



# Eagle

## PMC Radar Scan Converter

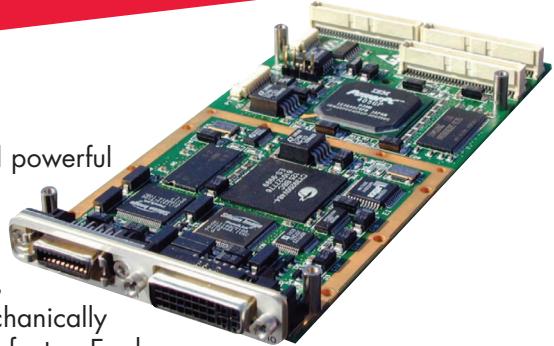
### Features

- ◆ Proven scan conversion technology
- ◆ Screen display resolutions up to 1600 x 1200 pixels
- ◆ Multiple radar windows
- ◆ Simultaneous scan conversion of multiple radars
- ◆ Full software support through PARIS API software library
- ◆ Connects to third-party or Curtiss-Wrights graphics cards
- ◆ BIT and monitor software

### Applications

- ◆ Naval Command and Control display consoles
- ◆ Radar Head Monitor systems
- ◆ Airborne radar display consoles
- ◆ Ground based simulators

Eagle is a flexible and powerful radar scan converter which is based upon field proven technology and comes in a compact and mechanically ruggedized PMC form factor. Eagle is a low power, rugged design that will operate in a wide range of environments, including conditions of high temperature and vibration.



Radar data is passed to the card via high-speed PCI bus transfers. This can originate either from a Curtiss-Wright Radar Input Card or via network from a radar video server. Radar scan conversion is performed using the White-Powell algorithm, combining the best features of both forward and reverse scan conversion. There are no holes or spokes in the displayed image, even when zooming-in at long range. All single point targets are displayed.

Eagle digitally combines the generated radar image with the output from a standard DVI output (PanellLink) graphics card. There are many such DVI output graphics cards available. During video keying, the Eagle is able to place the video from the graphics card either as an underlay or as an overlay to the radar image. This feature is typically used to allow target symbols to be presented as overlays and maps to be presented as underlays.

Eagle is able to simultaneously scan convert radar data from three independent sources, each being displayed in up to eight windows. Different windows may have different range scales and the radars may be shown in different colors with different fade rates. Where radar coverage areas overlap, multiple radars can be shown in the same window, although the fade rates and color must be the same in this case.

Eagle, which supports screen display resolutions up to 1600 x 1200, may be configured to handle a wide variety of radar sources and to display the resulting images in a range of formats. In addition to continuously rotating antennas, Eagle can handle sector scan, reverse scan and random scan input from phased-array antennas. Data is usually displayed in PPI format, although support for B-Scan format is also included

### Learn More

Sales Info: [sales.cwcembedded.com](mailto:sales.cwcembedded.com)

Sales Email: [sales@cwcembedded.com](mailto:sales@cwcembedded.com)

ABOVE & BEYOND



## Specifications

### Architectural & Functional

- ◆ Field-proven White-Powell scan conversion algorithm
- ◆ Multiple radar display windows
- ◆ Low latency
- ◆ Variable persistence smooth fading with up to 128 levels
- ◆ Supports radars up to 60 rpm
- ◆ Configurable polar store for display of multiple radars
- ◆ PPI and B-Scan display formats
- ◆ Any zoom or offset from centre supported
- ◆ Integrated digital video keying of radar with graphics inputs
- ◆ Radar Data: Received via PCI bus transfer from local or networked radar source.
- ◆ Video Input (from graphics card):
  - Digital DVI PanelLink
  - Resolution: 640x480 to 1600x1200 (depends on capability of graphics card used)
  - Pixel clock: 25 to 160 MHz

### Video Output

- ◆ Analogue RGB or digital DVI PanelLink
- ◆ Resolution: same as input from graphics card
- ◆ Pixel clock: same as input from graphics card Connectors
- ◆ Front Panel:
  - Video input (digital only): MDR-20 connector (compatible with DVI-I, DVI-D and MDR-20 graphics cards via adapter cable)
  - Video output (combined digital and analogue): DVI-I connector
- ◆ PMC & Onboard I/O:
  - P1, P2, P4: Standard PMC Interface (IEEE P1386 compliant)

Note: Video input and output is also possible via the PMC P4 connector. This is a factory build option.

### Software, O/S & Host Support

- ◆ API Software Library: PARIS
- ◆ Application Software Library: Metroview Radar Head Monitor
- ◆ Built-in Test (BIT) and Monitor Software: Supplied as standard
- ◆ O/S and Environment Support (1): Linux, Solaris and Windows
- ◆ Host support (1): PowerPC, Intel x86 and SPARC

### Physical & Mechanical

- ◆ Single PMC module
- ◆ Dimensions (including front panel connector): 74 mm x 155 mm (2.91 in x 6.10 in)
- ◆ Weight: approx. 0.10 kg (0.22 lbs)

### Electrical

- ◆ Maximum power consumption: 9.6 W
- ◆ Standard PCI v2.2 interface (33 or 66 MHz, 3.3 V or 5 V signalling)

**Table 1: Power supply tolerance and current requirements (maximum)**

Supply	Tolerance	Current
+3.3V	±5%	1.80 A
+5V	±5%	0.25 A
+12V	±10%	0.08 A
-12V	±10%	0.12 A

### Environmental

- ◆ Operating Temp. (°C):
  - 0 to +55
  - -20 to +65°
- ◆ Storage Temp. (°C): -50 to +100
- ◆ Rel. Humidity (NC): 5% to 95%
- ◆ Shock: 20g peak; sawtooth; 11 ms
- ◆ Vibration: 0.002g<sup>2</sup>/Hz; 10 to 2000 Hz
- ◆ Airflow and Altitude: Please consult factory.

Note: (1) Please consult factory to check if your particular combination of O/S and host is currently supported.