

Professional Scene File Settings for AG-AC160

AG-AC160 SCENE FILE SETTINGS

PROFESSIONAL HANDBOOK

		Page
Chapter 1.	SCENE FILE	2
Chapter 2.	DETAIL / V DETAIL	4
Chapter 3.	KNEE	6
Chapter 4.	GAMMA	8
Chapter 5.	DRS	10
Chapter 6.	DETAIL CORING /SKIN TONE DTL	12
Chapter 7.	CHROMA LEVEL / PHASE	14
Chapter 8.	MATRIX / COLOR TEMP	16
Chapter 9.	MASTER PED	18
Chapter 10.	SHOOTING ASSISTS	
	· WAVEFORM MONITOR, VECTOR SCOPE	20
	· FOCUS ASSIST	21
	ADJUSTABLE RANGE OF PARAMETERS/ How to save the settings	[End of the Book]

Chapter 1 : SCENE FILE

Scene File: Selecting the preset settings with the dial

In the AG-AC160 series, there are a total of six preset scene files. They can be selected by using the SCENE FILE dial. These scene files are used to set your camera's DETAIL, KNEE, GAMMA, DRS, DETAIL CORING / SKIN TONE DTL, CHROMA LEVEL / PHASE, MATRIX / COLOR TEMP, and MASTER PEDESTAL to create an image depending on the recording conditions or you may create your own image.

F1		This is a setting best used for normal HD recording. The Gamma curve is set to "HD NORMAL" and other parameters are set to the center value.
F2	FLUO.	This setting is best used in recording indoors under cool fluorescent lamps. Most of the parameters are similar to "F1: Normal" but this mode uses a "FLUO" color matrix table. "FLUO" matrix table compensates for the recording under fluorescent lighting by adjusting your camera's internal colors. The "FLUO" matrix may not be required under natural color fluorescent lamps.
F3	SPARK	This setting creates a better "resolution", "color level" and "contrast". Your image will become brighter with richer colors. Used to highlight subjects at receptions, dinners, etc.
F4	B-STR	This setting broadens the contrast of the dark parts of the image and is effective for a scene which has dark & bright areas together (wedding ceremony etc.). This mode expands the gradation at the darker areas (Black Stretch) by assigning a "HIGH" gamma curve. Suitable for some shooting locations such as "sunsets" and "in the Theater".
F5	CINE V	This setting selects a "CINELIKE V" gamma curve, to shoot a movie-like scene where the contrast is to be emphasized NOTE: Panasonic recommends adjusting the iris to reduce the video level to approximately 1/2 of its normal level, which will reduce the video level. Used to prioritize contrast
F6	CINE D	This setting selects a "CINELIKE D" gamma curve to create a movie-like image scene, where the dynamic range is to be emphasized. The "CINELIKE D" curve maintains gradations from low light to a high light level with a higher priority for the dynamic range. When editing the footage in post production or finishing the film, the "CINE D" mode will make it easier and simpler. NOTE: Panasonic recommends adjusting the iris to approximately 1/2 of its normal level, which will reduce the video level. Used to prioritize dynamic range.



Standard Scene Preset comparisons

* Detailed explanations for each menu item in “**bold**” are available in this handbook.

MENU	F1	F2	F3	F4	F5	F6
		FLUO.	SPARK	B-STR	CINE V	CINE D
VFR	OFF	OFF	OFF	OFF	OFF	OFF
FRAME RATE	-	-	-	-	-	-
SYNC SCAN TYPE	sec	sec	sec	sec	deg	deg
SYNCHRO SCAN *1	*	*	*	*	180.0deg	180.0deg
DETAIL LEVEL	0	0	+3	0	0	0
V DETAIL LEVEL	0	0	0	0	0	0
DETAIL CORING	0	0	+1	0	0	0
CHROMA LEVEL	0	0	+2	0	-2	0
CHROMA PHASE	0	0	0	0	0	0
COLOR TEMP Ach	0	0	0	0	0	0
COLOR TEMP Bch	0	0	0	0	0	0
MASTER PED	0	0	0	0	0	0
A.IRIS LEVEL	0	0	0	0	0	0
DRS	OFF	OFF	OFF	OFF	OFF	OFF
DRS EFFECT	1	1	1	1	1	1
GAMMA	HD NORM	HD NORM	B.PRESS	HIGH	CINELIKE V	CINELIKE D
KNEE	AUTO	AUTO	AUTO	AUTO	(AUTO) *2	(AUTO) *2
MATRIX	NORM1	FLUO	NORM1	NORM1	CINE-LIKE	CINE-LIKE
SKIN TONE DTL	OFF	OFF	OFF	OFF	OFF	OFF

The recording format (“REC FORMAT” menu item in “RECORDING SETUP” screen) is not changed even when “F5: CINE V” or “F6: CINE D” positions are selected.

*1 : This works at the following settings in each recording format.

In 60i/60P mode 1/60 sec In 30P and 24P modes 1/48 sec

In 50i/50P mode 1/50 sec

*2 : When GAMMA is set in CINE-LIKE V or CINE-LIKE D, this item can not be selected.

Chapter 2 : DETAIL

Detail: Edge enhancement concerning the feel of a material, luster, etc.

Detail is a function that enhances contours or edges of an image. It electrically applies artificial image enhancements to the image's borders to sharpen the image. Both Detail Level and Vertical Detail Level functions are covered in this chapter.

The Detail Level allows you to adjust the image outline correction, both in the horizontal and vertical directions simultaneously. It basically, adds more detail to your image.

