Audio over IP from BARIX vol. 3

Rescue, entertainment, control, information, assistance.

Always in touch, even when the going gets tough: BARIX solutions – around the world in 36 pages.

BARIX ONSITE

You'll be hearing a lot more from us in future:

Sometimes audio over IP technology provides the last link standing.

Always informative, generally entertaining, and sometimes a lifesaver.
We are delighted to present virtually our entire portfolio of innovative audio over IP technology in everyday use. Within a short space of time, the Internet Protocol (IP) based audio communications system developed by BARIX has demonstrated its prowess in handling such a wide range of practical applications that BARIX devices are now in use all over the world.
The potential applications are virtually unlimited and include high-quality sound for hotels, sound systems for businesses and use as a highly resilient radio transmitter, even under the most adverse conditions where system failure could result in death and destruction. BARIX enables this safety element to be "installed" without calling for any substantial technical or financial investment, as the IP technology can normally be integrated into existing computer networks at no great cost.

Welcome to the world of BARIX.

Staying on the air in the darkest of times

Keeping a radio station on the air during extreme weather or other disaster conditions can be a major challenge, as heavy rains and strong winds can knock out power and damage equipment. Few know these trials as well as broadcasters in the southeastern United States, a region hit hard in recent years by a slew of severe storms. But one U.S. broadcaster has found a new and innovative solution for keeping its stations on the air when the wind howls and the rain pours.

Using BARIX devices, Clear Channel Satellite Services has deployed an IP system that allows it to stream audio from its Colorado facility to towers throughout the southeastern United States. This allows the company's stations in the region to remain on the air in the event that studios go dark in extreme weather or other disaster conditions – enabling them to broadcast important information to local residents in emergency situations.

To implement the system, BARIX installed a bank of its Instreamers at Clear Channel's Colorado facility and outfitted each transmission/tower site with its Barionet and Exstreamer devices.

The Instreamers encode audio in preparation for broadcast if studios suffer power outages. The Barionets and Exstreamers – installed at each radio tower site – are used to activate and automatically switch and decode the Exstreamer backup audio feed for transmission over the air. The entire network can be controlled and monitored from the Colorado facility over an internal wide area network.

It was the devastation and chaos that followed Hurricane Katrina in 2005 that prompted Clear Channel to explore how it could better connect its radio stations during disaster situations, according to Don Harms, the company's president and general manager: "We needed a reliable approach to keep our towers alive at all times so we could keep residents of affected areas informed through terrestrial radio," he explained. "When studios and towers go dark, area residents are not receiving the information they need about what is coming next and where to get relief. These crucial points of communication were missing during Katrina when radio stations were unable to light their towers."

Clear Channel radio stations in Texas, Louisiana, Alabama, Mississippi, Florida, Georgia, and the Carolinas are now connected to the system. The company hopes to expand the system using BARIX devices to connect nearly 900 towers over the next year – a feat that would provide satellite IP audio connectivity to all Clear Channel radio stations from the company's Colorado facility.

Clear Channel researched more than a dozen systems, Harms said, ultimately choosing BARIX because of its ability to integrate an off-the-shelf product into the company's existing satellite platform.

The system was also "not funded or budgeted ahead of time," Harms added, "which means we needed a highly cost-effective system with proven reliability. BARIX outperformed all the competition in terms of price, reliability, adaptability, and speed of delivery."

Protecting radio feeds

Every radio station needs a fall-back plan in case its transmitter fails – broadcasters simply cannot afford to go off the air. But broadcasters ideally need more than just a fail safe, they need a reliable backup that provides the high-quality audio listeners demand.

A German broadcaster – Hitradio MSOne – has found the ideal solution in an IP system from BARIX, using the company's BARIX Audio over IP technology to distribute FM programming from its broadcast studios to the transmission towers for its two FM stations.

The system relies on BARIX Instreamer 100 and Exstreamer 100 devices to backup its main STL connection for studio-to-transmitter audio delivery. The BARIX Instreamer encodes the audio at the studio for transport over a cost-efficient, reliable IP connection to BARIX Exstreamers at the radio transmission towers. The Exstreamers decode the audio at the towers and automatically become the over-the-air transmission source if the main transmitter fails or is taken down for general maintenance.

The BARIX Audio over IP solution maintains superior audio quality throughout the delivery chain – despite its very low cost – and distributes the audio at 192 kbps for near-CD quality.

