

THE TELOS ALLIANCE®
TV SOLUTIONS GROUP



The AoIP Solution that Changes Everything

Telos



INFINITY®

INTRODUCING TELOS INFINITY IP INTERCOM

From the company that invented AoIP for broadcast.

Telos Infinity is a new AoIP solution that delivers a quantum leap in scalability, ease of integration, efficiency and total cost of ownership. First in the new series of Telos Infinity solutions is the revolutionary Telos Infinity IP Intercom – a comprehensive next generation communications solution featuring:

- » Seamless interoperability through standards-based Livewire+ AES67
- » Infinite scalability for all internal and external communications
- » Plug-and-play device integration
- » Intuitive UI for simplified operation
- » Matrix-Free distributed network architecture
- » Lower TCO than traditional intercom systems
- » Optimization for broadcast communications

Production Control Room



INF-DASH-ADV · INF-MP-16 · INF-MXP-20 · Telos VSet

Sound Control Room



INF-DASH-ADV · INF-DS-16 · Telos VSet

Master Control Room



INF-DASH-ADV · INF-MP-16 · INF-MXP-20 · Telos VSet

Rack Room



INF-DASH-ADV · INF-MP-16 · INF-MXP-20 · Telos ZIP/ONE · Telos VX Engine



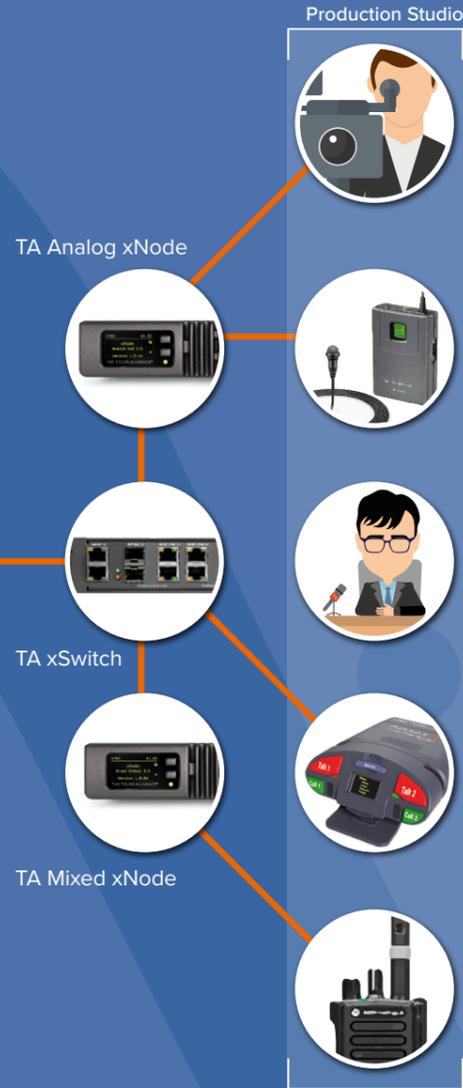
Field Reporters | SIP Phone Application



Remote Bureau via SIP | Mobile Phone app · Pad app



Infinity MP-16 & Infinity MXP-20



INF-BP-2



Infinity DS-16



Infinity BP-2



Infinity BP-2



Rethink Intercom

Telos Infinity IP Intercom is a complete reimagining of broadcast communications technology developed by the Telos Alliance engineering team that invented AoIP for broadcast in 2003. More than just a talkback system, Telos Infinity IP Intercom converges voice communication and contribution audio on a single IT backbone employing the latest standards-based VoIP and AoIP transport to provide dedicated features and functionality without compromise or limitations.

Break the Matrix

Telos Infinity IP Intercom replaces outmoded matrix technology with an advanced, distributed IP network solution that provides superior functionality in a simplified, more elegant form. Being matrix-free allows plug-and-play networked hardware and software devices to be added to the system as part of a planned or ad-hoc change, without ever worrying that you might exceed the number of available ports on a matrix.

As Part of an Integrated System ...