The Vertical Detail Level allows you to adjust the vertical detail only. It basically, adds more vertical detail to your image.

It is important in most cases to maintain a good balance between these two adjustments. Some people prefer a higher level of detail and some prefer a lower level of detail. The higher the number (+7) the more detail compensation (detail enhancement) for the luminance signal.

Keep in mind, once detail is added to the image and recorded, the detail can not be removed.

There are some scenes that Light may reflect slightly on the subject and may enhance or soften the Image. This may influence the expression of surface luster and quality. Luster of the subjects and the quality can be expressed by this detail control more naturally.



AG-AC160 is equipped with two DETAIL controls. One is for both the horizontal and vertical directions ("DETAIL LEVEL"). The other is for the vertical direction ("V DETAIL LEVEL"). Balance of horizontal and vertical detail effects can be adjusted by these two controls within a certain range of edge signals.

Adjusting the detail level in the "+" direction from the center value (0) increases the detail level. The outline of the subject is enhanced and the picture becomes sharper. Adjusting the detail level in the "-" direction from the center value (0) decreases the detail level and the outline of the subject becomes softer.

After adjusting "DETAIL LEVEL", if the balance of resolution between horizontal and vertical seems to be unmatched, adjust "V DETAIL LEVEL" only for vertical detail.



Setting of DETAIL

Within a certain variable range, the edge can be enhanced in both horizontal and vertical directions.

- DETAIL LEVEL in the SCENE FILE Menu can be set within the range from -7 to +7, and the edge is enhanced in both horizontal and vertical directions.
The picture becomes softer with an adjustment in “-” direction, and sharper with an adjustment in “+” direction.

Setting of V DETAIL

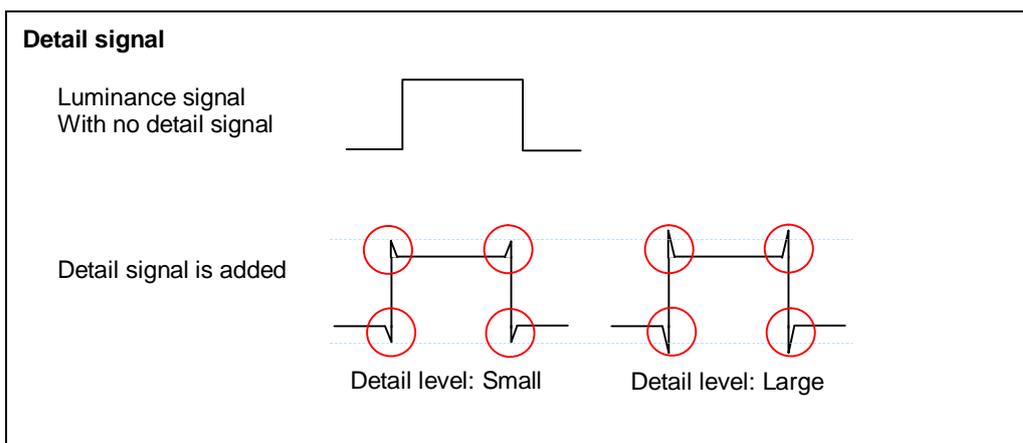
Within a certain variable range, the edge can be enhanced only in the vertical direction.

Especially for pictures of check pattern, this function can be used when there is a gap between horizontal and vertical resolutions.

- V DETAIL LEVEL in the SCENE FILE Menu can be set within the range from -7 to +7, and the level of edge enhancement is adjusted. In combination of adjustments by DETAIL and V DETAIL, it is possible to enhance the edge balancing horizontal and vertical directions with each other.

Technical Description: DETAIL control

Detail signal is added to the edges on the luminance signal to give an outline enhancing effect. Outline of the subject becomes sharper when increasing the detail signal level due to the higher level signal at the edges. Outline of the picture becomes softer when decreasing the detail signal level.



Chapter 3 : KNEE

Knee: Gradation adjustment

Normally, as the intensity of light increases, so does the signal proportionally, until the signal is limited by the white clip. The white clip is set to the maximum Allowable video level. The problem with this is that there is a range of highlight tones, chroma and details that are lost due to the white clip action. The knee extends the dynamic range by compressing high intensity signals and thus, some detail is preserved in the minor overloads below the clip level. Depending on the scene, color may become lighter when KNEE control is adjusted because color gradation is also compressed by the KNEE control.