"The BARIX Audio over IP solution guarantees that we will remain on the air if we have a failure at the transmitter," said Maximilian Krug, owner of HitRadio MS One. "BARIX has proved that broadcasters can maintain very good audio quality with IP, and at a low cost. With BARIX, we can avoid expensive leased line STL costs and supply our radio towers with a direct, uninterrupted IP connection."

The system also provides Hitradio MSOne with a second layer of on-air redundancy. The Exstreamer 100 devices at the radio towers are outfitted with USB sticks – if the main IP stream fails for any reason, the USB stick automatically takes over, playing a mix of music created by Hitradio MSOne.

Krug added that he also uses BARIX devices at Mediencenter Augsburg, a radio broadcast service provider based in Germany that contributes programming to numerous radio stations in Austria, Germany and Switzerland. Mediencenter Augsburg presently uses BARIX devices to deliver program audio over IP to radio towers for three radio stations in Austria.

Moving beyond satellite distribution

The days of satellite distribution for radio broadcasters may be winding down. Worries about reliability and monthly costs are only two factors – satellite receivers at many stations are aging and tend to break down and broadcasters are reluctant to spend several thousand dollars replacing these devices. A new joint IP solution using hardware from BARIX and Internet distribution service technology from StreamGuys offers a ready – and less expensive – solution for broadcasters ready to ditch their satellite headaches.

The BARIX/StreamGuys solution has proven a ready fit for Wallace Radio Syndication, which is using it to deliver live and recorded sports programming to 35 stations in Minnesota, North Dakota and South Dakota. The company has found the end-to-end IP architecture provides a reliable, scalable, high-quality audio solution that vastly reduces operational costs compared to the company's previous reliance on satellite technology for program distribution.

The end-to-end workflow begins at the origination point, where a live or recorded feed is sent from a BARIX Instreamer audio encoder to the company's studio in St. Paul, Minnesota. A BARIX Exstreamer in the studio receives and decodes the program material before it is mixed and sent out over the Internet through another BARIX Instreamer.

An aggregated server infrastructure from StreamGuys receives the feeds and transports them over a robust, cost-effective streaming network to point or multipoint destinations within the 35-station collective. Each of the 35 stations has an Exstreamer 100 at their studios to receive and decode the signals, along with tone decoders to trigger advertisements, for station identification, and to signal start and end times for each feed. Company owner Matt Wallace praised the competitive cost, reliability and ease of operation of the solution. "Rural radio stations are especially guarded about spending money due to limited budgets, so it's crucial to provide them with equipment that is reliable and that can be automated without the need for a studio operator or on-site engineer, and BARIX meets those requirements," Wallace explained. "And with StreamGuys, I don't have to worry about the stations receiving their feeds. Once the feeds leave my studio they go directly to the destination studios in a redundant configuration. If one server goes down, another server in the streaming architecture will pick up the feeds. And the comprehensive solution is scalable to meet my needs as Wallace Radio Syndications expands to new sites in Minnesota, the Dakotas, and other Midwest states." Walllace added that his stations are extremely pleased with the audio quality of the solution as well as the ease of installation.

The Exstreamers were assigned static IP addresses in St. Paul and shipped to the studios for "plug and play" installation. The simple operation ensures that no in-studio monitoring is required for automated

programming scenarios. The StreamGuys distribution architecture eliminates the costs of leasing T1 lines for long-distance distribution, and provides plenty of bandwidth to maintain high audio quality throughout the chain.

Wallace suggested the solution would have a good foothold in an emerging market as broadcasters look for options beyond satellite distribution. "More radio stations are migrating to IP from satellite distribution these days because of the noticeable reduction in monthly costs," Wallace explained. "IP technology and distribution platforms from companies like BARIX and StreamGuys are becoming more popular because of these costs and reliability issues, and the trends point to this type of replacement cycle happening around the world."

Streaming emergency broacasts

Few radio listeners or television viewers likely know what EAS stands for, but you can be certain that most broadcasters do. An acronym for Emergency Alert System, EAS allows broadcasters to send and receive emergency information quickly and automatically, even from unmanned facilities. In the United States, the Federal Communications Commission (FCC) requires all U.S. radio and TV broadcast stations to install and maintain EAS encoding and decoding equipment – and to operate mandatory weekly and monthly EAS tests.

