

# Color Gradual Analysis of Graphic Information Processing Technology and Equipment

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**Abstract**—this article is mainly to study of the concept of color gradual, then analysis the color order to graphic information processing technology and color order the graphic information processing equipment.

**Keywords**—color order; Graphic information processing; Process and equipment

## I. INTRODUCTION

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Order to complete the color graphic printing, first of all, the graphic information input, processing, output, the process of every process need different equipment and process to complete. Before to order the graphic color printing, the graphic information processing situation directly determine the effect of the printing.

### A. The concept of color order adjustment

#### 1) Continuous harmonic of continuous tone

Normally will print the manuscript according to the color classification, can be divided into original color and monochrome manuscript, whether color or monochrome original manuscript, there are continuous harmonic of continuous tone. Continuity: refers to the tonal become continuous gradient image, the image color has a certain regularity, from light to deep tonal change, this change is very common in our daily life, such as the sunrise and sunset. Through light on the surface of the transfer characteristics of the present different color; Non continuous adjustable, layout of the whole image without color gradient, but a single color or the whole tonal showed no regularity changes, such as: map, the color on the map are separated according to different provinces, the tonal marked different provinces, no changes from shallow to deep<sup>[1]</sup>.

#### 2) Mesh tuning

Use of network to represent the level of depth. After image with screen, can take advantage of changes of lis area of per unit area, the continuity of simulated image depth change, under normal circumstances, adjustment and network of mesh means has the amplitude modulation

and network, frequency modulation screening and hybrid screening and so on three ways.

The amplitude modulation and network: the amplitude modulation and network refers to the number of how many online stores per unit area, using the network to represent the hierarchy, the size of the network big expressed as dark color, dot the representation of a little brighter. However, the advantages of using the amplitude modulation and network node expanding situation is very small, can long-term stay<sup>[2]</sup>. But the drawback is that dot easy for the phenomenon of turtle grain. Therefore, in the use of amplitude modulation and network to have a good master node in the process of the four characteristics, namely: percentage, number of network cable, network and network perspective, dot shape, can effectively avoid the tortoise lines.

FM screening, frequency modulation and network refers to the unit area network under the condition of the same size with outlets said how many levels, typically, small outlets said level is more more, at the same time, the color of the region will deepen obviously; On the other hand, the network place said level is little less, at the same time, the color of the parts will be significantly lighter, this kind of distribution network is a certain randomness, so don't have to worry about when using the site will appear the phenomenon of turtle grain, relative to the amplitude modulation and network FM nets some advantages more apparent. And FM screening high resolution, good replication effect, so in the process of use for more than four color, high quality, high-definition color printing. But FM screening of numerous online stores, printing process of the clock will appear the phenomenon of dot enlargement.

Hybrid and network: the network mainly appears in the row of the latest and network technology, make full use of FM screening irregular turtle grain advantages, at the same time, combining the advantages of small amplitude modulation and network expansion rate, can effectively improve and network technology.

## II. COLOR GRADUAL GRAPHIC INFORMATION PROCESSING TECHNOLOGY

The meaning of the graphic information processing is the use of computer graphic information processing, the

original essence of graphic information WanZhengHua into electronic information, and then will complete after using computer technology to the printed graphic information, or to obtain useful information from the graphic information. With the development of the era, digital processing technology has been widely used, but is limited to the current level of computer digital processing technology development, however, for many image processing applications are in, graphic processing and graphic recognition is closely linked, through the computer to deal with graphic and then achieve the goal of graphic recognition. In the current color printing area to achieve the purpose of the above, you need to do some in-depth study of graphic processing technology. In the time of graphic information processing are also necessary to distinguish between graphics and image, the graphics computer net refers to the use of computer is out of work, such as straight line, tables, etc. While the image is equipment, such as using the scanner will imagine originally external information processing, computer graphic, in actual use, often will not distinguish between both too obvious, but there is a very large gap between both<sup>[3]</sup>. So on the treatment of graphic information technology mainly include:

#### A. Localized

At the time of graphic processing, usually do not require the graphic of the entire operation, therefore, before the operation have to be localized to graphic, mainly refers to the part on the graphic information separated out. Then for this part. Usually made a domain method is mainly composed of localized local geometric parameters and color parameters, according to the geometric parameters of localized is using the computer of the rectangle, round, arbitrary graphics to localized graphic information. And color parameters is the use of color in the whole graphic acquaintanceship degree, the selected image with common colour characteristics of the area of operation.

