

COMMS TASK FORMATS

This section provides programming information for specific Comms Task formats.

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Comms Format	Introduced	Panel Type			Section Number Index	
		0	1	2		
Monitor	V1	•	•	•	Comms- 1	Website only.
Answer Call	V1	•	•	•	Comms- 2 ^	
PC Direct	V1 to V5.6	•	•	•	Comms- 3 †	
IRfast Dialer	V1	•	•	•	Comms- 4 *^	
Contact ID Dialer	V1	•	•	•	Comms- 5 *^	
EMS	V3		•	•	Comms- 6	Website only.
EarthNet Direct Line	V1 to V4.5.	•	•	•	Comms- 7 *	Website only.
WDirect	V6			•	Comms- 7a	
Securitel	V1	•	•	•	Comms- 8	
Printer	V1	•	•	•	Comms- 9	
External Modem	V1	•	•	•	Comms-10	
Inet	V3.5		•	•	Comms-11 *	Website only.
Accept	V2 to V5.6		•	•	Comms-12 †	Website only.
Poll Data	V3		•	•	Comms-13 *	Website only.
PACOM	V7			•	Comms-14	Website only.
IRfast Backup Dialer	V1	•	•	•	Comms-15 *^	
CID Backup Dialer	V1	•	•	•	Comms-16 *^	
GSM	V3.5		•	•	Comms-17 *	
SpreadNet Wireless Interface	V2	•	•	•	Comms-18	Website only.
4+2 Pulse Dialer	V3		•	•	Comms-19 ^	Website only.
Automation	V7			•	Comms-21 ‡	Website only.
32 Pin (8 Pin prior to V5.6)	V4.5			•	Comms-22	
C-Bus Serial Interface	V4		•	•	Comms-23	
Inovonics Wireless Interface	V4		•	•	Comms-24	Website only.
PosData DVR	V4.5			•	Comms-25	Website only.
Dynalite	V4.5			•	Comms-26	
HPM iControl	V5.6			•	Comms-27	
Insight	V5			•	Comms-28	
Insight Internal Modem	V5			•	Comms-29 ^	
Insight External Modem	V6			•	Comms-30	
SIA Dialer	V5			•	Comms-31 ^	
Advanced Automation	V7.8			•	Comms-21 ‡	Website only.

* or ^ or † or ‡ See Important notes on the following page.

Website: <http://www.innerrange.com> Follow links to Support (login required)

IMPORTANT NOTES:

* Contact ID Mapping.

Please refer to Pages 3 to 6 for information on Contact ID Input Mapping, relevant to programming options in the following Comms Tasks formats:

-IRfast Dialer	Comms- 4	-Poll Data	Comms-13
-Contact ID Dialer	Comms- 5	-IRfast Backup Dialer	Comms-15
-EarthNet Direct Line	Comms- 7	-CID Backup Dialer	Comms-16
-Inet	Comms-11	-GSM	Comms-17

^ Alternate Dial Tones

Some Telecommunications carriers have introduced services (e.g. Message bank services) that cause a different dial tone to be present on the PSTN line under certain circumstances. *See the Table below for examples.*

The more sophisticated alarm systems available, including the Model 3000/Access 4000, test for dial tone on the PSTN line before making a call. e.g. To report an alarm or perform a test report, etc.

Changes to the dial tone caused by some services are often significant enough to cause some systems to not recognise the different dial tone as a dial tone. If the tone is not recognised, the system may generate a comms failure condition and not attempt to make the call, thereby failing to report. Local alarm annunciation (e.g. Sirens, strobes, etc) will still occur, but the system may not transmit the alarm to the monitoring station.

Details of services known to effect the Model 3000/Access 4000 and the solution are provided in the following table:

CARRIER	SERVICE	DETAILS	SOLUTION
Telstra Australia	Message Bank 101	If the service is activated, the dial tone changes when there is a message awaiting retrieval. A warning is provided in the introduction message when customers set up this service for the first time. ("...some dial up modems or alarms may need to be adjusted to allow for the Telstra 101 service, contact your supplier for assistance...")	Select the "Dumb dial" option in any Dialer Comms Task that uses a PSTN line with this service enabled. i.e. Set the "D" option to "Y" in the PpDFTMA6 screen./field.

