



### RAVIN "Radio and Voice Interoperability Nest"

RAVIN developed by Network Integration & Consulting Services "NICS" provides next generation communications interoperability by integrating conventional analog and digital radio systems with IP networks "RoIP". In addition, RAVIN provides IP based Voice Telephony services "VoIP", voice mail, ACD & IVR, E911, radio and voice recording and archiving and multiple traditional and IP gateway interconnect interfaces.

RAVIN's Console Communicator provides feature rich functionality required by today's Dispatchers and Console Operators.

RAVIN is the technology solutions for public safety, defense, critical infrastructure, and commercial enterprise customers.

In essence, RAVIN provides essentially "universal" interoperability among radio systems, IP Telephony and traditional PBX telephony systems, IP client devices (wired or wireless), land mobile radios, telephony devices and PC clients. This flexible interoperability solution spans organizational and geographic boundaries, while respecting agency operational and management integrity.

RAVIN enhances agencies' communications systems equipment and system nodes through (IP) based digital communications networks, such as conventional LANs, or regional or national WANs. In addition RAVIN provides interfaces

- to physical links analog or digital either privately owned or through the public switched telephone network

-to the public Internet via VPN connection by way of secure encrypted VLANs.

-through a host of IP gateway technologies such as Vega IP 223, JPS ACU 1000, Daniels Universal Interface Cards, voice telephony interfaces or 10/100/1000 BaseT Ethernet modules in network routers and switches.

### RADIO AND VOICE INTEROPERABILITY NEST





RAVIN allows agencies to continue to use currently installed traditional wire line, microwave, and SATCOM facilities for accessing RAVIN and interfaces to COTS LMR system equipment, the PSTN and Private Branch Exchange switches via standards-based modifications that provide radio, telephony and IP client control user communications, and especially voice Quality of Service (QoS).

With RAVIN any mobile or fixed radio user or dispatch operator, any landline voice, cellular, or satellite telephony user or any IP client device can access any participating radio site, console, PBX, PSTN or dedicated physical links providing universal interoperability with virtually any other users and sites in any combination.



RAVIN provides users with the ability to access and communicate with any UHF, VHF, P25, TETRA, iDEN, analog, or digital two-way radios, mobile or landline phones, PDAs and PCs. Dispatchers and Console Operators can patch communications channels using the RAVIN Console Communicator.

RAVIN's technology takes agencies to a new level of communications interoperability through RAVIN's non-proprietary standards based architecture. Multiple client profiles can be created and selective access to communications resources are made available through unique login and password authentication.

#### **Features of RAVIN include:**

##### **Radio and Radio over IP Gateway functionality.**

RAVIN's gateway modules interface with conventional, trunked, digital, analog, sequential tone or P25 radio systems in a number of formats or configurations. RAVIN is also compatible with newer IP based Digital P25 radios such as Daniels Electronics MT4 with Daniels "Universal Interface Card" and other radio interoperability gateway technologies such as Telex -Vega IP223, JPS ACU-1000 and more.

##### **Telephony Gateway and Gatekeeper functionality**

RAVIN's Telephony gateway and gatekeeper functionality provides interconnect and control of private and or public dial tone resources in analog E/M or FXO, DID, Channeled T-1, ISDN BRI or PRI formats of both National and European standards.

##### **IP Telephony (VoIP)**

RAVIN's IP Telephony features deliver full PBX functionality to a number of manufacturers IP Phone and IP Soft phone products including Cisco System, Avia, and PolyCom. IP Telephony voice mail, voice recording, ACD & IVR functionality, conference bridging, desktop paging and emergency notification are just a few of the features provided with RAVIN's IP Telephony feature set.

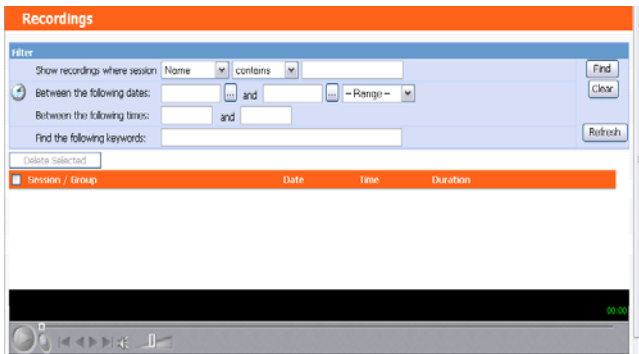


## RAVIN Radio Recorder & Archive

RAVIN Radio Recorder & Archive solution provides recorder access through Web-based graphical user interface. At-a-glance representation of all channel activity including channel number, date/time stamp and keyword search are displayed through the user interface. Radio recording is accomplished on a channel by channel basis and recorded audio can be archived to external DVD, DAT, or SAN for record keeping.

## RAVIN Telephony Recorder & Archive

RAVIN Telephony Recorder & Archive solution provides recorder access through Web-based graphical user interface. At-a-glance representation of all call activity including inbound / outbound telephone numbers and date/time stamp are selectable.

