



## Dual Satellite Tracking Meter

With a built in 22Khz tone generator

# AcuTrac® 22 Specifications



Input Frequency:	900-2200 MHz
Input Level:	20-100 dB $\mu$ V
Through Loss:	3.5 db
Input Impedance:	75 Ohm - "F" connector
Output Impedance:	75 Ohm - "F" connector
Measuring Method:	LCD display with full text graphics Pitch tone on audio speaker
Power Supply:	From receiver through coaxial cable or Optional external 12-18 vDC battery with center pin positive (+)
Power Consumption:	40 mA
Overload Protection	50 mA utilizing audio speaker 800mA LNB current draw limiter (Meter indicates "Over Current")
Input Voltage Tolerance	Battery up to + 18vDC max. Receiver up to + 28vDC max.



### Overview

The AcuTrac®22 can be connected directly to the DirecTV 5 x 4 switch or can be connected directly to any standard LNBF.

The AcuTrac®22 can be powered by your satellite receiver or by connecting it to an optional battery. If you have a satellite receiver connected, the AcuTrac®22 will default to the power "ON" state. If you are using a battery pack for power, you must press the "ON/MENU" button to turn the AcuTrac®22 on.

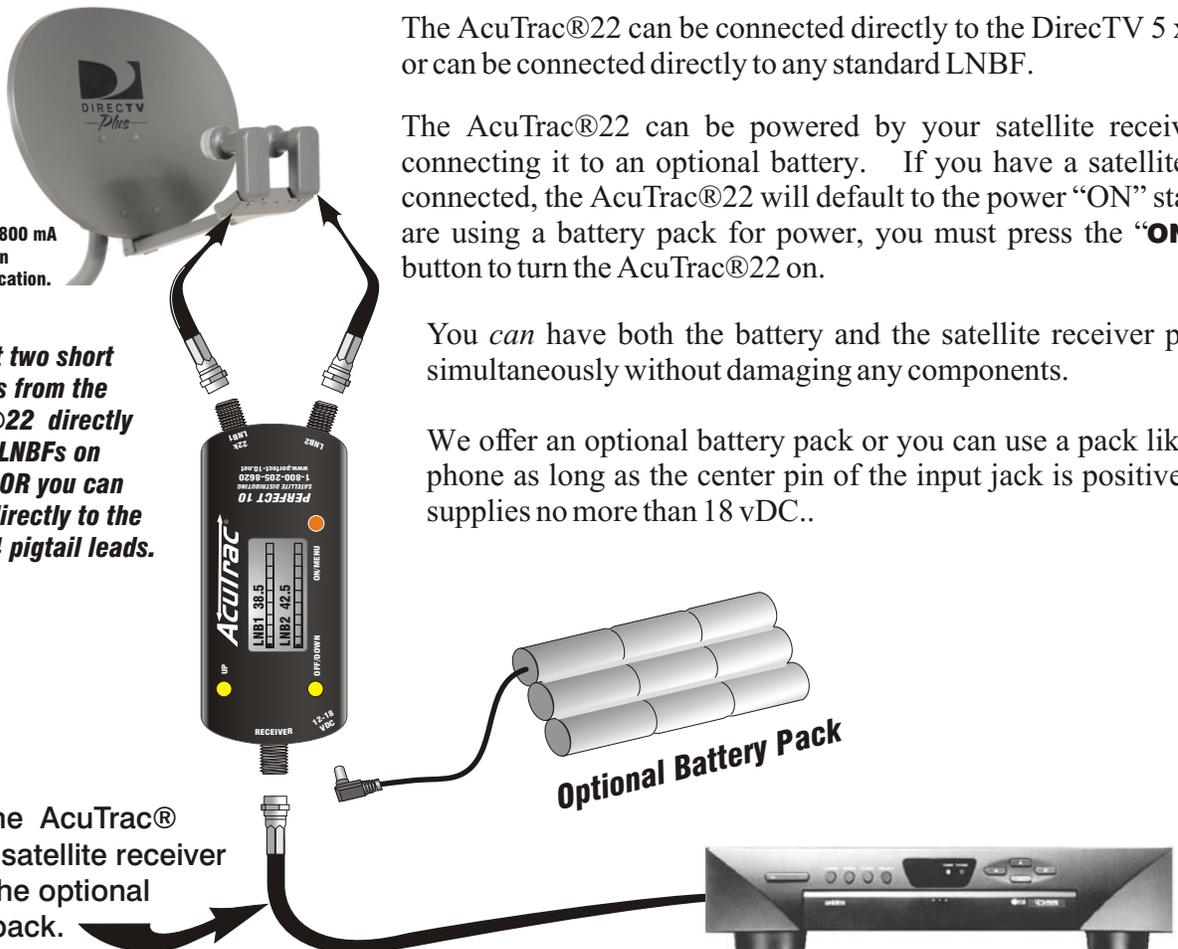
You *can* have both the battery and the satellite receiver plugged in simultaneously without damaging any components.

