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World Radio History

Get It In Gear

There was a time when each engineer's bookshelf held dozens of equipment catalogs, all of which had to be updated every couple of years. They took up a lot of space, and I, for one, don't miss them much.

With the coming of the internet, equipment catalogs moved online. It became easy to do a search for a particular make and model, and within a few moments, you had all the information you needed right before your eyes.

But in many ways, having a spec-sheet on your computer just isn't the same as holding a piece of paper in your hand.

For one thing, it's not that easy to bounce back and forth between various pieces of gear. Being able to compare two pieces of gear just by flipping the page is really kind handy.

That's what's great about our Product Source—which you're holding in your hands now, and as you can see, it doesn't take a whole of room.

It's also easy to page through and get enough information about a piece of gear so that you can make an easy comparison with another. (Feel free to use sticky notes as bookmarks, unless you're reading the digital edition.)

Thanks for reading the 2016 Product Source!

Doug Irwin, Technical Editor
Radio magazine

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INOVONICS BROADCAST

525N AM Modulation Monitor With Network Interface

2016 Best of Show Radio

The 525N is a third-generation product and successor to the popular 525 AM Modulation Monitor currently in production. Now with IP connectivity, the 525N offers a full web interface giving total remote control of all setup parameters, metering, alarms with logging and streamed audio monitoring.

IP connectivity with full SNMP support gives the user total access to the 525N from any computer, tablet or mobile device.

Set up, metering, alarms and audio monitoring are all available from the remote monitoring point.

Although the 525N maintains full wideband response for measurement, it features user-selectable audio-monitor cutoff characteristics to mitigate noise or to simulate the response of consumer radios. A proprietary phase-locked synchronous detector provides precise demodulation, rejects interference, and recovers only the AM component of HD Radio "hybrid digital" transmissions.

The 525N is also compatible with power- saving MDCL operation.

www.inovonicsbroadcast.com/model/52501
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World Radio History

RADIO SYSTEMS

CAT-6 Technology and Adapters

In the broadcast engineer's world, "convergence" is code for "now we also have to take care of all the IT stuff."

So, most engineers and manufacturers now spend much of their time writing code, configuring networks and browsing links; simultaneously doubling capabilities and workloads.

But from an infrastructure standpoint (code for "wiring") the situation has gotten easier, not harder. That's because CAT-6 twisted pair and the gear, companies and installers that support it now provide one universal, cheap, and 100-percent compatible way to wire it all together. Twisted pair supports all your signals: analog, digital, VoIP and Ethernet. There just really is no need or reason to ever install shielded audio cable again.

This is important for a lot of reasons. No plant is static in today's market. Cables pulled for a legacy analog lines today could be tasked to run an IP Ethernet links tomorrow. CAT-6 can do it all. Run twisted pair everywhere. Run a lot of it and use it exclusively. You will future-proof your work. And, when a new facility is put together, there is always a local "low-voltage" wiring contractor hired to provide low-cost, dependable, high-speed CAT-5 runs and switches for what used to be just for your enterprise phones and PCs. Double their contract and let them pull some of these same lines from the studios to TOC. It will be the best (and least) money you'll spend on your new facility.

Every major console manufacturer now sports RJ-45s to connect directly to the CAT-6 infrastructure. And companies like Radio Systems make a myriad of adapters to connect to gear that still doesn't support this topography natively. But whether you buy it pre-made or roll your own — make it twisted pair. It's the only way to go.

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TITUS TECHNOLOGICAL LABORATORIES

Custom Broadcast Equipment

For over 35 years, Titus Technological Laboratories has had the philosophy of flexibility in design and implementation of custom broadcast equipment. Although supporting a standard line of studio light fixtures and automatic audio switchers, the unique requirements and demands for "special needs" devices has always be part of "what we do."

TITUS TECHNOLOGICAL LABORATORIES

From a nuclear containment inspection robot controller to billboard display controllers to architectural building signs TTL enjoys the position of being one of a only a few electronic manufacturers that don't hesitate to design and develop unique solutions for both broadcast and commercial industries.

The standard and custom light fixture part of Titus Technological Laboratories allows the broadcaster to select a light fixture that can be custom fabricated with their logo or wording to fit most situations.

www.tituslabs.com
TitusTechLabs@tituslabs.com | (860) 633-5472

DEVA

Broadcast DB910 Full-Duplex Compact IP Audio Codec

The DEVA product portfolio adds the DB910 Full-Duplex IP Audio Codec. The DB910 allows you to send and receive audio at the same time, while guaranteeing monitoring of the signal fed to the transmitter. Where two-way transmission is not required, DB910 may be used either as an encoder or a decoder. The real-time audio encoding/decoding into a configurable format is guaranteed by the DSP processor.

With several backup audio sources incorporated, the DB910 will immediately switch between the sources when the audio is lost, and return to the main one when the audio is restored.

This radio gear is equipped with two-way GPIOs and RS-232 serial communication that could be used for telemetry and automation. The front-panel audio level bar graphs and LED indicators of the unit allow reading the current state of the device at a glance.

Controlled through an HTML5 interface and web browser, the DB910 can be managed remotely or locally.

Broadcast Bandscanner 2

The Band Scanner 2 is the latest DEVA FM Monitoring tool. It assesses FM broadcast band congestion and measures RF level, MPX deviation, Left and Right Audio Levels, RDS and Pilot injection levels. Measurements are stored in a log file which can then be converted into KMZ format and visualized in Google Earth. To power the system, all you need is the USB port of any Windows PC.

With the Band Scanner 2, you can view playlists of competitive stations, as well as save and export them into an Excel file. The Windows software sweeps the receiver across the FM band and generates a spectrum display of carrier level versus frequency. Each carrier is analyzed and a station list is created. There are two ways to save spectrum plots — as jpeg or bmp files. A separate window on the receiver screen displays the RDS data error level.

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Includes SmartStream PLUS redundant streaming

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Tieline®
The Codec Company

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WHEATSTONE CORP.

AirAura X1 Digital Audio Processor

We've put a whole new army of advanced audio control algorithms behind the touchscreen of this new processor. Make a simple adjustment on the screen, and complex control scripts go deep into processor parameters to make multiple interrelated adjustments and push the sound in the direction you want it to go.

A library of supplied presets keeps everyday users in safe territory, while the advanced professional GUI lets experienced "golden ears" refine the sound as much as they want.

Wheatstone's X1 processor — established Vorsis technology at a midrange price.

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SWR LP

FMFB Antenna Series

Our new FMFB antenna series offers true broadband coverage. FB stands for Full Band, and that's exactly what this system delivers. From 88–108 MHz, the FMFB maintains an impressive worst-case 1.25:1 VSWR. Weighing in at a modest 30 pounds, with a single-bay power rating of 1 kW (0.441 gain), this is a perfect low-power broadcast/translator solution, and a versatile standby unit.

These are robust bays, constructed entirely of durable copper, naval brass and PTFE insulators to provide years of worry-free operation. Each bay can be broken down and packaged in a 7-feet x10-inches container, minimizing shipping costs, and making installation a breeze.

We're confident that our FMFB series of antennas offers a broadband solution like no other, with unmatched VSWR performance, a lightweight design and the quality and performance of a product built right here in the USA.

We're currently working to expand this line of antennas to include higher power models, various wavelengths, directional options, and weatherization accessories. Further electrical and mechanical specifications are available upon request.

Call us, or visit us on the web today, and see what Systems With Reliability LP can do for your next broadband project.

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MAGER CONCEPTS

Studio Furniture

For almost 40 years, we have been the leader and pioneer of quality studio furniture with cutting-edge design, material and construction and have won several awards for our unique and different designs.

All of our furniture is custom-built to your specifications and needs and can accommodate any budget from economy to showplace. Our expertise in solid surface is the best in the industry and all of our furniture along with our other quality materials insures you of a high-quality, long-lasting product. On-site installation is offered and highly recommended to ensure the job is done right.

In the past, we were primarily known for our showroom-type furniture, but we are proud to say that we can build your budget studio without sacrificing quality and competitive with any stock, standard or catalog furniture.

If you want the "Best in Sound Furniture," give us a call and let us build your budget or showplace studio for you.

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Introducing

Whirlwind's THS Family of headphone boxes, a new level of control for broadcast announcers.

