



# SONY F23 CINEALTA

## FREQUENTLY ASKED QUESTIONS

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“A SPECIAL NOTE OF THANKS IS DUE TO  
JEFF CREE OF BAND PRO,  
WHOM MANY OF THE ANSWERS CONTAINED HEREIN  
WERE TAKEN DURING HIS F23 TRAINING SESSION  
AT AMV/UNITEL STUDIOS, AUGUST 2<sup>ND</sup> OF 2007.”

- TOM D'ANGELO  
AMV DIRECTOR OF RENTAL SERVICES

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# INTRODUCTION

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## WHO IS AMV?

AMV (All Mobile Video) is a thirty-two year old company built on a foundation of innovation, service and integrated resources. We are committed to technology - what is available today and what will be available in the future. We pioneer and master new ideas, like High Definition production, editorial and transmission before others even adopt them. We've built a company on the simple notion that if we are able to find solutions where others see only obstacles everything else will fall into place. We've become the best at what we do because of our ability to bring a full suite of resources – Single camera production for music videos, commercials and feature films; Multi-camera production with flypacks and world-renown OB production trucks, editorial, transmission, sound stage management, post-production, satellite transmission and equipment sales – all together in one seamless package.

## I THOUGHT AMV JUST RENTED PRODUCTION TRUCKS?

When AMV began thirty-two years ago it did so with a single camera. Despite its humble beginning the company exhibited remarkable growth. AMV now has six studios in New York (some are the largest in Manhattan) under the banners Chelsea Television Studios and AMV/Unitel. We also manage television production at the most renowned facilities in Nashville Tennessee. AMV has world-wide transmission capability including our own satellite teleport in New Jersey, editorial and duplication facilities at Chelsea Post; a Mobiles division with over twenty High and Standard definition production, editorial and transmission trucks; an Equipment Sales division and of course, the division we started with, Rentals.

Over the past ten years AMV has used its High Definition expertise to facilitate many indie features, commercial, dramatic television and music video productions. Furthermore, with over seventy high definition cameras in inventory AMV is a high definition powerhouse. Our Rental division shares the same knowledge-bank of dedicated experienced technicians and cutting edge equipment resources as our other divisions. At our Rental division you will find a boutique atmosphere where your project receives the “Mom and Pop” attention and support it deserves. Vast resources combined with a commitment to personalized service are the foundations of our success.

AMV's adoption of the Sony F23 CineAlta fits well into this heritage. Our headquarters on 26<sup>th</sup> Street are the original studios which Adolf Zukor started Famous Players Studios which later went on to become Paramount Pictures. For over ninety years film & television production has occurred at our facility. Our staff has a deep respect for our professional heritage as well as the various production genres we currently find ourselves in. Regardless of your project's format or budget, rest assured that AMV will bring to bear all its resources insuring your success.

## WHAT MAKES THE SONY F23 CINEALTA SO SPECIAL?

The Sony F23 Cinealta 4:4:4 HDCAM SR system is totally unique and a vast departure from all cameras predating this system. The ways in which the F23 are different are many. The F23 is different

- in who influenced Sony regarding the cameras design
- in the design criteria Sony applied to the product
- in the cameras functions and capability

The Sony F23 CineAlta was researched and designed over the course of a four year development program. On previous camera designs Sony has availed themselves of NHK Japan's (the predominate Japanese HD broadcaster) input regarding new designs. The F23 is the first camera designed and manufactured by Sony without influence from any broadcaster. Instead, cinematographers,

## INTRODUCTION

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DPs, DITs, camera operators and assistants were surveyed and interviewed as to what features and form factor they required in a marquee HD cinematography system. The result, the F23 is the first commercially available camera designed by Sony that was not built to a preexisting broadcast standard.

Not being bound to existing broadcast standards, the F23 design team was free to develop a purely digital cinematography camera system which could utilize the greater dynamic range, color gamut and other features now available in a state of the art imaging system.

The new camera's design criteria included 4:4:4 work-flow, cable free, using advanced processing achieving the greatest dynamic range and color space acquisition possible. Also requested were one-piece or two-piece form factors, over/under crank off-speed and speed-ramping capability. Users also wanted to be able to view the off-speed or ramped material on-set with playback from the camera without additional devices. Additionally, users requested the ability for longer takes, cable-free (some 4:4:4 systems can only record eight minutes in duration at 4:4:4, cable free). The result, the F23 represents the greatest leap forward in camera design at Sony in 30 years. With the F23, Sony has delivered a high definition camera system over thirteen stops of dynamic range, which at the same time is eight times quieter than any other high definition camera predating its release. Due to the wide-band prism system the F23 camera can operate outside of ITU color broadcast specifications. Processing in the F23 includes high quality 14-bit A to D's (in comparison the HDWF900 which is 12 bit A to D). The F23 is the first commercially available camera from Sony to offer true off-speed recording. As opposed to Sony's SR-Motion capability and unlike Panasonic Varicam DVCPROHD systems the Sony F23/SRW1 system will allow you to sample at 1 to 60 frames per second and write it to tape that way, without integrating frames, or flagging frames. Rather the F23 and HDCAM SR system actually records the data as single frame entities all with proper time code regardless of frame rate chosen. The F23 can dock to its SRW1 recorder to make a one-piece camcorder or can operate separated from its recorder. Record/take duration is over 50 minutes utilizing standard HDCAM-SR small shell (tape) cassettes (at a 23.98 base frame rate).

The F23 fits well into established post-production work-flows typical to commercial, feature-film or television production. The F23 will allow you to acquire in LOG mode, Hyper Gamma, Standard Gamma, User defined Gamma curves. These settings allow the DI and color correction team the greatest latitude in manipulating the images in post. The F23 can also acquire limited to ITU-709 broadcast specifications. These settings may be utilized when required by the post needs. Monitoring for all acquisition formats is available in a number of fashions, including color-corrected monitoring outputs from the camera head (without the need for LUTs "look-up-tables" or the green-haze typical of some other 4:4:4 systems).

The F23 is built around a three chip, 1920x1080 three 2/3" IT imager and uses a B4 lens mount. The F23's lens mount has been upgraded over previous 2/3" camera designs, now manufactured out of Invar stainless steel which has been tested to be resilient against temperature changes and back-focus issues over seventy degrees Fahrenheit.



SONY F23 CINEALTA

## THE DESIGN

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### HOW DID SONY ARRIVE AT THE DESIGN OF THE F23 CINEALTA CAMERA?

Sony consulted with cinematographers over a development period of four years as to what they would like to see in a HD cinematography camera design. The result is the current form factor and feature set of the F23 CineAlta. Since NAB 2006 when the F23 prototype was first shown, there have been three major design changes to the camera body and forty-eight modifications to the circuitry. The end result is a camera that upon initial release is very mature and stable.

### ISN'T THE F23 JUST A "BABY GENESIS?"

Although the Sony F23 CineAlta and the Panavision Genesis share a form-factor that has some similarities and both cameras can record to HDCAM SR tape format, the similarities end there. There is nothing in the imager or processing that is similar between the cameras. Furthermore the F23 contains many features that are not available on the Genesis (or any other camera system).

### WHAT TYPE OF IMAGER DOES THE SONY F23 CINEALTA HAVE?

The Sony F23 CineAlta has 2/3" 3-CCD Hyper HAD EX IT imagers. It also has a new wider band prism. The dichroics that define red, green and blue are less dense than on other camera designs. This allows wide shoulders on each of the samplings the F23 makes.

The Sony F23 CineAlta imager is so advanced that when selectable frame rates are selected the imager processor clock adjusts to eight times the normal clock speed of 74.25 MHz. When in this mode the camera also draws four more watts of power.

### WHY DID SONY STAY WITH A 3-CCD AND NOT GO TO A SINGLE PLANE IMAGER?

In developing the F23 CineAlta system, Sony determined that they could not provide the performance or feature set dictated by the camera's design criteria by using current technology single plane imagers, or by going to any other imager technology other than 3-CCD. Considering color saturation, controllability, dependability, dynamics and cost-effectiveness no other option other than the advanced IT 3-CCD imagers were possible.