We offer an optional battery pack or you can use a pack like in a cell phone as long as the center pin of the input jack is positive (+) and it supplies no more than 18 vDC..

Power demand over 800 mA will result in an "Over Current" indication.

Connect two short jumpers from the AcuTrac®22 directly to the LNBFs on the dish OR you can connect directly to the DirecTV 5x4 pigtail leads.

Power the AcuTrac® with the satellite receiver or with the optional battery pack.



Optional Battery Pack

The AcuTrac®22 is designed to be an aid in aligning satellite antennas so that they can provide maximum performance. Please be aware of the fact that there are numerous satellites which will cause the AcuTrac®22 to respond with a signal reading. The installer must select the correct satellite(s) for alignment. It is quite easy to select the wrong satellite and find that the satellite receiver indicates “No Signal”. The software provided with the satellite receiver can provide the elevation and azimuth of the satellite(s) desired. With this information in-hand and a good compass you can point the antenna in the proper direction. Then, with the aid of the AcuTrac®22, the performance of the antenna can be maximized by watching the tuning bar and digital strength readings.

Please take time to read this instruction manual so you will be familiar with the capabilities of the AcuTrac®22.

### Operation

Connect the satellite receiver or (optional) battery to the AcuTrac®22. If you have connected a satellite receiver, the AcuTrac®22 will power up automatically. If you are using a battery, press the “**ON/MENU**” button. The AcuTrac®22 is immediately ready to begin antenna alignment. The signal strength is indicated in digits just above each bar graph. As you move the dish, you will see the increase and decrease in signal strength. The objective is to maximize the signal reading on both bar graphs by minor azimuth, elevation and rotation adjustments. When you have maximized the readings, lock the mount bolts. Re-attach the LNBs to the switches or cables provided with the antenna. Then check your efforts with the satellite receiver.



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### Audible Tone

An audible tone is available if you would prefer listening to the AcuTrac® rather than trying to watch the digital readings or bar graph. The audible tone is selectable and applies to only one LNB at a time.

To use the tone capability, start from the default signal sensing mode. (Right)



Press the “**OFF/DOWN**” button once. The tone will begin and the letter ‘T’ will appear above the top bar graph. This indicates that the tone applies to the top LNB reading.



To apply the tone to the bottom LNB, press the “**OFF/DOWN**” button once more. The ‘T’ will appear above the bottom bar graph and the tone will apply to that LNB. To cancel the tone, press the “**OFF/DOWN**” button one more time.

