

#### DuraFon-SIP<sup>™</sup>-System

# DuraFon-SIP<sup>™</sup> 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 for in-building coverage and up to 3,000 acres of property in open land coverage.

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. Such as, 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 when 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-A Handset 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 900MHz 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 900MHz (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. By using 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

Voice codec: G.711a, G.711u, G.729A
SIP protocol: RFC3261
DTMF: RFC2833, SIP INFO
Hold: RFC3264
Transfer: RFC3515, RFC3891, RFC3892
Support Outbound Proxy
DNS SRV Support

### 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

Telephone	
2-Way Radio	
User Handset Naming	
Keypad Lock	
Speakerphone	
Caller ID	
Call Waiting	
Vibrate Mode	
Line Select	
2.5 mm Headset Jack	
Call Logs – Dialed & Received	
Redial	
Speed Dial	
Call Hold	
Call Transfer	
Wireless PBX Function Sharing	
Wireless Phone Book Sharing	
Silent Ring	
Mute	
900 MHz, DSS, Frequency Hopping	
Selectable Handset Grouping (7 groups)	
User Programmable PBX Functions	
Phone Book Supports 50 Entries	
Intercom (Handset-to-Handset), no group chatter	
PTT Broadcast (One-to-Many)	

	N and 1 PSTN Ports per Base Unit
-	novable Base Antenna
	ible Port Dedication: Single, Group or All
Star	idard SIP Protocol Connection
Any	Analog Line Connection: Landline, ATA, Cellular, VoIP or Satellite
Sup	ports Ring Groups & Hunt Groups
Тур	e I/II Caller ID (FSK and DTMF)
Visu	al Message Waiting Indication (VMWI) for PSTN
Con	ference Calling
Мос	lifiable Flash and DTMF Tone Timing
Seci	ure, Digital Spread Spectrum w/Frequency Hopping Technology
Bat	tery & Charger
Li-Ic	n Technology
6-H	ours of Talk Time
50-ŀ	Hours of Stand-By Time
Han	dset & Spare Battery Charging Slots
4-H	pur Recharge Time
Batt	ery Hot-Swap While Call is On-Hold
Opt	ional Equipment
Exte	rnal Base Antenna Kits: Optional indoor or outdoor antenna with 20 meter loss -400 cable
Liah	ting Protection Kit
-	enna Splitter
	aPouch Phone Case
D un	
Dur	aFon SIP Value
No I	Nonthly Bill (like cellular)
Nol	Per Minute charges (like cellular)
No (	Contracts (like cellular)
No	Annual FCC License Fees (like 2-way radios)
	Extensive Infrastructure Installation (like wireless networking, Wi-Fi phones)
	QoS Concerns
	Vireless Network Interference

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DuraFon-SIP System	
DuraFon-SIP HC (Handse	t)
DuraFon-SIP BU (Base St	ation)

# **Technical Specifications**

Physical Specifications	Base Station	Portable Handset
Buttons	Volume UP	Left & Right Soft-Key
	Volume DOWN	Up
	REG x 1	Down
	RESET x 1	Talk/Speaker
	Broadcast	2-Way Intercom
	Intercom	End & Power
	NA	Broadcast
	NA	0-9, *, #
Jack	Line x 1	Earphone
	LAN x 1	DC
	Audio-In x 1	NA
	Туре-В USB x 1	NA
	DC x 1	NA
	Grounding	NA
LED Indicators	POWER	NA
	In-Use	NA
	Intercom	NA
	Broadcast	NA
Electrical Specifications		Portable Handset
	Base Station	
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 <sup>-2</sup> )	< -108 dBm (@ BER 10 <sup>-2</sup> )
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	NA	100-708 mW
Telephone Interface	RJ11 x 1	NA
VoIP Interface	RJ45 x 1	NA
Default IP Address	192.186.1.156	NA
Default User Name & Password	admin/admin	NA
SIP Protocol	RFC 3261	NA
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	NA
Flash Time	100-900 ms Programmable	NA
Power Source	100~240V/12V AC/DC Adapter	3.7V, 1700 mAh Li-ion Battery
Charge Time / Current	NA	4 Hours (from empty) @ 500 mA
Battery Talk & Standby Time	NA	6 Hours / 50 Hours
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# Technical Specifications continued

Environmental & Physical	Base Station	Portable Handset
Regulation Compliance	FCC Part 15, Part 68	FCC Part 15, Part 68
Operating Temperature	0 – 50 °C / 32 – 122 °F	-10 - 60 °C / 14 - 140 °F
Storage Temperature	-10 − 70 °C / 14 − 158 °F	-10 – 70 °C / 14 – 158 °F
Humidity	20 - 75 %	20 – 75 %
Dimension without Antenna	161W x 42D x 188H (mm) 6.3" x 16.5" x 7.4"	161W x 58D x 31H (mm) 6.3" x 2.2" x 1.2"
Device Weight	1.9 lbs.	1.6 lbs.

DuraFon-SIP Packaging	System	Base Station	Handset
Weight	3.98 lbs.	2 lbs.	1.7 lbs.
Length	12.5″	12.5″	8″
Width	15.5″	8″	9.5″
Height	3.75″	3″	3.25"
Master Carton	System	Base Station	Handset
Quantity	б	б	6
Weight	26 lbs.	13.5 lbs.	11.4 lbs.
Length	24"	18″	22"
Width	17"	13.25″	11″
Height	14"	9″	9″
Package Contents	System	Base Station	Handset
Base Station	1 (antenna installed)	1	NA
Base AC/DC Adapter	1	1	NA
Handset	1 (antenna installed)	NA	1 (antenna installed)
Handset Antenna	1 (Long x1)	NA	1 (Long x1)
1700mA Li-ion Battery Pack	1	NA	1
Desktop Charger	1	NA	1
Charger AC/DC Adapter	1	1	1
Quick Guide	1	1	1
Telephone Cord	1	1	NA
RJ-45 Cable	1	1	NA
Base Feet & Screws	2 (feet), 2 (screws)	2 (feet), 2 (screws)	NA
Warranty	1 Year	1 Year	1 Year
FCC Certified	Yes	Yes	Yes

# **DuraFon-SIP Handset**





# **DuraFon-SIP Charger**



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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 a documented in the User Manual. This device complies with RSS-210 of the Industry Canada Rules and with IC radiation exposure limits.