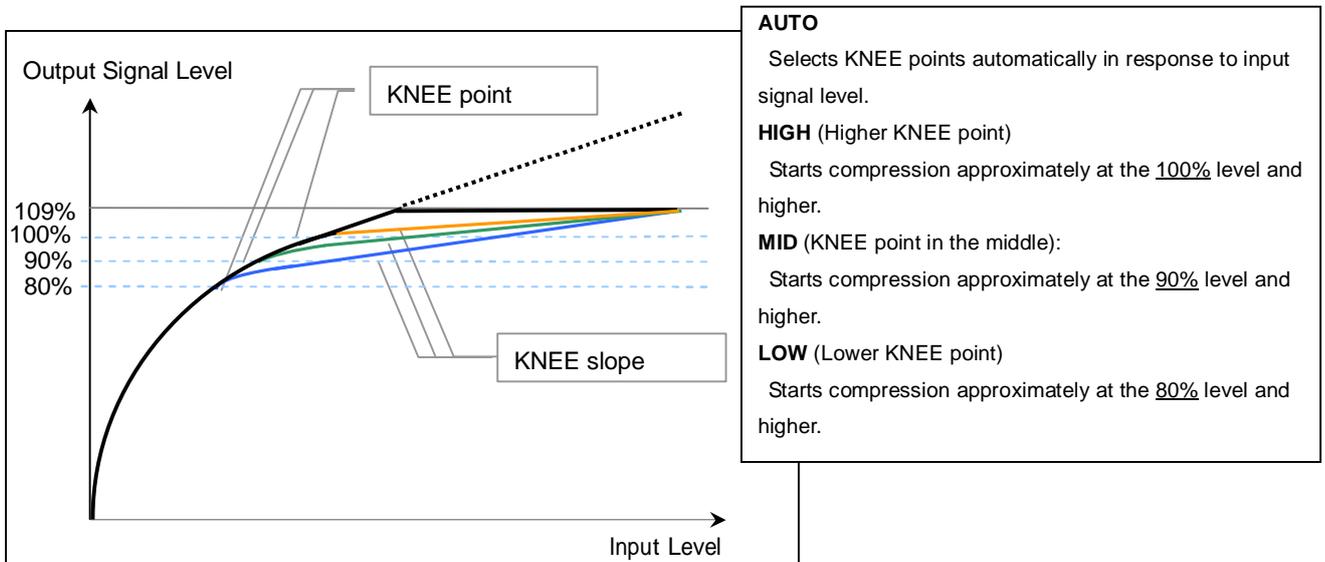
	<p>LOW</p> <p>The threshold level is to 80%.</p> <p>When set to 80% and the upper portion of the video signal is compressed, the color of the sky and clouds can be recognized.</p> <p>This setup is suitable for scenes that have high intensity areas.</p>
	<p>MID</p> <p>The threshold level is to 90%.</p> <p>When set to 90% and the upper portion of the video signal is compressed, the color of the sky is not visible, the image appears to be whiter and not well separated from the clouds.</p>
	<p>HIGH</p> <p>The threshold level is to 100%.</p> <p>When set to 100% and the upper portion of the video signal is compressed, most part of the sky appears white.</p>

However, please be aware that the picture will not be improved even if the KNEE settings are changed when DRS is working or GAMMA is set in CINE-LIKE.

As for DRS, please refer to Chapter 5.

Adjusting the “Knee Control”

1. Open the “KNEE” item in “SCENE FILE” menu screen.
2. Select the starting level of the KNEE compression (KNEE point) with the “KNEE” item.



* This is an example and may be different from actual measurements.

Technical description:

The KNEE is a function used to allow for higher video levels within the dynamic range of the circuit. It compresses the signal at a certain level and higher so that the level is within the approximately 109% (white clip point).

The KNEE function expresses gradations in the high intensity area such as clouds in the blue sky without changing the gradation expression at the knee point and lower.

The KNEE point is a setting for starting level of the KNEE compression. The Adjustable range is approximately from 80% to 100%, which is typically used by professional video cameras.

The KNEE slope is a slope which is determined by a KNEE point and the maximum level of the dynamic range.

The AG-AC160 has no manual KNEE slope adjustment, but it is automatically adjusted by setting the KNEE point.

Generally, for the scenes that have high intensity areas, setting a lower knee point is recommended to avoid blown-out highlights. For the scenes that have no high intensity areas, setting a higher knee point is recommended to keep gradations in the middle of the intensity area.

Chapter 4 : GAMMA

Gamma: Enriching the hue and gradation

Gamma correction is applied in the camera to correct for nonlinear light-output characteristics of the standard TV picture tube. The TV picture tube's gamma stretches the whites and compresses the blacks. The video Camera's gamma compresses the whites and stretches the blacks. The Camera's gamma can be properly set by using a logarithmic gray scale chart and a waveform monitor. The Camera's gamma must be the reciprocal of picture tube gamma which is 2.2, so camera gamma is usually 0.45.

There are cases where the recorded footage shows different results in "color and contrast" from the original image.

In such cases, adjusting the gradation of the output video signal is effective. For this purpose, please choose a suitable gamma curve depending on the image.

The following seven kinds of different Gamma curves are available in the AG-AC160.

 <p>The image shows a scene with a woman in a colorful traditional outfit. A green bar at the bottom of the image is labeled "HD NORM".</p>	<p>HD NORM</p> <p>This is the standard gamma setting for HD shooting.</p> <p>It is the gamma curve defined as HDTV standard by professional organizations such as ARIB, EBU and SMPTE.</p> <p>Use this mode for shooting the regular HDTV programs.</p>
 <p>The image shows the same scene as above. A red circle highlights the woman's face. A green bar at the bottom is labeled "LOW".</p>	<p>LOW</p> <p>The video signal levels in the low intensity areas are compressed and the Middle-High intensity area is clear. Thus the picture image becomes sharper.</p>
 <p>The image shows the same scene as above. A green bar at the bottom is labeled "SD NORM".</p>	<p>SD NORM</p> <p>Use this standard gamma setting for SD recording.</p> <p>When the camera is used in the SDTV mode or the final program is to be delivered in the SDTV mode, please use this gamma setting.</p> <p>It is the same gamma curve as used in the AG-DVX100 series camera recorder. At the lower intensity areas, the video signal is more compressed than in the HD NORM mode.</p>
 <p>The image shows the same scene as above. A red circle highlights a dark area in the background. A green bar at the bottom is labeled "HIGH".</p>	<p>HIGH</p> <p>The video signal level in the low intensity areas is expanded.</p> <p>The detail in the dark area is visible in this mode. It provides brighter tone and soft contrast.</p> <p>When you have objects in the dark area, this mode is helpful.</p>

