VOIProven

Telex Radio Dispatch Products

Communications and dispatch solutions for every application

TELEX®

Radio Dispatch

Why should I consider an IP-based radio dispatch system?

- **IP-based dispatch enables effective communications interoperability.** Dispatchers can connect and control UHF, VHF, 800Mhz, conventional, trunked, P25, iDEN, satellite and many other communications platforms.
- **IP-based dispatch can lower your overall cost of ownership by simplifying installation, configuration and maintenance.** Telex systems can also help you replace costly traditional infrastructure like leased lines and even your Central Electronics Bank.
- **IP-based dispatch makes for easy system growth and back up.** Your communications system can evolve as your needs change or as applications demand.

Why should I choose the Telex IP-based system?

Telex invented IP-based dispatch technology, and were the first to offer a solution in the category back in 2001. We have more experience and active installations than any other manufacturer—more than 3000 Telex IP-based consoles are in use every day around the world.

Who should consider dispatch solutions from Telex?

We have solutions available for installations of almost any size and application. We've had proven success in public safety, military, industrial, transportation, utility and education applications. We also offer complementary solutions to enhance the capabilities of existing systems, including:

— Portable dispatch and interoperability solutions for crisis communications

— Easy install mobile command center equipment

— Communications center back-up and redundancy solutions

— Technology migration solutions that allow agencies to move toward new standards while maximizing their investment in existing technology

Mid Georgia Ambulance Service selects Telex's Revolutionary IP-based Dispatch Solution

Mid Georgia Ambulance Service chose Telex's revolutionary IP-based dispatching solutions, allowing them to replace their leased line with a low-cost DSL network connection, all at a significant monthly savings. The IP-based infrastructure also facilitates radio network expansion as their response area continues to grow. Connecting additional towers and adding dispatch positions or radios are simple IP connections. The system linked Mid Georgia's VHF radios to the Southern LINC, iDEN radios by connecting both to a C-6200, 18-line dispatch console. The C-6200 bridged all of the disparate systems onto the

IP network, and they were then accessible from all five of the primary dispatch positions, each running C-Soft Dispatch Console Software. "This will be the way to communicate in the future," states Joe Robinson, Chief Operating Officer. Expressing great pleasure in not only the system performance, but also the service by the Telex representatives who installed it, Mid Georgia now plans to expand it to all of their operating sites statewide. With future expansion to other remote sites on the horizon, Mid Georgia is excited about the ability to simply plug into their existing network.

Joe Robinson, Chief Operating Officer
Mid Georgia Ambulance Service

Telex IP-223 Provides Solution for Galveston County Office of Emergency Management

"We selected a Telex RoIP as a solution for our emergency management and interoperability radio communications needs. Through the combined efforts of the Galveston County Office of Emergency Management and the Galveston County

Emergency Communication District, we are not only implementing an in-house dispatch console system but also a countywide link to the VHF/UHF interoperability frequencies for all PSAP's."

Lee Lockwood, Operations Coordinator
Galveston County Office of Emergency Management

Telex Brings Radio Dispatch Flexibility to University of Phoenix Stadium

"The 24-hour stadium security team covers a multitude of responsibilities during its rotating shifts, including video surveillance, fire alarms, door/gate monitoring and answering after-hour incoming phone calls. An easy-to-use dispatch system was essential, especially in terms of

training new staff and ensuring seamless operator turnover at the primary dispatch position." Creative Communications recommended a Telex C-Soft 12-line basic dispatch console, using IP-223 to interface remotely with CDM base radios.
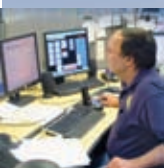
Nick Spiro, Creative Communications

Denver Public Schools Use Telex for Stability and Effectiveness

"I have been working with two-way radios for DPS going on 25 years now, and RoIP is the neatest technology I have seen in communications yet. The ability to multicast over Ethernet is a powerful tool.

RoIP has created endless possibilities for our two-way applications. We can design and add on to the Telex IP-223 / C-6200 system in many different ways. It's a great platform to grow with."

Jim Bailey, Denver Public Schools Radio Room

Nexus IP Console Position

The Nexus IP Console Position is a complete communications solution. The Console Position delivers everything you are looking for in dispatch communications—stability, performance and world class dispatch capabilities. The IP platform makes it simple to install, easy to expand and flexible enough to use in any dispatch setting.
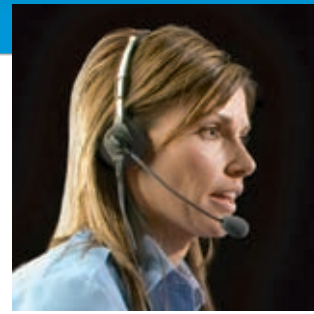
Dependability and Performance

We've built the Dispatch Position around a world class desktop platform. This isn't just another PC. We've selected a custom manufactured CPU from Kolar Industrial Solutions Group. Kolar has been in business for nearly 60 years and provides the highest quality industrial and specialty computer control devices to commercial, military and industrial markets around the world. Kolar computers have been selected for use in defense operations, medical testing and research applications and precision industrial processes.

Service and Support

By standardizing around a single Dispatch Position platform, we have been able to optimize both the operating system and the dispatch software for maximum stability and performance. And, by removing the variables associated with software installation on an end-user provided PC, we are able to deliver a total solution that is significantly enhanced and much easier to support.

Flexibility and Scalability

The Console Position can be ordered in configurations from 2 to 200 lines, so it is our most capable and highest capacity dispatch solution. The user interface is completely customizable, meaning you can control the layout of buttons on the screen, the size, shape, color and even the labeling. Change the background color, create simple or advanced dispatch interfaces—the options are nearly limitless with the Console Position. You can even store multiple dispatch configurations on a single station for different applications or usage scenarios.

Nexus IP Console Position Standard Dispatch Position:

- Dispatch PC
- Choice of 2 to 200 line C-Soft Dispatch Console Software
- 17" LCD monitor
- Keyboard and mouse
- HB-3 Plus headset adapter
- DH-2000 single sided dispatch headset
- Desktop speakers

Available Options:

- 19" LCD monitor
- 17" Touch screen monitor
- 19" Touch screen monitor
- Dual monitor configuration in both 17" or 19" and in LCD or touch screen
- DH2200 dual sided dispatch headset
- Omni-directional desktop microphone
- Footswitch
- 6513C desktop microphone
- Laptop option available
- DM200 microphone

C-Soft — 4.100
Software Based Radio Dispatch Console

C-Soft is the industry's most flexible and capable software dispatch console. Available in configurations from 2 to 200 lines, C-Soft is the perfect application for any dispatch environment. When running on computer systems that meet our published minimum specifications, C-Soft delivers all of the dispatch capabilities that you expect while also giving you the flexibility that only an IP-based software console can provide – simple and quick deployment in the field, easy back-up of communications assets and the ability to save multiple configurations on a single computer. This proven application has been deployed in communications centers around the world, in applications ranging from 911 dispatch to mobile command centers to transportation management.

