



GE Power Management



Communications Software

GE_LOCAL

*Instructions
GEK 105595C*



TABLE OF CONTENTS

1. INSTALLATION	3
1.1 SYSTEM REQUIREMENTS.....	3
1.2 INSTALLATION PROCEDURE	3
1.2.1 <i>Installation with Disks</i>	3
1.2.2 <i>Installation from Internet or from the Products CD</i>	4
1.3 INSTALLING A NEW RELAY MODEL	4
2. OPERATION MODES: CONNECTION AND EMULATION	5
2.1 LOCAL CONNECTION.....	6
2.2 REMOTE CONNECTION	8
2.3 EMULATION.....	9
3. MAIN MENU	11
3.1 SETTINGS.....	12
3.1.1 <i>Settings Inquiry</i>	12
3.1.2 <i>Modifying or Editing Settings</i>	13
3.1.3 <i>Downloading a Group of Settings to the Relay</i>	13
3.1.4 <i>Uploading and Saving all the Settings from the Relay</i>	14
3.1.5 <i>Downloading a Settings File</i>	14
3.1.6 <i>Editing a Settings File</i>	14
3.1.7 <i>Saving the Settings in Text Format</i>	14
3.1.8 <i>Printing all the Relay Settings</i>	14
3.2 OPERATIONS	15
3.3 DEVICE STATUS	15
3.4 TIME SYNCHRONISM.....	16
3.5 OSCILLOGRAPHY	16
3.6 REQUESTING AND EDITING LOGS	17
3.7 REQUESTING THE DEMAND.....	18
3.8 UNIT INPUTS AND OUTPUTS.....	19
4. USERS AND ACCESS LEVELS	21
4.1 CREATING A NEW USER.....	21
5. CONNECTION WITH MODEM.....	23
5.1 INTRODUCTION	23
5.2 MODEM CONFIGURATIONS.....	23

1.

INSTALLATION

1.1 System Requirements

The minimum PC hardware requirements to run and install the GE_LOCAL software consists of the following components:

- An IBM-AT or compatible with 386 or above (486 is recommended)
- A minimum of 4 Mbytes of free RAM memory (8 Mbytes is recommended)
- High density 3 ½ inch floppy drive.
- One RS-232C serial port
- One Hayes compatible modem (for remote connection only).

1.2 Installation Procedure

Restart Windows program and close all the open applications before trying to install GE_LOCAL.

1.2.1 Installation with Disks

The program is provided in three diskettes labeled from 1 to 3. For first time installation follow these steps:

- Insert the first diskette.
- From "Windows File Manager" execute the program "a:\setup.exe".
- Follow the instructions shown in the dialog box of the setup program.
- It is not necessary to create a subdirectory for the GE_LOCAL program. During the installation process all necessary subdirectories will be created by the installation procedure.
- WINDOWS™ automatically creates the GE_NESIS group window. This group window contains the GE_LOCAL icon.

1.2.2 Installation from Internet or from the Products CD.

The Setup program is also available in the GE Power Management Products CD, and can be downloaded from the Internet (www.ge.com/indsys/pm). The user will find a file named **ge_local.exe**. This is a compressed file

The Installation procedure in this case will be the following:

1. Create a new directory and extract the files included in **ge_local.exe** to it.
2. From the above mentioned directory, run the **setup.exe** file, created during the previous step.
3. Follow the steps described on the 'setup.exe' program. If GE-INTRO is the first GE-NESIS program to be installed into your computer, you can select the directory in which you prefer GE-INTRO to be installed, otherwise, the directory will be automatically selected.
4. Once the installation is completed, a new windows group called 'GE-NESIS' will be created, and the corresponding icon will be added.

***NOTE:** Before running GE_LOCAL program, it is necessary to have a relay model installed: See next section to know how to install a relay model.*

1.3 Installing a New Relay Model

To work with a relay model using GE_LOCAL (in emulation, local or remote mode), it is necessary to install a database file in the PC. Each relay model has his own database, different from other models. With each new relay a diskette with the proper database is provided.

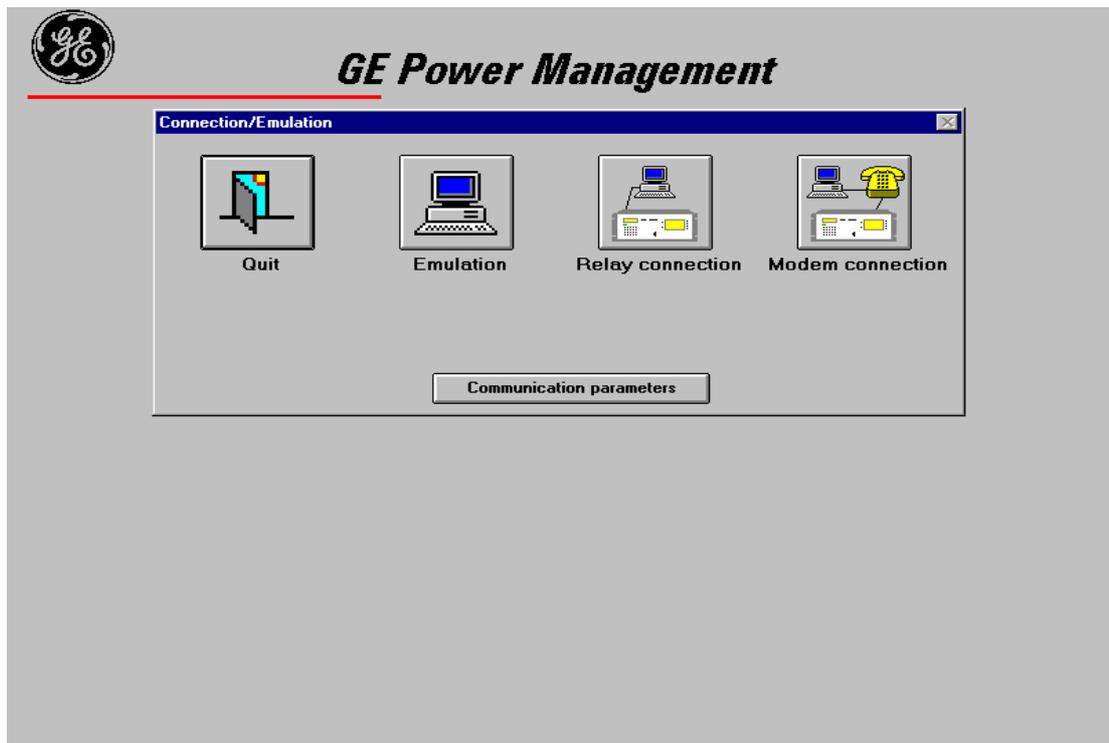
To install a new relay model:

- Insert the disk in the disk drive.
- From "Windows File Manager" execute the program "a:\setup.exe".
- Follow the instructions shown in the dialog box of the setup program.
- Once the setup program is successfully finished GE_LOCAL can work with the installed relay model.

