

## UPEX® 740 M

### PI large-loop metal detection system

- Deep search and large-area surveying
- High productivity of up to 2.5 ha per day and device
- Detects ferrous and non-ferrous metals and alloys
- Simple to operate
- Digital surveys and object filtering



### Your advantages

- New, improved electronics offering more detection range and new features
- Interface for data recording
- Satisfies IMSMA requirements
- Variable device configuration
- Pulse-induction system
- Suitable for use on land and on/in water
- Filtering of unwanted scrap

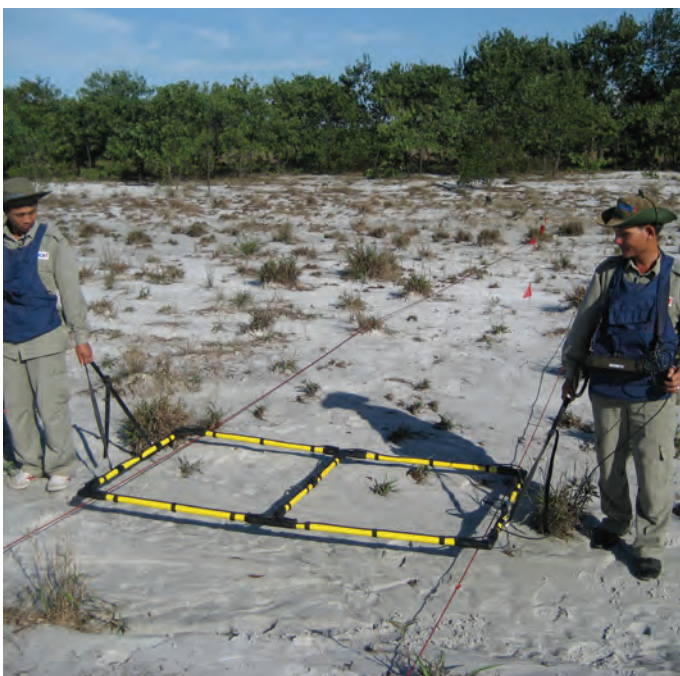
### High productivity

The UPEX® 740 M PI large-loop detection system supports a deep search after metal objects of substantial size and a fast survey of large areas. Depending on the particular vegetation, areas of up to 2.5 ha / day can be surveyed with one unit.

The UPEX® detects ferrous and non-ferrous metals as well as alloys and is well suited for locate UXO, pipelines, underground dumps, caches, manholes and sewer etc.

UPEX® 740, known as the „Large Loop“ and invented by EBINGER already in 1985 is now available with a new, more powerful electronics and new features such as GAIN control and a Frequency shift to adapt to external interference. The system is widespread in humanitarian and commercial BAC. It is efficient and inexpensive to operate, easy to use and to train and supersedes conventional type of metal detectors with standard small, halo search heads.

The UPEX® 740 M is fitted with a DELAY regulator to exclude the indication of unwanted signals from small metal scrap, which is time consuming and expensive to excavate.



*Conventional surveying*



*Use mounted on a vehicle*

**Simple to operate**

- Short familiarization times
- Unambiguous and clear display
- Robust
- Low risk of the device being operated incorrectly
- Optional:  
Multilingual EPAD® data logger with EPAS® software  
Large number of languages for EPAD® screen

**Variable device configuration**

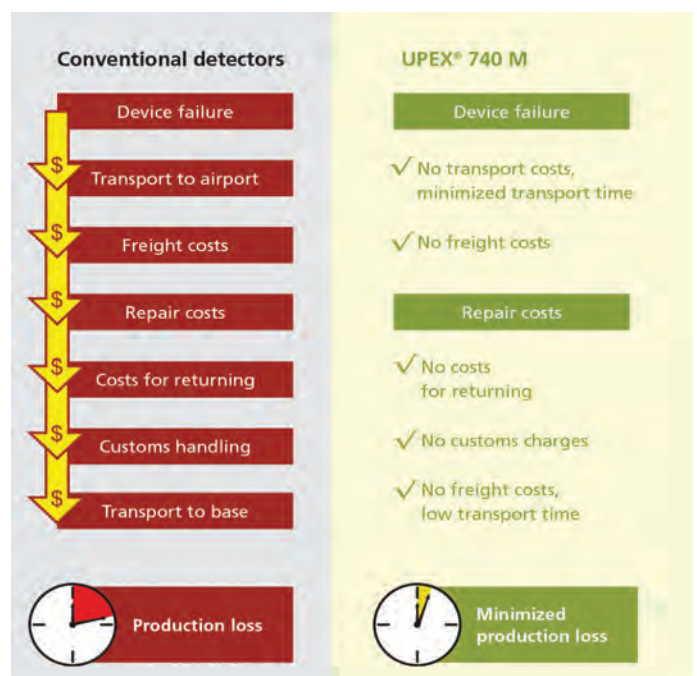
The UPEX® 740 M metal detection system can be hand carried and is battery-operated. The carrier frame for the large loop can be assembled in 1 x 1 m or 2 x 2 m shape. Upon request an Octagon frame is available to increase the scan surface and depth penetration when searching for very large, air delivered munitions.

