

Colorimetric and Resolution requirements of cameras

Alan Roberts

ADDENDUM 8 rev7: Menu settings for

Panasonic DVCPProHD AJ-HDC27F (and H) Varicam (720/4~60Hz proscan)

This document is a report of the results of tests that are the precursor of those described in the EBU technical document Tech3335. It is not an endorsement of the product.

Assessment was made on several AJ-HDC27F cameras at various times. It is a 720-line progressive variable frame-rate camera, and all menu items refer to this camera only. The camera is a refinement of the 27V which is also a development of the 27. The 27H differs only trivially from the 27F, all the settings in this document will work equally well in either camera; however, setup cards recorded in the F will not work in the H, or vice versa, although there is a Panasonic utility to convert between the formats if necessary.

The camera has 3 ccds, each of 1280x720 pixels. The tape speed is constant despite any camera frame rate changes, the tape always runs at 60 (or 59.94) frames/second. When the camera is set to run at lower frame rates, replicated frames are recorded as needed to fill the tape. Thus, the pictures can be monitored using a fixed frame-rate display. A special hardware/software system is required to extract frames from the tape to reconstruct a sequence of non-replicated frames at 24 per second. Nominal frame rate is 24fps, so the camera can effectively record between 2.5 times (60fps) and 1/6 (4fps) normal speed. If the camera is set to 24fps, then the tape is effectively performing a "3:2 pull-down" operation as is normal for film work in 59.94Hz countries.

The camera is smaller and lighter than the familiar Beta camcorder and is useful mostly for portable, single-camera work. It has very many internal menus for setting the performance, and two versions of most of them, giving a range of combinations that it has been impossible to investigate thoroughly in the limited time available. There are three distinctly different modes in which it can operate. It is clearly designed with the intention of supplanting film, both for television and for printing back to film for distribution.

Panasonic have a DVD that shows how some of the more important features work, and how menu values can be used to manipulate pictures. Potential users of this camera are very strongly advised to get this DVD and study it at length in order to exploit the best features of the camera, its ability to mimic film negative performance and variable speed recording. Even the DVD is not sufficient for the user to get the best from the camera, the combination of DVD and manual will explain how it all works, but laboratory work is needed to ensure the best performance in any mode. The settings given here are neither exclusive nor exhaustive, the user is strongly advised to seek specialist help before shooting.

This revised version has some more modifications resulting from field experience in varied conditions; it also incorporates settings designed specifically for Natural History productions, and recommendations for use in keying.

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Many menu items have little or no effect on the image. Those that do so are highlighted. The full menus are given for completeness.

There are two different versions of the menus, depending on the setting in Main Menu 4, Options. This can be set for "Video" and "Film" menus; the content of these is subtly different. The "Video" mode (called "Cam" in the menus) is intended for use in situations where the camera is used as a television camera, "Film" menus are for those situations where the pictures are likely to be printed back to film, or used in exactly the same way as a film negative would be used for television. Many of the menu items are unchanged between these two sets. Menus that appear in the "User" set (single press of the Menu button) are marked "U", all menus appear in the "Engineer" setting (press and hold the Menu button).

The user can generate three custom designed pages of menus, selecting items from the Engineering menus.

The camera frame rate can be controlled from outside the menus; when no menus are selected press the rotary encoder button (frame rate flashes in the viewfinder) and adjust the rate with the Synchro buttons. Press the rotary encoder again to set the new rate. Black balance should always be reset after changing frame rate according to the instructions, although no harm seems to come from not doing this.

The "Video" mode menus are basically the same as those for the 27V model, but even so there are some extra items.

There are four recommended settings here:

- {c} film setting, aiming to mimic film for printing back to film for cinema showing
- {f} film setting, aiming to mimic film on television, very wide latitude, flat pictures
- {v} conventional video use, but aiming to mimic film used on television, matches Sony HDW750
- {w} wildlife setting for Natural History Unit, very wide latitude, low noise

and one variant in each:

- {k} keying, where some artificial sharpness will help in post-production; use sparingly

Since there are many ways to get this camera wrong, I am re-issuing this as separate sets of data, rather than just one with all the settings in it. The resulting document is very bulky, but at least it keeps all the relevant information for each set of settings together, and away from the others. To make sensible use of this data, I suggest that you extract the complete set(s) that you need, and discard the rest. In each data table, any item that is set away from the Panasonic default value is marked {*}.

BBC settings given in these tables are only intended as a starting point. This document is no substitute for the manual; the user is strongly advised to seek expert advice before embarking on any project with this camera. It is simple to use, but complex to set up.

NOTE 1: The use of "Black Stretch" (Main Menu 1: Low/Mid/High setting) is intended to improve skin tones in well-lit environments, but it imparts visible noise in dark areas. If this

is a problem, then set “Black Stretch” to “OFF”. Black Stretch operates only in VIDEO REC gamma mode.

NOTE 2: The gain switch controls much more than just gain. In the “video” setting, “L” is designed for “Normal” lighting, “M” for high contrast scenes where detail must be preserved in deep shadows, “H” for low light conditions. If the scenic lighting conditions do not permit full exposure, then use the “H” setting, increasing the gain value as needed, but beware of the extra noise that will result.

NOTE 3: The camera has VIDEO REC and FILM REC gamma modes. In VIDEO REC, all the normal gamma controls work (Black Stretch, Knee etc.), and a standard gamma curve is selectable. This gives good colorimetric performance over the normal exposure range, with minimal risk of contouring on skin tones. But in FILM mode, the entire gamma curve is replaced by a simulation of a film negative stock “lazy S” curve. This gives a very good impression of film, but the camera “speed” (ASS or ISO number) appears to be lower (because the middle tones are all lower). Also, the middle exposure range is compressed fairly heavily, which is acceptable for wildlife and scenery, but may not be good for drama where skin tones are critical (effectively, each stop of contrast in this middle range occupies half the range of sampling levels that it would in VIDEO REC, so there is a real risk of colour contouring). The Dynamic Range control can be used as a contrast control, 500% for high contrast scenes, 200% for low contrast scenes; but, beware that adjusting this control also has the effect of altering the effective photographic “speed” of the camera.

Viewfinder information is a personal matter and should be decided case by case, but exposure control can be made easy by use of tools provided; specifically, Zebra and Yget. The Zebra functions indicate when the signal is within a specific range, set as levels in Main Menu 2:Viewfinder Display. Yget is a spot meter function that indicates actual signal level.

Using the SPOT mode, the zebra is active for a small range of output level, between the set levels *when Zebra 2 level is higher than Zebra 1 level); highlights will normally be seen clear and unclipped even above the zebra levels; in the “wildlife” setting the zebra levels are more appropriate to highlights such as cloud formations, any exposure above the zebra levels is dangerously near to clipping (with 2/3 photographic stop). In either case, skin tones should not normally need to be exposed higher than the lower zebra setting (typically 65%) since the camera can deal very well with deep shadows but less well with extreme overloads.

Yget is useful, and is assigned to User Switch 2, a physical switch on the camera shell (see Main Menu 2:Camera SW Mode). On pressing the switch, a small marker appears in the viewfinder, point the marker at an item of interest and the camera will indicate the signal level for that item. This is a far more accurate method of exposure control than any light meter.

Since the VTR settings are common to all setup versions, I list them here first and will not repeat them in the various setup versions that follow.

VTR MAIN MENUS

VTR Main Menu, Function

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>
News Rec Mode	OFF,0.2:2	OFF	recording overruns STOP up to 2 sec	OFF
Humid Ope	ON,OFF	OFF	ON=only Eject when humid	OFF
Rec Start	ALL,NORMAL	NORMAL	=only in Power Save/Pause	NORMAL
Pause Timer	10,20,30,60	30	Minutes in Pause before auto stop	30
Retake Mode	ON,OFF	OFF	ON=Rewind shot to over-record	OFF
HDSDI Out	ON,SIDE SW,AUTO,OFF	AUTO	Control for SDI socket	AUTO
Interval Rec	ON,ONE SHOT,OFF	OFF		OFF
Int Rec Time	00s10f:59s29f	00s10f	Intermittent, recording time	00s10f
Int Pause Time	0:23h59m59s	00h00m02s	Gap between recordings	00h00m02s
ECU Rec Chk SW	R.REVIEW,RETAKE	R.REVIEW	Controls Rec Chk switch on ECU	R.REVIEW

Character on SDI	MENU,STATUS	MENU	Show Menus or Menus & Status	MENU	
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VTR Main Menu, Battery/Tape

Choice of battery types

Item	Range	Factory	description	BBC	
Battery Select	see next menu	PRO14	See next menu		
Ext DC In Select		AC-ADPT	As for battery, plus external	AC-ADPT	
Batt Near End Alarm	ON,OFF	OFF	Warning bleep	OFF	
Batt Near End Cancel	ON,OFF	ON	Mode switch cancels bleep	ON	
Batt End Alarm	ON,OFF	ON	Warning bleep	ON	
Batt Remain Full	100%,70%	70%	Indicator level called "full"	70%	
Tape Near End Alarm	ON,OFF	OFF	Warning bleep	OFF	
Tape Near End Time	3min,2min	2min	Bleep time before end	2min	
Tape End Alarm	ON,OFF	ON	Warning bleep	ON	
Tape Remain	3min,5min	3min	Size of time pixel in LCD	3min	

VTR Main Menu, Battery Setting

Manual setting lets you enter battery final voltage

Item	Range	Factory	description	BBC	
AJ-BP490	MANUAL,AUTO	AUTO	Pan AJ-BP490, PACO HP-90A	AUTO	
AU-BP402	MANUAL,AUTO	AUTO		AUTO	
HP-30A	MANUAL,AUTO	AUTO	PACO	AUTO	
PRO14	MANUAL,AUTO	AUTO	Anton Bauer	AUTO	
TRIM14	MANUAL,AUTO	AUTO	...	AUTO	
TRIM13	MANUAL,AUTO	AUTO	...	AUTO	
DIGITAL14	MANUAL,AUTO	AUTO	Anton Bauer 14V	AUTO	
DIGITAL13	MANUAL,AUTO	AUTO	Anton Bauer 13V	AUTO	
BP-H90	MANUAL,AUTO	AUTO	IDX	AUTO	
BP-H100	MANUAL,AUTO	AUTO	...	AUTO	
NP-L40	MANUAL,AUTO	AUTO	...	AUTO	
NP-L40 D	MANUAL,AUTO	AUTO	...	AUTO	
BP-L60/90	MANUAL,AUTO	AUTO	Sony Lithium	AUTO	
NP-1B	MANUAL,AUTO	AUTO	Sony	AUTO	

VTR Main Menu, VTR VF Indicator

Item	Range	Factory	description	BBC	
Tape	ON,OFF	ON	Tape Left display	ON	
Battery	ON,OFF	ON	Battery voltage	ON	
Level Meter	CH1,CH1+CH2,CH2,OFF	CH1	Audio indicator	CH1	
Audio In	ON,OFF	OFF		OFF	
TC	TCG,TCR,TCG/TCR,OFF	OFF	Time code, the usual	OFF	
VTR Warning	ALWAYS,NORM,OFF	NORM	NORMAL=warning for 3 sec	NORM	
Save LED	SAVE&TAPE,SAVE	SAVE	SAVE&TAPE=flash near tape end	SAVE	

VTR Main Menu, Mic/Audio

Item	Range	Factory	description	BBC	
Front Mic Power	ON,OFF	ON	Phantom power	ON	
Mic Lowcut Ch1	FRONT,REAR,	OFF	High-pass filters for channels 1 and 2	OFF	
Mic Lowcut Ch2	F&R,OFF	OFF		OFF	
Limiter	ON,OFF	OFF		OFF	
Test Tone	NORM,ALWAYS,OFF,CHSEL	NORM	=tone with bars	NORM	
Rec CH3CH4	CH1/2,CH3/4	CH1/2	Ch 3/4 from adaptor plate	CH1/2	
Cue Select	SIDE SW,CH1,CH2,MIX	SIDE SW	Source for cue track	SIDE SW	
Cue Rec	ON,OFF	ON	and whether or not	ON	
Embedded Audio (60Hz)	ON,OFF	OFF	Embed audio when camera at 60Hz	OFF	

