GAI-TRONICS ®
A HUBBELL COMPANY

Telephone Management Application (TMA) User Guide

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Confidentiality Notice

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Introduction

The GAI-Tronics **Telephone Management Application** (**TMA)** is used to monitor the activity and health of GAI-Tronics RED ALERT®, SMART Industrial, VoIP/WiFi, and GSM Cellular Telephones. The reports and information provided by TMA can prove useful in reducing maintenance labor costs and greatly reduce liabilities typically associated with an emergency communication system.

NOTE: All references to "telephones" in this document are understood to be GAI-Tronics RED ALERT®, SMART Industrial, VoIP/WiFi, or GSM Cellular Telephones.

TMA runs continuously on a dedicated personal computer by using one (or more) telephone line DTMF transceiver units, a fixed cellular terminal or a Local Area Network (LAN) to gather status information from each telephone at regular intervals. In addition, the System Manager uses TMA to remotely adjust the behavior of individual telephones. These updates are either sent to the phone immediately or are held to be sent during the next scheduled health-check maintenance call.

TMA provides an at-a-glance view of the status of the telephones as well as customizable reporting in the form of scheduled printed reports, and reports generated on demand.

For questions about TMA, please contact:

Service Group
GAI-Tronics
3030 Kutztown Road
Reading, PA 19605
800-492-1212   (8 a.m. to 5 p.m. EST) 610-777-1374 outside the USA

Starting TMA

TMA can be started (or re-started) after installation of the software and the security key has been inserted into a USB port. Refer to GAI-Tronics Pub. 42004-478. The external monitoring applications (i.e. SPI, VPI and GPI) will also be started with TMA if they are enabled under "Start-up Applications" on the TMA Options screen. To start TMA, double click the desktop TMA icon with the GAI-Tronics logo (shown below) or start the application via the Windows Start menu.

TMA Desktop Icon

When TMA is initially started, it will display a "No Current Database" dialog box over the startup splash screen, indicating TMA was not able to open the most recently used telephone database. This occurs because the recently used database name is undefined for this new TMA installation.

Read the dialog box, and then select **OK** to dismiss it. The TMA window will now contain empty panels, and pull-down menu selections for FILE, EDIT, VIEW, etc., as shown below.
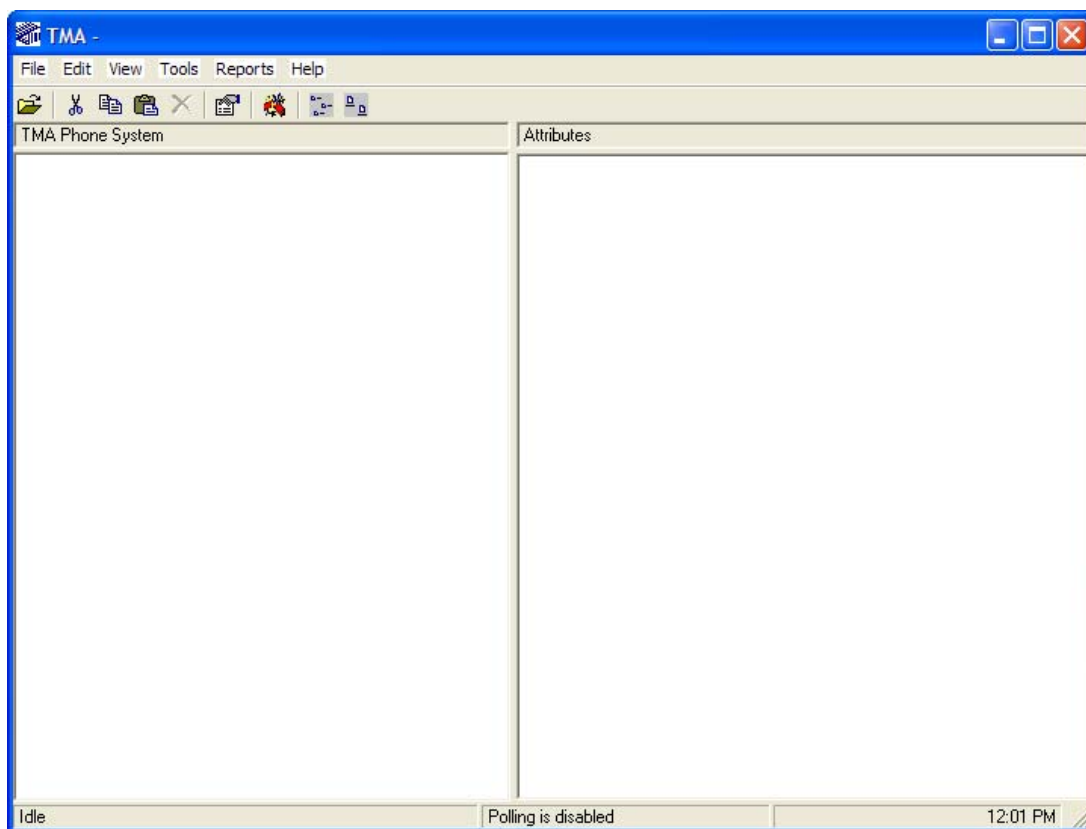
Creating a New Database File

All SMART Telephone information relating to the site is contained in a TMA database. To create a new database file, select **File**, then **New** from the menu. The "New File" dialog box will appear, as shown below.

In the "File name" field, type the site name of the database such as "University E-Phones", or, "Transit Authority Phones". Do not type the file extension ".mdb" since the system will add this automatically.
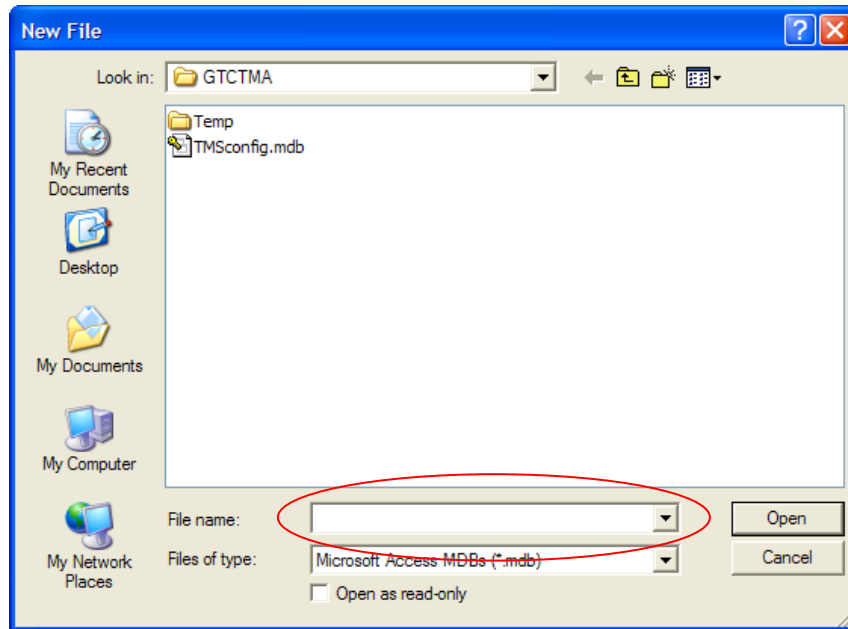
Click **Open** and the following window will appear with the site name at the Domain Level, as shown below.
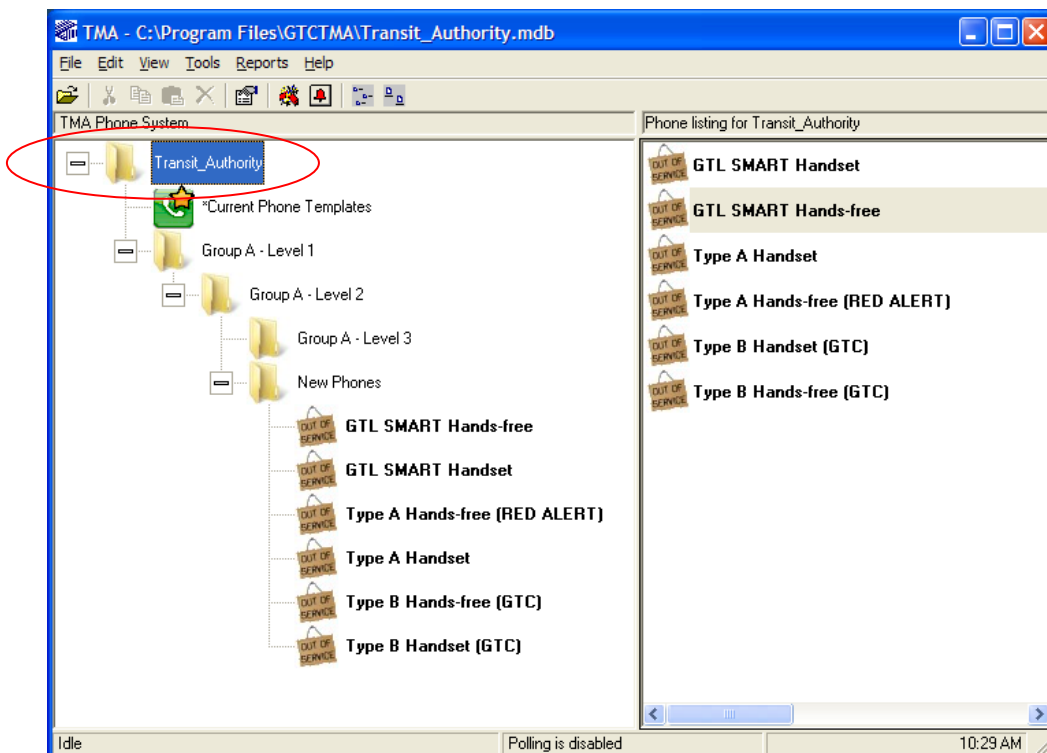
Opening an Existing Database File

To open the TMA database to access an existing file, select **File**, then **Open** in the menu bar. This will display Open File window, as shown below.
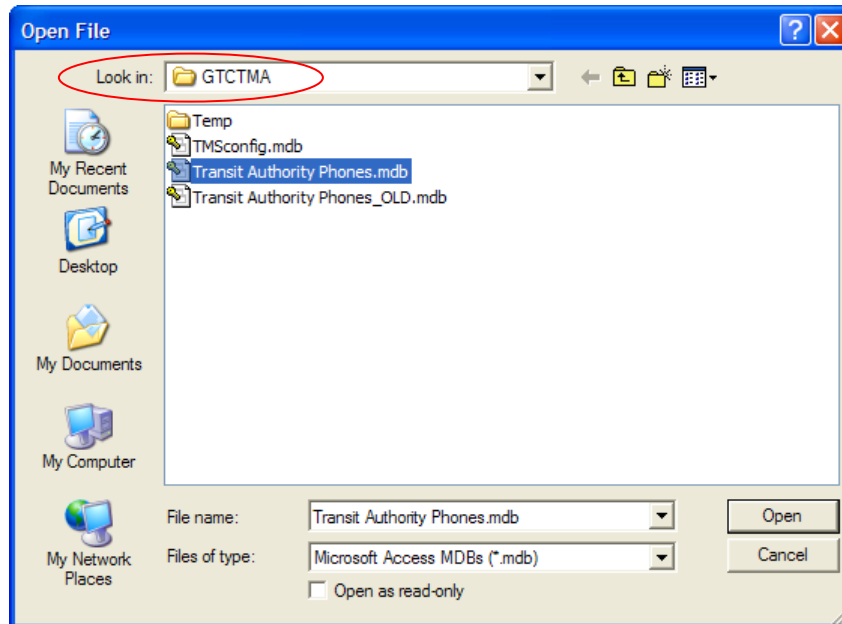
In the Open File window, ensure the **GTCTMA** folder name appears in the **Look in:** field at the top, then select the appropriate file name with an **.mdb** file extension from the list, and click **Open**.

NOTE: Do not open the file **TMSconfig.mdb** since this database is used for processing directives.

Database Back-up Information

TMA uses a single database file to store phone information, configuration data, voice call and data call information for all telephones. The database is normally stored in the folder **C:\Program Files\GTCTMA**. As with other important documents or files, a backup copy of the database file should be created at regular intervals.

The initial file size is approximately 600 kb. The file size for a system containing 40 phone records will grow to approximately 2 Mb over a 60-day interval. TMA archives older telephone data every month.

TMA Database Archives

At noon on the first day of each month, TMA creates an archive database. The archive database will contain all call data that is more than 30 days old along with all current phone configuration data. Any data less than 30 days old will remain in the current database. The archive database file is assigned the name of the current database followed by **mmddyyarc** where "**mmddyy**" denotes the month, day and year when the archive was created and "**arc**" denotes that is an archive file.

With this database archive process, the size of the active database is kept reasonably small to maintain high data processing efficiency. The archive process only takes a few minutes, and the active database is also compacted. All archived database files are directly compatible with TMA and can be accessed in the same manner as any other database.

TMA Database

The TMA database must contain one phone record for each supervised telephone on site. Information contained in this section explains how the TMA database is structured and how phone records are added into the database, based on demographics of the site or facility.

TMA Database Structure

Phone records are organized in a tree structure with a "domain" as the highest level in a system configuration. The domain is typically the name of the site or facility. Beneath the domain there are three "group levels" used to organize the phones. Each level provides the means to organize the telephone system within the tree structure. Individual phone records are always contained in group level 3.

When planning a system, considerations should be given to the physical geographic locations of the telephones, physical telephone lines, the types of telephones in the system, and the administrative process of assigning phone maintenance tasks. Careful planning facilitates the use of the many sorting options provided by the TMA reports.
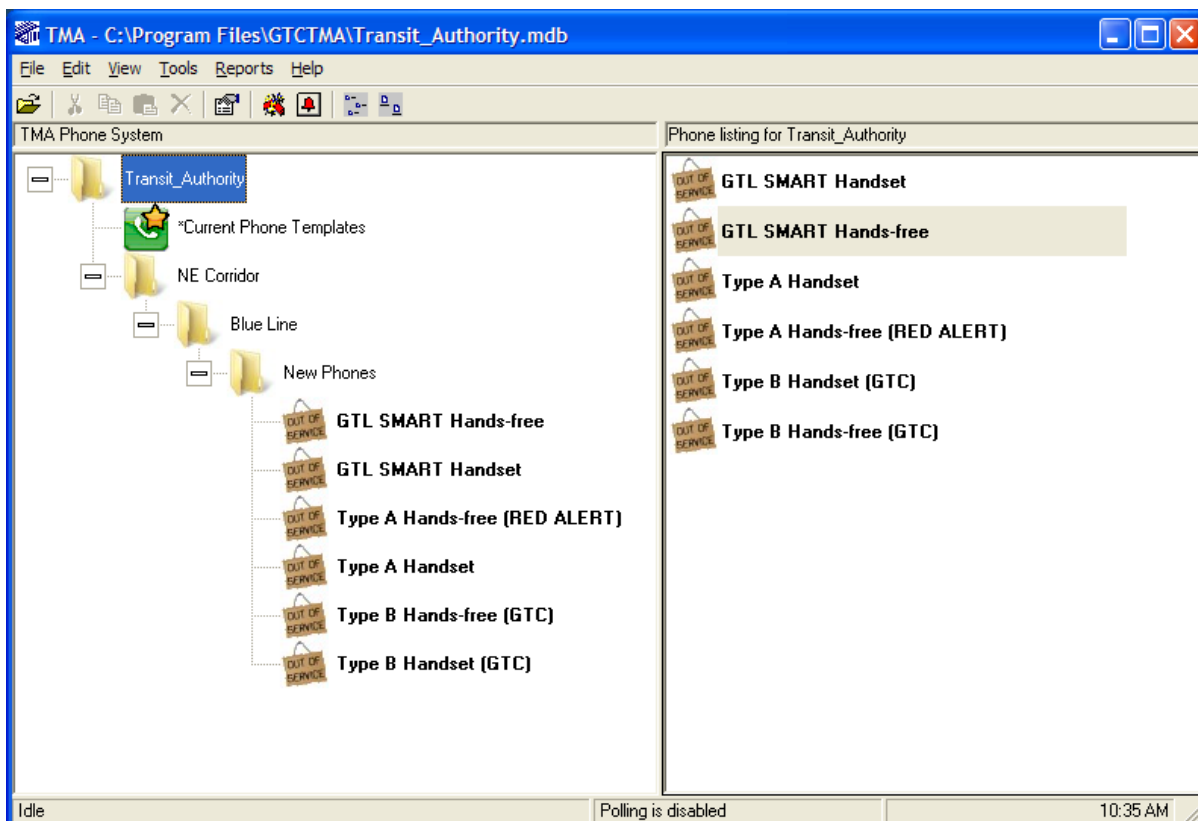
Domain Name – is the highest level and is generally the name of the site or facility.
└ **Group Level 1** – can be a satellite location or region, e.g., North or South Campus.
  └ **Group Level 2** – is typically an area within a satellite location or region, e.g., Northeast quadrant
    └ **Group Level 3** – is the lowest level where individual telephones reside (a building or area).

TMA Icons

For each phone and template phone in the system, TMA displays an icon for quick recognition of each phone's status. Icons displayed in TMA are shown below.

Table 1. TMA Icons

Large Icon	Small Icon	Description
		Current Phone Templates Icon
		Type B Hands-free Phone Icon (formerly called GTC)
		Type B Handset Phone Icon (formerly called GTC)
		GTL SMART Hands-free Phone Icon
		GTL SMART Handset Phone Icon
		Type A Hands-free (RED ALERT$^{®}$) Phone Icon
		Type A Handset Phone Icon
		GAI-Tronics VoIP Phone Icon
		GAI-Tronics GSM Phone Icon
		Icon with a red "X" is an Inactive Phone
		Icon with a yellow "X" is a Phone with Exceptions
		Out of Service Icons

TMA Template Phones

Each new TMA database includes six phone records, one for each telephone type (excluding GAI-Tronics VoIP Phones and GSM Phones). Each phone record is tagged as the template phone that TMA uses to create additional phone records in the database. The six template phone records correspond to the different types of telephones manufactured by GAI-Tronics. A template phone record is always shown with its description in bold text. The initial phones present in a new database are displayed in the main window as:

Table 2. GAI-Tronics Telephone Type Identification

Telephone Type	Models
Hands-free Telephones	
Type A Hands-free (RED ALERT®)	• 39x-00x • 39xAL-00x • Telephones using 69577 PCBA
Type B Hands-free (GTC)	• 29x-003 • 29xAL-003 • Telephones using 69411 PCBA
GTL SMART Hands-free	• 29xSL • 29xALSL • Telephones using 69385 PCBA • VR • DDA • Help Point • Hygeia
Handset Telephones	
Type A Handset	• 2x6-005 • 2x7-005 • Telephones using 69577 PCBA
Type B Handset (GTC)	• 2x6-003 • 2x7-003 • Telephones using 69411 PCBA
GTL SMART Handset	• 2x6S • 2x7S • Telephones using 69285 PCBA • Titan • Commander

Each template phone can be configured and saved in the same way as other phone records are updated. Each phone record (including those tagged as the "Template") contains information such as emergency auto-dial phone numbers, a voice call time limit, TMA call-in phone numbers, a call-in schedule, and more. The designated template phone is used when phones are added to the database either manually, through the Auto-Discovery feature, or through the Import feature, each of which is detailed in the sections that follow. A phone record that is set as a template can be configured and saved, but <u>cannot</u> be deleted.

Selecting the Template Phone Record

Any phone record can be selected to be the template for its telephone type. To designate a phone record as the template phone, right click on the telephone icon and select **Set as Template Phone**.
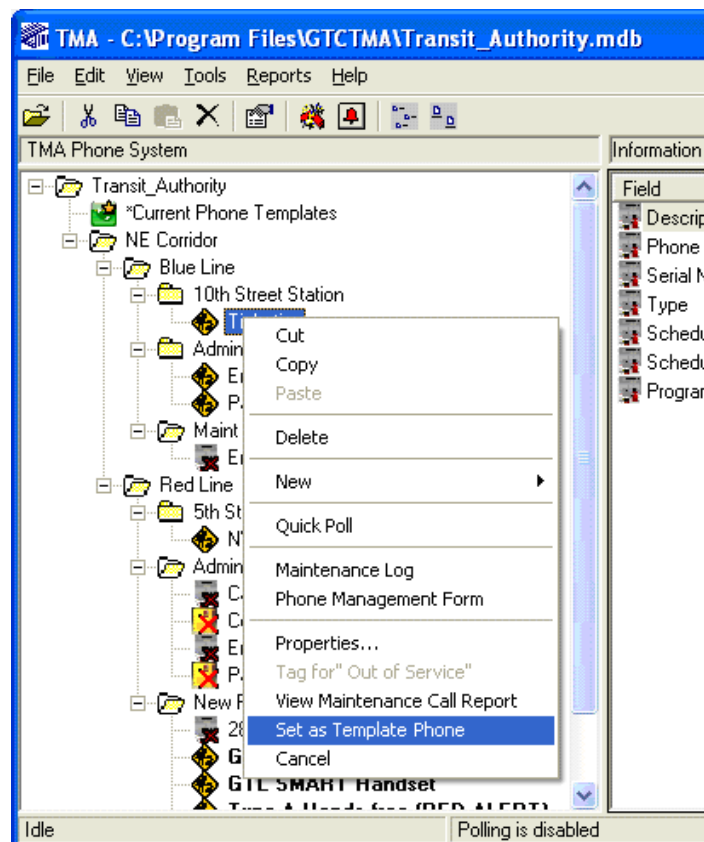
Adding a Group to TMA Database

Adding another group to the TMA database is done manually, and can only be done at the Domain Name Level, or at Group Levels 1 or 2. The following explains how to add a group.

To add another group, right click on the group level name where the new group (or sub-group) is to be placed. A pop-up menu will appear as shown below. Move the cursor to highlight **New ►** and then select **Group Member** in the fly-out box.
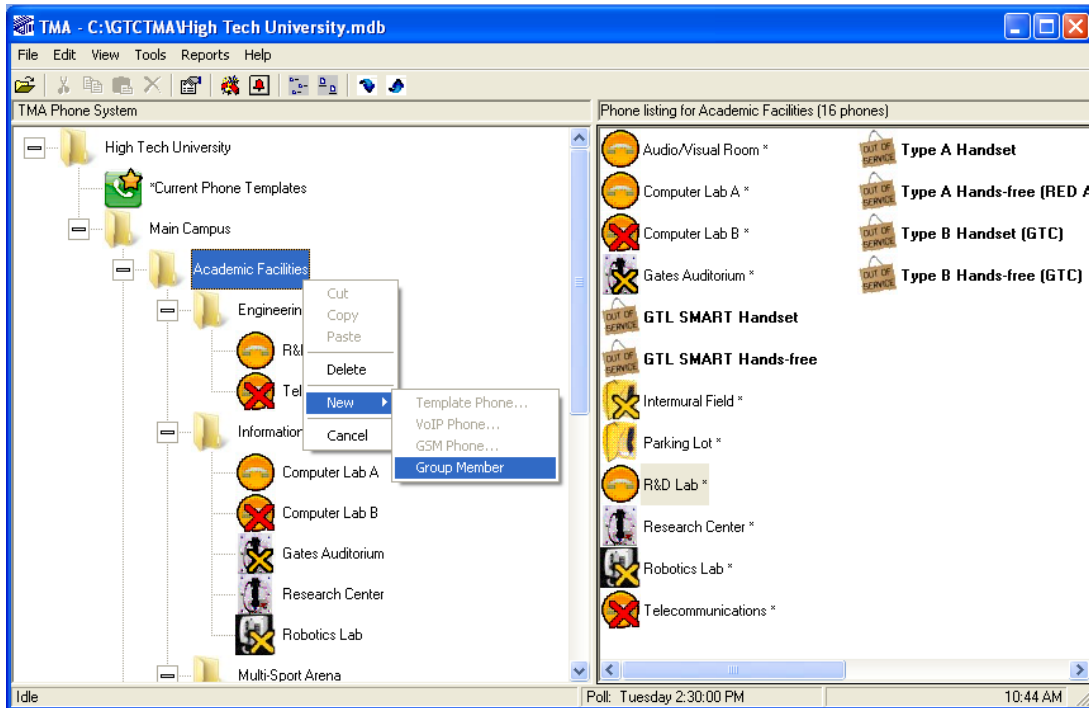
Upon clicking on "Group Member," the next screen shows the "New Group" added to the phone tree list. In this example, another Level 2 group is added, and a new Level 3 group is also added.
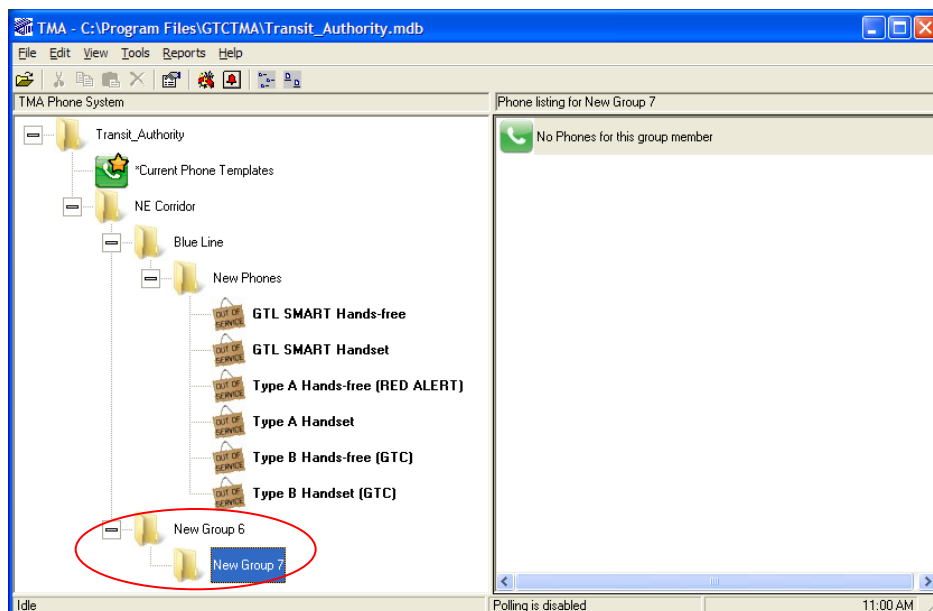
To rename any group, select and click on the group name and type the new name in the box.
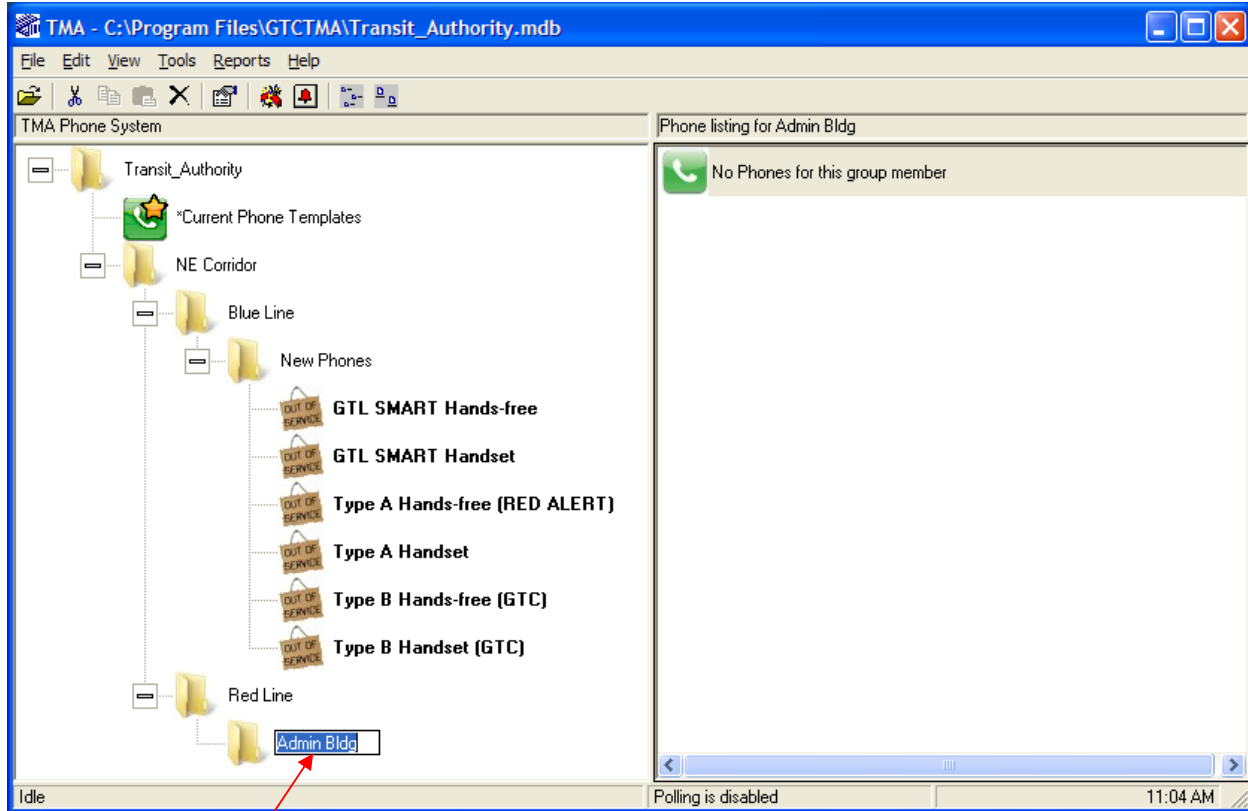
Adding Phones to TMA Database

Adding phone records to the TMA database can be done by several methods: manual entry, Auto-Discovery, copy, or import. Each method is explained below:

Preparing the First Phone Record (excludes GAI-Tronics VoIP Phones and GSM Phones)

The first phone record included in a new database is tagged as the template phone for its telephone type. A template phone record will be copied repeatedly to create new phone records. It is important to specify the required settings prior to making many copies of this record. All methods that can be used to add new records do so by making copies of the template phone record.

1. Identify the type of telephone(s) that are being added to the system using Table 2 as a reference.

2. Right click on the template phone record of this type in the TMA database. (The description of each template phone is shown in bold text.)

3. Select **Phone Management Form**. Consult the section "Managing Phone Records" on page 23.

4. Specify the AutoDial phone numbers (and any other settings required). Refer to the "Memory Configuration" section on page 38.

5. Select **Send** and **Synchronize Later**, then click **Apply**, then click **OK**. This adjusts the settings of the template phone record.

NOTE: Changes made to the template phone record will carry over into every new phone record created.

Manual Entry

A phone record that is manually entered is a copy of the template phone for the selected phone type, except in the case for GAI-Tronics VoIP Phones and GSM Phones which do not have a default template. The New Phone Wizard can create up to ten phone records each time it is run.

To add a phone record using the New Phone Wizard, right click on the group name where the phone record is to be placed. A pop-up menu will appear as shown below. Move the cursor to highlight **New ►** and then select **Template Phone…** in the fly-out box. In this example, a phone record is being added to the "Engineering Services" group. To add a VoIP phone or a GSM phone, simply follow the same procedure and select **VoIP Phone** or **GSM Phone** which will bypass the New Phone Wizard and create the phone in the selected group.
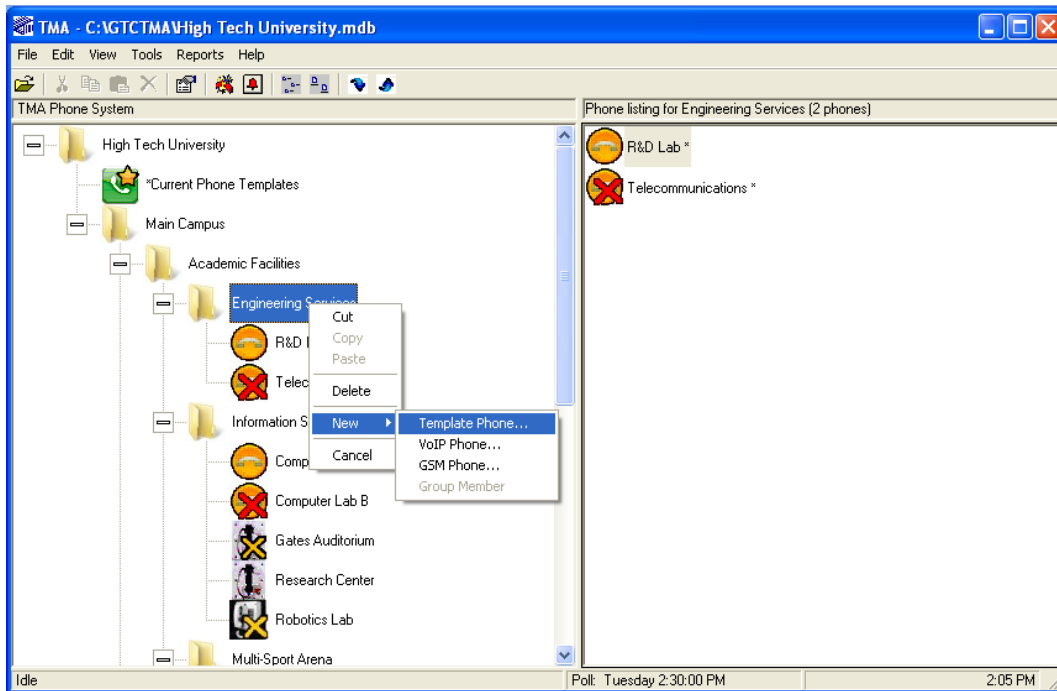
The Phone Wizard window will appear; it allows for creation of one or more phone records.

Click **Next >** to continue.
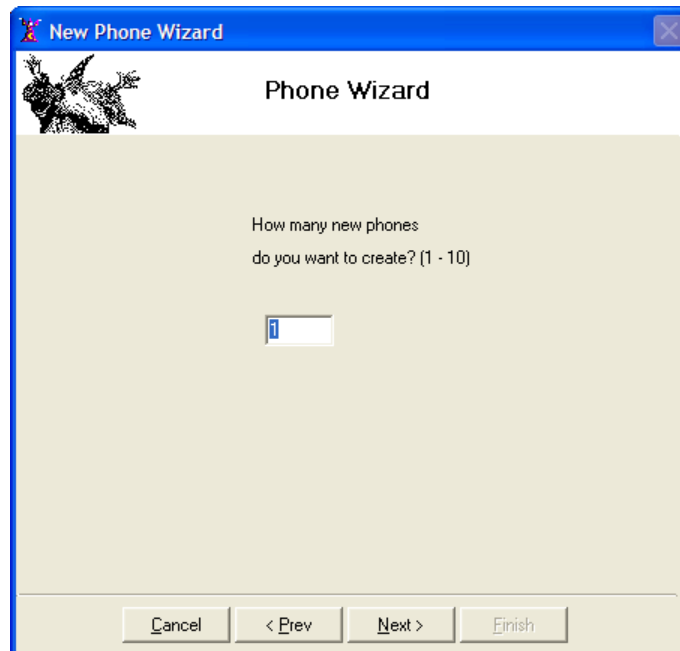
Select the number of phones to be created in this group and click **Next >** to continue.

In the next window, choose the type of the phone to be added to the database. The available SMART phone record types are divided into those equipped with a handset and those without a handset (hands-free). Refer to Table 2, which lists the model numbers (by series) to select the type that matches the SMART Telephones being installed.
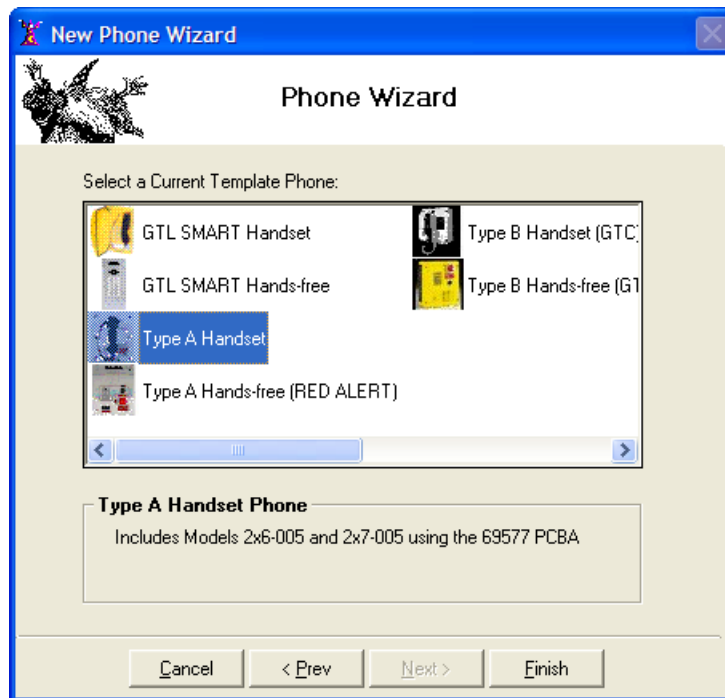
Click **Finish**. The Phone Wizard adds the new phone records to the database.

Click **Cancel** to close the Phone Wizard. The new phone record added to the database is assigned a sequence number; in this case, **Phone 0007**.

It appears in the "TMA Phone System" tree view (left side) and in the phone listing (to the right), as shown below. The new phone record is shown with the "Out of Service" icon because this newly created record has not yet received any health-check status update from its corresponding telephone. At this point, this telephone is shown as Out of Service-Uncommissioned on the Basic Summary report.
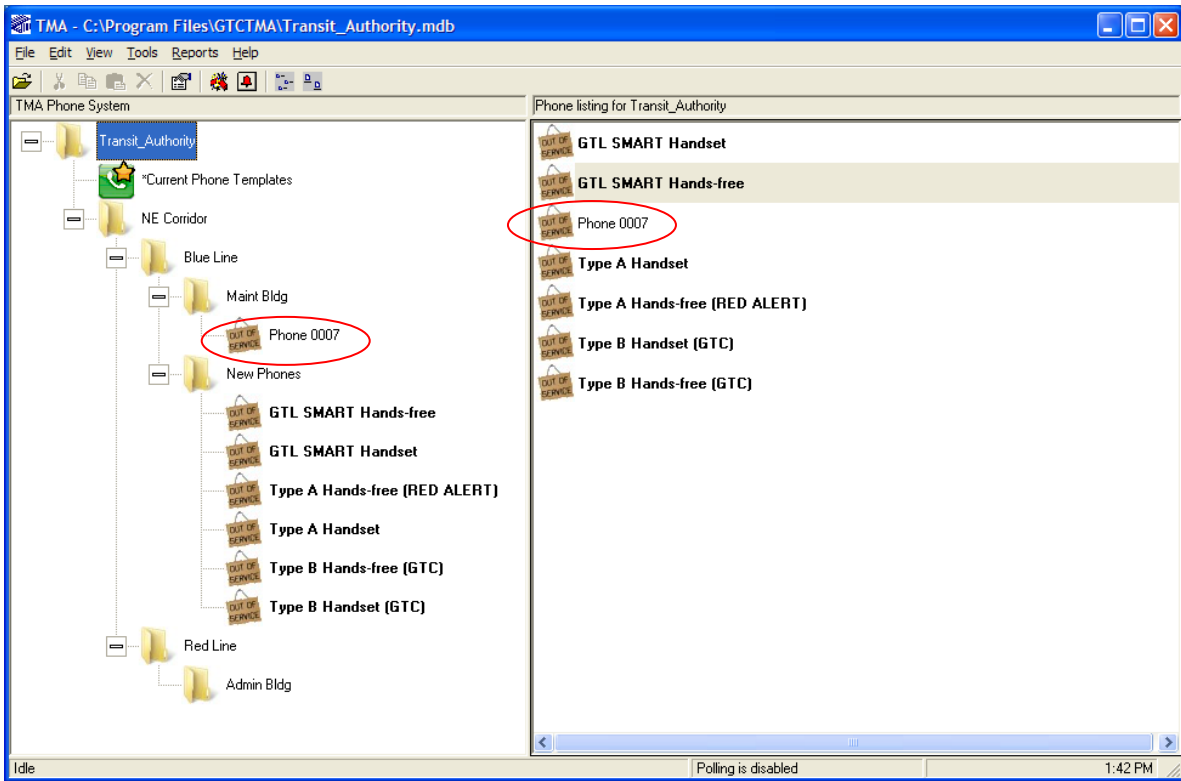
To rename the phone (or any phone), select and click on the phone name and type the new name in the box, as shown below.
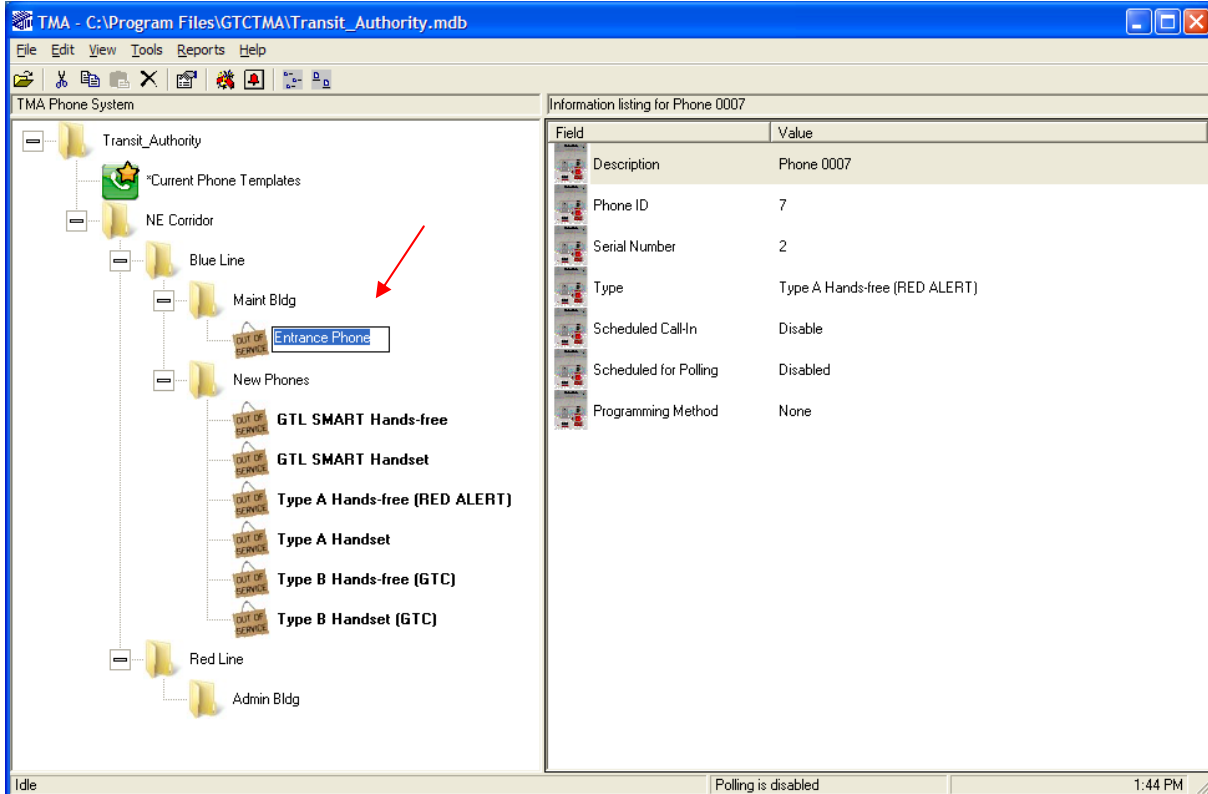
The name assigned to the phone record is listed in the Description Field of the "General" section of the Phone Management Form. Refer to page 24.