By point of example regarding the capability of the F23's 3-CCD imager verses current technology 35mm sized single plane imagers, Arri D20 (among other cameras) were tested against the Sony F23 CineAlta for feature film "Speed Racer" and the D20 (with a Arri supplied technician at the controls) had to take its color saturation of the D20 up to 70% to match what the F23 can do set to zero. Considering sensitivity, repeatable dynamics of the CCD imagers, advantages of no bayer filtering or need to over sample, and (as opposed to 35mm sized single plane imagers) no need for a 12 million pixel imager to get a net 2.2 million pixel image, the F23's 3-CCD IT made a lot of sense. Because the F23 uses 3-CCD IT imagers and individual color channels that are coherent with each other, one pixel is laid over another pixel, over-sampling is not required. Therefore you do not have a bayer pattern effect. Since there is no bayer pattern effect, the F23 does not require a bayer filter to interpolate back to a single pixel color. Due to the Sony F23 CineAlta's design it will not develop a fixed pattern noise. Even the striped CCD that the Panavision Genesis uses has its own little fixed pattern issue and Panavision uses a filtering and oversampling to be able to correct for that.

## THE DESIGN

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### HOW QUIET ARE THE IMAGES IN THE F23 COMPARED TO A HDWF900?

The Sony HDWF900R is one of the quietest cameras Sony has ever produced and the F23 CineAlta is actually 3dB better than the F900R while handling much more data space.

### WHAT LENSES CAN WE USE WITH SONY F23 CINEALTA?

The Sony F23 CineAlta has a B4 lens mount. The lens mount has been upgraded over previous designs in that it is now manufactured out of Invar stainless steel making it resilient against temperature changes and the back-focus issues typical of lesser designs. The camera has been tested under 70 degree temperature changes within a single day without the need to re-back focus due to lens mount issues.

A variety of high quality B4 mount prime and cine zoom lenses are available at AMV including models from Zeiss, Fujinon and Canon.

### WHAT ABOUT PUTTING EXISTING PL MOUNT LENSES ON THE F23 CAMERA?

Currently available PL mount lenses will not work accurately with a prism based camera because the PL mount lenses are white light devices. Secondly most of the PL mount lenses available do not have enough Modulation Transfer Factor (MTF) to produce an accurate image on a High Definition imager. Thirdly the prism in a 3-CCD system is very sensitive regarding the angle at which the light is directed.

By way of comparison, B4 mount lenses have to focus two and a half times sharper than what a 35mm PL mount lens has to on a 35mm target. As such, high quality lenses manufactured specifically for the B4 mount, like Zeiss Digi-Prime and Digi-Zooms are manufactured at much higher standards and tighter tolerances than lenses from the same manufacturer need to be for 35mm applications.

As a point of interest, the B4 mount Zeiss 28mm T1.6 Digi-Zoom lens has a MTF rating of 98.6 directly off the factory line. That is pretty close to a perfect lens.

### CAN I GET THE SAME DEPTH OF FIELD WITH THE F23 COMPARED TO 35MM?

As the question is phrased above, no. However, subjectively the question should probably be rephrased as "Can I get an acceptably narrow depth of field with the F23?" and to that the answer is likely "yes." Depth of field with a 2/3" imager is manipulated in the same manner as cinematographers have done for decades. Through controlling light levels and the use of neutral density to shoot at preferred lens apertures, an acceptably narrow depth of field can be achieved. The 2/3" imager is also well suited for those situations where a deep depth of field is required.

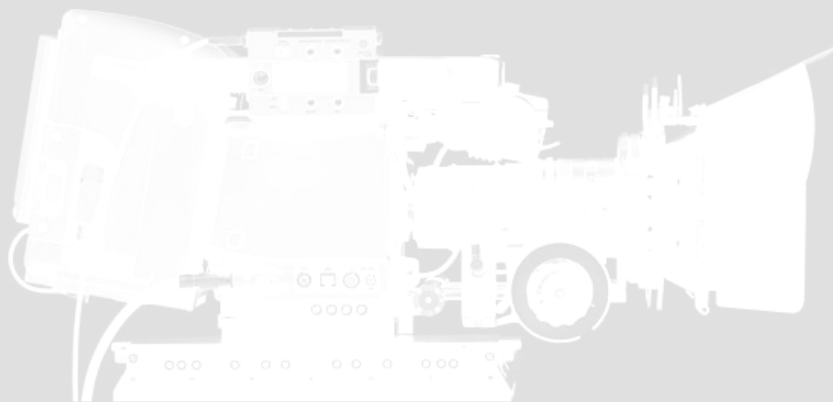
## THE DESIGN

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### IS THE F23 PRONE TO BACK-FOCUS PROBLEMS?

The lens mount on the Sony F23 CineAlta camera is manufactured out of Invar stainless steel materials making it extremely stable and resistant back-focus issues due to temperature changes. The mount is also very durable making it resistant to back focus issues due to damage. The entire front plate of the F23 camera is actually part of the chassis and manufactured out of magnesium alloy. The front plate is 4mm thicker than any other camera that Sony has previously designed. Most cameras are designed for lenses up to twelve pounds without an under-lens support. The Sony F23 B4 mount is designed for a twenty-eight pound lens without an under-lens support (although not advisable).

# AMV



# SONYF23CINEALTA

# PRODUCTION QUESTIONS

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## WHAT KIND OF SUPPORT DOES AMV PROVIDE?

For the DP who is using F23 for the first time AMV has many tools available to assist you in navigating this new technology and assist you in using the F23 to produce the product you wish.

We offer the assistance of our Account Executives, a group of very experienced professionals with years of High Definition experience under various disciplines. AMV was the first rental company to adopt the F23 in the eastern United States. As a result of using the camera since July of 2007 we have gained a wealth of experience that you can benefit from.

The Account Executives can also call upon AMV's world-renowned engineering staff from various divisions assisting you with consultation in preparation for your project. As AMV also owns post-production, duplication and standards conversion facilities, we are uniquely qualified to bring a wide range of disciplines to bear from our on-staff human resources.

Lastly, AMV works with a pool of highly trained freelance DITs whom we partner with as a team in supporting your project.

## DOES USING A F23 ALWAYS REQUIRE A DIT? CAN'T I JUST OPERATE THE F23 "AS A FILM STOCK"?

AMV encourages the use of DITs subject to the needs and budget of a production. Using a DIT is often the most cost-effective way to achieve the look a production is seeking while having someone with expertise in a particular camera system on-set.

Sony designed the F23 system to be unique in that you can operate it in two different modes. The F23 was designed to work in either of these environments as effectively as the other.

In **CUSTOM mode** (with a skilled DIT or operator experienced with the camera system) you can adjust every item within the camera set-up. CUSTOM mode allows file storage of all camera parameters, reference file modification, scene file modification, loading of custom gamma curves, etc. Additionally in CUSTOM mode you can select whether the camera is operating in extended dynamic range or not and whether you the camera records in wide or ITU color space.

The Sony F23 also offers **CINE mode**. CINE mode locks down everything to preset values, it even has its own reference file within the camera which is not adjustable. In Cine mode you can change the gamma transfer curve. So if you are a film cameraman and used to working with various stocks you can address the Sony F23 camera in Cine mode in the same manner. CINE mode offers predetermined parameters that will not get you in trouble, a neutral setting recording the greatest data rate with intended manipulation in post. In CINE mode you are recording RAW data but it in a corrected LOG curve. In CINE mode you can chose between standard or wide color gamuts, however CINE mode always operates in extended dynamic range.

## CAN I INTERCUT SONY F23 CINEALTA FOOTAGE WITH FILM?

Yes you can. AMV recommends that you shoot tests with the emulsion you are planning to use and work with your post house to develop your strategy for handling the two formats.

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### **IS THE F23 SIGNAL COMPRESSED BEFORE IT HITS THE PROCESSOR?**

No. Unlike most 4:4:4 camera system designs the F23 processor is capable of handling the 700% extended dynamic range and wide color gamut without compression before entering the processor.

