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Suite N  
Norcross, GA 30071  
t. 404-875-8488 f. 404-260-9153

# Project Opportunity Quote

## 10049

**Questions?** <https://econcierge.rjonetworks.com>

**Quote Date:** Jun 20, 2022 **Valid Through:** Jul 5, 2022 **Payment Terms:** Net 15

### Quoted To:

Nicole Gordon  
Turnstone Group LLC  
1170 Peachtree Street, NE  
Suite 1150  
Atlanta, GA 30309

### Prepared By:

Richard Ozsvath  
CEO & Founder



**Phone:** 404-477-6179  
**Email:** ngordon@turnstonegroup.com




**Phone:** 404-875-8488 x201  
**Email:** rich@rjonetworks.com






### Quote Request

Turnstone is taking over additional office space directly adjacent to their existing office. There are several cubicles, side offices and a conference room. They are looking to outfit the office with a fully functional network, conference room TV, phone system, and WiFi access points.

### Personal Note from Richard Ozsvath

Nicole - Attached is our quote for implementing the needed equipment to the new office. The quote calls for us to tap into the existing Internet feed at the Turnstone office, but to keep the networks separate. To do this a new Edgemark router will be installed at the new office. We'll configure an unused public IP address that is already included on the Cogent account. We can also bump the Internet speeds up to 1000 MBps (currently at 100 MBps) based on need, although I recommend to leave the speed as is for now and increase later if more bandwidth is called for. I am recommending two WiFi access points for this office (same as the Turnstone office), one to be installed out near the conference room and the second device closer to the kitchen. We have quoted 13 desk phones and 1 wireless conference room phone. Although all phones will be connected to the network and powered up, we can activate or deactivate the service for each phone based on need. Since part of the work will be running cable above the ceiling tile in the Turnstone office, I recommend we do this job on a Saturday morning. I look forward to answering any questions you have and tweaking the quote to meet your specifications. - Rich

		List Price	Qty	Ext. Price
	Category 5e UTP Solid PVC Cable, Custom Cut	\$0.29	200	\$58.00
	<b>Extended Price Includes Discount of 15% from List Price</b> Edgewater Networks' EdgeMarc 2900e Intelligent Edge is ideally suited for Hosted PBX or SIP Trunking applications that do not require analog lines. The solution supports bi-directional data rates up to 1Gbps and up to 10 concurrent calls.	\$605.00	1	\$514.25
	TP-Link - JetStream 28-Port Gigabit Smart Switch with 24-Port PoE+ - Limited Lifetime Protection - 24 PoE+ Ports @250W, 4 SFP Slots - Omada SDN Integrated - PoE Recovery - IPv6 - Static Routing	\$337.71	1	\$337.71

