

GatewayScs USERS MANUAL
Version 0.0.1
TABLE OF CONTENTS

[#INTRODUCTION](#)

[#HOW DOES GATEWAYSCS WORK](#)

[#SETTING UP GATEWAYSCS](#)

[#AGWPE SETUP](#)

[#GATEWAYSCS IN ACTION](#)

INTRODUCTION

GatewayScs is a Internet E-Mail Server.

GatewayScs provides Internet E-Mails to and from the Amateur Packet Radio Network.

GatewayScs does this by interacting with your Internet Service Provider (ISP) by performing the following two Internet Protocols

Post Office Protocol version 3 (POP3)

and Simple Mail Transfer Protocol (SMTP)

At the present time GatewayScs only works with EcomScs stations connecting.

On the <http://www.qsl.net/kb2scs> web page you can learn more about EcomScs.

In order to run GatewayScs your ISP has to allow you to do POP3 and SMTP.

If you read your Internet E-Mails by using an E-Mail client such as Outlook Express ,Pegasus Mail or any of the other E-Mail clients out there then your ISP allows you to do POP3 and SMTP.

A Web based E-Mail service such as Hot Mail most likely will not work. Some Web based E-Mail services do allow POP3 and SMTP.

Also in order to run GatewayScs you need to setup a separate E-Mail address with your ISP.

No this is not a separate E-Mail account which would cost you more money every month. This is simply another E-Mail address that is under the one E-Mail account you have now.

Most ISP allow you to have more than one E-Mail address under the same E-Mail account.

For example under my one Optonline E-Mail account I have 3 E-Mail addresses.

The ecomscs@optonline.net is the E-Mail address that I use for GatewayScs.

The reason for this is so that my personal E-Mails are separate from my GatewayScs stations E-Mails.

Any E-Mails that GatewayScs down loads from the ISP that are not GatewayScs E-Mails are deleted.

So if you were to use your personal E-Mail address for GatewayScs, GatewayScs would delete your personal E-Mails and therefore you would lose your personal E-Mails.

As per the FCC rules is GatewayScs legal?

The sending of Internet E-Mails via Amateur Packet Radio is no contest.

The receiving of Internet E-Mails is a little “Sticky”.

GatewayScs could send an E-Mail via RF on Packet Radio. This E-Mail could have originated from a non HAM.

This in itself sounds illegal. It is not since the way I have programmed EcomScs and GatewayScs.

GatewayScs is setup to work just like a Packet Radio BBS does.

All packet traffic is initiated by the HAM operator at the EcomScs station.

Since the HAM operator at the EcomScs station is causing all transceivers in the system to transmit and never is a non HAM causing any transceivers to transmit then I feel that this system is legal under FCC rules.

Why was GatewayScs created?

GatewayScs was created so that during a disaster EcomScs packet stations would have a way to send and receive Internet E-Mails from inside the disaster area.

Yes the internet is down inside the disaster area. Outside the disaster area the Internet is working just fine.

In order for the EcomScs stations inside the disaster area to be able send and receive Internet E-Mails all that is needed is a GatewayScs station to be setup outside the disaster area where the Internet is working. If the EcomScs stations inside the disaster area can reach the GatewayScs station outside the disaster area via RF then these EcomScs stations will be able to send and receive Internet E-Mails.

GatewayScs also has a method of operating without a connection to the Internet.

In this non Internet mode GatewayScs works as a Packet Mail Box. Any Packet RF E-Mails this GatewayScs station receives are stored on its hard drive.

The idea here is if at the start of the disaster the BBS system inside the disaster is down a GatewayScs station can be setup at a high point inside the disaster area. This GatewayScs would be operating in the non Internet mode.

EcomScs packet stations inside the disaster area would connect to this GatewayScs station and would then send and receive local packet E-Mails.

This GatewayScs station acting as a Packet Mail Box would hold on to all the messages it has received until each station that these messages are for connects and down loads their messages.

Note GatewayScs operating in this non Internet mode do not forward messages. They simply give the local EcomScs stations inside the disaster a means to send and receive local Packet E-Mails.

These GatewayScs stations are not meant to replace the Packet BBS system. That is why they do not do any forwarding of messages.

HOW DOES GATEWAYSCS WORK OVERVIEW

The best way to describe how GatewayScs works is by an Example.

Call sign of connecting EcomScs station KB2SCS-1

Hierarchical address of connecting EcomScs station kb2scs@wa2pnu.#nli.ny.usa.noam

E-Mail address of the GatewayScs station ecomscs@optonline.net

Composed Example E-Mail in EcomScs.

EcomScs Create New Mail

Message Attachments

TO: JohnDoe@anywhere.net Address

Subject: Test

CC: Address

Hi John
This is E-Mail to show how GatewayScs works.
73
John KB2SCS

Type of Message

Personal Bulletin WinLink GateWay

Send To Outbox Cancel

Text of Example E-Mail.

GATEWAY

EcomScs

From: KB2SCS@WA2PNU.#NLI.NY.USA.NOAM

Date: Fri, 24 Jul 2009 10:59:46

To: JohnDoe@anywhere.net

Subject: Test

Message-ID: <20090724105946.-163539.83277.EcomScs-001@KB2SCS>

MIME-version: 1.0

Content-type: text/plain; charset=US-ASCII

Content-transfer-encoding: 7BIT

Hi John

This is E-Mail to show how GatewayScs works.

73

John KB2SCS

/EX

This is the text that is sent to the GatewayScs station.

GatewayScs will store this text (E-Mail) in its outgoing directory.

The next time GatewayScs performs the SMTP protocol this E-Mail will be sent to your ISP as an E-Mail.

