



DuraFon-SIP™-System

DuraFon-SIP™ Durable, Long-Range SIP Cordless Phone System

The DuraFon-SIP is the industry's first durable, long-range SIP cordless phone. The DuraFon-SIP Cordless Phone System delivers industry-leading range, durability and reliability, in a flexible, multi-mode communications platform that provides users with the lowest total cost of ownership (TCO) in the industry. This durable, long-range SIP cordless phone provides up to 250,000 square feet of facility coverage, penetrates up to 12-floors in-building, and covers up to 3,000 acres of open land property.

It supports both SIP and one PSTN line analog and is ideal for companies with an existing IP-PBX system on the premises or those using hosted VoIP services that require reliable, long-range communications over large areas or in harsh environments. For example, organizations whose staff work on large properties outside of a conventional office, or venues where employees need to stay in constant contact with a main office or management team and where Wi-Fi or DECT phones can't reach. These may include:

- Large Resort Properties
- Schools, Colleges and Universities
- Golf Courses
- Warehouses
- High-Rise Hotels
- Expansive Agricultural Properties
- Industrial Plants
- Oil and Gas Fields
- Convention Centers
- Amusement Parks
- Assisted Living Facilities
- Auto Dealerships
- Retail and Grocery Stores

An expert in wireless communications and RF technology, EnGenius delivers feature-rich, long-range wireless communications technology for voice and data. The versatility and performance of the company's solutions lower total cost of ownership, increase productivity and maximize efficiency and performance to a large number of clients simultaneously.

Key Features:

- Long Range SIP Cordless Phone System
 - Up to 12 Floors In-Building Penetration
 - Up to 250,000 sq. ft. of Facility Coverage
 - Up to 3,000 Acres of Property, Open Land Coverage
- Multi-Mode Communications
 - Base Supports up to Four (4) Concurrent Calls (4-SIP or 3-SIP + 1-PSTN)
 - Works with any IP-PBX that Supports Standard SIP Protocols
 - Independent 2-Way Intercom
 - "Push-to-Talk" PTT Broadcast Feature
- Proven Durability with Ruggedized Design
- Secure 900 MHz (902 ~ 928MHz) FHSS
- Supports up to 10 SIP Accounts per Base Station
- Web-Based Phone Book & System Configuration



Premises Mobility Communications Solution

DuraFon-SIP is a powerful, reliable, versatile multi-mode communications system that delivers industry-leading range and durability while providing significantly lower CAPEX and OPEX as compared to other SIP cordless phone solutions.

Lower CAPEX, faster deployments: DuraFon-SIP features EnGenius' high-power, easy-to-deploy single-cell technology that covers up to 250,000 sq. ft. indoors, 3,000 acres outdoors and penetrates up to 12 floors, minimizing the amount of equipment required.

Reduced OPEX, less downtime: The proven durability of the DuraFon series—over 10 years of continued innovation and testing—ensures that the phones will survive in the most challenging environments where handsets are subjected to drops and shocks.

Flexible and easy-to-deploy: Easily configured via the base station web interface, DuraFon-SIP supports both PSTN and SIP functions, and works with any IP-PBX system that supports the standard SIP protocol. In addition to long-range connectivity, the multi-mode system also enables users to communicate via 2-Way Intercom and PTT Broadcast modes.

Flexible, Multi-Mode Communications

Independent 2-Way Intercom

The DuraFon-SIP's Handset provides direct handset-to-handset communication without going through the Base Station for quick contact with specific users without group chatter.

Broadcast Feature

DuraFon-SIP offers the favored, "Push-to-Talk" feature through the Handset's Broadcast button, allowing users to create 1-way communications for 1-to-All or 1-to-Group for instant response without the wait.

Dual Interface

Support for both SIP and PSTN lines permit the connection of the Base Station to a legacy PBX, IP-PBX or preference service provider and gives users up to four (4) talk paths via four (4) digital calls or three (3) digital calls and one (1) analog line.

Easy Phone Book and System Configuration Management

Easily configure and manage the master phone book via the DuraFon-SIP Base Station Web Interface and effortlessly transfer updates to each handset via air.

Durable, Ruggedized Design

The DuraFon-SIP's durable, rugged handset is designed for use in harsh environments and tested to withstand 6-foot drops, over 50 times onto concrete floors without breaks.

Superior Long-Range Performance

DuraFon-SIP implements a high-powered 900 MHz proprietary air protocol, with high RF transmission and sensitivity to provide superior range and coverage for the industrial market; covering up to 250,000 sq. ft. indoors, 3,000 acres outdoors and penetrating up to 12 floors.