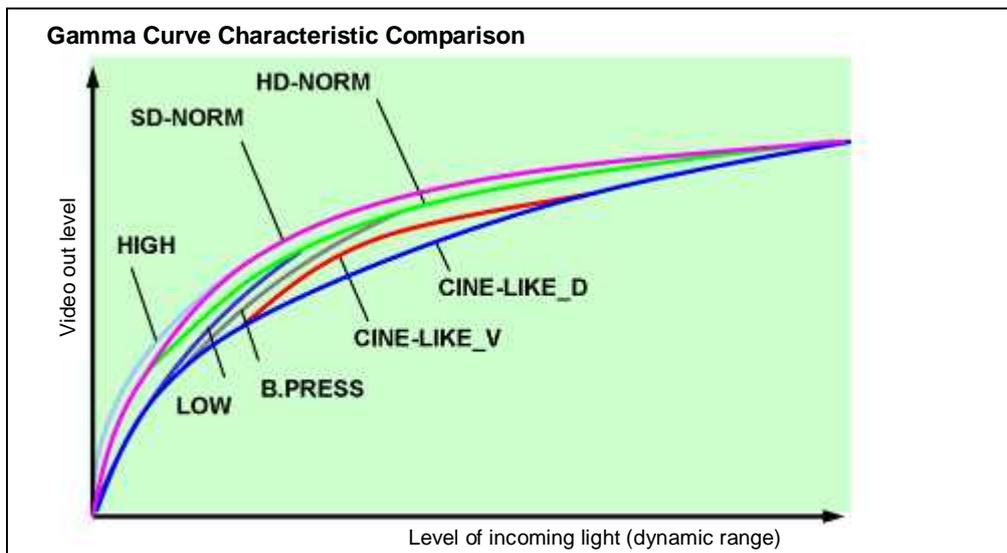
	<p>B.PRESS</p> <p>The video signal level in the low intensity area is compressed more than the LOW mode.</p> <p>The sharp and strong contrast picture is created.</p>
	<p>CINELIKE D</p> <p>This mode creates cinema-like pictures.</p> <p>It provides a wider dynamic range from low dark areas to bright areas. When the post process is planned, this mode provides the widest flexibility.</p> <p>NOTE: Panasonic recommends adjusting the iris to reduce the video level to approximately 1/2 of the normal video level.</p>
	<p>CINELIKE V</p> <p>This mode creates cinema-like pictures in the regular video process.</p> <p>The rich contrast is applied.</p> <p>NOTE: Panasonic recommends adjusting the iris to reduce the video level to approximately 1/2 of the normal video level.</p>

How to adjust the “GAMMA” control

Select the gamma curve with the following procedures.

1. Open the “GAMMA” item in the “SCENE FILE” menu screen.
2. Select a suitable curve from the following selections to record the scene.
HD NORM / LOW / SD NORM / HIGH / B.PRESS / CINE-LIKE_D / CINE-LIKE_V

*For utilizing the full characteristic of the CINE-LIKE gamma curves, Panasonic recommends adjusting the iris to reduce the video level to approximately 1/2 of the normal level when the CINE-LIKE_D or CINE-LIKE_V are used.



* This is an example and may be different from actual measurements.

Chapter 5 : DRS

Dynamic Range Stretcher: Automatic application of the best Gamma

Dynamic Range is the range within which values or variables change. The dynamic range for images refers to the luminance range.

In AG-AC160, the Dynamic Range Stretcher (DRS) function automatically estimates and adjusts the Gamma curve and Knee slope in response to the signal level of each pixel in real time. Saturated blacks and Overexposure can be minimized with DRS at the low and high intensity areas in the same scene. And hue compression can also be minimized.

DRS Setting: OFF

Saturated blacks (Blocked shadows) and Overexposure (Blown out highlights) exist in the same scene.



DRS Setting: ON (Parameter: +3)

While gradations can be expressed at the low intensity areas, Overexposure (Blown out highlights) and level decrease in color can be minimized in the high intensity area.



How to set the “DRS” control

Select the Dynamic Range Stretcher function.

* DRS will not work while in the "slow shutter mode". When using the camera in 1080i, this function can not be selected in shooting in 24P, 30P, 25P and VFR (Variable Frame Rate).

1. Select "DRS ON" in "SCENE FILE" menu screen.
2. Select the value from "DRS EFFECT 1, 2, 3" in "SCENE FILE" menu screen.

The effect level of DRS is more noticeable to your eyes when a higher DRS value is selected.

* When applying a higher DRS value, noise may be seen in the low intensity areas and become visible. Moreover, depending on the scenes, DRS effects may look unnatural. So please adjust the DRS with a video monitor to check if the DRS effect on the image is adequate.

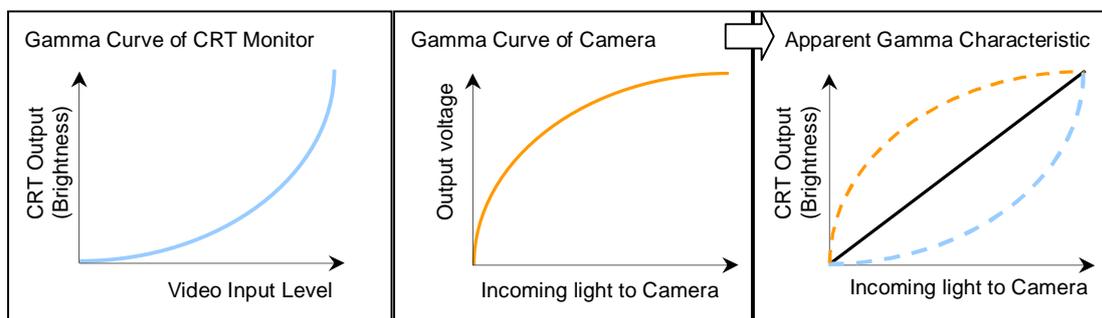
In addition, when you assign the “DRS” function to a USER button, you can switch ON/OFF the DRS by pressing the USER button.

