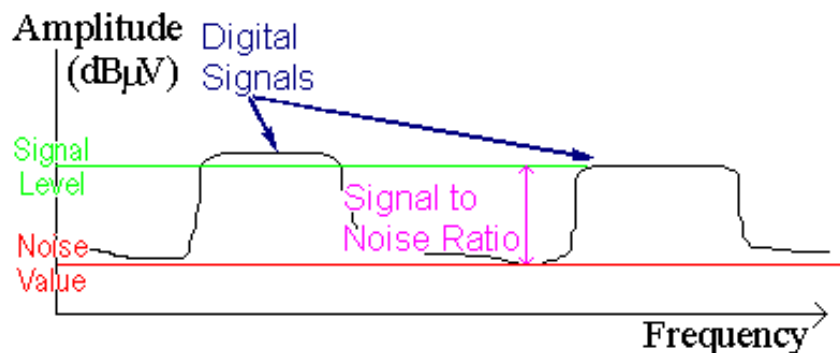


## Technical Background



The IMdigital-T quickly and accurately tests Analogue & digital signals. When measuring *Analogue* signals the RF level is all that is displayed. When measuring *Digital* it gives three pieces of information, which together will allow the installer to be confident that pictures will be received in all situations:

1. Signal Level
2. Signal-to-Noise Ratio (SNR)
3. Pass/Marginal/Fail indication

The Set-Top Box (STB) will only accept signals in the range of 36 to 70 dBµV. If the meter reads outside this value there could be a fault with the system, for example the lead or aerial needs to be adjusted or attenuation added.

Once the signal is in the range of the STB, the **Signal to Noise Ratio** (SNR) must be checked. The SNR indicates how high the signal is, in comparison to the noise.

As a final check, the meter assesses the SNR and flashes up "Pass" or "Fail". Occasionally the signal could be close to failing, so that rain, for example, could reduce the signal, and then "Marginal" will appear.

swires research



## Operators Manual For Analogue /Digital Installers Meter - type IMdigital-T

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July '99 Slave

## Using the Meter

The Slave unit comes pre-programmed with the UHF frequency band - Channels 21 to 68. (Bands iv and v)

After the start up screen when the instrument initialises itself the display will show a channel number, ie 46, on the top line. The meter automatically senses the TV standard and displays either ANALOG or DIGITAL on the second line of the screen. The signal level is then measured according to the requirements of the detected standard. Should the signal be very low the meter will display SIG LOW.

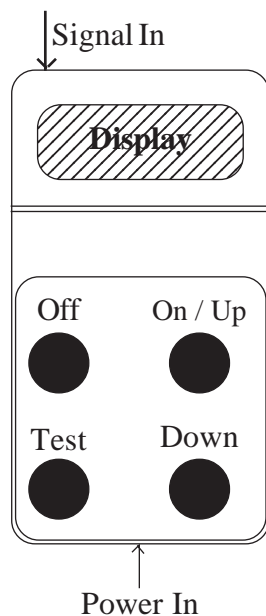
The preset channels are on a continuous loop. Each press of the "Up" or "Down" will select the next frequency up or down.

To reach a preset frequency quickly, hold either the UP or DOWN button, after a couple of seconds the meter scan will accelerate through the frequencies.

## Meter Layout

The meter has four buttons:

- **"Off"** switches it off.
- **"On/Up"** switches it on and steps up the frequency plan.
- **"Down"** steps down the frequency plan.
- **"Test"** performs the SNR quality test.



## Testing an Installation

With the meter switched on, select the first preset frequency of the transmitter you wish to check. Look at the signal level, **measured in dBμV**. It needs to be in the range 36 to 70dBuV for Digital and less than 80dBuV for Analogue to be acceptable to the set-top box. If it is outside this range or if the display shows "High" or "Low" then there is a fault with the installation, which must be remedied first.

**For Digital Only**, Press the "Test" button, to check the signal to noise ratio (SNR). The unit will search for the noise floor, this will take about 15 seconds, then the display will flash up the SNR value in dB. The number is important for fault finding so you may be asked to write it down. nb. If >32 appears this indicates a SNR of 'greater than' 32dB (which is a good pass figure). After a slight pause the display shows "Pass", "Fail" or "Marginal".

- If it indicates "Pass", the signal is acceptable > 26 dB (SNR 'greater than'). The test should then be repeated for each Multiplex signal of a transmitter.
- If it indicates "Marginal" (SNR 23 - 25 dB) or "Fail" (SNR less than < 23 dB) then further work needs to be done on the installation.

## Charging the IMdigital-T

An overnight charge will fully charge the meter, giving approximately 5 hours of continuous use. The meter can also be charged from a car cigar lighter socket using the **optional** lead. To conserve the batteries, the meter switches off automatically after 5 minutes. With the meter switched ON and the charger connected please ensure meter display says "charging".