PC Requirements:

• Operating System: Windows XP® required

• Sound System: Full duplex Windows compatible sound system. Sound Blaster or HW compatible recommended.

• Network Connection: 10Mbps or 100Mbps TCP/IP connection

• Processor Speed: Celeron 500 or greater

• Memory: Minimum of 64Mbytes recommended.

• Parallel Applications: Telex recommends that mission critical dispatch settings do not run other applications on their PCs that are running C-Soft, especially those applications that place high demands on processing power, sound system or network assets.

**These are minimum requirements and users should bear in mind that when handling a large number of lines – 50 or more per PC – it is strongly recommended that more powerful computers and more robust network resources be deployed. Please consult your integrator for specific system recommendations.

Specifications:

Available Configurations:
• C-Soft is available in configurations from 2 to 200 lines.

User Interface:
• User controlled configurations for any dispatch application.

Signaling Capabilities:
• MDC1200 decode, FleetSync encode and decode, DTMF, Serial and OTA FleetSync, 5/6 tone - supports emergency, group, individual and status calls.

Instant Recall Recorder:
• Tracks the last three minutes of both select and unselect speaker audio.
• Buttons can be set-up to start playback at various points in the buffer or played call by call from the call buffer.

Information Windows:
• Per line Call History, Active Emergency, Emergency History, Manual Call List, Status Windows.

Intercom Capabilities:
• Intercom communications between dispatch positions can be set up on all consoles on the system.

DTMF Keys:
• A full 16 key keyboard is supported.

Paging:
• Multiple paging formats are built into the C-Soft console software.
• Quickcall II in both the 100 and 1000 group formats, as well as DTMF, Knox Paging tone and 5/6 tone paging.
• A manual frequency entry mode is also supported.

Alert Tones:
• Three alert tone types are supported, including steady tone, pulsed tone and high low warble.
• All frequencies and durations are programmable.

Programmed Group & Mute Buttons:
• For both Group and Mute functions, lines can be selectively included within these programmed buttons, allowing for instant access to particular lines of interest.

Crosspatch:
• Up to 30 simultaneous crosspatch groups are supported.

Status Indicators:
• 24-hour clock, VU Meter, PTT Indication and Instant Recall Playback progress are displayed on the upper status bar.

Flexible Audio Interface Options:
• Using the Telex HB-3 Plus, C-Soft can interface with all common dispatch communication audio sources, including headsets, desktop microphones, external speakers and footswitches.

SIP Telephony:
• Crosspatch, DTMF hold, call history, phone directory, stun and proxy server.
• Provides audio adjustment with silence detection and jitter buffering.
• Able to specify IP interface for SIP connections.
• Per line configuration for each SIP account. SIP is only available with 24 lines of C-Soft dongle or above.

Multiple Vocoders:
• Per Line Vocoder Type - Ability to select lower bandwidth Vocoder.

Special Interfaces:
• iDEN, TETRA, P25, Phone/PSTN

IP-223

Dual IP Network Remote Adapter Panel

model: **IP-223**

FleetSync OTA Encode Available on new release 4.100 software

The Telex IP-223 IP Network Remote Adapter is the heart and soul of our IP solutions. The IP-223 bridges two-way radios and other communications devices onto the IP dispatch network, it also enables a number of other functions:

• Multiple types of communications interfaces IP, two-wire, four-wire, iDEN, local control, PIB with phone.

• Seven functional modes available in every device:

— **Local** – Direct connection to any radio, bridging it onto the IP network

— **Tone** – Generate standard control tones via conventional connections to radio

— **Console** – Bridge analog consoles into an IP dispatch network

— **Crosspatch/Repeater** – Directly patch communications devices on the network without the need of a console; can also be used to extend coverage.

— **Phone** – Connects a standard POTS telephone line to the dispatch network via the PIB-223

— **iDEN** – Puts iDEN phones onto the dispatch network and provides advanced access and control of the devices (or iDSN) phones via the NI-223

— **TETRA** – Provides access to advanced features of the TETRA system via an interface with Sepura radios

• Telex System Manager: View, manipulate, and manage multiple Telex device parameters and settings. Easily detect all Telex devices on the network for easy configuration.

• iR1600 supported! An iDEN Modem Interface. Provides same control and capabilities as NI223 with an external antenna and built-in DSP. Designed for remote monitoring applications, such as automated vehicle location (GPS iR1600), utility meter monitoring, and automatic re-sourcing management systems. There are two types of iR1600 modems - GPS and non-GPS. The GPS version provides tracking capability during operation.

Each IP-223 allows you to connect and control up to two communications devices from any dispatch location on the network; that network can be within a single building, or can reach across the entire country—wired or wireless.

IP-223 Functions and Capabilities:

• Encode iDEN Emergency – Able to receive and decode ID and information related to incoming iDEN emergency signals.

• Sepura Status Messaging – Able to decode, and display status messages generated via TETRA (Sepura SRM200/3500) radios.

• Radio Telephony Operation – Allowing local console to change of the remote radio channel via POTS line.

• Enhanced Crosspatch capabilities:

— **Line-to-line crosspatch** – Enable and disable via DTMF strings.

— **Start/Stop Function Tone Line-to-Line Crosspatch** – Designated function tones have the ability to automatically set up and knock down line-to-line crosspatches within the device.

— **Dial** – Remote user with portable radio can key a DTMF string, causing IP-223 to take the PIB-223 off-hook, dial a preprogrammed phone number and establish a patch between the devices via DTMF strings.

— **Dial VoIP** – Remote user with portable radio can key DTMF string, causing IP-223 to join different multicast group and port–mapping the IP to a different channel.

— **Phone Patch** - Remote user with portable radio can key a DTMF string, causing IP-223 to take PIB-223 off-hook. The user can then manually dial a phone number.

— **Multiple Vocoders** - Per Line Vocoder Type - Ability to select lower bandwidth Vocoder.

• Kenwood P25 TK5710/5810 serial control – Supports encode and decode of FleetSync ID and P25 ID, channel change, scan ON/OFF, and monitor. Also capable of direct serial control of Kenwood 80, 90, and 150 Series radios.