### **CONSIDERING THE DYNAMIC RANGE OF THIS CAMERA, HOW MUCH HIGHLIGHT DETAIL CAN I RETAIN?**

The Sony F23 CineAlta camera using a standard ITU curve will be limited to 9.5 - 10 stops total dynamic range. With Hyper Gamma 3 or 4 curves the Sony F23 will perform at 12.5 stops. In LOG mode it is possible to go beyond 12.5 stops latitude.

### **WHAT IS THE ADVANTAGE OF THE NEW WIDE BAND PRISM IN THE F23?**

Color Space. The new wide band prism provides color space capability deriving colors that would otherwise not be able to be produced or recorded with other camera designs. As an example, even when viewing the F23 camera with a 4:2:2 output you will notice that a color/chip chart will show correctly with the purple displaying as purple instead of blue.

### **IS VISIBLE DUST ON THE SENSOR AN ISSUE WITH THE SONY F23?**

For large-format single-chip cameras like the Panavision Genesis, Arri D21, Phantom, Dalsa and Sony F35 dust can be a serious problem. This because unlike a film camera when dust lands on a HD sensor it isn't whisked away by the movement of the film. 2/3" 3-CCD designs like the Sony F23 CineAlta and the Thomson Viper are less susceptible to these visible dust issues. Nonetheless camera assistants should be vigilant about keeping the camera free of dust.

### **WHAT ABOUT WORKING IN HEAT, COLD AND RAIN?**

The lens B4 lens mount on the Sony F23 camera is manufactured out of Invar stainless steel material making it extremely stable and resistant back-focus issues due to temperature changes. It is also very durable making the mount resistant to back focus issues due to damage. The entire front plate of the F23 camera is now part of the chassis and manufactured out of magnesium allow. This front plate is a total of 4mm thicker in the than any other camera that Sony has previously designed.

### **WHAT ABOUT TAKING THE CAMERA DIRECTLY FROM HEAT TO COLD OR VICE VERSA?**

Use the same rules that you would follow with a film camera. Avoid condensation by keeping the camera in the environment it will be working in, and don't subject it to sudden temperature shifts.

### **HOW STEADY-CAM FRIENDLY IS THE SONY F23 CINEALTA?**

AMV can supply options to power the Sony F23 off a single Anton Bauer Hytron 140 battery mounted on top of the camera. In a camcorder configuration this offers approximately 40 minutes of operation time before a battery change. Additionally the F23 offers a VBS output so a Steadycam can monitor the F23 output or feed a wireless monitoring link without use of external down conversion. The F23 is the first commercially available camera system allowing 4:4:4 acquisition without any cables,

## PRODUCTION QUESTIONS

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recording for a duration of greater than eight minutes (the limitation of the Thomson Viper with a Venom pack). The Sony F23 can record (in this configuration) for 40-45 minutes before a battery or tape change.

Unlike those cameras which require external down conversion (for Steadycam, wireless monitoring transmission, or Jibs) the Sony F23 does not have the five-frame video delay associated with other cameras and their down conversion. The delay associated with the down converter internal to the F23 on the VBS output is a mere 1 frame.

Additionally, for low mode work the camera can be mounted right side up or inverted. When inverted, the image can be electronically flipped without quality loss. This capability allows can potentially reduce the time required to go from normal to low-mode shooting.

Based on all the factors above we consider the F23 very Steadycam friendly.

*Note: if attempting to power the Sony F23 from the Steadycam sled, be advised that the internal power cabling on older Steadycams is insufficient regarding gauge to power the F23. Typical power drawer with typical accessories, without the SRW1 docked is 110-120 watts. With the SRW1 docked is 140-160 watts.*

### WHAT ABOUT SHOOTING ON CAR MOUNTS OR IN AIRPLANES?

The Sony F23 CineAlta mounts just like any film camera but in many cases it's even easier to work with than a film body because the SRW1 recorder can be separated from the camera body.

### WHY DID SONY DESIGN THE F23 CINEALTA TO RECORD ON VIDEOTAPE?

The HDCAM SR tape format has a proven track record in the extremes of temperature, humidity and mechanical shock that are commonplace in today's productions. Additionally the 50 minute duration (at 1080/23.98p SQ mode) allows for lengthy takes and rapid reloads. Feature films require hundreds of terabytes of data and videotape offers a very practical way to protect all your footage for the future. The Sony HDCAM SR format is also widely supported in nearly every market at higher-end post production facilities.

### WHAT TYPE OF TAPE STOCK SHOULD I BUY?

AMV recommends Sony BCT-40SR stock. Average cost is about \$90.00 per tape.

### WHAT IS THE RECORDING TIME FOR A STANDARD CASSETTE?

At 1080/23.98p frames per second in standard SQ mode, the SRW1 records 50 minutes per cassette. Just as with a film camera, you get more or less recording time at lower or higher speeds. At the top speed of 60 fps in HQ mode the cassette recording time is halved (totaling approximately 20 minutes).

### CAN THE SONY F23 RECORD DIRECTLY TO A TAPELESS RECORDING SYSTEM?

Yes. Codex (see <http://www.codexdigital.com>) and S.Two (see <http://www.stwo-corp.com>) as well as others make tapeless recording systems that have been used with the F23.

## OPERATOR/DP & CAMERA DEPT.

### **I'VE NEVER SHOT HD, HOW DIFFICULT WILL THE SONY F23 BE FOR ME TO USE?**

There are many modes in which the Sony F23 CineAlta can be used. In "CINE" mode F23 is extremely friendly for cinematographers new to HD as you can treat the camera just as you would a new film stock, learn its capability and exploit it to the fullest. All of the settings in CINE mode are designed to offer you stunning images with minimal in-camera on-set manipulation while still offering your post-production staff the handles they require to maximize adjustment of the images in post.

The F23 CineAlta camera's form factor is similar to the Arri 435/535 35 mm cameras and will work well with all Arri accessories and within the established practices of film crews. Camera assistants familiar with film will find the similar follow-focus, matte-box, filters and heads to that which they already use for 35 mm. Additionally the Sony SRW1 HDCAM SR recorder is mounted like a film mag either above or behind the camera.

### **IS THERE ANY FUNCTIONALITY ADVANTAGE OR DISADVANTAGE TO HAVING THE CAMERA AND SRW TRANSPORT DOCKED OR SEPARATE?**

True frame for frame Over/Under crank and speed ramping capability of the F23 require the SRW1 to be docked to the camera. A different method of off speed production, called "SR Motion" is possible with the SRW1 separate from the F23 camera.

### **HOW DO I SHOOT FOR ANAMORPHIC RELEASE WITH THE SONY F23 CINEALTA?**

Sony F23 does not use film anamorphic lenses to arrive at a 2:40 output. Instead typical anamorphic release is achieved by extracting a 2.40 frame from the standard HD 16x9 1.78:1 image.

Another option for 2.35:1 anamorphic production is the Canon ACV-235 anamorphic converter. This device fits between the B4 mount cine HD lens and the camera, allowing CinemaScope® size (aspect ratio 2.35:1) images to be recorded. This is achieved by optically compressing the CinemaScope® image within the AVC-235 to a standard HD aspect ratio of 16:9 (1.78:1) at the camera's imager.

### **CAN I USE REGULAR FILTERS WITH THE F23?**

We recommend that you test the in front of the lens optical filters you are planning to use to see their results. However yes, filters can be used as you normally do however their effects may be slightly different then what you are accustomed to when shooting film. You can see and judge the results directly on a HD monitor with high accuracy.

### **WHAT ABOUT REAR MOUNTED NETS?**

You can use rear mounted nets on the lens as normal.

### **DO I NEED TO WHITE BALANCE THE SONY F23 CINEALTA?**

Under most applications a typical white balance shooting a white card is not done with the Sony F23 CineAlta.

