Noggin® Systems Catalogue

Catalog #   Description

Systems

SYST0018   Noggin 250 Hand-Tow PC Configuration

Includes: CABL0017 ELEC0012 HABR0016 PSUP0012 PSUP0013
SOFT0020 SOFT0050

The Noggin 250 (ELEC0012) is the most economical entry point to GPR. The
system comes complete with a tow rope, power supply and cables to connect to
an RS232 serial port on a PC. The system is controlled by SpiView software
running on the PC. The system runs on user command and data are saved as
.PCX image files on the PC.

SYST0019   Noggin 500 Hand-Tow PC Configuration

Includes: CABL0017 ELEC0013 HABR0018 PSUP0012 PSUP0013
SOFT0020 SOFT0050

The Noggin 500 (ELEC0013) is the most economical entry point to GPR. The
system comes complete with a tow rope, power supply and cables to connect to
an RS232 serial port on a PC. The system is controlled by SpiView software
running on the PC. The system runs on user command and data are saved as
.PCX image files on the PC.

SYST0022   Noggin 250 SmartCart Configuration

Includes: ELEC0012 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0093 PSUP0014 PSUP0015 SOFT0036 SOFT0050

The Noggin 250 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a Noggin 250, rugged SmartCart with
integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

SYST0023   Noggin 500 SmartCart Configuration

Includes: ELEC0013 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0037 PSUP0014 PSUP0015 SOFT0036 SOFT0050

The Noggin 500 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a Noggin 500, rugged SmartCart with
integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

SYST0024   NogginPlus 250 SmartCart Configuration

Includes: ELEC0015 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0093 PSUP0014 PSUP0015 SBOX0022 SBOX0024 SOFT0036
SOFT0050

The Noggin 250 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a NogginPlus 250, rugged SmartCart with
integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital data for advanced data processing and imaging with software products
such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0025   NogginPlus 500 SmartCart Configuration

Includes: ELEC0016 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0037 PSUP0014 PSUP0015 SOFT0036 SOFT0050

The Noggin 500 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a NogginPlus 500, rugged SmartCart with
integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital data for advanced data processing and imaging with software products
such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0026   Noggin 1000 Hand-Tow PC Configuration

Includes: CABL0017 ELEC0019 HABR0018 PSUP0012 PSUP0013
SBOX0034 SOFT0020 SOFT0050

The Noggin 1000 is the most economical entry point to GPR. The system
comes complete with a tow rope, power supply and cables to connect to an
RS232 on a PC. The system is controlled by SpiView software running on the
PC. The system runs on user command and data are saved as .PCX image
files on the PC.

SYST0027   **Noggin 1000 SmartCart Configuration**

Includes: ELEC0019 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0072 PSUP0014 PSUP0015 SOFT0036 SOFT0050

The Noggin 1000 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a Noggin 1000, rugged SmartCart with
integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

SYST0028   **NogginPlus 1000 SmartCart Configuration**

Includes: ELEC0020 ELEC0037 HABR0020 HABR0043 HABR0044
MISC0072 PSUP0014 PSUP0015 SOFT0036 SOFT0050

The Noggin 1000 SmartCart Configuration provides an integrated easy-to-use
GPR. The unit comes complete with a NogginPlus 1000, rugged SmartCart
with integrated odometer positioning, power, and DVL running Smart System
software for control, data display and recording of field images for replay and
report generation.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital data for advanced data processing and imaging with software products
such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0029   **Noggin 500 SmartHandle Configuration**

Includes: CABL0030 CABL0051 ELEC0013 ELEC0037 HABR0035
HABR0041 HABR0043 HABR0044 MISC0078 PSUP0012 PSUP0013
SBOX0037 SOFT0036 SOFT0050

The Noggin 500 SmartHandle Configuration provides an easy-to-use integrated
GPR system where compactness and portability are important.

The SmartHandle incorporates odometer positioning and Canbus powered
remote control. Integrated with a compact belt battery and the user friendly
DVL for control, data display and data recording, this configuration is ready to
go.

SYST0030   **Noggin 1000 SmartHandle Configuration**

Includes: CABL0030 CABL0051 ELEC0019 ELEC0037 HABR0035
HABR0041 HABR0043 HABR0044 MISC0077 PSUP0012 PSUP0013
SBOX0038 SOFT0036 SOFT0050

The Noggin 1000 SmartHandle Configuration provides an easy-to-use
integrated GPR system where compactness and portability are important.

The SmartHandle incorporates odometer positioning and Canbus powered
remote control. Integrated with a compact belt battery and the user friendly
DVL for control, data display and data recording, this configuration is ready to
go.

SYST0031   NogginPlus 500 SmartHandle Configuration

Includes: CABL0030 CABL0051 ELEC0016 ELEC0037 HABR0035 HABR0041 HABR0043 HABR0044 MISC0078 PSUP0012 PSUP0013 SBOX0037 SOFT0036 SOFT0050

The NogginPlus 500 SmartHandle Configuration provides an easy-to-use integrated GPR system where compactness and portability are important.

The SmartHandle incorporates odometer positioning and Canbus powered remote control. Integrated with a compact belt battery and the user friendly DVL for control, data display and data recording, this configuration is ready to go.

With the enhanced capability of the NogginPlus, the DVL can also log raw digital data for advanced data processing and imaging with software products such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0032   NogginPlus 1000 SmartHandle Configuration

Includes: CABL0030 CABL0051 ELEC0020 ELEC0037 HABR0035 HABR0041 HABR0043 HABR0044 MISC0077 PSUP0012 PSUP0013 SBOX0038 SOFT0036 SOFT0050

The NogginPlus 1000 SmartHandle Configuration provides an easy-to-use integrated GPR system where compactness and portability are important.

The SmartHandle incorporates odometer positioning and Canbus powered remote control. Integrated with a compact belt battery and the user friendly DVL for control, data display and data recording, this configuration is ready to go.

With the enhanced capability of the NogginPlus, the DVL can also log raw digital data for advanced data processing and imaging with software products such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0037   Noggin Ice Profiling Configuration

Includes: CABL0033 CABL0050 ELEC0013 ELEC0037 HABR0021 HABR0030 HABR0043 HABR0044 MISC0065 SOFT0036 SOFT0050

The Ice Profiling Configuration incorporates a Noggin 500 (ELEC0013) into an integrated package for winter ice roads inspection.

The configuration includes a DVL for system control and data display, a DVL tray and stand to mount in a vehicle, a 10m cable and a 12V power adaptor.

SYST0038   Noggin Enhanced Ice Profiling Configuration

Includes: CABL0050 ELEC0016 ELEC0037 HABR0021 HABR0030 HABR0043 HABR0044 MISC0065 PSUP0014 PSUP0015 SOFT0032 SOFT0035 SOFT0036 SOFT0050

The Ice Profiling Configuration incorporates a NogginPlus 500 (ELEC0016) into an integrated package for winter ice roads inspection.

The configuration includes a DVL for system control and data display, a DVL tray and stand to mount in a vehicle, a 10m cable and a 12V power adaptor.

With the enhanced capability of the NogginPlus, the DVL can also log raw digital data for advanced data processing and imaging with software products such as EKKO_View, IcePicker, and QuickMap.

SYST0043   Rock Noggin Configuration

Includes: CABL0038 CABL0044 ELEC0013 ELEC0037 HABR0040
PSUP0012 PSUP0013 SBOX0036 SOFT0043 SOFT0050

The Rock Noggin Configuration provides the integrated deployment and control
of a Noggin 500. The integrated trigger/beeper/LED status indicator combined
with the DVL (for control, display and data recording) provides for a powerful
rock face inspection system.

SYST0044   Rock Noggin Enhanced Configuration

Includes: CABL0038 CABL0044 ELEC0016 ELEC0037 HABR0040
PSUP0012 PSUP0013 SBOX0036 SOFT0030 SOFT0043 SOFT0050

The Rock Noggin Configuration provides the integrated deployment and control
of a NogginPlus 500. The integrated trigger/beeper/LED status indicator
combined with the DVL (for control, display and data recording) provides for a
powerful rock face inspection system.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital data for advanced data processing and imaging with software products
such as EKKO_View, EKKO_Mapper, and EKKO_3D.