VTR Main Menu, TC/UB

Item	Range	Factory	description	BBC	
TC Mode	DF,NDF	DF	Drop Frame for 59.94, 24 is NDF	NDF	
UB Mode	USER,DATE,TIME,EXT,TCG	USER	User bits data	USER	
TCG Set Hold	ON,OFF	OFF	Store TC when powered down	OFF	
First Rec TC	REGEN,PRESET	REGEN	How TC is started	REGEN	
P.OFF LCD Display	ON,OFF	ON	TC display when power OFF	ON	
TC Out	TCG,TCG/TCR	TCG		TCG	
VITC UB Mode	USER,DATE,TIME,	TIME		TIME	

EXT,TCG				
TC Disp Sel	24F,25F,30F	24	Timecode display	25{C} 24{fc}

VTR Main Menu, Time/Date

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Year	00~99	0	Set time and date		
Month	1~12	1			
Day	1~31	1			
Hour	0~23	0			
Minute	0~59	0	Enter it directly		
Time/Date set					

VTR Main Menu, VTR Card Read/Write

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Read					
Write					
Read User Data					

VTR Main Menu, VTR Initialize

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Read Factory Data					
Write VTR User Data					

VTR Main Menu, Diagnostic

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Operation			Time in use		
Drum Running			Drum hours		
Threading			Number of tape loads		
VTR Syscon			System version number		
Servo			Servo version number		
Mechacon			Mechanism control version number		
Front			LCD version number		

VTR Main Menu, VTR USER MENU SELECT

Menus to set contents of User Menus

VTR User Menu Select: FUNCTION

Select items to go in the User Menu, 14 max

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
News Rec Mode					
Humid Ope					
Rec Start					
Pause Timer					
Retake Mode					
HDS DI Out					
Interval Rec Mode					
Interval Pause Timer					
ECU Rec Chk Sw					
Character on HDS DI					

VTR User Menu Select: Battery/Tape

Select items to go in the User Menu

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Battery Select					
Ext DC In Select					
Batt Near End Alarm					
Batt Near End Cancel					
Batt End Alarm					
Batt Remain Full					
Tape Near End Alarm					
Tape End Alarm					
Tape Remain					

VTR User Menu Select: VF Indicator

Select items to go in the User Menu

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Tape					

Battery		
Level Meter		
Audio In		
TC		
VTR Warning		
Save LED		

VTR User Menu Select: Mic/Audio

Select items to go in the User Menu

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Front Mic Power					
Mic Lowcut Ch1					
Mic Lowcut Ch2					
Limiter					
Test Tone					
Rec Ch3/Ch4					
Cue Select					
Cue Rec					
Embedded Audio (60Hz)					

VTR User Menu Select: TC/UB

Select items to go in the User Menu

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
TC Mode					
UB Mode					
TCG Set Hold					
First Rec TC					
P.OFF LCD Display					
TC Out					
VITC UB Mode					
TC Disp Sel					

FILM SETTINGS: {c}, aiming to mimic film for printing back for cinema showing.

FILM MAIN MENUS

Film Main Menu 1

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP			Remote operation panel		
MATRIX					
COLOR CORRECTION 1					
COLOR CORRECTION 2					
LOW SETTING					
MID SETTING					
HIGH SETTING					
ADDITIONAL DTL 1					
ADDITIONAL DTL 2					
SKIN TONE DTL					
KNEE/LEVEL					
GAMMA					
CAMERA SETTING					

Settings for Gain switch,
this holds very much more than
just gain settings, use with care

Film Main Menu 2

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER					
VF INDICATOR					
CAMERA ID					
SHUTTER SPEED					
SHUTTER SELECT					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Film Main Menu 3

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT					
GENLOCK/IRIS					
LENS ADJ					

Film Main Menu 4

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM USER MENU SELECT 1					
CAM USER MENU SELECT 2					
CAM USER MENU SELECT 3					
BLACK SHADING					
WHITE SHADING					
FLARE					
COLORIMETRY					
INITIALIZE					
DIAGNOSTIC					
EVALUATION					
OPTION					

FILM MAIN MENUS 1

Film Main Menu 1 ROP

remote operating panel (sets or monitors ECU settings)

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Master Ped	-200~200	0}	Master lift	0	U
Master Dtl	-31~31	0	H&V detail	0	U
Master Gamma	0.35~0.75	0.45	In 0.1 steps, stored in gain switch	0.45 {c}	U

R Gain	-200~200	0	0	U
G Gain	-200~200	0	0	U
B Gain	-200~200	0	0	U
R Pedestal	-200~200	0	0	U
G Pedestal	-200~200	0	0	U
B Pedestal	-200~200	0	0	U

Film Main Menu 1, Matrix (User preset) A,B

(Don't care, set to 'off' in L/M/H Setting)

Item	Range	Factory	description	BBC	
Matrix Table	A,B	A	Two user tweakable matrices		
Matrix R-G	-31~31	0			
Matrix R-B	-31~31	0			
Matrix G-R	-31~31	0			
Matrix G-B	-31~31	0			
Matrix B-R	-31~31	0			
Matrix B-G	-31~31	0			

Film Main Menu 1, Color Correction 1

rather dangerous territory, not recommended

Item	Range	Factory	description	BBC	
R (Sat)	-63~63	0	Adjusts colour	0	
R (Phase)	-63~63	0	in 45 degree	0	
Mg (Sat)	-63~63	0	segments,	0	
Mg (Phase)	-63~63	0	tweaks	0	
B (Sat)	-63~63	0	saturation	0	
B (Phase)	-63~63	0	and hue.	0	
Cy (Sat)	-63~63	0	These	0	
Cy (Phase)	-63~63	0	segments	0	
G (Sat)	-63~63	0	interleave	0	
G (Phase)	-63~63	0	those	0	
Yl (Sat)	-63~63	0	in	0	
Yl (Phase)	-63~63	0	Color Correction 2.	0	

Film Main Menu 1, Color Correction 2

ditto

Item	Range	Factory	description	BBC	
R-Mg (Sat)	-63~63	0	Adjusts colour	0	
R-Mg (Phase)	-63~63	0	in 45 degree	0	
Mg-B (Sat)	-63~63	0	segments,	0	
Mg-B (Phase)	-63~63	0	tweaks	0	
B-Cy (Sat)	-63~63	0	saturation	0	
B-Cy (Phase)	-63~63	0	and hue.	0	
Cy-G (Sat)	-63~63	0	These	0	
Cy-G (Phase)	-63~63	0	segments	0	
G-Yl (Sat)	-63~63	0	interleave	0	
G-Yl (Phase)	-63~63	0	those	0	
Yl-R (Sat)	-63~63	0	in	0	
Yl-R (Phase)	-63~63	0	Color Correction 1.	0	

Film Main Menu 1, Low Setting

Low Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	-3	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{c} 6{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	0{c} 6{k}	U
Dtl Coring	0~15	2	Noise threshold	2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{c}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+2{c}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, Mid Setting

Mid Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30}	0	dB setting	0{c}	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{c} 6{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	0{c} 6{k}	U

Dtl Coring	0~15	2		2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{c}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+2{c}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, High Setting

High Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30{F}	0	dB setting	6	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{c} 6{k}	U
V Dtl Lev	0~63	12}	=12 for video, 0 for film-look	0{c} 6{k}	U
Dtl Coring	0~15	5		5	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low-luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{c}	U
Black Str	-3,-2,-1,OFF,1,2,3	1	SEE NOTES	+1{c}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, Additional Dtl 1

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Aperture	ON,OFF	ON	Detail enhancement in knee region	ON	U
Slim Dtl	ON,OFF	OFF	Finer detail correction (hf boost)	OFF	U

Film Main Menu 1, Additional Dtl 2

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Ape Lvl	0~5	5	Correction in knee compressed zone	5	
Dtl Gain +	-31~31	0	H correction, +ve going edges	0	
Dtl Gain -	-31~31	0	H correction, -ve going edges	0	
Dtl Clip	0~63	47	Clip level of detail correction	47	
Dtl Source	(G+B)/2, (R+G)/2, (2G+R+B)/2, (3G+R)/2, R,G	(R+G)/2		(R+G)/2	
V Dtl Freq	360,450,540,630,720	630	V detail boost frequency, lines	720	

Film Main Menu 1, Skin Tone Dtl

Item	Range	Factory	description	BBC	
Skin Tone Dtl	ON,OFF	OFF		OFF	U
Skin Tone Zebra	ON,OFF	OFF	VF level has external control	OFF	U
Skin Dtl Coring	0~7	5		5	U
Y Max	0~255	190	Max luma level for boost	190	
Y Min	0~255	10	Min luma level for boost	10	
I Center	0~255	55	I axis mean level for boost	55	
I Width	0~255	90	I axis min level for boost	90	
Q Width	0~255	10	Q axis max level for boost	10	
Q Phase	0~255	0	Q axis min level for boost	0	

Film Main Menu 1, Knee Level

Item	Range	Factory	description	BBC	
Master Ped	-200~200	0	Duplicate entry for pedestal	0	U
Manual Knee	ON,OFF	ON	Valid only if AUTO is off	ON	U
Knee Point	30%~90%	65%	Manual break point, knee cancels in Cine {c} mode	65%{c}	U
Knee Slope	150%~600%	500%	Gain in knee zone, about 2.5 stops overload	64{c}	U
White Clip	ON,OFF	ON		ON	U
White Clip Lvl	90%~109%	109%		105%	U
A. Knee Point	80%~107%	95%	Auto knee point	95%	U
A. Knee Slope	100~110	108%	Auto knee slope	108%	U

Film Main Menu 1, Gamma

Item	Range	Factory	description	BBC	
Master Gamma	0.35~0.75	0.45	Steps of 0.1	0.45{c}	UF

R Gamma	-15~15	0	Set R away from Master	0	U
B Gamma	-15~15	0	Set B away from Master	0	U
Cine Gamma Sel	Video Rec,Film Rec	Video Rec	Video or Cine style in Film mode	Video Rec	UF
Black Str Level	0~30%	0%		5{c}	UF
Dynamic Level	200%~500%	500%	500%=all ccd, 100%=video range	500%{c}	UF

Film/Cam Main Menu 1, Camera Setting

Item	Range	Factory	description	BBC	
Detail	ON,OFF	ON		OFF{c}	U
High Color	ON,OFF	OFF	Saturation boost in knee	OFF {c}	U
Gamma	ON,OFF	ON	Main gamma on/off	ON	U
Test Saw	ON,OFF	OFF	Test ramp waveform	OFF	U
Flare	ON,OFF	ON	Flare correction	ON	U
H-F Compe	ON,OFF	ON	High range frequency comp	ON	U
Lighting {F}	Tungsten, Daylight }	Tungsten	Preset white balances		U

FILM MAIN MENUS 2**Film Main Menu 2, VF Display**

Item	Range	Factory	description	BBC	
Disp Condition	NORMAL/HOLD	NORMAL	Show switch status or not	NORMAL	U
Disp Mode	1,2,3	3	1=Off,2=some,3=all	3	U
VF Out	Y,NAM,R,G,B	Y	What you see	Y	U
VF Dtl	0~4	4	Extra detail gain	4	U
Zebra 1 detect	0%~109%	80%	Zebra1=/// above level 1, Zebra2=\\ above level 2. In SPOT, Zebra1 works between levels 1 and 2.	80{c}	U
Zebra 2 detect	0%~109%	85%		85{c}	U
Zebra 2	ON,OFF,SPOT	SPOT	SPOT works only if Zebra 2>1	SPOT	U
Low Light Lvl	OFF,20%~45%	OFF	Warns at low light level	45%	U
Synchro Scan Disp	sec,%,deg	deg	Display units for shutter	deg{c}	U
ECU Menu Disp	ON,OFF	ON	Enables menu mimic of ECU ops	ON	U

Film Main Menu 2, VF Marker

Item	Range	Factory	description	BBC	
Safety Zone	OFF,0~12	3	(80%+90%, 80%, 90%) 16x9: 1-3=corners, 4-6=box 4x3: 7-9=corners, 10-12=box	3 (90% corners)	U
Center Mark	ON,OFF	ON		ON	U
Frame Sig	4:3,13:9,14:9,VISTA	4:3	Vista=1.85:1	14:9	U
Mark	ON,OFF	OFF	Frame marker	OFF	U
Lvl	0~15	15	Picture level outside frame mark	15	U

