

## SUBJECT CLASSIFICATION OF NEGATIVES

### Introduction

Seven subject classification buttons are provided on Kodak Limited and Eastman Kodak Colour Printers to provide exposure correction for negatives which are other than average.

When a colour printer is set up to the Kodak Printer Control Set aims, an average negative will print to a satisfactory density and colour balance when the normal subject classification button is used. This "average" negative usually has approximately 25% of minimum density (shadow) area; the remainder of the negative being of average density.

Under-exposed negatives, and negatives with minimum density areas greater than 25% transmit more light than the average negative; hence they result in shorter printing times. With the under-exposed negative this will produce a satisfactory print. However, the negative with more than 25% minimum density area, which probably has similar average subject densities to the normal negative, will print light. This negative requires similar exposure times to the average negative, and this can be achieved by using a "plus" button to bring the exposures back to normal. The "plus" button required depends on how much greater than 25% the minimum density area is.

Over-exposed negatives and negatives with minimum density areas of less than 25% generally transmit less light than the average negative, so will give longer printing times. The print from the negative with average subject densities and less than 25% minimum density area will be too dark because of the extended exposure. This extended exposure time can be brought back to normal by using a "minus" subject classification button.

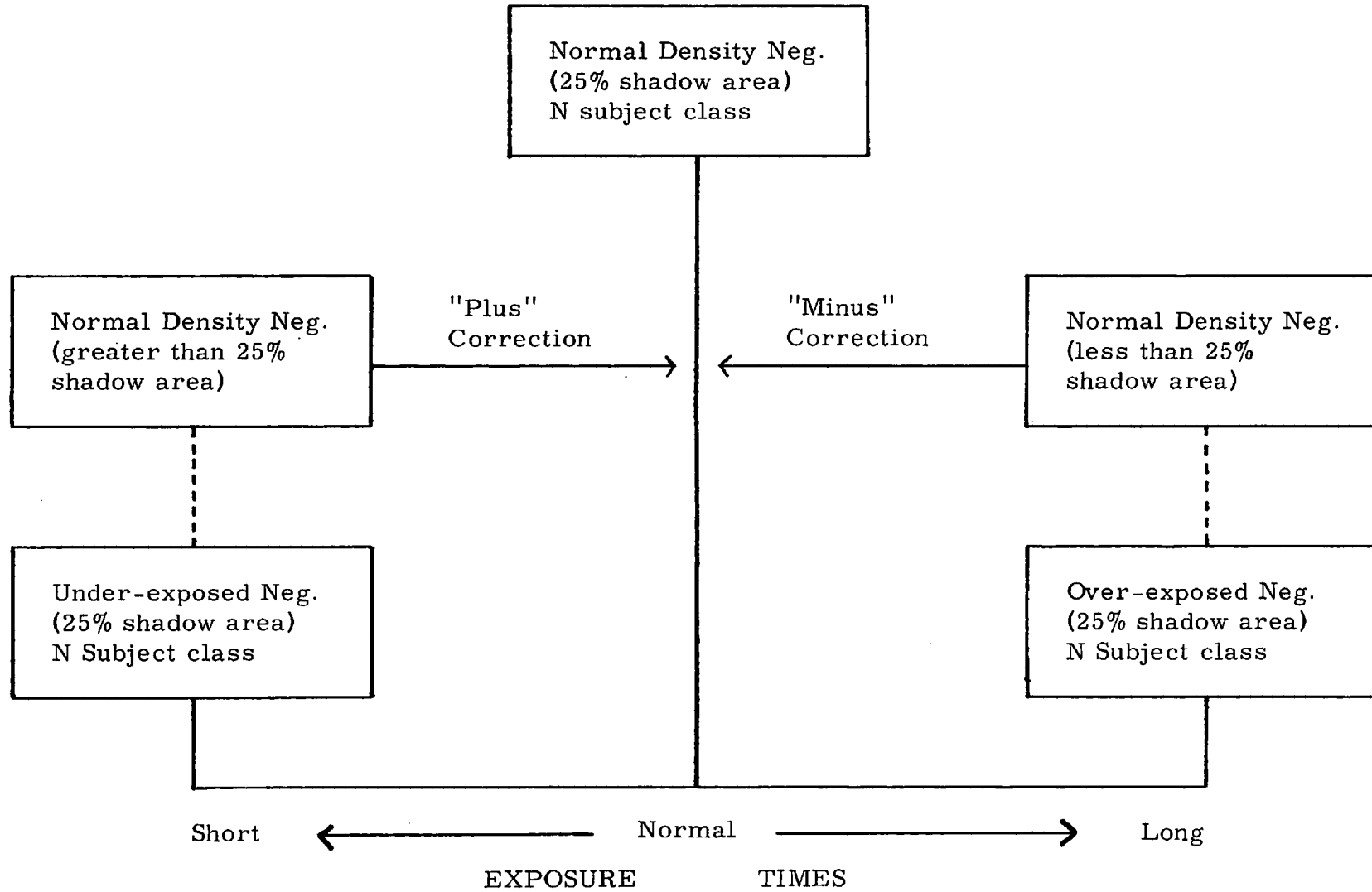
If other than average densities occur in important subject areas of the negative, the printing times may require further modification. When a negative has important subject matter recorded as higher densities than average, this subject matter will probably record too light in the resulting print. To obtain a satisfactory print, this type of negative will probably require a "plus" correction. Similarly, if a negative has important subject matter recorded as lower densities than average, this will probably print too dark, and so will require a minus correction.