Your ISP will then send this E-Mail via the Internet to the TO: address which in this case is

JohnDoe@anywhere.net

Note the From Address From: KB2SCS@WA2PNU.#NLI.NY.USA.NOAM

The Above E-Mail as received by JohnDoe@anywhere.net via the internet is shown below.

Date: Fri, 24 Jul 2009 10:59:46

From: KB2SCS <ecomscs@optonline.net>

To: JohnDoe@anywhere.net

Subject: Test

Message-ID: <20090724105946.-163539.83277.EcomScs-001@KB2SCS>

MIME-version: 1.0

Content-type: text/plain; charset=US-ASCII

Content-transfer-encoding: 7BIT

Hi John

This is E-Mail to show how GatewayScs works.

73

John KB2SCS

This message was sent via Amateur Radio.

If you would like to learn more about Amateur Radio then please check out the following URL <http://www.arrl.org>

If you would like to send a reply to this message.

Then please click on the 'REPLY' button on your Email program.

Note: Your Reply will be sent via Amateur Radio.

No HTML. No business communications.

No foul language. Also please No Long quotes of original message.

Except for the quotes the above are rules of the FCC.

Please adhere to these rules. The Amateur Radio operators License is at stake.

Note how the from address has changed from the hierarchical address of kb2scs@wa2pnu.#nli.ny.usa.noam to KB2SCS <ecomscs@optonline.net>

The address of ecomscs@optonline.net is the E-Mail address of the GatewayScs that sent the E-Mail to the Internet. The changing of the hierarchical address to the E-Mail address of the GatewayScs station makes it possible for the recipient of this E-Mail to reply to this E-Mail.

When the recipient clicks on the reply button in his Internet E-Mail client the FROM address of KB2SCS <ecomscs@optonline.net> becomes the TO address of this reply E-Mail.

This causes this reply E-Mail to be sent via the Internet to the originating GatewayScs station.

The next time GatewayScs does the POP3 protocol this reply E-Mail will be down loaded to the hard drive of this originating GatewayScs station.

GatewayScs will store this E-Mail in the following directory. \Gatewayscs\Mail\KB2SCS

If the \KB2SCS directory does not exist in the \Gatewayscs\Mail directory then GatewayScs will create the \KB2SCS directory.

The next time KB2SCS-1 via the Packet RF Network connects to the GatewayScs station GatewayScs will send to the KB2SCS Packet station this reply E-Mail.

Note it does not matter what SSID the connecting KB2SCS station uses. All E-Mails waiting for KB2SCS on the GatewayScs station will be sent to the connecting KB2SCS station regardless of SSID.

At the end of each E-Mail GatewayScs adds the following lines.

This message was sent via Amateur Radio.

If you would like to learn more about Amateur Radio then please check out the following URL <http://www.arrl.org>

If you would like to send a reply to this message.

Then please click on the 'REPLY' button on your Email program.

Note: Your Reply will be sent via Amateur Radio.

No HTML. No business communications.

No foul language. Also please No Long quotes of original message.

Except for the quotes the above are rules of the FCC.

Please adhere to these rules. The Amateur Radio operators License is at stake.

The above instructions give the recipient the information that they need to know so they can reply to the E-Mails they receive via GatewayScs stations via the Internet.

The above information gives some advertizing for Amateur Radio.

SETTING UP GATEWAYSCS

The Setup form has two methods to setup GatewayScs.

One is for a TNC and the other is for the AGWPE packet engine.

The Com Port Number, Station Call Sign, Station Alias, XFLOW, ECHO, Bits, Parity, Stop Bit, and BBS Path have to be filled in no matter which method TNC or AGWPE that you will be using.

The screenshot shows a dialog box titled "SetupFrm" with two main sections: "TNC Settings" and "GateWay Settings".

TNC Settings:

- Com Port Number: COM1 (dropdown)
- Station Call Sign: (text input)
- Station Alias: (text input)
- XFLOW: XFLOW OFF (text input)
- ECHO: ECHO OFF (text input)
- Bits: 8 (text input)
- Parity: None (dropdown)
- Stop Bit: One (dropdown)

GateWay Settings:

- SMTP Mail Server: (text input)
- SMTP User Name: (text input)
- SMTP Password: (text input)
- POP3 Mail Server: (text input)
- POP3 User Name: (text input)
- POP3 Password: (text input)
- Email Address: (text input)

At the bottom, there are two checkboxes: "Checked Use AGW" (unchecked) and "Checked Use Internet" (unchecked). There are also buttons for "AGW Setup", "Ok", and "Cancel".

Com Port Number: by left clicking on the down arrow you can select your com port number from the drop down list. If your PC does not have a built in com port then you can use a usb to serial converter.

Station Call Sign: Here is where you enter your amateur radio call sign.

Station Alias: Here is where you enter either a call sign or you can enter a 6 character word that your TNC will use to digipeate received packets.

TNC's digipeate received packets if the received packets contain the Stations Call Sign or the Station Alias.

This field is not used by AGWPE. This field has to be filled in regardless.

XFLOW: This is the TNC command used to put the TNC into hardware flow control. When GatewayScs is used with a TNC (Not AGWPE) then the TNC has to be in Hardware flow control. You need to look in your TNC manual to find out the command your TNC uses for this mode. 75% of the TNC out there will be able to use the default of XFLOW OFF. Note this also means that the serial cable that connects the TNC to the PC must have all 9 wires connected.

This Field is not used by AGWPE. This field has to be filled in regardless.

If using AGWPE then use the default of XFLOW OFF.

