



**AV/IT:**

Convergence Complete



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# KRAMER PRODUCTS JUDGED RIGHT FOR COLLEGE TRAINING

How do court judges learn their profession? They are educated in mock courtrooms and in classes with experienced judges at a facility specifically designed to advance the practice of the law: The National Judicial College. Located on the campus of the University of Nevada in Reno, The National Judicial College (NJC) welcomes more than 4,000 judges every year from all 50 states and from 150 countries, offering a choice of over 90 courses.

The NJC's 50-year-old tradition culminated in the opening of its 90,000 square-foot facility that houses five state-of-the-art classrooms, a 150-seat auditorium, multimedia room and an updated model courtroom. The courtroom boasts a jury room, attorney conference rooms, interpreter booth, media room and judge's chambers. The audio/video technology in the courtroom is anchored by Kramer Electronics products.

Designed by ExhibitOne, an Arizona-based professional audio/video systems integrator, the system allows communication throughout the mock court room with individual video screens and big screen displays, as well as video to the jury room, media room, judge's chambers and attorney rooms.

"This system is a showcase for judges throughout the country, so the technology had to be stellar and reliable, as well as user-friendly," said Kevin Sandler, CEO and founder of ExhibitOne. "We designed it using Kramer equipment because we know Kramer's

track record for reliability and ease-of-use, and the Kramer technology consistently reproduces an outstanding signal every time."

The model courtroom system includes a Kramer VS-162V 16x16 composite video matrix switcher and a VS-3232DN modular multi-format digital matrix switcher for signal management.

Each attorney table has a Kramer SID-X1 multi-format video over twisted pair transmitter and step-in module that allows the input of up to four sources – HDMI, DVI, VGA and DISP Port – plus audio. Routed through the switchers and the PT-572+ twisted pair receivers, the signal is available to be switched to the main courtroom displays as well as individual displays at the jury box, attorney room and media room using an intuitive touch-screen panel. Signals are routed through

the twisted pair transmitters and receivers and distributed as necessary by a Kramer VM-1H4C twisted pair distribution amplifier or Kramer VM-8H HDMI distribution amplifiers. A Kramer FC-46xl audio de-embedder is employed to reproduce clear HDMI audio signals for the courtroom.

At the College where judges learn their profession, Kramer switchers, scalars and routing products will continue to be judged to the highest standards.







## AV Circa 2015:

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# IT'S ALL ABOUT THE SOFTWARE

You may not have noticed, but our industry has been undergoing a radical transformation over the past two years. And that smartphone in your hand is the cause of it.

For as long as anyone can remember, "audiovisual" was all about hardware: Cameras. Projectors. Monitors. Switchers. Media Players. And lots of different cables to hook all of this stuff together. It was heavy, bulky, and complex.

But that was yesterday. Now, you can walk into a meeting and use your smartphone or tablet to present, stream video, and view other presenter's screens; all without plugging in any cables. What's more, you can also use that same device to operate the room lights, audio, projection, window screens, and any other connected AV gear – again, without cables.



Sure, there's still hardware involved; just not in the way everyone expected a few years ago. The proliferation of so-called "Bring Your Own" devices (or BYODs, as we affectionately refer to them), combined with an exploding market for BYOD applications (or "apps"), means that all the computing power needed to send a video or a picture, show a PowerPoint presentation, edit a spreadsheet, or send commands to a room control system is now in the palm of your hand.

As far as traditional hardware is concerned, it's still in the racks. Switchers, distribution amplifiers, presentation switcher/scalers, and video encoders/decoders are still as essential as ever. But they're functioning more as go-between products, making connections behind the scenes.

What's happened is that the software part of the system is taking on greater importance than the hardware. That shouldn't come as a surprise, considering the powerful operating systems that run on BYODs and the ample memory they ship with (16 gigabytes of storage is now standard for smartphones, upgradable to 32 and 64 GB).

There's another component to this transition, and that is the widespread use of fast Wi-Fi connections everywhere you go, on everything from cameras to thermostats. Wi-Fi has become so essential to some people's lives that they even would forgo eating to ensure wireless access. (Okay, maybe that's a stretch, but think about how much different your life would be without the wireless connectivity you take for granted.)

We can now design audiovisual systems that take advantage of the equipment traveling in people's pockets, purses, and briefcases. We can quickly and reliably link those devices to our AV system. And we can also arrange for those devices to connect to each other in a collaborative, shared meeting environment. (Hmm – maybe we should rename BYOD to BYOH for "Bring Your Own Hardware!")

Even the definition of a "meeting room" has changed. Today, a meeting can happen anywhere at any time, thanks to BYODs. We don't need a conference table, or fancy chairs – just our BYODs and/or laptop computers to get together, view and share files, annotate, whiteboard, meet online, chat, and save our work. Those magic "apps" make it all possible to quickly log in and focus

on the meeting. No need to demonstrate our prowess at operating AV gear!

And those same apps have re-defined AV control systems. Using nothing more than a tablet, we can design and populate a touchscreen control system using drag-and-drop icons, or create our own icons. We can easily come up with background wallpapers and status screens. Adding devices to the control system is as easy as copying them from an online library and pasting. And all of this can be done remotely; anywhere there is an Internet connection. Traditional control system programming is becoming a thing of the past.



So – we have BYODs and apps to collaborate wirelessly. Our smartphones and tablets can double as powerful, intuitive room control systems. There's just one more piece of the puzzle to look at, and that's digital video streaming.

Twenty years ago, the digital video disc (DVD) was introduced, using a digital video compression standard (MPEG2) that could only handle standard definition video. Today? We've got smartphones that can capture 4K video, while 1080p/60 video is commonplace on BYODs. Shooting and uploading video from tablets and smartphones to Web-sharing sites happens millions of times a day.

The use of video in presentations and meetings has become routine, thanks to advanced codecs like H.264 AVC and the emerging HEVC H.265 standard. Using powerful software, we're able to stream HD video from our BYODs; free of drop-outs and buffering pauses, to share with meeting participants.

The importance of reliable video streaming – particularly for videoconferencing and telemedicine – should not be underestimated. Back in the days of DVDs, a video conference usually meant renting a studio and paying for an expensive satellite uplink. But today, you can stream video at much higher quality from your phone or tablet from your office or home – and do it for pennies.

Add all of these pieces together and you can see that a new way to connect to and operate AV systems has emerged. We'll call this trend "software-based signal switching," because that's exactly what we're doing when we hold collaborative meetings with wireless connections from our personal devices. And use apps to create and operate virtual control systems, locally and remotely. And capture and stream HD video to every corner of the world, using wireless and wired IP networks. Your fingers never touch a toggle switch, rotate a volume control, or push a record button.

Is the end game of all this a hardware-free AV environment? Hardly. But AV hardware will become smaller, faster, and easier to operate as it increasingly takes a back seat to software. Digital technology has now made it possible to combine and transport a myriad of previously-disparate AV signals from video and audio to serial data, control, and even Ethernet; all through the same cable.

Routing those signals takes nothing more than an IP address, and there's no limit to how many places our signals can travel. We can record, copy, and re-transmit them as needed, storing our data off-site in "cloud" memory that can be accessed anywhere we happen to be with our smartphone, tablet, or laptop.

Like we said at the beginning:

**It's all about  
the  
software...**



# Wireless Presentation: **ARE WE THERE YET?**

There's a hot new product category in the AV marketplace, and it goes by several different names. You've probably heard the phrases "wireless presentations" and "unified communications" tossed around. Perhaps you also read about "collaboration products" and "presentation sharing."

All of these terms have been used to describe a new class of AV products that let two or more meeting participants connect wirelessly to a common platform to share documents, photos, and videos with each other and other meeting participants logged in remotely.

Funny thing is; no two competing systems work the same way. Each manufacturer has put a different emphasis on the "presenting" part: Some merely let you step into a meeting, share your presentation and files, and then step out. Others emphasize still image quality over video streaming. Not all of these systems let you mirror the main screen back to your device.

