

# iDEN MINI

*RSN-iDEN-25-C*

## User's Manual



**R-tion**

Please read this manual before operating this product.  
After you finish reading this manual, store it in a safe place for future reference.



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# Notice

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## Notice

This document describes the specifications, installation, and operation of the iDEN MINI.

Hardware and software mentioned in this document are subject to continuous development and improvement. Consequently, there may be minor discrepancies between the information in the document, performance, and design of the product.

Specifications, dimensions, and other statements mentioned in this document are subject to change without notice.

## Questions or Comments

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## Warning

Opening the iDEN MINI could result in electric shock and may cause severe injury.

## Warning

Connect the equipment frame ground to building ground.

## Warning

Operating the iDEN MINI with antennas in very close proximity facing each other could lead to severe damage to the repeater.

## Caution

### RF EXPOSURE INFORMATION

A minimum separation distance of 7.9 inches (20cm) must be maintained between the user and the external antenna of repeater to satisfy FCC RF exposure requirements. For more information about RF exposure, please visit the FCC website at [www.fcc.gov](http://www.fcc.gov)

## Caution

This equipment is for indoor use and enables the communication wiring to communicate only inside the building.

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The following is a list of abbreviations and terms used in this manual.

Abbreviation	Definition
<b>AC</b>	Alternating Current
<b>ALC</b>	Automatic Level Control
<b>ANT</b>	Antenna
<b>ASD</b>	Automatic Shutdown
<b>DC</b>	Direct Current
<b>GND</b>	Grounding
<b>GUI</b>	Graphic User Interface
<b>iDEN</b>	Integrated Digital Enhanced Network
<b>LED</b>	Light Emitting Diode
<b>PSU</b>	Power Supply Unit
<b>RF</b>	Radio Frequency
<b>TEMP</b>	Temperature
<b>VSWR</b>	Voltage Standing Wave Ratio

### **ALC (Automatic Level Control)**

ALC feature prevents the repeater from exceeding its maximum output power by reducing the gain automatically. ALC is used to adjust the gain to an appropriate level for a range of input signal levels.

### **ASD (Automatic Shutdown)**

Automatic shut down protects the repeater from the oscillation or excessive input signal and eliminates any degradation to the network.

There are three parameters: ASD LEVEL, ASD TIME and ASD COUNT.

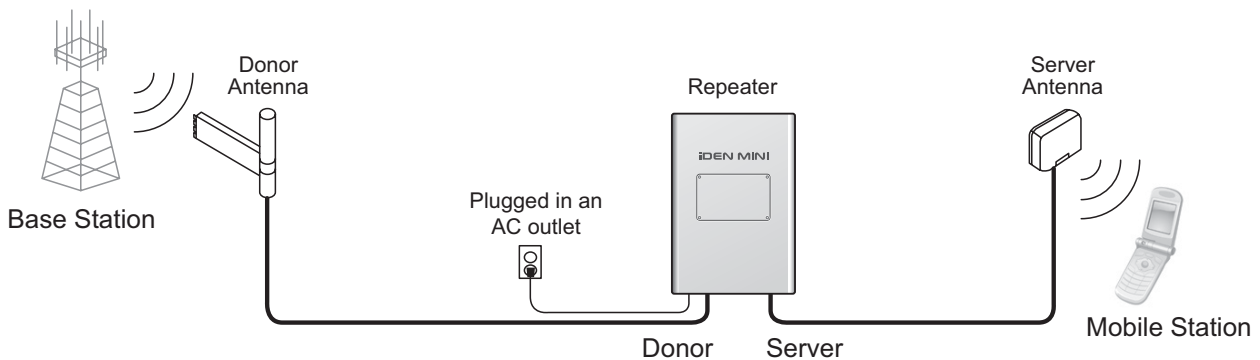
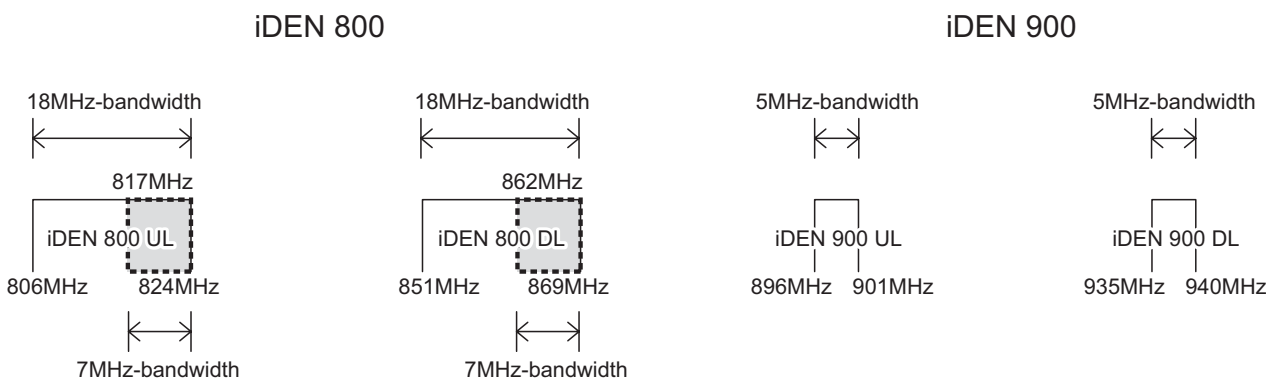
If the output power gets higher than “ASD LEVEL”, the repeater will shut down for “ASD TIME” seconds and then it will turn the amp back on to measure the output power again. If this repeats at “ASD COUNT” times, the repeater will shut down completely.

