Model IP-223 Dual IP Remote Adapter Panel

- **Police and Fire Departments**
- **Utility and Energy Companies**
- **Railroads and Airline Industries**
- **US Forestry and BLM Agencies**

The Vega IP-223 IP Network remote adapter provides a reliable means of remotely controlling up to two, two-way-radio base stations. The adapter can be used in conjunction with the model C-6200 IP console or the C-Soft Windows console.
Programming of the IP-223 is accomplished through your web browser interface just like the C-6200 console.
The IP-223 is interconnected to the distant remote consoles by means of any available Wide Area Network (WAN) connection. Simply connect a standard 10/100 TX cable to the back of the unit and assign it an address. This can include wireless connections.
The IP-223 provides four distinct modes of operation.
Local Mode - The radio is connected to the IP-223 directly using the same connection pin-out as the DSP-223 allowing for simple migration.
Console Mode - Allows use of existing tone based legacy equipment. The IP-223 decodes the tone package from the back of the console and generates appropriate Ethernet traffic. Ethernet traffic is also decoded for the console to play. Supervisor and Crossmute functions are supported. See Figure 1
Tone Mode - The IP-223, based on Ethernet traffic, generates the keytones required to control any tone equipped radio circuit. This allows an existing radio to be connected and utilize its existing tone termination panel. This mode also supports a parallel analog console for local control. See Figure 2
Crosspatch Mode - Allows the mobile operator to set up a crosspatch to communicate with another user elsewhere within the radio system. See Figure 3

Front Panel features:

- 2x16 Backlit LCD display for all status information
- Line and Intercom buttons to allow communications with consoles on the network during radio setup or maintenance
- Front panel test points and level set potentiometers.
- Local handset port for intercom back to console operator or PTT of the radio.

Rear Panel connections:

- 2 - DB25 Connectors to the radio provides 7 digital outputs for channel selection, completely programmable per function tone
- RJ-45 Ethernet connector supporting 10 and 100 Mbps operation
- DB9 serial port with two active ports for later direct radio control and initial IP setup

System operation:

- Two PTT modes with three programmable monitoring modes
- PTT & monitor relays
- CTCSS generation (64 frequencies)
- F1 and F2 relays (programmable to any frequency or revert to F1). Relays can be placed in pair mode for separation from other function tones
- COR input for receiver mute
- Receive VOX circuit detect
- Morse Code encoder for automatic station identification
- Crosspatch initiation to another base station can be made using DTMF tone by mobile operators