Failing EAS equipment is a problem broadcasters can do without. "Many traditional EAS manufacturers have gone out of business or no longer service the units," explained Mike Afflerbach, general manager of CTC Media Group, which operates four AM stations in North Carolina. "Meanwhile the units are expensive, and broadcasters can receive some very hefty fines if the units aren't operating correctly."

Concerns with failing equipment prompted Afflerbach to look for a new solution. Instead of rushing out to buy a new EAS system, he designed a new plan to use the BARIX Instreamer audio encoding and Exstreamer audio decoding devices. Afflerbach had been using the devices for STL platforms at two of his stations and figured using them for EAS would increase reliability and lower equipment expenses.

He connected one Instreamer – based at the studio – to the output of an existing EAS system. This allowed the EAS system to send audio to the Instreamer, which can then relay the signal directly to the Exstreamer

devices located at the various transmitter sites. The priority port in each Exstreamer sends the EAS signal to the transmitters for broadcast over the air. The EAS Instreamer immediately shuts down following the EAS broadcast.

"This setup essentially means that one Instreamer can run EAS applications on any number of stations in a given market," said Afflerbach. "The Instreamer allows me to initiate and monitor my EAS applications from a single studio location for all four of our stations, instead of trying to maintain four separate systems that have equal chances of crashing. Traditionally, I would need these EAS decoders and numerous receivers at each studio or transmitter site, which incrementally raises equipment and maintenance costs."

Canadian broadcasters have also found that BARIX equipment provides an easy and cost-effective solution for their EAS needs. One Canadian broadcaster is using the BARIX Instreamer/Extreamer STL platform to stream EAS information from his home studio to three transmitter sites in the remote Yukon Territory.

The devices offer a reliable continuous audio stream in a region with extremely harsh weather conditions that often make transmitter sites, which regularly experience power outages, difficult to reach.

According to Canadian broadcaster Rob Hopkins, this reliability provides an excellent means for communicating emergency information to area residents.

Hopkins is president and CEO of Open Broadcaster – an open source software solution he created to run radio stations and audio service in remote regions.

"Since operators are rarely at these stations, the BARIX equipment is programmed to prioritize emergency broadcast information over the main audio stream in the event of power outages, fires and weather-related emergency situations," said Hopkins. "The announcement can be uploaded by an agency or person with the appropriate authorization using the Open Broadcaster software, and the BARIX priority port immediately recognizes the EAS stream."

BARIX Instreamer 100

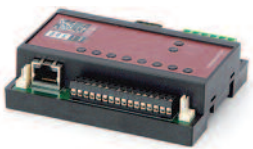
The BARIX Instreamer 100 or MP3 audio encoder is an intelligent streaming component that converts analog and digital audio into MP3, which it then transmits into the network. This is a great way to bring your analog audio into your network audio distribution setup. Think of the Instreamer IP audio encoder as a counterpart to the Exstreamer since it brings the sound into the network, rather than bringing the sound out!

- Has inputs for all sound sources for IP audio encoding from tuners to record, tape, MD and CD players
- Monitors and controls the directly attached equipment
- Is easily controlled using your standard web browser (PC, palm, etc.) or IR remote control (BARIX accessory)

BARIX Exstreamer 100

With BARIX, networks get a voice. The Exstreamer 100 is an intelligent audio decoder that can pull your digital audio from the network while converting it into music or voice.

- 10/100 Mbit/s ethernet connection
- Streams from PC, Web, Shoutcast, Icecast and RTP servers in MP3 format
- Separate firmware for WMA and MP3 streaming (http, UDP, RTP) with automatic failover and USB playback available
- Is easily controlled over standard web browser (PC, palm, etc.), IR remote control or API (serial, TCP, UDP, cgi)



BARIX Barionet

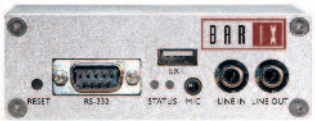
BARIX teaches nearly every device and system the meaning of TCP/IP. BARIX Barionet is an IP-enabled, programmable automation controller for telemetry applications that connects to digital, analog and serial connected sources.

- Communicates over a standard 10/100 Mbit/s Ethernet connection and is equipped with RS-232 and RS-422/485 interfaces
- Provides 12 analog and digital inputs/outputs for the connection of temperature sensors, readers and devices
- Supports TCP/IP, SNMP, HTTP and CGI
- Is easily controlled and configured using your standard web browser

BARIX Exstreamer 1000

The BARIX Exstreamer 1000 is a versatile network device that can function either as an audio encoder or decoder for a variety of high quality audio applications.
The BARIX Exstreamer 1000 features AES/EBU in and out to provide a fully digital transmission path.