Film Main Menu 2, VF Indicator

Item	Range	Factory	description	BBC	
Extender	ON,OFF	ON	Lens extender	ON	U
Shutter	ON,OFF	ON	Shutter speed display	ON	U
Filter	ON,OFF	ON	Filter position	ON	U
White	ON,OFF	ON	Show AWB or Preset A/B	ON	U
Gain	ON,OFF	ON		ON	U
Iris	IRIS,S+IRIS,OFF	S+IRIS	Iris/Super Iris display	S+IRIS	U
Camera ID	ON,OFF	ON	Show camera ID with bars	ON	U
Zoom Lvl	ON,OFF	ON	Focal length	ON	U
Color Temp	ON,OFF	ON		ON	U
Frame Rate	ON,OFF	ON	Camera frame rate, not vtr system	ON	U
Version ID	ON,OFF	ON	Show gamma version with bars	ON	U

Film Main Menu 2, Camera ID

Item	Range	Factory	description	BBC	
ID 1			Max 10 characters		
ID 2			on		
ID 3			each line		

Film Main Menu 2, Shutter Speed

Assign shutter settings to switch under lens

Item	Range	Factory	description	BBC	
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Synchrho Scan 1	ON,OFF	ON	Speed set by buttons near filter wheel	ON	
Synchro Scan 2	ON,OFF	ON		ON	
Position 1	ON,OFF	ON		ON	
Position 2	ON,OFF	ON	ON adds items to list of settings that	ON	
Position 3	ON,OFF	ON	can be cycled through using the little	ON	
Position 4	ON,OFF	ON	switch below the lens.	ON	
Position 5	ON,OFF	ON		ON	
Position 6	ON,OFF	ON		ON	

Film Main Menu 2, Shutter Select

Set shutter speeds

Item	Range	Factory	description	BBC	
Synchrho Scan 2	90~225°	180°	Set shutter speeds. List	180°	
Position 1		180°	items are in degrees	180°{c}	
Position 2	45°, 90°, 120°, 144°, 172.8°, 180°, 1/2000, 1/1000,	172.8°	then seconds	172.8°{c}	
Position 3		144°	irrespective of setting in	144°{c}	
Position 4	1/500,	120°	VF Display Menu.	120°{c}	
Position 5	1/250, 1/120, 1/100	90°	172.8° stops lighting	90°{c}	
Position 6		45°	strobing.	45°{c}	

Film Main Menu 2, ! LED ***

VF warnings

Item	Range	Factory	description	BBC	
Gain (0dB)	ON/OFF	ON		ON	U
Gain (-3dB)	ON/OFF	OFF		ON	U
Shutter	ON/OFF	ON		ON	U
White Preset	ON/OFF	OFF		ON	U
Extender	ON/OFF	ON		ON	U
Filter	ON/OFF	OFF		ON	U
Black Str	ON/OFF	OFF		ON	U
DAYLIGHT	ON/OFF	OFF		ON	U
Matrix	ON/OFF	OFF		ON	U
Color Correct	ON/OFF	OFF		ON	U
Frame Rate	ON/OFF	ON		ON	U

Film Main Menu 2, Camera SW Mode

Item	Range	Factory	description	BBC	
Filter Inh	ON,OFF	ON	AWB stored with filter data	ON	U
Shockless AWB	OFF,NORM, SLOW,FAST	OFF	Smooth AWB on-shot, 0.5~3 sec	OFF	U
Color Bars	SMPTE,FULL	FULL		SMPTE	U
S. Gain Off	S.GAIN,L/M/H	L/M/H	Method to release Super Gain	L/M/H	U
User1 SW	INH,S.GAIN,S.IRIS,S. BLK, B.STR,AUDIO	INH	B.STR uses +3 setting (not recommended). Y GET reads centre screen luma level in vf for 3 seconds	RET SW	U
User2 SW	CH1,AUDIO CH2,REC SW,Y GET, RET SW	Y GET		Y GET	U
S. Black Lvl	OFF,-10,-20,-30	OFF	Super black level setting	OFF	U
ECU Data Save	ON,OFF	OFF	Saves settings from ECU in camera	OFF	U
Auto Knee Sw	ON,OFF	OFF	Enables Auto Knee switch	OFF	U

Film Main Menu 2, Super Gain

Item	Range	Factory	description	BBC	
S.Gain Value	18,24,30,36	18dB		18dB	U

Film Main Menu 2, Frame Mode

Item	Range	Factory	description	BBC	
Frame Rate Range	60-12,60-4	60-4	Limit variable range low end	60-4	U
Frame Rate	4~60Hz	24	Set rate, 4-12 warning given		U
Scan Reverse	ON,OFF	OFF	Inverts image, for Angenieux primes	OFF	U

FILM MAIN MENUS 3**Film Main Menu 3, Card Read/Write**

Item	Range	Factory	description	BBC	
Select	1~8	1	File number to read	1	
Read			load from file		
Select	1~8	1	File number to write	1	

Write	write to file		
Card Config	format card for use		
Read User Data	load user data		
Title	max 8 characters		

Film Main Menu 3, Cam Card R/W Select

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ID Read/Write	ON,OFF	OFF	ON=save cam ID to card	OFF	
Cam Main Menu1 Level R/W	ON,OFF	OFF	Load/save Menu items that are/aren't marked, see manual for details. N.B. if changing system frequency (60/59.94), camera needs to be switched off/on to make it happen.		
Cam Main Menu1 SW R/W	ON,OFF	OFF			
Cam Main Menu2 R/W	ON,OFF	OFF			
Cam Main Menu3 R/W	ON,OFF	OFF			
Cam Main Menu4 R/W	ON,OFF	OFF			

Film Main Menu 3, Genlock/Iris

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
H Phase Coarse	0~15	7	Genlock phase	7	
H Phase Fine	0~64	32		32	
A.Iris Level	0~100	50	Auto iris target level, luma	50	
A.Iris Peak/Ave	0~100	50	Ratio, 0=ave'ge, 100=peak	50	
A.Iris Mode	NORM1,NORM2,CENT	NORM1	1=full frame, 2=not top part	NORM1	
S.Iris Level	0~100	80	Super Iris target level	80	
Iris Gain	CAM,LENS	LENS	Iris gain to be set by lens or camera	LENS	
Iris Gain Value	1~10	6	Camera lens setting	6	

Film Main Menu 3, Lens Adj

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
F2.8 Adj	ON,OFF	OFF	refer to manual, I don't understand	OFF	
F16 Adj	ON,OFF	OFF		OFF	

FILM MAIN MENUS 4**Film Main Menu 4, User Menu Select 1**

Index of menus to select items for User Menu 1

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP			Select items from these menu pages to go on User Menu Page 1.		
LOW SETTING					
MID SETTING					
HIGH SETTING					
ADDITIONAL DTL1					
ADDITIONAL DTL2					
SKIN TONE DTL					
KNEE/LEVEL			42 items maximum, 14 per page		
GAMMA					
CAMERA SETTING					

Film Main Menu 4, User Menu Select 2

Index of menus to select items for User Menu 2

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY			Select items for User Menu Page 1.		
VF MARKER					
VF INDICATOR					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Film Main Menu 4, User Menu Select 3

Index of menus to select items for User Menu 3

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE			And 14 more for User Menu Page 3.		
CAM CARD R/W SELECT					
GENLOCK/IRIS					

Film Main Menu 4, Black Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Detection Correct (Dig)	ON,OFF	ON	This makes it happen	ON	

Film Main Menu 4, White Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Select Read Detection (V Saw) Correct Title	1~8 ON,OFF	1 	Select a shading file Read from it Measure vertical shading, save to file Switch it on/off Text field, 12 chars for each of 8 files	ON	

Film Main Menu 4, Flare

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
R.Flare G.Flare B.Flare	0~100 0~100 0~100	4 0 10	Set depending on lens		

Film Main Menu 4, Colorimetry

actually only the coding matrix

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Matrix	SMPTE274, 240, NTSC	SMPTE274	240=old 1035, 274=1080 & 720	SMPTE 274	

Film Main Menu 4, Initialise

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Read Factory Data Write User Data Scene Sel Read Write Reset Title 1 Title 2 Title 3 Title 4	1~4		Factory reset all menu settings Save user setup Select scene file Read scene file Save scene file Factory reset scene files N.B. if system frequency is changed, power off/on to make it happen.		

Film Main Menu 4, Diagnostic

card/software versions

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Camsoft (in) Camsoft (out) Cam Table PLD (Cam) Pld (SHD)		T3.00-00-00.00 T1.00-00-00.0A T1.00-00-00.06 T1.00-00-00.02 T1.01-00-00.02	Internal flash software version External flash software version Gamma table version Camera software system version Shading software version		

Film Main Menu 4, Evaluation

routes to measurement system, see below

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
S/N Modulation Resolution Sensitivity					

Film Main Menu 4, Option

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Eng Security	ON,OFF	OFF	ON=only User menus shown N.B. needs factory advice to reset, so DON'T CHANGE THIS	OFF	
Shd, ABB SW CRTL AWB Area	ON,OFF 25%,50%,90%	ON 25%	ON=ABB if AWB pressed >8 sec Sets AWB sense area	ON 25%	
AWB & ABB Offset	OFF,ON	OFF	OFF resets ROP gain/ped values after AWB or ABB	OFF	
Cam Menu Select	VIDEO,FILM	FILM	Changes Main Menus, Film/Cam	FILM	
System Freq	60,59.94	60Hz		60	

Film Main Menu 4, Evaluation S/N

for making S/N measurement

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
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S/N	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF	Temporary settings just for making measurements...		
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	140			

Film Main Menu 4, Evaluation Modulation

For making modulation measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Modulation	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	0			

Film Main Menu 4, Evaluation Resolution

For making resolution measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Resolution	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	0			

Film Main Menu 4, Evaluation Sensitivity

For making sensitivity measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Sensitivity	ON		Go		
Knee	ON,OFF	OFF			
W.Clip	ON,OFF	OFF			
M.Ped	-200~200	0			

Film settings, {f}, film setting, aiming to mimic film on television, very wide latitude, flat pictures

FILM MAIN MENUS

Film Main Menu 1

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP			Remote operation panel		
MATRIX					
COLOR CORRECTION 1					
COLOR CORRECTION 2					
LOW SETTING			Settings for Gain switch, this holds very much more than just gain settings, use with care		
MID SETTING					
HIGH SETTING					
ADDITIONAL DTL 1					
ADDITIONAL DTL 2					
SKIN TONE DTL					
KNEE/LEVEL					
GAMMA					
CAMERA SETTING					

Film Main Menu 2

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER					
VF INDICATOR					
CAMERA ID					
SHUTTER SPEED					
SHUTTER SELECT					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Film Main Menu 3

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT					
GENLOCK/IRIS					
LENS ADJ					

Film Main Menu 4

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM USER MENU SELECT 1					
CAM USER MENU SELECT 2					
CAM USER MENU SELECT 3					
BLACK SHADING					
WHITE SHADING					
FLARE					
COLORIMETRY					
INITIALIZE					
DIAGNOSTIC					
EVALUATION					
OPTION					

FILM MAIN MENUS 1

Film Main Menu 1 ROP

remote operating panel (sets or monitors ECU settings)

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Master Ped	-200~200	0	Master lift	0	U
Master Dtl	-31~31	0	H&V detail	0	U
Master Gamma	0.35~0.75	0.45	In 0.1 steps, stored in gain switch	0.45 {f}	U

R Gain	-200~200	0	0	U
G Gain	-200~200	0	0	U
B Gain	-200~200	0	0	U
R Pedestal	-200~200	0	0	U
G Pedestal	-200~200	0	0	U
B Pedestal	-200~200	0	0	U

Film Main Menu 1, Matrix (User preset) A,B

(Don't care, set to 'off' in L/M/H Setting)

Item	Range	Factory	description	BBC	
Matrix Table	A,B	A	Two user tweakable matrices		
Matrix R-G	-31~31	0			
Matrix R-B	-31~31	0			
Matrix G-R	-31~31	0			
Matrix G-B	-31~31	0			
Matrix B-R	-31~31	0			
Matrix B-G	-31~31	0			

Film Main Menu 1, Color Correction 1

rather dangerous territory, not recommended

Item	Range	Factory	description	BBC	
R (Sat)	-63~63	0	Adjusts colour	0	
R (Phase)	-63~63	0	in 45 degree	0	
Mg (Sat)	-63~63	0	segments,	0	
Mg (Phase)	-63~63	0	tweaks	0	
B (Sat)	-63~63	0	saturation	0	
B (Phase)	-63~63	0	and hue.	0	
Cy (Sat)	-63~63	0	These	0	
Cy (Phase)	-63~63	0	segments	0	
G (Sat)	-63~63	0	interleave	0	
G (Phase)	-63~63	0	those	0	
Yl (Sat)	-63~63	0	in	0	
Yl (Phase)	-63~63	0	Color Correction 2.	0	

