



T A M

Terrestrial Meter

User Manual

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1. Introduction

Thank you for purchasing our terrestrial alignment meter. It should provide years of trouble free operation.

Please read this guide to familiarize yourself with all the features and options available.

Be careful with antenna installations, not to injure others by dropping tools or hurting yourself by falling down.

Take care of the meter by keeping it warm and out of the rain.



2. Supplied items



Maxpeak TAM
Terrestrial Alignment Meter
with protective leather case



Spare F to F Connector



IEC to F adapter



USB Cable



Car socket charger

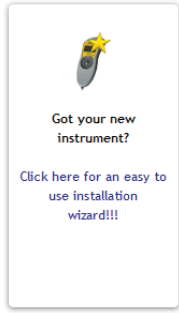


Wall socket charger



Mains lead for region

3. Getting started



Before using the instrument, a full charge should be performed (as described in Chapter 4).

On our website www.maxpeak.tv ; Click on the “new instrument wizard” and follow a few steps to create a user profile and download firmware and settings.

1. Create a Maxpeak user profile:

- Navigate to our website: “www.maxpeak.tv”
 - The website senses your location and language automatically. If your language choice is different and available, click on the flag in the top right hand corner.
 - ! The website language is the language that will be loaded in the firmware. e.g. if you have selected English, then the meter will be in English as well.
- Create the profile.
 - Enter the security number from the picture.
 - Enter a “User name” and “Password” and valid email address.
 - ! The e-mail address entered in the procedure needs to be valid. A confirmation e-mail is sent to this address and your account will not enable until you reply to it.
If you do NOT receive a confirmation email within 5 minutes, it is likely your virus program and / or email provider has treated the email as SPAM. Try to retrieve the email or follow the alternative method.

2. Product Registration, connect to pc:

● Connect the meter to the computer

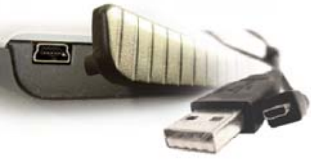
- Lift rubber molding on left side of the instrument to reveal the USB socket.
- Connect the USB lead from the instruments USB socket to the computer USB interface.
- If connecting for the first time: follow the Windows driver installation process.

! *Help with driver installation is available from our website, www.maxpeak.tv/support.php
If windows cannot find the driver it can be downloaded from our support pages.*

● Register product online

- Download the “Registration“ program. Next register the product.
- The firmware is selected automatically.
- Now select the required settings (transmitters) from the right hand side. A maximum of 70 can be selected.
- Download the “Maxpeak Installer” and install the firmware and settings.

! *Help with product registration is available from our website, www.maxpeak.tv/support.php*



The USB socket is located under the rubber moulding on the instruments left side.





Before updating firmware and download settings, remember to be logged in with a Maxpeak user account and that the instrument is connected to the computer.

3. Update firmware and download settings:

● Firmware update

- Make sure to be logged on at the Maxpeak website and that the instrument is connected to the computer.
- In the top right menu, click 'Products'. Then in the left menu, click 'Firmware Download'.
- Follow the instructions given at the 'Firmware Download' page.

! [Help with firmware download is available from our website, www.maxpeak.tv/support.php](http://www.maxpeak.tv/support.php)

● Settings download

- Make sure to be logged on at the Maxpeak website and that the instrument is connected to the computer.
- In the top hand menu, click 'Products'. Then in the left menu, click 'Settings Download'.
- Follow the instructions given in the 'Settings Download' page.
- Please note, the website will remember your settings from previous selections. This helps if you want to retain your last choice and simply want to update for the latest settings.
- You can add and / or remove settings.

! [Please note that once a setting download has taken place the previous settings are over written.](#)

! [Help with settings download is available from our website, www.maxpeak.tv/support.php](http://www.maxpeak.tv/support.php)

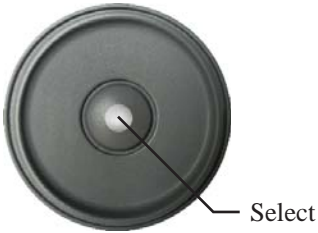
4. Charging procedure



The charging socket is located under the rubber moulding on the right side of the instrument.



Only use the included car or wall socket chargers for charging the meter.



Press Select to use the meter while charging

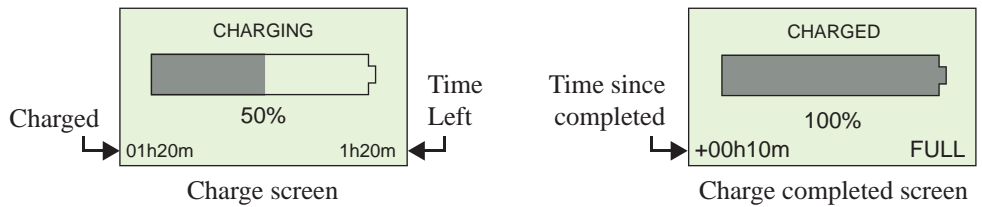
The meter is delivered with a nominal charge only. It needs 24 hours of initial charge before usage. The battery reaches full capacity after a couple of charges.