Auto-Discovery

Auto-Discovery provides an alternate method of adding telephone records (RED ALERT® or -005 SMART Handset) to TMA. This method provides the ability for a single installer to connect a telephone at its installed location and have TMA automatically create a phone record for it. In addition, TMA synchronizes the new phone record with the installed telephone. After synchronization completes, the installer can then test the telephone to confirm its operation. This Auto-Discovery feature avoids the need to have a second person helping at the TMA PC while installing additional telephones in the system.

Through Auto-Discovery, the new telephone calls the TMA PC. TMA then creates a new phone record in the database by copying from the "Template" phone for that phone type. Next, TMA makes a poll call to the telephone to synchronize the settings in the telephone to the new phone record. When this poll call completes, the auto-dial memory numbers and the configuration settings of the installed telephone will match those of the new phone record in the database.

NOTE: Auto-Discovery can be used only with RED ALERT® and -005 series SMART handset telephones. It is not applicable to VoIP/WiFi or GSM telephones.

The new phone record will be located in the New Phones group; the description is set to be the record creation date and time and the phone number.

Initial Checks

To use Auto-Discovery:

1. Confirm that TMA is not currently polling any telephones.

2. Confirm that each telephone being added will be connected to a dedicated line from the PABX.

3. Note the line number (PABX extension) and location of each telephone being added.

Review completely the following steps to use Auto-Discovery. Print these pages and fill-in the telephone line numbers required in steps 7 and 8 using the right-hand column. This allows for key in of these settings quickly enough so that the Type A telephone recognizes and acknowledges the keypad entries. The right column shows the installer key press actions and shows the expected phone response in [brackets].

Complete the following procedure at the telephone site location. Print the steps in Table 3 below.

Table 3. Auto-Discovery Procedure

Step	Explanation of Step Actions	Installer Actions
1	Connect the phone line to the Type A telephone at its site location. Wait 30 seconds.	Connect Tip/Ring. Wait 30 sec.
2	The following steps use "local" access programming (keypad required). Refer to GAI-Tronics Pub. 42004-438 (available on www.gai-tronics.com) for further instructions. • Type A telephones that do not include an integral keypad will require the use of a No. 51035-011 Keypad and No. 61504-048 Keypad Cable Assembly. The keypad and cable must be connected to J13 on the PCBA. • The CALL push-button connector J1 is exclusively used for local programming. Type A telephones that include only the EMERGENCY push button must temporarily have the associated switch harness plug moved from the EMERGENCY connector J7 to the CALL push-button connector J1 on the PCBA.	
3	Press the CALL or EMERGENCY push button (whichever is connected to J1). When the dial tone is heard from the speaker, simultaneously press the "1" and "#" keypad buttons. • If the telephone is in its factory-programmed Standard Mode, the telephone generates a splash tone (low to high sequence), followed by a success tone (short beep). • If the telephone has previously been used with TMA, it generates only a success tone (short beep).	Press J1 button, then 1 + # [tone(s)]
4	Immediately after the success tone, use the keypad and press *** to enter Programming Mode.	* * * [no tone]
5	Wait 2 seconds.	Wait 2 sec.
6	Using the telephone's keypad enter **0000 to gain access with the factory-default password.	* * 0 0 0 0 [no tone]
7	Next, enter *127 followed by the phone number of the telephone. When finished, press #. The telephone outputs a success tone (from the speaker of hands-free phones, or the earpiece at handset phones) to acknowledge the entry.	*1 2 7 _ _ _ _ _ _ # [one tone]
8	After the success tone, enter *123 followed by the telephone number assigned to the TMA DTMF Transceiver. When finished, press #. The phone outputs a success tone to acknowledge the entry.	*1 2 3 _ _ _ _ _ _ # [one tone]
9	After the confirmation tone, enter *99 to end the set up. The telephone outputs a success tone to confirm completion of the entry.	*9 9 [one tone]

Step	Explanation of Step Actions	Installer Actions
10	A few seconds after the success tone of the previous step, the telephone initiates a Call-In to the TMA PC. The duration is typically 1 to 2 minutes, but could be up to 5 minutes. Approximately 1 minute after the Call-In begins, two short tone bursts are output from the speaker (if it is a hands-free model).	Wait 1-2 minutes. [two tones] Wait 2 minutes.
11	Within 40 seconds after the Call-In completion, the TMA PC initiates a poll call to the Type A telephone. In this poll call, TMA updates the telephone's settings based on the parameters contained in the original template phone. **NOTE:** During the poll call of a hands-free phone, two short tone bursts are output from the speaker approximately 30 seconds into the poll call.	Wait 6 minutes. [two tones]
12	Wait 5 minutes after hearing these two short tone bursts for the poll call to complete.	Wait 5 minutes.
13	Return the EMERGENCY push-button switch harness plug to the EMERGENCY connector J7 (if it was moved in Step 2). Make several test calls from the telephone to confirm proper operation.	Reconnect the EMERGENCY button. Test the telephone.

At the TMA PC Location

At the TMA PC, use the line number /location list to rename each new phone record as appropriate. (The new phone records created are located in the "New Phones" group; the description was set as the creation date and time and the PABX extension number.)

Make note of any unused or redundant phone records for later deletion.

Copying a Phone Record

If a phone record already exists with a configuration similar to an existing phone, the existing phone record can be copied to create a new phone record.

To copy an existing phone record, highlight the phone to be copied, right click and select **Copy** from the pop-up menu, as shown below. In this example, the "Entrance Phone" at the "Maint Bldg" will copied into the "Admin Bldg."
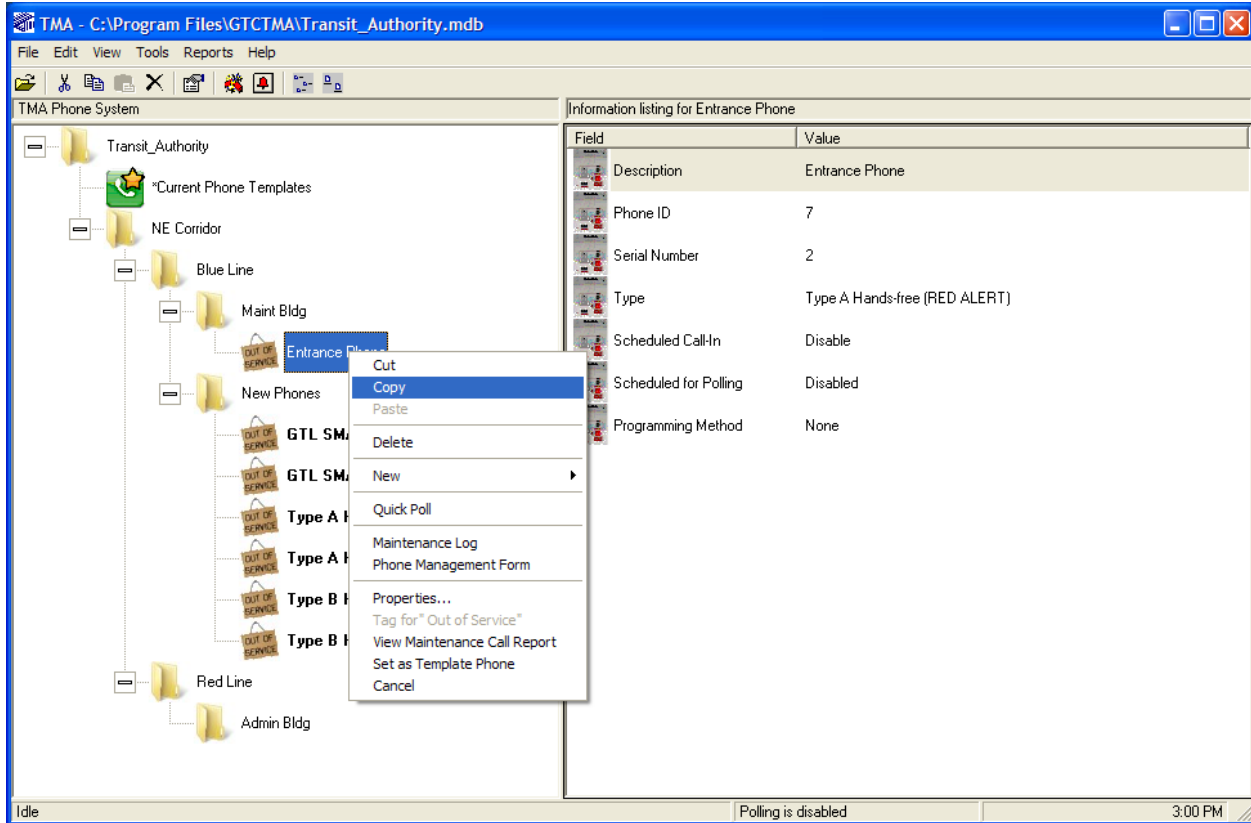
Next, select and right click on the group level which will hold the new phone record, as shown below. Select **Paste** in the pop-up menu.
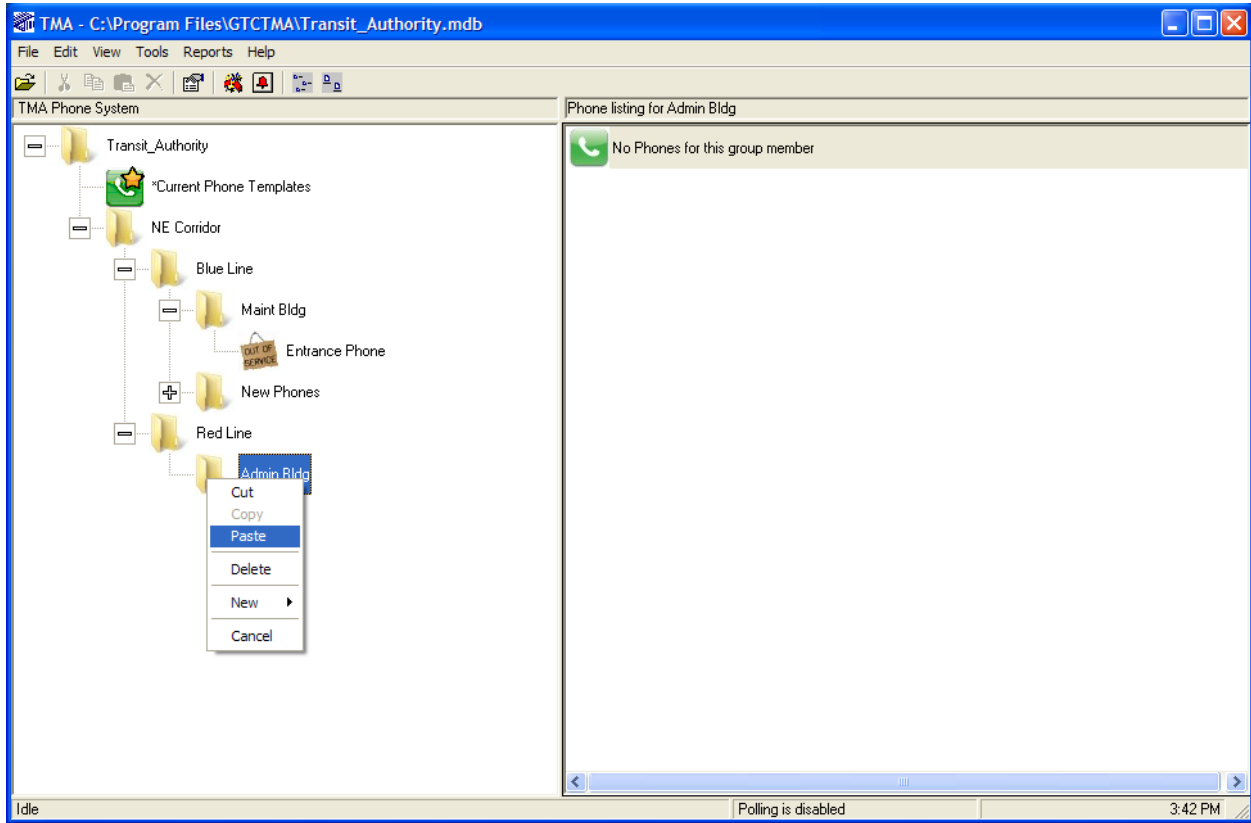
The following window will open asking, "Are you sure you want to copy the selected phone(s)? Click **Yes** to continue.
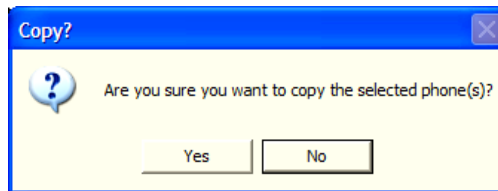
The new (or copied) phone record is added to the database and is assigned the next sequence number, in this case, **Phone 0008**, which appears in the "TMA Phone System" tree (under the "Admin Bldg") and in the "Phone Listing" (to the right), as shown below.
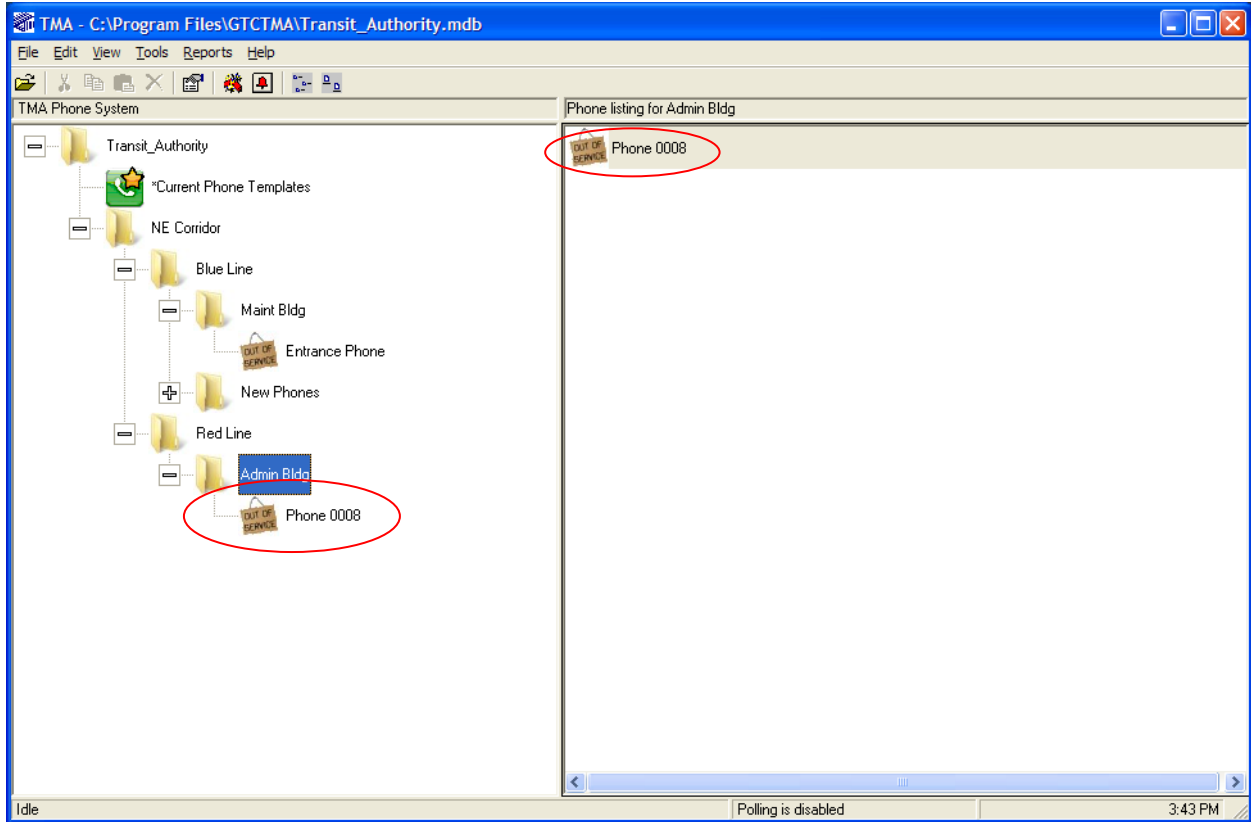
Import

Phone records can be added to the database by importing from a Comma Separated Value (CSV) file. Include fields in this text file as shown on the opening form of the TMA Phone Import Wizard.
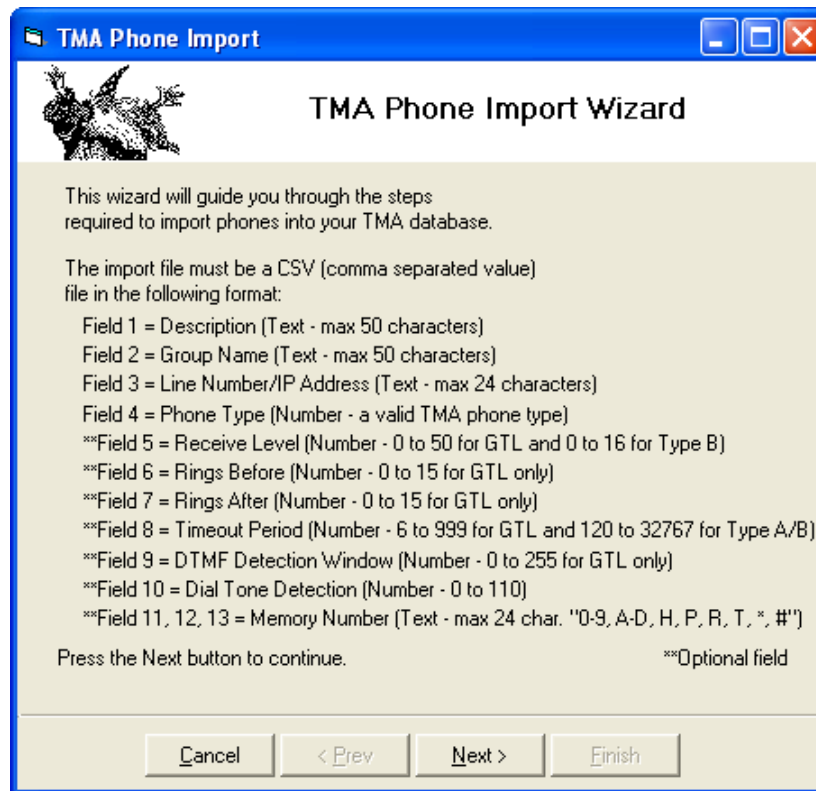
Fields 1–4 are required and are described as follows:

Field 1: "Description" as shown in Table 5.

Field 2: The name of an existing group (folder) at level 3 in the site's phone record tree structure.

Field 3: "Line Number/IP Address" as shown in Table 5. (**NOTE:** This field is the same as IP Address for VoIP phones.)

Field 4: "Phone Type Number" as a code number corresponding to the telephone type. Refer to Table 2 and the following list:

- Use 11 for GAI-Tronics GSM Phones
- Use 8 for GAI-Tronics VoIP Phones
- Use 6 for Type A or Type B Hands-free
- Use 5 for Type A or Type B Handset
- Use 2 for GTL Hands-free
- Use 1 for GTL Handset

For the Type A and Type B telephones, TMA will assume the proper phone record type (and icon) after the telephone has completed its first poll call. Refer to "Phone Management Form" section for details pertaining to the remaining optional fields.

Click **Next >** to continue to the File Selection Form.
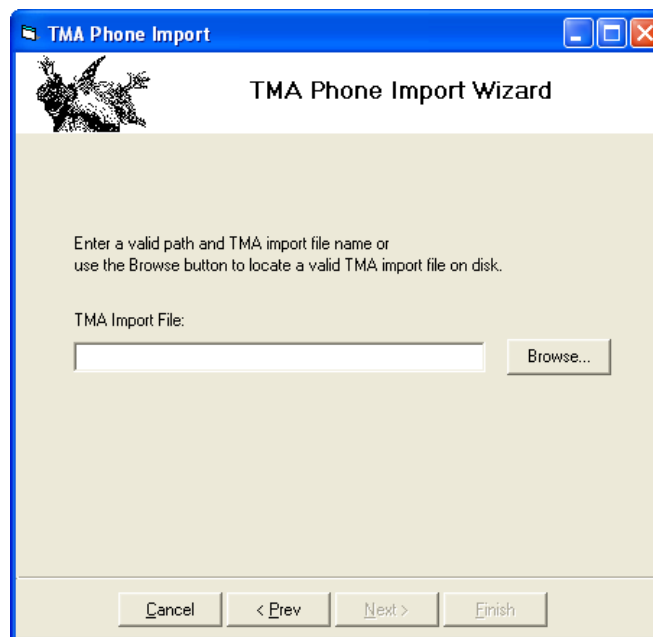
Type the CSV file name including the full path (or select it using the **Browse** button). Click **Finish** to create new phone records in the database according to the specified CSV file.

Managing Phone Records

With groups established and named for the telephone system, individual telephone settings can be modified through the Phone Management Form; with the exception of the VoIP phones (refer to "VoIP Phone Properties Form" section on page 52) and the GSM phones (refer to "GSM Phone Properties Form" on page 57).

Phone Management Form

The Phone Management Form is used to set up synchronization of settings (data) between TMA and the SMART telephones. Synchronization can be accomplished by:

- Sending data to a telephone (synchronize the data in a phone to the data in TMA)
- Receiving data from a telephone (synchronize the data in TMA to the data in a phone)
- A combination of send data and receive data

To access the Phone Management form, right click on the phone to be configured. When the pop-up menu appears (as shown below), move the cursor and click on Phone Management Form. In this example, the selected phone record to be configured is the "Entrance Phone" at the "Maint Bldg."
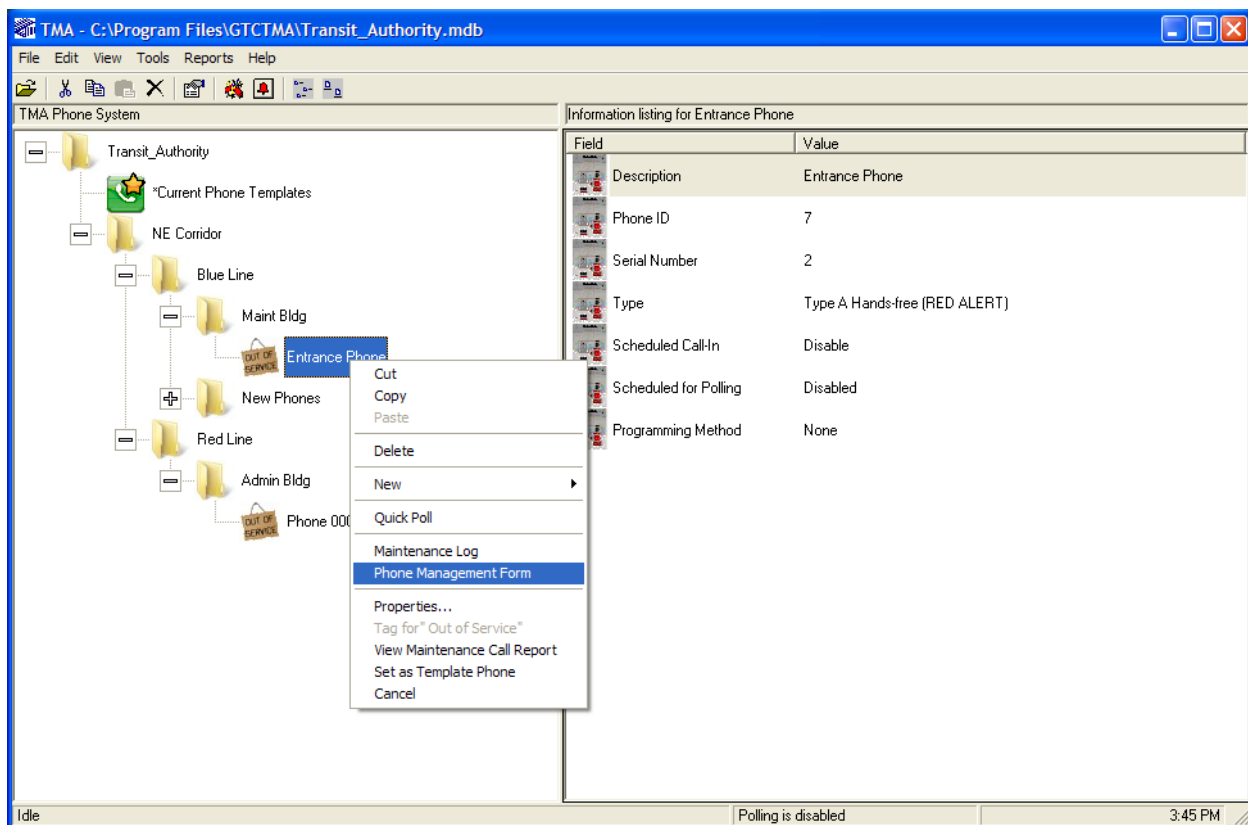
Click on the Phone Management Form to open. It is shown below.

The Phone Management Form consists of four areas: Phone Properties, Phone Data, Command Area, and Synchronization.

Phone Properties Area

The Phone Properties area displays the phone properties in a tree structure. Each property contains multiple parameters and can be expanded or collapsed by clicking ⊞ or ⊟ respectively.

To select all parameters of a property, click the property check box. To select an individual parameter, click the parameter check box. All selected parameters will be processed based on user actions in the Command area.

NOTE: The "Type A Advanced Settings" appears in the Phone Properties area <u>only</u> if this phone record is Type A.

Phone Data

The Phone Data area contains parameters with value fields that correspond to the parameter and value columns in the synchronization list. As each parameter is selected in the Phone Properties Tree, the appropriate form is displayed in the Phone Data area for entering information in the value fields.

Command Area

The Command area is used to queue send/receive requests and to schedule synchronizations for processing. The user can also reset (undo) changes or cancel the entire operation. The Command area controls the following actions:

Table 4. Command Area Actions

Command	Function
Synchronize Now	When selected, TMA will immediately poll and synchronize the telephone.
Synchronize Later	When selected, data between TMA and the telephone will be synchronized the next time the telephone is contacted.
Send	When selected, data in the telephone will be synchronized to data stored in TMA.
Receive	When selected, data in TMA will be synchronized to data stored in telephone.
OK	When clicked, TMA processes the current synchronization list with the selected schedule (Now or Later) and closes the Phone Management Form.
Cancel	When clicked, the Phone Management Form closes and no processing will occur.
Apply	When clicked, the selected batch is added to the synchronization list with the current Send/Receive selection.
Reset	When clicked, it will reset (undo) all changes made after the last "Apply" function. By holding the Ctrl-Key and Right-clicking the Reset button, there is an option of resetting all the fields to their default values to be synchronized with the telephone.

Synchronization Area

The Synchronization area displays a listing of all data selected for processing. The list contains two columns, Parameter and Value, that correspond to the selections and entries made in the Phone Data area. Data to be exchanged between the PC and the phone is separated into "Receive" and "Send" batches. The Parameter column lists the phone property name and the parameters selected. The Value column lists the entries from the Value fields for each parameter.
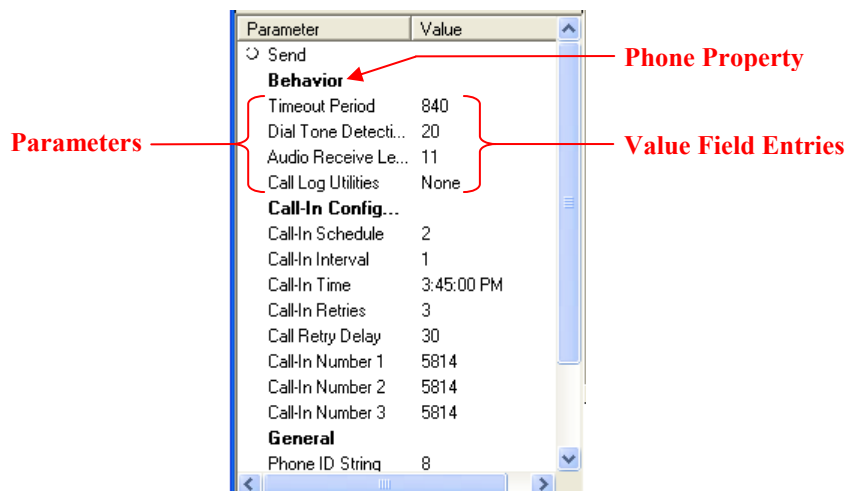
Example – Typical Phone Record Setup

In many cases, updating just the Description, Line Number, and Emergency autodial numbers in the GAI-Tronics SMART telephone is sufficient for initial setup. Follow these steps to update a phone record and to synchronize the telephone to the updated phone record.

1. Choose the type of phone record that corresponds to the telephone model.

2. Right click on the icon of this telephone's phone record.

3. Click on **Phone Management Form**.

4. Click in the **Description** field (General properties) and enter a location/identification description.

5. Click in the **Line Number** field (General properties) and enter the telephone's line number exactly as the TMA DTMF Transceiver will dial it.

6. Click on the title **Memory Configuration** in the Phone Properties tree to display the section containing the autodial telephone numbers.

7. Click in the first **Emergency** field and enter a telephone number that the telephone will dial when the EMERGENCY button is pressed.

8. Click in the second **Emergency** field. TMA fills the second and third autodial numbers. Update these second and third cascade numbers if desired.

9. Select **Send** and **Synchronize Now** in the Command Area.

10. Click **Apply** (Command Area). This adds all updated values to the Synchronization Area.

11. Click **OK** (Command Area). This closes the Phone Management Form and sends a request to SPI (SMART Phone Interface) to call the telephone and synchronize it to the updated phone record settings (i.e., "Send" these values to the telephone).

12. Within 15 seconds, SPI takes the transceiver off-hook and begins the call. As a result of this maintenance call, the telephone's health status shown by TMA will also be updated.

13. If desired, monitor the progress of this maintenance call using the SPI call status window. If the SPI call status window is not open; double-click the telephone icon in the Windows taskbar notification area to open the call status window.

Phone Properties Area

This section examines the parameters of each phone property displayed in the Phone Properties area of the Phone Management Form.

General

The General Properties Form for a Type A Hands-free phone record is shown below followed by an explanation of each parameter.

Table 5. General Property Parameters and Their Functions

Parameter	Function
** Description	Description is name entered (or assigned) to the telephone in the phone tree list that will appear on TMA screens and reports.
Tag ID	Tag ID is the site identification label for the telephone. The field is limited to 24 alphanumeric characters and should be unique and easily recognized. This ID appears on TMA reports, but is not stored in the telephone memory.
** Type	Type specifies the type of telephone installed and determines the telephone settings. This property is set by the profile selected in the Phone Wizard and is stored only in the TMA database.
Serial Number	A Serial Number is programmed into every telephone during manufacture and is read by TMA. This field is an important identifier during polling, and cannot be changed.
Version	Version identifies the firmware installed in the telephone at the time of manufacture and cannot be changed.
** Date Created	Date Created line identifies when the phone record was added to the TMA database and cannot be changed.
Line Number	Line Number is the PABX extension assigned to telephone, which TMA will dial to send and receive data. The number must be entered exactly as it will be dialed by the PABX, including any prefixes or area codes.
ANI Enabled*	When checked, the telephone will transmit the ANI code using DTMF when the called party requests it at the beginning of a call. The called party requests the ANI transmission by keying the digits 00 (factory default setting), or if configured, by the digit * or the digit #. Refer to "Voice Annunciation Activation" on the Properties Form.
ANI*	ANI is a four-digit code that serves as a unit ID when the telephone is set up to provide unit location transmission on a voice call. Use of ANI is optional. Refer to "Voice Annunciation Activation" on the Properties Form.

*NOTE: A DTMF receiver/decoder is required to process the received DTMF ANI code.

Behavior

The Behavior Properties Form for a Type A Hands-free phone record is shown below followed by an explanation of each parameter.
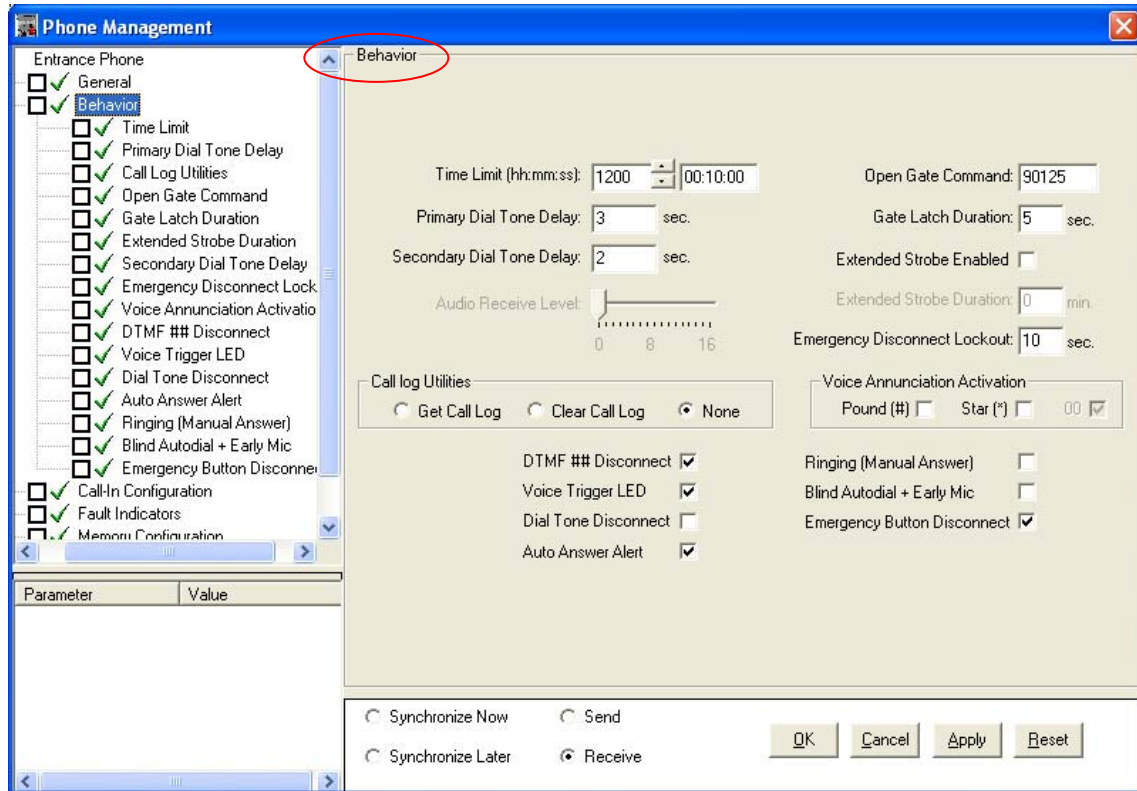
Table 6. Behavior Parameters and Functions

Parameter	Function
Timeout Limit (hh:mm:ss)	The Timeout Limit sets the duration of a user call at the telephone. At the end of the timeout period, the telephone automatically terminates the call. This parameter displays two fields with entries made only in the first (number) field. Entries in the number field are in 0.5-second increments. The second field displaying "**hh:mm:ss**" cannot be changed. Example: A numerical value of 1200 = 10 minutes (as shown above). The minimum call duration is 1 minute (a numerical value of 120). The maximum duration is 04:33:04.
Primary Dial Tone Delay	Primary Dial Tone Delay controls the time limit the telephone uses to detect dial tone. The recommended setting is 3–5 seconds. **NOTE:** If dial tone is not detected within the specified time, dialing will proceed.
Secondary Dial Tone Delay	Secondary Dial Tone Delay controls the time limit the telephone uses to detect dial tone after a digit is entered to access an outside line. The recommended setting is 2–4 seconds. **NOTE:** If dial tone is not detected within the specified time, dialing will proceed.

Parameter	Function
Audio Receive Level	For Type-B Hands-free telephones, sets the limit of the speaker audio power. (This is particularly important if the telephone line current is below 30 mA.) This setting is used to compensate for abnormal line input level. If it is set too high, speaker output power can exceed available line power, and the call can disconnect unexpectedly. For a telephone with a cone speaker, the setting is 11 for normal line audio levels. If the line audio level is low, increase this setting by small steps to provide for a higher speaker volume. For a telephone with a non-metallic speaker assembly, use 15 for optimum performance.
Initial Handset Volume	For a Type-A handset telephone, the VOLUME push button on the front panel allows the user to select any of five preset volume levels. This setting determines which of the five available handset volume levels the telephone uses at the start of the call.
Call log Utilities	The Call log Utilities consists of three selections to obtain, clear (delete) or ignore call logs stored in the telephone's memory. Each is explained below: **Get Call Log** – directs TMA to obtain the call log stored in the telephone. **Clear Call Log** – directs the telephone to clear the call log entries stored in memory. **None** – no actions are taken with the call log stored in the telephone memory.
DTMF ## Disconnect	When checked, entry of the DTMF "#" digit two times by the connected party will terminate the call.
Voice Trigger LED	When checked, the Call Received LED illuminates in a steady state when the telephone detects audio on the line other than dial tone, DTMF tones or a busy tone.
Dial Tone Disconnect	When checked, the telephone disconnects from the line if dial tone is detected during a user call.
Auto Answer Alert	When checked, the telephone will output a brief alert tone to indicate it has been accessed and is active on the line for a user call.
Open Gate Command	This is the security access code to activate dry contact output 4 to open a gate or door latch. The security code field will accept a maximum of eight numeric digits (0–9). The first digit <u>cannot</u> be zero.
Gate Latch Duration	This sets the length of time output 4 is active when a successful Open Gate Command is received.
Extended Strobe Enabled	When checked, the strobe connected to the telephone remains active for a preset interval after the user call ends. This duration is set in the "Extended Strobe Duration" field directly below the check box. This feature requires the use of an external power supply.
Emergency Disconnect Lockout	This sets the length of time the EMERGENCY button is locked out (prevented) from terminating a user call (if depressed a second time), after a call is initiated.

Parameter	Function
Voice Annunciation Activation	A telephone can be equipped with an optional Voice Annunciation module, which can have one stored message for play back. To activate a message play back from the voice module, the caller keys the digits **00** (factory default setting). If the "Pound [#]" or "Star [*]" check boxes are checked, then either **00** or **#** or ***** activates the voice play back. These selections also apply to ANI transmission. Refer also to "ANI" and "ANI Enabled" on the General Properties Form. If ANI is enabled and the Voice Annunciation module is installed, the telephone plays the voice announcement and then transmits the ANI.
Ringing (Manual Answer)	When checked, an incoming call at the telephone causes a ringing tone at the telephone's speaker (if hands-free) or sounder (if equipped with a handset), and the call can be answered by a user for voice communication.
Blind Autodial + Early Mic	When checked, the phone's microphone becomes active immediately after the telephone dials an outgoing user call. Use this setting with caution since audio detected by the telephone's microphone can cause the Call Received LED to illuminate, and give the user (caller) a false indication that the called party has answered the call.
Emergency Button Disconnect	When checked, a second depression of the EMERGENCY button at the phone will terminate the call, only after the time set in the Emergency Disconnect Lockout field has elapsed.

