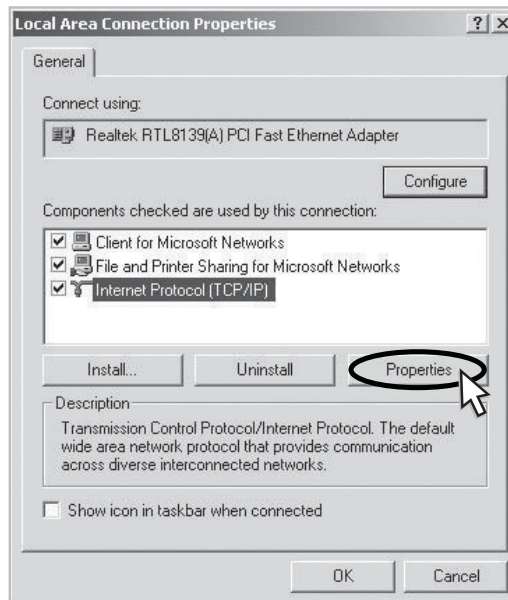
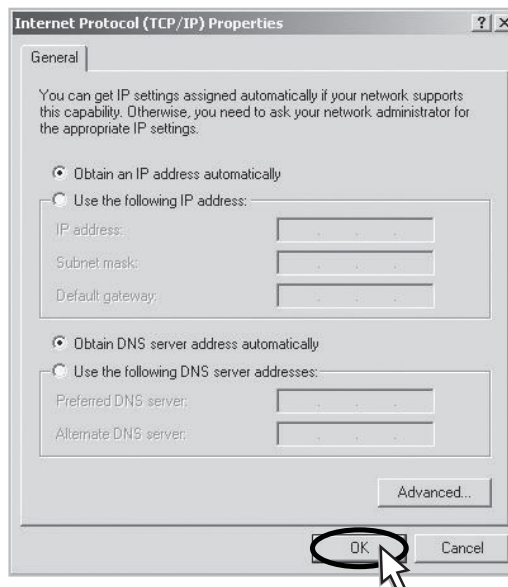


## 4. Operation

**Step 3** Select **Internet Protocol (TCP/IP)** and click **Properties**.



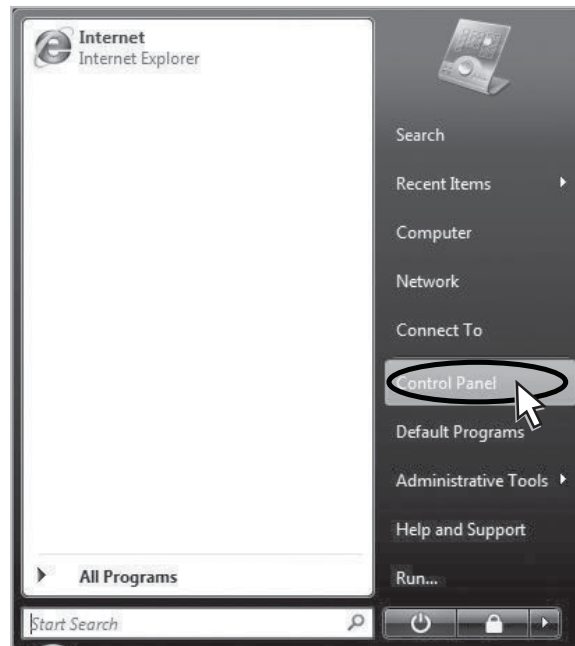
**Step 4** Check **Obtain an IP address automatically** and click **OK**.



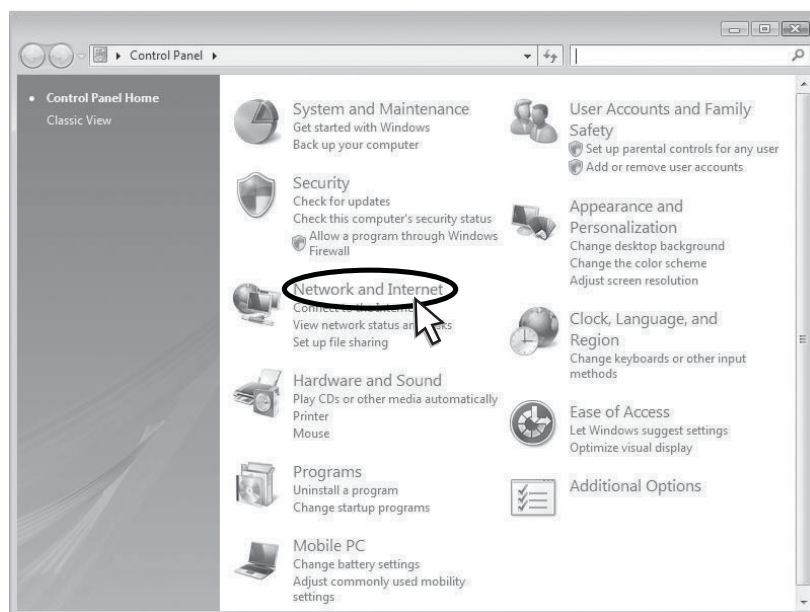
**Step 5** Close all windows.