• Generate FleetSync MSK signal at the IP-223 – Does not require specific Kenwood base-station.

• Advanced compatibility with multiple radio manufacturers – Motorola, Kenwood, EF Johnson, iDEN, Sepura, Elutions.

• 5-Tone Detection – Decodes 5-tone messages received from remote radios and sends console information to display.

• COR Click Dialing – While using COR, the remote user can key click a portable radio, causing the IP-223 to take a PIB-223 off-hook, and dial a preprogrammed phone number to establish a telephone connection between remote user and a designated dispatch console.

• Improved Web-Based Programming Interface – Redesigned web page displays important information on start screen and simplifies navigation to critical programming areas.

IP-223 Available Options:

• Encoder and decoder
• MDC1200
• iDEN Interface with NI-223
• PIB telephone interface required if using POTS
• Multiple Vocoders
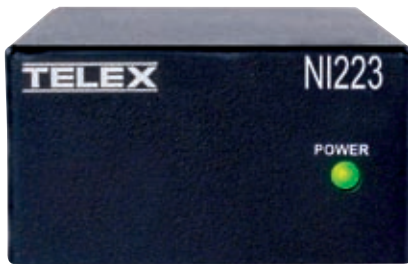
Phone Interface Box
model: **PIB-223**

Access phone lines directly from a Telex IP-based radio dispatch system.

This innovative technology lets dispatchers place and receive telephone calls from their console. A single phone line can now be a shared resource among several IP-based dispatch consoles in a facility.

The PIB-223 also allows dispatchers to patch radio transmissions and telephone calls together, as well as passing all caller ID information to the dispatcher's console, so that information is available on-screen when needed.

iDEN Phone Interface
model: **NI-223+**

Now dispatchers can control and interface directly with widely distributed iDEN phones as a controllable asset on a Telex IP-based radio dispatch system.

Users will be able to change groups, initiate and terminate calls, crosspatch iDEN calls to other radio channels on the network, as well as communicate directly with the phone user. And, because this is an IP based device, all dispatchers on the network can have access to all functions. The NI-223 provides power to the iDEN phone and passes caller ID information back to the console, giving the dispatcher access to valuable tracking information.

EFJohnson 5300 Radio Interface
model: **IP-25300**

Access and control the EFJohnson 5300 radio directly from your console.

This means complete access to conventional and trunked P25 operation, as well as other trunked systems and analog conventional. The EFJohnson® 5300 mobile radio is available in bands from VHF to 700/800MHz and is in use around the world. Dispatchers will have unique flexibility to crosspatch the 5300 mobile radio with any other communications platform, including iDEN, satellite and a range of other two-way radios.

Accessories:

PIB-223 Benefits:
• Allows patching of phone and radio calls
• Allows multiple dispatchers on IP network to share a single phone line
• Passes caller ID information to dispatch console for display

NI-223 Benefits:
• Decode incoming emergency messages
• Remote control of most phone features
• Provides power to phone
• Passes caller ID information to dispatch console for display
• No limitations based on connection distance

With New Enhanced Audio Quality!

IP-25300 Benefits:
• Operates with conventional and trunked P25 systems, as well as other industry trunked systems
• Provides the capability to crosspatch the EFJohnson® 5300 mobile radio to any other communications asset on the dispatch network
• Simple configuration and installation
• Digital interface gives complete control, including channel change, ANI (P25 and others), emergency status, scan on/off and encryption on/off

Eight-line IP-Based Radio Dispatch Console
model: **IP-1616**

The IP-1616 is a workhorse console that offers all the dispatch features and control that you would expect from larger, more expensive equipment. Fully IP-based, the IP-1616 is simple to deploy with a single 10/100 baseT Ethernet connection to the network. Multiple IP-1616s can be used to control larger operations. Its smaller desktop footprint takes up less room at the workstation, but still offers all of the dispatch capabilities and controls you need. The IP-1616 requires no CEB or additional CPU equipment for operation. All the processing and control capabilities are completely self-contained within the unit. Requires a gooseneck, desktop microphone or dispatch headset for operation—all sold separately.

IP-1616 Features:

- 16-channel control
- Crosspatching of two to eight lines
- Communications with crosspatch groups while operating on unused channels
- Simplex/full duplex operation (field programmable)
- Crossmute (Ethernet based)
- Parallel console update
- Instant Call Recorder (IRR)
- Line select call with alarm

IP-1616 Controls:

- Monitor, intercom, PTT button
- Up to four alert tones
- Crosspatch
- Group select, two pre-determined groups
- Supervisory control
- 16-digit DTMF keypad
- Volume controls
- Parallel TX LED detect
- Channel selection
- Instant PTT
- A-menu and B-menu buttons
- Four programmable buttons
- Paging (two-tone, DTMF, manual)

New Features:

TSM and FleetSync Encode Available on new release 4.100 software

- Call history – Up to last 50 incoming calls displayed.
- Autodial from history list and phone list.
- Caller ID (Phone, iDEN, MDC, FleetSync, TETRA, and 5-tone).
- NEO-10 Support – Able to control two NEO-10 relays from the console.
- iDEN Support – Full support of NI-223 features, including ID, go-ahead beeps, busy signal, and manual dial.
- Scan feature for supported radios.
- Emergency – Decodes incoming emergency signals from supported ANI formats.
- Clear/Coded Transmit for EFJ RS5300 mobile radio.
- Radio Telephony Operation – Allows local console to change channel of the remote radio via POTS line. Also, gives operators the ability to designate certain lines to automatically failover to a standard POTS line if the IP connection fails.
- Telex System Manager (TSM): View, manipulate, and manage multiple Telex device parameters and settings. Easily detect all Telex devices on the network for easy configuration
- Kenwood P25 TK5710/5810 serial control – Supports encode and decode of FleetSync ID and P25 ID, channel change, scan ON/OFF, and monitor. Also capable of direct serial control of Kenwood 80, 90, and 150 Series radios.
- Generate FleetSync MSK signal at the IP223 - Does not require specific Kenwood base station.

Two-Line IP-Based Radio Dispatch Console
model: **IP-2002**

The perfect footprint for smaller operations or supervisory monitoring situations, the IP 2002 is a full IP-based dispatch console in a familiar desktop telephone form factor. Dispatchers using the IP-2002 can control a crosspatch between the two lines, as well as inject audio into the crosspatch. A simple Ethernet connection places the IP-2002 on the network. The IP-2002 requires no CEB or additional CPU equipment for operation—all the processing and control capabilities are completely self-contained within the unit. The console comes with a handset and panel mic. Other microphone options are sold separately.

