

# Telos VX

The networked telephone system for broadcast

“The intersection of IP audio and your studio phone systems.”

## The Telos VX is engineered for the strenuous demands of broadcasting

Proven IP-Audio technology now makes it possible to move and share lines between studios at the touch of a button. Highly scalable and configurable, VX is at home in the largest of facilities with the most sophisticated needs, while also being surprisingly cost effective for even single stations with more modest talk shows.

## Why VoIP for broadcast?

VoIP is a natural for broadcasters because it benefits from an IP/Ethernet interconnection between the processing Engine, audio interfaces, phone sets, console controllers, and PCs running screening software. With VoIP, there is finally a way to naturally and easily share lines among multiple studios. The networking also results in rich communication between devices. For example, caller info text entered by a producer is then displayed on the phone's color LCD, and caller audio is available on studio PCs for easy recording.

The VX system's standards-based VoIP connection to the Telco gives you a choice of using traditional POTS or ISDN lines via gateways or VoIP services via modern "SIP trunking," which can deliver substantial savings to stations that need a large number of lines. It also has the potential to improve audio quality.

## In Livewire-equipped facilities

The existing network can be used for the VX and its system components and the multiple audio channels can be accessed by any Livewire device. Of course, it works in non-Livewire studios too, via VX audio interfaces. And, in the same way that Livewire delivers full-fidelity studio audio, IP/Ethernet provides a secure, high-quality interconnect for VX system components.

## The VX network

It means you can now instantly share lines and route caller audio anywhere in your facility. Got a hot talkshow that suddenly needs more lines in a certain studio? Just a few keystrokes at a computer and you're ready. No cables to pull. No wonder most fortune 500 companies have replaced their older PBX systems with VoIP..

## The Telos VX system includes:

- VX Engine: Audio Processing Engine
- VSet12: IP-based call controller
- VX Producer: Screening software
- VX Interfaces for Analog Audio, AES/EBU and GPIO connections



### **This is a broadcast-specific phone system**

VX is engineered for reliability, intuitive operation in fast-paced studios, and of course, superior sound quality. Telos DSP algorithms bring calls to life, cleanly, clearly and consistently. Even mobile phone calls sound better! New acoustic echo canceller technology solves the feedback problem often caused by loudspeaker monitoring of calls.

### **For traditional phone service**

Optional gateways connect you to T1/E1, ISDN, and even POTS. And, if you have a VoIP-based PBX or SIP-trunking telco service, the VX uses standard SIP (Session Initiation Protocol) and RTP (Real-time Transport Protocol) to direct up to 50 simultaneous on-air phone calls.

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### **Call processing is sophisticated and flexible**

Lines can be easily shared between studios. A web interface lets you assign lines to user-selectable 'Show Profiles.' The call screening interface uses familiar Telos Status Symbol icons to let talent and producers know, at a glance, the status of each line. And, each studio has its own dedicated Program-on-Hold input.

### **Connect VX to any radio console**

Or other broadcast equipment using standard analog, AES/EBU or GPIO logic interfaces. Or, connect to Axia consoles using Livewire IP-Audio, eliminating the cost and complexity of old-style inputs, outputs, and mix-minuses. Multiple phone lines – each with a dedicated hybrid – automatically connect to individual console faders for complete control of caller audio. And users enjoy seamless console integration, with phone controls right on the board so that talent can dial, answer, screen, and drop calls without ever diverting their attention from the console.

### **It's not just VoIP**

It's VoIP from Telos. VX also features our most advanced audio processing ever. Each incoming line has its own third-generation Telos Adaptive Digital Hybrid, so multiple calls can be conferenced with superior clarity and fidelity. Smart AGC ensures consistent caller audio levels. FhG's Acoustic Echo Cancellation (AEC) removes feedback and echo in open-speaker studio situations.

### **Three-band adaptive Digital Dynamic EQ**

Call ducking, and host override are all part of the VX toolkit. The result: even international calls and mobile calls sound alive and clear.