Charging procedure:

- Lift the rubber moulding on the top right side of the instrument to reveal the charging socket.
- Plug the lead from either the included car¹ or wall socket chargers to the instrument.

⚠ *Please note that warranty is not valid if another non supplied charger is used.*

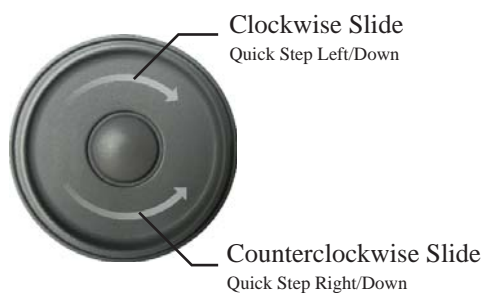
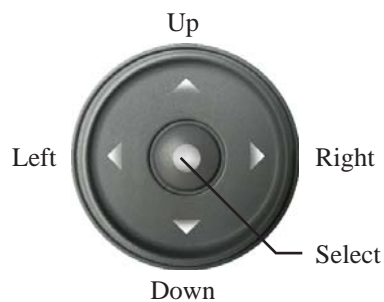
- Now the battery is charging. A full charge will take 3 hours.
 - *Removing the charger from the charging socket puts the instrument in Standby-mode.*
- Press Select button to put the meter in meter mode² while charging, after 10 minutes the meter returns to the charge screen



¹ Some vehicles need ignition turned on in order to provide power to the cigarette lighter socket.

² Using the instrument while charging may result in less accurate measurements.

5. Touch-wheel control



The meter is controlled using a touch sensitive wheel and a distinctive Select button at the wheels centre.

- The meter is switched ON/OFF by keeping the “Select” button pressed.
- A shorter “Select” click¹ is used for data entry in the Setup view and Transmitter menu.

The wheel can be used in two ways:

- Standard four way navigation, by clicking¹ the wheel in each direction as shown in the top picture.
- Quick Left/Right stepping of values by dragging clockwise or counterclockwise as in the bottom picture.

6. Power up and shut down

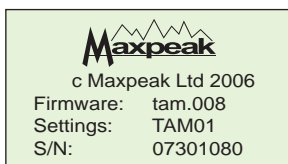


Power Up:
Keep the Select button pressed.



Shut Down:
Keep the Select button pressed.

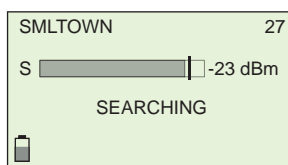
To turn the meter on, keep the “Select” button pressed for five seconds. At startup, the following information is displayed:



Firmware and settings file versions are displayed.

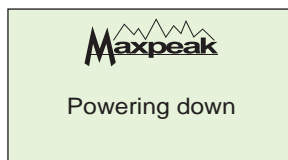
! To freeze this information, keep holding the Select button.

The meter then changes to the meter view:



The meter is now up and running. For the functionality available, please see:
Chapter 7 - To adjust the antenna
Chapter 8 - Setup view.

To shut down the meter, keep the “Select” button pressed, (similar when turning on the meter). When switching off, the screen below is displayed:



7. Antenna Installation

First find a suitable place to install the antenna. It should be line of sight of the transmitter. Make sure there are no overhead obstructions like power lines etc.

- Next assemble the antenna according to the antenna manufactures instructions. Next fit a test lead.

Point the antenna in the direction of the transmitter.

The trick with digital terrestrial is that it is **NOT** like in analogue transmissions: simply point the antenna directly onto the transmitter to achieve maximum signal and Carrier Noise. With digital transmissions one of the channels / muxes will be weaker than the other so it is more important to makes sure all of them get over the digital noise margin. This nearly always means that the antenna is **NOT** ddirectly onto the transmitter.

Next hook up the TAM and select the correct transmitter. Check all channels / muxes for sufficient Signal and Quality (Q, SNR, CSI, pre POST or MER). Note the weakest one. Try to peak this and then check all again.

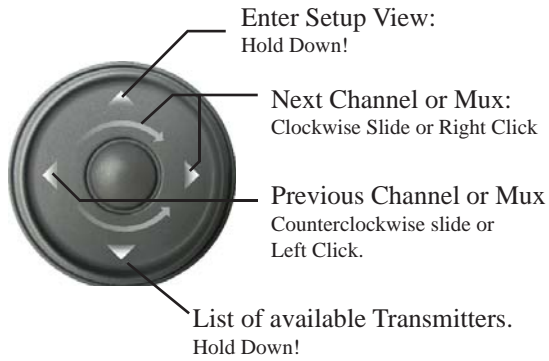
⚠ Be careful with antenna installations not to injure others by dropping tools or hurting yourself by falling down.