SYST0077   Noggin 250 Hand Tow Configuration #1

Includes: CABL0051 ELEC0012 ELEC0037 HABR0067 PSUP0012
PSUP0013 SOFT0036 SOFT0045

The Noggin 250 Hand Towed provides a simple configuration for use in all
conditions including rough conditions where a SmartCart configuration cannot
be used. The system comes complete with a Noggin 250, a Big Wheel
odometer for positioning, an odometer bracket, a tow rope, a belt-battery and
charger and a DVL running Smart System software for control, data display and
recording of field images for replay and direct printing. Data transferred to a PC
can be viewed and plotted for reports using the Win_SpiView software.

SYST0078   NogginPlus 250 Hand Tow Configuration #1

Includes: CABL0051 ELEC0015 ELEC0037 HABR0067 PSUP0012
PSUP0013 SOFT0036 SOFT0045 SOFT0049

The NogginPlus 250 Hand Towed provides a simple configuration for use in all
areas including rough conditions where a SmartCart configuration cannot be
used. The system comes complete with a NogginPlus 250, a Big Wheel
odometer for positioning, an odometer bracket, a tow rope, a belt-battery and
charger and a DVL running Smart System software for control, data display and
recording of field images for replay and direct printing. Data transferred to a PC
can viewed and plotted for reports using the Win_SpiView software.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital cross-sectional and grid data for advanced post-acquisition data
processing and imaging with software products such as EKKO_View,
EKKO_Mapper and EKKO_3D.

SYST0079   Noggin 250 Hand Tow Configuration #2

Includes: CABL0051 ELEC0012 ELEC0037 HABR0068 MISC0084
PSUP0012 PSUP0013 SOFT0036 SOFT0045

The Noggin 250 Hand Towed provides a simple configuration for use in all
conditions including rough areas where a SmartCart configuration cannot be
used. The system comes complete with a Noggin 250, a Big Wheel odometer
for positioning, a solid handle, two brackets for the odometer and handle, a belt-
battery and charger and a DVL running Smart System software for control, data
display and recording of field images for replay and direct printing. Data
transferred to a PC can be viewed and plotted for reports using the
Win_SpiView software.

SYST0080   NogginPlus 250 Hand Tow Configuration #2

Includes: CABL0051 ELEC0015 ELEC0037 HABR0043 HABR0068
PSUP0012 PSUP0013 SOFT0036 SOFT0045 SOFT0049

The NogginPlus 250 Hand Towed provides a simple configuration for use in all
areas including rough conditions where a SmartCart configuration cannot be
used. The system comes complete with a NogginPlus 250, a Big Wheel
odometer for positioning, a solid handle, two brackets for the odometer and
handle, a belt-battery and charger and a DVL running Smart System software
for control, data display and recording of field images for replay and direct
printing. Data transferred to a PC can viewed and plotted for reports using the
Win_SpiView software.

With the enhanced capability of the NogginPlus, the DVL can also log raw
digital cross-sectional and grid data for advanced data processing and imaging
with software products such as EKKO_View, EKKO_Mapper and EKKO_3D.

Electronics

ELEC0012   Noggin 250 Unit

The Noggin 250 Unit is a complete GPR system in a single package. The
Noggin 250 operates with a center frequency of 250 MHz and spans a 3 dB
bandwidth from 125 MHz to 375 MHz. This unit directly outputs digital image
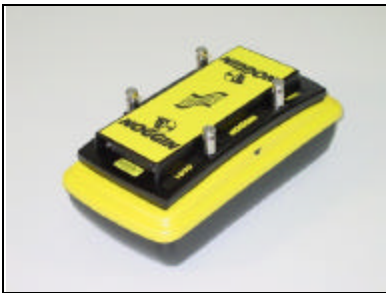data.

ELEC0013   Noggin 500 Unit

The Noggin 500 Unit is a complete GPR system in a single package. The
Noggin 500 operates with a center frequency of 500 MHz and spans a 3 dB
bandwidth from 250 MHz to 750 MHz. The unit directly outputs digital image
data.

ELEC0015   **NogginPlus 250 Unit**

The NogginPlus 250 Unit is a complete GPR system in a single package. The Noggin 250 operates with a center frequency of 250 MHz with a 3dB bandwidth from 250 MHz to 750 MHz. The Plus configuration allows for export of raw digital data at high speeds over custom communication lines to the DVL (see ELEC0037 Digital Video Logger).

ELEC0016   **NogginPlus 500 Unit**

The NogginPlus 500 is a complete GPR system in a single package. The Noggin 500 operates with a center frequency of 500 MHz and a 3dB bandwidth from 250 MHz to 750 MHz. The Plus configuration allows for export of raw digital data at high speeds over custom communication lines to the DVL (see ELEC0037 Digital Video Logger).

ELEC0019   **Noggin 1000 Unit**

The Noggin 1000 Unit is a complete GPR system in a single package. The Noggin 1000 operates with a center frequency of 1000 MHz with a 3dB bandwidth from 500 MHz to 1500 MHz. This unit directly outputs digital image data.

ELEC0020   **NogginPlus 1000 Unit**

The NogginPlus 1000 Unit is a complete GPR system in a single package. The Noggin 1000 operates with a center frequency of 1000 MHz and spans a bandwidth from 500 MHz to 1500 MHz. The Plus configuration allows for export of raw digital data at high speeds over custom communication lines to the DVL (see ELEC0037 Digital Video Logger).

ELEC0037   Digital Video Logger III

This DVL (Digital Video Logger) is the latest version of the GPR control, data display and data recorder.

This rugged unit in a tough extended aluminum case has 12V low power consumption and an all light visible screen. Data are stored to removable flash memory to make data transfer to PC's easy and provide unlimited data storage.

Cables

CABL0017   Noggin to PC Cable (2 m)

The 2 m Noggin to PC cable is used to connect any Noggin system to a PC through the serial port. The cable has a 37 socket connector for attaching to the Noggin, a DB9 connector to attach to a serial port of the PC and an XLR connection to connect to a 12 V power source.

This cable is usually used with the hand-towed Noggin system (SYST0018, SYST0019, SYST0026) but can also be used with the OEM Noggin system (UPGR0029).

CABL0018   Noggin to PC Cable (30m)

The 30 m Noggin to PC cable is used to connect any Noggin system to a PC through the serial port. The cable has a 37 socket connector for attaching to the Noggin, a DB9 connector to attach to a serial port of the PC and an XLR connection to connect to a 12 V power source.

This cable is usually used with the hand-towed Noggin system (SYST0018, SYST0019, SYST0026) but can also be used with the OEM Noggin system (UPGR0029).

CABL0023   DVL to PC PXFER Cable

For customers with DVL's earlier than the DVL III (ELEC0037) or those not using the removable flash, the DVL to PC PXFER Cable is used to transfer data from a DVL to a PC. The cable connects the parallel port on the rear of the DVL to a parallel port on a PC. The PXFER cable enables use of the PC WinPXFER (SOFT0042) software to download files from the DVL into the PC. A turbo version of this cable (CABL0046) allows for faster download when using the latest models of DVL. See CABL0046 for more details.

CABL0029   **DVL Power Supply Cable (DB9)**

Power supply cable for the DVL to connect a power supply to the custom port on the reverse side of the DVL. When using the DVL in the office, it is often convenient to move it to the computer where data download will occur. This cable connects to the DVL on one end and provides an XLR connector on the other which can be plugged into a battery (see PSUP0014), or into a mains power supply (see PSUP0017) for using a power supply. It can also be used with alligator clip terminated cable CABL0033 to attach to any available 12V supply or battery.

CABL0030   **Noggin SmartHandle Canbus Cable (1.5m)**

This Canbus Cable is used in conjunction with the Noggin SmartHandle. The cable connects the SmartHandle LED display beeper and programmable button configuration into the Noggin SmartHandle cable connector hooked to the Noggin. This is a standard communication serial bus structure used to enable a number of Sensors & Software Inc.'s external peripherals. The cable is 1.5 metres in length and can also be used as an extension cable for the beeper-trigger (MISC0101).

CABL0033   **Noggin 12V Power Cable Extension w/ Alligator Clips**

This power cable has alligator clips on one end and a standard XLR connector on the other. Used in conjunction with any DVL to Noggin cable, it allows the Noggin and the DVL to be connected to any 12V battery terminals.

CABL0038   **Rock Noggin DVL to Noggin Cable**

This cable is used to connect the DVL to the Noggin. It is designed to be used with the Rock Noggin handle (HABR0040). The cable has a power and odometer input at the Noggin end with a canbus input at the DVL end. The cable is 24 inches long.

