

Prime Satellites Listing -

Satellite	Pol.	Freq.	22KHz	Code Rate	IF Freq.
Astra 28.2 High H	H	11.72	ON	2/3	1120.00
Astra 28.2 High V	V	12.207	ON	2/3	1607.00
Astra 28.2 Low H	H	11.72	OFF	2/3	1719.00
Astra 28.2 Low V	V	10.876	OFF	5/6	1126.00
Eurobird 28.5 E	V	11.508	OFF	2/3	1758.00
Hot Bird 1-5 13.0	H	12.168	ON	3/4	1568.75
Thor 1Deg W	H	11.229	OFF	7/8	1479.00
Telecom 2B/D 5W	H	12.668	ON	3/4	2068.75
Telstar II 37.5W	V	11.561	OFF	1/2	1811.25
Hispasat 30.0W	H	11.517	OFF	3/4	1767.00
Sirius 5.2E SIS	H	12.341	ON	3/4	1741.00
Kopernikus 23.5 E	H	11.466	OFF	3/4	1716.00
Eutelsat 7.0E	H	11.387	OFF	3/4	1637.50
Eutelsat 10E	V	11.013	OFF	3/4	1263.75
Eutelsat 16E	H	11.023	OFF	3/4	1273.12
Intelsat 705 18W	H	10.978	OFF	3/4	1228.12
Intelsat 604 60.0E	V	11.473	OFF	3/4	1723.75
Turksat 42.0E	H	11.046	OFF	5/6	1296.25
Astra 19.2 High V	V	12.051	ON	3/4	1451.00
<u>Disabled, but in meter...See page 7.</u>					
Arabsat 2A High H	H	12.562	ON	3/4	1962.00
Arabsat 2A High V	V	12.620	ON	3/4	2020.00



Operators Manual For
Satellite TV Digital
Installers Meter
type - *Digi~Sat 2001*

Swires Research. 40 Hornsby Sq, Southfield Industrial Park,
Laindon, Essex. SS15 6SD
Tel: +44(0)1268 417584. Fax: +44(0)1268)419083.
Email: sales@swires.com
Website :- www.swires.com

Using the Meter

After the start up screen when the instrument initialises itself the display shows a Satellite name, ie "Eurobird 1", on the top line. The Digi~Sat 2001 meter has 16 pre-selected orbital satellites programmed in. Each press of the "Up" or "Down" will select the next preset Satellite location.

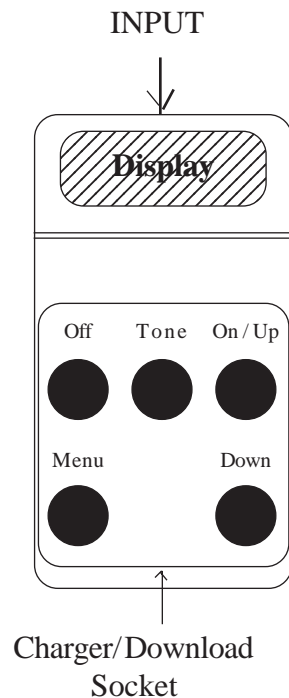
To reach a preset satellite quickly, hold either button down, and after a couple of seconds, the meter will scan the channels more quickly. A list of the 16 prime satellite locations and their parameters are printed on the back page of this manual.

Meter Layout

The meter has five buttons:

- **"Off"** switches the instrument off.
- **"On/Up"** switches meter ON, and steps up the Prime Satellite plan.
- **"Down"** steps down the preset satellites.
- **"Tone"** Audible tuning aid, see page 7 also for ENABLE/DISABLE of presets.
- **"Menu"** *Press once* - Shows Signal Quality Good, Marginal or Fail.

Press twice Top line of the display gives the **Signal to Noise (SNR)** figure. Second line gives a **Bit Error Ratio** figure - See graph.



Enable/Disable Preset Satellites.

