APANTAC

Guntermann & Drunck
GmbH

G&D

Multiviewer Solutions

- Broadcast & Production
- Control rooms
- Special applications

In cooperation with Apantac Image Processing Solutions

Leading the way in digital KVM

Apantac LLC is a top developer of high quality image processing equipment. With their products they offer complete multi-image display solutions. Apantac multiviewers are applied in numerous broadcast stations and production houses – just as KVM products from **Guntermann & Drunck**. This was a one more reason for a close partnership of both companies. Thanks to the symbiosis of multiviewers and KVM products, users can now expect even more synergy effects and high performance.

Apantac Multiviewers simultaneously display the video signals from multiple digital or analog computers or further video sources on a multi-image screen or on a large-display projection. In combination with a KM switch or a KVM matrix switch users can also access and operate multiple computers over one keyboard and one mouse.

Depending on the model Apantac Multiviewers are able to combine a broad range of multimedia inputs like DVI, VGA, RGB, HDMI, Blu-ray DVD, DVD, component as well as broadcast quality 3G/HD/SD-SDI. The lots of possibilities and the variety make it an ideal multi-image display processing solution for multi-channel video streams or for several industrial monitoring processes.

Multiviewers are an ideal solution for multi-format broadcast live productions as well as production studios. Furthermore they are applied in control rooms and industrial control centres especially for 24/7 mission critical applications that require a permanent control and monitoring.

That way users are able to observe various processes simultaneously. Combining KVM technology with Apantac Multiviewers facilitates the work of the users since IT applications can be monitored and controlled from one central position. In combination they offer even more flexibility and reliability. Thanks to KVM products the deployed computer technology can be used as flexibly as possible. Moving the computers into a separate technical area creates space, reduces noise and thus provides higher concentration at workplaces. At the same time users can access them remotely without any limitations.

The arrangement of KVM devices and multiviewers combines all the advantages of KVM devices and the benefits of multiviewers: all video sources are combined as "virtual outputs" on a single display and have the fully KVM control and flexibility thanks to KVM extenders, KVM switches and KVM matrix switches.
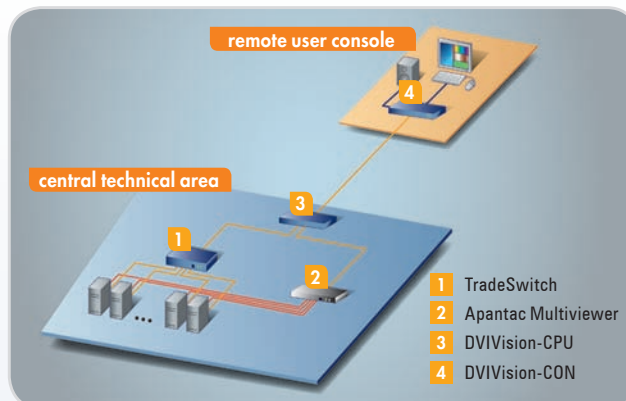
➤ Multi-image displays enable the simultaneous monitoring of several video sources and their ability to switch in between different layouts permits to bring focus on any source by enlarging it while keeping an eye on surrounding smaller windows. Thanks to KVM matrix switches the operator can switch quickly to the required video channel.

➤ Less peripherals provide clearly arranged workstations in which employees work efficiently and focused and can make decision as quick as possible.

➤ ideal working conditions without noise and heat at the workplace.

How a multiviewer and a G&D KVM extender can be combined

Challenge: Many applications require a permanent monitoring and control. Operators have to supervise many processes and have to access simultaneously a great number of remote targets. Further they need to operate all remote computers via one keyboard and one mouse.

Solution: The computers are housed in a central technical room, separated from the production-level users. The remote user console is able to access all computers, which are connected to a G&D KM Tradeswitch. The KM Tradeswitch enables the operation of multiple computers via only one set of keyboard/mouse. With the integrated CrossDisplay-Switching, the user can switch between channels simply by moving the mouse. Therefore the video interfaces are connected to a Apantac multiviewer, e. g. Tahoma DE-4. By using a KVM extender system, e.g. DVIVision-CPU and DVIVision-CON (using transmitter and receiver over CAT cable) the keyboard/mouse signals as well as the video signals can be transmitted to the remote user console. The result: many video streams or industrial processes can be monitored simultaneously by one and the same multi-image display.

