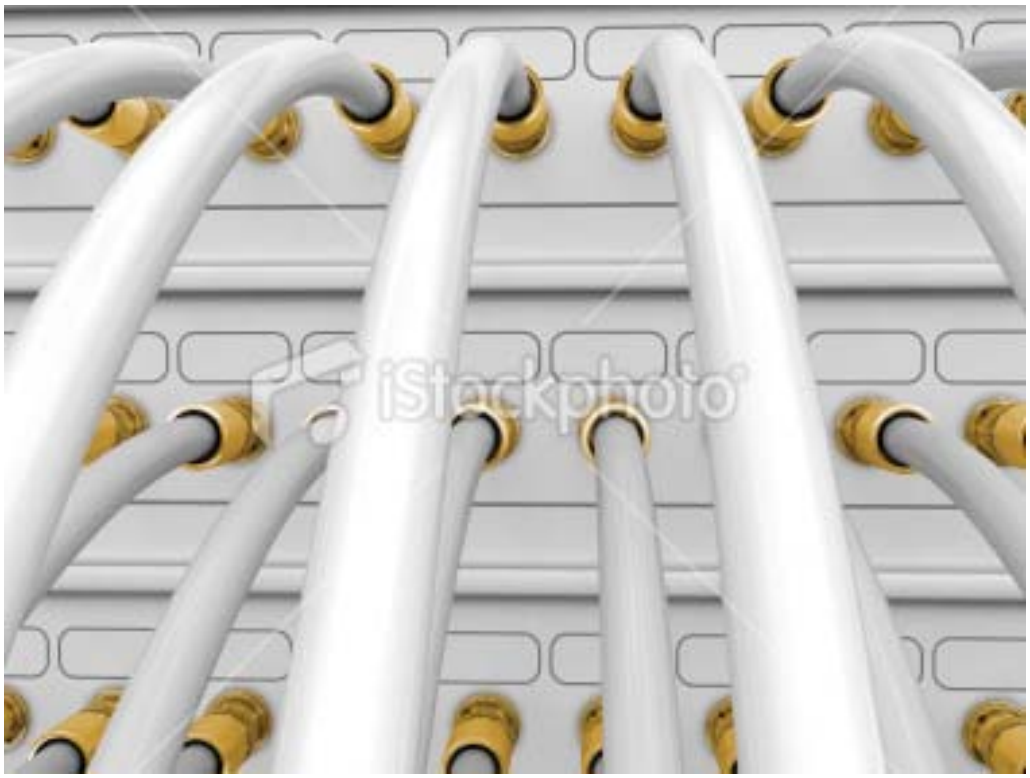
Do the Strand(s)

THE HIDDEN LINK IN A HIGH-TECH WORLD



Within the vast document that a spec is today it's easy to omit considering the infrastructure of any systems and doing so has perhaps greatest owner-apparent effects in the AV system. The finest water run through a bad pipe becomes bad water. Bill Ward from Langdale Technical Consulting is an AV consultant and here offers a bit of history on how computer technology, broadcast, pro audio and AV met, jostled and changed places a few times before running together. He then offers cautionary words to ensure the AV portion of a spec and contract have the correct elements to ensure owner satisfaction on handover and first AV power up.

Let's face it, when we're talking about AV installs on the larger superyachts and mega ships of today we're no longer talking about good-quality home AV systems being implemented for the domain of marine. There are a number of serious, grown-up companies that have taken the quality of design and implementation of systems to a new and bespoke level. There are now AV companies operating in the marine market that have the knowledge and expertise that has seen them also build some of the finest private media, broadcast and recording studios on the planet. This means that the marine market is now being fed not only by existing companies expanding their knowledge base but also by established pro audio and broadcast companies expanding their market base, which is a subtle but relevant point.

With this development an expertise now exists in the world of marine AV that could only have been dreamt of even a few years ago, and along with this we have seen the adoption of serious pro audio standards and designs common in broadcast facilities and world leading recording studios becoming the norm in marine as well. Better still, the world of pro audio and video has also adopted a lot of the computer advances developed for other sectors of the market and that has taken marine AV install control and networking systems to a whole new level. The era of controlling all on-board environmental room conditions from lighting to on-demand media to HVAC via one bespoke PDA or iTouch is upon us and, in all truth, has been for a while.

There are of course countless benefits of modern computing technology that have allowed for quantum leaps to be made in AV, but these have happened in partnership with industries that had had a surprisingly 'traditional' reaction to change in the past. For 30 to 40 years the world of television and radio was seen as a cutting-edge industry, standards were continually set that the domestic market would try and meet, and innovation came from the top of the pyramid and trickled down to the masses at the bottom.

