

# VL2000

VL2000 is VL series IP PBX based on industry standard SIP and especially designed for SME. It offers all the functions of a traditional PBX such as Call Hold, Call Transfer, Call Pickup and Call Forwarding. Also, it provides rich advanced features such as IVR, Voicemail to E-mail, Remote Office, BLF/BLA and more. By combining robust functionality and advanced communication features, you will be able to reduce the communication costs, and increase productivity and enhance collaboration efficiency. Providing ranges of capabilities on PSTN connection for integrating with existing PBXs or connecting analog phones, VL2000 is all the SME need to get started easily at reasonable price.

To improve its stability and reliability, all the VL series IP PBX adopts a fully embedded technology using flash memory without spinning hard disk drives and built in temperature sensor. Also PSTN backup service proves its high stability by delivering seamless communication via fixed PSTN line in case of sudden interruption on IP network.



**Industry Standard  
SIP(RFC3261) Based  
IP PBX**



**Versatile Up-to-  
date Features for  
Productivity**



**Huge Cost Savings**



**PSTN(E1 PRI & FXO)  
Backup Service for  
Ensured System  
Operation**

**300 Subscribers**  
**80 Concurrent Calls**  
**E1 PRI Card**  
**NAS Card**  
**FXO & FXS Card**

- Users License(100 ~ 300)
- SIP based Embedded System
- Simple Installation & Management
- Flexible Configuration
- Easy Migration to VoIP
- Remote Office



1

## Up to 300 Extensions / 80 Concurrent Calls

VL2000 is VL series IP PBX specially designed for small to medium sized enterprises. Accordingly, this model allows you to register up to 300 extensions and supports up to 80 concurrent calls. Also, the calls among extensions registered with VL series are free, and all the advanced features are also supported.

2

## Flexible Configuration with E1 PRI, NAS, FXO & FXS Card

VL2000 has four I/O slots and each slot can be plugged in with one of three types of I/O cards, E1 PRI, NAS and 4FXO & 4FXS combo cards. Hence it enables flexible configuration such as E1 PRI, NAS, 4FXO & 4FXS and so on. VL2000 will save the VoIP adaptation costs by allowing to select right card according to the company size.

3

## Easy Migration to VoIP

VL series IP PBXs are designed to enable convenient adoption when installed into any existing IP networks. VL2000 not only makes it very easy installing but also dramatically lower voice communication costs by using VoIP service. Also, by providing optional card, VL2000 will eliminates the expansion costs as well.

4

## Convenient S/W Upgrade via WEB UI

An efficient management tool is also provided through intuitive WEB user interface. This includes regular S/W upgrade, Auto-Provisioning and Diagnostic. Therefore, system upgrade and management can be so easy.

5

## Increased System Reliability

Built-in backup SuperCap ensures safe operation of system at any unexpected power failure. Also, the temperature sensor protects the system by checking the operating temperature and then cooling the system with the fan inside if the system is over-heated.

# Specification

## Basic PBX Features

- Call Hold/Unhold
- Call Transfer (Blind/Attended)
- Call Forwarding  
(Always/Busy/No-Answer/Error/Time-Based)
- Call Pickup (Direct/Group)
- Call Park/Unpark
- Intercom (Direct/Group)
- Threeway Call
- Music on Hold
- Music on Ringback
- Group Hunt (Sequential/Circular/Ring-All/Random)
- Distinctive Ringing
- DTMF Relay (in-audio/rfc2833/SIP Info)
- Flexible Dialplan
- SIP Trunking
- DID/DOD
- FXO backup (in case VSP is unavailable)
- Call Screening
- DND
- Virtual Caller ID
- Anonymous Caller ID
- Phonebook

## Advanced PBX Features

- Voicemail (with e-mail forwarding)
- Message Waiting Indication
- IVR
- Conference
- Call Recording
- RAA
- Feature Code
- SIP Messaging & Presence
- BLF
- PBX-to-PBX interoperability

## Security

- ACL
- DDoS Protection
- SIP DDoS Protection
- PBX-to-PBX interoperability thru VPN

## SIP

- SIP Basic (RFC 3261)
- Provisional Responses (RFC 3262)
- An Offer/Answer Model (RFC 3264)
- Event Notification (RFC 3265)
- Asserted Identity (RFC 3325)
- Instant Messaging (RFC 3428)
- Message Waiting Indication (RFC 3842)
- Presence (RFC 3856)
- Session Timers (RFC 4028)
- INFO Method (RFC 2976)

