

Architect and Engineering Specification

GAI-Tronics Telephone Management Application (TMA) for GAI-Tronics S.M.A.R.T Telephones

1.0 General Description

- 1.1 The Telephone Management Application (TMA) shall be a data collection and reporting Windows[®] based software package for use on a PC having the Microsoft Windows XP (either Professional or Home editions) or Windows 2000[®] operating system. This application shall allow for the use of up to 8 voice mode data modems to provide contact with the telephones in the system. The modems shall operate simultaneously to collect information from the phones.
- 1.2 Access to the TMA shall be secured through a key attached to the PC's USB port. The installed key shall limit access to certain features in order to provide secure access to the operational settings of the phones and the monitoring system. Basic read-only access is permitted if the key is not installed in the USB port.
- 1.3 If configured to do so, the TMA will retrieve the call log information from the S.M.A.R.T. Phone, and will store that information in the TMA database. The call log information can then be viewed by utilizing the TMA Reports. The TMA Reports provide a means to access only the relevant information desired by the user at any given time. TMA effectively collects all the information stored by the phone, organizes it, and stores it in the database. There are several different types of reports in TMA. The following are examples of the specific reports, and what they display.
 - 1.3.1 User Call Report – Reports on all voice call attempts both received and originated at the phone (complete with memory number dialed if applicable, and answer delay information).
 - 1.3.2 Maintenance Call Report – Reports on all maintenance call attempts to the phone, both call-ins and poll calls (complete with health status data for each call).
 - 1.3.3 Call-In Report – Reports all attempted call-ins initiated by the phone (complete with health status data for each call).
 - 1.3.4 Polling and Call-In Exceptions Reports (2 separate reports) – Reports only calls where a sensor or fault condition exists (as configured in TMA, complete with health status data for each call).

2.0 Collection of Phone Health Information

- 2.1 The TMA shall perform an automatic poll maintenance check of all selected telephones in its system based on a user adjustable schedule. Poll maintenance calls shall consist of a call initiated by the TMA PC, which is answered by the telephone being checked. During this poll maintenance call, the telephone shall report the state of its sensors and faults to the TMA. The S.M.A.R.T. phone shall remain silent during polling. The TMA shall store this health information in the active database.
- 2.2 TMA shall provide both continuous (nonstop) poll calling of the phones in its database, as well as a one time per day and a one time per week poll maintenance call schedules, as selected by the user.

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- 2.3 The TMA shall perform a maintenance check of each GAI-Tronics S.M.A.R.T. telephone in its system that is programmed to call the PC. TMA shall provide the ability to program S.M.A.R.T. phones to call in on a daily or hourly basis. During this call-in maintenance call, the telephone shall report the state of its sensors and faults to the TMA. The TMA shall store this health information in the active database. The S.M.A.R.T. phone shall remain silent during this call.

3.0 Reporting

- 3.1 The TMA shall provide a configurable visual indication (GUI) that a phone has a fault condition. In addition, if the PC is equipped with a sound card, TMA shall provide a configurable audio indication that a phone has a fault condition.
- 3.2 The TMA shall provide reports detailing the status of the phones in its system. Reports shall be generated and previewed on demand, and selected reports shall be automatically generated and printed to the Windows default printer at a user selectable time each day. Each report printed daily shall list activity over the previous 24-hour period; each report printed weekly shall list activity over the previous 7 days.
- 3.3 The TMA shall allow the user to customize each report by setting selection criteria related to the information being reported. The TMA shall allow the user to store these criteria for subsequent reuse.
- 3.4 The TMA shall provide a report of phones that are overdue for a maintenance check. This Inactive Phone Report shall list separately the phones being polled and the phones scheduled to call-in for a maintenance check.
- 3.5 The TMA shall provide a report of phones that have reported one or more user-defined critical failures. This Exception Report shall list all abnormal conditions related to those phones which have a critical failure, and the time and date of the maintenance check that revealed this condition.
- 3.6 The TMA shall provide a report of polling maintenance call activity, and a report of call-in maintenance call activity. These reports, the Maintenance Call Report and the Call-In Report, shall list all conditions that each phone transmits during its maintenance calls.
- 3.7 The TMA shall provide the means to record a history of maintenance call activity including date and time of information transfer for the most recent 100 calls per voice/data modem. The Call Progress Log shall provide a detailed record of communication between the PC and the phones.

4.0 Remote Telephone Configuration

- 4.1 The TMA shall provide a means to remotely adjust the settings in the telephones. These changes will occur as part of a telephone line connection between the TMA PC and the phone being updated.
- 4.2 The TMA shall provide scheduled update of a phone's settings. After the TMA user changes one or more phone characteristics for a specific phone, the TMA shall hold these updates until the next maintenance contact with this phone occurs. Alternately, the user can choose to have the changes sent immediately to the phone. The TMA shall provide a means to perform a group update, in which the setting of many

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phones will be scheduled for update without the need to change these settings individually.

5.0 Manufacturer

- 5.1 The software shall be designed and developed directly by the manufacturer.
- 5.2 The Telephone Management Application (TMA) shall be manufactured by GAI-Tronics Corporation of Reading, PA or approved equivalent.

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