So many choices! If you could sit down with a blank sheet of paper and design the ideal wireless presentation system, what would be on your wish list? First off, it should allow anyone, using any type of computing or communications device (desktop, laptop, tablet, smartphone) to log in quickly and easily – preferably with a software interface.

Next, the system should let you and other presenters get your home screen up on the main screen by simply tapping a button. And whatever is on your home screen will show up just as you see it, including full 60-frame 1080p video with no hiccups and buffering pauses. It would also be nice to mirror the main presentation screen back to your computer, tablet, or phone; again with nothing more than a button push.

Of course, all of this will be happening through a conventional Wi-Fi connection – no cables allowed. That, after all, is the point of any meeting – the AV equipment should never get in the way of the meeting; only enhance it.

Other "nice to have" items on your list would include file sharing to any and all participants during the meeting, plus the ability to have sidebar "chat" sessions with one or more participants. And in this day and age of Internet security threats and hacking, advanced data encryption for all connected meeting participants is a "must have," not a "nice to have" feature.

Did we mention scalability? You can never tell how many people might want to log in to an online meeting, so a large number of users should be accommodated when necessary. And since we don't know where files, documents, spreadsheets, videos, and photos will come from, some form of cloud storage should be included as part of the system.

The challenge of designing a wireless collaboration system – for that's what these products really should be called – is to provide enough features and functionality without overwhelming the clients who use the system. It should be powerful and flexible enough to handle the many "ad hoc" requirements of a conventional meeting (file sharing, annotation, group editing, whiteboarding) without requiring an advanced degree in computer technology.

**Are we there yet?**



# EXPERIENCE TRUE-COLLABORATION™

Getting actual work done during meetings has never been easier.



## MEET SMARTER

VIA delivers true real-time collaboration in a secure, wireless environment. VIA's advanced technologies let you easily and seamlessly share content, exchange ideas and collaborate with teams wherever they are.



Stream  
HD Video



Chat and  
Share Files



Whiteboard and  
Touch Screen Support



View Main  
Screen



Third-Party  
Apps



Access  
Webpage



iOS  
Mirroring



Excellence in Product  
Innovation Award 2015



Installation  
Best of Show 2015



Most InAActive  
Collaboration Product



Innovative Products  
Award 2014



Commercial Integrator  
Impact Products Award



Sound & Video Contractor  
Best of Show 2014



Government Video  
Best of Show 2014



AV Technology Best of  
Show 2014

# MEET SMARTER

Kramer's VIA product line lets you connect to meetings wirelessly with your own device, collaborate efficiently and engage effectively with all participants.

VIA delivers TRUE-Collaboration™ in conference rooms, boardrooms and huddle spaces.

## VIA's Highlights

- Log in with Wi-Fi or LAN
- Support for iOS, Android and Windows
- Simple, intuitive user interface
- Full HD 1080p60 video streaming
- iOS mirroring for VIA Collage
- Multi-lingual support
- Powerful security tools: user authentication, 1024-bit encryption, dynamic room codes

### VIA Collage

**Ideal for complex meeting spaces**



VIA Collage offers meeting participants advanced collaboration tools for more complex meeting spaces. With any laptop or mobile device, users can wirelessly share any size file, stream uninterrupted full HD video (up to 1080p60), annotate with a whiteboard and chat with other users.

VIA Collage can show up to six user screens on one main display or up to 12 screens on two displays. Users can also view the main display on their own device. VIA Collage includes iOS mirroring for MacBook, iPad and iPhone.

Remote users can easily join the meeting and collaborate in real time with embedded 3rd-party video conferencing and office apps.

### VIA Connect PRO

**Designed for mid-sized meeting rooms and huddle spaces**



VIA Connect PRO offers an ideal solution for huddle spaces and mid-sized meeting rooms. With any laptop or mobile device, meeting participants can share any size file, annotate with a whiteboard, chat with other users, and stream full uninterrupted HD video (up to 1080p60).

VIA Connect PRO can wirelessly show up to four user screens on a single main display.





## Features and Benefits



### Wireless Connection

Connect wirelessly with your own device. No dongle needed.



### iOS Mirroring \*

Show any content from your iOS device on the main display



### MultiMedia

Share uninterrupted full HD wireless video streaming (up to 1080p60) and photos



### Cloud Based

Drag and drop files to the Cloud to share instantly with other users



### File Sharing

Share files with one or all participants



### Whiteboard

Annotate, illustrate and edit share documents: touch-screen compatible



### Enable Control

Give a participant control over a presenter's MAC® or PC laptop



### Chat

Send an instant message to another user



### Third Party Apps \*

Support for office and conferencing applications, such as Microsoft Office®, Skype®, GotoMeeting®, Lync®, and WebEx®



### View Main Display \*

View the main display on your own device



### Web Browser \*

Open any browser to display content from a website



### HDMI Input \*

Connect any HDMI source (camera, DVD, Blu-ray™) and present it on the main display

\* VIA Collage only



# VIA: Wireless Collaboration **DONE RIGHT!**

VIA Collage and Connect PRO are two new and very different products from Kramer. Both models are true wireless collaboration platforms, providing a full range of connectivity and interactive AV support for meetings, no matter where they're held.

The widespread adoption of smartphones and tablets in business, education, and healthcare has had a profound impact on group presentations. Now, a meeting can happen anywhere and anytime, bypassing traditional conference rooms for small, casual huddle spaces. And the growing popularity of cloud storage means that participants can easily access their documents, spreadsheets, slides, photos, and videos via Wi-Fi to share in any meeting.

The VIA platform was designed with all of these trends in mind: Both Collage and Connect PRO work with any Web browser, connecting wirelessly from any computer or mobile device.

With VIA, meeting participants can:

- Log in wirelessly from any smartphone, tablet, or computer
- Seamlessly chat and share files with anyone in the meeting
- Edit, annotate, save, and share anything on the main screen with participants
- Stream full 1080p/60 video to VIA's main screen, free of dropouts
- Give any participant control over any other connected PC or laptop
- Save and load files to/from VIA's built-in cloud storage
- Launch and conduct WebEx®, GoToMeeting®, Skype®, and Lync® sessions (available on VIA Collage only)
- Enjoy the security and peace of mind of full 1024-bit encryption

For iOS users, VIA Collage provides full mirroring of everything on the presenter's tablet or smartphone – just tap a button to join the meeting and share your ideas. For Windows users, VIA Collage offers a Windows virtual client – just plug in a USB stick, and you're connected and ready to collaborate. Or, load an app to your smartphone and tablet to access VIA.

Spontaneity is an important part of true collaboration. With VIA, you can illustrate on a whiteboard, edit and annotate documents, spreadsheets, and photos, and save the results to share with everyone. Need to hold a sidebar conversation with one or more colleagues? Simply activate VIA's Chat feature, and you're ready to go.

How about video streaming? Video is more important than ever in presentations, and VIA's unique video encoding ensures you will have smooth 1080p/60 streaming – free of glitches and buffering pauses – from every meeting participant, no matter what device they're using to play it back.

Most importantly, VIA Collage and Connect PRO provide user authentication and 1024-bit encryption of data on every connection from every participant, unlike other competing wireless presentation or collaboration products. In a day and age of tighter Internet security and constant threats from hackers, there's no excuse for not having it!

Think of VIA as being a secure, virtual AV/IT hub that works powerfully and quietly in the background. You don't need to worry about connecting cables or booting up software programs – everything you need is at your fingertips and accessible with the tap of a button.

**That's wireless collaboration, done right!**



# Connecting Words and Pictures: **Kramer VIA Connect PRO**



When executives at Words and Pictures, a New Jersey-based advertising and marketing agency, needed a collaboration tool for meetings, they chose Kramer Electronics VIA Connect PRO for a simple, wireless solution that works with any laptop or mobile device. It enables simultaneous viewing, editing and commenting on documents in real time, making it ideal for meeting rooms, boardrooms, conference rooms and classrooms.

Rhonda Smith, owner of Words and Pictures, said the system has been a big success for her company. "We love how it easily brings everyone in the meeting onto the same page and allows us to step in and show our ideas, and even present new ideas in real time."