† PCDirect and Accept formats

In V6 or later firmware, the Accept Comms Task format has been removed, and the PCDirect Comms Task format has been superseded by a new Comms Task format named WDirect. To communicate with Control Modules fitted with V6 or later firmware using the WDirect Software, the WDirect Software must also be V6 or later.
The older PCDirect software cannot communicate with V6 or later Control Modules.

In circumstances where V6 or later firmware is required on sites where it is intended to utilize the Accept or PCDirect Comms Task formats, contact Inner Range for advice.

‡ “Automation” and “Advanced Automation” Formats

The “Automation” format can only be used (i.e. Set to Active) if an Ethernet +3 Port UART board is fitted to the Control Module. (P/N: 995091) The Ethernet +3 Port UART must be V4.01 or later.

The “Advanced Automation” format can only be used (i.e. Set to Active) if one of the following Memory Upgrade options is installed. (Any Type 2 UART board option may be used)

P/N: 995016P21. 512k Memory Upgrade with Advanced Automation 256 Zones.

P/N: 995016P22. 512k Memory Upgrade with Advanced Automation 512 Zones.

Contact ID Mapping

Any Comms Task that has the ability to send data in the Contact ID format provides the ability to select the "Contact ID Map" that will provide the most suitable Input mapping for the site.

The following screen is used to determine the input mapping for the Comms Task.

**CT001 Mapping ->
Standard**

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 as follows:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V7 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.59 or later).

The major differences between the maps currently available are as follows:

Standard	LCD Terminal Zones are reported on unique Zone points for LCD Terminals 1 to 9. 32 Zone inputs can be reported from each of Expander Modules 1 to 9. 8 Zone inputs can be reported from each of Reader Modules 1 to 9.
MAP-1	Similar to Standard, except: 16 Zone inputs can be reported from each of Expander Modules 1 to 18.
School 30	Similar to Standard, except: 16 Zone inputs can be reported from each of Expanders 1 to 30. No Reader Modules are reported.
School 19	Similar to Standard, except: 32 Zone inputs can be reported from each of Expanders 1 to 19. No Reader Modules are reported.
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 Number 35. Open/Close on up to 35 Areas with single client code, or up to 250 Areas with unique client code for each Area. Details of the mapping technique are provided in the Tables section under "SIMS II Alarm Report Mapping." NOTE: When the SIMS II Map is used, Inputs will always report using the default Contact ID Event Codes shown in the SIMS II Mapping Table. Any CID Message (Event Code) programmed in the Process Group assigned to an Input will be ignored.

- Access-1** (V3 or later) This map accommodates the extensive use of Reader Modules and may be more suitable for larger installations that place particular emphasis on Access Control.
 LCD Terminal Zone points can be reported from each of the Terminals 1 to 9
 16 Zone inputs can be reported from each of Expanders 1 to 9 (E type).
 Reader Module Zone points can be reported from each of the Reader Modules 1 to 36.
 Big Expanders, Wireless Network Modules & Mini Expanders share the Expander Zone point numbers.
 No Intelligent Reader Modules or Analogue Modules are reported.
- Pacom** (V7 or later) This map has been specifically designed for the Pacom format. Please contact the Manufacturer for further details.
- Standard-2** (V3.5 or later) This map allows all Modules available on the system to report in some form. The map introduces new conventions to allow the Control Module and all the current 8 Types of LAN Modules to report. While all Module Types can be reported, the total number of Modules on the system and the limit of 999 Contact ID point numbers will restrict the number of any individual Type of Module that can be reported.
- A number of Inputs (mostly System Inputs) on some Modules are not reported with an individual point number. These inputs are grouped together and reported as "General Input Alarms".
 e.g. Keypad Lockout for all LCD Terminals (Txx:S07) is reported as Point number 98.
 Door Held for the 1st Door on all Reader Modules (Rxx:S04) is reported as Point number 93.
 All Zone Inputs and System Inputs on the Control Module, B type Expanders and E type Expanders are individually reported. (With the exception of "Program change" on E type Expanders. [Exx:S10])
 All Zone Inputs on Mini Expanders and Wireless Network Modules are individually reported.
- The Standard-2 Map splits the 999 available point numbers into blocks of 50 points.
 - Points 0 to 99 are reserved for the Control Module and "General Input Alarms".
 - Each of the different remote Module Types are then designated a "Starting block".
- Mapping tables for Standard-2 Map in each of the Memory Size and configuration options will be available on the Website.
- School 19B** (V3.59 or later) This map is very similar to School19 except that the System Inputs for all Expander Modules start at the same point numbers. In the School19 Map, the system inputs would start immediately after the last Zone Input on that module type.