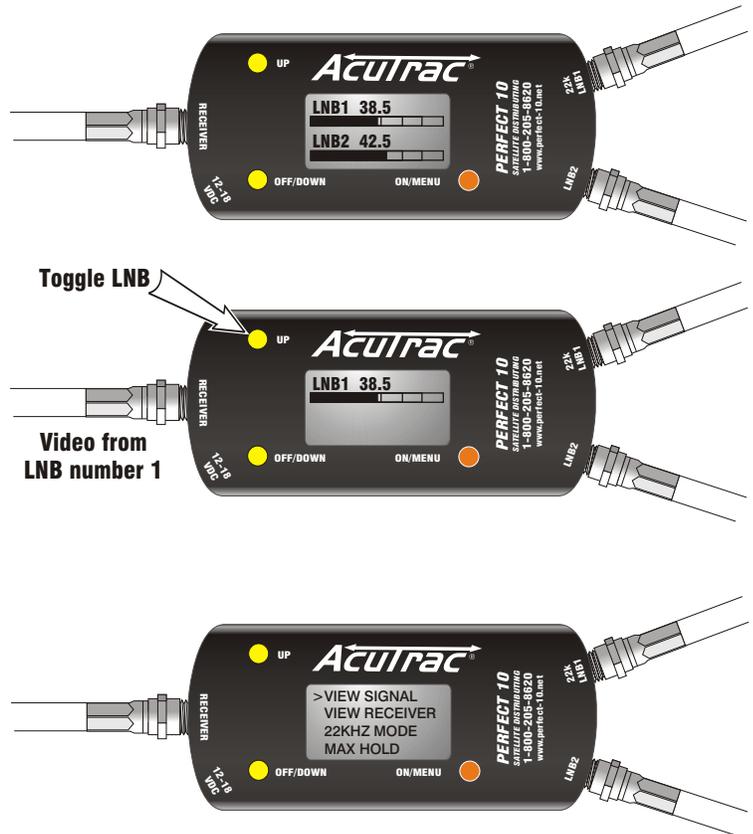


## General Information

Note that you must select only one LNB to receive video signals for a viewable picture. The AcuTrac®22 is effectively dividing it's attention to both ports LNB1 and LNB2 when both bar graphs are presented. This is perfect for dish alignment but interrupts the data stream to the receiver(s) and they will present no video in this mode.

If you want to check the video with the AcuTrac®22 in the line, press the “**UP**” button to select the LNB you would like to view. This illustration indicates that we have selected LNB1. The video data will now pass smoothly from LNB1 through the AcuTrac®22 and can be interpreted correctly by the satellite receiver.

The AcuTrac®22 can provide much more information about your satellite system. To access the expanded menu area, press the “**ON/MENU**” button. The screen illustrated (right) will appear and provide a very detailed range of tests and adjustments. The menu map as well as details about what each function can do for you is listed in this manual. Press the “**UP**” or “**OFF/DOWN**” button to scroll the arrowhead pointer up and down through the menu.



## Menu Discussion

**VIEW SIGNAL** This is the screen you will see when you first turn the AcuTrac® on. These bars indicate the general signal strength of both LNBs. If desired, you can look at only one LNB by pressing the “**UP**” button. Press the “**UP**” button again to look at only the second LNB, one more press of the “**UP**” button takes you back to both LNBs.

**VIEW RECEIVER** Displays the voltage provided by the satellite receiver or battery. Indicates the current draw in mA of the LNB (if only one is connected) or total draw of both LNBs if two are connected. Also indicates if a 22kHz tone is being sent by the receiver. These readings verify the receiver operation. Also, you can measure voltage at the receiver and then at the end of the coax, this will help calculate the voltage loss through the coax cable.

Pressing the “**OFF/DOWN**” button brings up a second screen which displays the requested port number from a DishNetwork receiver.

**22KHZ MODE** The AcuTrac® 22 has a built-in 22Khz tone generator which can be activated by this function. This allows you to control many typical switches (such as the DirecTV 5x4 switch) and select two different LNBs at the same time. For example, you can look at the 119° satellite (if the 22KHZ tone is activated) on the top graph and 101° on the bottom bar graph simultaneously. If the 22KHZ is set OFF, the tone will NOT pass from a receiver. Note that the 22KHZ tone can only be activated on LNB1 (top port ONLY).

