readings that can be wrongly interpreted. In real life scenarios any detection has to be treated as a threat and requires additional investigation. Clients have to understand that our technology allows profiling of objects, which is the key to real security.*

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- *HEDD1® is a complementary tool, which can be easily integrated in existing security measures. It might be used as a first response tool, as it needs no warm-up times, no calibration, no maintenance etc... It provides fast and real-time results and narrows huge areas to areas of probability. HEDD1® is not supposed to be used as a stand-alone device but as part of a multi-level-security strategy in order to provide a comprehensive security concept that can withstand stress and unpredictable situations, as they permanently occur in real-life scenarios. We therefore would like to emphasize that the device should always be tested under real-life scenarios and the integration of HEDD1® is suggested, if "added value/ security" can be created!*

With kind regards,



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