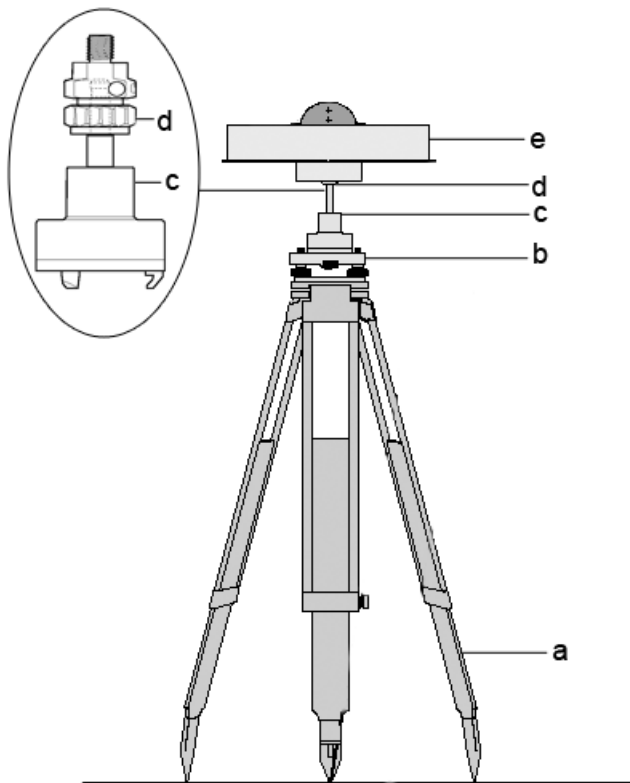


STATIC BASESTATION

Firmware v8.5

1



Set up the tripod (a)

Mount and level the tribrach (b) on the tripod using the built-in bubble

Ensure the tribrach is over the known point (usually an OS Passive Station marker) by looking through the optical sight

Place and lock the carrier (c) into the tribrach

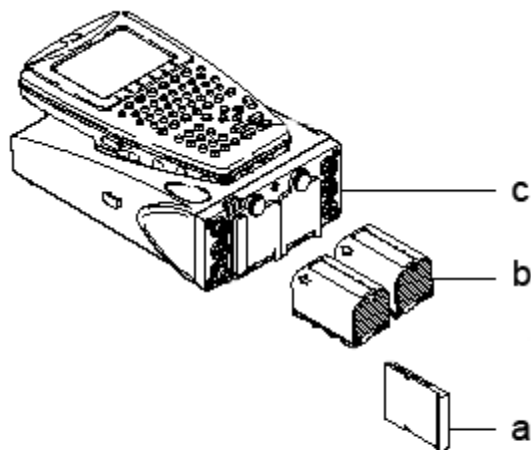
Screw the adapter (d) into the base of the antenna (e)

Loosen the locking ring of the adapter (d) and slide down onto the carrier (c)

Press the button on the side of the adapter (d) to allow it to drop all the way onto the carrier (c)

Finally tighten the locking ring on the adapter (d)

2



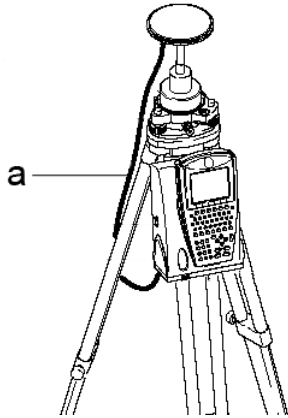
Unscrew the left hand battery holder on the receiver (c) and insert the Compact Flash card (a). **CAUTION: The arrow must face into the unit and the label with the arrow on it must face towards the right**

Insert one GEB121 Lithium-Ion battery (b) into the compartment (press in and then up to lock in place) and screw the door closed

Open the second battery compartment, place another GEB121 battery (b) into it and screw it closed

The battery compartments are spring loaded, to remove a battery, press the battery into the unit and down, it will then spring out