Film Main Menu 1, Color Correction 2

ditto

Item	Range	Factory	description	BBC	
R-Mg (Sat)	-63~63	0	Adjusts colour	0	
R-Mg (Phase)	-63~63	0	in 45 degree	0	
Mg-B (Sat)	-63~63	0	segments,	0	
Mg-B (Phase)	-63~63	0	tweaks	0	
B-Cy (Sat)	-63~63	0	saturation	0	
B-Cy (Phase)	-63~63	0	and hue.	0	
Cy-G (Sat)	-63~63	0	These	0	
Cy-G (Phase)	-63~63	0	segments	0	
G-Yl (Sat)	-63~63	0	interleave	0	
G-Yl (Phase)	-63~63	0	those	0	
Yl-R (Sat)	-63~63	0	in	0	
Yl-R (Phase)	-63~63	0	Color Correction 1.	0	

Film/Cam Main Menu 1, Low Setting

Low Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	-3	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{f} 6{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	0{f} 6{k}	U
Dtl Coring	0~15	2	Noise threshold	2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{f}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+2{f}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, Mid Setting

Mid Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	0	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{f} 6{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	0{f} 6{k}	U

Dtl Coring	0~15	2		2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{f}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+2{f}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, High Setting

High Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	6	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	0{f} 6{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	0{f} 6{k}	U
Dtl Coring	0~15	5		5	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31	U
Level Dep	0~5	2	Low-luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.45{f}	U
Black Str	-3,-2,-1,OFF,1,2,3	1	SEE NOTES	+1{f}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	OFF	U

Film Main Menu 1, Additional Dtl 1

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Aperture	ON,OFF	ON	Detail enhancement in knee region	ON	U
Slim Dtl	ON,OFF	OFF	Finer detail correction (hf boost)	OFF	U

Film Main Menu 1, Additional Dtl 2

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Ape Lvl	0~5	5	Correction in knee compressed zone	5	
Dtl Gain +	-31~31	0	H correction, +ve going edges	0	
Dtl Gain -	-31~31	0	H correction, -ve going edges	0	
Dtl Clip	0~63	47	Clip level of detail correction	47	
Dtl Source	(G+B)/2, (R+G)/2, (2G+R+B)/2, (3G+R)/2, R,G	(R+G)/2		(R+G)/2	
V Dtl Freq	360,450,540,630,720	630	V detail boost frequency, lines	720	

Film Main Menu 1, Skin Tone Dtl

Item	Range	Factory	description	BBC	
Skin Tone Dtl	ON,OFF	OFF		OFF	U
Skin Tone Zebra	ON,OFF	OFF	VF level has external control	OFF	U
Skin Dtl Coring	0~7	5		5	U
Y Max	0~255	190	Max luma level for boost	190	
Y Min	0~255	10	Min luma level for boost	10	
I Center	0~255	55	I axis mean level for boost	55	
I Width	0~255	90	I axis min level for boost	90	
Q Width	0~255	10	Q axis max level for boost	10	
Q Phase	0~255	0	Q axis min level for boost	0	

Film Main Menu 1, Knee Level

Item	Range	Factory	description	BBC	
Master Ped	-200~200	18{C} 0{F}	Duplicate entry for pedestal	0	U
Manual Knee	ON,OFF	ON	Valid only if AUTO is off	ON	U
Knee Point	30%~90%	65%	Manual break point, knee cancels in Cine {c} mode	65%{f}	U
Knee Slope	150%~600%	500%	Gain in knee zone, about 2.5 stops overload	600%{f}	U
White Clip	ON,OFF	ON		ON	U
White Clip Lvl	90%~109%	109%		105%	U
A. Knee Point	80%~107%	95%	Auto knee point	95%	U
A. Knee Slope	100~110	108%	Auto knee slope	108%	U

Film Main Menu 1, Gamma

Item	Range	Factory	description	BBC	
Master Gamma	0.35~0.75	0.45	Steps of 0.1	0.45{f}	UF

R Gamma	-15~15	0	Set R away from Master	0	U
B Gamma	-15~15	0	Set B away from Master	0	U
Cine Gamma Sel	Video Rec,Film Rec	Video Rec	Video or Cine style in Film mode	Video Rec	UF
Black Str Level	0~30%	0%		5{f}	UF
Dynamic Level	200%~500%	500%	500%=all ccd, 100%=video range	500%{f}	UF

Film Main Menu 1, Camera Setting

Item	Range	Factory	description	BBC	
Detail	ON,OFF	ON		OFF{f} ON{k}	U
High Color	ON,OFF	OFF	Saturation boost in knee	OFF	U
Gamma	ON,OFF	ON	Main gamma on/off	ON	U
Test Saw	ON,OFF	OFF	Test ramp waveform	OFF	U
Flare	ON,OFF	ON	Flare correction	ON	U
H-F Compe	ON,OFF	ON	High range frequency comp	ON	U
Lighting	Tungsten, Daylight	Tungsten	Preset white balances		U

FILM MAIN MENUS 2**Film Main Menu 2, VF Display**

Item	Range	Factory	description	BBC	
Disp Condition	NORMAL/HOLD	NORMAL	Show switch status or not	NORMAL	U
Disp Mode	1,2,3	3	1=Off,2=some,3=all	3	U
VF Out	Y,NAM,R,G,B	Y	What you see	Y	U
VF Dtl	0~4	4	Extra detail gain	4	U
Zebra 1 detect	0%~109%	80%	Zebra1=/// above level 1, Zebra2=\\ above level 2. In SPOT, Zebra1 works between levels 1 and 2.	65{f}	U
Zebra 2 detect	0%~109%	85%		70{f}	U
Zebra 2	ON,OFF,SPOT	SPOT	SPOT works only if Zebra 2>1	SPOT	U
Low Light Lvl	OFF,20%~45%	OFF	Warns at low light level	45%	U
Synchro Scan Disp	sec,%,deg	deg	Display units for shutter	deg{f}	U
ECU Menu Disp	ON,OFF	ON	Enables menu mimic of ECU ops	ON	U

Film Main Menu 2, VF Marker

Item	Range	Factory	description	BBC	
Safety Zone	OFF,0~12	3	(80%+90%, 80%, 90%) 16x9: 1-3=corners, 4-6=box 4x3: 7-9=corners, 10-12=box	3 (90% corners)	U
Center Mark	ON,OFF	ON		ON	U
Frame Sig	4:3,13:9,14:9,VISTA	4:3	Vista=1.85:1	14:9	U
Mark	ON,OFF	OFF	Frame marker	OFF	U
Lvl	0~15	15	Picture level outside frame mark	15	U

Film Main Menu 2, VF Indicator

Item	Range	Factory	description	BBC	
Extender	ON,OFF	ON	Lens extender	ON	U
Shutter	ON,OFF	ON	Shutter speed display	ON	U
Filter	ON,OFF	ON	Filter position	ON	U
White	ON,OFF	ON	Show AWB or Preset A/B	ON	U
Gain	ON,OFF	ON		ON	U
Iris	IRIS,S+IRIS,OFF	S+IRIS	Iris/Super Iris display	S+IRIS	U
Camera ID	ON,OFF	ON	Show camera ID with bars	ON	U
Zoom Lvl	ON,OFF	ON	Focal length	ON	U
Color Temp	ON,OFF	ON		ON	U
Frame Rate	ON,OFF	ON	Camera frame rate, not vtr system	ON	U
Version ID	ON,OFF	ON	Show gamma version with bars	ON	U

Film Main Menu 2, Camera ID

Item	Range	Factory	description	BBC	
ID 1			Max 10 characters		
ID 2			on		
ID 3			each line		

Film Main Menu 2, Shutter Speed

Assign shutter settings to switch under lens

Item	Range	Factory	description	BBC	
Synchrho Scan 1	ON,OFF	ON	Speed set by buttons near filter wheel ON adds items to list of settings that can be cycled through using the little switch below the lens.	ON	
Synchrho Scan 2	ON,OFF	ON		ON	
Position 1	ON,OFF	ON		ON	
Position 2	ON,OFF	ON		ON	
Position 3	ON,OFF	ON		ON	
Position 4	ON,OFF	ON		ON	
Position 5	ON,OFF	ON		ON	
Position 6	ON,OFF	ON		ON	

Film Main Menu 2, Shutter Select

Set shutter speeds

Item	Range	Factory	description	BBC	
Synchrho Scan 2	90~225°	180°	Set shutter speeds. List items are in degrees then seconds irrespective of setting in VF Display Menu. 172.8° stops lighting strobing.	180°	
Position 1		180°		180°	
Position 2	45°, 90°, 120°, 144°, 172.8°, 180°, 1/2000, 1/1000,	172.8°		172.8°	
Position 3		144°		144°	
Position 4	1/500,	120°		120°	
Position 5	1/250, 1/120, 1/100	90°		90°	
Position 6		45°		45°	

Film Main Menu 2, ! LED ***

VF warnings

Item	Range	Factory	description	BBC	
Gain (0dB)	ON/OFF	ON		ON	U
Gain (-3dB)	ON/OFF	OFF		ON	U
Shutter	ON/OFF	ON		ON	U
White Preset	ON/OFF	OFF		ON	U
Extender	ON/OFF	ON		ON	U
Filter	ON/OFF	OFF		ON	U
Black Str	ON/OFF	OFF		ON	U
DAYLIGHT	ON/OFF	OFF		ON	U
Matrix	ON/OFF	OFF		ON	U
Color Correct	ON/OFF	OFF		ON	U
Frame Rate	ON,OFF	ON		ON	U

Film Main Menu 2, Camera SW Mode

Item	Range	Factory	description	BBC	
Filter Inh	ON,OFF	ON	AWB stored with filter data	ON	U
Shockless AWB	OFF,NORM, SLOW,FAST	OFF	Smooth AWB on-shot, 0.5~3 sec	OFF	U
Color Bars	SMPTE,FULL	FULL		SMPTE	U
S. Gain Off	S.GAIN,L/M/H	L/M/H	Method to release Super Gain	L/M/H	U
User1 SW	INH,S.GAIN,S.IRIS,S. BLK, B.STR,AUDIO	INH	B.STR uses +3 setting (not recommended). Y GET reads centre screen luma level in vf for 3 seconds	RET SW	U
User2 SW	CH1,AUDIO CH2,REC SW,Y GET, RET SW	Y GET		Y GET	U
S. Black Lvl	OFF,-10,-20,-30	OFF	Super black level setting	OFF	U
ECU Data Save	ON,OFF	OFF	Saves settings from ECU in camera	OFF	U
Auto Knee Sw	ON,OFF	OFF{F}	Enables Auto Knee switch	OFF	U

Film Main Menu 2, Super Gain

Item	Range	Factory	description	BBC	
S.Gain Value	18,24,30,36	18dB		18dB	U

Film Main Menu 2, Frame Mode

Item	Range	Factory	description	BBC	
Frame Rate Range	60-12,60-4	60-4	Limit variable range low end	60-4	U
Frame Rate	4~60Hz	24	Set rate, 4-12 warning given		U
Scan Reverse	ON,OFF	OFF	Inverts image, for Angenieux primes	OFF	U

FILM MAIN MENUS 3**Film Main Menu 3, Card Read/Write**

Item	Range	Factory	description	BBC	
Select	1~8	1	File number to read	1	
Read			load from file		

Select	1~8	1	File number to write	1	
Write			write to file		
Card Config			format card for use		
Read User Data			load user data		
Title			max 8 characters		

Film Main Menu 3, Cam Card R/W Select

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ID Read/Write	ON,OFF	OFF	ON=save cam ID to card	OFF	
Cam Main Menu1 Level R/W	ON,OFF	OFF	Load/save Menu items that are/aren't marked, see manual for details. N.B. if changing system frequency (60/59.94), camera needs to be switched off/on to make it happen.		
Cam Main Menu1 SW R/W	ON,OFF	OFF			
Cam Main Menu2 R/W	ON,OFF	OFF			
Cam Main Menu3 R/W	ON,OFF	OFF			
Cam Main Menu4 R/W	ON,OFF	OFF			