- Encodes or decodes audio in high quality
- AES/EBU and balanced stereo audio interfaces (inputs and outputs)
- Supports streaming (http, UDP, RTP) with automatic failover and USB playback
- 10/100 Mbit Ethernet connection/li>
- Contact closure interfaces (4 in, 4 relays)
- Control via standard web browser as well as serial, TCP, UDP, cgi API



BARIX Annuncicom 100

Network intercom and PA component for commercial, industrial and security applications.
At BARIX, the sky is the limit when it comes to communication. BARIX Annuncicom is an interface that bridges audio to Ethernet to allow people to communicate with each other and to inform others.
You could call it an IP intercom and IP paging system.

- Transmits voice, pre-recorded announcements, alarm messages and music over the network to any specific location
- Two way communication is possible just like an ordinary intercom
- Communicates over a standard network connection (10/100 Mbit/s) and supports TCP/IP-Protocol
- Incorporates an integrated Web server for control and configuration
- Works in combination with other BARIX Annuncicoms as an autonomous IP Intercom, IP Paging system or can be used by itself with a PC controlled solution

Audio over IP technology:
a universal genius in the realm of sound.
Ideal solutions for all requirements.

With its leading-edge, futureproof audio over IP technology, BARIX offers ideal solutions for virtually all sound system applications. These solutions have a unique advantage over alternative technologies in that audio over IP is as simple to install and operate as a radio, and just as affordable to buy and run. The technology can cover extensive, multi-site areas with no need for costly satellite technology, and requires no data media, servers or PC infrastructure.

The only technical equipment required is an IP (Internet) connection (LAN/WAN). Any available Internet connection can be used to transmit music, spoken announcements, advertising or important warning messages over any distance to any required broadcasting location.

In two specific examples, innovative sound systems from BARIX have been adopted by famous names from the hotel industry and by leading chain stores with extensive branch networks. In the following two applications, BARIX is working together with DMD^2 (Digital Media Distribution AG), whose "hotelradio.fm" and "retailradio.fm" products can simultaneously broadcast individual sounds and commercials in any of the retail branches or hotels, using audio over IP technology.

DMD^2 has equipped the 60 branches of Sunrise in Switzerland with its "retailradio.fm" product. "retailradio.fm" is a solution geared specifically to the needs of chain stores, where the tailored music mix focuses on three key elements: the target audience, the Sunrise marketing message and the salesforce. "It was vital for us to identify the right kind of music,"

recalls Daniel Amstutz, Project Manger at Sunrise. "We had to choose music to match the Sunrise brand and the new look of the Sunrise centres." Sunrise is already planning the next phase: once all the centres have been refitted, not just music but advertising jingles too will be played. Depending on the region concerned, these will be broadcast in German, Italian or French. And as musical tastes differ from region to region according to the language spoken, in future localised sounds will be played in the various Sunrise centres. Luxury hotels such as the Giardino in Ascona or the Lenkerhof Alpine Resort in the Berner Oberland are using DMD^2's "hotelradio.fm". The musical concept was developed in collaboration with renowned hotelier Philippe Frutiger specifically to meet the needs of the hotel industry. More than 30 channels provide suitable music for the lobby, restaurant, lounge or spa area, for younger or older audiences and for special events. An individual, relaxing atmosphere is created in every part of the hotel.

Simplifying streams for retailers and restaurants

Whether you are in a grocery store, restaurant or clothing boutique, there will almost certainly be music being played over an in-store audio system. Retailers and restaurant owners understand the value of customized audio programming, but few want to spend time worrying about the technical side of the equation. With IP technology from BARIX, they don't have to fret – and nor do the companies providing the content.

An Oklahoma-based company – The Splash – is proving this, having standardized BARIX IP audio decoders to deliver its tailored in-store audio programming to an array of businesses. The BARIX system provides a live, point-to-multipoint radio broadcast service over reliable IP connections, minimizing implementation costs and system complexity for both service provider and end user. It allows The Splash to provide a live radio station service, called Splash Radio, complete with DJ, music and advertising. The company's clients include the local grocery chain Williams Grocery and restaurant chain CityBites.

