

# Advantage Xi

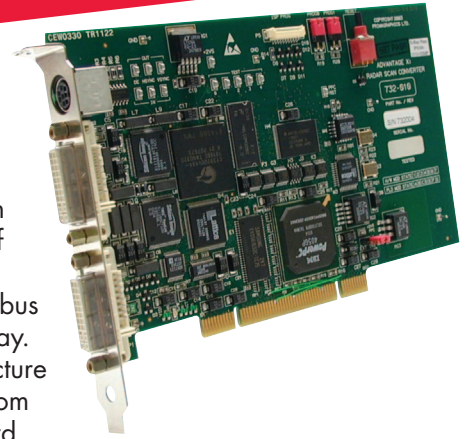
## Radar Scan Converter

### Features

- ◆ Proven scan conversion technology
- ◆ Screen display resolutions up to 1600 x 1200 pixels
- ◆ Display pixel clock up to 160 MHz
- ◆ Multiple radar windows
- ◆ Simultaneous scan conversion of multiple radars
- ◆ Full software support through PARIS API software library
- ◆ Extensive O/S support:
- ◆ Windows®, Wind River® Linux® and Solaris®
- ◆ Full PCI bus master or slave transfer interface
- ◆ Built-in Test (BIT) and monitor software

### Applications

- ◆ Air Traffic Control (ATC) displays
- ◆ VTS Displays Command and Control consoles
- ◆ Radar Head Monitors



The Advantage Xi radar scan converter is a single slot, half length PCI card that accepts digitized radar data via PCI bus and scan-converts it for display. The scan converted radar picture is combined with graphics from the DVI-D output of a standard graphics card. The radar data may be derived from the Virgo PCI or Osiris PCI/PMC radar input card or from a distributed network data stream.

Scan conversion is performed mainly in software running on an embedded PowerPC® processor, with dedicated hardware assistance for range spreading and fading. The coordinate transform uses a field-proven algorithm which combines 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.

Advantage Xi 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 must be the same in this case.

When paired with a suitable graphics card, Advantage Xi supports screen display resolutions up to 1600 x 1200, output at a maximum rate of 160 Mpixels/s.

Advantage Xi 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, Advantage Xi can handle sector scan, reverse scan and random scan input from phased-array antennas with data displayed in PPI or B-scan format.

### Learn More

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# Advantage Xi

## Specifications

### Architectural

- ◆ Advanced field-proven scan-conversion algorithm
- ◆ Full 360° polar store, with flexible configuration up to 16MB of samples:
  - Range: 2048-8192 samples
  - Azimuth: 2048-8192
- ◆ Screen display resolution: up to 1600 x 1200
- ◆ Variable persistence smooth fading with up to 128 levels
- ◆ IBM 405GP PowerPC® Processor
- ◆ 64MB SDRAM
- ◆ 8MB Video RAM
- ◆ 4MB Flash EPROM

### Input/Output

- ◆ Video Input:
  - Format: DVI-D (standard TMDS Panellink)
  - Pixel clock: 25MHz to 160MHz
- ◆ PCI bus interface (Radar Input):
  - Bus clock: 33/66MHz
  - Bus width: 32-bit
  - Supports both master and slave mode transfers up to 132/264 MB/s (peak)
- ◆ Video Output:
  - Format: DVI-I (i.e. both analog RGB and DVI-D digital video)
  - Pixel clock: same as input

### Connectors

- ◆ Back panel I/O:
  - Video Input: DVI-D socket
  - Video Output: DVI-I socket
  - RS-232 Serial Control: 8-way mini-DIN socket

### Software, O/S and Host Support

- ◆ API Software Library: RVL+ Radar and Video Library
- ◆ Application Software: Metroview Radar Head Monitor
- ◆ BIT and Monitor Software: BIT and Monitor supplied as standard
- ◆ O/S and Environment Support: Windows®, Wind River® Linux®, Solaris®, X Windows
- ◆ Host Support: Intel® x86, SPARC
- ◆ Please consult factory to check if your particular combination of O/S and host is currently supported

## Physical and Mechanical

- ◆ Half-length PCI card
- ◆ PCI Specification v2.1 compliant
- ◆ Dimensions: 174 mm x 107 mm (6.85 in x 4.2 in)
- ◆ Weight: approx 0.12 kg (0.26 lbs)
- ◆ Ruggedization: Conformal coating is available as an option

## Electrical

- ◆ Maximum power consumption: 7.5W

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

+3.3V	±5%	1.60 A
+5V	±5%	0.20 A
+12V	±10%	0.06 A
-12V	±10%	0.10 A

There is provision for generating the 3.3V supply from an onboard regulator, in which case the current specified for +3.3V will be added to the +5V current.

## Environmental

Available in the following Curtiss-Wright Controls environmental grades:

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

For further details please see the Curtiss-Wright Controls Ruggedization Table at <http://www.cwembedded.com/0/0/208.html>.