OBi5vs SERIES

Detailed Technical Specifications

OBi5vs Series Universal Adapter and Voice Service Bridge

With Support for Nine (9) SIP, and OBiTALK VoIP Services

Extremely cost-effective, with cutting-edge technology, the ultra-flexible OBi5vs Series devices can be configured to be used for many voice and fax applications. Businesses using premise-based open-standard platforms such as Asterisk, FreePBX, PBX in a Flash or other SIP-based systems will be able to leverage the OBi5vs Series phone ports as user phone or fax extensions. Likewise, the OBi5vs Series can be deployed where the business is using a hosted service and need connections available with the OBi5vs Series for phones, fax machines and paging systems. When coupled with Obihai's powerful OBiTALK cloud-based management portal, the OBi5vs Series can be deployed in almost any voice and data networking environment, yet be securely and reliably managed from anyplace with a connection to the Internet.

Model	OBi504vs	OBi508vs	OBi544vs
FXS Phone Ports (RJ11)	4	8	4
FXO Line Ports (RJ11)	0	0	4
PSTN Fail-Over Port (RJ11)	1	1	1
USB 2.0 Ports	3	3	3
Line-Out Audio Port (3.5mm)	1	1	1
Line-In Audio Port (3.5mm)	1	1	1
Ethernet Ports (RJ45)	4 1 Gig-E + 3 10/100 FE	4 1 Gig-E + 3 10/100 FE	4 1 Gig-E + 3 10/100 FE

With the OBi5vs Series, you are in control of your digital and analog communications life. Via the OBi5vs Series' on-board phone connections as well as via the Internet to other OBi endpoints via Obihai's free OBiTALK network or up to nine (9) available VoIP services from a multitude of SIP Internet phone services you have the power make and receive phone calls and faxes as well as bridge mobile, fixed line and Internet telephone services. The OBi5vs Series supports the T.38 fax standard for reliable facsimile calls over the Internet.

The OBi5vs Series is equipped with a 4-port Ethernet switch comprised of one (1) Gig-E port and three (3) 10/100BaseT FastEthernet ports.

The OBi5vs Series USB ports can serves multiple purposes now and in the future. For example, the OBiBT USB to Bluetooth adapter allows for pairing a mobile phone's service to the OBi5vs as an available service with which the OBi5vs device can originate, terminate or bridge calls. Additionally, the OBiLINE USB to FXO adapter may be used to add fully-routable analog telephone service circuits to the OBi5vs Series' any-to-any voice switching matrix.

Key Hardware / Interface Features of the OBi5vs Series:

- 4 or 8 FXS Telephone Ports (Model Dependent) - Use with Regular Phones, Faxes and Legacy Systems
- 4 FXO Phone Line Ports - OBi544 Only
- 3 USB Ports - Use with supported Obihai USB Accessories.
- 4 Port Ethernet Switch - 1 GigE + 3 Fast Ethernet
- 1 Line-In Audio Port - Add Music-on-Hold Audio to Calls in Progress.
- 1 Line-Out Audio Port - Use with Paging Systems - SIP Addressable
- 12v External Power Adapter
- Desktop, Wall or 19' Rack Mountable
- Durable Metal Enclosure with Kensington Lock Port

The OBi5vs Series is a dedicated device, built with a high-performance system-on-a-chip platform to ensure high quality voice conversations. The OBi5vs Series has high availability and reliability because it is always-on to make or receive calls.

Software Feature Highlights:

- Call Signaling for Up to nine (9) SIP-Based Voice Services: SIP (UDP/TCP/TLS)
- OBiTALK Calling: Allows for Voice Communications Between OBi Devices and Smart Phone Apps.
- VoIP Codecs Supported: G.711, G.726, G.729, iLBC
- Fax Over IP: T.38 Real-Time Fax over IP, G.711 Transparent Fax (Automatic)
- Obihai Call Routing and Bridging Technology: Allows for Full-matrix Switching Amongst Available Services (VoIP, Land Line or Mobile Phone) and/or Ports.
- Secure Provisioning and Management via the OBiTALK Cloud or via TFTP, HTTP/S or via Integral Web Page
- Globally Localizable: Allows for Country-Specific Dialing, Ringing, In-call Tones and PSTN (FXO) Interoperability.
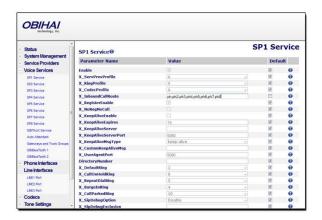

The OBi5vs Series is Complemented by Other OBi Products & Services

OBiTALK: A web portal for secure, cloud management and service configuration of Obihai devices.

OBiON iPhone, iPad, iPod touch & Android Devices: An application for iPhone, iPad, iPod touch and Android devices which makes possible placing and receiving calls to/from other OBi endpoints.