		List Price	Qty	Ext. Price
	<p><b>Extended Price Includes Discount of 15% from List Price</b></p> <p>Cambium Networks cnPilot E410 Indoor WiFi Access Point</p> <ul style="list-style-type: none"> <li>• 802.11ac Wave 2 Multi-User MIMO (2 streams) with beamforming</li> <li>• Max PHY Rate, 2.4 GHz: 400 Mbps, 5 GHz: 867 Mbps</li> <li>• Perfect for schools, malls, hotels, coffee shops or high density indoor environments</li> <li>• Managed by Cambium's cnMaestro free cloud controller, no management licenses fees</li> <li>• Indoor meshing across multiple E410s or Indoor/Outdoor meshing with Outdoor Enterprise APs</li> <li>• Supports splash page hosting, social login, temp access voucher, and payment gateway</li> <li>• Limited Lifetime Warranty (5 years)</li> </ul>	\$349.95	2	\$594.92
	<p><b>Extended Price Includes Discount of 35% from List Price</b></p> <p>Designed for busy executives and professional, the SIP-T46U IP phone is an ultimate communication tool that has the better overall performance. The phone employs an appealing high-resolution TFT color display that looks brighter and more vibrant. The Yealink T46U Optima HD Voice technology awards you the superb audio quality and crystal-clear voice communications. Moreover, the T46U puts dual USB ports in a phone that makes Bluetooth, Wi-Fi, USB headset and USB recording come true, and you can use any two of them freely according to your needs.</p>	\$269.00	13	\$2,273.05
	<p><b>Extended Price Includes Discount of 15% from List Price</b></p> <p>Yealink CP935W is a wireless touch-sensitive HD conference phone designed for small to medium conference room.</p> <ul style="list-style-type: none"> <li>• 4-inch multi-touch screen with 480x800 resolution</li> <li>• Optimal HD audio, full duplex technology</li> <li>• Yealink Noise Proof Technology</li> <li>• Built-in rechargeable lithium battery</li> <li>• Up to 20 hours talk time (in ideal conditions)</li> <li>• Up to 75 hours standby time in Wi-Fi mode (in ideal conditions)</li> <li>• 20-foot (6-meter) and 360° voice pickup</li> <li>• Built-in 6-microphone array for voice pickup</li> <li>• Built-in Wi-Fi (2.4GHz/5GHz, 802.11a/b/g/n)</li> <li>• Built-in Bluetooth 4.2</li> </ul>	\$799.00	1	\$679.15
	<p>RJO Networks Bundle - Conference Room SmartTV</p> <ul style="list-style-type: none"> <li>• Element TV - 65" LED 4K UHD Roku Smart TV (USA Made)</li> <li>• Echogear Full Tilt Extendable TV Mount for TVs Up to 86"</li> <li>• ACEPC AK2 Micro PC, 6GB RAM, 120GB SSD, 4K HD Graphics, Win10 Pro</li> <li>• Logitech C930e Business Webcam</li> <li>• Logitech K400 Wireless TV Keyboard with Built-In Touchpad</li> <li>• Installation and cables purchased separately</li> </ul>	\$1,299.99	1	\$1,299.99
	<p><b>Extended Price Includes Discount of 10% from List Price</b></p> <p>Networking Systems Deployment Service</p> <ul style="list-style-type: none"> <li>• See appendix for the Networking Systems Deployment standard Scope of Work.</li> <li>• Run one cable segment from the Turnstone office networking closet to the new office networking closet. Run two cable segments in the new office for the Cambium WiFi access points.</li> <li>• Install Edgemarc router and 24-port PoE switch to the rack in the new office networking closet. Connect the cable from the Turnstone office to the Edgemarc WAN port #1. Uplink the Edgemarc LAN port #1 to the TP-Link switch.</li> <li>• Configure the new Edgemarc with an available public static IP address in the range: 38.140.169.42 thru 46.</li> <li>• Install, configure and bring online the office WiFi via the two access points.</li> <li>• Install 13 phones to specified cubicles and addresses and connect to the network. Activate phones with an extension as needed. Phone service for each extension can be activated or deactivated on demand.</li> <li>• Install the Conference Room TV mount, TV, micro-PC and camera. Connect to the WiFi and test connectivity from a laptop, PC, smartphone, and streaming service via Roku.</li> <li>• Price includes BENCH and ONSITE service</li> <li>• Price includes mileage costs for technician's use of their personal vehicle</li> <li>• Estimated BENCH labor 2 hours</li> <li>• Estimated ONSITE labor 2 people x 6 hours each</li> </ul>	\$175.00	14	\$2,205.00

		List Price	Qty	Ext. Price
<b>Totals</b>				
		<b>Subtotal</b>		\$7,962.07
		<b>Tax</b>		\$489.35
		<b>Transport</b>		\$0.00
		<b>Grand Total</b>		<b>\$8,451.42</b>

Service Overview

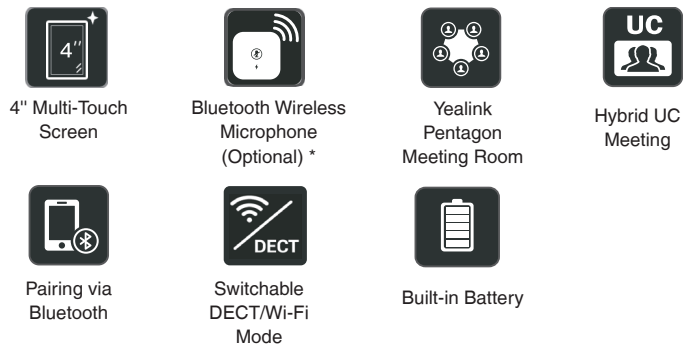
1. Prep the new networking equipment
  - a. On delivery, confirm that the equipment is fully functional and not DOA.
  - b. Label the networking equipment with RJO HIN tags and update as warranty items to the RJO Configuration Database (C-DB).
  - c. Upgrade the networking equipment with the manufacturer's latest firmware.
  - d. Perform preliminary configuration of the modem, router, switch or wireless access point.
  - e. Update the equipment configuration to the C-DB for easy access by RJO technicians.
2. Onsite installation of the networking equipment
  - a. Install the networking equipment to the appropriate physical location and connect to a new or existing battery backup device.
  - b. Perform final configuration of the modem and router for the LAN/WAN and internal services required; such as, SMTP mail, VPN and remote access.
  - c. Perform final configuration of the switch for the LAN and other required settings; such as, Bandwidth Control, PoE, and VLANs.
  - d. Perform final configuration of the wireless access point for the LAN and other required settings; such as, operating mode, authentication type and encryption.
  - e. Update the equipment configuration to the C-DB for easy access by RJO technicians.
  - f. Perform equipment tests to ensure QoS and speeds meet or exceed specifications.