8. To peak the Antenna



Connect the F to F lead or other lead between the antenna and to the connector of the instrument.

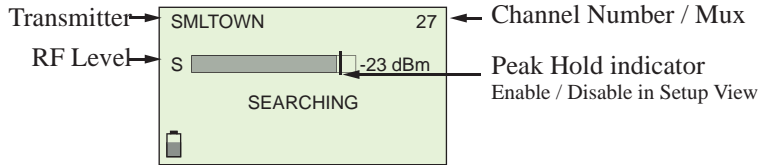
The meter can automatically power active antennas via 5 V Dc as DVB-T standard.



- Hook up the Antenna with a F-connector or an IEC Aerial adapter.
 - ① Use a screw of high quality on the F connector as it affects the readings
Do not use push-on F connectors as they are very unreliable, especially when they have been used a few times.
- Connect the other end to the bottom of the meter and power up.

The meter view:

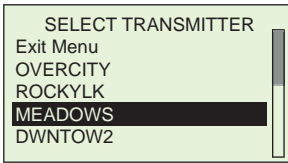
Initially the meter displays signal level and start to search for a match.



- To choose channel/mux, click Left / Right or slide the wheel.

When the preferred transmitter has been discovered, press the centre button to enter into channel/mux step through to check the selected transmitter.

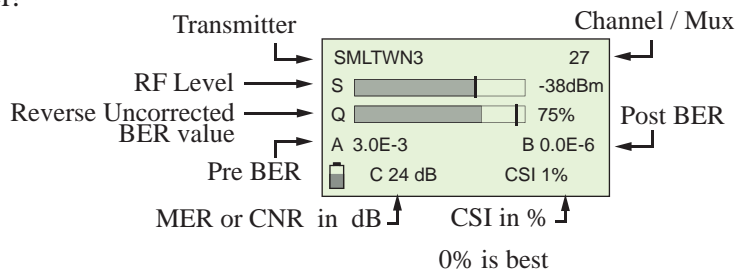
Hold down the “DOWN” to enter a menu where a new transmitter can be selected:



When the antenna is adjusted for the correct transmitter, the meter will beep twice and change from searching to include a Q bargraph together with numerical values for Pre and post BER and SNR or MER and CSI.

Check all channels and muxes for correct levels. Please note that there are normally one or more that is poorer and the aim is to bring these up to a level over the digital edge, rather than to maximise the strong signals. It is unlikely that the antenna will be pointed at line of sight to the transmitter.

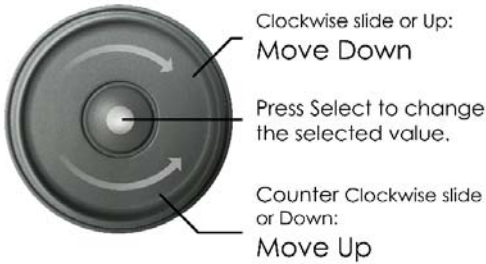
Please note that if no DVB-T transmission is on the selected channel / Mux, only RF Level will be displayed, e.g. an analogue channel!



8. Setup view / Scan mode



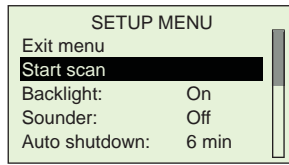
Hold finger at the top to enter set up mode.



Slide the wheel or press Left/Right to navigate the list of options

Press the centre of the wheel to enter a new value for the selected item.

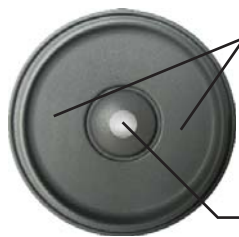
The Setup view is where settings and personal preferences are set. Enter the Setup view by holding “UP” on the wheel.



The following settings and choices are available:

Exit menu:		Exit back to meter view
Start Scan		Enters the scan mode
Backlight:	On, Off	Display backlight. Turn off when not needed to save battery time.
Sounder:	On, Off	Sound feedback while peaking signal. Beeps faster as signal quality increase.
Auto shutdown:	Never, 3-15min	Time before meter shuts off to save battery, default=6 min.
RF Level:	dBuV, dBm	Select RF Level display entity.
SNR/MER:	SNR, MER	Select whether to display SNR or MER value
Peak Hold:	On, Off	A vertical hold line indicating the top value reached. This applies to all meter bars.
Touch sens:	Low, Medium, High	Adjust the touch wheel sensitivity.
Restore to default:		Restore the setup view menu values to factory defaults

The Scan mode



Touch 3 or 9 o'clock to toggle between UHF and VHF ...