IP-2002 Features:

- 100 talkgroup/frequency control
- Simplex/full duplex (field programmable)
- Crossmute (Ethernet based)
- Parallel console update
- Instant Recall Recorder (IRR)
- Line select call with alarm

IP-2002 Controls:

- Monitor, Intercom, PTT
- Up to two alert tones
- Crosspatch
- Supervisory control
- 16-digit DTMF keypad
- Volume controls
- Parallel TX LED detect
- Frequency selection
- Menu button for direct menu access
- NEO-10 relay control
- Paging (two-tone, DTMF and manual)

TSM and FleetSync Encode Available on new release 4.100 software

New Features:

- Call history – Up to last 50 incoming calls displayed.
- Autodial from history list and phone list.
- Caller ID (Phone, iDEN, MDC, FleetSync, TETRA, and 5-tone).
- NEO-10 Support – Able to control two NEO-10 relays from the console.
- IDEN Support – Full support of NI-223 features, including ID, go-ahead beeps, busy signal, and manual dial.
- Scan feature for supported radios.
- Emergency – Decodes incoming emergency signals from supported ANI formats.
- Clear/Coded Transmit for EFJ RS5300 mobile radio.
- Radio Telephony Operation – Allows local console to change channel of the remote radio via POTS line. Also, gives operators the ability to designate certain lines to automatically failover to a standard POTS line if the IP connection fails.
- Telex System Manager (TSM): View, manipulate, and manage multiple Telex device parameters and settings. Easily detect all Telex devices on the network for easy configuration.
- Kenwood P25 TK5710/5810 serial control – Supports encode and decode of FleetSync ID and P25 ID, channel change, scan ON/OFF, and monitor. Also capable of direct serial control of Kenwood 80, 90, and 150 series radios.
- Generate FleetSync MSK signal at the IP223 - Does not require specific Kenwood base station.

Hardware Consoles

18-Line IP/Analog Radio Dispatch Console
model: **C-6200**

The C-6200 is a unique platform in the dispatch industry that can function as either an IP-based or an analog console, giving you the flexibility to deploy it in numerous settings. Perfect for any small to midsize operation, the C-6200 offers world class dispatch capabilities and can even be configured to bridge analog and IP assets within a single unit. It's also the perfect hardware console back-up to the Nexus IP Dispatch Position. The C-6200 requires no CEB or additional CPU equipment for operation. All the processing and control capabilities are completely self-contained within the unit. Requires a gooseneck, desktop microphone or dispatch headset for operation—all sold separately.
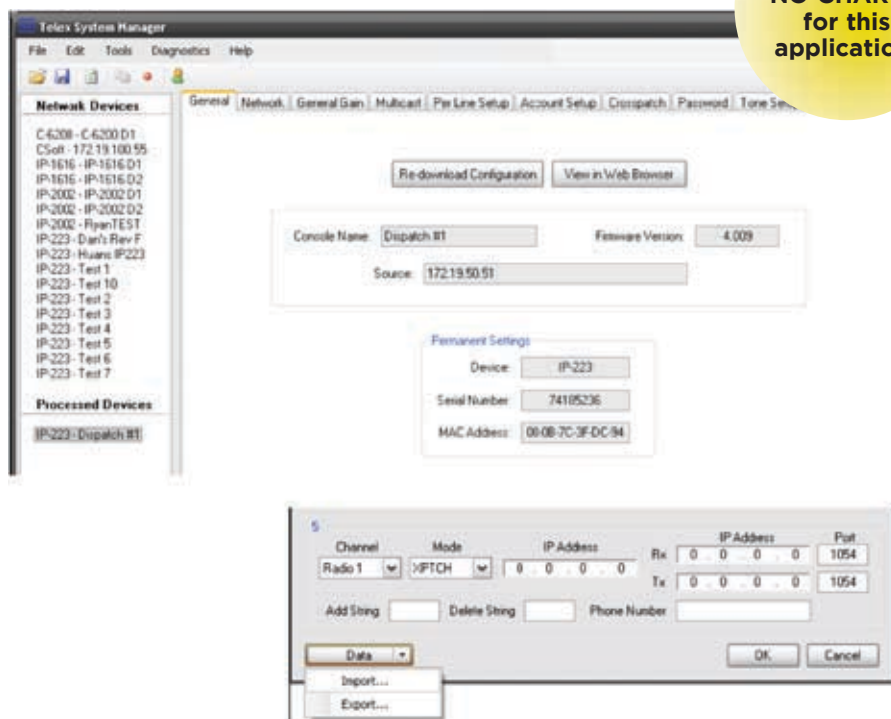
C-6200 Controls:

- Monitor, intercom, PTT button
- Up to four alert tones
- Crosspatch up to three groups
- Group select, three pre-determined groups
- Supervisory control
- 16-digit DTMF keypad
- Volume controls
- Parallel TX LED detect
- Channel selection
- Instant PTT
- Auxiliary up to four buttons
- Four programmable buttons
- Paging

C-6200 Features:

- Programmable single or dual function tones
- 16-frequency control
- Two- or four-wire (field programmable with optional line cards), local, and E&M
- Simplex/full duplex operation (field programmable)
- Programmable squelch control
- Crossmute (hardwire)
- Parallel console update
- Paging (multiple formats)
- Instant Recall Recorder (IRR)
- Telex System Manager (TSM): easily detects C-6200 device on the network for easy firmware upgrade.

Telex System Manager

FREE!
NO CHARGE for this application!

TSM (Telex System Manager) software allows a user to easily configure Telex devices. TSM allows a user to view and manipulate configuration parameters for the IP-223, IP-2002, and the IP-1616. In addition, TSM includes the ability to update firmware on the IP-223, IP-2002, IP-1616, C-6200, and the NEO-10. Telex System Manager replaces and improves upon the existing FTP Telex and Configuration Saver programs.
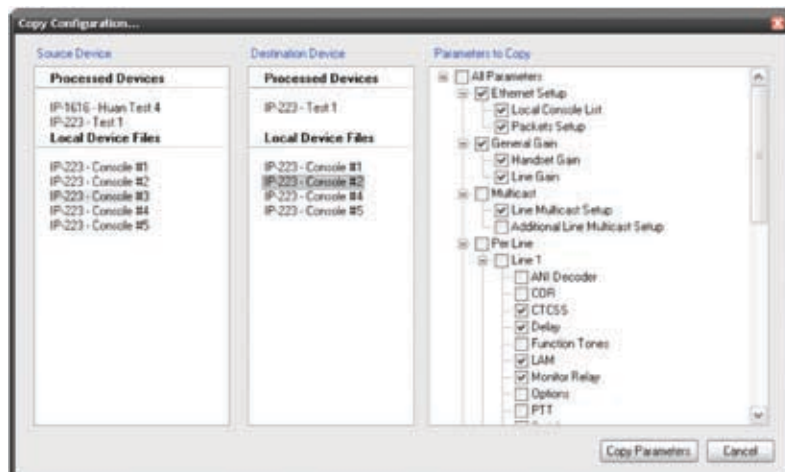

