



FCC ID : U88GRS-1923DC-SPR

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## ATTACHMENT I.

### - TuneUp Procedure -

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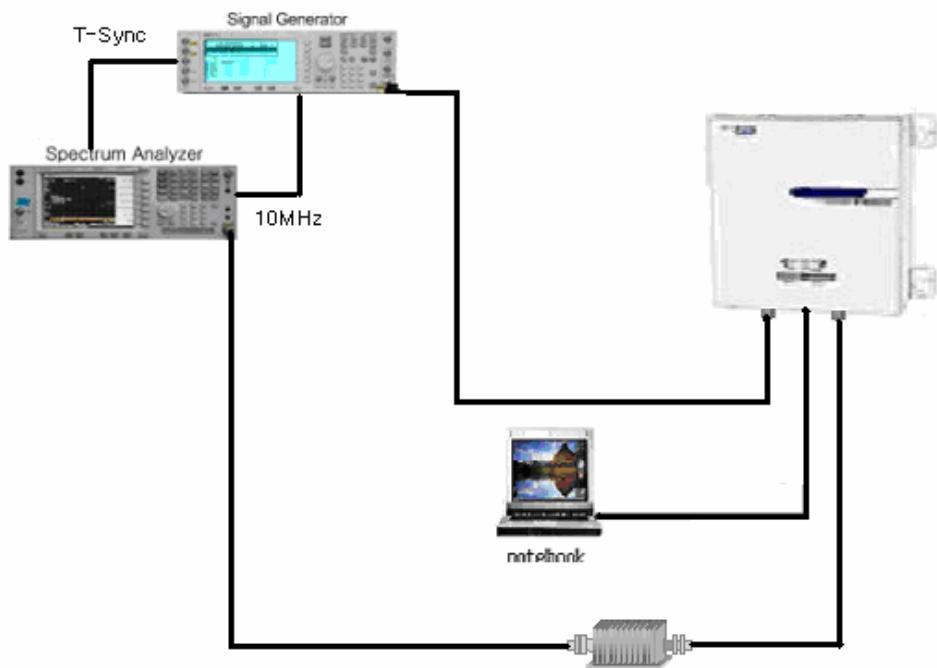
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**HCT CO., LTD.**

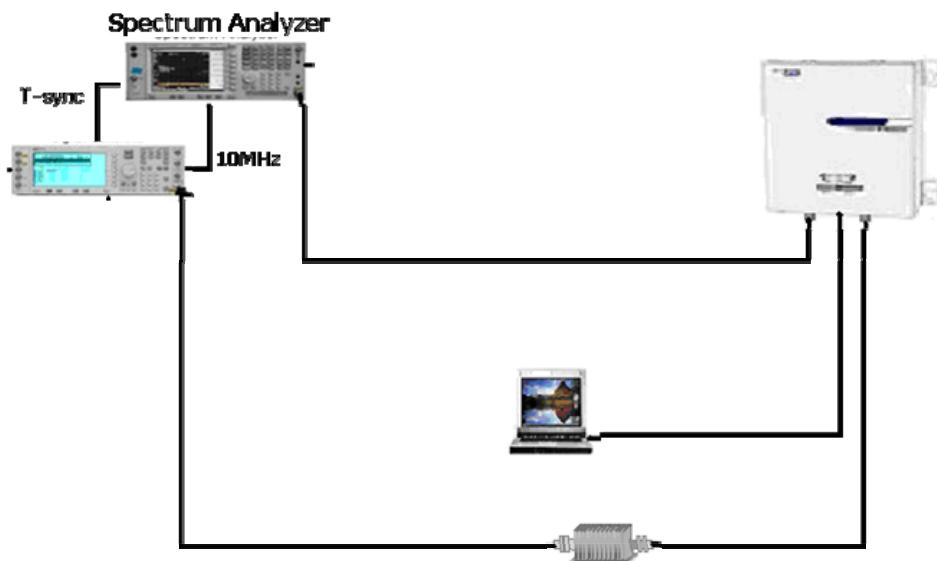
SAN 136-1, AMI-RI, BUBAL-EUP, ICHEON-SI, KYOUNGKI-DO, 467-701, KOREA  
TEL:+82 31 639 8517      FAX:+82 31 639 8525      [www.hct.co.kr](http://www.hct.co.kr)