3

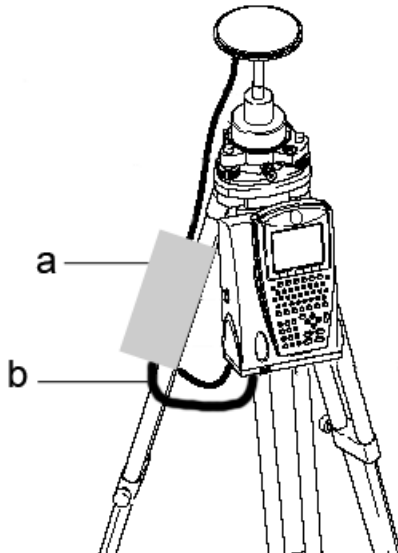


Hook the receiver onto one of the tripod legs

Connect the antenna to the receiver socket marked 'ANT' using the antenna cable (a)

The connectors are identical at each end, be careful not to cross-thread them when lining them up

4



You may be supplied with an external high-capacity battery (a) to increase the available recording time

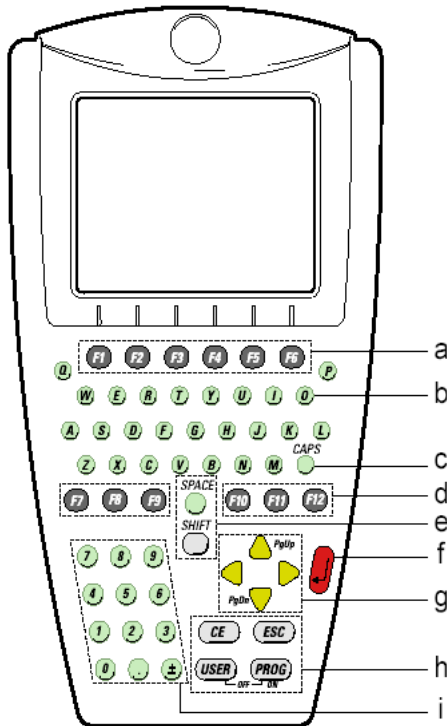
Clip the battery (a) to one of the tripod legs

Use the 1.8m 5-pin battery cable (b) to connect the battery to the socket marked 'PWR' on the receiver

Alternatively you may use any 12V power source (e.g. car battery) by using the GEV71 external cable plus the 5-pin cable and supplied croc clips

CAUTION: Be sure to use the correct polarity (RED=positive, BLACK=negative)

5



Turn on the unit by pressing the PROG key (h)

The system will take a few moments to boot up

Once complete you should see the main menu icons on the screen

- a) Function keys F1-F6
- b) Alpha keys
- c) **CAPS**
- d) Hot keys F7-F12
- e) **SPACE, SHIFT**
- f) **ENTER**
- g) Arrow keys
- h) **CE, ESC, USER, PROG**
- i) Numeric keys

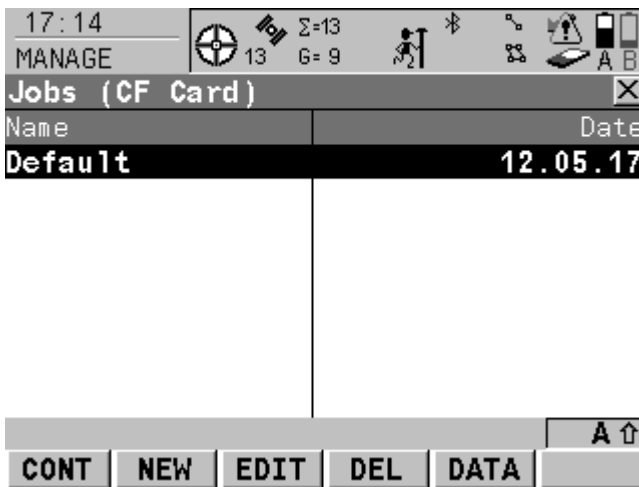
6



To move around the menu system use the arrow keys on the keypad followed by the ENTER key or F1 (CONT)

You can also use the numeric keys to jump straight to a numbered menu item

7



Before starting a new survey, it is recommended to delete any previous jobs from the memory card to ensure the maximum amount of free space (at a recording rate of 2Hz, you should have room for at least 48 hours of data on the supplied card).