Film Main Menu 3, Genlock/Iris

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
H Phase Coarse	0~15	7	Genlock phase	7	
H Phase Fine	0~64	32		32	
A.Iris Level	0~100	50	Auto iris target level, luma	50	
A.Iris Peak/Ave	0~100	50	Ratio, 0=ave'ge, 100=peak	50	
A.Iris Mode	NORM1,NORM2,CENT	NORM1	1=full frame, 2=not top part	NORM1	
S.Iris Level	0~100	80	Super Iris target level	80	
Iris Gain	CAM,LENS	LENS	Iris gain to be set by lens or camera	LENS	
Iris Gain Value	1~10	6	Camera lens setting	6	

Film Main Menu 3, Lens Adj

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
F2.8 Adj	ON,OFF	OFF	refer to manual, I don't understand	OFF	
F16 Adj	ON,OFF	OFF		OFF	

FILM MAIN MENUS 4**Film Main Menu 4, User Menu Select 1**

Index of menus to select items for User Menu 1

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP					
LOW SETTING			Select items from these menu pages to go on		
MID SETTING			User Menu Page 1.		
HIGH SETTING					
ADDITIONAL DTL1					
ADDITIONAL DTL2					
SKIN TONE DTL					
KNEE/LEVEL			42 items maximum,		
GAMMA			14 per page		
CAMERA SETTING					

Film Main Menu 4, User Menu Select 2

Index of menus to select items for User Menu 2

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER			Select items for User Menu Page 1.		
VF INDICATOR					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Film Main Menu 4, User Menu Select 3

Index of menus to select items for User Menu 3

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT			And 14 more for User Menu Page 3.		
GENLOCK/IRIS					

Film Main Menu 4, Black Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Detection			This makes it happen		
Correct (Dig)	ON,OFF	ON		ON	

Film Main Menu 4, White Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Select	1~8	1	Select a shading file		
Read			Read from it		
Detection (V Saw)			Measure vertical shading, save to file		
Correct	ON,OFF		Switch it on/off	ON	
Title			Text field, 12 chars for each of 8 files		

Film Main Menu 4, Flare

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
R.Flare	0~100	4			
G.Flare	0~100	0	Set depending on lens		
B.Flare	0~100	10			

Film Main Menu 4, Colorimetry

actually only the coding matrix

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Matrix	SMPTE274, 240, NTSC	SMPTE274	240=old 1035, 274=1080 & 720	SMPTE 274	

Film Main Menu 4, Initialise

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Read Factory Data			Factory reset all menu settings		
Write User Data			Save user setup		
Scene Sel	1~4		Select scene file		
Read			Read scene file		
Write			Save scene file		
Reset			Factory reset scene files		
Title 1					
Title 2			N.B. if system frequency is changed,		
Title 3			power off/on to make it happen.		
Title 4					

Film Main Menu 4, Diagnostic

card/software versions

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Camsoft (in)		T3.00-00-00.00	Internal flash software version		
Camsoft (out)		T1.00-00-00.0A	External flash software version		
Cam Table		T1.00-00-00.06	Gamma table version		
PLD (Cam)		T1.00-00-00.02	Camera software system version		
Pld (SHD)		T1.01-00-00.02	Shading software version		

Film Main Menu 4, Evaluation

routes to measurement system, see below

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
S/N					
Modulation					
Resolution					
Sensitivity					

Film Main Menu 4, Option

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Eng Security	ON,OFF	OFF	ON=only User menus shown N.B. needs factory advice to reset, so DON'T CHANGE THIS	OFF	
Shd, ABB SW CRTL	ON,OFF	ON	ON=ABB if AWB pressed >8 sec	ON	
AWB Area	25%,50%,90%	25%	Sets AWB sense area	25%	
AWB & ABB Offset	OFF,ON	OFF	OFF resets ROP gain/ped values after AWB or ABB	OFF	
Cam Menu Select	VIDEO,FILM	FILM	Changes Main Menus, Film/Cam	FILM	
System Freq	60,59.94	60Hz		60	

Film Main Menu 4, Evaluation S/N

for making S/N measurement

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
S/N	ON		Go		
Detail	ON,OFF	OFF	Temporary settings just for making measurements...		
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	140			

Film Main Menu 4, Evaluation Modulation

For making modulation measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Modulation	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	0			

Film Main Menu 4, Evaluation Resolution

For making resolution measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Resolution	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	0			

Film Main Menu 4, Evaluation Sensitivity

For making sensitivity measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Sensitivity	ON		Go		
Knee	ON,OFF	OFF			
W.Clip	ON,OFF	OFF			
M.Ped	-200~200	0			

CAMera setting, {v} conventional video use, but aiming to mimic film on television, matches Sony HDW750 reasonably well (in colour, sensitivity, sharpness and noise).

CAM MAIN MENUS

Cam Main Menu 1

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP			Remote operation panel		
MATRIX					
COLOR CORRECTION 1					
COLOR CORRECTION 2					
LOW SETTING					
MID SETTING					
HIGH SETTING					
ADDITIONAL DTL 1					
ADDITIONAL DTL 2					
SKIN TONE DTL					
KNEE/LEVEL					
GAMMA					
CAMERA SETTING					

Settings for Gain switch,
this holds very much more than
just gain settings, use with care

Cam Main Menu 2

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER					
VF INDICATOR					
CAMERA ID					
SHUTTER SPEED					
SHUTTER SELECT					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Cam Main Menu 3

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT					
GENLOCK/IRIS					
LENS ADJ					

Cam Main Menu 4

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM USER MENU SELECT 1					
CAM USER MENU SELECT 2					
CAM USER MENU SELECT 3					
BLACK SHADING					
WHITE SHADING					
FLARE					
COLORIMETRY					
INITIALIZE					
DIAGNOSTIC					
EVALUATION					
OPTION					

CAM MAIN MENUS 1

Cam Main Menu 1 ROP

remote operating panel (sets or monitors ECU settings)

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Master Ped	-200~200	18{C} 0{F}	Master lift	0	U

Master Dtl	-31~31	0	H&V detail	0	U
Master Gamma	0.35~0.75	0.45	In 0.1 steps, stored in gain switch	0.48{v}	U
R Gain	-200~200	0		0	U
G Gain	-200~200	0		0	U
B Gain	-200~200	0		0	U
R Pedestal	-200~200	0		0	U
G Pedestal	-200~200	0		0	U
B Pedestal	-200~200	0		0	U

Cam Main Menu 1, Matrix (User preset) A,B

(Don't care, set to 'off' in L/M/H Setting)

Item	Range	Factory	description	BBC	
Matrix Table	A,B	A	Two user tweakable matrices		
Matrix R-G	-31~31	0			
Matrix R-B	-31~31	0			
Matrix G-R	-31~31	0			
Matrix G-B	-31~31	0			
Matrix B-R	-31~31	0			
Matrix B-G	-31~31	0			

Cam Main Menu 1, Color Correction 1

rather dangerous territory, not recommended

Item	Range	Factory	description	BBC	
R (Sat)	-63~63	0	Adjusts colour	+30{v}	
R (Phase)	-63~63	0	in 45 degree	0	
Mg (Sat)	-63~63	0	segments,	+30{v}	
Mg (Phase)	-63~63	0	tweaks	0	
B (Sat)	-63~63	0	saturation	+30{v}	
B (Phase)	-63~63	0	and hue.	0	
Cy (Sat)	-63~63	0	These	+30{v}	
Cy (Phase)	-63~63	0	segments	0	
G (Sat)	-63~63	0	interleave	+30{v}	
G (Phase)	-63~63	0	those	0	
Yl (Sat)	-63~63	0	in	+30{v}	
Yl (Phase)	-63~63	0	Color Correction 2.	0	

Cam Main Menu 1, Color Correction 2

ditto

Item	Range	Factory	description	BBC	
R-Mg (Sat)	-63~63	0	Adjusts colour	+30{v}	
R-Mg (Phase)	-63~63	0	in 45 degree	0	
Mg-B (Sat)	-63~63	0	segments,	+30{v}	
Mg-B (Phase)	-63~63	0	tweaks	0	
B-Cy (Sat)	-63~63	0	saturation	+30{v}	
B-Cy (Phase)	-63~63	0	and hue.	0	
Cy-G (Sat)	-63~63	0	These	+30{v}	
Cy-G (Phase)	-63~63	0	segments	0	
G-Yl (Sat)	-63~63	0	interleave	+30{v}	
G-Yl (Phase)	-63~63	0	those	0	
Yl-R (Sat)	-63~63	0	in	+30{v}	
Yl-R (Phase)	-63~63	0	Color Correction 1.	0	

Cam Main Menu 1, Low Setting

Low Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-6,-3,0, 6,9,12,18,24,30	0	dB settin	-6{v}	U
H Dtl Lev	0~63	12	=12 for video, 0 for film-look	3{v} 9{k}	U
V Dtl Lev	0~63	16	=12 for video, 0 for film-look	4{v} 12{k}	U
Dtl Coring	0~15	2	Noise threshold	2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{v}	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.48{v}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+1{v}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{v}	U

Cam Main Menu 1, Mid Setting

Mid Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-6,-3,0, 6,9,12,18,24,30 }	0	dB settin	-3{v}	U

H Dtl Lev	0~63	12}	=12 for video, 0 for film-look	3{v} 9{k}	U
V Dtl Lev	0~63	16	=12 for video, 0 for film-look	4{v} 12{k}	U
Dtl Coring	0~15	2		2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{v}	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.48{v}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	+1{v}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{v}	U

Cam Main Menu 1, High Setting

High Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-6,-3,0, 6,9,12,18,24,30	0	dB setting	+6{v}	U
H Dtl Lev	0~63	12	=12 for video, 0 for film-look	3{v} 9{k}	U
V Dtl Lev	0~63	16	=12 for video, 0 for film-look	4{v} 12{k}	U
Dtl Coring	0~15	5		5	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{v}	U
Level Dep	0~5	2	Low-luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.48{v}	U
Black Str	-3,-2,-1,OFF,1,2,3	1	SEE NOTES	OFF{v}	U
Matrix Table	A,B,OFF	OFF	User preset matrices	OFF	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{v}	U

Cam Main Menu 1, Additional Dtl 1

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Aperture	ON,OFF	ON	Detail enhancement in knee region	ON	U
Slim Dtl	ON,OFF	OFF	Finer detail correction (hf boost)	OFF	U

Cam Main Menu 1, Additional Dtl 2

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Ape Lvl	0~5	5	Correction in knee compressed zone	5	
Dtl Gain +	-31~31	0	H correction, +ve going edges	0	
Dtl Gain -	-31~31	0	H correction, -ve going edges	0	
Dtl Clip	0~63	47	Clip level of detail correction	47	
Dtl Source	(G+B)/2, (R+G)/2, (2G+R+B)/2, (3G+R)/2, R,G	(R+G)/2		(R+G)/2	
V Dtl Freq	360,450,540,630,720	630	V detail boost frequency, lines	720	

Cam Main Menu 1, Skin Tone Dtl

Item	Range	Factory	description	BBC	
Skin Tone Dtl	ON,OFF	OFF		OFF	U
Skin Tone Zebra	ON,OFF	OFF	VF level has external control	OFF	U
Skin Dtl Coring	0~7	5		5	U
Y Max	0~255	190	Max luma level for boost	190	
Y Min	0~255	10	Min luma level for boost	10	
I Center	0~255	55	I axis mean level for boost	55	
I Width	0~255	90	I axis min level for boost	90	
Q Width	0~255	10	Q axis max level for boost	10	
Q Phase	0~255	0	Q axis min level for boost	0	

Cam Main Menu 1, Knee Level

Item	Range	Factory	description	BBC	
Master Ped	-200~200	18	Duplicate entry for pedestal	0	U
Manual Knee	ON,OFF	ON	Valid only if AUTO is off	ON	U
Knee Point	80%~107%	95%	Manual break point, knee cancels in Cine {c} mode	85%{v}	U
Knee Slope	0~99	50	Gain in knee zone, about 2.5 stops overload	99{v}	U
White Clip	ON,OFF	ON		ON	U
White Clip Lvl	90%~109%	109%		109%	U
A. Knee Point	80%~107%	95%	Auto knee point	95%	U
A. Knee Slope	100~110	108%	Auto knee slope	108%	U

Cam Main Menu 1, Gamma

Item	Range	Factory	description	BBC	
R Gamma	-15~15	0	Set R away from Master	0	U
B Gamma	-15~15	0	Set B away from Master	0	U