Call-In Configuration

The Call-In Properties Form for a Type A Hands-free phone record is shown below followed by an explanation of each parameter.
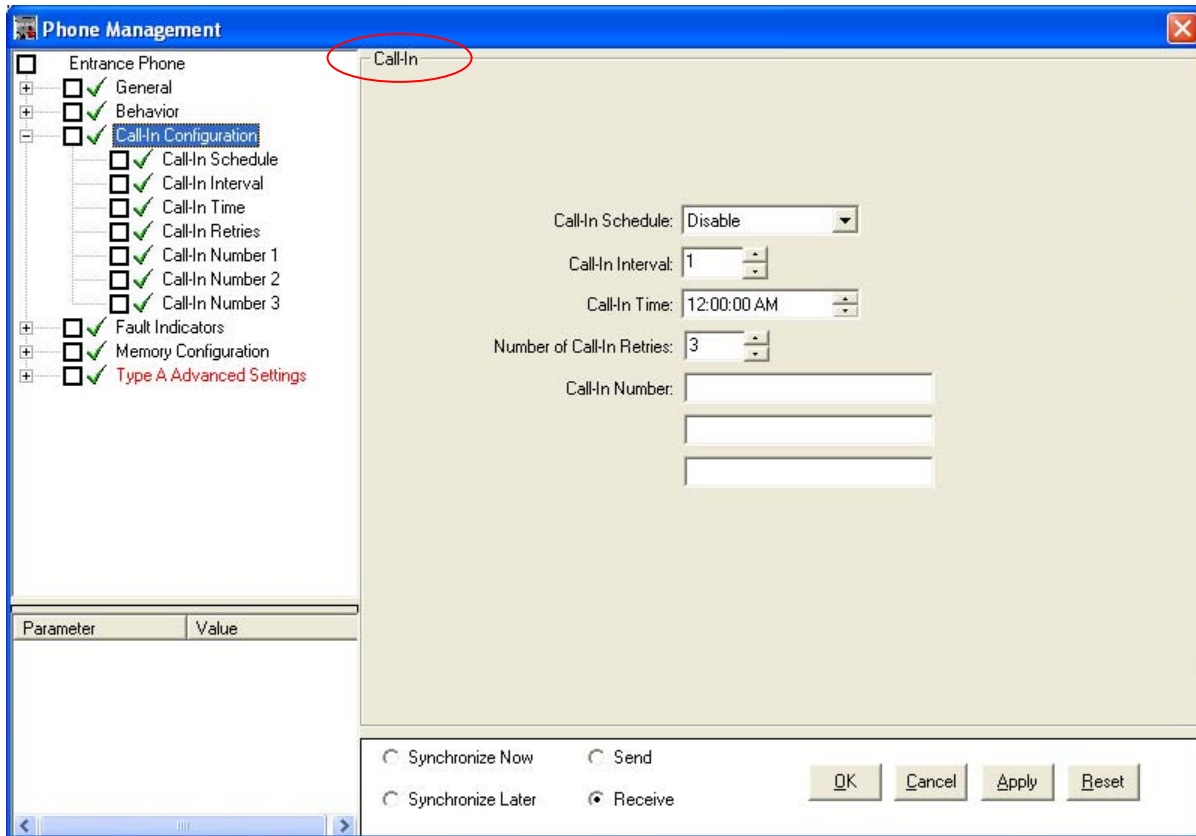

Table 7. Call-In Properties Parameters and Their Functions

Parameter	Function
Call-In Schedule	The Call-In Schedule determines the frequency at which the telephone is to call TMA to provide an update. This field has four entries, which are: **Disable** – disables the call-in feature. **Daily** – directs the telephone to call in on a daily basis at the time set in the "Call-In Time" field. **Every n hour**s – directs the telephone to call-in every "n" hours based on the number selected in the "Call-In Interval" field. **Out of Service** – sets a flag for TMA that the telephone is currently "out of service." This setting prevents TMA from polling the telephone.
Call-In Interval	The Call-In Interval sets the number of times the call-in process will occur with "n" representing the number of hours between call-ins. Example: If the telephone is configured for **Every n hours** in the Call-In Schedule and this field is set to "2," the telephone will call in every 2-hours. **NOTE:** Telephones configured to call in **Daily** in the Call-In Schedule will ignore this interval and will call in only at the time specified in the Call-In Time field.

Parameter	Function
Call-In Time	The Call-In Time sets the time of day the telephone will call in, and can be set in 1-minute increments. **Type B telephones only:** During a scheduled call-in, the telephone updates TMA with the next scheduled call-in time. In the event a telephone does not complete a scheduled call-in, the telephone defaults to performing to a daily call-in mode.
Number of Call-In Retries	The Number of Call-In Retries directs the telephone to make additional call-in attempts (or retries) if the first attempt was unsuccessful. Each additional call-in attempt occurs at 50-second intervals and is **not** determined by the Call-In Retry Delay below.
Call-In Number	The Call-In Number has a group of three fields. The first number is the primary number the telephone will dial at scheduled (or unscheduled) call-in times. If the primary call is unsuccessful, the telephone cascades to the second number in an attempt to complete the maintenance call. If the second number is also unsuccessful, the third number will be attempted.

Fault Indicators

A telephone can report status for several inputs, which can be internal or external to the telephone. The function of an input can be assigned a "Common Name" via drop-down list selections, which will appear on reports. A "Fail" (fault) condition is reported for a stuck (closed) contact. The "Fault Indicators" properties form is shown below followed by explanations of the available selections.
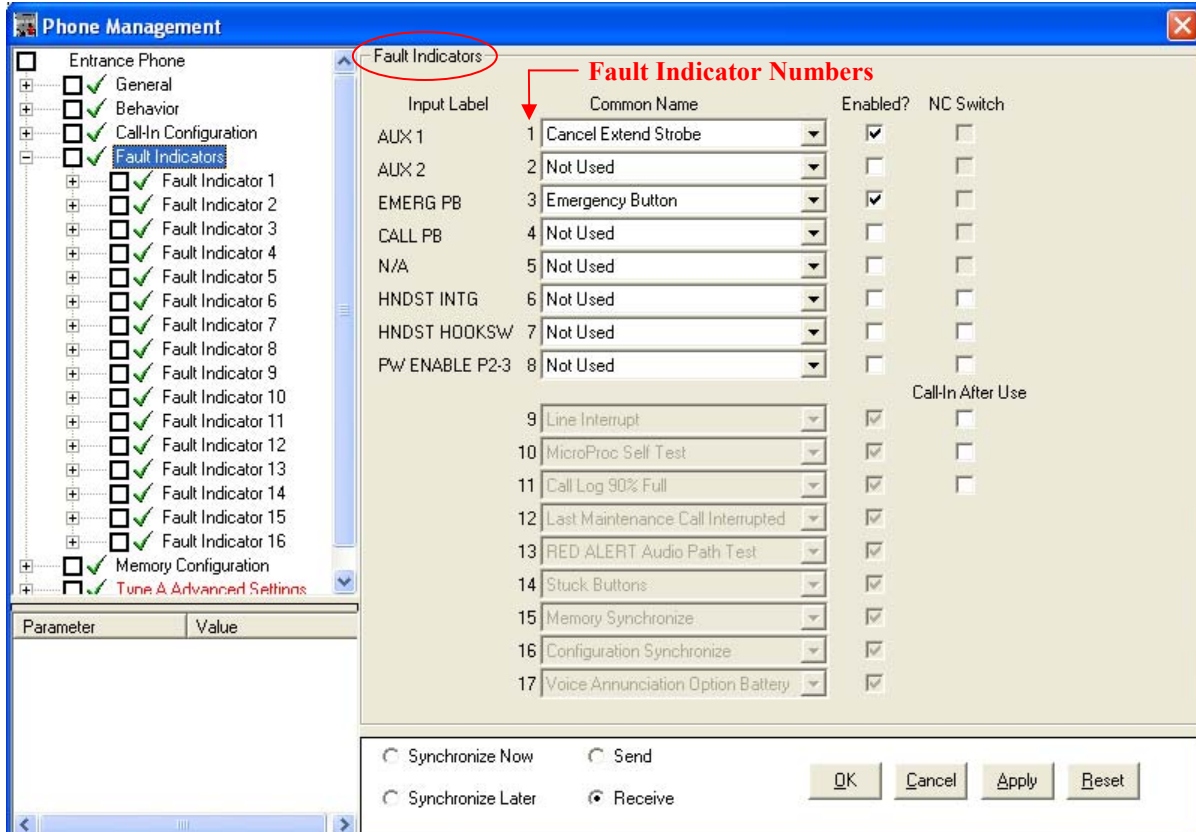
Table 8. Fault Indicators

Parameter	Common Name Function
AUX1 or INTG **(Fault Indicator 1)**	The AUX1 or INTG (Auxiliary 1 or Integrity) fault input allows reporting of various "named" sensory devices, if connected to this input at the phone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Aux 1** – when selected, this input is listed with the generic "Aux1" label. **Autodial 3** – is used if a momentary input is used to start a call that uses the "Bank 3" Autodial memory numbers. A failure condition indicates a stuck switch contact. **Hookswitch** – enables reporting of an off-hook condition from the hookswitch only at phones equipped with a handset. **Handset Integrity** – enables reporting of a break in the handset cord at phones equipped with a handset. **Manual Trigger** – is used if a manual switch is connected to the input. **Door** – enables reporting of an open door via a door switch sensor, if installed at a weatherproof phone or a stanchion with door access. **Tilt** – enables reporting of a tilted (or leaning) condition of a phone or stanchion, if a tilt switch sensor is installed. **Strob Const Lamp (Strobe Constant-On Lamp)** – is used if the input is connected to a strobe status contact to indicate failure of the Constant-On Lamp. **Solar Panel Wiring** – is used if the input is connected to a solar panel wiring fault contact. **Stanchion Battery** – is used if the input is connected to a stanchion battery fault contact.
AUX2 **(Fault Indicator 2)**	The AUX2 (Auxiliary 2) fault input allows reporting of various "named" sensory devices, if connected to this input at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Aux 2** – when selected, this input is listed with the generic "Aux 2" label. **Call Button** – is used if the input connects to the Call button. A failure condition indicates a stuck switch contact. **Autodial 4** – is used if a momentary input is used to start a call that uses the "Bank 4" Autodial memory numbers. A failure condition indicates a stuck switch contact. **Hookswitch** – enables reporting of an off-hook condition from the hookswitch only at phones equipped with a handset. **Manual Trigger** – is used if a manual switch is connected to the input. **Door** – enables reporting of an open door via a door switch sensor, if installed at a weatherproof phone or a stanchion with door access. **Tilt** – enables reporting of a tilted (or leaning) condition of a phone or stanchion, if a tilt switch sensor is installed. **Strob Const Lamp (Strobe Constant-On Lamp)** – is used if the input is connected to a strobe status contact to indicate failure of the constant-on lamp. **Solar Panel Wiring** – is used if the input is connected to a solar panel wiring fault contact. **Stanchion Battery** – is used if the input is connected to a stanchion battery fault contact.

Parameter	Common Name Function
EMERG PUSHBUTTON (Fault Indicator 3)	The EMERG PB (EMERGENCY push button) fault input allows reporting of the EMERGENCY push button on the front of the telephone, or other "named" sensory devices at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Emergency Button** – is used if the input connects to the EMERGENCY button. A failure condition indicates a stuck switch contact. **Autodial 1** – is used if a momentary input is used to start a call that uses the "Bank 1" Autodial memory numbers. A failure condition indicates a stuck switch contact. **Manual Trigger** – is used if a manual switch is connected to the input.
CALL PUSHBUTTON (Fault Indicator 4)	The CALL PB (CALL push button) input allows reporting of the CALL push button on the front of the telephone, or other "named" sensory devices at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Call Button** – is used if the input connects to the CALL button. A failure condition indicates a stuck switch contact. **Autodial 2** – is used if a momentary input is used to start a call that uses the "Bank 2" Autodial memory numbers. A failure condition indicates a stuck switch contact. **Manual Trigger** – is used if a manual switch is connected to the input.
N/A (Fault Indicator 5)	The N/A (not applicable) fault input is dedicated to the telephone's memory, and only the following two selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected in the telephone's memory is not reported. **Memory Abnormal** – when selected, a fault detected in the telephone's memory will be reported.
HNDST INTG (Fault Indicator 6)	The Handset Integrity Loop input reports status of a switch connected to clips E1 and E2 on the 69577 PCBA or other "named" sensory devices at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Power Supply** – is used if the input is connected to an external power supply fault contact. **Door** – enables reporting of an open door via a door switch sensor, if installed at a weatherproof phone or a stanchion with door access. **Tilt** – enables reporting of a tilted (or leaning) condition of a phone or stanchion, if a tilt switch sensor is installed. **Strob Const Lamp (Strobe Constant-On Lamp)** – is used if the input is connected to a strobe status contact to indicate failure of the Constant-On Lamp. **Solar Panel Wiring** – is used if the input is connected to a Solar Panel Wiring fault contact. **Stanchion Battery** – used if input is connected to a stanchion battery fault contact. **Key A** – when selected, this input will be listed by the generic "Key A" label representing key switch contact "A." **Handset Integrity** – indicates that this input is being used with a handset to indicate a break in the handset cord.

Parameter	Common Name Function
HNDST HOOKSW (Fault Indicator 7)	The HNDST HOOKSW fault input reports status of a switch connected to pins 3 and 4 at J8 (Key switch "C") or other "named" sensory devices at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Power Supply** – is used if the input is connected to an external power supply fault contact. **Door** – enables reporting of an open door via a door switch sensor, if installed at a weatherproof telephone or a stanchion with door access. **Tilt** – enables reporting of a tilted (or leaning) condition of a telephone or stanchion, if a tilt switch sensor is installed. **Strob Const Lamp (Strobe Constant-On Lamp)** – is used if the input is connected to a strobe status contact to indicate failure of the constant-on lamp. **Solar Panel Wiring** – is used if the input is connected to a solar panel wiring fault contact. **Stanchion Battery** – is used if the input is connected to a stanchion battery fault contact. **Key C** – when selected, this input is listed by the generic "Key C" label representing key switch contact "C." **Hookswitch** – indicates that this input is being used with a handset cradle hookswitch. A fail status indicates that the handset has not been returned to the cradle after use. (i.e. left free hanging)
PW ENABLE P2-3 (Fault Indicator 8)	The PW JUMPER P2-3 input reports status of a switch connected to pins 2 and 3 at J9 (Password Enable jumper) or other "named" sensory devices at the telephone. The following selections are available in the "Common Name" field: **Not Used** – when selected, a fault detected at the input is not reported. **Power Supply** – is used if the input is connected to an external power supply fault contact. **Door** – enables reporting of an open door via a door switch sensor, if installed at a weatherproof phone or a stanchion with door access. **Tilt** – enables reporting of a tilted (or leaning) condition of a phone or stanchion, if a tilt switch sensor is installed. **Strob Const Lamp (Strobe Constant-On Lamp)** – is used if the input is connected to a strobe status contact to indicate failure of the constant-on lamp. **Solar Panel Wiring** – is used if the input is connected to a solar panel wiring fault contact. **Stanchion Battery** – is used if the input is connected to a stanchion battery fault contact. **PW Jumper** – when selected, this input is listed by the generic "Password Jumper" label. This is appropriate for most uses with the jumper clip on header J9.
Fault Indicator 9 (Line Interrupt)	In the event telephone line service is disrupted for 8 or more minutes, the telephone logs the event and performs a call-in to TMA only if the adjacent "Call-In After Use" check box is checked. This selection cannot be changed.

Parameter	Common Name Function
Fault Indicator 10 **(Microprocessor Self Test)**	In the event any abnormal processing activity occurs during periodic testing of the phone's microprocessor, the phone logs the occurrence and performs a call-in to TMA, only if the adjacent "Call-In After Use" check box is checked. This selection cannot be changed.
Fault Indicator 11 **(Call Log 90% Full)**	If (or when) the telephone's call log memory becomes 90% full, the phone logs the condition and performs a call-in to TMA after a user call only if the adjacent "Call-In After Use" check box is checked. This selection cannot be changed.
Fault Indicators 12 through 17	Fault Indicators 12–16 are dedicated to functions listed below, and cannot be changed: **(12) Last Maintenance Call Interrupted** – indicates the most recent poll call or call-in failed and the phone's health status was not received by TMA. **(13) Last Call-In Failed** – indicates the most recent attempt by the telephone to call-in to TMA failed and the phone's health status was not received by TMA. **(14) Stuck Buttons** – indicates a push button on the phone is stuck in a closed position. This also applies to a keypad. **(15) Memory Synchronize** – indicates the TMA database does not contain the same settings as the telephone for one or more of autodial phone numbers. **(16) Configuration Synchronize** – indicates the TMA database does not contain the same settings as the telephone for one or more of its parameter settings other than the autodial numbers. **(17) Voice Annunciation Option Battery** – indicates that the battery in the Voice Annunciation option require replacement.
Common Name	The Common Name drop-down lists are used to identify which telephone fault indicator is connected to a particular input, for reporting purposes. NOTE: The fault indicator names in the drop-down list may differ from phone to phone depending on how or which fault indicators are being used.
Enabled	When checked, the fault indicator selected in the "Common Name" is enabled and will be reported. If unchecked, it is disabled, and any fault information received on that sensor is not reported. NOTE: If the sensor does not exist in the telephone, the fault indicator should be disabled to avoid "phantom" faults from appearing in exception reports.
NC Switch	When checked, the contact is Normally Closed (N.C.), which is the "normal" state of a fault indicator contact closure. If unchecked, the contact closure for the sensor is Normally Open (N.O.).
Maint. Call	When selected, the telephone initiates a call-in to the primary number in the call-in number(s) memory bank.
Voice Call	When selected, the telephone places a voice call when the selected fault indicator state becomes faulted. The voice call is made from the appropriate memory bank of autodial numbers, which is determined by the depression of a specific button.
Call-in After Use	When checked, the telephone initiates a call-in to TMA after a user call and is dependent upon the nature of the fault. This function is only available for Fault Indicators 9, 10 and 11.

Memory Configuration

The Memory Configuration Properties Form is shown below followed by an explanation of each entry.
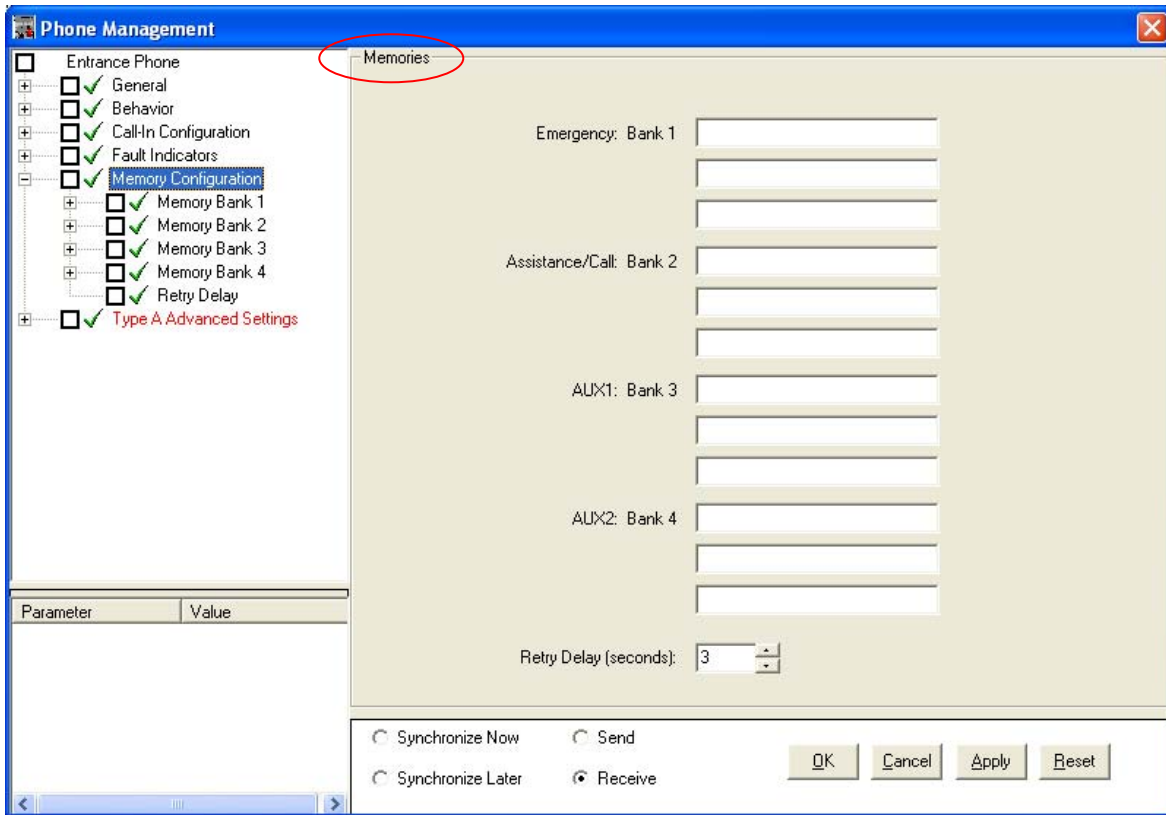

Table 9. Memory Configuration Properties and Their Functions

Parameter	Function
Emergency: Bank 1	Emergency Bank 1 is the memory bank for the EMERGENCY button on the front of the telephone (*see note*).
Assistance/Call: Bank 2	Assistance/Call Bank 2 is the memory bank for the second, non-emergency button labeled as either CALL or ASSISTANCE located on the front of the telephone (*see note*).
AUX1: Bank 3	AUX1 Bank 3 is the memory bank for the Auxiliary (spare) input 1 on the board inside the telephone (*see note*).
AUX2: Bank 4	AUX2 Bank 4 is the memory bank for the Auxiliary (spare) input 2 on the board inside the telephone (*see note*).
Retry Delay (seconds)	Retry Delay sets the time delay between additional call attempts by a telephone only when an EMERGENCY (or HELP) push button is depressed on the front of the telephone. This delay is usually set to the minimum time period required by the PABX to reset after previous call attempt.

NOTE: Each memory bank can have up to three numbers. The first number in a memory bank is the primary auto-dial number. The second and third numbers in each memory bank are cascading auto-dial numbers. The type of call to be made (call in or voice call) is determined by the configuration of the phone in the Fault Indicators window.

Cascading Autodial Numbers

If an attempt to call the primary number is unsuccessful, the telephone will release that call, and initiate another call using the second autodial number in that memory bank. If the second call attempt also fails, the telephone will attempt a third call to the third number stored in that memory bank.

Valid Autodial Numbers

Each memory location will accept up to 24 alphanumeric digits. The valid alphanumeric digits are 0–9, A, B, C, D, P (for DTMF #), H for a pause in the dialing sequence, and ∗ for the DTMF star (*see note*).

NOTE: Any digits other than 0–9 counts for two character digits of the 24-digit maximum.

Type A Advanced Settings

The Type A Advanced Settings Properties Form is shown below followed by an explanation of each entry.

Table 10. Input Switches

Designation	Function
Emergency	This is the dry contact switch connected to pins 1 and 2 at J7. This switch is typically the EMERGENCY push button.
Call	This is the dry contact switch connected to pins 1 and 2 at J1. This switch is typically the CALL push button.
Aux 1	Can be any dry contact switch connected to the AUX 1 input at TB6.
Aux 2	Can be any dry contact switch connected to the AUX 2 input at TB7.

Table 11. Drop-Down List Selections for Input Switches

Designation	Function
Voice Call	When selected, the input initiates a voice user call.
TMA Maintenance Call	When selected, the input initiates a call-in to TMA.
Cancel Strobe	When selected, the input terminates strobe activity.
Record Greeting (Mic)	When selected, the input activates the record mode of the optional Voice Annunciation Module.
Hook Switch	When selected, the input is designated as the handset cradle hookswitch for on/off-hook conditions, unless overridden by another parameter.
Not Used	The input is not used and is reserved for future use.
Not Used	The input is not used and is reserved for future use.
Special 1	The input is reserved for custom applications.
Special 2	The input is reserved for custom applications.
Special 3	The input is reserved for custom applications.
Special 4	The input is reserved for custom applications.

Table 12. Fields and Check Boxes for Input Switches

Field/Check Box	Description
Priority	This field specifies the priority of the input. The following priorities are generally assigned: Priority 1 (*highest*) – Emergency calls Priority 2 – (reserved for custom applications) Priority 3 – Normal voice calls Priority 4 – Calls that record or play a voice annunciation message Priority 5 (*lowest*) – A switch used to start a call-in to TMA.
Disable Wake	Check this box to prevent the input from initiating a call.
Allow Disconn.	Check this box to permit an input having equal priority to terminate the call (after expiration of the Emergency Disconnect Lockout time).
Emerg.	When checked, the call is designated as an "emergency" call and the telephone activates the strobe output and enables the Disconnect Lockout Interval.
Autodial Row	This field directs the phone to a specific memory bank of auto-dial numbers, as follows: Enter 0 for Memory Bank 1 (Emergency) Enter 1 for Memory Bank 2 (Assistance/Call) Enter 2 for Memory Bank 3 Enter 3 for Memory Bank 4 Enter 4 for Memory Bank 5 (for the call-in autodial numbers)
Speed Dial with Hook Sw.	When checked, a user must first remove the handset from the cradle, and then depress a speed dial button.

Table 13. Output Devices

Designation	Function
Out 1	Output contact 1 at TB2, in the telephone.
Out 4	Output contact 4 at TB5, in the telephone.
CR_LED	Controls the Call Received LED connected to pins 1 and 2 at J16 in the telephone.
CP_LED	Controls the Call Placed LED connected to pins 1 and 2 at J2 in the telephone.
Ringer	Controls the piezo ringer connected to pins 3 and 4 at J16 in the telephone.
Ser. Bus (J10:P4)	Controls pin 4 at J10 in the phone. This output is not available for any other function if an optional Voice Annunciation Module is installed in the telephone.

Table 14. Drop-Down List Selections Output Devices

Designation	Function
No Function	The output is always inactive.
Call Received	Becomes active when a confirmed call connection occurs.
Call Placed	Becomes active at the start of a voice call and will become inactive when a confirmed call connection occurs.
Answer Voice Call	Becomes active at the start of a voice call that is being received by the telephone.
Track Ringing	Is only active while the telephone is generating a simulated ring-back tone after an incoming call is received.
Non-Keypad Voice Call	Becomes active at the start of a voice call that is not dialed using the keypad.
Keypad Voice Call	Becomes active at the start of a voice call that is dialed using the keypad.
Any Call	Becomes active at the start of any call, whether inbound or outbound.
Alerter 20 Hz Warble	Provides a pulsed dc signal for the piezo ringer to produce a simulated ringing tone on an incoming call if the Ringing (Manual Answer) feature is enabled in the "Behavior" properties.
Emergency Strobe	Becomes active at the start of an Emergency call and is intended to control an external strobe.
LED Flash/Solid @ Connect	The output pulses at the start of a voice call and then becomes active in a steady state when a confirmed call connection occurs.
Open Gate Contact	The output pulses when the phone receives the proper "Open Gate Command" set in the "Behavior" properties.
Mirror Handset Hookswitch	The output follows the state of the handset cradle hookswitch.

Table 15. Other Fields and Check-Box Selections

Parameter	Function
Call Progress Tone Blocking Time	When set to a value greater than 100, the telephone will detect North American Call Progress tones (ring back, busy, fast busy). For other values, this parameter specifies the time (in seconds) at the start of the call during which the telephone will ignore these tones, which disables the phone's ability to redial a call on the "no answer" or on the "busy" condition. This can be useful when the telephone system does not meet North American standards.
CR_LED Confirmation Tone	When checked, the telephone transmits a brief confirmation tone when the Call Received LED becomes active solid.
Send DTMF Tone After Attention Star Detection	When checked, the telephone transmits a brief confirmation tone after it detects the first "Star" digit of each "Star" command.
Use Low DTMF for S/N	When checked, the telephone transmits the serial number prefix using DTMF numeric digits (0–9) instead of alphabetic digits (A–D). Use of this function is applicable <u>only</u> to phones operating behind a cellular interface.
Transmit 1st Autodial # on Incoming Call	When checked, the telephone transmits the Primary Autodial number for the EMERGENCY push button when it accepts an incoming call. Remote programming is disabled.
Disable Busy Tone Counting	SMART Telephones automatically end a call attempt and retry when an auto-dial or ringdown operation results in several cycles of a Busy or Fast-Busy signal. In addition, RED ALERT® emergency telephones end a keypad call automatically after detecting six cycles of Busy or Fast-Busy.
	When checked, this counting/retry automation is disabled. (This disable option applies only to telephones having firmware version greater than 301.)
Disable Ringback Counting For Voice Call	SMART Telephones automatically end a voice call attempt and retry when an auto-dial call results in many cycles of Ringback signal.
	When checked, this counting/retry automation is disabled. (This disable option applies only to telephones having firmware version greater than 301.)
Skip Dial Tone Detection	When checked, the telephone auto-dials its programmed number without waiting to detect dial tone. Using this option may result in improper dial sequences on some PABX systems.
	(This disable option applies only to telephones having firmware version greater than 301.)

GTL SMART Phone Properties

General

The General tab on the Phone Properties sheet is shown below.

General Properties

Phone ID String The **Phone ID String** is the user's identification label for this phone. Choose a unique easily recognizable label for each phone (24 characters maximum). This label is used for identification in the TMA reports; it is not stored in the telephone.

Description This is the user's text description of the phone that appears on the TMA screens (50 characters maximum). It is not stored in the telephone. For best identification, make the first part of the description match the **Phone ID String**, then add other identifiers such as a phone's Asset Tag number. The text in this field is the label used on the TMA screens and it is included in each report.

Type This text box specifies what type of phone is installed. This selection is used to control many phone settings. The **Type** property is set by the Profile applied to the phone. It is stored only in the TMA database. Phone **Types** available through default Profiles are **S.M.A.R.T. Handset** and **S.M.A.R.T. Hands Free**.

Serial Number The **Serial Number** is preprogrammed in a S.M.A.R.T. phone during the manufacturing process and is read by the TMA program. This field is a unique number and an important identifier used during polling. This text is grayed because it cannot be changed with TMA.

Version This is the version number of the individual phone's firmware that is currently being used. This text is grayed because it cannot be changed with TMA.

Date Created This is the date the phone was installed into the current database. This text is grayed because it is not accessible for you to change.

TMA Call In Number This is the complete telephone number that the phone will dial to contact the TMA software system. The number must be entered exactly as it will be dialed including any prefix for a PBX and area codes.

Data Line Number The **Data Line Number** is the number to be dialed to call this installed phone. The number must be entered exactly as it will be dialed including any prefix for a PBX and area codes.

PIN Code 1: This four-digit code serves as the voice mode unit ID and also as a passcode to autodial the PIN 1 Dial Number. When the phone is set-up (by GAI-Tronics) to provide unit location transmission on voice call connection (ANI), PIN Code 1 is the location ID that will be sent by the phone (via DTMF) to identify itself. With this operation, the system manager will select a unique PIN Code 1 for each phone in the system. In addition, this four-digit number serves as a PIN dial code: when the phone receives this DTMF digit string, the phone will, under certain conditions, dial the telephone number stored in PIN 1 Dial Number. This PIN code must contain four digits.

PIN 1 Dial Number: This is the first of two of the PIN memory numbers. Each can hold 24 digits in the range 0–9. The phone will dial this number when access is granted via PIN Code 1.

PIN Code 2: This four-digit code acts as a passcode to autodial the PIN 2 Dial Number. When the phone receives this DTMF digit string, the phone will, under certain conditions, dial the telephone number stored in PIN 2 Dial Number.

PIN 2 Dial Number: This is the second of the two PIN memory numbers. Each can hold 24 digits in the range 0–9. The phone will dial this number when access is granted via PIN Code 2.

Behavior

The **Behavior** tab on the Phone Properties sheet is shown below.

Behavior Properties

Speech Send Level The volume level of the speech being sent from the phone can be adjusted by setting this parameter. The range in settings is from **0** to **50 dB**. This is a phone's internal gain setting; it is not measured in dBm as the phone's line level would be.

Speech Receive Level The volume level of the speech being received by the phone can be adjusted by setting this parameter. The range in settings is from **0** to **50 dB**. This is a phone's internal gain setting; it is not measured in dBm as the phone's line level would be.

Rings Before Auto Answer S.M.A.R.T. phones can be programmed to ring a set number of times prior to auto answering. The range is **0** to **15** rings. [In this version of TMA, auto answer of single line phones cannot be disabled.]

After Auto Answer S.M.A.R.T. phones can be programmed to ring a set number of times after auto answering. The range is **0** to **15** rings.

Timeout Period This parameter sets the maximum permissible duration of a speech call. After the timeout period has elapsed, the phone will automatically terminate the speech call. This number represents the number of tens of seconds, e.g. 9 = 90 seconds. The valid range is **6 (60 seconds)** to **998 (2:46:20)** and **999 (timeout disabled)**.

hh:mm:ss This read-only field displays the length of the timeout period. The valid range is **00:01:00** to **02:46:20** or **Disabled** .

Dial/Recall Mode S.M.A.R.T. phones can be programmed for touch-tone (MF) dialing or loop-disconnect (pulse) dialing. The hookswitch flash feature can be configured to generate an earth-loop recall (ELR) or a timed-break recall (TBR). A drop down box is selectable and the choices are: **LD/ELR**, **MF/ELR** , **LD/TBR** , and **MF/TBR**. The factory setting (**MF/TBR**) is the appropriate setting in almost all installations. Note that the **LD/TBR** setting is not implemented in the S.M.A.R.T. phones. When **LD/TBR** is selected, the **Dial/Recall Mode** setting will automatically revert to **MF/TBR**.

Mute Before Dial sets the muting of the microphone to on or off in the off-hook period before dialing. Muting prevents illicit dialing by DTMF tone pad where it is possible to obtain a dial tone.
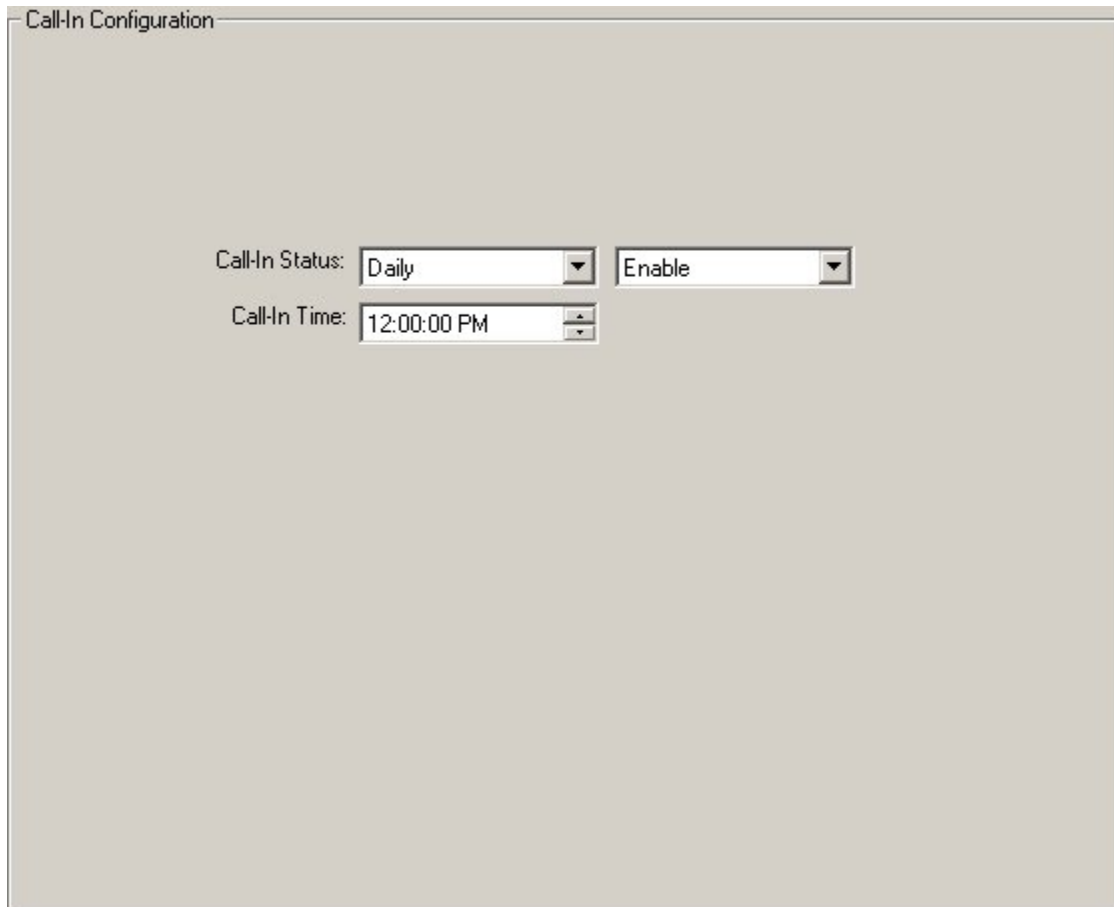
Line Current This read-only field displays the installation's loop current. Typical loop current should be **25–55 mA**. Refer to the installation manual for your phone model to determine the acceptable range.

DTMF Detection Window governs the period following connection that DTMF can be received. It also covers the duration of 'connection bleeping' if enabled. The valid range is 0 to 255 with each value equivalent to 400 ms. A value of 0 immediately returns to the call progress tone detection and 255 is an infinite DTMF window with no call progress mode resumption. The recommended value is 25 (typical 10 second DTMF window).

Dial Tone Detection controls the time limit that the phone uses for detecting dial tone. Recommended settings are 110 (Enabled) or 0 (Disabled). If Dial Tone Detection is enabled, the phone will attempt to recognize dial tone on the line after it goes off-hook. If no dial tone is detected within 5.5 seconds, the phone will release the line (go back on-hook), ending the call attempt. With this detection disabled, the phone will not require that dial tone be present to continue the call attempt. The disabled setting will be used if the phone is connected to a ringdown line that does not provide dial tone.

Call-In

The **Call-In** tab on the Phone Properties sheet is shown below.

Call-In Configuration Properties

Call-In Status Allows you to set the phone's call-in frequency. The drop down box contains the following choices: **Daily**, **Sunday**, **Monday**, **Tuesday**, **Wednesday**, **Thursday**, **Friday**, and **Saturday**. A drop down box allows you to select **Disable**, **On Fault**, and **Enable**. **Enable** and **Disable** turns the call-in process on and off. The fault conditions are determined by the settings entered on the Fault and Sensor screens.

Call-In Time Sets the time of day that the phone calls the TMA. Use the up and down arrows to set the desired time. The **Call-In Time** can be set in one minute increments.

Memories

The **Memories** tab on the Phone Properties sheet is shown below.

Memory Configuration Properties

The Memories tab contains the phone's 20 memory numbers. Memory numbers can be paired to perform Time Switching. If the phone is programmed for Time Switching, the primary numbers are active between the **Primary Start** and **Primary End** times. The memories are only applicable to autodialing versions of S.M.A.R.T. telephones. The Memories screen is shown below.

NOTE: Memories on autodialers will start from memory **1**, i.e. the top button is 1, and the bottom of a three button dialer will be memory **3**.

Memory Numbers The **Memory Numbers** range from **1** through **20**. A primary memory and a secondary memory number can be entered so that the number to be dialed can be switched in accordance with the time periods that have been entered. The number switching occurs at the **Primary Start** and **Primary End** times. Time Switching can only be programmed using the following memory number pairs:

1 and 11	6 and 16
2 and 12	7 and 17
3 and 13	8 and 18
4 and 14	9 and 19
5 and 15	10 and 20

Time Switch? Select the Time Switching mode by clicking in the check box. If Time Switching is selected, **Primary Start** and **Primary End** times define the period during which the primary memory number is active. The secondary memory is active during the remaining time period.

The following is an example: The **Primary Start** time is set to 07:00:00 AM and the **Primary End** time is set to 06:00:00 PM. This is the time period that the primary number would be dialed when the phone's memory push button is activated. The secondary number would be dialed between 06:00:01 PM and 06:59   :59 AM. To change the **Primary Start** or **Primary End** time, highlight the hour or minute, and use the up and down arrows to adjust the time; the times can be set in 15 minute increments.

If the Time Switching mode is not being used, **Primary Start** and **Primary End** times are not available for programming. Each memory number will automatically dial the programmed sequence without any time period restrictions.

The maximum number of DTMF digits that can be entered is 24 subject to the special considerations detailed below. When secondary memories are used, the maximum <u>primary</u> memory length (corresponding to that secondary number) is reduced by six digits. The memory number can be a phone number or can include special command code sequences.

Valid digits for memories are: **0–9**, **A**, **B**, **C**, and **D**. Special function letters can be entered into the string as follows:

H Gives a 0.9 second pause (standard) in dialing.

T Changes dialing from pulse to tone (DTMF).

P Changes dialing from tone (DTMF) to pulse.

R Performs a recall (Flash) function as set by Dial Mode.

The maximum number length is 24 digits for any memory; however, using any of the following characters within a memory causes a reduction in maximum length of two digits each:

- DTMF: **A**, **B**, **C**, **D**

- Pause (**H**)

- Change to tone dialing (**T**)

- Change to pulse dialing (**P**)

- Recall (**R**) (Flash)

Sensor/Faults

The **Sensor/Faults** tab on the Phone Properties sheet is shown below.

Sensor/Fault Configuration Properties

Sensor A sensor is a device that returns normal or fault state. For those sensors that can be renamed, click the drop down box for a list of choices of types of sensors. Some of the choices are: **AUXn, Not Used**, **Door**, **Power Supply**, **Keyswitch**, and **Battery**.

Normal State This is the condition that is normal for the sensor. Each sensor has two states that may be selected as the normal condition. The choices for each type of sensor are:

Door The choices are **Open** or **Closed.**

Power Supply The choices are **On** and **Off**.

Keyswitch The choices are **Enabled** and **Disabled**.

Battery The choices are **Normal** and **Low**.

Tilt The choices are **Normal** and **Tilted**.

