



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 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)

System
1 LAN and 1 PSTN Ports per Base Unit
Removable Base Antenna
Flexible Port Dedication: Single, Group or All
Standard SIP Protocol Connection
Any Analog Line Connection: Landline, ATA, Cellular, VoIP or Satellite
Supports Ring Groups & Hunt Groups
Type I/II Caller ID (FSK and DTMF)
Visual Message Waiting Indication (VMWI) for PSTN
Conference Calling
Modifiable Flash and DTMF Tone Timing
Secure, Digital Spread Spectrum w/Frequency Hopping Technology
Battery & Charger
Li-Ion Technology
6-Hours of Talk Time
50-Hours of Stand-By Time
Handset & Spare Battery Charging Slots
4-Hour Recharge Time
Battery Hot-Swap While Call is On-Hold
Optional Equipment
External Base Antenna Kits: Optional indoor or outdoor antenna with 20 meter loss LMR-400 cable
Lighting Protection Kit
Antenna Splitter
DuraPouch Phone Case
DuraFon SIP Value
No Monthly Bill (like cellular)
No Per Minute charges (like cellular)
No Contracts (like cellular)
No Annual FCC License Fees (like 2-way radios)
No Extensive Infrastructure Installation (like wireless networking, Wi-Fi phones)
No QoS Concerns
No Wireless Network Interference
Manufacturer's Part Numbers
DuraFon-SIP System
DuraFon-SIP HC (Handset)
DuraFon-SIP BU (Base Station)

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	
Type-B USB x 1		NA	
DC x 1		NA	
Grounding		NA	
LED Indicators		POWER	NA
		In-Use	NA
		Intercom	NA
		Broadcast	NA
Electrical Specifications		Base Station	Portable 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 ⁻³)	< -108 dBm (@ BER 10 ⁻³)	
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	

Technical Specifications continued

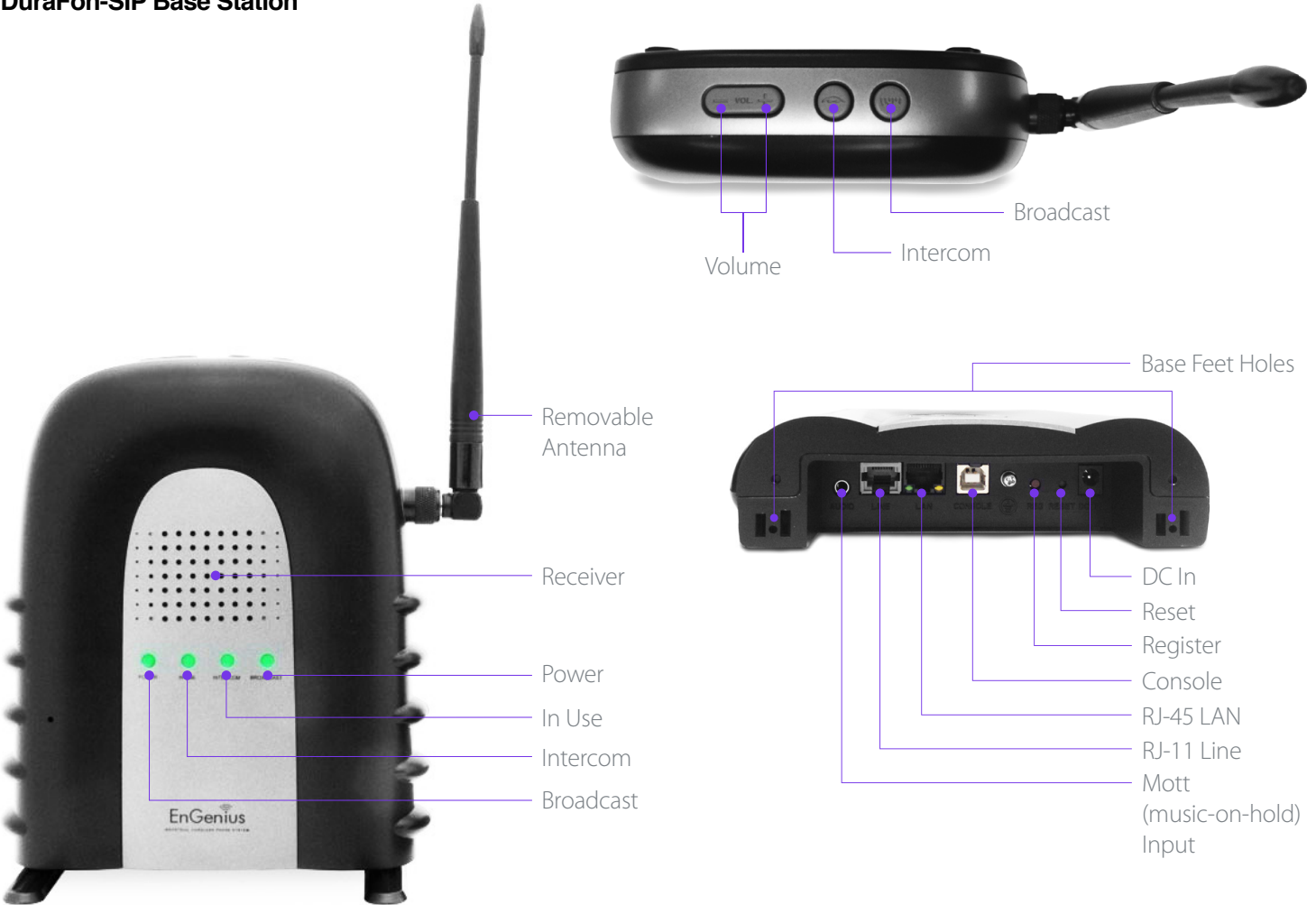
Environmental & Physical	Base Station	Portable Handset
Regulation Compliance	FCC Part 15, Part 68	FCC Part 15, Part 68
Operating Temperature	0 – 50 °C / 32 – 122 °F	-10 – 60 °C / 14 – 140 °F
Storage Temperature	-10 – 70 °C / 14 – 158 °F	-10 – 70 °C / 14 – 158 °F
Humidity	20 – 75 %	20 – 75 %
Dimension 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	6	6	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