CrossDisplay-Switching: The mouse acts as if on a "virtual desktop" and can be moved seamlessly across the connected "virtual displays". When the mouse is moved to a virtual display, the keyboard and mouse automatically control the computer feeding this virtual display. Now users can create a multi-monitor console and need only one keyboard and one mouse to operate all computers. The mouse becomes the ultimate intuitive switching tool.

remote user console
4
central technical area
3
1
2

1	TradeSwitch
2	Apantac Multiviewer
3	DVIVision-CPU
4	DVIVision-CON

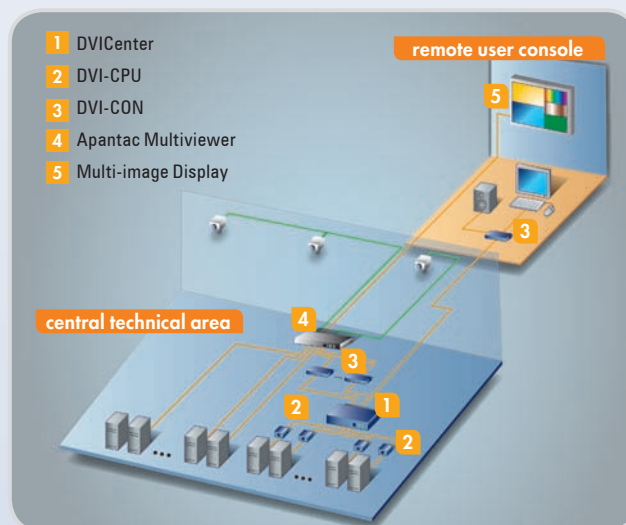▲ How Apantac Multiviewer and G&D KVM Extender can be combined.

▲ Illustration of the CrossDisplay-Switching function.

How a multiviewer and G&D KVM matrix switches can be combined

Challenge: A great number of computers have to be monitored and separate SDI or Composite video sources have to be displayed on a multi-image screen. In addition to this the remote user has to operate a part of the computers and to switch quickly between video channels.

Solution: In the application on the right side the operator accesses a number of computers located in the separate technical area.

The video sources are connected directly to the Apantac Multiviewer (e. g. Tahoma DL-4+8) and are displayed together onto the monitor. Some computers are connected to a KVM matrix switch (e.g. DVICenter DP32) as well as to the Apantac Multiviewer. At the remote console the user has full access to all the computers which are connected to the matrix. In addition to this he has at any time the overview of all video and computer sources displayed at the multi-image screen.


1	DVICenter
2	DVI-CPU
3	DVI-CON
4	Apantac Multiviewer
5	Multi-image Display

remote user console
5
3
central technical area
4
3
2
1
2

▲ How Apantac Multiviewer and G&D KVM matrix swicthes can be combined.

Tahoma DE-Series - Universal Input Multiviewer

The Tahoma DE Series of Universal Inputs Multiviewer accepts DVI, HDMI (with HDCP management), VGA, YPbPr, Composite inputs and, optionally, SD, HD and 3G SDI (auto detect) inputs. Models with 4, 8, 12 or 16 inputs are available. Up to 16 SDI embedded audio channels and the 2 first HDMI embedded audio meters per input can be displayed as standard. Optionally, discrete analogue and AES audio inputs are accepted and corresponding meters displayed. DVI/HDMI and optional VGA and SDI outputs with a resolution up to 2048 x 1080 (including 1080p) are available.

The Universal Multiviewers can be combined with a KVM Extender or with a KVM Matrixswitch. In combination with a KVM Matrixswitch the system transmits a total length of 280m. When connected to a G&D KVM Extender, e.g. DL-Vision, signal transmission can be extended up to 10,000 m.

Analog and digital clocks can be synchronized on the LTC input or via the NTP protocol. Clocks can also be used as up/down counters. Apantac skin technology allows you to customize borders, labels (4 / window), fonts, tally LEDS, clock faces, logos, UMD, OMD, IMD, and dynamic UMD. The Multiviewers have front panel buttons and several optional control panels for quick presets recall and counters control.
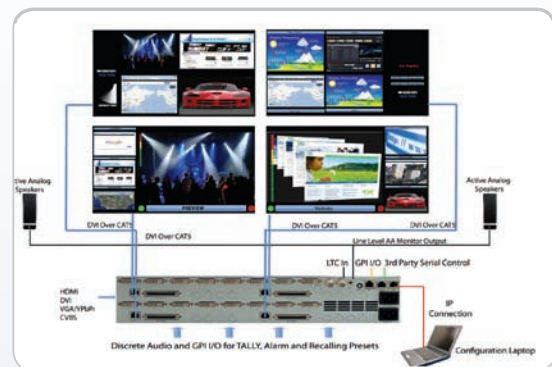
Application scheme of Tahoma DE-16 with four outputs