Not Used Unused sensor.

Fault Each phone can check for faults. The state of these fault indicators is recorded in the TMA database during each scheduled maintenance call, and is detailed on the Exceptions reports, the Call-in report, and the Maintenance Call report.

The fault type **Call Log** reports if the call log is full or not full (normal). The condition is set to normal state. A phone reporting the opposite condition will appear on an Exception report if the proper criteria is selected.

VoIP Phone Properties Form

The VoIP Phone Properties Form is used to set up synchronization of settings (data) between TMA and the VoIP telephones. Synchronization can only be accomplished by receiving data from a telephone (synchronize the data in TMA to the data in a phone) and cannot be changed through TMA. Each VoIP phone has a web page that can be accessed to configure its settings.

To access the VoIP Phone Properties form, right click on the VoIP phone to be viewed. When the pop-up menu appears (as shown below), move the cursor and click on Properties. Simply double-clicking the highlighted VoIP phone will also open the Properties form. In this example, the selected phone record to be viewed is the "R&D Lab" phone in "Engineering Services".
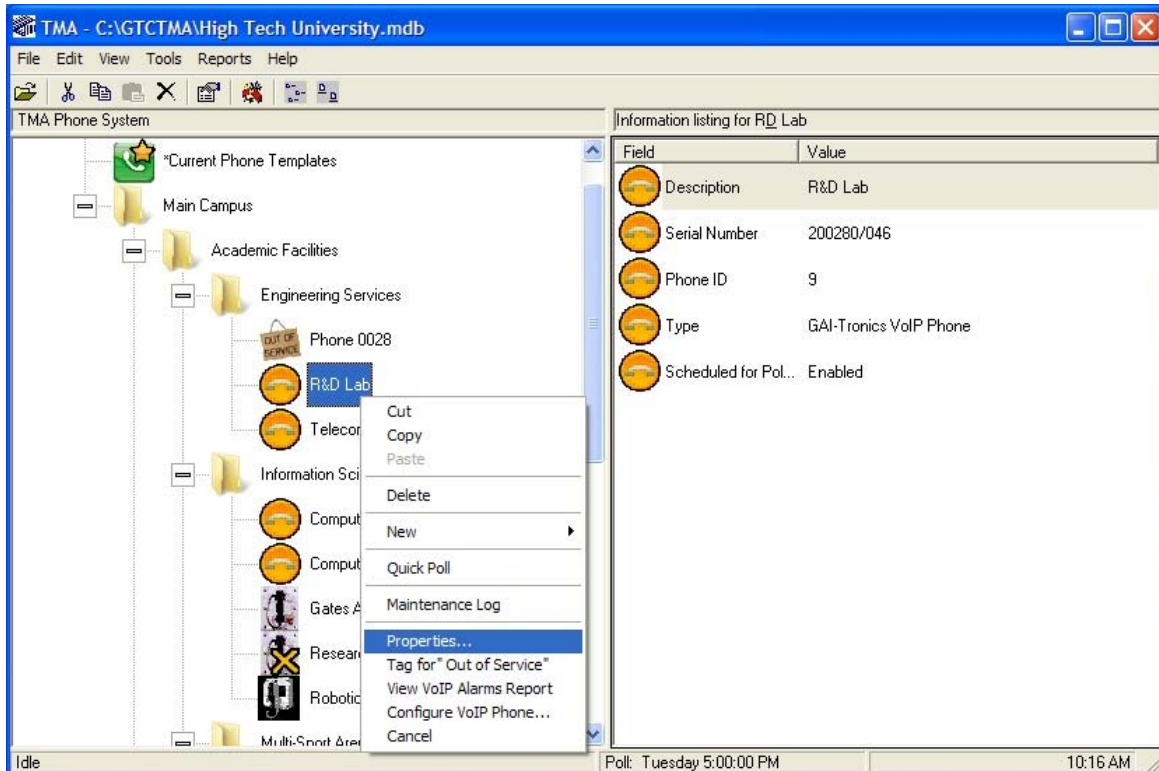
Command Buttons

There are two important Command Buttons (shown below) for accessing the VoIP phone's dedicated web page and for synchronizing the data in the phone with TMA.

 Configure Phone – The Configure Phone button connects to the current VoIP phone's web page to display and allow read/write access to the unit's settings (dependent on login credentials). NOTE: The default web browser will be used and the correct User name and Password must be entered to access the phone's settings.
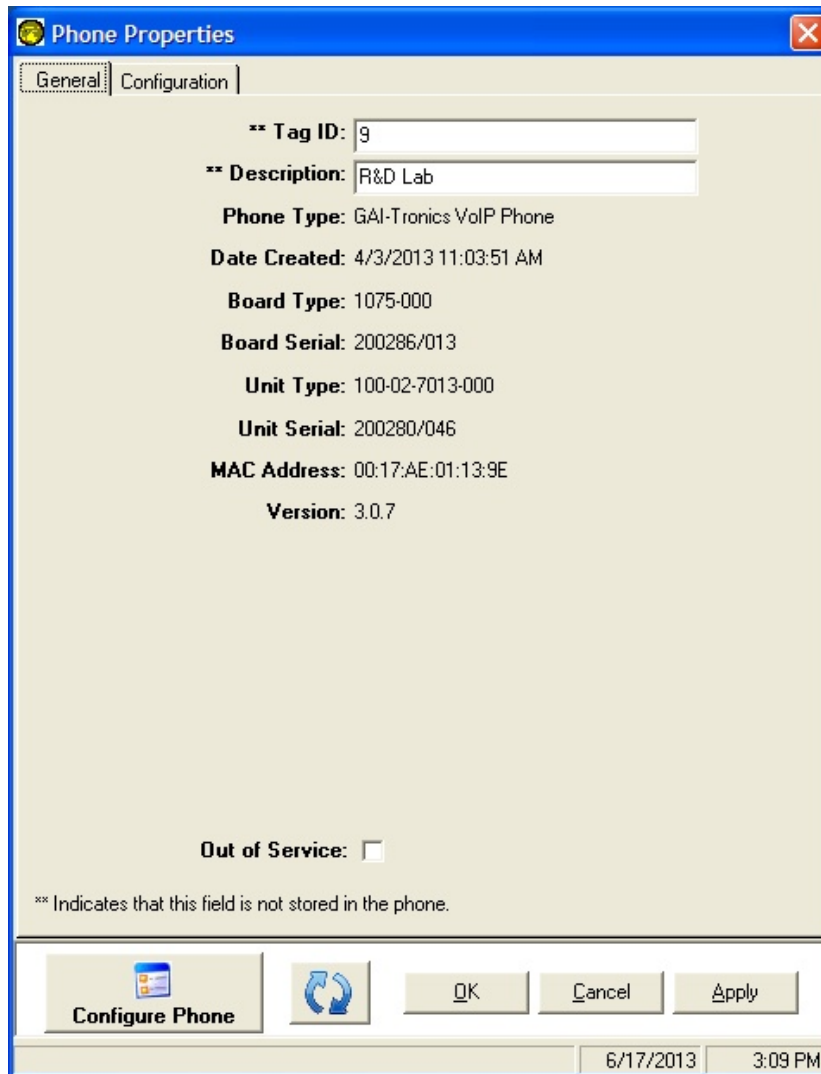
 Refresh Phone Properties – The Refresh Phone Properties button will synchronize the current phone settings with TMA. The properties form will automatically update with the current settings if the configuration is received within 60 seconds.

GAI-Tronics VoIP Phone Properties

General

The General tab on the Phone Properties sheet is shown below.

General Properties

Tag ID – Tag ID is the site identification label for the telephone. The field is limited to 24 alphanumeric characters and should be unique and easily recognized. This ID appears on TMA reports, but is not stored in the telephone memory.

Description – Description is name entered (or assigned) to the telephone in the phone tree list that will appear on TMA screens and reports.

Phone Type – Phone Type specifies the type of telephone installed and determines the telephone settings. This property is stored only in the TMA database.

Board Type - Board Type identifies which family of Printed Circuit Boards (PCB) is currently being used in the telephone at the time of manufacture and cannot be changed.

Board Serial – The Board Serial is a unique identifier for the PCB installed at the time of manufacture and cannot be changed.

Unit Type - Unit Type identifies the type of unit currently being used at the time of manufacture and cannot be changed.

Unit Serial – The Unit Serial is programmed into every telephone during manufacture and is read by TMA. This field is an important identifier during polling, and cannot be changed.

MAC Address - The MAC Address is programmed into every telephone during manufacture and is read by TMA. This field is an important identifier during polling, and cannot be changed.

Version - Version identifies the firmware installed in the telephone at the time of manufacture and cannot be changed.

Out of Service – The Out of Service checkbox allows the phone to manually be tagged 'Out of Service' in the event that the phone should no longer be automatically polled. This property is stored only in the TMA database.

Configuration

The Configuration tab on the Phone Properties sheet is shown below.

IP Configuration Properties

DHCP – Indicates the current state of DHCP. If DHCP is OFF, the telephone will use a Static IP Address. This parameter can only be configured from the phone's web page.

Address – The IP Address that uniquely identifies the phone on the local network and gives access to the phone's web page through an Internet browser. This parameter can only be configured from the phone's web page (DHCP must be OFF) and initially, the Address must be manually entered to match the IP Address currently assigned to the phone. Alternately, the matching Host Name can be used (under Unit Configuration) and the Address can be left blank.

Mask – The static sub-net mask. This parameter can only be configured from the phone's web page.

Gateway – The static Gateway IP address. This parameter can only be configured from the phone's web page.

DNS1 – The IP address of the primary static DNS server. This parameter can only be configured from the phone's web page.

DNS2 – The IP address of the secondary static DNS server for redundancy. This parameter can only be configured from the phone's web page.

Local Domain – The Local Domain name of the network the phone is using. This parameter can only be configured from the phone's web page.

SIP Configuration Properties

Local IDs – Four possible values that form part of the phone's Uniform Resource Identifier (URI) specific to registering the phone with the SIP signaling protocol. This parameter can only be configured from the phone's web page.

Domains – Four possible values that form part of the phone's Uniform Resource Identifier (URI) specific to registering the phone with the SIP signaling protocol. This parameter can only be configured from the phone's web page.

Proxies – Four possible addresses used by the SIP proxy server used for incoming/outgoing calls. This parameter can only be configured from the phone's web page.

Registrars – Four possible addresses for registration used by the SIP proxy server. This parameter can only be configured from the phone's web page.

Unit Configuration Properties

Host Name – The Host Name that uniquely identifies the phone on the local network and gives access to the phone's web page through an Internet browser. This parameter can only be configured from the phone's web page and initially, the Host Name must be manually entered to match the Host Name currently assigned to the phone. Alternately, the matching Address can be used (under IP Configuration) and the Host Name can be left blank.

GSM Phone Properties Form

The GSM Phone Properties Form is used for the configuration and synchronization of settings (data) between TMA and the GSM telephones. Synchronization can be accomplished by receiving data from a telephone (synchronize the data in TMA to the data in a phone) and by sending data to a telephone (synchronize the data in a phone to the data in TMA).

To access the GSM Phone Properties form, right click on the GSM phone to be viewed. When the pop-up menu appears (as shown below), move the cursor and click on Properties. Simply double-clicking the highlighted GSM phone will also open the Properties form. In this example, the selected phone record to be viewed is the "Dugout Home Team" phone in "Multi-Sport Arena".
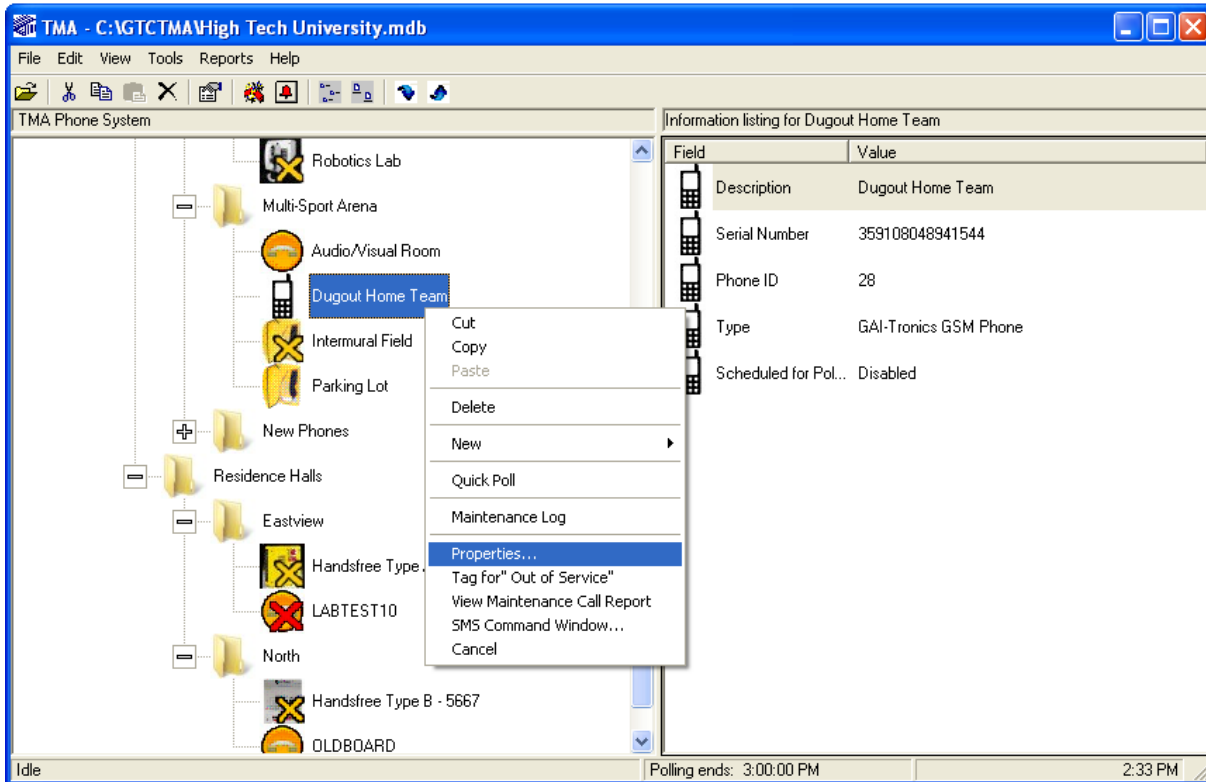
Command Buttons

There are three important Command Buttons (shown below) for synchronizing the data between the GSM phone and TMA.

 Receive and Send – The Receive and Send buttons will synchronize the current settings between TMA and the phone respectively. This does not receive the phone's current health status which can only be received through a poll call.

 Clear – The Clear button will send a message to the phone to clear any fault condition without the need to restart the phone.

GAI-Tronics GSM Phone Properties

General

The General tab on the Phone Properties sheet is shown below.

General Properties

Tag ID – Tag ID is the site identification label for the telephone. The field is limited to 24 alphanumeric characters and should be unique and easily recognized. This ID appears on TMA reports, but is not stored in the telephone memory.

Description – Description is the name entered (or assigned) to the telephone in the phone tree list that will appear on TMA screens and reports.

Phone Type – Phone Type specifies the type of telephone installed and determines the telephone settings. This property is stored only in the TMA database.

Keyboard Type - Keyboard Type identifies which keyboard configuration is currently being used in the telephone at the time of manufacture and cannot be changed.

Board Serial – The Board Serial is a unique identifier for the PCB installed at the time of manufacture and cannot be changed.

Model - Model identifies the model number for unit currently being used at the time of manufacture and cannot be changed.

Hardware Version – Hardware Version identifies the version of hardware installed in the telephone at the time of manufacture and cannot be changed.

Firmware Version – Firmware Version identifies the current version of firmware installed in the telephone at the time of manufacture and cannot be changed.

IMEI – The IMEI is the unique 15 digit code used to identify a mobile device on a mobile network. This unique code is stored in the telephone at the time of manufacture and cannot be changed.

Phone Number – The Phone Number is the unique number given by the mobile phone company associated with the SIM card inside the telephone. The number must be entered exactly as it will be dialed by cellular terminal, including all prefixes or area codes.

Phone PIN – Phone PIN is a four digit code that matches the existing PIN programmed in the telephone. The default PIN is '1234' and can be changed using the SMS command 'PHPIN=1234'. The current PIN configured in the telephone can only be read using a direct USB connection to the telephone.

Out of Service – The Out of Service checkbox allows the phone to manually be tagged 'Out of Service' in the event that the phone should no longer be automatically polled. This property is stored only in the TMA database.

Configuration

The Configuration tab on the Phone Properties sheet is shown below.

Ring Cadence – Different cadences useful to differentiate between phones in close proximity.

Power Supply Type – The type of power supply used to achieve optimal performance. When using an external battery, the power consumption is optimized to improve the efficiency and to extend the standby time of the external battery.

Call Restrictions – Specific restrictions can be applied to the phone to inhibit certain types of calls.

Maximum Call Duration – Limit the duration of an outbound call from 0–120 minutes with 0 (unlimited) being the default. **NOTE:** When only 30 seconds remain, a beep or announcement is heard in the handset to warn the caller.

Maximum Number Length – Restrict the amount of digits accepted for a dialed number to be between 1–20 digits (20 digits is the default).

Earpiece Level – The output level for the phone's handset earpiece. The actual decibel levels measured are dependent on the hardware used in the phone (i.e., 2G, 3G, etc.) and can be found in the manual that came with the telephone. A value of '1' is the normal default level.

Microphone Level – The microphone gain level for the phone's handset microphone. The actual decibel levels measured are dependent on the hardware used in the phone (i.e., 2G, 3G, etc.) and can be found in the manual that came with the telephone. A value of '0' is the normal default level.

Relay Activation Properties

Activation Method – There are four possible activation methods for both relays if they are fitted (installed). Besides No Action, Remote DTMF Code can be selected so that during a call, a code may be used to activate the relay. The Remote Activation DTMF Code and the Relay Duration can be entered for the relay using this activation method. The other two activation methods, Activate with Ring Cadence and Activate Continuously, allow one of the relays to become active during a call with the pattern of the ring cadence or to be active continuously during ringing.

Remote Activation DTMF Code – The DTMF code used to remotely activate one of the relays (if fitted) configured with the corresponding Activation Method during a call. The DTMF code must be exactly four digits long and the '#' key is a valid digit.

Relay Duration – The duration that a relay activated by a remote code will remain active. The maximum value is 65,535 ms and the default is 1,000 ms.

Memory Dial

The Memory Dial tab on the Phone Properties sheet is shown below.

Programmed Memory Numbers (#1-#10) – The programmed memory numbers that correspond to the keypad buttons on the phone.

Off-Hook Autodial Number – If Enable Off-Hook Autodial is selected, the Programmed Memory Numbers are not used and a single autodial number can be used when the phone goes off-hook.

Reporting

The Reporting tab on the Phone Properties sheet is shown below.

Call-in Number – The complete telephone number connected to the TMA software system that the phone will send all SMS messages to. The number must be entered exactly as it will be dialed including any prefix and area code.

Automatic Status Reporting Properties

Status Reporting Options – The phone can be configured to automatically send out the status of the phone by reporting any error conditions that may be present. The phone can be configured to both, Report When Error Occurs (if selected) and also Report at Timed Intervals (if selected). When Report at Timed Intervals is selected, either a Daily Time can be set to the time of day when the status message should be sent to the Call-in Number or set to repeatedly send a status message in specific intervals (e.g. Every 2 hr. and 30 min.).

Error Conditions to Report – If 'Report When Error Occurs' is selected and one or more Error Conditions to Report are selected, the phone will automatically send a status message to the Call-in Number when an error condition has been activated.

Automatic Call Log Reporting Properties

Enable Call Log Storage – When selected, the phone will utilize the non-volatile, 250 entry storage used for the call logs.

Enable Automatic Send Threshold – When selected, the phone will automatically send all of the stored call log entries when the Send Call Log Threshold has been reached.

Send Call Log Threshold – The maximum number of call logs to store before automatically sending all the current call logs to the Call-in Number. The valid range for the Send Call Threshold is 1–250 entries.

Daily Call Log Reporting – When selected, the phone will automatically send all of the stored call log entries at the Report Call Log Time.

Report Call Log Time – The time of day when all of the phone's call log entries are sent to the Call-in Number.

Changing Phone Records

As the telephone system changes over time to meet the needs of all users, it may become necessary to either move (re-allocate) or delete some phone records due to changes in demographics. The following text explains how to move or delete a phone record.

Moving a Phone Record

A phone record can be moved from one group to another by left clicking on the appropriate phone record and dragging it to the desired group, in the phone tree list. During the process, the message box (shown below) will appear asking "Are you sure you want to move the selected phone(s)?" Click **Yes** to complete the move.
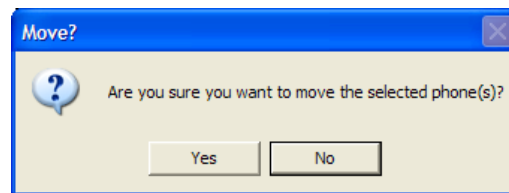
Deleting a Phone Record

To delete a phone record, left click on the appropriate phone record, then right click and click on **Delete**. A message box will appear stating, "Deleting this phone will permanently remove it from the database. Are you sure you want to delete this phone?" as shown below.
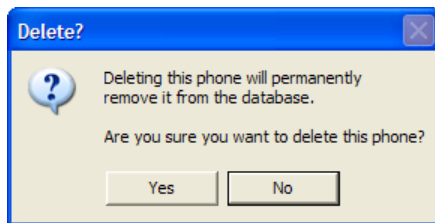
Delete Message Box
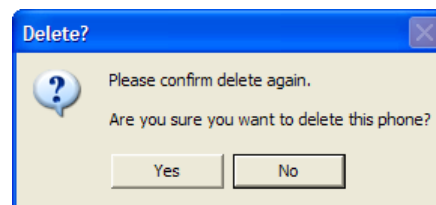
Delete Confirmation Message Box

Click **Yes** to continue. A second message box will appear to confirm the deletion. Click **Yes** to complete the deletion.

Polling Phones

TMA supervises SMART, VoIP, and GSM telephones by contacting each selected telephone in the system to request updated data. This automated process is called polling. During polling, TMA records the telephone's status information in the database. The System Manager sets the schedule for the polling configuration by adjusting the polling setup. As a result of polling, TMA can generate reports indicating operational readiness of phones in the system.

The primary elements of the polling setup are the start time and duration, and a list of telephones to be polled. Polling is set to begin at a designated time every day, or every week on a specific day of the week. Optimum polling has the duration set to allow TMA sufficient time to contact each telephone one time, with at least 1.5 minutes allowed to complete the data transfer for each telephone. If call logs are to be gathered from the telephone, allow additional time. In the event TMA fails to complete the data transfer for a telephone, TMA will reschedule up to two additional polling attempts for the telephone.

To set up TMA polling, select the phone record in the list, right click and select Polling Setup in the pop-up menu.
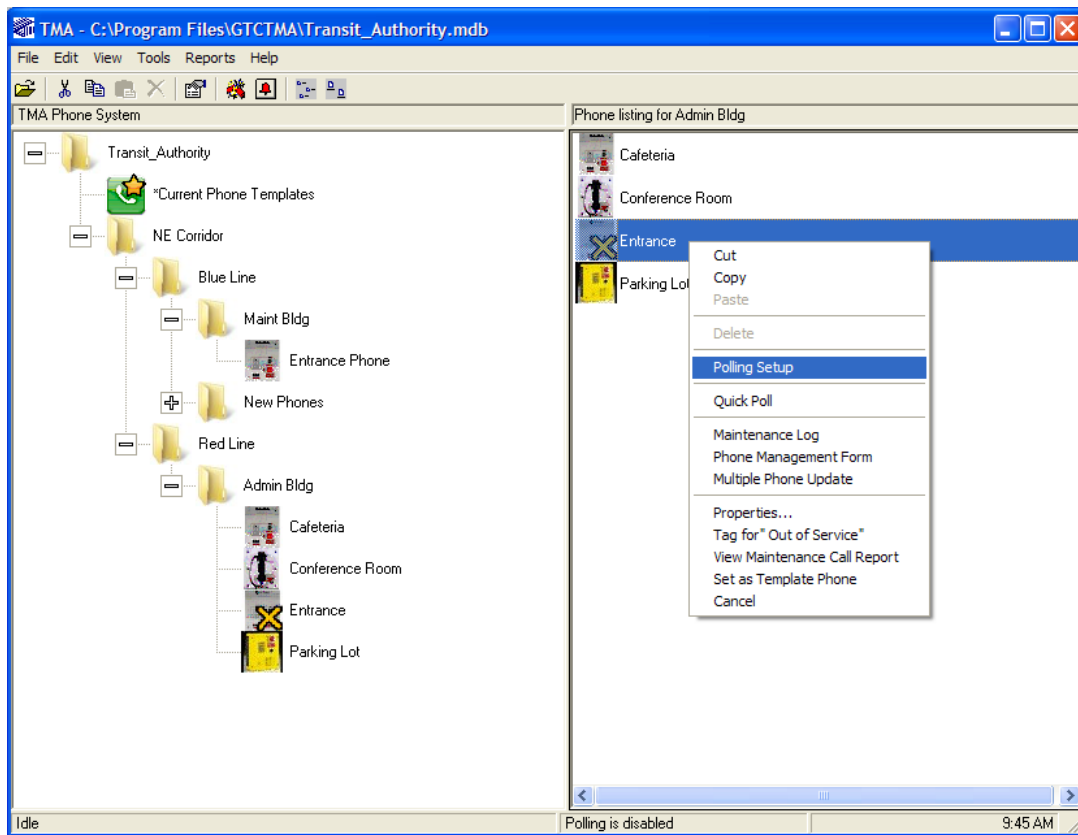
Polling Set-up can also be accessed by selecting **Tools** in the menu bar, as shown below.
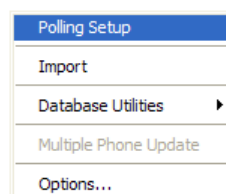
After clicking on the Polling Setup selection, the Polling Setup Form will appear.
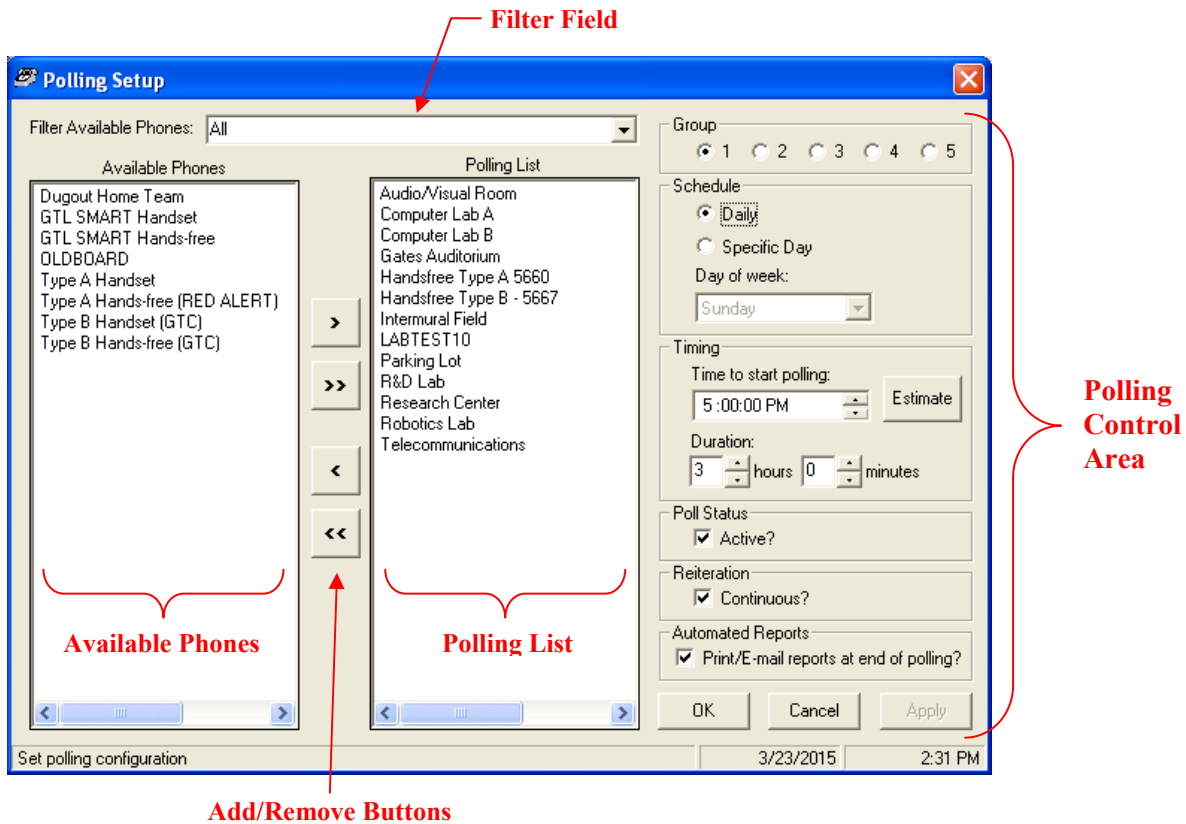
Polling Setup Form

The Polling Setup Form is composed of five areas, which are the Filter Field, Available Phones, Polling List, Polling Controls and Add/Remove buttons.

Filter Field

The Filter field is a drop-down box used to determine what phones are displayed in the Available Phones list. Selections in the drop-down box are based on the **Level 1/Level 2/Level 3** name conventions assigned in the System Phone Tree, as shown on the previous page.
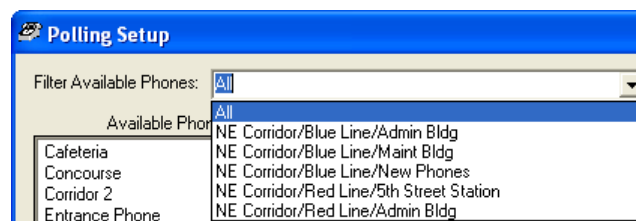
To display a particular group of phones, select the **Level 1/Level 2/Level 3** name convention from the list. To display all system phones, select **All**.

Available Phones List

The Available Phones list displays the phones and phone templates (saved in the database) based on the field selection made in the Filter field. The list does not indicate whether a phone is active or inactive.

Polling List

The Polling list displays the telephone(s) selected from the Available Phone list that are to be polled. Telephones are either added or removed by using the Add or Remove buttons.

Add/Remove Buttons

The Add/Remove buttons are used to add or remove phones (listed on the Available Phone list) to the Polling list. The four buttons are: "Add," "Add All," "Remove," and "Remove All" and are shown below.

Add button – is used to add a phone to the Polling List.

Add All button – is used to add all phones to the Polling List.

Remove button – is used to remove a phone from the Polling List.

Remove All button – is used to remove all phones from the Polling List.

Polling Control Area

The Polling Control area contains six parameters to set up how TMA will poll each phone selected. Each is described below:

Table 16. Polling Control Parameters

| Parameter	Function
Group	The Group radio buttons allow selection of up to five polling configurations involving either the same or different groups of phones. Each group, when selected, has a distinct polling set-up form to permit polling at five separate times each day for the same telephone(s) (if included in all groups).
Schedule	The schedule determines whether telephones in the Polling List will be polled daily or on a specific day of each week. • **Daily** – when selected, TMA polls the designated telephones every day. • **Specific Day** – when selected, the **Day of Week** drop down box is used to select which day polling is to take place.
Timing	Timing determines the time of day polling begins and the overall duration of the polling calls. Up and down arrows are used to adjust the **Time to start polling** field and the **Duration** fields of **hours** and **minutes**. The Estimate button when clicked will calculate a minimum recommendation for the overall polling duration. A Phone Communications Error will be logged if the duration has been set too short and some of the phones in the Polling List have not been successfully polled when polling has ended.
Poll Status	Clicking the **Active?** check box in this block enables polling. Clicking a second time will uncheck the box and disable polling.
Reiteration	Clicking the **Continuous?** check box directs TMA to continually re-poll telephones in the Polling List until the duration time has been exceeded.
Automated Reports	When checked, TMA generates (at the end of the polling cycle) all reports appearing in the "Selected Automated Reports" group found in the Automated Reports Form. The generated reports are sent to the default printer and are additionally sent to the configured e-mail address(es) if **E-mail Scheduled Automated Reports** is enabled on the E-mail Setup Form. Printing can also be disabled from the E-mail Setup Form. Refer to the "Automated Reports" section on page 115 and the "E-mail Setup" section on page 121 for additional information.
OK	When clicked, TMA saves and processes the polling option selections and closes the Polling Setup Form.
Cancel	When clicked, the Polling Setup Form closes. New and/or changed selections are not saved and no processing occurs.
Apply	When clicked, the current polling selections are saved and the form remains open to permit additional selections and/or changes.

Monitoring In-Progress Communications

TMA uses up to three distinct applications dedicated to communicating with either SMART, VoIP, or GSM telephones. Each application will start up with TMA if the phone type is supported (hardware key enabled) and the application is enabled on the "Communication" tab in the TMA Options screen. The application SMART Phone Interface (SPICom) is used to monitor the progress of communication to or from a SMART telephone.

To view the status window, right click on the phone icon in the task bar notification area to display the SPICom pop-up menu, as shown below. The application VoIP Phone Interface (VPI) is used to monitor the progress of communication to or from a VoIP telephone. To view the status window, right click on the phone icon in the task bar notification area to display the VPI pop-up menu, as shown below.
WARNING: It is very important that the "SERVICEPASSWORD" does not change in any VoIP phone. Doing so will prevent all communications between the phone and VPI. The default password is "**service123password**". The application GSM Phone Interface (GPI) is used to monitor the progress of communication to or from a GSM telephone. To view the status window, right click on the icon in the task bar notification area to display the GPI pop-up menu, as shown below.
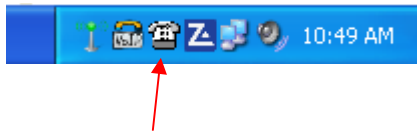
SPICom Telephone Icon in Taskbar Notification Area
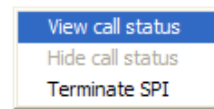
SPICom Menu
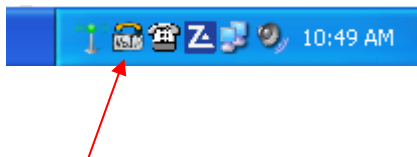
VPI Telephone Icon in Taskbar Notification Area
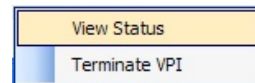
VPI Menu
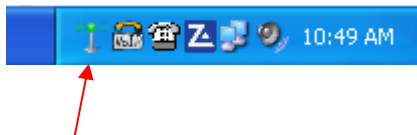
GPI Telephone Icon in Taskbar Notification Area
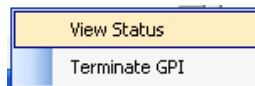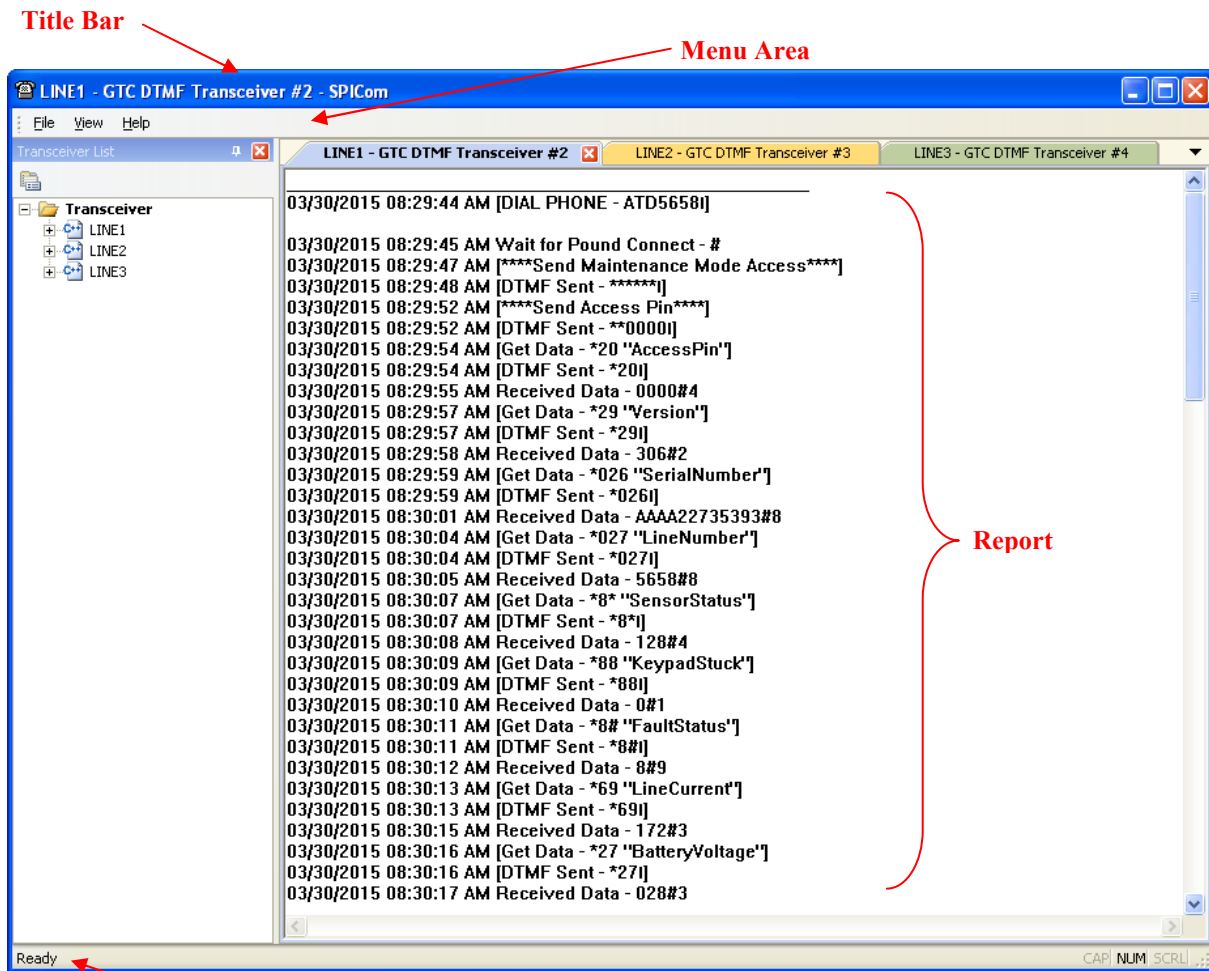
GPI Menu

Table 17. SPICom Menu

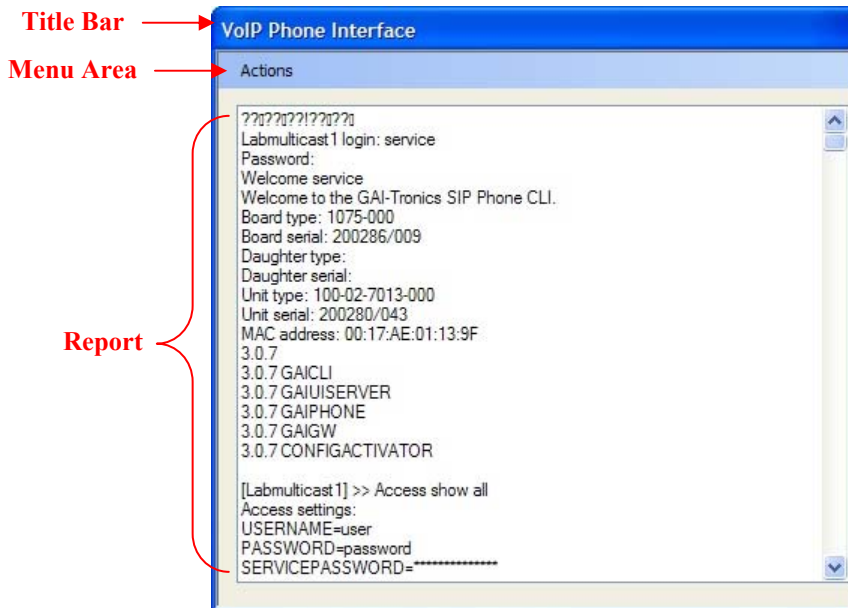| Selection	Function
View call status	When selected, the SPICom Call Status window appears, as shown below.
Hide call status	When selected, the SPICom Call Status window minimizes to the taskbar notification area.
Terminate SPI	When selected, the SPICom session closes and all active lines are terminated. To re-open the SPICom session, run the TMA application.

Table 18. VPI Menu

Selection	Function
View status	When selected, the VPI Status window appears, as shown below.
Hide status	When selected, the VPI Status window minimizes to the taskbar notification area.
Terminate VPI	When selected, the VPI session closes and the network connection is terminated. To re-open a VPI session, run the TMA application.

Table 19. GPI Menu

Selection	Function
View status	When selected, the GPI Status window appears, as shown below.
Hide status	When selected, the GPI Status window minimizes to the taskbar notification area.
Terminate GPI	When selected, the GPI session closes and the cellular terminal connection is terminated. To re-open a GPI session, run the TMA application.

Title Bar

Menu Area

Report

Status Area

SPICom Call Status Window

Title Bar

Menu Area

Report

VPI Status Window

Title Bar → GSM Phone Interface

Menu Area → Actions

Message notifications activated.