Highly Secure Wireless Communications

Adopting 900 MHz (902~928MHz) FHSS (Frequency Hopping Spread Spectrum) technology, the DuraFon-SIP ensures secure communications during conversations.

Single Cell Technology Minimizes Equipment Needs, Saves Money

Designed to simplify deployment, the DuraFon-SIP features single cell technology that leverages a single 900 MHz base station for long-range coverage, eliminating the need for added base stations or repeaters, helping companies lower their capital expenses through faster deployment.

10-Years of Trusted Reliability

The DuraFon-SIP shares the trusted, proven durability of the popular DuraFon Series with over 10 years of continued innovation and testing that ensures the handsets will survive in even the most challenging environments where they are subjected to drops and shocks.

Lowest Total Cost of Ownership Available for SIP Deployments

Unlike other SIP systems, the DuraFon-SIP offers the lowest TCO available for SIP deployments. By simplifying and expediting system deployments, the DuraFon SIP lowers overall equipment costs and ensures less downtime through its proven reliability, reducing overall operating expenses for the life of the system.

Operates Independently of Wi-Fi Networks

DuraFon-SIP operates independently of your existing Wi-Fi network, which means you don't need to be concerned with roaming or QoS issues that are typical with voice communications on a WLAN. On the 900MHz frequency, there is also no need to worry about the DuraFon-SIP causing interference to existing 2.4 GHz and 5 GHz Wi-Fi.

DuraFon-SIP System Features

SIP		Value
Voice codec: G.711a, G.711u, G.729A		No Monthly Bill (like Cellular)
SIP protocol: RFC3261		No Per Minute Charges (like Cellular)
DTMF: RFC2833, SIP INFO		No Contracts (like Cellular)
Hold: RFC3264		No Annual FCC Licensing Fees (like 2-way radios)
Transfer: RFC3515, RFC3891, RFC3892		No Extensive Infrastructure Installation (like Wireless Networking with Wi-Fi Phones)
Support Outbound Proxy		No QoS Concerns
DNS SRV Support		No Wireless Network Interference
		Meets HIPAA Guidelines for Compliance
Long-Range		
12 Floors In-Building Penetration		
250,000 sq. ft. of Facility Coverage		
3,000 Acres of Property/Open Land Coverage		
Durable		
Tested to withstand 6-Foot Drops, Over 50 Times onto Concrete Floors		
Handset Features	Call Features	
Telephone	Base Station Intercom/Broadcast to Handset	
2-Way Radio	Call Box Compatibility (Using SIP for Telephone and Analog for Call Box)	
900 mHz DSS, Frequency Hopping	Conference Calling	
Broadcast/Push-to-Talk	Modifiable Flash and DTMF Timing	
Call Hold	Ring Group/Hunt Group Support	
Call Logs: Dialed & Received		
Call Transfer	Configuration	
Call Waiting	# Concurrent Calls per Handset: 2	
Caller ID	# Simultaneous Calls per Base Unit: 4	
Headset Jack (2.5mm)	# Supported Handsets per Base: 10	
Intercom (Handset-to-Handset, No Group Chatter)	# Talk Paths: 4	
Keypad Lock	# Total Handsets Supported: 10	
Line/Base Select	Base Firmware Upgradable Onsite	
Message Waiting Indicator		
Mute	System	
Phone Book/Speed Dial: 50 Entries	1 LAN and 1 PSTN Ports per Base Unit	
Redial	Removable Base Antenna	
Selectable Handset Grouping (7 Groups)	Flexible Port Dedication: Single, Group or All	
Silent Ring	Standard SIP Protocol Connection	
Speakerphone	Any Analog Line Connection: Landline, ATA, Cellular, VoIP or Satellite	
User Handset Naming	Supports Ring Groups & Hunt Groups	
User-Programmable PBX Functions (9 per Handset)	Type I/II Caller ID (FSK and DTMF)	
Vibrate Mode	Visual Message Waiting Indication (VMWI) for PSTN	
Wireless PBX Options Sharing	Conference Calling	
Wireless Phone Book sharing	Modifiable Flash and DTMF Tone Timing	
	Secure, Digital Spread Spectrum w/Frequency Hopping Technology	
Ports		
Console Port	Battery and Charger	
Flexible Port Dedication: Single, Group, or All	Battery Hot-swap with Call on Hold	
LAN (RJ45) Port: 1	Handset and Spare Battery Charging Slots	
PBX Compatible	Hours of Stand-By Time: 50	
PTSN (RJ11) Ports: 1	Hours of Talk Time: 4-6	
	Hours Recharge Time: 4	
	Li-Ion Technology	
	Optional Equipment	
	Antenna Splitter	
	DuraPouch	
	External Base Antenna Kit: Indoor Antenna with 20 Meter Low-Loss LMR 400 Coaxial Cable	
	External Base Antenna Kit: Outdoor Antenna with 20 Meter Low-Loss LMR 400 Coaxial Cable	
	Lightning Protection Kit	