1. From SW MODE menu USER1 / USER2 / USER3, select a button that you want to assign to.
2. Select DRS.

Technical Description:

"Gamma" is the value to express the relationship between the levels of input and output of cameras or video monitors.

In general, it is said that the linear gamma curve ($\Gamma=1$) has the closest image reproduction to human eyes. However, Gamma characteristic in Cathode Ray Tube (CRT) monitors is not linear (the output level is much higher than the input level, Γ =approximately 2.2). To counterbalance the CRT's gamma characteristic, the opposite gamma curve ($\Gamma = 0.45$, reciprocal value of 2.2, as the standard gamma value) is applied in video cameras (gamma characteristic in the eye becomes $\Gamma=1$).



* This is an example and may be different from actual measurements.

The picture's total atmosphere can be changed by Gamma correction. This function is one of the key points for active picture-making, e.g. a film-like coloring.

DRS is a function to estimate the best Gamma curve and Knee slope automatically in response to the signal levels of each pixel and make the best Gamma adjustment in real time.

Chapter 6 : DETAIL CORING /SKIN TONE DTL

Detail Coring

The detail coring is the function of removing noise elements from the detail signal. This is performed by taking out the small amplitude signals from the detail signal. The DETAIL CORING setting allows you to adjust the level of the noise reduction of the detail signal. When set to "–" the noise increases slightly and when set to "+" you can reduce the noise.

Skin Tone Detail

The "talking head" is probably one of the most common shots in television. The **Skin Tone Detail** is used to improve the head shot quality. When skin tone detail is turned on, the facial skin color has its detail reduced smoothing to any skin irregularities.

The DETAIL CORING control reduces the noise caused by the DETAIL control, by adjusting the coverage areas where the DETAIL signal is added.

	<p>Image example of DETAIL CORING control</p> <p>Enhancing the outline with image detail which may cause noise, coring is added to reduce the noise and keep original texture.</p>
--	---

Example of DETAIL adjustment (without DETAIL CORING control)

	<p>DETAIL +7</p> <p>In this example, the outline and background of the woman is accentuated. Also, details of her skin and a strand of the hair is visible.</p>
	<p>DETAIL 0</p> <p>In this example, the outline and background of the woman is not accentuated. However, the texture of the skin and hair are kept.</p>

As shown in the photos above, DETAIL and V DETAIL adjustments make changes to texture of the image unintentionally. Depending on the scene, the changes to the original texture can be minimized in some degree by masking the signal enhancement in finer areas with the DETAIL CORING adjustments.

If the skin area rough, by reducing the amount of detail in the skin area, can create a smoother look with the SKIN TONE DTL control.

Certain images become flat and lose texture when SKIN TONE DTL is set to "ON" or a higher DETAIL CORING value is chosen, Please use a monitor to check the effect of detail coring on the image.

Adjusting the DETAIL CORING control

1. Open "DETAIL CORING" item in "SCENE FILE" menu screen.
2. Adjust the masking level using with the "DETAIL CORING" item from "-7" to "+7".

* When setting a value toward to "-" direction from the center value (0), the picture image at low signal level area becomes sharper but the noise level is increased. On the contrary, when setting a value toward to "+" direction, the noise level is decreased but picture image at low signal level area will not be enhanced.

* Adjustment results can be different depends on the recording format and lighting conditions even with the same setting. Please check the result with a monitor to make sure the DETAIL CORING effect is properly applied.

Setting the SKIN TONE DTL control

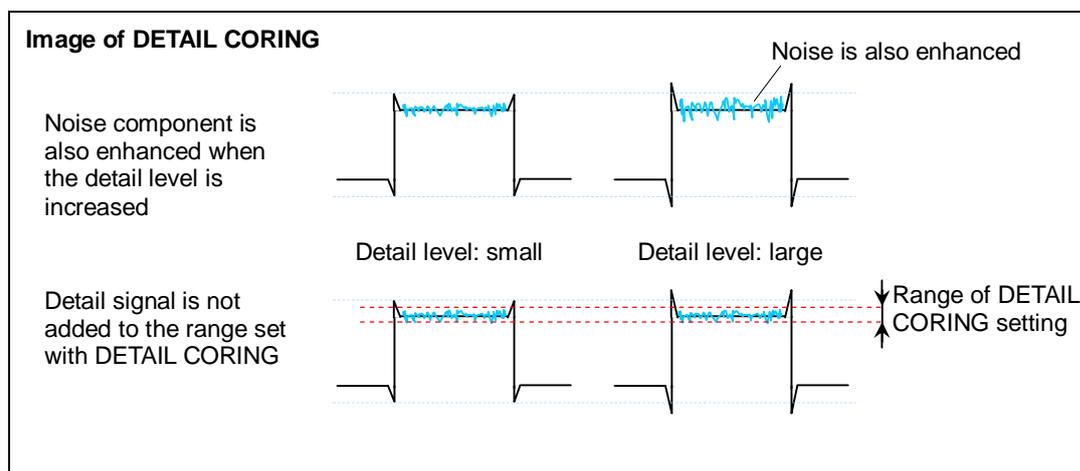
1. Open "SKIN TONE DTL" menu item in the "SCENE FILE" menu screen.
2. Set "SKIN TONE DTL" item to ON or OFF

Technical description

DETAIL CORING is used to avoid addition of detail signal noise(controlled by DETAIL / V DETAIL circuit). The level of noise is relatively smaller than the video signal, enhancing the "noise part" can be avoided by setting the threshold level to be higher than the noise level with DETAIL CORING control.