## OPERATOR/DP & CAMERA DEPT.

### WHAT COLOR TEMPERATURE CORRECTION IS AVAILABLE IN CAMERA?

3200	Clear
4300	Optical Filter
5600	Electronic or Internal Optical Filter
6300	Optical Filter

Indica- tion	Selected filter	Indica- tion	Selected filter
ND: 1	CLEAR	CC: A	3200K (Clear)
ND: 2	ND0.6 (1/4 ND)	CC: B	4300K
ND: 3	ND1.2 (1/16 ND)	CC: C	5600K
ND: 4	ND1.8 (1/64 ND)	CC: D	6300K
ND: 5	CAP	CC: E	ND0.3 (1/2 ND)

### WHAT ND IS AVAILABLE IN CAMERA?

0.6, 1.2, 1.8 and a 0.3 in the second filter wheel, stackable with the NDs in the first wheel. This allows up to seven stops of ND, in one stop increments.

### WHAT IS THE INTERNAL FILTER SYSTEM?

There are two, five position optical filter wheels internal to the camera, however no knob external to the camera to change internal filter settings. Internal filter setting changes are all motorized and controllable from the EL panel or assigned to Assignable Buttons on the camera. ND can be adjusted internally in one-stop increments up to seven stops of ND (thanks to a internal .3 ND filter in the second internal "color" wheel allowing stacking).

### IS THERE A DISADVANTAGE TO USING THE ELECTRONIC D5600 (TUNGSTEN) CAMERA SETTING?

On other camera systems electronic 5600 is typically hampered due to the other inferior camera designs' propensity to capping out the blue channel. The F23 is greatly improved in this regard due to the bandwidth of the processor being two times greater than the bandwidth requirement. Another advantage of using the electronic 5600 setting is that you will not lose the 2/3rd of a stop of using an optical filter (although this can also be a disadvantage if you are attempting to lose stops).

### IS THERE THEN NO BENEFIT TO USING AN OPTICAL 85 FILTER?

There is no benefit to using an optical 85 filter unless you are attempting to lose stops. Using the electronic 5600 has the advantage of the two filter wheels being stacked for ND allowing one-stop increments of ND up to seven stops.

### WHAT ASA DIFFERENCES ARE THERE BETWEEN TUNGSTEN AND DAYLIGHT BALANCES?

If electronic color temperature adjustment is used, then no. If you use the internal optical filter then you accept the same filter factor as having a filter in front of the camera.

## OPERATOR/DP & CAMERA DEPT.

### **WHAT ASA RATING DOES THE CAMERA PERFORM AT?**

At Normal dynamic range the camera is rated at 400 ASA. At Extended dynamic range the camera is 530 ASA (both subject to being in Tungsten or electronic Daylight CC). Crew members unfamiliar with the F23's dynamic range can easily miss-rate the camera due the F23's camera ability to see well into the blacks while simultaneously maintaining highlight detail.

### **WHEN SETTING UP THE CAMERA, WHAT ARE THE FIRST DECISIONS TO BE MADE?**

- 1) What control mode your wish to work in: Cine or Custom
- 2) What dynamic range (600% or 700%)
- 3) What color space: wide band or F900 (aka ITU)

### **IF I AM FAMILIAR WITH A F900 AND F950 MENU STRUCTURE, HOW DIFFERENT ARE THE F23 MENUS?**

The biggest difference in menus is the routing of monitoring which is totally different and expanded on the F23 compared to other cameras.

### **DO I HAVE TO LEARN A LOT OF MENUS TO USE THE F23 CINEALTA?**

The Sony F23 CineAlta system is extremely flexible. Depending on how you are using the camera and which mode you are shooting in many of the menus may be set during prep and never again touched. In other modes and subject to your requirements manipulation of the camera is necessary either through menus, the F23 EL panel, a remote paint box or other camera control system.

### **DO I NEED A WAVEFORM MONITOR?**

Some DPs swear by them, some use only a light meter and some want the benefits of both. The answer will ultimately depend on how you are using the camera and what the needs of your crew and production are.

### **WHAT KIND OF FIELD MAINTENANCE WILL I HAVE TO DO?**

There is very little field maintenance to be done on the Sony F23 CineAlta beyond normal Camera Department cleaning.



SONYF23CINEALTA

## OPERATOR/DP & CAMERA DEPT.

### DOES THE F23 SUPPORT LOOK UP TABLES (LUTs)?

Work flow in this regard can be handled in one of two ways:

- 1) The Sony F23 in extended dynamic range and wide color gamut offers the ability to record an “uncorrected” wide band signal. It is possible to use external devices and monitors supporting Look Up Tables with the F23 similar to as one would with other competing 4:4:4 camera systems.
- 2) The Sony F23 has the ability to simultaneously adjust its monitoring output in 4:2:2 or VBS offering a color corrected ITU compliant output. This mode of working can offer LUT-free workflow while supplying an acceptable monitoring output free of the green haze typically associated with other camera systems.

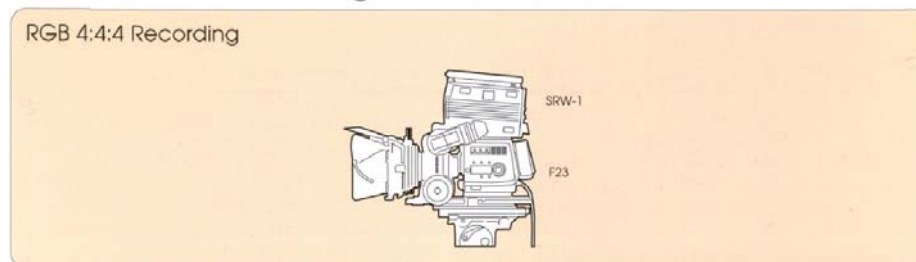
### WHAT MONITORING OUTPUTS CAN THE “COLOR CORRECTED” ITU709 CURVE BE ASSIGNED TO?

- 1) Viewfinder
- 2) 4:2:2 monitor output
- 3) VBS

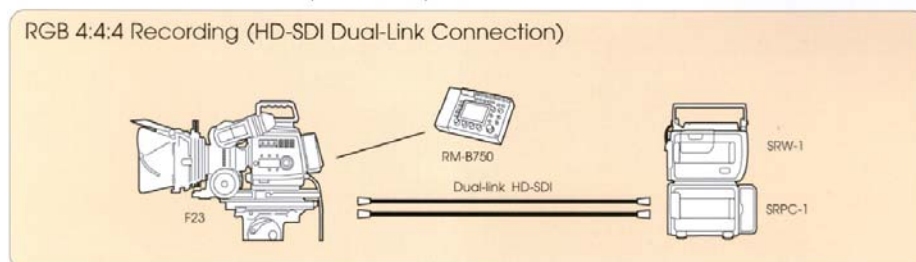
... all independent of one another.

### IN WHAT SYSTEM CONFIGURATIONS ARE 4:4:4 RECORDING POSSIBLE?

#### F23 + SRW-1 Direct Docking

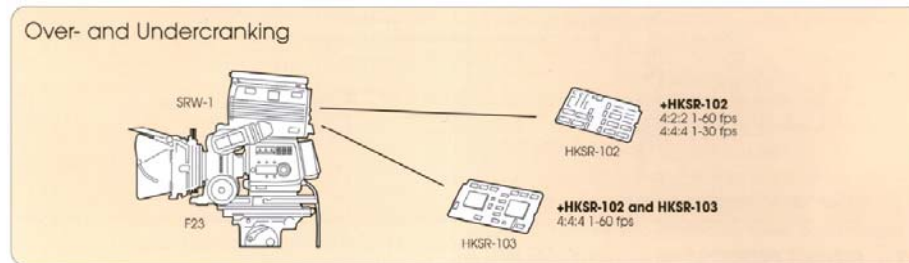


#### F23 + SRW-1/SRPC-1 Separate System



## OPERATOR/DP & CAMERA DEPT.

### IN WHAT SYSTEM CONFIGURATIONS ARE OVER/UNDER CRANKING POSSIBLE?



### IS OVER/UNDER CRANK AVAILABLE IN THE CURRENT SOFTWARE RELEASE?

Yes, as of December 2007 all of AMV's Sony F23 camera support 4:2:2 or 4:4:4 over/under crank available from one to sixty frames progressive.

