



## Detailed Technical Specifications

### **OBi302 VoIP Telephone Adapter with 2-Phone Ports, Router & USB**

With Support for SIP, OBiTALK VoIP Services and T.38 Fax-over-IP

With the OBi302, you are able to provide your customers the best possible experience when connecting to your hosted VoIP services. Via the its two (2) on-board phone connections as well as via the Internet to other OBi endpoints via Obihai's free OBiTALK network or up to four (4) available SIP-based VoIP services, the OBi302 can make and receive phone calls and faxes as well as bridge mobile, fixed line and Internet telephone services. The OBi302 supports the T.38 fax standard for reliable facsimile calls over the Internet.

The OBi302 is equipped with a 2-port router/bridge with support for integrated quality of service (QoS). The OBi302 may be installed in a variety of environments the existing modem, router or switch does not have an available Ethernet port and/or locations where upstream voice traffic needs to be prioritized above other types of traffic like web surfing and uploading pictures and movies. The OBi302 USB port serves multiple purposes. Using the OBiWiFi Wireless Adapter, the OBi302 can be placed anywhere within range of an 802.11b/g/n access point. Or, the USB port can be connected to a storage device to enable local and remote access of stored files over the Internet by authorized users.



The OBi302 is a dedicated device, built with a high-performance system-on-a-chip platform to ensure high quality voice conversations. The OBi302 has high availability and reliability because it is always-on to make or receive a call. With the OBi302, a computer is not required and a computer does not need to be on to talk to people. To get started, all that's needed is a phone, power and a connection to the Internet.

#### The OBi302 is Complemented by Other OBi Products & Services

**OBiTALK:** A web portal for device management and service configuration. OBiTALK also allows its members to add people and associated OBi endpoints to "circles of trust" such that additional functionality can be shared amongst authorized users. The OBiTALK portal is also where members can download the OBiON applications for smart phones and Internet connected devices like the iPhone, iPad, iPod touch & Android.

**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 OBi302 VoIP Telephone Adapter:**

SIP Service Provider Support for Up to Four (4) SIP Accounts

Any Available Service Can be Accessed from Each Phone Port Independently

Aggregation / Bridging of Four (4) SIP Voice Services 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

- Configuration and Management of OBi Endpoints
- Download OBi Client Applications for Smart Phones, Internet Devices & PCs
- Creating & Joining Circles of Trust So You Can Share Your OBi
- Setting Up Your OBi Endpoint Speed Dial Directory

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

**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	<a href="#">Obihai</a> <a href="#">Browse Obihai Devices</a>
Manufacturer	<a href="#">Obihai</a>
Hardware Designer	<a href="#">Obihai Technology, Inc.</a>
Model Name	OBI302
Release Date	June 2012

**Microprocessor**

Width of Machine Word	32 bit
Instruction Set	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

### Management – Configuration

Local Access Interface	IVR, Web Page – Password Protected (Admin & User Level Log-in)
Remote Access Interface	Syslog (Multi-Level Granularity), Invokable via SIP Notify, Web, Provisioning
Device Web Page Standard	HTTP v1.1, XML v1.0
Remote Provisioning	XML via TFTP or HTTP, TR069 / TR104
Secure Remote Provisioning	SSL via HTTPS , Encrypted XML via HTTP or TFTP – Dedicated User Name & Password
Secure Remote Firmware Update	Encrypted Binary File via TFTP or HTTP + Dedicated User Name & Password
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 and Phone 2)
Primary SIP Service Set-Up Wizard	Dedicated Device Web Page for Quick ITSP Account Set-Up
System Settings Back-Up / Restore	Save & Restore Configuration via XML file to / from a Local Folder

### 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	<p>MAC Address (IEEE 802.3) UDP (RFC 768) TCP (RFC 793) IP version 4 (RFC 791) – Static IP and DHCP Support ICMP (RFC 792) ARP - Address Resolution Protocol Domain Name System (DNS) A Records (RFC 1706) &amp; SRV Records (RFC 2782) RTP (RFC 1889, 1890) RTCP (RFC 1889) DHCP Client (RFC 2131) LAN (Computer) Port May be Configured as a Router or Bridge DHCP Server (RFC 2131) DHCP Client Reservation PPPoE (Point-to-Point Protocol over Ethernet) client (RFC 2516) MAC Address Cloning Port Forwarding DiffServ (RFC 2475) – Independently Configured: Service, SIP &amp; Media ToS (RFC 791, 1349) – Independently Configured: Service, SIP &amp; Media VLAN Tagging (802.1p) – Independently Configured: Service, SIP &amp; Media SNTP (RFC 2030) – Primary &amp; Secondary NTP Servers Firewall with: - DRDOS Attack Protection - VPN Pass Through - NAT Redirection DMZ Mode QoS Features - Upstream Data Rate Allocation - Highest Priority (Voice) Bandwidth Allocation - Priority Class Assignments (4) for Bandwidth Allocation - DiffServ Code Point (DSCP) to Priority Class Mapping VPN Pass-Thru - IPsec ESP (IP Security encapsulating security payload) - PPTP (Point-to-Point Tunneling Protocol) - L2TP (Layer 2 Tunneling Protocol)</p>
VoIP	<p>Four (4) Service Provider Configuration Profile Assignments (ITSP 1-4) Four (4) Service /Trunk Subscription Profile Assignments (SP 1-4) SIPv2 (RFC 3261, 3262, 3263, 3264) SIP over UDP SIP over TCP SIP over TCP with TLS 4 SIP Service Provider Service Sessions – Concurrent Operation 2 OBiTALK Service Sessions SIP Proxy Redundancy – Local or DNS Based SVR, Primary &amp; 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 <math>\mu</math>-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 per SIP SP (2) &amp; OBiTALK Service</p>

