Getting Started
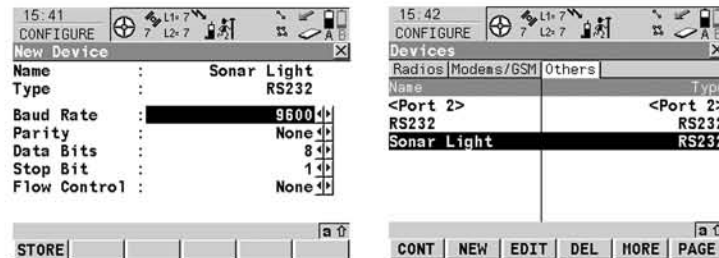
Setting Up ASCII Terminal Settings. From the main menu go to interfaces Command : Cont. Select your ASCII Input. Command : Cont.
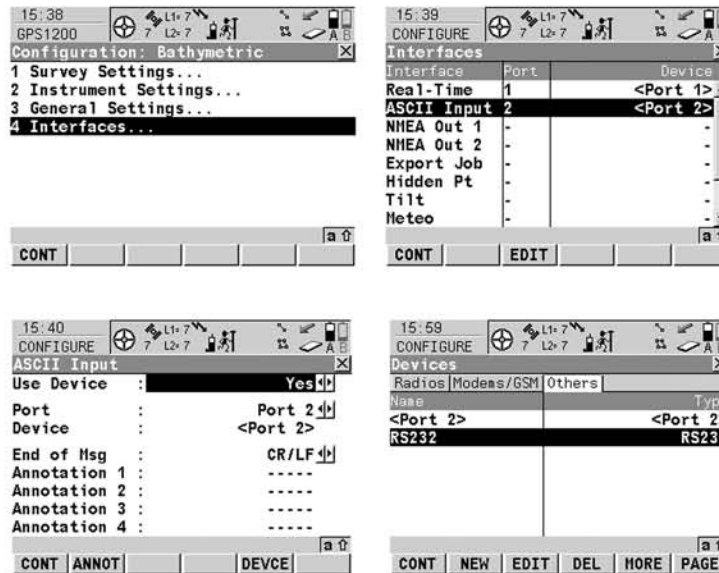
Select the Use Device In Port 2 (or your choice) Command : Cont. Highlight the RS232 And select New Command : Cont.

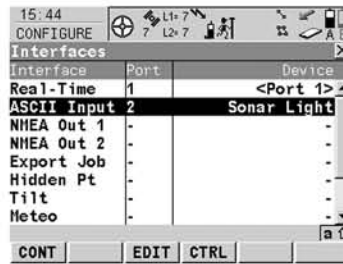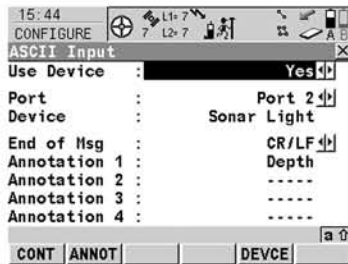Type in your Name. We have used Sonar Light. Set the Rates as above. See Sonar light manual page 14. Command : Store. The GPS will now receive Data from the Sonar light. Command : Continue.
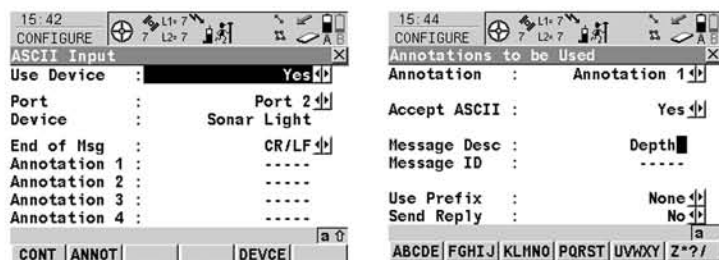
You must now set the end of message and Annotation 1. Command : Annot. Type in your Message description. We use Depth. Ensure the Accept ASCII is set to Yes. User Prefix is set to None. Send Reply is set to No. Command : enter.