If the database for the installed relay model already exists, setup program installs the higher version.

2. ***OPERATION MODES: CONNECTION AND EMULATION***

Once GE_LOCAL is started the following screen is displayed:



GE_LOCAL program allows the user to select local connection or remote connection (via modem) to the relays developed by GE Power Management as well as an emulation mode, which will allow a user to become familiar with the system settings without actually being connected to the relay. Also, emulation mode allows the user to edit and store settings in a file to be downloaded to the relay at a later date.

2.1 Local Connection

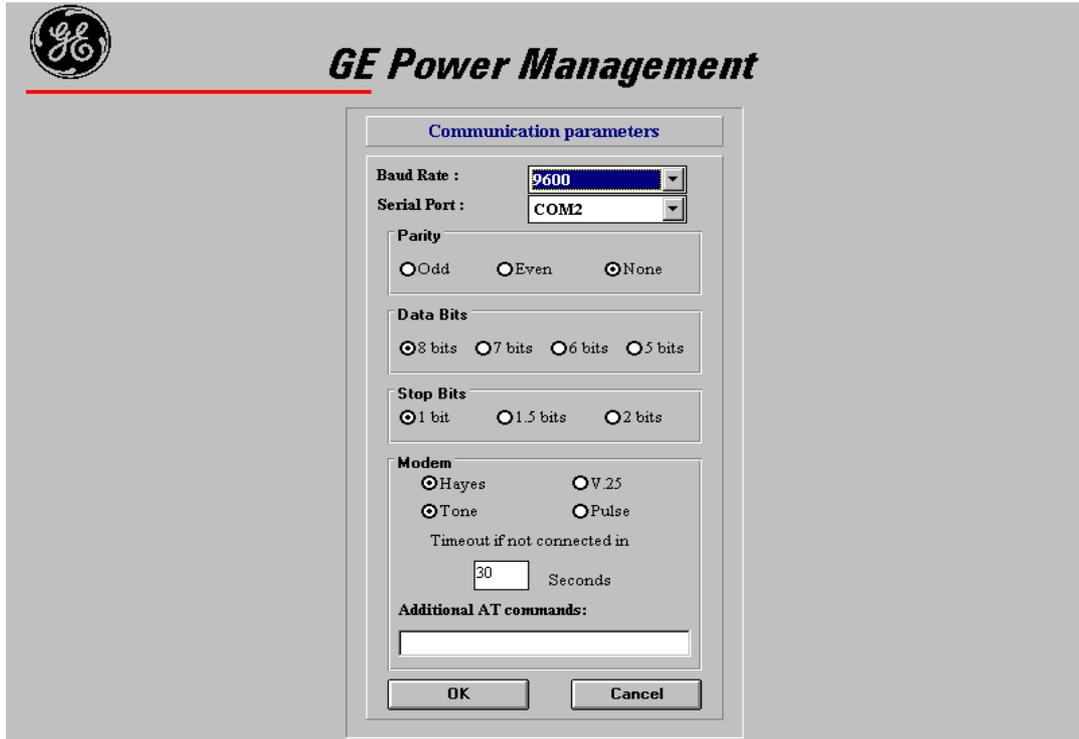
Local connection consists of directly connecting the PC to the protection system (not via modem) through their serial ports. Local connection is achieved directly connecting one of the PC's serial ports to the relay's serial port through the use of an RS232C serial cable. The relay should include an RS232 port or use an RS232/F.O. adapter when fiber optic communications are utilized.

Once the physical connection has been established, follow these steps to establish local communication:

- Select "Communication parameters" to configure:
 - Baud Rate (9600 baud)
 - Serial Port (COM2)
 - Stop bits (1)
 - Modem type (Hayes or V.25)
 - Dial type (tones or pulses)
 - AT Commands for modem initialization (only Hayes)