### 4.3.3 Windows Vista

**Step 1** Click the **Start** button and **Control Panel**.

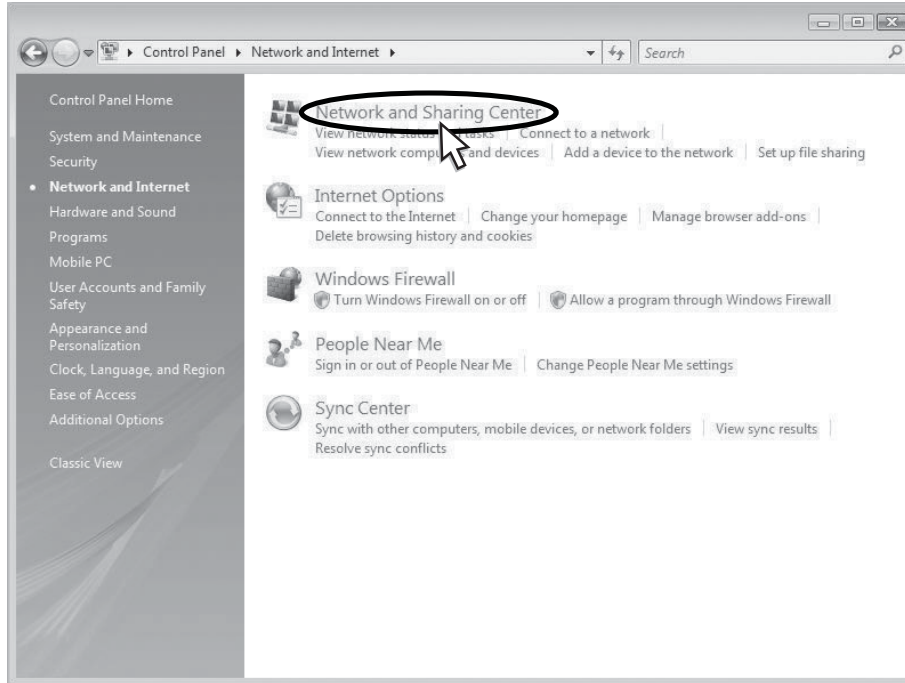


**Step 2** Click **Network and Internet**.

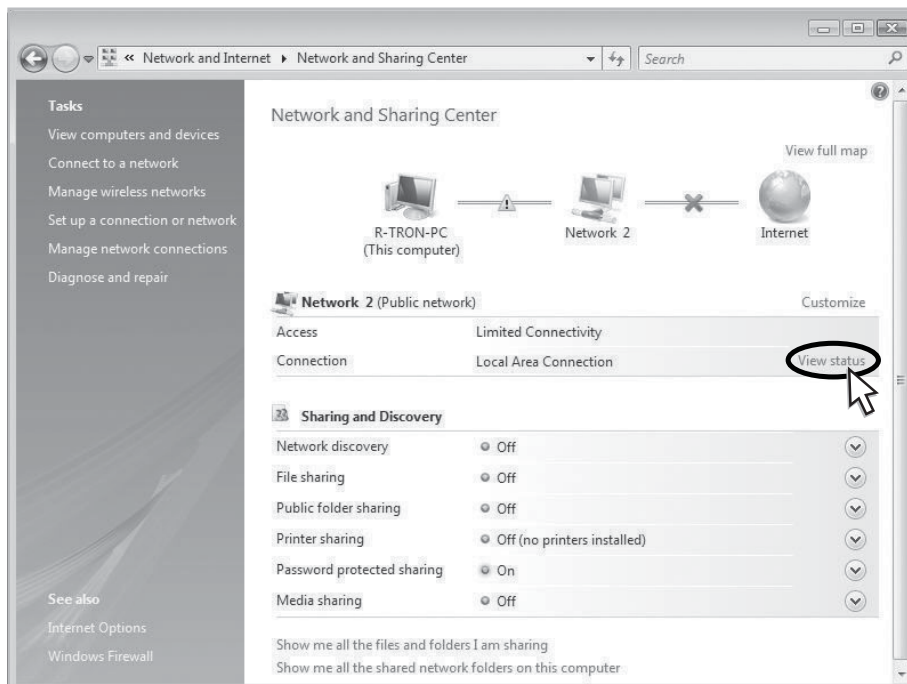


## 4. Operation

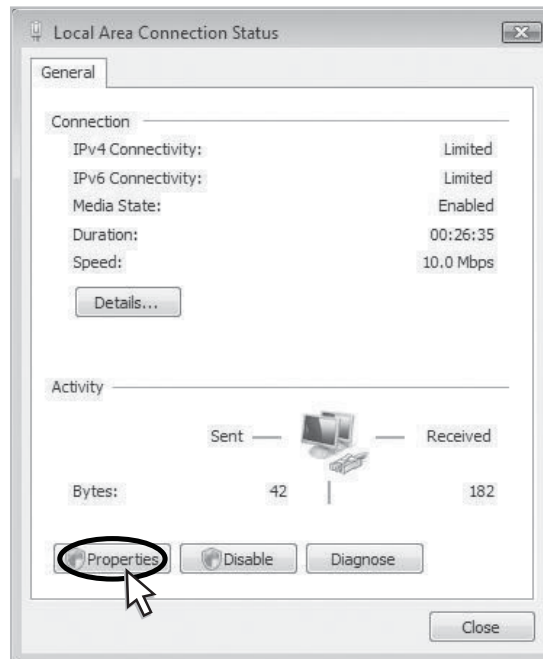
### Step 3 Click Network and Sharing Center.



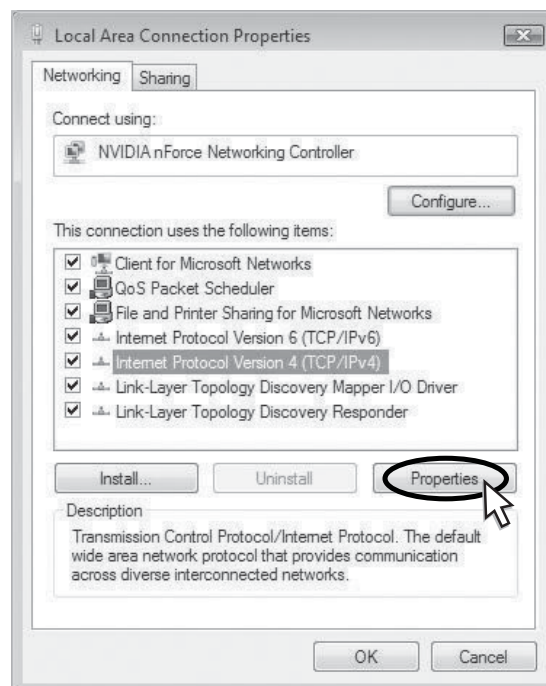
### Step 4 Click View status of Local Area Connection.



**Step 5** Click **Properties** and a caution pop-up window will appear. Click **OK**.

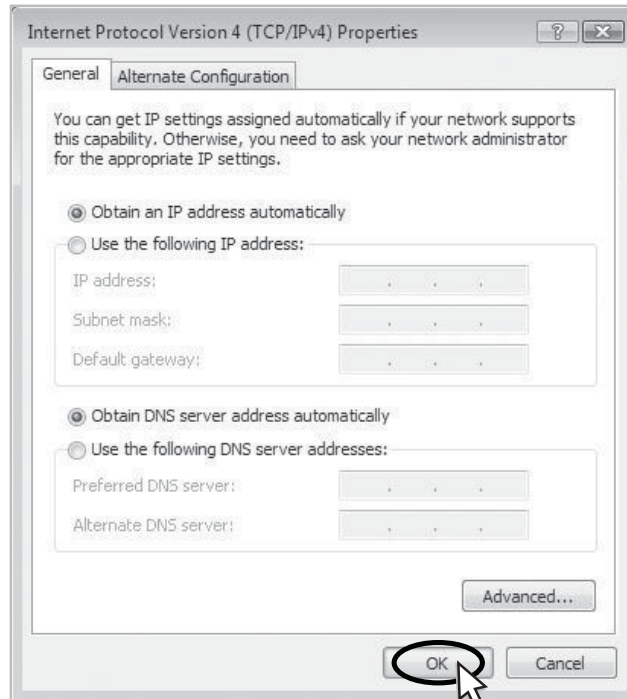


**Step 6** Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



## 4. Operation

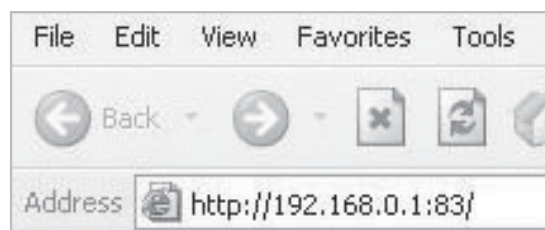
**Step 7** Check **Obtain an IP address automatically** and click **OK**.