OBiON PC: A middleware application for a PC that facilitates placing and receiving calls to/from other OBi endpoints.

Key Features of the OBi5vs Series VoIP Telephone Adapter:

SIP Service Provider Support for Up to ten (10) SIP Accounts

Any Available Service Can be Accessed from Each Phone Port Independently

Aggregation / Bridging of nine (9) SIP and One (1) OBiTALK Service

Automatic Attendant for Simplified Call Routing (AA)

Call Back Service – Automatic Call Back to Connect User to the AA to Make a New Call or Ring the Attached Phone

OBiTALK Web Portal Integration – Management, Troubleshooting, Configuration, Status

Configurable to Work with Any SIP Compliant Internet Telephone Service

Analog Phone Impedance Agnostic

Robust Telephony Features:

- Caller ID – Name & Number
- Call Waiting
- Message Waiting Indication - Visual and Tone Based
- Speed Dialing of 99 OBi Endpoints or Numbers
- Three Way Conference Calling with Local Mixing
- Hook Flash Event Signaling

- Call Forward - Unconditional
- Call Forward on Busy
- Call Forward on No Answer
- Call Transfer
- Anonymous Call
- Block Anonymous Call
- Do Not Disturb
- Call Return
- Repeat Dialing
- Caller ID Pass-Thru

Powerful Call Routing & Voice Service Features:
- SIP Support for Voice and Fax Over IP (T.38 and G.711 pass-thru) from Internet Telephony Service Providers
- OBiTALK Managed VoIP Network for OBi Endpoint Devices & Applications
- High Quality Voice Encoding Using G.711, G.726, G.729, iLBC Algorithms
- Recursive Digit Maps & Associated Call Routing (Outbound, Inbound)

General

Brand	Obihai Browse Obihai Devices
Manufacturer	Obihai
Hardware Designer	Obihai Technology, Inc.
OBi5vs Series Model Names	OBi504, OBi508, OBi544
Release Date	December 2013

Microprocessor

Width of Machine Word	32 bit
CPU - Instruction Set	1.6 GHz ARM

FXS SLIC (Subscriber Line Integrated Circuit): Phone 1 / Phone 2

Ringer Specifications	Ring Frequency: 14Hz – 68Hz Ring Waveform: Trapezoidal, Sinusoidal Ring Voltage: 55v – 85v
Maximum Ring Load	5 REN (Ringer Equivalence Number)
FXS (PHONE Port) Configuration Settings	Recursive Digit Map & Associated Outbound Call Routing On-Hook Tip Ring Voltage: 30v – 52v Off-Hook Current Max: 15mA – 45mA Impedance: 12 Independent Settings DTMF Playback Level: -90 dBm – 3dBm Caller ID Method: Bellcore, ETSI (FSK or DTMF) Caller ID Trigger (Before / After First Ring, Polarity Reversal) Channel Tx Gain: -12dB to 6 dB at 1 dB Resolution Channel Rx Gain: 12dB to 6 dB at 1 dB Resolution Silence Detect Sensitivity Hook Flash Time Max Hook Flash Time Min CPC Delay Time CPC Duration Idle Polarity Connect Polarity
FXO (LINE Port) Configuration Settings	Recursive Digit Map & Associated Inbound Call Routing Ring Delay Detect CPC CPC Time Threshold Detect Polarity Reversal Detect Far End Long Silence

Detect Near End Long Silence
Silence Detect Sensitivity
Silence Time Threshold
Detect Disconnect Tone
Disconnect Tone Pattern – Programmable
AC Impedance: 16 Settings
On-Hook Speed: 0.5ms, 3ms (ETSI), 26 (AU)
Tip-Ring Voltage: 3.1v, 3.2v, 3.35v, 3.5v
Min Operational Loop Current: 10mA, 12mA, 14mA, 16mA
Current Limiting Enable
Channel Tx Gain
Channel Rx Gain
Line In-Use Voltage Threshold
Line In-Use Current Threshold
Caller ID Detection Methods: FSK (Bell 202), FSK (V.23), DTMF (FI, SE, DK)
DTMF Playback Level

