Metroview

Radar Display System

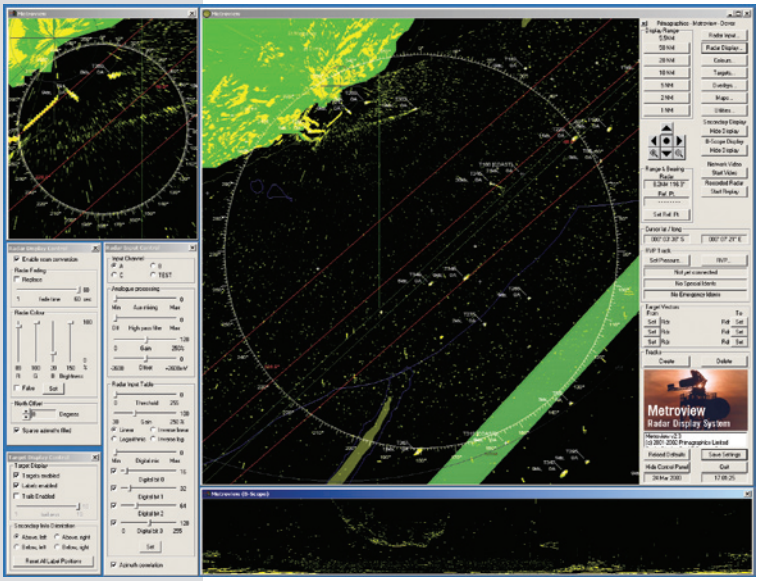
Features

- Commercial-off-the-shelf (COTS) radar display system
- Primary radar digitisation and display
- SSR interface
- Multiple PPI display windows each with independent control of zoom and offset
- Multi-layered map generation from AutoCAD DXF file
- Overlay graphics for target symbols and labels
- Industry standard Windows user interface
- Easy to maintain standard PC hardware
- 19" rack-mountable option
- RVP compatible

Applications

- Mobile Air Traffic Control systems
- Radar Head Monitor
- Airport Surface Movement
- Coastal surveillance
- Vessel Traffic Systems

Metroview is a complete PC-based system that integrates the display of primary radar video with an intuitive man-machine interface supporting multi-layered maps, overlays and display controls. Running on standard PC architectures and with Curtiss-Wrights hardware for radar acquisition and scan-conversion, Metroview offers a comprehensive set of display capabilities that allows an operator to view the radar video in up to two PPI windows and one B-Scope window. Each window is fully adjustable in size and position, and window contents may be scaled and off-centered to display the video at any zoom factor.



Primary radar video may be received by Metroview from either a local radar input card or from a network interface using a remote radar video server, such as Curtiss-Wright's RVP product. When used with a local radar input card, analogue or digital radar video and associated turning data are received by the system and transferred to a radar scan converter. The scan converter renders the radar pictures by transforming the incoming radar data and then combines the radar image with graphics data from the graphics card. The video combination process enables selected graphics to be mixed with the radar video, supporting the display of underlay maps and overlay symbology.

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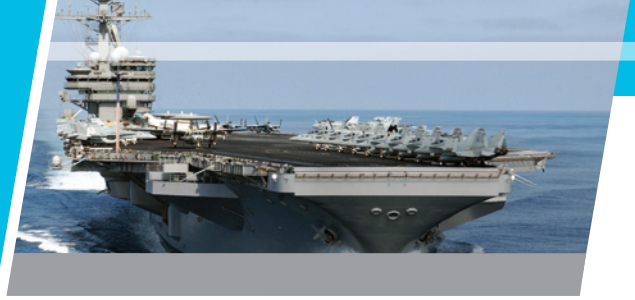

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When used with Curtiss-Wright's radar video processor, RVP, Metroview serves as a client display that can receive video, plot and track data from a standard Ethernet network. Under local operator control, Metroview can display any combination of maps, overlays, primary video, plots and track data, offering a highly capable visualisation tool. In addition, actions by the operator may be passed across to the remote RVP server to initiate or repair tracks, or even provide direct control of the operating parameters of the remote radar.

