

## Tips for Reproducing Vivid Colors Under a Bright Environment

### Preface

When shooting a bouquet using a spotlight, the bright areas of the image can be over-exposed and “washed out” on the screen. This phenomenon can be eliminated using the camera’s KNEE function, keeping the image’s brightness (luminance) of objects within the video signal’s dynamic range (the range of the luminance that can be processed). However, in some cases the KNEE proc-

ess can cause the image color to look pale. This is because the KNEE function is also applied to the chroma signals, resulting in a drop in color saturation. For example, as shown in the “Before setting” image below, the colored areas look paler than they actually are. In such situations, the bouquet can be reproduced more naturally by using a separate KNEE process for the chroma signals (R-Y/B-Y).



Before setting



After setting

### Features of Sony Cameras

Sony cameras have a unique KNEE SATURATION function, which is used to reproduce colors of bright objects more realistically. With this function activated, vivid colors can be reproduced while keeping a rich and bright look of the image. The color depth (level) added to the image will increase by setting a high knee saturation level and decrease by setting a low level. In the case of a bouquet shot with a spotlight, the image will have realistic

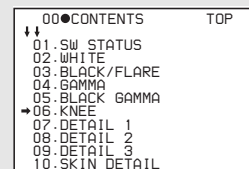
colors by setting a high level, as shown in the “After setting” image. This function is also convenient when shooting an object with bright and pale colors, such as a wedding gown.

**Major Sony cameras with the KNEE SATURATION adjustment function**  
DSR-450/400 series, PDW-530/510, DVW-970 series, MSW-970

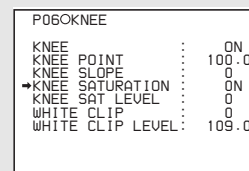
### Camera Settings

To adjust KNEE SATURATION, use the KNEE page of the PAINT menu.

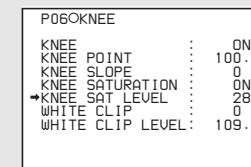
#### 1 Open KNEE of the PAINT menu.



#### 2 Set KNEE SATURATION to ON (default).



#### 3 Adjust KNEE SAT LEVEL in the range of -99 to +99.



Setting a negative (-) value decreases color saturation, and setting a positive (+) value increases it.

In the case shown in the “After setting” image, the level was set to “28.”

*The example shown is with the DSR-450WSL. The colors of images may differ, depending on the model being used and the lighting conditions, even if the setting value is the same.*

*For additional information, refer to the Operating Instructions for your camera.*

### Technical Information

#### What is KNEE SATURATION?

When a camera’s KNEE function is set to ON, the bright areas of the image are compressed in the KNEE circuit. In this process, both the luminance (Y) signals and color-difference (R-Y, B-Y) signals are compressed together, which can sometimes cause the color saturation of the image to drop. KNEE SATURATION is a function that eliminates this saturation drop while maintaining the original function of the KNEE circuit. When KNEE SATURATION is set to ON, the color-difference (R-Y, B-Y) signals are sent

to the KNEE SATURATION circuit which applies a knee function optimized for these color signals. These signals are then added back to the mainstream signals, obtaining the final output signal.

The levels of color vividness (KNEE SAT LEVEL) can be adjusted in the range of -99 to +99.

**KNEE:** A function that allows contrast to be reproduced in the bright areas of objects within the video signal’s dynamic range (the range of the luminance that can be processed).