Client Responsibilities

1. None.

## Yealink Wireless Touch-Sensitive Conference Phone

Yealink CP935W is a wireless touch-sensitive HD conference phone designed for small to medium conference room. CP935W adopts a business and introverted design that perfectly matches the calm style of the conference room, also adopts an acoustics fabric, which is impervious to any accidental liquid spills. Its fingerprint-proof LCD screen with a clear UI interaction page makes it easy for everyone to control the meeting. CP935W has built-in battery and Wi-Fi, you can register a SIP account directly through Wi-Fi. CP935W allows you to deploy without using power and network cable to provide you with a wireless and clean conference room. CP935W has 6 built-in microphones, providing you with a clear and natural conference call experience. In addition, you can also connect CP935W to your mobile devices (such as smart phone, personal computer, etc.) through Bluetooth or USB port to realize Hybrid UC meeting. Connect the CP935W to one Bluetooth wireless microphone CPW25 to expand the sound pickup distance while still keeping the conference room desktop tidy.



\* Wireless Microphone is coming soon



## Key Features and Benefits

### Modest Design, Easy-to-Use User Interface

Yealink CP935W is a hermit in a conference room. Its black acoustics fabric can realize crystal-clear audio and is resistant to water, oil, and stain. Its ultra-thin body, appropriate desktop fit, and ingenious hidden wiring slot, perfectly fit for the simple business style in the conference rooms. Additionally, its built-in Linux system and easy-to-use UI interface, allow users to launch a meeting with one button and increase user adoption.

### Built-in Battery, Wi-Fi and DECT to Minimize Deployment Costs

CP935W has built-in battery and Wi-Fi, you can register a SIP account directly through Wi-Fi. CP935W allows you to deploy without using power and network cable to provide you with a wireless and clean conference room.

### HD Audio, Smooth Communication

CP935W adopts Y-shaped design and has 6 built-in microphones for sound pickup. Its 20-foot and 360° omni-direction sound pickup provide users with clear and natural voice conference experience.

### Rich Features and High Expansibility

CP935W supports 5-way conference call, enabling participants from different locations to communicate smoothly, and reducing costs for your company. You can also connect CP935W to your mobile devices (such as smart phone, personal computer, etc.) through Bluetooth or USB port to realize Hybrid UC meeting (including SIP, mobile phone, PC). Moreover, the Bluetooth wireless expansion microphone CPW25 provides 3-meter sound pickup range, which expands the CP935W sound pickup range while still keeping the conference room table clean.

- 4-inch multi-touch screen with 480x800 resolution
- Optimal HD audio, full duplex technology
- Yealink Noise Proof Technology
- Built-in rechargeable lithium battery
- Up to 20 hours talk time (in ideal conditions)
- Up to 75 hours standby time in Wi-Fi mode (in ideal conditions)
- 20-foot (6-meter) and 360° voice pickup
- Built-in 6-microphone array for voice pickup
- 5-way conference call
- Hybrid UC meeting
- Built-in Wi-Fi (2.4GHz/5GHz, 802.11a/b/g/n)
- Built-in Bluetooth 4.2

### Audio Features

- Optimal HD audio
- Yealink Noise Proof Technology
- Smart Noise Filtering
- 20-foot (6-meter) microphone pickup range
- Apply to small to medium conference room
- Built-in 6-microphone array for voice pickup
- Loudspeaker
  - Frequency: 100-20,000 Hz
  - Volume: 94dB at 0.5-m peak volume
- 56mm diameter and 5w speaker
- Full-duplex speakerphone with AEC
- Echo cancellation tail length is up to 320ms
- Background noise suppression
- Codecs: G722, G722.1C, G726, G.729, G.729A, G723, iLBC, Opus, PCMU (G.711A), PCMA (G.711μ), AMR
- DTMF: In-band, Out-of-band (RFC 2833) and SIP INFO
- VAD, CNG, PLC, AJB, AGC

### Phone features

- 1 SIP account
- Call hold, mute, DND, call recording, hotline
- 5-way conference call
- Redial, call waiting, emergency call
- Call forward, call transfer, call return, dial plan
- Ring tone selection/import/delete
- Set date time manually or automatically
- Volume adjustment
- Pairing via Bluetooth
- Create meeting directly
- Join meeting seamlessly
- Active Speaker

### Directory

- Local phonebook up to 1000 entries
- XML/LDAP remote phonebook
- Intelligent search method
- Phonebook search/import/export
- Call history: dialed/received/missed/forwarded

- Blocklist

### IP-PBX features

- Busy Lamp Field (BLF)
- Multicast paging
- Intercom
- Anonymous call
- Anonymous call rejection
- Voice mail
- Distinctive ringtone
- Call pickup

### Display

- 4" 480x800 capacitive touch screen
- Volume key
- Home button

### Interface

- Built-in Wi-Fi (2.4GHz/5GHz, 802.11a/b/g/n)
- Built-in Bluetooth 4.2
- 1 x USB 2.0 Type-C device port
- 1 x Security slot

