Z/IP ONE

Drops Jaws. Not Audio.

Quick Start Setup Guide

1490-00112-001 QUICK START GUIDE: Z/IP ONE

ATTENTION!

This quick start guide is intended to aid with basic deployment of your unit.
For detailed product and operational information, as well as current software downloads,
please visit **www.Telos-Systems.com**.

THE TELOS ALLIANCE

IMPORTANT SAFETY INFORMATION ABOUT YOUR NEW PRODUCT

We know you're eager to get your new gear up and running. But first, The Telos Alliance strongly suggests you use an Uninterruptible Power Supply (UPS), with power line filtering, to prevent damage in case of electrical storms or power surges. Your Product Warranty (found in the User Manual) does not cover lightning damage!

Information about lightning protection can be found at:
http://blogs.telosalliance.com/tech/surge-suppression-pointers

Warranty
http://telosalliance.com/Warranty

24/7 Technical Support
+1 (216) 622-0247
support@telosalliance.com

Manual and Software Downloads
http://www.Telos-Systems.com

1 Quick Start Setup Guide

This quick start guide will have your Telos Z/IP ONE up and running ASAP. For more sophisticated setups (necessary in some cases), please refer to the full Z/IP ONE manual.

To get started, you will need:

From our box:

1. Z/IP ONE unit
2. AC Power Cord
3. Network Cable

What you will need to bring:

1. Headphones or audio monitor
2. Microphone or Audio Source (optional)
3. An Internet-Connected Local Area Network with DHCP Server (We can use a Dynamic IP address on your network for this Quick Start. However, some modes of Z/IP ONE operation would require a Static IP address on your network.)

The Z/IP ONE User Interface

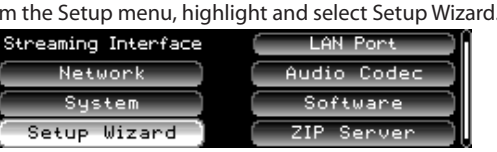
Once the Telos Z/IP ONE has been plugged in and turned on, you will be greeted by the main menu. The main menu is the first screenshot image shown below. If you see a different screen, you can press the escape button (also functions as the "back" button) on the keypad until you arrive to the main menu. To make a menu selection, turn the primary knob until you have highlighted where you want to go and press the knob IN to make a selection.

Setup Wizard

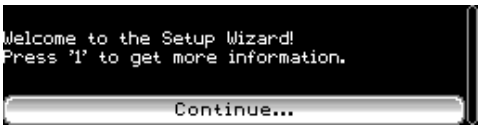
One option for initial setup of the Z/IP ONE is using the built-in Setup Wizard. The Setup Wizard will work in most common IP networks, and requires little technical knowledge. Plug in your IP network to the WAN port. Either WAN or LAN can be used, but we'll consider it plugged into the WAN port for this Quick Start. Let's walk through the Setup Wizard:

From the Main menu, highlight and select Setup.

From the Setup menu, highlight and select Setup Wizard.

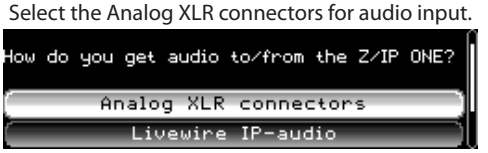


Click to Continue.

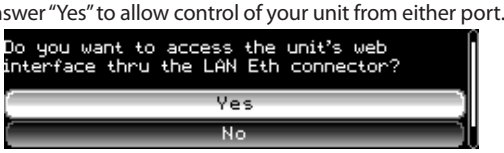


Select the WAN Ethernet connection.

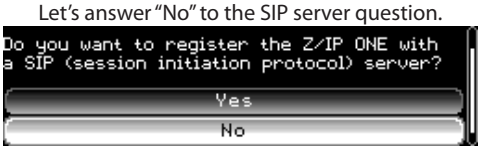
Select the Analog XLR connectors for audio input.