With DETAIL CORING control, outline for a certain subject can be enhanced without a grainy image. Adjusting of the DETAIL CORING may also be effective to reduce noise which appeared by adjusting the GAMMA correction.

In addition, rough textured skin can be smoothen by setting SKIN TONE DTL to ON.



* This is example only and may different from actual the Measurement

Chapter 7 : CHROMA LEVEL / PHASE

The AG-AC160 series's color look can be adjusted manually with the CHROMA LEVEL (color saturation) and CHROMA PHASE (hue). In addition, MATRIX tables and COLOR TEMP controls are also available for active picture recording. This chapter describes adjustments of CHROMA LEVEL and CHROMA PHASE.

Basically, the Chroma Level adjustment will allow you to adjust the level of the color in the video image and the Chroma Phase adjustment will allow you to finely adjust the phase or tint (hue) of color in the video image.

CHROMA LEVEL adjustment (used to vary color saturation)

	<p>The default setting of CHROMA LEVEL is "0".</p> <p>The value can be set from "-7" to "+7".</p> <p>Color saturation will become higher when value is increased, and will become lighter when value is decreased.</p>
	

CHROMA PHASE adjustment (used to vary the hue)

	<p>Setting: +7</p> <p>Color phase shifts toward purple and magenta hues.</p> <p>Color look of the women's face slightly becomes bluish in the example.</p>
	<p>Setting: -7</p> <p>Color phase shifts toward yellow and green hues.</p> <p>Color look of the women's face has more yellow and red umbrella becomes orange in the example.</p>

Setting CHROMA LEVEL

1. Open "CHROMA LEVEL" in "SCENE FILE" menu screen.
2. Adjust color saturation from "-7" to "+7", the center value is "0".

Setting CHROMA PHASE

1. Open "CHROMA PHASE" in "SCENE FILE" menu screen.
2. Adjust the CHROMA PHASE from "-7" to "+7", the center value is "0". This Adjustment allows fine adjustment of the hue (tint) of the color.

Technical Description

The relation of Red Green and Blue colors are typically expressed as a vector and can be seen on a vector scope.

The CHROMA LEVEL adjustment changes the amplitude of chrominance signal with no rotation of the phase.

Adjusting the CHROMA PHASE will rotate the color signals and change their tint or Hue of the color signal.

Chrominance signal in a Vector scope

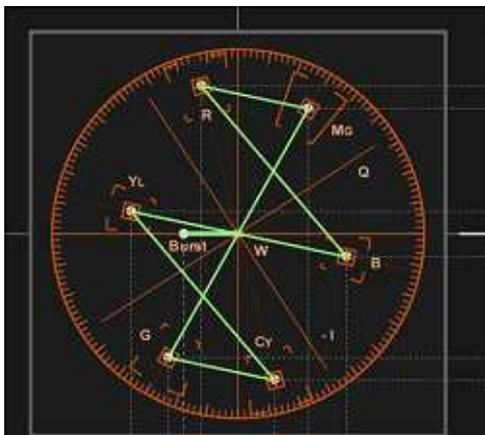
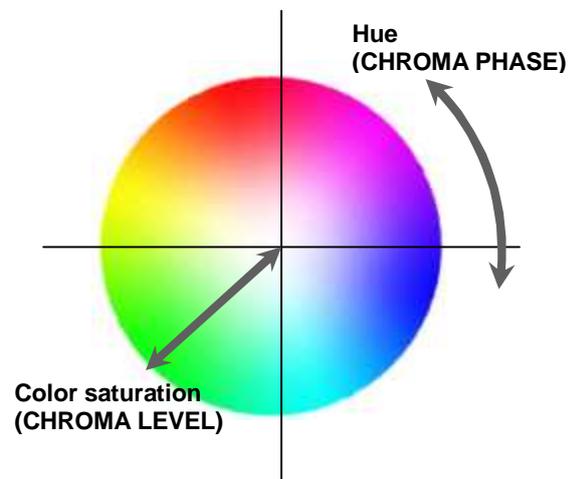


Illustration of CHROMA LEVEL and CHROMA PHASE



* This is example only and may differ from actual the Measurement

Chapter 8 : MATRIX / COLOR TEMP

The color look can be actively changed by using the MATRIX tables and the COLOR TEMP (color temperature) control.

MATRIX

Basically, the MATRIX is used to mix the primary colors red, blue and green to produce the many hues in the visible spectrum. We often have to compensate for colors, due to lighting conditions.

The Matrix affects the color fidelity of the camera by subtracting an adjacent color. It is a very useful tool in achieving a specific color look. Remember the white balance and black balance remains unchanged when any of these Matrix items are changed.

Selecting MATRIX table

1. Open "MATRIX" in "SCENE FILE" menu screen.
2. Select a suitable matrix table from "NORM1, NORM2, FLUO, CINE-LIKE" to meet the scene.

