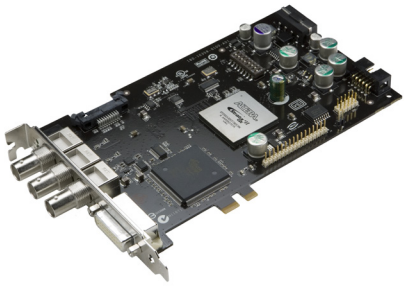
PART NUMBER:
VCQKSDIOUTPUT-PB



QUADRO SDI OUTPUT

NVIDIA® Quadro® SDI Output card provides an integrated graphics-to-video solution enabling 2D and 3D effects to be composited in real-time with 2K, HD and SD video.

The Quadro SDI Output by PNY card is the ideal solution for digital broadcast professionals, who use various applications such as virtual-sets, sports, and weather news systems to composite live video footage onto virtual backgrounds and send the result to live video for TV broadcast.

Quadro SDI Output card also allow film production, post-production, and finishing professionals to preview the results of 3D compositing, editing, and color grading in real time on high definition (HD) broadcast monitors.

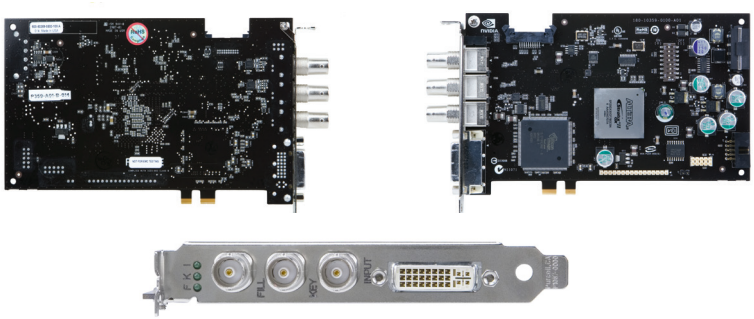
This graphics-to-video-out solution delivers uncompressed 8-, 10-, or 12-bit SDI from programmable graphics, enabling a direct connection to broadcast monitors, switchers, tape decks, or SDI projectors.

INDUSTRY'S FIRST FULLY INTEGRATED, GPU-BASED SDI SOLUTION

The Quadro Digital Video Pipeline (DVP) delivers the industry's first fully integrated GPU-based solution for acquisition, processing and delivery of high resolution video. The Quadro Digital Video Pipeline provides advanced capabilities for graphics rich production and delivery of video for broadcast, post production, film and new media.

FLEXIBLE ARCHITECTURE ENABLES SDI SUPPORT WITH QUADRO SDI-ENABLED GPUS

Take your inspiration even further with Quadro FX SDI-enabled solutions, with up to 4 GB of graphics memory and dual or single slot form factors. Featuring NVIDIA® SLI® technology, NVIDIA® CUDA™ parallel computing architecture, and 30-bit color accuracy, Quadro FX solutions delivers a power efficient, full featured, ultimate performance experience.



FULL-FEATURED SOFTWARE DEVELOPMENT KIT (SDK) FOR OPTIMIZATION OF BOTH THE GRAPHICS AND SDI OUTPUT SOLUTION

The NVIDIA SDI SDK provides ease of programmability and control of the entire SDI pipeline – capturing, processing, and final delivery.

COMPATIBLE SOLUTIONS

NVIDIA Quadro K6000 by PNY	NVIDIA Quadro 6000 by PNY
NVIDIA Quadro K5000 by PNY	NVIDIA Quadro 5000 by PNY
NVIDIA Quadro K4000 by PNY	NVIDIA Quadro 4000 by PNY

FORM FACTOR	**Full Height, Half Length**
AUXILIARY POWER CONNECTORS	**4-pin Molex**
NUMBER OF SLOTS (WIDTH)	**1**
THERMAL SOLUTION	**Passive**
GENLOCK	**BNC (1) - Analog or Digital Genlock**
COMMUNICATION TO GRAPHICS CARD	**Ribbon Cable + DVI Connection**