UPEX® 740 M can be supplied as a single or multi-channel system. The single channel version can be man carried or fitted to a vehicle. The multi-channel version with one to four loops is designed for vehicle mounting. It can be combined with other sensors such as magnetic anomaly (MAGNEX®) locator probes etc.

To meet the working condition in remote areas with poor logistics UPEX® 740 M is designed in a modular concept allowing a cannibalization or component exchange/interchange without workshop environment or advanced training.



Detection with octagon frame



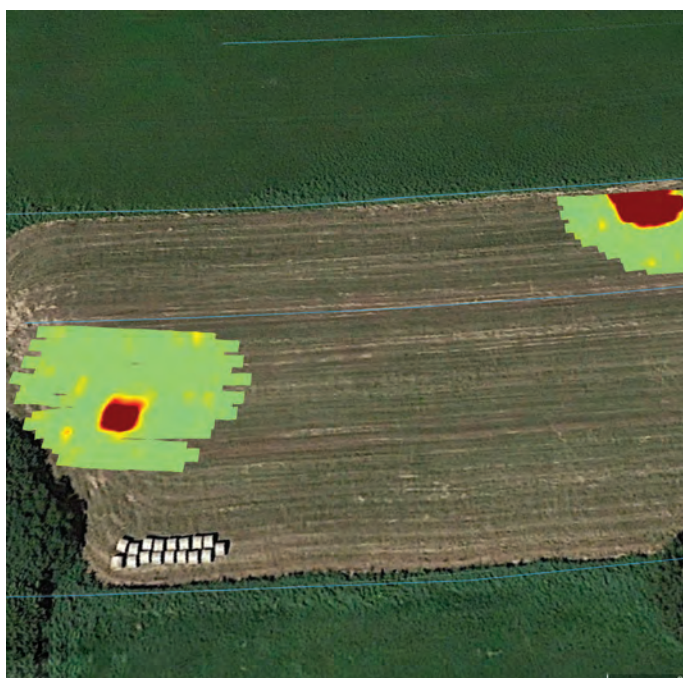
Higher productivity through variable device configuration

## Work planning advantages using data logging

- Less excavation work by pre-processing detection results
- Optimized planning of assets due to mature overview
- Clearance priorities to be determined on field data

The EPAS® software reads, processes and displays the detection data stored in the EPAD® data logger. The detection results can be displayed as two-dimensional colour-coded map and/or as ISO line charts. Each form of visualization can be configured separately in respect of limit values and sensitivity without repeating the technical survey. The mapping data visualizations can be super-imposed on geographical or socio-economic maps.

The mathematical models used in the evaluation of the magnetic anomalies or pulse-electromagnetic induction data, facilitate an interpreting of the localized objects in respect of their horizontal position, approximate depth and orientation. All object data are summarized in tabular form (Digg Sheets). This information assists in render safe and clearance activities.