VEGA

1-800-752-7560

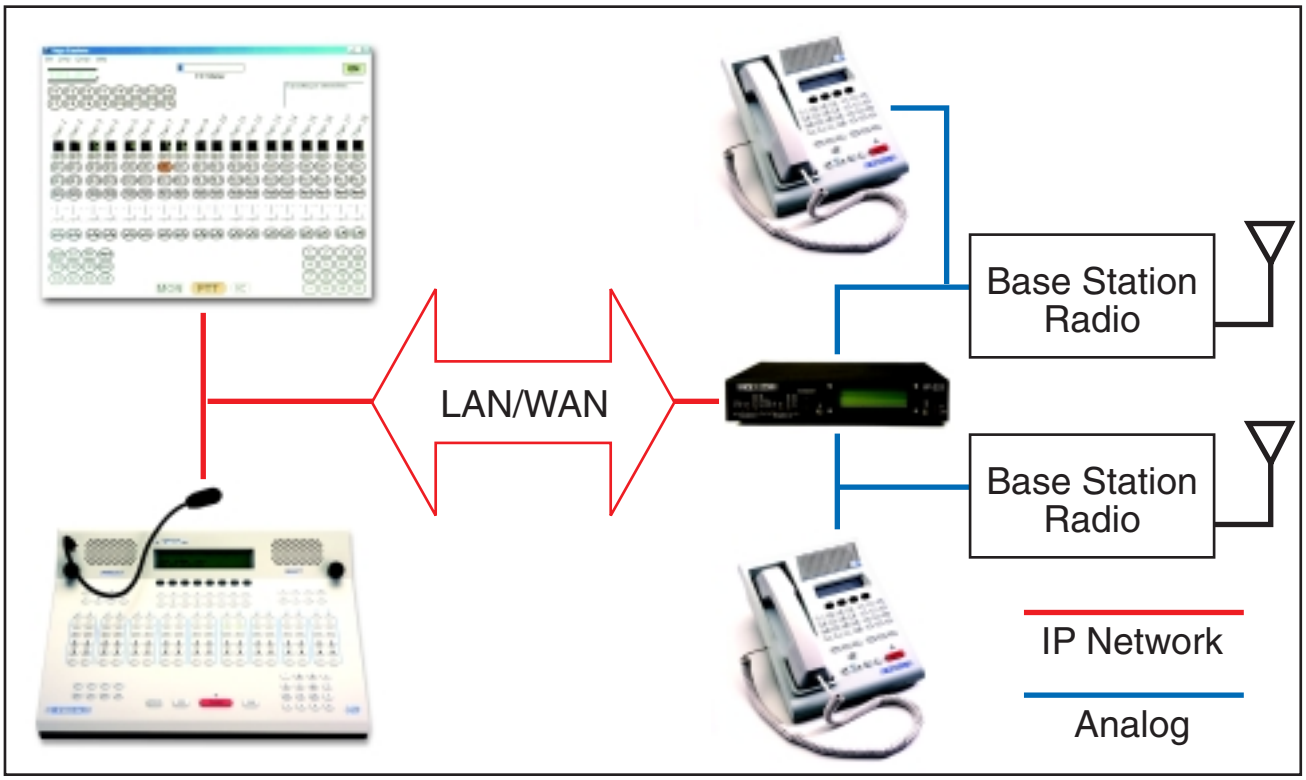


Figure 1

In Figure 1, the C-6200 console and the C-Soft console are connected via the Ethernet to an IP-223 adapter panel, which is controlling two base stations (normally located in the same building). Each transmit and receive pair have been assigned a port address, allowing the C-6200 or C-Soft console operator to select either one or both of the base stations for transmission. Optionally, the base stations can also be controlled in parallel by using analog C-2002 consoles.

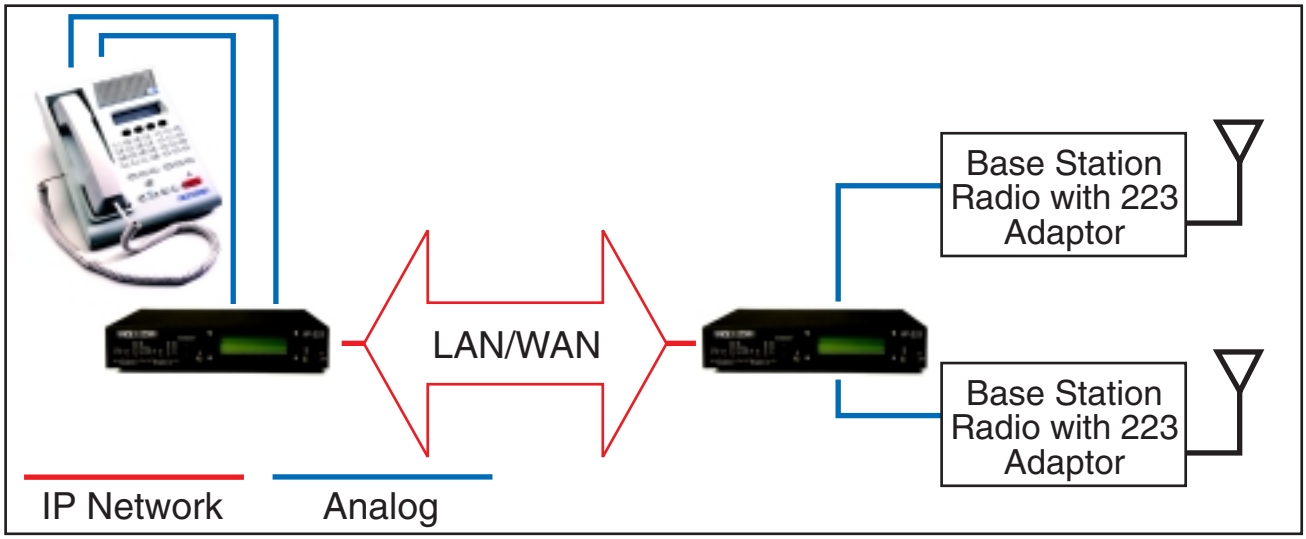


Figure 2

In Figure 2, a C-2002 is connected to an IP-223. The IP-223 in this mode is decoding the analog tone bursts and translating them to IP traffic. The IP-223 on the right side is accessed via the network and is regenerating the tone bursts to the DSP-223 or TRA-223 equipped base station radios. This mode allows for use of existing equipment while allowing a migration path to IP based radio control.
The C-6200 and C-Soft can also be placed on the LAN/WAN to control and monitor communications.

