



Eagle-2

High-resolution Radar Scan Converter



- ◆ High-performance PMC radar scan-converter
- ◆ Supports display resolutions up to 2048 x 2048 and 2560 x 1600
- ◆ Simultaneous scan-conversion of multiple radar sources
- ◆ Multiple radar display windows
- ◆ PPI, A-Scan and B-Scan display modes
- ◆ Support for sector scan, random scan and reverse scan inputs
- ◆ DVI graphics input for digital mixing of radar and graphics
- ◆ Supported by RVL+ software library

Eagle-2 is the latest in the line of high-performance radar scan converters from Curtiss-Wright Controls Embedded Computing. Using field proven scan-conversion algorithms, Eagle-2 provides improved performance and support for high-resolution screen displays making it the perfect choice for high-end radar display applications.

Radar scan conversion on the Eagle-2 combines the best features of both forward and reverse scan conversion. This powerful approach ensures that there are no holes or spokes in the displayed image, even when zooming-in at long range, and that all single point targets are displayed. Radar data is passed to the card via high-speed bus transfers. Data can originate either from a Curtiss-Wright Osiris radar input card or via network from a radar video server such as Curtiss-Wright's RVP radar video processing product.

A key feature of Eagle-2 is the ability to accept a DVI graphics input signal, for mixing with the scan-converted radar. During video keying, the Eagle-2 is able to place, on a per-pixel basis, the video from the graphics card either as an underlay or overlay to the radar image. This feature is typically used in multi-layer display applications to allow target symbols to be presented as overlays and maps to be presented as underlays.

Eagle-2 is available as a standard version, supporting display resolutions up to 1920 x 1200, and a high-resolution version, supporting up to 2560 x 1600 (including 2048 x 2048).

Learn More

Sales Info: sales.cwcembedded.com

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Specifications

Architectural & Functional

- ◆ Field proven scan-conversion algorithm
- ◆ Support for radar rotation rates up to 90 rpm at 2048 x 2048 display resolutions
- ◆ Simultaneous display of multiple radar sources
- ◆ Configurable polar store for display of multiple radar sources
- ◆ Multiple color support for scan-converted radar
- ◆ Variable persistence smooth fading with up to 256 levels
- ◆ PPI, A-Scan and B-Scan display formats
- ◆ Integrated digital video keying of radar with graphics input
- ◆ Radar data transfer over bus from local or networked radar source
- ◆ 32-bit, 33 MHz PCI interface

Video Input (from graphics card)

- ◆ Single-link or dual-link DVI
- ◆ Standard version supports resolutions to 1920 x 1200 via single-link DVI interface
- ◆ High-resolution version supports resolutions to 2560 x 1600 (including 2048 x 2048) via dual-link DVI interface

Video Output

- ◆ Single-link or dual-link DVI or analog RGB
- ◆ Supports resolutions to 2560 x 1600 (including 2048 x 2048)
- ◆ Timings derived from graphics input when connected

Front Panel Connections

- ◆ Video input (digital only) via MDR-20 connector (compatible with DVI-I, DVI-D and MDR-20 graphics cards via adaptor cable)
- ◆ Video output (combined digital and analog) via DVI-I connector

Software, O/S and Host support

- ◆ API software library: RVL+
- ◆ O/S environment support: Linux®
- ◆ Host support: Intel® x86
- ◆ For other O/S support please consult factory

Physical & Mechanical

- ◆ Single-width PMC form factor
 - Size 149 x 74 mm IEEE P1386-2001

Environmental

Available in the following Curtiss-Wright environmental grades:

- ◆ Air-cooled Level 0
 - Operating temperature 0°C to +50°C
 - Storage temperature -40°C to +85°C
- ◆ Air-cooled Level 100
 - Operating temperature -40°C to +71°C
 - Storage temperature -55°C to +125°C

For further details please see the Curtiss-Wright Ruggedization Table at <http://www.cwcembedded.com/0/0/208.html>. For conduction-cooled requirements, please consult factory.

Figure 1: Eagle-2 Architecture

