

“GSM” Comms Task Format

Introduction

The Model 3000 / Access 4000 now allows a FE2000 GSM modem to be connected via a Uart port to provide the 3000/4000 system with GSM Digital Mobile facilities. By selecting the GSM Comms task in conjunction with the FE2000, the 3000/4000 is able to:

- Backup the hard-wired dialler with a wireless GSM transmission sending in Contact ID
- Send Contact ID data via the GSM network as the primary data path.
- Send alarms as text messages to nominated GSM mobile phones using the GSM short message service (SMS).
- Accept control commands from nominated or arbitrary GSM mobile phones via SMS text strings, to control the Model 3000 / Access 4000 and send back a text message confirmation via SMS.

The status and call progress of the GSM Modem can be followed or inspected via a comprehensive review log, including display of received signal strength to ensure installation is reliable.

Operation

Sending alarms via Contact ID to a Central Station Digital Receiver.

The GSM Comms task can send alarm information as Contact ID to a Central Station Digital Receiver. In the event of failure, a backup Comm Task can be defined, for example CID Backup using the normal PTSN telephone connection. All the usual reporting options are available including Area List and event filtering, look ahead, etc.

Backing up other Comms Tasks.

If the GSM Comms task is not used as the primary reporting task, it can still act as a backup to any other task that allows backup tasks to be defined. For example a Contact ID Comms Task using the PTSN telephone line can specify a GSM backup task, to report telephone line failures and alarms in the event the PTSN line fails or is compromised. All SMS facilities are available when acting as backup task, including alarm reporting via SMS. (A new dialling option has been added to all dialling Comms Tasks to allow a backup Comms Task to be triggered immediately if no line is detected)

Sending text alarms to a GSM mobile phone.

Alarms, presented as review style text, can be sent using the SMS to any GSM mobile phone. “Xmit” type review entries are sent and can be filtered with event types and Area Lists. The text is displayed on the GSM mobile phone screen. This feature can be used in conjunction with or instead of sending alarms via the GSM network using Contact ID.

Controlling a Model 3000 / Access 4000 via a GSM mobile phone.

The GSM SMS can be used to send short text style commands to the 3000/4000 to:

- ✓ Turn on/off a home auxiliary.
- ✓ Turn on a home auxiliary for a specified time in minutes.
- ✓ Turn on a home auxiliary for a specified time in seconds.
- ✓ Turn on/off an area.
- ✓ Request the current name and state of any 6 home auxiliaries.
- ✓ Request the current name and state of any 6 areas.
- ✓ Isolate/Restore a zone.
- ✓ Discard pending SMS messages waiting to be sent.
- ✓ Request a short help message

All actions are recorded to review and a message is sent back to the GSM mobile phone to confirm the action when appropriate.

CT001 Idle ->
GSM

This screen allows the programmer to select a Comms Task to programme by using the up and down arrows or by entering a number.

The screen has three roles:

1. It allows a Comms Task format to be selected by using the right arrow key to cycle through all the available formats. Pressing the OFF key selects no format for this Comms Task and goes to the start of the list of available formats.
2. The "9" key is used to toggle the Comms Task between the "Idle" state and the "Active" state. **A Comms Task format cannot be changed or programming changes made unless the Comms Task is idle.**
3. Pressing HELP, "9" will allow options to be programmed for the particular format chosen for that Comms Task. It is recommended that options are only changed when the Comms Task is idle.

Example: GSM has been selected for Comms Task CT001

Although a format has been chosen, because the Comms Task is idle, no dialling or reporting will take place.

CT001 Idle ->
GSM

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into Options, Special Options and Advanced Options.

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen. Advanced options are reached by pressing HELP, "9" *three times* at the Active/Idle screen.

Options Programming

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the GSM Modem will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key. Port 0 is not allowed.

CT001 Baud ->
Rate: 2400

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the GSM Modem. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 2400 Baud is mandatory for the GSM Modem.

See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1].