CABL0039   **Transmission Odometer Cable (5m)**

This odometer cable is used between a vehicle transmission and Sensors & Software's vehicle odometer. It comes standard in the odometer kit (MISC0060), however since it must be permanently fastened to the vehicle, extra cables may be purchased to allow moving the system from vehicle to vehicle.

CABL0040   **SnowScan Hand-held Cable**

This cable is 65 inches long and is generally used in conjunction with the SnowScan handle (HABR0036). Since SnowScan runs continuously, this cable has no odometer or Canbus inputs.

CABL0043   **Noggin 12V Power Cable Extension w/ Terminals**

This power cable has terminal clips on one end and a standard XLR connector on the other. Used in conjunction with any DVL to Noggin cable, it allows the Noggin and the DVL to be connected to any 12V battery terminal.

CABL0044   **SmartTrigger Canbus Cable (0.3m)**

This 0.3 m Canbus cable is used to connect the SmartTrigger to the DVL. Its main use is on the Rock Noggin system.

CABL0046   DVL to PC Turbo PXFER Cable

For customers with DVL's earlier than the DVL III (ELEC0037) or those not using the removable flash, the DVL to PC Turbo PXFER Cable is used to transfer data from a DVL to a PC. The cable connects the parallel port on the back of the DVL to a parallel port on a PC. The Turbo PXFER cable enables use of the PC WinPXFER software (SOFT0042) to download files from the DVL into the PC.

The Turbo cable is only compatible with the DVL units which have the middle portion of the serial number greater than 1000 (i.e. XXXX-1000-XXXX). The Turbo PXFER cable is distinguished from the PXFER cable (CABL0023) by the red ends. The Turbo mode operates about 4-5 times faster than the standard PXFER cable mode.

CABL0048   DVL to Noggin SmartCart Cable with Latches

This cable is used with the SmartCart system attaching the DVL to the Noggin. It has an odometer and Canbus input at the Noggin end and a Canbus and power input at the DVL end.

CABL0049   Noggin SmartHandle Cable (5m) with Latches

The Noggin SmartHandle cabling harness connects the Noggin to the DVL. The DVL end of the cable has a take-off power supply and is terminated with an XLR connector. The Noggin end of the cable provides take-out ports for peripherals such as the odometer and the Canbus functions of the SmartHandle.

This cable includes the enhanced latching system. It is the backbone of the SmartHandle system configurations.

CABL0050   DVL to NogginPlus Vehicle Cable (10m) with Latches

This 10 m cable connects the Noggin to the DVL. With its odometer and power input at the DVL end, it is designed for use on vehicles when the vehicle odometer (MISC0060) is used and input is required at the DVL end (it has no inputs at the Noggin end).

This cable is generally used with the Ice Profiling system and includes the enhanced latching system.

CABL0051   **Noggin SmartHandle Cable (2m) with Latches**

This cable is normally used for a mobile reconnaissance mode SmartHandle system. Use the short cable in conjunction with a small belt battery (PSUP0012) for operation without the shipping case stand and mains power. Note it also has the enhanced latch system.

CABL0053   **Noggin SmartHandle Cable (7m) with Latches**

The Noggin SmartHandle cabling system integrates the Noggin with the DVL and the functions of the SmartHandle. This cable is identical to CABL0049 except it is 2 m longer. Note it also has the enhanced latch system. The cable has an odometer and Canbus input at the Noggin end and a Canbus and power input at the DVL end.

CABL0058   **Battery Power Splitter Cable**

This little cable allows the power to be split coming out of a Noggin power source. Splitting the power allows for more than one device to run off the same source. This is commonly used with the SmartCart when power is needed to run both the GPR system and a GPS unit.

CABL0062   **Noggin SmartHandle Cable (30m) with Latches**

The 30 m Noggin SmartHandle cable is designed to allow the user to operate the Noggin at a large distance from the DVL. It is particularly usefully in sewer-type applications.

The cable is designed identical to the 2, 5, and 7 m versions. It has an odometer and Canbus input at the Noggin end and a Canbus and power input at the DVL end. This cable contains the enhanced latch system.

It is necessary to lower the transfer rate on the DVL to 7 in order to use the 30 m cable. Otherwise Error 10016 will result.

Handles & Brackets

HABR0016   **Noggin 250 Tow Rope & Attachment**
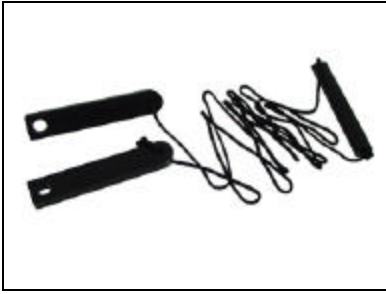
This item attaches to the posts on a Noggin 250 system and allows the system to be pulled. This item comes complete with 2 hex keys (MISC0049).

HABR0018   **Noggin 500/1000 Tow Rope & Attachment**
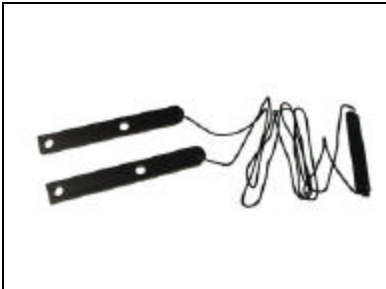
This product attaches to a Noggin 1000 or Noggin 500 allowing the system to be towed. This item comes complete with 2 hex keys (MISC0049).

HABR0019   **Noggin 500 Cart Attachment (each)**

The Noggin 500 Cart Attachment is the (square) bracket used to mount the Noggin 500 onto the SmartCart. This attaches to the Noggin 500 Cart Separation Bar (HABR0050). The complete unit can be purchased as HABR0025.

Price is for one piece (the photo shows two). Cart normally requires 2.

HABR0020   **SmartCart Swivel Mounting Posts (set of 4 pcs.)**

These posts are used to attach a Noggin to the SmartCart. This item comes complete with 2 hex keys (MISC0049).

HABR0021   DVL Tray Assembly

The DVL Tray Assembly is a quick release mount for the DVL that can be attached to a number of mounting posts and structures. The tray will attach to a SmartCart, the DVL T-stand (HABR0030), the DVL Carrier (HABR0041), and the pulseEKKO 1 Metre Fixed Handle (HABR0023).

HABR0022   Noggin 1000 Cart Separation Bar (each)

This Noggin 1000 Cart Separation Bar is part of the frame of the SmartCart required to support the Noggin 1000.   A complete assembly can be purchased as HABR0027.

Price is for one piece (the photo shows two). The Cart normally requires 2.

HABR0024   Noggin 1000 SmartHandle with Odometer

Includes: CABL0030 HABR0035 MISC0077

The SmartHandle (HABR0035) with Odometer (MISC0077) is used to move and control the Noggin 1000 in the SmartHandle systems. The component parts are available if the user damages their system and needs a replacement part. This includes the handle components and an odometer wheel which is on an independent bracket.

Note: This package does not contain all items necessary to run a SmartHandle system.

HABR0025   Noggin 500 Cart Conversion Kit

Includes: HABR0019 HABR0050

This is the complete conversion kit needed to make a Noggin 1000 or 250 SmartCart into a Noggin 500 SmartCart.

HABR0026   **Noggin 250 Cart Separation Bar (each)**

This Noggin 250 Cart Separation Bar is part of the frame of the SmartCart required to support the Noggin 250.

Price is for one piece (photos shows 2). The Cart normally requires 2.

HABR0027   **Noggin 1000 Cart Conversion Kit**

Includes: HABR0022 HABR0034

This is the complete frame needed to convert a Noggin 500 or 250 SmartCart into a Noggin 1000 SmartCart.

HABR0029   **Noggin 500 SmartHandle with Odometer**

Includes: CABL0030 HABR0035 MISC0078

The SmartHandle (HABR0035) with Odometer (MISC0078) is used to move and control the Noggin 500 in the SmartHandle system. The component parts are available if the user damages their system and needs a replacement part. This includes the handle components plus an odometer wheel which is on an independent bracket.

Note: This package does not contain all items necessary to run a SmartHandle system.

HABR0030   **DVL T-Stand**

The DVL T-Stand is used to support the DVL in a vertical position for easy viewing during data collection. The DVL tray assembly (HABR0021) must be fastened to the 'T' part of the T-stand. This tray has a quick-release clip for the DVL. If the T-stand is used in a vehicle, it can be attached to the floor using the floor mounting flange (MISC0065).

