

This Issue...

Most of this issue has been devoted to tried and tested solutions of overcoming the ever-increasing problem of getting power, data and other cabled services to the desktop.

Modern office environments are now high tech workplaces. Seeing great piles of cables either on or under the desks often detracts from the overall aesthetics of the building. Trailing cables are also a trip hazard and can often lead to health and safety problems within the workplace.

In this issue we focus on our solutions for providing neat and tidy cable management.

Have Floor Boxes Become Flawed?

Over the last few years, there has been an explosion in the amount of hardware that can be found on desktops. Chargers for personal organisers and mobile phones, telephones, PC's, and laptops, to name but a few, all require a power or data outlet in those already cramped floor boxes under your feet. Even if there is a free outlet in the floor box, most of the new charger plug tops don't fit in the box without propping up the lid which then gets kicked off or the cables get damaged as it falls on them.



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Among the fundamental problems with floor boxes are that they are generally in the wrong place under the desk, and due to the limited space between pedestals and desk legs, they are immovable. You also have large numbers of cables that run from the desktop to the floor adding to the problem. Not enough services can be packed into them. About four years ago, we decided that we could no longer just keep designing and in-

stalling new floor box installations because "that's how it's been done for years" and started to look at other alternatives for office power & data distribution that could better meet the demands of the modern office.

There are a number of variations on the floor box theme that are currently on the market, such as 'slab boxes' which are basically a less fancy floor box, fixed to the floor slab under the raised floor. Power, data and voice services are then brought up to the desktop through a grommet in the floor. At first glance, this seems like a better solution, however, it falls apart when users want to add a new service as they have to get under the floor to plug it in which is totally impractical.

We decided that the best place for all power and data services was either on the desktop or for semi fixed equipment on the underside of the desktop. For the general power distribution on desk clusters, we now install a bespoke multi way 16amp desk distribution unit with an integral 16amp MCB that is mounted in a common point directly onto the underside of a desk within a desk cluster. This unit is fed in the conventional way from the under floor bus bar system. 6 way 13amp multi-outlets are mounted on the underside of each individual desk, which are wired back to the central 16amp distribution unit utilizing the desks inbuilt cable management troughs. The 6 way unit mounted on each desk cater for all fixed PC's and telephone handsets and to accommodate laptops and personal chargers on the

desktop itself, we mount a "Power and data Pod" which house two 13amp outlets and two RJ45 outlets.

Our overall power design gives each desk five 13amp outlets for fixed equipment and a further two 13amp outlets on the desktop for mobile phone and other chargers and as can be seen from the photograph, not a single cable is left laying on the floor under the desk. Using the above method, the single power cable that is required to serve 6 desks comes through a 100mm grommet in the raised floor.

To overcome the problem of vast numbers of data cables and patch leads under desks we have designed our own 4way RJ45 outlet housing which takes Krone or RW Data RJ45 modules. This slim unit mounts directly to the underside of a desk and serves all fixed desktop PC's and telephones via cable managed patch leads. The RJ45 outlets on the desk mounted 'POD' can be plugged into the unit to give extra network and telephony connectivity on the desktop for laptops and modems.

All cabling between the unit and the patch panel is enclosed in flexible steel conduit for protection and passes from the desktop to the floor void via a common 100mm grommet.

Benefits

- Results in safe, neat & tidy workplace, free from trip hazards
- Users have power & data on the desk for chargers and laptops
- Desk moves can be done without the need to relocate floor boxes. Leave the grommet in place, close the cover and fit a new one in the revised location, saving floor and carpet tiles.
- A cost saving of around 25% can be made against similar floor box installations

WHAT IS BS-6396?

Most people are aware of BS-7671, formerly the IEE Wiring Regulations which covers the main electrical installation within buildings in the UK. However, these regulations do not include items that are later connected to the installation via the socket outlets. Although the Electricity at Work Regulations covers some aspects of items connected to the overall installation, BS-6396 was specifically written for 'Electrical systems in office furniture and office screens' which have now become a separate installation in their own right.

This British Standard specifies requirements for the safe provision or installation of 'electrical power, data and telecommunications distribution systems in office furniture and office screens'. Requirements are specified for furniture for general use and for furniture for use with specific equipment, parts of which may be built in during manufacture. Appropriate tests are described for the installed power distribution system in the furniture. The standard applies to single-phase electrical power distribution systems operating at rated voltages up to 250V AC that are connected to the fixed wiring of the permanent installation of the building by a 13 A fused plug and socket arrangement.