FOR MORE INFORMATION:

The tables on the following pages provide a summary of the Input Point Mapping for every Module.

For full details of Point Mapping for the "Standard" map refer to the Tables section at the rear of this manual.

Full details of all other Contact ID Mapping table options are available on the Website.

Note: Geoquip is not currently available.

Website: Advanced Tech Support: <http://www.innerrange.com/support.php> (To register or Logon)

Home Page: <http://www.innerrange.com>

Contact ID Input Point Mapping Summary. (Continued on the following page)

	Standard	Map-1	School 30	School 19
Control Module	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported
LCD Terminal	All Inputs to Module #9 individually reported	All Inputs to Module #9 individually reported	All Inputs to Module #10 individually reported	All Inputs to Module #10 individually reported
Touchscreen Terminal	All Inputs to Module #9 individually reported	All Inputs to Module #9 individually reported on LCD Term Points.	All Inputs to Module #10 individually reported on LCD Term Points.	All Inputs to Module #10 individually reported on LCD Term Points.
Big Expander	All Inputs to Module #9 individually reported.	1st 16 Zones & all System I/Ps to Module #18 individually reported.	1st 16 Zones & all System I/Ps to Module #30 individually reported.	All Inputs to Module #19 individually reported.
1 Door/2 Door Access	All Inputs to Module #9 individually reported.	All Inputs to Module #9 individually reported.	All Inputs report on Point 99.	All Inputs report on Point 99.
Wireless Network	All Inputs to Module #9 individually reported.	All Inputs to Module #9 individually reported.	All Inputs to Module #13 individually reported on Big Exp Point numbers.	All Inputs to Module #13 individually reported on Big Exp Point numbers.
Mini Expander	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs to Module #18 individually reported on Big Exp Point numbers.	All Inputs to Module #30 individually reported on Big Exp Point numbers.	All Inputs to Module #19 individually reported on Big Exp Point numbers.
16Z Expander	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs to Module #18 individually reported on Big Exp Point numbers.	All Inputs to Module #30 individually reported on Big Exp Point numbers.	All Inputs to Module #19 individually reported on Big Exp Point numbers.
Intell 4 Door Access	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs report on Point 99.	All Inputs report on Point 99.
Analogue Module	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.
Geoquip	Not yet available.	Not yet available.	Not yet available.	Not yet available.
LAN Pwr Supply	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.
RF Expander	Zones 1-16 & all System I/Ps to Module #9 individually reported on same Point numbers as Wireless Network Zones (S'net/Inov) Zones 17-32 = Point 99	Zones 1-16 & all System I/Ps to Module #9 individually reported on same Point numbers as Wireless Network Zones (S'net/Inov) Zones 17-32 = Point 99	Zones 1-16 & all System I/Ps to Module #30 individually reported on Big Exp Point numbers. Zones 17-32 = Point 99	All Inputs to Module #19 individually reported on Big Exp Point numbers.
Open/Close by User	User 1 to 900 individually reported. Users >900 = Point 999. System User Open/Close (System reset, TimeZone, Command-back, Keyswitch, etc) reported from Point 901. <i>See Table T03 "Contact ID Messages" for details.</i>			
Open Close Area	Area 1 to 98 individually reported. Areas >98 = Area 99. General Open/Close = Area 00.			

NOTES.

Pacom: Specifically designed for the Pacom format. Contact Inner Range for further details.

School 19B: Similar to School-19 except that System I/Ps for all Expander Module Types start at the same Point number.

Standard-2: Allows all Module Types to report. Mapping varies with Memory Size and Configuration selected. See Website for details.

Unmapped Inputs: Inputs not mapped to an individual Point number are reported as Point number 99. Note that the Event Code and Group Byte (Area number) can still be used to identify different types of alarms reported on Point 99.

Contact ID Input Point Mapping Summary.

