10. Caring For the Meter

Clean the meter carefully with a soft cloth very slightly moistened, rubbing all of the surfaces carefully.
Never use any type of abrasive, scouring powder or chemical solvents such as alcohol or benzene as it may mar the finish of the casing and screen.

11. Additional Information

Do not put any foreign object into any of the meter's connector sockets.
Never use the meter where it will be subjected to excessive heat , moisture or vibration.
The meter can be used to identify satellites while the mains or in-car chargers are connected.
The meter will power off if it is not used for 5 minutes.

12. Warranty

The meter, **apart from the battery**, is protected by a 12 month parts and labour guarantee from the time of its purchase, provided it has not been subjected to misuse, neglect or accidental damage.
If any repair, or attempt to repair, has been carried out by anyone other than our authorized service agents, the warranty will be invalidated. This does not affect your statutory rights.

13. Contact Details

SatHawk® 4000 meters are imported and distributed by:

Sadoun Satellite Sales
Digital Satellite Systems
MPEG2 * DVB * FTA

Sadoun Satellite Sales
4974C Scioto-Darby Road
Hilliard
OH43026
WWW.SADOUN.COM

Order and Technical Hotline: 1-888-519-9595
Tel: 1-614-529-9560
Fax: 1-614-529-9570
Email: sales@sadoun.com

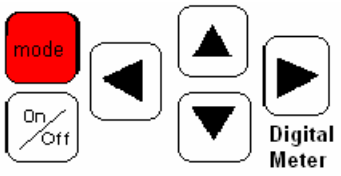
MADE IN UK

With the SatHawk 4000 meter you will find a mains charger, an in-car charger and a protective case.
These instructions are designed to help you get the best from your meter.
The illustrations will show you the buttons to press and what you can expect to see on the meter display.

1. The Meter Controls

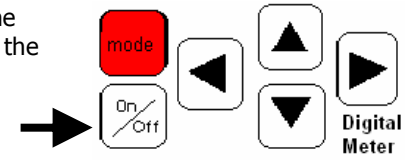
The meter is controlled using a membrane keypad which is laid out as in this image.

The diagrams will indicate where a button should be pressed to complete a process

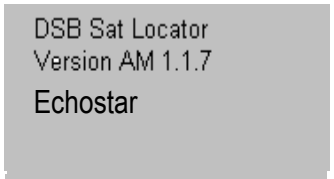


2. Turning the Meter ON

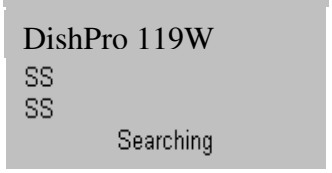
Press and release the **on/off button** below the red **Mode** button



The meter will power ON and the display will show the Firmware version.
The meter will also display the currently active dataset

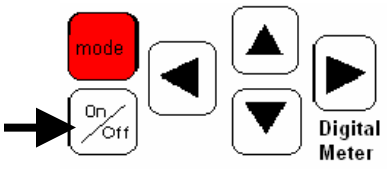


The boot process is completed and the display will show the search screen. The entry shown here is for DishPro 119W. Under the transponder name there are two signal strength lines and the word searching to indicate that no satellite has been found.

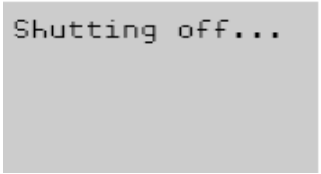


3. Turning the Meter OFF

To turn the meter OFF - **PRESS AND HOLD** the **on/off** button



The shut down procedure begins when the tone sounds and the exit screen displays.