The next screen should be as above confirming your settings. Command : Cont. Congratulations the Sonar light will now talk to the GPS. Command : Cont.

```
15:44          L1: 7              15:44          L1: 7
CONFIGURE    7  L2: 7          CONFIGURE    7  L2: 7
ASCII Input              ✕     Interfaces              ✕
Use Device    :        Yes     Interface  Port      Device
                               Real-Time  1       <Port 1>
Port          :     Port 2     ASCII Input 2      Sonar Light
Device        :  Sonar Light   NHEA Out 1  -         -
                               NHEA Out 2  -         -
End of Msg    :       CR/LF     Export Job  -         -
Annotation 1  :       Depth     Hidden Pt   -         -
Annotation 2  :       -----     Tilt        -         -
Annotation 3  :       -----     Meteo       -         -
Annotation 4  :       -----
                          a     
CONT  ANNOT         DEVCE       CONT      EDIT  CTRL
```
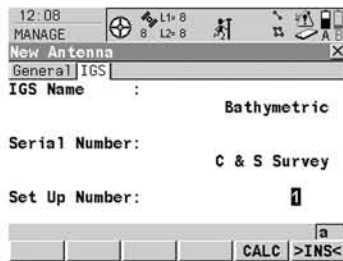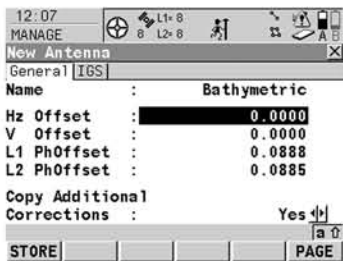
Antenna Set up procedure

From the main screen, (3) Management, (6) Antennas. Start with the ATX1230 Pole. This will bring over the correct phase offsets for your new set up. Command : NEW.

```
12:05         L1: 8              12:06         L1: 8
GPS1200     8  L2: 8           MANAGE      8  L2: 8
Management              ✕      Antennas              ✕
1 Jobs                         Name             Creator
2 Data                         ATX1230 Pole     Default
3 Codelists                    ATX1230 SmartStn Default
4 Coordinate Systems           ATX1230 Tripod   Default
5 Configuration Sets           AX1201 Pole      Default
6 Antennas                     AX1201 Tripod    Default
                               AX1202 Pillar    Default
                               AX1202 Pole      Default
                         A     AX1202 Tripod    Default
CONT                           CONT  NEW   EDIT  DEL
```
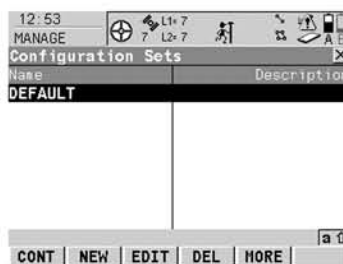
In the Name type in your description. In this instance we have used Bathymetric. Do not change other settings. In the IGS Screen change. IGS Name. Serial Number. Set Up Number. This gives your set up a unique IGS. Command : Store. Antenna is now set up : Note Antenna height must be set later !

```
12:07         L1: 8              12:08         L1: 8
MANAGE      8  L2: 8           MANAGE      8  L2: 8
New Antenna            ✕       New Antenna            ✕
General IGS                    General IGS
Name      :    Bathymetric     IGS Name   :
Hz Offset :        0.0000                   Bathymetric
V  Offset :        0.0000      Serial Number:
L1 PhOffset :      0.0888                   C & S Survey
L2 PhOffset :      0.0885
                               Set Up Number:        1
Copy Additional
Corrections :        Yes
                          a                          a
STORE                PAGE                     CALC  >INS<
```

