

# Starting from scratch

First in the series, CI takes a journey through the development of a Crestron-equipped new-build house starting with client requirements and the progress of the first fitting including planning and basic cable runs.

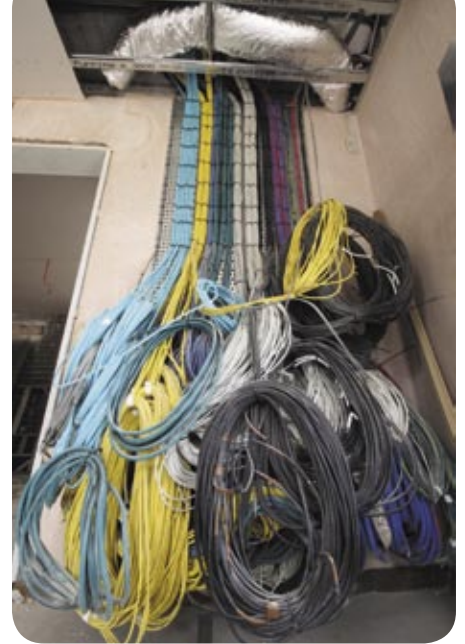
**A**n imposing two-storey house sitting in an acre-plus of ground in high-status suburban surroundings is an excellent prospect for any custom installer. Better still, the client is fully cognisant of many aspects of home control and automation. The family is already very familiar with Crestron

equipment which meant it was top of the list of requirements.

The house has the joy of suspended ceilings, an instant boost to running serious cable bundles throughout the property and, best of all, wouldn't need quite the upheaval normally required if further unplanned modifications



A house of character even though it's brand new. Chimney styling and sash-style windows add to the nostalgic look



Unsurprisingly, this is where the rack will be. Originally it was going to be in a different location until the plumbers installed various items in the original space. Sound familiar?

were considered later. The house is also ready for extra rooms with provision for expansion into the attic with a proper staircase already being planned for what could eventually form a second floor - nothing fixed yet, but always a prospect for installation work in the future.

As it was, the client supported the installer's suggestion concerning future-proofing which budgeted for the running of Crestron Digital Media (DM) fibre cabling throughout the house alongside DM copper wiring used between sources and switching equipment. Fibre interfacing equipment, which adds more to the cost, could be added later when deemed necessary if and when extra bandwidth was required. With the infrastructure already in place, the customer can choose when.

Added to the amenities of this imposing building, there is plenty of room for a pool-house in the grounds rather than having a larger main building with an indoor pool. This will be fully connected, also with provision for local iPod mounting linking to moisture and weather-proof speakers respectively, inside and out. A waterproof portable controller was specified too, as was the safety aspect of being able to observe swimmers using CCTV.

Security, HVAC and Lighting design has been supervised by other contractors, notably the lighting was organised by John Cullen Lighting who, apart from a few specific requirements, was asked to do its usual excellent work. This, of course, will all be Crestron-controlled with modules integrated into the overall Crestron home management system with strategically-placed control panels and switches.

The view of a row of outlets will be disguised by an additional joinery facade





*A fleeting glance at some of the largest arrays of outlets before the plaster goes down*



*Hanging wire routing is simplified in this area by a joinery feature partitioning one room from another which serves to ease the cable run*



*Varying levels of cable outlets include Cat.5 for phone and data at the bottom and at midlevel for an iPod docking station. The highest cabling is to power and control lighting under fitted cupboards*

The security and HVAC was installed by the developer's contractors with suitable liaison with the integrator. In the initial stages there was some debate with the client as to how green it was to have air-conditioning, but it's an unfortunate fact that there are some days increasingly in the UK where some gentle cooling is required for humans to function properly! The AC bullet was bitten.

On the heating side of the plan, the efficiency and lack of clutter offered by under-floor heating is favoured and control of the zones (temperature sensing, manifold activation, integration with boiler management system) will be integrated into the Crestron home management system and accessed by occupants of the house from the various control panels and switches installed.