Models:

➤ Tahoma Multiviewer DE-4
➤ Tahoma Multiviewer DE-8
➤ Tahoma Multiviewer DE-12
➤ Tahoma Multiviewer DE-16

Features

➤ From 4 up to 16 universal inputs that accept DVI, VGA, YPbPr, Composite, HDMI (optional) and SD-SDI/HD-SDI (optional) format with HDMI embedded audio, (HDMI embedded audio)

➤ Supports up to 16 channels of SDI embedded audio and 4 channels of discrete audio per input (optional)

➤ supports multiple outputs in DVI, HDMI or VGA (optional), SDI (optional) and full 10-bit HDMI 1.3 outputs with a resolution of up to 2048 x 1080 (including 1080p)

➤ includes multiple labels per video window - UMD, OMD, IMD, standalone labels

➤ Apantac skin technology allows on-screen graphical elements to be designed with any graphics tool

➤ Front panel headphone jack with volume adjustment for audio monitoring

➤ Front panel buttons for quick preset recalls

➤ 1RU with optional redundant power supply and 2 RU with standard redundant power supply

Customer benefits

➤ Supports analogue and digital video

➤ Supports a broad range of video formats even in mixed mode

➤ In combination with KVM extenders and KVM matrix switches a powerful system performance can be achieved - all video sources are monitored and accessed from the same console

➤ Cristal clear images, incl. Full-HD resolution

➤ Simple installation and user friendly configuration application

Specifications Tahoma DE-Series

Inputs	*4 – 16*
Input Formats	*DVI/VGA/HDMI/Composite/YPbPr and optional 3G-SDI/HD-SDI/SD-SDI;* *HDMI: 1.2, 1.3. HDCP protected sources are visualized*
Outputs	*1 - 4 DVI, HDMI, VGA / SDI (optional)*
Total Windows	*4, 8, 12 or 16, depending on the model in place of 1, 2, 3 or 4, depending on the model*
Output Formats	*- DVI, HDMI or* *- optional VGA; one optional SDI output per Tahoma DE*
Output Resolution	*From 800 x 480 up to 2048 x 1080 including 1920 x 1080 / 1080p (Full-HD)*
Graphics / On-Screen-Display	*- Apantac Skin Technology* *- Multiple labels per window (UMD)* *- Tallies, Alarm tags, Borders, Clocks & Logos*
Video/Audio Alarm	*Video presence / format display, Video Frozen, Video Black. Audio presence, Audio high/low*
Audio Support	*- 16 channels embedded audio per SDI input; 2 channels embedded audio per HDMI input* *- Analog or AES audio (option)* *- Audio associated with video windows or standalone audio meters*
Redundant Power Supply	*- 1 RU - optional with external AC/DC adapter* *- 2 RU - standard*
Control	*- Front panel buttons* *- Simple Preset GPI Panel* *- Apantac ASCII protocol (AXP)* *- Free Apantac Software Panel (ASP)* *- Simple serial Keypad and Touch Panel (uses ASP)*

Tahoma DE-4

Outputs	1
Inputs	1 - 4

Tahoma DE-8

Outputs	1	2
Inputs	1 - 4	5 - 8
		1 - 8

Tahoma DE-12

Outputs	1	2	3
Inputs	1 - 4	5 - 8	9 - 12
	1 - 4		5 - 12
		1 - 8	9 - 12
			1 - 12

Tahoma DE-16

Output	1	2	3	4
Inputs	1 - 4	5 - 8	9 - 12	13 - 16
	1 - 4	5 - 8		9 - 16
	1 - 4		5 - 12	13 - 16
		1 - 8	9 - 12	13 - 16
		1 - 8		9 - 16
	1 - 4			5 - 16
			1 - 12	13 - 16
				1 - 16

Tahoma DL-Series - „Hybrid" Input Multiviewer

TAHOMA-DL Hybrid Multiviewers combine multimedia and broadcast quality inputs in the same multi-image display processing system.

The ability to combine multimedia input formats such as DVI, VGA, RGB, HDMI, analogue component, as well as broadcast quality 3G/HD/SD-SDI sources makes it an ideal multi-image display processing solution for multi-channel, multi-format live production applications when computer generated inputs and live cameras shots are being switched at the same time or for transmission and control applications.