	<p>NORM1:</p> <p>Suitable for shooting in the open air or under halogen lamps.</p> <p>In general, this color look is used in the NTSC area such as Japan and North America. Always check the color, before deciding to use this mode.</p>
	<p>NORM2</p> <p>NORM2 has richer color saturation than NORM1.</p> <p>In general, this color look is used in parts of the PAL area such as Europe.</p> <p>Always check the color, before deciding to use this mode.</p>
	<p>FLUO:</p> <p>Suitable for indoor shooting under cool Fluorescent lamps.</p> <p>This matrix table compensates for the different color temperature (cool light) produced by the fluorescent lamps. This matrix may not be required under natural color fluorescent lamps.</p>
	<p>CINE-LIKE:</p> <p>Suitable for cinema-like image making.</p> <p>It is recommended to choose "CINE-LIKE" matrix table when you select the "CINE LIKE V" or "CINE LIKE D" gamma curves.</p>

Color Temperature

Color temperature generally expresses the color balance of a source of light such as indoor or outdoor light. For example, if the temperature is relatively low, the light appears reddish. As the temperature increases, the light changes from red to orange to yellow to white. You can set the correct color temperature.

Setting COLOR TEMP

Please set the COLOR TEMP control, after adjusting the AUTO WHITE BALANCE (Ch A or Ch B) to have the same adjustable color temperature range even in different scenes.

1. Open "COLOR TEMP Ach" or "COLOR TEMP Bch" in "SCENE FILE" menu screen.
2. Doing fine adjustment of color temperature from "-7" to "+7", center value is "0".

The following scenes are recorded in the evening. You can use these looks or effects at other locations or time of the day by using the COLOR TEMP control.

COLOR TEMP adjustment

	<p>Setting: +7</p> <p>Color look becomes bluish. Early in the morning scenes can be intensified</p>
	<p>Setting: -7</p> <p>Color look becomes more orange. Sunset scenes can be intensified.</p>

Chapter 9 : MASTER PEDESTAL

Pedestal or Setup determines the record setup level and can be seen as a direct readout in IRE units on a waveform monitor. In standard analog video the Pedestal is normally set at 7.5 IRE or 7% and in digital video it is set at 0 IRE or 0%, this is the black reference for the video signal. This adjustment allows the user to slightly control the pedestal level which is set in the Camera Setup Menu. This will change the black reference for the video signal and allow for either slightly rising of the blacks or the crushing of them.

In video signal, the minimum black level is called "Master pedestal" and it is a reference of the luminance. MASTER PED control lifts pedestal (black) level and affects brightness balance of the image.

Gradation controls can be used together with outline controls to give a sharper or softer tone to an image.

	Outline	Gradation	
	DTL	Gamma	Master pedestal
Sharpe look	<p>+</p> <p>Signal edge is enhanced</p>	<p>LOW, B PRESS</p> <p>Slope angle at darker part is low. (Gradation at darker part is suppressed)</p>	<p>-</p> <p>The Darker part is sharpened</p>
Softer look	<p>-</p> <p>Signal edge is de-enhanced</p>	<p>HIGH, CINELIKE D</p> <p>Slope angle at darker part is increased</p>	<p>+</p> <p>Contrast becomes lower</p>

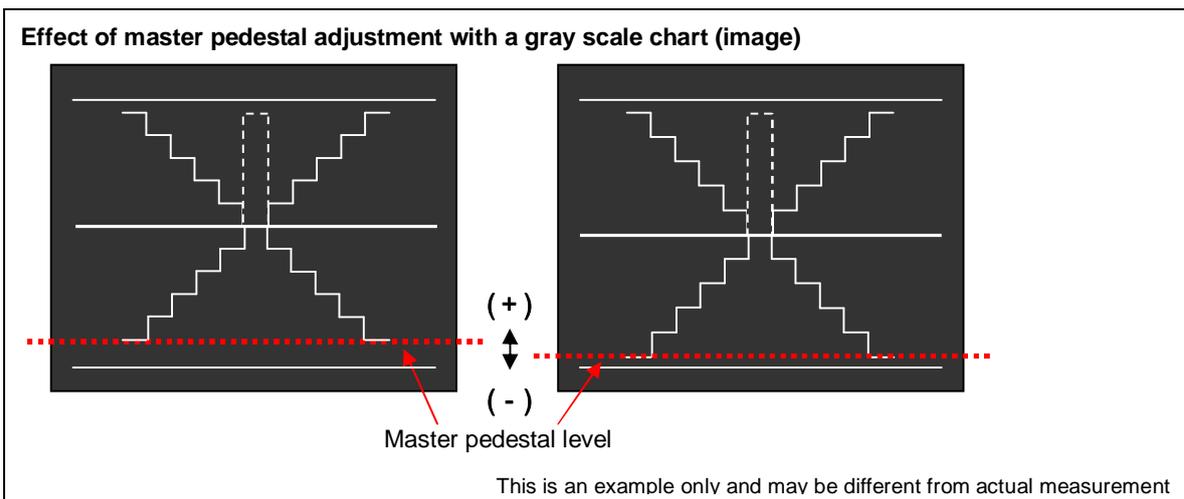
	<p>Setting: -15</p> <p>The image will have more contrast and become sharper by decreasing the value.</p> <p>Even in a scene with haze you can reduce the haze.</p>
	<p>Setting: 0</p> <p>The image example is set to the center value.</p>
	<p>Setting: +15</p> <p>A foggy like look can be created by increasing the value.</p>

Setting MASTER PED

1. Open "MASTER PED" in "SCENE FILE" menu screen.
2. Adjust the black level from "-15" to "+15", the center value is "0".