Smith also noted that the solution was especially appealing because it did not require software or a significant hardware investment, and it was compatible with her company's current computer network. Up to four people's screens can be shown on the main display, and users can also share files and chat electronically with individuals or groups during the session.

In addition, the VIA Connect PRO offers full HD wireless video streaming, supporting full HD 1080p/60, MP3 files and photos. Smith said the video quality far surpassed typical formats. "The ability to playback HD video is amazing. The image is seamless, without the usual stuttering from playback over WiFi," she noted.

The Kramer VIA Connect PRO system supports both MAC and PC, as well as Android and iOS mobile operating systems. It gives multiple users the ability to edit and control the main display at the same time, and users can annotate, illustrate and edit on the device's whiteboard. Not only can files can be instantly shared by Cloud connection, but users can be confident that their systems are secure with the VIA Connect PRO's powerful security features, including user authentication, 1024-bit encryption, and a dynamic room code.

Because it is wireless, the Kramer VIA Connect PRO can be installed and ready for use in less than one hour. The Kramer Electronics team provides set-up support and training on the system, either by phone or on site.

"The Kramer Electronics VIA Connect PRO system has dramatically changed the way we collaborate, and I can't imagine our conference room without it," Smith said.



# PRESENTATION SWITCHERS SHOWCASE

## VP-772



The **Kramer VP-772** is an eight input high quality 4K dual scaler with special effect transitions for the Rental and Staging and the Live Events market, and for other applications where a dual-scaler is needed. It features DVI-U inputs (including analog, DVI and HDMI support) and stereo balanced audio signals. The unit scales and processes the selected video and audio inputs, and outputs to 2 independent DVI-I outputs (Program and Preview) together with two balanced stereo audio outputs.

## VP-732



The **Kramer VP-732** is a ten input Presentation Switcher / Dual Scaler. It has four HDMI, two DisplayPort, and four user-definable (universal) analog video inputs, and scales up or down to selectable graphics or HDTV output resolutions. The unit features PIP functionality or it can be used as a dual-scaler with independent HDMI Program and Preview outputs. DP and 15-pin HD computer graphics outputs are also offered, as well as rich audio support including embedded and analog audio inputs and outputs, and amplified speaker outputs.

## VP-444



The **VP-444** is a high-performance Presentation Scaler / Switcher for HDMI and computer graphics signals. The unit scales the video, embeds the audio, and outputs the signal to two HDMI (with embedded audio) outputs (with S/PDIF and balanced stereo audio) simultaneously.



## VP-773AMP



The **VP-773AMP** is a high-performance presentation switcher and scaler. It accepts one of eight inputs: one DisplayPort (DP), one composite video, two computer graphics and four HDMI signals. It scales the video, embeds the audio, and simultaneously outputs the signal to two identical HDMI and one HDBaseT TP output, together with S/PDIF and balanced stereo audio outputs. The unit also includes an audio amplifier and speaker outputs.

## VSM-4X4HFS



The **VSM-4x4HFS** is a seamless matrix switcher that can also be used as a 2x2 video wall driver or dual and quad multi-viewers. The unit allows switching between inputs with a clean video cut (frame-to-frame switching with no glitches). The VSM-4x4HFS supports HDMI resolutions with deep color, up to eight channels of audio and includes per-port HDCP and EDID settings.

## VP-796



The **VP-796** is the world's fastest single channel 4K presentation scaler-switcher. The VP-796 is four to six times faster than any competitor in the market. Part of the Kramer Powered by Calibre family of products, the VP-796 was designed with a wide range of input connectivity for today's digitally connected ProAV world.

The Kramer VP-796 switches between any input channels with any input format or resolution in under a quarter of a second, which is visually instantaneous. The product supports 4K and has eight video inputs, including HDMI, DisplayPort, HDBaseT, VGA, Composite, and DVI-U. The VP-796 has three identical outputs: HDBaseT and two HDMI 2.0 outputs. It also supports legacy formats, all with exceptional image quality.

## VP-798



The **VP-798** is a universal scaler-switcher for live events and rental and staging applications. The VP-798 is based on Calibre's proprietary class-leading 4K image processing technology.

Part of the Kramer Powered by Calibre family of products, VP-798 offers top-notch scaling, advanced image warping and blending capabilities and a unique LED video wall image-processing mode.

The Kramer VP-798 switches between inputs in under a quarter of a second, significantly faster than any competitor in the market. The VP-798 offers 10 video inputs and four identical video outputs that include HDMI 2.0, HDBaseT and 3G HD-SDI. Kramer Powered by Calibre products rise well above the standard in today's demanding ProAV industry.



# Video Streaming: **GO WITH THE FLOW!**

Even though digital video has been around in one form or another for over two decades, the pro AV community has been slow to adopt this platform. It's only recently that we are starting to see digital video backbones designed as the heart of an AV system, particularly where teleconferencing and high-resolution video streaming is required.

The good news is that video encoders and decoders are more powerful and affordable than ever. And that opens up plenty of options in signal distribution. As we've said several times already in this supplement, software-based signal distribution is the future of our industry, and video streaming is a perfect exemplar.

Let's consider one possible use. We need to connect video from one player to a display (or multiple displays) on another floor, or even in another building. The connection distance is too long for a conventional digital display connection. Even a multiplexed structured wire format like HDBaseT won't give us the distance we need.

The answer is to encode and compress the video, using an efficient codec like MPEG-4 H.264 (also known as Advanced Video

Codec, or AVC). It doesn't matter what the resolution or frame rate is: We can convert the video and audio signals to digital packets, place IP headers on them, and stream them through a conventional local area network, or even a dedicated LAN. At the receiving end, a decoder restores the signal to baseband video and audio for connection to our displays.

With streaming video, switching and distribution takes place in an IT environment. Special headers and tables in the video stream identify its component parts and define the "mapping" of the packets so they can be re-assembled into the correct order for playback. For video streaming, a different protocol is used to ensure the packets arrive in the correct order. It's known as Real Time Streaming Protocol (RTSP).

With Wi-Fi access to the network, our video can be watched not only on conventional televisions and monitors through set-top boxes, but also on desktop and laptop computers, smartphones, and tablets. That degree of flexibility would be impossible with conventional, wired switching and distribution of video and audio.

Sometimes we do need to make a display-to-display connection, but transmission distance remains an obstacle. Smaller, specialized encoders can take an HDMI output from a media player or computer and encode it as an H.264 signal.

It can then travel over a dedicated structured wire link to a single receiver or multiple receivers before conversion back to HDMI, with or without embedded audio. Once decoded and converted back to HDMI, the video and audio can be switched and distributed like any other HDMI signal.

The H.264 format is a widely-adopted standard, as its most common audio counterpart, AAC. This means that any decoder – even software-based decoders, like VLC – can receive, process, and playback the digital video stream. Late model smartphones, tablets, and even televisions already have H.264 decoders on board, which simplifies things even more.

Video streaming is just another part of the trend to software-based signal distribution.

**Time to go with the flow!**



# PUT YOUR OVER YOUR



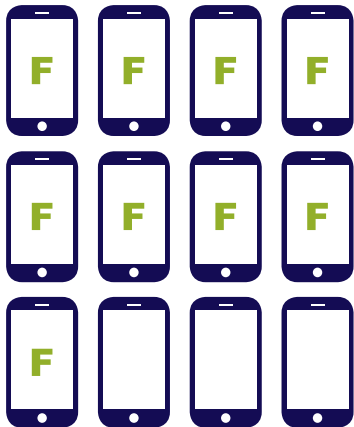
Kramer's **KDS-EN3** H.264 HDMI encoder and **KDS-DEC3** H.264 HDMI decoder, with built-in scaling and frame rate control, allow you to use your network to efficiently distribute AV signals. The **KDS-EN3** provides unicast (one-to-one) or multicast (one-to-many) streaming to **KDS-DEC3** decoders or computers running VLC® software. The **KDS-EN3** can also record content directly to a network drive for on-demand access. Now anyone can leverage an existing network to efficiently and economically route AV signals in any application.