Splash Radio produces the program feeds at its studios in Yukon, Oklahoma, and delivers them directly to retail outlets, where BARIX Exstreamer 100 IP devices receive and decode the audio for immediate playback over the in-store PA system.

"The simplicity of the installation and reliability of the BARIX devices very much minimizes time spent on technical support for our clients so we can focus more on creating quality programs for their stores," said Brian Alexander, owner of Splash Radio.

Implementation was simple, Alexander explained. After configuring the studio URL into the Exstreamers, the devices were sent to the stores for installation. The Exstreamer plugs right into the IP/network or router to receive the stream and directly into the stereo amplifier at the store to feed the speakers. The feed to the stores is continuous from open to close, featuring a blend of music and advertising customized for the client, with the ability to send music requests for inclusion into the stream to the company's studios.

"Besides occasionally adjusting treble and bass configurations to suit the store environment, the BARIX units maintain a robust stream with great

audio quality, requiring no intervention," Alexander said. "The Exstreamers communicate with our web server for any adjustments to settings, which makes it a snap to switch a location or group of locations over to an alternative stream for grand openings or live remotes, and they otherwise reliably pick up our broadcasts without problems."

The BARIX devices also provide several levels of redundancy – something Alexander is quick to praise. One level is a simple USB stick in the Exstreamer at the store. The stick features a mix of music and advertising that is similar to the live program – it immediately kicks in as a backup source in the event the Internet connection is disrupted.

Alexander added he is looking forward to BARIX's release of software to support aacPlus v2 compression, which will introduce new cost-efficiencies into his platform through more efficient use of IP bandwidth.

"We're very excited about the aacPlus option because it will vastly reduce our bandwidth costs while also providing excellent sound quality," he said.

Texas football gets an IP makeover

Satellite technology is a proven and popular method for distributing audio programming, but it is not always the best solution for broadcasters. Problems with satellite delivery prompted one Texas broadcaster to look for a different way to deliver its hugely popular Friday night football show. The answer came in the form of a joint IP solution using hardware from BARIX and a low-latency (BRTP) Internet distribution service from StreamGuys.

The reliable, cost-effective, end-to-end IP architecture has allowed Texas-based Paramount Broadcasting to deliver its program – "West Texas Friday Night Scoreboard Show" – from a central studio to 35 affiliates in 33 markets.

The weekly program is entering its tenth year on the air, providing rabid fans with highlights and scores of as many as 150 Friday night high school football games.

But eight years of satellite distribution proved frustrating for Paramount – occasional conflicts with other syndicated sporting events and a shortage of receivers presented problems. These scheduling conflicts often made it difficult for affiliates to receive consistent programming.

Ease of operation and affordability were two key factors that led Paramount to the BARIX/StreamGuys solution. The company was also keen to retain ownership of the end-to-end solution, explained Steven Orr, Paramount director of affiliate relations.

"Ownership was a huge factor for us," Orr said. "When all was said and done, this new system established a plug-and-play arrangement with identical technology and workflow at all stations."

The workflow starts at Paramount's flagship station, KFLP, where a live feed is sent from a BARIX Instreamer 100 audio encoder over the Internet. An aggregated server infrastructure from StreamGuys receives the feeds and transports them over a robust, cost-effective, streaming network to the 35 affiliates including KFLP.

The BARIX and StreamGuys solution maintains outstanding quality throughout the transport architecture, with built-in redundancy at every level to ensure the stream is playing out live at all times. The solution also takes advantage of BARIX and StreamGuys RTP (real-time protocol) solution to ensure consistent ultra-low latency of live signals at the receive sites.

Establishing the system in every station took some of what Orr calls "sweat equity" but the results prove the investment was more than worthwhile.

"We stream to 35 stations over 12 weeks which adds up to 420 opportunities for problems," he said. "Last season we had minimal technical challenges – and our automated affiliates had no problems whatsoever."

Not having to worry about the technical side of things allows the company to focus even more on the content of the program, which Orr describes as an accidental success.

"Another radio station host called in to get a score one night and was put on hold," Orr said, describing the show's origins. "As he listened to the content he decided to carry the show as a phone feed and did so for the remainder of the season. Even we were surprised at the time with how quickly the show's popularity grew, but the key to smaller market radio is filling niches and staying true to that."