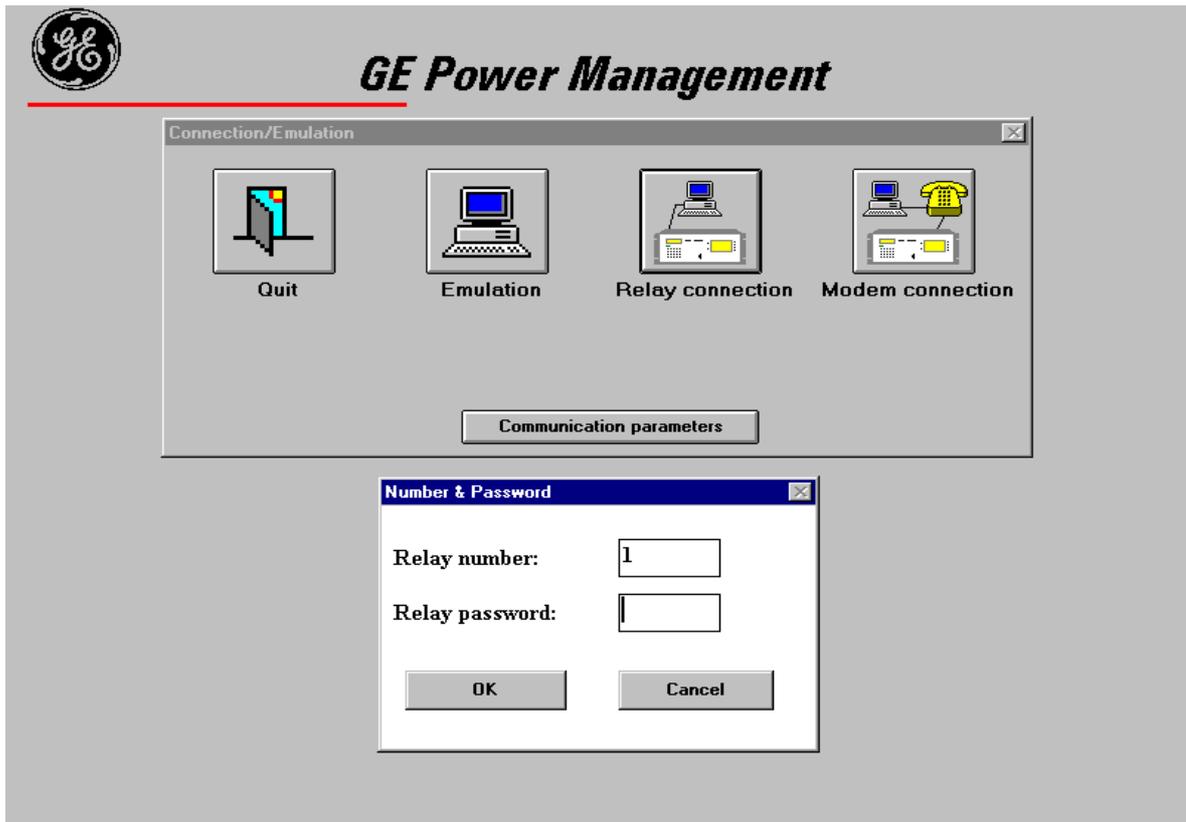
The values shown between parenthesis are the default values as shipped from our factory.

- For successful communications it is necessary to configure GE_LOCAL with the same "Communication parameters" as the relay (please refer to the configuration menu in the instruction manual).



- Select "Relay connection". GE_LOCAL will ask for "Relay Number" and "Relay password". These parameters are available in the relay through its keyboard.

If the relay number is not correct, the connection will be refused. If the relay password entered does not match with the password set in the relay, the program does not show an error message until the user tries to change settings, counters or perform operations (because to do those actions is necessary the correct password).



- The program will try to establish the connection with the relay.

If the communication attempt is unsuccessful, the program shows an error message. The most common causes of error are:

- Physical connection is not correct.
- The communication parameters are not the same for the program and the relay. (Check the relay communication parameters).

If the communication attempt is successful, the program shows the message "The system is initializing" for a few seconds. After that, the program asks the user for a user name and a password.

2.2 Remote Connection

Remote connection consists of connecting the PC to the protection system through a telephone line via modem.

Once the physical connection has been made, follow these steps to establish communication:

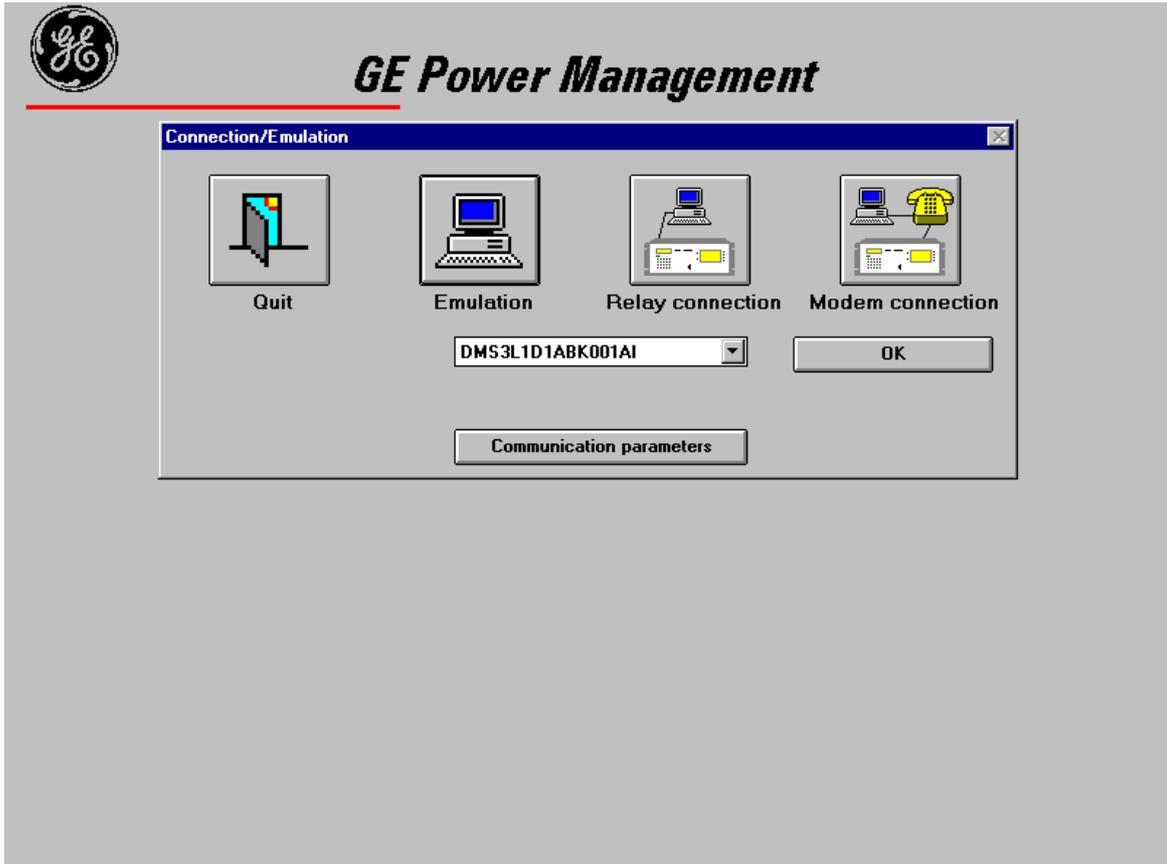
- Check that the communication parameters are correct.
- Select "Modem connection".
- Enter the telephone number with all prefixes, pause characters, etc., according to the modem instruction manual.
- Enter relay number and relay password.