THS boxes are ergonomically designed to put the control buttons within easy reach of the announcer even while shuffling through stat sheets. The headphone amplifiers are designed to deliver powerful, undistorted audio that can be heard over an arena full of screaming fans. From our THS 1 to our THS 5, you'll find the right configuration to suit your broadcast announcer's needs. Check out the whole line on our website and find out which THS box is the one for you.

whirlwind

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World Radio History

STUDIO TECHNOLOGY

Custom Studio Furniture

Studio Technology designs, constructs, delivers and installs studio furniture for the broadcast industry nationwide. Broad-based design and construction expertise enables our company to provide a range of standard and custom furniture to our customers. Studio Technology can provide a simple custom configuration that is priced competitively with modular furniture, as well as higher-end furniture using solid surface or other alternative materials.

We have provided furniture for one-room studio renovations as well as participated in major projects on both coasts and in Hawaii. Our company will work with any systems integrator or your local staff. We can also provide complete delivery and assembly of the furniture we manufacture. Please contact us to discuss any project large or small. In addition, you can visit our website for design ideas and more information.

www.studiotechnology.com
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ESE

ES-410 GPS-Based Frequency Standard

The ES-410 is a Global Positioning System-based frequency standard that generates a stable source of 10 MHz and 1 PPS using GPS satellites as a reference.

The unit provides 10 MHz in both Sine Wave and Square Wave (5 volt logic) form. Four Sine Wave and four Square Wave outputs are provided. The 1 PPS output is a 50 percent duty, 5-volt logic signal, positive-edge coinciding with the UTC seconds change. An ESE TC90TM Time Code output is also provided for driving remote time displays. Two front-panel LEDs indicate when the ES-410 is locked to GPS and when power is supplied to the unit. A USB interface allows configuration of the Time Zone and other parameters, and outputs the time. The unit is housed in a black anodized aluminum desktop enclosure.

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www.ese-web.com/410.htm
ese@ese-web.com | (310) 322-2136

LOGITEK

Mosaic

Powered by the Logitek JetStream AoIP networking platform, the Mosaic presents all of the controls needed for smooth, easy operation in on-air or production rooms. Each console is outfitted with Penny & Giles faders; dedicated controls for input, talkback and cue; five bus assigns per fader; and independent source selection controls for each fader. Monitoring functions are also flexible, with individual controls for main monitor, headphones, guest headphones/studio monitor and talkback level; quick-select buttons are available for rapid selection of monitoring options.

On/off (start/stop) buttons are RGB-assignable to any desired color, giving operators at-a-glance information on key faders for their program. Faders and other console settings are also reconfigurable as scene selections for each operator's desired layout. The console even provides "mood lighting" under the front rail, assignable to any color (or changing colors) based on operator preference.

Narrow and wide softkey modules are available to trigger scripts or other events such as scene changes. The narrow softkey module has 12 backlit buttons (RGB assignable colors) and six quick-select buttons for easy access to commonly needed sources; the wide softkey module provides eight assignable buttons with OLED screens that indicate the selected source, eight additional quick-select buttons and profanity delay controls with OLED screen selection.

The Mosaic pairs with either the JetStream Mini, a 2RU AoIP engine with 124 channels of I/O, or the JetStream Plus, a 240 channel Dense Node AoIP engine occupying only 4RU. Both engines supply 24 mix-minus busses and accommodate direct network transfer of audio from hard disk playout systems via the incorporated JetNet network conduit.

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ARRAKIS SYSTEMS

Simple-IP

Arrakis Simple-IP distributes audio over standard PC internet protocol networks (AoIP), therefore replaces dedicated audio-only wiring in the facility. It is ideal for broadcast, recording, commercial sound, public address and other audio applications.

Simple-IP uses Audinate Dante protocol, supporting up to 512 x 512 simultaneous audio streams. Simple-IP and Dante can be run on a standalone network or on your business network with other traffic. All Dante devices are auto-recognized on the network and can be renamed.

Simple-IP hardware comes in two models: professional balanced +4dBu analog and AES3 balanced, transformer-isolated digital. Each model has eight mono (four stereo) inputs and eight mono (four stereo) outputs.

The Simple-IP network uses standard, off-the-shelf Ethernet switches.

Typical latency is from 100 microseconds to 4 milliseconds — fast enough for live sound.

Simple-IP network is easy to set up with free Dante Controller software. Just set it up once and turn the PC off.

To change audio assignments, reopen Dante Controller and you are just a few mouse clicks away. Audio assignments can be changed while live, without any audio pops or clicks.

Use the Dante Virtual Soundcard to put your digital audio workstations on the network. The Dante Virtual Soundcard supports Windows and iOs computers.

Ethernet audio means no worries about RF interference, cable crosstalk or ground loops. Also, Simple-IP and Dante support both unicast and multicast data to minimize network traffic. Both support AES67 to talk with other compatible AES67 networks as well as dual redundant auto-switching ethernet networks for total backup.

It fits in a 1 RU cabinet for Simple-IP-8.

It is 100–240 VAC international rated, external power supply for Simple-IP-8.

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World Radio History

TIELINE

ViA Codec

Fresh from winning a NewBay Media Best of Show award at the 2016 NAB Show, Tieline's ViA codec sets a new standard in wireless broadcasting and fundamentally changes the way you perform live remote broadcasts.

Leveraging Tieline's approach to mobile reporting using the Report-IT Enterprise smartphone app, ViA delivers a simple and intuitive codec user interface. Power up, tap "Connect" and go live.

Connect using dual Ethernet ports, or two USB modems, or use the onboard Wi-Fi module to connect over Wi-Fi. Insert an optional POTS or ISDN module and the codec is instantly transformed to connect over alternative network transports.

Tieline understands that flexibility is paramount for live remotes. With Tieline's proprietary Fuse-IP data aggregation technology you can bond any three IP interfaces you choose. As an example, you can bond two USB modems with a Wi-Fi connection, or bond two Ethernet connections with a Wi-Fi connection or USB modem. Then let Tieline's Fuse-IP technology automatically manage the data capability of each link!

Tieline's SmartStream PLUS dual-redundant streaming software, which has set the benchmark for redundant IP streaming over the public internet, is also included as standard.

ViA seamlessly integrates with Tieline's Merlin and Merlin Plus audio codecs to transmit high fidelity, full-duplex stereo program audio with a separate bidirectional IFB circuit.

Key Features

- Intuitive, simple-to-connect LED touchscreen
- Supports two separate mono connections, stereo or stereo plus a separate IFB circuit (all connections bidirectional)
- Dual Gigabit LAN ports
- Optional ViA ISDN and ViA POTS interface modules
- Inbuilt Wi-Fi and two USB cellular options
- IP Bonding of up to three IP interfaces with Fuse-IP
- Includes SmartStream PLUS as standard
- Automated backup over IP, ISDN or POTS
- Linear audio plus a range of algorithms as standard, including Opus
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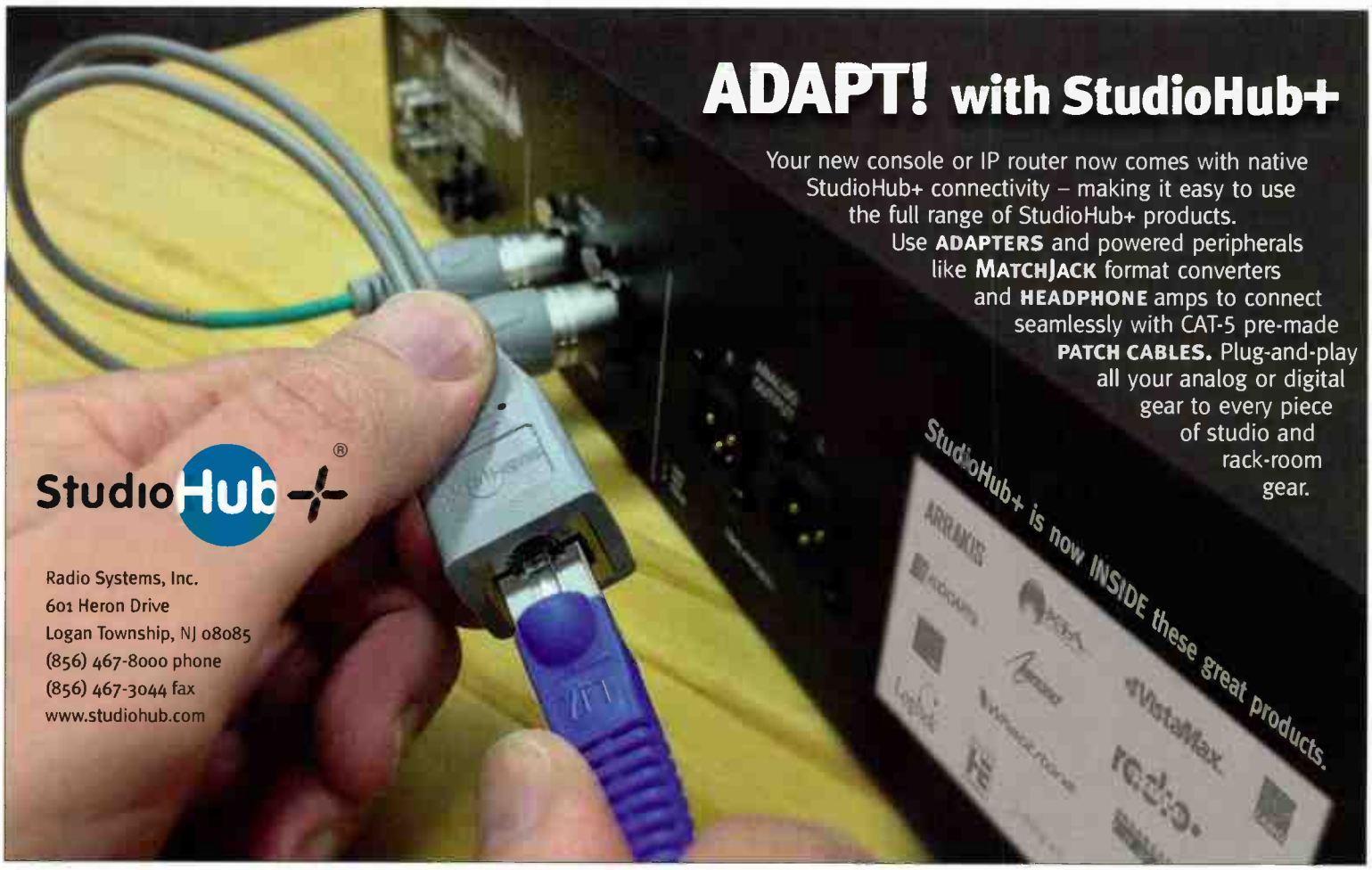