Telos Infinity IP Intercom unleashes the full potential of a distributed IP audio infrastructure, allowing access to any networked audio endpoint through the intuitive Telos Infinity Dashboard application. Mix-minuses, program busses, mixer auxes, monitor feeds, remote contribution audio, and presenter mics are all available anywhere you need them – for communication or on-air use. And since Telos Infinity IP Intercom natively supports Livewire+ AES67, it can be used with our own AoIP products or those from other supporting manufacturers.

... Or as Part of a Legacy Installation

Realizing the benefits of Telos Infinity IP Intercom doesn't mean abandoning existing audio infrastructure. Instead, Telos Infinity seamlessly integrates into analog, AES, SDI, and MADi systems using Telos Alliance xNode baseband-to-IP interfaces and other AES67 partner devices. A transition to AoIP reduces the amount of cabling and its associated costs, system design time and installation expense – all while establishing a pathway to a complete AoIP solution in the future.

Infinity Dashboard Advanced

Devices	Sources	Destinations	GPI	GPO					
Headset Mic 172.16.231.114 575	Headset Mic 172.16.231.107 383	Headset Mic 172.16.231.121 322	Not Example 172.16.1.128 13401	UMPHREY 2 172.16.1.128 13402	UMPHREY 3 172.16.1.128 13403	UMPHREY 4 172.16.1.128 13404	UMPHREY 5 172.16.1.128 13405		
UMPHREY 8 172.16.1.128 13408	Headset Mic 172.16.231.145 766	Headset Mic 172.16.231.119 302	Headset Mic 172.16.231.137 331	SRC 1 172.16.235.107 10071	SRC 2 172.16.235.107 10072	SRC 3 172.16.235.107 10073	SRC 4 172.16.235.107 10074		
SRC 7 172.16.235.107 10077	SRC 8 172.16.235.107 10078	Headset Mic 172.16.231.185 541	ALPHA 1 172.16.1.22 13501	ALPHA 2 172.16.1.22 13502	ALPHA 3 172.16.1.22 13503	ALPHA 4 172.16.1.22 13504	Headset Mic 172.16.231.181 872		
Mic1 172.16.235.106 10061	SRC 2 172.16.235.106 10062	SRC 3 172.16.235.106 10063	SRC 4 172.16.235.106 10064	SRC 5 172.16.235.106 10065	SRC 6 172.16.235.106 10066	SRC 7 172.16.235.106 10067	SRC 8 172.16.235.106 10068		
Headset Mic 172.16.231.175 544	Test 1 172.16.1.102 1	Test 2 172.16.1.102 2	Test 3 172.16.1.102 3	PC 4 172.16.1.102 4	PC 5 172.16.1.102 5	PC 6 172.16.1.102 6	PC 7 172.16.1.102 7		
PC 10t 172.16.1.102 10	PC 11 172.16.1.102 11	PC 12 172.16.1.102 12	PC 13 172.16.1.102 13	PC 14 172.16.1.102 14	PC 15 172.16.1.102 15	PC 16 172.16.1.102 16	Headset Mic 172.16.231.116 529		
SRC 1 172.16.237.193 1805	SRC 2 172.16.237.193 1500			Headset Mic 172.16.231.189 614	SRC 4 172.16.235.128 10124	SRC 5 172.16.235.128 10125			
Headset Mic 172.16.231.176 585	Headset Mic 172.16.231.176 585			Axia 125us 172.16.248.225 18435	loopback to PC 172.16.248.225 10090				

Beltpacks

The Telos Infinity BP-2 is a next-generation wired Dual Channel Digital Beltpack that is powered by PoE (Power over Ethernet) and is natively AES67 compliant. Whether via Partyline, Group, IFB, Peer to Peer, or connection to any other IP audio networked element within the wider Telos Infinity IP Intercom, the Infinity BP-2 communicates across the network seamlessly while maintaining incredibly low latency.

Multiple INF-BP-2's can be daisy chained together, powered from the same physical PoE port, providing a functionally superior alternative to traditional 2-wire or digital audio based partyline systems..

