Unidata SQ-3000

About UniData

UniData Communications Systems, Inc. offer Wi-Fi phone and application based on stable VoIP solution technology. UniData which has the advantage of optimal customization for various customer's demands is to enjoy the better convenience of communication technology in both enterprise and home by the field-proven quality with a history for 10 years. We will be active partner of yours to enjoy the most advanced wireless
communication technology and to create the higher productivity and value. For more information on UniData and its Wi-Fi solutions, visit **www.udcsystems.com**

Figure1. Unidata SQ-3000

UniDATA SQ-3000 is a new concept of video phone system with voice call which is based on SIP of WLAN VoIP phone and can be applied to various solution with flexibility. It is a multimedia phone which provides for user convenience such as Video/music player.

Preface

1. Revision History

No	DATE	DESCRIPTION	REMARK
1	2009-12-07	v.1.0.0	

Product Specifications

Table 1 lists the specifications, Table 2 the calling features, Table 3 the Wi-Fi features and specifications, and table 4 the video features and specifications, and from table 5 to 8 standard of the Unidata SQ-3000.

Table 1. Product Specifications

Feature	Specifications
Protocol	Session Initiation Protocol(SIP) for Signaling
Codec	Wideband Video Codec: • H.264 (MPEG-4 AVC), H.263 P0-3, H.263+ : up to 30 fps QVGA • MPEG-4 SP * Narrowband Voice Codec: • G.711 A-law, G.711 u-law, G.729AB • G.726*, GSM- AMR*, iLBC*, Speex* Wideband Voice Codec: • G.722, • Speex wideband*
Connectivity	802.11 a/b/g Wi-Fi
Physical dimensions	Dimensions • 4.9 x 2.3 x 0.7 in. (12.5 x 5.8 x 1.7 cm) Weight • 135g
Power	Battery • Cell : Li-ion Polymer, 1450mAh @Typical • Call Time : 3.0h @Video, 6.0h @Voice • Charging Time : 3.5h AC Adapter • Input : 220V/60Hz • Output : 5.5 Pi Plug, 5V/1.0A
TEMPERATURE RANGE	• Operation: 32 ˚F to 122 ˚F (0 ℃~50 ℃) • Relative humidity: 10%~90% • Specifications are subject to change without notice.
Language support	English, Korean
LCD	320(V) x RGB x 240(H) dots 2.8 inch, 43.20mm x 57.60mm
Camera	CMOS Image Sensor 300K pixel AE, AWB
Key	Main Key • 15 Basic Input Key (3x4 Key, Send, End, Clr) • 4 Navi Key (Top/Bottom/Right/Left) and OK Key • 2 Key Soft Key • 2 Key Hot Key Side Key • 2 Volume Control Key Touch • Resistive Touch Pannel on LCD

Audio	Receiver • 10mW @Rated Headset Jack • 4 Pole, 2.5 Φ, Stereo Headset Jack
CPU	ARM926EJ-S, 400MHz @max
Memory	256MB Nand Flash 64MB Mobile DDR SDRAM
Memory Expansion	Micro SD (Ver 1.01)
UNIDATA COMPLIANCE	KCC, FCC, CE, UL

* Able to develop upon request

Table 2. Calling Features

Features	Description
Calling feature	• 3-way voice & video conference * (independent with third party SIP proxy) • Mute • Hold • Attended/Unattended Transfer • Waiting • Forwarding (busy / no answer / unconditional) • Visual caller ID display • Call ID blocking
Phone feature	• MP3 live bell • SP-MIDI * • Vibrator • Full duplex speaker phone with acoustic echo canceller • Call history (Inbound / Outbound / Missed / Memo, 100 records) • Phone book (1,000 contacts) • Speed dial (99 records) • Distinctive ringing (by individuals and / or groups) • Search call history, or phone book search during a phone call • Simple HTML browser*(Google mobile, customizable multimedia service) • RTSP based streaming service * • Alarm • Morning Call • D-Day • Calculator • World Time
Configuration option	• Dynamic Host Configuration Protocol (DHCP) client or static configuration • Domain Name System (DNS) • Simple Network Time Protocol (SNTP) • Syslog
Dynamic Network Binding	• Pre-configured 4 Network profiles • Wireless LAN Site Survey • Simple WLAN profile configuration for instant network connection • DHCP / Static IP • DiffServ (ToS) Tagging • NAT Traversal: STUN • L2/L3 Fast Roaming