	School 19B	SIMS II	Access-1	
Control Module	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported	
LCD Terminal	All Inputs to Module #10 individually reported	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported	
Touchscreen Terminal	All Inputs to Module #10 individually reported on LCD Term Points.	All Inputs to Module #35 individually reported.	All Inputs to Module #9 individually reported on LCD Terminal Points.	
Big Expander	All Inputs to Module #19 individually reported.	All Inputs to Module #35 individually reported	1st 16 Zones & all System I/Ps to Module #9 individually reported.	
1 Door/2 Door Access	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs to Module #36 individually reported	
Wireless Network	All Inputs to Module #13 individually reported on Big Exp Point numbers.	All Inputs to Module #13 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
Mini Expander	All Inputs to Module #19 individually reported on Big Exp Point numbers.	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
16Z Expander	All Inputs to Module #19 individually reported on Big Exp Point numbers.	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
Intell 4 Door Access	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs report on Point 99.	
Analogue Module	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs report on Point 99.	
Geoquip	Not yet available.	Not yet available.	Not yet available.	
LAN Pwr Supply	All Inputs report on Point 99.	All Inputs to Module #35 individually reported on Touchscreen Terminal Point numbers (Module Type 2).	All Inputs report on Point 99.	
RF Expander	All Inputs to Module #19 individually reported on Big Exp Point numbers.	All Inputs to Module #13 individually reported on Wireless Network Module Point numbers. (Module Type 5)	Zones 1-16 & all System Inputs to Module #9 individually reported on Big Exp Point numbers. Zone 17-32 = Point 99.	
Open/Close by User	User 1 to 900 individually reported. Users >900 = Point 999. System User Open/Close (System reset, TimeZone, Command-back, Keyswitch, etc) reported from Point 901. <i>See Table T03 "Contact ID Messages" for details.</i>			
Open Close Area	Area 1 to 98 individually reported. Areas >98 = Area 99. General Open/Close = Area 00.			

NOTES.

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Standard-2: Allows all Module Types to report. Mapping varies with Memory Size and Configuration selected. See Website for details.

Unmapped Inputs: Inputs not mapped to an individual Point number are reported as Point number 99. Note that the Event Code and Group Byte (Area number) can still be used to identify different types of alarms reported on Point 99.

DIALER ATTEMPTS AND DIAL HOLDOFF TIMES

Introduction.

The Dialer reporting formats in Model 3000/Access 4000 panels incorporate the ability to dial up to 4 different Telephone numbers. The number of Dial Attempts can be specified and a variable Dial Holdoff Timer further enhances the integrity of the Central Station communications and helps to protect against purposeful blocking of the call attempts.

Telephone Numbers.

The Installer can define a main Telephone Number (1st Number) and up to 3 additional numbers that can be used to contact a Central Station.

Dial Attempts.

Dial attempts will begin with the 1st Number which **must** be present, and will continue up to the maximum number of attempts specified. The Default setting is 8 attempts.

(Note that Telecommunications regulatory authorities usually limit the maximum number of attempts allowed. Check with your local authority.)

If different telephone numbers are needed for the subsequent attempts, these Telephone Numbers can be assigned as the 2nd, 3rd and 4th Numbers.

If a dial attempt on the 1st Number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, the next available number in the sequence is substituted.

Examples:

NUMBERS ASSIGNED

	ATTEMPTS									
	1	2	3	4	5	6	7	8	9	10
	NUMBER USED.									
All 4 numbers.	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Only the 1 st 2 nd and 3 rd numbers.	1st	2nd	3rd	1st	1st	2nd	3rd	1st	1st	2nd
Only the 1 st and 2 nd numbers.	1st	2nd	1st	1st	1st	2nd	1st	1st	1st	2nd
Only the 1 st number.	1st	1st	1st	1st	1st	1st	1st	1st	1st	1st

Note that the 1st Number, being the next available number in the cycle, is substituted for attempts on any number that has not been assigned its own Telephone Number. This simply means that when fewer than 4 Numbers are assigned, the 1st Number, or Primary Number will be tried more often.

If the system is required to dial 2 different telephone numbers alternately, (i.e. TN001 and TN002), then the telephone numbers need to be assigned as follows:

1st Number: TN001
 2nd Number: TN002
 3rd Number: TN001
 4th Number: TN002

Dial Holdoff.

The Dial Holdoff time is kept to a minimum (around 5 Seconds) for the 1st 4 attempts allowing the panel to quickly try all 4 possible telephone numbers. After the 4th attempt, the Holdoff time between attempts is then varied. This Holdoff time never exceeds 120 Seconds.