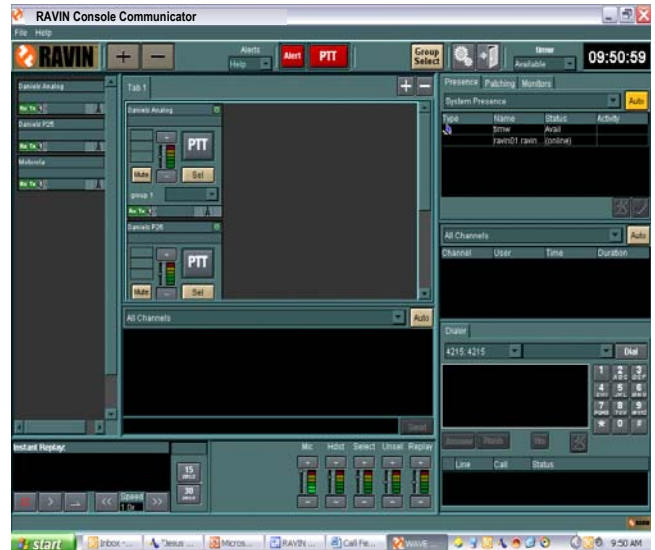


## RAVIN Console Communicator

RAVIN Console Communicator provides an intuitive, easy-to-use Graphical User Interface (GUI) that runs on Microsoft Windows (NT, XP or 2000) operating systems.

RAVIN Console Communicator provides fully functional dispatch capabilities for all communications platforms. RAVIN Console Communicator is the heart of all console communications in dispatch centers, command and control and critical infrastructure control centers.

RAVIN Console positions are independent of each other and individual profiles can be defined for each operator. As operators change physical console positions, each operator's profile follows them through secure login and password authentication.



RAVIN Console Communicator lets designated operators patch together users, groups and agencies, select and unselect audio, monitor conversations, and view user status and presence. The RAVIN Console Communicator runs on RAVIN's Pentium 4 Blade PC technology and is flexible enough for use in dispatch centers, tactical units, and mobile command centers.

## RAVIN Desktop Communicator

RAVIN Desktop Communicator provides a rich interface for interoperable group communications enabling access to two-way radios, hoot and holler networks, landline phones, mobile phones and connected IP clients such as Pocket PCs and PDAs. With RAVIN Desktop Communicator users can join multiple talk groups, view user status and presence information, send instant messages, and through push-to-talk, generate specialized radio tones for accessing sequential tone radio systems. RAVIN Desktop Communicator runs on a Web-based browser or as a standard Windows application. RAVIN utilizes LAN, WiFi or VPN connections and extends your communications to remote sites and mobile LMR users virtually anywhere on your network.



RAVIN Console positions support 1 to 4 touch screen monitor displays, and accessories include wireless Bluetooth head set, array microphone, wireless mouse and keyboard, foot pedal control and quality audio speakers.

RAVIN's Console eliminates the need for desktop or tower PCs, reducing noise and heat, while maximizing work space for console operators. RAVIN Consoles are connected via individual Fiber Optic connections to each operator position to ensure no single point of failure.



RAVIN Console Communicator integrates radio, telephone, paging, and signaling resources on one screen, allowing operators access at the touch-of-a-button. These features allow console operators to effectively utilize all of the resources at their disposal. RAVIN architecture utilizes non-proprietary protocols over IP and each channel can be configured as uni-cast and/or multicast audio streams.

RAVIN allows console operators to hear radio and telephone calls clearly through an enhanced audio package that can route audio to select and unselect audio devices.

RAVIN allows for the translation from radio IDs and telephone numbers to real names. Console Operators can see information on who is calling, time and call type & status.

RAVIN offers greater flexibility enhancing and extending access to any standard radio system design. NICS system designers can integrate third party applications to create customized user interfaces for the RAVIN Console System.

RAVIN's secured VPN access features allow users the ability to connect to their communications networks remotely, and supports all current network encryption standards (IPsec, 3DES, AES, etc).



## MONITOR

RAVIN supports any number of **industry standard** monitors in Plasma Display, CRT and LCD formats including Touch Screen monitors. The RAVIN Console Communicator is equipped with industry leading touch screen monitors from Elo. However, NICS will be happy to substitute these monitors with monitors of your choice.

## SPEAKERS

RAVIN supports any number of **industry standard** speakers in various interface formats. The RAVIN Console Communicator is equipped with high quality speakers from BOSE. If there is a specific brand of speakers that interest you, NICS will be happy to substitute with speakers of your choice.



## MICROPHONE

RAVIN supports any number of **industry standard** microphones in multiple formats. NICS recommended microphone that fits most dispatch and control center applications is an Array Microphone. If there is an alternative microphone that is better suited for your specific needs, NICS will be happy to substitute the microphone with a microphone of your choice.

The array microphone automatically locates and electronically steers toward the talker. For dispatch applications, it is no longer necessary to sit rigidly in front of the microphone. The user is free to lean backwards, sideways, or even move around.

The array microphone improves signal-to-noise ratios in two ways.

First, its digital signal processor creates a listening beam (like a searchlight) that focuses on the talker and spatially filters noise from other directions.

Second, its noise reduction algorithms filter out background noise and reverberations that are present in the acoustic environment.

## RAVIN Console Interface

RAVIN can be equipped any number of RAVIN UTP or Fiber Optic console monitor interface adapters from a single headed monitor interface to a quad head monitor interface.



## RAVIN Console Adapter

RAVIN can be equipped with a number of **industry standard** PC Blades from Pentium 4 to Intel Centrino, Celeron, Intel Xeon, SpeedStep and Itanium Blades with multiple processors, hard drives and RAID. RAVIN can be equipped with any combination of these PC Blades and RAVIN can scale from 1 to 1000 or more console positions as your needs grow. NICS can help you in defining which PC Blade configuration is best suited for your communication needs.

For more information about RAVIN and other NICS VoIP & RoIP communications products contact your NICS sale representative today.

