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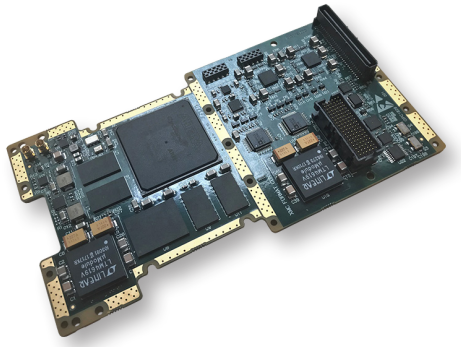
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Find the *Curtiss-Wright XMC-FC1* at our website: ***Click HERE***

XMC-FC1

Format Converter XMC

CURTISSWRIGHTDS.COM



Key Features

- XMC (VITA 42) format converter
- Dual, independent channels
- 2 x DVI inputs through Pn4
- 2x SDI, VGA, STANAG-3350 or ARINC-818 outputs
- 3G, HD, and SD-SDI compatible
- Supports scaling and rate conversion in any aspect ratio
- Custom options available
- Coaxial video output without requiring front panel I/O support on the carrier card
- Operating temperature: -40 to +85ºC

Applications

- Supporting legacy video systems and displays with modern DVI-centric single board computers (SBC)
- Adding ARINC-818 or SDI (SD, HD, 3G) video outputs to SBCs

Overview

Video integration is often complex and burdened with problems that arise from integrating legacy equipment with the latest video sources. The Curtiss-Wright XMC Format Converter (XMC-FC1) provides a flexible solution in an XMC format capable of converting between a range of video formats and resolutions. (15 different formats and resolutions are supported).

Highly flexible, the XMC-FC1 supports two independent channels of video conversion. Accepting DVI inputs at a range of resolutions, the XMC-FC1 scales and rate converts the input signals in any aspect ratio to a wide range of digital and analog video output formats. The video output format for the two channels are independent of each other.

Analog Video Output

The XMC-FC1 supports both interlaced and non-interlaced video output formats, with explicit horizontal and vertical sync signals or embedded Sync-on-Green.

Digital Video Output

The XMC-FC1 also supports digital video output formats, specifically SMPTE-compliant SD, HD, and 3G-SDI. It is also able to support ARINC-818 video output over 75Ω coaxial cable using a 3G-SDI physical-layer driver (contact factory for specific ARINC-818 availability).

The digital video output connection is made to an MMCX connector in the XMC I/O area, the front edge of the XMC-FC1 has a slot to allow the egress of RG179 75Ω coaxial cable. This eliminates the need for the carrier card to support front-panel I/O from the XMC-FC1 and potentially saves the cost of modifications to the carrier card heatframe.

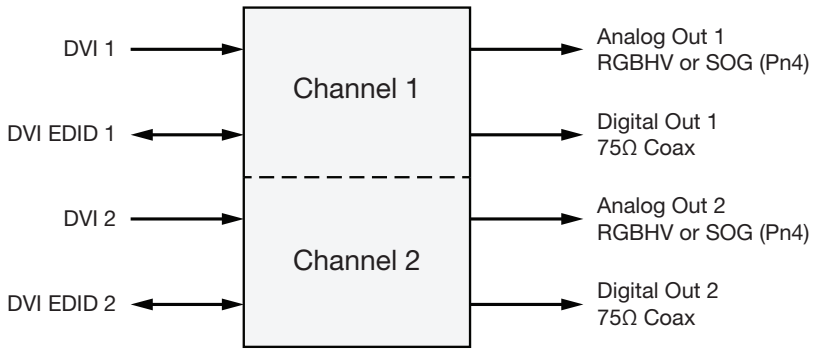


Figure 1: RTAS-3000-1 system diagram

Flexibility

The XMC-FC1 can be configured at run-time via its RS-232 control interface or statically configured to provide “instant-on” video conversion.

Program-specific Variants

Based around an FPGA the XMC-FC1 is extremely flexible and can be tailored to support different configurations and features, for example:

- Picture-in-picture (PIP)
- Picture-by-picture (PBP)

Specification Summary

Form factor

VITA 42 XMC single-width mezzanine conduction-cooled per IEEE 1386.1, VITA 20-199x

Weight

All ruggedization levels: 100g

Environmental

Conduction-cooled Level 200: -40°C to +85°C card edge

Inputs/Outputs

- Input formats:
  - DVI all formats up to 165 MHz pixel clock i.e. 640 x 480 to 1920 x 1080 (reduced blanking)
  - EDID supported
- Output formats:
  - SDI
    - SMPTE 259M (SD-SDI), SMPTE 292M (HD-SDI) and SMPTE 424M (3G-SDI)
    - 1920x1080i @ 59.94, 50 Hz
    - 1920x1080p @ 59.94, 50, 29.97, 25 Hz
    - 1280x720p @ 59.94 Hz
    - 720x486 @ 29.97 Hz
    - 720x576 @ 25 Hz
  - Composite
    - PAL CVBS (ITU-R BT.1700)
    - NTSC CVBS (RS-170A)
    - PAL Y/C
    - NTSC Y/C
  - RGB
    - VGA (640x480)
    - XGA (1024x768)
    - WXGA (1280x720)
    - SVGA (1280x1024), UXGA (1600x1200), HD (1920x1080)
    - STANAG 3350A/B/C

TABLE 1 Power rail requirements

Supply Rail		Current (mA) Typ	Current (mA) Max
VPWR	5V	710 mA	2200 mA
	12V	300 mA	920 mA
3.3V		320 mA	450 mA
3.3V AUX		1 mA	3 mA
Total Power (W)		4.6W	12.5W

Connectors

- Pn5 – Power and reset only
- Pn4 – DVI and EDID input, analog video output
- Front panel MMCX – 75Ω Digital video output

Variants and Customization

Please contact Curtiss-Wright if there are additional requirements as we are continuously monitoring the market to assess if and when variants with different features should be introduced.

Curtiss-Wright also has a Modified COTS (MCOTS) program where standard COTS products can be modified for simple changes such as matching existing system pinouts, or more complex modifications like form factor and/or functional customizations.

Ruggedization Levels

Conduction-cooled cards are available in Level 200 with Humiseal 1B73 acrylic conformal-coating. For cards suitable for use on an air-cooled carrier card or for additional types of conformal coating, please contact Curtiss-Wright.

Ordering Information

Contact Curtiss-Wright for ordering information

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