Another part of the plan is to enhance the security system with Crestron's user-recognition system using its key-fob device. Typically, user 'A' will enter the house and identity-specific lights are activated whereas user 'B' will often choose a different lighting pattern specific to their requirements. This also includes items such as radio station preferences and the areas where audio can be heard. All parameters can be addressed including individual heating temperature preferences. Similarly, there are set patterns for anyone leaving an empty house, the

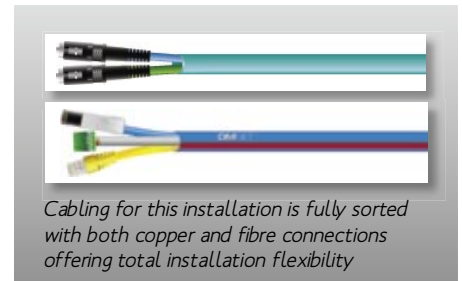
Crestron control system reduces the heating system to a pre-set fallback level and will turn off all relevant consumption areas, plus timing-off the exit lighting.

The rest of the security features such as gate control and video surveillance at entrances are designed in the usual Crestron manner of maximum flexibility to the user, including being able to communicate using portable controllers.

The plan for the AV will bring in the client's request for Sky and Sky HD, Freeview DVB and all the usual pre-recorded media. It has been decided to distribute HDMI via Crestron's latest DM matrix switch to the main rooms of the house. Audio from these and other audio-only sources will be routed via Crestron Audio Distribution Processors to a number of rooms and spaces in the house to ceiling or wall-mounted loudspeakers.

In essence, the client is in agreement that the control throughout the house will not be fudged. Every room or space is to be equipped with one or more control interfaces, either a wall-mounted touch or button panel, a wireless RF touch-panel or a remote control. The control device will be appropriate to control access to the audio, video, heating, lighting, security and intercom facilities available in that room.

The decision for the entrance hall is a nice big 12 inch wall-mounted touch panel (Crestron



*Cabling for this installation is fully sorted with both copper and fibre connections offering total installation flexibility*

TPS-12L) which will have control over all of the available audio sources playing through two pairs of ceiling speakers. A large wall-mounted touch panel will enable source selection and volume level adjustment. It will also have control over lighting levels in the immediate area and will control lighting throughout the house. Most of the lighting locally will have an adjunct of button pads and passive infrared (PIR) movement timed-control linked to the Crestron system.

In some parts of the house installation has been made easier by virtue of large rooms, either having retrofit joinery partitions or joinery facades to aid the neatness of mounting screens and in some cases adding shelving space.

Unusually the gym and the master bedroom are in the same area with a partition feature in between. A display screen will be mounted on this wall either side with the audio sources, including the audio associated with a selected video source. It will be arranged so that the same, or different programmes can be played in the bedroom and the gym.

The clients have been careful about the planned installation of screens, the main arbiter being whether they could interfere with family life - one reason why projection has been rejected on the grounds that a darkened room doesn't encourage a family atmosphere. Likewise, the idea of TV displays in children's bedrooms has been rejected but, in all cases, the wiring infrastructure has been planned in to maintain total installation flexibility for the future. As always with a new build, these provisions are so relatively cheap that it makes sense to do it. Research has shown incidentally, that children without televisions actually have better average exam results compared with children who are allowed TVs.

The largest screen in the house is planned for the family room and again, the mounting of the display is conveniently lined up to fit into a full width, full height joinery feature separating the family room from the stairs. The wall will also house speakers for the front surround sound system plus a subwoofer to form a discreet array. The media-wall will also house a local Blu-ray disc player, and an input interface to connect any ad-hoc equipment required, such as a games console.

Many installers will find this a typical insight into the planning stage and the requirements of the client, happily the installer has had the freedom to specify multiple-use cable runs into positions where media and local sources could be added later, thereby offering the option to install extra equipment and upgrade to more bit-hungry (3D?) equipment where AV distribution points have already been established.

More next month when CI focuses on specific areas of equipment.



*Crestron has got switching taped (8x8 switcher shown). Transmission of HDMI might seem like a black art but the combination of Crestron DM switchers and Digital Media cabling offers two-way data flow complying with HDMI, USB and control information, plus instant source switching too*