Film/Cam Main Menu 1, Camera Setting

Item	Range	Factory	description	BBC	
Detail	ON,OFF	ON		ON	U
High Color	ON,OFF	OFF	Saturation boost in knee	ON	U
Gamma	ON,OFF	ON	Main gamma on/off	ON	U
Test Saw	ON,OFF	OFF	Test ramp waveform	OFF	U
Flare	ON,OFF	ON	Flare correction	ON	U
H-F Compe	ON,OFF	ON	High range frequency comp	ON	U
D5600K	ON,OFF	OFF	Preset white balances	OFF	U

CAM MAIN MENUS 2**Cam Main Menu 2, VF Display**

Item	Range	Factory	description	BBC	
Disp Condition	NORMAL/HOLD	NORMAL	Show switch status or not	NORMAL	U
Disp Mode	1,2,3	3	1=Off,2=some,3=all	3	U
VF Out	Y,NAM,R,G,B	Y	What you see	Y	U
VF Dtl	0~4	4	Extra detail gain	4	U
Zebra 1 detect	0%~109%	70%	Zebra1=/// above level 1, Zebra2=\\ above level 2. In SPOT, Zebra1 works between levels 1 and 2.	85{v}	U
Zebra 2 detect	0%~109%	85%		90{v}	U
Zebra 2	ON,OFF,SPOT	SPOT	SPOT works only if Zebra 2>1	SPOT{v}	U
Low Light Lvl	OFF,20%~45%	45%	Warns at low light level	45%	U
Synchro Scan Disp	sec,%,deg	sec	Display units for shutter	Sec	U
ECU Menu Disp	ON,OFF	ON	Enables menu mimic of ECU ops	ON	U

Cam Main Menu 2, VF Marker

Item	Range	Factory	description	BBC	
Safety Zone	OFF,0~12	3	(80%+90%, 80%, 90%) 16x9: 1-3=corners, 4-6=box 4x3: 7-9=corners, 10-12=box	3 (90% corners)	U
Center Mark	ON,OFF	ON		ON	U
Frame Sig	4:3,13:9,14:9,VISTA	4:3	Vista=1.85:1	14:9	U
Mark	ON,OFF	OFF	Frame marker	OFF	U
Lvl	0~15	15	Picture level outside frame mark	15	U

Cam Main Menu 2, VF Indicator

Item	Range	Factory	description	BBC	
Extender	ON,OFF	ON	Lens extender	ON	U
Shutter	ON,OFF	ON	Shutter speed display	ON	U
Filter	ON,OFF	ON	Filter position	ON	U
White	ON,OFF	ON	Show AWB or Preset A/B	ON	U
Gain	ON,OFF	ON		ON	U
Iris	IRIS,S+IRIS,OFF	S+IRIS	Iris/Super Iris display	S+IRIS	U
Camera ID	ON,OFF	ON	Show camera ID with bars	ON	U
Zoom Lvl	ON,OFF	ON	Focal length	ON	U
Color Temp	ON,OFF	ON		ON	U
Frame Rate	ON,OFF	ON	Camera frame rate, not vtr system	ON	U
Version ID	ON,OFF	ON	Show gamma version with bars	ON	U

Cam Main Menu 2, Camera ID

Item	Range	Factory	description	BBC	
ID 1			Max 10 characters		
ID 2			on		
ID 3			each line		

Cam Main Menu 2, Shutter Speed

Assign shutter settings to switch under lens

Item	Range	Factory	description	BBC	
Synrho Scan 1	ON,OFF	ON	Speed set by buttons near filter wheel	ON	
Synchro Scan 2	ON,OFF	ON	ON adds items to list of settings that	ON	

Position 1	ON,OFF	ON	can be cycled through using the little switch below the lens.	ON	
Position 2	ON,OFF	ON		ON	
Position 3	ON,OFF	ON		ON	
Position 4	ON,OFF	ON		ON	
Position 5	ON,OFF	ON		ON	
Position 6	ON,OFF	ON		ON	

Cam Main Menu 2, Shutter Select

Set shutter speeds

Item	Range	Factory	description	BBC	
Synchrho Scan 2	90~225°	180°	Set shutter speeds. List items are in degrees	180°	
Position 1	45°, 90°, 120°	1/100	then seconds	1/100	
Position 2	144°, 172.8°, 180°	1/120	irrespective of setting in	1/120	
Position 3	1/2000, 1/1000,	1/250	VF Display Menu.	1/250	
Position 4	1/500,	1/500	172.8° stops lighting	1/500	
Position 5	1/250, 1/120, 1/100	1/1000	strobing.	1/1000	
Position 6		1/2000		1/2000	

Cam Main Menu 2, ! LED ***

VF warnings

Item	Range	Factory	description	BBC	
Gain (0dB)	ON/OFF	ON		ON	U
Gain (-3dB)	ON/OFF	OFF		ON	U
Shutter	ON/OFF	ON		ON	U
White Preset	ON/OFF	OFF		ON	U
Extender	ON/OFF	ON		ON	U
Filter	ON/OFF	OFF		ON	U
Black Str	ON/OFF	OFF		ON	U
D5600K	ON/OFF	OFF		ON	U
Matrix	ON/OFF	OFF		ON	U
Color Correct	ON/OFF	OFF		ON	U
Frame Rate	ON/OFF	ON		ON	U

Cam Main Menu 2, Camera SW Mode

Item	Range	Factory	description	BBC	
Filter Inh	ON,OFF	ON	AWB stored with filter data	ON	U
Shockless AWB	OFF,NORM, SLOW,FAST	OFF	Smooth AWB on-shot, 0.5~3 sec	OFF	U
Color Bars	SMPTE,FULL	FULL		SMPTE	U
S. Gain Off	S.GAIN,L/M/H	L/M/H	Method to release Super Gain	L/M/H	U
User1 SW	INH,S.GAIN,S.IRIS,S. BLK, B.STR,AUDIO	S.GAIN	B.STR uses +3 setting (not recommended). Y GET reads centre screen luma level in vf for 3 seconds	RET SW	U
User2 SW	CH1,AUDIO CH2,REC SW,Y GET, RET SW	INH		Y GET	U
S. Black Lvl	OFF,-10,-20,-30	OFF	Super black level setting	OFF	U
ECU Data Save	ON,OFF	OFF	Saves settings from ECU in camera	OFF	U
Auto Knee Sw	ON,OFF	ON	Enables Auto Knee switch	OFF	U

Cam Main Menu 2, Super Gain

Item	Range	Factory	description	BBC	
S.Gain Value	18,24,30,36	18dB		18dB	U

Cam Main Menu 2, Frame Mode

Item	Range	Factory	description	BBC	
Frame Rate Range	60-12,60-4	60-4	Limit variable range low end	60-4	U
Frame Rate	4~60Hz	60	Set rate, 4-12 warning given		U
Scan Reverse	ON,OFF	OFF	Inverts image, for Angenieux primes	OFF	U

CAM MAIN MENUS 3**Cam Main Menu 3, Card Read/Write**

Item	Range	Factory	description	BBC	
Select	1~8	1	File number to read	1	
Read			load from file		
Select	1~8	1	File number to write	1	
Write			write to file		
Card Config			format card for use		

Read User Data Title	load user data max 8 characters		
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Cam Main Menu 3, Cam Card R/W Select

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ID Read/Write	ON,OFF	OFF	ON=save cam ID to card	OFF	
Cam Main Menu1 Level R/W	ON,OFF	OFF	Load/save Menu items that are/aren't marked, see manual for details. N.B. if changing system frequency (60/59.94), camera needs to be switched off/on to make it happen.		
Cam Main Menu1 SW R/W	ON,OFF	OFF			
Cam Main Menu2 R/W	ON,OFF	OFF			
Cam Main Menu3 R/W	ON,OFF	OFF			
Cam Main Menu4 R/W	ON,OFF	OFF			

Cam Main Menu 3, Genlock/Iris

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
H Phase Coarse	0~15	7	Genlock phase	7	
H Phase Fine	0~64	32		32	
A.Iris Level	0~100	50	Auto iris target level, luma	50	
A.Iris Peak/Ave	0~100	50	Ratio, 0=ave'ge, 100=peak	50	
A.Iris Mode	NORM1,NORM2,CENT	NORM1	1=full frame, 2=not top part	NORM1	
S.Iris Level	0~100	80	Super Iris target level	80	
Iris Gain	CAM,LENS	LENS	Iris gain to be set by lens or camera	LENS	
Iris Gain Value	1~10	6	Camera lens setting	6	

Cam Main Menu 3, Lens Adj

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
F2.8 Adj	ON,OFF	OFF		OFF	
F16 Adj	ON,OFF	OFF	refer to manual, I don't understand	OFF	

CAM MAIN MENUS 4**Cam Main Menu 4, User Menu Select 1**

Index of menus to select items for User Menu 1

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP					
LOW SETTING			Select items from these menu pages to go on		
MID SETTING			User Menu Page 1.		
HIGH SETTING					
ADDITIONAL DTL1					
ADDITIONAL DTL2					
SKIN TONE DTL			42 items maximum, 14 per page		
KNEE/LEVEL					
GAMMA					
CAMERA SETTING					

Cam Main Menu 4, User Menu Select 2

Index of menus to select items for User Menu 2

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER			Select items for User Menu Page 1.		
VF INDICATOR					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Cam Main Menu 4, User Menu Select 3

Index of menus to select items for User Menu 3

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT			And 14 more for User Menu Page 3.		
GENLOCK/IRIS					

Cam Main Menu 4, Black Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Detection			This makes it happen		

Correct (Dig)	ON,OFF	ON	ON	
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Cam Main Menu 4, White Shading

Item	Range	Factory	description	BBC	
Select	1~8	1	Select a shading file		
Read			Read from it		
Detection (V Saw)			Measure vertical shading, save to file		
Correct	ON,OFF		Switch it on/off	ON	
Title			Text field, 12 chars for each of 8 files		

Cam Main Menu 4, Flare

Item	Range	Factory	description	BBC	
R.Flare	0~100	4			
G.Flare	0~100	0	Set depending on lens		
B.Flare	0~100	10			

Cam Main Menu 4, Colorimetry

actually only the coding matrix

Item	Range	Factory	description	BBC	
Matrix	SMPTE274, 240, NTSC	SMPTE274	240=old 1035, 274=1080 & 720	SMPTE 274	

Cam Main Menu 4, Initialise

Item	Range	Factory	description	BBC	
Read Factory Data			Factory reset all menu settings		
Write User Data			Save user setup		
Scene Sel	1~4		Select scene file		
Read			Read scene file		
Write			Save scene file		
Reset			Factory reset scene files		
Title 1					
Title 2					
Title 3					
Title 4			N.B. if system frequency is changed, power off/on to make it happen.		

Cam Main Menu 4, Diagnostic

card/software versions

Item	Range	Factory	description	BBC	
Camsoft (in)		T3.00-00-00.00	Internal flash software version		
Camsoft (out)		T1.00-00-00.0A	External flash software version		
Cam Table		T1.00-00-00.06	Gamma table version		
PLD (Cam)		T1.00-00-00.02	Camera software system version		
Pld (SHD)		T1.01-00-00.02	Shading software version		

Cam Main Menu 4, Evaluation

routes to measurement system, see below

Item	Range	Factory	description	BBC	
S/N					
Modulation					
Resolution					
Sensitivity					

Cam Main Menu 4, Option

Item	Range	Factory	description	BBC	
Eng Security	ON,OFF	OFF	ON=only User menus shown N.B. needs factory advice to reset, so DON'T CHANGE THIS	OFF	
Shd, ABB SW CTRL	ON,OFF	ON	ON=ABB if AWB pressed >8 sec	ON	
AWB Area	25%,50%,90%	25%	Sets AWB sense area	25%	
AWB & ABB Offset	OFF,ON	OFF	OFF resets ROP gain/ped values after AWB or ABB	OFF	
Cam Menu Select	VIDEO,FILM	FILM	Changes Main Menus, Film/Cam	VIDEO	
System Freq	60,59.94	60Hz		60	

Cam Main Menu 4, Evaluation S/N

for making S/N measurement

Item	Range	Factory	description	BBC	
S/N	ON		Go		
Detail	ON,OFF	OFF	Temporary settings just for making		

H-F Compe	ON,OFF	OFF	measurements...		
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	140			

Cam Main Menu 4, Evaluation Modulation

For making modulation measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Modulation	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	18{C} 0{F}			

Cam Main Menu 4, Evaluation Resolution

For making resolution measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Resolution	ON		Go		
Detail	ON,OFF	OFF			
H-F Compe	ON,OFF	OFF			
Gamma	ON,OFF	OFF			
Matrix	ON,OFF	OFF			
Flare	ON,OFF	OFF			
M.Ped	-200~200	18{C} 0{F}			

Cam Main Menu 4, Evaluation Sensitivity

For making sensitivity measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Sensitivity	ON		Go		
Knee	ON,OFF	OFF			
W.Clip	ON,OFF	OFF			
M.Ped	-200~200	18{C} 0{F}			

FILM settings, {w} wildlife settings, aimed to capture maximum contrast range with minimum noise. This table incorporates some ideas and data from Scott Scheel, courtesy of Panasonic USA.

