



HDC User Group Newsletter No.9

*If you don't wish to receive this letter, or you know other people who might wish to receive it, please let me know: neil.thompson@eu.sony.com
Ideas or news for future editions also gratefully received.*

This issue

- HDC-R Versions
- HXC and HSC cameras
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HDC-R Version

The main news is that a revised version of the HDC range was announced at NAB, and deliveries started in May.

These are the HDC-1xxxR models, and are priced a little higher than current models.

- All camera heads, including Supermotion will now have an 'R' at the end.
- The Supermotion CCU will also become an 'R' version. (Much of the camera processing in Supermotion is actually done at the CCU end, hence the need to upgrade the CCU.)
- All other system components remain the same.
- No software upgrade is required in other system components to work with the 'R' versions.

The 'R' version is simply a revision to the existing models. No need to worry about compatibility, or mixing and matching of existing cameras.

The main benefit is a 2dB improvement in signal to noise ratio across the range. This is mainly derived from improvements to the CCD drive circuitry.

- This is a useful and significant improvement, but will not cause any problems with integrating and matching existing cameras.
- The 'R' versions should be a little quieter. If you did want to match precisely to existing cameras in terms of noise, you could either add a little gain (remember you can now adjust gain in 0.1dB steps. 2dB would seem like the obvious choice) or alternatively you might want to set the digital noise reduction a bit higher on your existing cameras than on 'R' versions.
- No difference in gamma, colourimetry etc.
- Includes a focus assist feature that gives a bar graph indication of focus in the viewfinder.
- Also included is a chromatic aberration compensation system, that helps to reduce any colour fringing in pictures.
- New, more ergonomically shaped handle.
- There are some minor signal processing improvements, including an option for selecting different responses from the digital chrominance filtering.
- The '1400R and '1450R will have an option (cost TBC) for adding 25P. (At the moment the 1400/1450 models are 50Hz only at 1080i or 720P)

We still have some graded and ex-demo units of various models. These keep creeping out of the woodwork occasionally, as people stumble over them in a dark corner of a warehouse. May be worth a call to your account manager / dealer.

HSC /HXC

There are also two completely new camera systems, aimed at the DXC / BVP end of the market, but HD rather than SD.

These are the HSC-300 and HXC-100. Priced somewhere between the SD cameras and the HDCs, with the HSC offering more facilities than the HXC, and costing a bit more.

Deliveries have just started.

In order of price, the range now goes:

HDC-3300R

HDC-1500R / HDC-1000R / HDC-1550R

HDC-1400R / HDC-1450R

HSC-300

HXC-100

BVP-E30

DXC-D55 with triax CA/CCU

DXC-D55 with multicore CA/CCU

Supermotion

Industry standard for multiformat.

Dual format with 25P option.

HD Digital triax

HD Digital triax, fewer features

High end SD triax

SD

SD

HXC-100 and HXCU-100



You'll probably notice they look much the same. Just about the only external difference is the single filter wheel on the HXC-100, and the darker paint of the HSC-300



HSC-300 and HSCU-300



The main distinguishing feature from HDC is that these cameras work on triax, not fibre. In order to handle the bandwidth of HD, you need to either use fibre....which is a bit trickier to manage, or make some compromise to squeeze it down copper triax. Our existing triax converters use analogue transmission and bandwidth is reduced slightly. With these new cameras, the signal stays digital, and the range can be 800m to 1200m on 11mm triax, but the signal is digitally compressed to get it down the triax.

I'm afraid there are no details available as to the exact nature and bit rate of the compression....but so far it looks transparent. The latency involved is less than 1 field, which shouldn't be a problem. It's one of those things where no matter how transparent we tell you it is you'll need to look for yourself, so give us a call if you want to have a look.

These cameras will be particularly suited to small studios / education / news studios / small OB vans.