### Network and Security

- SIP v1 (RFC2543), v2 (RFC3261)
- SIP server redundancy supported
- IPv4/IPv6
- NAT traversal: STUN mode
- Proxy mode and peer-to-peer SIP link mode
- HTTP/HTTPS web server
- Time and date synchronization using SNTP
- UDP/TCP/DNS-SRV (RFC 3263)
- SRTP for voice encryption
- Transport Layer Security (TLS1.3)
- HTTPS certificate manager
- AES encryption for configuration file (AES256)
- Digest authentication using MD5/MD5-sess
- OpenVPN, L2TP VPN
- WPA2
- Secure boot

### Management

- Configuration: browser/phone/auto-provision/Yealink Device Management Platform
- Auto provision via FTP/TFTP/HTTP/HTTPS for mass deployment
- Auto-provision with PnP
- Zero-sp-touch, TR-069
- Reset to factory, reboot
- Package tracing export, system log

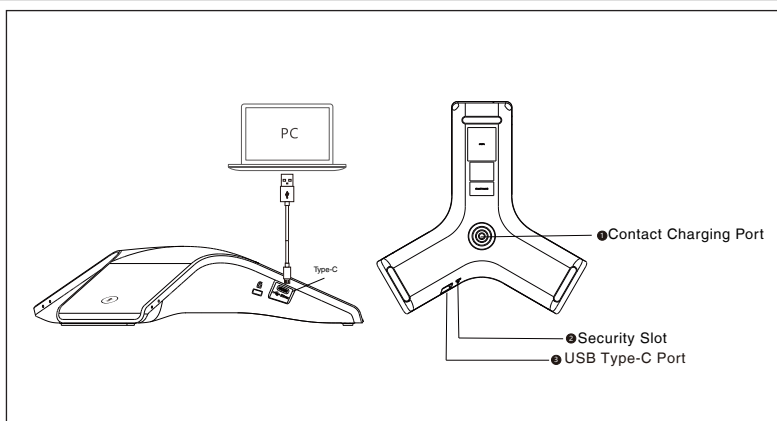
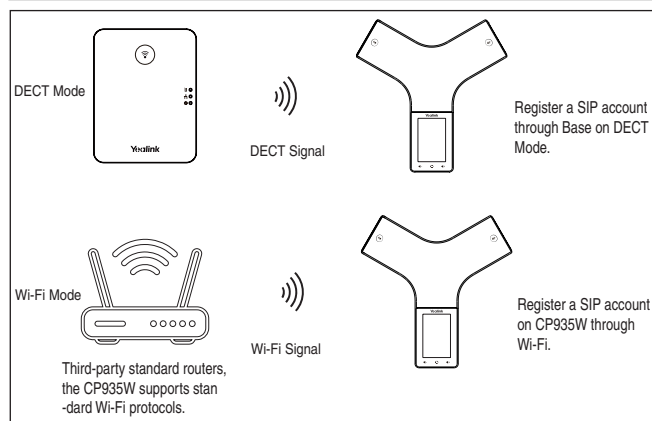
### Other physical features

- Color: Black
- Wi-Fi range
  - Up to 300 meters, depends on Wi-Fi router
- PSU: 2.2~6W
- Battery capacity: 7800mAh
- Charging time: 4 hours
- Up to 75 hours standby time in Wi-Fi mode (in ideal conditions)
- Up to 20 hours talk time (in ideal conditions)
- Dimension (W\*D\*H): 288.6mm\*285.2mm\*63.9mm
- Operating humidity: 10~90%
- Storage temperature: -10~40°C (+14~104°F)

### Package Features

- Package content:
  - Yealink CP935W IP conference phone
  - Charger cradle
  - Yealink Power Adapter
  - Wireless Microphone CPW25 (Optional)
  - Quick Start Guide
- Qty/CTN: 5 PCS
- N.W/CTN: 7.416 kg
- G.W/CTN: 8.420 kg
- Giftbox size: 355mm\*349mm\*108mm
- Carton Meas: 567mm\*357mm\*365mm

### Compliance



The datasheet focuses on Wi-Fi mode, please refer to CP935W-Base if you want to learn more about DECT mode.

## About Yealink

Yealink (Stock Code: 300628) is a global brand that specializes in video conferencing, voice communications and collaboration solutions with best-in-class quality, innovative technology and user-friendly experience. As one of the best providers in more than 140 countries and regions, Yealink ranks No.1 in the global market share of SIP phone shipments (Global IP Desktop Phone Growth Excellence Leadership Award Report, Frost & Sullivan, 2019).