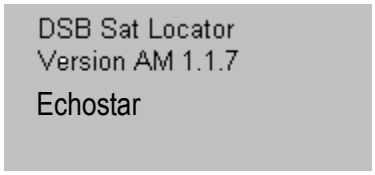
4. Connections

The meter has two socket connections on one side. One is for the mains battery charger, and the other for download using a USB A—B interface cable. The cable connects the meter to your PC for carrying out data upgrades.
(see the Data Upgrade section of the instructions)
On the other side of the meter the 'F' connector is fitted with a removable adaptor so that a secure connection can be made to the LNB connecting lead. On the back of the meter, the cover at the base is removable to allow the user to replace the battery. Spare batteries are available and allow extended use in the field. The user must not remove any other meter screws; doing so will invalidate the warranty.

5. Datasets

The meter will be supplied with preloaded data optimized for your region. The data will be divided into up to 6 separate sections that are designed for use in different types of installations.

The dataset which is currently in use is displayed on the third line of the meter display. Here the meter is using the dataset S3 USA V6.01



For the USA the meter will be loaded with the following data:

AM9 KU Standard: A comprehensive list of satellites visible in the USA using standard LNBF

AM9 KU Univ 6.10: A comprehensive list of satellites visible in the USA using universal LNB.

DirecTV: To install DirecTV dishes. The Find transponder is used for identifying the correct satellite, and the Xpol is used for fine tuning LNBF.

Echostar: For locating DishPro and SuperDish systems and other Echostar satellites.

C-Band: A comprehensive list of C-Band transmissions

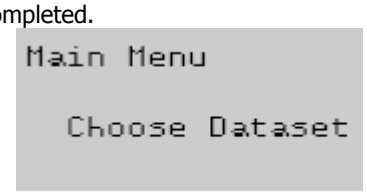
N/A: Not available at present. To be used for future expansion.

The meter defaults to the last used data division on startup. For details about changing the dataset and upgrading satellite data go to the following sections:
Using the menu system
Data upgrades

Choose Dataset

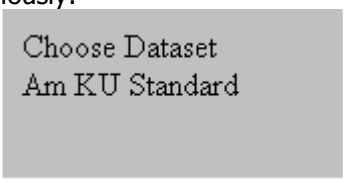
The user can change the dataset in use quickly to suit the current installation being completed.

This item is selected from this menu option:

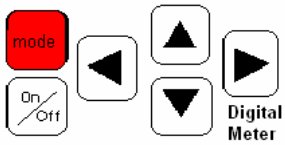


The USA meter is programmed with 5 separate datasets as described previously:

1. AM9 KU Standard
2. AM9 KU Univ 6.10
3. DirecTV
4. Echostar
5. C-Band
6. N/A



Use the Up/Down arrow buttons to scroll to the option you want. Then press the Right Button followed by the left, to select



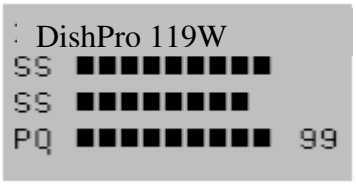
The meter will start in the chosen dataset until the option is changed by the user.

Calibrate Picture Quality (PQ)

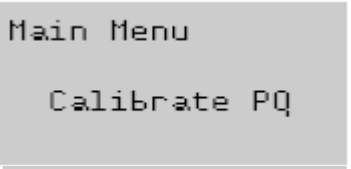
The meter will have been calibrated at the factory with average settings for PQ sensitivity. If the quality of the transmission in your area is very high, the meter's display may peak beyond the visible range. This means that you will not be able to see the bar rise to the optimum sweet spot as you peak the dish and fall away again as this position is passed. The sensitivity should be adjusted in this case.

In order to calibrate the PQ sensitivity the meter must be connected to a properly installed and peaked dish and the bottom line of the display must be showing a PQ bar.

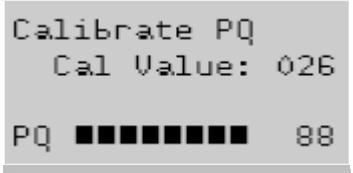
This meter is over peaking the PQ at 99 and should be adjusted to a setting of between 85 and 95.



