M571

Multi-channel Analog Video Frame Grabber XMC

- ■ **Single Width XMC**

- ■ **PCIe x1 Gen 2.0 Host Interface**

- ■ **Up to 16 Composite Video Inputs**
  - ▸ **Supports RS-170A (NTSC)/PAL (format automatically detected)**
  - ▸ **8 Single-Ended Channels from Mezzanine I/O Connector**
  - ▸ **8 Additional Single-Ended Channels at Front Panel (air-cooled version only)**

- ■ **Simultaneous Capture of up to 8 Composite Inputs at Full Frame Rates**

- ■ **Ultra Low Power Consumption**

- ■ **Video Inputs Routed from XMC Front Panel and P16 (XMC) or P4 (PMC) I/O Connectors**

- ■ **Windows® & Linux® Support**

- ■ **Conduction and Air-Cooled Versions**

- ■ **Vibration and Shock Resistant**

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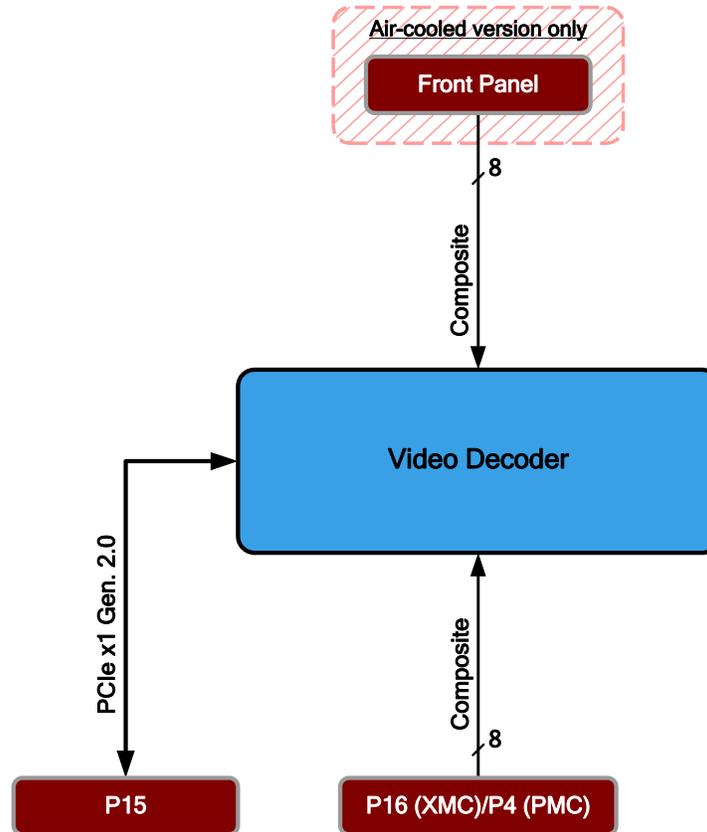
Aitech's M571 Multi-channel Analog Video Frame Grabber XMC provides composite video capture functionality with extremely low power consumption.

Simultaneous capture of up to eight composite inputs is supported at full RS-170A (NTSC)/PAL frame rates. Video is transferred to the host via the PCIe x1 Gen. 2.0 interface.

The mechanical and electrical design of the M571 guarantees reliable operation over the full range of rugged application environments. It is available in industry standard conduction-cooled and air-cooled form factors.

Board Architecture

PCIe Bus	PCIe Gen. 2.0 x1 Host Interface

Video Interfaces

Inputs	• Up to 16 composite video input channels
	  - 8 inputs from PMC (P4) or XMC (P16) – depending on board configuration (see ordering information)
	  - 8 inputs via front panel SMC connectors (air-cooled version only)
	• Anti-aliasing filters

Input Format	• Composite RS-170A (NTSC)/PAL • Automatic detection of video format

Supported Resolutions

Video Input Interface	Video Format	Total Lines	Active Lines	Aspect Ratio	Frame Rate	Interlaced/ Progressive
Composite	RS-170A, NTSC	525	483	4:3	60	I
	PAL	625	576	4:3	50	I