### WHAT SHOULD A CAMERA ASSISTANT KNOW ABOUT HOW THE F23 SHOOTS OFF-SPEED?

The F23 camera contains a buffer that the images are written to. If you want to under crank you begin by picking a base frame rate, for example: 23.98 selectable, which allows you to select from 1 fps to 23.98 fps. All data needs to be written to tape however at 23.98 time code. When under cranking the F23 does not need to have the transport running because the F23 records the frames to a buffer first and as the buffer gets filled the camera will write continuous frames to tape only as needed (so flag frames are not needed), with the correct time code. The F23 system results in not having extra frames. The camera is sampling at the actual rate the image was captured at, so the tape is sampled the same way. Record run time code is required when you go into variable speed. Time of day cannot be used in this during off-speed work. The SRW1 transport decides what time code to write when the information is received from the buffer, not when the image is captured.

### HOW MANY FRAMES CAN THE CAMERA'S BUFFER HOLD?

700.

### IS SPEED RAMPING AVAILABLE IN THE CURRENT SOFTWARE RELEASE?

Yes, as of December 2007 all of AMV's Sony F23 camera support 4:2:2 or 4:4:4 speed ramping from one to sixty frames progressive.

### HOW DOES THE F23 CAMERA ADJUST FOR EXPOSURE DURING A SPEED RAMP?

By shutter angle compensation, gain compensation, or both, user selectable.

### DOES THE SONY F23 SUPPORT SR MOTION PRODUCTION TECHNIQUES?

Yes, SR Motion can be used.

## OPERATOR/DP & CAMERA DEPT.

### **WHAT SHUTTER ANGLES AVAILABLE ON THE F23?**

Sony F23 CineAlta's shutter can be set at any angle between 4.2 and 360 degrees.

### **WHAT IS THE EFFECT OF SHOOTING WITH A 360 DEGREE SHUTTER?**

At 360 degrees (or "Shutter Off") the exposure time is twice as long as it is at 180 degrees. Therefore the 360 degree shutter captures more motion blur and more light than 180 degrees. You can use the shutter for artistic effect or to gain an additional stop of exposure, or both.

### **DOES THE F23 OFFER AN OPTICAL VIEWFINDER?**

Optical viewfinders are only capable of displaying what the lens sees, not what the camera is recording. The Sony F23 CineAlta operator viewfinder is electronic. Instead of the older style 2" electronic panels which provided about 600 lines of resolution, the F23 viewfinder (Sony HDVFC35) is a 3.5" electronic panel which provides a 1280x768 image. You can magnify (five positions starting in the center and then going to the four corners) and see a higher resolution than a pixel based display to see fine focus. The viewfinder can function in standard and "flip-out" direct view modes. The rotary knobs on the front of the viewfinder can also be disabled (via the preset files) preventing someone from changing the viewfinder settings accidentally.

### **CAN I ADJUST THE CHROMA LEVELS OF THE ELECTRONIC VIEWFINDER?**

One of the complaints of other electronic viewfinder designs was that you couldn't adjust the chroma levels. The Sony F23 CineAlta camera has a viewfinder preset menu allowing you to preset the viewfinders functions including chroma. The rotary knobs on the front of the viewfinder can also be disabled (via the preset files) preventing someone from changing the viewfinder settings accidentally.

### **CAN I USE VIEWFINDERS OTHER THAN THE HDVFC35?**

Sony's HDVF20 black & white and HDVFC30 color viewfinder all work with the F23 camera.

### **CAN THE F23 SUPPORT MORE THAN ONE VIEWFINDER SIMULTANEOUSLY?**

Yes, there are two viewfinder ports available on the front of the camera. AMV's typical set-up configuration is the Sony HDVFC35 viewfinder on the operator side of the camera and the Sony HDVFC730 7" HD LCD viewfinder on an Israeli arm on the Assistant side of the camera. This allows viewfinder nomenclature to be programmed to either or both viewfinders independently.

For example, you may wish for menus to not appear on the operators' side, but only to appear on the Assistants viewfinder. Or, you can have playback on the assistant's viewfinder and not have playback on the Operator's viewfinder. Or, you can set the Operators viewfinders to only see markers and the Assistants viewfinder sees all nomenclature. *Note: The Assistant's viewfinder is the one place you cannot turn off menus.*

Use of the Sony HDVFC730 7" HD LCD viewfinder instead of a Astro or similar typical 3rd party camera assistant monitor has the added advantage of power for the camera assistants monitor

(viewfinder) coming directly through the viewfinder port (as opposed to externally as one would have to on a Astro). The F23 does not require use of the Sony HDVFC730 7" HD LCD as the camera assistant

## **OPERATOR/DP & CAMERA DEPT.**

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viewfinder. Any HDSI Israeli arm mountable monitor can be used as done with other cameras, however you lose the ability to drive the Assistants monitor and nomenclature from the 2nd viewfinder menu system (unless an optional Sony 37" viewfinder port to HDSI cable is provided).

### **DOES THE F23 CAMERA HAVE THE ABILITY TO PROVIDE CLEAN AND DIRTY FEEDS?**

The only camera outputs that are always clean (without framing lines or other nomenclature) are the outputs on the Adapter Box (mounted to the camera). All outputs on the back of the camera are selectable, clean or dirty.

### **SOME OTHER 4:4:4 CAMERAS REQUIRE A HUGE BLOCK BATTERY, WHAT ARE THE POWERING OPTIONS FOR THE SONY F23?**

AMV is currently supplying the following power options:

- 1) The camera (in stand-alone or camcorder docked configurations) can be powered off a single Anton Bauer Hytron 140 battery, mounted on top of the camera. In a camcorder configuration this offers approximately 40 minutes of operation time before a battery change. This configuration has been used successfully in Steadycam and Handheld configurations.
- 2) For dolly or tripod work (without AC power) AMV has Quad Battery Holders which allow the F23 to draw from two Anton Bauer Hytron 140 batteries simultaneously with an automatic change over to a second set of two Anton Bauer Hytron 140 batteries when the first pair is depleted. This automatic change-over capability allows limitless duration providing that a fresh set of Hytron 140 batteries are replenished on the Quad Battery Holder every hour-and-a-half to three hours.
- 3) For AC powering AMV is currently providing three 100W AC to DC power supplies in a Pelican case with a specially designed cable that has 3- 4pin XLRs to 8pin Lemo. This same cable is used for the Quad Battery Holder simplifying cabling between powering systems. Additionally AMV is currently looking into medical grade AC to 12V/24V DC power supplies.

The Sony F23 will take 12v and 24v input, but it only operates on 12v. 24v input to the camera is just for 24v accessories.

With an board monitor, SRW1 transport, a Cmotion or FIZ, CineTape, the camera will draw between 140w-160w at 12 volts. Typical power drawer with typical accessories, but without the SRW1 docked is 110-120 watts.

### **HOW LONG OF A POWER CABLE CAN BE USED?**

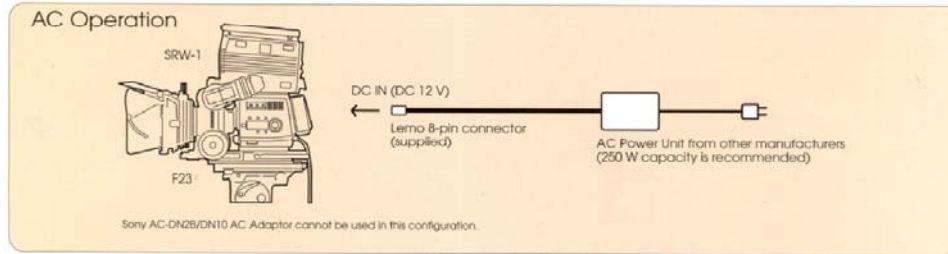
That depends on gauge of the cable being run. It is possible to run 45 feet on 4/16 gauge cable (subject to the quality and strand count of the cable).

