



Using DigiGone Sat-Chat over BGAN

Secure Video, VoIP,
IM Chat and File Transfer
Version 01



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1 Overview

DigiGone™ Sat-Chat takes satellite communication technology to the next evolutionary step. It allows clients to communicate around the world, through fully encrypted means, with minimal encryption overhead.

Sat-Chat provides our clients with Secure Video Teleconferencing, Voice over Internet Protocol (VoIP), IM Chat, and File Transfer capabilities, even from the most remote locations while using BGAN, Fleetbroadband or Swiftbroadband. Sat-Chat's plug & play feature provides you instant encrypted communication with other team members around the world, at the touch of a button. Easy to use and extremely affordable. Just plug it in and away you go!

2 Product Range

DigiGone Sat-Chat is a software application that operates on Windows based computers, or MAC computers running the Windows Parallel software package. Sat-Chat installs and operates from a USB Flash Drive, providing you the ultimate in portability. Sat-Chat has been tested and approved to operate on all of Inmarsat's BGAN products.

3 Typical Users

- Federal and State Agencies
- Emergency Response Teams
- Department of Defense Contractors
- Intelligence and Special Operation Communities
- Satellite Communication Service Providers
- Oil/Gas/Mining Corporations
- Commercial Fisherman
- International Energy Trading Corporations
- Financial Investment Companies
- Global Reconstruction Groups

4 Key Features

Using National Institute of Standards and Technology (NIST) approved 256-bit AES encryption, DigiGone™ Sat-Chat operates completely from your Flash Drive and provides you with

- Encrypted Video teleconferencing with multiple parties at the same time
- Encrypted Voice over Internet Protocol (VoIP)
- Encrypted Instant Messaging (IM)
- Encrypted File Transfer
- Bandwidth Consumption as low as
- 10-12 Kbps for voice only
- Adjustable bandwidth selection for video teleconference calls
- 40-150Kbps (Video, Audio and Overhead)
- Adjustable Frames Per Second (FPS) selection for quality of picture
- 5-30 FPS

- Federal Information Processing Standard (FIPS 140-2, Sensitive but Unclassified) compliant version available for U.S. and Canadian Government entities.

5 Benefits to BGAN Users

- Saves money and time by letting you be in two or more places at the same time, reducing travel costs
- Conduct secure video/voice calls and transfer critical information from remote areas
- Safeguard your corporate sensitive information
- Reduce risk associated with travel, especially in high threat or remote areas
- Allows for Ad Hoc meetings letting you discuss urgent matters securely and make immediate decisions
- Share any type of information quickly and securely
- More frequent contacts with colleagues, partners, suppliers and customers without having to leave the office
- Bring product or services to market quicker
- By saving you time, resources and money, it improves the effectiveness of your working day and quality of life of your company as whole.

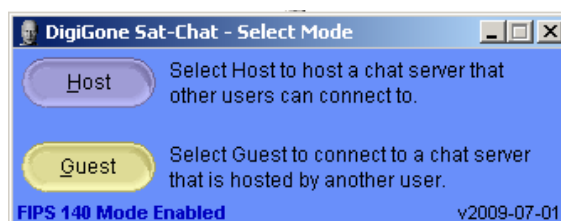
6 DigiGone Sat-Chat Operation

When you Insert your Sat-Chat Flash Drive into your PC, follow the prompts and sign into Sat-Chat, using the User Name and Password you chose during the registration process.



5

After the update check, the select mode screen will appear. You either select 'Host' if you are initiating the Chat, or 'Guest' if you are attending the Chat session. Only one person can host a Chat Session.



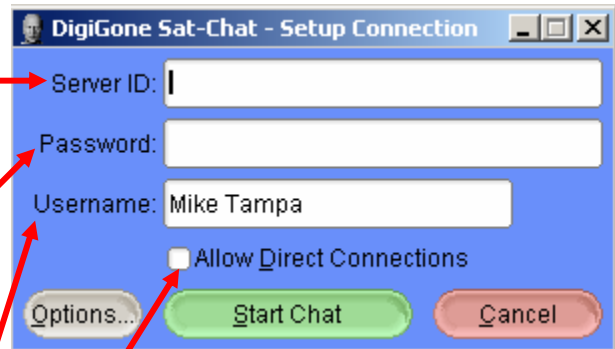
If you are Hosting a session-

In the Server Section, the HOST chooses what the Server name is going to be, by manually entering the name for the Server. (You can choose whatever name you desire, as long as the other Guests are aware of the name and the correct spelling and capitalization of the name).