In addition to the display of primary radar video, Metroview supports the display of secondary surveillance radar (SSR), which is typically displayed as an overlay to the primary video. The SSR data may be received over a network connection or via a local serial-based protocol into the hardware of the PC.

Supporting display resolu-tions of up to 1600 x 1200 on to analogue or digital displays, Metroview is designed to work with standard Intel x86 processors and Windows NT, 2000 or XP platforms, offering a familiar operator and maintenance environment and providing an extensible and supportable hardware platform.

Specifications

Network Radar Input

- Network type: Ethernet (e.g. 10/100BASE-T/TX)
- Network protocol: UDP Multicast
- Data format: Standard RVP Radar Service, using RACE compression

Primary Radar Input (Optional)

- Analogue Radar Interface Option:
  - Radar Video, Trigger (Sync) and ACP/ARP turning data: up to three multiplexed channels
  - Auxiliary Video: one channel
  - Digital Inputs: up to four single bit inputs (e.g. for digitisation of IFF)
- Digital Radar Interface Option:
  - Radar Video: 8-bit digital parallel

Note: Please consult factory for other radar input options, including ASDE-3 and RADDS

SSR Input (Optional)

- Interface: HDLC, RS-232, RS-422, RS-423 or UDP sockets over Ethernet
- Format: RVP, Asterix or ARUP. Please consult factory for support of alternative SSR formats.

Radar Display

- Display resolution: SXGA (1280x1024) or UXGA (1600x1200)
- Display mode: 24-bit or 32-bit colour
- Scan conversion: 128 level variable persistence smooth fading (uses White-Powell algorithm)
- Radar windows: up to two PPI windows and one B-Scope window, each with independent zoom (range scale) and offset from radar centre

Man-machine Interface (MMI)

- Type: Industry standard Windows MFC user interface with main PPI display window
- General Controls
  - Zoom in or out by selection from display range buttons or via mouse-dragged rubberband box
  - Pan and scroll by selection from left/right or up/down arrow buttons
  - Display/hide secondary PPI display window
  - Resize secondary PPI display window
  - Display/hide control panel
- Radar Input Control
  - Select input channel: A, B, C or Test Pattern
  - Adjust analogue processing: Aux Mixing, High Pass Filter, Gain and Offset
  - Adjust radar input table: Digital Mixing, Threshold and Gain
  - Select Linear, Inverse Linear, Logarithmic or Inverse Log settings
- Radar Display Control:
  - Enable/disable radar scan conversion
  - Adjust fade rate of radar trace (from 1 s to 20 mins) or select Replace Mode (no fade)
  - Adjust radar colour and set opacity
  - Enable/disable false colour display
  - Adjust North Offset
  - Enable/disable sparse azimuth filling
- Colours
  - Adjust map layer colours (1)
  - Select overlay or underlay for map layers (1)
- Plot/Track Display Control (Optional):
  - Enable/disable Primary or Secondary Plots
  - Enable/disable/adjust Primary or Secondary Plot Trails (from 1 to 10 sweeps)
  - Select orientation of track labels (NE, SE, SW or NW). Note: track labels may also be freely oriented by using mouse to select and drag
- Overlay Control:
  - Enable/disable Range/Azimuth Grid
  - Enable/disable Range Rings
  - Select from six predefined ranges for Range Rings
  - Enable/disable Compass Rose
  - Enable/disable Parallel Cursor
- Map Control: (1)
  - Enable/disable map display
  - Enable/disable individual map layers (e.g. Landmarks, Coastline, Air Corridors, Town Markers, etc)
- Set Pressure Control (Optional):
  - Support for QNH or QFE mode
  - Adjust sea level or local air field pressure (in millibars)

Host System

- Architecture: Intel x86 based PC
- Processor: 1 GHz Intel Pentium III or higher
- Operating System: Windows NT 4.0 Workstation (SP4 or higher), Windows 2000 Professional (SP2 or higher) or Windows XP Professional
- Display card: standard PC graphics card (AGP, PCI or PMC) with DVI (PanelLink) digital output
- Packaging Options:
  - 2U or 4U 19" rack-mountable industrial PC
  - 6U VME Single Board Computer
  - 6U CompactPCI Single Board Computer

(1) Multi-layered maps may be generated from an AutoCAD DXF format file.