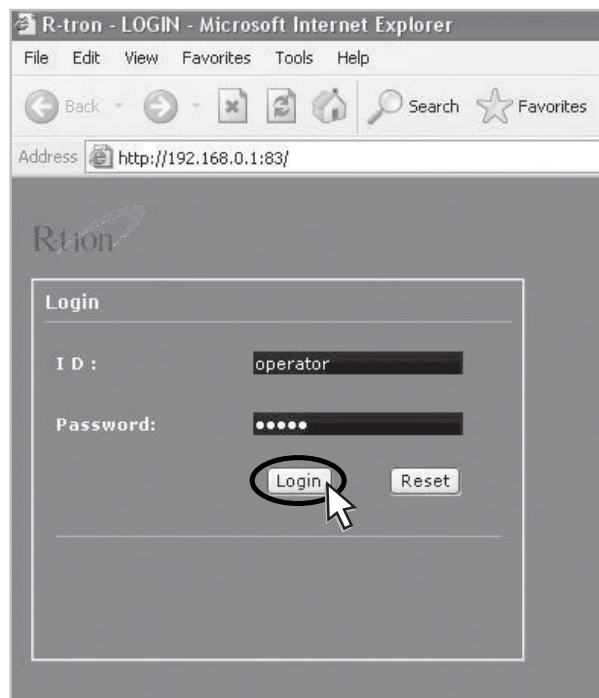
**Step 8** Close all windows.

### 4.4 System Login

**Step 1** Open your Web browser and type "**192.168.0.1:83**" into the URL address box. Then press the **Enter** key.



- Step 2** The logon screen will appear. Type “**operator**” for the ID and “**rtron**” for the password and then click **OK**.

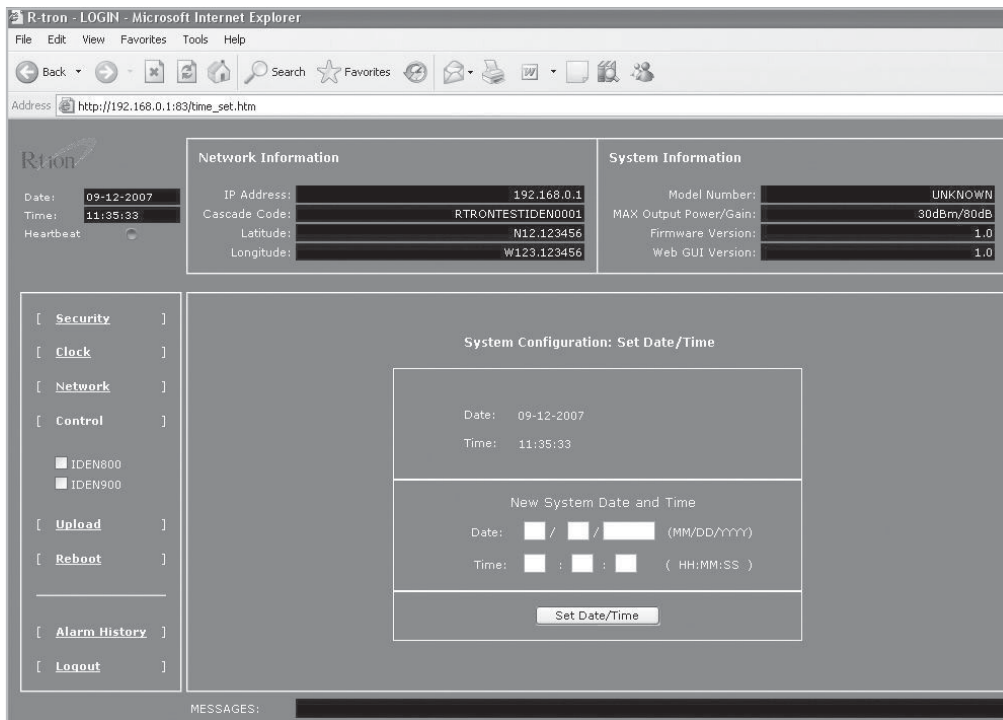


- Step 3** The pop-up message for the login success will appear. Click **OK**.



## 4. Operation

**Step 4** The login process is complete. The Initial screen will appear.



**Step 5** In case of the initial login, you should input Cascade Code and Location Information of Network Setup. Otherwise a warning pop-up window will appear and you cannot access any of the menus.



## 4.5 System Setup

### 4.5.1 Security

Operator has no authorization to access this menu.

### 4.5.2 Clock

Click **Clock** in the left menu.

In this menu, you can set the date and the time.

Click **Set Date/Time**.

System Configuration: Set Date/Time

Date: 09-12-2007  
Time: 11:35:33

New System Date and Time

Date:  /  /  (MM/DD/YYYY)  
Time:  :  :  ( HH:MM:SS )



## 4. Operation

### 4.5.3 Network

Click **Network** in the left menu.

**Network Setup**

1. Cascade Code  
[ RTRONTESTIDEN0001 ]

2. Heartbeat Interval( 1 ~ 59 minutes)  
[ 10 ]  Minutes

3. Static IP For Remote Control

IP : [  ]  
Netmask : [  ]  
Gateway : [  ]

4. Location Information

Latitude: [ N12.123456 ] N  °  
Longitude: [ W123.123456 ] W  °

5. Product Information

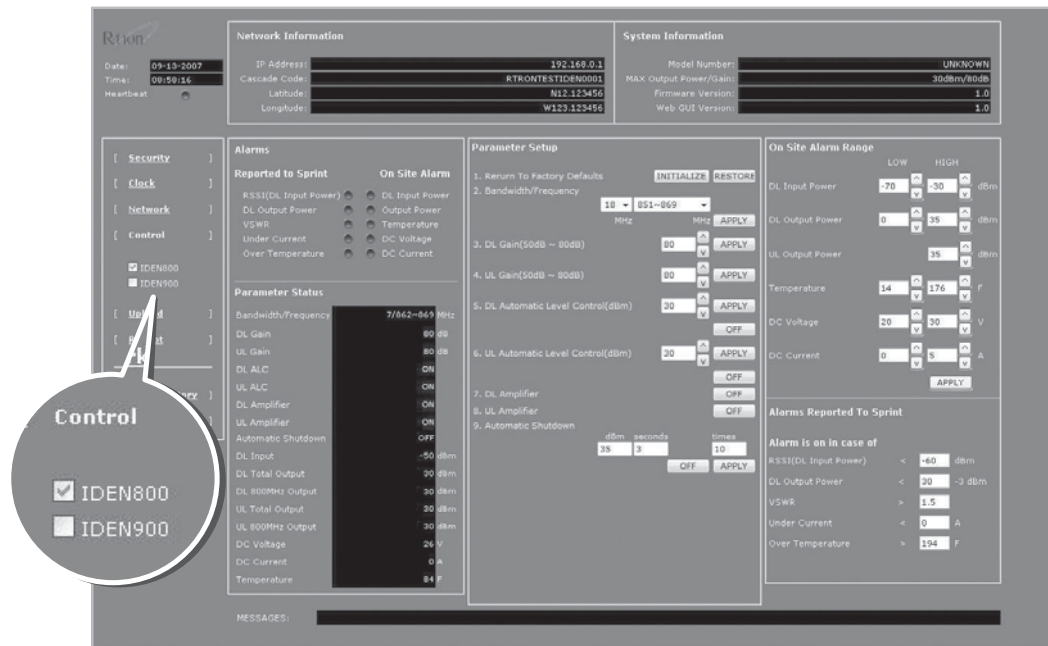
Model Number : [ UNKNOWN ]   
MAX Output Power/Gain:[ 30dBm/80dB ]