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BURK TECHNOLOGY

ARC Plus Touch

ARC Plus Touch brings power, flexibility and efficiency to IP-based broadcast remote control. Taking advantage of the scalability of IP and offering innovative options for I/O hardware connectivity, the ARC Plus Touch can interconnect hundreds of sites, each with up to 256 channels of metering, status and commands.

With SNMP Plus, the optional SNMP Manager inside the ARC Plus Touch, it's easier than ever to connect to remote site equipment. Connect to any SNMP device on your LAN or WAN and map SNMP data directly to ARC Plus meter and status channels. No wiring required.

User access to the ARC Plus Touch is available anytime, anywhere via PC, web browser, smartphone or tablet. The optional Recordable Speech Interface provides dial-in, dial-out control and alarm reporting. The intuitive front-panel touchscreen provides control of the local site as well as other interconnected ARC Plus systems. User-defined message templates and email lists enable full customization of email and SMS alarm reporting. Alert messages can include hyperlinks to the alarmed site for one-click smartphone response. AutoPilot software makes it easy to monitor and control individual sites or your entire network operation.

Warp Engine polling, now standard in AutoPilot, enables fast, bandwidth efficient, real-time monitoring of up to 100 sites every second, with each site reporting as many as 32 status and/or meter values. Larger networks just take a little longer. If communications bandwidth is at a premium cost, it can be further reduced by selection of a slower polling rate.

Intelligent automatic site control is available using Jet Active Flowcharts with easy drag-and-drop flowchart design. Automatic functions can be run directly on the ARC Plus Touch unit, eliminating the need for a full-time PC connection.

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Developed and supported in the United States by a dedicated team of broadcast professionals, our software has helped BSI become one of the leading suppliers of small, medium and multi-station markets with distributors in every continent.

With our remote applications you can work smarter anywhere! Remote Gateway for your Simian automation system allows the ability to create and insert voice tracks remotely. We aren't talking a simple insertion of a recorded audio file. Oh, no. Simian Remote's advanced voice track editor can download intro and segue cuts that the Simian Gateway creates for the songs surrounding your voice track so that you can fully preview and set cross-over points for your voice track.

The Simian Gateway creates a TCP/IP portal into your Simian 2.2 & 2.3 Pro automation system for Simian Remote for PC, Simian Remote for iPhone and Simian Remote for iPad clients to connect. The Simian Gateway manages a connection to your Simian 2.2 & 2.3 Pro on-air or production software to Simian Remote clients on your local network, or across the internet.

Remote clients are available for iPad, iPhone and Windows desktop. Simian Remote for Android will be available in the very near future.

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World Radio History

ESE

ES-150U Master Clock Switcher

The upgraded ES-150U Master Clock Switcher continues to provide a simple method of monitoring two Master Clocks. The ES-150U accepts ESE and SMPTE-LTC/EBU timecode from two master clocks (primary & backup) and provides automatic or manual switchover from the primary to the backup. The

timecodes are monitored and will switch to the backup master clock upon failure of timecode (three selectable modes: ESE, SMPTE-LTC/EBU or either). The ES-150U has LED indicators that displays status of both timecodes and auto switchback or trip (manual reset) mode. If preferred, network control of the ES-150U is optionally available.

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WHIRLWIND

THS boxes

THS sports announcer boxes are ergonomically designed to put the control buttons within easy reach of the announcer even while shuffling through stat sheets. The headphone amplifiers are designed to deliver powerful, undistorted audio that can be heard over an arena full of screaming fans. From our THS 1 to our THS 5, you'll find the right configuration to suit your broadcast announcer's needs. Check out the whole line on our website and find out which THS box is the one for you.

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World Radio History

BROADCAST ELECTRONICS

STX 10 Transmitter

BE's STX 10 10 kW FM transmitter has been intelligently designed to offer a combination of audio quality, reliability, redundancy, serviceability and efficiency in a compact design. No other 10 kW transmitter can match the design, feature set and BE tradition of providing the best value.

With an efficiency of greater than 70 percent AC to RF, the STX 10 will save electricity costs, immediately and for years to come.

The STX 10 can fit in any standard 19-inch EIA rack that is 30 inches deep. Not only is it easily transportable to any transmitter location, but the small form factor also reduces shipping costs.

The STX 10 is equipped with four power amplifier modules and seven power supplies. All power amplifier and power supply modules are hot-pluggable and hot-swappable, so there's no reason to take the transmitter off-air to install a spare. The combiner will auto-adjust to the power change when a module is added or removed. Auxiliary power supply options are available for the PA power supplies and controller power supply providing the ideal redundancy configuration. Moreover, the STX10 has a redundant cooling system, allowing it to operate at full power with a fan failure.

With IP connectivity, the STX 10 will provide important transmitter operating conditions and control options from a laptop, tablet or smartphone. Three levels of security control and SNMP Level 3 capability protect and ensure only the right personnel have remote access to the control functions. The intelligent simplicity of the STX 10 is unmatched.

Even the most experienced RF engineers will appreciate a mechanical design that allows easy access to all important parts and assemblies. All PA modules and power supplies are hot-pluggable/hot-swappable from the front. The STX 10 saves time on service and maintenance with every part and assembly.

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PARAVEL SYSTEMS

WallTime

Paravel Systems, a provider of Open Source tools and innovative hardware solutions for the broadcasting industry, is proud to announce the release of their newest product, WallTime.

The WallTime NTP Clock & Notification System is a small, self-contained studio clock and alert display system that works with your standard computer monitor or television. The clock is kept always in sync using Network Time Protocol.

It can take the place of stand-alone clock systems, notification systems, on-air lights and more.

WallTime is about the size of a deck of playing cards. It can easily be attached to the back of a computer monitor with Velcro or similar hook-and-loop fastener. WallTime displays notifications from Livewire GPIO, metadata from your automation system and HTML content.

"WallTime is a revolutionary update for the standard studio clock," says Scott Spillers, vice president of Paravel Systems. "WallTime serves as a contemporary on-air light and provides valuable custom user information."

At only $295, WallTime fits into any budget.

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World Radio History

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HENRY ENGINEERING

Superelay II Utility Control Interface

Superelay II is the new updated version of Henry Engineering's popular Superelay product. The new Superelay II is now compatible with LED "On The Air" tally lights. The DC Tally Light output can directly power LED tally lights, providing up to 300 mA of current, and includes a built-in flasher.