- 2/3" 3 CCD
- Multi format capability 1080/50i,59.94i 720/50p, 59.94p
- Not 24P / 25P
- Down converter output 576/50i, 480/59.94i
- Triax only. (Compressed digital data.)
- One piece.
- Use existing HDVFs and RCPs from HDC range.
- Each comes with its own CCU:
- No tripod plate supplied. Order VCT-14 or VCT-U14
- As with the HDCs, they do not come with a viewfinder.
- You'll probably need to request Lemo triax connectors if you buy any of these cameras. As usual they come with Fischer as standard.
- They will be made in Pencoed. First batch is from Japan though, and Pencoed will come on stream shortly. Always good to see UK manufacturing, and it's great to have such a local link to the factory.
- The CCUs are 1.5U high. Sounds a bit odd, but the ears have extra holes to allow them to fit in the rack, and of course it encourages you to buy them in pairs so you don't need any ½ U blanking panels...a clever marketing strategy!

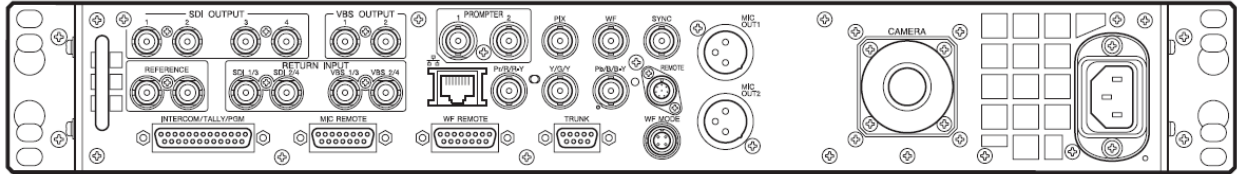
Basic Channel of HSC-300 / HXC-100

....would typically consist of the following components.

- | | |
|----------------------------------|----------------------|
| • HSC-300 or HXC-100 | Camera |
| • VCT-14 or VCT-U14 | Tripod plate |
| • HSCU-300 for HSC-300 or | Camera control unit |
| • HXCU-100 for HXC-100 | Camera control unit |
| • HDVF-200 or HDVF-20 | Monocular viewfinder |
| • HDVF-550 or HDVF-C730/920 | 5" CRT viewfinder |
| • RCP-750 or RCP-920 | Remote Control Panel |
| • CCA-5-10 | Cable for RCP |
| • Lemo connector conversion mod. | |

CCU Back Panel

Both CCUs look the same. The HSCU-300 provides some more power for longer range operation with the HSC-300, and both the prompter BNC inputs are enabled.



Differences between HSC-300 and HXC-100

Camera Head Specification	HXC-100/HXCU-100	HSC-300/HSCU-300
A/D converter	14 bit	14 bit
Smear	-135 dB	-135 dB
S/N	HD: -55dB SD: - 65dB (59.94Hz)	HD: -55dB SD: - 65dB (59.94Hz)
Filter Disc	<i>ND 1 x 4 filters. Manual</i>	ND/CC 2 x 4 filters. Servo
HDLA capability	<i>No</i>	Yes
System Specification		
Transmission	Digital Triax	Digital Triax
Multi Camera MSU Operation	<i>No</i>	Yes
Max. Transmission Distance	<i>800m (11mmφ)</i>	1200m (11mmφ)
Teleprompter channel	<i>1 ch (only VBS)</i>	2 ch (VBS or SDI)

Should I use HSC-300 or HXC-100?

- Do you want to use Sony large lens supporter? use HSC-300
- Do you need MSU networked control of cameras? use HSC-300
- Triax runs longer than 800m? (up to 1200m) use HSC-300
- Motorised twin filters essential? use HSC-300
- Otherwise.... use HXC-100

If you need more information about these cameras, please give your account manager or one of our approved dealers a call, or send me an e-mail.