HABR0033   **GPS SmartCart Mount**

This GPS SmartCart Mount is used to mount a GPS onto the SmartCart. It comes complete with all attachments for the Noggin 250, 500, and 1000 SmartCarts. The GPS is mounted to the top on a threaded rod. Both Novatel (MISC0104) and Trimble (MISC0060) units mount on this frame.

HABR0034   **Noggin 1000 Cart Attachment (each)**

The Noggin 1000 Cart Attachment is the (square) bracket used to mount the Noggin 1000 onto the SmartCart. This item attaches to the Noggin 1000 Cart Separation Bar (HABR0022).

Price is for one piece (photo shows 2). Cart normally requires 2.

HABR0035   **Noggin SmartHandle**

The SmartHandle is a 3 part structure with quick release connect pins for the Noggin and cable mounted brackets. It's the physical components forming the handle and represents a subset of HABR0024. The SmartHandle typically is not sold independently unless a client has damaged a system or is trying to add on capability to an existing system. The SmartHandle grip component contains a microprocessor with LED, beeper and programmable button.

HABR0036   **SnowScan Hand-held Frame**

This frame is generally used with the SnowScan system to push the Noggin in front of the operator. The DVL can attach to the handle and a GPS can mount to the front of the frame over the Noggin. This frame will support Noggin 500 and Noggin 1000 units.

HABR0040   Rock Noggin Handle (with tray)

The Rock Noggin Handle is designed to enable a single user to hold both the Noggin and DVL display. Created to perform surveys on the walls of a mine, the Rock Noggin handle will hold a Noggin 500 or Noggin 1000 system. To convert to a Rock Noggin system users will need this handle, a cable to attach the Noggin to the DVL (CABL0038), a Canbus cable for the trigger (CABL0044), and the appropriate DVL firmware (SOFT0036 or SOFT0043).

HABR0041   DVL Carrier (with tray)

The DVL carrier is used to hold the DVL in front of an operator. This is useful for pulseEKKO users using a DVL. The carrier is included in the Noggin SmartHandle systems. Note: DVL not included.

HABR0043   Enhanced DVL Keeper
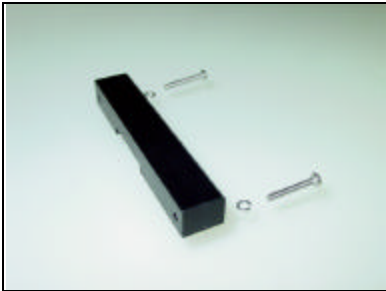
This part of the enhanced latching system attaches to the DVL. For a complete connector you also need HABR0045. This part can be installed by the user.

HABR0044   Enhanced Noggin Keeper

This part of the enhanced latching system attaches to the Noggin. For a complete connector you also need HABR0045. This part is generally installed at the factory since drilling is required.

HABR0045   **Enhanced Cable Latch**
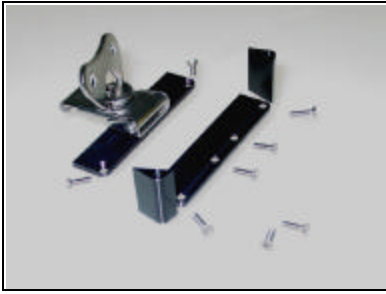
This part of the enhanced latching system attaches to the Noggin to DVL cables. Most newer cables will come complete with this item. Older cables can be retrofitted with this kit. For a complete connector you also need HABR0043 or HABR0044. This is for one end of the cable only. If using the enhanced cabling latch system on both the DVL and Noggin, two of these parts are needed. The installation can be done by the user.

HABR0050   **Noggin 500 Cart Separation Bar (each)**

This is part of the kit needed to change a Noggin 250 or Noggin 1000 SmartCart into a Noggin 500 SmartCart. This is generally sold as a complete kit (MISC0025).

Price is for 1 bar. The cart normally requires 2.

HABR0066   **Noggin 250 Hand Tow Bracket Assembly**

The Noggin 250 Hand Tow Bracket Assembly attaches to the two rear mounting posts on the Noggin 250 and is used to secure the Big Wheel Odometer (MISC0108). The same bracket can also be attached to the two front mounting posts to secure the adjustable handle (HABR0053).

HABR0067   **Noggin 250 Hand Tow Kit #1**

Includes: HABR0016 HABR0066 MISC0108

The Noggin 250 Hand Tow Kit #1 includes the Big Wheel Odometer, the hand-tow bracket assembly and a tow rope. The hand-tow bracket assembly attaches to the two rear mounting posts on the Noggin 250 and is used to secure the Big Wheel Odometer. The tow rope attaches to the two front mounting posts on a Noggin 250. This kit does not include the Noggin to DVL cable.

HABR0068   Noggin 250 Hand Tow Kit #2

Includes: HABR0053 HABR0066 MISC0108

The Noggin 250 Hand Tow Kit #2 includes the Big Wheel Odometer, two hand-tow bracket assemblies and an adjustable handle. One hand-tow bracket assembly attaches to the two rear mounting posts on the Noggin 250 and is used to secure the Big Wheel Odometer. The second hand-tow bracket assembly attaches to the two front mounting posts on the Noggin 250 and is used to secure the adjustable handle. This kit does not include the Noggin to DVL cable.

Power Supplies & Charger

PSUP0011   Belt Power Supply Pack and Charger

Includes: PSUP0012 PSUP0013

The belt battery supply case is a tough fabric belt and pack which holds a 12V 7.2 Ah lead acid gel cell battery. The rechargeable battery is a flexible lightweight power source for Noggin and pulseEKKO systems. Power connection uses a standard XLR connector.

The AC mains charger unit is used to recharge the belt battery power supply. The unit operates on 110/220 V, 50/60 Hz. The unit has charging status indicators.

Note that these items may also be purchased separately (see PSUP0012 and PSUP0013).

PSUP0012   Belt Power Supply with Case

The belt battery power supply case is a tough fabric belt and pack which holds a 12V 7.2 Ah lead acid gel cell battery. This rechargeable battery is a flexible lightweight power source for Noggin and pulseEKKO systems. Power connection uses a standard XLR connector.

PSUP0013   Belt Power Supply Charger

This AC mains charger unit is used to recharge the belt battery power supply (see PSUP0012). The unit operates on 110/220 V, 50/60 Hz. The unit has charging status indicators.

PSUP0014   SmartCart Power Source with Case

The SmartCart Power Source is a self-contained 12 V 18 Ah lead acid gel cell battery package which is used to power any of the SmartCart systems. It also accepts XLR power connections.

Note that lead acid gel cell batteries are sealed, safe to ship and will not leak.

PSUP0015   SmartCart Power Source Charger

The SmartCart Power Source Charger provides a power mains to 12 V conversion which charges the battery (PSUP0014). The power supply will support 110/220 V, 50 or 60 Hz power input. The unit has charging indicators.

PSUP0017   110/220 Mains Power Supply Kit for DVL

Includes: CABL0029 PSUP0018

This Mains Power Supply Kit is used to directly power the DVL when the DVL is used in the office or used independent of a system. This provides a convenient way of powering the DVL for long periods of times without having to carry the battery or the complete SmartCart or SmartHandle system to a separate location.

PSUP0018   110/220 Mains Power Supply

This power supply is used to power the Conquest, Noggin and pulseEKKO PRO systems from AC mains. It is a standard part of a Conquest system and comes with the capability of 110/220 V, 50/60 Hz mains operations. This unit can be replaced by a 12V battery (see PSUP0014 or PSUP0012) when operating in areas without a mains power source.

Miscellaneous

MISC0060   Vehicle Odometer Kit

This kit is normally sold as an accessory to the Noggin Ice Profiling System but can be used in any situation where the DVL is in the cab of a vehicle and the Noggin is being towed behind. The CABL0039 from this kit splices into the vehicle's transmission wiring and triggers the system through the vehicle odometer assembly and our CABL0032 10 m vehicle mounted cable. CABL0032 is the only standard cable we make for this application. It has the odometer input at the DVL end.

MISC0063   Trimble GPS Model AG 114

This product includes the Trimble GPS114 Receiver, GPS AG Receiver Cable and User's Manual. The receiver cable has a standard XLR connector added in house for power input, a PSUP0012 Belt Battery and PSUP0013 Charger is required with each unit or, if it's required for a SmartCart system, a CABL0058 Power Supply Y Splitter Cable. You will also require a HABR0033 GPS SmartCart Mount if you are installing it on a SmartCart.