QUADRO SDI OUTPUT FEATURES

UNCOMPRESSED SDI OUTPUT	Output live video and graphics to true, uncompressed 8-,10-, 12-bit SDI in SD, HD, or 2K resolutions.
OUTPUT UP TO 2-SDI VIDEO FEEDS FROM GPU MEMORY	Outputs video directly from GPU memory to deliver the industry's lowest latency SDI output directly from a GPU.
GENLOCK (HOUSE SYNCHRONIZATION)	SMPTE standard (digital, black burst, tri-level) synchronization.
ANCILLARY DATA SUPPORT	Supports the insertion of ancillary data including: embedded audio, timecode, and custom packets

TECHNICAL SPECIFICATIONS

SUPPORTED OPERATING SYSTEMS
> Microsoft® Windows® XP (64-bit and 32-bit)
> Windows® Vista
> Windows 7 support>>
> Linux® - Full OpenGL implementation, complete with NVIDIA and ARB extensions (64-bit and 32-bit)>>

QUADRO SDI OUTPUT – PROGRAMMING MODES
> 2 channel fill or
> 1 channel fill + 1 channel key
> 8-, 10-, 12-bit
>>> RGB 4:4:4
>>> YCrCb 4:2:2 or 4:4:4
>>> 2x YCrCb 4:2:2 + 4:2:2
>>> YCrCbA 4:2:2:4
>>> RGBA 4:4:4:4 (8-bit only)

QUADRO SDI OUTPUT - CONTROL PANEL MODES
> Clone and Dualview Modes work on top of existing applications
> 1 channel fill
> 8-bit
>>> RGB 4:4:4
>>> YCrCb 4:2:2 or 4:4:4

QUADRO SDI OUTPUT PROVIDES FULL SUPPORT FOR THE FOLLOWING SD-, HD-,2K-SDI FORMATS:

>>> 480i 59.94 Hz (SMPTE259) NTSC
>>> 576i 50.00 Hz (SMPTE259) PAL
>>> 720p 23.98 Hz (SMPTE296)
>>> 720p 24.00 Hz (SMPTE296)
>>> 720p 25.00 Hz (SMPTE296)
>>> 720p 29.97 Hz (SMPTE296)
>>> 720p 30.00 Hz (SMPTE296)
>>> 720p 50.00 Hz (SMPTE296)
>>> 720p 59.94 Hz (SMPTE296)
>>> 720p 60.00 Hz (SMPTE296)
>>> 1035i 59.94 Hz (SMPTE260)
>>> 1035i 60.00 Hz (SMPTE260)
>>> 1080i 47.96 Hz (SMPTE274)
>>> 1080i 48.00 Hz (SMPTE274)
>>> 1080i 50.00 Hz (SMPTE274)
>>> 1080i 59.94 Hz (SMPTE274)
>>> 1080i 60.00 Hz (SMPTE274)
>>> 1080PsF 23.976 Hz (SMPTE274)
>>> 1080PsF 24.00 Hz (SMPTE274)
>>> 1080PsF 25.00 Hz (SMPTE274)
>>> 1080PsF 29.97 Hz (SMPTE274)
>>> 1080PsF 30.00 Hz (SMPTE274)
>>> 1080p 23.976 Hz (SMPTE274)
>>> 1080p 24.00 Hz (SMPTE274)
>>> 1080p 25.00 Hz (SMPTE274)
>>> 1080p 29.97 Hz (SMPTE274)
>>> 1080p 30.00 Hz (SMPTE274)
>>> 1080p 23.976 Hz (SMPTE372)
>>> 1080p 24.00 Hz (SMPTE372)
>>> 1080p 25.00 Hz (SMPTE372)
>>> 1080p 29.97 Hz (SMPTE372)
>>> 1080p 30.00 Hz (SMPTE372)
>>> 1080i 47.96 Hz (SMPTE372)
>>> 1080i 48.00 Hz (SMPTE372)
>>> 1080i 50.00 Hz (SMPTE372)
>>> 1080i 59.94 Hz (SMPTE372)
>>> 1080i 60.00 Hz (SMPTE372)