### **Every system comes with VX Producer**

A PC-based screening application that includes an integrated SoftPhone interface, plus recorder, player, and editor. With VX Producer, operators can easily record and edit caller comments and send them to the studio for on-air play, and in-studio DJ-style call recording, editing, and playback are greatly simplified. For custom applications, specialized control software available from partners such as Broadcast Bionics and NeoGroupe can extend the capabilities of VX to suit your station's specific needs.

## VSet12



**"VSet12 gives talent more flexibility than ever before."**

### **The new Telos VSet12 phone**

It is as functional as it is beautiful. Its familiar phone-set design makes it easy to work with. Its big LCD color display with Status Symbol display keeps talent informed. When matched with VX Producer software, the display delivers detailed information for up to 12 lines, including line status, caller information, caller ID, time ringing-in or on-hold, and even screener comments.

### **Map groups of lines to a single fader**

It's easy to take a queue of calls to air sequentially, for precise control of multi-call interviews or conferences. One-touch controls let talent step through queued calls, manage incoming lines, lock calls on-air, and even start an external recording device.

### **The new Telos VSet12 phone**

A built-in address book and call history log round out VSet12's features. As with the rest of the VX system, each VSet12 has its own web server for easy remote configuration and software upgrades.

# VX Engine

“Up to 20 studios can connect to a single VX Engine.”



## The VX Engine is the heart of the system

It houses hybrids, manages call control, and processes audio. Because VX is an IP-based system, I/O is limited only by network bandwidth and throughput. The result: an unprecedented capacity of up to 50 available incoming lines. Talent can customize their telephone workflow using 'Show Profiles' to store and recall commonly used show configurations.

## VX is equipped

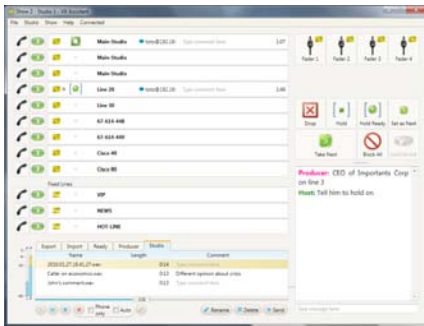
With a rich toolbox to make caller audio sound its best, no matter what kind of line or phone the caller uses. Caller audio benefits from Smart AGC, Telos' famous Digital Dynamic EQ, and a three-band adaptive spectral processor. Meanwhile, send audio gets its own sweetening with a frequency shifter, AGC/limiter and FhG's Advanced Echo Cancellation. Remote control and configuration is a snap. VX is web-based, so engineers can work with it from any place they can get online.

## And because VX uses VoIP technology

Talent, producers, and board ops have a wide range of phone, console, and software interfaces at their disposal. Including our own, VX-optimized VSet12 and VX Producer call-screening software. And, direct console integration with Axia IP-Audio consoles lets talent make and take calls directly from the board. Each VX Engine supports up to 100 control devices, in any combination. At only 2 RU in height, and 15" deep, the VX Engine can be neatly tucked away in any equipment rack.

# VX Producer

“VX Producer is a PC software application that streamlines call screening, recording, and editing with an intuitive, user-friendly interface.”



## VX Producer gives talk show producers plenty

Information including caller status, screener's comments, Caller ID, and time per call for up to 12 lines. Like the VSet12, VX Producer includes an address book and call history log. There's also a Chat function that lets producers and talent communicate quickly off-air using VX Producer.

## Much more than just a call screening application

Plug a headset mic into your PC, and you can make and take phone calls directly from VX Producer — no phone set needed. There's also a built-in audio editing application that lets you record, edit, and play back conversations without any other software. When you're done editing, click "Send to Studio" and it's ready to play on-air.

VX Producer is included standard with every VX Engine purchase.

“With Telos VX You have all the power and control that modern VoIP technology can provide. You can configure the most complex talk-shows with a few keystrokes. Because it is Telos, VX is engineered to be both easy to use and impossible to abuse. And your callers will sound amazing.”