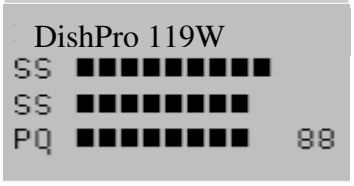
The item is selected from this menu option:



The value is adjusted using the arrow button (above) until the bar shows the desired amount.

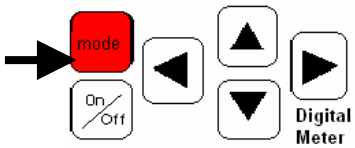


On exit from the menu you are returned to the default screen and the PQ bar will have a more useful value.



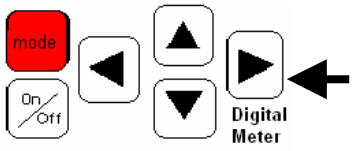
9. Using the Menu

The meter has 4 menu options accessed using the **mode** button

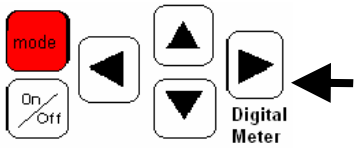


1. LNB TEST
2. Power off time
3. Choose Dataset
4. Calibrate PQ

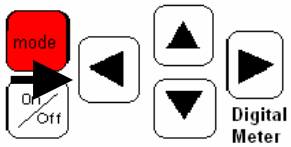
When a menu item is displayed it can be selected for adjustment using either the **mode** button (above) or the **right arrow** button



Changed settings are confirmed using the **right arrow** button.



Exit the menu system using the **left arrow**



LNB Test

This item is selected from this menu option:

```
Main Menu

  LNB TEST
```

This test is used for a customer recall situation. It allows the installer to determine if the set top box or the antenna is at fault.
Usage. Remove the IF lead from the set top box. Connect to the meter. If a PASS is displayed in the meter the fault will be the set top box. If a FAIL is displayed investigation of the antenna / cable installation is required.

The meter sends a sequence of signals to test the LNB. This screen shows a successful test of the universal LNB.

```
TN ON 18V PASS
TN ON 14V PASS
```

The meter will replace the word **Pass** with **Fail** in a faulty system.

Power off Time

The meter's auto shutdown feature is used to help to conserve the battery. The period set in the factory can be changed to suit working patterns and types of installations. The setting is universal for all stored data.

The item is accessed from this menu option:

```
Main Menu

  Power off time
```

The setting is adjusted using the arrow buttons. This setting is adjusted in minutes and this screen shows a setting of 5 minutes:

```
Power off time

 Timer (mins)005
```

6. Charging the Battery

When you first receive the meter the battery will need to be charged for a minimum of 8 hours before use. This extended charge will have to be repeated if the meter is left unused for any prolonged period. The meter uses NiMH batteries and this is perfectly normal.

It is advisable to allow the battery to run low (but not fully exhausted) from time to time, and complete an 8 hour charge.

You must only use the Wall charger supplied with the meter itself. Damage caused by charging with any other charger will not be covered by any warranties.

New features allow the SatHawk 4000 to be used for satellite identification during the charging process. ***The user must make sure that leads do not create a hazard to anyone if used in this way.***

The meter has a 'power off' timer which shuts it down if unused for several minutes. The meter will also turn itself off if there is insufficient power to operate correctly and the charge process should then be carried out. As the battery becomes low a flashing **B** will appear in the top right hand corner of the display.

The meter <u>CAN</u> be used whist being charged, or while the meter is not in use. The meter will charge at a higher rate if charged while not in use.

Connect the charger to the wall socket and plug the lead into the connector on the side of the meter.

It is perfectly normal for the unit to become quite warm during the charging process.

The meter will indicate the type of charge being delivered with a letter in the top right hand corner of the display and with text. The text is hidden during installs.

When the battery is very flat, the display will show a lower case '**c**' as it trickle charges.

```
CHARGING          c

   Trickle
```

During the higher rate 'boost' charge cycle an upper case '**C**' will display.