Setting Antenna Configuration

From the main menu. (3) Management. (5) Configuration Sets. Command : CONT. Select : NEW

```
12:53         L1: 7              12:53         L1: 7
GPS1200     7  L2: 7           MANAGE      7  L2: 7
Management              ✕      Configuration Sets      ✕
1 Jobs                         Name          Description
2 Data                         DEFAULT
3 Codelists
4 Coordinate Systems
5 Configuration Sets
6 Antennas
                         a                          a
CONT                           CONT  NEW  EDIT  DEL  MORE
```

Name your Configuration. Command : Store. Do not change. Command : Cont

```
12:59       ⊕  L1= 6              ⚓
MANAGE          L2= 6        🏃    ⛏ A B
New Configuration Set              ⊠
Name        :        Bathymetric

Description :        3 mtr Rib

Creator     :       C & S Survey


                                  a ⇧
  STORE                                
```

```
13:01       ⊕  L1= 6              ⚓
CONFIGURE      L2= 6         🏃    ⛏ A B
Wizard Mode                        ⊠
Wizard Mode :   View All Screens ◄►




                                  a ⇧
  CONT                          LIST
```
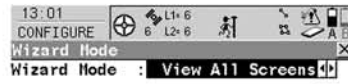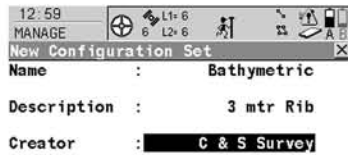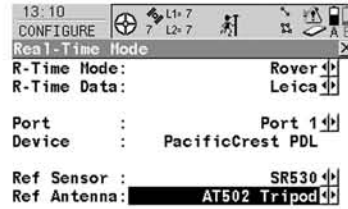
Do not change this screen unless you require different measurements (In the USA they use feet)
Command : Cont.

```
13:03       ⊕  L1= 6              ⚓
CONFIGURE      L2= 6         🏃    ⛏ A B
Languages on Instrument            ⊠
Language
ENGLISH                            ▲
ARABIC
CZECH
DANISH
GERMAN
SPANISH
FINNISH
FRENCH                             ▼
                                  a ⇧
  CONT          DEL
```

```
13:04       ⊕  L1= 6              ⚓
CONFIGURE      L2= 6         🏃    ⛏ A B
Units & Formats                    ⊠
Units|Angle|Time|Format|
Distance Unit:        Metre (m) ◄►▲
Distance Dec :       3 Decimals ◄►
Angle Unit   :          360°'" ◄►
Angle Dec    :              1" ◄►

Grade Unit   :             h:v ◄►
Velocity Unit:       Km/h (kmh) ◄►
Area Unit    :              m² ◄►▼
                                  a ⇧
  CONT                          PAGE
```
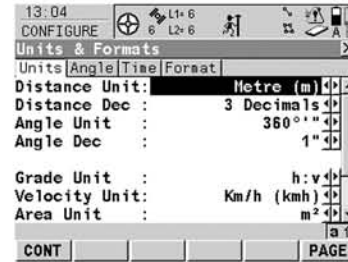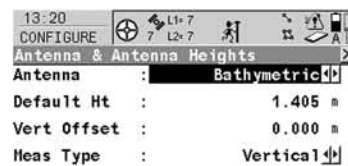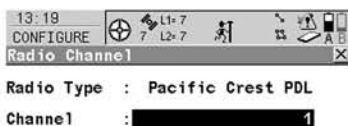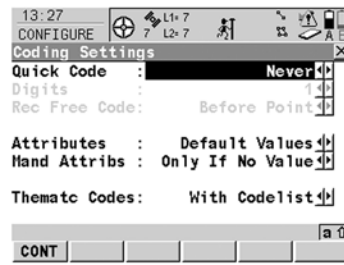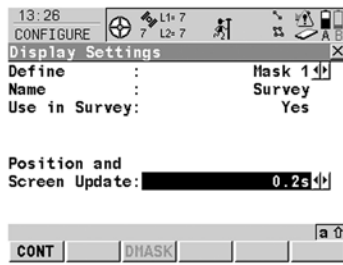
Setting the Configuration