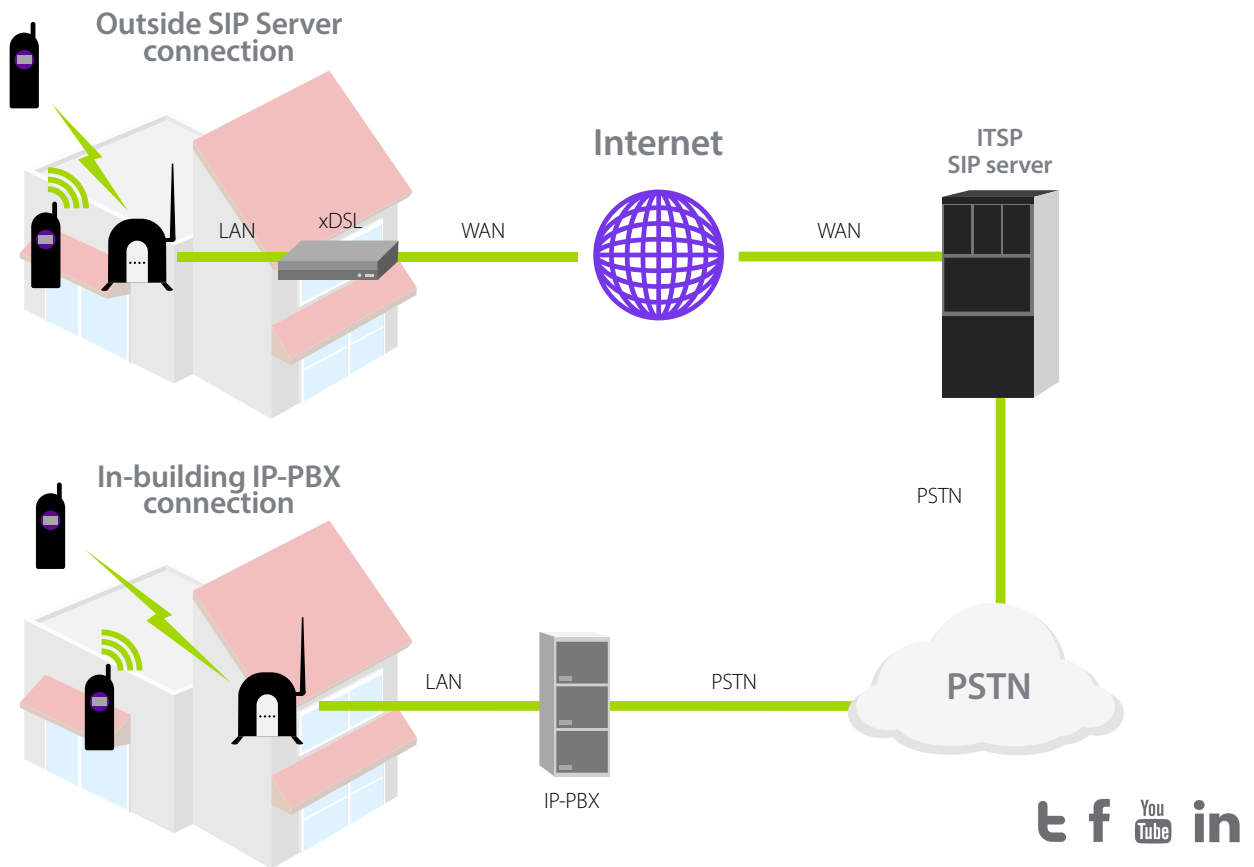
DuraFon-SIP Base Station



DuraFon-SIP Charger



SIP Application



EnGenius®

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.