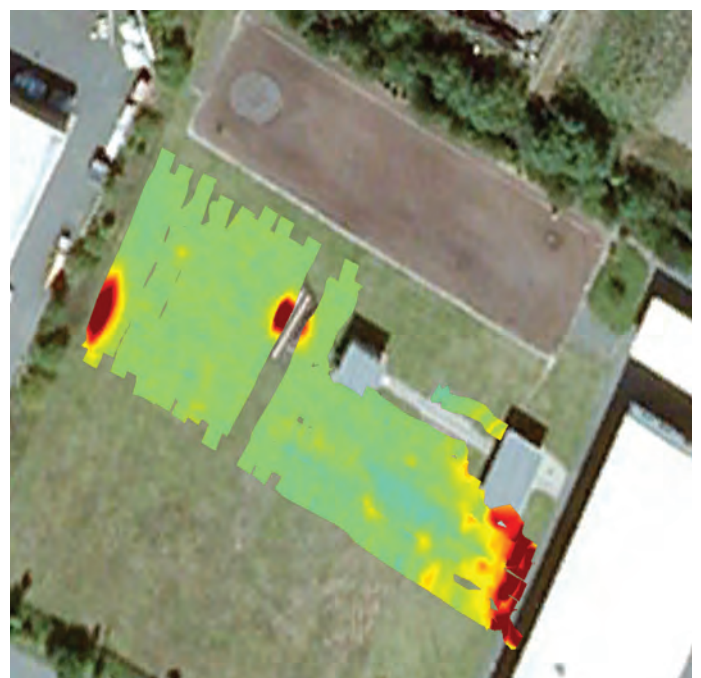
Georeferenced survey map (sample 1)

## QA support by EPAS®/EPAD®

UPEX® 740 M comes with a data output for recording the detection signals with the EBINGER EPAD® data logger.

The EPAD® data logger stores the values measured by the metal detector on a flash card for subsequent processing and conversion into a coloured-coded map. This raw data always remains protected and unchanged when working on the detection results as only copies of the raw data can be processed. Each detector reading is combined with a time stamp and more. The concept of data storage is in conformity with most geo-information systems (GIS) and supports IMSMA (Information Management System of Mine Action).

The geo-referencing and mapping allows a separation of survey and clearance in time depending on operational possibilities and system means that detection work and excavation work can be separated in respect of the time at which they are carried out. Old style, analogue surveys as widely taking place until today, make it recommendable to commence clearance very soon after the search operation as the risk of losing markings, coordinates and data increases with time. Today's geo-referencing option means that evaluation of the data can be carried out by superordinated posts at an intermediate stage with the opportunity then for disposal operations to be optimised.



Georeferenced survey map (sample 2)

## Improved detection range and characteristics

The latest, new version of the UPEX® 740 M metal detector functions still in accordance with the EBINGER pulse-induction (PI) system, which can be described in simple terms as an electromagnetic echo method.

The electronic design of the device has been improved by a **new sensor**, by a feature to adapt the UPEX to interfering external noise and optimize the **GAIN** when operating in changing environments.

## Technical data

<b>Power supply</b>	8 dry C- cells 1.5 V (IEC LR14) Rechargeable Ni MH 1.2V / 4.5 Ah
<b>Operating time*</b>	LR14 approx. 20 hrs at 20°C Rechargeable NiMH cells approx. 10 hrs at 20°C
<b>Temperature range</b>	(operation) -20°C to approx. +55°C
<b>Dimensions</b>	(W x H x D)
<b>Electronics box</b>	approx. 270 x 90 x 80 mm
<b>Battery container</b>	approx. 290 x 105 x 50 mm
<b>Search head</b>	approx. ø 2.550 mm
<b>Weight</b>	
<b>Electronics box</b>	approx. 1.1 kg
<b>Battery container</b>	approx. 1.2 kg
<b>Large loop</b>	approx. 2.5 kg
<b>Signal display</b>	audio signal and galvanometer indication 0 - 100
<b>Sensitivity calibration</b>	3 ranges (low, medium, high)

\* Depending on temperature and quality of the batteries

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Detection result: UXO in Luangprabang/Laos



UPEX® 740 M electronics and EPAD data logger

## Components of the UPEX® 740 M



Assembly in the field



Securing of evidence following UPEX® sounding

- 1 Carrier frame system
- 2 Carrier belt
- 3 Electronics box
- 4 Large loop
- 5 Test plate
- 6 Holster for battery cylinder
- 7 Battery cylinder
- 8 Charger for battery cylinder
- 9 Power supply cable
- 10 Battery container for individual batteries
- 11 Set of dry batteries (or rechargeable batteries)
- 12 Charger for battery container
- 13 Transport case
- 14 Operating instructions
- 15 Transport bag for carrier frame system
- 16 Operating instructions, EPAD®/EPAS®
- 17 Charger for EPAD®
- 18 EPAD®-S Bluetooth sensor data module (BTSDM)
- 19 EPAD® data logger
- 20 Transport case for EPAD®

Components of the EPAD®



For use on and under water



Survey of large areas



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