

feature

SUPER SMART

A state-of-the-art smart home captures Brett Gideon's imagination and shows what's possible at the luxurious upper levels of the home automation market





The last issue of *Tone* contained an article covering Des Dass's amazing home theatre system, but I originally went out to his cliff-top Gulf Harbour home to take a look at the extensive home automation he's got in place. This smart home is a showcase of what can be done at the upper end and, believe it or not, it matches his home theatre system in terms of impact and sophistication.

Dass has a long history in the IT distribution game and when he decided on a change in direction, his strong interest in home automation seemed to be the way to go. Anyone who's worked in IT will be familiar with the concept of system integration, taking various bits and bobs from multiple vendors and getting them to work together (properly) to offer a

seamless experience for users.

Des recognised there was no single solution that could integrate all the various automation platforms and components ranging from audio and video to lighting, electrical and infrastructure. Spotting a gap in the market, he set up a company to provide that type of cohesive solution and built this luxury smart home to be his residence, offices, showroom and test bed. This is effectively his dream home, and because he actually has to live here, he really went to town with the automation.

Looking around the industry, Dass picked Clipsal's C-Bus automation protocol as the base of his integrated system because it was open and non-proprietary, allowing a wide range of hooks from other automation applications (see 'C-Bus Stop' below). He had

to dramatically up-skill himself in C-Bus design and implementation, learning to write entirely new code and working out ways of unifying the controls for multiple components and systems. As he says, there's not much point having home automation if certain things need to be controlled from their own keypads.

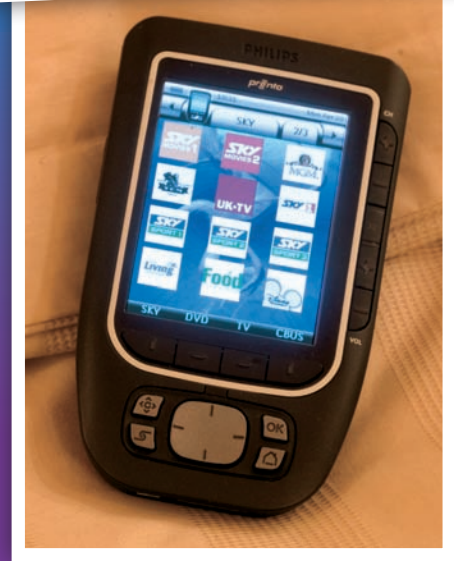
The house took two years to design, two years to build and a further six months to get everything working the way he wanted. It's around 4500 square feet over two levels and is all concrete, which increased the complexity of the wiring and added to the cost. Running an extensive cable network in concrete is far more difficult than fiddling about with Gib but he's entirely convinced that it was worth it, given the fortress-like solidity of the place. ▶

C-BUS STOP

Clipsal's C-Bus is an automation protocol used in domestic and commercial applications to control lighting and other electrical systems such as heating and cooling, blinds, power doors and shutters. It's got a reputation for being particularly rugged, scalable and versatile because it uses a dedicated low voltage Cat5-based cabling system to transmit power and control signals, and each C-Bus device is equipped with a microprocessor and a degree of intelligence. The patented C-Bus design ensures that large amounts of data can be transmitted quickly and reliably on the network, which again ensures excellent reliability and effectively means that the size of a C-Bus network is practically unlimited.



feature



LIGHTING

Dass was at pains to point out that the core of his design methodology is the lighting. Once the lighting control and wiring is in place along with the C-Bus infrastructure, everything else becomes possible. A surprise to me was hearing that, in the luxury home automation market, Dass has found that technology is pushed primarily by the female partner, and women's key drivers are lighting and management of sunlight to mitigate its impact on furnishings and security. Male partners then get enthusiastic once they've seen the potential for high-end AV integration and the user friendliness of the rest of the automation systems.

The lighting installation at Dass's home is impressive and extensive. There are 43 lighting circuits just in the living areas on the ground floor, from the entry of the house to the front garden and pool. This allows independent control of individual areas and gives him the ability to 'paint with light', modifying the way the lights behave and calling up pre-programmed 'scenes' at the touch of a button. The lighting comprises a combination of direct, diffused and hidden; his scenes include party, pool, cooking, TV viewing, formal dining and casual dining, and each one changes banks of lights as appropriate. For example, he gets intense light on the cooking surfaces and diffused lighting in other areas (including rear-lit cabinets) to set the mood when he's in the kitchen cooking for guests.

Seeing the lighting flow across the rooms

as different scenes are selected clarifies the concept of painting with light; there's no instant on and off, just a smooth, well thought out transition of light and colour that really does enhance the living areas at night.

A lighting system this complex needs to be carefully considered, preferably in consultation with a lighting designer (yes, they do exist) long before implementation because it can end up costing a lot more than it should if it needs to be redone. There are plenty of horror stories out there where the local sparkie got in over his head and specialists had to be called in to sort out the installation. Make sure your lighting people know their stuff!