- » Dual channel duplex communication plus auxiliary program source
- » 24bit 48kHz IP audio
- » Natively Livewire+ AES67 compliant
- » Rugged, lightweight design with interchangeable belt clip/mounting accessory
- » Network connection via standard 100mbit Ethernet
- » PoE or PoE+ with managed daisy chain connectivity
- » Headset connector supporting industry standard XLR-4M
- » Internal mic/speaker for handsfree walkie-talkie, desktop or wall mount use
- » Configurable dynamics processing for improved speech intelligibility
- » Full configuration via Telos Infinity Dashboard
- » Device management via built-in Web UI

Intercom Panels

By combining familiar hardware Intercom facilities with the flexibility and workflow advantages of matrix-free IP communications, the INF-MP-16 sets a new benchmark in broadcast talkback technology. The INF-MP-16 1RU Intercom Master Panel features 16 multicolor talk/listen lever display keys that can show up to four lines of text plus bitmap images and icons (coming soon). Complemented by optimised voice channels and loudspeaker reproduction, the INF-MP-16 features the excellent speech intelligibility required for mission critical broadcast operations.

Auxiliary, rear panel stereo analog I/O including a studio quality mic pre-amplifier, means that the INF-MP-16 can be used as a contribution or monitoring endpoint. The addition of GPIO as standard enables remote control of signalisation or complex logic interfacing across the network infrastructure.

- » 16 multi-color display lever keys with additional shift levels at the touch of a button
- » Multi-channel duplex voice and contribution audio endpoint
- » 24bit 48kHz IP audio
- » Natively Livewire+ AES67 compliant
- » Network connection via standard Gigabit Ethernet
- » PoE+ or external DC power (or both for redundancy)
- » Aux rear panel I/O including studio grade mic input for on-air contribution
- » GPIO via rear panel D-Sub as standard
- » Headset connector supporting industry standard XLR-4M
- » Configurable dynamics processing for improved speech intelligibility
- » Full configuration via Telos Infinity Dashboard
- » Device management via built-in Web UI

For even more control, the Telos Infinity INF-MXP-20 Master Expansion Panel provides 20 additional display keys.

Desktop Station

For use in locations where a rackmount panel isn't practical, the Telos Infinity INF-DS-16 16 Key Intercom Master Desktop Station delivers the same functionality and features as the INF-MP-16 in a compact and attractive format.

Dashboard Software

Telos Infinity Dashboard is unlike other Intercom system management tools. By displaying the entire Intercom system as a single page view without the clutter of multiple tabs and embedded menus, the operator can navigate quickly, and within minutes take control to create or manage a working IP Intercom. Create unlimited Groups, Partylines and IFBs, drag-and-drop functions directly onto Panel and Beltpack keys in real-time, and manage AoIP sources and destinations as though they are physical ports on a virtualized Intercom matrix.

Telos Infinity Dashboard is much more than a configuration tool for Telos Infinity IP Intercom. Dashboard also manages all hardware and software elements within the system, including software and firmware updates, and monitors network performance and fault logging. All Telos Infinity systems are supplied with a Dashboard Basic license, a single user application suitable for smaller installations with direct online control and restricted feature set.

Infinity Dashboard Advanced

Infinity Dashboard Advanced is an optimised configuration and system management tool with an extended feature set designed for Telos Infinity Intercom systems of all sizes and applications. It unlocks the full potential of the multi award-winning Telos Infinity matrix-free IP Intercom System.

The Advanced Agent can be installed on either single or dual servers (coming soon) and constantly monitors the Telos Infinity Intercom network as well as any other connected AES67 devices, stream sources and destinations. User Clients connect to the Server Host via any HTML5 compatible web browser using a suitable connected device including PCs, Tablets and Mobile devices.

Dashboard Advanced can be used for all system configuration, from initial set up to 'on the fly' changes during live operation. However, Dashboard Advanced does not need to run constantly for Infinity to function normally (although it is highly recommended).

Additional features like System Zone and Scene support enables the user to define dedicated system views of specific components and create snapshots (Scenes) for different productions and applications. Tailored access to specific Zones and Scenes as well as offline configuration modes are all protected by centrally managed user rights administration, ensuring that operators at all levels

have restricted access to the resources that they need. Zones and Scenes can be edited, cloned and recalled both in 'Live' and Offline modes.