ECHO: This is the TNC ECHO command. This is the command used to turn off echo in the TNC. TNC with Echo on will repeat each character sent to the TNC back to the PC. GatewayScs needs the TNC not to do this. The Default of ECHO OFF will work with 75% of the TNC out there.

The ECHO Field is not used by AGWPE. This field has to be filled in regardless.

If using AGWPE then use the default of ECHO OFF.

Bits, Parity and Stop Bits: You do not have to know what these fields are. Just know that the defaults will work with all TNC except possibly the AEA PK232 line of TNC. If you are using a PK232 then please check the users manual to find out what these above fields need to contain, These Fields are not used by AGWPE. These field have to be filled in regardless. If using AGWPE just go with the defaults.

Hard coded into GatewayScs is the Baud rate of 9600. Your TNC has to have its baud rate set to 9600 also. Note this is not the radio port baud rate which is usually 1200 baud but it is the serial baud rate. The baud rate used between the TNC and the PC.

The screenshot shows a dialog box titled "SetupFrm" with two main sections: "TNC Settings" and "GateWay Settings".

TNC Settings:

- Com Port Number: COM4 (dropdown)
- Station Call Sign: KB2SCS (text box)
- Station Alias: KB2SCS-15 (text box)
- XFLOW: XFLOW OFF (text box)
- ECHO: ECHO OFF (text box)
- Bits: 8 (text box)
- Parity: None (dropdown)
- Stop Bit: One (dropdown)

GateWay Settings:

- SMTP Mail Server: (empty text box)
- SMTP User Name: (empty text box)
- SMTP Password: (empty text box)
- POP3 Mail Server: (empty text box)
- POP3 User Name: (empty text box)
- POP3 Password: (empty text box)
- Email Address: (empty text box)

At the bottom, there are two checkboxes: "Checked Use AGW" (unchecked) and "Checked Use Internet" (unchecked). There are also buttons for "AGW Setup", "Ok", and "AGW Setup".

GatewayScs with the TNC parameters filled in.

Gateway settings:

The Gateway settings would be familiar with anyone who has setup an Internet E-Mail client.

SMTP Mail Server: This is the Name your ISP server that accepts E-Mails from you.

The easiest way to know what text to enter into this field is to look at your Internet E-Mail program. In my case my SMTP Mail Server is mail.optonline.net.

SMTP User Name: The SMTP user name usually is your E-Mail address. At least this is the case for my ISP. The easiest way to know what text to enter into this field is to look at your Internet E-Mail program. My SMTP user name is ecomscs@optonline.net

SMTP Password: This is the password your ISP needs to authorize you to use the SMTP protocol. No I am not going give my Password as an example.

POP3 Server: This the name of your ISP server that does the POP3 protocol.

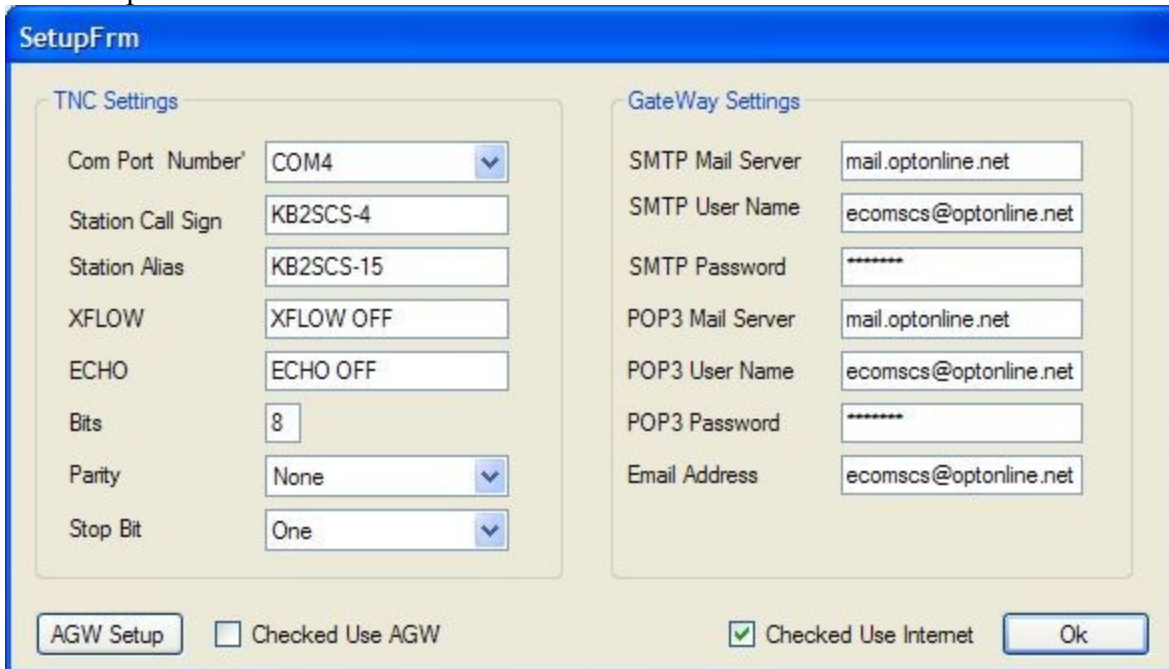
The easiest way to know what text to enter into this field is to look at your Internet E-Mail program. In my case my POP3 Server is mail.optonline.net.

POP3 User Name: The POP3 user name usually is your E-Mail address. At least this is the case for my ISP. The easiest way to know what text to enter into this field is to look at your Internet E-Mail program. My POP3 user name is `ecomscs@optonline.net`

POP3 Password: This is the password your ISP needs to authorize you to use the POP3 protocol. No I am not going to give my Password as an example.

