

# ENHANCED COMPRESSION



*The C-MPDVR Series from CBC (Europe) makes use of MPEG4 compression to offer enhanced recording times.*

*The DVR market-place is certainly one that does not stand still, and an increasing number of manufacturers are competing for installers' business. Will the new C-MPDVR Series from CBC (Europe) do enough to warrant your interest?*

The battle ground for entry-level DVRs is one which is fiercely contested, and manufacturers are constantly looking to add new features and functions, as well as trying to enhance the basic performance of their machines. For many, the real crux of the matter of performance comes down to compression. This not only has a serious effect on final image quality, but it also dictates how much footage can be stored on a HDD. In some applications, the emphasis will be dictated by the risk. However, in many main-stream applications, a balance has to be achieved between image quality, frame rates and storage capacities.

The issue of compression is not a simple one. There is no one hard and fast answer, and there is no one single algorithm that meets the needs of all end users and sites. If only it were that simple! Even if a specific algorithm meets the needs of an end user on paper, often theory and reality then clash! It is not so much a question of which compression engine a manufacturer uses, as to how they implement it. In recent times there has been something of a rule-of-thumb in the security industry that JPEG is the preferred algorithm for evidential video, and MPEG4 is sought to minimise bandwidth when streaming video or transmitting it to a remote location for monitoring. There will obviously be those who disagree with such a premise, and that is good, because it ensures that installers are offered choices.

There are many DVRs that – in our opinion – over-compress video to be able to boast X days' worth video on a specific HDD size. Others have battled to offer a very wide range of compression ratios and video quality settings in order to deliver good quality video, but also allowing the DVR to be configured to achieve extremely small file sizes. With higher specification machines, the emphasis is usually on image quality first and file sizes second. After all, if an end user is willing to pay for an advanced machine, the cost of additional drives will not really generate a huge price hike. However, things are not that simple at the budget end of the market, where price is often a major consideration.

## Product design

The Ganz C-MPDVR Series from CBC (Europe) finds itself somewhere between the two levels, although it probably

sites better in the mainstream entry-level DVR camp. The Series includes 4, 8 and 16 channel variants. The test unit we were looking at was the C-MPDVR04, the four channel variant.

The unit offers what CBC terms as Pentaplex performance (in that the DVR allows simultaneous recording, playback, live viewing, back-up and network connectivity). Image resolutions can either be Frame (720 x 480 pixels quoted) or CIF (352 x 240 pixels quoted). Record rates can be set at 12, 25, 50 or 100 images per second in CIF resolution, or 3, 6, 12 or 25 images per second in Frame resolution. There are also four quality settings: best, high, normal and basic.

The IPS rate allocation is a little odd. In CIF resolution the frame rate is split between all cameras equally. In Frame resolution the split can also be by group. Cameras are grouped in fours, and as this unit was a four channel DVR, it was a superfluous feature. It will make more sense on larger capacity units.

*If an end user is willing to pay for a high specification machine, the cost of additional drives will not generate a huge price hike. However, things are not that simple at the budget end of the market, where price is critical.*

In the past CBC's Ganz DVRs were based around Wavelets and M-JPEG compression algorithms, but the new series of DVRs have migrated to MPEG4 compression, preserving good image quality whilst also trying to minimise file sizes to maximise storage capacities.

The front fascia is very clean and simple, as is the rear panel, and connections are as you would expect from an entry-level DVR.





for recording. These can be set by specific day of the week, weekdays collectively, weekends collectively or as a daily repetition for all days. The third menu is the Date menu, and is self explanatory.

The advanced menu is where much of the additional functionality is set. This menu includes Camera (settings for brightness and contrast, as well as allowing cameras to be flagged as covert, and enabled or disabled for recording), Detection (setting up VMD with discriminations for time, size and elimination of global scene changes), and Display (additional information about the DVR status shown on the monitor). An Alert menu allows you to set which conditions will create a user alert, the Remote menu enables telemetry control, the System menu allows DVR housekeeping, and the Network menu allows connectivity with the supplied viewer software. Other menus are Backup for additional archiving, HDD Info and Event Log.