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Ai Aitech
Embedded Computing
without **Compromise**

Video Transfer

Functionality	• Up to 8 composite video streams can be transferred to the host simultaneously • Capture at full RS-170A (NTSC)/PAL frame rates • Low latency: < 1 frame

Software

OS Support	• Drivers for:
	  - Windows [®]
	  - Linux [®] • Compatibility with standard frameworks/APIs
	  - Windows Driver: Microsoft DirectShow
	  - Linux Driver: Video4Linux2

Functions	• Simultaneous capture of multiple input channels

Mechanical

Form Factor	Single-Width XMC per ANSI/VITA 42.0-2008
Dimensions	Per ANSI/VITA 42.0-2008 for Single-Width XMC: conduction and air-cooled
Weight	Conduction-cooled: <65 g [0.15 lb]; Air-cooled: <100 g [0.22 lb]

Power

The M571 draws all its power from the host +3.3 V power supply. VPWR, ±12 V, and 3.3 V auxiliary supplies are not required.

	+3.3 V	Power
Typical	0.3 A	1.0 W
Maximum	0.6 A	2.0 W

Environmental

Specs per VITA 47	Air-Cooled			Conduction-Cooled	
	Commercial	**Rugged**	**Military**	**Rugged**	**Military**
Operating Temp.	AC1 (0 to +55 ºC) [2]	AC3 (-40 to +70 ºC) [2]	AC4 (-40 to +85 ºC) [1, 2]	CC3 (-40 to +70 ºC) [3]	CC4 (-40 to +85 ºC) [1, 3]
Non-Operating Temp.	C1 (-40 to +85 ºC)	C3 (-50 to +100 ºC)	C4 (-55 to +125 ºC)	C3 (-50 to +100 ºC)	C4 (-55 to +125 ºC)
Vibration	V1	V2	V2	V3	V3
Operating Shock	OS1	OS1	OS1	OS2	OS2
Altitude	15,000 ft.	35,000 ft.	70,000 ft.	35,000 ft.	70,000 ft.
Relative Humidity (4)	0 - 90%	0 - 100%			
Conformal Coating	N/A	Acrylic (Silicone and Urethane Optional)			

Notes:
(1) -55 ºC available, contact an Aitech representative for more information
(2) Operating ambient air temperature
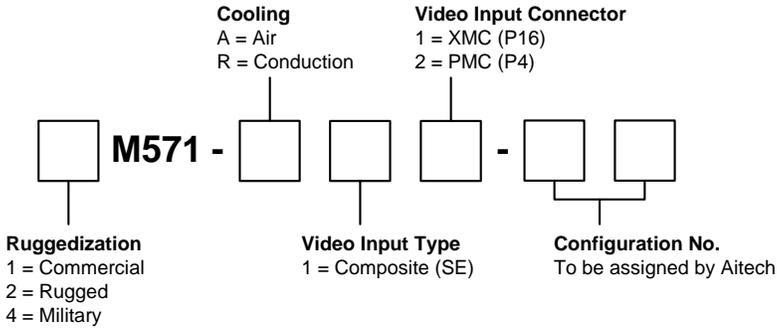(3) Operating card edge temperature (with sufficient airflow)
(4) Non-condensing

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Ordering Information

Cooling
A = Air
R = Conduction

Video Input Connector
1 = XMC (P16)
2 = PMC (P4)

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Ruggedization
1 = Commercial
2 = Rugged
4 = Military

Video Input Type
1 = Composite (SE)

Configuration No.
To be assigned by Aitech

Example: 4M571-R11-00

Accessories

TM530	Rear Transition Module (RTM) providing convenient access to M571 interfaces via standard connectors. Supports both air and conduction-cooled M571 when mounted on a standard 3U VPX carrier or host SBC in commercial air-cooled chassis.
	Refer to the TM530 datasheet for further information.

Contact Aitech

Contact your Aitech sales representative for additional product information, and for inquiries regarding customized configurations of the M571 and additional software support.