## \* Test Configurations

### - RX Test

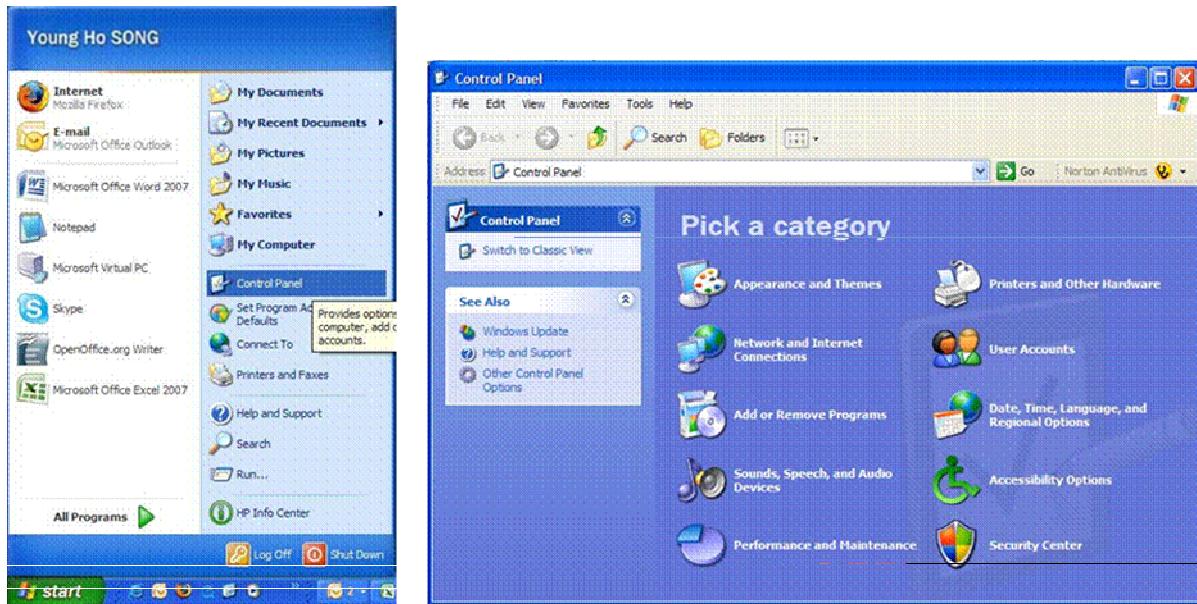


### - Tx Test



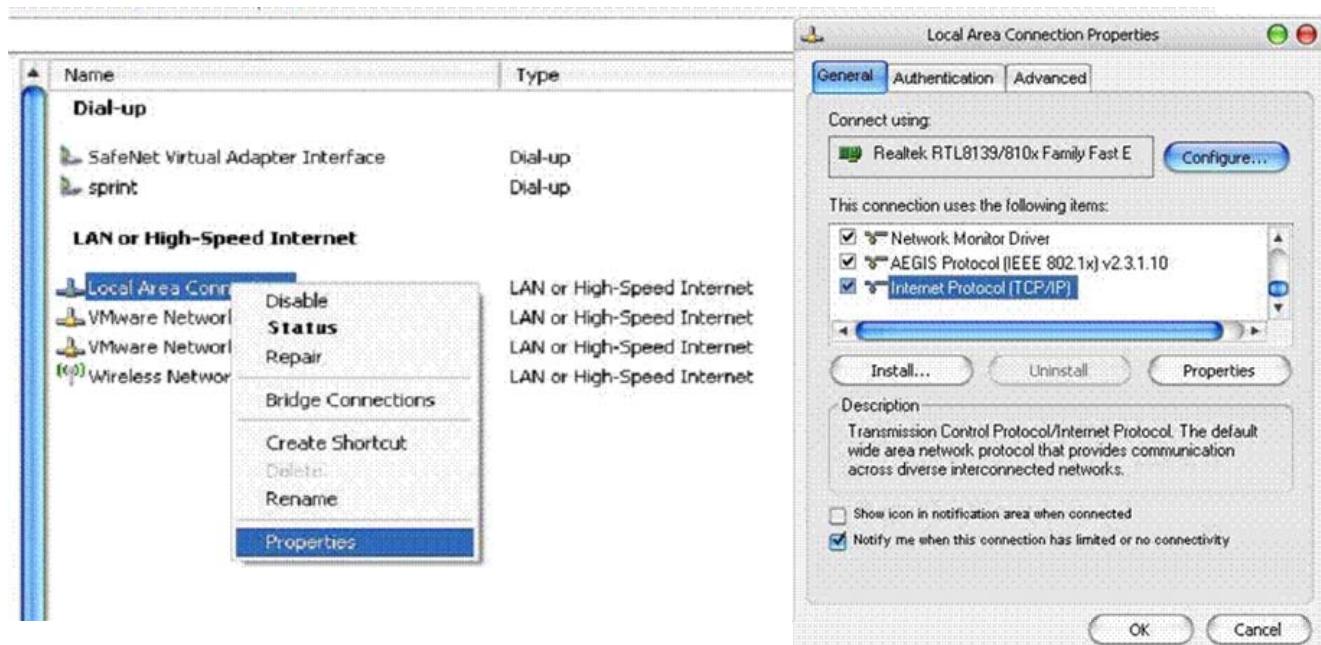
## \* Connecting to Web UI

### 1. Start->Control Panel->Network and Internet Connections