Any of the downloaded presets can be Activated/Deactivated from the keypad.

To do this hold down the TONE key while switching the instrument ON. You will see against the first preset 'ENABLED' or 'DISABLED'.

Use the UP/DOWN keys to select the presets, then press the 'TONE' key to 'ENABLE / DISABLE' the selected preset.

When you have edited your preset 'list', switch the DIGISAT OFF.

The next time you use the instrument only the the presets 'ENABLED' will be seen.

You can therefore remove any presets not currently being used.

A software package is available to give you greater flexibility over the downloaded presets. It will give the ability to customise any of the 130 preset positions currently available for use. For more details of the software package contact us using any of the methods available on the back page of this manual.

Specifications

- Frequency range: 950 to 2150 MHz.
- Number of presets: Initially 16 (Up to 135 presets with 'Optional' Software.
- Input range: -45 to +20 dBmV.
- Input connector: 'F' type, 75ohm female
- Weight: 1.2 Kg.
- Dimensions: 275 mm × 115 mm × 63 mm.
- Power source: 6 x rechargeable NiMh 4100mA/H Cells.
- Power sources: Charging with either the 240V mains adapter or an optional 12 V dc car adapter lead. Full charge gives approximately 4 hours continuous use from a Single LNB .
- Included with instrument : Mains charger, User guide.
- 'Optional' extras: Ever-ready case with built in ladder / dish arm hook., car charging lead. Upgrade software.

Optional Satellite planner software

The Satellite planner software allows the user to update the Swires Digi-Sat's internal memory with new satellite information. It does this through a 'Digi-dongle' connected to the parallel port of a PC (running Windows 9x/ME), and the Swires Digi-Sat.

The Digi~Sat 2001 has internal memory which contains a list of satellite information. This can be changed by using the Optional Digi-Dongle and the Satellite Planner software for the PC.

Refer to the 'Read me' file on the supplied CD for more information.

Using the Meter -Tone assistant

Use the Tone switch to toggle the facility on and off. The tonal pitch goes higher as the signal increases and reduces when signal is going lower. Use this facility to achieve a Maximum Signal Level. The tone only works while in Satellite Bargraph mode. *See diagram 3 & 5 on page 4.*