Turning print into sound

The Talking Information Center is a service that cannot afford to be bumped off air by a technical woe – it provides vital information to visually impaired and elderly across the state of Massachusetts. But it is also a non-profit with budget constraints and it grew frustrated – and concerned – with a costly reliance on DDS digital telephone lines for distribution of its programming to six affiliates across the state.

The non-profit radio reading service broadcasts the reading of printed material over an extensive network of commercial and non-commercial radio and cable TV outlets, reaching more than 23,000 elderly and disabled individuals across the state of Massachusetts. It is a vital service that helps people be better informed and is available 24 hours a day, seven days a week.

But the service "operates on a modest technical budget" that is primarily state funded and provides special receivers free of charge, explained Ron Bersani, executive director for Talking Information Center. "The expense of the DDS lines went up $9,000 in six years, and there was no end in sight."

As the costs soared to more than $32,000 a year, the non-profit began searching for an alternative distribution platform – a quest that led it to BARIX and its Audio over IP equipment.

"We found that BARIX had a solid foundation in radio broadcast and could support our needs," Bersani explained. "It was pertinent that the audio quality was good and the technology was reliable, as our listeners depend on this service far more than the average person depends on a traditional radio station. And for a non-profit organization, the cost savings are crucial."

The radio reading service now uses a BARIX Instreamer IP audio encoder at its headquarters in Marshfield, Massachusetts to encode and stream programming to all six sites for local transmission.

At each site a BARIX Exstreamer audio decoder receives and decodes the audio for local transmission.

"The solution transports clear voice reliably at pristine quality while saving the Talking Information Center approximately $25,000 per year to provide the service," Bersani said.

The Talking Information Center also operates multiple online streams, including the main network programming that originates in Marshfield. The radio reading service also added an Instreamer at each affiliate location to stream both the main service and local programming online.

"The success we had with BARIX for STL influenced us to change the way we put our streams online," said Bersani. "We replaced out streaming computers at each location with Instreamers, which encode and stream the radio services directly into the Internet for our non-regional listeners. We have been very impressed with the quality of the online streams."

Helping the blind and visually impaired to follow the action. BARIX creates a unique live experience at Euro 2008.

It is virtually impossible for blind and visually impaired spectators to follow the action at major events in sports stadiums when cheering and chanting fans turn up the volume. Neither TV transmissions nor radio commentaries can convey the emotions felt by a fan watching the action from the stands. But the match commentary provided by a sighted companion is frequently drowned out by the surrounding din of the stadium. BARIX has been working with UEFA to help partially sighted spectators savour the thrills of live matches during EURO 2008. UEFA chose IP streaming components from BARIX to providing the audio distribution. This special service was offered to blind and partially sighted spectators during the European football championship in all eight stadiums in Austria and Switzerland.

For all the games played at Euro 2008, sophisticated technology from BARIX ensured that match commentaries were not drowned out by the surrounding fans, so that visually impaired spectators could keep up with the action and enjoy the live thrills of the competition, including the vibrations when thousands of fans jump to their feet in the stands.

Simple installations, outstanding economy: IP audio transmission between the BARIX Instreamers and Exstreamers is routed via existing IP/Ethernet networks or via the Internet using IP standard protocols, requiring minimal bandwidth and no additional servers or PCs. These were the key factors influencing UEFA's decision to adopt BARIX technology. "UEFA was instantly impressed by our system, which makes use of the existing