### **WHAT IS THE CUT-OFF VOLTAGE FOR THE CAMERA?**

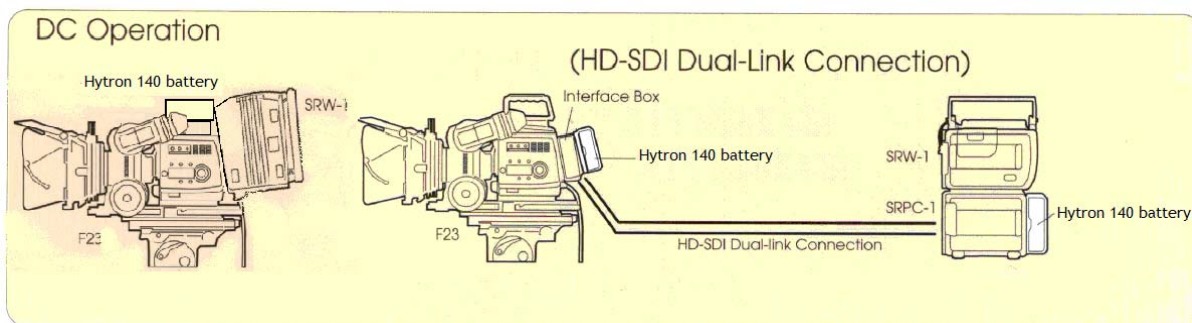
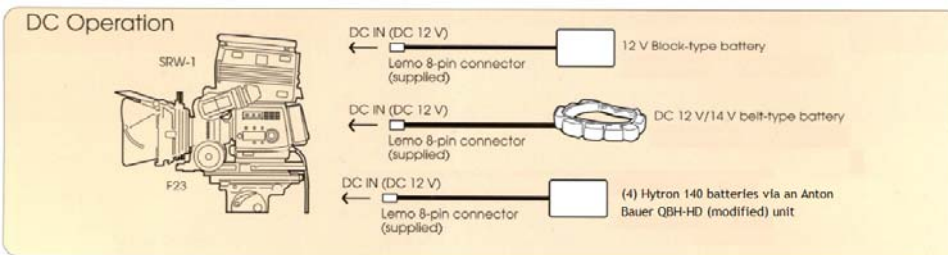
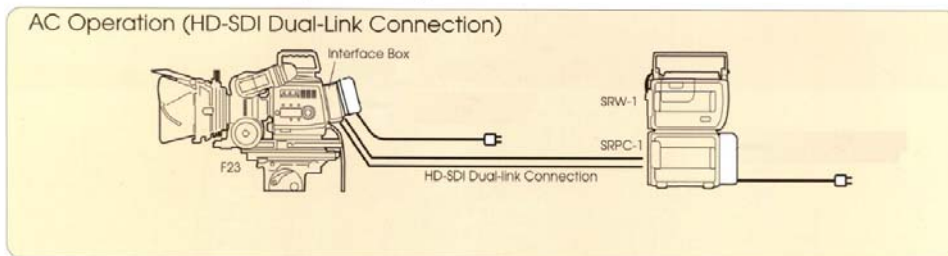
Lowest voltage for the camera is 10.8 volts.

# OPERATOR/DP & CAMERA DEPT.

## ILLUSTRATED POWERING OPTIONS:



## F23 + SRW-1/SRPC-1 Separate System



## CAN I SEPARATE THE CAMERA AND THE RECORDER FOR TWO-PIECE OPERATION?

The Sony F23 CineAlta can operate as a camcorder or two-piece modes. As a camcorder, the SRW1 dockable recorder can be mounted on top or behind the camera body. In a two-piece application the SRW1 deck is away and tethered to the camera via dual-link HDSDI cables. The Sony SRPC1 processor must be used with the SRW1 recorder when the DRW1 is not docked to the camera. In this configuration you gain the capability of recording AES audio. In total 12 channels of AES and Analog

audio is available. Video monitoring is 4:2:2, 4:4:4 HD with downconvert to VBS (in centercut, or squeeze, no letterbox is available).

## **OPERATOR/DP & CAMERA DEPT.**

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### **CAN I MOUNT THE RECORDER TO THE CAMERA FOR ONE-PIECE CAMCORDER OPERATION?**

The Sony F23 CineAlta can operate as a camcorder or in two-piece configuration. In a camcorder configuration you can record four channels of 24bit audio. Two channels analog. Two channels embedded. Video monitoring is VBS, 4:2:2 and 4:4:4 HD with downconvert to SDI as well (in letterbox, centercut, or squeeze).

### **WILL A PRESTON WORK WITH THE SONY F23 CINEALTA?**

Yes.

### **WHAT ABOUT OTHER ACCESSORIES, CAN I POWER THEM AS USUAL?**

The Sony F23 was designed ergonomically and functionally. Regarding accessories it is similar to an Arri 435/535 camera. There is an 11-pin Lemo/Fisher on the F23 head for auxiliary power. The F23 also has a 3-pin Fisher that provides power for 24v accessories (which is active only if 24v is fed into the camera).

*Note: these outputs do have fusible links. The current limitations must be adhered to (which are 4 and 5.5 amps). If these fuses are blown as a result of over-draw, replacement is not user serviceable and it costs about \$700 to have them changed at an authorized service facility.*

### **WHAT ARE THE CONTROL INTERFACES ARE AVAILABLE TO ADJUST THE CAMERAS PARAMETERS?**

There is a menu system and the camera has a "E.L." panel.

The menu system is similar in structure to that of a Sony HDWF900, however greatly expanded. If an operator or AC is used to Sony's HDWF900 menu structure the Sony F23 menu structure will not be alien to them.

In Cine mode, once you have established what frame rates you want to have available to you on the EL panel, what shutter rates you want to have available in stepped shutter mode, and what gamma curve you are going to work on, all functions other functions can be controlled from the EL panel.

The EL panel exists in two (or potentially more) places: It is built into the operator side of the camera and is also available on a tethered Assistant Remote Panel. More than one tethered Assistant Remote Panel can be daisy chained.

### **WHAT DO THE BUTTONS ON THE EL PANEL DO?**

The bottom two buttons control the EL Panel. The top two buttons control the menu. The rotary knob manipulates settings.

Among other things the following functions can be manipulated from the EL panel: Frame rate, filter wheel, shutter angle, shutter angle compensation, gain compensation, brightness of the EL panel, Assignable buttons and menus on/off for various outputs. You can keep track of the fan mode and

## OPERATOR/DP & CAMERA DEPT.

camera voltages. If the SRW1 is attached to the camera you can view time code on the on the EL panel, tape remaining and call up any of thirty-two lens files.

### **WHAT IF I AM AFRAID OF ACCIDENTALLY HITTING A BUTTON ON THE EL PANEL?**

Functions of the Camera Operator's EL Panel and/or Camera Assistant's EL panel can be disabled.

### **WHAT IS THE MAXIMUM LENGTH OF THE TETHERED CAMERA ASSISTANT'S PANEL?**

15 meters. The standard cable is about two meters.

### **HOW MANY ASSIGNABLE BUTTONS ARE THERE ON THE CAMERA?**

Four. Three near the top of the camera. One near the EL Panel.

### **WHAT FUNCTIONS CAN BE ALLOCATED TO ASSIGNABLE BUTTONS 1-3?**

ND & CC Filter, Record Review, Playback to Viewfinder, ITU709 gamma to viewfinder, ITU709 to monitor output, Fan Mode or Nothing (Off).

### **WHAT FUNCTIONS CAN BE ALLOCATED TO ASSIGNABLE BUTTONS 4?**

Automatic White Balance, Color Bar Indication, Test Signal output or Nothing (Off).

### **WHAT OPTIONS ARE USER STORABLE?**

There are twenty-one pages in the standard user menus that come up when you turn on the camera. They have mostly the set-up functions regarding monitoring, gamma curves, shutter control, frame rate control, battery read-outs and alarms. These are the only files that are storable if I am in CINE mode.