# MEETING MAYHEM

What do you think of when you think of meetings? Do you look forward to them? Do you jump up and down with excitement? Here's what usually happens at meetings – there's a scramble to find the right cable to hook up the leader's laptop. The cable isn't long enough, or you need an adapter you don't have. When the leader has finished their presentation, someone else goes through the same struggle to present their information. Instructions are given for things to be done after the meeting. "Send me this. Figure out that." Sometimes when you leave a meeting, you're just starting your work. This all adds up to inefficiency. Luckily, there is now a way to transform your meetings into productive uses of your time! Below is a quick guide on how to revitalize your meetings and revolutionize your business using Kramer's VIA wireless collaboration solutions.



## 1. HOW TO: KEEP YOUR MEETINGS SECURE



These days, most meeting participants rely on using their own devices like phones or tablets to share, stream, view content, and collaborate in business meetings. It sure is convenient to do so, but did you know that 75% of BYOD or mobile devices fail standard security tests? This can be harmful if you're sharing classified or internal documents. Luckily, VIA Wireless Solutions can help. VIA executes bank level, 1024bit encryption for all transmitted content. VIA gives you peace of mind for your meetings.

**75% OF BYOD**  
OR MOBILE DEVICES FAIL STANDARD SECURITY TESTS.



## 2. HOW TO: KEEP WORK WEEKS PRODUCTIVE

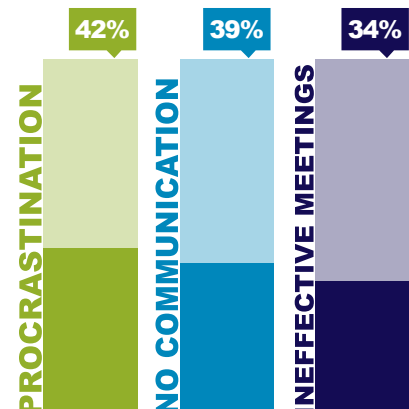
People work an average of 45 hours per week. Out of those 45 hours, 16 are said to be unproductive. Where does this productivity stem from?

**42% PROCRASTINATION**

**39% LACK OF TEAM COMMUNICATION**

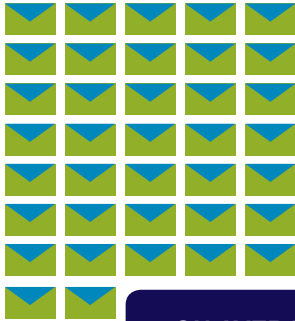
**34% INEFFECTIVE MEETINGS**

VIA is the cure for ineffective meetings – it helps you get tasks accomplished within the meeting, which also helps to lower procrastination. It includes features like chat, white-boarding, and built in 3rd party apps like Skype to help foster team communication. Simply put, VIA will help you to keep your work week productive.





### 3. HOW TO: COMMUNICATE MORE EFFICIENTLY



Communication is key in business and especially in meetings. Some common communication issues in meetings include disruptive side conversations and an influx of e-mails directly following the meeting.

86% OF PROFESSIONALS CITE  
LACK OF COLLABORATION OR  
INEFFECTIVE COMMUNICATION  
FOR WORK RELATED FAILURES

ON AVERAGE, WORKERS  
RECEIVE 42 E-MAILS PER DAY



VIA can solve many communication errors in meetings. The chat feature lets you talk directly with meeting participants, eliminating distracting whispers. The file sharing feature allows users to instantly share files with one or all meeting attendees, eliminating the need for pesky follow up e-mails, thus streamlining communication.

### 4. HOW TO: RUN A SUCCESSFUL MEETING



Executives spend an average of 23 hours per week in meetings. Of those hours, they say 7.8 are unnecessary and poorly run. This amount of wasted hours accumulates to 2.3 months out of a year!

You can eliminate poorly run meetings by utilizing VIA. You can easily share your screen to show attendees your work using VIA's iOS mirroring feature, collaborate on one document with other participants, and easily stream multimedia. These features plus many others will help you to enhance your meeting and cut down on wasted time.

**2.3**

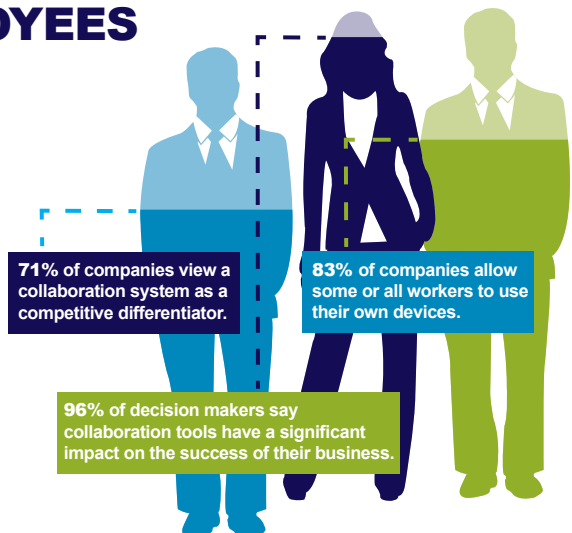
**MONTHS OF EVERY YEAR ARE WASTED ON  
INEFFECTIVE MEETINGS**

**VIA**

### 5. HOW TO: ENGAGE EMPLOYEES

Failing to implement collaboration technology makes employees 15-20% less productive and prevents them from engaging during meetings. It inhibits meeting attendees from getting actual work accomplished during their meetings.

VIA provides the perfect solution to this problem by allowing you to BYOD, view the main display, share any size files, chat, annotate, and stream full uninterrupted HD video. Using VIA, users can also share their screen using iOS mirroring, use built in 3rd party apps, and access the web wirelessly. These features will keep employees engaged and happy in any meeting!



# Installer Solutions Product Showcase

## AMPLIFIERS - Kramer Broadcast-Grade Quality for Audio

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Kramer amplifiers embody our unequivocal commitment to the highest quality of sound. Kramer's vast experience and expertise in the broadcast industry goes into every single one of our amplifiers. Whether for entertainment, education, conferences, or outdoor public areas, our Hi-Z (70V/100V) or Lo-Z (4Ω/8Ω) amplifiers are always on. Kramer amplifiers support presentation room and other multimedia applications for quick, local audio amplification and more complex full-site installations.

**We carry 20 different small (10W), medium (40W) and large (100W) amplifiers; all offer high-efficiency, Class D and fan-less operation.**

## SPEAKERS - A Family for Any Audio Application

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Kramer's four speaker families offer infinite possibilities for any pro audio application.

**Galil:** Classic fits-all speakers, affordable range of open and closed in-ceiling round speakers, full line of on-wall speakers – designed for transportation centers, hotels, educational facilities, boardrooms, shopping centers, and other large venues. Galil models 4-C, 6-C, and 8-C are UL 1480 & 2043 approved.



**Tavor:** All-in-one solutions where time and space-saving installations are important – includes ceiling-tile speakers, on-wall and subwoofers. Tavor model 8T is UL 1480 & 2043 approved.



**Yarden:** Performance-based line, featuring stereo/mono speakers, music/speech switch-to-enhance intelligibility, and Kevlar(R) woofers – designed for executive boardrooms, high-end hotels, banks, embassies, and music halls. Yarden models 4-C, 6-C, 6-CH, 8-C, and 8-CH are UL 1480 & 2043 approved.



**Dolev:** High-end bi-amplified studio-grade speakers that deliver clear and balanced flat response even at high volume – designed for control rooms, editing studios, sports bars, music clubs, high-end facilities, and home entertainment.





## CABLES - The Final Touch of Excellence

Kramer's award-winning cables are one of our top-selling product categories – and for good reason. We go to great lengths to ensure that our cables exceed the highest quality market standards. At InfoComm 2014, a Kramer cable won the independent 4K HDBaseT category cable challenge conducted by Redband Radio and AVNation. Kramer cables come in a variety of lengths to fit any specific commercial or residential AV system requirement.

We now offer a complete line of bulk speaker cable in 12 AWG, 14 AWG, 16 AWG, and 18 AWG plenum and non-plenum.

