



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

Air Traffic Organization Policy

**NOTICE
N JO 7210.652**

Cancellation Date:
August 30, 2007

SUBJ: Color Displays - Terminal

- 1. PURPOSE.** This notice amends Federal Aviation Administration Order 7210.3, Facility Operation and Administration, Chapter 3, Section 10, Color Displays-Terminal.
- 2. DISTRIBUTION.** This notice is distributed to select offices in Washington headquarters, service area offices, the Mike Monroney Aeronautical Center, the William J. Hughes Technical Center, and all air traffic field facilities.
- 3. EFFECTIVE DATE.** This notice is effective April 30, 2007.
- 4. BACKGROUND.** The new color displays that are being deployed have many color capabilities to distinguish certain items to controllers. The development of a national color standard has been provided by the Terminal Automation Human Factors Team. Some color selections are mandatory since intuitive meaning exists for the color-coding (i.e., red denotes danger). Color-coding (the use of color to have a specific meaning) shall conform to the following reserved meanings consistent with conventional associations for particular colors. Red shall indicate conditions such as no-go, error, failure, or malfunction. Flashing red shall be used only to indicate emergency conditions requiring immediate user action to avert personnel injury or equipment damage. Yellow shall indicate marginal conditions, alert users to situations where caution or rechecking is necessary, or notify users of an unexpected delay.

The use of colors to indicate conventional meanings is also dependent on the color appearing against an appropriately contrasting background. For instance, white or light gray background is appropriate for black text. There is a difference between radar displays in the terminal radar approach control (TRACON) facilities and Certified Tower Radar Display (CTRD). Color selections for the CTRDs deserve special consideration because of the ambient light differences. Sunglasses and certain types of contact lenses can change color appearance on the CTRD. These guidelines provide limited flexibility since display capabilities and ambient lighting in each facility differs.

Degradation of color over time must be addressed locally through regular scheduled maintenance procedures which ensure anticipated performance of the monitor and the efficiency of the colors selected. The appearance of color(s) on monitors will change over time. Also, light blue can appear as white. Local consideration must account for loss of color at each or all displays. The standardization of color will provide many facilities with added flexibility in using color to distinguish different items on the display.

5. ACTION. Facility managers shall ensure the use of color for terminal radar displays conforms to the guidance contained herein.

6. PROCEDURES. Change Chapter 3, Section 10, Color Displays - Terminal, paragraph 3-10-1, to read as follows:

3-10-1. COLOR USE ON ATC DISPLAYS

Color use on terminal systems was developed jointly with the Terminal Safety and Operations Support Office and the Terminal Automation Human Factors Team. This section provides guidelines on the use of color on ATC displays through a national standard for terminal air traffic displays. These guidelines are intended to standardize the use of colors across the terminal systems. Any use outside these guidelines must be developed jointly with the Terminal Safety and Operations Support Office, the appropriate Service Area Director, and the Terminal Automation Human Factors Team. All use of color on ATC displays must fall within these guidelines, except for MEARTS:

a. Whenever color capabilities exist, the following National Color Standard for Terminal Systems shall be installed:

1. Background shall be black.
2. Point out identifier blinking or steady shall be yellow.
3. Compass Rose, range rings, maps A and B shall be dim gray.
4. Coordination rundown list as follows:
 - (a) Unsent shall be green.
 - (b) Unacknowledged shall be blinking green.
 - (c) Acknowledged shall be steady green.
5. Geographic restriction border, fill, and text shall be yellow.
6. Data blocks owned shall be white.
7. Limited or partial data blocks unowned shall be green.
8. Search target symbol shall be blue.
9. Beacon target extent shall be green.
10. History trails shall be blue.
11. Predicted track line shall be white.
12. Minimum separation line shall be white.

- b. Whenever color is used to identify critical information, it must be used with another method of notification such as blinking.
- c. Cultural color conventions which cannot be violated include red for danger and yellow for warning.
- d. The color pure blue should not be used for text, small symbols, other fine details, or as a background color.
- e. Ensure all colors that are used including text and symbols are presented in sufficient contrast.
- f. Ensure no more than two colors are assigned to a single data block.
- g. Use of color in general should be kept to a minimum. When color is used to denote a specific meaning, e.g., yellow means caution, the number of colors used on a single display shall be no more than six and should be constrained to the primary colors of red, yellow, green, blue, orange, and cyan. The optimum number of colors used for coding should be limited to four.
- h. The specific colors that are selected for a display must take into account the ambient environment and the capabilities of the specific monitor.
- i. Any implementation of color is to be tested in the context and environment to which it was designed.
- j. Color use needs to be consistent across all of the displays that a single controller will use.
- k. Facility air traffic managers shall make all requests for any color changes to color baseline through the Director, Terminal Safety and Operations Support.

7. IMPLEMENTATION. These changes will be incorporated in change 3 to FAA Order 7210.3U, effective August 30, 2007.



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