\*\*\* NMC IP Address [Option] \*\*\*  
[  ]

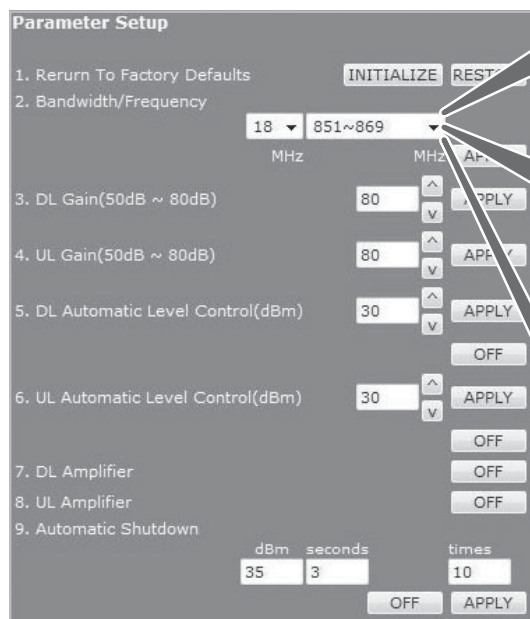
- **Cascade Code:** Inputs the allocated value, otherwise you cannot access system setup.
- **Heartbeat Interval:** Sets the time to transmit the Heartbeat to NMC Server.
- **Static IP for Remote Control:** Uses to connect with External Monitoring Device for Remote Access. It is not necessary to set up these values due to run as a DHCP client.
- **Location Information:** Inputs the latitude and longitude, otherwise you cannot access system setup.
- **Product Information:** This is for vendor. DO NOT change the values.
- **NMC Server IP:** DO NOT input this unless Sprint asks to change it, otherwise Heartbeat transmission or Remote Access may not work.

## 4.5.4 Control

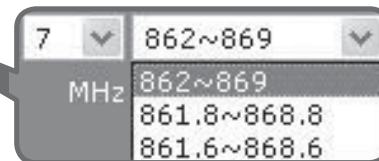
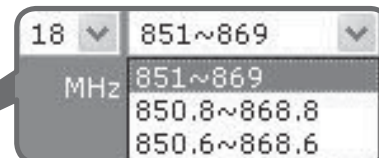
Check **IDEN 800** or **IDEN 900** in the left menu.



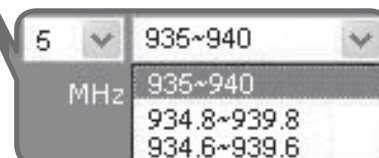
## Parameter Setup



< IDEN 800 >



< IDEN 900 >



## 4. Operation

### • Reset To Factory Defaults

- To reset the factory default, click **INITIALIZE**.
- To restore the previous settings, click **RESTORE**.

### • Bandwidth/Frequency:

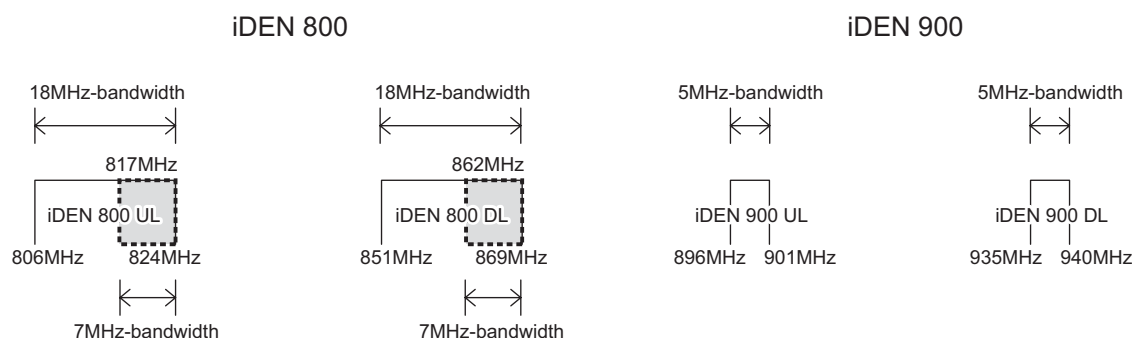
#### - For **IDEN 800**

If you select 18 MHz for bandwidth, the values of the frequency range are 851~869, 850.8~868.8, 850.6~868.6.

If you select 7 MHz for bandwidth, the values of the frequency range is 862~869, 861.8~868.8, 861.6~868.6.

#### - For **IDEN 900**

The values of the frequency range is 935~940, 934.8~939.8, 934.6~939.6.



### The Operating Bandwidth and Frequencies of iDEN

Mode	Bandwidth	Operating Frequency	
<b>iDEN 800</b>	18MHz-bandwidth	Downlink	851~ 869MHz 850.8 ~ 868.8MHz 850.6 ~ 868.6MHz
		Uplink	806 ~ 824MHz 805.8 ~ 823.8MHz 805.6 ~ 823.6MHz
	7MHz-bandwidth	Downlink	862 ~ 869MHz 861.8 ~ 868.8MHz 861.6 ~ 868.6MHz
		Uplink	817 ~ 824MHz 816.8 ~ 823.8MHz 816.6 ~ 823.6MHz
<b>iDEN 900</b>	5MHz-bandwidth	Downlink	935 ~ 940MHz 934.8 ~ 939.8MHz 934.6 ~ 939.6MHz
		Uplink	896 ~ 901MHz 895.8 ~ 900.8MHz 895.6 ~ 900.6MHz

- **DL Gain:** Type values between 50 and 80 and then click **APPLY**.
- **UL Gain:** Type values between 50 and 80 and then click **APPLY**.

**Note**

Please make sure **DL Automatic Level Control**, **UL Automatic Level Control** are turned off before the gain setup. Otherwise, it may cause an error.

- **DL Automatic Level Control:** Type under 30 and then click **APPLY** and **ON**.
- **UL Automatic Level Control:** Type under 30 and then click **APPLY** and **ON**.

[Example]

For the repeater with 30dBm Maximum Output power, 80dB Maximum Gain /30dB Gain control range, → If input signal is -30Bm and ALC is set as 30dBm, the gain will be 60dB to adjust to the level.

If input signal is -55dBm, the output power will be 25dBm by the limitation of the maximum gain even though the ALC is set as 30dBm.

- **Automatic Shutdown:** Type the desired values for **dBm**, **seconds** and **times** and then click **APPLY** and **ON**. (e.g. 35 dBm, 3 seconds, 10 times)

[Example]

For the repeater with 30dBm Maximum Output power, 80dB Maximum Gain /30dB Gain control range, Assuming **ASD Level: 35dBm**, **ASD Time: 3second**, **ASD Count: 10**.

If the output power is 35dBm (ASD LEVEL) and higher for some reasons, the repeater will have shut down for 3 seconds (ASD TIME). If this repeats 10 times (ASD COUNT), the repeater will shut down completely.