### Cables for all your Pro AV Needs

#### C-HM/HM/PICO

Color Code Your Inputs! Ultra-Slim High-Speed HDMI Flexible Cable with Ethernet



- High-Quality Connectors – Slim HDMI connector heads 16.0 mm wide and 8.0mm thick (5/8" wide and 5/16" thick).
- Space Saving – A tighter bend radius combined with the low-profile connector can save up to 1" of depth behind the equipment.
- HDMI Support – Signals up to ultra-HD 4K, HDMI Ethernet Channel, 3D, x.v.Color™, Deep Color, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC.
- Available in lengths of 1, 2, 3, 6 and 10ft.
- Available Colors – Black, blue, green, yellow, orange, red, white & pink.

#### CP-AOCH

Active Optical HDMI Cable – Plenum Rated



Due to its design, USB cable has a normal maximum length of about 5 meters (16.4 feet), but you can get longer distances by using the CPA-UAM/UAF active USB extension cable from Kramer!

This is a bus-powered extension cable that can be used to increase the length of a device without any signal loss or potential performance problems.

It contains active electronics, which boost the USB signal for maximum reliability and performance over extended distances. The cable operates as self-powered extender, for use with USB cameras, printers, webcams, keyboard/mouse, etc. It is a true plug-and-play device. No additional drivers are required.

- Plenum CMP USB 2.0 USB A-Type Female to A-Type Male.
- 1 Pair 24AWG + 2Pair 22AWG + Drain Wire 24AWG.
- Tinned copper braid construction.
- Requires no external power plug & play-pulls power from source.
- Data transfer rate only not for charging.
- UL Approved.
- Buffers incoming and outgoing signal.
- 480 Mb/s backward compatible with USB 1.0.
- Available in lengths of 25, 35, 50 & 65ft.

#### CPA-UAM/UAF

USB Active Extender Cable – Plenum Rated



Kramer's AOCH is a plug-and-play HDMI active optical cable (AOC). It offers the easiest install solution for HDMI, supporting resolutions up to 4K/ultra HD over long cable runs (up to 100 meters) without the need for an external power supply or additional extenders. With its thin, flexible cable and small connector, the AOCH delivers ultimate reliability and convenience.

- Video Resolution – 4K @30Hz, 8Bit, full HD, 3D Deep Color.
- Embedded Audio – PCM 8-channel, Dolby Digital True HD and DTS-HD Master Audio.
- HDMI Compliance – HDCP, EDID, CEC.
- Construction – 4 optical fibers and 6 copper wires.
- No External Power – Powers the active units via the HDMI connector.
- Very Thin Construction – 3.4mm (0.13") diameter.
- Small Bending Radius – Only 6mm (0.24").
- Jacket Construction – Plenum rated for North America.
- Pull Strength – 500N (50kg).
- Available in lengths of 32.8 to 328ft.

# FOR AV CONTROL SYSTEMS



## THE CLOUD IS THE SILVER LINING!

Earlier in this supplement, we discussed the on-going transition in the AV industry away from application-specific hardware to software running on widely-available consumer hardware, such as tablets and smartphones.

The concept here is that software is taking on an increasingly important role in the operation, control, and daily use of audiovisual systems. Add in things like video and audio compression and the ability to mingle different digital signals (control, high-speed data) in a single wired (or wireless) connection, and you have what's best described as a software-based AV switching and distribution system.

But there's more to the story, and that's the evolution of cloud-based storage. The term

"cloud" gets bandied about a lot, but it really means that files (documents, photos, and video) don't have to be carried around with you. Instead, they can be saved at a remote location and accessed through wired and wireless Internet access when needed.

The actual cloud location could be a server in the same building, or a smaller network-attached storage (NAS) device. Or, it could be on multiple servers halfway around the globe. No matter; with fast Internet access, you can locate and download those files from any device. Google Drive and DropBox are two examples of popular cloud-based storage systems.

Let's turn our attention for a moment to tablets, smartphones, and apps. It's hard to imagine something that you CAN'T do

with these gadgets! One popular app lets you use your smartphone or tablet as a remote control for your television, bringing all controls to the touchscreen interface in an elegant manner.

Add in the ability to create your own icons for different control functions, as well as custom wallpaper backgrounds from your own photos and artwork, and you have a very different and exciting way to operate all of your home AV equipment.

Hmmm...why not port this functionality to the world of commercial AV? Until recently, control and operation of audiovisual systems required custom hardware and software, plus hours of programming and sometimes additional hours of troubleshooting, all done on-site at the AV installation.



Thanks to the cloud, Wi-Fi, and mobile devices, we can kiss all of that goodbye. Apps let us set up virtual control panels on our mobile devices and customize the interface for different users. We can have virtual sliders, switches, volume controls, activity indicators, power indicators (yes, virtual lamps!), and feedback from all connected and controlled devices.

Here's where it gets really interesting. By using a cloud-based storage and retrieval system, we can access hundreds and perhaps thousands of control interfaces for different pieces of AV gear. We can use pre-existing macro commands to operate more than one device at the same time, or we can link together several icons as needed. (Think room lights, window shades, and motorized projection screens.)

Here's the cool part. Our tablet or smartphone also becomes part of the cloud! We don't even need to be in the actual room to add, remove, or edit icons and AV control functions – it can all be done remotely, logging in from thousands of miles away through wired or wireless Internet connections.

To be sure, there will still be a need for some hardware to control AV equipment that doesn't come with an IP-based interface. But those laggards are becoming far and few between, and many consumer control interfaces (light dimmers, thermostats, security locks) are now finding a home in AV installations.

The design and programming of an AV control system becomes a much simpler task that more people can collaborate on. Different users can have their own customized wallpapers and control button icons, and the layouts can be altered easily for different users. There is no "one size fits all" approach anymore with cloud-based control systems.

There's one last feature of a cloud-based AV control system, and that's scalability. With hardware-based control systems, there are always finite limits on the number of devices you can connect and control. Once you hit that limit, you either need to add expansion hardware or upgrade to a newer, more powerful system.

In contrast, a cloud-based control system needs nothing more than IP addresses for each device you talk to. Need to add more



That same cloud system will also be put to work as an instructional resource. Whatever we need to learn about our cloud-based AV control system can be accessed on our device 24/7. It could be a basic programming tutorial, or updates on new drivers and icons. It could be a series of videos on building a control system, complete with real-world application stories.

Practically speaking, it would be difficult and time-consuming to load and update libraries of icons, driver databases, and tutorials on your mobile device. Thanks to the cloud, you don't need to – all of these resources are accessible anytime you need to log in.

The implications of a cloud-based control system are enormous. Equipment Racks will get somewhat smaller as older TTL and relay-based control hardware is phased out. And there will be a reduction in the number of cables that need to be run as more AV gear is connected to local area networks.

devices to your system? You just need more IP addresses for them. That's it! Add in the required icons and drivers to your control system, and you're done. Doesn't matter whether you have 10 or 100 devices to control – it all works the same way.

And of course, the AV system can be controlled by multiple users from their own mobile devices, which is another form of scalability. A professor can walk into a classroom, pull out a tablet, and have everything operating in that room in seconds. A facilities manager can see and operate every piece of AV gear in a museum. And a technical director can cue up and trigger multiple sources of video and audio, plus effects and lighting, for a live presentation.

Remember the old saying? "Behind every cloud, there is a silver lining." Guess what?

**Now, the cloud is the silver lining!**



# K-TOUCH VERSION 3.0

## A Control System for Today's Cloud Based World

Tablets and smartphones, apps, digital signal processing, and “the cloud” have all become integral, everyday parts of our professional and personal lives. These trends inspired Kramer to take a fresh, new look at how an AV control system can and should operate.

Our thinking went like this: If cloud-based storage is so popular, why not build a control system around it? And here's the result: K-Touch Version 3.0, Kramer's cloud-based control solution. We think our approach to AV control is unique in the industry. It's powerful. It's flexible. It's very easy to program, configure, and use, and most importantly, it's extremely affordable.