In the Password Section, the HOST chooses the Server password, by manually entering a password. (You can choose whatever Password you desire, as long as the other Guests are aware of the Password and the correct spelling and capitalization of the Password).

The User Name Section is where you enter the name by which you want to be identified during the chat session.

If you desire to directly Host the session without going through the secure relay server, then put a check mark in the 'Allow Direct Connections' box.



Once you have filled in the appropriate boxes, click on the green 'Start Chat' button to initiate the Chat Session.

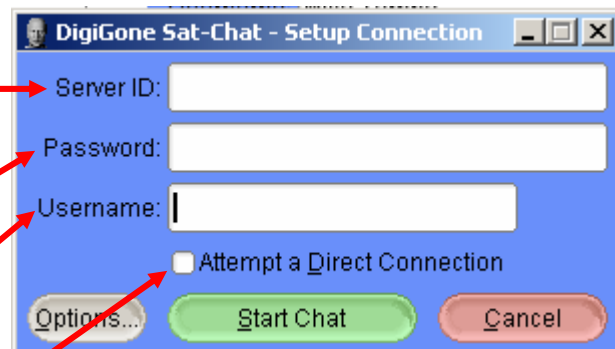
If you are a Guest in a session-

In the Server Section, type in the name that the person hosting the chat session provided you.

In the Password Section, type in the password that the person hosting the chat session provided you.

The User Name Section is where you enter the name by which you want to be identified during the chat session.

If the Host desires to directly Host the session without going through the secure relay server, then put a check mark in the 'Attempt Direct Connection' box.

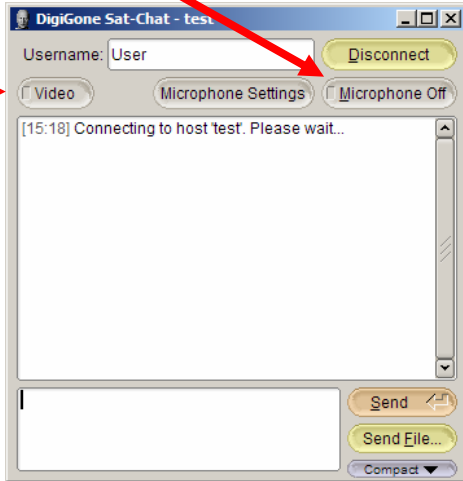


Once you have filled in the appropriate boxes, click on the green 'Start Chat' button to initiate the Chat Session.

Video Chat

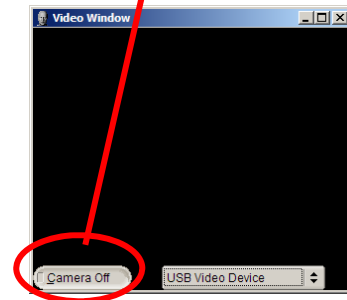
To start a Video Teleconference Call (VTC), click on the grey "Video" button-

To turn the microphone on, click on the grey 'Microphone Off' button. (When the microphone is on, it will turn **RED**)-