At this moment the program will try to establish telephonic connection with the remote modem. If the communication attempt is successful, the program shows the message "The system is initializing" for a few seconds. Later, the program asks for a username and a password. If the communication attempt is unsuccessful, the program shows an error message.

2.3 Emulation

Emulation mode allows the user to emulate relay operations, for making inquiries, editing or copying setting tables. At a later date these tables can be retrieved and sent to the relay. Reports from previous logs can be retrieved from a file for consultation.

To enter emulation mode, click "Emulation": The display will show a drop-down menu with all the installed relay models. Select the desired model and click "OK".



The program asks for a User Password. If the correct password is not entered after three attempts, GE_LOCAL program quits.

To prevent unauthorized personnel from gaining access to the protection system, the program allows the configuration of different access levels for different passwords.

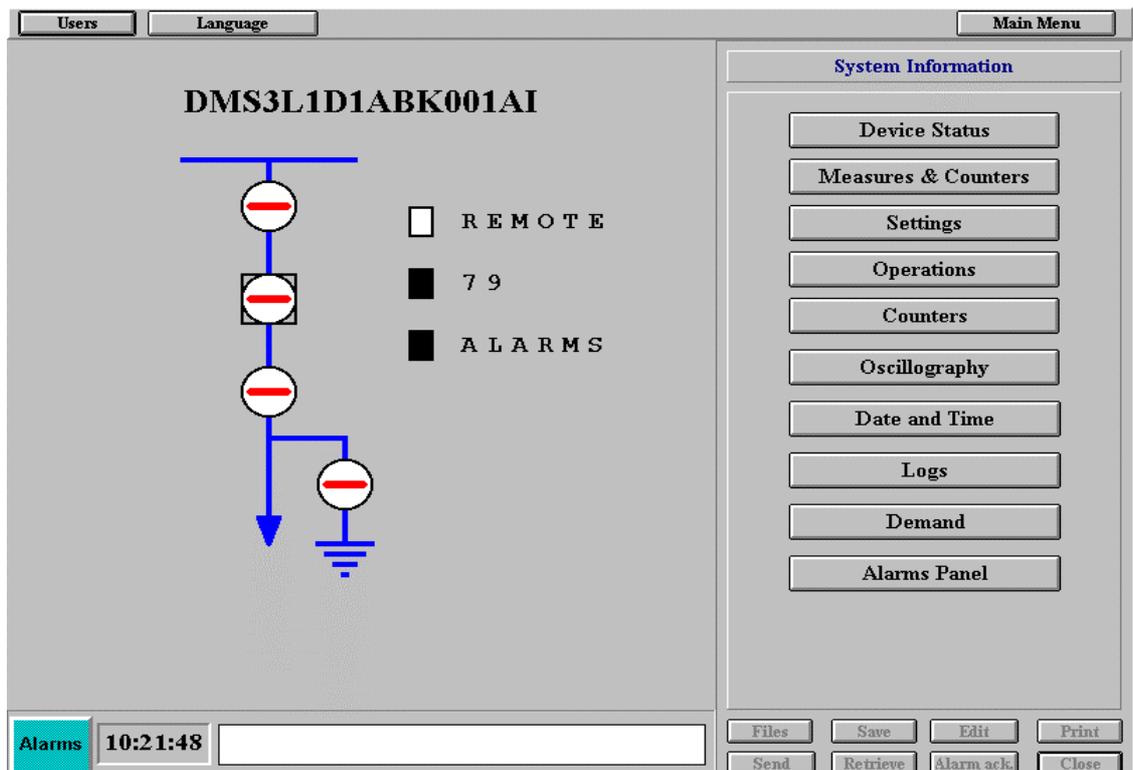
The default password installed by the GE_LOCAL installation program is **7169**. This password allows the user access to all functions. The user can define new passwords with different access levels (see section 4 "Users and access levels").

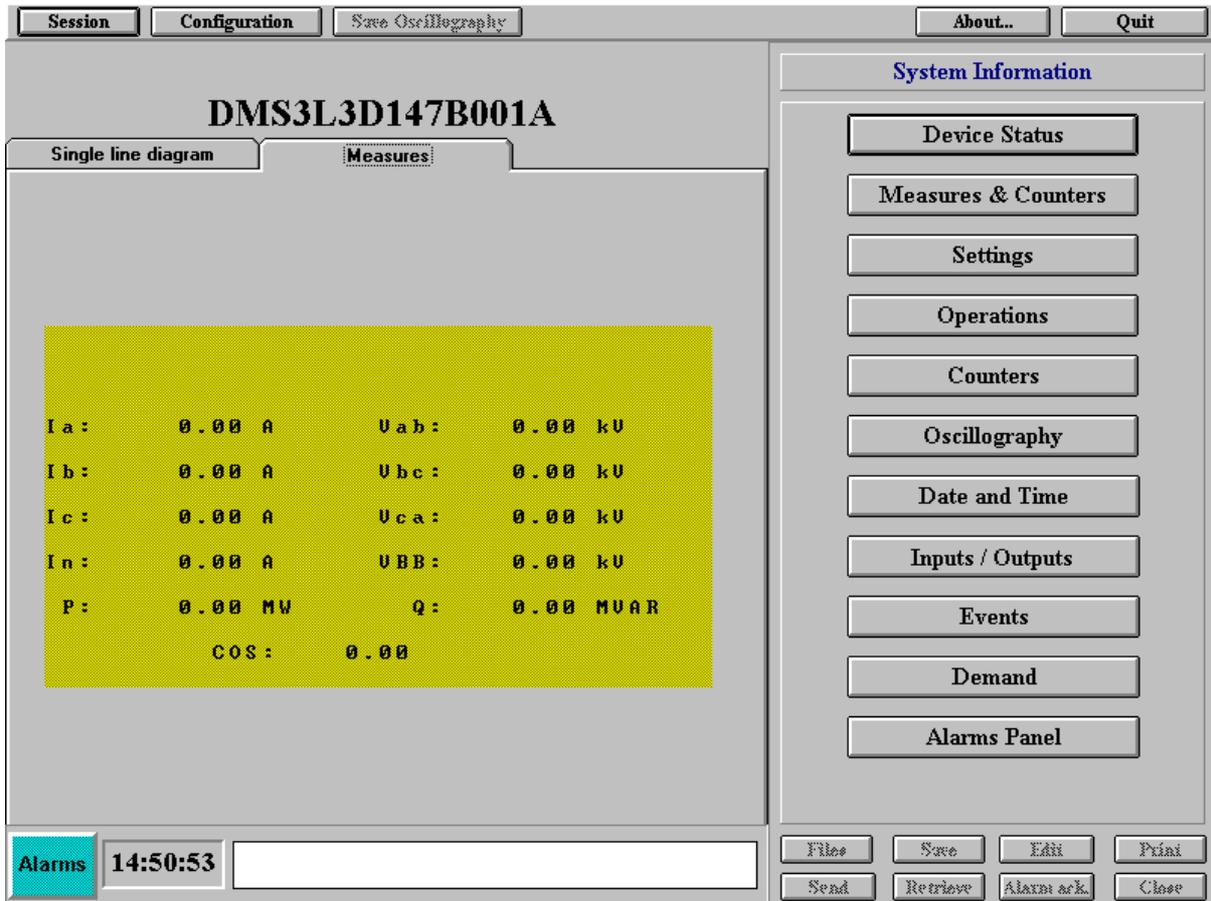
3.