K-Touch can be run from any tablet or smartphone, as it's compatible with iOS and Android operating systems. That means anyone can collaborate to build a K-Touch system, from project managers and graphic designers to software developers and end-users.

And here's the beauty of K-Touch: Once you install and commission a K-Touch system, you don't have to be on-site to maintain and support it. All you need is an Internet connection to log into your K-Touch system so you can upload software upgrades or make changes to control drivers, wallpaper, and the look and size of buttons, sliders, and indicators.

We've also made K-Touch scalable. Didn't figure on controlling extra AV devices after you finished your install? Missing some drivers here and there? Or maybe you need new drivers written? No big deal; just create, add, and upload them on the fly. Our new global driver database will help you get the job done.

It's easier than ever to combine multiple control sequences by using drag-and-drop modules. Combine and control room lights, thermostats, projectors and monitors, audio systems, shades, motorized screens, and switchers in any combination you want, to do anything you need.

Now you can program a system in just hours – not days and weeks. In fact, you can control up to 100 different devices from a single K-Touch interface. Just like bigger, more expensive and complex control systems do. (Except without the “bigger,” “more expensive,” and “complex” parts.)

Need to remove some devices that are no longer in use? Once again; just log in remotely from any computer, make your changes to K-Touch, and save the new configuration. Can't get much simpler than that!

Best of all, everything you need to know about designing, installing, and operating a K-Touch control system can be learned quickly – on your own time, at your own pace – with no need for in-person, multi-day classroom instruction.

The entire certification process for K-Touch takes place online. In just a few hours, you can begin building your first K-Touch control system. (It probably took you longer to learn how to use your new phone or tablet, right?) And if you need support for your project, it's all there, right on the same cloud. Our K-Touch online knowledge base includes numerous tutorials, articles, videos, and even sample project files.

There you have it: K-Touch – a powerful, user-friendly, and affordable AV control system designed for today's cloud-based world.





# Kramer K-Touch System in the Race with NASCAR Teams

The speed and reliability of the Kramer Electronics K-Touch system has qualified it for the NASCAR racing circuit at Joe Gibbs Racing in North Carolina. A total of eight K-Touch systems are installed on hauling trucks and pit boxes, allowing crews to keep track of races at every turn. According to Jim Foley, chief technology officer at Joe Gibbs Racing, the addition of K-Touch to a system that already incorporated the Kramer VS-1616D matrix switcher has helped to facilitate the video switching. "With K-Touch, the crews put in their desired sequence for the video and push a button for it to go right to the display they want. K-Touch eliminates the need for crews to call an A/V engineer every time they need to switch inputs."

The K-Touch System is an all-in-one solution that controls devices directly over IP. It is a true BYOD solution, enabling use of any commercially available Apple iOS or Android-based phone or tablet as its user interface, with no requirement to purchase dedicated touch panels or other hardware. K-Touch is also scalable and economical. With K-Touch, all data is stored in a cloud-based platform and can run on any Web browser. K-Touch has a very large database of existing drivers, so adding new products to the control interface is an easy drag-and-drop process. Once the new command is

created, it is uploaded to the cloud and the user simply has to connect and sync their device to instantly have the new command installed and ready to use.

Each of the systems installed in the haulers and pit boxes at Joe Gibbs Racing use six inputs and sixteen outputs to provide high-quality video from any source at any time. Inputs include broadcast feeds from NASCAR, shots from cameras stationed



around the track and from cameras inside the cars. In addition, there are several computers displaying information such as lap times, track position and weather radars. "The crews can pull up the weather radar or other information on the displays quickly if they need it," Foley said. "They don't need to see the weather constantly, but they can access it as necessary."

Foley said as the pit crews use the system more, they discover needs for additional presets. "It's always evolving and we're adding as we go," Foley noted. "The crews download from the Cloud and they're all set. They're very impressed by the system."

The crews are excited about the flexibility K-Touch provides. Foley also explained that Kramer helped them meet the challenge of clearly communicating their needs for inputs, outputs and presets which led to their own customized interface. The result: an easy-to-see keypad with the organization's logo and the preset names.

Joe Gibbs Racing did its own installations, which required a quick turn-around on a weekly basis, because the haulers were often traveling. With four drivers on the NASCAR circuit, Foley said both cars and haulers travel more than 30 weeks of the year. The extensive travel also required the mobile systems to maintain cable connections despite bumpy road travel. Foley said they added Kramer locking HDMI cables to secure the connections in the trucks, enabling the system to keep pace with the grueling NASCAR travel requirements.

The power and flexibility of Kramer's K-Touch Control system help keep the Joe Gibbs Racing in the lead on the NASCAR circuit.







# Get Certified in Kramer Control

The Kramer Control Academy is the easiest way to learn the basics of Kramer's K-Touch control system. It contains short, descriptive video lessons followed by short exams along the way. The K-Touch Level 1 training contains 14 lessons and a final practical exam. Upon successful completion of the final exam, you will be a Certified K-Touch Programmer. The biggest benefit of the Kramer Control Academy, hosted by LearnCore\*, is that you can learn at your leisure. Your time, your speed, your convenience.



Your LearnCore K-Touch Dashboard



A sample screen from a lesson

## LESSONS

1. LearnCore 101
2. Introduction to K-Touch
3. K-Touch Admin Overview
4. K-Touch Builder Overview
5. Creating Your First Project
6. K-Touch App and Syncing a Project
7. Expanding on Your Project
8. Modules
9. Variables
10. Swapping Devices
11. Feedbacks
12. Conditionals
13. Fun Extras and Cleaning Up
14. Wrap-Up and Final Exam

*If completed consecutively, the lessons take 3-4 hours in total.*



*\* LearnCore makes sure teams are prepared to succeed in today's competitive and ever complex sales world. High stakes training initiatives need a simple interface with powerful analytics to be taught. LearnCore provides the most complete, easy-to-use learning platform that everyone on the team can benefit from – new hires and top performers alike – helping you to improve business initiatives that drive the bottom line.*



# Kramer is an Educational Partner for the AQAV Quality Management Programs

## The Benefits of Joining the AQAV Program

**Saving the AV Industry – One System at a Time.** AQAV is a non-profit organization dedicated to improving the art of designing and installing audiovisual (AV) technology. The ongoing transition from analog to digital AV has resulted in increasingly complex engineered audiovisual systems that are a challenge to integrate successfully. In response to this trend, AQAV has developed the industry's first comprehensive quality assurance and management certification program, AV9000. This program is designed to deliver “zero defects” AV systems the first time; every time. AQAV focuses on both quality management of these systems and those who design and install them. This approach benefits the AV industry and all its stakeholders; from clients and users of AV technology to AV designers and installers, equipment manufacturers, related construction and architectural firms, and the environment.

The **AQAV Mission** – Audiovisual technology increasingly commands a larger share of capital budgets. As a result, there is an urgent need to find AV designers and integrators that have implemented quality management systems in their organizations. You will pay a substantial price for poor quality!

- We define standards for quality management systems (AV9000 certification)
- We provide training on AV quality issues
- We conduct appraisal audits of AV systems
- We conduct appraisal audits of AV companies

**What are the Benefits of Adopting AQAV?** – Having well-defined processes for consistency, efficiency, and zero-punch lists will increase your profits.

**Get It Right Before Installation** – The “one-to-three” rule is a fact of life in the Pro AV business: One hour of troubleshooting in the shop equals three hours of troubleshooting in the field, where resources and communications are lacking – and time is money! Some program participants reported that before they received AV9000 training, they often “parked a truck outside the client's facility for months” to complete the AV installation to the satisfaction of the customer.

**“Checklist” Your Way to Profitability** – Pre-defined checklists do away with trial-and-error guesswork and help catch all defects. No matter what checklist system you're currently using, you'll find that the AV9000 system organizes everything.

**Employees + Quality Work = Pride + Cost Savings** – When quality management is the norm, your company is unified. Blame-fixing and back-stabbing gives way to a focus on “how can we do it better?” leading to innovation and continual improvement.