MISC0065   Vehicle Floor-mounting Flange

This flange is the bottom section of the DVL Shelf Assembly and Stand. It comes with hardware to secure it to a wooden base or to the floor of a vehicle cab.

MISC0068   SmartCart Brake

The SmartCart Brake attaches to the SmartCart to stop it from moving when unattended.

MISC0075   **Seiko Printer**

The Seiko Printer plugs into the printer port on the DVL and allows continuous thermal paper printouts of the data on the DVL. The Seiko Printer comes complete with a mains power supply and a printer cable to enable data image transfer in the field.

MISC0076   **Noggin SmartCart Odometer with Bracket**

This odometer wheel is used on the SmartCart and triggers the system through the DVL to Noggin SmartCart cable. For instructions on how to assemble this wheel to the cart, please refer to document number 2002-0126-XX.

MISC0077   **Noggin 1000 Odometer with Bracket**

The Noggin 1000 Odometer with Bracket is part of our Noggin 1000 SmartHandle. This product is also used as an option in a SmartHandle System. Customers who buy a Noggin 500 SmartHandle system but also want a Noggin 1000 with the same capabilities can purchase a Noggin 1000 and this odometer as optional extras.

MISC0078   **Noggin 500 Odometer with Bracket**

The Noggin 500 Odometer with Bracket is part of our Noggin 500 SmartHandle Profiling systems.
The product is similar to the Noggin 1000 Odometer with Bracket, except that it does not have the internal springs for overhead surveying.

MISC0089   **Seiko Paper Refill Roll**

These are 25 metre refill rolls for the Seiko printer (MISC0075). They come in boxes of 5. The price is for 1 roll.

MISC0090   **Easy Grid - Metric**

Easy Grid makes working with grids simple for users. The Easy Grid kit consists of five nails, a hammer, two five-metre strings with brass markers every 0.25 metres, one seven-metre string, five yellow plastic disks, a manual, and a black carrying bag.

The concept of Easy Grid is to form a right angled triangle which can be used to create a square (or rectangular) survey area following simple step-by-step instructions.

MISC0091   **Easy Grid - Imperial**

Easy Grid makes working with grids simple for users. The Easy Grid kit consists of five nails, a hammer, two 15-feet strings with brass markers every 1 foot, one 21-foot string, five yellow plastic disks, a manual, and a black carrying bag.

The concept of Easy Grid is to form a right angled triangle which can be used to create a square (or rectangular) survey area following simple step-by-step instructions.

MISC0095   **SmartCart Accessory Box V2**

Includes: CABL0046 HABR0020 PSUP0015 SOFT0042

The SmartCart Accessory Box V2 includes a DVL to PC Turbo PXFER Cable (CABL0046), DVL WIN_PXFER PC Software (SOFT0042), SmartCart Swivel Mounting Posts (HABR0020), and a Noggin SmartCart Power Supply Charger (PSUP0015).

Items included here can also be purchased separately.

MISC0101   **Electrical Beeper/Trigger Unit (CANBUS)**

The CANBUS Electrical Beeper Trigger is a standard part of the pulseEKKO PRO Basic handle package. The unit plugs into the CANBUS port on the pulseEKKO PRO Control Unit and can be used to either trigger the system from that location or enter fiducial markers. It can also plug into a pulseEKKO PRO transducer cable with a CANBUS connector (CABL0070, CABL0071, CABL0072) to allow data acquisition at the transducer.

This unit can be used with Noggin systems as well.

MISC0104   **Novatel GPS for SmartCart**

This GPS unit is a lower cost alternative to the Trimble package (MISC0063) Included in the package is the Novatel GPS, GPS Receiver cable and instruction manual on CD. The receiver cable has a standard XLR connector at the power input. The package should be sold with a PSUP0012 Belt Power Supply and PSUP0013 Charger or, if it's going with a SmartCart then a CABL0058 Battery Y Splitter cable instead. You will also require a HABR0033 GPS SmartCart Mount if you are installing it on a SmartCart.

Carts & Skid Plates

MISC0032   **Noggin 500 SmartCart Package with DVL**

Includes: CABL0046 ELEC0037 HABR0020 MISC0037 PSUP0014 PSUP0015 SOFT0036 SOFT0042

This package is ideal for customers who own a Noggin 500 and would like to purchase a SmartCart and DVL unit.

Note that cable latches are included in this configuration.

MISC0033   **Noggin 250 SmartCart Package with DVL**

Includes: CABL0046 ELEC0037 HABR0020 MISC0093 PSUP0014 PSUP0015 SOFT0036 SOFT0042

This package is ideal for customers who own a Noggin 250 and would like to purchase a SmartCart and DVL unit.

Note that cable latches are included in this configuration.

MISC0034   **Noggin 250 Hand-Tow Package**

Includes: CABL0017 HABR0016 PSUP0012 PSUP0013 SOFT0020

The Noggin 250 Hand-Tow Package is the original Noggin configuration prior to the release of the SmartCart and DVL. This package is designed for use with a laptop computer and SpiView software.

MISC0035   **Noggin 500/1000 Hand-Tow Package**

Includes: CABL0017 HABR0018 PSUP0012 PSUP0013 SOFT0020

The Noggin 500/1000 Hand-Tow Package is the original Noggin configuration prior to the release of the SmartCart and DVL. This package is designed for use with a laptop computer and SpiView software.

MISC0037   **Noggin 500 Cart with Odometer and Cables (with latches)**

This SmartCart comes complete with Noggin 500 separation bars (HABR0022), Noggin 500 cart attachment (HABR0019), DVL tray (HABR0021), DVL to Noggin SmartCart Cable with Latches (CABL0048), and odometer with bracket (MISC0076).

Note: This package does not contain all items required to run a SmartCart system.

MISC0039   **Noggin 250 Skid Plate**

This is the standard flat skid plate, which comes with the Noggin 250. It is also referred to as the full bottom skid plate.

See also MISC0084 for molded skid plate.

MISC0040   **Noggin 500 Skid Plate**
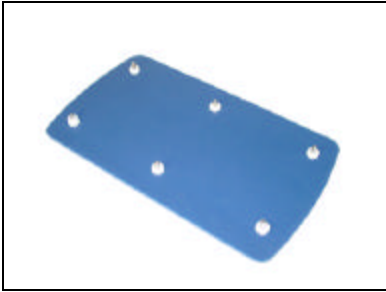
This is the standard flat skid plate, which comes with the Noggin 500. It is also referred to as the full bottom skid plate.

See also MISC0085 for molded skid plate.

MISC0069   **Noggin 1000 SmartCart Package with DVL**

Includes: CABL0046 ELEC0037 HABR0020 MISC0072 PSUP0014 PSUP0015 SOFT0036 SOFT0042

This package is ideal for a Noggin 1000 owner wishing to purchase a SmartCart and DVL. Note that cable latches are included in this configuration.

MISC0070   **Noggin 1000 SmartHandle Package with DVL**

Includes: CABL0030 CABL0037 CABL0046 ELEC0037 HABR0035 HABR0041 MISC0077 PSUP0012 PSUP0013 SBOX0038 SOFT0031 SOFT0036

This package is ideal for a Noggin 1000 customer wishing to purchase a SmartHandle and DVL. Note that cable latches are included in this configuration.

MISC0071   **Noggin 500 SmartHandle Package with DVL**

Includes: CABL0030 CABL0037 CABL0046 ELEC0037 HABR0035 HABR0041 MISC0078 PSUP0012 PSUP0013 SBOX0037 SOFT0031 SOFT0036

This package is ideal for a Noggin 500 owner wishing to purchase a SmartHandle and DVL. Note that cable latches are included in this configuration.

MISC0072   **Noggin 1000 Cart with Odometer and Cables (with latches)**

This SmartCart comes complete with Noggin 1000 separation bars (HABR0022), Noggin 1000 cart attachment (HABR0034), DVL tray (HABR0021), DVL to Noggin SmartCart Cable with Latches (CABL0048), and odometer with bracket (MISC0076). Cable latches are included in this configuration.

Note: This package does not contain all items necessary to run a SmartCart system.

MISC0073   **Noggin 1000 SmartHandle Kit**

Includes: CABL0030 CABL0051 HABR0035 HABR0041 MISC0077 PSUP0012 PSUP0013

This kit is ideal for a user who owns a Noggin 1000 and DVL and wants to run the system in the SmartHandle configuration. Note that cable latches are included in this kit.

