



# InputOutput

## Compass Points the Way Forward

At a recent ESTA meeting I was questioned about the validity of integrating building systems in a PC environment. The Systems Integrator said “It can’t be a good idea to put all the integrating facilities in one place. If the PC fails, so does all the integration”.

We have always tried to get people to understand that there is a big difference between integration (getting values from system to system) and appropriateness (getting the user display system right). There might be many thousands of points in a large installation, covering environmental control, lighting systems, fire monitoring and so on. Of these, only a handful of values ever get integrated between them.

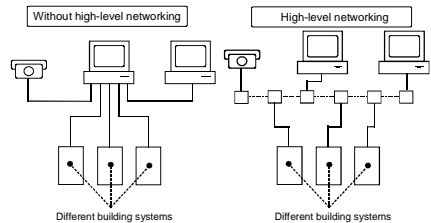
When users say they want integration, they generally mean that they want a common display system, providing a consistent way of managing disparate systems. That’s not integration, it’s appropriateness. Giving the user an appropriate display generally gives him what he perceives to be an “integrated” building control system.

Integration needs another approach, completely separated from the process of getting the display system appropriate. That’s why **InputOutput** this month is good news for anyone involved in integration.

And, no, it doesn’t have all the integration in one place.

### High-level networking

The principles of using Apex with high-level networks are becoming well understood in the industry now, with many Systems Integrators using high-level networks as standard.



Without high-level networking, all the building systems are connected back into one PC, together with other PCs and systems like auto-diallers. This means that one display handles communications for all other displays - a high responsibility for one device. High-level networking techniques involve connecting each system into a network rather than into one device.

### In this issue

<b>High-level networking.....</b>	<b>1</b>
<b>Compass - get connected! .....</b>	<b>2</b>
<b>Compass - get integrated! .....</b>	<b>2</b>
<b>Ask the Doctor .....</b>	<b>3</b>
<b>Pearls of wisdom.....</b>	<b>4</b>

High-level networks allow extra devices and systems to be added easily and quickly when required. Manufacturers of the systems don't need to develop anything - the clever protocol conversion is still done in the PC.

There is no reliance on any one device in making the system communicate - the responsibility is 'shared' across the network. PCs are also independent - each can work even when the other is switched off. You can even dial in from an external modem and get access to the systems without the on-site PCs being involved at all.

Apex Developers have been using a number of different high-level networks successfully in the past, but these networking systems were designed for terminal-to-mainframe communications, and consequently they have limitations when used for building controls.

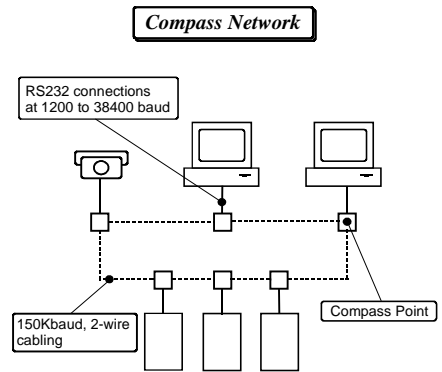
With all this in mind, and to allow networks to take the responsibility for systems integration away from 'top ends', Key have developed **Compass**, a high-level network which looks to set new standards for linking building systems.

## Compass - get connected!

**Compass** consists of a number of highly intelligent *Compass Points* connected together using simple 2-wire cabling. Each *Point* connects a single device or system to the network using industry standard RS232.

**Compass** can be set up to send device/system data (such as an alarm) automatically from one *Point* to another.

**Compass** can be used by Systems Integrators to provide a site-wide method of linking different systems. It can be used with Apex-compatible systems for Security, Environmental, Fire, Access, CCTV and Refrigeration control and monitoring.



**Compass** can be used by System Manufacturers. It provides a very easy way of adding high-level networking features without any development effort whatsoever.

**Compass Viewer**, an Apex application, allows the simple set-up of *Points* and their connections. *Points* can be engineered from other *Points* on the network, with control over baud rate, parity, data framing, flow control and many other characteristics.

**Compass** is cost-effective even on relatively small installations. A *Compass Point* costs little more than a conventional RS232 line driver, and yet gives power and flexibility well beyond any simple signal-boosting device.

## Compass - get integrated!

As many of you know, the software 'drivers' needed to carry out protocol conversion for systems are part of the Apex System, residing in the PC. This means that any integration between systems currently has to be performed *via* the PC.