#### B. Pixel replication with color fill

In order to complete the graphic splicing and modify, need to copy of the pixels of the original text, and from two the same overlapped by the corresponding pixels according to certain algorithms to generate a new image. The choice of the color in populated mainly refers to the graphic of a yan turned it into a computer using color, and used in other parts of the image. Also choose average dropper on operation, selection of colour can also use color or color fill color picker.

#### C. Parameter adjustment

Because many graphic manuscript for long time, there are some graphic is not clear phenomenon, which requires the use of computer technology on the graphic a certain parts of the parameter adjustment, typically cases used to order, through the image properties and color balance adjustment, gradual adjustment including to adjust the brightness and contrast of images and the adjustment way and on TV is very similar, mainly refers to the adjustment of color attribute for hue, saturation and brightness to adjust. Through computer graphic color of color balance will originally structural adjustment, delete the original

defects in color, replace a new color<sup>[4]</sup>. The graphic on the colour of the fuzzy enhancement processing place and colour of weakening, strengthen the whole by the beautiful degree.

#### D. Conversion mode

Main have RGB image mode. Index of color, gray, and four of the image. With the model of image selection depends on the specific application requirements. For example: in the same graphic information can be the use of gray model, the RGB to change to gray image can save hard disk storage space greatly.

### III. COLOR GRADUAL GRAPHIC INFORMATION PROCESSING EQUIPMENT

Color order of the desktop system is mainly based on the computer as the core, in the previous work, by digital camera or scanner to output after computer processing, by laser printer or the color printer for summer promotion graphic color printing, this way of form a complete set of color gradual graphic information publishing system [5]. On the desktop of color order system of the configuration of the main equipment has the following kinds:

#### A. Input devices

Input text and graphics, text and graphics mainly computer keyboard input, graphics mouse and keyboard input can be used on a computer screen to operate, used to make graphic input or directly by the scanner.

Input color image: mainly through color scanner, color scanner is often in the color desktop configuration of an output device, the main output of the way as the platform of rotary output, its purpose is to color graphic input or colour photographs by image input to the computer in the form of color, convenient for computer color graphic processing.

Digital camera, digital camera can through the PC interface will host image input to the system, and then through the photo editor to edit system host layout, color digital camera is the original manuscript of the main source and direction [6].

#### B. The host system

Host system in color order the graphic information processing equipment is the main core work, is the command of external instruments for operating the main tool, and can to deal with foreign all kinds of information, guarantee the output images and to meet the needs of customers. The current color gradual graphic information processing equipment host system mainly refers to the computer.

#### C. Output devices

Color order the output equipment of the graphic information processing equipment mainly include RIP raster image processor, color printer, etc.

RIP raster image processor: raster image processor is an interpreter in the graphic processing use, can machine damage and page description language and layout information to fully explain, convert data are available, and at the same time the available information input to the

specified device. RIP in the process of transformation needs to be converted into high quality font page text information, and can be in the form of graphic output.

Color printer: commonly used color printer ink jet color printers, thermal printers and sublimation printer, but in the current graphic or is commonly used in information processing are ink-jet printer, the printer has high efficiency in practical use, the advantages of small noise, color proof for printing can be substantial.

#### IV. CONCLUSIONS

To sum up, in the process of the graphic information processing color order every link is very important, so in the process of color graphic information processing need reasonable control on each step, and use the reasonable equipment, will be able to print out the excellent color graphic.

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