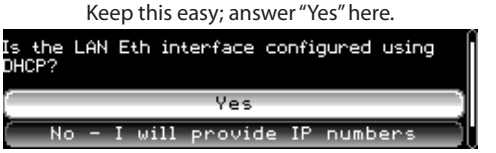
Answer "Yes" to allow control of your unit from either port.



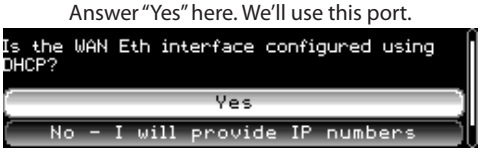
Let's answer "No" to the SIP server question.



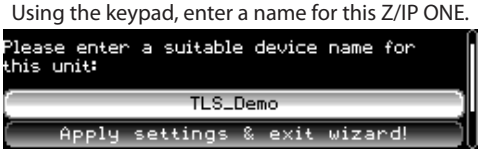
Keep this easy; answer "Yes" here.



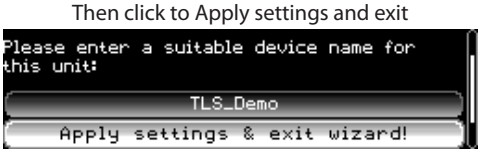
Answer "Yes" here. We'll use this port.



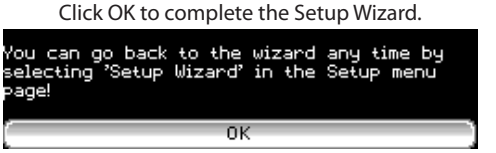
Using the keypad, enter a name for this Z/IP ONE.



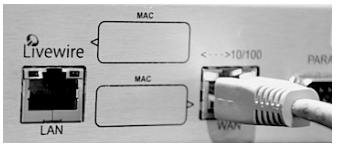
Then click to Apply settings and exit



Click OK to complete the Setup Wizard.

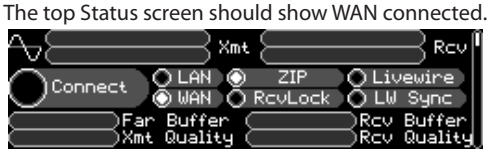


Plug your Internet-connected network to the WAN port.

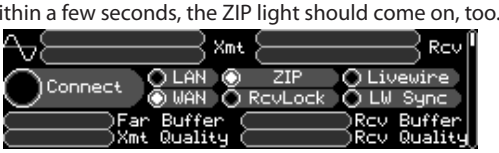


Then, highlight and select Status.

The top Status screen should show WAN connected.



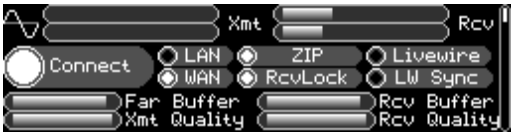
Within a few seconds, the ZIP light should come on, too.



Make Your First IP-Codec Call

Now that the WAN and ZIP indicators are ON, you're ready to make your first Z/IP ONE IP call. Press the AUTO button - it's in the upper right corner of the keypad area. This brings up the phone book – a quick-dial list of the other Z/IP ONEs you'd like to connect with.

Your Z/IP ONE is factory programmed with two contacts - the Telos Line in Cleveland, Ohio, USA, and the Euro Line in Freising, Germany. Highlight "Telos Line" and press the AUTO button again (or push the main control knob) to establish a call. The screen will change automatically to the main Status display:



The large Connect indicator should come ON, indicating a successful handshake between your Z/IP ONE and the one you've called. This may occur almost instantly, or may take up to 10 seconds, depending on the design of your local Internet router. You should hear a "bee-deep" sound upon connection, followed by the RcvLock indicator coming on. The Rcv audio level meters will begin showing audio levels. In a few more seconds the Buffer and Quality gauges in the lower third of the screen will show relative indications of receive buffer size at both ends and quality of the connection, indicating dropped packets. To listen to the audio, plug your headphones into the front panel headphone jack.

