

# Satellite Finder SF 3000 of SPAUN

## Find what you need

Probably most of our readers aligned their satellite dishes on their own at least once. We know that the experienced installer can do it even without any additional equipment. However, he or she must be able to see the TV-set screen showing the strength and quality bar graphs or be able to hear the signal strength tone (if the receiver can produce it). It is not always available. So, practically every professional installer has some kind of portable meter that helps him/her do the job. Those satellite finders can vary significantly in functionality. The simplest ones show only signal strength. The SF 3000 model we got for testing from SPAUN, belongs to the more advanced class.

Despite its relatively small dimensions (234 x 108 x 50 mm) and weight (920 g including an accumulator), the plastic case of SF 3000 makes solid impression. Its yellow buttons are not too small and not too big – just perfect. Descriptions are very easy to read. Four buttons (F1 through F4) are the so-called soft keys. Their function is changeable and depends on the menu or submenu you are currently in.

Function name is displayed on the LCD right above them. Functions that are most commonly used, have dedicated buttons on the right side of the console. Greenish LCD display is of the graphic type (128 x 64 pixels) and its backlight can be switched on and off.

During measurements, LNB output has to be directly connected to an F-type connector mounted on the top side of the meter. Directly means that you can not have a DiSeqC switch between an LNB and a meter. On the bottom side of the meter, you can find sockets for power supply and RS-232 cable.

The serial interface socket is not the regular DB9 type but the one that is normally used for USB. So, you have to use a special cable (included in a package) that has different plugs on both ends.

Also in a set, you get an external charger for the built in NiMH accumulator, CD-ROM with a PC application program and a protective bag with a belt that you can wear on your waist.

Before using this meter, it is recommended to enter your geographical coordinates in SF 3000 utility menu. Then, you select from a list a satellite you want to align your dish to. The device will show you: the azimuth, elevation and LNB skew. Additionally it will display something like a compass showing the calculated azimuth with respect to the North or South direction. This data should be used for the coarse antenna alignment.

Next screen is about measuring signal strength. The result is shown graphically and an audible tone is generated which pitch is correlated to signal strength. When you think you have found the maximum of the signal, you again press a button and now the meter tries to lock to the transponder associated with the selected satellite. If the locking is successful, you see a screen showing: satellite name, signal level in dB $\mu$ V or dBmW, BER and C/N. Now you can fine-tune your antenna to get a maximum reading of C/N and a minimum reading of BER.

In real world, it may happen that you aim your dish to a wrong satellite. In such case, a meter can not lock to the transponder because different satellite have usually different transponder parameters. So after an unsuccessful locking, you have to return to the screen for finding a maximum signal and rotate your dish slightly to one or the other side in search for other maximum.

Usually you do not have to



repeat this more than 2 or 3 times to "hit the target".

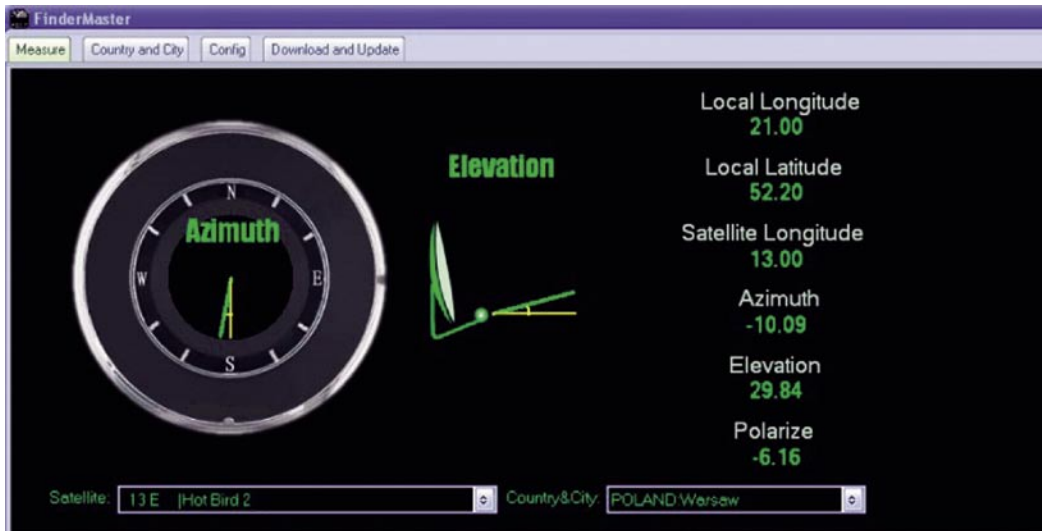
SF 3000 stores up to 80 satellites with one transponder data per satellite. Everything: numerical values and names, can be edited locally from SF 3000 keyboard or remotely with the help of PC. Included software allows you to edit the satellite and associated transponder data more conveniently. It contains a long list of satellites (more than the meter can store) along with the number of potential transponders to associate with them.