The purpose of the subject classification buttons can be summarized as carrying out two functions:

1. To correct for incorrect exposure times produced by negatives which have a minimum density (shadow) area of other than 25%. The printer cannot distinguish these negatives from under and over-exposed negatives.
2. To adjust the exposure times for negatives which contain important subject densities which are greater or less than average. These other-than-average densities would normally print to an unsatisfactory density.

When a negative is to be printed, first the minimum density area must be assessed, and then the important subject matter, so as to arrive at the optimum subject classification button for that negative.

SUBJECT CLASSIFICATION BY MINIMUM DENSITY AREA ASSESSMENT



Selection of the Correct Subject Classification Button

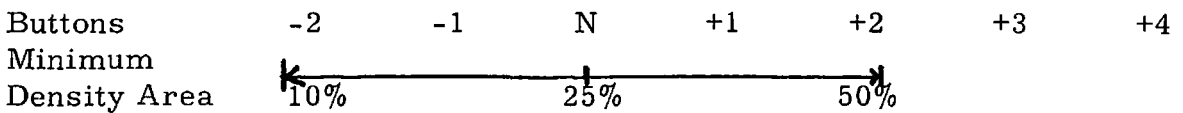
Two questions must be asked when assessing a negative:

1. How much of the negative is minimum density (shadow) area?
2. Are the important subject densities average, or , less or greater than average?

If the questions are asked and answered in this order, correct subject classification can be applied. As this is a two step approach, each step will be looked at separately.

Step 1 - Assessment of Minimum Density Area

The following diagram shows the relationship between three easily recognizable areas of minimum density, and the subject classification buttons which should be used to print them.

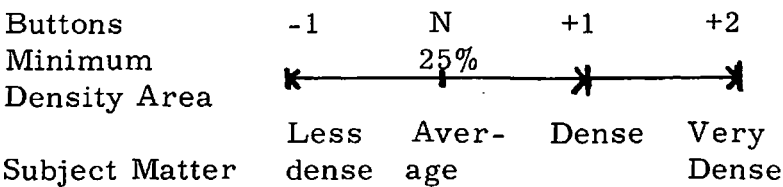


If a negative has 10% minimum density area use the -2 button, if 50% use the +2 button. Where a negative has between 10% and 25% use the -1 button, if between 25% and 50% use the +1 button.

Step 2 - Assessment of Density of Important Subject Matter

If the density of the important subject matter is other than average, the minimum density area assessment may need modification.

If the subject is less dense than average, change the button selected in Step 1 to the next button in the minus direction, unless the subject matter is intended to print dark.



If the subject is more dense than average, change the button selected in Step 1 to the next button in the plus direction. If the subject is very dense, as can be obtained from oblique sunlight in winter or from close-up flash, move two buttons in the plus direction from the button selected in Step 1.

For example, if a close-up flash photograph was taken of a person in a large room, the person may appear as very high density in the negative, but the room behind may appear as minimum density. If the minimum density area was approximately 50%, this would mean, according to Step 1 that the +2 button should be used. However, because the important subject matter was of very high density, a further +2 would have to be added, making the total assessment for the negative +4.

#### Negatives Requiring Special Consideration

Some negatives will not appear to fit into the classification system described. This is usually because the negatives are required to print light or dark because of their subject matter.

General views and outdoor scenes may not appear to contain the required 25% minimum density area. However, the majority of negatives of this type will require the normal button.

Snow scenes, sand scenes, or views from aircraft, may not have a detectable approximate 10% minimum density area, but may appear as general views. However, these negatives are required to produce prints with very little density, representing the snow, sand, sky or hazy view, and will generally require a -2 or even -3 classification. Such subjects can only be assessed by observing that they are of unusual content, requiring special printing.