

# DMT-31



## SDI DIGITAL MARGIN TESTER

The DMT-31 is a precision attenuator used to test SDI video and other digital signal systems to ensure that they have an adequate digital signal level margin. Digital signal margin is the amount of signal level above the digital cliff that you have in your system to prevent a data or picture failure from occurring. All digital transmissions will give you a perfect picture signal until the coaxial cable loss reaches beyond the minimum allowable signal level and then you suddenly get no picture at all. This effect is called the “digital cliff”, because like walking off a cliff, everything is fine until you take the last step off the edge and then all is lost.

When you install an SDI video signal or any digital transmission particularly when the coaxial cable run is long, you need to know how close your system is to the digital cliff. Every piece of equipment you install has a slightly different transmission level output and more importantly every receiver has a different input sensitivity. It is a good practice to test the equipment together with their coaxial cable to make sure that they will work reliably together.

This test is easy to make, just temporarily insert the margin testers 4dB port in line with the signal to make a 4dB margin test. If you have at least 4dB of margin you can rest assured that the system will operate even when the coaxial cable loss varies with time and weather. If the video does not come on then your system margin is below 4dB. You can plug into the other ports one at a time to see exactly how much signal margin your system has. The DMT-31 will test 1, 2, 4, 8, and 16 dB directly. In combination with the four jumper cables supplied with the unit, you can insert any range of attenuation from 1 dB up to 31 dB in one dB steps by putting the attenuators in series using the jumpers.

This digital margin tester is a wideband precision attenuator used to insert additional loss into the digital signal path to determine how much loss margin your system has before a failure will occur.

If the margin is below 4dB you should consider amplification to get more margin for safe operation of the system. In this way, you can be certain that the system you have installed is not near the digital cliff waiting for a small change in cable loss to cause signal failure.

Besides changes in the coaxial cable loss, the digital cameras and other equipment can be damaged by lightning, power surges or ground loops that degrade the output level of the equipment bringing it nearer to the digital cliff and causing intermittent operation of the system. These intermittent digital signals problems are hard to diagnose without knowing that the equipment output levels have dropped.

If you are called to test an intermittent SDI signal and it is working when you get there, use this unit to introduce additional loss to bring the signal info fail mode. Use the unit to determine if the problem is level related or some other problem.

Use this unit to test new and existing SDI signal installations and to trouble shoot any intermittent equipment operation. The unit comes complete with the DMT-31 attenuator and four 6 inch straight coaxial patch cables. This low cost tool is a must for anyone that installs SDI systems or any coaxial cable based digital transmission systems, put one in your toolbox today. Call to order at: 1-800-235-6960.

## **DIGITAL VIDEO INPUT**

Standard  
Impedance  
Connectors

## **SPECIFICATIONS**

All Digital Video Standards  
75 Ohm (IN/OUT)  
10 BNC (female)

## **DIGITAL VIDEO ATTENUATION**

Attenuators  
Steps

5 (1, 2, 4, 8, & 16 dB)  
31 in 1dB increments

## **WIRING**

Loop Through  
Jumper Cables

Inline Use  
4 BNC 6" Cables (Included)

## **MECHANICAL**

Size

3.90"L X 2.40"W X 1.50"D