MISC0074   **Noggin 500 SmartHandle Kit**

Includes: CABL0030 CABL0051 HABR0035 HABR0041 MISC0078 PSUP0012 PSUP0013

This kit is ideal for a user who owns a Noggin 500 and DVL and wants to run the system in the SmartHandle configuration. Note that cable latches are included in this kit.

MISC0081   **Noggin 1000 SmartCart Kit**

Includes: HABR0020 MISC0072 PSUP0014 PSUP0015

The Noggin 1000 SmartCart Kit contains the hardware necessary to convert a Noggin 1000 and DVL system into a fully functional SmartCart system. Kit items include the Noggin 1000 cart with odometer and cables (MISC0072), SmartCart battery (PSUP0014), battery charger (PSUP0015), and the swivel mounting posts (HABR0020).

Note the SmartSystems firmware necessary to run the Noggin 1000 SmartCart in Noggin or NogginPlus mode is not included in this kit. See items SOFT0046 and SOFT0047 in this catalogue for more information.

MISC0082   Noggin 500 SmartCart Kit

Includes: HABR0020 MISC0037 PSUP0014 PSUP0015

This kit is ideal for a user who owns a Noggin 500 and DVL and wants to run the system in the SmartCart configuration. Note that cable latches are included in this kit.

MISC0083   Noggin 250 SmartCart Kit

Includes: HABR0020 MISC0036 PSUP0014 PSUP0015

This kit is ideal for a user who owns a Noggin 250 and DVL and wants to run the system in the SmartCart configuration. Note that cable latches are included in this kit.

MISC0084   Noggin 250 molded skid plate kit

This is the curved skid plate that wraps up the front and rear of the Noggin 250. The kit comes with instructions and screws for installation.

MISC0085   Noggin 500 molded skid plate kit

This is the curved skid plate that wraps up the front and rear of the Noggin 500. The kit comes with screws and an instruction sheet for installation.

MISC0086   **Noggin 1000 molded skid plate kit**
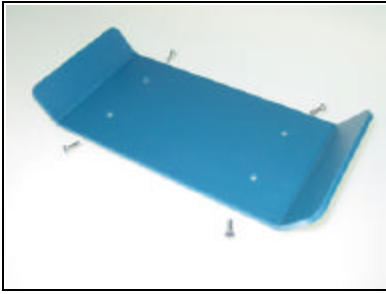
This is the curved skid plate to protect the lower ends of the Noggin 1000. It is generally used on roads or rough surfaces. This kit includes screws and a manual.

MISC0092   **Noggin 1000 Skid Plate**

This is the flat skid plate which comes standard on the Noggin 1000 unit. This is generally purchased as a replacement. Please see MISC0086 for the curved version.

MISC0093   **Noggin 250 Cart with Odometer and Cables (with latches)**

This package does not contain all items necessary to run a SmartCart system. This configuration contains cable latches.

This item includes the DVL Tray Assembly (HABR0021), DVL to Noggin SmartCart Cable with Latches (CABL0048), Noggin SmartCart Odometer with Bracket (MISC0076), and Noggin 250 Cart Separation Bars (HABR0026).

Software

SOFT0017   **EKKO_3D Software License**
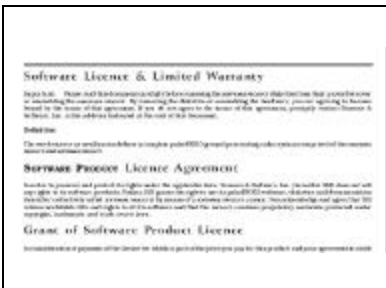
EKKO_3D provides 3D visualization of GPR grid data obtained using the pulseEKKO and NogginPlus systems. Fascinating 3D slice, cube, and chair presentations and movies are created quickly and easily to aid in understanding complex three dimensional structures.

SOFT0020   SpiView PC Software

SpiView is a DOS program for PC-based data collection with any Noggin system. It allows for Noggin data acquisition with variable gain, depth, media, colour and speed settings.

Typically, SpiView would be used with a tow-mode Noggin system attached to a PC. SpiView is used to generate Noggin graphics image data files (PCX) and cannot be used for NogginPlus data collection.

SpiView can also be used for data replay and plotting but these functions can also be performed by the Windows-based Win_SpiView program (SOFT0045) which is available to any Noggin owner.

SOFT0027   EKKO_POINTER Software License
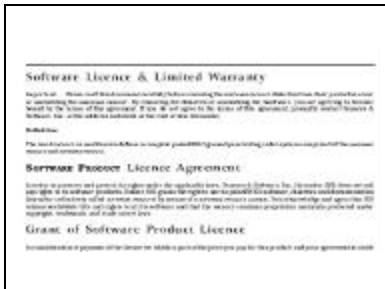
The EKKO_Pointer software uses pattern recognition to identify localized target responses in GPR data and to create a statistical output representation. The output aids in identifying features such as pipes and cables. The processing is highly automated and operates on gridded data. EKKO_Pointer is available exclusively for use with pulseEKKO and NogginPlus GPR systems.

SOFT0028   EKKO_MAPPER Software License
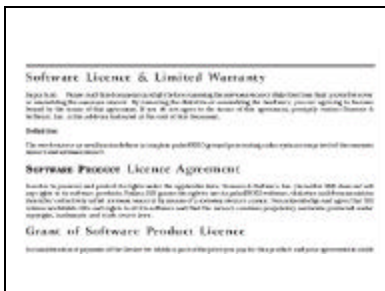
The spatial correlation of GPR responses at complex sites aids in differentiating targets. EKKO_Mapper allows the user to obtain detailed subsurface information of survey areas by converting grid data into GPR time and depth slice maps. The pulseEKKO and NogginPlus output merge seamlessly into EKKO_Mapper for rapid map creation. EKKO_Mapper products can be saved in a variety of image formats for export into reports or as image layers in GIS systems.

SOFT0030   EKKO_VIEW Enhanced PC Software License
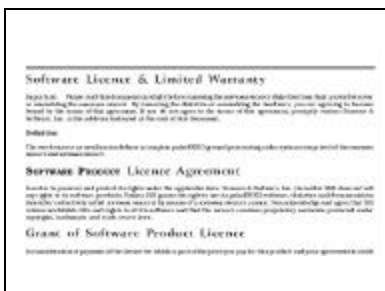
EKKO_View Enhanced is designed for the GPR user who needs to edit, process, and plot large volumes of GPR data quickly and efficiently. It allows for data plotting as well as data editing and simple processing of GPR data.

Editing and processing can be carried out on individual or numerous data files and 'favorite' processing streams can be saved as 'recipes' to use on other data sets. Data can also be converted to other formats for export into other programs.

(This product was previously called Win_EKKO.)

SOFT0032   EKKO_VIEW Deluxe PC Software License

EKKO_View Deluxe, the professional version, features all of the capabilities of EKKO_View Enhanced plus more advanced data viewing and data processing including spatial and temporal filters, migration, instantaneous attributes, amplitude spectra, and GPS data integration.

(This product was previously called Win_EKKO Pro.)

SOFT0035   IcePicker PC Software License
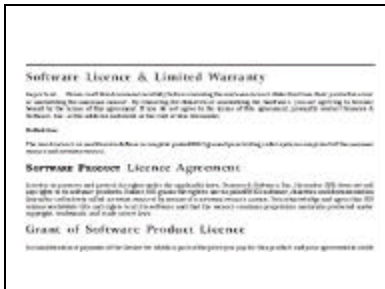
IcePicker is typically used with ice profiling GPR data to automatically or manually pick the bottom of ice reflector. It outputs a spreadsheet file that lists GPS position (or line position) of the trace, ice thickness in depth (based on an input GPR ice velocity value) and other attributes.

The automatic picking in IcePicker works best when there is a strong continuous, isolated reflector like there usually is with ice profiling data. However, IcePicker can also work with other non-ice GPR data. The automatic picking works on data sets that have suitable reflector geometry and manual picking is available for any GPR data file.

SOFT0036   DVL Firmware - Smart Systems

The Smart System DVL firmware is used to operate Noggin SmartCart and SmartHandle systems. It has two modes of the operation: Noggin and NogginPlus.

The firmware allows the user to control all aspects of data acquisition including depth, gain, station interval, frequency, units, trigger method, velocity calibration, GPS setup, etc. The NogginPlus menus allow the user to define grid data surveys.

