

BENCHMARK MAGAZINE



CCTV TESTS

Professional Test: Leeds Electronics 2Y-Link



A large percentage of a CCTV installation is wiring. Leeds Electronics thinks it can offer a better way forward with its 2Y-Link.

Installers involved with CCTV will be well aware that coaxial cable, despite all of its benefits, can be something of a pain to work with. It's heavy, it has a low bend radius, it's susceptible to interference and it's bulky enough to jam up conduit very quickly.

Given that the largest time allowance during even the most basic of CCTV applications is down to cabling, few would turn their noses up at a more suitable solution.

When cabling a system, however, it's not just the video transmission that needs to be considered. There is increasingly a need for video, power, control data, and with more modern systems, two-way audio is also required. Given the labour costs of running cable, on occasions the cabling can stop certain jobs from being financially viable. The installer loses out, as does the end user.

Increasingly, the security market-place sees a wide range of new products and add-on services being introduced. These inevitably need cabling, and whilst this is no bad thing where budgets permit, for those with tighter financial constraints the need is to reduce wiring rather than to increase it.

When cabling does come under scrutiny, many of the new ideas are focussed on networks. Whilst these help those seeking a distributed system, they're not offering much to the more traditional security market-place.

Leeds Electronics has, for many years now, developed a patented two-wire system that can make use of basic cabling. The systems work with UTP cable, twin bell wire or even speaker cable. In the past the technology has been used to make simple but very effective alarm systems, and a few years ago the technology was migrated to a CCTV solution, in the form of a universal CCTV adaptor.

Research and development has been on-going, and now Leeds Electronics is offering the 2Y-Link, which is a 16 channel CCTV connectivity and transmission system.

Specifications

The 2Y-Link is billed as a new connectivity system for CCTV systems. The technology allows the use of twin bell wire, speaker wire, UTP or equivalent to transmit video data, low power, control data and two-way audio over distances of up to 2km.

The system can send control data and power, and receive video, as well as supporting two-way audio, over AWG-24-AWG18 cable, with all transmissions occurring simultaneously. Where Cat5e or Cat6 cable is used, each of the four pairs can be used for a single camera, thereby allowing one cable run to furnish all requirements, with each pair simply being broken out of the cable at the relevant point.

The system is made up of two elements. The main unit, the signal processor, is located in a rack with DVRs, monitors and other centralised equipment. This can either have two-wire connections made through simple screw-terminal blocks, or video, power and RS485 data can be handled via modular RJ45 connections.

A point to note is that the signal processor has two lots of RJ45 connections. There is a bank of 16, 1 for each channel, which support video, power and data. The second batch only support video and power, and there are only 4; each socket supports 4 channels! The instructions give wiring pin connections for each type of connection.

Additionally, each channel can additionally have brightness and colour adjusted through DIP switches on the front panel. There is a set of 4 switches for each video input.

Video between the DVR and the signal processor is handled by a bank of 16 BNC outputs. These are linked to the DVR inputs with short coax flyleads.

The second element of the system is what Leeds refers to as the Mixer. This goes at the remote end of the cable run. It has a BNC connection for a flylead linking to the camera, and two sets of push-fit connections. One is for the two-wire connection to the power input on the device, the other is for the two-wire connection back to the signal processor. The Mixer is passive, and so is easy to install.

The power will be sufficient to support cameras with a rating of up to 680mA or 8W. Higher power Mixers are available if required.

Essentially, that's it. Leeds don't really offer any further information on the unit, and to be honest, its documentation is the weak spot.

Installation

Installation is simple. Well, it's nearly simple! First off, the signal processor is mounted by the DVR, and the video outputs are then linked to the DVR inputs with short coax flyleads. Once this is done, the two-wire connections can be made from the cameras to the signal processor.

This is the first time that you find out the instructions are terrible. Connections can either be by RJ45 or two-core cable. The RJ45 sockets are marked with the appropriate channel numbers; the screw terminals are not! Start at the camera end, because the connections there are simple. Once the cable has been run back, then simply work along the screw terminals until you find the right ones.

It sounds like a real pain, but it's not too difficult of a process. They seem to run in the same order as the BNC outputs!

Adjusting the video is hit and miss as well. The manual tells you what the DIP switches are for, but not what they each do. We fiddled until we got the best image.

Leeds Electronics really does need to consider the standard of the manuals. Yes, the product is very simple, but it's simply not a professional approach to expect installers to fit a device through trial and error.

Performance

It's very difficult to say much about the performance of the system. It works. That's all there is to it!

The system basically replaces coax, power cables and data cables. It eliminates the need for a fused spur at every camera, as well as other cabling. It allows the system to run using two wires, and that creates a significant time saving for the installer.

The power supply didn't falter during a significant soak test, and the video quality was spot on, replicating a coax-based system using the same devices. There was no difference in quality. The 2Y-Link is quite hard to comment on, because its real benefit is time and money savings. It is, too all intents and purposes, transparent.

In summary


Rating the 2Y-Link is something of an issue. If you look at the concept, it's good. For many installers, it will offer a low cost cabling solution, and it solves issues with fused spur and PSU requirements. If you consider the cost of 16 fused spurs and 16 PSUs, plus the simplicity of cabling, then the cost of the system isn't worth thinking about.

It works, and it works well. It doesn't affect performance, and if used correctly, it's pretty much invisible. Effectively, it scores on all fronts.

However, the manual is a shocker. Yes, you can work around it because the device isn't complicated, but you shouldn't have to. Someone at Leeds needs to pull their finger out and do something to ensure that this unit isn't ignored by installers.

After much debate, it was decided to recommend the product, but only just. It is also with the proviso that installers should only consider it if they have a bit of time to mess round and work out the connections for themselves.

If Leeds Electronics addresses the issue, we'll let you know!

	BENCHMARK RATING: 80%
Product Design:	85%
Features & Functions:	85%
Ease of Installation:	60%
Image Quality:	85%
Performance:	85%