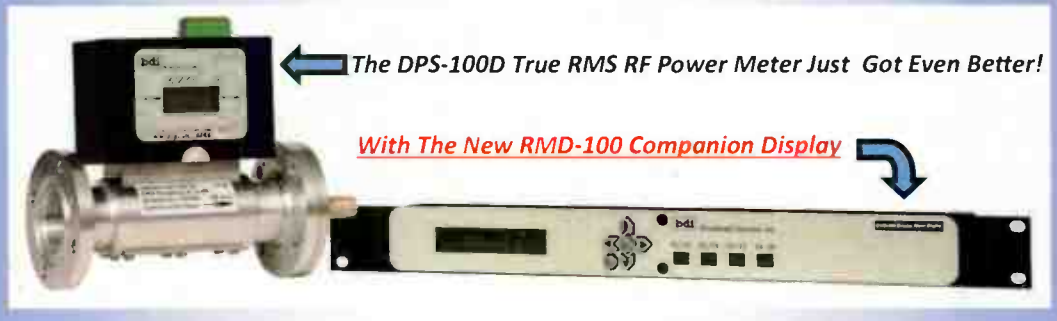
The DC tally light output can "sink" up to 1 amp of current for use with LED lights that require more than 300 mA. Both the AC (line voltage) and DC Tally outputs can be used simultaneously. The Superelay II also provides six Form C dry relay contact outputs for utility use.

The Superelay II is now in stock at all Henry Engineering dealers. The list price is $350.

www.henryeng.com
henryeng@aol.com | (562) 493-3589

Introducing the *RMD-100 Remote Meter*

Display for *All BDI DPS-100D Power Meters!*



The new RMD-100 Remote Meter Display is now available as a companion to the popular BDI DPS-100D True RMS Power Meter Series. This 1 RU unit displays forward/reflected power, temperature, transmission line pressure, Interlock status and fault indication. A single supplied CAT 5 cable connects the RMD-100 to the DPS-100D meter and supplies phantom power to the meter. Additional features include 2 form C relays on the rear panel for interlock closure and fault status for application to a remote control. If you already own a DPS-100D power meter get up to date with the new RMD-100 display. If you are planning a purchase of a DPS-100D power meter don't forget to specify the RMD-100 Remote Meter Display for your next transmitter project!

Tel. (914) 737-5032 www.broadcast-devices.com bdi

World Radio History

World Radio History

NEW...

ARRAKIS SYSTEMS INC.

ARC-8 Blue

Bluetooth, wireless, Cell phone interface & Stereo streaming

NO Hybrid required

- Eight channels
- Stereo Program output
- 2 mic, 4 stereo line, PC, & Phone in
- USB interface for play and record from a PC
- Mix minus in-out for an external Telephone hybrid
- BOTH balanced and unbalanced inputs and output for flexibility

long life switches,
conductive plastic faders,
Socketed ICs for fast on site repair.

The BEST of both analog and digital. With the NEW Bluetooth built in, the ARC-8 features a wireless Cell phone interface for telephone talk shows and wireless audio streaming from any Bluetooth device such as an MP3 player. The ARC-8 Blue also features a built in USB sound card to play and record in digital directly from both Windows & Apple *PCs. With BOTH balanced and unbalanced inputs and outputs, the ARC-8 works out of the box in any Radio application.

Fast, easy installation:
- RCAs for unbalanced IO,
- Cat5s for balanced inputs,
- XLRs for mics & Program output

Bluetooth enabled !!! The #1 selling ARC-8 advanced Radio console has gone 'Blue'... Bluetooth enabled that is! This means that Channel seven on the console can be paired to any Bluetooth enabled audio device such as your Cell phone, MP3 player, MP3 recorder-editor, and more. Just pair your cell phone to the ARC-8 and answer your incoming calls with the 'Call' button and drop them with the 'Drop' button, just like a standard phone hybrid. The Caller receives the console bus mix ('minus' the caller audio) so there is no feedback. OR... you can pair any Bluetooth enabled audio device such as an Ipad, Tablet device, or MP3 player and stream full bandwidth, high quality stereo (A2DP) audio to channel seven on the console. If a paired Cell phone call comes in, then the stereo stream is dropped and the call can be answered. While an external hybrid is not needed, Arrakis does all of this while still allowing an external phone hybrid to be connected if desired. Your imagination is the only limit with this amazing console !!!

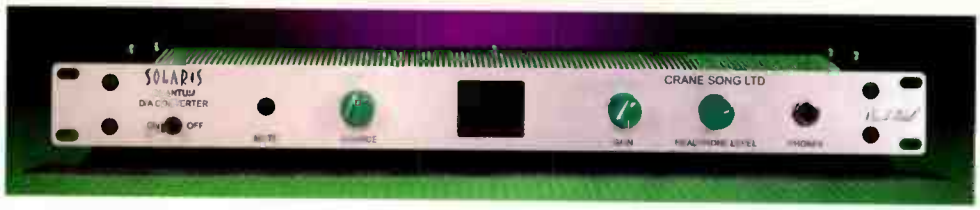
list price $1,099

*USB sound card supports USB HID compatible PCs

World Radio History

CRANE SONG

Solaris



Solaris is a reference-quality digital audio converter at an affordable price with four digital inputs and a flexible analog output system. The inputs are AES, S/PDIF, TOSLINK USB. The featured outputs are a main output with discrete output amplifiers with a stepped attenuator; the max output is +24 dBu; and the secondary output is also balanced and has a max fixed output of +18 dBu, balanced.

The headphone amplifier has its own stepped attenuator. Mute cuts off the main outputs and Solaris powers up muted.

The function display is done with an LCD showing the source, gains and the sample rate. It also has level meters.

The onboard Quantum DAC is the fifth-generation design from Crane Song. The Quantum DAC uses 32-bit converter and onboard ASRC for jitter reduction up sampling to 211 kHz.

The reference clock has a typical jitter level of 0.5 pS and a proprietary reconstruction filter for accurate time domain response. The clock's jitter measured from 10 Hz to 20 kHz is typically 0.045 pS.

It is shipping effective July 2016.

www.cranesong.com
davehill@cranesong.net | (715) 398-3627

WORLDCAST SYSTEMS

Audemat Control Remote Facility Control Unit

2016 BEST of SHOW Radio

WorldCast Systems launched a brand new addition to their family of IP-enabled remote site control products at the 2016 NAB exhibition. The Audemat Control will be the flagship product for the range worldwide.

The Audemat Control is a completely new system designed to offer a reliable, feature-packed platform that supports a large number of input and output connections in a 1RU enclosure.

Replacing the highly successful Relio product that was deployed widely throughout the United States, the new Audemat Control offers many exciting new features while remaining fully compatible with the hundreds of existing installations in the field.

A key feature of the Audemat Control is the number of connections it can support. It provides 64 digital inputs, 64 digital outputs and 24 analog inputs, 4 serial ports, 2 Ethernet ports, 4 USB ports, 1 audio output, 1 audio input and 1 modem. The unit offers I/O termination panels with simple screw terminal connectors to enable connection to real-world signals.

Some innovative new design features have been included in the new Audemat Control, such as an extractible modem and removable SSD disk to ensure ease of maintenance. The voice modem offers DTMF capabilities for traditional remote noti cation and control.

Critically, the fully IP-enabled Audemat Control unit includes ScriptEasy™ software as standard. ScriptEasy is a highly powerful tool that enables easy and extensive customization of a site's monitoring activities as well as defining automatic actions to be taken upon user-defined conditions. It incorporates the MasterView web-based application that allows user to create their own customized end-user views for simple aggregation and display of all relevant data as well as presenting action buttons to initiate common actions.

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SSD - Solid State

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World Radio History

COMREX

VH2 Hybrid

As many major markets are shifting from traditional phone lines to voice-over-IP systems, the digital hybrids that could have performed this job in the past are becoming outmoded. Radio stations need a VoIP hybrid to ensure on-air and recorded phone calls sound beautiful.

A dual-line hybrid, VH2 connects two VoIP lines for individual broadcast or conferencing. VH2 prevents echo and distortion and automatically adjusts caller audio to a uniform level. Plus, VH2 uses VoIP phone lines. VH2 can connect to many VoIP PBX systems.