MAIN MENU

The main menu display has the following items:

- One menu bar at the top.
- A folder containing on the left side: configured switchgear in the relay, and on the right side: configured measurements on the relay.
- A submenu system with the System Information. Inside any of the submenus, the "Close" button (in the lower-right side) leads back to the previous menu.
- In the bottom left side there is a button that shows the relay alarms. At the right side of this button there are two more windows: The first one shows the computer's time and the second one shows GE_LOCAL messages (with a double click on this window you can delete the messages).





3.1 Settings

Selecting the “Settings” button from the “System Information” menu, the display shows a new submenu with the “Protection” and “Control” options (only if the relay accepts both types of settings).

3.1.1 Settings Inquiry

Select “Protection” or “Control” settings. Select the setting table and the name of the group of settings you wish to consult. The selected table is displayed in the screen. If the program is in the local or remote connection mode, the values displayed will be the actual relay settings. When in emulation mode, the values displayed will be default values stored in a database file.

DMS3L1D1ABK001AI

Legend:
 □ R E M O T E
 ■ 7 9
 ■ A L A R M S

PROTECTION SETTINGS

Table 1. RECLOSER

79 STATUS	NO PER
NUMBER OF CYCLES	1
RESET TIME	10
HOLD MODE	NO
HOLD TIMER	10
1s RECLOSE DELAY	1.00
2s RECLOSE DELAY	1.00
3s RECLOSE DELAY	1.00
4s RECLOSE DELAY	1.00
RECL. CONDITIONS	NONE
INIT 79 x 46	ENABLE
INIT 79 x 51/67P	ENABLE
INIT 79 x 51/67N	ENABLE
INIT 79 x 50/67P	ENABLE
INIT 79 x 50/67N	ENABLE
INIT 79 x INPUT	ENABLE
46 TRIP AFT. 79	ENABLE
51P TRIP AFT. 79	ENABLE
51N TRIP AFT. 79	ENABLE
50P TRIP AFT. 79	ENABLE
50N TRIP AFT. 79	ENABLE

Alarms 10:22:57

Files Save Edit Print
Send Retrieve Alarm ack Close

3.1.2 Modifying or Editing Settings

To modify or edit settings, it is first necessary to follow previous procedures for settings inquiry. Once the settings group has been displayed, select the desired setting and click on the “Edit” button or directly double-click on desired setting.

This operation can be repeated several times in the same group of settings before download to the relay. However, if the user clicks on the “Close” button before downloading or saving the settings in a file, the changes are lost.

3.1.3 Downloading a Group of Settings to the Relay

Repeat the steps of the previous section. When settings modifications are completed or read from a file, select the “Send” button.

This option sends to the relay only the settings of the selected group of settings (the ones that are shown in the display when the user clicks on the “Send” button).

3.1.4 Uploading and Saving all the Settings from the Relay

It is possible to upload and save in a file all the settings of the relay. To do this, from the "Files" option select "Upload_Save All Settings".

3.1.5 Downloading a Settings File

It is possible to download a complete file of settings to the relay. To do this, from the "Files" option retrieve the desired file and select "Retrieve_Download All Settings".

3.1.6 Editing a Settings File

The user can edit a settings file to retrieve and send them later to the relay. To do this, select the emulation mode, perform all the desired changes and click "Save".

To retrieve a file for editing, click on the "Retrieve" button.

3.1.7 Saving the Settings in Text Format

There is a possibility to save the settings in an ASCII format file, apart from the binary file that only GELocal can read, so that anyone can open it with a text processor.

For saving all settings in this format, please follow the instructions given in section 3.1.4., and select extension "TXT" for the filename

3.1.8 Printing all the Relay Settings

For printing all the relay settings, as in the previous section, you must download them from the relay by pressing "File" → "Save all settings", and then exit the "File" menu and press the "Print" button.