# 1. Introduction

iDEN MINI repeater is used to fill out areas in iDEN mobile systems, such as base station fringe areas, business and industrial buildings, etc.

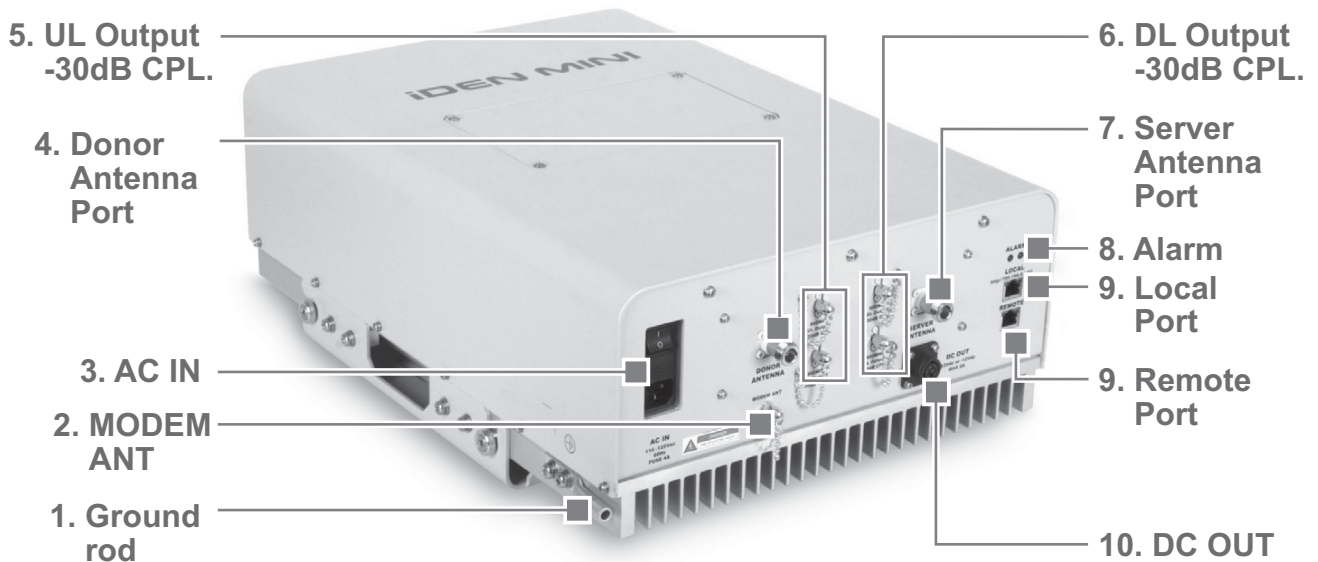
iDEN MINI receives signals from a base station, amplifies and retransmits the signals to mobile stations. Also it receives, amplifies and retransmits signals in the opposite direction. Both directions are served simultaneously with the following features:

- 7MHz or 18MHz-bandwidth service @ 800MHz's
- 5MHz-bandwidth service @ 900MHz's
- Adjustable Band Edge @ 800MHz's and 900MHz's
- Roll Offs: 65dBc at 0.5MHz outside pass-band