**MAX HOLD** This function superimposes a small bar at the end of the bar graph (signal strength) which keeps track of the maximum signal received. This can be turned on or off as needed.

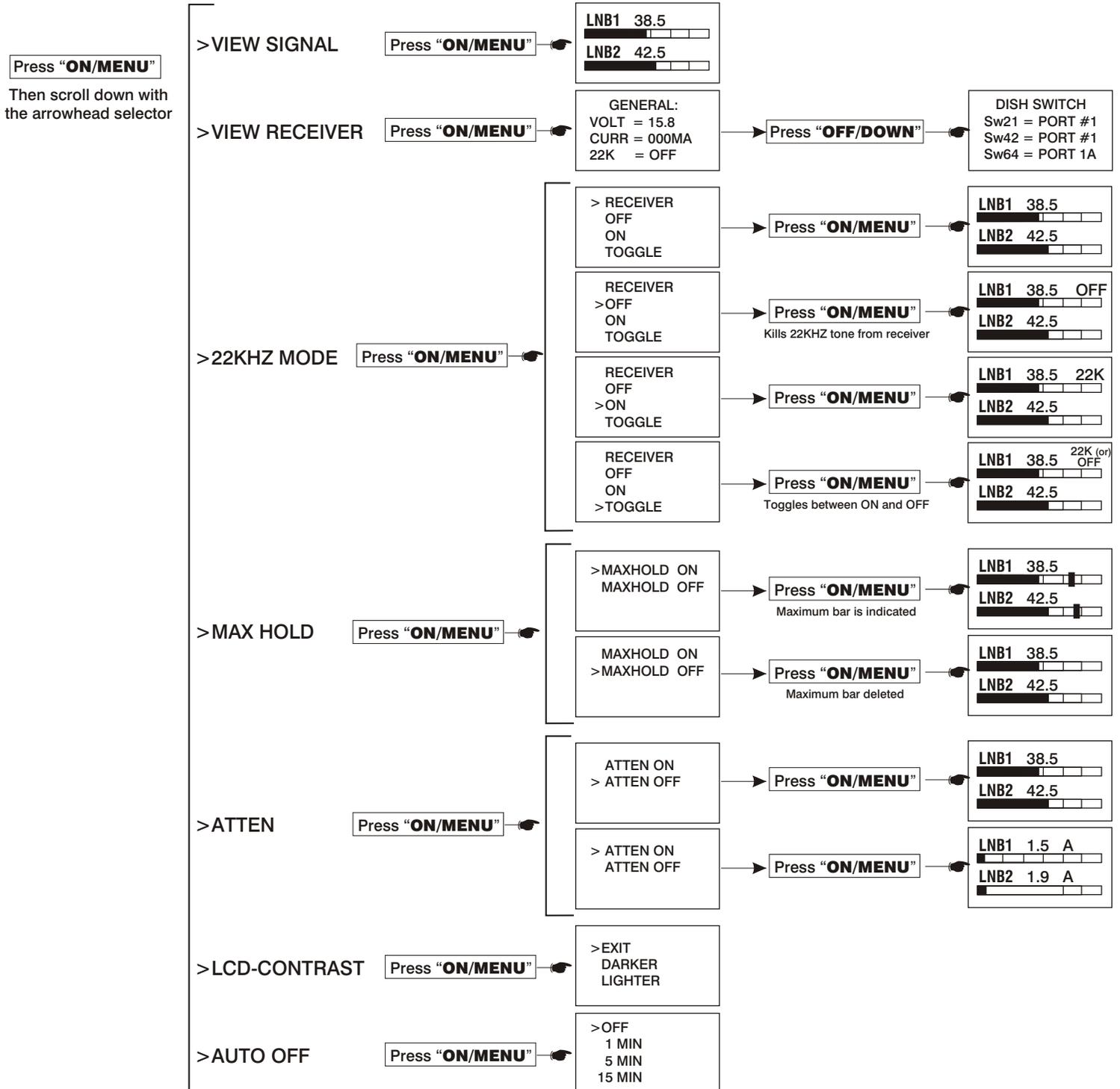
**ATTEN** The attenuate item is hidden from view, you must press the “**OFF/DOWN**” button to scroll down to it. This attenuates (reduces) both the signal meter readings to lower numbers. Handy if the bar graph is maxed out. Note that the ‘A’ text is now displayed. To turn this feature off, go back to >**ATTEN** and select OFF.