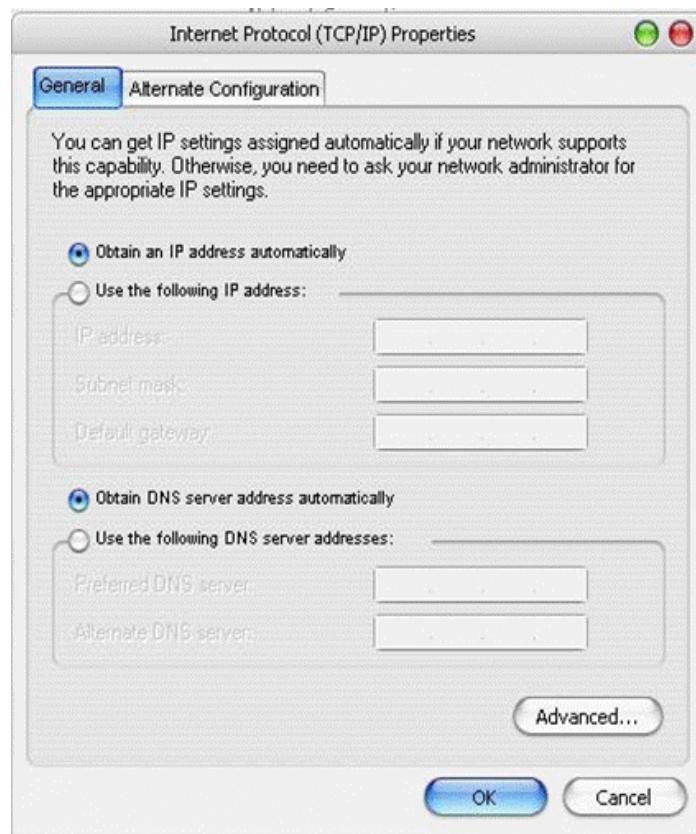


### 2. Right click Local Area Connections and choose Properties

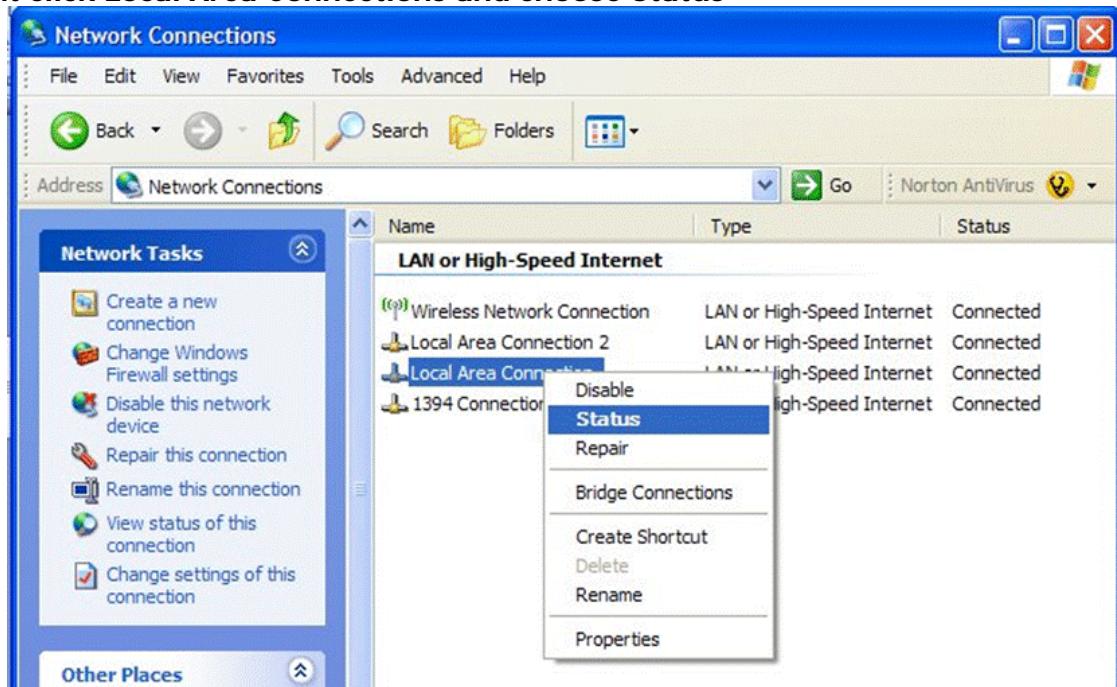
### 3. Click Internet Protocol (TCP/IP) on General tab and click Properties