So, we think it is a good idea to install the PC software, select

only the satellites that you can receive in your location, verify transponders data and load your list to the meter via serial interface. The customized list can be shorter - it may be enough to have just 20 satellites commonly used in the location.

If you have such opportunity (e.g. access to a motorized dish), it will not harm to check if the meter really locks to all the satellites stored in its list. In this way, you will be able to spot potential errors in the entered data well before you start aligning a new dish.

It is worth mentioning that you



may enter satellites from any band and program any local oscillator frequency.

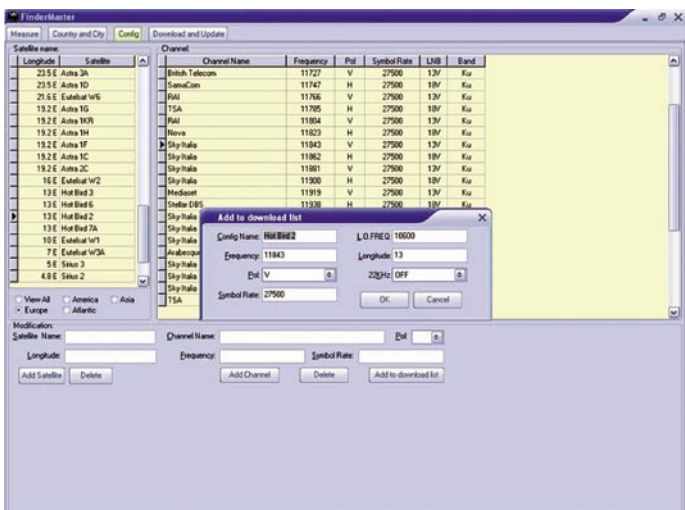
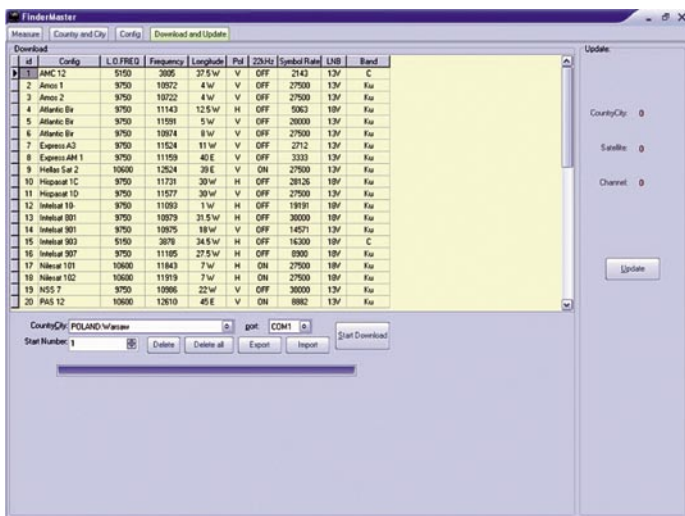
During the alignment, the meter performed very well. Its response was very fast both in the coarse tuning for maximum signal, as well as the fine-tuning for maximum C/N (which corresponds to maximum quality). Volume of the audible tone is high enough, so you can hear it even in not perfect conditions for example near to a busy street.

devices. On the other hand, the manufacturer honestly admits that the parameters displayed by SF 3000 (signal level, C/N and BER) are not calibrated. It means that you should not compare the results of one SF 3000 with the results of another SF 3000 or a meter of different type.

This is not a serious problem when the meter is used just for the purpose it has been designed for.

SF 3000 when fully loaded, can continuously work for 4 hours. Similarly, about 4-5 hours is required to charge its accumulator.

It does not take long to learn how to operate this meter and this is an advantage over the more sophisticated, expensive



## Expert conclusion

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This is a handy light meter with fast response and big memory. It is really easy to use – and this is also true for its PC software. Such meter is a must for every installer and can also be very useful for the advanced hobbyists who like to play with their dishes.



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none

## TECHNIC DATA

Manufacturer	SPAUN Electronic, Singen, Germany
Fax	+49 (0) 7731 – 8673-17
E-mail	info@spaun.de
Model	SF 3000 Satellite Finder
Function	Antenna alignment meter
Input frequency	950 ... 2150 MHz
C/Ku-Band compatible	Yes
Signal level	44 ... 90 dBμV
Symbol rate	2 ... 45 Msps
Operational temperature	0 ... +40°C
Number of pre-programmed satellites	80
Power supply of the accumulator charger	100 ... 240 V, 50/60 Hz