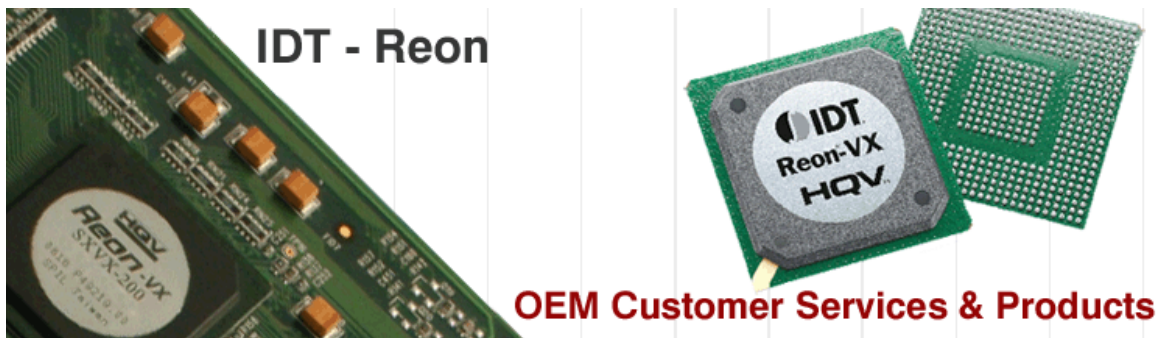


# PV6M

## Video Processor Module incorporating Reon-VX with IDT-HQV™

PV6M is a slave video processing board incorporating the Reon-VX video processor device with IDT-HQV together with Calibre's enhanced processing and functionality firmware suite. PV6M enables low-medium volume OEMs access to Reon-VX's IDT-HQV technology which would otherwise not be available due to minimum order volume requirements from the chip manufacturer and prohibitive technical development costs. It offers risk-free Reon-VX processing feature integration and thus fast time to market with low up-front costs.

As a stand-alone module the PV6M video processor slave board is designed to allow OEMs to integrate the powerful Reon-VX video processor as an embedded item within another system. It has digital video input and output buses which are processed by Reon-VX. Optionally PV6M can output TMDS/DVI or 3GSDI.



- **Video Input:** BT656 or BT1120 parallel digital video input supports common SD & HD formats. *Further SMPTE, VESA and custom input formats can be supported through firmware customization by Calibre*
- **Video Output:** Digital parallel video data bus. Supports formats up to 1080p/WUXGA . *A wide range of SMPTE interlaced and progressive formats, VESA formats and custom output modes can be provided by firmware customization by Calibre.*
- **Optional TMDS/DVI Outputs:** Can be provided in DVI or HDMI formats.
- **Optional 3GSDI Output:** 3GSDI output daughterboard
- **Control API:** System integration via RS232 allows selection of video processing features, levels and interaction with the OSD as well as the ability to provide customer-specific OSD information on-screen
- **Optional Warp and Blend Capabilities:** additional optional features include comprehensive geometry correction, custom warp mapping and edge blending

- Motion adaptive per pixel video de-interlacing, HD & SD
- Multi-directional diagonal de-interlace filter
- Edge anti-aliasing
- 4-field full resolution SD & HD processing
- 4D Motion and Noise Adaptive IDT-HQV noise reduction for SD
- MPEG2 CODEC noise reduction for mosquito and block noise, spatial and temporal noise reduction
- 10-bit signal inputs, 12-bit accurate internal processing
- Latency as low as 0.25-frame for progressive inputs, 1.25-frames for interlaced inputs
- Flexible colour calibration controls
- Inputs up to 1080i and 1080p/WUXGA
- Outputs up to 1080p/WUXGA
- RS232 control, USB port for in-field firmware updates
- Can be custom-programmed with customer start-up screen and OSD logo
- Remotely controlled OSD. OSD pages stored in the file system of the board
- OSD creation with a PC based tool kit available to OEM customers
- Optional geometry correction, custom warp mapping
- Optional edge blending

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### Inputs

#### **Internal:**

1x Board to Board Connector with  
30 Bit video graphics data bus (RGB 4:4:4, 10/20 Bit YCbCr 4:2:2)  
and HSync/VSync/DE/Field/Clock control signals  
RS232 control bus  
12V DC power supply (input)  
6x GPIOs

1x USB Connector

#### **Default supported video formats:**

HD SMPTE 274M 1080i50/59.94, 1080p25/29.97  
SD ITU-R BT.601-5/656-4 480i59.95, 576i50  
*Other formats available to suit customer requirements*

### Outputs

#### **Standard:**

1x Board to Board Connector with  
30 Bit RGB 4:4:4 video graphics data bus and  
HSync/VSync/DE/Field/Clock control signals  
15x GPIOs

#### **Optional:**

1x DVI  
1x HDMI  
1x 3GSDI

*NB: these options are mutually exclusive*

#### **Default supported video output formats:**

HD EIA/CEA-861-B 1080p25/29.97/30/50/59.94/60  
VESA SXGA50/60, 1920x1200p50/60  
*Other formats available to suit customer requirements*

### Control Ports

Remote control via RS232 serial control.  
USB port for uploading software updates and new features.

### Power Requirements

12VDC, +/- 10%, 1A typical.

### Warranty

1-year return to base warranty covers parts and labour, shipping excluded.

### Manufacturing options:

- **Turnkey Design/Manufacture Solutions:** are offered for low-medium-high volume customers providing a seamless start to finish solution.
- **Manufacturing License:** options available for high volume customers
- **Design support:** on a fee-paying basis for customers with their own pre-existing Reon-VX IP who need help modifying or improving a pre-existing design. *Please note: This is for support of customers' own IP, to access Calibre's IP a design and manufacture agreement is required.*
- **Market Ready Solutions:** Customers may also wish to consider the Calibre PV6 and PV6S technologies which are complete ready-to-use video processing and display driver solutions based on Reon-VX which include HDMI1.3 and HDCP support. For further information please visit <http://www.calibreuk.com>

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