Just so you know

Your Z/IP ONE will automatically disconnect from the Telos test line after 10 minutes of connection. This is to allow others to test Z/IP ONE connections, too.

Congratulations!

You've configured your Z/IP ONE and made your first IP-codec call. There are dozens of configuration options within the Z/IP ONE, allowing it to work ideally in different broadcast and remote-audio roles. Consult the manual, our online video tutorials, or Telos Support to get the most out of your Z/IP ONE.

. . . Now what?

Most hardware codecs, such as the Telos Z/IP ONE, Telos ProSTREAM, and Telos iPort, offer a choice of audio coding algorithms. With unhelpful names like "G.722", "AAC-LD", and "Layer 2", how does one choose the best coding algorithm for a given connection or use? A full discussion of audio coding is in Appendix B, Audio Coding Reference, but the following tables summarize their features at a glance.

CODEC	Mono/ Stereo	Lower Bitrates	Lower Delay	Remote Broadcasts	STL & Infrastructure	Error Concealment	Highly Compatible
AAC-ELD	M/S	✓	✓	✓		✓	
AAC-HE	M/S	✓		✓		✓	
AAC-LD	M/S		✓	✓		✓	
AAC	M/S				✓	✓	
Layer 2	M/S				✓		✓
G.722	M	✓	✓	✓			✓
G.711	M	✓	✓				✓
aptX® Enhanced	M/S		✓		✓		
PCM Linear	M/S				✓		✓

Codec Characteristics:

CODEC	Bitrates	Audio Expectations	Typical Use Case
AAC-ELD	48 - 64 kbps	Excellent quality for low bitrates, full audio range, mono or stereo, low delay. Error concealment.	**Live broadcasts of voice or music.** Can use for music if necessary. Quick interaction with studio hosts and callers.
AAC-HE	16 - 96 kbps	Excellent quality for low bitrates for voice and music. Full audio range. Relatively high delay. Error concealment.	**Music at lower bitrates.** Best for one-way broadcasts where tight interaction with studio hosts or callers is not critical. Works at very low bitrates with some compromise in quality.
AAC-LD	112 - 320 kbps	Excellent, full-range audio quality for medium bitrates. Low delay. Error concealment.	**Music/voice at medium bitrates.** When medium bandwidth is available and interaction with studio hosts or callers is needed, this is a great choice.
AAC	80 - 320 kbps	Excellent, full-range audio quality for medium bitrates. Slightly higher delay. Error concealment.	**Music at medium bitrates.** For the medium range of bitrates, this is the best codec to choose when a little delay is OK. Quality is fully "awesome", especially at 256 kbps and higher.
Layer 2	112 - 384 kbps	Excellent quality at medium-high bitrates. Very compatible with other brands of equipment.	**Music/voice at medium bitrates to other brands of codecs.** Layer 2 is a great choice, especially for compatibility across different brands of codecs.
G.722	64 kbps	Good voice quality (7 kHz) when low delay and compatibility is needed. Also called "HD Voice"	**Voice at low bitrate to other brands of codecs.** Not "high quality", but much better than a standard telephone call. It's the most compatible low bitrate codec with any other brand.
G.711	56 - 64 kbps	Low quality, low delay mono voice. Only 3.3 kHz audio.	**This is a "phone call".** Often used for compatibility for SIP (VoIP) calls to/from regular telephones.
aptX® Enhanced	384 - 576 kbps	Excellent quality, full audio bandwidth, low delay. Optional on some codecs.	aptX® Enhanced is primarily used in professional broadcast applications where low delay is desired and cascading coding algorithms may be encountered.
PCM Linear	1,536 - 2,304 kbps	Perfect quality, full bandwidth, low delay. No error concealment.	**Perfect audio for perfect connections.** If you've got the bandwidth and a perfect IP path (low jitter and no packet loss), this is the perfect "algorithm". Bit rate is not variable, but is fixed for given mono/stereo and bit-depth parameters.