Message status = Unread, Location = ME/1
RECEIVED MESSAGE
Sender: +15742200228
Sent: 3/25/2015 2:07:00 PM -0530
Message text:
STAT2:0:-91,1:11.85,2:4.25,3:22,4:16,5:32,6:1/3/1.3,7:
0,8:0,9:0,10:0,11:0,12:0,13:0,14:359108048941544

Report

----

1 messages read.

☐ Enable logging
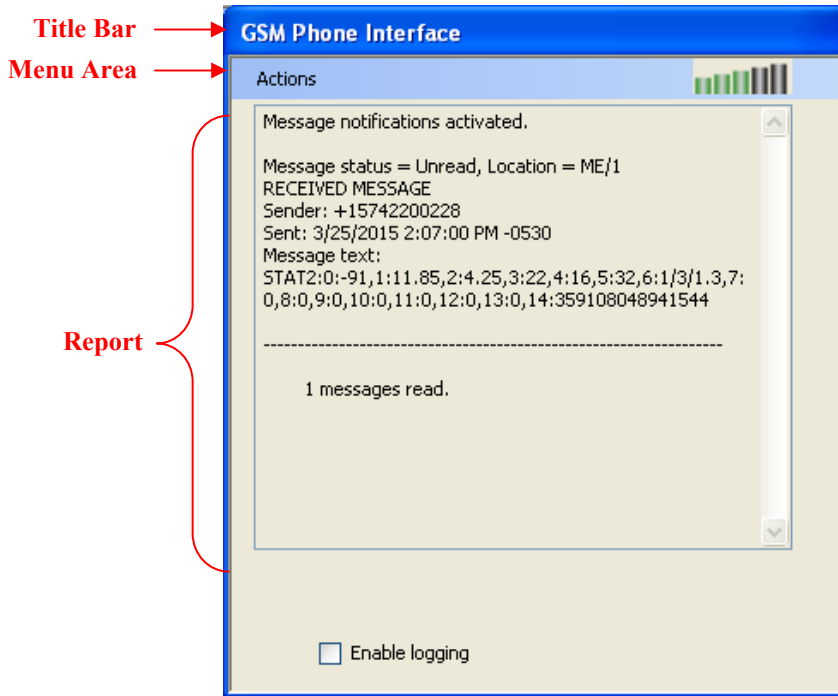
GPI Call Status Window

The SPICom Call Status window consists of the following:

Table 20. SPICom Call Status Window Information

Window Area	Information Displayed
Title Bar	The Title Bar displays the currently selected line number.
Menu Area	The Menu Area has three menus with submenus, which are: **File/New** – when selected, a new line can be added using the Transceiver Select dialog box. **File/Exit** – when selected, the SPICom session closes and all active lines are terminated. To re-open the SPICom session, run the TMA application. **View/Toolbars and Docking Windows** – when selected, the Transceiver List docking window can be turned on or off. **View/Status Bar** – when selected, the Status Bar can be turned on or off. **Help/About SPICom…** – when selected, an About SPICom window is shown indicating the current version of the application.
Report Area	The Report area is the main portion of the Call Progress window which displays status of the call-in real time. Information in the Report area details the parameters communicated to or from the telephone that appear in the Phone Management Form, such as the serial number, software version, PABX extension number, call-in numbers, etc. The results of the last call remains displayed in the window until another call is placed.

Multiple Phone Update

For GTL telephones and for Type B telephones, the Multiple Phone Update allows specific configuration parameters to be updated or changed, and applied to multiple telephones. The Multiple Phone Update Wizard is a guide through the configuration update process.

Although phone records are selected together during the Multiple Phone Update process, each telephone is programmed individually. When the Multiple Phone Update Wizard is complete, the telephones are not logically associated with one another in any way. TMA waits until the specified maintenance (poll) period to perform all configuration updates to each selected telephone.

The wizard generates a queue of reprogramming operations to be performed at the selected telephones during the specified maintenance period. There is only one queue for each telephone and through configurations in the Multiple Phone Update Wizard, all pending reprogramming is overwritten by the changes made in the wizard. Any previously scheduled reprogramming by a "Synchronize Later" is lost. This occurs on a telephone-by-telephone basis and only telephones with pending reprogramming at the execution of the Multiple Phone Update Wizard are affected.

For best results, allow any pending reprogramming on telephone(s) to occur before scheduling the same phone(s) for more reprogramming through the Multiple Update Phone Wizard or otherwise.

Multiple Phone Update Wizard

All phone records selected for a multiple update must be the same type. If updates are to be performed on different types of telephones, the wizard must be executed for each telephone type since the telephone(s) have different configurable parameters retained in memory. Only valid fields are displayed for a specific phone record type based on the security account for read/write access.

All programmable fields throughout the wizard are blank by default to denote no change in the telephone's configuration. Any data entered during this process is interpreted as a change to be made at the specified maintenance period.

To enter the Multiple Phone Update Wizard, select multiple phone records in the list view and right click on the selected phone records. A pop-up menu will appear, as shown on the next page.

NOTE: The Multiple Update can also be accessed via **Tools** on the main menu, as shown below.
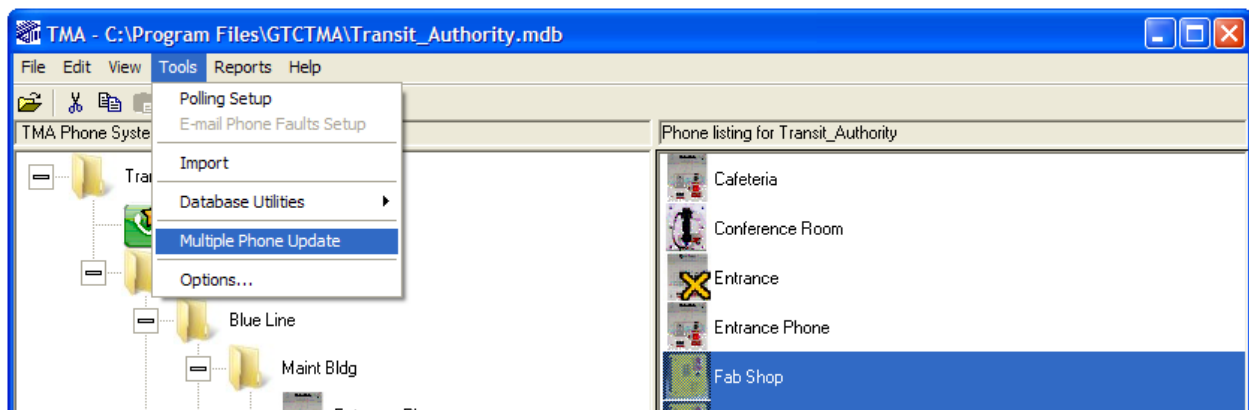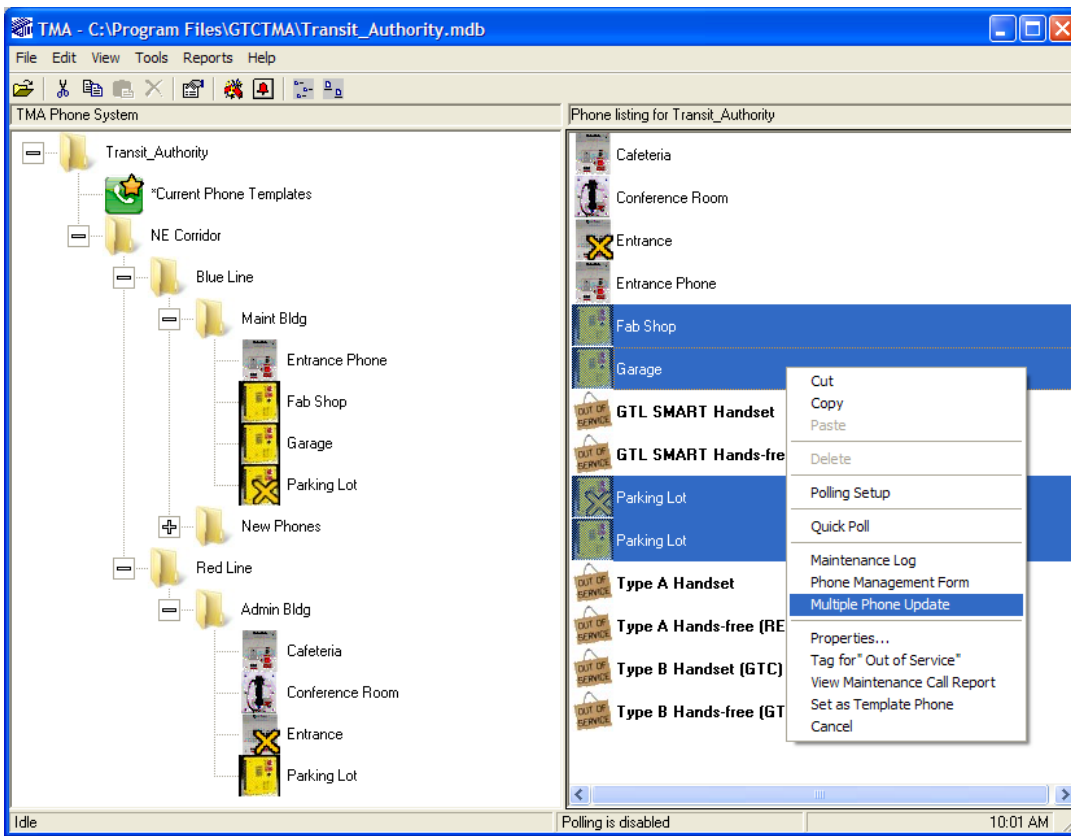
Upon clicking on Multiple Phone Update in the pop-up menu, the following window will appear.
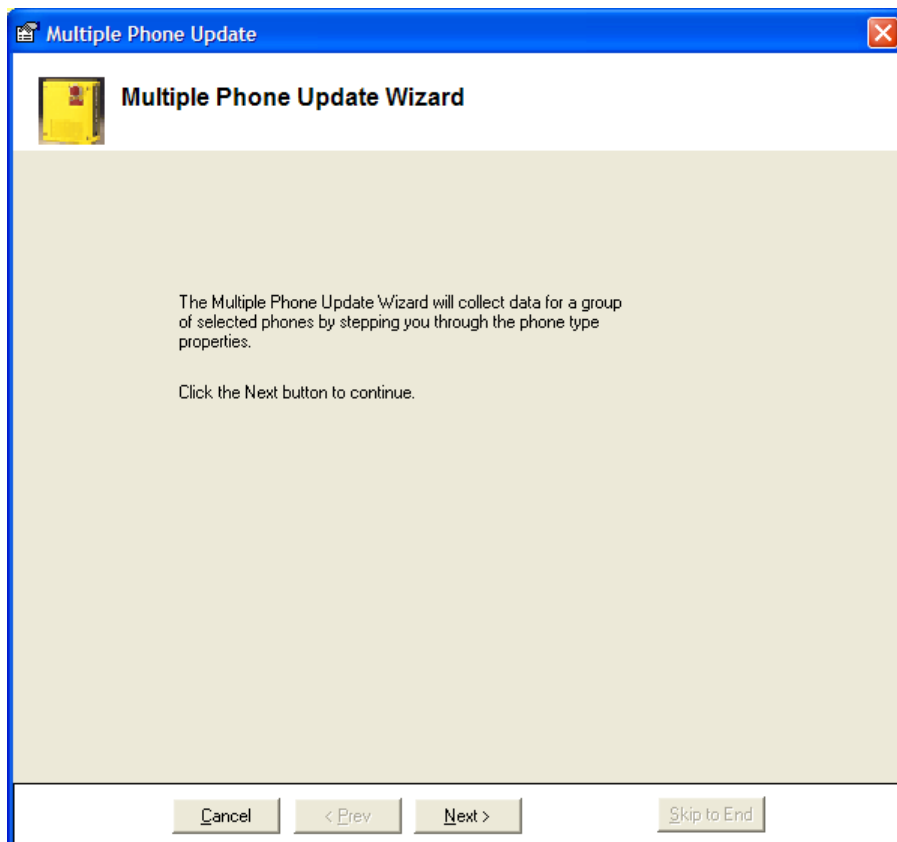
At the bottom of each wizard screen, four buttons are available: **Cancel**, **Previous**, **Next**, and **Skip to End**, and are described below:

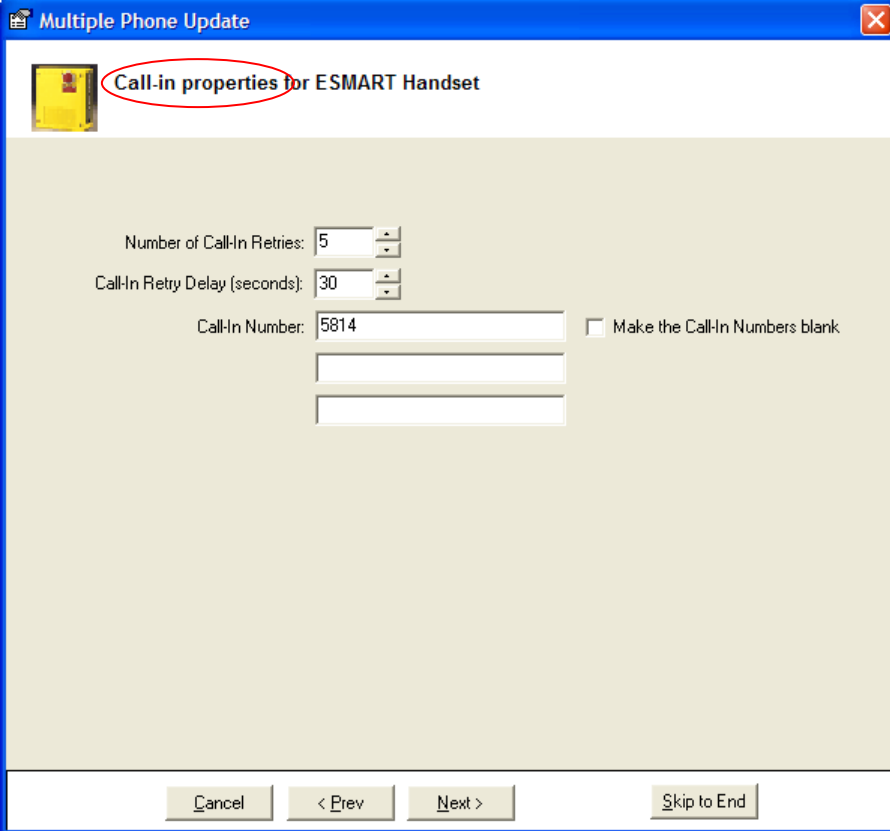Table 21. Buttons on the Multiple Phone Update Dialog Box

Button	Function
Cancel	All operations are canceled and no changes occur to any phone records. This may be done at any time before the **Finish** button is clicked on the reprogramming tab.
Previous	Returns to the previous properties screen.
Next	Advances to the next properties screen.
Skip to End	Exits the wizard and goes directly to the reprogramming screen and avoids navigating through the remaining properties screens. This should only be used when all necessary configuration updates are completed.

Click **Next >** to continue. The Behavior properties window will appear.

The Behavior properties window only displays key fields from the "Behavior" Form in Phone Management. Make the necessary changes and click **Next >** to continue.

NOTE: "ESMART" refers to Type B SMART Handset Telephones.

The Call-in properties window will appear.

The Call-in properties window only displays key fields from the "Call-In" Form in Phone Management. Make the necessary changes and click **Next >** to continue.

The Fault Indicator properties window will appear.

The Fault Indicator properties window only displays key fields from the Fault Indicator Form in Phone Management. Make the necessary changes and click **Next >** to continue.

The Memory number properties window will appear.

The Memory number properties window only displays key fields from the Memory Number Form in Phone Management. Make the necessary changes and click **Finish**.

After clicking **Finish**, the following message window may appear to alert that some (or all) of the selected phones are not configured for polling or call-in, and will require going to the Polling Set-up Form. Click **OK** to continue.

The following window will appear to indicate the selected Multiple Phone Updates are being processed.
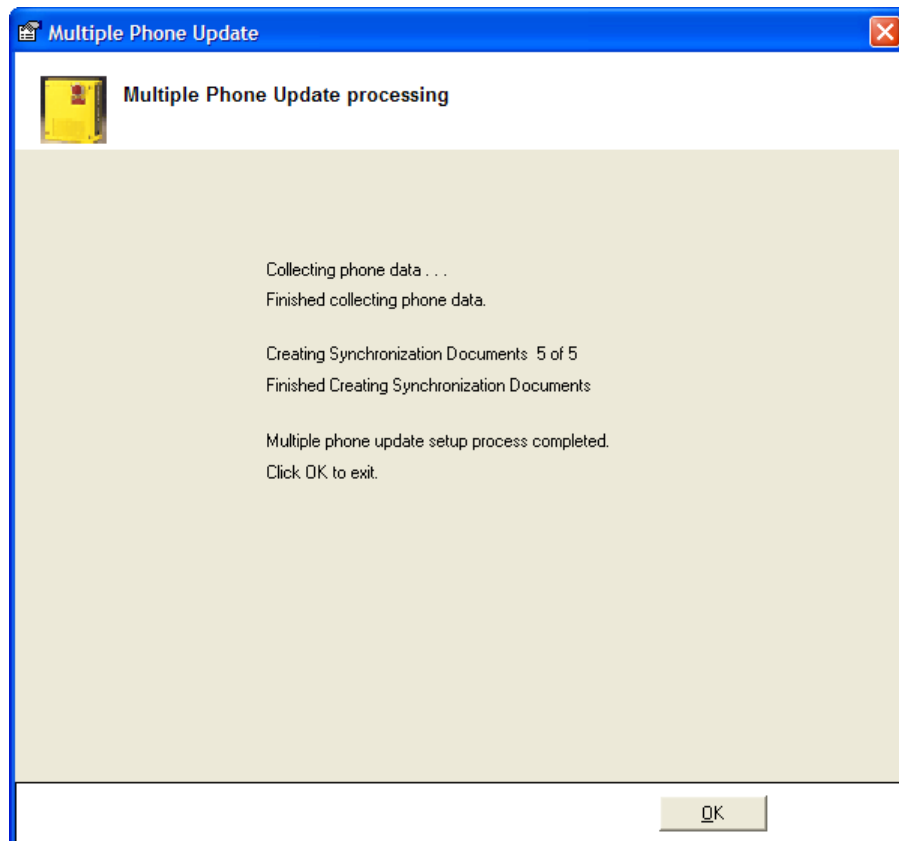
Click **OK** to complete the update process and exit the Multiple Phone Update Wizard.

NOTE: If a Multiple Phone Update Message window appeared (as shown on the previous page) before reaching this processing window, be sure to return to the Polling Setup Form to configure each telephone for polling or call-in.
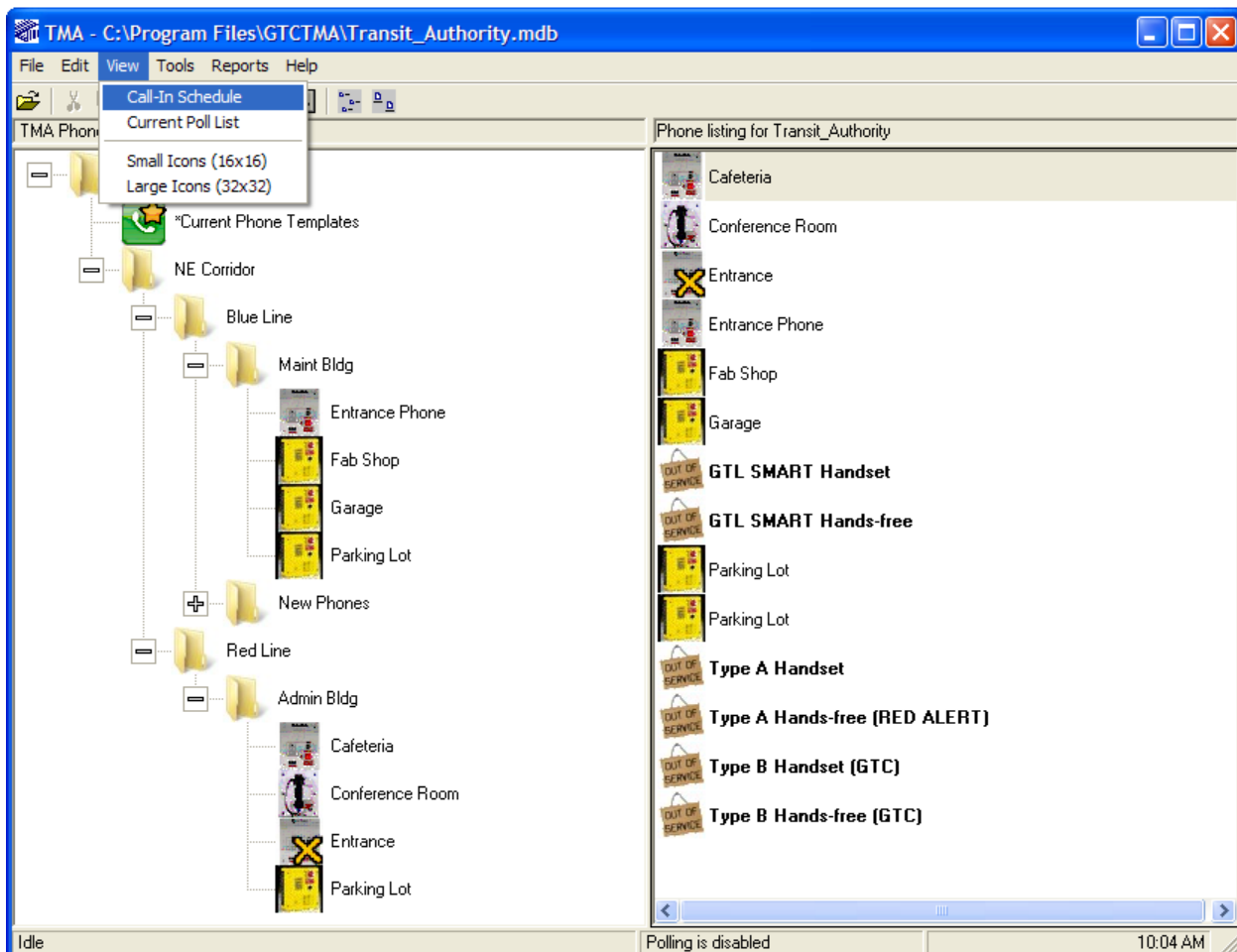
Viewing Call-in or Poll Schedules

Telephones scheduled for either call-in to TMA or to be polled by TMA can be displayed in two different windows. Each is explained in the following text.

Viewing a Call-in Schedule

A list of all telephones scheduled to call-in to TMA to report status can be displayed by selecting **View** on the menu bar, and then **Call-In Schedule** in the pop-up menu, as shown below.

NOTE: A single phone, a group of phones or all system phones can be selected. In this example, the "Admin Bldg" phone group is selected.

When **Call-In Schedule** is selected, the window shown below displays the telephone(s) that are scheduled (in the database with an enabled status) for call-in to TMA.

The Call-in Schedule window displays several columns and two buttons. Each is explained below.

Table 22. Call-In Schedule Window Columns and Buttons

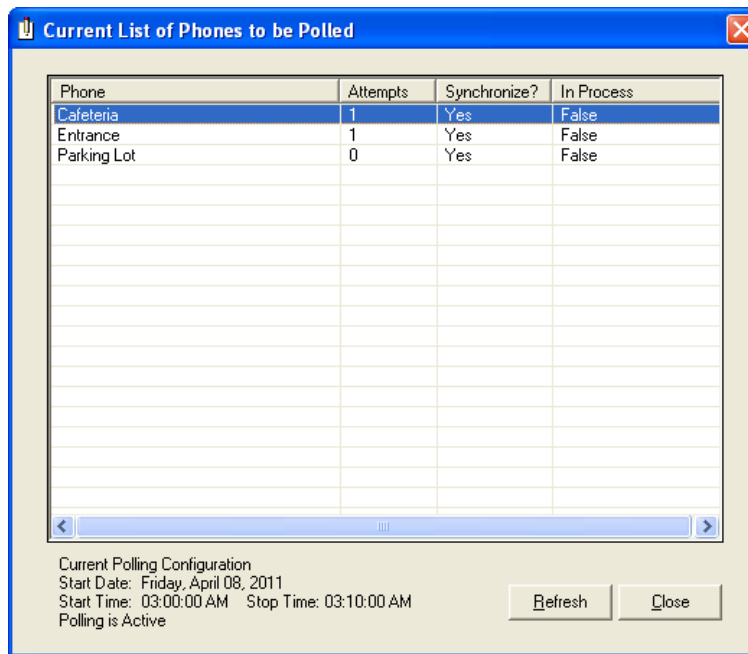| Column	Description
Phone	Displays the named descriptions assigned to each telephone.
Line Number	Displays the PABX extensions assigned to each telephone.
Time	Shows the time each telephone will call TMA to update status.
Day/Interval	Denotes when each telephone is scheduled to call in based on the parameter set in the Call-In Schedule in the Phone Management form, e.g., "Daily" or "Every n hours." **NOTE:** Telephones set to "Disable" or "Out of Service" will not appear in the list.
Synchronize	Displays whether or not synchronization is pending for the telephone (awaiting next telephone contact).
Button	**Function**
Refresh	When clicked, all information in the window is updated based on the most recent entries or changes.
Close	When clicked, the window will close.

Viewing a Poll List

A list of all telephones scheduled to be polled by TMA can be displayed by selecting **View** on the menu bar, and then **Current Poll List** in the pop-up menu, as shown below.
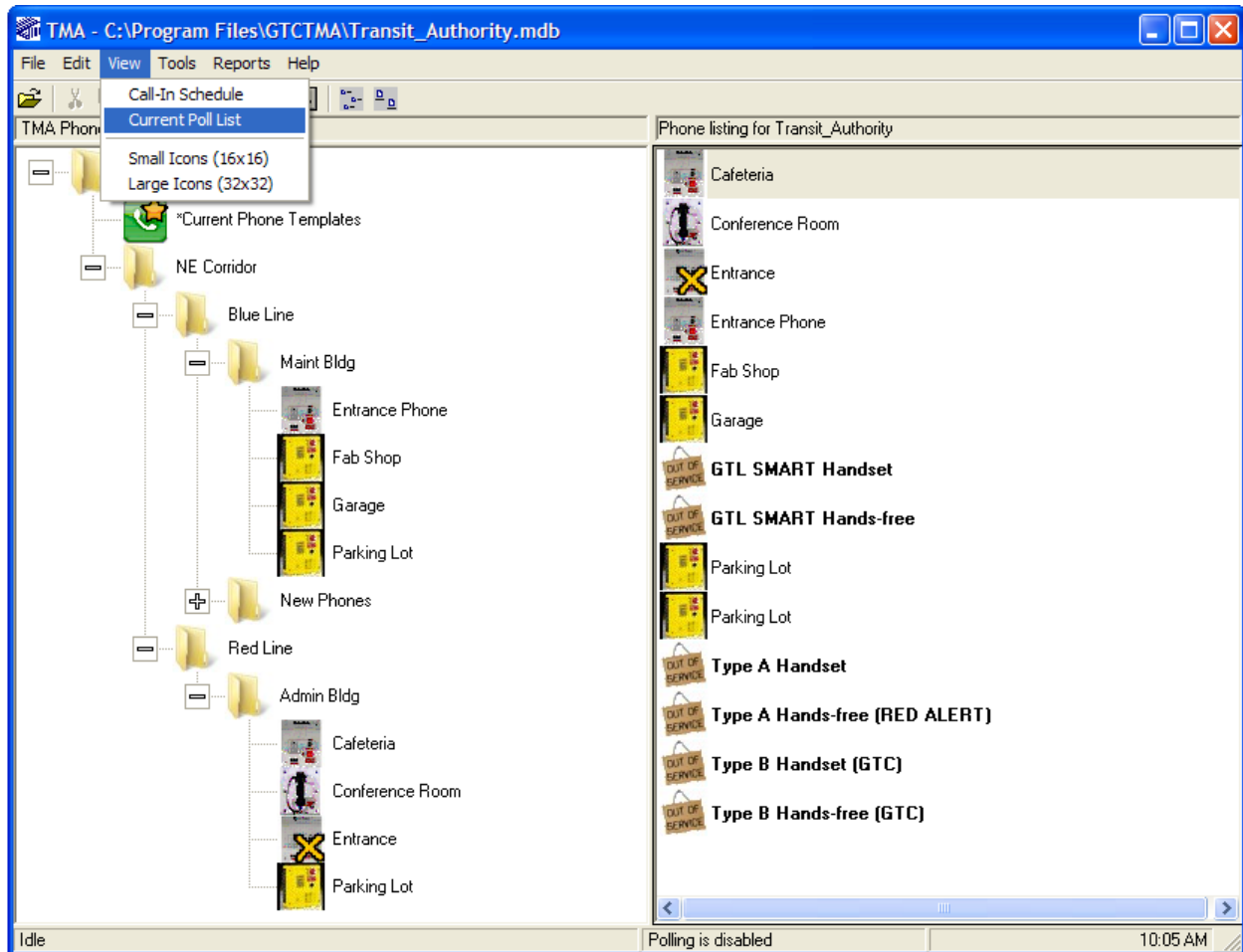
When **Current Poll List** is selected, the window shown below will appear displaying a list of all telephones scheduled (in the database with an enabled status) for polling.

The Current Poll List window displays several columns and two buttons. Each is explained below.

Table 23. Current Poll List Columns and Buttons

| Column	Description
Phone	Displays the description assigned to a telephone.
Attempts	Displays how many attempts TMA has attempted to contact the telephone for polling. **NOTE:** During polling TMA will make three attempts to receive a telephone's health status.
Synchronize	Displays whether or not synchronization is pending for the telephone (awaiting next phone contact).
In Process	This column displays whether or not a poll call for the telephone is being processed. **NOTE:** If a telephone has become inactive and appears on the inactive report for more than a day, check the In Process field to verify it is not set to "True." If the In Process shows True, TMA is waiting for a response from the telephone. To reset the In Process to "False," perform a simple poll call to reset polling status of the telephone. For additional information, refer to the "Troubleshooting" section.
Button	**Function**
Refresh	When clicked, all information in the window is updated based on the most recent entries or changes.
Close	When clicked, the window will close.

TMA Status Reporting

TMA supervises telephones by calling them, one at a time, and requesting the telephone's health status. This is accomplished through Polling and/or Call-in, which are defined below:

Polling method – TMA contacts each telephone based on the schedule. The telephone responds and transmits health check information to TMA for storage in the TMA database.

Call-in method – the telephone initiates the call to TMA and health information is gathered from the telephone.

NOTE: The call direction listed in any report is taken from the telephone's perspective, not the TMA perspective. Thus, a "poll call" is an incoming call from TMA, and a "call-in" is an outgoing call to TMA.

TMA provides a variety of reports detailing telephone activity and configuration. Reports are generated, printed, and scheduled through a dialog box screen with tabs and drop-down window fields. To access the screen, select "Reports" in the menu bar, and click on "Detailed Reports."
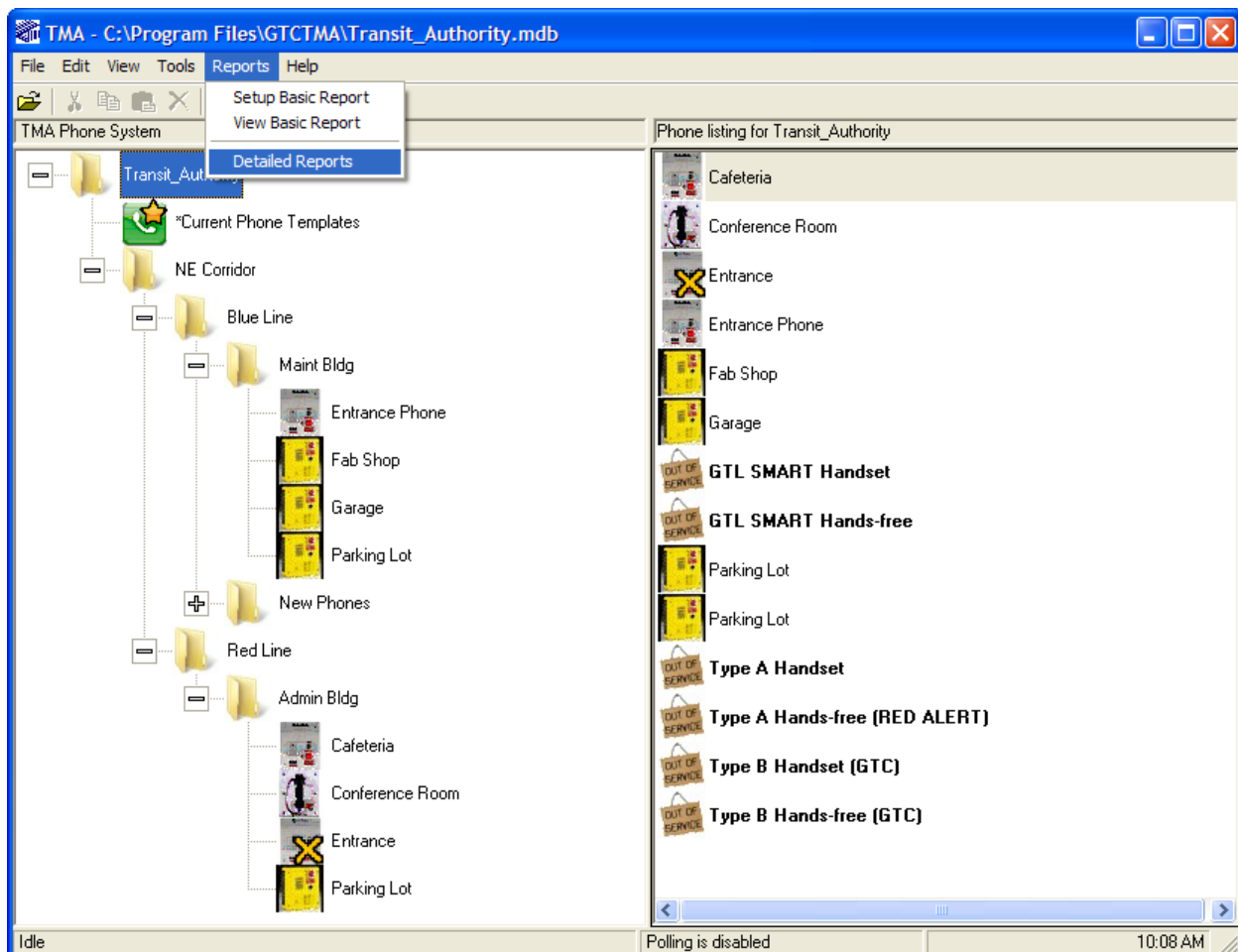
Upon making the selection, the following window will appear.
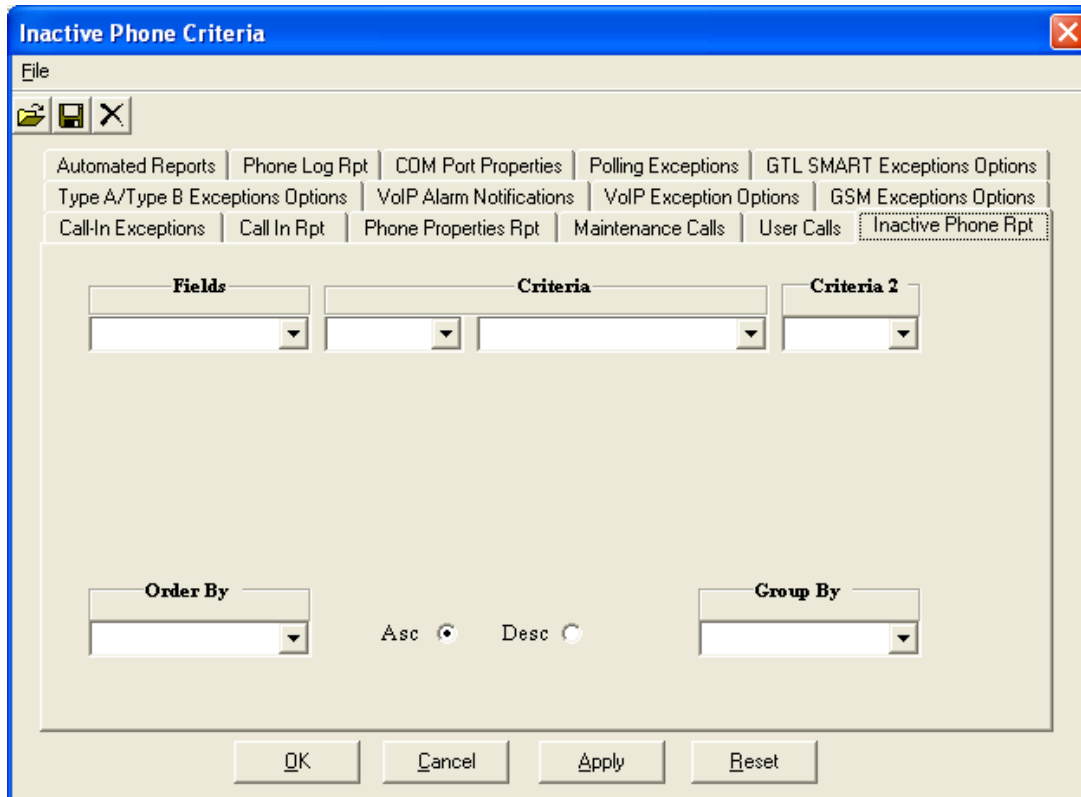
Status Report Window Tabs

In the initial Reports window (shown above), 15 tabs are available; nine tabs are used to create and generate reports and six tabs are used to configure the report options. The nine report type tabs are listed and described below:

Table 24. Status Report Types

Report Tab	Description
Call-In Exceptions	The Call-In Exceptions report allows selection of specific criteria for limiting information in the report based on abnormal (failure) conditions reported by a phone during call-ins (maintenance calls).
Call-In	A Call-In report lists the call-in records TMA received from telephones, including its health status, during call-ins.
Phone Properties	This report shows all the properties data in the database for phone records. The data is presented in a one page per phone format. All phone records that meet the selection criteria are displayed in the sort order requested.
Maintenance Calls	The Maintenance Call report lists the data communications, or maintenance calls, between an individual telephone and TMA. Voice communication calls at the telephones are excluded from this report.
User Calls	The User Calls Report displays records of voice communication calls to and from individual telephones. Maintenance calls are excluded from this report.

Report Tab	Description
Inactive Phone	The Inactive Phone report lists all telephones that have failed to update the TMA database at the expected time.
Polling Exceptions	The Polling Exceptions report allows selection of specific criteria for limiting information in the report based on abnormal (failure) conditions reported by a telephone during poll calls by TMA.
Phone Log	The Phone Log report lists all Maintenance Log entries that meet the search criteria. If no criteria are selected, all maintenance log records for all telephones are displayed.
VoIP Alarm Notifications	The VoIP Alarm Notifications report lists each alarm or input that was triggered by a VoIP phone resulting in a SYSLOG message broadcasting to the IP address of the TMA PC.

The six configuration tabs are listed and described below:

Table 25. Status Report Configuration Tabs

Configuration Tab	Description
GTL SMART Exceptions Options	The GTL SMART Exceptions Options tab allows selection of critical failure conditions specific to GTL SMART phones to be included in the exceptions reports (*see note*).
Type A/Type B Exceptions Options	The Type A/Type B Exceptions Options tab allows selection of critical failure conditions specific to Type A and Type B phones to be included in the exceptions reports (*see note*).
VoIP Exceptions Options	The VoIP Exceptions Options tab allows selection of critical failure conditions specific to VoIP phones to be included in the exceptions reports (*see note*).
GSM Exceptions Options	The GSM Exceptions Options tab allows selection of critical failure conditions specific to GSM phones to be included in the exceptions reports (*see note*).
Automated Reports	Automated reports can be daily or weekly and up to ten different saved reports can be scheduled to be generated automatically. The Automated Report tab includes two Export Exceptions check boxes for outputting a specially formatted report on a daily basis at the Auto Report Time. This report includes Call-In and Polling Exceptions plus Inactive Phone information. The report can be directed to a text file or a COM (serial) port, or both. See also COM Port Properties.
COM Port Properties	The COM Port Properties tab allows for selection of the COM port settings to be used with the Export Exceptions to COM Port.
NOTE: An "Exception" is defined as an abnormal (fault) condition detected by a telephone. TMA reports can include health status of external devices. Any fault condition not classified as a "Critical Failure" will not be included in the Exceptions report.	