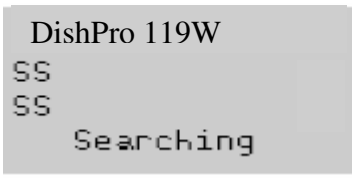
```
CHARGING          C

    Boost
```

When the charge process is complete the letter '**E**' will be displayed and the charger can be disconnected.

Charging with the in-car charger unit is done in the same way. You must only use the in-car charger unit provided. Any damage caused by use of any other charger will invalidate any warranties. We can supply spare chargers on request.

7. Identifying Satellites

Turn the meter ON and complete the start up sequence. The searching screen will show.



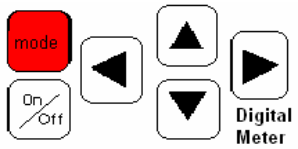
The screen has the following elements:

- The name of the transponder
- The first **signal strength** scale (SS)
- The second **signal strength** scale (SS)
- The search status

If you need to change the dataset in current use, refer to the section **Using the menu**.

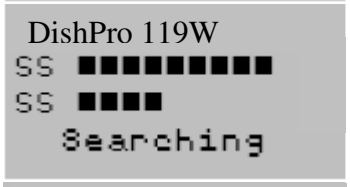
Set the correct dish angles for the satellite you will be installing to, then set the dish to the approximate angle of azimuth (East and West). Connect the meter to the LNB using a fly lead (preferably with quick-fit push connectors)

Different satellites in the dataset are selected by pressing the **right arrow**.

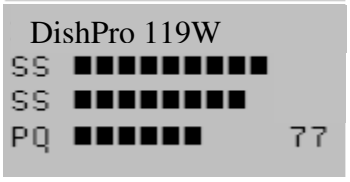


Slowly swing the dish on its mount until you see the first signal strength bar graph begin to rise.

When you are close to the optimal position, the second bar will show finer data that allows perfect alignment.

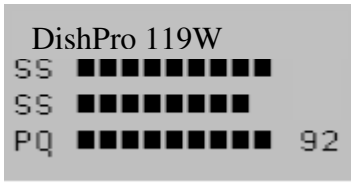


When the meter has verified the identity of the satellite the fourth line of the display will show a bar of the **Picture Quality (PQ)** replacing the word 'Searching'



With the satellite found, you can now optimize the installation

With small movements, move the dish until you get the maximum possible strength and quality.



Many satellites transmit in two polarities—horizontal and vertical. If data is loaded for both polarities you should peak the dish in both. This eliminates any cross polarity and will ensure optimum reception, even when weather attenuation is quite high.
To switch into the other polarity **press** the **UP** arrow button.
Not all satellites have data in 2 polarities.

Using very small movements, maximize the **BER** (**PQ**), reading in both polarities, switching back and forth.

It is very important to remember that PQ readings either too high or low will lead to a poor installation as you are unable to watch the bar rise to and pass through the 'sweet spot' of ideal alignment. **You must calibrate.**

The meter is pre-programmed with datasets and the parameters are checked regularly to confirm integrity. From time to time broadcasters change the characteristics of the transmission and the meter data must be upgraded. Go to the section **Data upgrades** for more details.

8. Data Upgrades

Broadcasters change the parameters of their data from time to time and the dataset in the meter must be upgraded to the new settings to make sure that it continues to lock. The datasets are complete and cannot be edited by the end user.

The manufacturers of the meter maintain a website which offers the user the chance to download the data and a software application used to transfer the data into the meter.

The data upgrade program is Windows® based and transfers the data through a USB port to the USB B socket on the meter's side panel.

The transfer software has been written to work with Windows versions from 2000 onwards.

When data transfer is complete the user is notified. After the meter is restarted the new dataset comes into effect. It will have overwritten the previous one.

The support website gives detailed instructions on using the software, and other Frequently Asked Questions.

Meter support website

www.sathawk.tv