

# SE30X

## IP PBX



### Key Features

- PBX functionality with voice mail
- Based on open standards: SIP, Linux, Radius
- Supports up to 30 users in a single box
- Auto attendant
- Operator
- Ring group
- Hunt group
- Call detail reports
- Remote users over the internet without the need for VPN or tunneling.
- External users on the PSTN
- T.38 fax transmission and reception
- Multiple languages and worldwide support
- User Web Portal for remote access to voice messages
- Personal call handling rules
- Direct inward dial (DID)
- Up to 8 concurrent calls to the IP trunks and 30 concurrent calls with direct media

### Overview

The SE30X is a powerful system that simplifies voice communications for all workers in a small office, multiple remote locations, home workers, and workers who are on the road. The SE30X is easy to install, use, and maintain. The embedded system design on the SE30X makes it the most stable system in the industry.

The SE30X is designed specifically to connect to Internet telephony service providers (ITSPs) using SIP. Customers will save money on making phone calls because of the low rates offered by ITSPs. Customers will also save money on infrastructure because the SE30X can be easily integrated into their existing networks.

The system combines the functions of an IP PBX, Internet gateway, network server, and application server. By using standard protocols, it is interoperable with phones, gateways, and devices from other manufacturers.

### IP Telephony

The SE30X can interoperate with any SIP compliant phone. Zed-3 has its own range of IP phones that is fully compatible with the SE30X. These include desktop phones as well as a soft phone.

In addition to the soft phone that runs on a PC, Zed-3 provides a soft phone client that runs on any windows based PDA.

The SE30X can connect to up to eight ITSPs (Internet telephony service providers). This permits the use of the Internet for all voice calls without the need to connect to the PSTN. Alternatively, the SE30X can connect to the PSTN through an optional gateway, providing you with the flexibility to route some calls to the PSTN and other calls to the ITSP.

### Administration Tool

The SE30X has a HTML based administration UI so that it is not necessary to install any management software on a PC. The administration UI is intuitive and easy to navigate. Customers may access and manage the SE30X from anywhere as long as they have a web browser and access to the Internet.

The administration UI provides various real time information and statistics of the SE30X. These include operation state, system and network information, events and alarms, active phones, active calls, IP Trunks status, and more.

## Management of Users

Adding, modifying and deleting a user can be done in a matter of few clicks. Customers can assign different rights and privileges to different users.

## Browser based User Portal

The SE30X has an HTML based user portal. Users can log on to the system using any web browser to download, save, and delete their voice messages, change their mail box password, and configure their personal call handling rules.

## Dial Plan and Least Cost Routing

The system has a flexible dial plan that allows you to specify the routing of calls based on dialled patterns. Your organization can ensure least cost routing for all calls, regardless of the user or location.

For each dial pattern on the dial plan, you specify the transformed pattern, the primary route, and alternative routes. You can create multiple dial patterns to handle internal calls and external calls. These calls can be routed over the LAN, the WAN, the Internet at an external gateway, or a line interface to the PSTN.

## Call Restrictions

You can restrict calls to specific destinations per user. This allows you to specify who has the rights to make long distance and international calls.