### Performance

The video quality at Frame resolution in the top two settings is as good as you are likely to see from most entry-level MPEG4 recorders. As the quality levels are reduced, there is a greater level of artefacting in bland areas with little or no activity. Even at the bottom two settings, the image quality is certainly usable, although with slightly more loss of tone and a slight shimmer in monotonal areas.

At the CIF setting, you are always going to be struggling, as the image is effectively being forcibly expanded to fill the screen. Pixellation is more obvious, and the lower two setting don't deliver anything that could be classed as usable unless viewed as a part of a quad display.

Otherwise, the functionality adds much of what would be required from an entry level DVR. The motion detection instructions are a bit hit and miss when describing the various settings, but you soon get the feel of what is going on as you spend a bit of time setting it up. Once configured, it does work better than the on/off types of motion detection that were prevalent on entry level DVRs (from all manufactures) until relatively recently.

Archiving is a simple task, and the network control software is easy to configure and adds to the appeal for certain applications.

### In summary

The C-MPDVR04 is a good looking machine and easy to work with. It balances simplicity with efficiency, and so long as video quality isn't sacrificed to achieve long archiving durations by using the CIF resolution extensively, the image quality is good too.

It does have one downside, and that is the remote control. Ours was a little sensitive, leading to us commonly overshooting settings we were seeking, and the magic eye approach is a bit dated! If CBC sort that out, they have a very decent entry level DVR!

### Installation

Setting up the C-MPDVR04 is a simple and straightforward process. Well, it is until you want to switch the unit on. Once powered up it goes into standby mode by default. Searching for a power button on the unit will be fruitless, as you need to use the handheld remote control unit for this. Most remotes are supplied as an extras, something of a gimmick really. However, with the C-MPDVR04, you need it!

We made the error of not reading the instructions properly, and with the batteries in the remote, nothing happened. We changed the batteries and still nothing happened. A stray lead in the box gave us a clue in a throwback to a good few years ago; the DVR has to have a hard-wired magic-eye type device connected for the remote to work. Our thinking is either have a remote as an optional control unit, but if it is essential to system operation, at least have it communicating directly with the DVR rather than via an additional device!

Once powered up, the DVR starts to behave more like a DVR. The menu structure is straightforward, and the only basic anomaly is that whilst you can start manual recording via the remote control, you can only stop it by going into the recording menu and disabling the manual recording option.

The menu structure is split into four parts. These are Recording, Timer, Date and Advanced. The Recording menu allows set-up of record modes (manual, event and schedule), resolution (Frame or CIF), image quality (Best, High, Normal and Basic), record rates and the split of images per second (fixed on the four channel unit). The Timer menu allows the setting of schedules

### SPECIFICATION

**Type:** DVR  
**Manufacturer:** CBC Europe  
**Model:** Ganz C-MPDVR04  
**Video Input:** 4  
**Video Output:** 2  
**Audio Input:** 4  
**Audio Output:** 2  
**Compression:** MPEG4  
**Resolution:** Frame (720 x 480); CIF (352 x 240)  
**Record Rate:** Frame, 50i/ps; CIF 100i/ps  
**Image Quality:** 4 levels  
**Record Mode:** Manual, Schedule, Event  
**Authentication:** Watermark  
**Operating Mode:** Pentaplex  
**VMD Sensitivity:** 4 settings  
**Backup:** DVD Writer, USB 1.1  
**Ethernet:** 10/100BaseT  
**PTZ:** Pelco-D protocol  
**Power:** 19V DC (PSU supplied)  
**Tel:** 020 8732 3300  
**www.cbceurope.co.uk**

### PSI RATINGS

|                      |           |                        |           |
|----------------------|-----------|------------------------|-----------|
| Product Design       | ■■■■■□□□□ | Instructions           | ■■■■■□□□□ |
| Build Quality        | ■■■■■□□□□ | Installer Friendliness | ■■■■■□□□□ |
| Ruggedness           | ■■■■■□□□□ | Functionality          | ■■■■■□□□□ |
| Ease of Installation | ■■■■■□□□□ | Image Quality          | ■■■■■□□□□ |
| Ease of Set-up       | ■■■■■□□□□ | Overall Performance    | ■■■■■□□□□ |