The Smart System firmware also allows stored data to be replayed on the DVL screen, transferred to a PC or deleted.

## SOFT0042   DVL WinPXFER PC Software
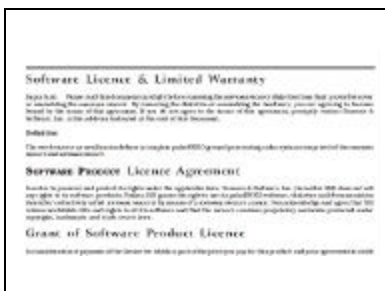
The WinPXFER Software package is used to transfer data from the DVL II or DVL III to a PC. This program runs on the PC in a Windows environment. It requires the DVL to be connected to the PC parallel port. The software works in conjunction with the firmware in the DVL to allow file transfers to the PC.

SOFT0043   DVL Firmware - Rock Noggin

This firmware allows the user to operate a Rock Noggin system. It is very similar to the Smart Systems DVL firmware (SOFT0036).
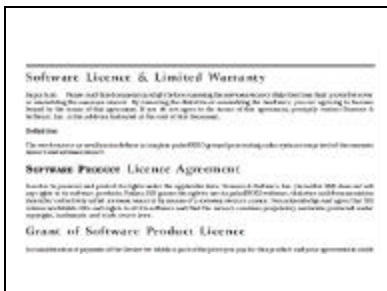
SOFT0045   Win_SpiView PC Software (View)
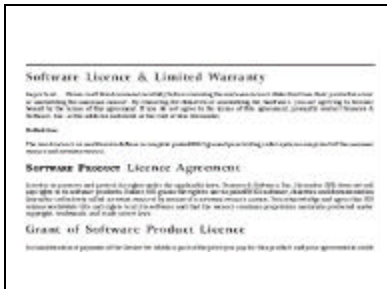
Win_SpiView is a Windows-based program used to view and plot Noggin data on a PC. It is similar to the DOS-based SpiView (SOFT0020) but it cannot be used for Noggin data acquisition.

Win_SpiView cannot be used to view NogginPlus data.

SOFT0048   QuickMap for Ice Profiling PC Software License

The QuickMap for Ice Profiling program is used to display ice thickness data collected with GPS coordinates in a colour map form. The ice thickness input file is generated from the IcePicker program (SOFT0035). Other attributes such as amplitude, data quality and elevation can also be mapped.

SOFT0049   EKKO_VIEW PC Software License
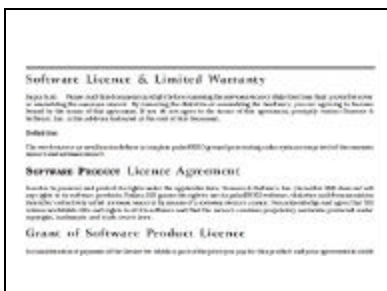
EKKO_View provides powerful Windows-based data plotting capability for NogginPlus, pulseEKKO and Conquest data. Data can be displayed as colour traces or wiggle traces and can be printed directly to a printer or saved as graphic image files. The user has full control over the cosmetic features of the display including axes label intervals, axes titles, fonts, sizes, colours, as well as the vertical and horizontal data scales. The display allows for zooming as well as the hyperbolic curve-fitting feature to extract the radar velocity for accurate depth estimations. The software is shipped on a CD (see SOFT0050).

SOFT0050   **CD#1 - General GPR - Password Protected**

The general GPR password-protected CD contains important documentation for all Sensors & Software's products. It includes software installations, GPR system and software manuals in PDF format, utility programs and example data.

Most of the software programs on the CD can be installed as 14 day trial software. After the trial period has expired, a password must be input to have full use of the program. Customers that purchase software will receive the appropriate passwords with the CD.

Manuals

MANU0004   **SpiView Software Manual**

This manual details how to use the SpiView software (SOFT0020) on the PC.

The drawing number for this manual is 1999-00234-XX.

MANU0005   **Noggin System User Manual**
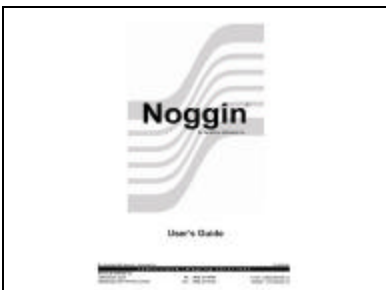
This manual describes how to assmble and operate a tow-mode Noggin system (SYST0018, SYST0019 or SYST0026) attached to a PC running the SpiView (SOFT0020) software.

This manual has drawing number 1999-00233-XX.

**MANU0010**   **SmartCart System User's Manual**

This manual describes how to assemble a Noggin SmartCart system (SYST0022, 23, 24, 25, 27 and 28). It also details the Smart System DVL firmware (SOFT0036) used to operate a Noggin or NogginPlus.

It has a drawing number of 1999-00273-XX.

MANU0014   **SmartHandle Manual**

This manual describes how to assemble the Noggin 500 SmartHandle system (SYST0029 and 31) and the Noggin 1000 SmartHandle system (SYST0030 and 32). It also details the Smart System DVL firmware (SOFT0036) used to operate a Noggin or NogginPlus.

The drawing number for this manual is 2001-00032-XX.

MANU0015   **Ice Profiling Manual**
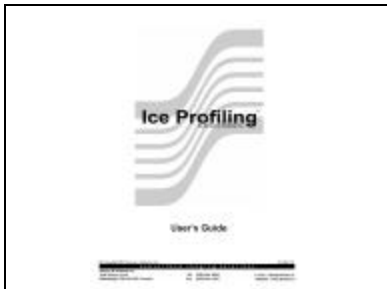
The Ice Profiling manual describes how to set up a Noggin ice profiling system (SYST0037 and 38). It also details how to run an ice profiling survey, specifically the parameters to change in the Smart System DVL firmware (SOFT0036) for simple and successful ice profiling operations.

The manual contains information on processing the ice profiling data including integrating the GPS data using EKKO_View Deluxe (SOFT0032), picking the ice bottom reflector using the IcePicker software (SOFT0035) and using Quickmap for Ice Profiling (SOFT0048) to produce colour maps of ice thickness.

The drawing number is 2001-00041-00.

MANU0018   **EKKO_3D Software Manual**
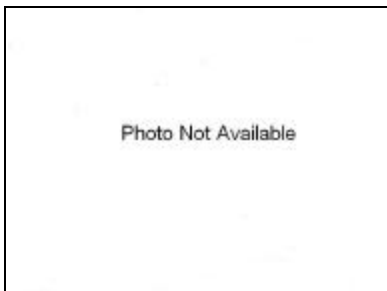
This manual describes how to use the EKKO_3D PC software program (SOFT0017).

Its document number is 1999-00255-XX.

MANU0020   **EKKO_MAPPER Software Manual**
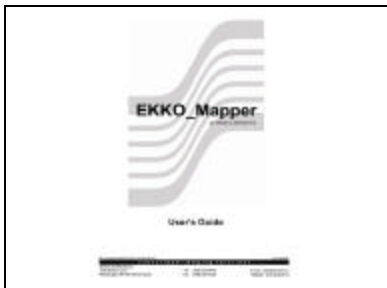
This manual describes how to operate the EKKO_MAPPER windows PC software (SOFT0028).

The document number for this product is 2001-00129-XX.

**MANU0021**   **EKKO_View Enhanced & EKKO_View Deluxe Software Manual**

This manual describes how to operate the EKKO_View Enhanced (SOFT0030) and EKKO_View Deluxe software (SOFT0032) on a Windows PC.

The document number is 2003-00476-XX.

MANU0022   **EKKO_POINTER Software Manual**
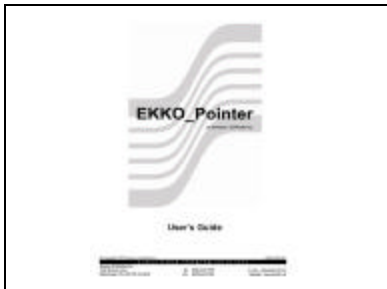
This manual describes how to use the Windows PC based EKKO_POINTER (SOFT0027) software.

The document number is 2000-00010-XX.