Note: VIDEO REC is recommended, and the value of Gamma (User menu item) can be set between 0.45 and 0.55 depending on lighting conditions; set a higher value (0.5 to 0.55) for high contrast scenes, lower value (0.45 to 0.5) for flat lighting/low contrast scenes. However, the FILM REC mode can also be used, using the Dynamic Level control to adjust the exposure range; this has the effect of changing the photographic speed of the camera (response to 18% reflectance grey) and runs the serious risk of causing colour contouring on skin tones.

The values in the Main Menu 1, Color Correction tables were derived by Scott Scheel of Panasonic USA, using a ChromaDuMonde test chart.

FILM MAIN MENUS

Film Main Menu 1

Engineering routing menus

Item	Range	Factory	Description	BBC	
ROP			Remote operation panel		
MATRIX					
COLOR CORRECTION 1					
COLOR CORRECTION 2					
LOW SETTING			Settings for Gain switch, this holds very much more than just gain settings, use with care		
MID SETTING					
HIGH SETTING					
ADDITIONAL DTL 1					
ADDITIONAL DTL 2					
SKIN TONE DTL					
KNEE/LEVEL					
GAMMA					
CAMERA SETTING					

Film Main Menu 2

Engineering routing menus

Item	Range	Factory	description	BBC	
VF DISPLAY					
VF MARKER					
VF INDICATOR					
CAMERA ID					
SHUTTER SPEED					
SHUTTER SELECT					
!LED					
CAMERA SW MODE					
SUPER GAIN					
FRAME MODE					

Film Main Menu 3

Engineering routing menus

Item	Range	Factory	description	BBC	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT					
GENLOCK/IRIS					
LENS ADJ					

Film Main Menu 4

Engineering routing menus

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM USER MENU SELECT 1					
CAM USER MENU SELECT 2					
CAM USER MENU SELECT 3					
BLACK SHADING					
WHITE SHADING					
FLARE					
COLORIMETRY					
INITIALIZE					
DIAGNOSTIC					
EVALUATION					
OPTION					

FILM MAIN MENUS 1**Film Main Menu 1 ROP**

remote operating panel (sets or monitors ECU settings)

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Master Ped	-200~200	0	Master lift	0	U
Master Dtl	-31~31	0	H&V detail	-5{w}	U
Master Gamma	0.35~0.75	0.45	In 0.1 steps, stored in gain switch	0.52{w}	U
R Gain	-200~200	0		0	U
G Gain	-200~200	0		0	U
B Gain	-200~200	0		0	U
R Pedestal	-200~200	0		0	U
G Pedestal	-200~200	0		0	U
B Pedestal	-200~200	0		0	U

Film Main Menu 1, Matrix (User preset) A,B

(Don't care, set to 'off' in L/M/H Setting)

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Matrix Table	A,B	A	Two user tweakable matrices		
Matrix R-G	-31~31	0	Settings for matrix A	+7{w}	
Matrix R-B	-31~31	0		+17{w}	
Matrix G-R	-31~31	0		+7{w}	
Matrix G-B	-31~31	0		-6{w}	
Matrix B-R	-31~31	0		-6{w}	
Matrix B-G	-31~31	0		0{w}	
Matrix R-G	-31~31	0	Settings for matrix B	+9{w}	
Matrix R-B	-31~31	0		+7{w}	
Matrix G-R	-31~31	0		+16{w}	
Matrix G-B	-31~31	0		+12{w}	
Matrix B-R	-31~31	0		0{w}	
Matrix B-G	-31~31	0		0{w}	

Film Main Menu 1, Color Correction 1

rather dangerous territory, not recommended

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
R (Sat)	-63~63	0	Adjusts colour	-20{w}	
R (Phase)	-63~63	0	in 45 degree	+8{w}	
Mg (Sat)	-63~63	0	segments,	+35{w}	
Mg (Phase)	-63~63	0	tweaks	0{w}	
B (Sat)	-63~63	0	saturation	-29{w}	
B (Phase)	-63~63	0	and hue.	+13{w}	
Cy (Sat)	-63~63	0	These	+15{w}	
Cy (Phase)	-63~63	0	segments	-4{w}	
G (Sat)	-63~63	0	interleave	+13{w}	
G (Phase)	-63~63	0	those	-10{w}	
Yl (Sat)	-63~63	0	in	-27{w}	
Yl (Phase)	-63~63	0	Color Correction 2.	-29{w}	

Film Main Menu 1, Color Correction 2

ditto

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
R-Mg (Sat)	-63~63	0	Adjusts colour	-5{w}	
R-Mg (Phase)	-63~63	0	in 45 degree	-25{w}	
Mg-B (Sat)	-63~63	0	segments,	0{w}	
Mg-B (Phase)	-63~63	0	tweaks	0{w}	
B-Cy (Sat)	-63~63	0	saturation	0{w}	

B-Cy (Phase)	-63~63	0	and hue.	0{w}	
Cy-G (Sat)	-63~63	0	These	0{w}	
Cy-G (Phase)	-63~63	0	segments	0{w}	
G-Y1 (Sat)	-63~63	0	interleave	0{w}	
G-Y1 (Phase)	-63~63	0	those	0{w}	
Y1-R (Sat)	-63~63	0	in	0{w}	
Y1-R (Phase)	-63~63	0	Color Correction 1.	0{w}	

Film/Cam Main Menu 1, Low Setting

Low Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	-3{w}	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	5{w} 8{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	6{w} 10{k}	U
Dtl Coring	0~15	2	Noise threshold	2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{w}	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.52{w}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	OFF	U
Matrix Table	A,B,OFF	OFF	User preset matrices	A{w}	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{w}	U

Film Main Menu 1, Mid Setting

Mid Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	0{w}	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	5{w} 8{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	6{w} 10{k}	U
Dtl Coring	0~15	2		2	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{w}	U
Level Dep	0~5	2	Low luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.52{w}	U
Black Str	-3,-2,-1,OFF,1,2,3	OFF	SEE NOTES	OFF	U
Matrix Table	A,B,OFF	OFF	User preset matrices	A{w}	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{w}	U

Film Main Menu 1, High Setting

High Level Gain switch position

Item	Range	Factory	description	BBC	
Master Gain	-3,0,6,9,12,18,24,30	0	dB setting	3{w}	U
H Dtl Lev	0~63	8	=12 for video, 0 for film-look	5{w} 8{k}	U
V Dtl Lev	0~63	12	=12 for video, 0 for film-look	6{w} 10{k}	U
Dtl Coring	0~15	5		5	U
H Dtl Freq	0~29	22	V freq set in Add. Detail 2	31{w}	U
Level Dep	0~5	2	Low-luma zone, no correction	2	U
Gamma	0.35~0.75	0.45	0.01 steps	0.52{w}	U
Black Str	-3,-2,-1,OFF,1,2,3	1	SEE NOTES	OFF	U
Matrix Table	A,B,OFF	OFF	User preset matrices	A{w}	U
Col. Corr.	ON,OFF	OFF	12 segment adjust, see above	ON{w}	U

Film Main Menu 1, Additional Dtl 1

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Aperture	ON,OFF	ON	Detail enhancement in knee region	ON	U
Slim Dtl	ON,OFF	OFF	Finer detail correction (hf boost)	OFF	U

Film Main Menu 1, Additional Dtl 2

Detail, extra controls

Item	Range	Factory	description	BBC	
Knee Ape Lvl	0~5	5	Correction in knee compressed zone	5	
Dtl Gain +	-31~31	0	H correction, +ve going edges	0	
Dtl Gain -	-31~31	0	H correction, -ve going edges	0	
Dtl Clip	0~63	47	Clip level of detail correction	47	
Dtl Source	(G+B)/2, (R+G)/2, (2G+R+B)/2, (3G+R)/2, R,G	(R+G)/2		(R+G)/2	
V Dtl Freq	360,450,540,630,720	630	V detail boost frequency, lines	720{w}	

Film Main Menu 1, Skin Tone Dtl

Item	Range	Factory	description	BBC	
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Skin Tone Dtl	ON,OFF	OFF		OFF	U
Skin Tone Zebra	ON,OFF	OFF	VF level has external control	OFF	U
Skin Dtl Coring	0~7	5		5	U
Y Max	0~255	190	Max luma level for boost	190	
Y Min	0~255	10	Min luma level for boost	10	
I Center	0~255	55	I axis mean level for boost	55	
I Width	0~255	90	I axis min level for boost	90	
Q Width	0~255	10	Q axis max level for boost	10	
Q Phase	0~255	0	Q axis min level for boost	0	

Film Main Menu 1, Knee Level

Item	Range	Factory	description	BBC	
Master Ped	-200~200	18{C} 0{F}	Duplicate entry for pedestal	0	U
Manual Knee	ON,OFF	ON	Valid only if AUTO is off	ON{w}	U
Knee Point	30%~90%	65%	Manual break point, knee cancels in Cine {c} mode	65%{w}	U
Knee Slope	150%~600%	500%	Gain in knee zone, about 2.5 stops overload	350%{w}	U
White Clip	ON,OFF	ON		ON	U
White Clip Lvl	90%~109%	109%		109%	U
A. Knee Point	80%~107%	95%	Auto knee point	100%	U
A. Knee Slope	100~110	108%	Auto knee slope	108%	U

Film Main Menu 1, Gamma

Item	Range	Factory	description	BBC	
Master Gamma	0.35~0.75	0.45	Steps of 0.1	0.52{w}	UF
R Gamma	-15~15	0	Set R away from Master	0	U
B Gamma	-15~15	0	Set B away from Master	0	U
Cine Gamma Sel	Video Rec,Film Rec	Video Rec	Video or Cine style in Film mode	Video Rec	UF
Black Str Level	0~30%	0%		5	UF
Dynamic Level	200%~500%	500%	500%=all ccd, 100%=video range	500% ¹	UF

Film Main Menu 1, Camera Setting

Item	Range	Factory	description	BBC	
Detail	ON,OFF	ON		ON{w}	U
High Color	ON,OFF	OFF	Saturation boost in knee	OFF	U
Gamma	ON,OFF	ON	Main gamma on/off	ON	U
Test Saw	ON,OFF	OFF	Test ramp waveform	OFF	U
Flare	ON,OFF	ON	Flare correction	ON	U
H-F Compe	ON,OFF	ON	High range frequency comp	ON	U
Lighting	Tungsten, Daylight	Tungsten	Preset white balances	Tungsten ²	U

FILM MAIN MENUS 2**Film Main Menu 2, VF Display**

Item	Range	Factory	description	BBC	
Disp Condition	NORMAL/HOLD	NORMAL	Show switch status or not	NORMAL	U
Disp Mode	1,2,3	3	1=off,2=some,3=all	3	U
VF Out	Y,NAM,R,G,B	Y	What you see	Y	U
VF Dtl	0~4	4	Extra detail gain	4	U
Zebra 1 detect	0%~109%	80%	Zebra1=/// above level 1, Zebra2=\\	65{w}	U

¹ FILM REC may be better for wildlife because it deals more equitably with the middle range of exposure than does VIDEO REC. However, there is a real risk that critical tones (skin) may be over-compressed, resulting in colour contouring. The Dynamic Level control specifies how much of the over-exposure range of the camera will be coped with; at 500% the "lazy S" curve peaks at 500% (2.3 stops over) and the result is very low contrast and film-like, at 200% the curve peaks at 200% (1 stop over) and the result is much like the VIDEO REC curve. If FILM REC is to be used, then Dynamic Level should be used as a contrast control; set to 500% when the scene is very high contrast, set to 200% (minimum) when the scene is low contrast or when skin tones are important.

² Selecting Daylight will give a camera speed advantage of about 2/3 stop if the camera is shooting in daylight, but the filters in the filter wheel will no longer do what is expected of them.