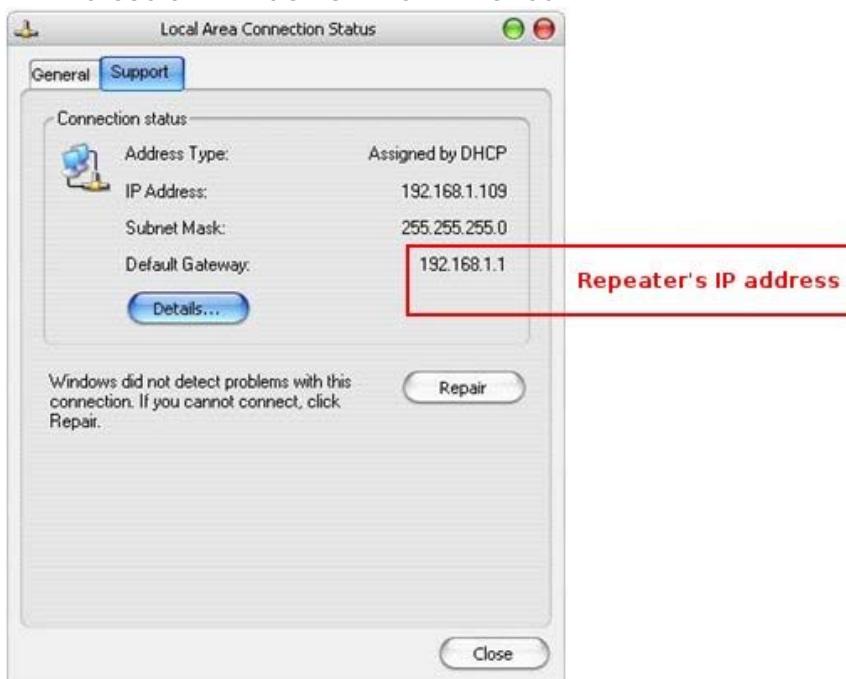
4. Choose "Obtain an IP address automatically"
5. Choose "Obtain DNS server address automatically"
6. Click "OK" to close Properties
7. Click "OK" to close Properties



8. Right click Local Area Connections and choose Status



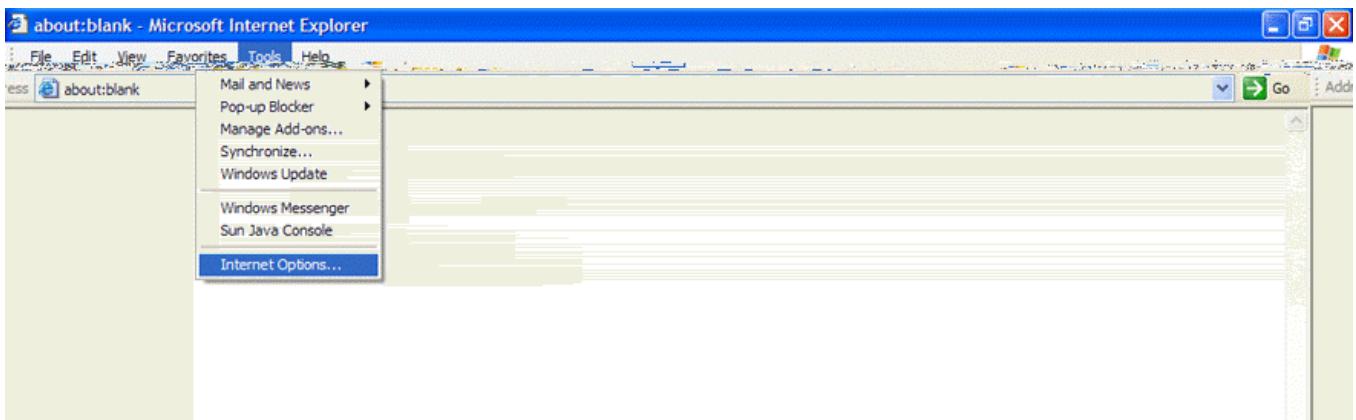
9. Click on “Support” tab.
10. Verify assigned Default Gateway at local connection.  
(If IP address is not assigned, click repair)
11. Close all windows when finished.



#### \* Internet Explorer Option Settings

Proceed step by step as indicated in the following slides to delete all temporary internet files and records.

#### 1. Open Internet Explorer -> Tools -> Internet Options



**\* Browser History Options**

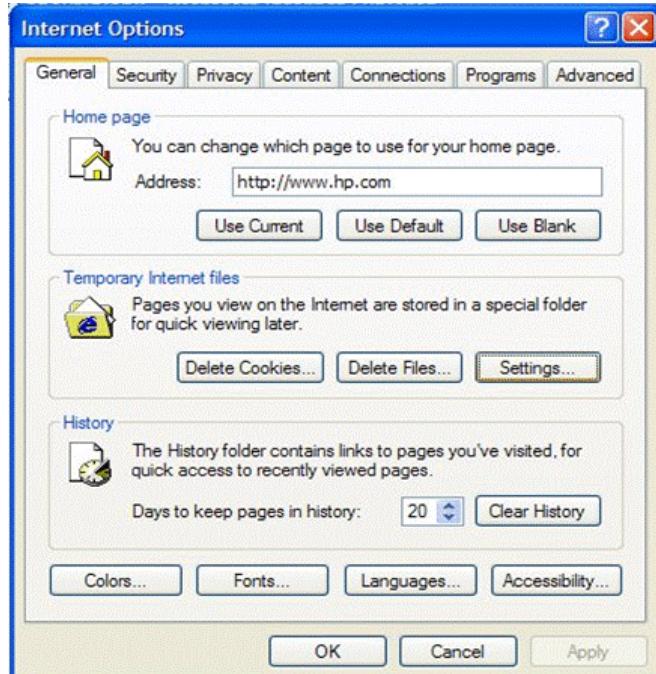
On the "General" tab,

In the "Temporary Internet Files" section:

2. Click "Delete Cookies" ◊ "OK"

3. Click "Delete Files" ◊ "OK"

4. Click "OK"



**\* Login Screen**

<b>CDMA</b>	Cascade code : <input type="text"/>
	Serial No: <input type="text" value="GST-PP-01"/>
<b>Login</b>	S/W Version: <input type="text" value="1.0"/>
	Longitude/Latitude: <input type="text"/>
 <input type="text" value="User Name"/> <input type="text" value="Password"/> <input type="button" value="Login"/>	

Enter Default Gateway's IP address into address bar as described in page 19, you will be redirected to Login. Default User Name is 'admin', and default Password is 'admin'. You may need to change password as described in the User Management section. Engineering Number and Site Name will initially be blank, you can input Engineering Number and Site Name as described in the Communications Configuration section.

**\* List Menu**

<a href="#"># Logout</a>	<b>CDMA</b>  <b>List</b>	Cascade code : <input type="text"/>
<a href="#"># Status</a>		Serial No: <input type="text" value="GST-PP-01"/>
<a href="#"># RF Configuration</a>		S/W Version: <input type="text" value="1.0"/>
<a href="#"># Alarm Configuration</a>		Longitude/Latitude: <input type="text"/>
<a href="#"># Communications Configuration</a>		
<a href="#"># User Management</a>		
<a href="#"># Alarm Logs</a>		
<a href="#"># Logs</a>		
<a href="#"># Troubleshooting</a>		
<a href="#"># Remote Software Upgrade</a>		
<a href="#"># System Reset</a>		

**After you log in, you can see menu pages on the left and information about the repeater on the right.**

### \* Status Page

- Default D/L and U/L are set at minimum Gain.
- The default values in various fields will differ with different models of WiMAX Repeaters.
- In order to view other pages, you can click the desired menu on the top-left corner of all pages.
- Changes can be made on the Status Page. This page is for checking the repeater's conditions and settings

<a href="#"># Logout</a> <a href="#"># Status</a> <a href="#"># RF Configuration</a> <a href="#"># Alarm Configuration</a> <a href="#"># Communications Configuration</a> <a href="#"># User Management</a> <a href="#"># Alarm Logs</a> <a href="#"># Logs</a> <a href="#"># Troubleshooting</a> <a href="#"># Remote Software Upgrade</a> <a href="#"># System Reset</a>	<b>CDMA</b>  <b>Status</b>	Cascade code : <input type="text"/>  Serial No: GST-PP-01  S/W Version: 1.0  Longitude/Latitude: <input type="text"/>
--	----------------------------------	---

<b>RF Status</b> 23dBm							
Downlink Output Power	-30	dBm	Uplink Output Power	-30	dBm		
Downlink Attenuation	8	dB	Uplink Attenuation	8	dB		
AGC Downlink Limit	15.0	dBm	ALC Uplink Limit	15.0	dBm		
ALC Downlink Limit	15.0	dBm	Shutdown ON/OFF	ON			
AGC Control	OFF		ALC Control	ON			
Downlink HPA	ON		Uplink HPA	ON			
Gain Balance	ON						
Temperature	83.9	°F	Temperature Limit	176.0	°F		
Delay Alarm Reporting Minutes	5		RSSI Limit	-60.0	dBm		
<b>Band Select Status</b>							
Band Width : 5 MHz							
Selected Bandwidth		ON	RSSI :		-87.5	dBm	
A1	A2	A3	D	B1	B2	B3	E
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Alarm Status</b>							
Status	Name		Status	Name			
	RF Power alarm			RSSI alarm			
	Undercurrent alarm			Overtemp alarm			
	VSWR alarm						

### \* Communications Configuration

- Click on the Communications Configuration link.
- On this page you can change various values related to IP network. Because Web UI is based on IP network, incorrect configuration may make it impossible to connect to Web UI