Telos Alliance Limited Warranty

This Warranty covers "the Products," which are defined as the various audio equipment, parts, software and accessories manufactured, sold and/or distributed by or on behalf of TLS Corp. and its affiliated companies, collectively doing business as The Telos Alliance (hereinafter "Telos").

With the exception of software-only items, the Products are warranted to be free from defects in material and workmanship for a period of five (5) years from the date of receipt of such Product by the end-user (such date of receipt the "Receipt Date"). Software-only items are warranted to be free from defects in material and workmanship for a period of 90 days from the Receipt Date. Telos will repair or replace (in its discretion) defective Products returned to Telos within the warranty period, subject to the provisions and limitations set forth herein.

This warranty will be void if the Product: (i) has been subjected, directly or indirectly, to Acts of God, including (without limitation) lightning strikes or resultant power surges; (ii) has been improperly installed or misused, including (without limitation) the failure to use telephone and power line surge protection devices; (iii) has been damaged by accident or neglect. As with all sensitive electronic equipment, to help prevent damage and or loss of data, we strongly recommend the use of an uninterruptible power supply (UPS) with all of our Products. Telos products are to be used with registered protective interface devices which satisfy regulatory requirements in their country of use.

This Warranty is void if the associated equipment was purchased or otherwise obtained through sales channels not authorized by Telos.

EXCEPT FOR THE ABOVE-STATED EXPRESS WARRANTY, TELOS MAKES NO WARRANTIES, EXPRESS OR IMPLIED (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE).

In no event will Telos, its directors, officers, employees, agents, owners, consultants or advisors (its "Affiliates"), or authorized dealers or their respective Affiliates, be liable for incidental or consequential damages, or for loss, damage, or expense directly or indirectly arising from the use of any Product or the inability to use any Product either separately or in combination with other equipment or materials, or from any other cause.

In order to invoke this Warranty, the Product must be registered via Telos' website (found at: http://telosalliance.com/legal/warranty) at time of receipt by end-user and notice of a warranty claim must be received by Telos within the above stated warranty period and warranty coverage must be authorized by Telos. Contact may be made via email: support@telosalliance.com or via telephone: (+1) 216-241-7225. If Telos authorizes the performance of warranty service, the defective Product must be delivered to: Telos, 1241 Superior Avenue, Cleveland, Ohio 44114 or other company repair center as may be specified by Telos at the time of claim.

Shipping Costs and Warranty Service:

If the date the customer's notice of warranty claim is received by Telos (such date the "Warranty Claim Notice Date") is within the first 90 days following the Receipt Date, Telos will pay the costs of shipping such warranted Product to and from the end user's location, and the cost of repair or replacement of such warranted Product.

If the Warranty Claim Notice Date occurs after the first 90 days following the Receipt Date and before the end of the second (2nd) year, the customer will pay the freight to return the warranted Product to Telos. Telos will then, at its sole discretion, repair or replace the warranted Product and return it to the end user at Telos' expense.

If the Warranty Claim Notice Date occurs between the end of the second (2nd) year following the Receipt Date and the completion of the fifth (5th) year, the customer will pay the costs of shipping such warranted Product to and from the end user's location. Telos will then, in its sole discretion, repair or replace the warranted Product at Telos' expense. Telos also reserves the right, if it is not economically justifiable to repair the warranted Product, to offer a replacement product of comparable performance and condition direct to the customer at a discounted price, accepting the failed warranted Product as a trade-in.

The end user will in all cases be responsible for all duties and taxes associated with the shipment, return and servicing of the warranted Product.

No distributor, dealer, or reseller of Telos products is authorized under any circumstances to extend, expand or otherwise modify in any way the warranty provided by Telos, and any attempt to do so is null and void and shall not be effective as against Telos or its Affiliates.

Out of warranty units returned to the factory for repair may be subject to a $500 evaluation fee, which fee must be prepaid prior to shipping the unit to Telos. If no repairs are required, the $500 fee will be retained by Telos as an evaluation charge. If repairs are required, the $500 fee will be applied to the total cost of the repair.

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