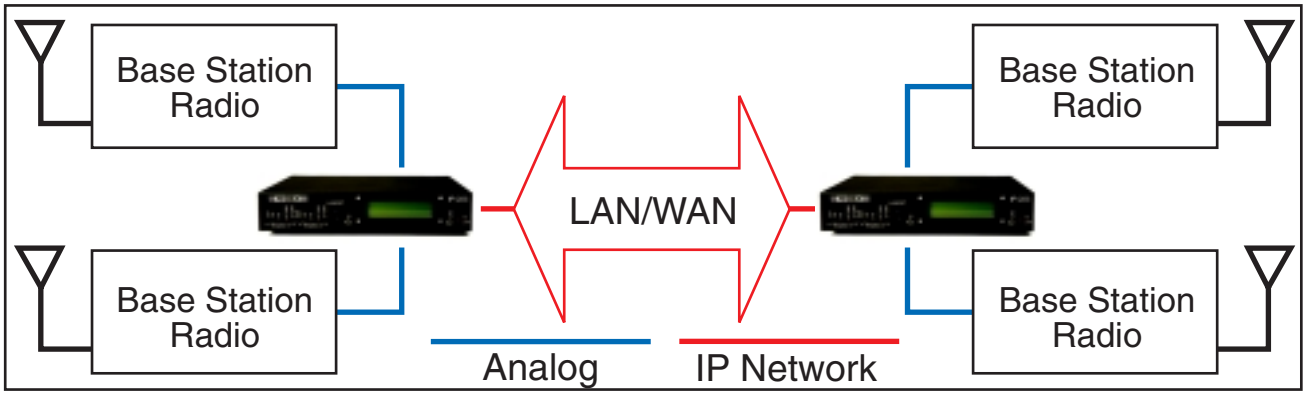
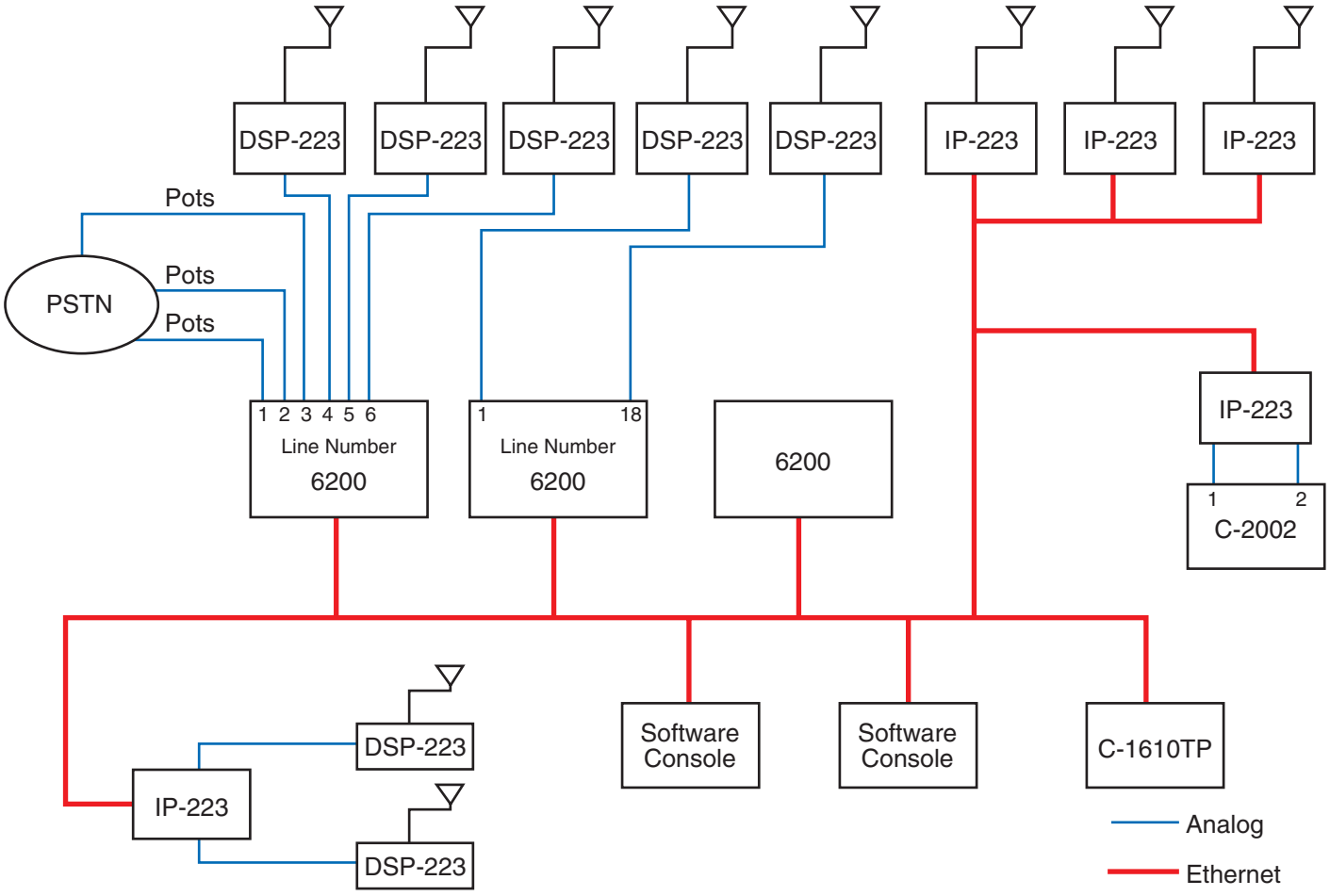