Features include:

- Detect all devices – IP223, IP2002, IP1616, NEO-10, C-6200
- Manage IP223, IP2002, IP1616
- Easy to configure and manipulate parameters
- Option to save the configuration to a file
- Selectively copy device parameters from one configuration to another
- Import or export large table to XML or CSV – ID directory, Crosspatch table
- Update Firmware on one or multiple devices with a few clicks
- Save device configuration files to local disk for backup, archiving, or duplication
- Record configuration files back to a Telex device

Requirements:

- Windows XP® SP2 or higher
- .NET Framework 2.0 or higher
- Windows® Installer 3.1

TSM Compatible With:

- IP-223 version 4.009 or higher
- IP-2002 version 4.009 or higher
- IP-1616 version 4.002 or higher
- C-6200 version 1.066 or higher (detected, firmware update only)
- NEO-10 version 4.001 or higher (detected, firmware update only)
- CSoft version 4.100 or higher (detected)
- Network Recorder version 4.200 or higher (detected)
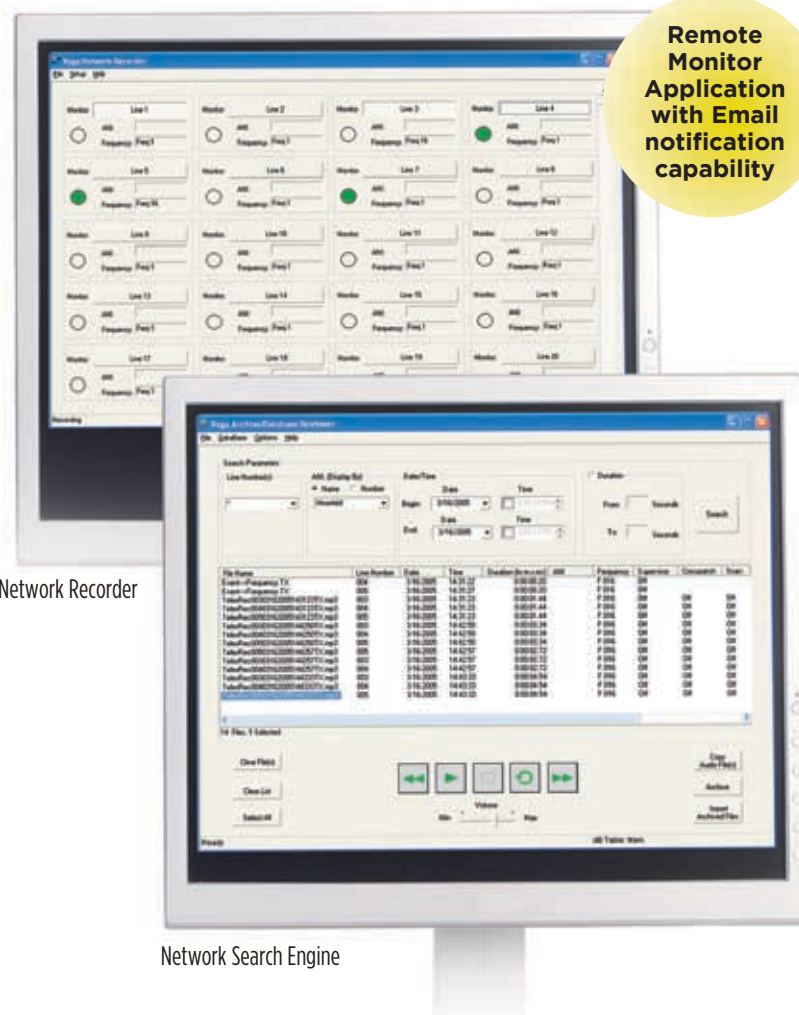
Network Recorder
model: **4.200**

The Telex Network Recorder allows you to monitor and record audio for any channel in real time. Plus, it stores detailed information for each call and event in an SQL database for quick and easy retrieval. This includes:

• Source IP addresses

• Channel changes

• Crosspatch creation and teardown

• Supervisor mode start and end

• ANI

• Time

• Date

• Line number

• Call duration

• Scan status

• NEO-10 relay and input logging

Using the Telex Network Recorder, you can access an extensive amount of call information, sorting and refining your searches with a high level of detail. For example, you can search for all calls made by a particular user during a particular time period on a particular channel.

Remote Monitor capability (NR Monitor Application) notifies users that an error in the system has occurred. Monitor the status of Network Recorder Remote Application.

• Check for Heart Beat, Warning and Errors

• Reporting Messages:

 — MP3 Compression problems

 — Database connection/reconnect problems

 — Protect key (dongle) not found

 — Sound card problems

 — Hard drive full

 — Database rebuilding

 — A line has been recording over half an hour

 — Accumulation of error files

 — Less than 20GB left on hard drive recorder has closed

Remote Monitor Application with Email notification capability

Network Recorder

Network Search Engine

Network Recorder:

The recorder monitors your radio network for audio packets and records those that meet your criteria. These are stored as raw PCM audio and then compressed into MP3 files. A 32-bit digital signature is added to the file to guarantee its authenticity. Both RX and TX audio are stored and separated for search purposes. The Network Recorder can record radio traffic from standard VoIP formatted lines, EF Johnson® 2600 series P25 digital repeaters and also perform positional recording. The positional recorder lets you record the Select, Unselect, and Mic audio of a specific console.

Recorder Search Engine:

The Network Search Engine can search the recorder computer using these parameters: ANI, line number, date, time and call duration. Unrelated calls can be removed from the search screen, and calls of interest can be copied for playback on another computer or an MP3 player. Large groups of calls can be archived for permanent storage and to clear disk space. Archived calls can then be brought back into the database for later review.

Network Recorder
model: **NR-V2**

Removable archive hard drive

The new NR-V2 is sold in combination with the Network Recorder 4.200.