Email Address: This is the GatewayScs stations E-Mail Address. My GatewayScs stations E-Mail address is `ecomscs@optonline.net`.

Here is the setup form all filled in.



The screenshot shows a window titled "SetupFrm" with two main sections: "TNC Settings" and "GateWay Settings".

TNC Settings:

- Com Port Number: COM4 (dropdown)
- Station Call Sign: KB2SCS-4
- Station Alias: KB2SCS-15
- XFLOW: XFLOW OFF
- ECHO: ECHO OFF
- Bits: 8
- Parity: None (dropdown)
- Stop Bit: One (dropdown)

GateWay Settings:

- SMTP Mail Server: mail.optonline.net
- SMTP User Name: ecomscs@optonline.net
- SMTP Password: *****
- POP3 Mail Server: mail.optonline.net
- POP3 User Name: ecomscs@optonline.net
- POP3 Password: *****
- Email Address: ecomscs@optonline.net

At the bottom, there are two checkboxes: "AGW Setup" (unchecked) and "Checked Use AGW" (checked). To the right, there is a "Checked Use Internet" checkbox (checked) and an "Ok" button.

Note GatewayScs is designed to be able to start up automatically after the PC boots.

You can set up GatewayScs to do this by simply putting a GatewayScs short cut in the Windows start up folder.

Since GatewayScs is designed to start up automatically after the PC boots any changes you make to the setup page do not take effect and are not saved until GatewayScs is shut down.

Once the setup page is filled in and GatewayScs is shut down on the next start up of GatewayScs GatewayScs will be running ready to go.

Note above the Checked use AGW. When this box is checked you are letting GatewayScs know that it is to make use of the AGWPE packet engine.

Checked Use Internet. When this box is checked then GatewayScs will use the Internet to send and receive its E-Mails. Unchecked then GatewayScs will be in its non Internet Mail Box mode.

See the Introduction to GatewayScs pages above to find out more about this mode of operation.

AGWPE SETUP

Note AGWPE is not needed to use GatewayScs. AGWPE is just another method to interface GatewayScs with the outside world.

Through the use of AGWPE GatewayScs can use a Sound Card instead of a TNC.

You can also use AGWPE with a TNC

The SetupFrm dialog box is divided into two main sections: TNC Settings and GateWay Settings. The TNC Settings section includes fields for Com Port Number (COM4), Station Call Sign (KB2SCS-4), Station Alias (KB2SCS-15), XFLOW (XFLOW OFF), ECHO (ECHO OFF), Bits (8), Parity (None), and Stop Bit (One). The GateWay Settings section includes fields for SMTP Mail Server (mail.optonline.net), SMTP User Name (ecomscs@optonline.net), SMTP Password (masked with asterisks), POP3 Mail Server (mail.optonline.net), POP3 User Name (ecomscs@optonline.net), POP3 Password (masked with asterisks), and Email Address (ecomscs@optonline.net). At the bottom, there are buttons for AGW Setup, a checkbox for Checked Use AGW (unchecked), a checkbox for Checked Use Internet (checked), and an Ok button.

To setup AGWPE you would left click on the AGW Setup Button. The following form would be displayed.

The EcomScs AGW Setup dialog box contains the following fields: IP Address (127.0.0.1), Port Number (8000), AGW Port Number (1_ with a note "1-15 only. Port 1 would be 1_"), and Beacon Text (GatewayScs Station). Below the fields is a warning box that reads: "Changes made to the above parameters will only take effect when you restart GatewayScs". At the bottom are Cancel and Ok buttons.

There is not much to setup as far as AGWPE goes. Mainly you use the above defaults and then setup AGWPE to use the same defaults. In fact these are the AGWPE defaults.

There is a very good web site that has detailed instructions on the setup of AGWPE.

<http://kc2rlm.info/soundcardpacket/2agwbasic.htm>

To use AGWPE you have to start up AGWPE before GatewayScs is started. If you want GatewayScs to start up when the PC is booted then you would put a shortcut to the AGWPE software into the Windows startup folder. Then you would setup AGWPE to start GatewayScs. AGWPE has a method where by when AGWPE is finished starting and is completely running AGWPE will start up additional software.

GATEWAYSCS IN ACTION

Once GatewayScs is setup and running from that point on GatewayScs operation is all automatic. Since GatewayScs operation is all automatic then at this point in the users manual all that is needed is to show the screen shots of GatewayScs in action. This way the user can see what GatewayScs looks like in normal operation.

