Radar Systems - Radar Displays

An electronic instrument, which is used for displaying the data visually is known as display. So, the electronic instrument which displays the information about Radar's target visually is known as **Radar display**. It shows the echo signal information visually on the screen.

Types of Radar Displays

In this section, we will learn about the different types of Radar Displays. The Radar Displays can be classified into the following types.

A-Scope

It is a two dimensional Radar display. The horizontal and vertical coordinates represent the range and echo amplitude of the target respectively. In A-Scope, the deflection modulation takes place. It is more suitable for **manually tracking Radar**.

B-Scope

It is a two dimensional Radar display. The horizontal and vertical coordinates represent the azimuth angle and the range of the target respectively. In B-Scope, intensity modulation takes place. It is more suitable for **military Radars**.

C-Scope

It is a two-dimensional Radar display. The horizontal and vertical coordinates represent the azimuth angle and elevation angle respectively. In C-Scope, intensity modulation takes place.

D-Scope

If the electron beam is deflected or the intensity-modulated spot appears on the Radar display due to the presence of target, then it is known as blip. C-Scope becomes D-Scope, when the blips extend vertically in order to provide the distance.

E-Scope

It is a two-dimensional Radar display. The horizontal and vertical coordinates represent the distance and elevation angle respectively. In E-Scope, intensity

modulation takes place.

F-Scope

If the Radar Antenna is aimed at the target, then F-Scope displays the target as a centralized blip. So, the horizontal and vertical displacements of the blip represent the horizontal and vertical aiming errors respectively.

G-Scope

If the Radar Antenna is aimed at the target, then G-Scope displays the target as laterally centralized blip. The horizontal and vertical displacements of the blip represent the horizontal and vertical aiming errors respectively.

H-Scope

It is the modified version of B-Scope in order to provide the information about elevation angle of the target. It displays the target as two blips, which are closely spaced. This can be approximated to a short bright line and the slope of this line will be proportional to the sine of the elevation angle.

I-Scope

If the Radar Antenna is aimed at the target, then I-Scope displays the target as a **circle**. The radius of this circle will be proportional to the distance of the target. If the Radar Antenna is aimed at the target incorrectly, then I-Scope displays the target as a segment instead of circle. The arc length of that segment will be inversely proportional to the magnitude of pointing error.

J-Scope

It is the modified version of A-Scope. It displays the target as radial deflection from time base.

K-Scope

It is the modified version of A-Scope. If the Radar Antenna is aimed at the target, then K-Scope displays the target as a pair of vertical deflections, which are having equal height. If the Radar Antenna is aimed at the target incorrectly, then there will be pointing error. So, the magnitude and the direction of the pointing error depends on the difference between the two vertical deflections.

L-Scope

If the Radar Antenna is aimed at the target, then L-Scope displays the target as two horizontal blips having equal amplitude. One horizontal blip lies to the right of central vertical time base and the other one lies to the left of central vertical time base.

M-Scope

It is the modified version of A-Scope. An adjustable pedestal signal has to be moved along the baseline till it coincides the signal deflections, which are coming from the horizontal position of the target. In this way, the target's distance can be determined.

N-Scope

It is the modified version of K-Scope. An adjustable pedestal signal is used for measuring distance.

O-Scope

It is the modified version of A-Scope. We will get O-Scope, by including an adjustable notch to A-Scope for measuring distance.

P-Scope

It is a Radar display, which uses intensity modulation. It displays the information of echo signal as plan view. Range and azimuth angle are displayed in polar coordinates. Hence, it is called the **Plan Position Indicator** or the **PPI display**.

R-Scope

It is a Radar display, which uses intensity modulation. The horizontal and vertical coordinates represent the range and height of the target respectively. Hence, it is called **Range-Height Indicator** or **RHI display**.