NR-V2 Specifications:

- 4U Rackmount ATX chassis with front USB, 3x5.25"(ext.), 2x3.5"(ext.) and 1x3.5"(int.) drive bays. Color: Black Dimensions: 7"H x 19"W x 17.7"D (with rounded handles)
- Antec EarthWatts EA430 430W ATX 12V Power Supply with active PFC and auto-switching
- Intel DQ35JO Core 2/ Quad, Intel Q35 Chipset, FSB 1333/1066/800, Intel vPro Ready, Audio, Video and Gigabit Ethernet Micro-ATX Motherboard
- Intel Core 2 Duo Processor @ 2.2GHz, E4500 800MHz FSB, 2MB Cache LGA775 CPU with Intel RoHS Heatsink/Fan
- 4GB 667MHZ DDR2 Memory
- Adaptec 1220SA SATA2 RAID 2-Port 1x PCI-Express Controller for Data Drive Raid Array with 2 Seagate ST3500320AS 500GB SATA2 7200rpm Hard Drives Configured for Database in Raid 1 (Mirror) Configuration on Raid Controller Card
- ICY Dock SATA hard disk drive Removable Drive Kit with keylock and fan including a Seagate ST3250410AS 250GB SATA2 7200rpm 16MB NCQ Hard Disk Drive installed into Icy Dock
- One Seagate ST3250410AS 250GB SATA2 7200rpm 16MB NCQ Hard Disk Drive installed as OS Base
- A Samsung DVDRW (Black) with CDBurnerXP and Nero OEM installed
- Creative Labs SB Audigy 7.1 SB0610VP
- US English Keytronics Lifetime Classic II Keyboard (BLACK) and Logitech LX3 Optical Mouse
- Integrated Intel Graphics Media Accelerator X3100
- Integrated Intel 82566DM Gigabit Ethernet Controller
- Integrated 1x RS232, 1x IEEE1394a, 1x Parallel, 8x USB ports, 1x PCI
- Express x16 slot, 1x PCI Express x1 slot, 2x PCI 2.2 slots
- Acronis TrueImage OEM Recovery Software.
- Microsoft Windows XP Pro SP2 OEM

Features Include:

- Rackmount PC
- Higher performance PC
  — Faster CPU speed, more RAM
  — 250GB hardware RAID control hard drive
  — Separate OS drive
  — 250GB SATA removable hard drive for archive
  — Easy to recover the system in case of failure
- Exportable

Headset Adapter Panel
model: HB-3 Plus

This new model, an update from the popular HB-3 Headset Adapter Panel, features several significant performance enhancements. An updated mechanical design and durable steel construction improves the durability of the unit in heavy-use environments. New microphone and headset input circuits provide expanded compatibility, allowing end users to choose between electret and dynamic element microphones.

The HB-3 Plus contains its own microprocessor and software, giving it intelligence and the ability to control multiple inputs and outputs. The adapter operates in two distinct modes. The PC mode is compatible with C-Soft and allows for the use of standard dispatcher quality accessories with the C-Soft application. Legacy console support mode, allows the HB-3 Plus to connect to a Telex console through the headset jack and gives the dispatcher access to the advanced features of the HB-3 Plus.

HB-3 Plus Features:

• Desk mic input
• Footswitch inputs
• Relay outputs
• Recorder outputs
• Diode blocked inputs
• NENA telephone interface
• Console connection
• Serial port

HB-3 Plus Controls:

• Volume control
• Headset on/off switch
• Level adjustments

Networked Input/Output Control Device
model: NEO-10

The NEO-10 is a network-based input/output device that has 10 DPDT relays and 10 inputs for monitoring external events. Anytime a relay or input changes, the NEO-10 sends out a message across the network, allowing all console users on the system to see status updates in real time. Actual control of the NEO-10 is accomplished by a TCP/IP socket connection from the controlling console.

NEO-10 also enables the operation of other Telex IP-based dispatch equipment on a non-multicasting network by supporting 10 channels of echo packet functionality, that copies voice/data content on the network from and to multicast addresses. This feature allows the Telex multicast scheme to operate on a network without having multicast enabled.

Telex System Manager (TSM): view, manipulate, and manage multiple Telex device parameters and settings. Easily detect all Telex devices on the network for easy configuration.

V.I.P.E.R. IP-Based Radio Control System

The idea behind V.I.P.E.R. is a fairly simple: use our innovative IP dispatch technologies to create complete self contained dispatch networks that are easy to deploy in emergency situations, providing an effective communications interoperability solution. Radio system interoperability is achieved instantly through simple crosspatches on the console. The IP-based system increases the reliability of the system, and makes it easy to add additional radios or dispatch positions on scene.

Other possible configurations:
Because V.I.P.E.R. is based on a modular architecture, it gives you the flexibility to create the exact solution for your application. Your authorized Telex Radio Dispatch dealer or integrator can help you design a system that fits your needs. Here are just a few of the options you can consider to create your own customized V.I.P.E.R.

Number of radios you need to control
Each installed radio control module (IP-223) allows you to control and network up to two radios. Determining how many different radio systems you need to control will determine the number of IP-223s to include. Typically, two extra IP-223s are added to allow additional radios to be added to the system on the scene of an event.

Number of pre-configured radios you want installed
When building a V.I.P.E.R., agencies and integrators often choose to have their most commonly used radios built right into the unit. That minimizes the amount of set-up time in the field, and will provide for complete interoperability and radio control in your most common deployments.

Other types of portable radios you want to add when necessary
By considering in advance which other types of radios you might need to add on the scene of an incident, you will be better prepared when the situation arises. Adding control cables is all that is necessary.

V.I.P.E.R. Benefits:
• Completely self-contained mobile command center
• Easily transported and deployed
• Creates instant interoperability among disparate radio systems
• Establishes complete and robust dispatch capabilities
• Easily expands or integrates with other communications systems

V.I.P.E.R. MCU
A robust and completely self-contained portable communications center. The MCU gives you complete dispatching capabilities and control and interoperability of up to eight different radio systems. It is also simple to expand and integrate into other communications networks.

Package includes:
• Nexus IP Laptop Computer
• 12-Line C-Soft Dispatch Console Software
• Four Telex IP-223 Radio Controllers
• Built-in storage drawers for laptop computer and accessories
• External speakers
• External connection for up to eight different portable radios
• External Cat-5 network connection
• Internal network switch
• 110 – 240V @ 320W max power supply
• Rugged weather resistant mil-spec case
• Overall closed dimensions 28" W x 29.5" D x 22.5" H

V.I.P.E.R. Eight
A more streamlined version of the V.I.P.E.R., the Eight provides network infrastructure for control and interoperability of up to eight different radio systems. It is easily integrated into your existing dispatch capabilities using your own portable or mobile radios. It is also smaller and lighter for easier transportation and deployment.