## 4. Operation

### Alarms

Alarms	
Reported to Sprint	On Site Alarm
<input type="checkbox"/> RSSI(DL Input Power)	<input type="checkbox"/> DL Input Power
<input type="checkbox"/> DL Output Power	<input type="checkbox"/> Output Power
<input type="checkbox"/> VSWR	<input type="checkbox"/> Temperature
<input type="checkbox"/> Under Current	<input type="checkbox"/> DC Voltage
<input type="checkbox"/> Over Temperature	<input type="checkbox"/> DC Current

- **Reported to Sprint** : If an alarm occurs, the repeater will report directly to Sprint as a SNMP Trap so the LED of ALARM on the repeater does not blink.
- **On Site Alarm** : If an alarm occurs, the LED of ALARM on the repeater will blink. For this alarm issued, refer to the troubleshooting.

### 4.5.5 Upload

Click **Upload** in the left menu.

#### 4.5.5.1 Update: System Firmware

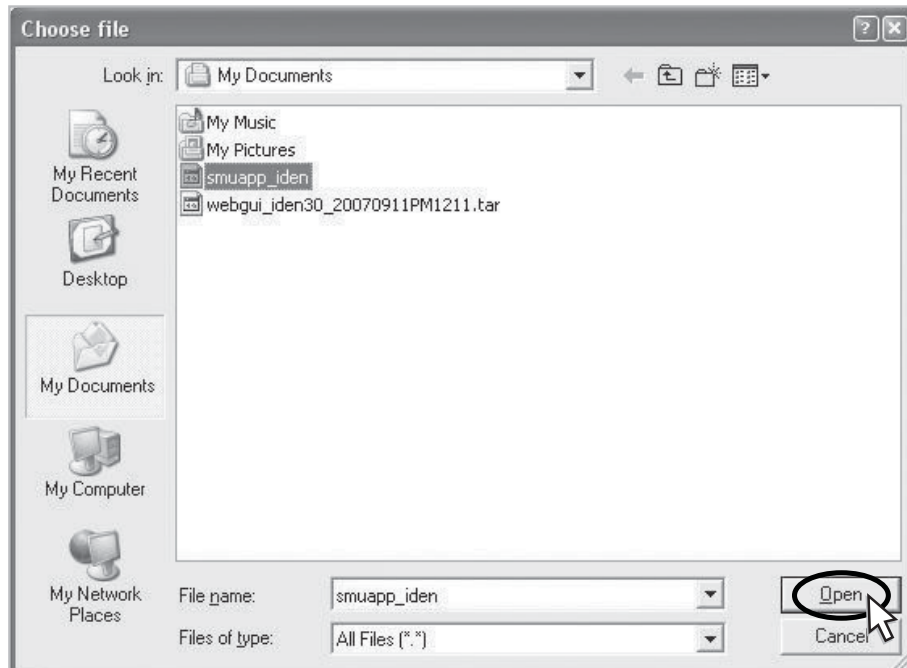
**Step 1** Click **Browse**.

Update: System Firmware

To update to the other version, browser the file and the click "UPDATE"

FILE:

**Step 2** A pop-up window will appear. Select the **firmware file** and click **Open**.



**Step 3** Click **UPDATE**.



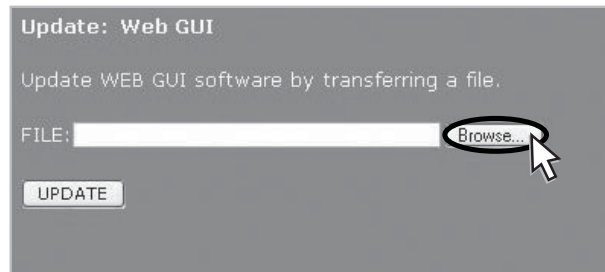
**Step 4** A pop-up window will appear for rebooting after completing all the update processes.  
Click **OK** to reboot the system.



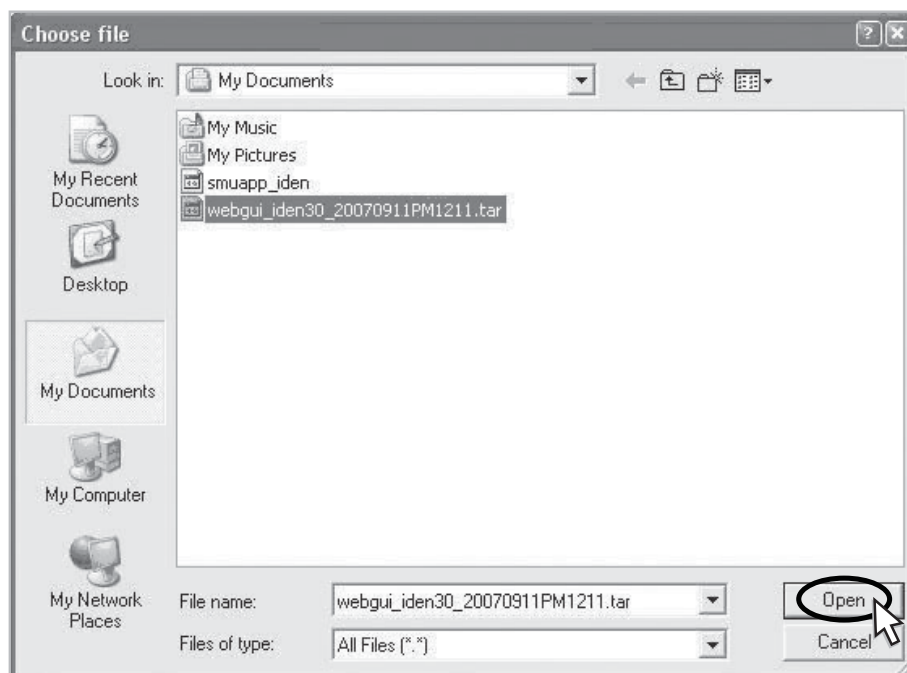
## 4. Operation

### 4.5.5.2 Update: Web GUI

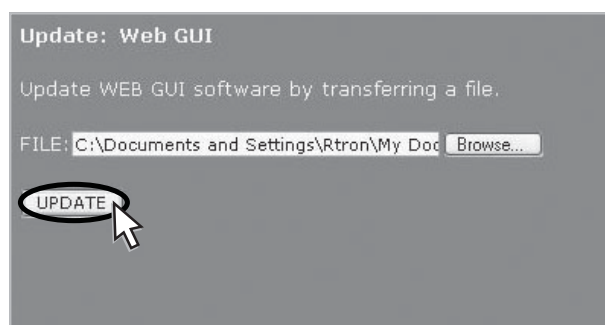
**Step 1** Click **Browse**.



**Step 2** A pop-up window will appear. Select the **GUI file** and click **Open**.



**Step 3** Click **UPDATE**.



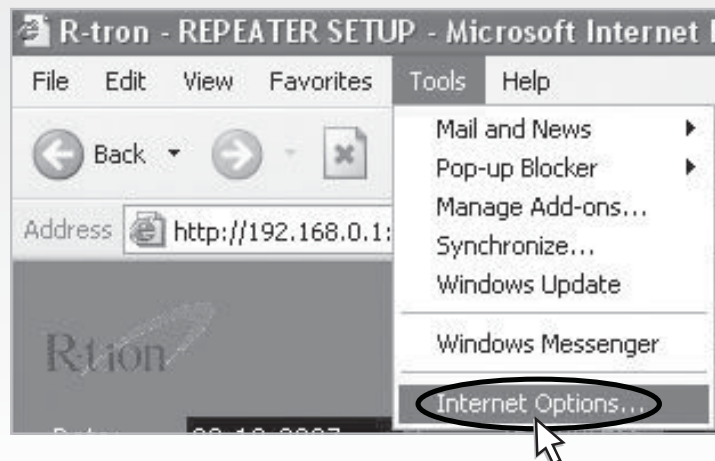
- Step 4** A pop-up window will appear for rebooting after completing all the update processes.  
Click **OK** to reboot the system.