CAUTION: Be sure to backup your data from the card before deleting jobs

From the main menu select MANAGE then JOBS

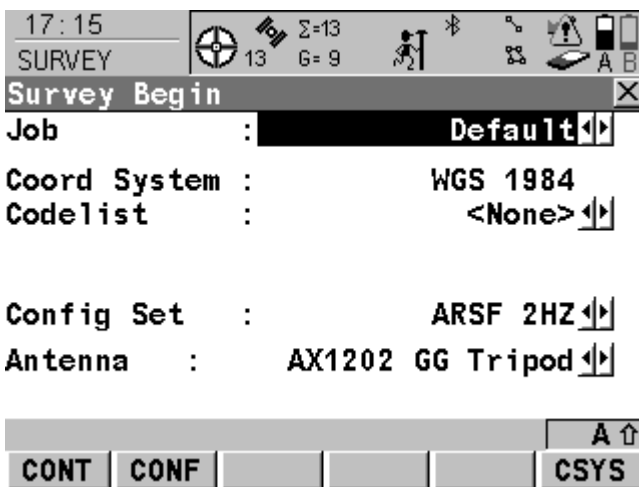
A list of jobs (surveys) on the card is displayed

Highlight each job that you wish to remove and press F4 (DEL)

To confirm the deletion press F6 (YES)

To return to the main menu press F1 (CONT)

8



From the main menu choose SURVEY

Create a Job to save the survey data into

Highlight the Job and press ENTER

A list of Jobs on the memory card is displayed (should only contain the Default job if you have followed step 7 above)

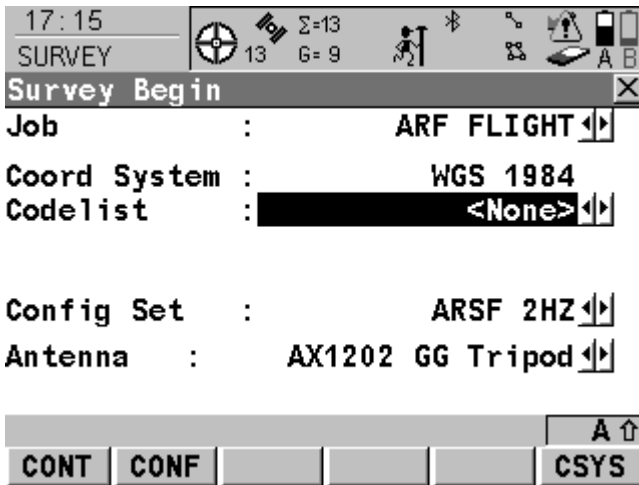
Press F2 (NEW) to create a new Job

Type in a name and optional description of the Job (press ENTER to finish typing a line)

Press F1 (STORE) to save the Job details

Your new Job should be highlighted, press F1 (CONT) to select this as the current Job

9



Coord System must read WGS 1984

To change the system, press F6 (CSYS) and select WGS 1984

Codelist should read <None> (we do not need codelists)

To change the codelist, highlight the codelist and either use the left and right arrow keys to cycle through the list or press ENTER to view the entire list and select <None>

10



The system should be pre-configured by the GEF with suitable parameters for use with the ARSF flights (see separate Configuration Guide for details)

For ARSF flights, the normal configuration is ARSF 2HZ.

This specifies a 2Hz (0.5 second) data recording rate

Select the Config Set by highlighting the line and either using the left and right arrow keys or pressing ENTER to see a list of all the configuration sets

If you do not have the ARSF 2HZ configuration, you will need to create it

To create a new configuration, highlight the Config Set line and press ENTER

Press F2 (NEW) and use the separate Configuration Guide to fill the correct details into each page

