



Bosch's new DivarXF vaults the company ahead in the DVR stakes. It's clear that Bosch engineers looked at the key functions of a capable DVR and enhanced and polished them to come up with what is certainly one of the industry's best standalone (and networkable) digital video recorders.



bandwidth throttling. There's motion and event triggered recording. You get watermarking and in a very sweet departure from the norm DivarXF has synchronized lip sync audio. What this functionality means is that as soon as someone in a video scene starts to talk, the system starts recording audio (using a microphone in the viewing camera).

There are actually 2 DivarXFs. You can have one with 8 video inputs and 8 alarm inputs, or you can have one with 16 alarm inputs and 16 video inputs. Whichever DivarXF you get will have 4 audio inputs and 4 relay outputs and both also have 2 spot monitor outputs for normal composite monitors. The idea with these is that they allow local operators to milk the power of that splendid processor.

"Another neat feature of DivarXF is the instant playback - it allows very quick continuance of an event," Borg says. "You can just jump to a one minute playback without having to delve into the search functions and that's great when you're live monitoring events in support of security officers or other staff - you don't have to fumble - you just hit instant replay."

Getting images off the DivarXF is made easy by its 4 USB ports, each of which can handle 250GB. Borg explains that there is a DVD burner coming but he says, quite correctly, that USB is quicker, more efficient, more robust, reusable, offers greater storage capacity and is miles easier to use and transport.

"The IT industry has all gone to USB and so will we," he says.

#### STORAGE AND MANAGEMENT

For a standalone DVR there's plenty of room aboard DivarXF for storage. There are 4 hard drive bays in the unit and all are accessible through the front panel - the panel folds down and you can replace the drives yourself. Keeping all this metal cool are a pair of heavy duty fans.

"We're being careful with this HDD replacement capability," cautions Borg. "Unlike others we are saying you must buy our Bosch hard drives that are built to meet our quality standards and that are watermarked. Buy these and you can replace them yourself. These are video rated writing/reading HDDs and they're far more reliable than the standard PC HDDs out there that are not rated for constant duty."

When we start to poke around DivarXF's onboard software it's obvious the clarity of thought the engineers brought to the table when they laid out the performance specifications also extend to system management. Functionality is simple and effective.

# New Bosch DivarXF

**B**OSCH'S Sean Borg is excited about the DivarXF and as he gets his teeth into explaining his company's new system it quickly becomes clear why. This beautifully finished product gives Bosch's customers all they could ever need from a DVR. Importantly, Bosch's boffins have not tried to over-complicate this unit. Instead they've sought to make their system powerful in ways much of the competition is not, and may never be.

According to Borg, DivarXF's ability to deliver 25fps at 4CIF on all channels is a functionality Bosch has not had in the Divar range before and he says this enhanced performance means the unit is capable of supporting casino environments as well as retail, industrial and commercial sites.

"Divar is all about those pictures over there," Borg enthuses, indicating 2 monitors one of which shows the handsome DVR's delivery of live high res images while the other shows crystal playback. Strangely the playback image looks even better than the live stream.

"The reproduction is beautiful - this Divar can call back an exceptional picture," he says.

To prove his point in one screen a Dinion camera is viewing a watch set to count hundredths of a second, while another is set to playback. We watch those bits of seconds click over, clear as day - one

screen live and the other 24 hours old. Using the eye it's impossible to pick which is which.

Borg says the heart of the system is a new processor that manages DivarXF's H.264 compression - a compression algorithm that allows smaller packets of information to be stored or transmitted across a network. It's this new processor that allows the unit to deliver 4CIF at 25 frames per second on every channel, live, while at the same time delivering 4CIF at 25 frames per second on every channel in playback with playback images having a pinging clarity.

"To produce good H.264 you need a really strong processor and while many companies say they've been doing H264 for some years now, when you look at playback it's an anti-climax," Borg says.

"H.264 is the best compression only if you've got the processing power to pull back all the vectors it's capable of sampling but without that processor you can wind up with worse images using H.264 than you'd get with MPEG-4.

"Because the processor has so much grunt you don't just get brilliant images - the file sizes are 30 per cent smaller and essentially that means the unit is faster, uses less bandwidth, stores more images and costs less for an IT administrator to run."

