



HDC User Group

Newsletter No.7

*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

- V1.20 Software
- 4:4:4 Software
- OLED Viewfinder
- CRT Viewfinder adapter
- HDVF-200
- Lineup summary
- Optical Filters
- OPEN and SHORT warning
- Beijing
- Contacts

Software Latest

There has been a recent release of camera head software for the 1500 series. V1.16 gives some useful improvements to the pixel correction system, though we haven't really shouted about this update, as there's a major new release scheduled for the end of April.

You may be aware that in the maintenance menu you can use cursors to target RPN (Residual Point Noise...duff pixels to you) and conceal them. It's not easy to be sure exactly which pixel you are aiming at, and though the system previews the effect for you before you press the 'fire' button, it's easy to get in a bit of a tangle, and store concealment data for the wrong pixel. The system will not conceal adjacent pixels, so you then can't shoot the real culprit. The new software gives you amongst other things, a 'jump' function, so you can skip through all the concealed pixels, and undo them if necessary, clearing the decks for having another shot.

V1.20

This free of charge release will offer a number of important new features:

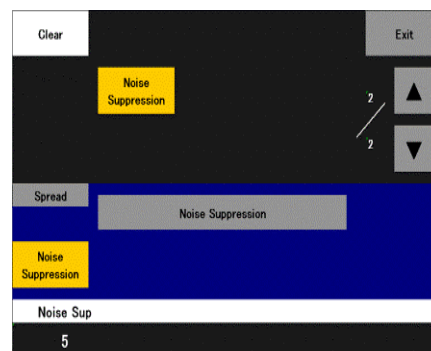
- Noise Suppression
- Master White Gain
- CCU menu control from RCP-750
- Preset Hyper Gamma (like F23/HDW-F900R)
- VF DTL Frequency
- SD Multi-Matrix Control (in CCU)
- Memory Stick PRO capable: CHU/CCU/MSU/RCP/RM
- Pixel correction improvements as in V1.16

We're hoping this software will be a simple memory stick upgrade. (We've been on courses to improve our hoping skills.) Probably best we try an install ourselves before we let you know how we'll roll it out. If there turns out to be PLD upgrades and jigs involved, there's likely to be a charge for the upgrade. Please remember though, that the software itself is free, and there are a lot of new features.

Noise suppression

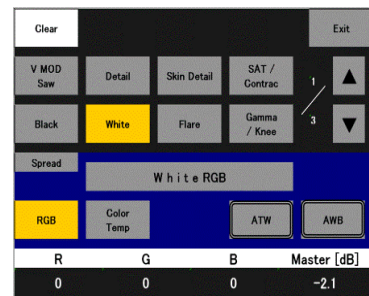
This is a digital noise reduction circuit, that will give about 6dB of S/N ratio improvement. It's a DCT based system, and it will reduce low level HF detail slightly as well as noise. You'll get a simple volume control on a new MSU page, and an extra page in the maintenance menu of the camera. We've had a look at a beta version of noise reduction, and it seems to do what it says on the tin.

Some manufacturers have been using this kind of noise reduction for a while now, but we felt it was important to have control over how and if it is used.



Master White Gain

It will be possible to increase gain in steps of 0.1dB, giving a smooth variable control.



CCU menu control from RCP-750

At present you can access the CCU menus from the MSU, as long as you have the composite video output from the CCU wired to a convenient monitor. This saves a lot of groveling about on the floor pressing toggle switches on the front of the CCU. You will also be able to do this from the RCP-750 with V1.20, including the Ethernet set-up, which is a bit tedious using the CCU menus.

The RCP-920 won't be able to do this unfortunately...no touch screen.

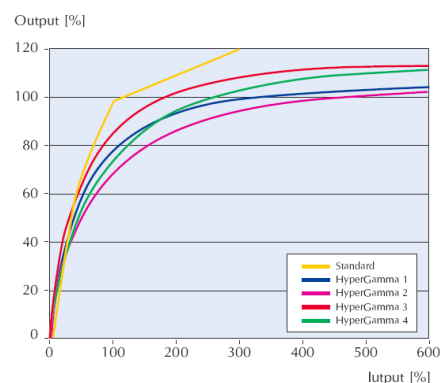
RCP-920 Ethernet Remote Control

As a consolation prize for RCP-920 owners, V1.20 will allow Ethernet control from the RCP-920 via the internet, so you can relax in your holiday villa, whilst racking the cameras at Walsall vs. Port Vale. It may be a little hit and miss, as you won't have any picture monitoring, but there must be some use for this feature.

Preset Hyper Gamma

Hypergamma curves have been available on HDCAM camcorders for some time now. They are useful for capturing a wide dynamic range, equivalent to a low contrast film stock. The knee circuit is disabled with this type of gamma curve selected, and it slopes very gently up to either 100% or 108% video depending on your choice of curve.

