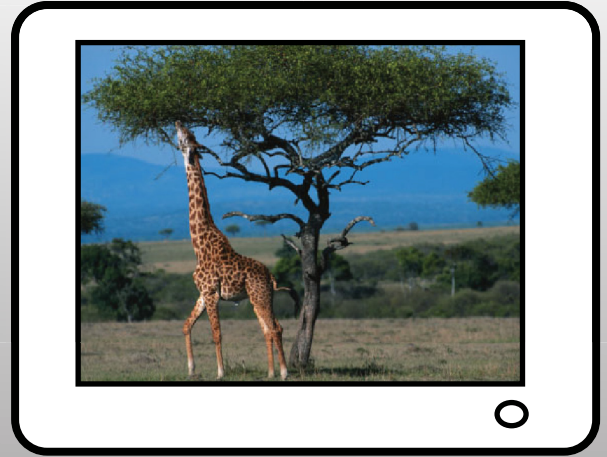
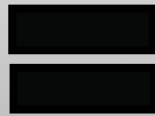
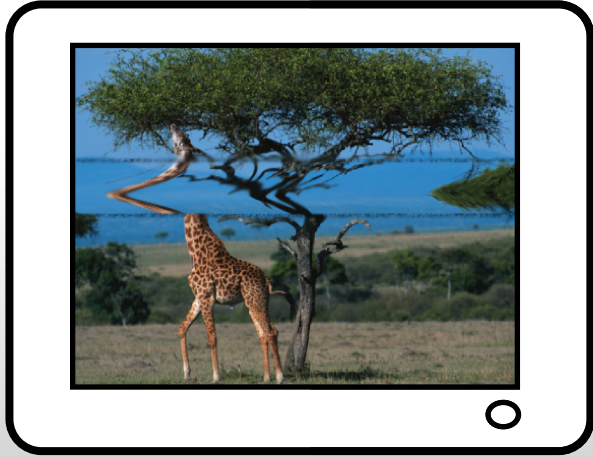


HUM REJECTION AND ISOLATION

Reduces hum in most systems



THE BENEFITS

- The **Humbug** eliminates humbars, picture tearing, cross talk and rolling
- The **Humbug** improves existing and new installations
- Distortion free images enhance your company's reputation
- Can avoid the use of expensive fibre optic cable
- Safety - isolation to 500V DC
- Power supply is not required
- Passes video and camera control signals in both directions
- Colour compatible
- Prevents power cables laid by others interfering with the CCTV system.

INSTALLATION PROCEDURE

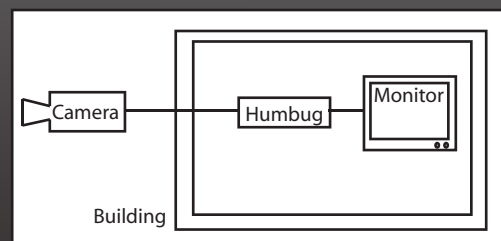
The **Humbug** must be installed in the video cable that has come directly from the camera, but **before the cable has been connected to anything else.**

The shield of the coaxial cable between the **Humbug** and the camera **must not** touch any metal surface between the camera housing and the Humbug. *(This is unlikely with a standard insulated cable)*

If several video cameras come from the same area, fix a **Humbug** in every cable, or a ground loop will still remain.

TECHNICAL BENEFITS AND SPECIFICATION

- Very low insertion loss of 0.5dB
- Very high frequency response, 0-3 dB at 10 MHz
- Zero colour distortion
- Suitable for 75 and 50 Ohms systems
- Will operate with non video signals
- Isolation voltage, min 500V DC
- Insulation resistance 100M Ohms
- Constant group delay
- Connectors BNC
- Dimensions: width 50mm (70mm including fixing tabs), height 48mm, length 90mm including connectors (approx 2 (3) x 2 x 4 inches)
- Weight approximately 176 grams (6 oz)



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HOW IT WORKS IN PRACTICE

Picture distortion occurs in many installations. This can be caused by the following:

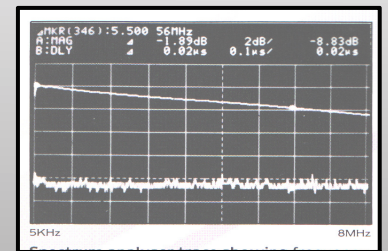
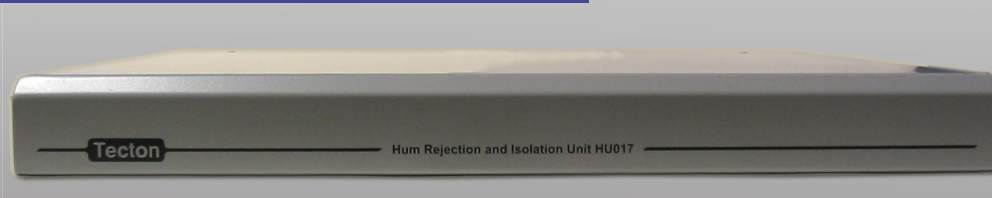
- Ground loops
- Mains pick up
- Cross talk

Ground loops occur when the earth potential at the camera is different from the potential of the monitor. This difference may only be a small voltage but it can cause large current to flow through the shield of the coaxial cable. The Humbug breaks this circuit allowing only video and camera control signals through. These large currents will cause picture distortion and safety problems if they remain.

Mains pick up occurs when coaxial cable runs in parallel to a power cable. A sinusoidal voltage develops on both the shields and the video core. This is often seen as a "Hum Bar" passing down the screen. As the Humbug only sees the difference between the signals connected to it the video is passed without hum.

Cross talk occurs when a cable carrying high frequency signals lies next to the video cable. This is often seen as diagonal lines passing across the screen. Sometimes they come and go, the Humbug eliminates most of these as it only sees the difference between signals connected to it.

RACK MOUNT HUMBUG



5KHz 8MHz
Spectrum analyser trace showing frequency response (top) and group delay (bottom).

The rack mount **Humbug** provides a tidy solution of having multiple **humbugs** which are isolated from each other. The rack mount humbug has 17 inputs/outputs and has the following dimensions: width 442mm, height 45mm, length 370mm (17.4 x 1.8 x 14.6 inches). The unit weighs approximately 5Kg. Rack mounting ears supplied.

TECHNICAL BACKGROUND

The Humbug was developed because existing "ground loop transformers" performed badly during tests. Most transformers tested had low bandwidth, caused distortion of the video image and loss of colour.

The Humbug is not a transformer in a box, it is an example of high quality magnetic engineering using the latest ferrite materials which allow high bandwidth and compact size to be achieved. We suggest our customers issue them to their installation and services teams to deal with problems as they occur. It is preferable to design the Humbug into each system, one per camera.

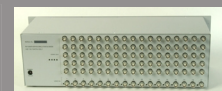
Product Part Numbers:
Humbug = HUMBUG
Rack mount Humbug = HU017R

OTHER PRODUCTS

DARLEX
DIGITAL VIDEO RECORDER



17 Way Rack Mounted Video Distribution Amplifier (VDA)



Internal circuit board
Part Number: VDA01

Network Toolkit



Part Number: NWTKIT

Video Over IP Transmitter



Part Number: JVIP1

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