3.2 Operations

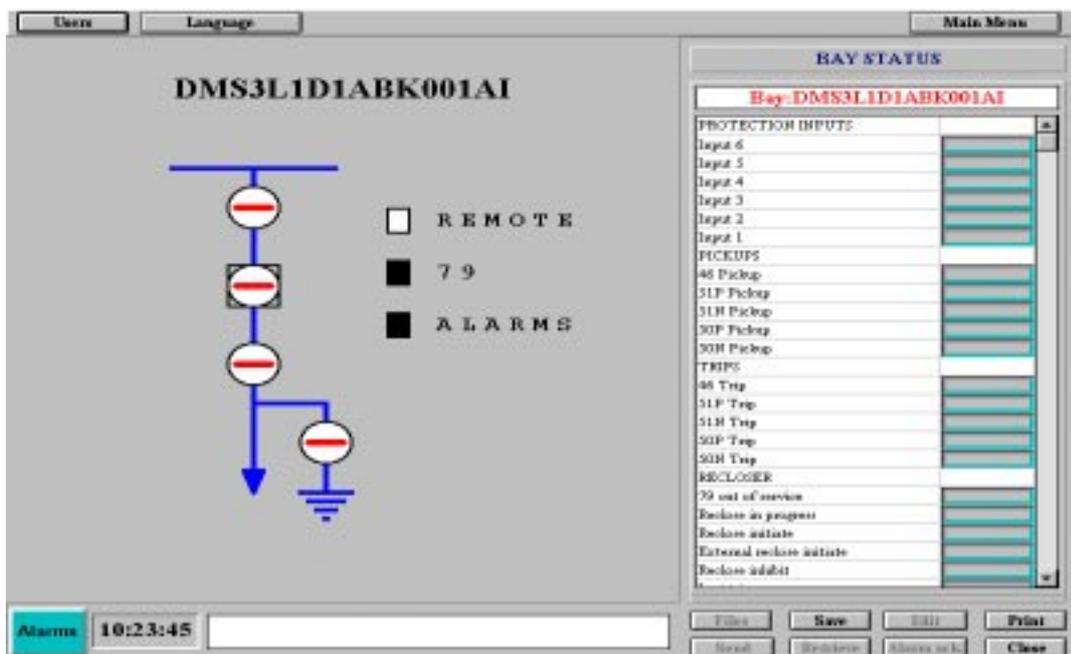
Select "Operations" from the "System Information" menu. The number of operations available depends on the equipment that the user is working with. The most usual are:

- OPEN BREAKER
- CLOSE BREAKER
- BLOCK RECLOSER
- UNBLOCK RECLOSER

To perform one of these operations, click on the desired operation and send it to the relay with "Send". The relay asks for confirmation of the operation and reports with a message any event that would happen during the operation (operation failure, etc.).

3.3 Device Status

The "Device Status" option allows the user to know the status of the relay.



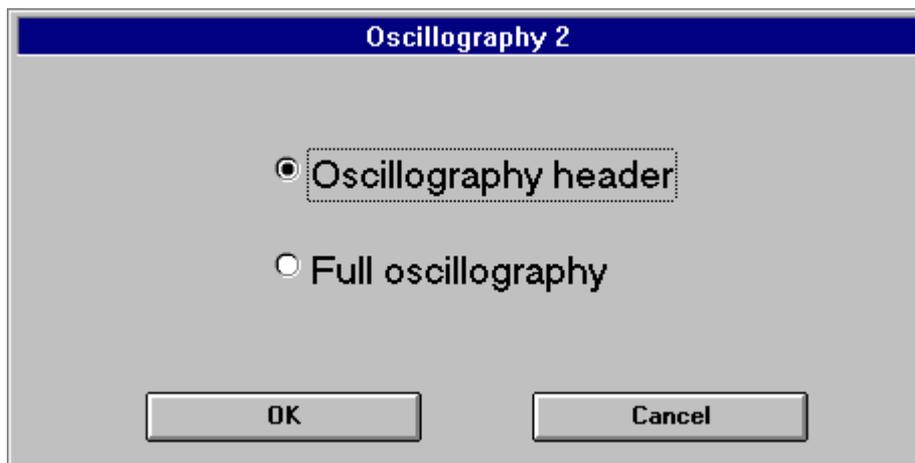
The device status is shown in one sole screen. The status can either be shown with legends or with colors (gray window for inactive state and red window for active). The display can be scrolled with the vertical scroll bar.

3.4 Time Synchronism

Click "Set Date & Time" to send the date and time of the PC to the relay.

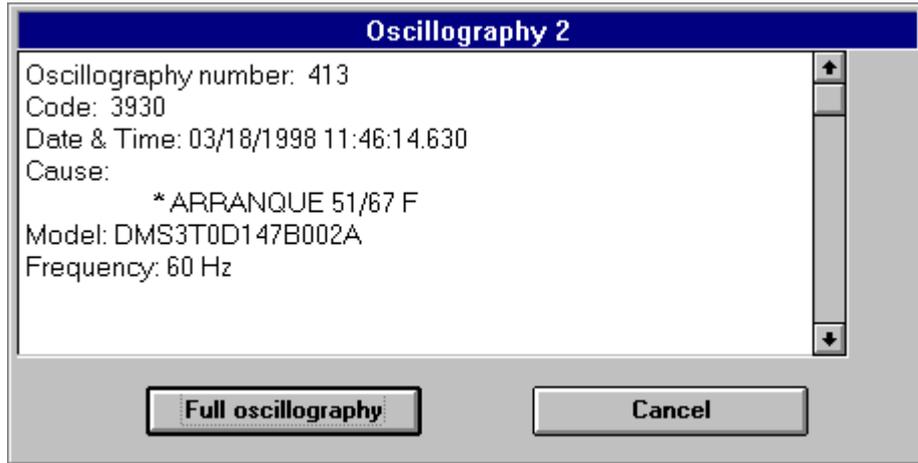
3.5 Oscillography

This option allows the user to upload oscillography records from the relay. The oscillography submenu has as many options as oscillography records available in the relay. The first oscillography record is the most recent and the last, the older. When clicking on one of these buttons, GE_Local will show a window where the user must choose between uploading only the header, or the complete oscillo:



The header supplies the following information:

- Identification number of the oscillography.
- Oscillography's internal format code (only for factory use).
- Date and time.
- Cause of the oscillography.
- Equipment model.
- Frequency.



While the record is uploading from the relay, an indicator shows (in percentage) the amount of uploaded information. After the upload is complete, the program asks the user to enter a filename to save the record. However, the record can be saved later with the “Save Oscillography” option.