### Note

After updating the Web GUI, please delete the Temporary Internet files and Cookies for the new GUI.

Click **Tools** and Internet **Options**....

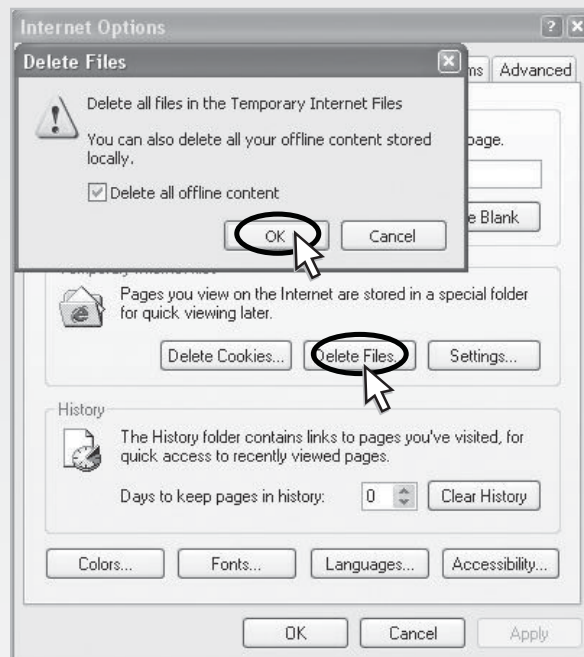




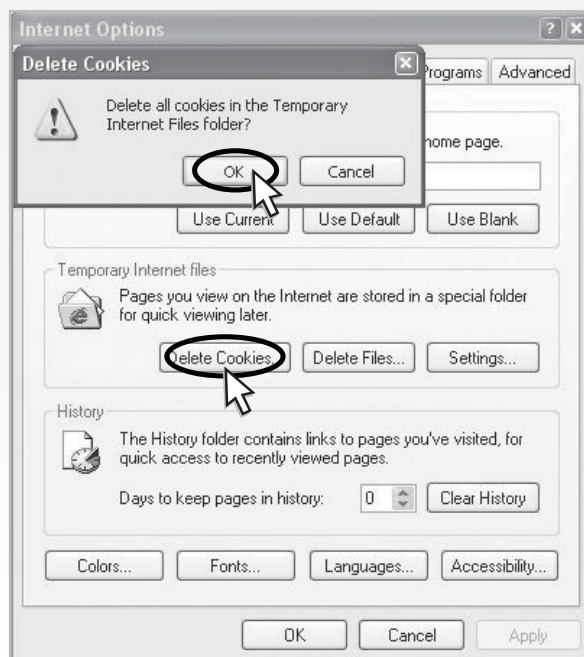
## 4. Operation

### Note

Click **Delete Files...** and then check **Delete all offline content** and click **OK**.

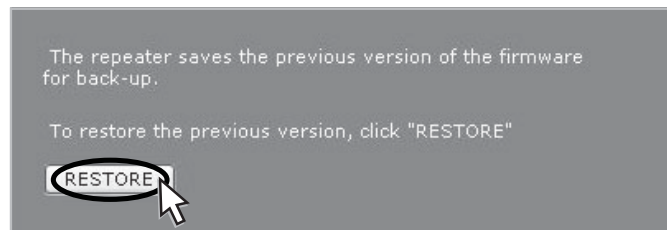


Click **Delete Cookies...** and then click **OK**.



### 4.5.5.3 Restore

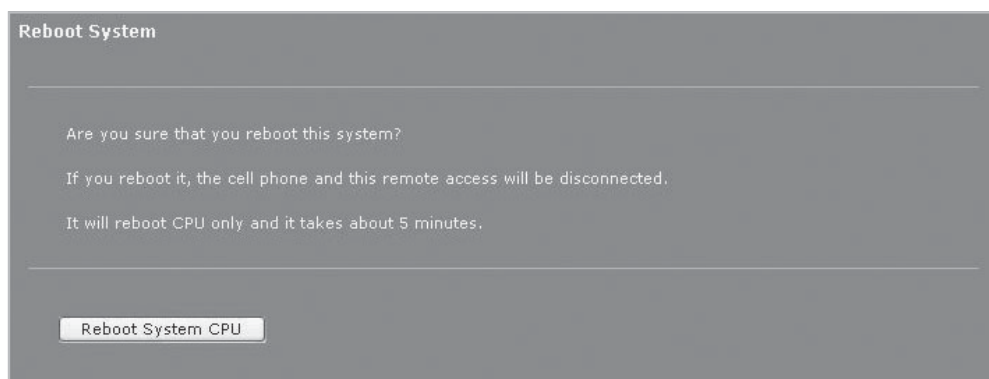
To restore the previous version, click **RESTORE**.



### 4.5.6 Reboot

Click **Reboot** in the left menu.

In this menu, you can reboot the system.

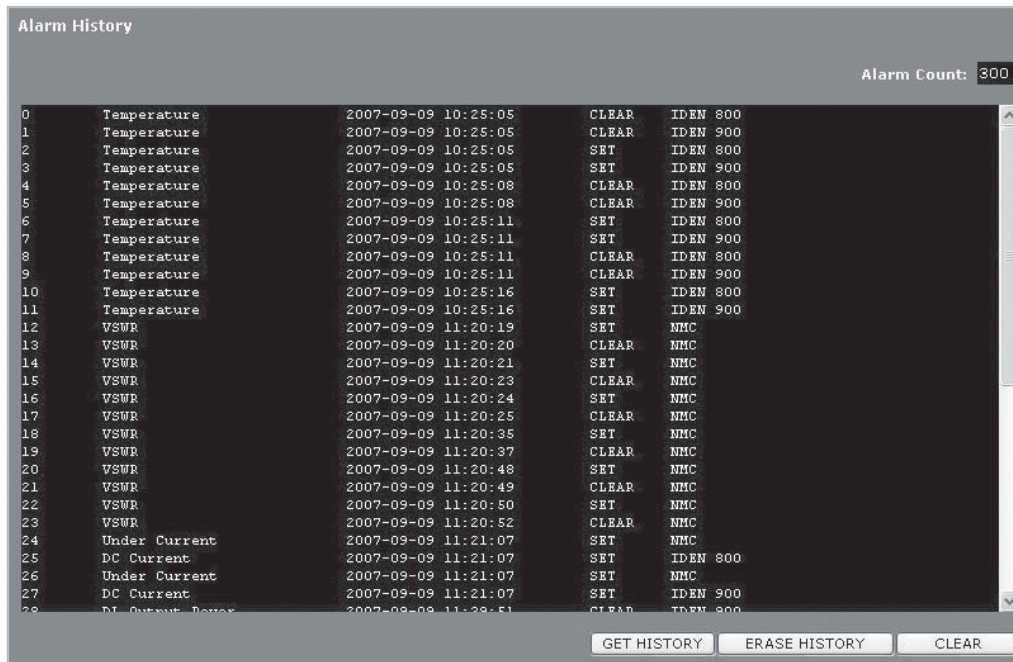


## 4. Operation

### 4.5.7 Alarm History

Click **Alarm History** in the left menu.