The Hybrid Multiviewers can also be combined with a KVM Extender, KM Tradeswitch or with a KVM Matrixswitch.

Tahoma Multiviewer DL-8＋8 Hybrid

Tahoma Multiviewer DL-4＋4

Models:

> Tahoma Multiviewer DL-4＋4
> Tahoma Multiviewer DL-4＋8
> Tahoma Multiviewer DL-8＋4
> Tahoma Multiviewer DL-4＋12
> Tahoma Multiviewer DL-8＋8
> Tahoma Multiviewer DL-12＋4

Features

> Hybrid Inputs - Multimedia and Broadcast

> Mixture of 8 to 16 DVI, VGA, HDMI, Composite, YPbPr, 3G/HD/SD-SDI inputs in groups of four

> Up to 2 channels of HDMI embedded audio

> Accept HDCP protected HDMI sources

> Up to 16 channels of SDI embedded audio

> 4 channels of discrete audio per input (optional)

> Multiple outputs in DVI, HDMI or VGA (optional)

> Output resolution up to 2048x1080 (incl. 1080p)

> Multiple labels per video windows - UMD and standalone labels

> Apantac skin technology allows on-screen graphical elements to be designed with any graphics tool

> Front panel buttons for quick preset recalls

> 1RU model with optional redundant power supplies

> 2RU model with standard redundant power supplies

Customer Benefits

> The Tahoma DL supports mixed inputs of SDI & PC signals making it a truly powerful and hybrid multi-image processor

> Highest image quality and broad variaty of options for all monitoring needs

> Time Display, Count Up/Down, Remaining Time Counter

> Can be combined with KVM extenders and KVM matrix switches for bridging the distance between operator and computers or for simultaneously operating various computers via multiple remote or local user consoles

Specifications Tahoma DL-Series

|	
Broadcast Inputs	4, 8 or 12
Multimedia Inputs	4, 8 or 12
Broadcast Input Formats	3G-SDI / HD-SDI / SD-SDI, auto detect
Multimedia Input Formats	DVI/VGA/HDMI/Composite and YPbPr
Outputs	1, 2, 3 or 4 DVI, HDMI or VGA (optional) outputs, depending on the model. One SDI output (optional)
Total Windows	4, 8, 12 or 16
HDMI	1.2, 1.3 HDCP protected sources are visualized
Models	DL-4+4, DL-4+8, DL-8+4, DL-4+12, DL-8+8, DL-12+4
Output Resolution	From 800 x 480 up to 2048 x 1080 including 1920 x 1080 / 1080p
Graphics / On-Screen-Display	- Apantac Skin Technology - Multiple labels per window (UMD) - Tallies, Alarm tags, Borders, Clocks & Logos
Video/Audio Alarm	Video presence / format display, Video Frozen, Video Black. Audio presence, Audio high/low, Remove AES audio and Analog Stereo audio
Audio Support	- 16 channels embedded audio per SDI input - 2 channels embedded audio per HDMI input - Analog or AES audio inputs (option) - Audio associated with video windows or standalone audio meters
Redundant Power Supply	Optional redundant power supply for 1 RU. Standard redundant power supply for 2 RU
Control	- Front panel buttons - Simple Preset GPI Panel - Apantac ASCII protocol (AXP) - Free Apantac Software Panel (ASP) - Simple serial Keypad - Touch Panel (uses ASP)

Tahoma DL-4+4

Outputs	1	2
Inputs	1 - 4	5 - 8
		1 - 8

Tahoma DE-12

Outputs	1	2	3
Inputs	1 - 4	5 - 8	9 - 12
	1 - 4		5 - 12
		1 - 8	9 - 12
			1 - 12

Tahoma DL-4+12, DL-12+4, DL-8+8

Output	1	2	3	4
Inputs	1 - 4	5 - 8	9 - 12	13 - 16
	1 - 4	5 - 8		9 - 16
	1 - 4		5 - 12	13 - 16
		1 - 8	9 - 12	13 - 16
		1 - 8		9 - 16
	1 - 4			5 - 16
			1 - 12	13 - 16
				1 - 16

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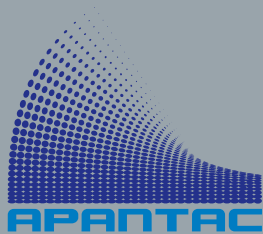
From professionals to professionals:

Trust in our professional solutions - from planning through to aftersales support.

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