Although most of the regulations are common sense and detail basic requirements for good cable management and earthing, there are a few basic safety points within these regulations that do get overlooked. This is mainly because they apply to works normally done after your electrical contractor has finished their bit, and relate to the use and types of multi

way outlets.

The regulations do allow the use of multi-way outlets, but there must be no more than 2 metres of exposed power cord between the plug and cable entry point of the desk. Also, if the multi way outlet has more than two 13amp outlets, each outlet must be fused at 3.15amps or a single fuse may protect multiple outlets up to six ways so long as it does not exceed 7amps. The fuse must also be built into and be part of the multi way outlet.

REMEMBER

When purchased, most fused multi way outlets come complete with a 13amp fuse which must be replaced with a 7amp fuse to conform to the regulations.



Un-fused outlets must never be used under any circumstances

NO MORE CAT2 LIGHTING

At last, C.I.B.S.E. has scrapped the controversial categories in LG3. This had three categories relating to the cut-off angle of downward light to reduce glare on VDT screens. More often than not CAT 2 has been used as an easy opt-out from proper lighting design and there are even those who have sold CAT 2 as providing compliance with anti-glare

regulations. The fact is that a CAT 2 fitting does nothing for glare - it is only a mechanism for removing reflection. It is also a fact that LG3 is a guidance - it is a useful frame of reference but it is *not* the Bible. As we all know, the result of using CAT 2 luminaires is often a gloomy, cave-like interior with very little illuminance of ceilings and vertical surfaces.

"CAT2 luminaires are not needed in the majority of modern interiors"
-Society President, Mike Simpson

The category system was created at a time when few VDT's had anti-reflective surface treatment and most displays had bright characters on a dark background. "Both these situations are now rare". However the tendency for developers to use CAT2 as a 'get out clause' for specifying lighting has led to its misuse. It is therefore time to withdraw the category system and replace it by good design practice where luminance limits are checked against the specific requirements of the installation. This will result in more thought being given to the choice of luminaire and the overall visual environment it creates."

The main quality recommendations of LG3 still stand and it has been brought into alignment with international standards on ergonomics, such as BS EN ISO 29241-7 and the provisional European standard on lighting, PREN 12464. The main point of these revisions is to remind designers of the flexibility allowed within LG3 to use uplighting, downlighting or a combination of both to provide a visual environment that is suit-

FLIP UP POWER & DATA

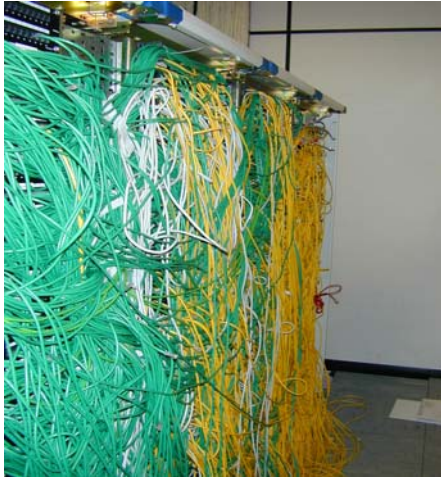
Providing power and data to Meeting Room and Training Room tables has been a big challenge. Most Meeting Room tables require minimal power and data to be presented on the tabletop for laptops, presentations and general use. Training Room tables on the other hand can require very high densities of power and data for PC or telephony training. This can very easily turn the room into a labyrinth of cables trailing from the wall or floor outlets.



Looking at a number of products on the market, we came across this great little unit, which when not in use sits almost flush to the desktop and out of the way. When required, the cover simply rotates to expose up to four 13amp socket outlets and four RJ45 outlets. The unit is offered in various permutations of 13amp and RJ45 outlets making it an ideal solution for desktop power and data in both Meeting and Training Rooms. It can also be supplied with RF or SVGA outlets for video presentations and its finish quality makes it worthy of a place in any Board Room.



KEEPING IT TIDY



Due to the cost and disruption associated with moving to new or bigger premises, companies are now looking very closely at how they occupy the space within existing buildings with a view to making better use of it.

If you need to get more people into a building, good desk space planning is the obvious place to start. When done well it can result in large staff increases without the overcrowded feeling. The same philosophy can also be applied to Technical Areas and Comms Rooms. For a long time their design has quite often been based on over-estimated expansion.

As most new IT and telephony hardware is now 19inch rack mounted, it can be stacked in cabinets which have a relatively small footprint and given that the ratio between processing power and physical size is falling all the time, with a little bit of thought, some Comms 'Rooms'



can be significantly reduced in size.