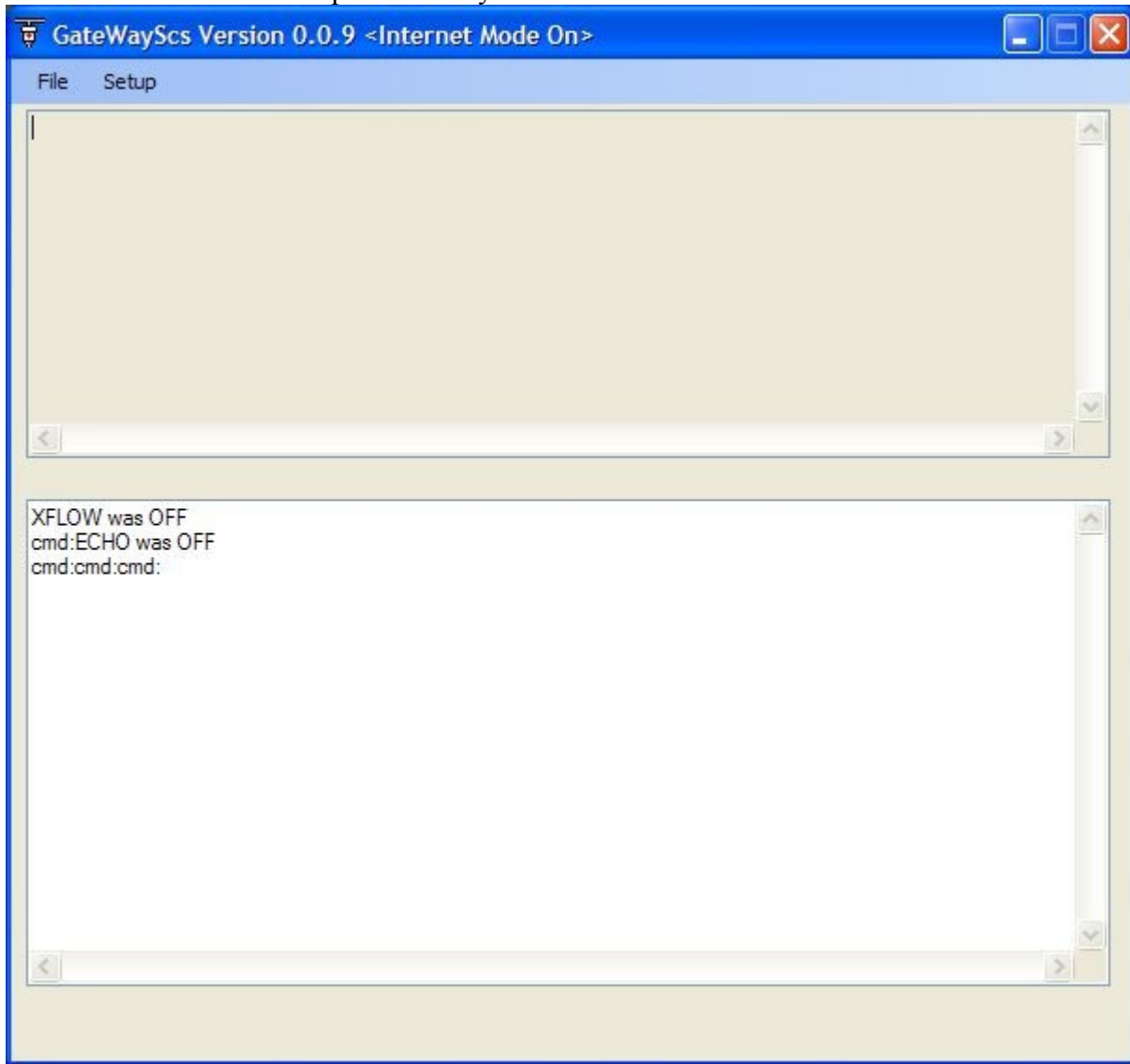
The following screen shots show GatewayScs in TNC and Internet mode

The AGWPE mode does not look any different then the TNC mode.

The Non Internet mode does not look any different then the Internet mode except for the POP3 and SMTP window at the top of the main GatewayScs form. In the Non Internet mode the POP3 and SMTP window instead of showing the POP3 and SMTP interaction with your ISP the POP3 and SMTP window shows the storing of the E-Mails.

Please continue on the next page.

Here is the main form on start up of GatewayScs.



Note on the title of the form the words <Internet Mode On> appear. These words of course let you the user know that GatewayScs is operating in Internet mode.

If GatewayScs was operating in Non Internet mode (Local Mail Box Mode) then the above words would be <Internet Mode Off>.

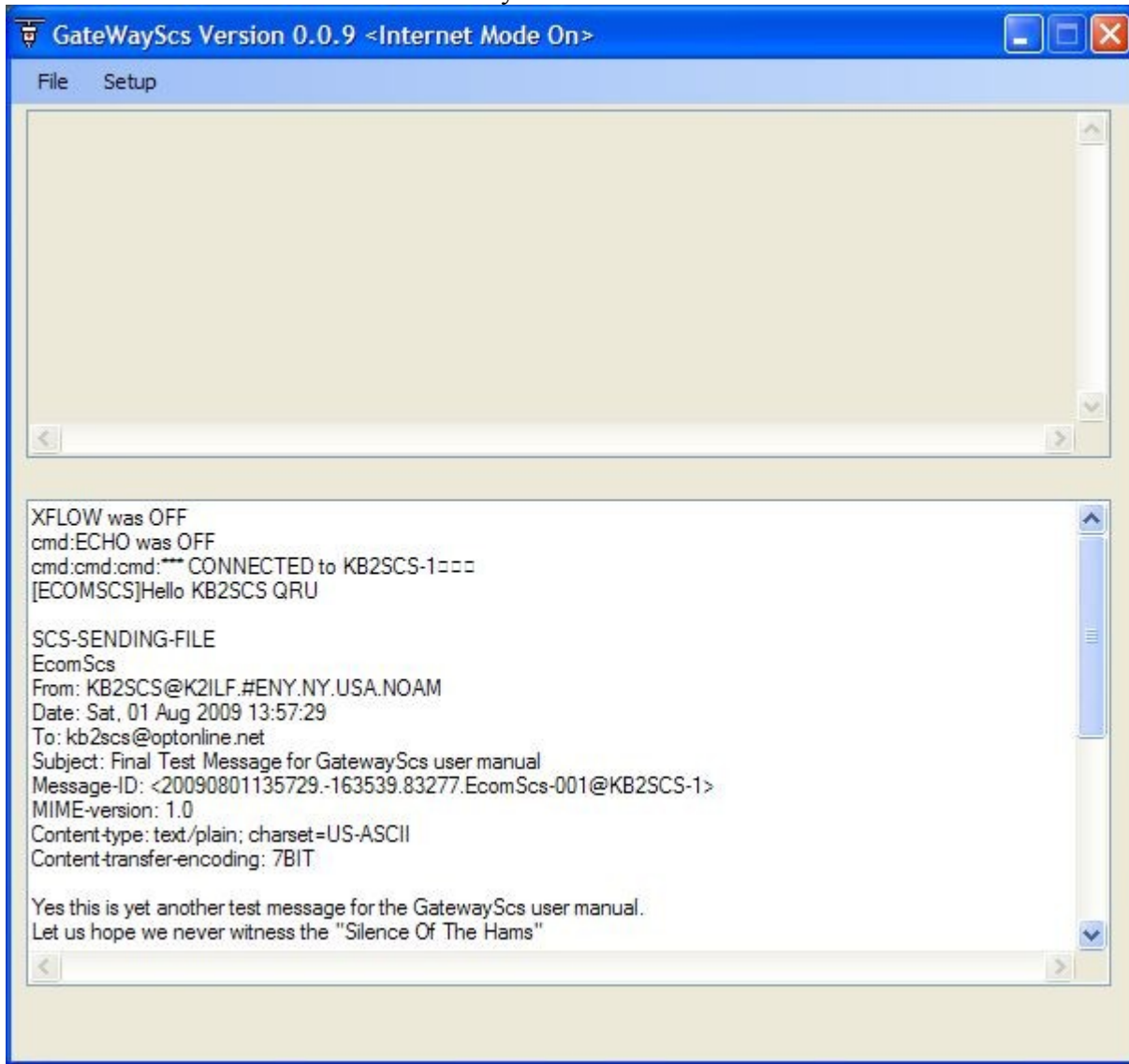
The upper window that is grayed out is the POP3/SMTP window. This window while in Internet mode shows the POP3/SMTP interaction between your ISP and this GatewayScs station.