However, in the 1980s things started to change: the industry that had seemed to lead had to deal with a competitor. The computing industry had taken off and it brought a pace of change and innovation that made the audio and video world seem decidedly Luddite. Magnetic tape had reigned as the recording media of choice for audio since the early '50s and had, by the mid '60s, become a viable option as a replacement for film as well. The format remained static, but dominant, for an entire generation. Even so, the desire and technology of change was still very much ingrained in the industry, even if the pace wasn't. By example, Claude E. Shannon's 1948 work 'The Mathematical Theory of Communication' encompassed theories on discrete systems and pulsed coded modulation (PCM) that basically laid down the technology of the CD player, but it wasn't until the late 1970s that the technology eventually evolved to actually build it. The dawn of the computer market changed a lot of things for AV: from a position of stagnating with a lack of rapid evolution there was suddenly technology being thrown at it by the computer industry and by the forces of economic competition that launched it into the fast evolving industry of today.

As quickly as the computer world was throwing technology over the wall into the land of pro audio and broadcast, systems were developed with the new technology at a rate previously unheard of and AV was launched into the high-paced world that we have become used to today where disk-based systems and IP control dominate.

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However, there is a lot more than just the equipment that has changed in recent years. Although we could spend pages going through the hardware developments that have taken us from VHS to Kaleidescape and from wired parallel remotes to bespoke wireless IP remotes, there are other developments that have come out of the rapid change in pace of the pro audio and broadcast world that are equally important if not more critical for marine installs, one of which is infrastructure.

Pro audio and broadcast quickly learnt, along with everyone else, that chains are only as strong as their weakest link and in their case it's always been evident that spending hundreds of thousands of pounds on new technology and expensive kit and then linking it all together with weak infrastructure really wasn't a very good idea. To this end a market evolved in supplying the ultimate dedicated solutions to the territory of infrastructure; that is high quality AV cable that was not dressed up to sell in the domestic market, but was geared completely, totally and utterly for the professional levels that were demanded from the broadcast and pro audio world and basically did so with no compromise. Brands like Van Damme, Belden and the like have become as important in specifying systems as hardware names such as Pro-tools and SSL.

Quite simply, the AV cable specs have (or at least should) become as important as the specification of the equipment you're connecting it to and in some marine aspects it could be argued even more so. Infrastructure by its very definition is buried into the ship, upgrading a hard-disk system or a plasma monitor can be a straightforward 'out

with the old, in with the new' one-hour job, but upgrading the AV cable link is another matter all together. Cabling effectively becomes part of the structure, particularly in marine where it passes through fireproof and water tight bulkheads where it is properly sealed and treated; it's also covered by very expensive final décor and hidden into inaccessible roof voids and traps and once it's in, well, that's it, unless you're going down the route of a major refit. With this in mind it really should become a 'no-brainer' to spend and specify properly and if the budgets are going to get tight lose a plasma TV or two, or skip that extra audio system in the sun lounge. These are easy to add later when budgets have recovered, whereas the infrastructure isn't.

Don't, whatever you do, become tempted to go down the 'put in the cheap cable – no one will ever see it' route, as when you power the system up for the first time even if the client won't physically see the cable they'll sure as heck see and hear the results of it when you start putting broadcast quality HD and pro audio quality sound through the system.

There are also further considerations coming to the fore regarding the AV infrastructure in marine, as for many years there have been controls and regulations in place that have made it very difficult to do anything other than install proper and safe electrical systems into the large megayachts that play in the seas today; low burn LSZH (Low Smoke Zero Halogen) cable is mandatory as the miles of power cables found on yachts have rightly been required to meet critical safety requirements. However, as data and AV systems have grown in complexity so has the quantity of cable on board and as these systems become deemed part of the ship's structure, rather than a supplement to it, so these regulations will pass onto AV cables as well. This makes the choice of cable even more critical, but the solutions are already readily available if you start to look.

The good news is that Van Damme, Belden and the like – the brands that are used in the top studios, the studios where the Madonnas, George Michaels and Nickelbacks of the world record, and the brands of cable that go on tour with them, which are also used by the BBC, CNN and Sky – are beginning to migrate to the world of marine in a LSZH guise that carries full ABS, IEC and Lloyd's accreditation. Cables have now arrived on the marine market that can offer an AV quality never known of in the marine world before and yet can still meet all the regulations for use at sea. Furthermore, multicore AV cables that make installation so much easier are also becoming available – some are now even incorporating future proofing integral fibre optics which are the perfect way of ensuring that however many bulkheads you're going through and however well buried the cable route is, you'll always be able to keep up to date and ahead of costly replacement.

So as the marine AV world morphs more into the world of pro audio and broadcast certainly keep an eye on the equipment developments that are coming at a faster rate than anything that has ever gone before, but also remember to keep an eye on the infrastructure that ties it all together as well; it's just as important as anything else in the design even if it is a lot more hidden.

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Images: istock.com

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