MANU0025   **GPR Workshop Notes**

Photo Not Available
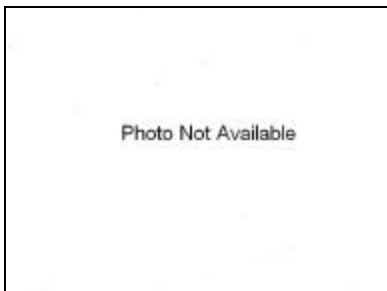
Ground Penetrating Radar Principles, Procedures, and Applications is an in-depth and comprehensive guide to GPR written by Peter Annan .

This indispensable resource for GPR users thoroughly covers a wide range of topics including:

theory
instrumentation
survey design
data processing
concepts and pitfalls

Upgrades

UPGR0021   **Noggin to NogginPlus Upgrade After Version 8**

Noggin systems with Sensors & Software internal version number 8 or later can be upgraded to a NogginPlus with this upgrade. Only Noggins with the following serial numbers can be converted to Noggin plus systems with this upgrade:
0000-0178-0011 and higher
0000-0181-0001 and higher
0000-0219-0001 and higher
Any number higher than 219.

For Noggins with version number earlier than 8, the Noggin will have to be sent in for an assessment and a quote to upgrade it. There is more detailed information on upgrading Noggins in an FAQ.

UPGR0024   Noggin to Noggin Plus Upgrade Prior to Version 8

Includes: UPGR0024

Noggin systems with Sensors & Software internal version number EARLIER than 8 can be upgraded to a Noggin plus with this upgrade.

Unless the upgrade has already been done (it is best to check), Noggins with the following serial numbers can be converted to Noggin plus systems with this upgrade:

0000-0171-0001 to 50
0000-0178-0001 to 10
0000-0180-0001 to 50

There is more detailed information on upgrading Noggins in an FAQ.

### UPGR0029   NogginPlus OEM Upgrade

This is an upgrade to a NogginPlus system. The upgrade will allow a user to communicate directly with the NogginPlus system using a serial port.   This gives the user full control over data acquisition. A manual is provided with the command set and examples of how to communicate using a simple terminal program. 16-bit data is returned. Sample data acquisition and plotting code written in C is provided to get the user started in the software development for the system.

Once this upgrade is performed the system can no longer be used as a standard Noggin or NogginPlus with other Sensors & Software products.

UPGR0033   Upgrade EKKO_VIEW to Enhanced License (CD#1)
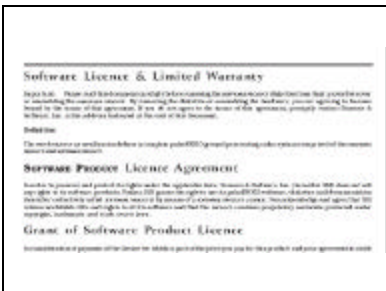
EKKO_View owners can upgrade to EKKO_View Enhanced to increase their capabilities from plotting to editing and simple processing of GPR data.

Editing and processing can be carried out on individual or numerous data files and 'favorite' processing streams can be saved as 'recipes' to use on other data sets. Data can also be converted to other formats for export into other programs.

UPGR0034   Upgrade EKKO_VIEW to Deluxe License (CD#1)
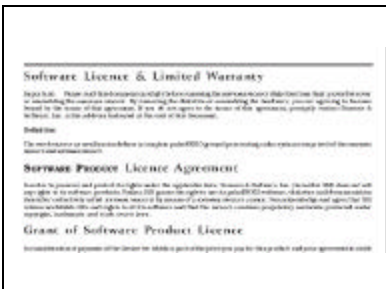
EKKO_View owners can upgrade to EKKO_View Deluxe to increase their capabilities from plotting to editing and full processing of GPR data.

Editing and processing can be carried out on individual or numerous data files and 'favorite' processing streams can be saved as 'recipes' to use on other data sets. Data can also be converted to other formats for export into other programs.

EKKO_View Deluxe features more advanced data viewing and data processing including spatial and temporal filters, migration, instantaneous attributes, amplitude spectra, and GPS data integration.

UPGR0035   Upgrade EKKO_VIEW Enhanced to Deluxe License (CD#1)
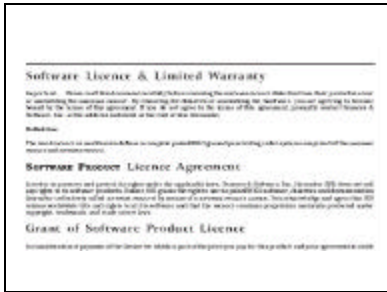
EKKO_View Enhanced owners can upgrade to EKKO_View Deluxe to increase their capabilities from plotting, editing and simple processing to full processing of GPR data.

EKKO_View Deluxe, the professional version, features advanced data viewing and processing including spatial and temporal filters, migration, instantaneous attributes, amplitude spectra, and GPS data integration.

Shipping Boxes

SBOX0011   Noggin 250 Deluxe Shipping Case

This waterproof case is designed to safely store and ship a Noggin 250 unit.

SBOX0012   Noggin 500 Deluxe Shipping Case

This waterproof case is designed to safely store and ship a Noggin 500 unit.

SBOX0013   Noggin 1000 Deluxe Shipping Case

This waterproof case is designed to safely store and ship a Noggin 1000 unit.

SBOX0022   Noggin 250 Shipping Box

This is the standard cardboard shipping box and foam insert for the Noggin 250.

SBOX0023   Noggin 500 Shipping Box

This is the standard cardboard shipping box and foam insert for the Noggin 500.

SBOX0024   SmartCart Shipping Box

This is the standard cardboard shipping box for the Smartcard and accessories.

SBOX0031   DVL Shipping Box

This is the standard cardboard shipping box for the DVL.

SBOX0036   **Rock Noggin Deluxe Shipping Box**

This shipping box is designed for the Rock Noggin system. Individual cut-outs protect the system from damage while in transit. The box comes with a retractable handle and wheels for easy maneuverability.

SBOX0037   **Deluxe Noggin 500 SmartHandle Box**

This shipping box is designed for the Noggin 500 SmartHandle system. Individual cut-outs protect the system from damage while in transit. The box comes with a retractable handle and wheels for easy maneuverability.

SBOX0038   **Deluxe Noggin 1000 SmartHandle Box**

This shipping box is designed for the Noggin 1000 SmartHandle system. Individual cut-outs protect the system from damage while in transit. The box comes with a retractable handle and wheels for easy maneuverability.

SBOX0039   **Deluxe Seiko Shipping Box**

This deluxe shipping box is used to store the Seiko Printer sold as product number MISC0075.

SBOX0040   Deluxe DVL Carrying Case

This shipping case is designed for the digital video logger (DVL). Individual cut-outs protect the system from damage while in transit.

Services

SERV0014   Extend Electronics Warranty - Year 2

Our standard warranty is a one year warranty. This option will extend the warranty to two years. Please note that this option only covers items under the normal one year warranty. No consumable items or normal wear and tear on the equipment is covered. Coverage is mainly on electronic components.

Cost should be computed based on the total cost of the system not including any shipping or taxes.

This item must be purchased at the time of original sale.

SERV0015   Extend Electronics Warranty Years 2 & 3

Our standard warranty is a one year warranty. This option will extend the warranty to three years. Please note that this option only covers items under the normal one year warranty. No consumable items or normal wear and tear on the equipment is covered. Coverage is mainly on electronic components.

Cost should be computed based on the total cost of the system not including any shipping or taxes.

This item must be purchased at the time of original sale.

SERV0016   Extend Electronics Warranty Years 2, 3 & 4

Our standard warranty is a one year warranty. This option will extend the warranty to four years. Please note that this option only covers items under the normal one year warranty. No consumable items or normal wear and tear on the equipment is covered. Coverage is mainly on electronic components.

Cost should be computed based on the total cost of the system not including any shipping or taxes.

This item must be purchased at the time of original sale.

Training

MANU0026   **SmartCart Assembly Video**

The Noggin SmartCart Assembly Video (VHS) outlines the procedure for assembling the Noggin SmartCart system.

MANU0027   **SmartCart Mapping Video**

The Noggin SmartCart Subsurface Locating Video (VHS) describes some basic GPR theory and surveying techniques for locating buried utilities using the Noggin SmartCart system.

MANU0029   **Noggin SmartCart Assembly CD**

The Noggin SmartCart Assembly CD contains a video outlining the procedure for assembling the Noggin SmartCart system.

MANU0030   **Noggin SmartCart Subsurface Locating CD**

The Noggin SmartCart Subsurface Locating CD contains a video describing some basic GPR theory and surveying techniques for locating buried utilities using the Noggin SmartCart system.