... then press the centre button to select

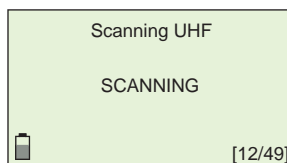
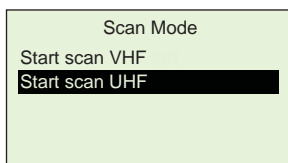


Press up to toggle filter mode:

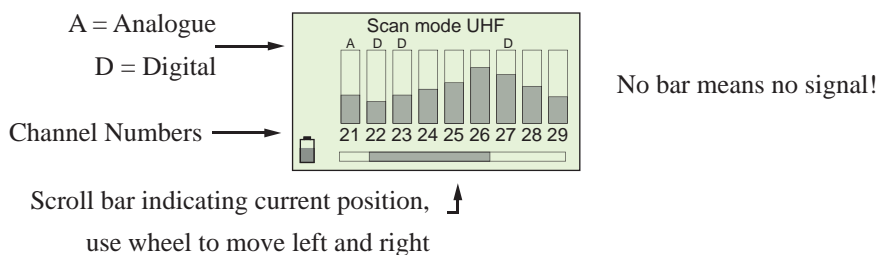
- Show all
- Show all not empty
- Only digital
- Only analogue

Press the centre button to return to normal operation mode

In the SCAN mode the meter can look for channels over the whole spectrum. First select VHF or UHF. During the scanning a moving indicator is showing that the meter is in the scan mode.



After scanning is complete (which will take longer for UHF than VHF), the channels and their levels are shown. All DVB-T digital channels are also indicated. 6 channels can be shown at any given time.



9. Battery replacement



Remove the screw located at the upper back side of the instrument.



Take away the battery lid and disconnect the current battery pack.



Attach the socket of the new battery to the connector on the instrument. Put the battery pack in place and put back the lid and screw.

The meter is powered by a replacable NiMH battery pack. As with all batteries the pack will deteriorate in with time.

! To maximize the lifetime of the battery pack, make sure to use/discharge and recharge the meter frequently

When the battery pack needs to be replaced, spare packs can be ordered from an authorised reseller.

! Do not use any other kind of non original batteries. A different pack can damage the meter and invalidate the warranty.

Battery Replacement:

Changing the battery pack is a simple procedure.

- Unscrew the screw and take away the battery lid.
- Remove the battery and disconnect the plug.
- Connect the new battery pack to the plug.
- Place the pack as shown in the bottom picture to the left.
- Initially charge the meter for 24 hours as described in Chapter 2 - Charging.

10. Specification

- Full Band VHF and UHF
- Replaceable F-connector
- 75 Ohm imp 30 to 100 dBuV
- RF Level as dBm or dBuV, Range -82 to -25 dBm 25 to 82 dBuV Precision +- 2.5 dB
- True MER or SNR displayed in dB Range 10 to 36 dB Precision +- 1 dB
- Pre and Post BER in numerical value Range preBER 0.001 % to 10 % Precision +- 5 %
- Quality displayed in % (reverse BER)
- RF,BER,MER and CSI displayed together
- Backlit graphics display 128*64 pixels
- Integrated rechargeable NiMH battery
- Charged from wall or car adaptor
- Meter operates while charging
- Run time in excess of 4 hours
- up to 70 transmitters
- Built in audible sounder
- DVB-T active antenna support 5 V Dc
- Upgrade of settings, firmware and language via USB 2.0
- 200 * 75 * 56 mm , 400 grams

The manufacturer reserves the right to change this specification without prior notice

Warranty

This product carries a manufactures warranty against faults or manufacturing defects for a period of 12 month from first registration of the product on the support website www.maxpeak.tv.

Maxpeak reserve the right to replace or repair a faulty meter. The warranty does not cover misuse or damage caused by dropping the meter or if the meter has been opened.

Declaration of conformity:

We, the manufacturer, Maxpeak Ltd 2nd Floor Compton House 29-33 Church Road Stanmore HA7 4AR ENGLAND declares that TAM (terrestrial meter) meets the following standards and directives:

Low voltage : 73/23/EEC , 93/68/EEC EMC: 61000-6-1:2001 61000-6-3:2001 and ammendment A11:2004
RoHS

P Lagerstedt (Director) Bridgetown 13:th of Feb 2007



Recycle:



Please recycle the carton and packaging.

Do not throw out the NiMH battery, recycle!

Do not discard the meter at the end of useful life, recycle!

Notes

info@maxpeak.tv

www.maxpeak.tv