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## Technical Support

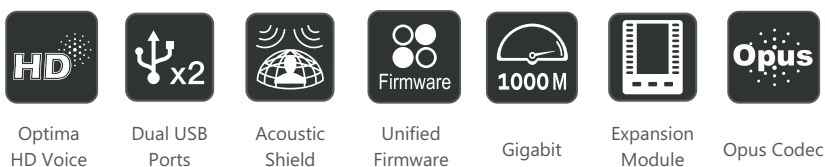
Visit Yealink WIKI (<http://support.yealink.com/>) for firmware downloads, product documents, FAQ, and more. For better service, we sincerely recommend you to use Yealink Ticketing system (<https://ticket.yealink.com>) to submit all your technical issues.



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## A Revolutionary SIP Phone for Enhancing Productivity

Designed for busy executives and professional, the SIP-T46U IP phone is an ultimate communication tool that has the better overall performance. The phone employs an appealing high-resolution TFT color display that looks brighter and more vibrant. United Yealink Optima HD Voice technology and wideband codec of Opus, the T46U awards you the superb audio quality and crystal-clear voice communications. Moreover, the T46U puts dual USB ports in a phone that makes Bluetooth, Wi-Fi, USB headset and USB recording come true, and you can use any two of them freely according to your needs. The Yealink new T4U series offers the same elegant appearance as the T4 line, but with improvements for greater interoperability and better collaboration.



### Key Features and Benefits

#### Easy Customization and High Expansibility

The SIP-T46U comes with two Gigabit Ethernet ports, one of which is suitable for Power over Ethernet (PoE). Accompanied by two USB ports, the T46U is your right-hand man in the office that makes Bluetooth, Wi-Fi, USB headset and USB recording possible, and you can use any two of them freely according to your needs to enrich phone features. Meanwhile, the phone not only has three pages of flexible buttons that can be easily programmed with 27 paperless DSS keys at most, but also can connect up to three expansion modules, for up to 180 additional buttons with a screen-based LCD display and LED system.

#### HD Audio

Yealink Optima HD Voice technology combines cutting-edge hardware and software with wideband technology for maximum acoustic performance. Being a totally open, highly versatile audio codec, Opus, is designed to perform a higher HD audio quality than other wideband codecs in a high network bandwidth; However, if your current network quality is poor, Opus can provide you with a better audio quality than other narrowband codecs. And its hearing aid compatible (HAC) handset helps the person who is with hearing loss to hear the voice more clearly.

#### Efficient Installation and Provisioning

Yealink T4U series supports efficient provisioning and effortless mass deployment with Yealink's Redirection and Provisioning Service (RPS) and Boot mechanism to help you realize the Zero Touch Provisioning without any complex manual settings, which makes the T4U series simple to deploy, easy to maintain and upgrade. Furthermore, a unified firmware and auto-p template that applies to all T42U (pending)/T43U/T46U/T48U phone models, saves even more time and costs for businesses, as well as simplifies the management and maintenance.

#### Secure Transport and Interoperability

Yealink T4U series uses SIP over Transport Layer Security (TLS/SSL), which is the latest network security technology. It's also compatible with leading soft switch suppliers, such as 3CX, Broadsoft Broadworks. Moreover, it is carried with dual firmware images that gives you a enterprise-level protection to avoid bricking your system once upgrade failed.

- 4.3" 480 x 272-pixel color display with backlight
- Opus codec support
- Dual USB ports
- Dual firmware images
- T42U (pending)/T43U/T46U/T48U Auto-P template unified
- T42U (pending)/T43U/T46U/T48U firmware unified
- Up to 16 SIP accounts
- Dual-port Gigabit Ethernet
- PoE support
- USB headset and EHS support
- Wi-Fi via WF40/WF50
- Bluetooth via BT40/BT41
- USB recording
- Supports color-screen expansion modules
- Stand with two adjustable angles
- Wall mountable

### Audio Features

- > HD voice: HD handset, HD speaker
- > Hearing aid compatible (HAC) handset
- > Acoustic Shield
- > Codecs: AMR-WB (optional), AMR-NB (optional), Opus\*, G.722, G.711(A/μ), G.723.1, G.729AB, G.726, iLBC
- > DTMF: In-band, Out-of-band (RFC 2833) and SIP INFO
- > Full-duplex hands-free speakerphone with AEC
- > VAD, CNG, AEC, PLC, AJB, AGC

### Phone Features

- > 16 VoIP accounts
- > Call hold, mute, DND
- > One-touch speed dial, hotline
- > Call forward, call waiting, call transfer
- > Group listening, SMS, emergency call
- > Redial, call return, auto answer
- > 3-way conferencing
- > Direct IP call without SIP proxy
- > Ring tone selection/import/delete
- > Set date time manually or automatically
- > Dial plan, XML Browser, Action URL/URI
- > RTCP-XR (RFC3611), VQ-RTCPXR (RFC6035)
- > USB port (2.0 compliant) for:
  - Bluetooth earphone through BT40/BT41
  - Contact synchronization through BT40/BT41
  - Wi-Fi through WF40/WF50
  - USB call recording through USB flash drive
  - USB headset
  - Expansion Module EXP43
  - Wireless Headset Adapter EHS40
- > Enhanced DSS key