Audio Processing and Performance

- Prevents echo and other artifacts
- G.722 codec support for wideband calls. Also supports G.711
- Receive filter reduces telephone line noise
- Selectable automatic gain control maintains a consistent audio output, even when the caller signal varies widely
- Selectable caller ducking lowers incoming caller audio so local talent remains in control
- Can be configured to automatically answer and disconnect incoming calls

Operation

- Segue from caller to caller
- Separately selectable single-ring auto-answer function for assisted or unattended operation
- Front-panel controls and status indication
- When used with companion VoIP phone, calls can be answered on handset and transferred back and forth to VH2
- Hybrid on/off controls and status remotable via web or contact closures
- Send and caller level indication
- Easy call conferencing
- Dual "On-Hold" audio inputs
- Auto-switching external power supply
- Compliant with worldwide regulations

Audio Configuration

- Configure for separate caller outs of single caller mix
- Configure for separate send feeds or single feed
- Pro level, balanced audio I/O in XLR
- Selectable AES3 I/O

IP Features

- Web-based configuration for the VoIP phone line setup
- Transfer calls back and forth to many PBXs, or use optional companion extension VoIP phone
- Ability to engage or drop or dial calls via web page

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Now it's easier than ever to connect to remote site equipment with SNMP Plus – the powerful new SNMP Manager inside the ARC Plus Touch. Connect to any SNMP enabled device on your LAN or WAN. Map SNMP data directly to ARC Plus meter and status channels. Combine SNMP with traditional parallel I/O in comprehensive automated functions.

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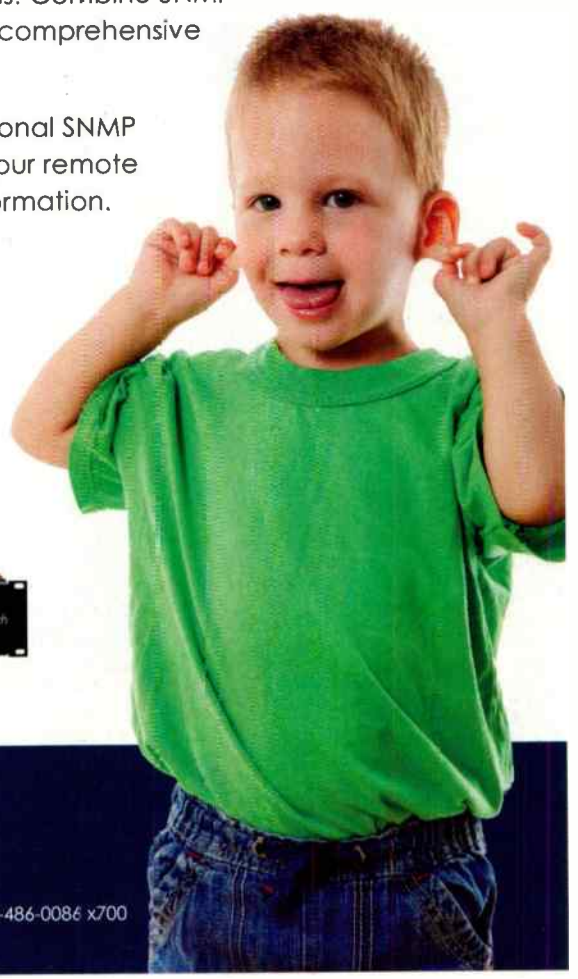

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GATESAIR

IP Link MPX Codec

2016 Best of Show Radio

GatesAir has expanded its Intraplex family of intelligent IP networking solutions with the IP Link MPX, a new audio codec built specifically to solve the problem of transporting analog FM composite multiplex signals over IP networks.

The IP Link MPX is a full-duplex product specifically built for studio-to-transmitter link applications for FM radio broadcasters. It is especially ideal for broadcasters who lack the network bandwidth to distribute a full AES192 digital FM composite signal, which typically requires 5 MBps of bandwidth, from studio to transmitter; and/or lack AES192 signal receiving capability in their legacy exciters. It is also highly configurable, allowing broadcasters to adjust bitrates for optimal bandwidth usage across a wide area network, using less than half of the bandwidth required for AES192.

The IP Link MPX also provides an efficiency boost by enabling installation of all signal-generating equipment at a central studio.

The IP Link MPX offers multiple input and output ports for signal redundancy, decoding of audio and RDS content from either the input or output MPX signal, and the option to incorporate external SCA subcarrier signals into the output MPX signal. It also offers features common across all IP Link codecs, including stream splicing, forward error correction and a trio of network interfaces for optimal stream reliability.

At the signal layer, the codec's DSP techniques ensure that the fidelity of the analog MPX signal is maintained across the IP network and that the timing recovery is robust. For timing recovery, the IP Link MPX supports both packet-based recovery algorithms, and when necessary will utilize common timing with GPS or PTP references at both encoder and decoder.

The IP Link MPX can also be used with the Intraplex HD Link microwave STL system to provide composite FM signals over a 950 MHz link.

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BROADCAST DEVICES INC.

RMD-100 Remote Meter Display

The RMD-100 Remote Meter Display is now available for all BDI DPS-100D product categories produced to date in addition to new orders. The RMD-100 Remote Meter Display provides a convenient rack display of forward and reflected power, temperature, line pressure, and fault status of the connected BDI

DPS-100D true RMS RF power meter. The RMD-100 is designed to interconnect and provide electrical power to the connected DPS-100D with a single provided CAT-5E cable. Other features include remote reset of faults from the front panel and a pair of relays that provide status of interlock and alarms.

www.broadcast-devices.com
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RF SOFTWARE/RF ENGINEERS

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alex@rfsoftware.com
(352) 367-1700

rfSoftware, Inc.
communications solutions

World Radio History

ACOUSTICS FIRST

Sound Channels

With the push for broadcast to become carbon neutral and LEED-compliant, Acoustics First now offers an acoustic treatment option "tailor made" for the broadcast market — Sound Channels acoustic wall fabric. Any hard surfaces in your talent room can affect the clarity of the performance, so a good approach would be to cover them all. With an acoustic wall treatment that installs like wallpaper and changes all your walls from reflectors to absorbers, Sound Channels works — and helps you earn LEED points!

One yard of Sound Channels acoustic wall fabric utilizes 15 post-consumer plastic bottles. Recycling one ton of plastic from bottles saves approximately 7.4 cubic yards of landfill space. This means that 36.5 million pounds of Sound Channels fiber saves 365 million bottles from landfills; 91,250 barrels of oil; and over 64,000 tons of emissions!

Recently, an improved design has increased its sound absorption by 25 percent (NRC of .25). The uniform coverage you get with treating the walls with Sound Channels eliminates the flutter/slap from reflective parallel walls, while helping to control excessive reverberation and noise buildup.

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TRANSCOM CORP.

RF Broadcast Equipment

Transcom is a source for used digital transmitters, used analog transmitters, new RF equipment and new studio equipment.

Transcom offers equipment from manufacturers, including Arrakis, Burk Technology, Inovonics and Shure.

The company has been in the broadcast business since 1978 and is based in Huntingdon Valley, Pa.

trcorp.com
transcom@fmamtv.com
(215) 938-7304

World Radio History

INOVONICS BROADCAST

637 and 638 SiteStreamer

Following in the footsteps of the flagship 635 FM/RDS SiteStreamer, Inovonics has added two new web-enabled remote monitors to the SiteStreamer family with the introduction of models 637 for AM and 638 for HD Radio. SiteStreamers are great confidence monitors for remote transmitter or translator sites — allowing radio engineers to monitor from a PC, tablet, or smartphone.

SiteStreamers stream off-air audio or an auxiliary wired audio feed through the Internet. An intuitive browser enables remote tuning, displays audio levels, and signal parameters. Email and SMS error messages are fully supported as well as SNMP. SiteStreamers support StationRotation for "round robin" sequencing of up to six preset channels. SiteStreamers will tune to the next station, "listen" to that station for the interval programed into the rotation time (sec), and then cycle to the next preset.

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sales@inovonicsbroadcast.com | (831) 458-0552

CLOUDCAST SOFTWARE

Broadcast Logger Cloud Audio Logging System

2016 BEST of SHOW Radio

Broadcast Logger is the new way for your station to capture, store and manage your station's audio logs. Whether it be for legal, compliance, aircheck or archival purposes, Broadcast Logger is the safe and easy way to store your audio logs.

Logs are stored in the cloud, and accessed through a password-protected web portal that makes it easy to access logs and manipulate them using our server-side software.