Management	• Manual Upgrade
	  • Upgrade F/W by phone menu from local server
	  • Protocol: HTTP
	• Auto Provisioning (HTTP/HTTPS)
	• Automatic boot-up provisioning
	• Support file format
	  • ini (general.ini for common / mac.ini for respective)
	  • Configuration Items
	  • Network / Wi-Fi / Security / SIP Proxy, Account / System setting (language, time, location) / Basic call
	  • Latest version firmware upgrade
	• Web Configuration tool
	• Diagnosis
	  • Network / WLAN / RTP / Ping Test / Hardware Diagnosis

Voice over IP	• RFC3261 SIP • In-band DTMF / Out-of-band DTMF (INFO, RFC2833) • SIP MESSAGE

* Able to develop upon request

Table 3. Wi-Fi Features and Specification

Feature	Specifications
Protocol	• IEEE 802.11a • IEEE 802.11b • IEEE 802.11g
Modulation	DQPSK, DBPSK,16-QAM, 64-QAM, DSSS/CCK, OFDM
Data Rate	IEEE 802.11a • 6,9,12,18,36,48 and 54 Mbps
	IEEE 802.11b • 1.2.5.5, and 11 Mbps
	IEEE 802.11g • 6,9,12,18,24,36,48 and 54 Mbps
Frequency and Channel (*Regional Dependent)	802.11 bg: • Frequency: 2400~2483.5 MHz • Channel: 1~13 Channel
	802.11a: • Frequency 5150~5250MHz, Channels 36,40,44,48 • Frequency 5725~5850MHz, Channels 149,153,157,161, 165
Output Power (*Regional Dependent)	• Typical 17dBm @802.11b • Typical 17dBm @802.11g • Typical 12dBm @802.11a
Sensitivity	• Typical -95dBm @ 1Mbps • Typical -86dBm @ 11Mbps • Typical -90dBm @ 6Mbps, 802.11a/g • Typical -73dBm @ 54Mbps, 802.11a/g
Antenna	Dual-band Single Internal Antenna
Security features	• WEP (64 /128 bits) • WPA-PSK • 802.1x EAP-MD5, EAP-TTLS, PEAP, EAP-TLS * WPA/WPA2 Personal and Enterprise

QoS	• Wi-FI Multimedia (WMM) • DiffServ (Tos) Tagging • Jitter Buffer

Table 4. SQ-3000 Unified Video Camera

Feature	Specifications
Video Standards	H.264 (MPEG-4 AVC) , H.263 P0-3, H.263+ MPEG-4 SP *
Frame rates	up to 25 ~ 30 fps QVGA
Frame or picture formats	QVGA (240 X 320) QCIF (176 X 144)

* Able to develop upon request

Table 5. SIP Standard

RFC	Subject
RFC 3261	SIP: Session Initiation Protocol
RFC 2617	HTTP Authentication: Basic and Digest Access Authentication
RFC 3262	Reliability of Provisional Responses in the Session Initiation Protocol (SIP)
RFC 3263	Session Initiation Protocol (SIP): Locating SIP Servers
RFC 3265	Session Initiation Protocol (SIP)-Specific Event Notification
RFC 2806	URLs for Telephone Calls
RFC 2976	The SIP INFO Method
RFC 3311	The Session Initiation Protocol (SIP) UPDATE Method
RFC 3313	Private Session Initiation Protocol (SIP) Extensions for Media Authorization
RFC 3323	A Privacy Mechanism for the Session Initiation Protocol (SIP)
RFC 3326	The Reason Header Field for the Session Initiation Protocol (SIP)
RFC 3325	Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks
RFC 3327	Session Initiation Protocol (SIP) Extension Header Field for Registering Non-Adjacent Contacts
RFC 3329	Security Mechanism Agreement for the Session Initiation Protocol (SIP)
RFC 3361	Dynamic Host Configuration Protocol (DHCP-for-IPv4) Option for Session Initiation Protocol (SIP) Servers
RFC 3420	Internet Media Type message/sipfrag
RFC 3428	Session Initiation Protocol (SIP) Extension for Instant Messaging
RFC 3486	Compressing the Session Initiation Protocol (SIP)
RFC 3515	The Session Initiation Protocol (SIP) Refer Method
RFC 3608	Session Initiation Protocol (SIP) Extension Header Field for Service Route Discovery During Registration
RFC 3680	A Session Initiation Protocol (SIP) Event Package for Registrations