In the future, **Compass** will become even more powerful as popular Apex software drivers will be built into the *Compass Points* themselves. A *Point* will then be 'smart' enough to communicate directly, using a protocol that the system or device understands.

It will then be possible to have complete integration between systems without any PC even being on site.

Each ‘smart’ *Compass Point* will communicate with it’s device/system on behalf of other *Points*, and will also store certain values within the *Point* itself. Stored values may then be distributed to other *Points* on the *Network*, for onward communication to other devices/systems.

This ‘binding’ of inter-system values across the *Network* will be done graphically within *Compass Viewer*.

“*Compass* will not only advance the market for the integration of devices and systems but also gives Systems Integrators and Manufacturers another method of providing end-users with what they want.”

## Ask the Doctor

This month, in a special ‘Compass-oriented’ surgery, Dr Mortido tackles some common questions about *Compass*. Remember, you can trust him - he’s a doctor. But not a real one.

Dear Dr Mortido

*Call me old-fashioned, but I prefer to wire all the systems back to the PC and use a multi-port serial card. Will new drivers be written for Apex, or will they only be developed for Compass?*

*Prof. R.S.Toothritou, Frinton-on-Sea*

Hi there, ‘old-fashioned’. Using these cards can make a lot of sense where there’s only one display system connected to a few systems. However, in many situations *Compass* will be the best solution. I don’t mind which you choose! New drivers will be developed for both Apex and smart *Compass Points* as required. Remember, *Compass* is just another way of skinning the connection cat.

Dear Dr Mortido

*The million dollar question, I’m afraid. How much will Compass cost me?*

*C.C. Teavee, Grimethorpe*

Sorry to disappoint you, Mr Teavee but *Compass* doesn’t cost anywhere near a million dollars. A single *Compass Point* is £200.00, with Apex Developers receiving a substantial discount from this. In volumes, these costs come down to around £100.00. *Compass Points* are also available without the standard metal enclosure for OEM use.

Dear Dr Mortido

*When will Compass be available?*

*B.N.C. Connector (Mrs.), Tintagel*

Good news, Mrs Connector! *Compass* is available for order now, supporting Apex-compatible control and monitoring systems attached to it. In this initial release it supports several useful network-type protocols as well as a transparent protocol. Smart *Compass Points* will start to appear during 1995. Keep reading **InputOutput** or see *The Shelf* for details.

Dear Dr Mortido

*How many hit records did 'The Honeycombs' have in their glory days of the early sixties?*

*S. Megadrive, Burnley*

This enigmatic British beat combo had 4 chart successes. 'It is because' and 'Something better beginning' crept into the top 40, their last hit 'That's the way' hovering just outside the top ten in 1965. However, none of these compared with their first smash 'Have I the right' which topped the charts in July 1964. Not 'alf, pop pickers!

If you've got any questions on displays, comms or early 60's pop groups, write to the good doctor at the address below. There's £20 worth of crisp fivers for any of your questions the Doctor thinks is worth answering. Remember, we are highly unlikely to use your real name.

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Dear Dr Mortido

*I'm a software developer with a non-Apex display system. Can I use Compass or will it be used exclusively with Apex-based displays?*

*Mike Roe-Processa, Fulham*

Well, Mike, the *Compass Network* will be available to all software developers - it's not a restricted protocol at all. Anyone who needs a high-speed controls network is more than welcome to get on board. I am very happy to oblige with sample code, loan equipment and a full software developers pack.

Mortido

## Pearls of wisdom

By cutting used faxes into small sheets, you can drastically reduce your Izal purchasing requirements and make a significant 'green' impact.

Convert your tubby toddler to a Charlie Drake look-a-like by filing gaps between his teeth and persuading him to say "Haaallo mah dahlings" at inappropriate moments.

HVAC commissioning engineers. For measuring air velocity, an electronic air velocity detector makes an ideal alternative to a wet finger.

Short of elastic bands? A standard bicycle inner tube introduced incrementally into an ordinary meat slicer produces excellent results.

Cyclists. When approaching a red light at pelican crossings, application of the on-cycle braking system prevents a breach of Highway Code regulations.

A reasonable length of UPVC waste pipe makes for a surprisingly realistic emergency didgeridoo for those 'aboriginal' moments.

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