## Music on Hold (MoH)

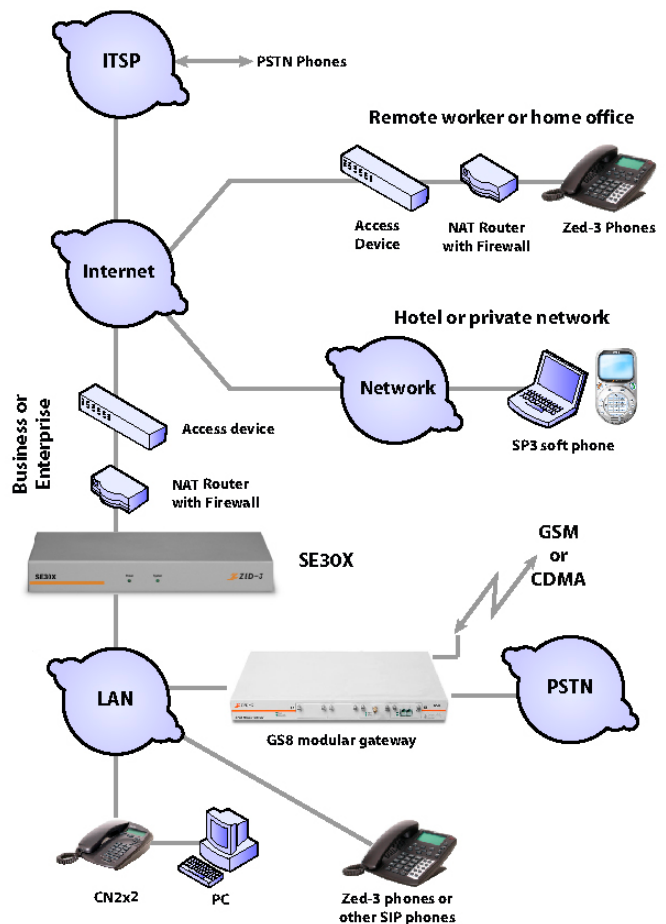
The SE30X can play MoH to callers. This is played from a file on the internal flash memory disc.

## Communications with phones off the system

Remote extensions can be achieved easily by setting up call handling rules that route all the calls to a user's home or mobile phone numbers.

## Accessibility of Users

The SE30X allows users to be reached even when they are home or travelling. Users can have multiple contact points where they can receive calls. A contact point can



be an IP desktop phone or soft phone. An incoming call will alert all contact points simultaneously. Users can also create custom call handling rules that can forward their calls to external numbers based on different conditions.

## Remote Users

The SE30X makes it uncomplicated to connect remote phones. Most VoIP solutions today require remote users to use a VPN or other tunneling technologies. With the SE30X, remote users can connect with the system, even when they are behind a NAT, router, or firewall, without the need to use a VPN.

## Attendant and Operator

Incoming calls can be routed to an automated attendant (AA), a live attendant, or an operator. The AA or operator can be assigned a direct external number (DID) and an internal extension number. The SE30X allows you to specify working hours and greeting messages that are played during working hours and nonworking hours.

The AA provides the features of dial by name, scheduled greeting messages, and transferring incoming call to different extensions. It is extremely easy to setup and modify.

### **Hunt Groups**

The SE30X can provide multiple hunt groups for an informal call center. You can configure hunt groups for different services within the business. Each group can be assigned a direct inward dial number (DID) in addition to an internal extension. You can assign a user to be an agent for one or more groups, and agents within a group can still make and receive individual calls.

### **Voice Mail (VM)**

Users can access, save, and delete VM by using a phone (internal or external to the SE30X) or by using the Personal Portal. Users can save their voice messages without taking up storage on the SE30X by saving the messages into folders on the local PC. Voice messages are saved as files and can be forwarded to others outside the system through standard means of file sharing such as e-mail and network directories.

The SE30X has a compact flash port that allows customers to install a compact flash drive for voice mail storage. A 1 GB compact flash drive will store up to about 1000 minutes of voice messages for the whole system.

### **Fax Origination and Termination**

The SE30X supports fax to devices connected through an analog gateway. This can be with fax pass through or with T.38 fax which is supported by most ITSPs.

### **Data Networking**

The SE30X has two Ethernet ports – one connects to the service provider and one connects inside the office.

The WAN port connects directly behind the broadband IAD (integrated access device) and provides termination of traffic and address translation. The translation comprises NAT (network address translation) for Internet traffic and ALG (application layer gateway) for SIP traffic. The SE30X accomplishes much more than simple ALG by allowing flexible selection of how direct media is handled to ensure simple integration in a variety of network configurations.