Zebra 2 detect	0%~109%	85%	above level 2. In SPOT, Zebra1 works between levels 1 and 2.	95{w	U
Zebra 2	ON,OFF,SPOT	SPOT	SPOT works only if Zebra 2>1	ON{w}	U
Low Light Lvl	OFF,20%~45%	OFF	Warns at low light level	45%	U
Synchro Scan Disp	sec,%,deg	deg	Display units for shutter	deg{w}	U
ECU Menu Disp	ON,OFF	ON	Enables menu mimic of ECU ops	ON	U

Film Main Menu 2, VF Marker

Item	Range	Factory	description	BBC	
Safety Zone	OFF,0~12	3	(80%+90%, 80%, 90%) 16x9: 1-3=corners, 4-6=box 4x3: 7-9=corners, 10-12=box	3 (90% corners)	U
Center Mark	ON,OFF	ON		ON	U
Frame Sig	4:3,13:9,14:9,VISTA	4:3	Vista=1.85:1	14:9	U
Mark	ON,OFF	OFF	Frame marker	OFF	U
Lvl	0~15	15	Picture level outside frame mark	15	U

Film Main Menu 2, VF Indicator

Item	Range	Factory	description	BBC	
Extender	ON,OFF	ON	Lens extender	ON	U
Shutter	ON,OFF	ON	Shutter speed display	ON	U
Filter	ON,OFF	ON	Filter position	ON	U
White	ON,OFF	ON	Show AWB or Preset A/B	ON	U
Gain	ON,OFF	ON		ON	U
Iris	IRIS,S+IRIS,OFF	S+IRIS	Iris/Super Iris display	S+IRIS	U
Camera ID	ON,OFF	ON	Show camera ID with bars	ON	U
Zoom Lvl	ON,OFF	ON	Focal length	ON	U
Color Temp	ON,OFF	ON		ON	U
Frame Rate	ON,OFF	ON	Camera frame rate, not vtr system	ON	U
Version ID	ON,OFF	ON	Show gamma version with bars	ON	U

Film Main Menu 2, Camera ID

Item	Range	Factory	description	BBC	
ID 1			Max 10 characters		
ID 2			on		
ID 3			each line		

Film Main Menu 2, Shutter Speed

Assign shutter settings to switch under lens

Item	Range	Factory	description	BBC	
Synchrho Scan 1	ON,OFF	ON	Speed set by buttons near filter wheel	ON	
Synchro Scan 2	ON,OFF	ON		ON	
Position 1	ON,OFF	ON		ON	
Position 2	ON,OFF	ON	ON adds items to list of settings that	ON	
Position 3	ON,OFF	ON	can be cycled through using the little	ON	
Position 4	ON,OFF	ON	switch below the lens.	ON	
Position 5	ON,OFF	ON		ON	
Position 6	ON,OFF	ON		ON	

Film Main Menu 2, Shutter Select

Set shutter speeds

Item	Range	Factory	description	BBC	
Synchrho Scan 2	90~225°	180°		180°	
Position 1		180°	Set shutter speeds. List items are	180°	
Position 2	45°, 90°, 120°,	172.8°	in degrees then seconds	172.8°	
Position 3	144°, 172.8°, 180°,	144°	irrespective of setting in VF	144°	
Position 4	1/2000, 1/1000,	120°	Display Menu. 172.8° stops	120°	
Position 5	1/500,	90°	lighting strobing.	90°	
Position 6	1/250, 1/120, 1/100	45°		45°	

Film Main Menu 2, ! LED ***

VF warnings

Item	Range	Factory	description	BBC	
Gain (0dB)	ON/OFF	ON		ON	U
Gain (-3dB)	ON/OFF	OFF		OFF{w}	U
Shutter	ON/OFF	ON		ON	U
White Preset	ON/OFF	OFF		OFF	U

Extender	ON/OFF	ON	ON	U
Filter	ON/OFF	OFF	OFF	U
Black Str	ON/OFF	OFF	OFF	U
DAYLIGHT	ON/OFF	OFF	OFF	U
Matrix	ON/OFF	OFF	OFF	U
Color Correct	ON/OFF	OFF	OFF	U
Frame Rate	ON,OFF	ON	ON	U

Film Main Menu 2, Camera SW Mode

Item	Range	Factory	description	BBC	
Filter Inh	ON,OFF	ON	AWB stored with filter data	ON	U
Shockless AWB	OFF,NORM, SLOW,FAST	OFF	Smooth AWB on-shot, 0.5~3 sec	OFF	U
Color Bars	SMPTE,FULL	FULL		SMPTE	U
S. Gain Off	S.GAIN,L/M/H	L/M/H	Method to release Super Gain	L/M/H	U
User1 SW	INH,S.GAIN,S.IRIS,S. BLK, B.STR,AUDIO	INH	B.STR uses +3 setting (not recommended). Y GET reads centre screen luma level in vf for 3 seconds	RET SW	U
User2 SW	CH1,AUDIO CH2,REC SW,Y GET, RET SW	Y GET		Y GET	U
S. Black Lvl	OFF,-10,-20,-30	OFF	Super black level setting	OFF	U
ECU Data Save	ON,OFF	OFF	Saves settings from ECU in camera	OFF	U
Auto Knee Sw	ON,OFF	OFF{F}	Enables Auto Knee switch	OFF	U

Film Main Menu 2, Super Gain

Item	Range	Factory	description	BBC	
S.Gain Value	18,24,30,36	18dB		18dB	U

Film Main Menu 2, Frame Mode

Item	Range	Factory	description	BBC	
Frame Rate Range	60-12,60-4	60-4	Limit variable range low end	60-4	U
Frame Rate	4~60Hz	24	Set rate, 4-12 warning given	25{w}	U
Scan Reverse	ON,OFF	OFF	Inverts image, for Angenieux primes	OFF	U

FILM MAIN MENUS 3**Film Main Menu 3, Card Read/Write**

Item	Range	Factory	description	BBC	
Select	1~8	1	File number to read	1	
Read			load from file		
Select	1~8	1	File number to write	1	
Write			write to file		
Card Config			format card for use		
Read User Data			load user data		
Title			max 8 characters		

Film Main Menu 3, Cam Card R/W Select

Item	Range	Factory	description	BBC	
ID Read/Write	ON,OFF	OFF	ON=save cam ID to card	OFF	
Cam Main Menu1 Level	ON,OFF	OFF	Load/save Menu items		
R/W			that are/aren't marked, see manual for details. N.B. if changing system frequency (60/59.94), camera needs to be switched off/on to make it happen.		
Cam Main Menu1 SW	ON,OFF	OFF			
R/W					
Cam Main Menu2 R/W	ON,OFF	OFF			
Cam Main Menu3 R/W	ON,OFF	OFF			
Cam Main Menu4 R/W	ON,OFF	OFF			

Film Main Menu 3, Genlock/Iris

Item	Range	Factory	description	BBC	
H Phase Coarse	0~15	7	Genlock phase	7	
H Phase Fine	0~64	32		32	
A.Iris Level	0~100	50	Auto iris target level, luma	50	
A.Iris Peak/Ave	0~100	50	Ratio, 0=ave'ge, 100=peak	50	
A.Iris Mode	NORM1,NORM2,CENT	NORM1	1=full frame, 2=not top part	NORM1	
S.Iris Level	0~100	80	Super Iris target level	80	
Iris Gain	CAM,LENS	LENS	Iris gain to be set by lens or camera	LENS	

Iris Gain Value	1~10	6	Camera lens setting	6	
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Film Main Menu 3, Lens Adj

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
F2.8 Adj	ON,OFF	OFF	refer to manual, I don't understand	OFF	
F16 Adj	ON,OFF	OFF		OFF	

FILM MAIN MENUS 4**Film Main Menu 4, User Menu Select 1**

Index of menus to select items for User Menu 1

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
ROP					
LOW SETTING			Select items		
MID SETTING			from these		
HIGH SETTING			menu pages		
ADDITIONAL DTL1			to go on		
ADDITIONAL DTL2			User Menu Page 1.		
SKIN TONE DTL					
KNEE/LEVEL			42 items		
GAMMA			maximum,		
CAMERA SETTING			14 per page		

Film Main Menu 4, User Menu Select 2

Index of menus to select items for User Menu 2

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
VF DISPLAY					
VF MARKER			Select		
VF INDICATOR			items		
!LED			for		
CAMERA SW MODE			User		
SUPER GAIN			Menu		
FRAME MODE			Page 1.		

Film Main Menu 4, User Menu Select 3

Index of menus to select items for User Menu 3

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
CAM CARD READ/WRITE					
CAM CARD R/W SELECT			And 14 more for		
GENLOCK/IRIS			User Menu Page 3.		

Film Main Menu 4, Black Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Detection			This makes it happen		
Correct (Dig)	ON,OFF	ON		ON	

Film Main Menu 4, White Shading

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Select	1~8	1	Select a shading file		
Read			Read from it		
Detection (V Saw)			Measure vertical shading, save to file		
Correct	ON,OFF		Switch it on/off	ON	
Title			Text field, 12 chars for each of 8 files		

Film Main Menu 4, Flare

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
R.Flare	0~100	4			
G.Flare	0~100	0	Set depending on lens		
B.Flare	0~100	10			

Film Main Menu 4, Colorimetry

actually only the coding matrix

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Matrix	SMPTE274, 240, NTSC	SMPTE274	240=old 1035, 274=1080 & 720	SMPTE 274	

Film Main Menu 4, Initialise

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
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Read Factory Data		Factory reset all menu settings	
Write User Data		Save user setup	
Scene Sel	1~4	Select scene file	
Read		Read scene file	
Write		Save scene file	
Reset		Factory reset scene files	
Title 1			
Title 2		N.B. if system frequency is changed,	
Title 3		power off/on to make it happen.	
Title 4			

Film Main Menu 4, Diagnostic

card/software versions

Item	Range	Factory	description	BBC
Camsoft (in)		T3.00-00-00.00	Internal flash software version	
Camsoft (out)		T1.00-00-00.0A	External flash software version	
Cam Table		T1.00-00-00.06	Gamma table version	
PLD (Cam)		T1.00-00-00.02	Camera software system version	
Pld (SHD)		T1.01-00-00.02	Shading software version	

Film Main Menu 4, Evaluation

routes to measurement system, see below

Item	Range	Factory	description	BBC
S/N				
Modulation				
Resolution				
Sensitivity				

Film Main Menu 4, Option

Item	Range	Factory	description	BBC
Eng Security	ON,OFF	OFF	ON=only User menus shown N.B. needs factory advice to reset, so DON'T CHANGE THIS	OFF
Shd, ABB SW CTRL	ON,OFF	ON	ON=ABB if AWB pressed >8 sec	ON
AWB Area	25%,50%,90%	25%	Sets AWB sense area	25%
AWB & ABB Offset	OFF,ON	OFF	OFF resets ROP gain/ped values after AWB or ABB	OFF
Cam Menu Select	VIDEO,FILM	FILM	Changes Main Menus, Film/Cam	FILM
System Freq	60,59.94	60Hz		60

Film Main Menu 4, Evaluation S/N

for making S/N measurement

Item	Range	Factory	description	BBC
S/N	ON		Go	
Detail	ON,OFF	OFF		
H-F Compe	ON,OFF	OFF		
Gamma	ON,OFF	OFF	Temporary settings just for making measurements...	
Matrix	ON,OFF	OFF		
Flare	ON,OFF	OFF		
M.Ped	-200~200	140		

Film Main Menu 4, Evaluation Modulation

For making modulation measurements

Item	Range	Factory	description	BBC
Modulation	ON		Go	
Detail	ON,OFF	OFF		
H-F Compe	ON,OFF	OFF		
Gamma	ON,OFF	OFF		
Matrix	ON,OFF	OFF		
Flare	ON,OFF	OFF		
M.Ped	-200~200	0		

Film Main Menu 4, Evaluation Resolution

For making resolution measurements

Item	Range	Factory	description	BBC
Resolution	ON		Go	
Detail	ON,OFF	OFF		
H-F Compe	ON,OFF	OFF		
Gamma	ON,OFF	OFF		

Matrix	ON,OFF	OFF		
Flare	ON,OFF	OFF		
M.Ped	-200~200	0		

Film Main Menu 4, Evaluation Sensitivity

For making sensitivity measurements

<i>Item</i>	<i>Range</i>	<i>Factory</i>	<i>description</i>	<i>BBC</i>	
Sensitivity	ON		Go		
Knee	ON,OFF	OFF			
W.Clip	ON,OFF	OFF			
M.Ped	-200~200	0			