Technical Specifications

Physical Specifications	Base Station	Handset
Buttons	Reset	Left & Right soft keys
	Registration	Up & Down scrolling keys
	Broadcast	Talk/Speaker
	Intercom	2-Way Intercom
	Volume Up/Down	End/Power
		Broadcast
		0 – 9, #
Jack	Line x 1	Earphone
	LAN x 1	DC
	Audio-In x 1	
	Type-B USB x 1	
	DC x 1	
	Grounding	
LED Indicators	Power	N/A
	In-Use	
	Intercom	
	Broadcast	
Electrical Specifications	Base Station	Handset
Frequency	902-928 MHz	902-928 MHz
RF Power	Peak: 708 mW; Average: 354 mW	Peak: 708 mW; Average: 88.5 mW
Channel Spacing	200 kHz	200 kHz
Number of Channels	128	128
Modulation	MSK	MSK
Multiple Access	Frequency Hopping TDMA	Frequency Hopping TDMA
Frequency Hopping Rate	100 per second	100 per second
TDMA Frame Length	10 ms	10 ms
Number of Talk Paths	4	2
Receiver Sensitivity	< -108 dBm (@ BER 10 ⁻²)	< -108 dBm (@ BER 10 ⁻²)
Antenna Connector	Reverse TNC	Non-Standard
Antenna Gain	2 dBi (included); 6 dBi Outdoor (optional) 2.7 dBi Indoor (optional)	2 dBi (Long); 0.5 dBi (Short)
TX Power Control Range	N/A	708 mW
Telephone Interface	RJ11 x 1	N/A
VoIP Interface	RJ45 x 1	N/A
Default IP Address	192.186.1.156	N/A
Default User Name & Password	admin/admin	N/A
SIP Protocol	RFC 3261	N/A
Speech Coding	64Kbps G.711a, G.711u; 8 kbps G.729A	8 kbps G.729A
Channel Coding	8 kbps Convolutional + CRC	8 kbps Convolutional + CRC
Transmission Data Rate	170.667 kbps	170.667 kbps
User Data Rate	128 kbps Duplex	128 kbps Duplex
Duplex	Time Division Duplex (TDD)	Time Division Duplex (TDD)
Voice Quality	TIA/EIA-470B	TIA/EIA-470B
Number of System ID	65,536	65,536
Ring Signal	20-50 Hz, 15-90 Vrms	N/A
Auto-Attendant Coding	N/A	N/A
Flash Time	100-900 ms Programmable	N/A
Power Source	100~240V/12V AC/DC Adapter	3.7V, 1700 mAh Li-ion Battery

Technical Specifications continued

Electrical Specifications continued	Base Station	Portable Handset
Charge Time	N/A	4 hours (from empty)
Charge Current	N/A	500 mA
Battery Talk & Standby Time	N/A	6 Hours / 50 Hours
Environmental & Physical	Base Station	Portable Handset
Regulation Compliance	FCC Part 15, Part 68	FCC Part 15, Part 68
Operating Temperature	32°F – 122°F (0°C – 50°C)	14°F – 140°F (-10°C – 60°C)
Storage Temperature	14°F – 158°F (-10 – 70°C)	14°F – 158°F (-10 – 70°C)
Humidity	20 – 75 %	20 – 75 %
IP Rating	N/A	IP 42
Dimensions	6.3" x 16.5" x 7.4" (161 x 42 x 188 mm)	6.34" x 2.28" x 1.22" (161 x 58 x 31 x mm) w/short antenna
Device Weight	1.90 lb (0.86 kg)	0.39 lbs. (175g)