There are a few things to look out for when trying to down size a Comms Room. The main one is that as the desk density increases, so does the number of data outlets needed to support the desks. This has a knock-on effect which increases the size of the patching cabinets required along with the patching density as more outlets are used. As a quick fix, it is very easy to compromise patch panel cable management in an attempt to fit in a few more patch panels, but this nearly always comes back to haunt you as can be seen. (left)

As far as we know, this particular installation was designed for 1500 floor outlets with supposed expansion. It would appear that the installation was very badly designed from day one as all of the horizontal cable management had been replaced with patch panels to overcome the general shortage of outlets. The result was that the patch panels became completely un-maintainable and day-to-day



re-patching was almost impossible due to the number of patch leads hanging across the patch panel outlets.

The situation came to head when our client needed to expand the building, which meant adding 100 or so data outlets. Before we could do anything else on the project, the patch field had to be re-designed and re-built to allow for the new outlets, which added a great deal of cost to the project. The finished patch field is

shown bottom left

As can be seen from the other two photographs, there are a number of different ways in achieving high density patch fields within a small footprint. We have found that when floor space is at a premium, by using wall mounted patch panel frames with 48way 1.5U patch panels, we can design very high density patch fields without compromising horizontal cable management. By making good use of the wall space that is normally free in Comms Rooms, the overall size of the room can also be reduced whilst still leaving plenty of floor area for hardware cabinets and expansion.



[WWW.Pensdown.co.uk](http://www.Pensdown.co.uk)

We are currently in the process of improving our presence on the internet.

Our new website is being built as a useful tool to our clients, not just an advertisement for our company.

Project data will be available from our site including drawing issues and O&M Manuals.

Future editions of our newsletter will be posted on the site.

In the long term we plan to offer e-commerce on the site where clients can browse a variety of products and order on-line.

Back Page... News In Brief

Broadening Our Horizons

With the formation of new company, "Pensdown Logistics Ltd", we are pleased to now offer a comprehensive move and relocation package.

We have been very successfully carrying out the decommissioning, relocation and recommissioning of desktop hardware for a number of years which includes PC's, telephones, printers and faxes and so it seemed a natural progression to expand this service. We now offer a full integrated relocation service which includes the supply of crates for staff documentation, furniture de-installation and reinstallation either on the same site or between sites. This service is tailored to make complex move coordination as simple as possible by having Pensdown as the one point of contact for all services and it also has some real cost benefits.

Kent Air Ambulance Event



Pensdown took part in a three and a half hour endurance karting event, held at Bayfield Meadows, Sittingbourne to raise money for Kent Air Ambulance.

Nine teams of five drivers were invited to raise sponsorship of not less than £100 per driver with an additional donation of £250 per team.

When the final total raised is announced we anticipate it will be in excess of £10,000.

Running costs for Kent Air Ambulance are estimated at £4000 per day so that's two and a half days paid for.

Pensdown's team (Number 2 above) after a few spins finished 9th overall.

THE GREAT PATCH LEAD GIVE-A-WAY



We decided to separate our offices and controls workshop from our stores to give us more appropriate space for these activities. After purchasing a tatty industrial unit with views over farmland, we converted it into a smart office and finally moved in.

We now have a clearer picture of our stores and it has recently come to light that for some reason, we seem to be knee deep in brand new fully booted

CAT5E patch leads, in a variety of colours and lengths.

Although these patch leads are new, fully tested and in their original packaging, rather than store these, we are offering them at **£ 2.00 each, any length, any quantity and a choice of colours until they are all gone!**

If you were going to buy some patch leads in the near future, now's your chance to get them at a knock down price

Give Tony a call on 01474 853222 for next day free delivery.

A Big Thank You

There have been a number of changes within ISO9000 to bring it into line with other European standards, one of which means we can no longer assume that the level and quality of service that we offer is second to none.

We now have to actually ask you, our customers what you think of us via an independently conducted survey! At first we thought that all of our illusions could be shattered overnight. However, to those of you who were randomly selected from our client list and took part in the survey, we would like to thank you for your time and the positive feedback that you expressed. We did not choose the twenty questions which covered staff performance on site and in the office, product knowledge, our ability to understand our customers needs, compliant handling and of course value for money.

Of the fifteen clients surveyed, on staff performance your combined score for us was 91.86% satisfaction and on value for money your score for us was a whopping 100% satisfaction. The last question asked was 'would you recommend them to others' and once again you gave us 100%. Like most other companies, we

are always trying to improve our services and tailor them to meet our client's requirements and this survey has helped us pin point the areas in which we need to improve. Once again, thank you.

If you would like a complete copy of the survey results, please let us know.

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