The R-Time Mode must be changed to Rover by toggling the arrows. Command : Cont. This is where
you set up your specific base station. In this instance we have used a SR530 Antenna with a Pacific
Crest radio in port 1. Set on the AT502 Tripod. Command : Cont.

```
13:09       ⊕  L1= 7              ⚓
CONFIGURE      L2= 7        🏃    ⛏ A B
Real-Time Mode                     ⊠
R-Time Mode:              None ◄►




                                  a ⇧
  CONT
```

```
13:10       ⊕  L1= 7              ⚓
CONFIGURE      L2= 7        🏃    ⛏ A B
Real-Time Mode                     ⊠
R-Time Mode:             Rover ◄►
R-Time Data:              Leica ◄►

Port       :            Port 1 ◄►
Device     :    PacificCrest PDL

Ref Sensor :            SR530 ◄►
Ref Antenna:      AT502 Tripod ◄►
                                  a ⇧
  CONT ROVER          DEVCE
```
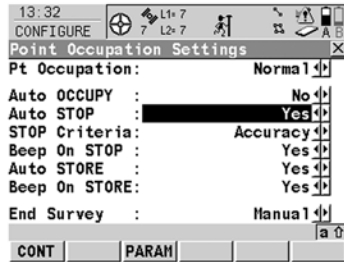
Set your required radio channel. This can be changed later if the channel is unavailable or corrupt
Command : Cont. Set the Antenna that you have already set up by toggling the arrows.
Ensure that the Default HT & Moving Ht are set to the dimension from the base of the transducer to the
bottom of the antenna. Command : Cont.

```
13:19       ⊕  L1= 7              ⚓
CONFIGURE      L2= 7        🏃    ⛏ A B
Radio Channel                      ⊠

Radio Type : Pacific Crest PDL

Channel    :                   1



                                  a ⇧
  CONT              SCAN
```

```
13:20       ⊕  L1= 7              ⚓
CONFIGURE      L2= 7        🏃    ⛏ A B
Antenna & Antenna Heights          ⊠
Antenna     :       Bathymetric ◄►
Default Ht  :           1.405 m
Vert Offset :           0.000 m
Meas Type   :          Vertical ◄►


Moving Ht   :           1.405 m
                                  a ⇧
  CONT
```