Package includes:
• Four Telex IP-223 Radio Controllers
• External connection for up to eight different portable radios
• External Cat-5 network connection
• Internal network router
• 110 – 240V @ 100watts max power supply
• Rugged weather resistant mil-spec case
• Overall closed dimensions 28" W x 27.25" D x 15.5" H

Six-line Analog Tone Remote Control Console
model: **C-1616**

The C-1616 is designed for easy field programmability. The modular design offers selection and control of up to six base stations and 16 frequencies. The C-1616 comes standard with two channels. Additional channels may be added by installing another two-line module—sold separately.

Its unique vacuum florescent display provides channel alpha/numeric indication, and features clock and audio-level meter. Multiple consoles can be easily programmed by using the serial port located on the back of each console. Unlike other manufacturers' equipment, the C-1616 requires no additional programming. Optional: handset/headset, gooseneck mic, desk mic and footswitch.

C-1616 Features:
• Two- or four-wire per line (field programmable)
• Simplex/full duplex per line (field programmable)
• Programmable squelch control per line
• TX monitor
• Supervisory control
• Two alert tone cadence (keypad programmable)
• Crossmute per line (hardwire)
• TX notch filter
• Wildcard group groupings (function tones)

C-1616 Controls:
• Select/unselect status for each line
• Selective call indication
• 16-function tone button selection
• TX all button
• RX all button
• Mute button
• Alert button
• AUX relay button
• Intercom
• PTT button
• 16-digit DTMF keypad
• Supervisory button
• TX detect LED for selected audio
• Line activity monitor LED for each line

Two-line Radio Control Console
model: **C-2002**

Compact, but still loaded with features and reliability, the C-2002 offers cross-mute and supervisory capability, along with programmable squelch control, which eliminates the unwanted noise generally associated when monitoring a line. The C-2002 can control two base stations and select up to 99 frequencies. This DSP-designed console can be programmed by using the DTMF keypad on the front of the console. Used with our mating DSP-223 series adapter panels, the C-2002 meets all the needs and requirements for controlling remote base stations. The console comes with a handset and panel mic. Optional: headset, desk mic, footswitch and wall mount kit.

C-2002 Features:
• Selective call indication
• Parallel console update
• Alert tone
• Time duration of the PTT
• Audio delay
• Function tones (programmable)
• Up to 99 frequency control
• Two- or four-wire (field programmable), local and E&M
• Simplex/full duplex (field programmable)
• Programmable squelch control
• Crossmute (hardwire)
• TX monitor
• Supervisory control
• TX and RX notch filter
• Programmable TX delay

C-2002 Controls:
• Monitor, Intercom, PTT
• Alert tone
• ALT button
• Mute, release and select (per line)
• Supervisory control
• 16-digit DTMF keypad
• Volume control (select and unselect)
• Parallel TX LED detect
• Frequency selection
• Three simultaneous microphones

Single-line Radio Control Console
models: C-2000, C-2000HS

The C-2000 allows dispatchers to select and control a single base station and up to 100 frequencies. It's also designed for easy field programmability using the DTMF keypad. Used with Telex's 223 series adapter panels, this console meets all dispatchers' needs and requirements for controlling remote base stations. Multiple consoles can be programmed by using the serial port located on the back of each console. Unlike other manufacturers' equipment, the C-2000 requires no additional software. The C-2000 console comes with a built-in mic; optional: handset/headset and desk mic. The C-2000HS includes handset; optional: headset, desk mic, footswitch, and wall mount kit.

Tone Remote Adapter Panel
model: DSP-223

The DSP-223 provides a reliable means of remotely controlling two-way radio base stations. The adapter can be used in conjunction with all Vega consoles or other manufacturers' remote consoles that use the industry-standard sequential tone-keying format.

Kenwood 150/180 Upgrade Kit
This kit enables the DSP-223 to perform serial control of Kenwood 150/180 radios, utilizing the FleetSync serial control protocol. The kit includes the interface cable as well as the serial port daughter board for the DSP-223. In addition to performing channel changes through the serial port, incoming Fleetsync ANI information can be decoded and presented to the consoles via a DTMF burst.

C-2000, C-2000 HS Controls:
- Monitor
- Intercom
- PTT button
- 16-digit DTMF keypad
- Volume control
- Parallel TX LED detect
- Frequency selection

C-2000, C-2000 HS Features:
- Programmable single or dual function tones
- Up to 100 frequency control
- Two- or four-wire (field programmable)
- Simplex/full duplex (field programmable)
- Programmable squelch control
- TX monitor
- Supervised control
- Cross-mute (hardwire)
- TX notch filter
- Alert tone-warble
- 15 programmable DTMF addresses
- Parallel console update

DSP-223 Features:
- Two-wire or four-wire jumper selectable
- Single function tone recognition (16 function tones)
- Dual function tone recognition (100 function tones)
- Relays in four groups for separating functions
- Automatic station identification

DSP-223 Controls:
- PTT, monitor, and power LED indications
- Local handset port
- 99-digit display
- Six digital outputs (fully programmable)
- PTT and monitor relays

DH-2000 Single Side Dispatch Headset

Telex is the world's largest manufacturer of commercial aviation headsets. We've taken our most popular headset, the Airman 750, and applied it to another mission critical application—dispatch. You'll enjoy noticeably superior comfort and audio quality.

DH-2200 Dual Side Dispatch Headset

DH-2000, DH-2200 Features:

• Lightweight and comfortable—just 3.2 oz.

• Amplified, noise canceling electret microphone for amazingly clear transmit audio

• High/Low volume switch

• User-replaceable ear cushions

• Your choice of 10 or 25 foot lower cord units, with pistol grip PTT units and Featherlite quick disconnect connections for comfort and safety
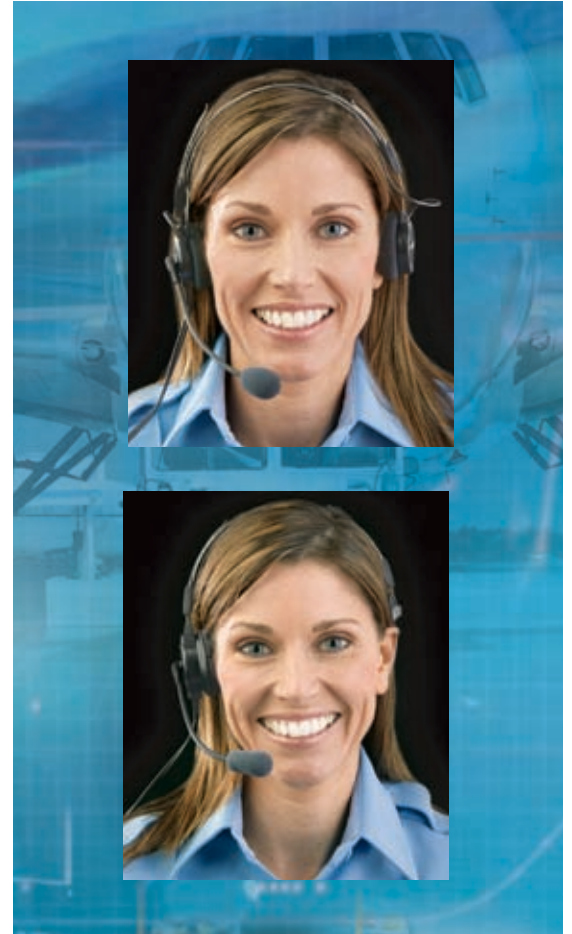
DH-3000 Single Side Noise Canceling Dispatch Headset