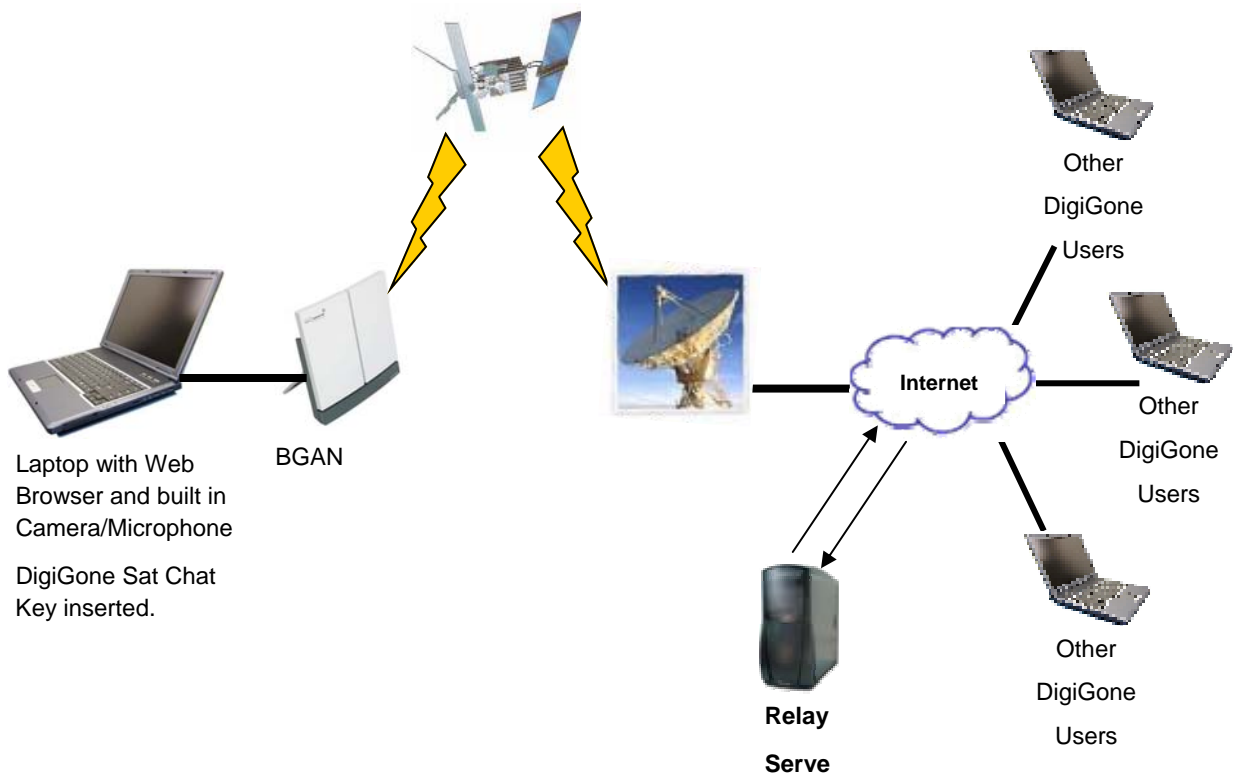


A second window will appear, that will be black. This is your VTC window. If others have already joined the VTC, their picture will automatically appear in this window.

Click on the grey "Camera Off" button to turn your camera on. (When your camera is on, the button will turn **RED**.)