### Directory

- > Local phonebook up to 1000 entries
- > Black list
- > XML/LDAP remote phonebook
- > Smart dialing
- > Phonebook search/import/export
- > Call history: dialed/received/missed/forwarded

### IP-PBX Features

- > Busy Lamp Field (BLF)
- > Bridged Line Appearance (BLA)
- > Anonymous call, anonymous call rejection
- > Hot-desking, voice mail
- > Flexible seating
- > Call park, call pickup

- > Executive and Assistant
- > Centralized call recording
- > Visual voice mail
- > Call recording

### Display and Indicator

- > 4.3" 480 x 272-pixel color display with backlight
- > 16 bit depth color
- > LED for call and message waiting indication
- > Dual-color (red or green) illuminated LEDs for line status information
- > Wallpaper
- > Intuitive user interface with icons and soft keys
- > Multilingual user interface
- > Caller ID with name and number
- > Screensaver
- > Power saving

### Feature keys

- > 10 line keys with LED
- > 10 line keys can be programmed up to 27 paperless DSS keys (3-page view)
- > 7 features keys: message, headset, hold, mute, transfer, redial, hands-free speakerphone
- > 4 context-sensitive "soft" keys
- > 6 navigation keys
- > Volume control keys
- > Illuminated mute key
- > Illuminated headset key
- > Illuminated hands-free speakerphone key

### Interface

- > Dual-port Gigabit Ethernet
- > Power over Ethernet (IEEE 802.3af), class 3
- > 2 x USB port (2.0 compliant)
- > 1 x RJ9 (4P4C) handset port
- > 1 x RJ9 (4P4C) headset port

### Other Physical Features

- > Color: Classic Grey
- > Stand with 2 adjustable angles
- > Wall mountable
- > External Yealink AC adapter (optional): AC 100~240V input and DC 5V/2A output
- > USB output currency: 5V  $\overline{\text{---}}$  1A
- > Power consumption (PSU): 1.2-3.0W
- > Power consumption (PoE): 1.6-3.8W
- > Dimension (W\*D\*H\*T): 244mm\*213mm\*185mm\*54mm
- > Operating humidity: 10~95%
- > Operating temperature: 0~40°C (+32~104°F)

### Management

- > Configuration: browser/phone/auto-provision
- > Auto provision via FTP/TFTP/HTTP/HTTPS for mass deploy
- > Auto-provision with PnP
- > Broadsoft device management
- > Zero-sp-touch, TR-069
- > Phone lock for personal privacy protection
- > Reset to factory, reboot
- > Package tracing export, system log

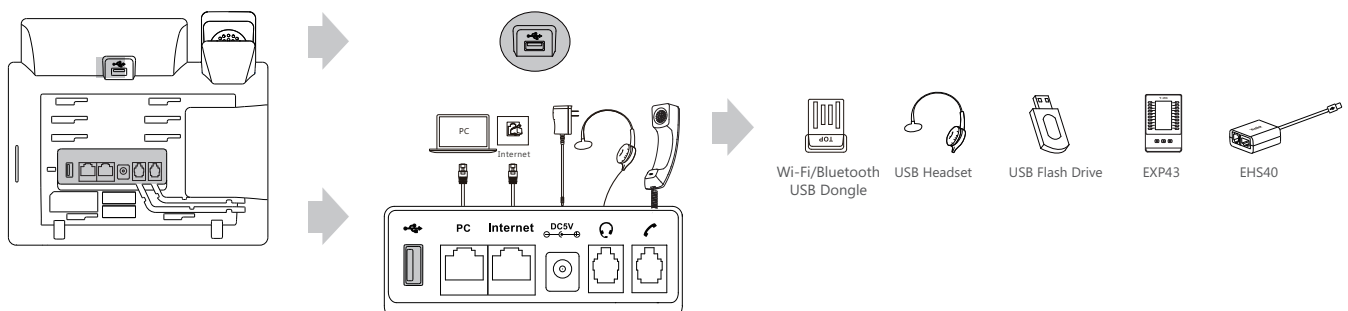
### Network and Security

- > SIP v1 (RFC2543), v2 (RFC3261)
- > Call server redundancy supported
- > NAT traversal: STUN mode
- > Proxy mode and peer-to-peer SIP link mode
- > IP assignment: static/DHCP
- > HTTP/HTTPS web server
- > Time and date synchronization using SNTP
- > UDP/TCP/DNS-SRV(RFC 3263)
- > QoS: 802.1p/Q tagging (VLAN), Layer 3 ToS DSCP
- > SRTP for voice
- > Transport Layer Security (TLS)
- > HTTPS certificate manager
- > AES encryption for configuration file
- > Digest authentication
- > OpenVPN, IEEE802.1X
- > IPv6, LLDP/CDP/DHCP VLAN, ICE