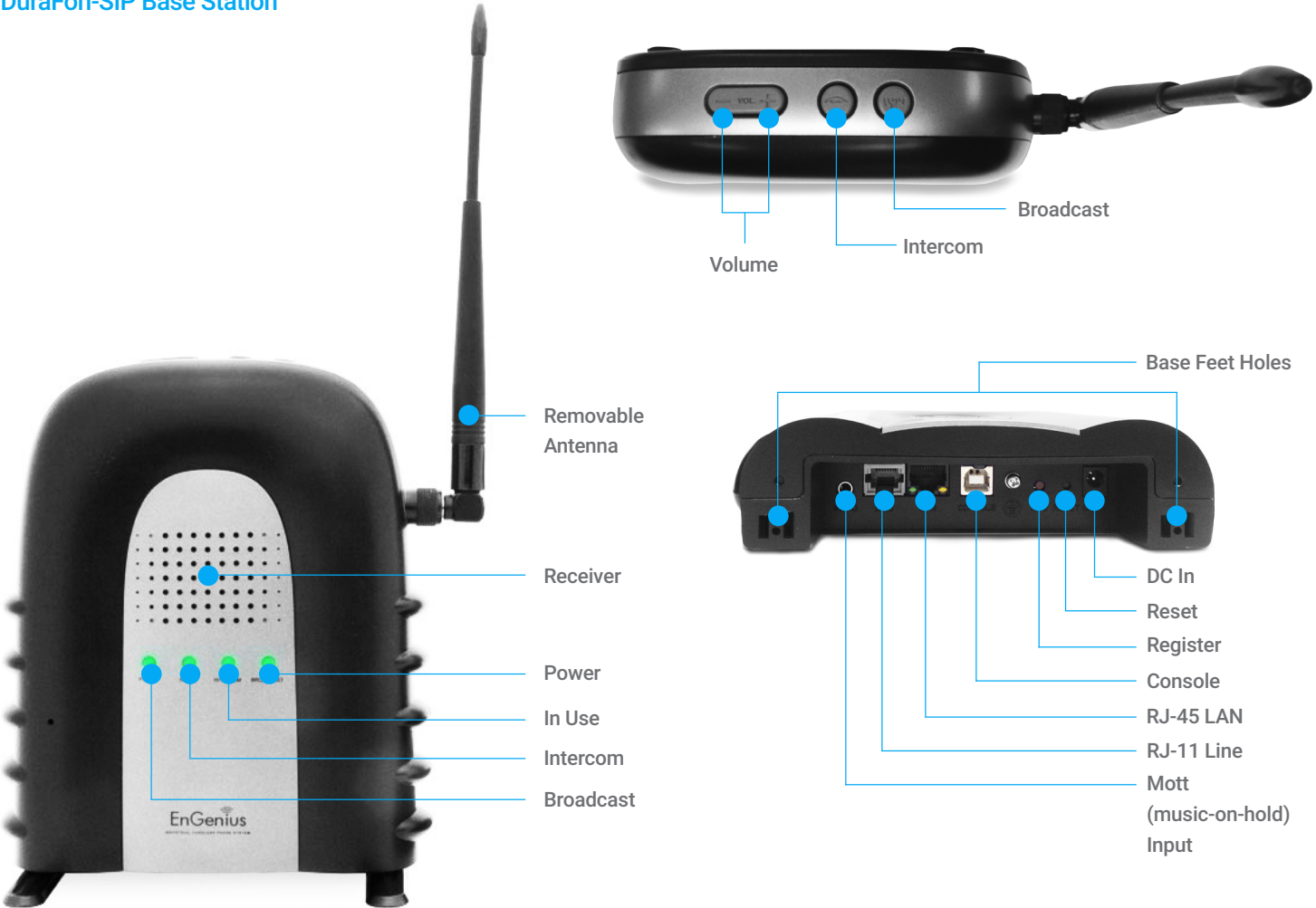
Packaging

	DuraFon-SIP System	DuraFon-SIP BU Base Station	DuraFon-SIP HC Handset
Master Carton			
Quantity	6	6	6
Weight	26 lbs. (11.8 kg)	13.9 lbs. (6.3 kg)	11.4 lbs. (5.17 kg)
Dimensions (inches)	24" x 17" x 14"	18" x 13.25" x 9"	22" x 11" x 9"
Dimensions (cm)	61 x 43.2 x 35.6 cm	45.7 x 33.7 x 22.9 cm	55.9 x 27.9 x 22.9 cm
Contents			
Base Station	1 (DuraFon SIP Base Station, antenna installed)	1 (DuraFon SIP Base Station, antenna installed)	N/A
Base AC/DC Adapter	1	1	N/A
Base Antenna	(installed)	N/A	N/A
Handset	1 DuraFon SIP HC Handset, antenna installed	N/A	1 DuraFon SIP HC Handset, antenna installed
Handset Antenna	1 Handset Antenna (Long)	N/A	1 Handset Antenna (Long)
Battery	1700mA Li-ion Battery Pack	N/A	1700mA Li-ion Battery Pack
Desktop Charger	1	N/A	1
Charger AC/DC Adapter	1	1	1
Telephone Cord	1	1	N/A
RJ-45 Cable	1	1	N/A
Quick Guide	1	1	1
Warranty	1 Year; Extended 3 Year (optional)	1 Year; Extended 3 Year (optional)	1 Year; Extended 3 Year (optional)
FCC Certified	FCC Part 15, Part 68	FCC Part 15, Part 68	FCC Part 15, Part 68