**Overview: Service**

## 2.1 Main Unit Overview

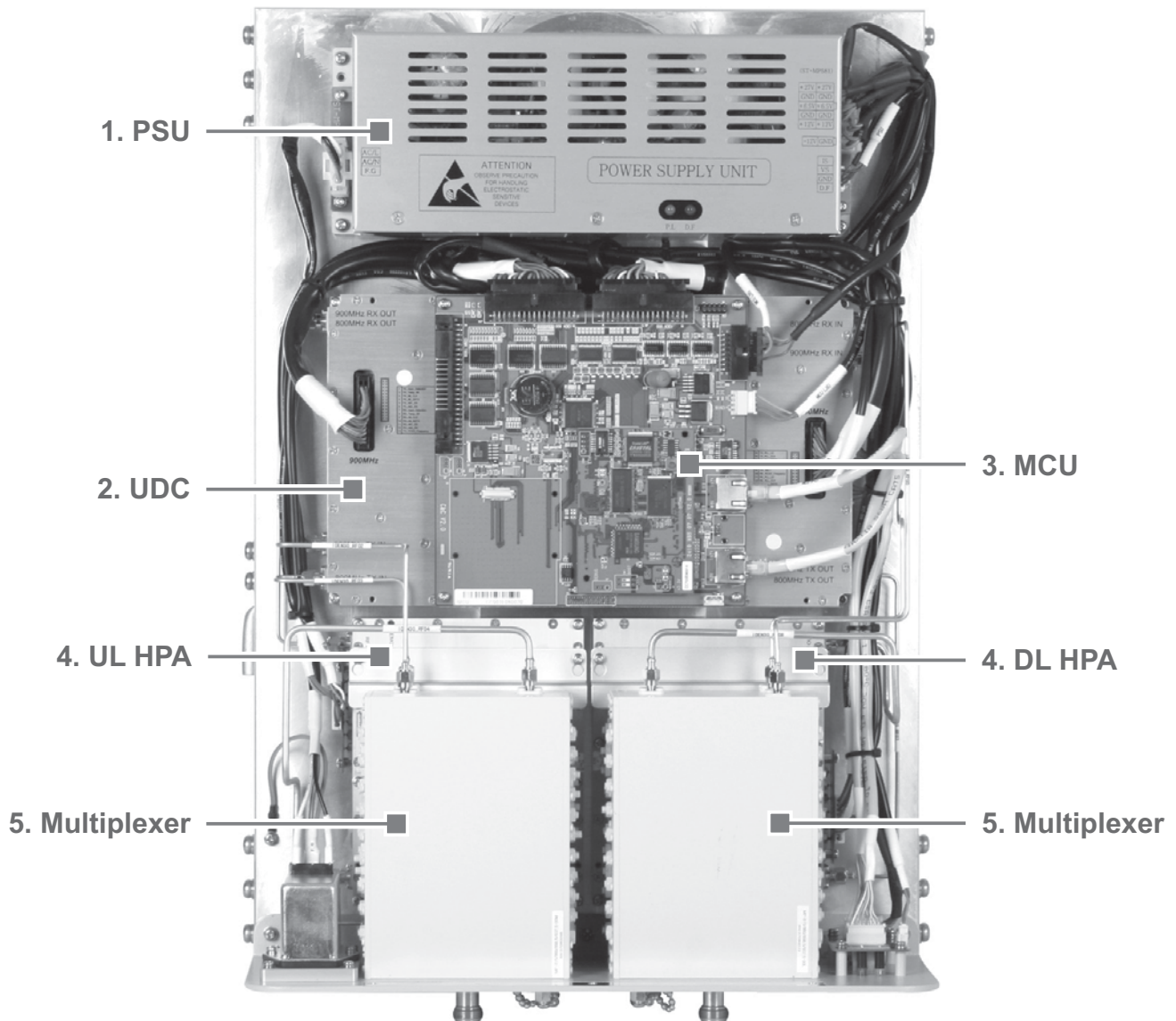


1. **Ground rod:** Connects the repeater frame ground to the building ground.
2. **MODEM ANT :** Connects the Modem antenna.
3. **AC IN:** AC Power socket and AC Power switch.
4. **Donor Antenna Port:** Connects the Donor antenna.
5. **UL Output -30dB CPL.:** -30dB coupling port for UL output.
6. **DL Output -30dB CPL.:** -30dB coupling port for DL output.
7. **Server Antenna Port:** Connects the Server antenna.
8. **Alarm:** When the **On Site Alarm** occurs, the red LED turns on. When it operates normally, the green LED turns on. When it operates without any problems, the green LED turns on.
9. • **Local:** This port provides on-site access to the repeater.  
• **Remote:** This port allows remote users to access the repeater through an external monitoring device.  
The two ports allow local and remote users to access the repeater simultaneously.
10. **DC OUT:** Power outlet for compatible external devices only.