**It's All About the Hours** – The more jobs dealers/ integrators can complete in a payroll period with the same staff, the more net profits that are realized. One AQAV participant reported that his company was able to increase their capacity by 25% without adding employees.

**AQAV Creates Unity** – The AV9000 program allows everyone to work together as one team and makes everyone on the team feel better about what they do. AV9000 also helps the team do the next job even better.

**AQAV Benefits the Customer** – AV9000 gives the customer exactly what they ordered, with the least possible effort, in the shortest amount of time.

**AQAV Helps Close Sales** – Having an AV9000 certified Quality Management System in place makes it easier to close a sale, adding confidence to the customer's buying decision. Many integrators who successfully completed the AV9000 courses subsequently reported that they were awarded bids from savvy clients even when that integrator was clearly NOT the lowest bidder. The difference? AQAV.



# WIRELESS DISPLAY CONNECTIVITY: an update

We've written in this space before about wireless AV connectivity – specifically, point-to-point high-bandwidth wireless connections of display signal formats like HDMI. Now, with the advent of wireless connectivity products for collaboration (like Kramer's VIA platform), we'll refer to "wireless display connectivity" to minimize confusion between the two formats.

There have been some interesting developments with wireless display connectivity. The technology behind the Wireless High Definition Interface (WHDI) is now migrating to camera applications, specifically for use with drones. At the recent NAB trade show, drones were found everywhere, as were unmanned roving camera vehicles. Many of these products use 5 GHz CONNEX links to connect cameras back to monitors and recorders.

CONNEX provides a zero-latency transmission of video at a maximum resolution of 1920x1080 pixels with 60 Hz refresh, and can deliver the video to a maximum of four screens at the same time. Like many of the new products that use the 5 GHz UNII "white space" band, CONNEX employs dynamic frequency selection, pairing transmitter and receiver(s) automatically on open channels.

The FCC's decision to open up more channels in the 5 GHz UNII band has created new opportunities for wireless display connections. Future products may employ the 802.11ac protocol, which bonds channels to provide extra bandwidth in both the 2.4 and 5 GHz bands. With 802.11ac, channels can be 20, 40, 80, and even 160 MHz wide, depending on band activity and interference.

Another approach is to move even higher in frequency to the 60 GHz "millimeter wave" band. SiBEAM now offers a close range, high-bandwidth connection that operates on any of four channels

in this band. Known as Snap, the connection is intended for mobile phones and tablets.

Snap has a maximum data rate of 12 gigabits per second (Gb/s) and can multiplex data along with display and embedded audio. The format is very similar to the wired Mobile High-definition Link (MHL) TMDS interface used on some models of smartphones, tablets, and even televisions.

With Snap, a phone or tablet can be placed into a dock which provides wireless power for charging and also detects the mobile device, establishing a wireless TMDS display connection. Whatever is showing on the mobile device will appear on a connected monitor, TV, or projector. Or, the signal can be sent to a distribution amplifier or a matrix switcher.

Given the increasing interest in video streaming, the question does come up: Can wireless video-over-IP coexist with specialized formats like WHDI? Absolutely! 802.11 Wi-Fi and other "white space" service usually incorporate some form of spectrum hopping technology to ensure a connection and minimize interference to/from other services.

That means you could combine a wireless display link with VIA's Connect or Collage platforms to hook up a monitor, projector, or even a matrix switch. In a huddle space, this would create a unique, 100%-wireless platform for all input and output connections, letting you position the main display just about anywhere. Cool, right?

We're just getting started. Look for more high-bandwidth wireless display products to surface at InfoComm and other trade shows as the year progresses.



# KW-11 Stands Out in a Crowd at Utah Valley University



Students at Utah Valley University enjoy a variety of hands-on classes, but the automotive engineering class also requires clear demonstrations and explanations from instructors. Instead of having up to 30 students crowd around a diesel engine to see how it works, the University instructors wanted a way to show the parts of the engine and its functions more efficiently.

According to David Shumway, media systems engineer at Utah Valley University, the task was a challenge, because not only did the instructors need a wireless camera to take the shots of the engine, they also needed a high resolution image to show students all the necessary details.

"Originally, we were just going to attach a Go Pro Hero camera to a long HDMI cable, but once we actually put this whole system together, we realized that this wouldn't

work well enough," Shumway said. "It would be better if the camera were wireless, but the wireless functionality of this system did not provide a high enough resolution to be usable."

Shumway said that in looking for alternative solutions, they found the Kramer KW-11 Wireless HDMI transmitter/receiver. "We had a lot of recent success with our Kramer products, and we knew it would last," he explained.

The KW-11 transmitter/receiver set is a high-definition, wireless HDMI combination designed for use over short distances. The pair provides uncompressed video resolutions up to 1080p @60Hz. Part of the Kramer family of compact, high-quality solutions called TOOLS™, the transmitter/receiver transmits signals up to 39 feet, which made it the ideal solution for the University's classroom. The transmitter/

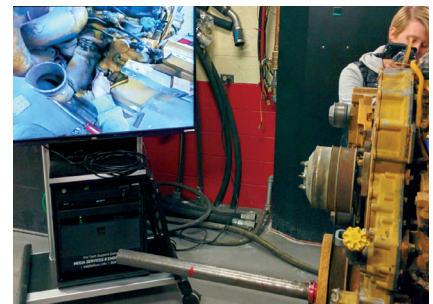
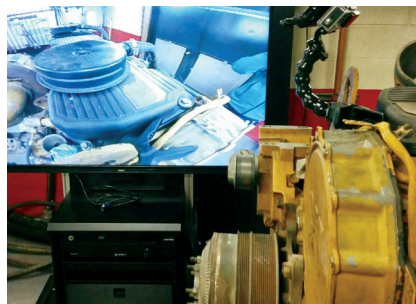
receiver was able to provide a higher resolution when connected to the camera and display unit.

Shumway said the biggest challenge was attaching the battery pack, camera and wireless HDMI transmitter in a usable way. They modified the case to allow a plug for the micro-HDMI cable. The final system was simplified to include the box, battery pack and wireless HDMI transmitter.

He also added a clamp to the system's camera so that instructors don't have to hold the camera during the entire demonstration. In addition, the battery pack's long life cycle allows the system to work through a full morning of classes without the need to recharge.

The instructors have expressed appreciation that the camera is totally wireless, Shumway noted, because it opened up the possibility for the entire class to participate in the presentation, and didn't require dividing them into small groups to learn about the engine. "It used to be that the students would crowd around a diesel engine trying to see, but now they can easily group around the TV cart for a demonstration," Shumway said. "It was fun to find a solution that worked well and gave them the functionality they needed," he said.

The KW-11 Wireless HDMI Transmitter/Receiver is the engine that facilitates learning in this automotive classroom.



# Just for Fun

## Golfer's Day



April

In honor of Golfer's Day on April 10th, we dedicate these fun and interesting facts to those who love the sport of golf. As of 2012, according to the National Golf Foundation, **there are 29 million golfers in the US alone**. Read below for some interesting tidbits on this popular sport:

- Contrary to what many believe, **golf is not an acronym for "Gentlemen Only, Ladies Forbidden."** Actually, the word golf is thought to have come from the Dutch word "kolf" or "kolve," meaning "club." It is believed this word has been adapted over the years, beginning with the Scottish who changed it to "glove," "gowl" or "gouf," and then finally being adapted to the word we know today during the sixteenth century. This acronym myth can be fully debunked by noting that 23% of professional golfers are female.
- You can hike up to 5 miles during an 18-hole golf game; burning up to 2000 calories.
- The chances of making two holes-in-one in a round of golf are 1 in 67 million.
- **There are 336 dimples on a regulation golf ball.** The dimples have been discovered to reduce turbulence and allows the balls to travel further.
- The longest putt ever recorded was 375 feet.

## National Dog Day



August

During the month of August, you might look forward to Labor Day Weekend or the cooler Autumn months. What you may not know is that there is a great reason to celebrate even sooner – National Dog Day! Here at **Kramer, a company full of dog lovers**, every day feels like National Dog Day. However, this day officially falls on August 26th – an entire day nationwide dedicated to celebrating man's best friend. To help you celebrate, here are some fun insights about dogs!