DuraFon-SIP Handset



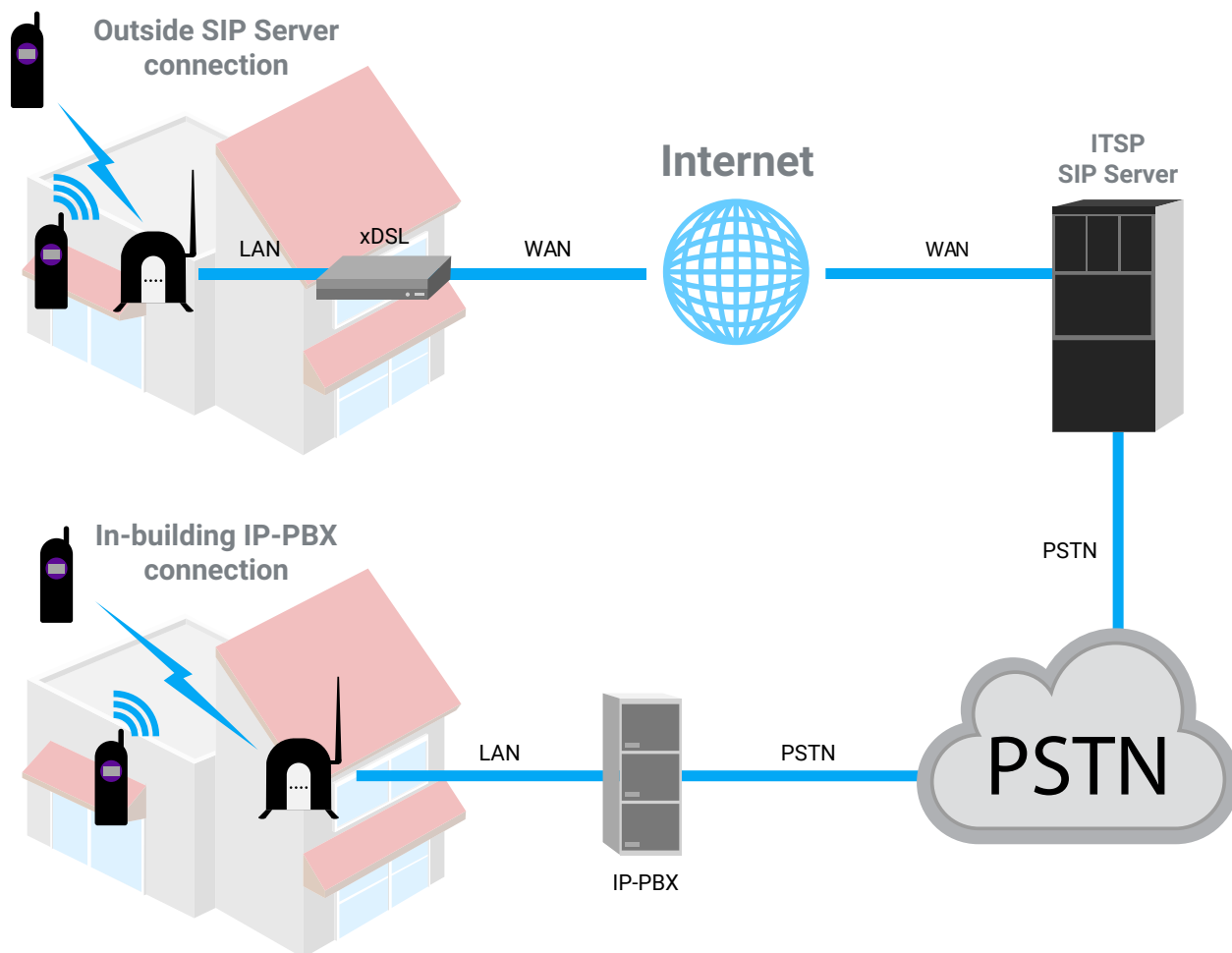
DuraFon-SIP Base Station



DuraFon-SIP Charger



DuraFon-SIP Application



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference, the user is encouraged to try to correct the interference, see User Manual for additional information. Base Station: This equipment complies with FCC radiation exposure limits and should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Handset: This equipment complies with FCC radiation exposure limits. End users must follow the specific operating instructions for satisfying RF exposure compliance, to do this, please follow operation instruction as documented in the User Manual. This device complies with RSS-210 of the Industry Canada Rules and with IC radiation exposure limits.

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