When any of the nine Status Report window tabs are selected, each window (or screen) has the same appearance with multiple drop-down boxes labeled as "Fields," "Criteria," "Criteria 2," "Order By," and "Group By," along with two radio button selections for Ascending (Asc) and Descending (Desc).
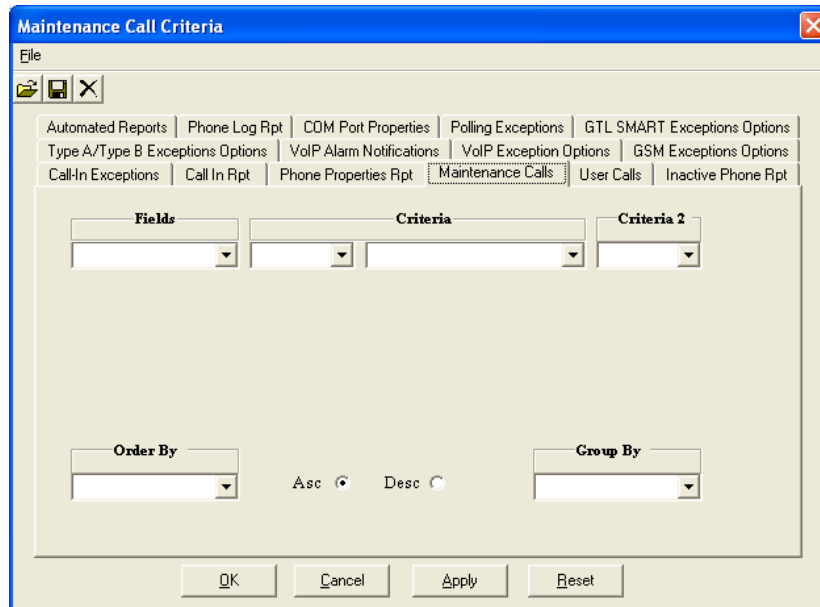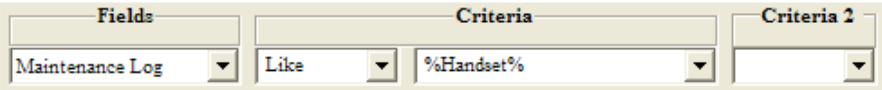

Table 26. Status Report Selection Criteria

Selections	Function
Fields	Selections in the "Fields" drop-down box are used to select criteria for the call-in report.
Criteria	The "Criteria" drop-down area contains two drop-down boxes. The first is a logical operator; the second is a data field with selections based on (or limited to) criteria selected in the Fields drop-down box.
Criteria 2	Selections in "Criteria 2" are limited to **And** or **Or** operators to limit the report to a range of criteria. The "Criteria 2" operator is not required. If selected, a second, third or fourth set of "Fields" and "Criteria" are presented for selection.
Order By	The "Order By" drop-down box contains the same selections as the "Field" drop-down box. A selection made in this box determines the sort order for the report.
Group By	The "Group By" drop-down box contains the same selections as the "Field" drop-down box. A selection made in this box determines where breaks occur in the report.
Asc	When selected, the report lists phones in an ascending order.
Desc	When selected, the report lists phones in a descending order.
Buttons	**Function**
OK	Saves the selections and closes the window.
Cancel	Selections are not saved and the window closes.
Apply	Selections are saved and the window remains open to permit additional selections and/or changes.
Reset	Selections are cleared and the window remains open.

Fields Drop-Down List Selections

Selections available in the Fields drop-down box are listed and described below (*see note*).

Table 27. Fields Drop-Down Lists Selections

Selection	Function
Answer Delay	Not implemented.
Call Date	Targets telephones based on the date a call occurred.
Call-In Date	Targets telephones based a specific date for the call-in report.
Call-In Number	Targets the direct dial number an individual telephone is assigned to call in to the TMA system.
Call Type	Targets telephones based on an incoming or outgoing call.
Domain	When selected, a call-in report includes all phones within the domain (i.e., the entire site system)
Duration	Targets telephones based on the length (or duration) of calls.
Group Level 1, 2 or 3	When a group at level 1, 2 or 3 is selected, a call-in report includes all telephones within that group level which includes the subsequent sub-levels.
Inactive Category	Targets all system phones listed as Inactive for a specific reason, which is selected from the Criteria drop-down list. The available selections are: • Phones having no Recent Poll Call Attempt (or have missed last call-in call) • Phones having Recent Successful Maintenance Call • Phones having Recent Unsuccessful Poll Call Attempts • Phones Out of Service – Have Not Yet Been Polled • Phones Out of Service – Manually Set to Out of Service
Line Current	Targets telephones based on the last recorded line current and is used in conjunction with selections made in the "Criteria" drop-down boxes.
Line Number	Targets a specific phone line number (PABX extension) entered in the Phone Management form.
Log Date	Targets telephones based on the date a maintenance log record was entered.
Maintenance Date	Targets phones based on the date a maintenance call was made.
Maintenance Log	Targets telephones based on a word or phrase entered after the "Like" operator. Only the "Like" operator can be used with this selection. Example: If maintenance log entries are created for telephones, and the report is to list only the telephones having handsets replaced, the entry would be as shown below:
Number Called	Targets telephones based on a specific memory number used for an outgoing call.
Phone Number	Targets a specific telephone line number (PABX extension) entered in the Phone Management Form.

Selection	Function
Phone Description	Targets a specific telephone based its description (or name) entered in the Phone Management Form for the call-in report.
Phone ID	Targets a specific telephone by its Tag ID number entered in the Phone Management Form for the call-in report.
Serial Number	Targets a specific telephone by its Serial number recorded in the Phone Management Form for the call-in report.
NOTE: The drop-down selections listed above will vary across the nine report windows.	

Criteria Drop-Down List Selections

Selections available in the Criteria drop-down box are listed and described below.

Table 28. Criteria Drop-Down List Selections

Logical Operator – First Box	
Symbol	**Function**
=	Equal to
<>	Not equal to
>	Greater than
>=	Greater than or equal to
<	Less than
<=	Less than or equal to
Like	Use with wild card character % to list phones in all areas containing similar names. **Example:** If %TUNNEL% is used, then all telephones containing the name "Tunnel" (e.g., "East Tunnel" or "Tunnel B") will appear in the report.
Data Field – Second Box	
Selections in the data field drop-down box correlate to the selection made in the "Fields" drop-down box. **Example:** If Group Level 2 was selected in the Fields drop-down box, only the named Level 2 areas will appear. Likewise, if Group Level 3 was selected in the Fields drop-down box, only the named phones in Level 3 will appear.	

Creating Reports

To create a TMA report, select one of the nine reports tabs. Since most report selection windows have the same appearance and drop-down field lists, the most commonly used reports are examined in this section. These reports include: "Maintenance (Poll) Calls Reports," "Polling Exceptions Reports," "Call-in Reports," and "Inactive Phone Reports."

Maintenance (Poll) Calls Report

A Maintenance Call (Polling) report lists records TMA compiles during poll calls to telephones, including health status. In these Poll type records, the date and time of the call, identifying information for the telephone, sensor and fault data are displayed. Each item is listed as **Pass** or **Fail**. The following explains how to set-up the Maintenance (Poll) Calls report. In addition, this report can include call log records that the telephones have recorded. These will be shown as Incoming calls (received by a SMART telephone), or as Outgoing calls in which the telephone "called-in" to the TMA PC.

In the initial screen, click the title of the **Maintenance Calls** tab, as shown below.
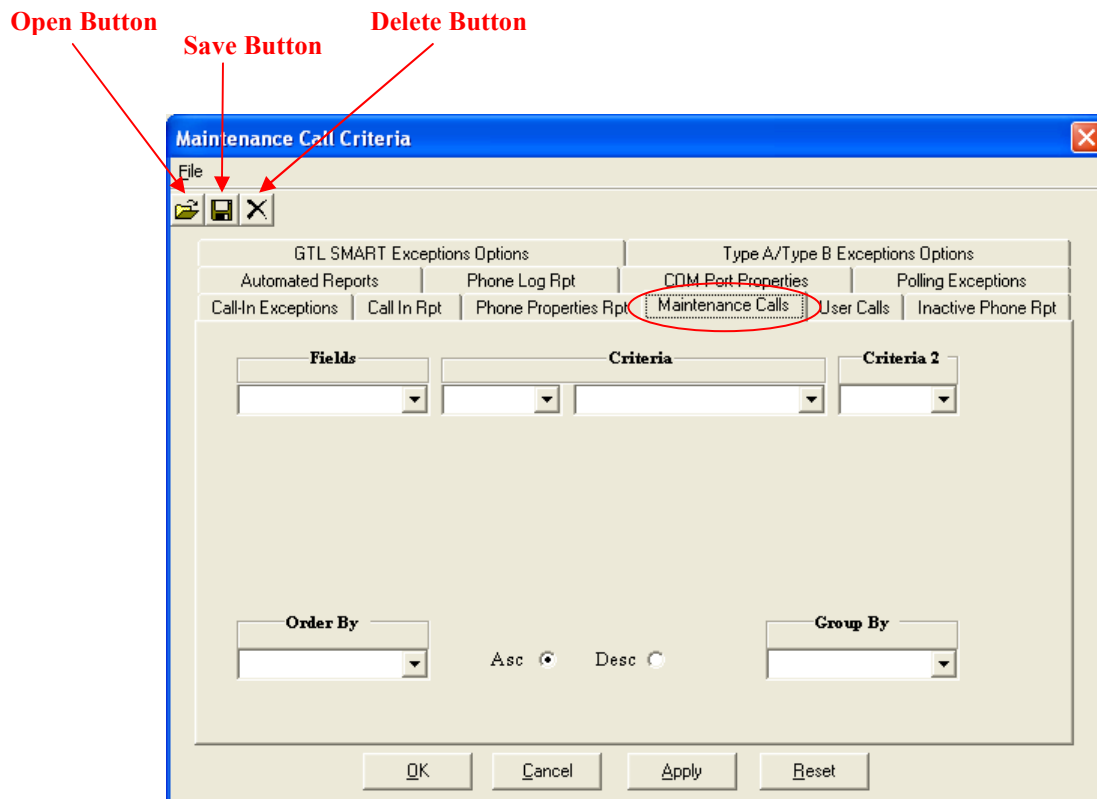
1. In the **Fields** drop-down list, select **Group Level 3** as shown below.
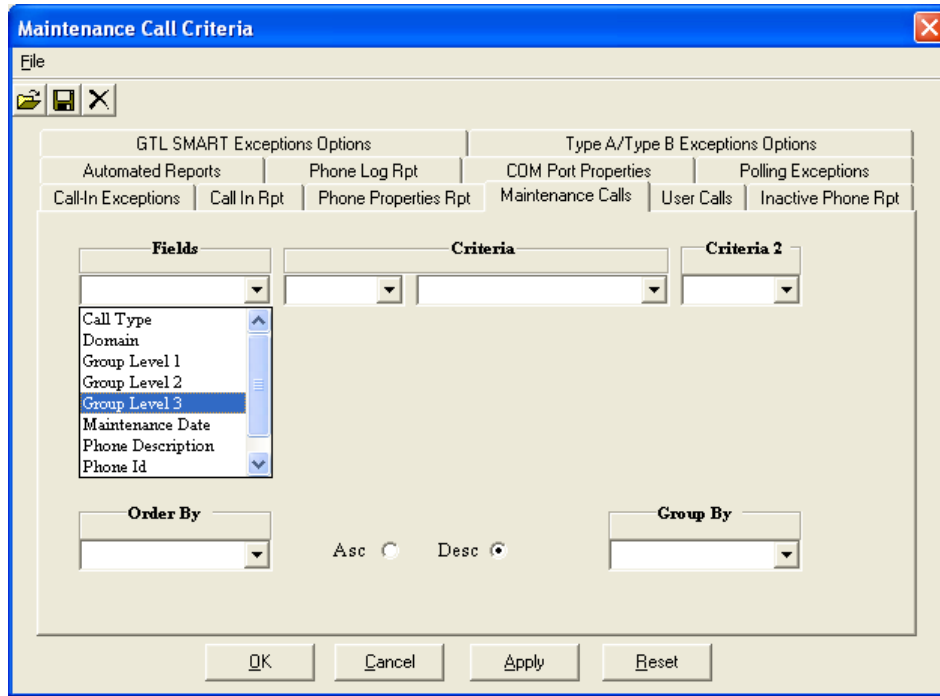
2. In the first **Criteria** drop-down list, select **=** as shown below.
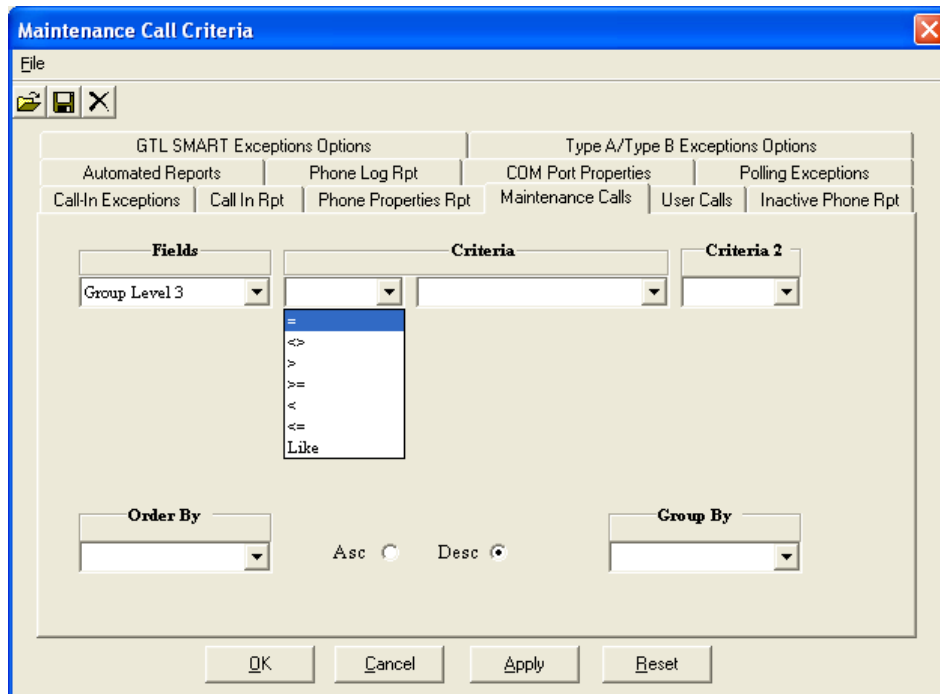
3. In the second **Criteria** drop-down list, select one of the **Group Level 3** names from the list. In this
    example, **Admin Bldg** is selected. To immediately generate this report, skip to step 8.

4. To save this report criteria for later use, click on the Save 🖫 button in the **Maintenance Call
    Criteria** window shown above. A new window opens to enter the name of the report. In the **Report
    Name** Field, enter the name of the report, as shown below.

NOTE: The report contents can be limited based on Group Level (1, 2 or 3), call date, phone description,
or other selections. In this example, the saved report name indicates Admin Bldg (at **Group Level 3**) and
is prefixed as "Maint Call" for ease of identification as more reports of other types are created. The report
to be generated includes only calls related to telephones contained in the Admin Bldg group.

5. Click **Save.** TMA saves the report criteria with the name provided. The window again shows the populated **Maintenance Call Criteria** window. This saved report can be scheduled for automated generation.

6. To generate this same report on demand, recall this saved report criteria: click on the Open 📂 button. The saved report appears in the **Saved Reports** list, as shown below.
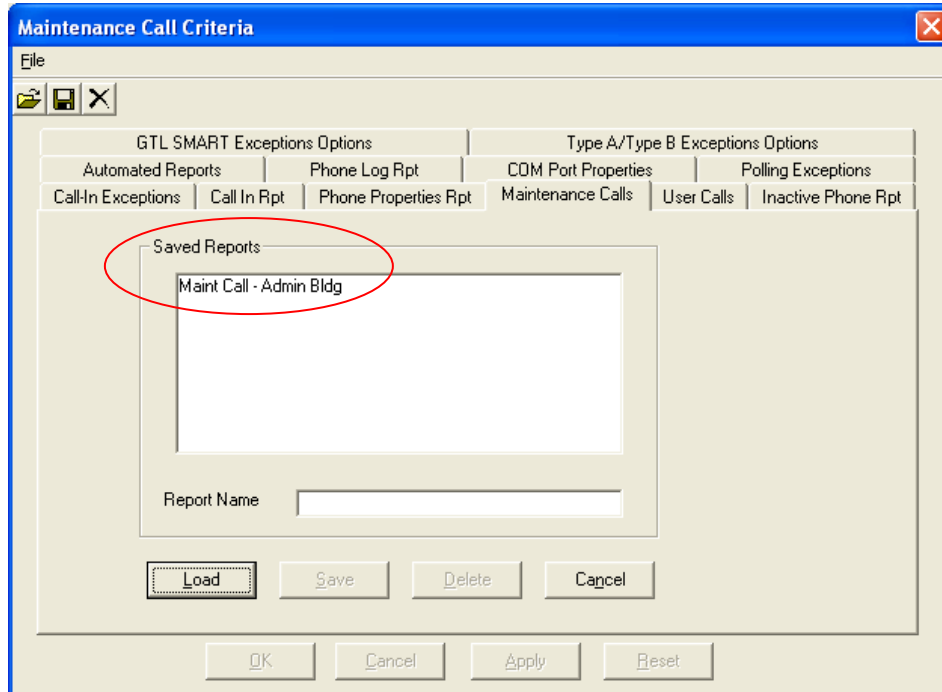
7. Double click on the report name so that it also appears in the **Report Name** field, and then click **Load**. TMA loads the saved criteria and again displays the **Maintenance Call Criteria** window.

8. To generate the report preview, click **Apply** or **OK**.

9. A preview of the Maintenance Call (Poll) Report (based on the selections made in this window) appears as shown on the next page.

Report Type

Field Selection

Maintenance Call Report
Group Level 3 = Admin Bldg

Second Criteria Selection

First Criteria Selection

2/8/2011
9:03:19AM

Metro Transit Authority

Maintenance Date	Call Time	Line No. (SPI # Used)	Serial No.	Description	Version

Call Type : Poll

Phone Extension

Phone Name

1/13/2011   3:40:22PM   5746   (2)   5551   Entrance Phone   252

Stuck Buttons	Pass	Call Log 90% Full	Fails	
Line Interrupt	Pass	Last Call-In Failed	Pass	
MicroProc Self Test	Fails	Memory Synchronize	Pass	
Last Maintenance	Pass	Configuration	Pass	
Call Interrupted		Synchronize		

Emergency Button

Voice Module Battery: Full Charge
Audio Path Test Results: 1st Ambient Level: 0, Speaker Output Level: 83, 2nd Ambient Level: 0, Mic Muted Level: 0

**Phone Diagnostic
Tests & Results**

Version 7.3.2   1

Maintenance (Poll) Call Report Preview

If the **Fields** and **Criteria** drop-down lists had been left empty, the report generated will include records from all telephones in the database for this type of report.

At the upper left corner of the each report preview, a menu bar displays the number of records found and includes buttons to permit printing or exporting of the report plus a search field and button to locate items on the report screen as shown below.

NOTE: When the search mechanism is used, the item found will be shown in a red box.

Call In Report

| ✕ | ◄◄ | ◄ | 1 of 1 | ► | ►► | ■ | 🖨 | 📥 | ▤ | 00% ▼ | ▼ | 🔍 |

**Number of
Records Found**

Print Button

Export Button

**Search Button
& Field**

Polling Exceptions Report

A Polling Exceptions report includes only the fault conditions detected during maintenance (poll) calls initiated by TMA. For each polling exception record, the date and time of the poll call, identifying information for the telephone and fault data are displayed. The following explains how to set-up the Polling Exceptions report.

1. In the initial screen, select the **Polling Exceptions** tab, as shown below.
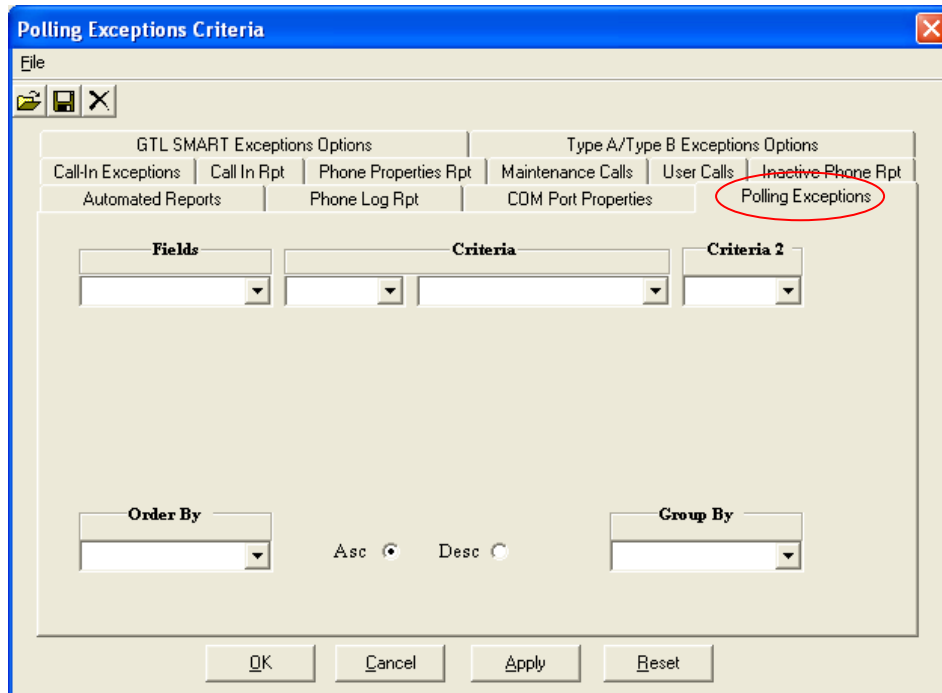
2. In the **Polling Exceptions Criteria** window shown above, click on the Save 💾 button. This saved report will contain empty criteria selections; the resulting report will include all data in the database. A new window opens to enter the name of the report, as shown below. In the **Report Name** Field, enter the name of the report.
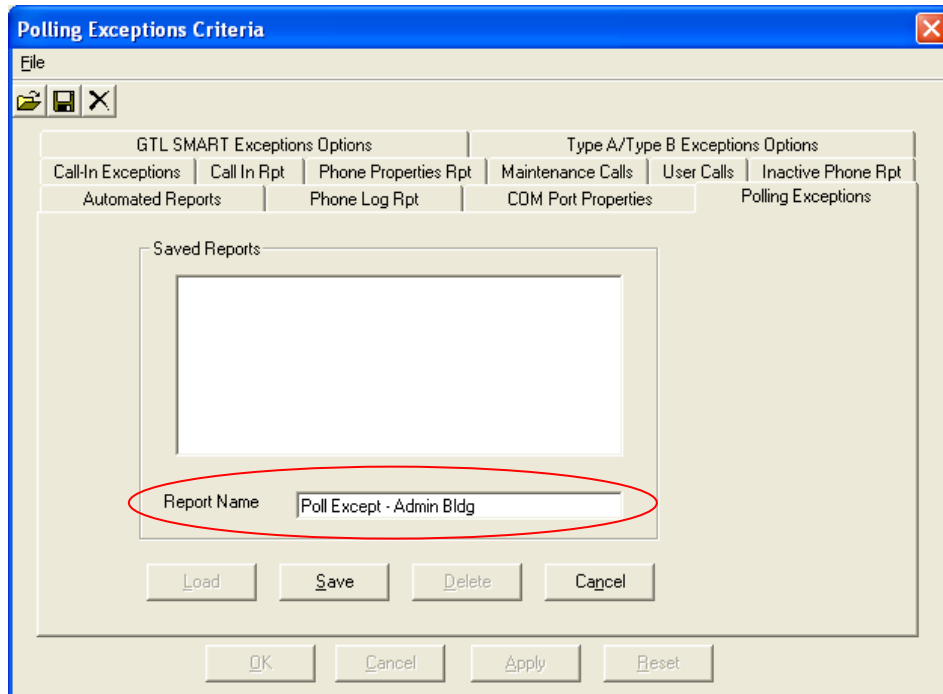
NOTE: The report contents can be limited based on Group Level (1, 2 or 3), call date, phone description, or other selections. In this example, the saved report name indicates Admin Bldg (at Group Level 3) and is prefixed as "Poll Except" for ease of identification as more reports are created.

3.   Click **Save** and the window will revert back to the original **Polling Exceptions Criteria** window.

4.   Continue by selecting filter criteria to limit the contents of this report: in the **Fields** drop-down list, select **Group Level 3** as shown below.
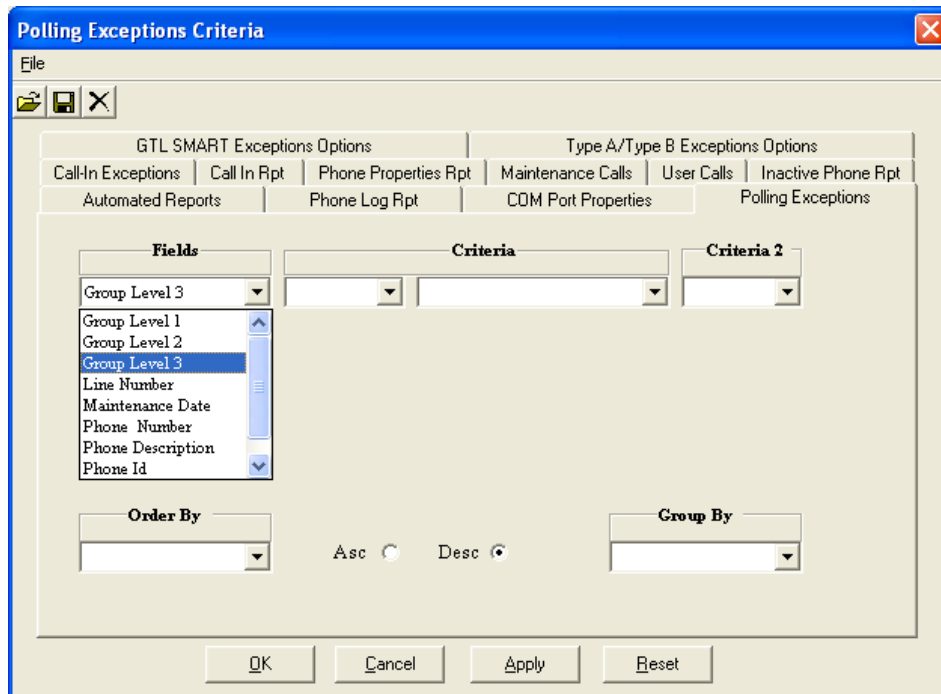
5. In the first **Criteria** drop-down list, select **=** as shown below.
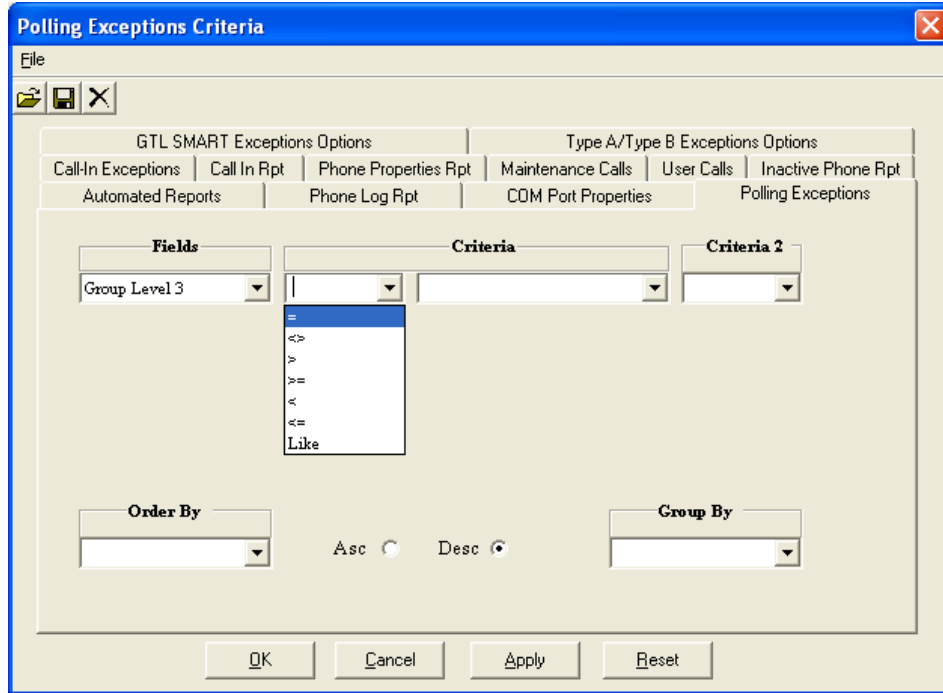
6. In the second **Criteria** drop-down list, select one of the **Group Level 3 names** from the list. In this example, **Admin Bldg** is selected.
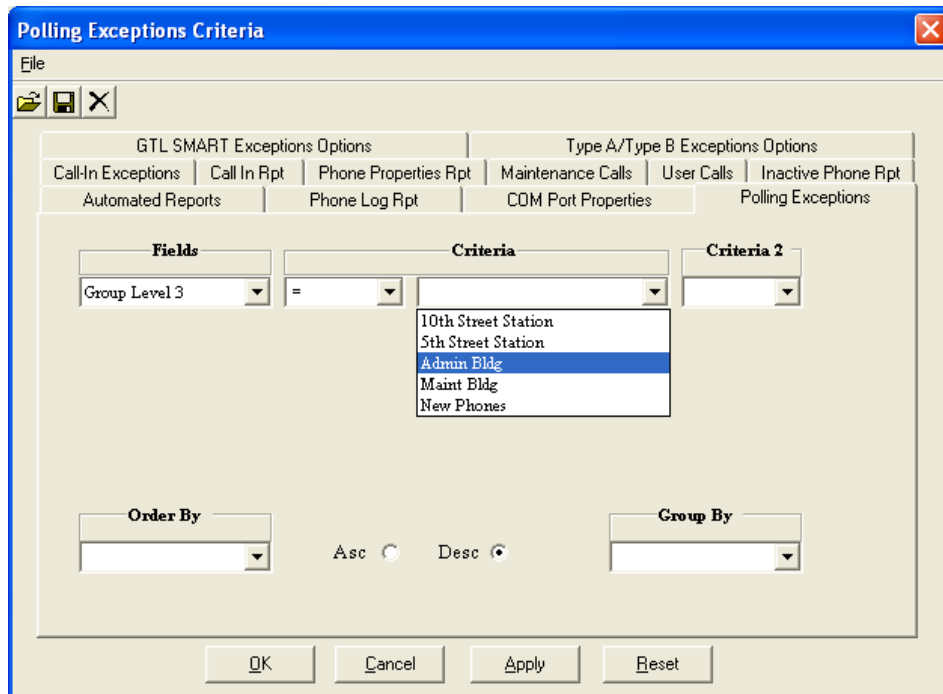
7. Click **Apply** or **OK**. A Polling Exceptions Report preview (based on the selections made in this window) will appear in another screen, as shown in the figure below.

Report Type

Field Selection

Second Criteria Selection

2/8/2011
10:22:35AM

Polling Exceptions Report

Group Level 3 = Admin Bldg

First Criteria Selection

Metro Transit Authority

Date	Time	Line Number	Serial No.	Phone ID	Description

Phone Extension

1/13/2011   3:40:22PM   5746   67670055   7   Entrance Phone
Faults 1-8
Faults 9-16   MicroProc Self Test, Call Log 90% Full

Phone Name

Detected Faults (Exceptions)

GTL SMART Critical Failures: Keypad, Call Log, Brown out, Integrity Loop
GTC SMART Critical Failures: Stuck Buttons, Line Interrupt, MicroProc Self Test, Memory Synchronize, Configuration Synchronize

Version 7.3.2   1

Polling Exceptions Report Preview

As shown with the "Maintenance (Poll) Calls" report screen, a menu bar is provided at the upper left corner displaying the number of records found and tabs to permit printing or exporting of the report, along with the search button and field.
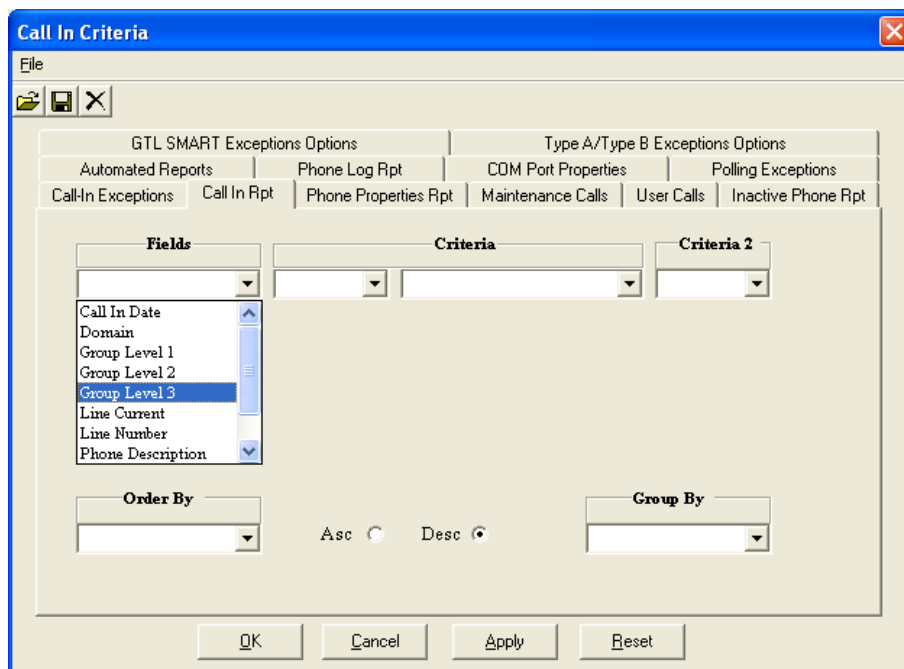
Call In Report

A Call-In report lists maintenance calls that TMA receives from telephones. For each call-in received, the date and time of the call, identifying information for the phone, sensor and fault data are displayed. Each item is listed as **Pass** or **Fail**. The following explains how to set-up a Call-In report.
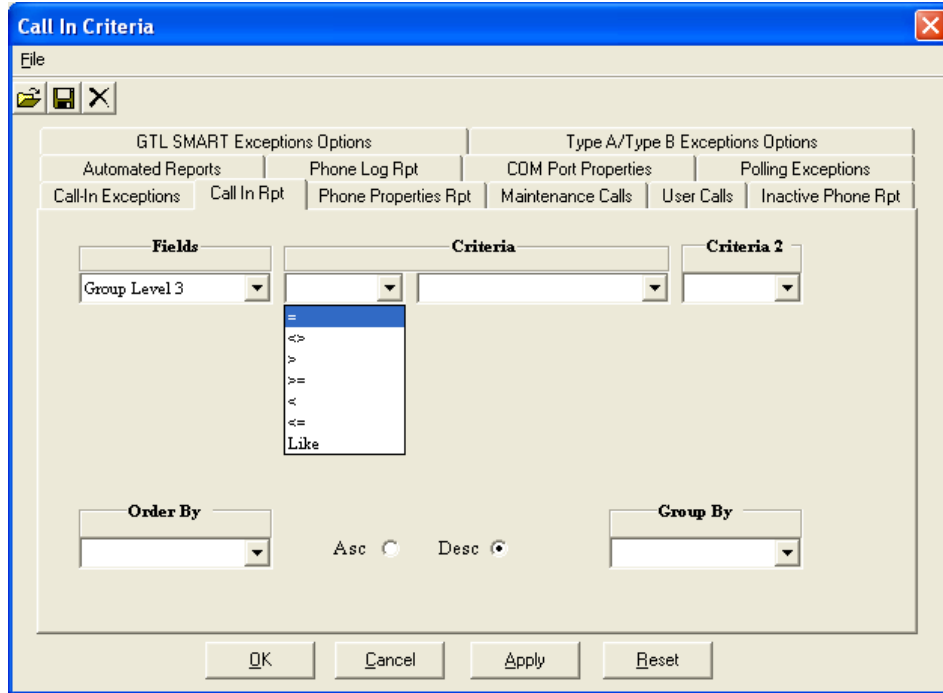
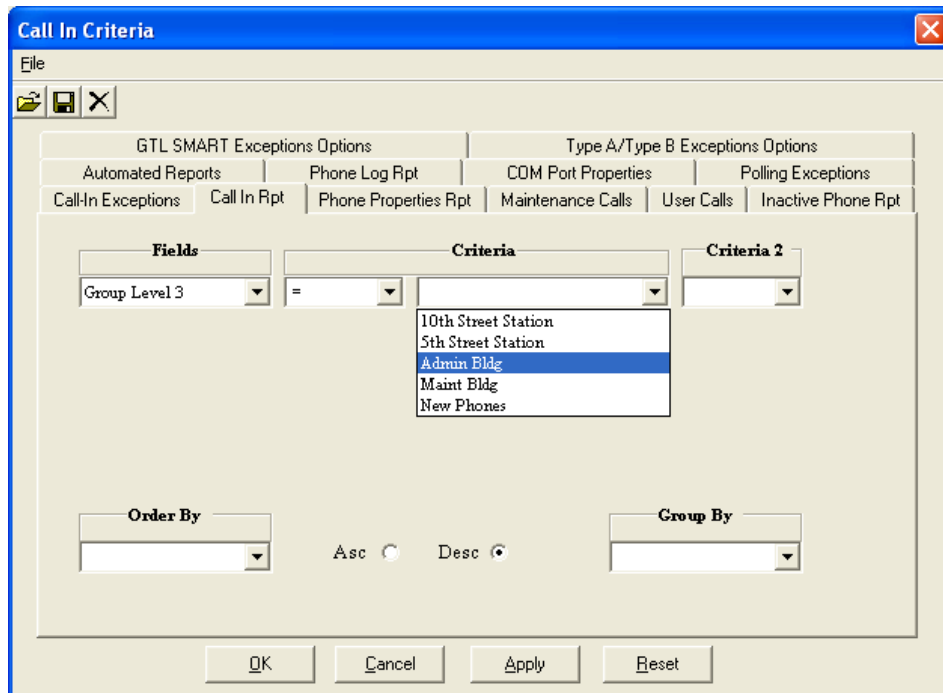1. In the initial screen, select the **Call In Rpt** tab, as shown below.
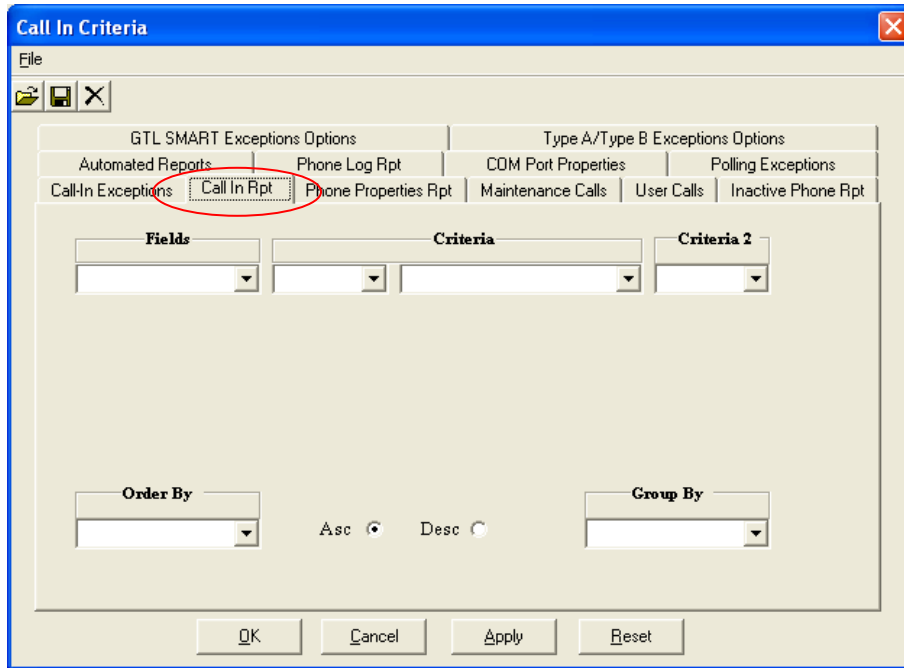
2. In the **Fields** drop-down list, select **Group Level 3** as shown below.

3. In the first **Criteria** drop-down list, select **=** as shown below.

4. In the second **Criteria** drop-down list, select one of the **Group Level 3 names** from the list. In this example, **Admin Bldg** is selected. Click **Apply** or **OK.**

5. A Call-In Report (based on the selections made in this window) will appear in another screen, as shown below.

Call-In Report Preview

As shown with the "Maintenance Calls" and "Polling Exceptions" report screens, a menu bar is provided at the upper left corner displaying the number of records found and tabs to permit printing or exporting of the report, along with the search button and field.

NOTE: To create a Call-In Exceptions report, follow the steps in the Polling Exceptions report section using the "Call-In Exceptions" tab.
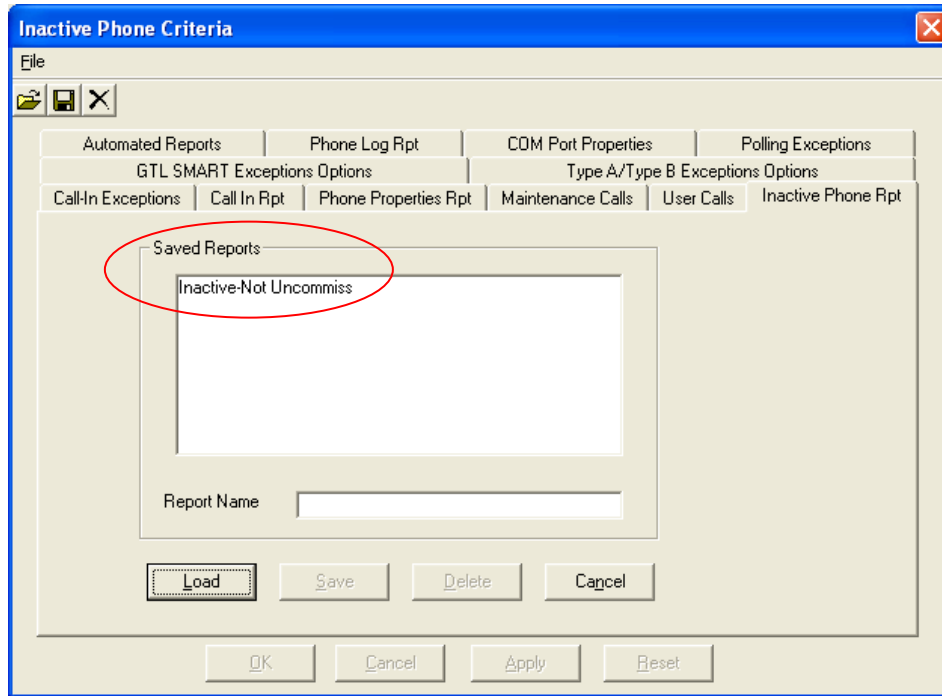
Inactive Phone Report

The Inactive Phone report lists all telephones that have failed to update status in the TMA database at the expected time. An inactive telephone may be the result of vandalism, phone line problems or a malfunction. The Inactive Phone report is entered as a default in TMA and the following explains how to set-up an **Inactive Phone** report.