## 2. Description ❖

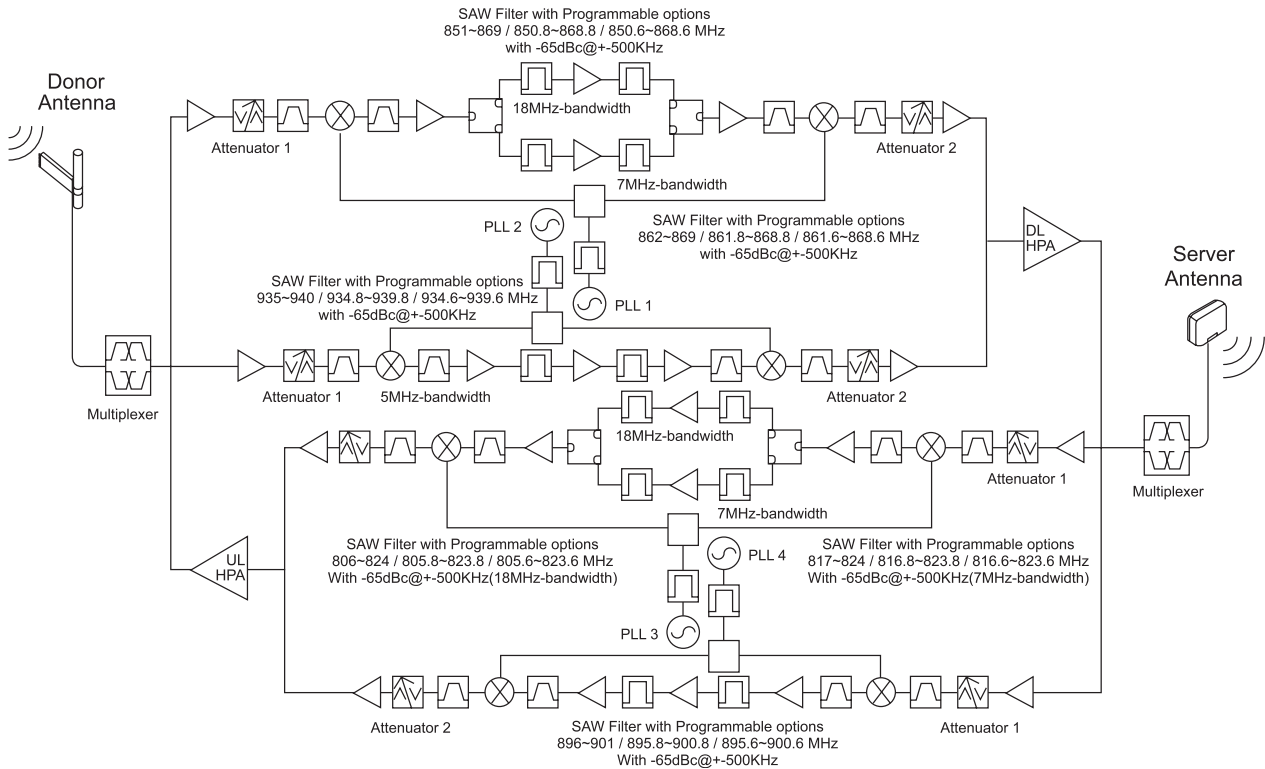
### 2.2 Sub Unit Overview



- 1. PSU (Power Supply Unit)** : See page 7.
- 2. UDC (Up Down Converter)** : See page 8.
- 3. MCU (Main Control Unit)** : See page 9.
- 4. UL / DL HPA (High Power Amplifiers)** : See Page 10.
- 5. Multiplexer** : See page 10.

### 2.2.1 Block Diagram

The following diagram explains how the iDEN MINI serves signals.



### 2.2.2 PSU (Power Supply Unit)

The PSU (Power Supply Unit) supplies a steady DC power to iDEN MINI by drawing power from the general in-wall AC outlets.