Technical description

The MASTER PEDESTAL is used to adjust the black level as the reference level of luminance. It is ideal to check the level of its effect with a waveform monitor and higher definition TV monitors because MASTER PED adjustment affects to the picture look.



Chapter 10 : Shooting assists

Waveform monitor, Vector scope and Focus assists



Built-in waveform monitor (WFM)



Built-in vector scope (VSC)



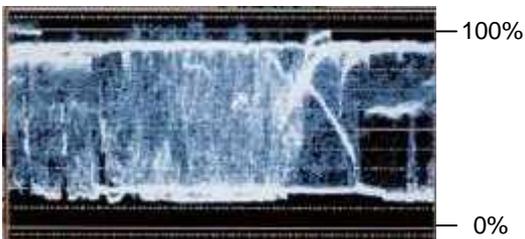
Turn ON / OFF WFM / VSC display with the "WFM" button.
WFM/VSC type can be selected from "WFM" item in SW MODE menu.

[MENU]

SW MODE → WFM: WAVE, VECTOR, WAVE/VECTOR

Detail of the displays

WAVE: Waveform monitor



The upper solid line points at 100%. The solid line at the bottom is 0%.

VECTOR: Vector scope



Color saturation level can be monitored.

Seven boxes are showed for the color area of "Red, Magenta, Blue, Cyan, Green and Yellow" as a reference.

* Color indications on the figure are for reference only. They do not appear in the product.

FOCUS ASSIST

When FOCUS ASSIST button is pressed, the picture frame and an object in focus at the moment are bordered with a red line. Adjust the focus so that an object's outline that you actually want to bring into focus will be red.



FOCUS ASSIST Button



Auto Focus for the Area / Auto Iris for the Area / Area's brightness indication

A particular area on the image can be indicated with Function Knob in order to use Auto Focus and Auto Iris functions that target the area. At this time, Focus Bar and Iris Meter can be displayed through menu setting.

Open the SW MODE menu and select the functions with Function Knob.

[**FOCUS**] Auto Focus for the area (+ Focus Bar displayed)

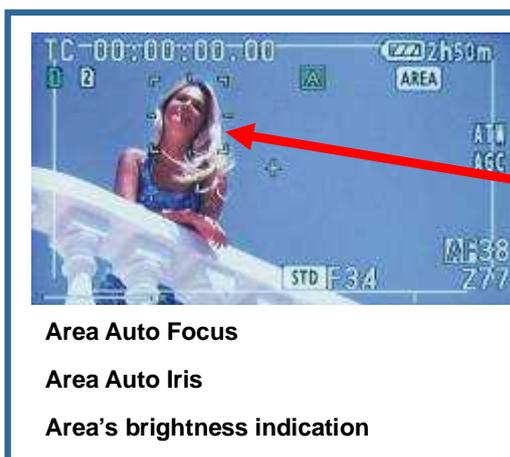
[**IRIS**] Auto Iris for the area (+ Iris Meter displayed)

[**Y GET**] Area's brightness indication

[**FOCUS/IRIS**] Auto Focus & Auto Iris (+ Focus Bar / Iris Meter displayed)

[**FOCUS/Y GET**] Auto Focus & brightness indication (+ Focus Bar displayed)

Display of Focus Bar and Iris Meter can be set by ON / OFF of FOCUS BAR / IRIS METER in DISPLAY SETUP menu.



When Function Knob is pressed, a white frame is displayed to be moved to the area you want to select.

With the Knob pressed once again, the white frame turns into yellow and the function that you set starts working.

Holding the Knob down for 2 or more seconds, the frame disappears and the Area Functions end.

Professional Scene File Setting for AG-AC160

Adjustable range of parameters / How to Save the Settings

In the SCENE FILE menu screen, parameters of your picture's "Outline", "light Gradation" and "Color" can be set for your picture recording.

Outline related

MENU	Factory default (SCENE FILE 1)	Adjustable range
DETAIL LEVEL	0	-7 ~ +7
V DETAIL LEVEL	0	-7 ~ +7
DETAIL CORING	0	-7 ~ +7
SKIN TONE DTL	OFF	ON / OFF

Gradation related

MASTER PED	0	-15 ~ +15
DRS	OFF	ON / OFF
DRS EFFECT	1	1 / 2 / 3
GAMMA	HD NORM	HD NORM / LOW / SD NORM / HIGH / B.PRESS / CINELIKE D / CINELIKE V
KNEE	AUTO	AUTO / LOW / MID / HIGH

Color related

CHROMA LEVEL	0	-7 ~ +7
CHROMA PHASE	0	-7 ~ +7
COLOR TEMP Ach/Bch	0	-7 ~ +7
MATRIX	NORM1	NORM1 / NORM2 / FLUO / CINE-LIKE

There are two ways to save changed settings of each scene file.

■Saving in the camera recorder

Current settings in each of F1 to F6 are overwritten and saved.

1. Turn the scene file dial to the file No. you want to save. (e.g.: F1)
2. Item "LOAD/SAVE/INIT" in SCENE FILE menu SAVE -> YES
(e.g.: The current settings of F1 are overwritten and saved.)



■Saving in the SD memory card

All the settings in F1 to F6 can be saved together as one file and to the maximum of four files.

1. Item "CARD WRITE" in SCENE FILE menu -> Select : SLOT 1 / SLOT 2
2. Select : FILE 1 to 4 (e.g.: FILE 1) -> File name (e.g: TITLE 1) -> YES
(e.g.: The settings in F1 to F6 are saved together in FILE 1 "TITLE 1".)