In CUSTOM mode all settings are storable.

If that is not enough the F23 will also allow users to create their own pages and menus (off of existing menu items).

### **HOW CAN I BE SURE THE SCENE WAS RECORDED PROPERLY?**

By assigning "Record Review" to one of the Assignable buttons you can safely play back the last three to ten seconds of your recording. If playing back without using Record Review on the set there is always a danger of recording over your "original negative" or of creating a time code discontinuity.

## OPERATOR/DP & CAMERA DEPT.

### **DOES THE RECORDER CURRENTLY OFFER AN INTERVALOMETER MODE?**

Yes, the F23 camera Sony SRW1 transport can be used in SR Motion mode to capture in interval recording.

### **CAN I GET METADATA OFF THE CAMERA?**

Yes, a RS232 is provided on the camera head.

### **HOW DO I DEAL WITH HMI LIGHTS AT EITHER 50 OR 60 HZ?**

The effects of HMI lights are identical on the Sony F23 CineAlta and on Film and require similar shutter settings. The advantage of shooting HD is that you can see any pulsing directly on the HD monitor.

### **WHAT ARE THE POTENTIAL MONITORING CONCERNS WHEN SHOOTING WIDE COLOR GAMUT?**

The Sony F23 CineAlta's wider color gamut capability will result in somewhat reduced color saturation (compared to other F23 modes) which may or may not be noticeable. To compensate, the F23 will allow you to adjust the saturation without putting the Matrix on (which is normally tied to ITU709). Even with the somewhat reduced saturation of the wider color gamut, the saturation of the F23 in LOG mode is well beyond the color saturation of any other competitors' camera.

If monitoring LOG wide color gamut camera outputs and trusting solely in a video monitor which is not wide color gamut capable may result in inaccurate monitoring results. A 4:4:4 HD waveform monitor, and/or a 4:4:4 HD wide color gamut capable video monitor can both be useful tools in achieving accurate readings.

The F23 can output a "color corrected" image for accurate monitoring on non-wide color gamut HD 4:4:4 monitors. These "color corrected" monitoring outputs also reduce or eliminate the need for LUT work-flow and/or inaccurate monitoring typical of the "green" image associated with the Viper camera and other systems.

### **CAN I WRITE MY OWN CAMERA SETTINGS USING A COMPUTER WITHOUT THE CAMERA PRESENT?**

A F23 compatible version of the Sony CVP file editor will be released shortly. It will operate on PC systems only.

### **USING THE CAMERA MENUS, HOW DO YOU KNOW A FUNCTION IS LOCKED-OUT (IN THE MODE YOU ARE CURRENTLY IN)?**

The menu option will have parenthesis on it.

## OPERATOR/DP & CAMERA DEPT.

### **HOW DO YOU GET THE CAMERA TO GO TO “TOP MENU”?**

There is a three-position button near the top of the camera; “No Display, Display and Menu.” Go to the “Display” mode, hold the rotary encoder in and hit the Menu button.

### **HOW ARE SOFTWARE UPGRADES DONE TO THE CAMERA?**

Via Memory Stick.

*Note: You are not limited to a 128MB Memory Stick. Up to 8GB Duo Sticks have been used successfully. Also, writing to the Memory Stick is extremely fast.*

### **WHAT ELSE CAN MEMORY STICKS BE USED FOR?**

Saving camera settings.

*Note: If you are in CINE mode, only the data in the User files can be stored to Memory Stick.*

### **THERE ARE RUMORS THAT THE F23 CAMERA TAKES A LONG TIME TO START RECORDING. IS THAT TRUE?**

The answer depends on what mode the camera is in. The SRW1 does have an auto-save function where it will go into save mode and spin the heads down (if you are not utilizing it on a regular basis), so if that mode is being engaged it may take a couple of flashes to get up to speed. If you are in normal Stand-by mode the start-up time is just like any other camcorder.

### **IN COMPARING THE F23 TO OTHER HD CAMERAS, HOW DOES IT STACK UP?**

The Sony F23 CineAlta compares exceedingly well against other HD camera regardless of the imager size or resolution. Particularly when comparing the noise inherent in the recording, being able to see into blacks, highlight capability, color depth and wide dynamic exposure ranges the Sony F23 has no equal. During tests for “Speed Racer” the maximum the dynamic range the Arri D20 was able to achieve was 10 stops. The Thomson Viper in filmstream mode was able to achieve 9.5 stops of dynamic latitude however there you would also need to deal with the color correct issued or magenta filters. Of course then if you use the magenta filters you are cutting down on resolution. Genesis was tested and not considered because it was a Warner Brothers project. The Sony F23 CineAlta achieved 13 stops of dynamic latitude and was chosen for the project. Six Sony F23 CineAlta’s were used.

### **THERE HAS BEEN MUCH TALK ABOUT POST CHALLENGES WITH RED AND OTHER CAMERA SYSTEMS WITH UNCONVENTIONAL POST PROCESSES, HOW DOES F23 COMPARE?**

That is one of the advantages of the Sony F23 CineAlta HDCAM SR system. HDCAM SR is a known format at any high-end post house. The procedure of handling LOG data, Hyper Gamma curves and other capabilities of the F23/HDCAM SR should not pose post challenges as most DI houses are already working in LOG as HDCAM SR is a known, established, robust and well supported format. Regarding the F23’s post process you do not need to “invent the wheel” to use the images.

## OPERATOR/DP & CAMERA DEPT.

**IS THERE ANYWHERE TO ACCESS TO THE F23 OPERATIONS MANUAL ELECTRONICALLY?**

The F23 operations manual is available on AMV's website accessed through the F23 page.

# AMV



# SONYF23CINEALTA

## CAMERA MODES

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### **CINE MODE:**

Cine mode is intended when on-set in-camera manipulation of the camera images is not required, and/or when a DIT is not required, and/or when the operator chooses to operate the camera as if it were a film-stock.

In this mode the USER menus are mainly used. Most of the settings under PAINT and MAINTENANCE will be at fixed values. White balance is fixed at the preset value of 3200K. Electronic auto-white is not operative. Optical color correction in-camera or in front of the lens is possible. Auto-black balance can be used in this mode. Reading and writing from memory sticks is limited to operator files in the USER menus.

### **CUSTOM MODE:**

Custom mode is intended when manipulation of many/all of the cameras settings are needed, or for when a DIT is utilized and/or for when a remote paintbox is used allowing it to manipulate all functions.

In this mode the reference and scene file adjustments are possible. User gamma settings can be utilized. Modification and/or storage of lens files are possible.

### **WHAT APPLICATION DOES STANDARD GAMMA HAVE?**

Standard Gamma is intended for on-the-spot creation of content including recording content compliant with ITU-709 specifications (Standard Gamma Table 5).

### **WHAT APPLICATION DOES HYPER GAMMA HAVE?**

Hyper Gamma is intended when in-camera compliance with ITU-709 specifications is not required and when the user intends on utilizing the full capability of the F23 imager.

### **WHAT APPLICATION DOES USER GAMMA HAVE?**

User Gamma is intended when in-camera compliance with ITU-709 specifications is not required and when the user intends on utilizing the full capability of the F23 imager.

### **ARE THE HYPER GAMMA CURVES AVAILABLE IN CINE MODE?**

All of the Gamma curves (including Hyper) are available in CINE mode.

### **WHAT IS THE ADVANTAGE OF HYPER GAMMA CURVES?**

Hyper Gamma curves are fixed, known entities that should be directly addressable by your post production facility. Because they are fixed known curves with available look up tables it is even possible for a post facility to develop a reverse loop transferring the data to linear space taking the data out to 16 bit.

## CAMERA MODES

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The disadvantage of LOG is that because it is a log progression as I change exposure the reference points change. With Hyper curves, the curves are fixed therefore the DI and post process tends to move a bit quicker.

### WHAT IS THE ADVANTAGE OF SHOOTING LOG?

A little more dynamic range as compared to the Standard and Hyper Gamma curves and a little more range regarding color correction.