17:16 SURVEY 13 Σ=13 6=9

Survey Begin

Job : ARF FLIGHT

Coord System : WGS 1984

Codelist : <None>

Config Set : ARSF 2HZ

Antenna : **AX1202 GG Tripod**

CONT CONF CSYS

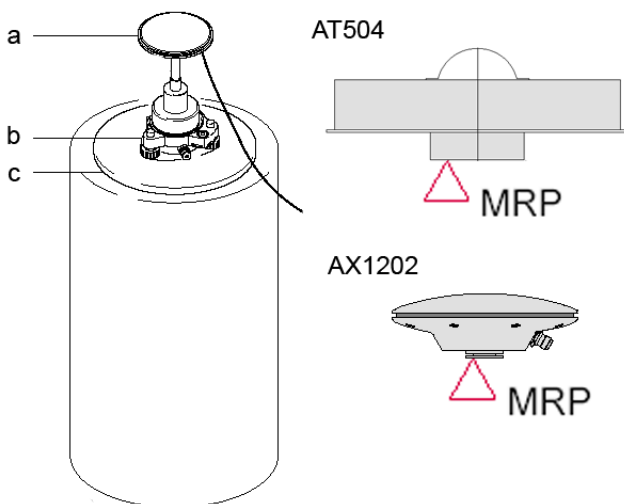
CAUTION: You must select the correct antenna at this stage of the survey

You may be supplied with an AT504 Choke-Ring Antenna or a smaller AX1202. The model of antenna can be checked by reading it from a plate attached to the side of the antenna. **Note there are two models of AX1202**, a GLONASS compatible version is labelled AX1202 GG. Please ensure you select the correct version.

At the same time as selecting the correct antenna, you must select whether it is mounted on a Tripod or Pillar (no tripod)

When using a tripod with a Leica Height Hook, all the antenna height offsets are calculated for you.

If you need to place the antenna directly onto a pillar, see step 12 otherwise skip to step 13



Place the tribrach (b) directly onto the OS pillar or plate (c)

Antenna (a) height will need to be measured manually from the Mechanical Reference Plane (MRP) to the benchmark on the pillar (c)

Each antenna has a different MRP

For the AT504 it is the bottom of the metal housing

For the AX1202 it is the underside of the metal ring

CAUTION: Do not select Tripod as the mounting type when measuring manually to the MRP as the software will add in 0.36m of unwanted height

13

17:17		$\Sigma=13$		
SURVEY	13	G=9		
Survey: ARF FLIGHT				
Survey	Code	Annot	Map	
Point ID	:	BASE SITE1		
Antenna Ht	:	0.0000 m		
GDOP	:	1.3		
				A ↑
OCUPY	NEAR		H PNT	PAGE

Press F1 (CONT) to continue to the main survey screen

Type in a name (Point ID) for the point you will be surveying

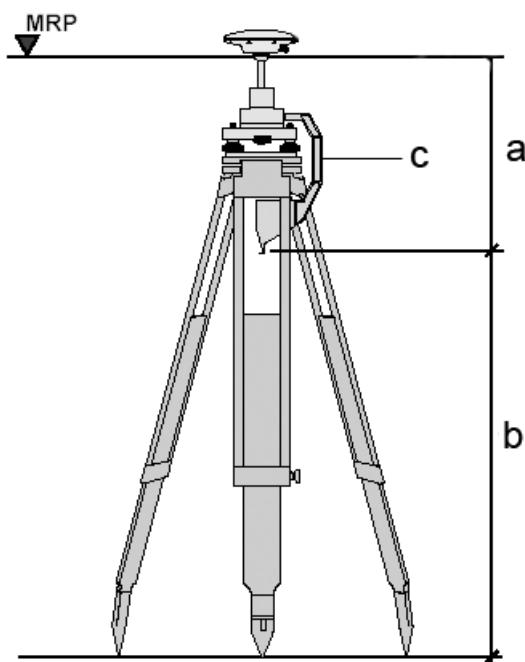
It is useful to make this the name of the OS passive station if appropriate

You must now measure the antenna height

If you are using a tripod, use the Leica Height Hook as shown in step 14

If you are directly on a pillar, measure as shown in step 12

14



Insert the height hook (c) into the hole in the side of the carrier

Pull the tape measure out from the height hook down to the OS benchmark level

The height reading to be entered (b) can now be read from the white mark on the height hook

CAUTION: The tape reads in centimetres but you must enter the reading as metres

The offset to the MRP (a) is 0.36m and **will be added automatically to the height you have measured (b)** as long as you have correctly chosen **Tripod** in step 11