VoIP cont.	<ul style="list-style-type: none"> <li>Dynamic Audio Payload</li> <li>Packet Loss Concealment</li> <li>Jitter Buffer (Adaptive)</li> <li>STUN</li> <li>ICE</li> <li>SUBSCRIBE / NOTIFY Framework (RFC 3265)</li> <li>NOTIFY Dialog, Line Status</li> <li>SUBSCRIBE Message Summary</li> <li>VoIP NAT Interworking</li> <li>DATE Header Support</li> <li>Remote-Party-ID (RPID)</li> <li>P-Asserted-Identity (PAID)</li> <li>RTP Statistics in BYE Message</li> <li>Media Loopback Support</li> </ul>
Telephony	<ul style="list-style-type: none"> <li>Configurable Contact List (Inbound Call Routing)</li> <li>Automatic Attendant (English) with Configurable Answer Delay</li> <li>PIN Access Control to AA (Up to 4 PINs)</li> <li>Recursive Digit Map for Call Routing (AA, Phone, Voice Gateways, Trunk Groups)</li> <li>AA Configurable Outbound Call Routing Rule</li> <li>SIP Service Configurable Inbound Call Routing Rule (2)</li> <li>Direct / Single-Stage Dialing (Route to Voice Gateway)</li> <li>Fax Pass Through (G.711)</li> <li>T.38 Fax Relay for Real-Time Fax over IP</li> <li>Modem Pass Through (G.711)</li> <li>In-Band DTMF (G.711)</li> <li>Out of Voice Band DTMF (RFC 2833)</li> <li>Out of Voice Band DTMF (INFO Method)</li> <li>Call Progress Tone Generation</li> <li>Tone Profile per SIP SP and OBiTALK service</li> <li>Ring Profile per SIP SP and OBiTALK service</li> <li>Star Code Profile per SIP SP and OBiTALK service</li> <li>Full Duplex Audio</li> <li>G.165, 168 Echo Cancelation</li> <li>VAD – Voice Activity Detection</li> <li>Silence Suppression</li> <li>Comfort Noise Generation</li> <li>Three Way Conference Calling with Local Mixing</li> <li>Hook Flash Event Signaling</li> <li>Flash Hook Timer</li> <li>Caller ID – Name &amp; Number per Bellcore, ETSI and DTMF</li> <li>MWI – Message Waiting Indicator</li> <li>Visual Message Waiting Indication (VMWI)</li> <li>Daylight Savings Time Support – North &amp; South Hemispheres</li> <li>Caller ID Enable /Disable</li> <li>Caller ID Number</li> <li>Caller ID Name (Alphanumeric)</li> <li>Caller ID Spoofing (OBiTALK Calling)</li> <li>Call Waiting</li> <li>Maximum Session Control</li> <li>Call Forward - Unconditional</li> <li>Call Forward on Busy</li> <li>Call Forward on No Answer (Ring Count Configurable)</li> <li>Call Transfer Enable / Disable</li> <li>Anonymous Call Block</li> <li>Anonymous Call</li> <li>Do Not Disturb</li> <li>Call Return</li> <li>Repeat Dialing</li> </ul>
Call Progress Tones	<ul style="list-style-type: none"> <li>Configurable Call Progress Tone</li> <li>Call Progress Tone Profiles (2)</li> <li>Dial Tone</li> </ul>

Call Progress Tones cont.

- Busy Tone
- Ringback Tone
- Reorder Tone
- Confirmation Tone
- Holding Tone
- Second Dial Tone
- Stutter Tone
- Howling Tone
- Prompt Tone
- 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

Internet (WAN)	1 x 10/100BaseT Ethernet Port (802.3)
LAN	1 x 10/100BaseT Ethernet Port (802.3)
Phone (FXS)	2 x RJ-11 FXS Analog Phone Ports
USB	USB 2.0 (For use with OBiWiFi, OBiBT and Storage Devices)
Reset Button	Yes – Located on Bottom of Case
LEDs	5 – Power/Status, Ethernet Activity (WAN), Ethernet Activity (LAN), Phone 1, Phone 2
LED Indications	Power On, Status, Upgrade in Progress Status, Packet RX/TX, Phone Port Status

### Certifications

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

## Environmental

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

## Physical Attributes

Dimensions: (width x depth x height)	10.5 cm x 11.4 cm x 3.0 cm 4.1 in x 4.5 in x 1.2 in
Unit Weight:	255 grams / 9 ounces
Shipping Weight	390 grams / 14 ounces (Including Power Supply, Ethernet Cable and Packaging)
Mounting	Wall & Desktop Mountable

## Power Supply

Type	Universal Switching with Fixed US, EU, UK Style Plug Prongs (Model Dependent)
Input Power	AC Input: 100 to 240 Volts 0.3A 50-60Hz (26-34 VA)
Output Power	DC: +12V 1.0 Amp Max

## Carton Specifications

Units Per Carton	20 Units
Carton Dimensions	36.0 cm x 33.0 cm x 26.8 cm – 14.2 in x 13 in x 10.5 in
Carton Weight	8.2 Kilograms / 18 pounds
Cartons Per Std. 20 / 40 ft Container	896 / 1,848 Cartons – Non-palletized

## Miscellaneous

Requirements	Active Internet Connection Analog Touch Tone Phone Access to Internet Via a Switched Ethernet Port on Home or Office 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	OBI302 Voice Service Bridge and Telephone Adapter 12v Power Adapter (100-240v Auto-Switching) 1 x RJ-45 Ethernet Cable (80 inches / 203 centimeters) 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	128001.302.1

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