7 BGAN Configuration



8 Setting up BGAN – Step by Step setup

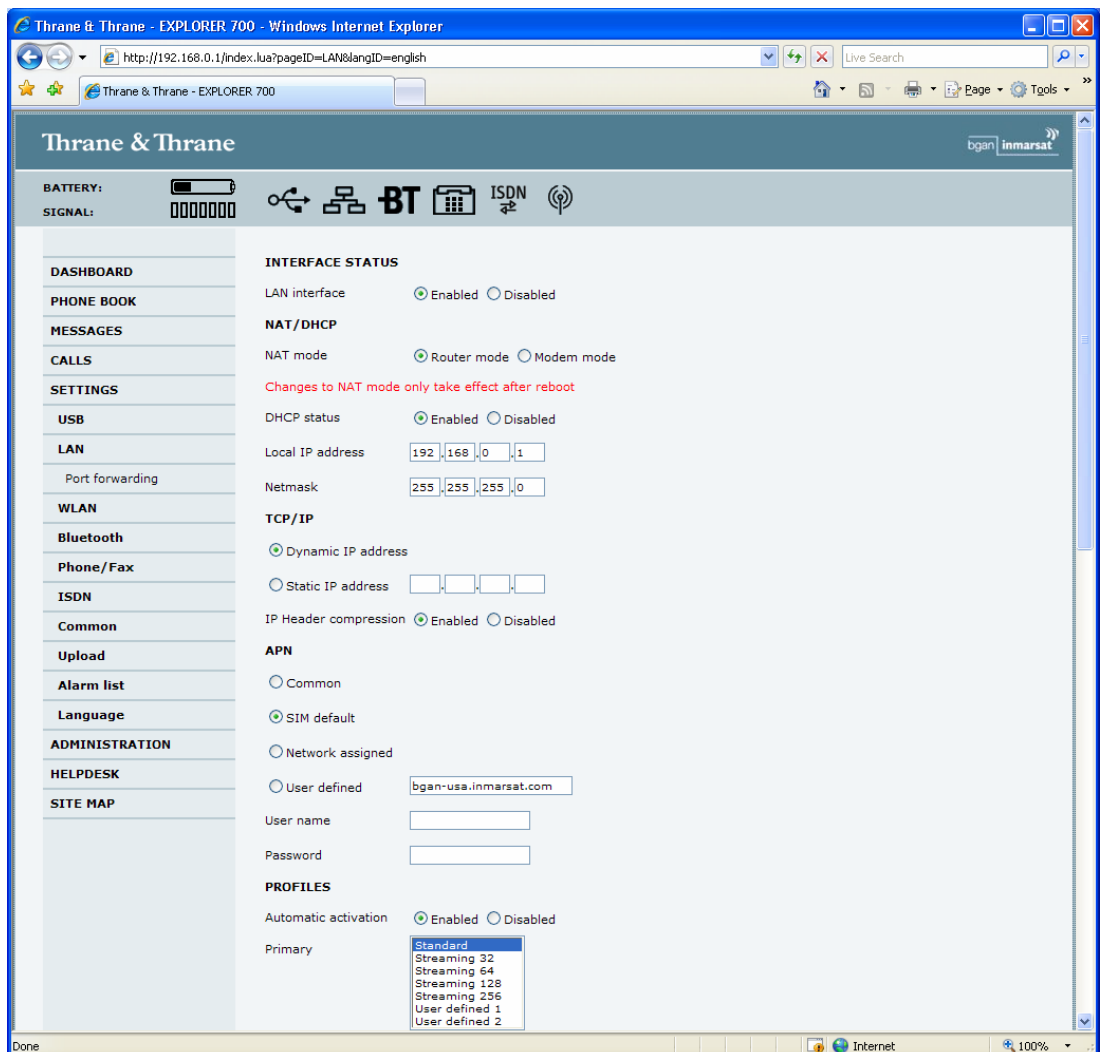
Thrane Explorer 300/500/700 and 527

Background IP service should be initiated from the BGAN terminal and can be configured from either the EXPLORER™'s built-in web server (via a laptop's web browser) or using the LCD MMI.

- a. Open your internet web browser and type the following IP address in the address bar:
192.168.0.1



- b. Click on Settings and then LAN
- c. Now you should see the web server interface. The screenshot below shows the settings required as configured via the EXPLORER's web server interface, ensure you click apply before leave the web page. Please consult your EXPLORER™ manual for more detailed information.



- d. Now your terminal is configured to start a Standard connection after you register on the network.
- e. To use the LCD to start the connection manually select '**Disabled**' under the **Automatic activation** option and follow the instructions below.
- f. Restart your terminal and click OK after properly pointing the terminal. Once the Explorer is register on the BGAN network you will be connected automatically with a Standard connection.

Connecting to BGAN via LCD MMI

- a. To initiate a connection from the LCD MMI, go to the main view of the LCD.



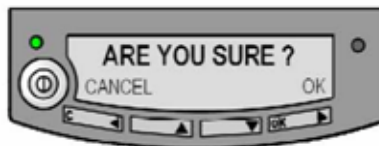
- b. Press Arrow Down button until **CONNECT** menu is selected



- c. Press **OK**. Select Standard and press **OK** button



- d. Select **START** and press **OK** button



- e. Press OK button to confirm Standard connection and wait a minute or two to allow the EXPLORER™ to register the Packet Switched connection with the BGAN system. After registration the LCD main screen will show **DATA ACTIVE**. See LCD below.