## Codecs

- IP
  - + Voice
    - G.711  $\mu$ A-Law
    - G.729 A/B (pass-thru only)
    - G.723.1 (pass-thru only)
  - + Video (pass-thru only)
    - H.263
    - H.264
    - MPEG-4 SP/ASP
- Analog
  - + Voice
    - G.711  $\mu$ A-Law
    - G.729 A/B
    - G.723.1

## FXO

- LEC (G.168)
- Caller ID Detection
- Call Progress Tone Detection
- DTMF Generation & Detection
- VAD/CNG
- Packet Loss Concealment
- Adaptive Jitter Buffer
- Dynamic Payload Support
- Adjustable Audio Frames per Packet

## FXS

- Battery Feeding for Analog Telephone
- Ringing Signal up to 3 LEN
- Type I/II FSK Caller ID Generation & Detection
- Call Progress Tone Generation
- DTMF Generation & Detection
- VAD/CNG
- FAX
  - + T.30 Receiving (only with e-mail forwarding)
- Configurable Tip/Ring impedance
- Hook Flash Signaling

## Management

- System Configuration via WEB Manager
- Multi Language Support (Korean/English/Turkish)
- Password Protection
- Configuration Backup/Restore thru WEB/FTP
- S/W Upgrade from Remote Place
- Direct Phone Management thru WEB
- IP-Phone Auto Provision
- Event Log
- Call Log
- CDR
- SNMPv2

## H/W

- CPU: Dual Cores @ 700MHz
- Memory: 512MByte DDR2 - SDRAM
- Storage: 2GByte NAND Flash

## Network Interfaces

- Ethernet: 2 Ports (10/100/1000Mbps)
- PSTN: up to 16 Ports (4 4FXO & 4FXS Cards)
- Analog Telephone Interface:
  - up to 16 Ports (4 4FXO & 4FXS Cards)
- E1 PRI : up to 2 E1
- NAS : 1TB

## Other Interfaces

- LED Status Indicators
- AC 220V Power Connector
- Earth Connector
- Restore Factory Defaults Button

## Power Consumption

- Max. Operational Power Consumption: 120 W

## Cooling Fan

- 3 DC Fans
- RPM: 5000, Air Flow: 4.17 CFM

## SuperCapacitor for Power Failure

## Physical

- Dimensions: 440(W) x 430(D) x 45(H) mm
- Weight: 5.5Kg (without Cables)

## System Capacity

- Max. Extensions: 300 Subscribers
- Max. Concurrent Calls: 80 Calls
- Max. Call Per Second: 5 (CPS)
- CDR Database: up to 20MByte records

## Ethernet Interfaces

- WAN/LAN: 10Base-T, 100Base-TX, 1000Base-T complying IEEE 802.3 Standards supports Auto-Negotiation
- RJ45 Connector: Ethernet packets over CAT5-UTP cable

## PSTN Interface

- 2 Pin(Tip-Ring) RJ11 Connector for each PSTN port
- Up to 3KV Line Isolation and Surge Protection
- TX power of up to +10 dBm into 600Ohm
- Ringing Detection
- CID Monitoring and Detection
- Parallel Phone Detection

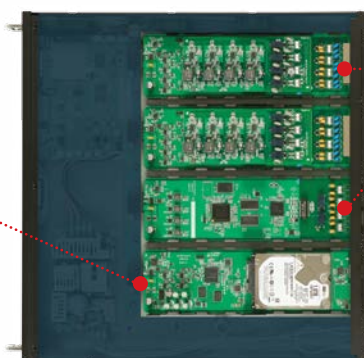
## Environmental

- Operating Temperature: 0°C ~ 40°C
- Operating Humidity: 20% ~ 80% RH
- Storage Temperature: -20°C ~ 60°C
- Storage Humidity: 20% ~ 95% RH

# Line Interface Unit (LIU)

## NAS

- CPU : 400MHz, Dual Core
- HDD Interface : SATA2
- Ethernet Interface : Gigabit Ethernet for External Interface
- HDD Spec : 2.5 inch HDD/1TB, Recording HDD
- FTP Support : External Ethernet Interface Port
- SamBa Support : External Ethernet Interface Port



4 FXO & 4 FXS

E1 PRI

Card Capacity : 1 E1 PRI  
E1 Interface : 2 Ports/inocard(1Port(Operation) / 1Port(for Backup))

E1 Digital : ISDN PRI(R2 Unsupported)

CODEC : PCMa/PCMu

LINE CODING : HDB3, AMI

OP MODE : User/Network