Define your display mask. And your screen update. As these are individual preferences we have left this up to the user. Command : Cont. As we are only collecting Depth these settings remain as default Command : Cont
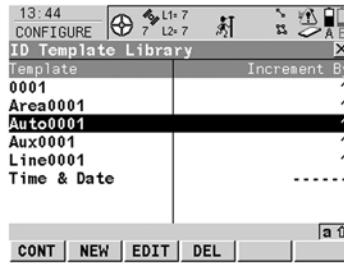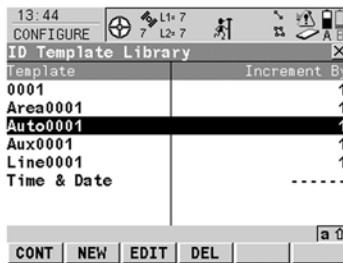


```
13:26          L1= 7        A B
CONFIGURE      7  L2= 7
Display Settings              X
Define       :        Mask 1 ◄►
Name         :        Survey
Use in Survey:        Yes


Position and
Screen Update:        0.2s ◄►

                           a ⇧
 CONT    DMASK
```

```
13:27          L1= 7        A B
CONFIGURE      7  L2= 7
Coding Settings              X
Quick Code   :         Never ◄►
Digits       :             1 ◄►
Rec Free Code:   Before Point ◄►

Attributes   :  Default Values ◄►
Mand Attribs : Only If No Value ◄►

Thematc Codes:   With Codelist ◄►

                           a ⇧
 CONT
```
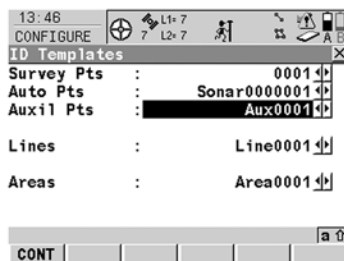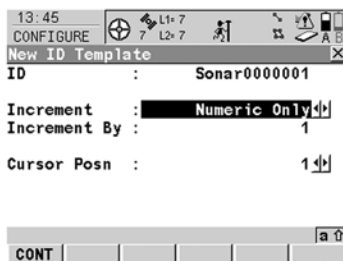
Ensure that the Log Raw Obs is set to Never. Command : Cont. Set the point Occupation Settings as per the above screen. This is our preference, you may wish to change some parameters. Command : Cont.


```
13:27          L1= 7        A B
CONFIGURE      7  L2= 7
Coding Settings              X
Quick Code   :         Never ◄►
Digits       :             1 ◄►
Rec Free Code:   Before Point ◄►

Attributes   :  Default Values ◄►
Mand Attribs : Only If No Value ◄►

Thematc Codes:   With Codelist ◄►

                           a ⇧
 CONT
```

```
13:32          L1= 7        A B
CONFIGURE      7  L2= 7
Point Occupation Settings    X
Pt Occupation:        Normal ◄►
Auto OCCUPY  :            No ◄►
Auto STOP    :           Yes ◄►
STOP Criteria:      Accuracy ◄►
Beep On STOP :           Yes ◄►
Auto STORE   :           Yes ◄►
Beep On STORE:           Yes ◄►

End Survey   :        Manual ◄►
                           a ⇧
 CONT    PARAM
```
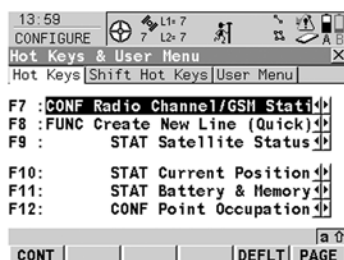
Create a new Template. Command : New. Create a new ID with sufficient logging point's we have set ours to a million as you may be collecting a lot of data. Increment by Numeric only. Command : Cont


```
13:44          L1= 7        A B
CONFIGURE      7  L2= 7
ID Template Library          X
Template            Increment By
0001                         1
Area0001                     1
Auto0001                     1
Aux0001                      1
Line0001                     1
Time & Date               ------

                           a ⇧
 CONT   NEW   EDIT   DEL
```

```
13:44          L1= 7        A B
CONFIGURE      7  L2= 7
ID Template Library          X
Template            Increment By
0001                         1
Area0001                     1
Auto0001                     1
Aux0001                      1
Line0001                     1
Time & Date               ------

                           a ⇧
 CONT   NEW   EDIT   DEL
```
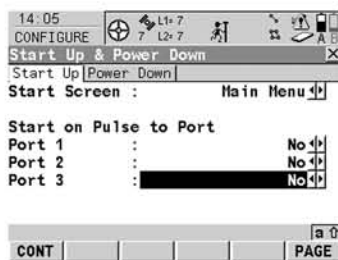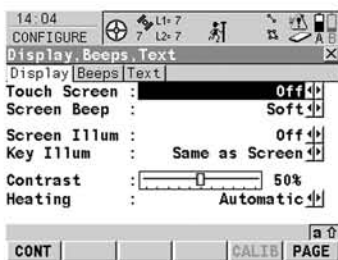
Note : on these screens the 1 million points is set on Auto for data collection, if this value is less the data will not be recorded after it has surpassed its setting ! Command : Cont.


```
13:45          L1= 7        A B
CONFIGURE      7  L2= 7
New ID Template              X
ID           :   Sonar0000001

Increment    :   Numeric Only ◄►
Increment By :             1

Cursor Posn  :             1 ◄►

                           a ⇧
 CONT
```

```
13:46          L1= 7        A B
CONFIGURE      7  L2= 7
ID Templates                 X
Survey Pts   :          0001 ◄►
Auto Pts     :   Sonar0000001 ◄►
Auxil Pts    :        Aux0001 ◄►

Lines        :       Line0001 ◄►

Areas        :       Area0001 ◄►

                           a ⇧
 CONT
```
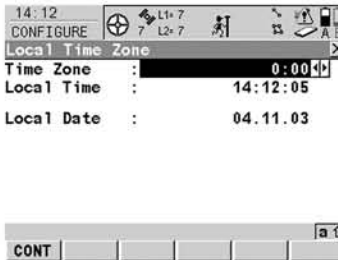
Set Store Seismic record to No. Command : Cont. Hot Key Set up. We have set this for our use you may wish to see different functions. If so " this is where you do it !" Command : Cont.


```
13:55          L1= 7        A B
CONFIGURE      7  L2= 7
Seismic Recording            X

Store Seismic Record:    No ◄►

                           a ⇧
 CONT
```

```
13:59          L1= 7        A B
CONFIGURE      7  L2= 7
Hot Keys & User Menu         X
Hot Keys Shift Hot Keys User Menu

F7 :CONF Radio Channel/GSM Stati◄►
F8 :FUNC Create New Line (Quick)◄►
F9 :     STAT Satellite Status ◄►

F10:     STAT Current Position ◄►
F11:     STAT Battery & Memory ◄►
F12:     CONF Point Occupation ◄►
                           a ⇧
 CONT           DEFLT  PAGE
```