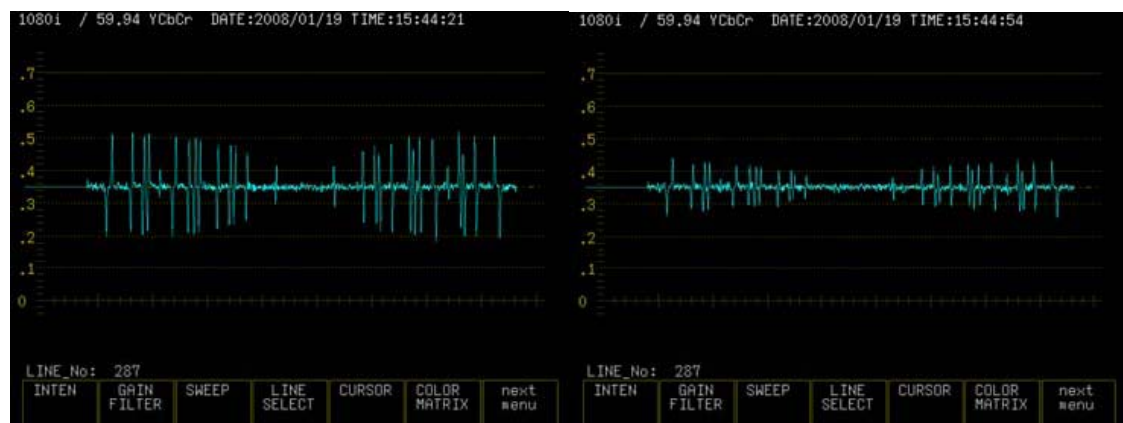
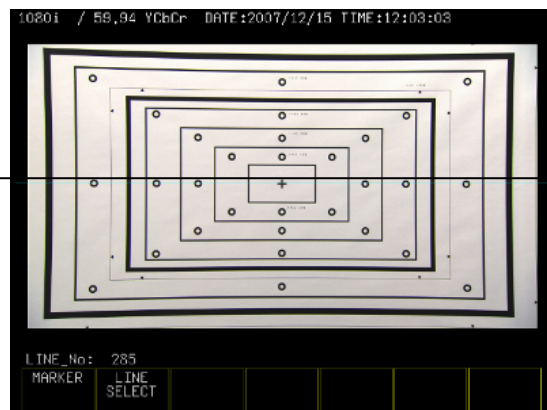
The following two features; **ALAC** and **Focus assist**, appear on the HDC-R version and the HSC / HXC cameras.

ALAC (Automatic lens aberration correction)

Lateral chromatic aberration is a well known optical error in camera systems, and will often be seen as a colour fringe on high contrast edges at edge of picture, particularly at the widest or longest end of the zoom range. It will vary slightly depending on the lens, prism block, and performance of digital filtering in the chroma channels. You can make some generic measurement of the aberration for different lenses throughout the range of focal lengths, and this information can be used to compensate for colour fringing.

It relies on serial data communication between lens and camera, and at present is only enabled on a limited range of lenses.

The example below shows a line selected and displayed on a waveform monitor filtered for chrominance only. Without and with ALAC enabled. Lens is HJ22ex7.6B 7.6mm @F4.0



Control is via page M17 of the camera menu. It's very new, and we haven't got a complete list of compatible lenses yet, but it looks like a useful feature. We'll hopefully have some more feedback in the next issue.