NOTE: An Inactive Phone report can be the site Domain name, any Group Level (1, 2 or 3), or a particular phone. For this example, the Blue Line (at **Group Level 2**) will be used.

1. In the initial screen, select the **Inactive Phone Rpt** tab, as shown below.
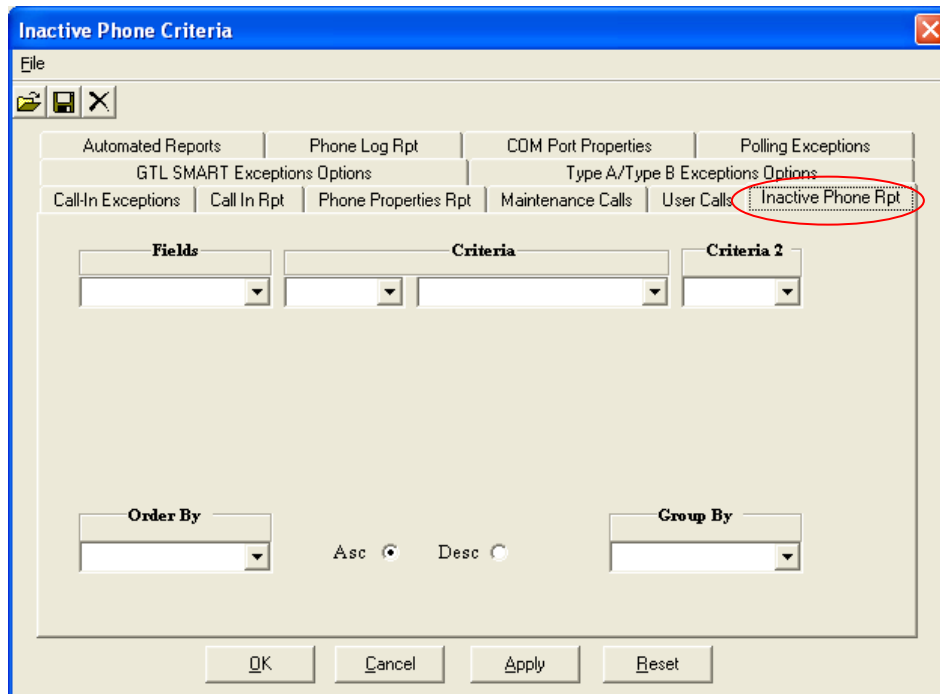
2. To recall an existing saved report, click on the Open button. A new window opens to enter the name of the report, as shown below.

3. Double click on one of the saved report names so that it also appears in the **Report Name** field, and then click **Load**. The window will contain the saved **Inactive Phone Criteria**.

4. To generate a report that is not saved, in the **Fields** drop-down list, select **Group Level 2** as shown below. Note that an Inactive Phone report can be for the site (Domain) any Group Level (1, 2 or 3). For this example, **Group Level 2** is selected to show inactive phones in that area (sector or region).
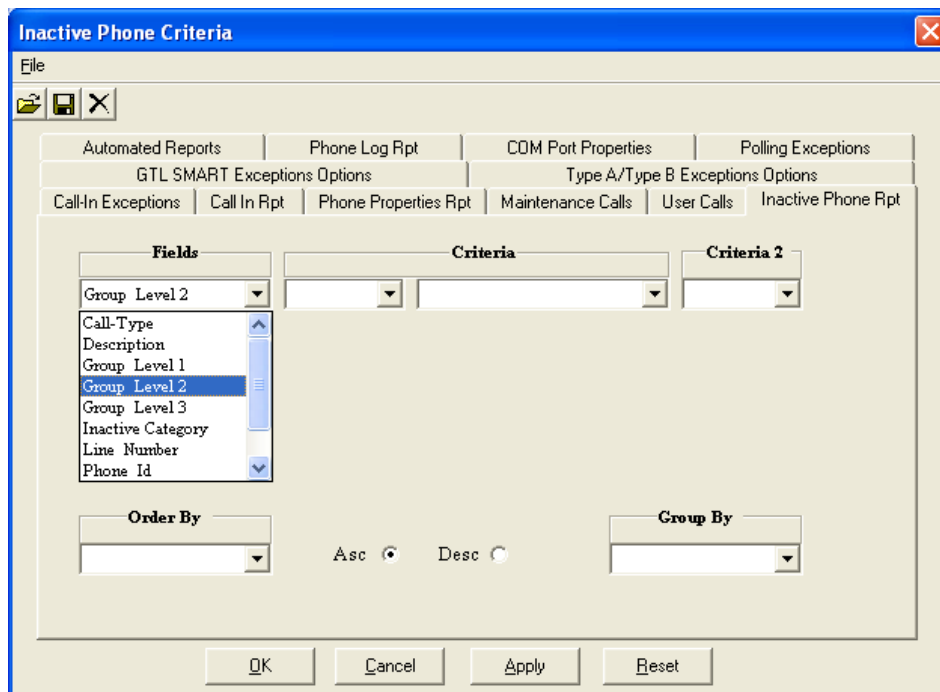
5. In the first **Criteria** drop-down list, select **=** as shown below.
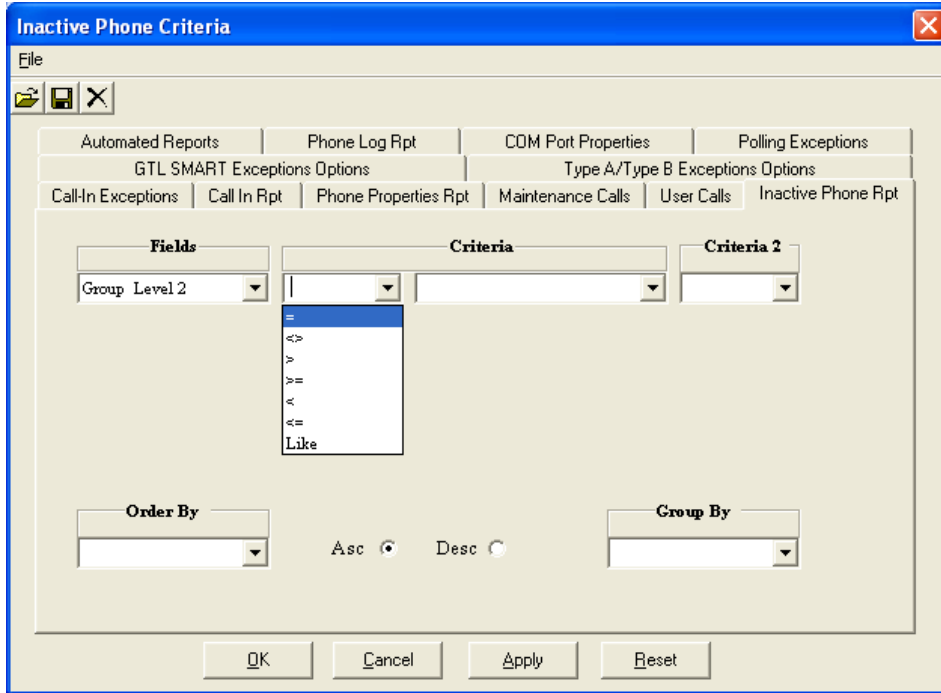
6. In the second **Criteria** drop-down list, select one of the **Group Level 2** names from the list. In this example, **Blue Line** is selected. Click **Apply** or **OK**.

7. An Inactive Phone Report (based on the selections made in this window) will appear in another screen, as shown in the figure below.

Inactive Phone Report Preview

As shown with the other report screens in this section, a menu bar is provided at the upper left corner displaying the number of records found and tabs to permit printing or exporting of the report, along with the search button and field.

VoIP Alarm Notification Report

A VoIP Alarm Notification report lists each alarm or input that was triggered by a VoIP phone resulting in a SYSLOG message broadcasting to the IP address of the TMA PC. For TMA to receive the notifications, each alarm and input must be configured in the phone with the "REPORT" field set to "ON+OFF" and the "SYSLOG" field set to "ON". **NOTE:** TMA will store the last known "MSG" field value in the database received during polling. If the value in the phone is changed and TMA has not polled the phone, when an alarm or input is triggered, TMA will not be able to report the correct alarm or input triggered.

1. In the initial screen, select the **VoIP Alarm Notifications** tab, as shown below.

2. In the **Fields** drop-down list, select **Triggered State** as shown below.
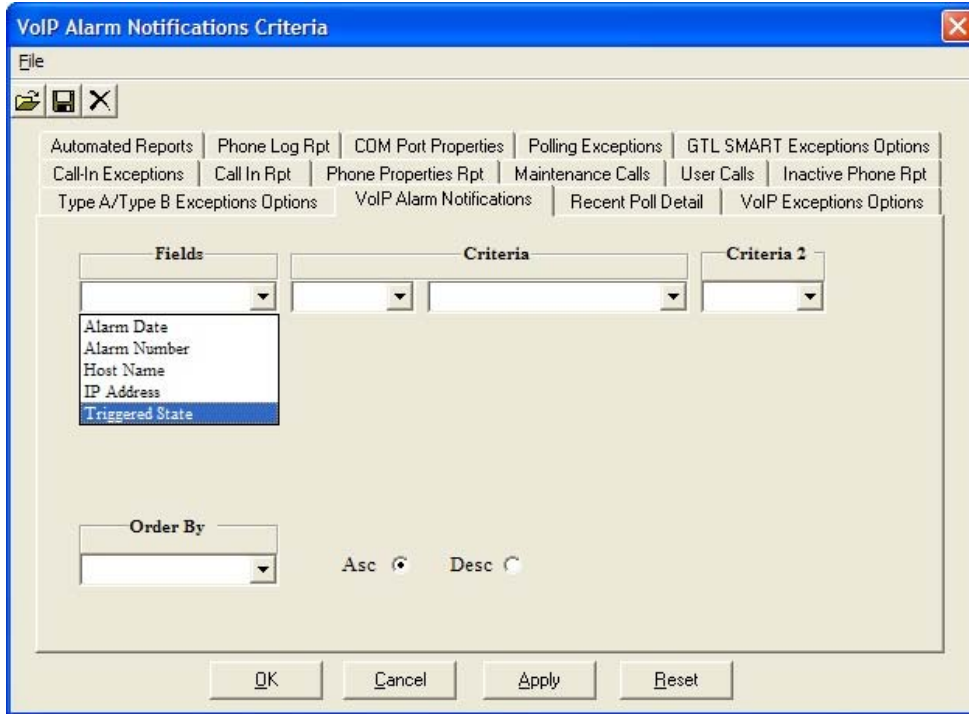
3. In the first **Criteria** drop-down list, select **=** as shown below.
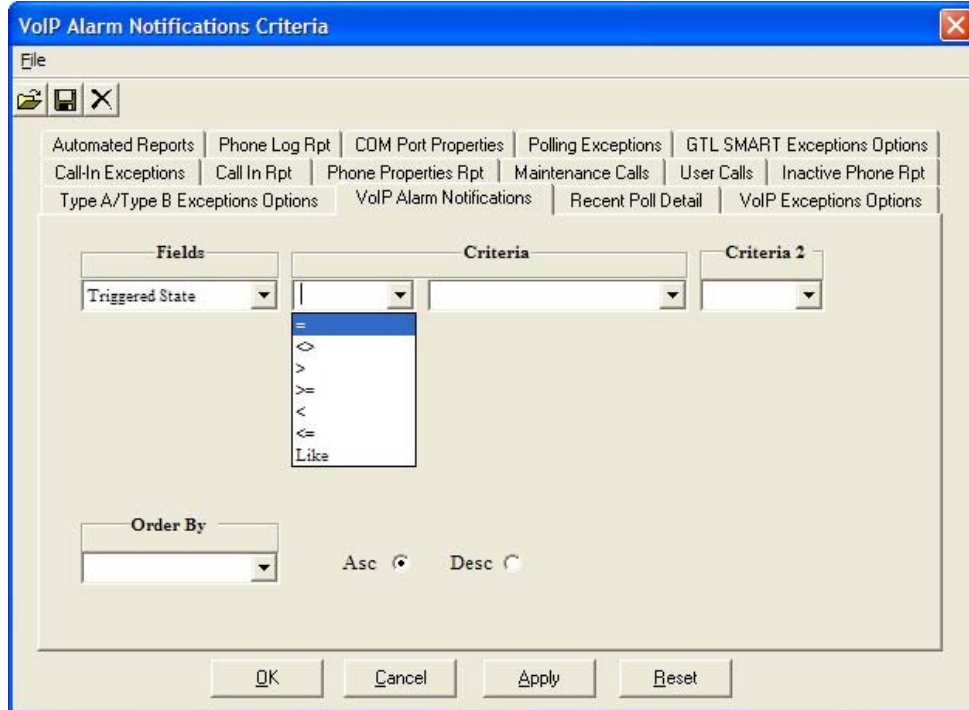
4. In the second **Criteria** drop-down list, select the **Triggered State** of **True** (ON) from the list. Click
    Apply or **OK.**

5. An Alarm Notification Report (based on the selections made in this window) will appear in another screen, as shown below.

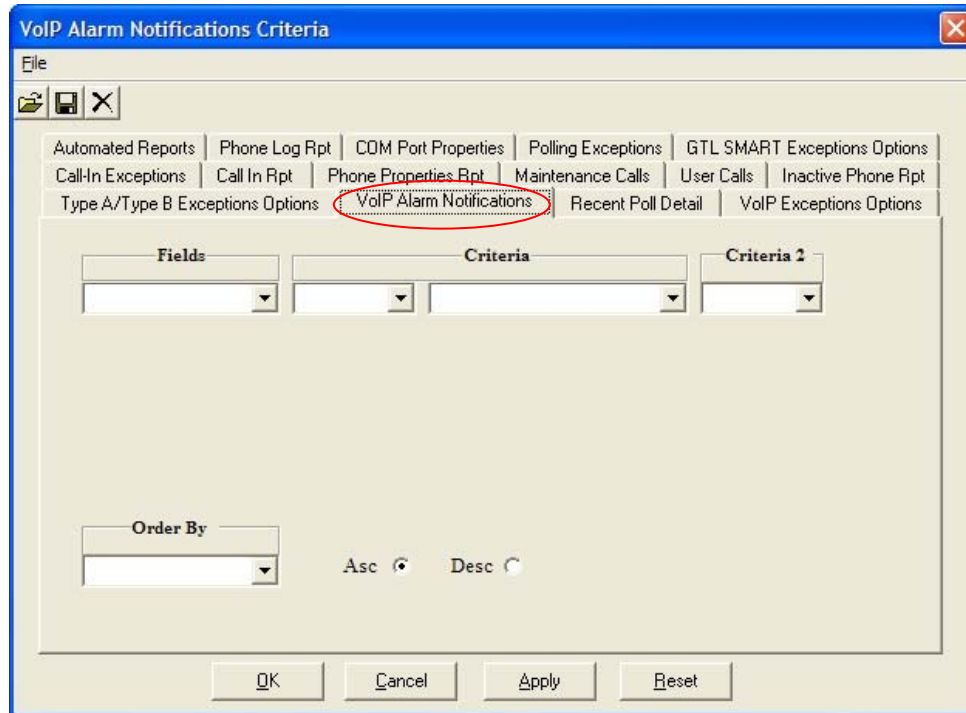Alarm Notifications Report Preview

As shown with previous report screens, a menu bar is provided at the upper left corner displaying the number of records found and tabs to permit printing or exporting of the report, along with the search button and field.

Configuring Reports

After creating, reviewing and/or printing certain reports, it may be desirable to change the way reports are presented. This section will examine the two most commonly used configuration tabs, which are the "Type A/Type B Exceptions Options" and "Automated Reports" to configure (or re-configure) information produced in various reports.

Type A/Type B Exceptions Options Report Window

The Type A/Type B Exceptions Options tab allows selection of conditions designated as critical failures to be included in the Exceptions reports for Type A and Type B SMART telephones. Refer to Table 2.

In the initial screen, select the **Type A/Type B Exceptions Options** tab, as shown below.
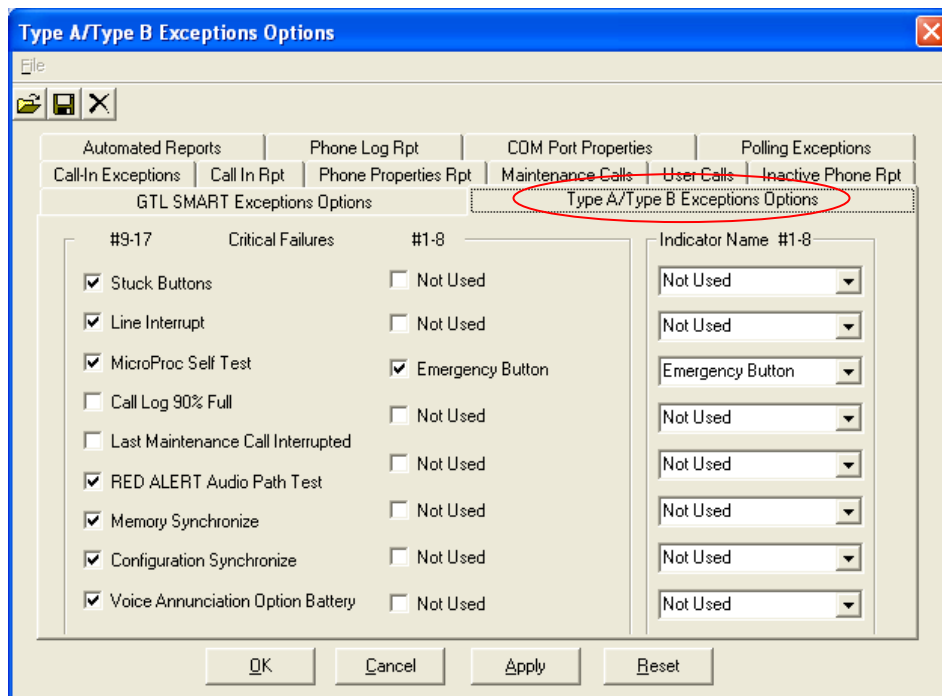
The Type A/Type B Exceptions Options window shown above contains one section called "Critical Failures" with check boxes, and second section called "Indicator Name #1–8" with drop-down lists. The selections shown in each group are the factory default settings, and can be changed to suit a variety of "exceptions" (fault) reporting needs.

When an Exceptions report is generated, the "Critical Failures" selections determine which type of fault conditions will be included in the report. For example, if the Line Interrupt selection is not checked, then a phone reporting this fault will be omitted from the Exceptions reports, unless that phone also reports some other failure that has been selected as a Critical Failure.

Each check box selection and drop-down list is explained below.

Table 29. Critical Failures Group #9–16 Column (Fault Conditions)

Check Box	Function
Stuck Buttons	A telephone will always check for stuck buttons (including the keypad, if equipped) and this selection is checked by default. If unchecked, any stuck button detected by the telephone is deemed non-critical and will not appear in an exceptions (fault) report.
Line Interrupt	A telephone monitors the connected phone line for the purpose of reliability, and this selection is checked by default. If unchecked, any disruption in phone line service is deemed non-critical and will not appear in an exceptions (fault) report.
MicroProc Self Test	A telephone performs a self-diagnostic test of the installed firmware and this selection is checked by default. If unchecked, any corruption of the firmware is deemed non-critical and will not appear in an exceptions (fault) report.
Call Log 90% Full	A telephone contains 32 call log records and when full, the oldest records are discarded from memory. This selection is unchecked by default, but if checked, a telephone with a nearly full call log history will appear in an exceptions report. **NOTE:** This feature is useful if phone calling records are deemed important.
Last Maintenance Call Interrupted	If a telephone has its most recent poll call interrupted, and the call does not complete normally, it reports this fault. This selection is unchecked by default, but if checked, this fault will be classified as "Critical," and this fault for the phone will be included in an exceptions report.
Acoustic Path Test	A RED ALERT® Hands-free phone performs a diagnostic test of its speaker and microphone during a poll call. This selection is checked by default. If unchecked, an abnormal audio path test result is deemed non-critical and will not appear in an exceptions (fault) report.
Memory Synchronize	When a telephone reports health status via a poll call or call-in, the phone's auto-dial memory numbers are checked against what is stored in he TMA database to ensure all numbers match. This selection is checked by default, but if unchecked and the auto-dial memory numbers do not match, it is deemed non-critical and will not appear in an exceptions (fault) report.
Configuration Synchronize	When a telephone reports health status via a poll call or call-in, the phone's configuration settings are checked against what is stored in the TMA database to ensure all parameters match. This selection is checked by default, but if unchecked and the configuration settings do not match, it is deemed non-critical and will not appear in an exceptions (fault) report.
Voice Annunciation Option Battery Test	If the Voice Annunciation Option is installed in a Type A telephone, the phone performs a diagnostic test of the Voice Annunciation battery during a poll call. This selection is checked by default. If unchecked, a "low battery" result is deemed non-critical and will not appear in an exceptions (fault) report.
In the Critical Failures section, check boxes in column **#1–8** are linked to the adjacent drop-down lists in the **Indicator Name #1–8** column. The **Indicator Name** selections assign a name to an input switch of the telephones in the system. The selected **Indicator Name** appears in the Exceptions reports, and also next to the Critical Failures **#1–8** check boxes.	

Table 30. Critical Failures Group #1–7 and Indicator Name #1–7 (for Input Sensors)

Check Box	Indicator Name Selections	Function
1st (top)	**Not Used**	Default setting – no function.
	Handset Integrity	This selection is used <u>only</u> for telephones equipped with a handset to verify the integrity of the handset cord. Thus, if the handset cord is cut or detached, the telephone reports this as a failure.
2nd	**Not Used**	Default setting – no function.
	Hookswitch	This selection is used for telephones equipped with a handset to verify the integrity of the hookswitch and/or to flag that a handset was not placed back in the cradle after use (i.e., left free hanging), and the telephone will report this condition.
3rd	**Not Used**	Default setting – no function.
	Emergency Button	If the EMERGENCY button switch becomes stuck in the depressed position due to ice or some other foreign matter, the telephone will report this as a failure.
4th	**Not Used**	No other selection is available.
5th	**Memory Abnormal**	Default setting – validates the telephone configuration memory.
	Not Used	No function.
6th	**Not Used**	No other selection is available.
7th	**Not Used**	No other selection is available.
8th (bottom)	**Not Used**	No other selection is available.

Automated Reports

After determining the criteria selections that are most important and useful, the reporting process can be automated on a daily or weekly basis. An automated daily report only includes activity records for the past 24 hours, whereas an automated weekly report includes activity for the past seven days. A maximum of ten different saved reports can be automated to run at a time. Each generated report will be sent to the default printer and additionally sent to the configured e-mail address(es) if **E-mail Scheduled Automated Reports** is enabled on the E-mail Setup Form. Refer to the "E-mail Setup" section on page 121 for additional information.

Considerations:

1. A report can be saved without specifying any limiting criteria so that all applicable information is presented. This is particularly useful for an Inactive Phone report.

2. Any date criteria specified in a saved report will be ignored when an automatic report is generated since the auto reports, by nature, will report on specific date-related intervals.

3. To automate a report, criteria must be specified and then saved with a name.

Upon selecting the **Automated Reports** tab, the following screen will appear.
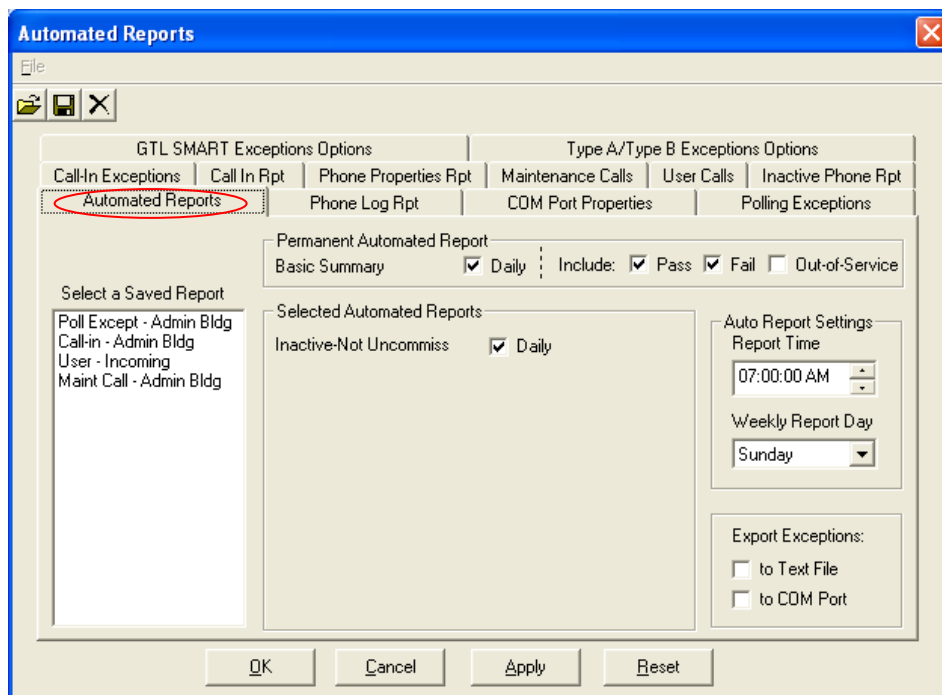
The following describes the selections available in the Automated Reports window for configuring automatic reports.

Table 31. Automated Reports – Available Selections

Selection	Function
Select a Saved Report	Provides a list of all the currently saved report criteria selections.
Permanent Automated Report	**Basic Summary** – is a default report in TMA that provides only "Pass," "Fail," or "Out of Service" information (based on check-box selections) for all telephones in a system. **Check Boxes: These selections provide for choice of what is included in the Basic Summary report, and for disabling the automatic generation of this report.** **Daily** – is checked by default to produce a Basic Summary report on a daily basis at the time set in the Auto Report Settings block. If unchecked, the report will not be produced on a daily basis. **Pass** – is checked by default to list all telephones with "Pass" criteria. If unchecked, telephones with "Pass" criteria are omitted from the report. **Fail** – is checked by default to list all telephones with "Fail" criteria. If unchecked, telephones with "Fail" criteria are omitted from the report. **Out of Service** – is checked by default to list all telephones with "Out of Service" tags. If unchecked, telephones with "Out of Service" tags are omitted from the report.
Selected Automated Reports	**Inactive Phones:** **Daily** – when checked, the report lists telephones that are not active on a daily basis at the time designated in the Auto Report Settings. **For other selected reports:** **Daily** – when checked, the selected report is generated on a daily basis at the time designated in the Auto Report Settings. **Weekly** – when checked, the selected report will be generated on a weekly basis on the day and at the time designated in the Auto Report Settings.
Auto Report Settings	**Report Time** – is used to set the time when a report is to be generated. **Weekly Report Day** – is used to designate a day of the week when a report is to be generated, only if the "Weekly" box is checked in Selected Automated Settings. If the "Daily" box is checked in Selected Automated Settings, the selection is ignored.
Export Exceptions	**to Text File** – when checked, the report will be generated and sent to a text file. Microsoft® Notepad is commonly used for viewing the file. **to COM Port** – when checked, the report will be generated and output to the selected serial port. **NOTE:** Export Exceptions are rarely used.

Table 32. Automated Reports - Buttons

Button	Function
OK	Saves the report configuration and closes the Automated Report window.
Cancel	The window closes and none of the selections are saved.
Apply	The current selection settings are saved and the Automated Report window remains open.
Reset	All selections are returned to the original (default) settings.

Default Automated Reports

As indicated in the "Inactive Phone Report" section, the Inactive Phone report exists as a default in TMA and automatically appears in the **Selected Automated Reports** block with **Daily** box checked. Also, all boxes (except "Out of Service") are checked in the **Permanent Automated Report** block, as a default.

The following explains the default **Automated Report**.
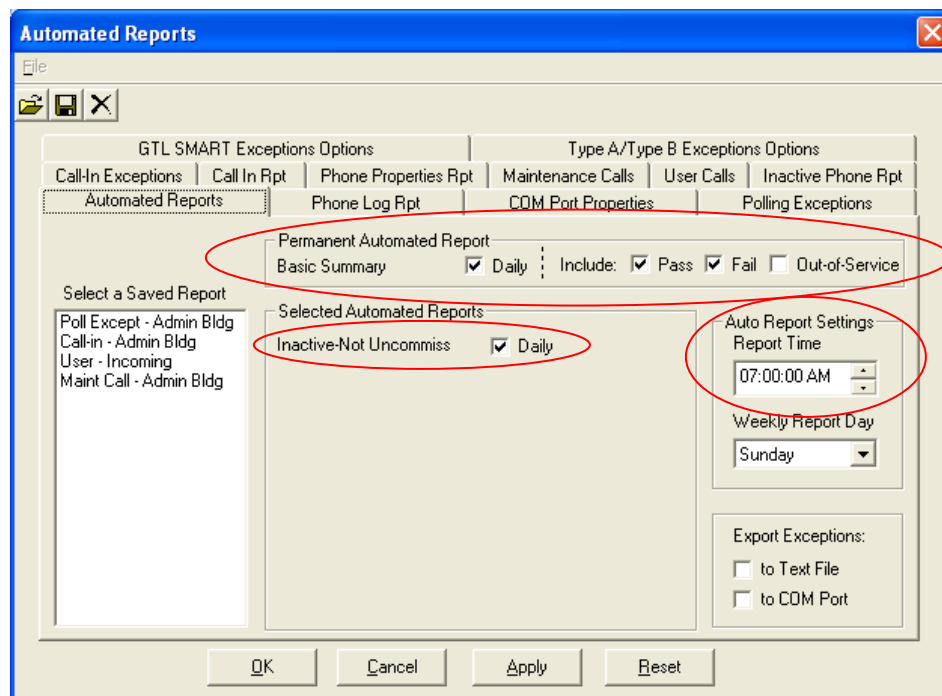
In the Automated Reports window shown above, the default settings for a **Basic Summary** and an **Inactive –Not Uncommissioned** report are shown. If the selections in this window are not changed, TMA will generate both reports at 7:00 AM on a daily basis. Each report will contain the following information:

- **Basic Summary** – will list all system telephones and each telephone will be shown with either a "Pass" or "Fail" criteria, or as "Out of Service" to indicate the phone's status.
- **Inactive Phones** – will only show telephones that are classified "Inactive".

To change the default settings in the Automated Reports window, perform the following steps:

1. To change the time selection, click on the appropriate **hh:mm:ss** or **AM/PM** field and use the Up and Down arrows.

2. To change (or limit) the Basic Summary report, simply uncheck the appropriate box(s) to omit that criteria from the report. To disable the Basic Summary report, uncheck the **Daily** box.

3. To disable the Inactive Phones report, uncheck the **Daily** box.

Custom Automated Reports

If specific reports are preferred to the default reports, custom reports can be configured in the Automated Reports window. The following explains how to customize an **Automated Report**.
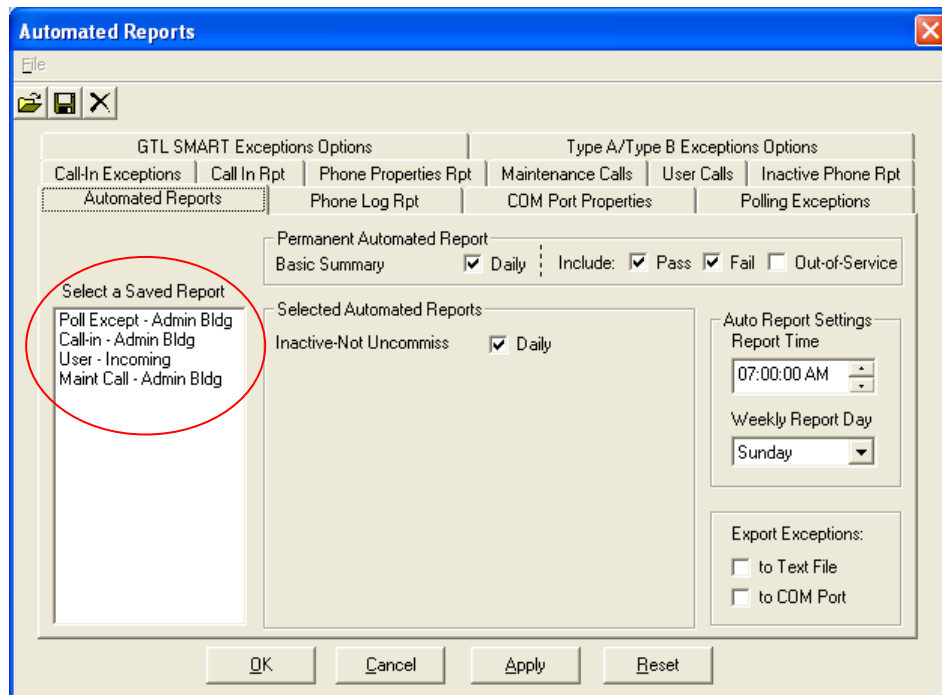
1. In the **Select a Saved Report** field, click on one (or more) of the named report(s) in the list. Upon making the selection, the report name will move to the "Selected Automated Reports" group. For this example, the "Maint Call – Admin Bldg" report is selected, as shown below.
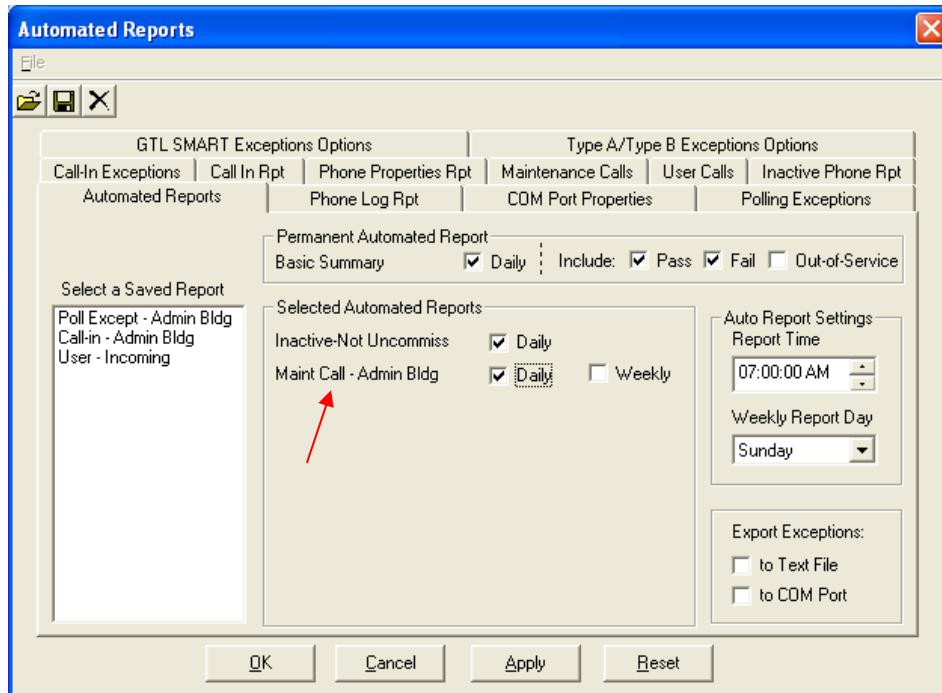
2. In the **Selected Automated Reports** group, use the **Daily** or **Weekly** check boxes to select (or deselect) the frequency of when each report is to be generated.
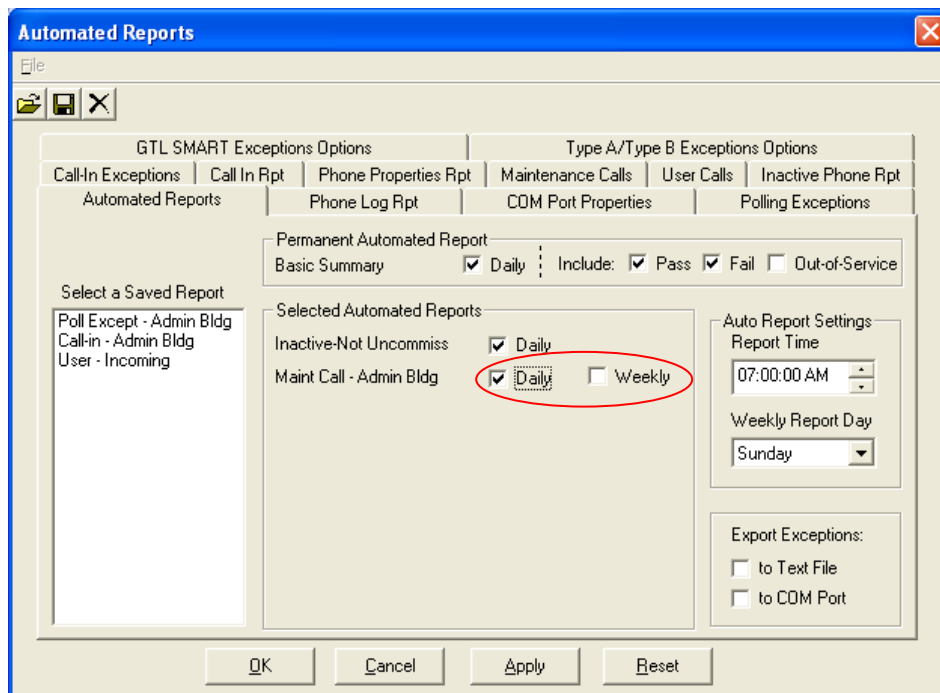
3. In the **Auto Report Settings** group, select the time of day the report is to be generated. To change the time selection, click on the appropriate **hh:mm:ss** or **AM/PM** field and use the Up and Down arrows. Also, if the **Weekly** box is checked in the **Selected Automated Reports** group, be sure to select a day from the **Weekly Report Day** drop-down list.
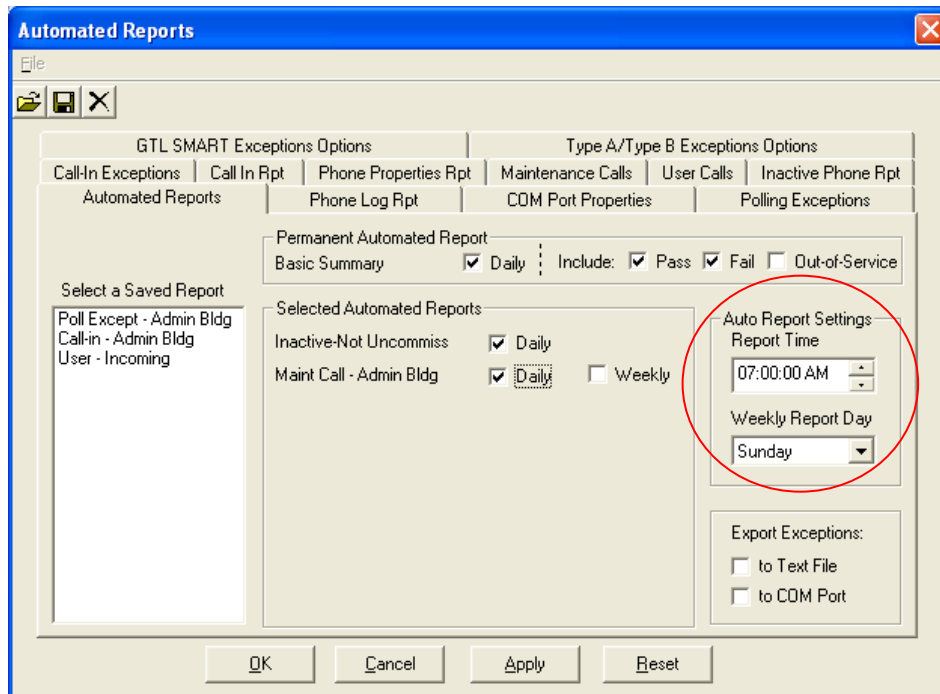
4. Click **Apply** to save the report configuration and allow the window to remain open, or click **OK** to save the report configuration and close the window.

E-mail Setup

In some instances, it may be desirable for TMA to send an e-mail in the case of a recently polled phone reporting a new fault or to send an e-mail containing an automated report. This can be configured using the E-mail Setup window found under the Tools menu.

General Options

There are two separate behaviors that operate independently, but share the SMTP Settings and E-mail Addresses. These General Options and behaviors are explained below.