- **National Dog Day was founded in 2004** by pet lifestyle expert and author Colleen Paige to honor dogs and show appreciation for all breeds of dogs.
- Dog nose prints are as distinctive as human fingerprints. No two are exactly alike and they can be used to identify dogs.
- Petting a dog is scientifically proven to lower blood pressure.
- Dogs can tell when there is a change in barometric pressure and static electricity in the air, which is how they are able to respond early to changes in the weather!
- While humans have about 5 million scent-detecting cells, **dogs have over 220 million!** Although a dog's brain is smaller than a human brain, the area that processes scent is four times larger in a dog's brain than in a human's brain.

## National Pasta Day



October

In October, you might be thinking of a fun Halloween costume, carving pumpkins, or enjoying the many other Halloween related celebrations. However, there is another October holiday that is also quite worthy of your attention – National Pasta Day. This holiday falls on October 17th and honors **one of the world's most favorite foods**. Celebrate this delicious day with a bowl of your favorite pasta and by reading our pasta trivia below!

- The origin of pasta is ancient. It is believed that the Chinese ate pasta as early as 5,000 B.C.
- It was once believed that **Marco Polo discovered pasta in Asia and brought it to Italy**, however this was disproved when an ancient will of Ponzio Bastone was discovered. In it, he included a storage bin of macaroni. At the time the will was written Marco Polo was still in the Far East.
- There are over 600 known shapes of pasta.
- In 1789, Thomas Jefferson introduced pasta to the Americas after he tasted it in Naples, Italy while he was the American Ambassador to France. When he returned to the United States, he brought with him a pasta machine and crates of macaroni.
- **The first American pasta factory opened in 1848 in Brooklyn**, New York by a Frenchman named Antoine Zerega, who used a horse in his basement to power the machinery!

# Subscribe to Our Channel!

On Kramer's YouTube Channel, [www.youtube.com/KramerElectronicsLTD](http://www.youtube.com/KramerElectronicsLTD), you can find tons of helpful videos. We share walk-throughs and tutorials that will help you solve commonly encountered problems in the Pro AV industry, Kramer product news and information, footage from major industry tradeshows, and more. Below are examples of what you'll find on the Kramer YouTube Channel.

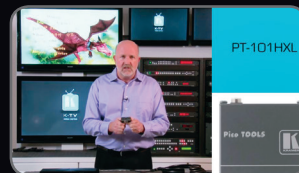
## KRAMER TECH SUPPORT ANSWERS REVEALED



Cross Talk Problems with Unshielded Twisted Pair



EDID Related Audio Problems



Feature Benefits of the VP-773AMP ProScale™



Solving HDMI Distance Problems with Repeaters

This video series will take you through questions that are commonly asked of Kramer Tech Support including how to solve cross talk problems, EDID related audio issues, and how to solve HDMI distance problems with repeaters.

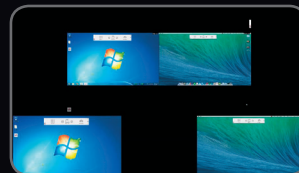
## VIA WALKTHROUGHS AND MORE



VIA Quick Start Video



VIA - Logging In



VIA - Sharing your Screen



VIA - Multimedia Streaming

Kramer has an entire playlist dedicated to helping you set up your VIA wireless collaboration solution, learn more about VIA, and choose which solution is right for you.

## PRODUCT INFO, REVIEWS, ETC.



Kramer VP-773:  
Product Introduction



Kramer VP-773:  
A Short Introduction



Sierra Video ASPEN  
3G-HD-SDI Matrix



Kramer's K-Touch Control System

Kramer also makes product videos aiming to give you a better understanding of which products will work best for your system, explain product benefits, and give you an insight into Kramer's new technology.



# Kramer Profiles



**Will Smart**  
Regional Sales Manager

Will Smart has always worked in the service industry, holding customer service-oriented positions in hospitality, retail, and commercial sectors. When he lived in Grass Valley, California, a job posting for a sales representative with Kramer presented opportunities to further develop his customer service skills, strive to achieve sales goals, and the opportunity to learn more about some of the things he loves the most; gadgets, components, and other types of electronics.

Will started with Kramer as an Inside Sales Associate, before quickly moving into the role of Associate Sales Manager, then Regional Sales Manager (RSM). As an RSM, Will is responsible for providing support and maintaining mutually beneficial relationships

with customers. RSMs are continually meeting new people and helping customers in new ways; from information on new products, to quotes, and scheduled demo visits. Every day is different, which is what Will enjoys the most.

*"I also have the privilege of working with other people at Kramer who similarly enjoy taking on new challenges, and strategizing how we can collectively provide our customers the best service and support."*

Will currently resides in Durham, North Carolina with his wife Lindsay, and their two dogs Chad and Audrey. Outside of work, Will loves being outdoors, and is working towards his goal of running and biking in a duathlon.

Tom Kopin started going to work with his father, Chris Kopin, current VP of Technology for Kramer, when he was just 16 years old. After receiving his degree in Electrical Engineering from Stevens Institute of Technology, he was offered a full-time position at Kramer; the company he grew up at.

For Tom, as a Global Engineering Specialist, each day is unique. He assists Kramer's technical support department with advanced issues, works with Israel HQ on new products or features based on market feedback, tests new products before they are released to customers, develops new training materials, and assists other Kramer offices with training; all while attempting to improve the processes within Kramer's global support mechanism.

*"It is the ever-changing world of technology that I am most passionate about. I am grateful to have the opportunity to influence what will eventually be in the hands of our customers, and I enjoy assisting our customers with figuring out the best solution for their application."*

Tom currently resides in High Bridge, NJ, only 8 miles from the Kramer Electronics USA Headquarters. Outside of the office he enjoys kayaking, camping, and many other outdoor activities.

**Tom Kopin**  
Global Engineering Specialist



# Kramer Testimonials

”

***“The college wanted an intuitive system that would connect the campus on a high-tech network, yet still be easy to use. Kramer hardware was the right solution because of its flexibility and its value.”***

– Henry Barnston, Account Executive, CCS Los Angeles

”

***“I know Kramer products work and are reliable. We did not want to take the chance of using another kind of powered speaker and have them failing all over the district. Kramer’s Tavor 5-O are simple and easy to use.”***

– Brian Lewis, Project Manager, Media Tech

”

***“This system is a showcase for judges throughout the country, so the technology had to be stellar and reliable, as well as user-friendly. We designed it using Kramer equipment because we know Kramer’s track record for reliability and ease-of-use, and the Kramer technology consistently reproduces an outstanding signal every time.”***

– Kevin Sandler, CEO and Founder, ExhibitOne

”

***“The Kramer Certified Digitalist Training was a tremendous class with emphasis on the technology, challenges and opportunities and NOT about pushing product! A great experience all the way around. Thanks, Kramer!”***

– Dan Gundry, Vistacom

”

***“Man this system is a 100 times user friendly compared to what AMX or Crestron has out in the market. I watched the first 3 YouTube videos to get an understanding on the basics after that I started exploiting and trying different things.”***

– Jonathan Navarro, Precision A/V

”

***“I love Kramer Electronics Ltd. I lost a power supply to a 5 year old video transmitter, submitted a contact form on their website to ask where I might find a new one, and they sent me a free one within 10 minutes. Talk about customer service!”***

– Richard Bunkley, Littlefield Corp.

# CONTROL. YOURSELF.



In the new era of cloud-based technology, our **K-Touch 3.0** system is the control solution for 2015 and beyond. The **K-Touch** approach to AV control is unique, powerful, flexible, easy to configure and use, and most importantly, it's incredibly affordable. Thanks to the cloud and **K-Touch 3.0's** new scalable capabilities, we have created the most user-friendly, hassle-free, and powerfully innovative control solution on the market.

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For further product information: • [www.kramerus.com](http://www.kramerus.com) • Toll-Free: 888-275-6311 • E-mail: [info@kramerus.com](mailto:info@kramerus.com)