PNY PROFESSIONAL RANGE OF PRODUCTS

PNY Professional Solutions	QUADRO 410	QUADRO K600	QUADRO K2000	QUADRO K2000D	QUADRO K4000	QUADRO K5000 MAC	QUADRO K5000	QUADRO K6000
								
CUDA PARALLEL PROCESSING CORES	192	192	384	384	768	1536	1536	**2880**
FRAME BUFFER MEMORY	512 Mo DDR3	1 GB DDR3	2 GB GDDR5	2 GB GDDR5	3 GB GDDR5	4 GB GDDR5	4 GB GDDR5	**12 GB GDDR5**
MEMORY INTERFACE	64-bit	128-bit	128-bit	128-bit	192-bit	256-bit	256-bit	**384-bit**
MEMORY BANDWIDTH	14 GB/s	29 GB/s	64 GB/s	64 GB/s	134 GB/s	173 GB/s	173 GB/s	**288 GB/s**
MAX POWER CONSUMPTION	38 W	41 W	51 W	51 W	80 W	122 W	122 W	**225 W**
GRAPHICS BUS	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 3.0 x16	PCI Express 3.0 x16	**PCI Express 3.0 x16**
DISPLAY CONNECTORS	(1) DVI-I (1) DP 1.2	(1) DVI-I (1) DP 1.2	(1) DVI-I (2) DP 1.2	(1) DVI-I (1) DVI-D (1) mDP 1.2	(1) DVI-I (2) DP 1.2	(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo	(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo	**(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo**
FORM FACTOR	69 mm (H) x 160 mm (L) Single Slot	69 mm (H) x 160 mm (L) Single Slot	110 mm (H) x 200 mm (L) Single Slot	110 mm (H) x 200 mm (L) Single Slot	110 mm (H) x 240 mm (L) Single Slot	110 mm (H) x 265 mm (L) Dual Slot	110 mm (H) x 265 mm (L) Dual Slot	**110 mm (H) x 265 mm (L) Dual Slot**
THERMAL SOLUTION	Active	Active	Active	Active	Active	Active	Active	**Active**
NVIDIA® 3D VISION® & 3D VISION PRO	Support via USB	Support via USB connection to 3D Vision Hub	Support via USB connection to 3D Vision Hub	Support via USB connection to 3D Vision Hub	3D Vision and 3D Vision Pro via USB and optional 3-pin connection to 3D Vision Pro hubs	Support via 3 pin mini DIN	Support via 3 pin mini DIN	**Support via 3 pin mini DIN**
LOW PROFILE	Yes	Yes	No	No	No	No	No	**No**
PART NUMBERS	VCQ410-PB	VCQK600-PB	VCQK2000-PB	VCQK2000DVI-PB	VCQK4000-PB	VCQK5000MAC-PB	VCQK5000-PB	**VCQK6000-PB**
EAN	3536403341299	3536403342173	3536403342098	3536403342135	3536403342050	3536403341770	3536403341503	3536403342869

PNY Professional Solutions



PNY Professional Solutions	TESLA K20 Card	TESLA K40 Card
		
PEAK DOUBLE PRECISION FLOATING POINT PERFORMANCE	1.17 Tflops	1.43 Tflops
PEAK SINGLE PRECISION FLOATING POINT PERFORMANCE	3.52 Tflops	4.29 Tflops
MEMORY BANDWIDTH *(ECC OFF)*	208 GB/sec	288 GB/s
MEMORY SIZE (GDDR5)	5 GB	12 GB
CUDA CORES	2496	2880
PART NUMBERS	TCSK20CARD-PB	TCSK40CARD-PB
EAN	3536403341695	3536403343163

PNY PROFESSIONAL SSDs	PREVAIL 3K 	PREVAIL 5K 	PREVAIL ELITE 
120 GB	SSD9SC120GCDA-PB	SSDPREV120G5K01-PB	SSD9SC120GEDA-PB
240 GB	SSD9SC240GCDA-PB	SSDPREV240G5K01-PB	SSD9SC240GEDA-PB
480 GB	SSD9SC480GCDA-PB	SSDPREV480G5K01-PB	SSD9SC480GEDA-PB

NVIDIA | PNY

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