Parameter	Function
Critical Faults Notification E-mail	Enabling this behavior will cause TMA to compose and send an automated e-mail after a telephone has been polled or called in with a newly discovered fault. It will be sent using the SMTP Settings to the configured E-mail Addresses using the Custom E-mail for Critical Faults.
Send After Every Call With Faults	If Critical Faults Notification E-mail is enabled and this option is enabled, then TMA will send a Critical Faults Notification E-mail after every call that contains any critical failures. If this option is disabled, then TMA will only send the initial Critical Faults Notification for the telephone with the faults, but ignore all subsequent calls indicating a critical failure.
Send 'Fault Cleared' Confirmation	If Critical Faults Notification E-mail is enabled and this option is enabled, then TMA will send an e-mail confirming that the last contact made with the telephone contained no faults.
Automated Reports E-mail	Enabling this behavior will cause TMA to compose and send an automated e-mail for every scheduled automated report. This applies to the daily, weekly and at the end of polling if enabled. TMA will send a separate e-mail for each Automated Report with the report as an html attachment.
Disable Printing	If Automated Reports E-mail is enabled and this option is enabled, then TMA will e-mail the automated report(s) but not send the report(s) to the default printer.

SMTP Settings

These settings apply to the login credentials needed to access the outgoing e-mail server and each setting is described below. The e-mail system can either be a web-based e-mail provider or an internal SMTP mail server. Please contact you network administrator if needed to obtain the correct SMTP Settings.

Parameter	Function
Login Name	The e-mail address that is needed to log into the SMTP server or web-based mail system.
Login Password	The password associated with the Login Name.
SMTP Server	The server name or address where the login credentials apply.
SMTP Server Port	The port needed to send the outgoing e-mails that the server or web-based mail system is expecting to use.
Use Authentication	Enable this option if the login process requires authentication.
Use SSL or TLS (port dependent)	Enable this option if the login process requires a secure connection.
Connection Timeout	The amount of time (in increments of seconds) TMA will wait during establishing a connection before failing.

E-mail Addresses

Multiple e-mail addresses can be used by entering them in the **To** field, **Cc** (carbon copy) field, or the **Bcc** (blind carbon copy) field. Each e-mail address must be separated by a semi-colon (;).

Custom E-mail for Critical Faults

The e-mail to be sent for each telephone containing a critical fault can have a custom Subject line and Message body by using any of the Phone Data Fields. When the e-mail is generated, the Phone Data Fields will be substituted with the associated data from the phone record.

Placing Phones In or Out of Service

In the event a telephone needs to be removed for repair or replacement, the phone record can be marked as "Out of Service." With a phone record marked as "Out of Service," it will not be reported as being inactive or having exceptions. This feature is only available when set to one of two Inactive settings in the "Graphical Inactive Notification" tab of the TMA Options screen.

Placing a Phone "Out of Service"

To tag a phone record as "Out of Service," right click on the phone in the main window and select **Tag for Out of service** in the pop-up menu, as shown below.
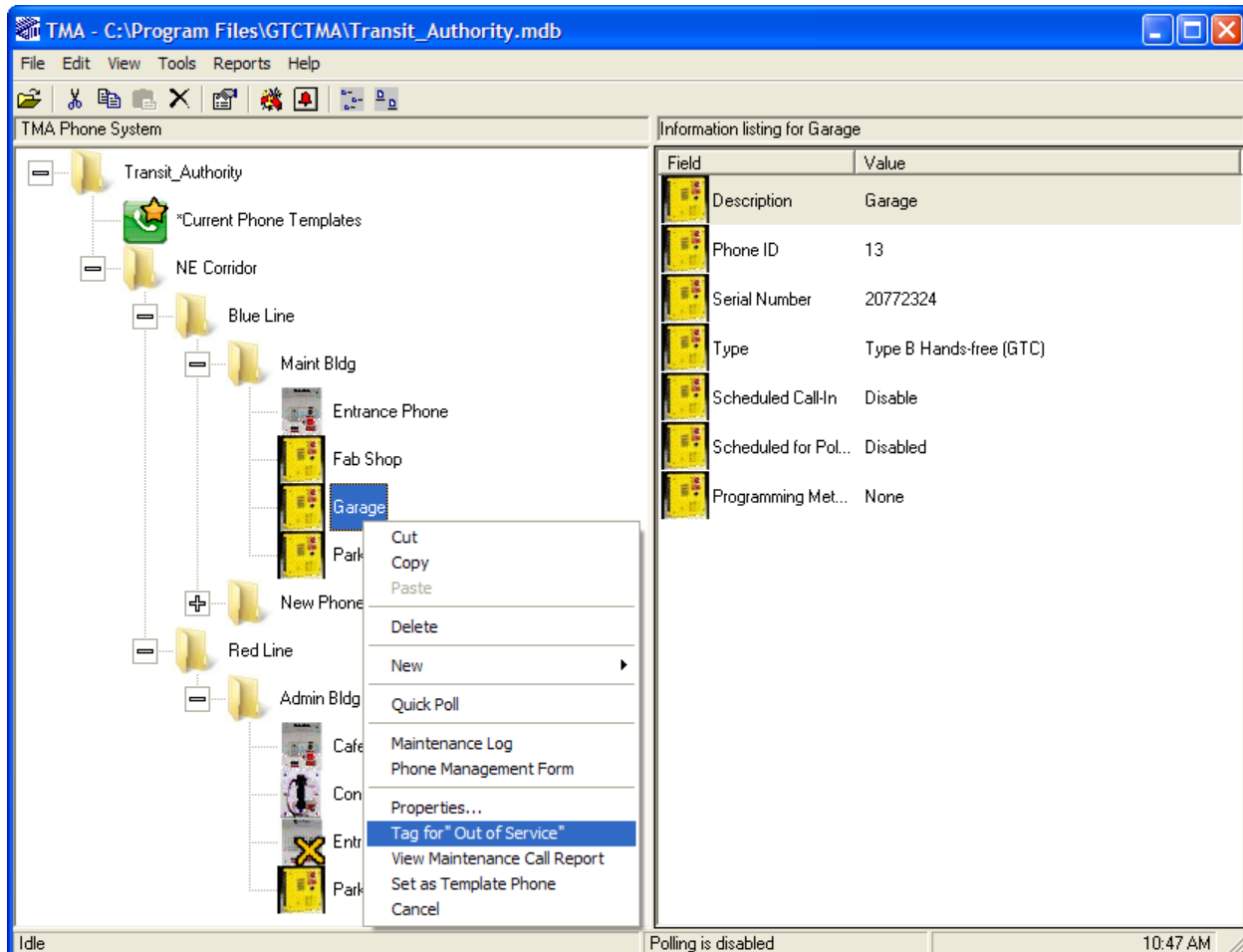
The following message window will appear asking, "Do you wish to continue?"
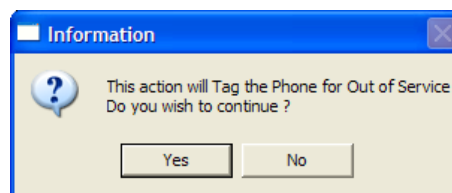
Click **Yes**. The message window will close and the selected phone is now placed Out of Service.

Placing a Phone Back In Service

When the telephone has been repaired or replaced, the "Out of Service" tag should be removed from the phone record to permit monitoring and reporting of the telephone in a normal schedule.

To place a telephone back in service, open the Phone Management Form for the affected phone record and expand the Call-in Configuration properties tree. In the Phone Data area, the Call-In Schedule drop-down box field will denote "Out of Service" as shown below.
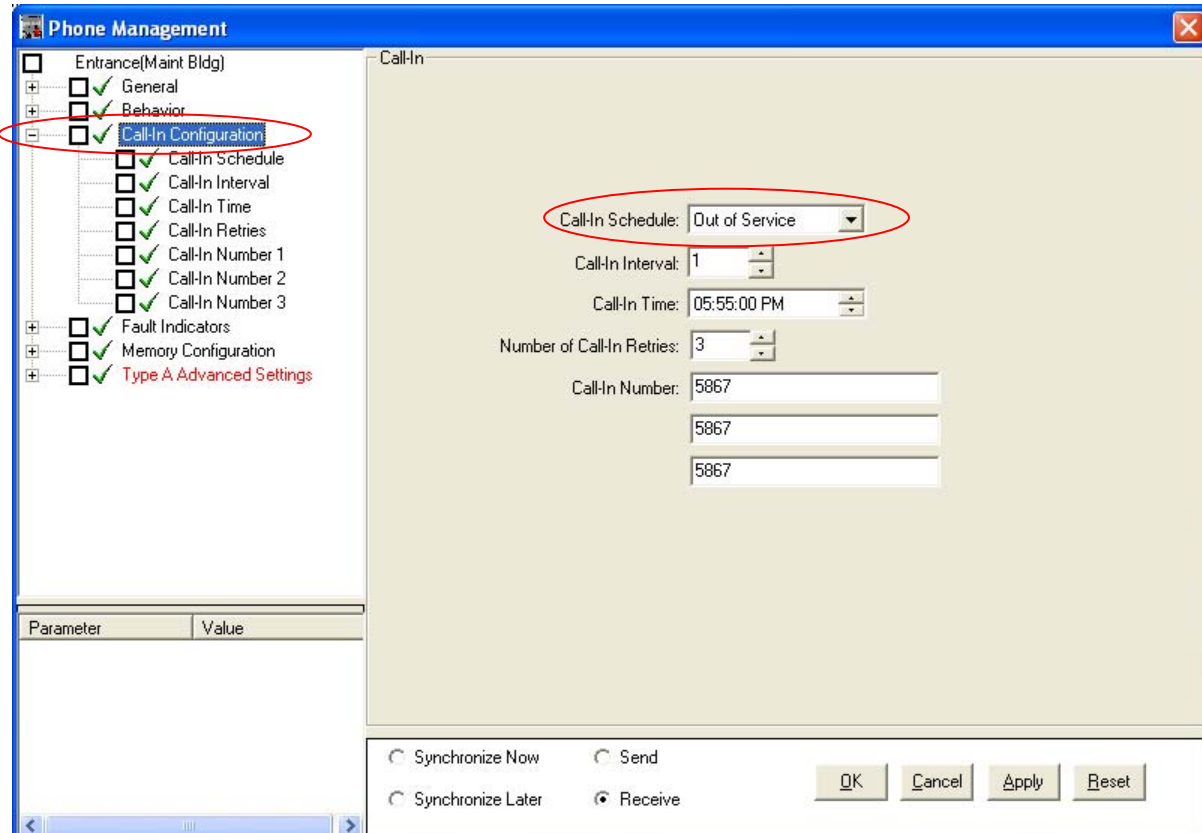
Expand the Call-In Schedule drop-down box and select the desired call-in feature.
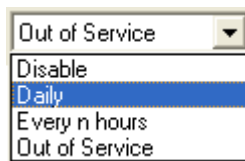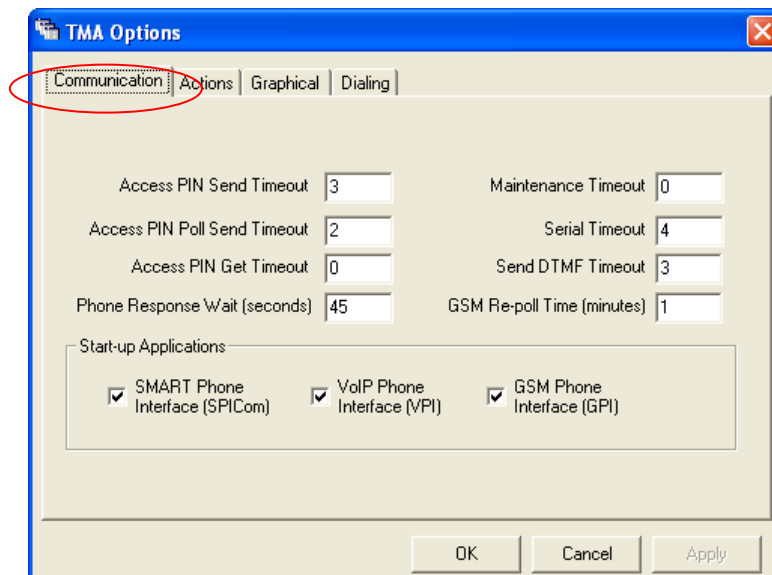
After making the selection in the drop-down box, select **Send**, click **Apply**, select **Synchronize Now** and click **OK**.

TMA Options

TMA can be customized in terms of how the application interacts with telephones, and how phone records are displayed. These selections are made in the TMA Options window, which contains four tabs labeled as: "Communication," "Actions," "Graphical" and "Dialing." Each tab opens a window with various selections or fields, as follows:

Communication Window

The communications window shown below, establishes global settings for sending and receiving data when TMA communicates with system phones. Each is explained below.

Table 33. Communications Parameters

Parameter	Function
Access PIN Send Timeout	Sets the time (in seconds) to wait before sending the Access PIN after receiving the DTMF number from the telephone. This applies for every send of the Access PIN. The default value is 3 seconds.
Access PIN Poll Send Timeout	Sets the time (in seconds) to wait before sending the Access PIN after receiving the DTMF number from the telephone during a poll call. This setting is in addition to the Access PIN Send Timeout. The default value is 2 seconds.
Access PIN Get Timeout	Defines the time (in seconds) to wait before asking the telephone for its Access PIN after the Access PIN has been sent. Sending and receiving of the Access PIN is performed as part of a verification process. The default value is 0 seconds.
Phone Response Wait (seconds)	The maximum time (in seconds) that TMA waits to receive the DTMF number from a telephone after dialing the telephone's line number. The default value is 45 seconds. **NOTE:** If the telephone's auto-answer exceeds seven ring bursts, this value should be increased by 5 seconds per ring burst in excess of seven.
Maintenance Timeout	Defines the time (in seconds) to wait before sending the six * after the number has been received from the telephone. The default value is 0 seconds.
Serial Timeout	Defines the time (in seconds) to wait before requesting the serial number from a telephone, during the call-in process. The default value is 4 seconds.
Send DTMF Timeout	The time (in increments of 50 milliseconds) that TMA will pause after receiving data from a telephone until the next command is sent. The default value is 3.
GSM Re-poll Time (minutes)	Defines the number of minutes that TMA should wait after polling a GSM telephone before declaring the phone as inactive and attempt to re-poll the telephone. This value will also affect the number of minutes between each poll call to a GSM telephone. The minimum value is 1 minute and can be up to 60 minutes.
Start-up Applications	This enables the specific applications that need to start up with TMA in order to monitor the desired phones in the system.
OK	When clicked, causes TMA to process the current selections and close the form window.
Cancel	If clicked, it closes the form window and no processing will occur.
Apply	When clicked, the selections are saved and the form window remains open for additional selections or changes.

Actions Window

The actions window shown below, establishes global settings for obtaining call logs during poll calls or call-ins when TMA communicates with system phones. This window is separated into three groups for Poll calls, Call-In calls, and logging the call progress. Each is explained below.
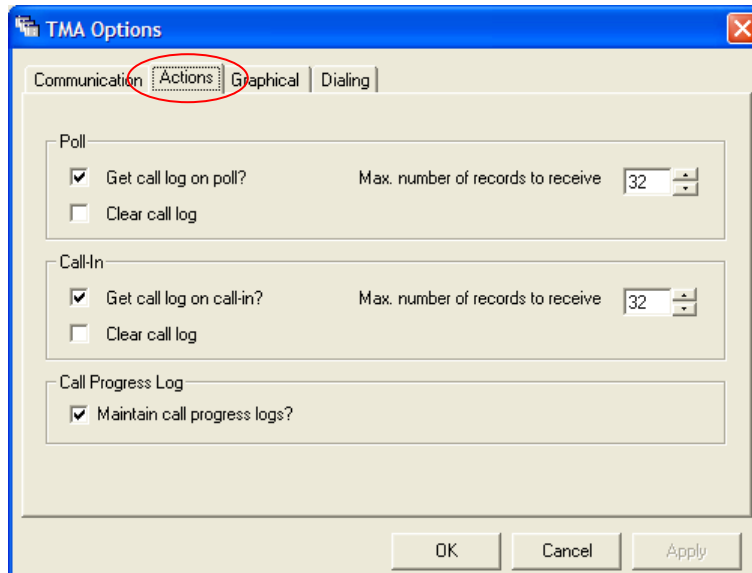
Table 34. Poll Group Parameters

Parameter	Function
Get Call Log on Poll?	When checked, the telephone transfers the specified number of call log records to the TMA database on each poll call to the phone.
Max. number of records to receive	This field is not enabled unless the **Get Call log on Poll** box is checked. A value of 999 (or greater) in this field will set the maximum number of records to receive to all. This is a global setting that applies to <u>all</u> telephones, when polled.
Clear call log	When checked, it will ensure the call log is cleared at the completion of each successful poll call.

Table 35. Call In Group Parameters

Parameter	Function
Get Call Log on Call-In?	When checked, the telephone transfers the specified number of call log records to the TMA database on each call-in by the telephone.
Max. number of records to receive	This field is not enabled unless the **Get Call log on Call-In** box is checked. A value of 999 (or greater) in this field will set the maximum number of records to receive to all. This is a global setting that applies to <u>all</u> telephones during a call-in.
Clear call log	When checked, the call log will be cleared at the completion of each successful call-in from the phone.

Table 36. Call Progress Log Group Parameters

Parameter	Function
Maintain call progress logs?	When checked, TMA saves all events from the SPI call progress window, which is useful for troubleshooting.

Graphical Window

The graphical window shown below, establishes settings for displaying icons in the main TMA window and audible notifications. The settings are explained below.
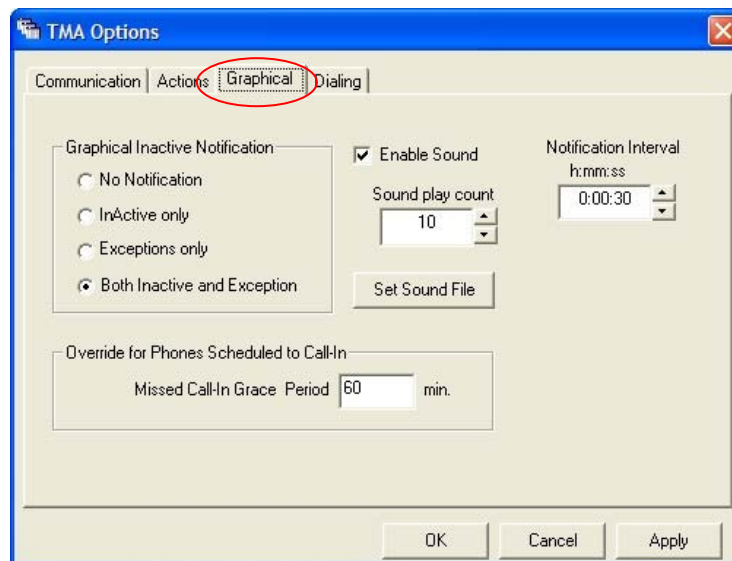
Table 37. Graphical Inactive Notification

Parameter	Function		
No Notification	When selected, no graphical or audio notifications are provided.		
InActive Only	When selected, telephone icons are displayed with a red "X" as shown in the example to the right. If sound is enabled, an audible notification will be provided.		Inactive Icon
Exceptions Only	When selected, telephone icons are displayed with a yellow "X" as shown in the example to the right. If sound is enabled, an audible notification will be provided.		Exception Icon
Both Inactive and Exception	When selected, telephone icons are displayed with either a yellow (Exceptions) icon, or a red (Inactive) icon with the red (Inactive) icon having precedence. If sound is enabled, an audible notification is provided.		
Notification Interval	Defines how often TMA scans the database for telephones with an inactive or exception status. The default time setting is 1 minute.		
Sound Play Count	A number entered in this field determines how many times TMA will output an audible notification when an inactive or exception telephone is encountered in the database scan. The default is zero times.		
Enable Sound	When checked, the audible notification is enabled when TMA finds an inactive or exception telephone.		
Set Sound File	Click on this button to change the default notification sound to a new sound file on the PC. The file is selected through a standard Open File window, as shown on the next page.		
Missed Call-In Grace Period	This is an override for all phones scheduled to call-in. The default value is 60 minutes which means, after 60 minutes past the scheduled call-in time, if the phone did not successfully call-in, that phone will be declared as Inactive – No Recent Health Update.		
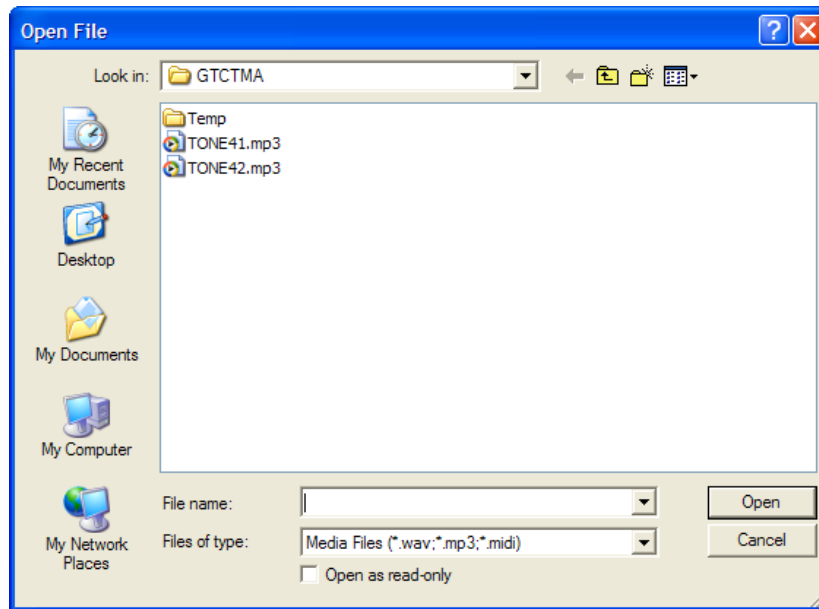
Maintenance Log

The Maintenance Log allows the system administrator to track configuration and maintenance actions for a particular telephone. Once created, each telephone will have a maintenance log that is accessible by right-clicking on the telephone's icon and selecting **Maintenance Log** from the pop-up menu, as shown below.
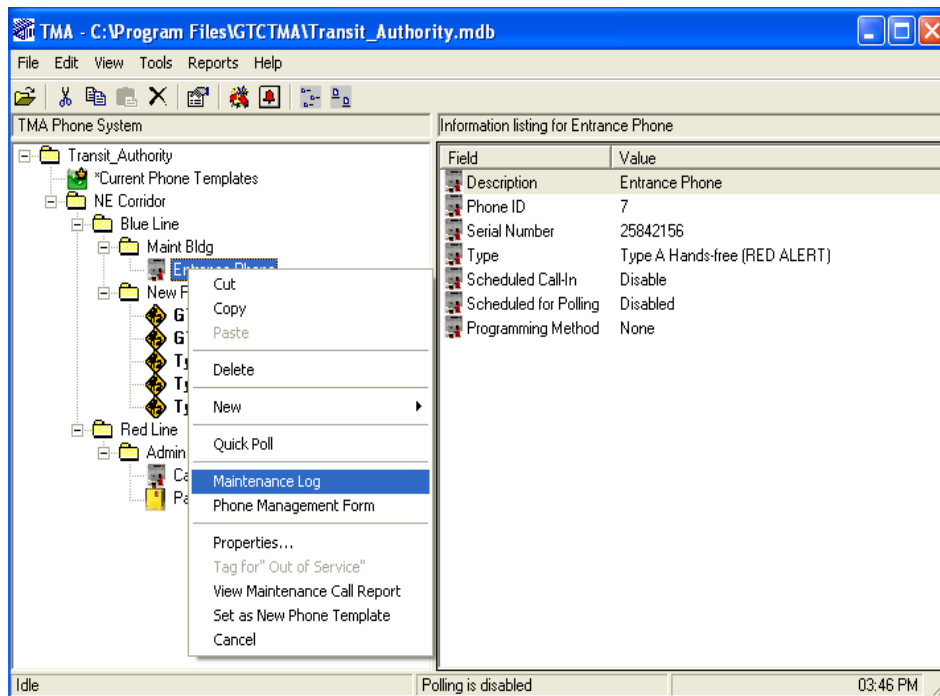
The Maintenance Log functions as a standard word processor with many common features such as text formatting, spell-check, tab set, zoom, undo/redo, and print.

Maintenance Log Template

The administrator may make use of the standard text template to keep log records in a standardized format. The template can be modified, but there is only one template. If the template is changed, only new records will follow the format. Records created under an old template are not updated to the new format.

Adding an Entry to Maintenance Log

To add a new entry to a phone's maintenance log, select **File** in the menu bar, then select **New** in the pop-up menu, as shown below.
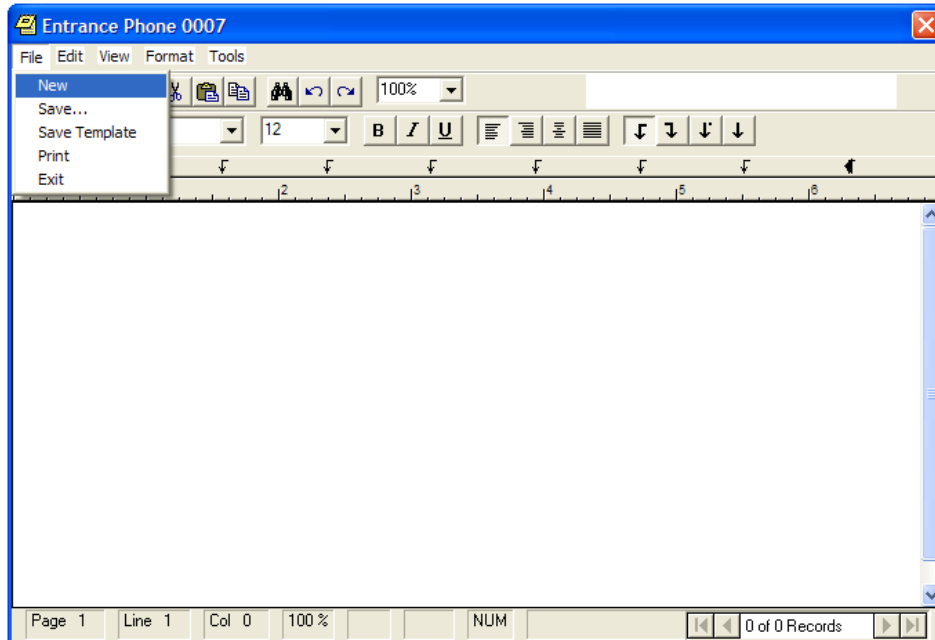
When the window appears, entries can be made in the text area, as shown below.
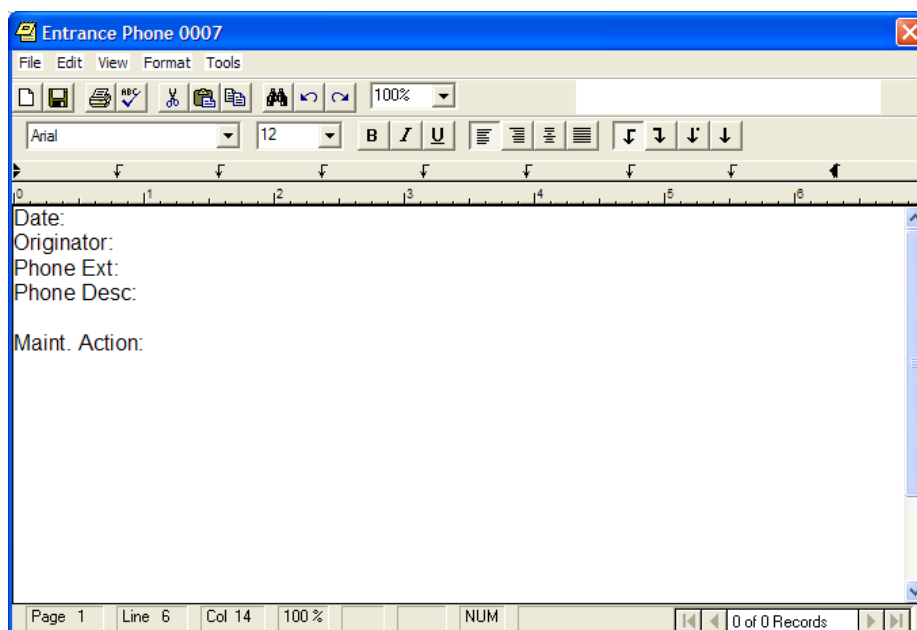
After entering criteria in text area of the Maintenance Log window, click **File** in the menu bar, then select **Save Template** in the pop-up menu, as shown below.
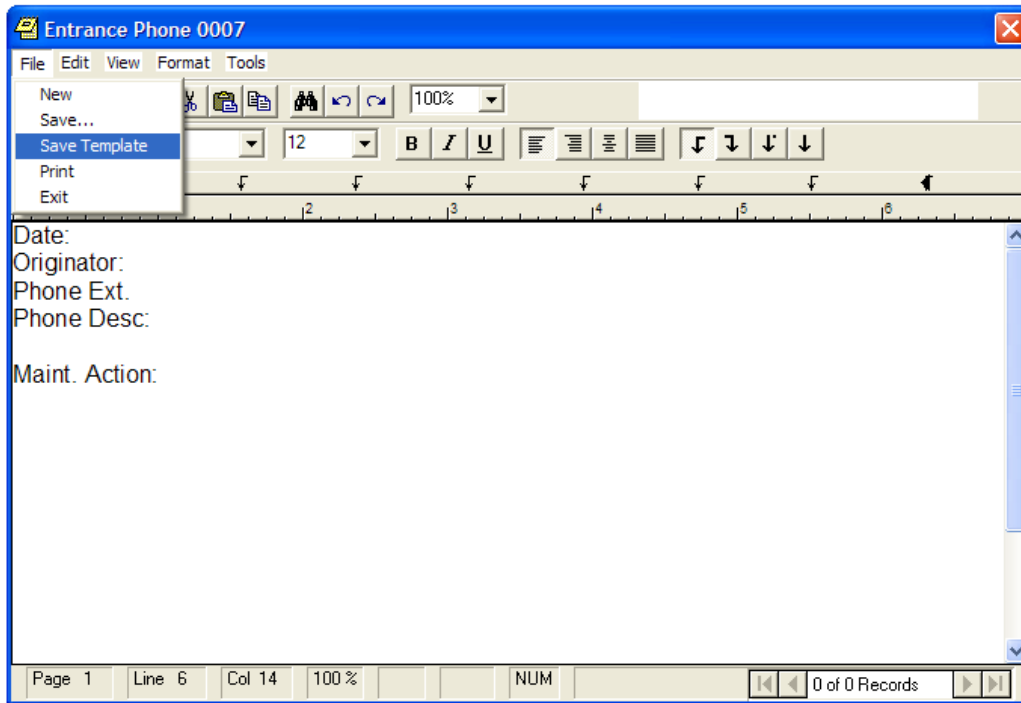
Reviewing Records

The maintenance log maintains all records and keeps the records in the order entered. The toolbar at the bottom right of the Maintenance Log window contains buttons to allow various entries to the log to be reviewed. The Phone Log Rpt report allows for review of these Maintenance Log entries. See the figure and explanations below for details.
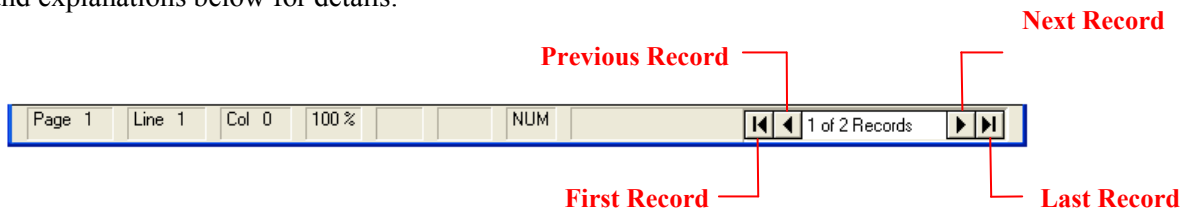
Table 38. Moving through Maintenance Log Record Entries

Button	Function
First Record	Displays the first (or oldest) Maintenance Log record entered for the telephone.
Previous Record	Displays the Maintenance Log record entered prior to the current entry for the telephone.
Next Record	Displays the next Maintenance Log record entered for the telephone.
Last Record	Displays the last (most recent) Maintenance Log record entered for the telephone.

Troubleshooting

The following is a general guide to troubleshooting TMA.

Table 39. Troubleshooting

Trouble	Possible Solution
The USB security hardware key is connected and the LED is ON. However, a message box "TMA Security: Unable to find hardware key" appears and only guest access is granted.	This indicates a problem with the USB hardware security key installation. 1. Right click on My Computer on the Windows desktop and select Properties. 2. Select the Device Manager tab. If a question mark "Other Devices" icon is present and contains a device "USB Token," remove the USB security key from the PC. 3. Next, use the TMA Installation USB flash drive, follow the on-screen installation prompts until the **Select Components** section is reached. Select (check) only the **USB Security Key Drivers** component, click the **Next** button, and click the **Install** button. Wait for the installation to finish, click the **Finish** button and restart the computer. 4. After restarting the computer, attach the USB hardware security key to the USB port and start TMA. Access to the proper security account is then granted.
A phone record is slow to appear after making a selection, or it is slow to display one record from the next.	This is normal in some large databases since a large amount of data processing is required to update the screens based on the amount of data in the records.
A desired entry does not appear in a drop down list and the program does permit an entry, or the entry to be changed.	Drop-down lists in TMA are intended to present and limit the choice to valid data field names. The lists are hard-coded into the program. Thus, if an entry is not seen, it may be the result of an attempt to select invalid data in a field. Verify the correct name for the data field and select from the available list.
Data cannot be entered or changed in some fields, and some check boxes cannot be checked or unchecked.	Certain fields in TMA are hard-coded and cannot be selected or changed.

Trouble	Possible Solution
Data sent to the telephone is not the data received; or data received from the telephone is not the data displayed in the Call Progress window.	There is certain data the user cannot change. Please refer to the explanation in this manual of the data field in question. Also, data updates are set by the last synchronization command taking priority, and a more recent synchronization command may have been issued. Use the Phone Management form to produce a new synchronization command with the desired data.
Database file cannot be opened.	TMA checks a database to ensure it is valid prior to opening. Make sure a valid database file is selected.
Microsoft Windows® displays an out of memory error.	This error may occur due to the way Microsoft Windows® uses the PC combined with the processing requirements of TMA. Try to free up computer resources by closing TMA and restarting the PC and ensure the PC meets the minimum memory requirements, as noted in the "System Requirements" section. Also check that the PC is not running low on hard disk storage space since Windows® uses the hard disk to cache data and create temporary files.
System crashed or the power failed while entering data in TMA.	Restart the PC, restart TMA and re-trace the steps executed prior to the problem. The most recent data changes entered at the time of the problem may not have been saved.
A message appears that the database is corrupted.	Contact the GAI-Tronics Service Department.
TMA fails to communicate with the TMA DTMF Transceiver.	If LEDs at the TMA DTMF Transceiver are not illuminated or flashing, check the USB connections at the PC and TMA DTMF Transceiver. If the DTR LED is not in a steady ON state but the OH/PWR LED is flashing, shutdown TMA and all of its resources and then restart TMA. If the DTR LED is ON, but the OH/PWR LED does not indicate an Off-Hook condition or the TD LED does not blink to indicate data communication, shutdown TMA and all of its resources and then restart TMA.

Trouble	Possible Solution
When initializing TMA DTMF Transceivers at start-up, the DTR indicators do not remain lit.	It is recommended that TMA run on a stand-alone PC with no other software applications running. Other applications (like remote desktop applications can interfere with TMA. Shut down all applications and re-start the PC. Run TMA and its supporting applications only.
Received an error message that is not understood.	Try repeating the operation leading to the error. If the error persists, contact the GAI-Tronics Service Department to report the problem. Having detailed information on the circumstances which led to the error and the exact wording of the error message(s) is extremely helpful in identifying and resolving the problem.
VoIP Alarm Notification and VoIP User Calls (SYSLOG messages) are no longer being received.	If DHCP is turned on for the TMA PC and all the VoIP phones in the system have SYSLOG or SYSLOG2 IP settings configured to that IP address, TMA will no longer be able to receive the SYSLOG messages once the IP address is renewed. There are a couple of ways to prevent this: 1. Assign a static IP address to the TMA computer for SYSLOG to use in all of the VoIP telephones. 2. Use the "Computer Name" on the TMA computer for the SYSLOG to use in all of the VoIP telephones. By using one of these options, the TMA system will always be able to receive all of the SYSLOG messages.

Recommended Spare Parts

Table 40. Recommended Spare Parts

Qty	Part No.	Description
1	44008-004	TMA DTMF Transceiver
1	61007-007	Telephone Line Cord
1	61007-044	USB Cable

Definitions and Acronyms

Table 41. Definitions and Acronyms

Term	Definition
Alarm Call	The process of a telephone calling into TMA for either routine periodic calls or fault detection. Also known as a "Call-In."
ANI	An acronym for Automatic Number Identifier
Blinking LED	Illuminates at unequal intervals.
Call-in	The process of a telephone initiating a Call-In to TMA.
Call Log	A list stored in the telephone of all maintenance and user calls.
Configuration	The arrangement of hardware in the system and the setting of various attributes and parameters used by the software to provide the desired features.
Database	A file with an .mdb file extension containing information for one TMA system.
Domain	The highest level in the hierarchal structure of a site telephone system.
DTMF	An acronym for Dual Tone Multi Frequency.
Flashing LED	Illuminates at equal intervals.
Flickering LED	Illuminates for approximately 90% of an interval, and turns off for approximately 10% of an interval.
GPI	An acronym for GSM Phone Interface.
Group	One of the three levels of the hierarchical structure under a domain in TMA.
Incoming Call	A call received at a telephone such as a maintenance call or a user (voice) call.
Indicator	An LED, lamp, or buzzer that provides notification of status.
LED	Acronym for Light Emitting Diode. Used as a visual indicator (lamp) on equipment such as a PC or TMA DTMF Transceiver.
Maintenance call	An incoming call in which the telephone sends its operational status to TMA.
Outgoing Call	A call originating at a telephone as either a maintenance (poll) call or a user (voice) call.

Term	Definition
Phone Record	A collection of information and configuration data pertaining to a SMART telephone.
Poll Call	A type of maintenance call by TMA to a telephone to obtain information.
Polling	The process of calling one or more telephones to obtain information about the telephones.
Reset	The act of restarting the control unit from the power-on state by pressing the reset switch on an access panel.
SMART	An acronym for Self-Monitoring And Reporting Technology
SPI	An acronym for SMART Phone Interface.
Solid LED (On)	Illuminated continuously.
Supervision	The ability of the system to determine whether a communication path is working properly.
System	A PC running TMA and the telephones being monitored.
System Administrator	A person responsible for configuring, starting and shutting down the system.
Time-out	The cancellation of a particular operational mode due to the expiration of a specified period of time.
TMA	An acronym for Telephone Management Application
Transceiver	A device that sends and receives signals or data.
Trouble	An abnormal condition detected by the system.
Unattended Polling	A polling mechanism run automatically by TMA based on a schedule.
USB	An acronym for Universal Serial Bus.
User	A person who uses a GAI-Tronics telephone.
User Call	A voice (telephone) call from a telephone.
VPI	An acronym for VoIP Phone Interface.

Warranty

__Equipment__. GAI-Tronics warrants for a period of one (1) year from the date of shipment, that any GAI-Tronics equipment supplied hereunder shall be free of defects in material and workmanship, shall comply with the then-current product specifications and product literature, and if applicable, shall be fit for the purpose specified in the agreed-upon quotation or proposal document. If (a) Seller's goods prove to be defective in workmanship and/or material under normal and proper usage, or unfit for the purpose specified and agreed upon, and (b) Buyer's claim is made within the warranty period set forth above, Buyer may return such goods to GAI-Tronics' nearest depot repair facility, freight prepaid, at which time they will be repaired or replaced, at Seller's option, without charge to Buyer. Repair or replacement shall be Buyer's sole and exclusive remedy. The warranty period on any repaired or replacement equipment shall be the greater of the ninety (90) day repair warranty or one (1) year from the date the original equipment was shipped. In no event shall GAI-Tronics warranty obligations with respect to equipment exceed 100% of the total cost of the equipment supplied hereunder. Buyer may also be entitled to the manufacturer's warranty on any third-party goods supplied by GAI-Tronics hereunder. The applicability of any such third-party warranty will be determined by GAI-Tronics.

__Services.__ Any services GAI-Tronics provides hereunder, whether directly or through subcontractors, shall be performed in accordance with the standard of care with which such services are normally provided in the industry. If the services fail to meet the applicable industry standard, GAI-Tronics will re-perform such services at no cost to buyer to correct said deficiency to Company's satisfaction provided any and all issues are identified prior to the demobilization of the Contractor's personnel from the work site. Re-performance of services shall be Buyer's sole and exclusive remedy, and in no event shall GAI-Tronics warranty obligations with respect to services exceed 100% of the total cost of the services provided hereunder.

__Warranty Periods.__ Every claim by Buyer alleging a defect in the goods and/or services provided hereunder shall be deemed waived unless such claim is made in writing within the applicable warranty periods as set forth above. Provided, however, that if the defect complained of is latent and not discoverable within the above warranty periods, every claim arising on account of such latent defect shall be deemed waived unless it is made in writing within a reasonable time after such latent defect is or should have been discovered by Buyer.

__Limitations / Exclusions.__ The warranties herein shall not apply to, and GAI-Tronics shall not be responsible for, any damage to the goods or failure of the services supplied hereunder, to the extent caused by Buyer's neglect, failure to follow operational and maintenance procedures provided with the equipment, or the use of technicians not specifically authorized by GAI-Tronics to maintain or service the equipment. THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Return Policy

If the equipment requires service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs or a replacement will be made in accordance with the warranty policy set forth above. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 (inside the USA) or 610-777-1374 (outside the USA) for help identifying the Regional Service Center closest to you.