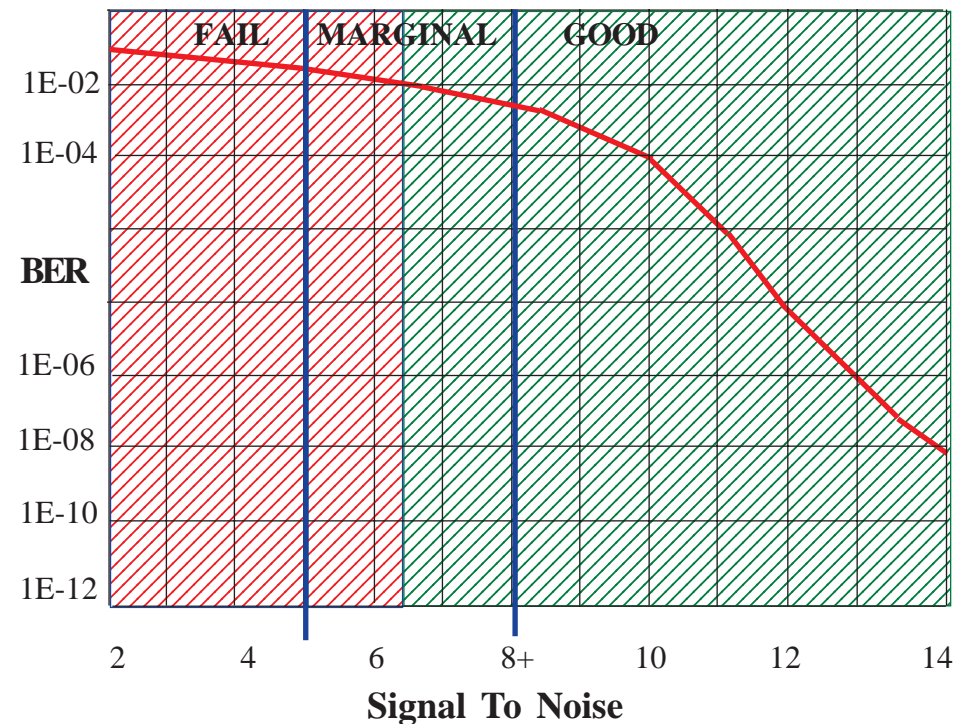
Bit Error Ratio Versus Signal to Noise

To achieve good Quality Digital signals, Ideally, the SNR figure should not drop below 7 or 8 dB **Refer to the graph below.**

Signal to Noise 5dB or Lower = **Fail. Approx. (1E-02)**

Signal to Noise 5dB to 8dB = **Marginal. Approx. (1E-02/03)**

Signal to Noise 8dB or More = **Good Quality signal. Approx. (1E-04)**

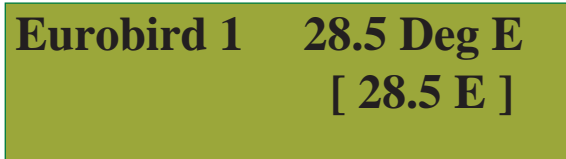


Screen Information



Dia.1

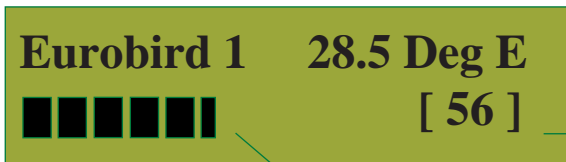
Initial start up screen gives Manufacturer's name, Product Code and Current Software version in the instrument.



Dia.2

Satellite Selected

Shows Satellite Position for 2 Seconds.



Dia.3

After 2 Seconds If a signal is present the Bar Graph will give an indication of signal present backed up by a figure in Brackets. The TONE can be put on at this point by pressing the TONE button on the keypad.

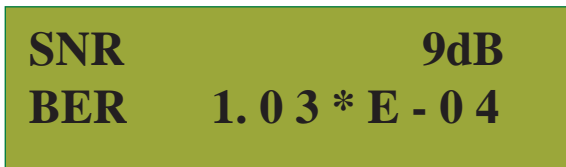


Dia.4

Press the MENU Key once, after a couple of seconds "thinking" will change to GOOD, MARGINAL or FAIL depending on the BER figure or Signal to Noise figure. See graph on page 3.



Dia.5



Dia.6

Press the MENU Key again, a GOOD signal is indicated by a BER figure better than 1E-03, SNR of 8dB or greater. **Use for final 'tweak' of the dish.**

Press MENU key again to return to the screen in Diagram 3 above.

General Information

Tone Facility

Please Note! the Tone is only active while the screen of the Digi~Sat 2001 is in "Bar graph mode" - Also see page 7 .

Eurobird 1

Eurobird 1 28.5 Degrees is probably NOT the Satellite to locate the orbital position with. Use Astra 2 28.2 Degrees preset to do this. Eurobird should then come right.

In practise this seems to be a better compromise.

Prime Satellites list

The 'Prime Satellites list' on the back page of this manual have been carefully selected so that when you obtain a signal level you are fairly certain you are on the correct Satellite! If you experience any conflicts please let us know so that we may update the Satellite listing.

Signal to Noise figure (SNR)

The Good, Marginal & Fail SNR figures we have used on the graph - page 3 are derived from the BER figure decoded from the QPSK chipset. Some Satellite receivers will work OK to a SNR figure as low as 3dB! But a FAIL figure of 5 to 6dB has been set to give a buffer of a couple of dB.

George Lebow - Technical Dept.