The WAN port can have a fixed IP address, an IP address received from the ISP using DHCP, or use PPPoE to obtain all information. Default and static routes can be provisioned to control the proper routing of voice and data traffic.

The LAN port connects directly to devices or an Ethernet switch. Over this port, the SE30X can provide DHCP service.

### **VLAN and QoS Support**

Most IP networks existing today support VLAN and QoS. Having VLAN and QoS can increase the voice quality of phone calls. The SE30X fully supports IEEE 802.1q VLAN tagging and IEEE 802.1p QoS. At the IP layer, the SE30X support the ability to mark the lower six bits of the IP QoS byte with the various differentiated service code point (DSCP) markings.

### **Billing and Call Detail Records (CDR)**

The SE30X provides comprehensive CDR for reconciliation of billing and tracking of system usage.

The SE30X supports RADIUS client, which can be used to interact with a RADIUS server for authentication. Using this feature, you can easily integrate the SE30X with any billing system that support RADIUS.

### **Global Features**

Zed-3 sells and supports its products worldwide, allowing the SE30X to be readily deployed in one or more countries. You can navigate the SE30X's administration UI and user portal in English or Simplified Chinese. The voice mail and automated attendant prompts are available in English, Chinese, Spanish, and Vietnamese.

### **Diagnostics and SNMP**

The SE30X provides Ping, Traceroute, and DNS Lookup for network diagnostic. These tools will help you identify most networking problems. To identify call setup problems, the SE30X also provides SIP Route Trace diagnostic tool.

The SE30X supports Trap in SNMP. This allows you to be notified immediately if the SE30X is experiencing any problems.



## Specifications

### PBX Features

- Auto attendant
- Live attendant and operator
- Caller ID
- Call transfer
- Call forward
- Call waiting
- Call restriction
- Call hold
- Call park
- Call pick up
- Do not disturb
- DID
- ACD (Ring groups and hunt groups)
- MWI support
- CDR

### Capacity

- Up to 30 users configurable
- Up to 30 internal calls
- Up to 8 external calls
- Up to 20 hours of voice mail

### Voice Quality Protection

- VLAN tagging
- DiffServ
- Packet loss compensation
- Echo cancellation
- Voice packet prioritization

### Codec

- Audio: A-law and  $\mu$ -law G.711, G.729A, G.723.1
- Fax: T.38

### DTMF

- In-band
- RFC2833
- SIP Info

### System Features

- Management interface: HTML in English or Chinese
- English and Chinese languages
- Online upgrade
- Configuration backup and restore
- NTP
- Pre-set progress tones for multiple regions
- Least cost routing
- RADIUS client
- Diagnostic tools: ping, tracer, DNS lookup, SIP route trace
- Comprehensive alarm and event records
- Access control list (ACL)
- Personal call handling rules

### Hardware Specifications

- Two LED indicators
- Reset button
- CF memory socket

### Network Interfaces

- One 10/100 Mb/s WAN port
- One 10/100 Mb/s LAN port
- DHCP server

### Power

- External ac to dc power adapter
- Input: 100~240 Vac @ 47~63 Hz
- Power: 20 W

### Physical and Environmental

**Operating temperature:** 10°C to 40°C (50°F to 104°F)

**Storage temperature:** 0°C to 50°C (32°F to 122°F)

**Weight:** 1.5 kg (3.3 lb). Shipping weight 2 kg (4.5 lb)

**Size:** 260 mm (W) x 160 mm (D) x 35 mm (H) (10.2" x 6.2" x 1.4")

**Safety:** FCC Part 68

**EMI:** FCC Part 15A

**RoHS:** Compliant



**Zed-3**

501 Valley Way

Milpitas, CA 95035

USA

**Tel: +1-408-587-9333**

**Fax: +1-408-586-9038**

**E-mail: zed-3@zed-3.com**

**Web: www.zed-3.com**