CT001 Serv. No->
None

This screen sets the SMS service centre number, which can be obtained from the Network you subscribe to. It is mandatory for any SMS operations. It must be entered in international format starting with the country code. For example: "61418706700" is the Telstra Australia SMS service number. Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 SMS1 No. ->
None**

This screen sets the SMS mobile phone number that SMS alarm messages are going to be sent to. This number can also be used to send SMS text commands back to the C3000. It must be entered in international format starting with the country code (3000/4000 Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 SMS2 No. ->
None**

This screen sets a 2nd SMS mobile phone number that can be used to send SMS text commands to the Concept 3000. Alarms cannot be paged to this number at this time. It must be entered in international format starting with the country code. (3000/4000 Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 CID No. ->
None**

This screen sets the Central Station Digital Receiver telephone number. It must be entered in international format starting with the country code. Note that no backup number exists at this time. (Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 GSM Reg.
Zone: C01:Z01**

This screen allows any unused zone input to be used to signal changes in the state of the GSM modem registration. The input is alarmed when the modem de-registers and sealed when the modem re-registers. The (I)gnore option in Zone Input Programming must be set for that zone so that the actual input is ignored and used only as a phantom zone. (Used to be (C)alc option)

Special Options

**CT001 BCSAP.DR
Opts -> nnnnnnnn**

The screen allows a number of reporting options to be set.

- | | | |
|----------|--------------|---|
| B | Backup | If set to Yes, Contact ID alarm messages will only be sent as a backup to other Comms Task. |
| C | Contact ID | If set to Yes, Contact ID alarm messages will be sent via this Comms Task when required. |
| S | SMS | If set to Yes, Short Message Service (SMS) text style messages will be sent to GSM mobile phones according to pre-programmed SMS Options as defined in the next screen. |
| A | Answer Phone | This option is currently not used. |
| P | Pin Required | If set to Yes, this option forces all SMS command strings sent to the 3000/4000 to be preceded by the pin number of any user between user1 and user32 to be accepted. If the (P)in option is not set, then text commands can be accepted by the 3000/4000 if they originate from either of the pre-programmed SMS1 or SMS2 numbers. |
| . | Spare | Spare for future developments. This option must be set to "n". |
| D | Debug | The (D)ebg option is for manufacturer use only and should be set to (n). |

R	RSSI Level	If set to Yes, this (R)SSI display option will cause the Network Registration and RSSI level to be saved to review every 5 seconds for the purposes of antenna placement. (Normally this review message is only saved when there is a change in Network Registration status. Permanently setting this option to Yes will cause review will be filled up very quickly.
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CT001 AXLI.....
SOpts-> nnnnnnnnn

This screen allows the Installer to set specific **SMS Options**.

A	Area control	If set to Yes, SMS control of Areas is allowed.
X	Home Aux. Control	If set to Yes, SMS control of Home Auxiliaries is allowed.
L	Status Requests	If set to Yes, SMS status requests of Areas and Home Auxiliaries are allowed.
I	Isolations/Restorals	If set to Yes, SMS isolation and restoral of Zone Inputs are allowed.

CT001 SMS Area
Filter: AL000

This screen allows an area filter to be applied to all text messages sent using SMS to the SMS1 number on a GSM mobile phone.

CT001 EOA.....
SMS Evt: nnnnnnnnn

This screen allows "Xmit" type only entries sent via **SMS** to be filtered according to the options specified.

E	Event Filter	This option allows SMS Event Filtering.
O	Open/Close	If set to Yes, Open and Close events may be sent via SMS. For this option to function correctly the (E) Event Filter option must also be enabled.
A	Alarm	If set to Yes, Alarm events may be sent via SMS. For this option to function correctly the (E) Event Filter option must also be enabled.

CT001 MLGPN...
Mopts-> nnnnnnnnn

This screen allows the Installer to specify a number of **SMS** reporting options.

M	Multiple Client Codes	If set to Yes, Multiple Area client codes may be sent via SMS.
L	Look Ahead	Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialler takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet . Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

G	General Open/Close	This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES.
P	Prevents Restores	This option prevents restores being reported via this Comms Task.
N	No 24Hr/Still Open	This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.
.	Spare	Spare for future developments. This option must be set to "n".

**CT001 Max Msgs
per 5min : 000**

This screen allows the Installer to restrict the maximum number of SMS "Xmit" type messages that may be sent in any 5 minute period. Note that messages will bank up if they are occurring faster than this rate. (The "R" command may be sent to discard any pending messages.)

**CT001 Client
Code: 0001**

This screen sets the primary client code when sending alarms via Contact ID.