RFC 3824	Using E.164 numbers with the Session Initiation Protocol (SIP)
RFC 3840	Indicating User Agent Capabilities in the Session Initiation Protocol (SIP)
RFC 3841	Caller Preferences for the Session Initiation Protocol (SIP)
RFC 3842	A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)
RFC 3856	A Presence Event Package for the Session Initiation Protocol (SIP)
RFC 3857	A Watcher Information Event Template-Package for the Session Initiation Protocol (SIP)
RFC 3858	An Extensible Markup Language (XML) Based Format for Watcher Information
RFC 3859	Common Profile for Presence (CPP)
RFC 3860	Common Profile for Instant Messaging (CPIM)
RFC 3891	The Session Initiation Protocol (SIP) "Replaces" Header
RFC 3892	The Session Initiation Protocol (SIP) Referred-By Mechanism
RFC 3903	Session Initiation Protocol (SIP) Extension for Event State Publication
RFC 4028	Session Timers in the Session Initiation Protocol (SIP)
RFC 4168	The Stream Control Transmission Protocol (SCTP) as a Transport for the Session Initiation Protocol (SIP)
RFC 4320	Actions Addressing Identified Issues with the Session Initiation Protocol's (SIP) Non-INVITE Transaction
RFC 4488	Suppression of Session Initiation Protocol (SIP) REFER Method Implicit Subscription
RFC 5057	Multiple Dialog Usages in the Session Initiation Protocol
RFC 4566	SDP: Session Description Protocol
RFC 2327	SDP: Session Description Protocol
RFC 3264	An Offer/Answer Model with the Session Description Protocol (SDP)
RFC 3266	Support for IPv6 in Session Description Protocol (SDP)
RFC 3312	Integration of Resource Management and Session Initiation Protocol (SIP)
RFC 3388	Grouping of Media Lines in the Session Description Protocol (SDP)
RFC 3407	Session Description Protocol (SDP) Simple Capability Declaration
RFC 3524	Mapping of Media Streams to Resource Reservation Flows
RFC 3551	RTP Profile for Audio and Video Conferences with Minimal Control
RFC 3556	Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP)
RFC 3605	Real Time Control Protocol (RTCP) attribute in Session Description Protocol (SDP)
RFC 3890	A Transport Independent Bandwidth Modifier for the Session Description Protocol (SDP)

Table 6. Network Standard

RFC	Subject
RFC 768	User Datagram Protocol
RFC 791	Internet Protocol

RFC 793	Transmission Control Protocol
RFC 826	Ethernet Address Resolution Protocol: Or converting network protocol addresses to 48.bit Ethernet address for transmission on Ethernet hardware
RFC 868	Time Protocol
RFC 1350	The TFTP Protocol (Revision 2)
RFC 1738	Uniform Resource Locators (URL)
RFC 1769	Simple Network Time Protocol
RFC 2131	Dynamic Host Configuration Protocol
RFC 2616	Hypertext Transfer Protocol – HTTP/1.1
RFC 3164	The BSD Syslog Protocol

Table 7. QoS(Quality of Service)

RFC	Subject
IEEE 802.1p	Traffic Class Expediting and Dynamic Multicast Filtering
IEEE 802.1Q	Virtual LANs
RFC 1349	Type of Service in the Internet Protocol Suite
RFC 2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers

Table 8. NAT Traversal

RFC	**Subject**
RFC 3581	An Extension to the Session Initiation Protocol (SIP) for Symmetric Response Routing
RFC 3489	STUN - Simple Traversal of User Datagram Protocol (UDP) Through Network Address Translators (NATs)