SECURITY AND ACCESS CONTROL

The industrial-strength Protege security and access system has been seamlessly integrated with C-Bus. Again, there are no plastic keypads - alarm and access can be controlled using C-Bus keypads and touchscreens from the inside and radio remotes, fingerprint scanners and swipe cards for keyless entry from the outside. All doors, windows, gates and other entry points are visually monitored for status and controlled on the touchscreens. Even the smoke detectors are monitored so that in case of fire, you will easily see the source.

TRUE INTEGRATION

Based on what I saw at his home, Dass is

definitely walking the walk when he says that what separates his business from others is how far he's willing to go to truly integrate systems from different vendors.

Everything can be run from one touchscreen. A good example is the pool controller, which is usually operated from a clumsy interface designed to be hidden in a shed or plant room. He has written code that allows the pool controller to interface with C-Bus, so he can preset the pool temperatures, set schedules for various seasons, control the weir valves and even dispense chemicals where appropriate, all from his internal or mobile keypads. An extreme example? Sure, but it shows what can be done if clients have the desire - and who wants to take care of a pool anyway?

Besides the pool and the lighting, other electrical systems unified under the one control system include central locking, heating and cooling, automated blinds, distributed audio and video, security, access control and cameras. Everything works seamlessly. Every door can be remotely locked, blinds operate automatically to follow the sun and control UV damage depending on the time of year, temperatures are maintained without input and so on.

Even the water feature out front and the external lighting are hooked up to the system, and their actions are programmed depending on circumstances that include time of day or when Dass returns home.

The system-wide control keypads are wall-



mounted touchscreens based around Clipsal's Dynamic Labelling Technology, which changes the screen depending on the application. Elements of the system like music and video can be controlled from a common universal remote or wireless touchpad. It's very user friendly, even for guests, because only the necessary commands are on the screen at any given point.

Another great example of the levels of integration and how easily they can be controlled is found in the master bathroom. There are four light circuits, along with speakers, a heated towel rail, heated mirror pad (to prevent fogging), powered extraction vents and automated blinds. Pressing the shower button on the keypad alters the lighting, powers up the mirror pad, fires up the vents, drops the blinds and calls up Dass's favourite radio station. After he's showered, another button push sets the heated towel rail to a two-hour schedule, raises the blinds, turns off the mirror pad and runs the vents for a further five minutes. There's a different arrangement for taking a bath – it's all pretty effortless and effective.

AUDIO AND VIDEO

The upstairs home theatre room gives Dass a place to watch movies and listen to music in a world-class setting, but the rest of the home doesn't suffer from a lack of music. There's a full multi-room distributed AV system piped to speakers and TVs all over the house. Dass's audiophile side is apparent in the attention

to detail – the speakers aren't just randomly located but rather placed where they'll sound best. Even the speakers in the pool area have been positioned for a clear stereo imaging.

The downstairs lounge is equipped with a big Samsung plasma panel with in-ceiling 5.1 surround sound and there's even an area set aside for Dass's old Quad valve amps and Magneplanar speakers, which he uses when he's in the mood for some simple yet sweet-sounding hi-fi. He also uses this area to evaluate audio kit such as control amplifiers or in-wall speakers.

POINTING TOWARDS THE FUTURE

Many readers will consider this type of high-end smart home to be an outright extravagance, in line with megabuck hi-fi systems or Bentleys and Rolls Royces. And admittedly, it is aimed at the upper echelons of the home automation market. But I prefer to see Dass's designs and integration as showing us how everyday homes of the near future will be automated.

The complete integration of home systems is obviously very possible today, albeit at a steep price. But like every new technology, what's expensive and exclusive today eventually becomes reasonably priced and available to Joe Everyman. We're already seeing amazing pricing on AV distribution with products like the Linksys Wireless Media Centre Extenders we looked at in *Tone* 69. It won't be long before vendors start designing their consumer electronics with built-in

smarts, or at least the simple ability to interface with a common standard like Ethernet that allows our gadgets to be controlled from interfaces such as web browsers or wireless phones and PDAs.

This type of integration can give meaningful results. Picture an Ethernet-equipped, IP addressable heat pump, air conditioner or domestic ventilation system that can be configured from a PC to turn on at preset times to heat, cool or dehumidify your house and maintain comfortable and economical levels.

I particularly like the idea of a lighting system that can easily be connected to your alarm system's movement sensors, allowing the lighting to follow you around the house at night. That's what the lights in Dass's home do. It makes for an undisruptive excursion to the kitchen or bathroom as the lighting levels can be quite low, so you don't have to deal with the blinding glare of full-power lights, which makes life easy for kids and guests as well.

Another thing I like is automating blinds and curtains. The last thing I want is countless hours of sunlight blasting the drivers of my grille-less speakers, or returning to a superheated home in summer. At the moment my only alternative is to keep the blinds drawn when I am out.

When you take this kind of convenience and add in other elements such as distributed audio and video, more effective home security and access control, the whole smart home environment really starts to make sense, especially as the prices drop. ■