**CT001 Mapping ->
Standard**

This screen determines the Contact ID input mapping for this Comms Task. In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided. The major differences between the maps currently available are as follows:

Standard	Standard	LED Keypad Zones are reported on unique Zone points. 32 Zone inputs can be reported from each of Expanders 1 to 9.
Map-1	MAP-1	LED Keypad Zones share the LCD Keypad Zone points. 16 Zone inputs can be reported from each of Expanders 1 to 18.
School 30	School 30	LED Keypad Zones share the LCD Keypad Zone points 16 Zone inputs can be reported from each of Expanders 1 to 30 (No Reader Modules)
School 19	School 19	LED Keypad Zones share the LCD Keypad Zone points 32 Zone inputs can be reported from each of Expanders 1 to 19. (No Reader Modules)
SIMS II	SIMS II	Takes advantage of SIMS II Automation system message mapping technique. All Zones/System inputs reported uniquely on any module type up to Module No. 35. Open/Close on up to 35 Areas with single client code, or up to 250 Areas with unique client code for each Area.

For more details of Mapping options refer to the tables at the rear of the Programming Manual.

**CT001 CID Area
Filter: AL000**

This screen allows an Area filter to be applied to all CID data sent via the GSM Comms Task.

**CT001 EOA.....
CIDEvt: nnnnnnnn**

This screen allows **CID data** sent via GSM to be filtered according to the options set.

E Event Filter On

This option allows Contact ID Event Filtering.

O Open/Close

If set to Yes, Open and Close events may be sent via Contact ID. For this option to function correctly the (E) Event Filter option must also be enabled.

A Alarms

If set to Yes, Alarm events may be sent via Contact ID. For this option to function correctly the (E) Event Filter option must also be enabled.

**CT001 MLGPN...
Copts-> nnnnnnnn**

This screen allows the Installer to specify a number of **Contact ID** reporting options.

M Multiple Client Codes

If set to Yes, Multiple Area client codes may be sent via Contact ID.

L Look Ahead

Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialler takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", **Look Ahead** operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored **if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet**. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

G General Open/Close

This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES.

P Prevents Restores

This option prevents restores being reported via this Comms Task.

N No 24Hr/Still Open

This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.

. Spare

Spare for future developments. This option must be set to "n".

**CT001 Maximum
Attempts: 000**

This screen allows the Installer to specify the number of CID dialling attempts to be made when sending Contact ID via this Comms Task. Leaving this screen set at 000 selects the default of 002 attempts.

**CT001 Backup
Task: CT000**

This screen allows the Installer to specify a backup Comms Task, to be used if IRfast via GSM Data fails.

Advanced Options

Advanced options are reached by pressing HELP, "9" *three times* at the Active/Idle screen, pressing HELP, "9" *twice* from any common options screen or HELP, "9" from any common options screen.

**CT001 FE2000
Version: 0000**

This screen allows the Installer to inspect the version number of the FE2000 GSM Modem.

Pressing HELP "0" *three times* will take you back to the common options when you are finished with the Advanced options screen.

**CT001 Idle ->
GSM**

To start the Comms Task, simply press the "9" key.

**CT001 Active ->
GSM**

The display will change to that of the screen on the left.

The GSM Modem is now operational using CT001. To stop the GSM Modem at any time, simply go to the above screen and press the "9" key to toggle the Comms Task back to idle.

Defaults

In V3 or later, Comms Task 1 (CT001) is defaulted to "PC Direct" format on Port 1 at 9600 Baud.

Operation of the GSM Modem

Sending Text Commands via SMS

Text commands may be sent to the Model 3000 / Access 4000 from any SMS capable GSM mobile phone. If the command is valid and accepted, a reply will be sent back to the sender's GSM phone.

There are two forms of authorisation:

1. (P)in Option clear

Commands may be received from either SMS1 or SMS2 GSM phones without a pin number entered. The user will be marked as "unknown". Alternatively a command may be received from any GSM phone if preceded by a valid pin number within the 1st 32 users. The user type must NOT be set to "None".

2. (P)in Option Set

A valid pin number from within the 1st 32 users must precede commands. Any GSM phone can be used. The user type must NOT be set to "None".