Broadcast Logger also logs your metadata. Just install our capture software on any Windows utility computer with an internet connection and program audio feed, and set your automation system to send metadata to our API. Recorded audio is automatically encrypted and uploaded to our cloud storage servers, and your metadata is indexed along with it for easily searchable audio logs stored safely and securely in the cloud.

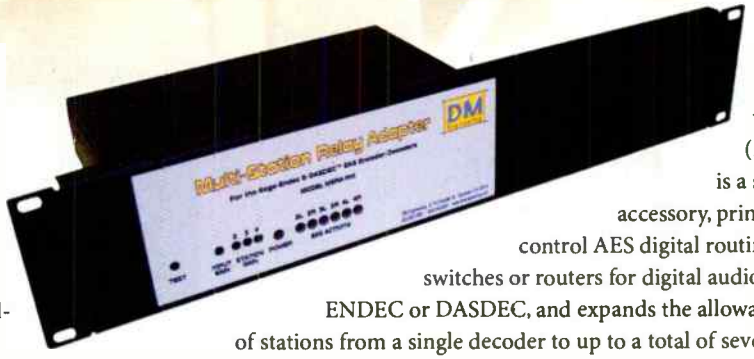
The export tool allows you to select any one or more parts of your audio logs, both by metadata and time of day, to quickly combine into a single audio file and send it anywhere it's needed. Whether the audio needs to be emailed, downloaded, or published directly to SoundCloud or other podcasting tools, our export tool allows anyone to be able to quickly compile audio logs for external use.

www.broadcastlogger.com
sales@broadcastlogger.com
(844) 884-8880

World Radio History

DM ENGINEERING

Multi-Station Relay Adapter



Our Multi-Station Relay Adapter is a three-stereo channel accessory for Sage ENDEC and DASDEC EAS encoder-decoders that expands the allowable controlled number of stations from a single stereo station to up to a total of four. The ENDEC and DASDEC both have embedded programming that allows for three additional stereo, or six mono stations, in addition to the station controlled within the decoder itself, to be controlled using devices such as the DM Engineering MSRA and MSRE.

All digital commands and EAS audio are supplied by the ENDEC or DASDEC. The MSRA interprets these commands to select the appropriate station or stations for EAS broadcast and correctly route the EAS audio to that station(s). Recessed front-panel "input gain" and individual "station gain" controls are provided for controlling the EAS audio distribution amplifier sections with balanced outputs. A recessed front-panel "test" switch is also provided for aiding in the setup of the audio levels

The MSRA is transparent to program audio due to its loop-through design, and uses six high-quality bifurcated gold-over-silver nickel contact sealed relays, one for each left and each right channel circuit. The MSRA also remains transparent to program audio during any power failure condition. 2U rackmount units (MSRA-RM) and tabletop units (MSRA) are both available.

The Multi Station Relay Expander (MSRE & MSRE-RM) is a six-form C relay output accessory, primarily designed to control AES digital routing switches, Ethernet switches or routers for digital audio control for your Sage ENDEC or DASDEC, and expands the allowable controlled number of stations from a single decoder to up to a total of seven. There are two relays for each station assignment, and may be programmed to operate individually if desired. 1U rackmount units and tabletop units are available.

www.dmengineering.com
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World Radio History

THE TELOS ALLIANCE — OMNIA AUDIO

Omnia.11 Audio Processor for FM or FM+HD With New G-Force Dynamics

Omnia.11 is the ultimate in loud and clean audio performance thanks to the new G-Force dynamics processing engine designed by Frank Foti and Cornelius Gould. G-Force enables the Omnia.11 to set the overall EQ for signature consistency, making it sound cleaner, clearer, louder, more consistent, more open and more pleasing. You hear the music. You hear the voice. You don't hear the processor. This new G-Force engine represents more than a year's worth of R&D to bring users improvements they might not have known were even possible, yet are so dramatic, it's like getting a new processor, without the expense of an entirely new box. It looks as good as it sounds thanks to a vivid new cobalt G-Force GUI on a 10.5-inch diagonal screen, which provides ease of use and enhanced metering and diagnostics.

Omnia.11 is available in FM+HD with separate processing paths for FM and HD/DRM and FM without HD/DRM. Other notable features include Switchable Single Sideband Suppressed Carrier technology for potential reduction of multipath, along with standard Livewire, AES/EBU digital and analog I/O. Solar Plexus with "Upper Subharmonic" control for deep bass and pilot embedding ("One Louder") for extra overall loudness is also included. Remote access is available via any web browser. Both FM+HD and FM-only models are also available with the Perfect Declipper option, a revolutionary new algorithm that restores clipped areas in audio recordings engineered by audio processing legend Hans van Zutphen. This algorithm not only restores dynamics, but removes distortion, making the Omnia.11 a complete state-of-the-art audio processing package.

Omnia.11 is now shipping with the G-Force engine. Bought an 11 in 2016? Get the G-Force engine option free. Purchase the G-Force engine option for 11s dated 2015 and older for $985. Contact your dealer for details.

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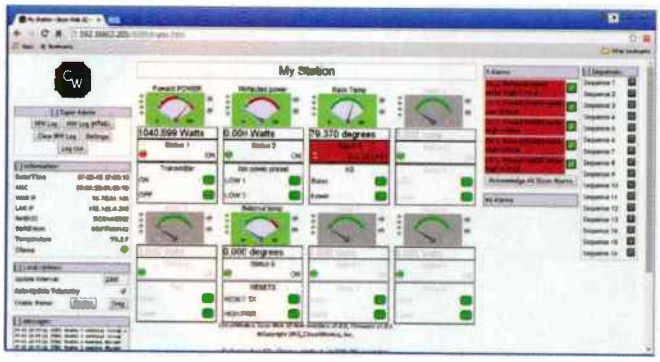
CIRCUITWERKES

Webservers



CircuitWerkes has introduced a new line of Webservers for many of its web-enabled products, including the Sicon-8 remote control.

The new Webservers are more powerful than their predecessors and are capable of enhanced graphics. Onboard logging and support for routine emailing of logs and alarms via Gmail and other secured servers are just a few of the many improvements that have been made. The Webservers have their own event scheduler with split-second precision and NTP support. The real-time clocks are DST-aware. Up to 50 events can be created. Autonomous action sequences can be created that respond to alarms or event schedules. Five email recipient lists let you separate alarm notifications to different groups. Webservers are configurable for static or dynamic IP addresses and port assignments. Dynamic DNS via different DNS redirect services is supported. Firmware is field-upgradeable. An option for streaming audio (half-duplex, send or receive) is available for most CircuitWerkes web-enabled products.

The Webservers are available for the WAM-2, SiteSentry2, SiteSentry4 and Sion-8. Many older web-enabled products can be retrofitted.

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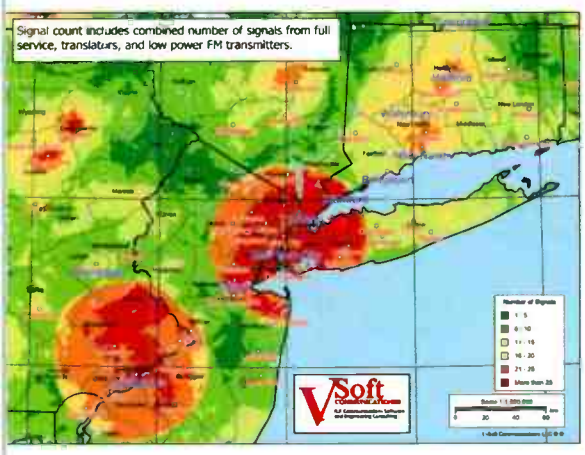
World Radio History

V-SOFT COMMUNICATIONS

Propagation Analysis Software

V-Soft Communications continues its well-known development of software designed for AM, FM and TV propagation analysis with many new upgrades and databases.



Probe, in its fourth generation of professional level RF propagation modeling, has been retuned to do the extraordinary and the formerly impossible. For example, the map shows an FM station coverage density map. Probe 4 produces spectacular "atlas" type maps, while integrating high-resolution population databases with state-of the-art polygon mapping. It features Longley-Rice, Okamura-Hata, Cost-Hata, PTP #1 & #2, line of sight, shadow density, the ITU propagation model, and standard FCC.