Management – Configuration

Local Access Interface	IVR, Web Page – Password Protected (Admin & User Level Log-in)
Remote Access Interface	Cloud, Syslog (Multi-Level Granularity), Invokable via SIP Notify, Web, Provisioning
Device Web Page Standard	HTTP v1.1, XML v1.0
Remote Provisioning	OBiTALK Cloud, XML via TFTP or HTTP, TR069 / TR104
Secure Remote Provisioning	OBiTALK Cloud, SSL via HTTPS , Encrypted XML via HTTP or TFTP – Dedicated User Name & Password
Secure Remote Firmware Update	Encrypted Binary File via TFTP or HTTP/S + Dedicated UN/PW
Customization	OBi-ZT: Obihai Zero-Touch Automatic Customization & Configuration **
Call History (CDRs)	Call Detail Records on OBi Web Page, Export to XML
LED Indications	Power, Device Status, Upgrade Progress Status, Ethernet Activity, PHONE Status
RTP Statistics	RTP Transport Type Audio Codec Type (Tx/Rx) RTP Packetization - ms (Tx/Rx) RTP Packet Count (Tx/Rx) RTP Byte Count (Tx/Rx) Peer Clock Differential Rate - PPM Packets In Jitter Buffer Packets Out-Of-Order Packets Interpolated Packets Late (Dropped) Packets Lost Packet Loss Rate % Packet Drop Rate % Jitter Buffer Length - ms Received Interarrival Jitter - ms DTMF Digits Received Jitter Buffer Underruns Jitter Buffer Overruns Sequence Number Discontinuities Skew Compensation - ms
Session Information	SIP Session Status OBiTALK Status Phone Port Status (Phone 1 thru Phone 8)
System Settings Back-Up / Restore	Save & Restore Configuration via XML file to / from a Local Folder
OBiTALK Portal Set-Up Wizard	Secure, Easy Configuration Via Cloud

Security

Local Access Interface	IVR Password
Remote Access Interface	User Name & Password Access via HTTP, TFTP – HTTPS
Device Web Page Standard	HTTP v1.1, XMLv1.0
Secure Remote Provisioning	TFTP, HTTP, HTTPS

Network – Application Details

Data Networking	MAC Address (IEEE 802.3) UDP (RFC 768) TCP (RFC 793) IP version 4 (RFC 791) – Static IP and DHCP Support (Upgradeable to IPv6) ICMP (RFC 792) ARP - Address Resolution Protocol Domain Name System (DNS) A Records (RFC 1706) & SRV Records (RFC 2782) RTP (RFC 1889, 1890) RTCP (RFC 1889) DHCP Client (RFC 2131) PPPoE (Point-to-Point Protocol over Ethernet) client (RFC 2516) MAC Address Cloning MTU Byte Size Adjustment
VoIP	Eight Service Provider Configuration Profile Assignments (ITSP 1-9) Ten Service /Trunk Subscription Profile Assignments (SP 1-9) SIPv2 (RFC 3261, 3262, 3263, 3264) SIP over UDP SIP over TCP SIP over TCP with TLS 32 SIP Service Provider Service Sessions – Concurrent Operation 1 OBiTALK Service Session SIP Proxy Redundancy – Local or DNS Based SVR, Primary & Secondary Fallback List Restrict Source IP Address Maximum Number of Sessions – Independent per Service Trunk Groups (4) Voice Gateway – Direct Dialing (8) G.711 A-Law (64 kbps) G.711 µ-Law (64 kbps) G.726 (32 kbps) G.729a (8 kbps) iLBC (13.3, 15.2 kbps) Codec Pre-selection Code Voice Processing per SIP Service – TX/RX Audio Gain, Echo Cancellation Adjustable Audio Frames per Packet Codec Name Assignment Codec Profile (2) & OBiTALK Service Dynamic Audio Payload Packet Loss Concealment Jitter Buffer (Adaptive) STUN ICE
VoIP cont.	SUBSCRIBE / NOTIFY Framework (RFC 3265) NOTIFY Dialog, Line Status SUBSCRIBE Message Summary VoIP NAT Interworking DATE Header Support Remote-Party-ID (RPID) P-Asserted-Identity (PAID)

	RTP Statistics in BYE Message Media Loopback Support
Telephony	Configurable Contact List (Inbound Call Routing) Automatic Attendant (English) with Configurable Answer Delay Support for Multilevel Voice Menus PIN Access Control to AA (Up to 4 PINs) Recursive Digit Map for Call Routing (AA, Phone, Voice Gateways, Trunk Groups) AA Configurable Outbound Call Routing Rule SIP Service Configurable Inbound Call Routing Rule (2) Direct / Single-Stage Dialing (Route to Voice Gateway) Fax Pass Through (G.711) T.38 Fax Relay for Real-Time Fax over IP Fax Fallback to Passthrough if T.38 Not Supported by Peer Modem Pass Through (G.711) In-Band DTMF (G.711) Out of Voice Band DTMF (RFC 2833) Out of Voice Band DTMF (INFO Method) Call Progress Tone Generation Tone Profile per SIP SP and OBiTALK service Ring Profile per SIP SP and OBiTALK service Star Code Profile per SIP SP and OBiTALK service Full Duplex Audio G.165, 168 Echo Cancelation VAD – Voice Activity Detection Silence Suppression Comfort Noise Generation Three Way Conference Calling with Local Mixing Hook Flash Event Signaling Flash Hook Timer Caller ID – Name & Number per Bellcore, ETSI and DTMF MWI – Message Waiting Indicator Visual Message Waiting Indication (VMWI) Daylight Savings Time Support – North & South Hemispheres Caller ID Enable /Disable Caller ID Number Caller ID Name (Alphanumeric) Caller ID Spoofing Call Waiting Maximum Session Control Call Forward - Unconditional Call Forward on Busy Call Forward on No Answer (Ring Count Configurable) Call Transfer Enable / Disable Anonymous Call Block Anonymous Call Do Not Disturb Call Return Repeat Dialing
Call Progress Tones	Configurable Call Progress Tone Call Progress Tone Profiles (2) Dial Tone Busy Tone Ringback Tone Reorder Tone Confirmation Tone Holding Tone Second Dial Tone Stutter Tone Howling Tone Prompt Tone