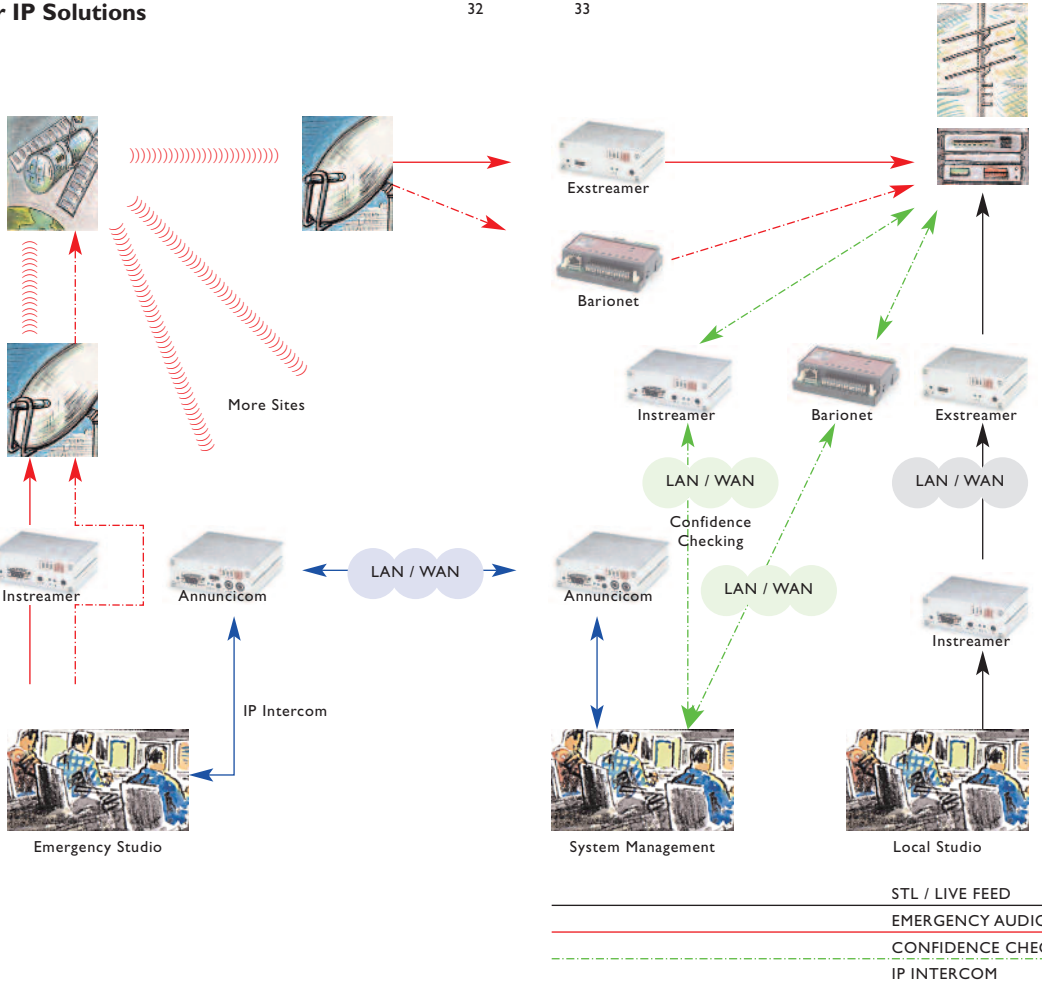
local area networks in the eight stadiums. As a result, installation is simple and affordable," explained BARIX founder and CEO Johannes G. Rietschel. "Not to mention the unbeatable value for money of BARIX IP streaming components."

IP Audio Distribution

BARIX IP audio products allow unidirectional, low latency, high quality audio distribution over satellite or terrestrial IP systems. BARIX products support RTP/Multicast, and can also transport control signals.
A special version of the BARIX Exstreamer with built-in relay can activate a control system which makes the solution ideal for backup/emergency STL: PC free!
The BARIX Instreamer encodes the audio in real time, the stream is distributed via the satellite system, and at the remote sites, the IP feed received from the satellite is decoded into audio and control by the Exstreamer.
The Exstreamer can be controlled to select one of multiple channels.

IP Based Intercom

The BARIX Annuncicom is a universal, bidirectional audio device with I/O interfaces suitable for intercom, paging and realtime recording applications.
The Annuncicom features inputs and outputs to support ring buttons, door opener, direct microphone and speaker connection (built-in amplifier).
With SIP, G.711 and RTP support the Annuncicom can be interfaced to common VoIP phone systems, including Cisco call manager and Asterisk SIP server.
A programmable, extensible firmware allows for full duplex applications. A USB interface allows direct recording/playback to/from flash memory.