Your pictures will look rather flat out of the camera but it is possible to grade pictures and get a very high dynamic range. Unlikely to be of use in multi-camera live applications, but for studio drama or aerial photography this will be of interest. The T series adapter plus the 50P or 4:4:4 modes available for the '1500 series camera make it a popular choice for helicopter installation, where a 'capture everything and sort it out in post' philosophy might work well.



VF DTL Frequency

The viewfinder detail gives a 'peaking' type effect in the viewfinder. Although a lot more sophisticated than viewfinder peaking, it can still create rather coarse lines at edges. VF DTL frequency will allow you to create finer edges. All part of the continuing struggle to get viewfinders equal to the job of finding focus in HD.

SD Multi Matrix

I have mentioned in previous newsletters that we're still working on the SD matrix settings. This feature takes us a bit further down the road, with a multi-matrix now available purely for the SD output. It's still acting on an HD signal which has already had a matrix applied, but it should help if there are particular colours giving you trouble on the SD output.

(If you haven't tried the existing multi-matrix, it's surprisingly powerful, and not hard to use.)

Memory Stick PRO capable

You may have spotted it's become really difficult to find memory sticks of 128MB or less, that will work with cameras and control panels. It gets easier, as you will be able to use Memory Stick Pro via an adapter, as well as traditional memory sticks and magic gate memory sticks. Maximum capacity is increased from 128MB though not sure yet what the new maximum will be. This applies to the MSUs, HDC-1xxx, and RCP-750.



HZC-UG444

There has been some software around for a while now that enables a 4:4:4 colour sampled output via the dual link HDSDI output of the camera. This has been a chargeable upgrade. HZC-UG444 is a catchily named new version of this software that gives you:

- RGB 444 capability at frame rates up to 1080P 30 or 1080i 60
- Incorporates all the benefits of V1.20
- Properly protected by an install key (same type as used for the switcher software downloads)
- Chargeable and locked to 1 camera
- User Gamma and CVP File Editor capability. (You can create your own gamma curves, and load them into 'User Gamma' slots in the camera. E-mail me if you'd like more details.)
- HDC-1500 only.
- Available end of June, at about £3500 per camera.

Don't forget, the HDC-1500 can already use the dual link HDSDI output to deliver a 4:2:2 output at up to 50P. The 4:4:4 option allows frame rates up to 30P or 60i.

OLED Viewfinder

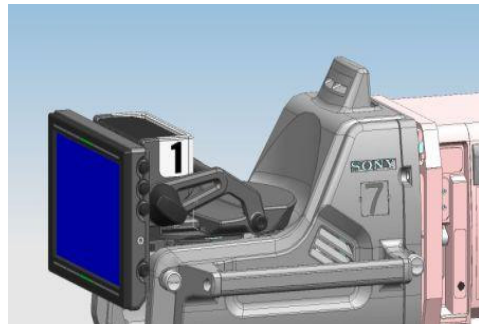
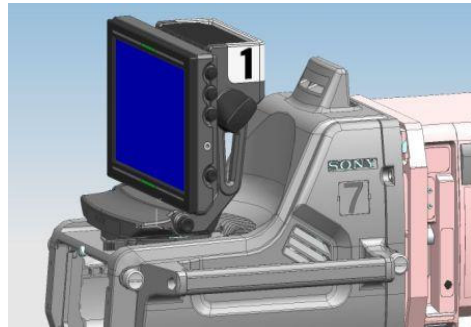
We're showing the OLED viewfinder again at NAB, and this time it has a product name and a delivery schedule. It will be called the **HDVF-EL100**, and should be available December of this year.

Just a reminder about this product. Some users have a problem with the lag and restricted angle of view inherent within all LCD viewfinders. CRTs are very hard to manufacture in sufficient volume to keep the cost manageable, and it's getting hard to manufacture CRTs that meet green regulations.

OLED (Organic Light Emitting Diode) is a new display technology that seems to be ideal for HD viewfinders. Those who have seen this type of display all seem genuinely impressed, and I don't think there's much doubt that OLED will be perfect for viewfinders....however:

As with all new technologies that have cost a huge amount to develop, volume of production is the key to keeping the price down. There's not sufficient numbers of HD viewfinders sold to justify a production line of its own, so we have to take the panel used in the consumer displays, and adapt it for broadcast use. The only panel available at the moment is an 11" diagonal, which is a bit big for our market....but it's a great looking display.

In order to support and power this large panel, you'll need an HDLA-1500 or HDLA-1507 camera cradle. Price is not confirmed yet, but it will of course be reassuringly expensive.