# PhoneBOX VX

By Broadcast Bionics

“Broadcast Bionics asked if they could use the VX as a platform for their popular PhoneBOX product.”



**It took us about a millisecond to say yes.**

Partly because we believe in open standards and the benefits of partnerships. But also because we think PhoneBOX is very cool!

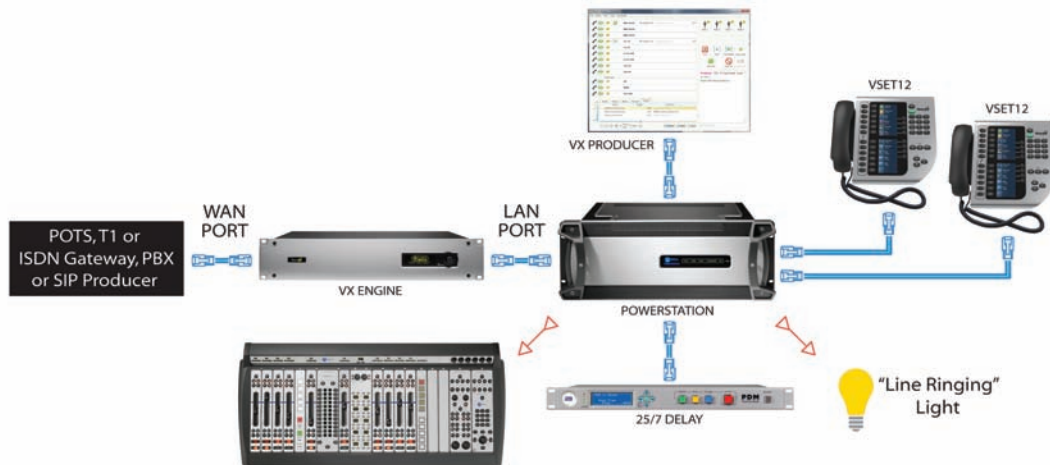
## Starting with PhoneBOX VX Lite

Free for all VX customers, PhoneBOX VX scales to cover the most demanding of formats and the largest of networks. PhoneBOX VX harnesses the power of the Livewire network. It offers stunning visual talkback. It integrates phones with email, SMS & social media. It's powerful and scalable offering multistudio control complete with SQL caller database, call history, call recording & editing, codec and console integration all as standard.

# VX Axia Installation Diagram

A Telos Vx installation on an Axia network requires the least amount of hardware. Lines are delivered via IP through a POTS, ISDN or T1 gateway device, a SIP PBX, or directly over the internet or a dedicated IP circuit using the now-common SIP protocol. The audio inputs and outputs used and produced by the Vx use the Livewire Audio-over-IP (AoIP) standard, and thus are easily used on an Axia network, including the Element console or any other Livewire devices. Axia console GPIO ports can be used for “phone ringing” lights or remote control of the Audio Delay “dump” command.

The VSet12 telephone is a richly featured IP telephone designed for active call screening and on-air call handling. Telos Vx Producer software gives you full control of your Vx system and was designed for on-air use as well. It lets you easily screen and air calls, record and even edit the audio and export it to your playback system or archives.



# VX Non-Axia Installation Diagram

The Telos Vx is a 'facility wide' on-air telephone system. Facility wide means multiple studios, multiple stations, multiple shows and with minimal hardware requirements. Lines are delivered via IP through a POTS, ISDN or T1 gateway device, a SIP PBX, or directly over the internet or a dedicated IP circuit using the now-common SIP protocol. All line and audio connectivity is via Ethernet. The VX family includes a selection of analog, AES/EBU, and GPIO logic interfaces for use when connecting to your consoles and other broadcast equipment.

The VSet12 telephone is a richly featured IP telephone designed for fast paced call screening and on-air call handling use. Telos Vx Producer software gives you full control of your Vx system and was designed for on-air use as well. It lets you easily screen and air calls, record and even edit the audio and export it to your playback system or archives.