The disadvantage of LOG is that because it is a log progression as I change exposure the reference points change. With Hyper curves, the curves are fixed therefore the DI and post process tends to move a bit quicker.

### IF I AM SHOOTING AND RECORDING IN LOG, HOW DO I MONITOR?

The F23 will allow you to shoot in LOG while still providing an ITU output for monitoring (assuming your monitoring device is limited to ITU), allowing you to look at a normal picture instead of the flatter image, or green haze un-color corrected image associated with monitoring LOG with a standard ITU monitor or LOG on other camera systems. You can also view the raw LOG output and use a monitor capable of LUTs.

### WHAT CUSTOM GAMMA/TRANSFER CURVES ARE AVAILABLE?

The F23 has options for Standard Gamma, four Hyper Gamma Curves (*although Hyper Gamma 1 and 2 are unlikely to be used in the United States as they were designed for systems with SECAM compatibility limitations*). Hyper Gamma Curves 3 & 4 will typically be used in the US and lastly and User Definable curves.

You can develop your own custom curves using the soon to be released CVP file editor.

### WHAT IS THE DIFFERENCE BETWEEN HYPER GAMMA 3 AND HYPER GAMMA 4?

Contrast to the bottom of the gamma curve.  
Hyper Gamma 3 is designed to be used at -3 gain.

### CAN THE CINE MODE SETTING BE DUPLICATED IN CUSTOM MODE?

You can duplicate the stock CINE set-up in CUSTOM mode. That setting can then be saved. In CINE mode the only data that can be saved are those items in the USER set-up, primarily monitoring functions, what you have programmed to what output, what markers are selected on what output. Etc. In CUSTOM mode you can save all settings. And it does it with the same file system that has been used in the F900.

SONYF23CINEALTA

## CAMERA MODES

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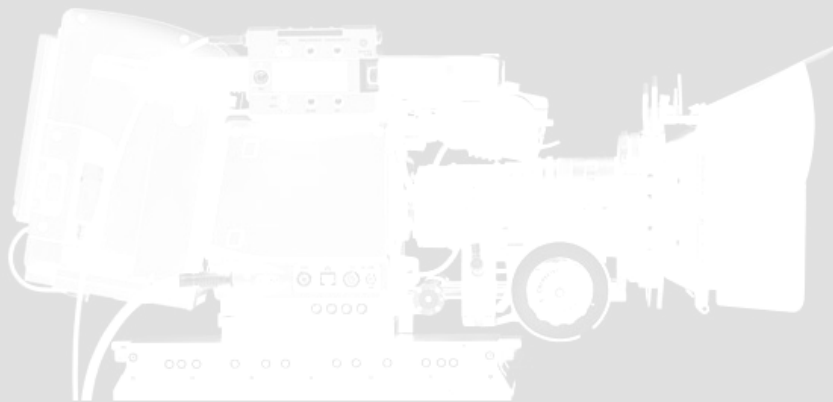
**IF I CREATE A LOOK IN CUSTOM MODE AND THEN SWITCH THE CAMERA TO CINE TO COMPARE, WILL I LOSE MY CUSTOM SETTINGS?**

No, your CUSTOM settings will be retained. The Sony F23 has two separate data storage registers for the CINE and CUSTOM set-ups.

**CAN YOU TURN ON KNEE WITH THE HYPER GAMMA CURVES?**

Yes, but not recommended. By doing so it is possible to have your highlights incorrectly adjusted to fall under your mid-range.

# AMV



# SONYF23CINEALTA

## DIT QUESTIONS

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### DOES AN RMB750 REMOTE PAINT BOX WORK ON THE F23 CAMERA?

Yes, not only will it work, you will get the menus and picture display on the RMB750's LCD panel as if you were looking at the menus through the camera's viewfinder. So you can have full menu interface control as well as direct interface control that you would normally have with the remote's buttons and knobs.

*Note: You need to program the remote as "camera interface" as opposed to "VTR interface." In one-piece camcorder configuration (with the Sony SRW1 is physically mounted to the F23 camera) and setting the RMB750 remote to display and manipulate the camera menus as discussed above you can still control record start/stop from the RMB750 but you cannot control playback (because the play/stop function buttons then become direct access buttons for gamma on/off, matrix on/off, etc.)*

### DOES AN MSU REMOTE WORK ON THE F23 CAMERA?

Yes.

*Note: the only thing that currently does not read out properly on the MSU is if you are in step-shutter mode, the MSU will still tell you that you are in that mode, however the step shutter detail does not display on the MSU.*

### WHAT CONTROLLERS WILL WORK WITH THE CAMERA?

RMB150, RMB750, RCPxxx, MSUxxx ... anything from the 700 series to the current.

You can also use a CNU and put your RCPs or RMBs as individual controllers for the cameras and still have a Master Setup Unit (MSU). Control cable maximum length is 100 meters (from the camera to the controller inclusive of all devices in between).

### CONSIDERING THE WIDE COLOR GAMUT CAPABILITIES OF THE CAMERA, CAN I USE STANDARD COLOR OR CHIP TEST CHARTS?

Yes, however David Corley at DSC Labs is working on new charts that include colors within the wider gamut. These charts will be helpful as a quick check confirming visually what mode the camera is in.

### DOES THE CAMERA SUPPORT DPX FRAME OUTPUT?

The F23 has a Ethernet port that in future software releases will support DPX frame output. In the current software version DPX frame output is not supported.

### DOES THE F23 HAVE OHB MATRIX STORE CAPABILITY?

Yes.

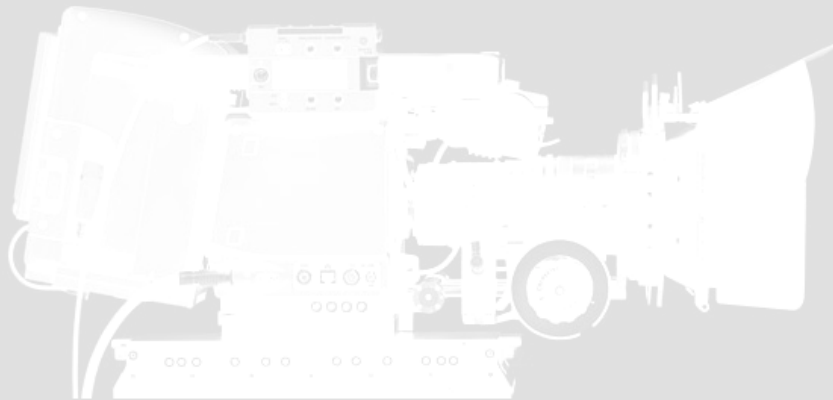
## DIT QUESTIONS

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### WHAT IS THE QUANTIZATION BIT DEPTH?

Sony F23 CineAlta internal processing is up to 36 bit quantization. In comparison the Thomson Viper at 21 bit.

# AMV



# SONYF23CINEALTA

## AUDIO QUESTIONS

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### WHAT AUDIO CONNECTIONS ARE AVAILABLE ON THE F23 CAMERA AND SRW1 TRANSPORT?

There are twelve audio tracks total on the SRW1 HDCAM SR recorder. There are two audio inputs on the SRW1 transport that show up as analog 1 & 2. There are also two audio inputs on the cameras adapter box that show up as SDI embedded 5 & 6. The SRW1 transport has audio routing, so you can take any input and route it to any track on the HDCAM SR recording. It is possible to route a single input to multiple tracks (with input level offsets).

### WHAT ARE THE AUDIO IMPLICATIONS OF ONE VS. TWO-PIECE CAMERA OPERATION?

The Sony SRPC1 processor must be used with the SRW1 recorder when the SRW1 is not docked to the camera. In this two-piece configuration you gain the capability of recording AES audio. In total 12 channels of AES and Analog audio is available.

In a one-piece, or camcorder configuration you can record four channels of 24bit audio. Two channels are analog. Two channels HDSDI embedded.



# SONYF23CINEALTA

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