These files are saved in standard COMTRADE format and can be edited by any analysis tool that accepts this format.

3.6 Requesting and Editing Logs

Click on the “Logs” button to retrieve the relay logs or to edit a log file. The log submenu has two options: “Request logs” and “Edit logs”.

To retrieve and save the logs in a file, click “Retrieve logs”. A file name must be entered in the supplied window.

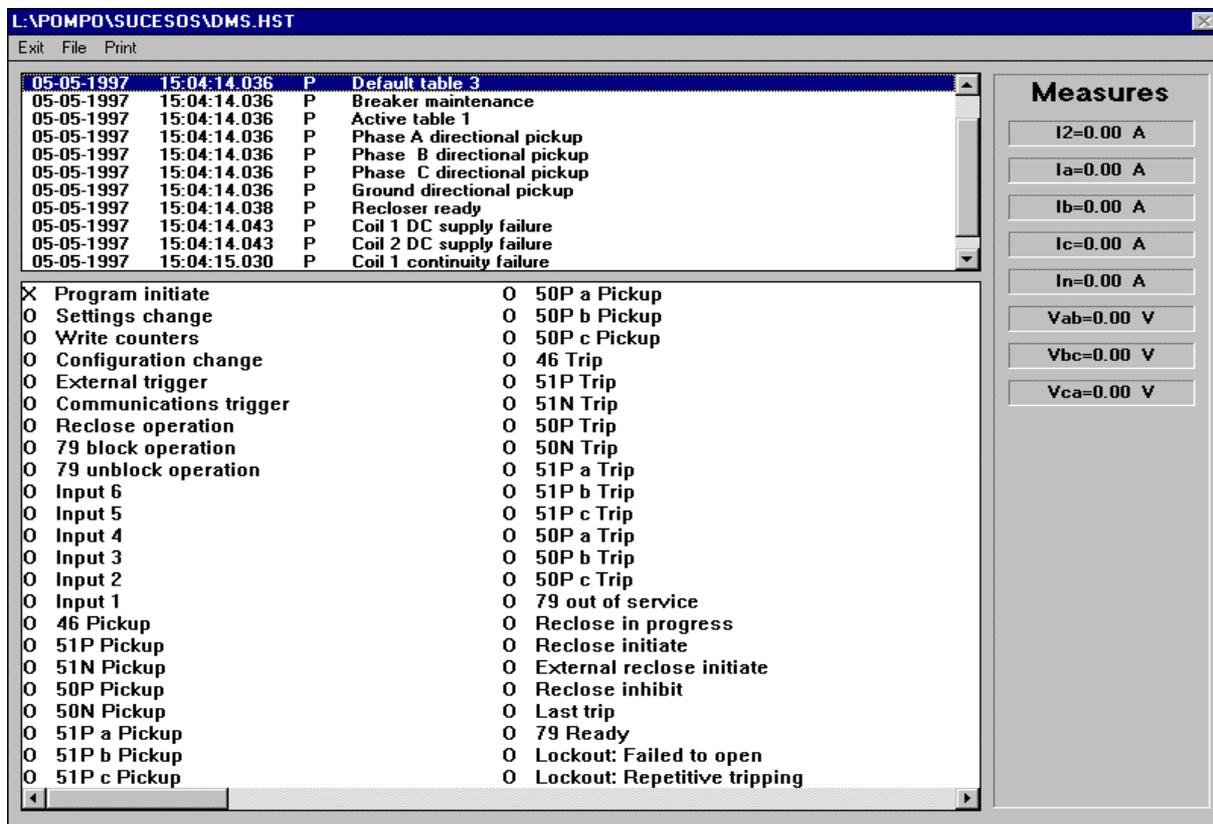
To edit a log file, click “Edit logs”. Once this item is selected, a log editor will appear where the user must choose the file to edit. Once a file is opened, the logs are shown in a scrolling window. Each log contains the following data:

- Date
- Time
- What unit has originated the log (Protection, Control, Communications)
- Name of the log

By clicking with the mouse on any log, all the information related with the log is displayed, that is:

- All the measures
- All the status (0 inactive, X active).

This information is available for any log following the same procedure.



3.7 Requesting the Demand

Click on the "Demand" button to retrieve the demand registered by the relay. As in the previous items, the demand can be stored in a file. This file can be edited with any text editor.

3.8 Unit Inputs and Outputs

This option allows to visualize the status of the relay inputs and outputs.

The screenshot shows a software interface for a device named **DMS3L5D14MB001A**. The interface has a menu bar at the top with buttons for **Session**, **Configuration**, **Save Oscillography**, **About...**, and **Quit**. Below the menu bar, there are two tabs: **Single line diagram** and **Measures**. The **Single line diagram** tab is active, displaying a schematic diagram of a power line with several components: a horizontal line at the top, a vertical line connecting to a circle with a red horizontal bar, another vertical line connecting to a square with a red horizontal bar, a third vertical line connecting to another circle with a red horizontal bar, and a final vertical line connecting to a circle with a red horizontal bar. A legend to the right of the diagram shows three items: a square box labeled **R E M O T E**, a square box labeled **7 9**, and a square box labeled **A L A R M S**. The **Measures** tab is also visible but not active. On the right side of the interface, there is a panel titled **Inputs / Outputs** with a sub-header **Bay:DMS3L5D14MB001A**. This panel contains a list of inputs and outputs with corresponding status indicators (checkboxes or bars). The list includes: SP06, SP07, SP08, EC01, EC02, EC03, EC04, EC05, EC06, EC07, EC08, EC09, EC10, EC11 (highlighted in red), EC12, EC13, EC14, EC15, EC16, EC17, EC18, EC19, EC20, EC21, EC22, and EC23. At the bottom left, there is an **Alarms** button and a timestamp **14:48:34**. At the bottom right, there is a row of buttons: **File***, **Save**, **Edit**, **Print**, **Send**, **Retrieve**, **Alarm ark.**, and **Close**.