<a href="#"># Logout</a> <a href="#"># Status</a> <a href="#"># RF Configuration</a> <a href="#"># Alarm Configuration</a> <a href="#"># Communications Configuration</a> <a href="#"># User Management</a> <a href="#"># Alarm Logs</a> <a href="#"># Logs</a> <a href="#"># Troubleshooting</a> <a href="#"># Remote Software Upgrade</a> <a href="#"># System Reset</a>	<p style="text-align: center;"><b>CDMA</b></p> <p><b>Communication Configuration</b></p> <p>Cascade code : <input type="text"/></p> <p>Serial No: <input type="text" value="GST-PP-01"/></p> <p>S/W Version: <input type="text" value="1.0"/></p> <p>Longitude/Latitude: <input type="text"/></p>
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<b>LAN port IP address (RJ45 port for local access)</b> <input type="text" value="192.168.1.1"/>  <b>Obtain an IP address automatically</b> <input checked="" type="radio"/> <b>DHCP</b> <input type="radio"/> <b>STATIC</b>	  <b>IP address</b> <input type="text" value="192.168.1.1"/>  <b>Netmask</b> <input type="text" value="255.255.255.0"/>  <b>Gateway</b> <input type="text" value="192.168.1.2"/>  <b>DNS Server</b> <input type="text" value="168.126.63.1"/>  <b>DHCP Server</b> <input type="button" value="ON"/>
 <b>Cascade Code</b> <input type="text"/>  <b>Longitude : Latitude</b> ex) <b>N/S 000.000000:E/W 000.000000</b> <input type="text"/>  <b>Current Time</b> <input type="text" value="10 / 23 : 21 : 57 / 2010"/> ex) <b>month/day:hour:min_year</b> <input type="text" value="05/31_16:59_2007"/>	
<input type="button" value="Apply"/>	

## \* RF Configuration

- Click the RF Configuration link.
- This menu is where installer will actually configure the Repeater.
- You can change various RF values of the equipment on this page.
- In case that screen resolution is 1024 x 768, you may need to use scroll bars to view all.
- Changes will not take effect until you click "Apply" button.
- The default values in various fields will differ with different models of Cellular RF Repeaters.

# <a href="#">Logout</a>
# <a href="#">Status</a>
# <a href="#">RF Configuration</a>
# <a href="#">Alarm Configuration</a>
# <a href="#">Communications Configuration</a>
# <a href="#">User Management</a>
# <a href="#">Alarm Logs</a>
# <a href="#">Logs</a>
# <a href="#">Troubleshooting</a>
# <a href="#">Remote Software Upgrade</a>
# <a href="#">System Reset</a>

<b>CDMA</b>	
Cascade code : <input type="text"/>	
Serial No: GST-PP-01	
RF Configuration	
S/W Version: 1.0	
Longitude/Latitude: <input type="text"/>	

<b>Band Select Status</b>								
Band Width : <input type="text" value="5"/> MHz								
Selected Bandwidth :	<input type="button" value="ON"/>	RSSI :	<input type="text" value="-87.0"/>	dBm				
<b>RF Configuration</b>								
Gain Balance Control	<input type="button" value="ON"/>	Temperature Limit	<input type="text" value="176.0"/>	'F				
AGC Downlink Limit	<input type="text" value="15.0"/>	dBm	<input type="text" value="15.0"/>	dBm				
			ALC Downlink Limit	<input type="text" value="15.0"/>	dBm			
Downlink HPA	<input type="button" value="ON"/>	Uplink HPA	<input type="button" value="ON"/>					
Downlink ATT	<input type="text" value="8.0"/>	dB	<input type="text" value="8.0"/>	dB				
AGC Control	<input type="button" value="OFF"/>	ALC Control	<input type="button" value="ON"/>					
Auto Gain Setting	<input type="button" value="OFF"/>	Shutdown ON/OFF	<input type="button" value="ON"/>					
Delay Alarm Reporting Minutes	<input type="text" value="5"/>	RSSI Limit	<input type="text" value="-60.0"/>	dBm				
<b>Band width Select Control</b>								
Band width : <input type="text" value="5"/> MHz								
A1	A2	A3	D	B1	B2	B3	E	F
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Apply"/>								

- After the desired bandwidth is selected, proceed with following steps:
- > The high-frequency side of the bandwidth can be shifted in by either 200kHz or 400kHz to avoid unwanted signals for 800MHz, adjusting the high-side of that band.
- > For normal setup, GST recommends using the Auto Gain Setting.
- > Before AGS user must use the Band select function to choose proper band(s).
- > User may configure Gain and secure Isolation by switching Auto Gain Setting to "ON". Click "Apply".

## \* Alarm Configuration

- Click Alarm Configuration link.
- In case that Report Alarms is OFF, all alarms will be disabled. In case that Report Alarm is ON, you can enable and disable individual alarms.