Focus Assist

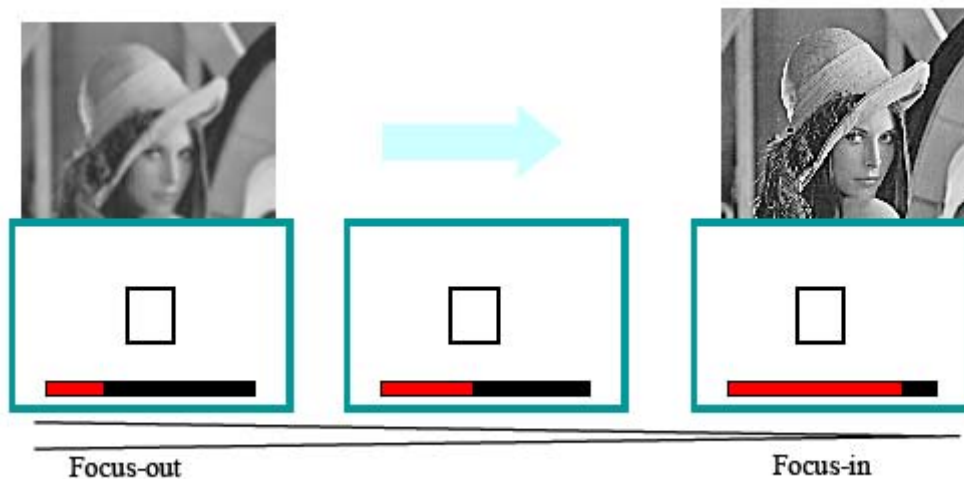
Designed to help find focus at wide angle, in low light or other difficult areas, this is a bar graph type display that can be activated in the viewfinder, and positioned at the bottom or side of the screen.

There's a target box, that can be repositioned anywhere on the screen, which indicates where the system is looking for focus.

There are gain and speed controls that set how quickly and how sensitively the bar responds.

You can choose to have a coloured bar on colour viewfinders.

There's a set up page in the operation menu.



The viewfinder detail system has also been improved, with a whole page of controls. As well as VF DTL and VF CRISP level controls you can now have:

CRISP	Eliminates the fine portions of the DTL signal.
FREQUENCY	Change the frequency area to detect sharp edges.
FAT MODE	If set to ON then it thickens the detail signal edges.
FLICKER	to display the detected areas on a B/W CRT screen.
AREA	Adjust the area where to display the DTL signal.
ZOOM LINK	Set the VF DTL level in WIDE lens position. The DTL level changes then with the zoom position.
COLOR DTL	Can have red blue or yellow VF detail if you have a colour VF
PEAK COLOR	Displays the strongest detail area by color.
CHROMA LEVEL	The saturation can be adjusted for main VF picture.

It takes a little while to set all this up to give useful results, and we'll only really know how useful these function are when you tell us how they perform in the real world...so if you get the chance to use any of this new stuff, do let us know.

By the way; focus assist and VF detail seem to be very useful when adjusting back focus.

Corrupted Files

We've seen a couple of cases recently of HDCs with some kind of corrupted files. This has meant that for some reason the RPN pixel correction hasn't worked properly. The cure was to go to the file clear menu in the camera head (page F06) and clear the reference and operator file, and run an auto level. In the cases we came across, this cured the problem.

Then you can either carry on as usual with the original factory reference file, load a known good reference file from a memory stick, or re-enter the values for your reference file manually, and run auto level again.

HDTX triax adapter

That's the silvery box thing covered in fins that sits near a fibre camera and converts it to triax.

We may have made a slight error in the design of this box by making it look as though it's made out of some indestructible alloy and would withstand a direct nuclear strike.

We're pretty sure this would not be the case, as we've already had a few reports of the internal aluminium cage that supports the circuit boards flexing and allowing movement of the boards and causing problems. We're talking to the design team about ways of strengthening it, but in the meantime, we'd be grateful if you could pass on the message that it's probably not as tough as it looks.

Contacts

www.sonybiz.net

Sony UK Technical Services Group Helpdesk:

01256 683 838

The helpdesk is the central point for contacting the Technical Services Group.

Service management:

- Andy Rosic
- Dominic Smye-Rumsby

Engineers:

- Kevin Holt
- Lee Prosser
- Giovanni Federico
- Phil Dunk

Service Contracts:

- Kate Bosworth

I'm product manager for the HDC camera systems:

Neil.Thompson@eu.sony.com

07774 142724

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Previous issues can be downloaded from www.imagemechanic.co.uk

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