### Package Features

- > Package content:
  - Yealink SIP-T46U IP phone
  - Handset with handset cord
  - Ethernet Cable (2m CAT5E UTP Cable)
  - Stand
  - Quick Start Guide
  - Power Adapter (Optional)
  - Wall Mount Bracket (Optional)
- > Qty/CTN: 5 PCS
- > N.W/CTN: 7.2 kg
- > G.W/CTN: 8.1 kg
- > Giftbox size: 274mm\*255mm\*128mm
- > Carton Meas: 660mm\*286mm\*263mm

### Compliance



### Learn More

To find out how Yealink solutions can help your organization, visit us at [www.yealink.com](http://www.yealink.com) or mail to [sales@yealink.com](mailto:sales@yealink.com)

## About Yealink

Yealink is a global leading provider of enterprise communication and collaboration solutions, offering video conferencing service to worldwide enterprises. Focusing on research and development, Yealink also insists on innovation and creation. With the outstanding technical patents of cloud computing, audio, video and image processing technology, Yealink has built up a panoramic collaboration solution of audio and video conferencing by merging its cloud services with a series of endpoints products. As one of the best providers in more than 140 countries and regions including the US, the UK and Australia, Yealink ranks No.1 in the global market share of SIP phone shipments.

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## Technical Support

Visit Yealink WIKI (<http://support.yealink.com/>) for firmware downloads, product documents, FAQ, and more. For better service, we sincerely recommend you to use Yealink Ticketing system (<https://ticket.yealink.com>) to submit all your technical issues.



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Huli District, Xiamen, Fujian, P.R. China  
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# EdgeMarc 2900e and 2900a

INTELLIGENT EDGE - ENTERPRISE SESSION BORDER CONTROLLERS



## BENEFITS:

- Scalable configuration based on session license and field upgradeable as business need grows
- Combined deployment of EdgeView Service Control Center and EdgeMarc Intelligent Edge greatly reduces operational expenses and increases customer satisfaction
- Supports data rates up to 1 Gb/s
- Available as a VM for KVM, VMware and Hyper-V

Deploying voice communications over the Internet can create quality and security issues that do not normally exist with traditional phone systems. To overcome these issues, Intelligent Edges are deployed on the customer network edge to ensure successful VoIP implementations. VoIP service providers deploy an Intelligent Edge in the form of an enterprise session border controller (ESBC) to improve voice quality and visibility into the customer environment, supporting both SIP trunking and hosted unified communications.

Edgewater Networks' EdgeMarc 2900e Intelligent Edge is ideally suited for Hosted PBX or SIP Trunking applications that do not require analog lines. The solution supports bi-directional data rates up to 1Gbps and up to 300 concurrent calls.

The EdgeMarc 2900a brings the same functionality of the EdgeMarc 2900e while adding support for FXS and FXO connections for fax lines, overhead paging systems or PSTN lifeline.

EdgeMarc Intelligent Edges scale according to user demands, allowing service providers to deliver high quality VoIP solutions to customers of all sizes and network configurations.

## DEVICE SPECIFICATIONS:

	EdgeMarc 2900e	EdgeMarc 2900a
<b>Ports</b>		
WAN 1Gb/s Ethernet (RJ-45)	2	2
Optical WAN 1 Gb/s ports (SFP)	2	2
LAN 1 Gb/s Ethernet (RJ-45)	4	4
FXO (RJ-11)	0	2
FXS (RJ-11)	0	6
Micro SD (SDXC) slot	1	1
Console (RJ-45)	1	1

## About Edgewater Networks

Founded in October 2002, Edgewater Networks is a market leader in enabling IP-based voice, video and data services. Service providers and enterprises of all sizes use Edgewater Networks solutions to simplify customer premise configurations for quick and smooth installations, reduce time to market and deliver rapid return on invested capital. The company helps customers deliver intelligence at the network edge with its Network Edge Orchestration platform that includes the EdgeView Service Control Center, EdgeMarc Intelligent Edges and QuickConnect certification program.

To learn more, please visit [www.edgewaternetworks.com](http://www.edgewaternetworks.com) or call (844) 405-3550.  
Follow us on Twitter at @ewn\_inc.