Dispatch centers can be pretty noisy. That's why we're introducing the world's first active noise canceling dispatch headsets, based on our best selling Airman 850. Both reduce background noise by a full 12dB, improving clarity and reducing fatigue.

DH-3200 Dual Side Noise Canceling Dispatch Headset

DH-3000, DH-3200 Features:

• Lightweight and comfortable—just 3.4 oz. and 4 oz.

• Amplified, noise canceling electret microphone for amazingly clear transmit audio

• High/Low volume switch

• User replaceable ear cushions

• Your choice of 10 or 25 foot lower cord units, with pistol grip PTT units and Featherlite quick disconnect connections for comfort and safety

Audio Interface Options:

Choose the audio interface to your console that works best for you and your environment. We offer a variety of microphones and headsets to deliver high performance, convenience and comfort.

Desktop Microphones for Dispatch Consoles

Telex offers three different types of desktop microphones for use with all of our console products. Microphones are sold separately from consoles.

Omni-Directional
Electret Microphone

Noise-Cancelling
Dynamic Microphone

Desktop Gooseneck
Microphone

DMC 590-001 Specifications:

- **Type:** Dynamic Microphone
- **Directivity:** Unidirectional
- **Sensitivity:** -14 ± 4dB at 1KHz (0db=1Vmicrobar)
- **Frequency Response:** 200 Hz-5 KHz
- **Cable:** 4 Conductor, 2 Shield, 1.5m ± 5cm
- **Dimensions:**
  — Length: 12.9 mm
  — Width: 67.5 mm
  — Height: 1.43 mm

6513C Dynamic Specifications:

- **Frequency Response:** 125 Hz-5,000 Hz
- **Polar Pattern:** Cardioid, noise-cancelling
- **Inpedance:** 150 ohms
- **Ouput Level:** -57 dB (0 dB = 1 mW/10 dynes/cm^2)
- **Case Material:** Pressure-cast zinc and Cycolac
- **Finish:** Black
- **Dimensions:**
  — Height: 246.1 mm (9.69 in.)
  — Width: 114.3 mm (4.5 in.)
  — Depth: 122.2 mm (4.81 in.)
- **Net Weight:** 822 g (1 lb., 13 oz.)
- **Switch:** Leaf, DPDT, switches external circuit and shorts or opens mike in "off" position
- **Cable:** 2.13 m (7 ft.) long, 5-conductor, 2-shielded, vinyl jacket, black

Specifications:

- **Generation Element:** Condenser, back-electret
- **Fequency response:** 100 Hz to 15,000 Hz
- **Polar Pattern:** Cardioid
- **Sensitivity, Open Circuit Voltage:** 8.0mV (-42 dB)/pascal @1kHz
- **Power Level, 1kHz (0 dB = 1 mW/ pascal):** -44 dB
- **Dynamic Range:** 102 dB
- **Output Impedance:** Compatible with RTS™ keypanels
- **Power Requirements:** 1.5 to 9 VDC phantom supply
- **Current Consumption:** <500 μA
- **Color:** Nonreflecting black
- **Environmental Consitions, Relative Humidity 0-95%:** -29° to 74°C (-20° to 165°F) Storage
- **Relative Humidity 0-50%:** -29° to 57°C (-20° to 135°F)
- **Mounting:** Male threaded TRS
- **Dimensions - Knurled Stem to Head Length:**
- **Maximum Head Diameter:** 14 mm (0.55 in.)
- **Gooseneck Diameter:** 6.4 mm (0.25 in.)
- **Electronics Module Diameter:** 20 mm (0.79 in.)
- **Accessories Furnished:** Specially designed windscreen to prevent overloading and distortion in normal operation.

The Morgan County (Ga.) 9-1-1 dispatch center's radio consoles were all but obsolete, sending county officials in search of a new solution. As more and more public safety agencies in the region were turning to an iDEN system to supplement their two-way communications, the 9-1-1 center realized it needed a communications platform that would enable interoperability between disparate phone and radio networks. Morgan County chose Telex's IP-based dispatch solution with the NI223 iDEN Phone Interface. Operating on the county's IP network, the 9-1-1 center was able to implement a full-featured dispatch system at a fraction of the cost of traditional radio consoles.

Can we use our existing computer network to create an IP-based dispatch system, or do we need to build a new one?

The answer to this question depends on the IP dispatch system application. In many cases we can use existing IP networks, but in other cases, like public safety applications, you may want to think about creating a secure, standalone communications network. Here are a few things to consider with regard to IP dispatch solutions:

• How much traffic is on my existing network and how much bandwidth is available to dedicate to a communications solution?

• Does your network support multicasting? Multicasting is an important element in making our dispatch solutions as effective as possible. We can work with non-multicasting networks but there are some limitations.

• Do you want to connect and communicate between multiple locations or installations via an IP dispatch network? If so, that means you have to have a good network connection between them. Anywhere you have a network connection could be a potential location for communications equipment. So, if you have offices across the country that are all connected via a network, you could communicate between them using two-way radios, because the network ties them together.

How much bandwidth will the dispatch system use on the network?

With the new release of C-Soft 4.100 and the enhanced low bit Vocoder, there can be a savings of up to 30% in bandwidth!! Again, that depends on how many radios and dispatch positions you want on the system. The breakdown is pretty simple: for every device you connect to the system that operates in simplex mode, you need 50kBits of available bandwidth. Now simply multiply that times the number of radios you have on the system—eight radios means eight x 50kBit or 400kBit for effective simultaneous communications. You'll always want to make sure the network has enough capacity to account for the maximum possible number of simultaneous transmissions.

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Radio Dispatch