Figure 3

Figure 3 shows how two IP-223 adapter panels can be set in a crosspatch mode by the mobile operator. Each transmit and receive pair have been assigned a port address, allowing the mobile operator via a DTMF address to select which base station they desire to directly control. The dispatcher can still monitor and control the radios within the crosspatch, but this crosspatch mode allows a field user to setup a crosspatch to communicate directly with another user elsewhere within the radio system coverage.



Vega VoIP Roadmap with IP-223 Modes

Specifications

Operating Temperature Range: 0 to 70°C for full specifications

Power Requirements: +12 to +16 Vdc, semi-regulated, 700ma.

Relay Contact Ratings: 1A at 125Vac

Ethernet Speed: 10 BaseT or 100 BaseTX

Non-Relay Outputs: Open collector, active low, 200mA maximum, 40V collector to emitter voltage

Radio Input Level: 100mVrms to 16Vrms, adjustable

Radio Output Level: 10mVp-p to 9Vp-p for mic level or -40 to +10dBm into 600W load, adjustable

Radio Lines: 2W and 4W supported

Radio Interface: ±45 Vdc withstand rating

Radio Output Impedance: 600ohm for balanced mode, 200ohm for single ended mode

Frequency Response: ±1.5 dB, 300 to 3000 Hz

Audio Distortion: 2% THD maximum
DTMF Detection Bandwidth: ± 25 Hz around center of frequency

MON timer: 10ms to 65seconds, adjustable

Morse Code Transmitter: 20 wpm, 400-2000Hz carrier selectable, 50 chars max, -40 to 0 dB or range relative to max radio level output.

Dimensions: 8 1/2" Wide, 9 3/4" Deep, by 1 5/8" High

Front panel operations

- 2x16 Display for all operations
- ACCESS TO TEST POINTS
- LEVEL ADJUSTMENT POTENTIOMETERS
- INTERCOM BUTTON
- ACTIVE LINE SELECT BUTTON
- HANDSET CONNECTOR

Options:

- 19 inch rack mount kit, can accommodate 2 IP-223 adapters
- PTT handset

Warranty (Limited)

All Telex Communications Inc manufactured VEGA signaling products are guaranteed against malfunction due to defects in materials and workmanship for three years, beginning at the date of original purchase. If such a malfunction occurs, the product will be repaired or replaced (at our option) without charge during the three-year period, if delivered to the Telex factory. Warranty does not extend to damage due to improper repairs, finish or appearance items, or malfunction due to abuse or operation under other than the specified conditions, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives the customer specific legal rights, and there may be other rights which vary from state to state.

Claims

No liability will be accepted for damages directly or indirectly arising from the use of our materials or from any other causes. Our liability shall be expressly limited to replacement or repair of defective materials.

Specifications are subject to change without notice.

VEGA

TELEX® Communications, Inc.
VEGA Signaling Products

8601 East Cornhusker Highway, Lincoln, NE 68507
Phone: (402) 465-7026 / (800) 752-7560
Fax: (402) 467-3279
E-mail: vega@telex.com Web: www.vega-signaling.com