Features and Capabilities	Specifications
<b>Performance</b>	
Maximum data throughput	1Gb/s
Maximum sessions, voice only	300
Maximum number of registered devices (endpoints)	2000
Cloud2Edge Complete Compatible	Yes. See <a href="http://www.edgewaternetworks.com/products-services/cloud2edgecomplete">www.edgewaternetworks.com/products-services/cloud2edgecomplete</a> for more details
<b>Analog Port Features (2900a only)</b>	
FXO Port	Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection
FXS Port	<ul style="list-style-type: none"> <li>Loop Start</li> <li>Ringer Equivalency Number (REN) – 5/port, 20/system</li> <li>Ringing voltage &gt;= 48Vrms 20Hz, selectable impedance</li> <li>48v on hook voltage, 24mA off-hook current</li> </ul>
<b>SIP Features</b>	
Network Address Translation	<ul style="list-style-type: none"> <li>Network Address Translation (NAT): static, dynamic</li> <li>Port Address Translation (PAT)</li> <li>(provides topology hiding of hosts on the LAN)</li> </ul>
Back-to-Back User Agent	Yes
Application Layer Gateway (SIP proxy)	Yes
Proxy Modes	<ul style="list-style-type: none"> <li>Transparent proxy mode</li> <li>Multi-homed proxy mode</li> </ul>
SIP Registration Pacing	Registration rates (LAN-side/WAN side) can be controlled
VoIP Test Call Agent	Remotely verify and troubleshoot connectivity
Header Manipulation	Full control to add/delete/modify SIP headers
Signaling Protocol (LAN/WAN)	UDP, TCP, TLS
Media Protocol (LAN/WAN)	RTP, SRTP
SIP Standards Compliance (primary standards)	<ul style="list-style-type: none"> <li>RFC 3261</li> <li>RFC 2327</li> <li>RFC 3263</li> <li>RFC 2833</li> </ul>
Codecs	G.711, G.722, G.726 G.729
Fax	T.38 support for FXS interfaces
<b>Security</b>	
Firewall	Stateful, VoIP aware firewall
Denial of Service protection	SYN flood, UDP flood, ICMP flood, Fragment flood
Encryption and Authentication	TLS, SRTP, HTTPS, SSH, Radius
Encryption protocols supported	3DES, AES, SHA-256, MD-5
Key Management	IKE key management, IPsec
Proxy ARP	Yes
IPsec VPN	Yes (max 12 tunnels)
PPTP support	MSCHAP, MSCHAP V2, MSCHAP+MPPE
<b>Voice Quality Measurement</b>	
Per call statistics (LAN/WAN)	Full MOS support (including Jitter, Packet Loss)
Mean Opinion Score (MOS)	MOS tabulated every 10 seconds of every call on both WAN and LAN side of call leg.
<b>Traffic Management/Routing/QoS</b>	
Routing	<ul style="list-style-type: none"> <li>BGP - fully functional BGP stack supporting Layer 2/3 IP WAN solutions (MPLS)</li> <li>RIP</li> <li>OSPF</li> <li>PPPoE</li> <li>Secondary address / Subinterface</li> </ul>
Multicast	Protocol Independent Multicast – sparse mode (PIM-SM)
Traffic prioritization	<ul style="list-style-type: none"> <li>Class-based queueing (up to 8)</li> <li>Prioritization on IP and port</li> <li>Prioritization on VoIP protocol</li> <li>Traffic Shaping</li> <li>Call Admission Control</li> <li>Upstream, downstream bandwidth management</li> </ul>
DHCP server	Yes
QoS	Diffserv (DSCP), IP Precedence, policing
VLANs	<ul style="list-style-type: none"> <li>802.1Q (up to 16)</li> <li>Multi-VLAN ALG support</li> </ul>
Network addressing	IPv4, IPv6

Features and Capabilities	Specifications
<b>System Management</b>	
Device Management	CLI, (SSH, Telnet) Web GUI (HTTP, HTTPS)
Remote upgrades, back-up, restore	TFTP, FTP, SCP, HTTP, HTTPS
Firmware	Dual local firmware image for upgrade and recovery
Network Management	SNMP v1, v3
Message Analytics	System monitoring and SIP statistics
Debug tools	Packet capture (tcpdump), traceroute, ping, syslog
Endpoint monitoring	Two-way Active Monitoring Protocol (TWAMP)
Edge Orchestration	EdgeView Service Control Center for device and endpoint management
EdgeView key functions	<ul style="list-style-type: none"> <li>• Remote troubleshooting</li> <li>• Proactive management</li> <li>• Inventory management</li> <li>• Configuration management</li> <li>• Reporting and data analytics</li> </ul> (for more information, please see: <a href="http://www.edgewaternetworks.com/products-services/edgeview/">www.edgewaternetworks.com/products-services/edgeview/</a> )
<b>Hardware Specifications</b>	
Dimensions (W x D x H)	9.21" x 6.54" x 1.75"
Weight	2 lbs.
Mounting Options	Wall Mount, Rack Mountable
MTBF	269,532 hours
Operating Temperature	0-40 deg. Celsius
Operating Relative Humidity	4% to 90% (non-condensing)
Compliance	RoHS 2.0, UL/cUL, CB, FCC part 15, FCC part 68, IC, CE, RCM and VCCI
Power	Wall mount - 2900e: DC-12V 1.66A 20W, 2900a: DC-12V 3A 36W
Hardware Warranty	5 years
Software support and maintenance	First year included