CRT Viewfinder Adapter

If you do wish to use the HDVF-700 CRT viewfinder, but for operational reasons, aren't able to use the HDLA cradle to support it, I have come up with a modification that allows you to mount the viewfinder directly on to the camera, and take power from a combination of the viewfinder connector and the auxiliary power connector on the rear of the camera.

This could also be used to side mount the HDVF-700 if required. e-mail me if you'd like more information.

HDVF-200

Shipping in June, this is a lower cost version of the HDVF-20 standard 2" monocular CRT viewfinder. A little less resolution, not quite as durable, about 25% lower price. Mainly pitched at the camcorder market, but it is interchangeable with the HDVF-20. Just so you know.

Lineup Summary

In the last newsletter I summarized the confusing lineup of camera cradles. In the interests of consistency, we've now expanded the camera model range to make that confusing as well. The 1400 series cameras are lower cost, with limited features, and are 50Hz only, at 720P or 1080i.

HDC-1500	Fully featured	Fibre
HDC-1550	Fully featured	Triax
HDC-1400	Limited features, 1080i 50, 720P 50 only	Fibre
HDC-1450	Limited features, 1080i 50, 720P 50 only	Triax
HDC-1000	Fully featured large body camera.	Fibre
HDC-3300	Fully featured Supermotion	Fibre

Looking at the above list, it all seems quite logical really. Just one thing to look out for...in the 60Hz world, if you buy or rent an HDC-1400 or 1450, it will be 1080i 59.94 / 720 59.94P. Same model number, but 60Hz rather than 50Hz. Stand by for confusion in Beijing.

Optical Filters

Many people have asked about putting alternative filters in the optical filter wheels in the cameras. The discs are the same in all the Sony cameras I can think of, SD and HD, cameras and camcorders.

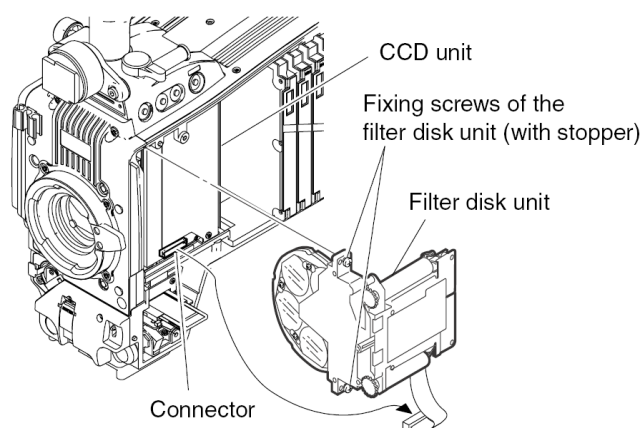
Alternative discs can be sourced from two companies:

South London Filters www.camerafilters.co.uk

Calmar filters www.calmarfilters.co.uk

Both these companies are familiar with the dimensions of Sony camera filters.

The fitting procedure varies in complexity but the HDC range is pretty straightforward, and is described in section 2-3 of maintenance manual vol 1. The discs are held in place by a screw in clip, and can be removed easily. You'll need a clean working area for changing the filters.



Fibre Cables OPEN and SHORT warning.

An oddity of the cable fault detection system has been drawn to our attention. If the black power pin in the fiber cable becomes disconnected or the wire in the cable becomes open circuit/damaged, the CCU shows both OPEN and SHORT on the front panel.

When you disconnect the cable the indication just shows OPEN , and people assume quite reasonably that the camera is faulty.

Unfortunately upon connecting another camera the problem is the same.

The assumption now is that one of the many cable runs is faulty in some way with a short circuit or wet or physical damage, but on metering the cables there is no indication of a short.

The open circuit of one of the power lines only shows up later with end to end testing.

If the white power cable in the fiber becomes open circuit the system only shows open as expected.

Unfortunately this is just the way the power and cable fault detection works at present. I have a document I can send that explains the power up sequence if you are interested. We'll see if there's any way of improving things, but please be aware of this. (Thanks to CTV for showing us this.)

Beijing

There will be a small but perfectly formed European presence in Beijing to support European broadcasters.

For the build up to the games, our very own Phil Dunk will be there, from 28th July until 11th August, when one of our colleagues from Sony France will take over.

They'll be based at the Sony Centre near to the main stadium, and for now, the best way to contact Phil in China will be e-mail phil.dunk@eu.sony.com

We'll hopefully have more details nearer the time. Phil has not been able to get accreditation yet, so will be unable to come into the venues...unless any of you who are attending have become experts at accreditation ...please e-mail Phil if you can help.

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 manager:

- Andy Rosic

Engineers:

- Kevin Holt
- Lee Prosser
- Giovanni Federico
- Dominic Smye-Rumsby
- Phil Dunk

Service Contracts:

- Kate Bosworth

I'm product manager for the HDC camera systems:

Neil.Thompson@eu.sony.com

07774 142724