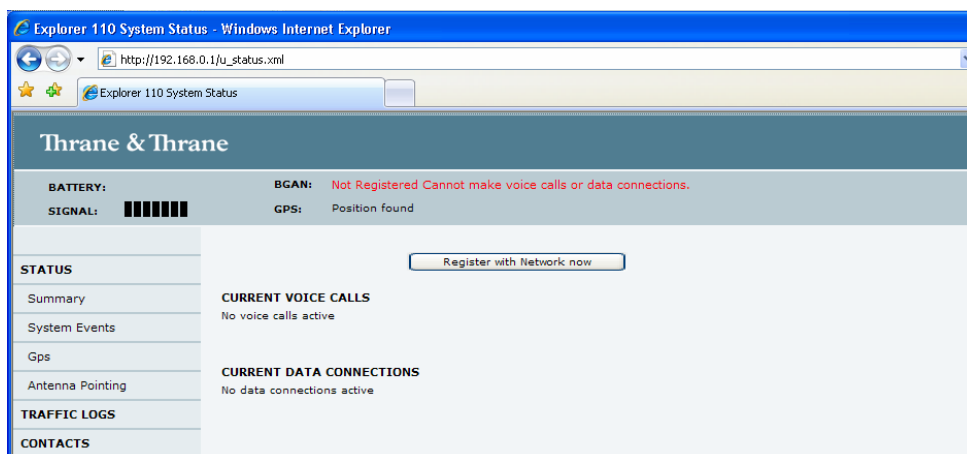
Thrane Explorer 110

Background service should be initiated from the BGAN terminal using the EXPLORER™110's built-in web server (via a PC's web browser).

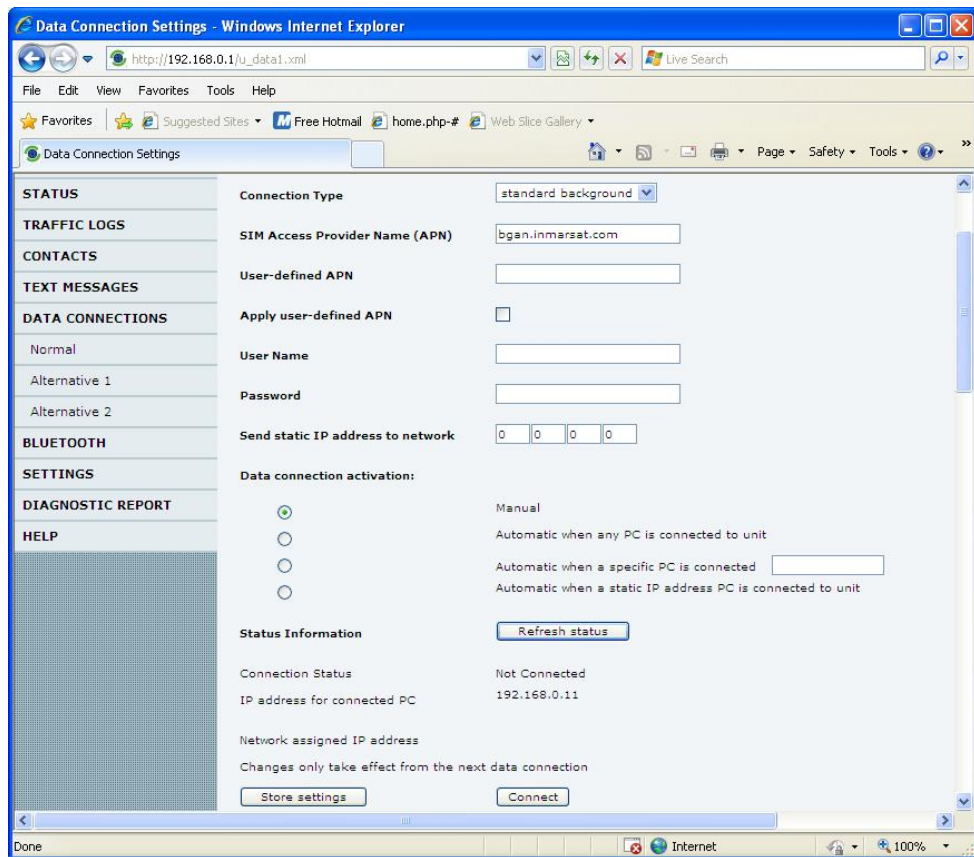
- a. Open your internet web browser and type the following IP address in the address bar:
192.168.0.1



- b. Now you should see the web server interface
- c. The screenshot below shows the settings required via the EXPLORER™110's web server interface. Please consult your EXPLORER™110 manual for more detailed information.