Click **GET HISTORY**, the history list of alarm issued will be displayed.



	Alarm	Date	Time	Action	Value
0	Temperature	2007-09-09	10:25:05	CLEAR	IDEN 800
1	Temperature	2007-09-09	10:25:05	CLEAR	IDEN 900
2	Temperature	2007-09-09	10:25:05	SET	IDEN 800
3	Temperature	2007-09-09	10:25:05	SET	IDEN 900
4	Temperature	2007-09-09	10:25:08	CLEAR	IDEN 800
5	Temperature	2007-09-09	10:25:08	CLEAR	IDEN 900
6	Temperature	2007-09-09	10:25:11	SET	IDEN 800
7	Temperature	2007-09-09	10:25:11	SET	IDEN 900
8	Temperature	2007-09-09	10:25:11	CLEAR	IDEN 800
9	Temperature	2007-09-09	10:25:11	CLEAR	IDEN 900
10	Temperature	2007-09-09	10:25:16	SET	IDEN 800
11	Temperature	2007-09-09	10:25:16	SET	IDEN 900
12	VSWR	2007-09-09	11:20:19	SET	NMC
13	VSWR	2007-09-09	11:20:20	CLEAR	NMC
14	VSWR	2007-09-09	11:20:21	SET	NMC
15	VSWR	2007-09-09	11:20:23	CLEAR	NMC
16	VSWR	2007-09-09	11:20:24	SET	NMC
17	VSWR	2007-09-09	11:20:25	CLEAR	NMC
18	VSWR	2007-09-09	11:20:35	SET	NMC
19	VSWR	2007-09-09	11:20:37	CLEAR	NMC
20	VSWR	2007-09-09	11:20:48	SET	NMC
21	VSWR	2007-09-09	11:20:49	CLEAR	NMC
22	VSWR	2007-09-09	11:20:50	SET	NMC
23	VSWR	2007-09-09	11:20:52	CLEAR	NMC
24	Under Current	2007-09-09	11:21:07	SET	NMC
25	DC Current	2007-09-09	11:21:07	SET	IDEN 800
26	Under Current	2007-09-09	11:21:07	SET	NMC
27	DC Current	2007-09-09	11:21:07	SET	IDEN 900
28	DL Output Power	2007-09-09	11:28:51	CLEAR	IDEN 800

To erase the alarm history on the memory, click **ERASE HISTORY**.

A confirmation pop-up window will appear and click **OK**.



To clear the alarm history on the screen, click **CLEAR**.

#### Note

Up to 300 alarm lists can be stored in the memory.

### 4.5.8 Logout

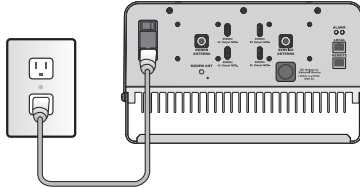
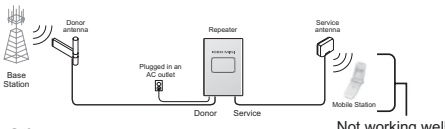

If you want to logout, click **Logout** in the left menu.

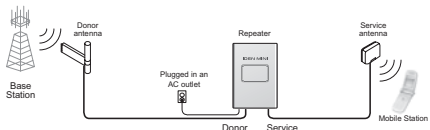
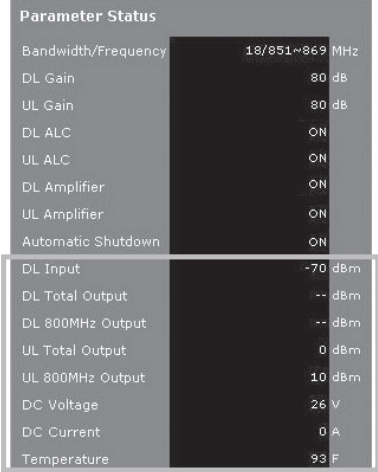
A warning pop-up window will appear and then click **OK** to logout.



## 5. Troubleshooting

Before contacting your service dealer, please make sure you refer to the following guide. If the IDEN MINI does not work normally after completing the following troubleshooting, please contact your local dealer or service center.

Problem	Cause	Solution																																		
No LED On		<p>Check the power cord for secure connection.</p> 																																		
Cannot communicate with the repeater.		<p>Check if the LAN cable is connected to the repeater and your computer, or your computer to set IP address.</p>																																		
The mobile phone is not working well.		<p>Turn on the power.</p>  <p>or</p>  <p>Check if the DL Amplifier and the UL Amplifier of Parameter Status are displayed ON.</p>																																		
Oscillation	<table><thead><tr><th colspan="2">Parameter Status</th></tr></thead><tbody><tr><td>Bandwidth/Frequency</td><td>18/851~869 MHz</td></tr><tr><td>DL Gain</td><td>80 dB</td></tr><tr><td>UL Gain</td><td>80 dB</td></tr><tr><td>DL ALC</td><td>ON</td></tr><tr><td>UL ALC</td><td>ON</td></tr><tr><td>DL Amplifier</td><td>ON</td></tr><tr><td>UL Amplifier</td><td>ON</td></tr><tr><td>Automatic Shutdown</td><td>ON</td></tr><tr><td>DL Input</td><td>-70 dBm</td></tr><tr><td>DL Total Output</td><td>-- dBm</td></tr><tr><td>DL 800MHz Output</td><td>-- dBm</td></tr><tr><td>UL Total Output</td><td>0 dBm</td></tr><tr><td>UL 800MHz Output</td><td>10 dBm</td></tr><tr><td>DC Voltage</td><td>26 V</td></tr><tr><td>DC Current</td><td>0 A</td></tr><tr><td>Temperature</td><td>93 F</td></tr></tbody></table> <p>1. The values above are changed randomly under operating of DL ALC, UL ALC, and ASD.</p> <p>2. DL Amplifier and UL Amplifier are on and off iteratively.</p>	Parameter Status		Bandwidth/Frequency	18/851~869 MHz	DL Gain	80 dB	UL Gain	80 dB	DL ALC	ON	UL ALC	ON	DL Amplifier	ON	UL Amplifier	ON	Automatic Shutdown	ON	DL Input	-70 dBm	DL Total Output	-- dBm	DL 800MHz Output	-- dBm	UL Total Output	0 dBm	UL 800MHz Output	10 dBm	DC Voltage	26 V	DC Current	0 A	Temperature	93 F	<p>Turn off the repeater. Measure the isolation and verify if the isolation between the donor antenna and the service antenna is enough for the repeater. Refer to the note on page 15.</p>
Parameter Status																																				
Bandwidth/Frequency	18/851~869 MHz																																			
DL Gain	80 dB																																			
UL Gain	80 dB																																			
DL ALC	ON																																			
UL ALC	ON																																			
DL Amplifier	ON																																			
UL Amplifier	ON																																			
Automatic Shutdown	ON																																			
DL Input	-70 dBm																																			
DL Total Output	-- dBm																																			
DL 800MHz Output	-- dBm																																			
UL Total Output	0 dBm																																			
UL 800MHz Output	10 dBm																																			
DC Voltage	26 V																																			
DC Current	0 A																																			
Temperature	93 F																																			