15

17:17		$\Sigma=13$		
SURVEY	13	G=9		
Survey: ARF FLIGHT				
Survey	Code	Annot	Map	
Point ID	:	BASE SITE1		
Antenna Ht	:	1.2560 m		
GDOP	:	1.3		
				A ↑
OCUPY	NEAR		H PNT	PAGE

The unit should by now have calculated a position and be ready to record

Check that you have a position symbol

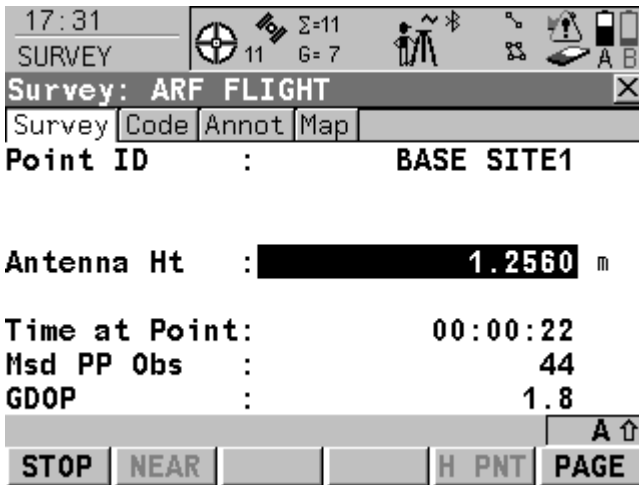


If you not receiving satellites, check the antenna connection

Press F1 (OCUPY) to start the unit recording.

Aim to start recording 2 hours before the flight arrives!

16



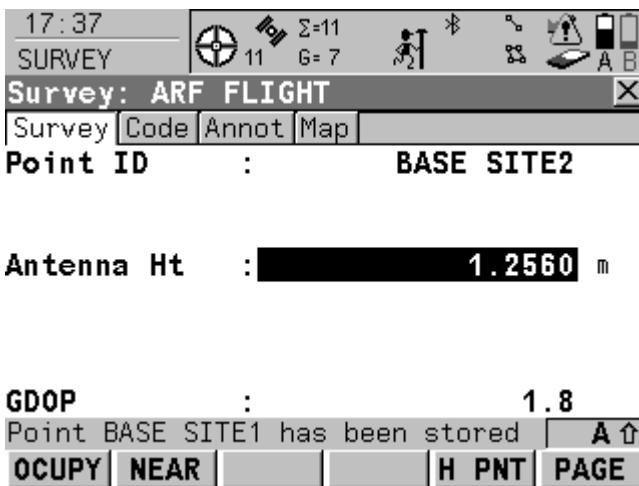
You should see the icon of a person with a pole change to a person standing next to a tripod with a line above it

This confirms that the unit is recording static data

The Time at Point counter will increase as will the Msd PP Obs (Measured Post-Processed Observations) at a rate of 2 every second

If you wish to lock the keyboard at this point to stop inadvertently ending the survey, hold the SHIFT key down for a few seconds until the unit beeps and displays the message 'Keyboard Locked'.

17



One hour after the ARSF flight has left the survey area, unlock the keypad (if you locked it in step 16) by holding down SHIFT. CAUTION: Once you release the SHIFT key, you may need to press it once more until you see the word STOP above the F1 key

Press F1 (STOP) to stop the survey, you should see the message 'Point has been stored'

Press SHIFT once and then F6 (QUIT) to leave the survey screen

You can now turn the unit off by pressing both USER and PROG buttons simultaneously

Disconnect all cables and pack away the equipment

CHECKLIST

- 1 Tripod secure and levelled over the survey marker?
- 2 Antenna mounted properly on the adapter?
- 3 Antenna cable securely attached?
- 4 Freshly charged batteries inserted plus external battery where applicable?
- 5 Memory card emptied of all old data (backed up!)?
- 6 Correct configuration set in use (ARSF 2HZ)?
- 7 Correct antenna type set?
- 8 Tripod or Pillar mounted?
- 9 Point ID entered and height recorded?
- 10 Satellites received and recording started successfully?



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