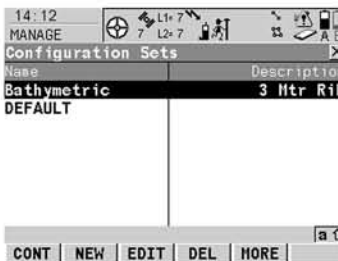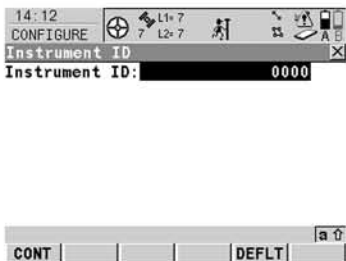These settings are your preference. Settings shown are used by C & S Survey. Command : Cont. As you require to control the input all settings should be set to No failure to set this will result in huge amounts of unnecessary data. Command : Cont.

```
14:04     ⊕ L1=7      ↗  📋🔋
CONFIGURE   7 L2=7         A B
Display,Beeps,Text           ✕
 Display|Beeps|Text|
Touch Screen     :        Off ◀▶
Screen Beep      :       Soft ◀▶

Screen Illum :            Off ◀▶
Key Illum    : Same as Screen ◀▶

Contrast  :──────▯─── 50%
Heating   :      Automatic ◀▶
                          a ⇧
CONT               CALIB PAGE
```

```
14:05     ⊕ L1=7      ↗  📋🔋
CONFIGURE   7 L2=7         A B
Start Up & Power Down        ✕
 Start Up|Power Down|
Start Screen :       Main Menu ◀▶

Start on Pulse to Port
Port 1    :               No ◀▶
Port 2    :               No ◀▶
Port 3    :               No ◀▶

                          a ⇧
CONT                      PAGE
```
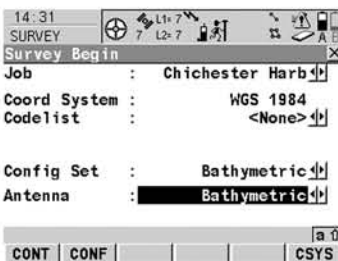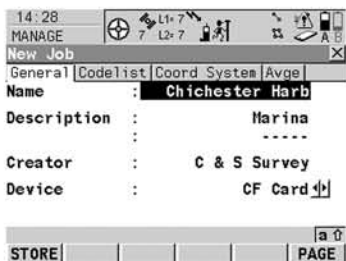
Standard Satellite Setting. No need to adjust unless you require a loss of lock Beep. Command : Cont. Time Zone settings as per the GPS Set up. Command : Cont.
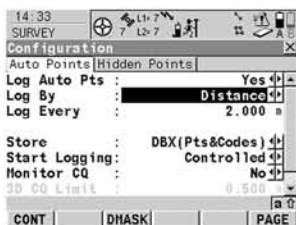
```
14:11     ⊕ L1=7      ↗  📋🔋
CONFIGURE   7 L2=7         A B
Satellite Settings          ✕
Track Mode  :   Max Accuracy ◀▶

Cut Off Angle:          10 °
Loss of Lock : No Beep/Message ◀▶

SV Health   :      Automatic ◀▶

                          a ⇧
CONT               HELTH
```

```
14:12     ⊕ L1=7      ↗  📋🔋
CONFIGURE   7 L2=7         A B
Local Time Zone             ✕
Time Zone   :          0:00 ◀▶
Local Time  :      14:12:05

Local Date  :      04.11.03

                          a ⇧
CONT
```
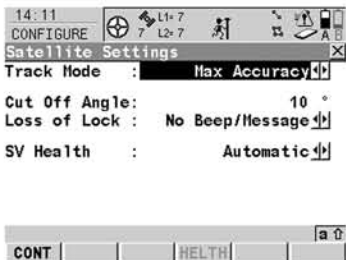
Your Instrument ID. Set by the instrument. Command : Cont. You have now set up all the criteria for your Configuration. Command : Cont

```
14:12     ⊕ L1=7      ↗  📋🔋
CONFIGURE   7 L2=7         A B
Instrument ID               ✕
Instrument ID:         0000

                          a ⇧
CONT               DEFLT
```

```
14:12     ⊕ L1=7  👤↗  📋🔋
MANAGE      7 L2=7         A B
Configuration Sets          ✕
Name              Description
Bathymetric        3 Mtr Rib
DEFAULT

                          a ⇧
CONT  NEW  EDIT  DEL  MORE
```