Call Progress Tones cont.	Call Forwarded Tone Conference Tone SIT Tones (1-4) Ringing & Call Waiting Tone Configuration Ring Patterns (10) - Configurable Call Waiting Tone Patterns (10) - Configurable Call Waiting Tone Pattern Profiles (2)
Star Code Configuration	Configurable Start Codes Star Code Profiles (2) Redial Call Return Activate Block Caller ID Deactivate Block Caller ID Block Caller ID Once Unblock Caller ID Once Activate Call Forwarding (All Calls) Deactivate Call Forwarding (All Calls) Activate Call Forward on Busy Deactivate Call Forward on Busy Activate Call Forward on No Answer Deactivate Call Forward on No Answer Activate Block Anonymous Calls Deactivate Block Anonymous Calls Activate Call Waiting Deactivate Call Waiting Activate Do Not Disturb Deactivate Do Not Disturb Activate Repeat Dial Deactivate Repeat Dial

Interfaces & Indicator Lights

USB2.0 Ports	3
LAN Ports (Beta Router Firmware Available)	1 x 10/100/1000BaseT and 3 x 10/100BaseT Ethernet Port (802.3)
Phone (FXS)	8 or 4 x RJ-11 FXS Analog Phone Ports (Model Dependent)
Line In + Line Out Audio	3.5 mm
Reset Button	Yes – Located on Rear of Case
LEDs	10-14 – Power, Status, Ethernet Activity (4), Phone (4-8), Line (4)
LED Indications	Power, Status, Upgrade in Progress Status, Packet RX/TX, Phone Port Status

Certifications

FCC Part 15	Yes – Class A
A-Tick	Future
CE	Yes
ICES-003	Yes
RoHS	Yes
WEEE	Yes
UL/cUL	Yes – Power Adapter

Environmental

Operating Temperature	0º to 45º C (32º to 113º F)
Storage Temperature	-25º to 85º C (-13º to 185º F)
Operating Humidity	10% to 90% Non-condensing
Non-operating Humidity	10% to 90% Non-condensing

Physical Attributes

Dimensions:	27 cm x 16.5 cm x 4.5 cm – 10.6 in x 6.5 in x 1.8 in
Unit Weight:	1.25 kg / 2.76 lbs.
Shipping Weight	1.53 kg / 3.36 lbs. (Incl. PSU, Ethernet Cable and Packaging)
Mounting	19" Rack, Wall & Desktop Mountable (Rack Mounts Included)

Power Supply

Type	Universal Switching with Plug Pigtail (Region Dependent)
Input Power	AC Input: 100 to 240 Volts 1.5A 50-60Hz (26-34 VA)
Output Power	DC: +12V 5.0 Amp Max

Carton Specifications

Units Per Carton	5 Units
Carton Dimensions	45.1 cm x 34 cm x 32.5 cm – 17.8 in x 13.4 in x 12.8 in
Carton Weight	10.5 Kilograms / 23.1 pounds

Miscellaneous

Requirements	Active Internet Connection Analog Touch Tone Phone Access to Internet Via a Switched Ethernet Port or Router (Optional) Active Internet Phone Service Subscription with All Required SIP Credentials to Make & Receive Calls
Documentation	Quick Start / Installation Guide User / Administrative Guide Implementation Guide for Service Providers **
Package Contents	OBi5vs Series Voice Service Bridge and Telephone Adapter Power Adapter 1 x RJ-11 Phone Cable 1 x RJ-45 Ethernet Cable (80 in / 203 cm) Quick Start / Installation Guide
Warranty	1-Year Hardware (Limited)
Engineering & Design Location	California, USA
HST Code	8517.62.00
Data Sheet State	All content subject to change. This data sheet is not a warranty.
Data Sheet Version	140107.500.1

** For Service Providers Only

OBIHAI
technology, inc.