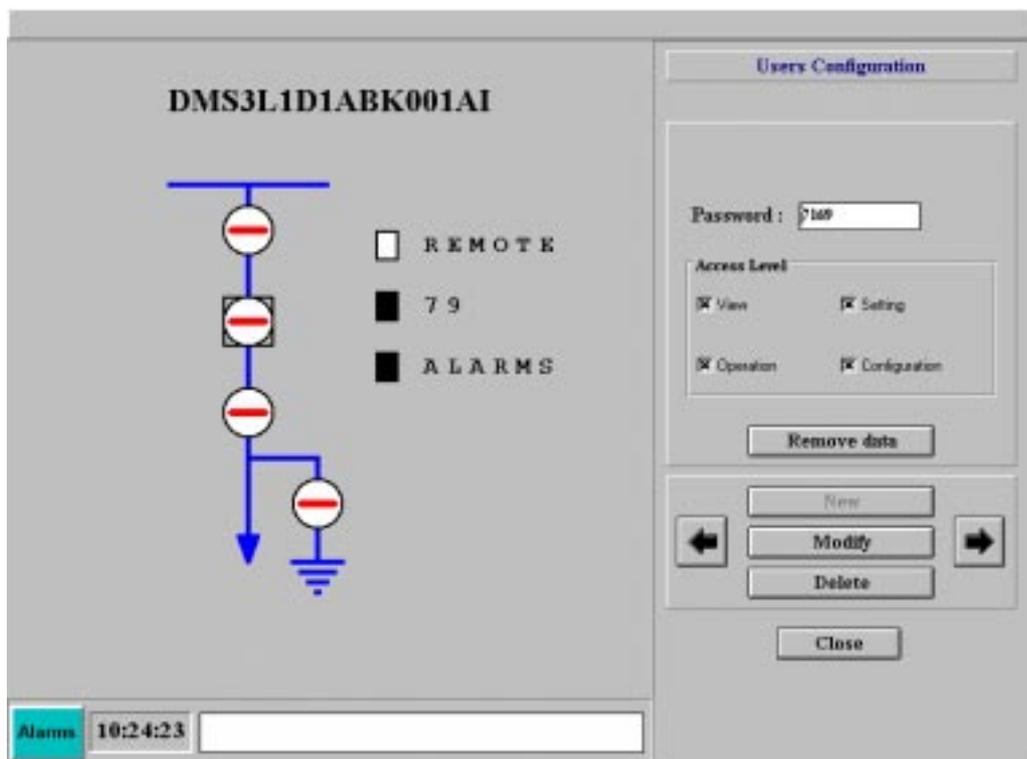
4. **USERS AND ACCESS LEVELS**

There are four different access levels:

- View: The user can view device status, measures&counters and settings, as well as retrieve oscillography records, logs and demand.
- Setting: Allows the user modify settings, counters and send the date and time to the relay.
- Operation: Allows the user perform operations only.
- Configuration: Allows the user access to configuration and session options.

4.1 **Creating a New User**

This option is only available to users with configuration access level. To create a new user, click "Session" from the main menu bar. Then click "Users". The screen shows a display like the following:



Click "New". Fill in the "Password" text box and select the access levels for that user. Click "OK" to accept the new user configuration.

The default password (7169) allows the user total access to all levels. For any new user the desired access level has to be defined.

5. **CONNECTION WITH MODEM**

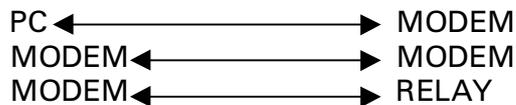
5.1 **Introduction**

In order to establish remote communications between a DDS family relay and a remote PC, two modems need to be connected by a telephone line. One of them located by the relay (destination), and the other one by the PC (origin). Both modems can be Hayes or V.25. compatible. The relay cannot send configuration commands to the modem, so it must be previously configured with any communications program, such as Windows Terminal.

As Hayes compatible modems do not share the same commands, it is the user's responsibility to determine which commands will be accepted by his/her modem.

A general guide for configuring your modem follows. It is customized for the ZOOM Pocket 14.400 as this is the model used in factory:

1.- There are three different baud rates in the communication via modem:



It is important to configure all the baud rates at the same level, as those configured in the GELocal and the relay.

2.- It is recommended to set a low connection baud rate, for avoiding problems with telephone lines.

3.- The modem-relay and pc-modem connection wires must not be crossed, and they should include all the lines.

5.2 **Modem Configurations**

- Disable CTS/RTS protocol.
- Disable the hardware compression.
- Disable the data compression.
- Disable the baud rate setting with the serial port.
- Set the modem-modem baud rate
- Set the modem-relay baud rate.
- Direct asynchrone transmission mode
- Auto-reply mode (only for the destination modem)

- Without echo (only for the origin modem)
- Numerical reply (only for the origin modem)
- Enable the reply to the computer

Customized configuration for ZOOM Pocket 14.400 modem:

- Disable CTS/RTS protocol → &K0
- Disable the data compression → %C0
- Direct asynchrone transmission mode → &Q0
- Auto-reply mode → S0=1
- Without echo → E0
- Numerical reply → V0
- Enable the reply to the computer → Q0

Complete configuration for the destination modem:

B1	&C1	S1=0	S18=0
E1	&G0	S2=43	S25=5
L1	&J0	S4=10	S26=1
M1	&K0	S5=8	S36=7
N1	&Q5	S6=2	S37=5
Q0	&R1	S7=50	S38=20
T	&S0	S8=2	S44=20
V1	&T5	S9=1	S46=136
W0	&X0	S10=14	S48=7
X4	&Y0	S11=95	S95=0
Y0	S0=1	S12=50	

Complete configuration for the origin modem:

BO	&D2	S2=43	S25=5
E0	&G0	S3=13	S26=1
L1	&J0	S4=10	S36=7
M1	&K3	S5=8	S37=0
N1	&Q5	S6=2	S38=20
Q0	&R1	S7=50	S44=20
T	&S0	S8=2	S46=138
V0	&T5	S9=6	S48=7
W0	&X0	S10=14	S95=0
X1	&Y0	S11=95	
Y0	S0=0	S12=50	
&C1	S1=0	S18=0	