- d. Next, click on **Data connections** on the left hand side menu.
- e. Change the connection type by clicking the dropdown box and select '**Standard Background**'.
- f. Make sure your Data Connection Activation is set to '**Automatic when any PC is connected to the Unit**'.
- g. Before you exit the web interface make sure you click '**Store Settings**' at the bottom of the page.



Connecting to BGAN

You can connect to BGAN in two different ways, from the web server interface or by using the front panel.

Using the front panel

- Power on the terminal by pressing and holding the **ACTIVATE** for 1.5 seconds.
- Obtain a GPS fix.
- Find the best signal.
- Press the **Activate** on the front panel of the terminal and you will automatically register to the network. Wait approx. 30 seconds and you will be on the internet. If you have a World Set you will see displayed 'Connected'.

Using the Web Interface (if you set up 'Data connection Activation' to 'Manual')

- Power on the terminal by pressing and holding the **ACTIVATE** for 1.5 seconds.
- Obtain a GPS fix.
- Find the best signal.
- Press the **Activate** on the front panel of the terminal and you will automatically register to the network.

- e. Open your internet web browser and type the following IP address in the address bar:
192.168.0.1



- f. Next, click on Data connections on the left hand side menu.
- g. Finally, scroll down and click 'Connect' at the bottom of the page.

Sabre 1

Background Standard service should be initiated from the BGAN terminal and needs to be configured from the Wideye™ Sabre I's built-in web server (via a PC's web browser).

- a. Open your internet web browser and type the following IP address in the address bar:
192.168.1.35
- b. Then you will prompt for the User Name: **sabre1** Password: **wideye**. Now you should see the screen below.



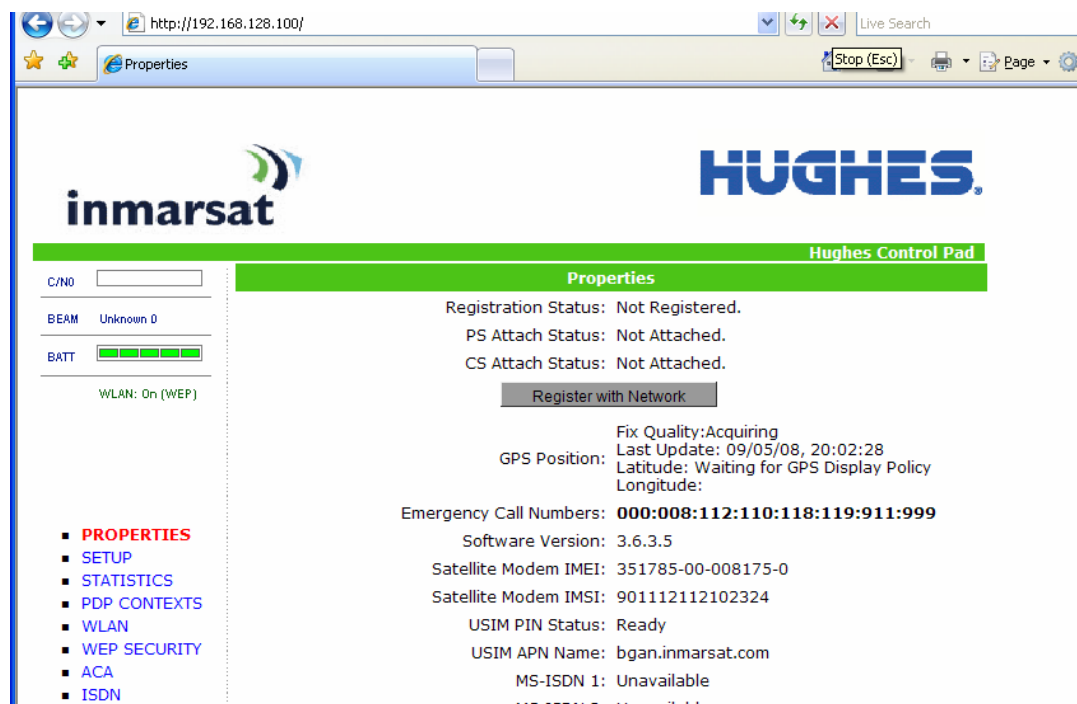
- c. Click on the **Data** Icon
- d. Click on **Primary Profiles**
- e. Select the connection Type as **Standard**
- f. Check mark '**Set as default**'

- g. Click **'Update Settings'**
- h. Click on the **Settings** Tab
- i. Select **'Router Mode (Single User)'**
- j. Check the box for 'Auto PDP context Activation'. This will make the terminal start the Standard connection automatically after you register on the network.
- k. Reboot the terminal
- l. Accept the signal strength by pressing Enter on the LCD screen. Now your Standard connection should start in a minute or so.