The grayness is to show that this window is an information only window. The user cannot type in anything into this window. The interaction between your ISP and your GatewayScs will be shown in this Grayed out window.

The next window down is the TNC/AGWPE Window. This window is also an information window only. Here is displayed what the TNC/AGWPE hears or sends. This window gives an indication to the user as to who is using your GatewayScs station.

The above screen shot again is what is displayed on start up of GatewayScs in TNC mode (no AGWPE) What you see is the TNC commands that GatewayScs sent to the TNC on start up.

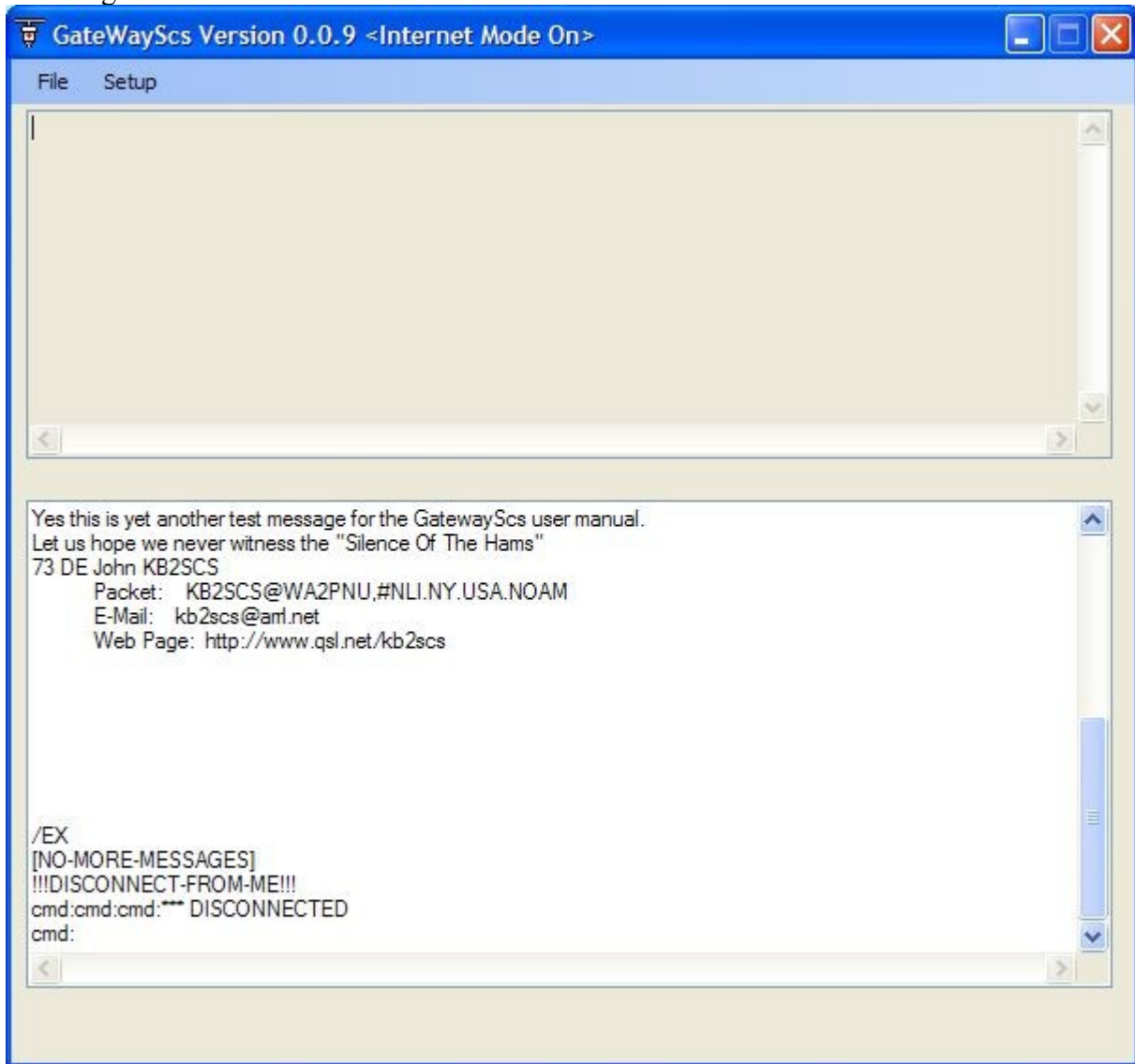
Here KB2SCS-1 has connected to the GatewayScs.