Problem	Cause	Solution																					
<p>Green LED → steady</p> <p>Red LED → flashing</p>	<p>Donor antenna connection → Good</p> <p>Service antenna connection → Bad</p> 	<p>Check the cable connection to the service antenna and its VSWR.</p>																					
<p>The red light turns on.</p>	 <p>Check if the value above is out of range.</p> <table border="1"> <thead> <tr> <th>On Site Alarms</th><th>Lower</th><th>Upper</th></tr> </thead> <tbody> <tr> <td><b>DL Input Power</b></td><td>-70dBm</td><td>-30dBm</td></tr> <tr> <td><b>DL Output Power</b></td><td>0dBm</td><td>35dBm</td></tr> <tr> <td><b>UL Output Power</b></td><td>-</td><td>35dBm</td></tr> <tr> <td><b>Temperature</b></td><td>14°F</td><td>176°F</td></tr> <tr> <td><b>DC Voltage</b></td><td>20V</td><td>30V</td></tr> <tr> <td><b>DC Current</b></td><td>0A</td><td>5A</td></tr> </tbody> </table> <p>If the Input Power or Output Power is out of range, please contact Technical Support. Download site: <a href="http://www.r-tron.com">www.r-tron.com</a> Toll Free: 888-31R-TRON</p>	On Site Alarms	Lower	Upper	<b>DL Input Power</b>	-70dBm	-30dBm	<b>DL Output Power</b>	0dBm	35dBm	<b>UL Output Power</b>	-	35dBm	<b>Temperature</b>	14°F	176°F	<b>DC Voltage</b>	20V	30V	<b>DC Current</b>	0A	5A	
On Site Alarms	Lower	Upper																					
<b>DL Input Power</b>	-70dBm	-30dBm																					
<b>DL Output Power</b>	0dBm	35dBm																					
<b>UL Output Power</b>	-	35dBm																					
<b>Temperature</b>	14°F	176°F																					
<b>DC Voltage</b>	20V	30V																					
<b>DC Current</b>	0A	5A																					
<p>Red &amp; green LEDs are flashing irregularly.</p>	<p>Malfunction of PSU.</p>	<p>Please contact Technical Support. Download site: <a href="http://www.r-tron.com">www.r-tron.com</a> Toll Free: 888-31R-TRON</p>																					

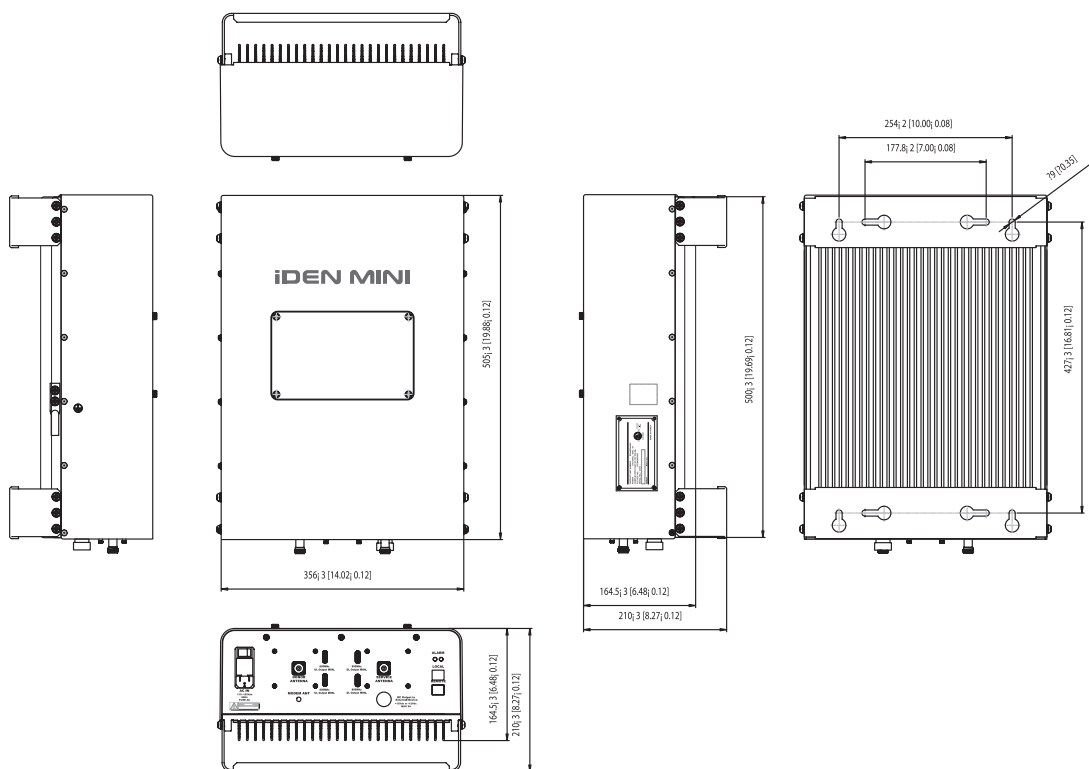
## 6. Specifications

### Electrical Specifications

Parameter		iDEN 800		iDEN 900				
Selectable Bandwidth		DL & UL		In-band BW:18M In-band BW:7.0M		In-band BW:5M		
Frequency Selection		DL	18MHz-bandwidth		851~869MHz 850.8~868.8MHz 850.6~868.6MHz			
			7MHz-bandwidth		862~869MHz 861.8~868.8MHz 861.6~868.6MHz			
			5MHz-bandwidth				935~940MHz 934.8~939.8MHz 934.6~939.6MHz	
		UL	18MHz-bandwidth		806~824MHz 805.8~823.8MHz 805.6~823.6MHz			
			7MHz-bandwidth		817~824MHz 816.8~823.8MHz 816.6~823.6MHz			
			5MHz-bandwidth				896~901MHz 895.8~900.8MHz 895.6~900.6MHz	
Roll off		DL & UL		≤65dBc @Fedge+ / -500KHz		≤65dBc @Fedge+ / -500KHz		
Ripple				3dB (Typical)				
Gain		DL & UL		50dB to 80dB				
Output Power		DL & UL		30dBm				
Delay		DL & UL		8.0μs Max.				
VSWR		DL & UL		1.5Max.				
UL Noise Figure		80dB Gain		5dB Max.				
		50dB Gain		12dB Max.				
Input Range		DL & UL		-30dBm Max.				
Power supply				110V~125V, 60Hz typical				
Operating temperature				*-10°C~50°C (14°F~122°F)				
Storage temperature				-20°C~60°C (-4°F~140°F)				
Consumption power				≤112.2W, (additional 12W)				

## Mechanical Specifications

Parameter	Specification
<b>RF connectors</b>	N-female x 2, SMA-female x 5
<b>Size</b>	14.01 X 19.88 X 6.48 (Inch), 356 X 505 X 164.5 (mm)
<b>Weight</b>	22.78kg (50.22lbs)



*The specifications are subject to change without any prior notification.*