In case I missed it earlier, Borg tells me again the new DivarXF can do display, recording, playback and network transmission backup all at the same time on every channel and in full res and at full frame rate.

"That's a brilliant capability and it's all down to the power of the new processor," he says. "If we're going to put in a processor that can handle H264, then that processor can also handle 4CIF at full frame rate on all channels and that's what you have here."

DivarXF is a clever puppy. It has all the flexible recording options you'd expect a unit like this to have, all on a camera-by-camera basis. There's





You control the system via keyboard or a mouse that plugs into the front of the unit.

Interestingly, image screens are full bleed and you call up the control bars when you need them by clicking and then put them to sleep when you're done. It's simple and it means you get the very best and biggest pictures. It's all too simple. You call up cameras, click on a res option and a frame rate and that's done. You nominate a VMD mask and that's done.

And there are profiles. Once set up you can just call up cameras and tag them as profile 1, 2, 3, 4. You just press the profile and have nothing more to do. The profile will contain res, frame rate and recording parameters like VMD or lip sync and all the rest.

It's equally simple with network setup. You wake up a tool bar, press the network button, name the DivarXF whatever you want to name it and then put the unit in discovery mode and it will tow you through basic procedures and establish itself on the network. You stow the IP address, subnet mask, DNS server IP address, MAC address, then set up your profiles, add in exceptions – it's very, very simple.

"The graphical user interface is very straightforward and it's designed to be that way. It's not meant to be elaborate," says Borg. "You click a button, choose a camera, undertake quick searches as well as date and time and event and motion searches – there's also full pan and tilt control.

"We can link an Intuikey keyboard and use it to support Pelco D and Bosch Bi-Phase. Alternatively you can use Bosch's Control Center software for complete remote management – that's all viewing and playback," he explains. "You can also configure the system over a WAN and get alarm reporting over the WAN as well."

That's not all. If the system is not to be used standalone it can instead be turned into a node and users get comprehensive central access and control using Bosch Video Management System.

"If you want to add video mapping and full redundancy, these DivarXFs can become nodes and will support the remote management system," Bosch says. "The resulting system will be seamless – you won't know the DVRs are there."

"This integration with the Bosch Video Management

System is a big deal for us," says Borg. "This VMS allows the DivarXF to become the portal to networks of DVRs or NVRs in the future.

It's this sort of integration that will predominate and it's good to know that we're already there – it's a wonderful step for Bosch."

More news on the software front is a free SDK for integration with third party systems – you get the SDK and then integrate the system with access system, alarm system or BMS – as Borg says, it's ideal for true integrators.

"The configuration tool for the application for remote configuring comes for free and DivarXF comes with an archive player as well – it's a really nice little bundle," Borg says.

"We want to make things easier for the integrators. They want to get in and out quickly and they want flexibility in all areas of setup and operation. This new DivarXF gives them flexibility and power.

"The new DivarXF is an all-rounder – it's one of those machines that won't leaving you wanting more," Borg says. "It is a solid 16-input DVR that will give you full res, full frame, on all inputs and in playback.

"DivarXF is designed for those installations where you need serious CCTV but you don't need an elaborate solution. At the same time if you need to incorporate DivarXF into a bigger solution, then you can."

"It's a rock solid little box with an eeprom-based OS, an intuitive interface and the power to actually do the heavy processing other manufacturers only claim their systems can do." ▀ ▄ ▄

#### FEATURES OF BOSCH DIVARXF INCLUDE:

- Flexible and scalable CCTV management system in an easy to use versatile design
- View, record, control cameras, handle alarms and check device status through one interface
- Real-time digital recording and playback at 25/30 IPS in CIF, 2CIF and 4CIF resolution on all channels simultaneously
- Real-time live display at 25/30 IPS in 4CIF resolution for greater detail as needed (independent of recording settings)
- Multiple control options via USB mouse, front panel and joystick keyboard
- Remote configuration and management of devices on surveillance system
- Powerful search and playback functions
- Available in 8 and 16 channel versions with a variety of hard drive capacities
- Internal storage capacity up to 3 TB
- Lip-Synchronous audio/video
- Video player with image authentication (watermarking)
- NTSC and PAL selectable video format (auto detected)
- Field replaceable hard drives, accessible via the front without uninstalling the unit from the application.