But that's not where it ends, recently V-Soft Communications added "AM revitalization" capability to its AM-Pro 2 software to allow the user to study AM station allocations using the new FCC AM revitalization rules and proposals. By use of a simple check box, studies can be run with the current rules or the newly proposed rules. AM-Pro 2 calculates and plots standard and grid-based AM coverage and performs ground-wave and automated skywave RSS allocation studies, creating detailed allocation maps with polygon shaping. AM-Pro is the official AM program used daily by the FCC.

FMCommander combines detailed service and interference FCC FM contour color mapping with FCC minimum separations and contour-to-contour frequency tables in one integrated package. Find new ways to upgrade a station or to move its transmitter site under short space. Integrates FCC data, census data, terrain data, tower, airport, AM stations, railroads, rivers, major highways, city boundaries, county boundaries and lakes and oceans into one complete FM channel and mapping search package.

With the addition the NSMA methodology, Microwave Pro 2 is V-Soft's, top-of-the-line microwave frequency allocations and path analysis program for the broadcast auxiliary services, Part 101, COALS and CARS projects. The new version adds bidirectional channel analysis.

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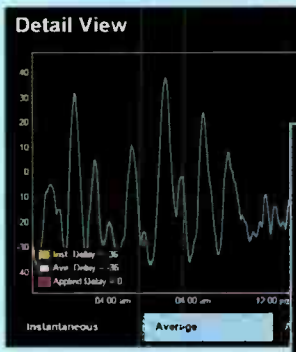
– Sam Caputa, Director of Engineering, Emmis Communications.

GETTING FROM HERE +38/-34 Samples



Typical FM/HD1 drift over a 24 hour period.

TO HERE ±2 Samples

Corrected FM/HD1 audio within ±2 samples within 24 hour period.

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World Radio History

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Specializing in grounding for AM broadcast and lightning protection, AM Ground Systems Co. offers comprehensive ground system construction, inspection, evaluations and repair. Using state-of-the art test equipment, we can locate faults and repair ground system damage that would have required a full rebuild in the past.

Available services include: rebuilding AM ground systems, inspection and evaluation of lighting grounding, installation of lightning grounding, turnkey site work and tower tuning.

We also specialize in Method of Moments proof physical preparation work. This includes, installation of new feed, sample or control lines, as well as installation of new tuning equipment and retrofitting of existing tuning equipment for MoM equipment.

We offer realistic budgetary estimates and firm, competitive quotes to aid in planning your site construction or rehabilitation budget.

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DJB RADIO

Button Screen

The excitement of launching a new product at NAB in Las Vegas seems to regenerate itself every year at the spring show.

2016 NAB was no exception. In the photo, DJB customer service's Ginny Crowe unveiled the first public showing of the DJB Radio "Button Screen" in Las Vegas. There, Ron Paley and DJB Software Inc. were pleased to introduced the new DJB Radio Automation Button Screen, which provides full touchscreen, console buttons, Start-stop or mouse operation and ease of use for DJs and talent who "Live Assist" in radio air studios.

The Button Screen provides easy-to-read information, such as time of day, date, playing event, count up and down, count down time remaining in each hour with a quick reference for in-hour inventory — over-or-short scheduled.

The library button provides quick access to a 100,000 audio cut database, multicart database, event insert or drag'n'drop to log, audio cut auditioning, along with database access to select to log satellite or external event programming devices.

DJB Radio Button Screen is extremely versatile for live assist, automated or satellite programming modes and moves seamlessly between any modes programmed within a 24-hour schedule. Other on-screen features such as hot buttons, level meters for up to four simultaneous playouts, "current air play" event with a drag bar, current local temperature and a full log display are readily available to the talent.

To evaluate DJB Radio Button Screen and learn more about its many features in a web demo or download, please contact Joe Myers at 702-487-3336 ext 406 or visit our website for more details.

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World Radio History

OMNIRAX

Phoenix Line

In response to requests for Innova Line design, quality and flexibility at budget value pricing, Omnirax says it developed the Phoenix Line — the "productionalization" of Innova. Now you can get a distillation of custom designs built with the same rugged materials and constructed with the same techniques at a lower price point.

The initial offering consists of three basic configurations — Air, Production and Talk, each available with a variety of add-ons that afford additional space or functionality. The entire line is flexible and fluid, allowing for further modifications. The company intentionally wraps its countertops around operator positions to create more real estate close at hand and also "scallop" the guest positions so that newcomers know where to sit. The company ships fully assembled rack components, flat-packed countertops and support panels along with our proprietary G-Bar Raceway system hardware.

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NEXTRADIO

NextRadio App

The NextRadio app allows listeners to hear and see live radio in a whole new way. Stations can enhance their on-air experience with album artwork, on-air promotions and advertiser companion ads. Stations that enhance their on-air broadcast are seeing four times more listening in the app. Also, national advertising tests are showing listener engagement rates from 2.3–6 percent, well above industry averages. The app also offers advertisers and stations with robust reporting on radio listening and app interactions.

NextRadio by the Numbers:

- 7.6M+ NextRadio downloads (as of July 11, 2016)
- All FM stations tuned to through NextRadio
- 1B minutes listened through NextRadio since inception
- 30 min. ATSL per NextRadio session (vs. 10 min on traditional radio)

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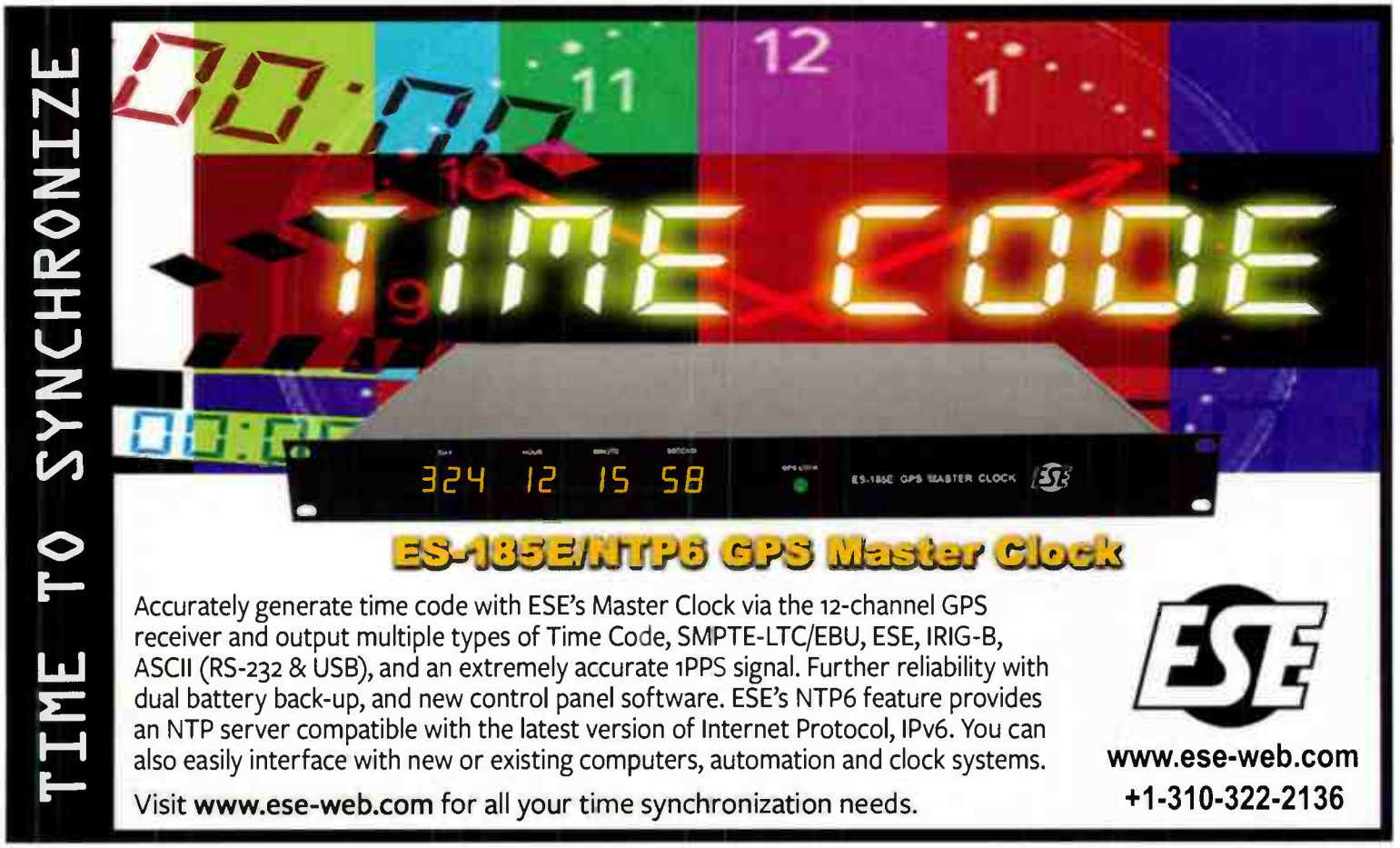

NEXTKAST

NextKast Automation

A small company located in San Antonio is shaking up the radio automation software market with its new product. NextKast is aimed at streaming radio operators but also powerful enough for LPFM and FM automation.