<a href="#"># Logout</a>
<a href="#"># Status</a>
<a href="#"># RF Configuration</a>
<a href="#"># Alarm Configuration</a>
<a href="#"># Communications Configuration</a>
<a href="#"># User Management</a>
<a href="#"># Alarm Logs</a>
<a href="#"># Logs</a>
<a href="#"># Troubleshooting</a>
<a href="#"># Remote Software Upgrade</a>
<a href="#"># System Reset</a>

<b>CDMA</b>	
Cascade code : <input type="text"/>	
Serial No: <input type="text" value="GST-PP-01"/>	
<b>Alarm Configuration</b>	
S/W Version: <input type="text" value="1.0"/>	
Longitude/Latitude: <input type="text"/>	

Report Alarms <input type="button" value="ON"/>					
List of alarms:					
Number	Name	State	Active	SNMP Mapping	Sent Time
0	oscillation alarm	<input type="text" value="Normal"/>	<input type="button" value="Enable"/>	<input type="button" value="RF Power"/>	<input type="text"/>
1	Downlink over-output alarm	<input type="text" value="Normal"/>	<input type="button" value="Enable"/>	<input type="button" value="RF Power"/>	<input type="text"/>
2	Uplink over-output alarm	<input type="text" value="Normal"/>	<input type="button" value="Enable"/>	<input type="button" value="RF Power"/>	<input type="text"/>
3	Temperature alarm	<input type="text" value="Normal"/>	<input type="button" value="Enable"/>	<input type="button" value="Overtemp"/>	<input type="text"/>
<input type="button" value="Apply"/>					

## \* User Management

- Click on the User Management link.
- On this page you can create and delete users, change passwords, and assign authorities to individual users.
- Read/Write Authority means that the user can change various values.
- Super User is very similar to an Administrator account.
- Caution: DO NOT DELETE 'admin'.

# <a href="#">Logout</a>	
# <a href="#">Status</a>	
# <a href="#">RF Configuration</a>	
# <a href="#">Alarm Configuration</a>	
# <a href="#">Communications Configuration</a>	
# <a href="#">User Management</a>	
# <a href="#">Alarm Logs</a>	
# <a href="#">Logs</a>	
# <a href="#">Troubleshooting</a>	
# <a href="#">Remote Software Upgrade</a>	
# <a href="#">System Reset</a>	

<b>CDMA</b>	
Cascade code : <input type="text"/>	
Serial No: <input type="text" value="GST-PP-01"/>	
<b>User Management</b>	
S/W Version: <input type="text" value="1.0"/>	
Longitude/Latitude: <input type="text"/>	

User	<input type="text"/> Must be 5-8 characters
Password	<input type="text"/> Must be 5-8 characters
Password confirm	<input type="text"/>
Authority	Read <input type="button" value="▼"/>
<input type="button" value="Register"/>	<input type="button" value="Reset"/>

admin
<input type="button" value="Delete"/>

### \* Alarm Logs

- Click on the Alarm Logs link.
- You can see a history of reported and reset Alarms.

When an alarm is reported, the name and time of the alarm is displayed along with its current status.

Red color means that the alarm is reported, and green color means that the alarm has returned to normal status.

- After an Alarm condition lasts for the "Delay Alarm Reporting Minutes" and/or the "Alarm Incidence" Percentage set in RF Configuration page, the Alarm will be reported.

<a href="#"># Logout</a>			
<a href="#"># Status</a>			
<a href="#"># RF Configuration</a>			
<a href="#"># Alarm Configuration</a>			
<a href="#"># Communications Configuration</a>			
<a href="#"># User Management</a>			
<a href="#"># Alarm Logs</a>			
<a href="#"># Logs</a>			
<a href="#"># Troubleshooting</a>			
<a href="#"># Remote Software Upgrade</a>			
<a href="#"># System Reset</a>			

<b>CDMA</b>			
		Cascade code : <input type="text"/>	
		Serial No: <input type="text" value="GST-PP-01"/>	
<b>Alarm Logs</b>		S/W Version: <input type="text" value="1.0"/>	
		Longitude/Latitude: <input type="text"/>	

				Alarm Clear
Number	Name	Status	Sent Time	

### \* Log

Click on the Logs link.

You can see Logs regarding Web UI operation. Logs will maintain a history of up to 30 operations.

# <a href="#">Logout</a>	
# <a href="#">Status</a>	
# <a href="#">RF Configuration</a>	
# <a href="#">Alarm Configuration</a>	
# <a href="#">Communications Configuration</a>	
# <a href="#">User Management</a>	
# <a href="#">Alarm Logs</a>	
# <a href="#">Logs</a>	
# <a href="#">Troubleshooting</a>	
# <a href="#">Remote Software Upgrade</a>	
# <a href="#">System Reset</a>	

<b>CDMA</b>	Cascade code : <input type="text"/>
	Serial No: GST-PP-01
<b>Logs</b>	S/W Version: 1.0
	Longitude/Latitude:

Date & Time	User	Operation	Description
10/23/2010 - 22:01:49	admin	Alarm Logs	Checked
10/23/2010 - 22:00:10	admin	User Management	Accessed
10/23/2010 - 21:57:45	admin	Communications	Checked
10/23/2010 - 21:56:25	admin	Alarm Configuration	Checked
10/23/2010 - 21:53:04	admin	RF Configuration	Checked
10/23/2010 - 21:48:46	admin	Login	Login
10/23/2010 - 21:45:54	admin	Login	Login
10/23/2010 - 21:45:44	admin	Logout	Logout
10/23/2010 - 21:44:39	admin	Login	Login
10/23/2010 - 21:39:43	admin	Communications	Checked
10/23/2010 - 21:39:20	admin	Login	Login
10/19/2010 - 02:15:27	admin	RF Configuration	Set
10/19/2010 - 02:15:24	admin	RF Configuration	Checked
10/19/2010 - 02:14:08	admin	RF Configuration	Set
10/19/2010 - 02:14:03	admin	RF Configuration	Checked
10/19/2010 - 02:12:53	admin	RF Configuration	Checked
10/19/2010 - 02:12:28	admin	Login	Login
10/18/2010 - 21:01:55	admin	system_download	Set
10/18/2010 - 21:01:29	admin	system_download	Checked
10/18/2010 - 21:01:26	admin	Login	Login
10/18/2010 - 18:51:30	admin	RF Configuration	Set
10/18/2010 - 18:51:27	admin	RF Configuration	Checked
10/18/2010 - 18:50:28	admin	RF Configuration	Checked
10/18/2010 - 18:49:29	admin	RF Configuration	Checked
10/18/2010 - 18:49:18	admin	Login	Login
10/18/2010 - 17:43:22	admin	system_download	Set
10/18/2010 - 17:41:50	admin	system_download	Checked
10/18/2010 - 17:41:46	admin	Login	Login
09/12/2010 - 16:47:09	admin	RF Configuration	Set

**\* Troubleshooting Log**

- **Click on the Troubleshooting link.**
- **You can refer to this page for a general troubleshooting guide.**
- **In case that screen resolution is 1024 x 768, you may need to use scroll bars to view all.**

#	<a href="#">Logout</a>
#	<a href="#">Status</a>
#	<a href="#">RF Configuration</a>
#	<a href="#">Alarm Configuration</a>
#	<a href="#">Communications Configuration</a>
#	<a href="#">User Management</a>
#	<a href="#">Alarm Logs</a>
#	<a href="#">Logs</a>
#	<a href="#">Troubleshooting</a>
#	<a href="#">Remote Software Upgrade</a>
#	<a href="#">System Reset</a>

<b>CDMA</b>	Cascade code : <input type="text"/>
	Serial No: <input type="text" value="GST-PP-01"/>
<b>Trouble</b> - <b>Shooting</b>	S/W Version: <input type="text" value="1.0"/>
	Longitude/Latitude: <input type="text"/>

Toll Free: 1-866-9-GST-USA {Technical Support}  
[support@gsteletechinc.com](mailto:support@gsteletechinc.com)

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Fax: 913-661-0163  
[www.gsteletechinc.com](http://www.gsteletechinc.com)

**\* Remote System Upgrade**

- Configuration Transfer function is for downloading and uploading set values of the repeater.

<a href="#"># Logout</a>	
<a href="#"># Status</a>	
<a href="#"># RF Configuration</a>	
<a href="#"># Alarm Configuration</a>	
<a href="#"># Communications Configuration</a>	
<a href="#"># User Management</a>	
<a href="#"># Alarm Logs</a>	
<a href="#"># Logs</a>	
<a href="#"># Troubleshooting</a>	
<a href="#"># Remote Software Upgrade</a>	
<a href="#"># System Reset</a>	

<b>CDMA</b>	
Cascade code : <input type="text"/>	
Serial No: <input type="text"/> GST-PP-01	
S/W Version: <input type="text"/> 1.0	
Longitude/Latitude: <input type="text"/>	

<input type="text"/>	<input type="button" value="찾아보기..."/>
<input type="button" value="Upload"/>	

File Name	<input type="text"/>
File Size	<input type="text"/>
<input type="button" value="Upgrade"/>	

**\* Software Reset**

- A software reset is a “soft reboot” of the repeater. To reset the software, click on ‘Software Reset’ and then click ‘Yes’ to reset the software.
- Resetting the software is a good way to clear current alarms.

<a href="#"># Logout</a>	
<a href="#"># Status</a>	
<a href="#"># RF Configuration</a>	
<a href="#"># Alarm Configuration</a>	
<a href="#"># Communications Configuration</a>	
<a href="#"># User Management</a>	
<a href="#"># Alarm Logs</a>	
<a href="#"># Logs</a>	
<a href="#"># Troubleshooting</a>	
<a href="#"># Remote Software Upgrade</a>	
<a href="#"># System Reset</a>	

<b>CDMA</b>	Cascade code : <input type="text"/>
	Serial No: GST-PP-01
<b>Reset</b>	S/W Version: 1.0
	Longitude/Latitude: <input type="text"/>

Are you sure you want to reset this repeater ?

Yes      No