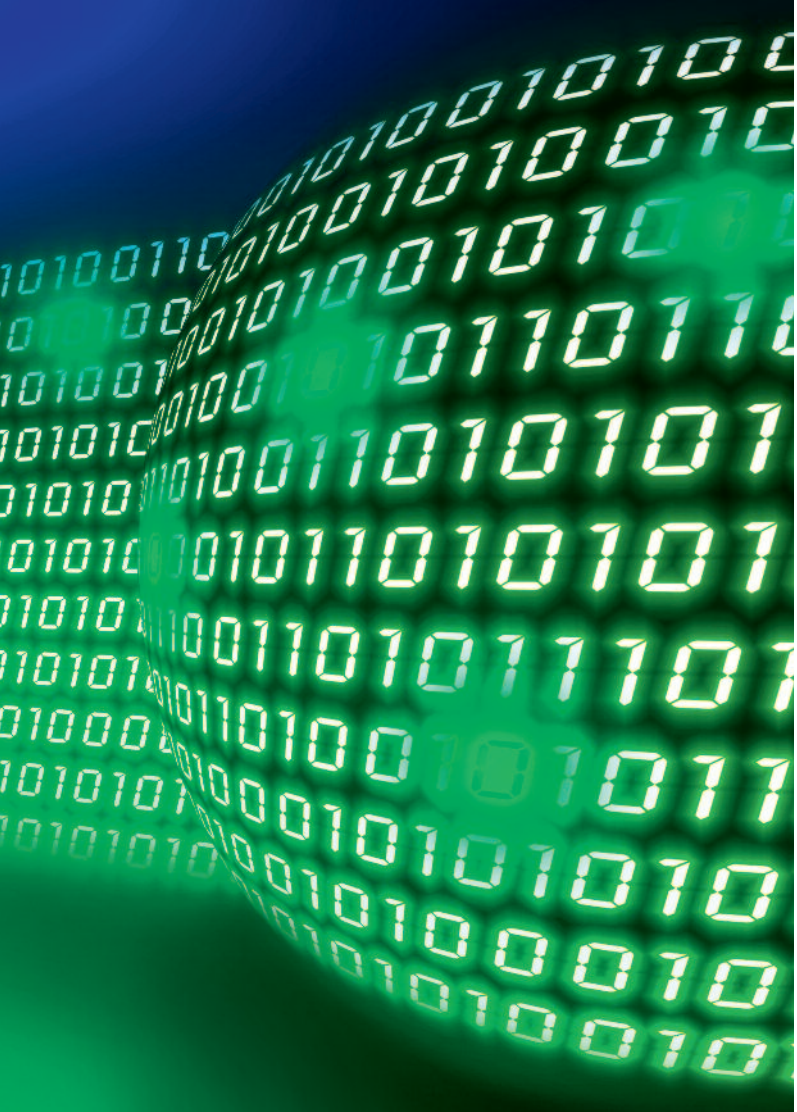


Confidence Checking and Remote Monitoring

Using a BARIX Instreamer or a BARIX Annuncicom, audio at the transmitter site can be encoded in real time and monitored to be in a defined range. The stream can be sent to servers for recording, as well as listened to using standard audio players, or BARIX Exstreamers.
A silence detection function in the Instreamer can automatically alarm control systems by means of SNMP. With the programmable software environment, an Instreamer can even send email or alert via text messaging/paging, in case the audio signal is out of range or absent – without the need for a PC.

STL and Remote Broadcasting

The BARIX Instreamer and BARIX Exstreamer provide an affordable, high quality audio link for point to point, or point to multipoint applications. Requiring a bandwidth of 50 to 200 kbps, a standard DSL or cable link can be used.
The Instreamer encodes audio in real time without the need for a PC. Reliable operation that always reconnects after loss of link/power.
Push and Pull modes, block loss resilient, standards based. Plays from local USB memory in case of stream loss, ensuring the station is always "on air". Ideal to feed transmitters, cable head stations, Internet radio. Supported protocols include RTP, shoutcast source, MP3, uLaw/aLaw codecs for VoIP interfacing applications.



Control, monitor, communicate.

BARIX AG.

BARIX is a skills-based company offering expertise in leading-edge, IP-based communications and control technology. The company is based in Zurich/Switzerland and specialises in the research, development and production of system components.
Typical BARIX products include a range of devices which can be connected locally via standard networks or via the Internet, offering innovative, low-cost solutions for audio over IP applications (transmission and monitoring of audio signals), communications (intercom) and automation tasks (decentralised control, monitoring and maintenance operations). The wide range of available applications includes in-store music, supermarket advertising, religious service broadcasts, distance learning programs, audio transmissions in hotels, offices, museums and hospitals, intercom and PA systems, solutions for radio and studio broadcasting, M2M machine communications, lighting and door automation and security solutions such as surveillance and access control systems. BARIX AG provides its customers and partners with the latest technology in the form of standard or customised products, private labelling, licensing and OEM developments.

Audio over IP from BARIX

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