HNS 9201 and 9250

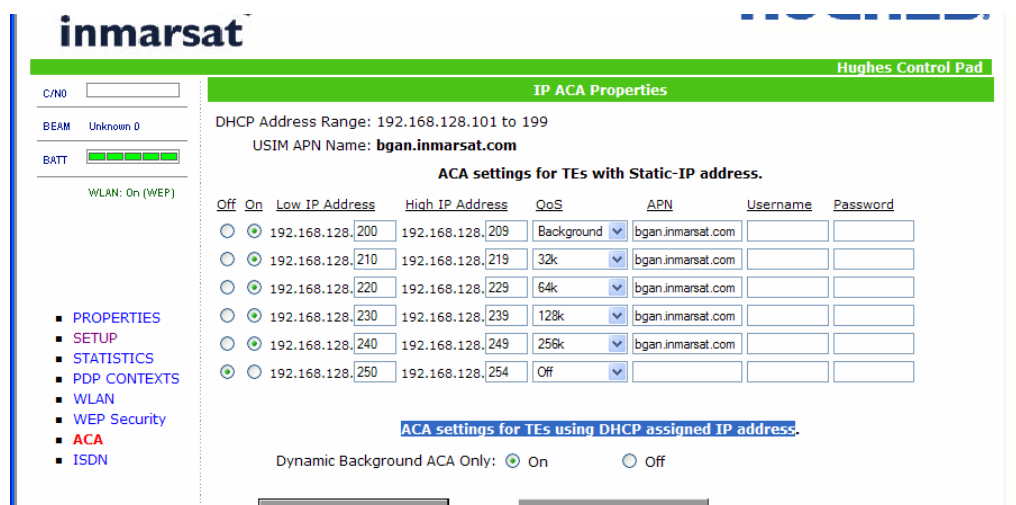
Standard service should be initiated from the BGAN terminal and needs to be configured from the Hughes™ HNS9201's built-in web server (via a PC's web browser).

- a. Open your internet web browser and type the following IP address in the address bar:
192.168.128.100



- b. Click on ACA on the menu on the left.
- c. Select **ACA settings for TEs using DHCP assigned IP address 'ON'**
- d. Click Apply
- e. Then Click Restart Terminal

Your configuration should look like this



- f. Next, configure the PC TCP/IP setting to Obtain an IP address Automatically
- g. Now register the terminal by pressing the Audio button until the signal strength lights go off or by clicking the Register with the Network button on the Properties page of the web interface.
- h. The terminal will automatically recognize the DHCP Request and start the Background service automatically.

8 Test Results

Operating System Requirements- Windows XP, Vista, 2000 or MAC running Windows Parallels Desktop

Hardware Requirement- PC Webcam, PC Headset with Microphone, USB Flash Drive media (on which to download DigiGone Sat-Chat).

Bandwidth Consumption/Video & Audio Performance (w/o Ethernet Overhead)

Upload Bandwidth

Feature	Bandwidth Consumption	XX per Second
Encrypted Video & Audio	40-150 Kbps (Selectable)	5-30 Frames (Selectable)
Encrypted Audio	10-12 Kbps	17 Packets
Encrypted IM Chat	2 Kb (per message)	N/A
Encrypted File Transfer	8-9% overhead above file size	N/A

Idle Bandwidth (in kilobits per hour)

Users	Bandwidth Consumption (Upload)	Bandwidth Consumption (Download)
1	167 Kbps	156 Kbps
2	261 Kbps	250 Kbps
3	354 Kbps	344 Kbps
4	448 Kbps	437 Kbps

Download Bandwidth

Video and Audio download bandwidth is equal to the upload bandwidth times the number of other users sending data.

9 Contact Details

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