Set Up your New Project. Command : Store. You can of course specify your Coordinate system ! This is where you begin to set up your Survey parameters in the Antenna section. Command : Conf

```
14:28     ⊕ L1=7  📡 📋🔋
MANAGE      7 L2=7         A B
New Job                     ✕
 General|Codelist|Coord System|Avge|
Name        : Chichester Harb

Description :      Marina
            :      -----

Creator     :  C & S Survey
Device      :     CF Card ◀▶

                          a ⇧
STORE                     PAGE
```

```
14:31     ⊕ L1=7  👤↗  📋🔋
SURVEY      7 L2=7         A B
Survey Begin                ✕
Job       :    Chichester Harb ◀▶

Coord System :        WGS 1984
Codelist     :      <None> ◀▶

Config Set   :   Bathymetric ◀▶
Antenna      :   Bathymetric ◀▶

                          a ⇧
CONT  CONF               CSYS
```

Ready To Run

```
14:33     ⊕ L1=7  👤↗  📋🔋
SURVEY      7 L2=7         A B
Configuration               ✕
 Auto Points|Hidden Points|
Log Auto Pts :         Yes ◀▶ ▲
Log By       :    Distance ◀▶
Log Every    :       2.000 a

Store      : DBX(Pts&Codes) ◀▶
Start Logging:    Controlled ◀▶
Monitor CQ :            No ◀▶
3D CQ Limit :         0.500   ▼
                          a ⇧
CONT     DMASK            PAGE
```

Set up to Auto log as per your requirement. This set up will log data as soon as the antenna has moved 2 mtrs from the last recorded point, we use this and the time settings dependant on the survey location. Start logging : Controlled (if not you will pick up a lot of unnecessary data).

Connect the echo sounder to the GPS with the green lead supplied by Ohmex Instrumentation. Connect the transducer to the echo sounder.

Start your Project with occupy. The instrument will log the data, depth is shown on your screen below the antenna Heigh