Critical for use within the wider Audio over IP ecosystem, Dashboard Advanced adds a tool that enables direct connection of 3rd party AES67 streams (including SAP for Dante and future NMOS modes).

Telos Infinity users have the option to purchase either single or dual server versions of Dashboard Advanced, each including Systems Administrator login licenses. Further logins for additional clients can be purchased. There is no limit to the number of simultaneous users who can be connected to Dashboard Advanced.

- » Optimised User Experience
- » Infinity Dashboard Basic application for smaller systems (single license, online control only)
- » Infinity Dashboard Advanced total system control and management (multi-user server application)
- » Online and offline configuration (Dashboard Advanced)
- » Create unlimited Groups, Partylines and IFBs
- » Drag and drop system configuration
- » Manages all Telos Infinity and Telos Alliance AoIP devices
- » Livewire+ AES67 source and destination management (virtual matrix ports)
- » GPIO / Logic configuration and management
- » Constantly updating system database backup
- » Native AES67 input/output support for all Livewire+ and non-Livewire+ streams (including SAP discovery and advertisement)
- » Drag and drop Intercom Device copy and cloning of Panel and Beltpack configurations
- » System Zones enable user restricted or bespoke system viewports
- » System Scenes enable multiple 'snapshots' for offline creation, save and live recall of show specific configurations

TELOS INFINITY LINK

Telos Infinity Link is an OPUS codec-based software product launched as a part of the Telos Infinity solution at NAB 2019. The product takes the form of a series of software licenses that can be added to any host Infinity Panel or Beltpack hardware, unlocking 2 (Beltpack only), 4 or 8 embedded codecs which convert WAN-side VoIP to LAN-side LW+ AES67. There is also a 1ru hardware Gateway device supplied with dual AC power and dual gigabit Ethernet connection supporting either 8 or 16 embedded codecs.

The OPUS codec is a totally open, royalty-free, highly versatile audio codec. Opus is unmatched for interactive speech and music transmission over the Internet but is also intended for storage and streaming applications. It is standardized by the Internet Engineering Task Force (IETF) as RFC 6716 which incorporated technology from Skype's SILK codec and Xiph.Org's CELT codec.

The Product

Link for Beltpack: INF-BP-2/Link2 supports two bi-directional codecs running on a standard Infinity wired BP.

Link for Panel: INF-MP/DS-16 and INF-MXP-20/Link4 and Link8 supports four or eight bi-directional codecs running on standard Infinity Panels (Master, Desktop and Expansion).

Link Gateway: INF-Link Gateway-8/16 supports either 8 or 16 bi-directional codecs running on a dedicated 1ru hardware platform. The product features dual AC power and dual gigabit Ethernet.

Functionality

Each codec send/receive pair can be connected to an associated pair at a remote location. The resultant LW+ AES67 Sources and Destinations appear within the Dashboard Input/Output lists in the same form as an xNode or any other connected AES67 stream. It is a good analogy to think of Infinity Link as a kind of VoIP based xNode with Infinity connections that can be used in the same way as and xNode, as part of a Partyline, Group, IFB, VP or for Peer to Peer communication.

The Infinity Link Advantage

Infinity Link is a competitive and flexible solution that allows the user to turn a standard Infinity Panel or Beltpack into a VoIP utility without compromising it's use as a communications device. Unlike other solutions, the fact that the resultant streams are presented as LW+ AES67 audio and are made available within Dashboard as utility connections that are not restricted to use by the host device, means that the system has ultimate flexibility when configuring their use.

It maintains the matrix-free advantage of Telos Infinity but adds the ability to extend connectivity beyond the boundaries of AoIP.

Infinite Possibilities

Telos Infinity IP Intercom marks the next generation of Audio over IP solutions destined to revolutionize broadcast communication through the creation of disruptive and innovative technologies - and it's just the start. More functionality, features and new products are just around the corner. Talk to your local Telos Infinity representative or contact Telos Alliance directly to learn more.

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