## Menu Discussion Contd.

**LCD-CONTRAST** Scroll down to “DARKER” or “LIGHTER”, then press the “**ON/MENU**” button repeatedly to darken or lighten graphics. Scroll back up to “EXIT” and press the “**ON/MENU**” button to save.

**AUTO OFF** This sets the automatic timer to turn the AcuTrac® off when the battery is used for power. Scroll down to the setting you prefer and press the “**ON/MENU**” button to save the time you selected.

## Menu Map



**F.A.Q.s**

Be aware of the fact that the AcuTrac®22 is an AID to aligning the antenna, it does not identify which satellite you are looking at. It still takes basic knowledge of satellite elevation and azimuth to track and identify the correct satellite(s). You can easily pick the wrong satellite, align the antenna and then discover that the satellite receiver indicates NO SIGNAL.

The AcuTrac®22 can be used with digital or analog LNBS. It also operates with both circular and linear polarized LNBS. The only qualification is that the LNB must be down-converting to an I.F. Frequency of 900~2200 Mhz (which is typical of most LNBS).

The AcuTrac®22 looks at the entire spectrum of signals received from the LNB and gives an overall summation of the signal. It is not transponder / frequency selectable.

There is not an exact number meter reading which you should attempt to achieve. Your objective is to MAXIMIZE the meter reading so that the antenna and LNBSs are providing the best signal possible.

The signal level reading indicated on the AcuTrac®22 will NOT be the same reading as you get on the satellite receiver. These two readings can compliment each other (when one increases, the other increases) but the numbers will not be the same. The sat receiver indicates interpreted data reception (forward error correction info) while the AcuTrac®22 indicates overall gain of the LNBSs.

The AcuTrac®22 can be confused by weak signals reflected from the LNB if they strike a tree or building and are picked up by the dish. If trees are in the path of the satellite signals, you may need to fall back on the satellite receiver for positive alignment.

The AC power supply provided with the optimal battery pack can be used like a battery to test the AcuTrac®22 for general operation. However, the AC power fluctuates enough to make attempting dish alignment more difficult, the battery or a satellite receiver works best for dish alignment.

You can power the AcuTrac®22 with any satellite receiver which supplies from 13 vDC up to a maximum of 28 vDC. The "Starband" receivers are included in this range and will not void the warranty.

Some switches can interfere with proper operation of this device. The AcuTrac®22 is designed to control switches that respond to a 22Khz tone for signal selection. Switches that require other methods of signal selection may have to be bypassed. Some antennas have these devices located in the mounting area of the LNBSs. To alleviate this situation, it may be necessary to carry an extra mounting bracket with two standard LNBSs. Temporarily utilize this extra bracket until alignment is completed..

The AcuTrac®22 is designed to align satellite antennas. It will not aid in the alignment of off-air antennas.

Dual LNBSs typically will draw around 160 mA each.

The AcuTrac®22 will work just fine if only one LNB is connected.

The fully discharged 400 mA Ni-Cd (optional) battery pack can be restored in approximately 12 hours with the wall charger. Do not continue charging indefinitely. When fully charged, the pack will power two (dual) LNBSs for approximately one hour..

If you presently have a Digisat Plus, you can use the Digisat battery pack to run the AcuTrac®22.

The AcuTrac®22 is warranted for one full year against manufacturing defects. We will ask for proof of purchase so KEEP YOUR RECEIPT.

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