Note the Hello KB2SCS QRU line. This line is sent to the connecting station. The QRU tells the connecting station that this GatewayScs station has no E-Mails for this connecting station. What you see after the QRU line is the KB2SCS-1 station sending an E-Mail to the GatewayScs station.

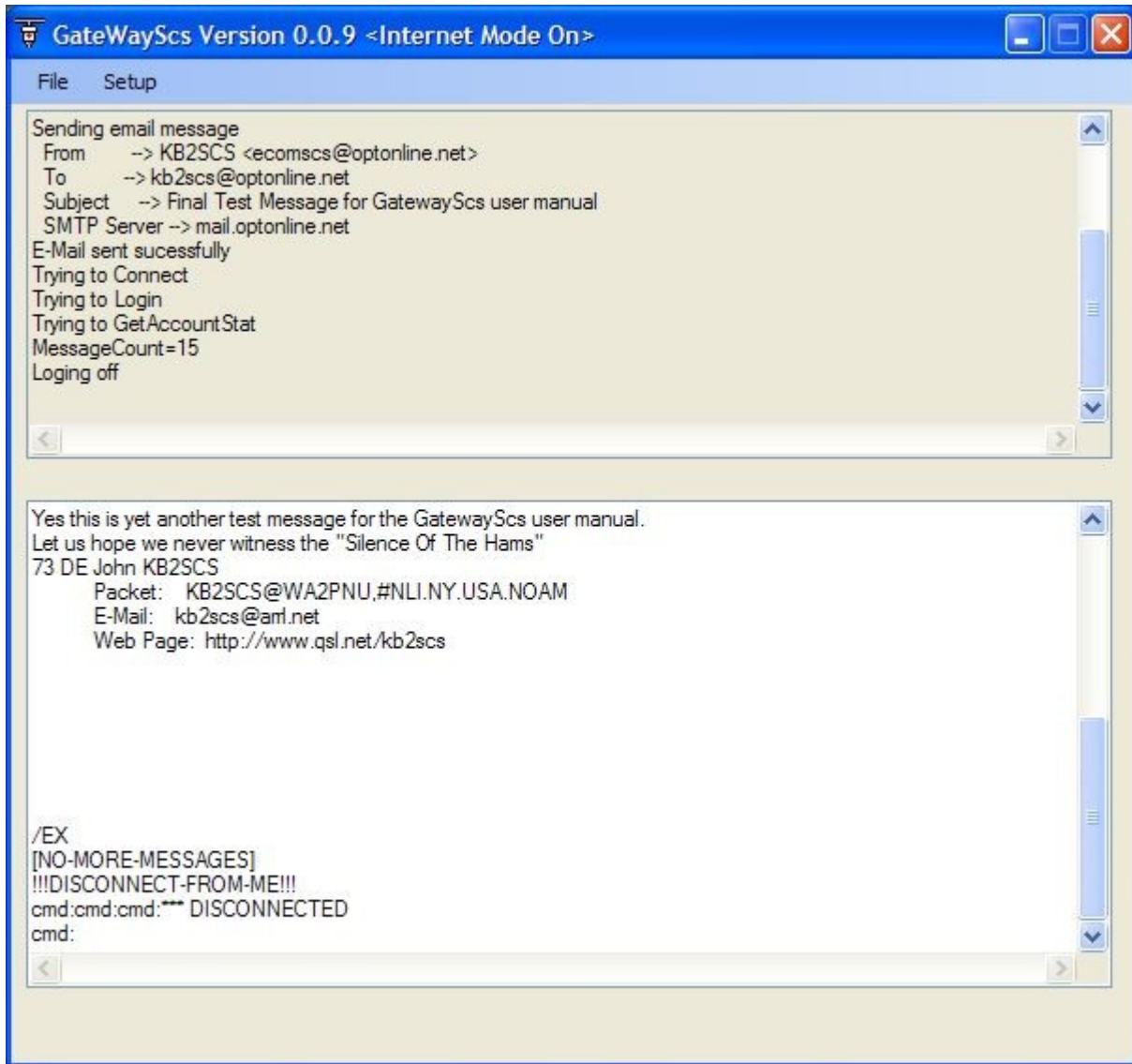
On the next page you will see the end of this E-Mail.

This Screen shot shows the end of the above E-Mail and also shows the KB2SCS-1 station disconnecting.