If the user is marked as "unknown", no further checks are made to see if a user is allowed certain operations. If a PIN number was used, operations may be restricted according to user programming. The command letters can be uppercase or lower case. Only one command may be sent per SMS message. The table below shows the available commands:

Command Letters	Description
HE	Returns a SMS message, listing the available commands. Any User may use this command.
AnnnN (Needs "A" Option set)	Turn Area nnn On. Leading zeros are not required (eg. Turn on Area 3 is <PIN>A3N.) If a valid User is present the Area must be in the User's Area On List. The reply is: <area name> is now <on/off> or <area name> <error message>.
AnnnF (Needs "A" Option set)	Turn Area nnn Off. Leading zeros are not required (eg. Turn on Area 34 is <PIN>A34F.) If a valid User is present the Area must be in the User's Area Off List. The reply is: <area name> is now <on/off> or <area name> <error message>.
HnnnN (Needs "X" Option set)	Turn Home Auxiliary nnn On. Leading zeros are not required (eg. Turn on Home Auxiliary 112 is <PIN>H112N.) The Home Auxiliary must be marked for SMS control. If a valid User is present, the User Home Auxiliary types need to match the Home Auxiliary type being controlled. The reply is: <home aux name> turned <on/off> for <xxx> sec/min.
HnnnF (Needs "X" Option set)	Turn Home Auxiliary nnn Off. Leading zeros are not required (eg. Turn off Home Auxiliary 4 is <PIN>H4F.) The Home Auxiliary must be marked for SMS control. If a valid User is present, the User Home Auxiliary types need to match the Home Auxiliary type being controlled. The reply is: <home aux name> turned <on/off> for <xxx> sec/min.

Command Letters	Description
HnnnNyyyS (Needs "X" Option set)	Turn Home Auxiliary nnn On for yyy seconds. Leading zeros are not required. yyy can be from 1 to 255. (eg. Turn On Home Auxiliary 23 for 56 seconds is <PIN>H23N56S.) The Home Auxiliary must be marked for SMS control. If a Valid Use is present, the User's Home Auxiliary Type must match the Home Auxiliary Type being controlled. The reply is: <home aux name> turned <on/off> for <yyy> sec/min.
HnnnNyyyM (Needs "X" Option set)	Turn Home Auxiliary nnn On for yyy minutes. Leading zeros are not required. yyy can be from 1 to 255. (eg. Turn On Home Auxiliary 2 for 5 minutes is <PIN>H2N5M.) The Home Auxiliary must be marked for SMS control. If a Valid Use is present, the User's Home Auxiliary Type must match the Home Auxiliary Type being controlled. The reply is: <home aux name> turned <on/off> for <yyy> sec/min.
AnnnL (Needs "L" Option set)	Returns a SMS message, listing the names and states of 5 Areas beginning at Area nnn. (eg. To return the name and on/off state of Areas 12,13,14,15,16 send <PIN>A12L.)
HnnnL (Needs "L" Option set)	Returns a SMS message, listing the names and states of 5 Home Auxiliaries beginning at Home Auxiliary nnn. (eg. To return the name and on/off state of Home Auxiliaries 45,46,47,48,49 send <PIN>H45L.)
ZTxxZyyI (Needs "T" Option set)	Isolates Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (eg. To Isolate Zone 12 on Big Expander 3 send <PIN>ZB03Z12I.) The reply is: <input name> isolated.
ZTxxZyyR (Needs "T" Option set)	Restores Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (eg. To Isolate Zone 12 on Big Expander 3 send <PIN>ZB03Z12R.) The reply is: <input name> restored.
R	Resets the SMS pointer. This command cancels any pending alarms that are queued to be sent via SMS and resets the SMS 5 minute timer used to pace SMS messages.

SMS Alarms

SMS Alarms are any Xmit entries that match the send criteria and are sent in a text format similar to review text. The text message comprises the following components:

```
<date & time>
<"Xmit alarm/tamper/isolate/restore on">
<input name>
<Abbreviated input name>
<"in">
<area name>
<flags> (for debugging purposes)
```

For example:

Jan01 14:02:45.4

Xmit Alarm on FACTORY PIR (E02:Z09) in FACTORY saAo

The abbreviated name input is included so that the receiver can isolate the Zone if they wish, without having to remember the Zone ID.

System Inputs

The GSM Comms Task manipulates the following system inputs:

Input	Alarms when	Restores when
UART Problem	3 consecutive communications with the FE2000 have failed.	The GSM Modem is operational and a successful poll has been received.
Comms Fail	A backup task has failed OR a backup task has failed to be triggered.	After successful transmission of CID data via GSM.
Comms Backup	Failure to send CID strings after maximum attempts OR GSM not registered and there is CID alarm data to send.	After successful transmission of CID data via GSM.