Founder and main developer Winston Potgieter has evolved the software to fit what the automation market is looking for. Nextkast has a unique method of creating a rotation (clock) and then letting that clock run in real time, picking songs on the fly. It can also run in playlist mode (logs), where users generate playlist for future days. Those playlists can be voice-tracked using a very powerful but simple voice-tracking system. The voice-tracking feature also allows the operator to send voice-track jobs, as a zipped package to remote jocks for easy remote voice tracking, while maintaining complete control of station. Nextkast has built-in streaming encoders that can encode to Shoutcast or Icecast servers. The software also has built-in adjustable EQ, auto gain control, compression and stereo expander. Processing can also be done using external processor software DSP. The software also has a powerful scheduling system that can schedule rotations, playlist, or even raw MP3 tracks, in both hour-and-minute resolution. Transitions can be optimized using the auto trim feature that removes silence from the beginning and end of tracks and the sweeper option that allows for dry imaging to play over transition or where marked on tracks. NextKast also has a built-in Live Recorder that allows recording of any show for later playback. There are 100 assignable cart/sample FX buttons that can trigger audio elements like samples or music beds using the function keys on your keyboard. Finally with all these powerful features the software still manages to be very user-friendly and intuitive.

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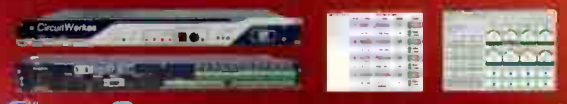

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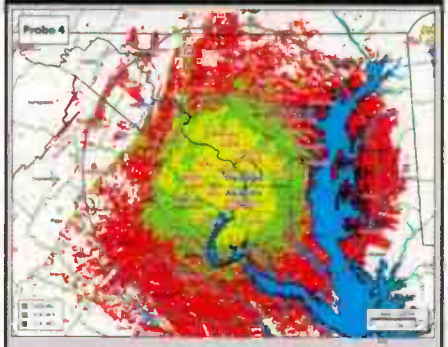

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ENCO

Visual Radio

ENCO's Visual Radio solution for broadcasters is a fully integrated platform that uses the power of ENCO's DAD radio automation and Presenter management interface to deliver a complete multimedia experience to web and mobile audiences.

Visual Radio gives broadcasters a comprehensive content acquisition and production system for the scheduling and delivery of synchronized video and audio, with targeted advertising support. Broadcasters can cleanly deliver and monetize radio programming online, broadening reach as audiences change how they perceive and consume broadcast radio.

Visual Radio's operational flexibility is especially important for radio broadcasters familiarizing themselves with video production workflows. ENCO's Visual Radio solution delivers music videos, program audio and interstitials (targeted ads, promos). ENCO's familiar Presenter interface eliminates the need to learn new software and manage multiple content libraries. Instead, customers benefit from an intuitive live-assist application to suit each operator's preferred balance of manual and automated control.

ENCO's solution offers built-in intelligence that eliminates some of the more complex tasks traditionally associated with high-end, studio-based video production. For example, voice-controlled camera application will switch between hosts and guests during live radio programming, triggered though recognition of "hot" microphones. Operators can additionally create custom rules to display all camera feeds at once, and assign dedicated graphical overlays to frame each shot. Tighter integration with graphics software further simplifies the user experience, including the management and integration of live social media feeds, visual effects and transitions.

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NAUTEL

NX3 and NX15 AM Transmitters

Nautel has introduced two new NX Series AM transmitters, the NX3 and NX15. Operating at 3 kW and 15 kW of analog power, these two transmitters bring high efficiency (86 percent AC to RF) and a large suite of operational features to mid-power AM operations.

With this introduction the NX Series now spans from 3 kW to 2 MW of output power. As with other NX Series transmitters, the NX3 and NX15 offer a full suite of Nautel innovations including high AC to RF efficiency, AM precorrection with unmatched linearity, 1.8 MHz direct digital modulation, included MDCL for up to 30 percent additional power savings, and full support for analog, HD Radio and DRM modes.

Nautel's signature Advanced User Interface is standard in the NX3 and NX15 and is locally or remotely accessible via a web browser. The AUI's functionality includes built-in commercial grade instrumentation, full remote access; SNMP support; an instrument-grade spectrum analyzer and network analyzer; real-time Modulation Error Ratio measurement; comprehensive monitoring and control, including event logging; email and SMS notifications; backup audio via streaming and USB playout; presets and enhanced support services including Nautel Phone Home.

Over 20 MW of NX transmitters have been deployed, making the series today's most popular choice for AM/MW broadcasting.

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RCS

Zetta 4.0 Automation

Zetta 4.0 expands its award winning feature set once again. While Zetta has always been able to relay stretch and squeeze data for spot block lengths from the master to slave (split) stations, now Zetta ups the game and provide reverse length information to the master station. This means spot block sizing can be driven by the most sold out break, rather than just the size of the master log break. As with prior configurations, Zetta will use its integrated tool sets to stretch, squeeze and fill across all affiliated breaks to insure perfect spot break playback on all (master and split) station logs. Dial up the power further by combining GSelector with Zetta on under-

scheduled logs. With true scheduling intelligence, let GSelector schedule in additional material rather than an arbitrary fill category list to create a coherent yet dynamic log.

Zetta2GO now incorporates even more modules for use in remote environments. The newly added Library module allows the user to browse the media assets of the system and associate them to a position in the log or on the Hot Key grid as needed. Voice Tracking has also been enhanced to allow for adding beds or other assets to the voice track recording. One click can start a live drop bed and roll the voice track recording and then automatically fade out the bed once recording has stopped. Studio quality voice tracks are now available from your laptop or mobile device.

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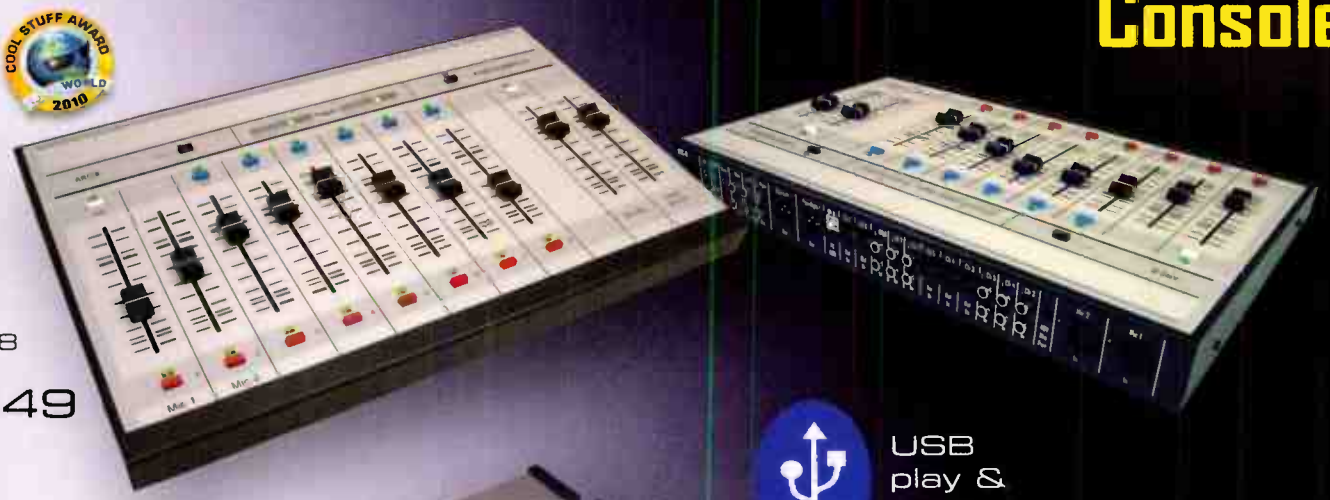

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