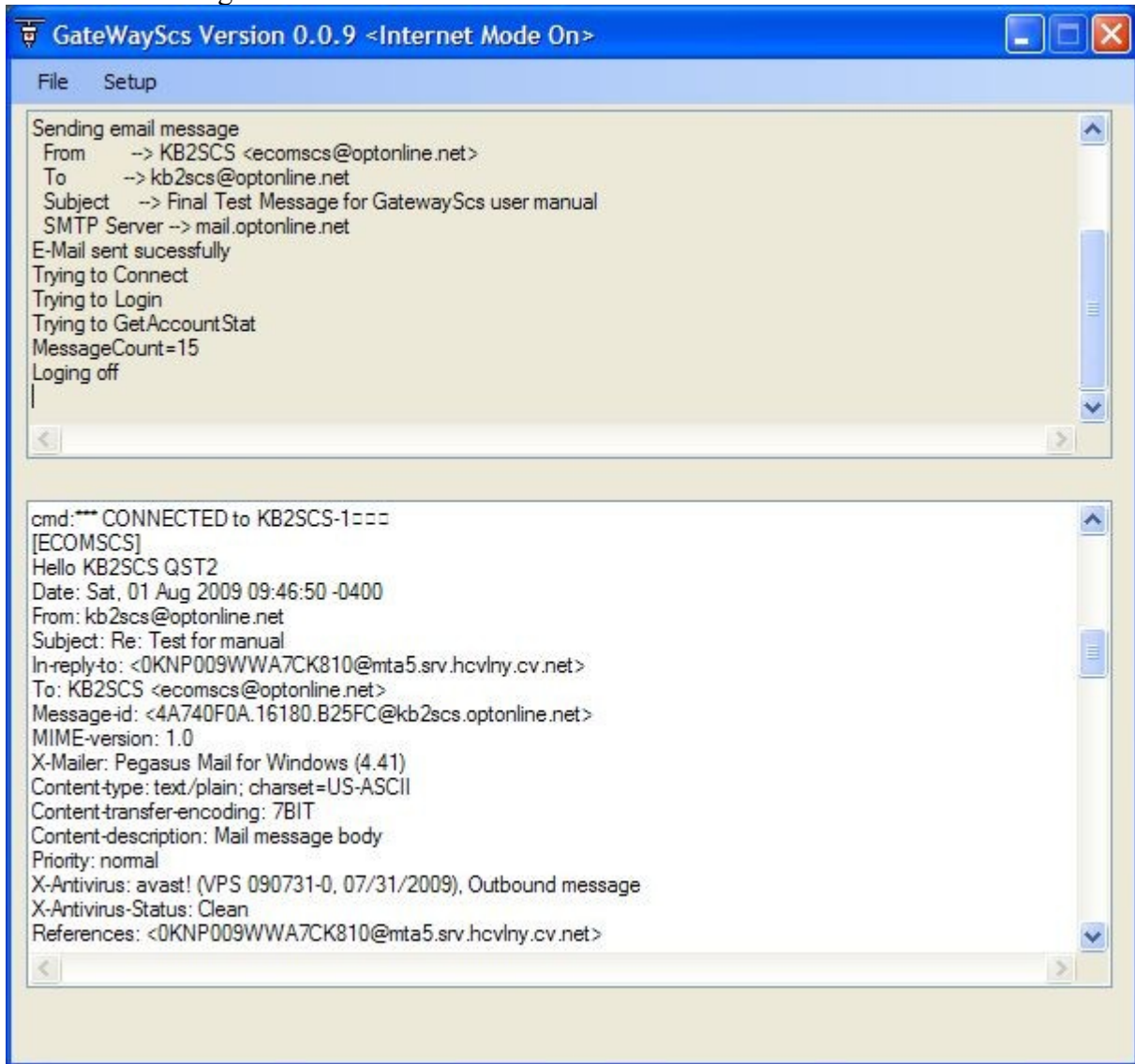
The next page shows GatewayScs performing the SMTP protocol with the ISP.

The screen shot below shows GatewayScs performing the SMTP/POP3 protocol with the ISP to send the E-Mail shown.



This interaction between the ISP and GatewayScs is initiated by GatewayScs every 5 min. The next screen shot will show what the TNC/AGWPE window looks like when a station connects and has two waiting Packet E-Mails.

Screen shot of when a station (KB2SCS-1) connects to GatewayScs and GatewayScs has two Internet E-Mail waiting.



```
GateWayScs Version 0.0.9 <Internet Mode On>
File Setup

Sending email message
From --> KB2SCS <ecomscs@optonline.net>
To --> kb2scs@optonline.net
Subject --> Final Test Message for GatewayScs user manual
SMTP Server --> mail.optonline.net
E-Mail sent successfully
Trying to Connect
Trying to Login
Trying to GetAccountStat
MessageCount=15
Logging off

cmd:*** CONNECTED to KB2SCS-1===
[ECOMSCS]
Hello KB2SCS QST2
Date: Sat, 01 Aug 2009 09:46:50 -0400
From: kb2scs@optonline.net
Subject: Re: Test for manual
In-reply-to: <0KNP009WWA7CK810@mta5.srv.hcvlny.cv.net>
To: KB2SCS <ecomscs@optonline.net>
Message-id: <4A740F0A.16180.B25FC@kb2scs.optonline.net>
MIME-version: 1.0
X-Mailer: Pegasus Mail for Windows (4.41)
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body
Priority: normal
X-Antivirus: avast! (VPS 090731-0, 07/31/2009), Outbound message
X-Antivirus-Status: Clean
References: <0KNP009WWA7CK810@mta5.srv.hcvlny.cv.net>
```

Note the Hello KB2SCS QST2 line. This line is sent to the connecting station. The QST2 states that GatewayScs has two E-Mails waiting for this connecting station. As you can see the lines after the QST2 line show GatewayScs sending to the KB2SCS-1 station one of the two E-Mails. The other E-Mail is sent right after this one. Once both E-Mails are sent to KB2SCS-1 if KB2SCS-1 has any E-Mails to send then the E-Mails would be sent. Then KB2SCS-1 would disconnect.

There you have it. Again all of this interaction happens all automatically. Once GatewayScs is setup and is running then there is no user interaction with GatewayScs.

[END OF MANUAL]