In the Comms Task programming for Dialer Comms Tasks, a "60 Second Redial" option is available to cater for countries where regulations require a 60 Second Holdoff time between any re-dial attempts. E.g. Singapore. This option overrides the Dial Holdoff timers described above.

NOTES

“Monitor” Comms Task Format

This Comms Task is for the manufacturer's use only and should not be selected.

"Answer Call" Comms Task Format**IMPORTANT NOTES FOR
CONTROL MODULE
FIRMWARE V5.1 OR LATER:**

1) The "Internal Modem" (IModem) Comms Task now provides most of the functionality provided by the Answer Call Comms Task (including Telephone Line Testing and DTMF remote control) and should be used in preference to the Answer Call Comms Task.

2) The Answer Call Comms Task must not be used if the "Internal Modem" (IModem) Comms Task is used.

3) The Answer Call Comms Task has been retained to allow for remote dial-up connection by WDirect and AcceptNet software which is not supported by the Internal Modem (IModem) Comms Task.

Note however, that Insight Software is recommended for Control Module firmware V5.0 or later.

Answer Call (with Callback & Fax Bypass option)

The Answer Call format is used if you wish the Model 3000 to be able to answer the dialer line (or call back the computer) and provide:

-A modem connection for the purposes of upload / download.
-Panel remote control from any "touch-tone" (DTMF) telephone or mobile phone. It can also be used to automatically monitor the status of the dialer line by periodically checking for DC voltage on the line. You cannot have more than one Comms Task assigned to answer the phone. If more than one "Answer Call" Comms Task has been programmed in error, the Comms Task with the **lower** Comms Task number will answer the call (CT001 will take priority over CT002). Normal operation is as follows:

The task will periodically test the dialer line for DC voltage and will alarm / restore the Control Module System Input "Phone" (C01:S22) as required. In addition, the task will monitor the dialer line for a ringing phone and after the required amount of rings will answer the dialer line and attempt a modem connection at the highest baud rate available (300 or 1200 Baud).

If Callback is programmed, the panel will hang-up, wait 15 seconds, then dial the pre-programmed "Callback Tel. No." (If another Comms Task requires the phone line during the 15 second pause, Callback will be aborted) After dialling, the Concept 3000 waits 30 seconds for the start of the modem answer tone. (If the phone is ringing whilst attempting a call back, the Model 3000 will wait until the ringing stops before trying to dial.)

If Fax Bypass is programmed and rings are sensed but cease before the required number of rings is reached, the task will loop the line in parallel with whatever may have answered the dialer line and wait a pre-determined time for a single or series of DTMF tones. If a DTMF tone is sensed, the task will seize the line and wait a further time before initiating the modem answer connect sequence. If DTMF tone is not sensed within the required time, the task will un-loop the line. This allows fax machines and the like to be bypassed by simply sending any DTMF tone when the fax machine answers.

Modem Strings

When using WDirect software to dial in to a Model 3000/Access 4000 Control Module via this Comms Task, WDirect automatically generates an appropriate modem string. This modem string is: E0V1M1X0B0

E0 Disables echo command
V1 Displays result codes as text
M1 Turn speaker on during handshaking
X0 Report basic call process result codes
B0 select V22 connection at 1200 baud.

If experiencing difficulties connecting, the following additional commands may be manually added to the string:

%C0\N0
%C0 Disable data compression
\N0 No error control.

or

S10=255 Automatic disconnect time after carrier loss set to 255 seconds.
S38=0 Disable V.90 and K56 flex.

Answer Call Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed, however, Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

**CT001 Rings to
Answer: 000**

This screen sets the number of rings to answer the incoming call. Legal values are between 001 and 019 rings.

**CT001 Ans.F3CTSD..
Options-> nnnnnnnn**

This screen allows some answer options to be programmed:

- | | | |
|----------|--------------|---|
| F | Fax bypass | This option enables Fax bypass by sensing if the phone stops ringing before the required amount of rings. If detected the Comms Task will then loop the line in parallel with whatever answered the phone and wait a pre-determined time for DTMF tone to be sensed. <i>See description on page 1.</i> |
| 3 | 300 Baud | This option forces 300 Baud to be used to connect the modem, irrespective of the modem type installed. |
| C | Call back | This option forces the panel to always Call back the Upload / Download package thus implementing a higher degree of security. The "Remote Access" option in the Installer's Menu Group must be set to "Yes". |
| T | Timed bypass | This option enables Timed Bypass. The [F]ax Bypass option above must be set to "Yes". This option allows the PC Operator to achieve Fax Bypass by dialling the panel, aborting the call immediately after the fax has answered ([F10] then "Yes") and then dialling the panel again <u>1 minute</u> later. The panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer. |
| S | Single DTMF | This option must be set to "Y" if the "F" flag above is set to Yes and DTMF Control is to be used. This instructs the modem to monitor the line for a DTMF tone for a time once a fax or other device has answered the line. |
| D | DTMF Control | This option enables DTMF Control, once the system has answered a call and the correct DTMF tone has been detected. "Single DTMF Tone" must also be programmed in special options below. DTMF cannot be used with Timed bypass. <i>See "DTMF Control Programming" [MENU 7,3,3].</i> |
| . | Spare | This option has been left spare for future development. |
| . | Spare | This option has been left spare for future development. |

**CT001 Line Test
Time: 000 min**

This screen sets the time between automatic dialer line tests. Dialer line tests are performed by detecting line voltage. If the line voltage is not detected then C01:S22 will be set to the alarm condition. Setting a time of 000 minutes disables line testing. The maximum time is 255 minutes (4 hours, 15 minutes).

Answer Call Special Options

Special options are reached by pressing HELP, “9” twice at the Active / Idle screen, or by pressing HELP, “9” from any common options screen. HELP, “0” will take you back to the common options, when programming of special options is complete.

CT001 PpDFTM.6
Dial -> nnnnnnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse (“decadic”) dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse (“decadic”) dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If “n” then Smart dialling is selected (default). <i>See the section on “Introduction to Dialer formats” at the end of this chapter for more details.</i>
F	Force 300 Baud	Not used in “Answer Call” Comms Task.
T	Test Mode	Not used in “Answer Call” Comms Task.
M	Max Count	Not used in “Answer Call” Comms Task.
A	Abort Pre-dial	Not used in “Answer Call” Comms Task.
6	60 sec Redial	Not used in “Answer Call” Comms Task.

CT001 PABX No.->
None

These screens allow the installer to define an optional PABX Access number and Call-back Telephone Number. When the Call-back number is defined, extra security is provided by forcing the task to ring back this number on a successful log-on sequence as an added precaution against “hacking”.

CT001 PABX No.->
TN000

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT001 Back No.->
None

See Telephone Number Programming.

CT001 Back No.->
TN000

CT001 Cust No.->
None

This screen allows the installer to specify the Telephone Number of the dialer line connected to the panel and is useful for reference purposes. It is not required for programming or panel functionality.

CT001 Cust No.->
TN000

CT001 Seize Aux
C01:X08

This screen allows an Auxiliary output to be specified that will turn on whenever the dialer line is seized and turn off whenever the dialer line is released.

**CT001 DTMF Tone
Wait: 000/10 sec**

This screen sets the time a task will wait to sense the DTMF tone when in fax bypass mode. The time is programmable from 1/10 second to 255/10ths of a second (25.5 secs). If this option is left at 000/10 then the default time of 5 seconds will be used.

The DTMF tone wait time is also used as the main dial tone wait time in Callback operation and is best left at its default value (000/10) if Callback is utilised.

If the phone is ringing whilst attempting a call back, the system 3000 will wait till the ringing stops before trying to dial.

**CT002 Single
DTMF Tone: 000**

This screen allows the Installer to specify the DTMF tone which will be used to initiate the modem answer sequence in fax bypass mode and also selects the tone that will be used to initiate DTMF Control Mode. The programmed tone is the one that will initiate the modem connect sequence. The programmed tone **plus one** is the tone that will initiate DTMF Control Mode..

eg. if "005" is programmed, the DTMF digit 5 will be the Fax bypass tone in PC Direct and DTMF tone 6 will initiate DTMF Control Mode.

"(D)TMF Control" option must be set to "Yes" under "Answer Options" above.
See "DTMF Control Programming" [Menu 7,3,3] for more details.

**CT001 Line Test
Count: 000**

This screen sets parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

**CT001 Answer
Wait: 000/10 sec**

This screen allows an answer wait time between 0 and 255/10ths of a second (25.5 seconds) to be programmed. The default is 0 seconds. When a non-zero answer wait time is programmed, upon answering the call and accessing the interpreter for upload/download, all incoming characters will be ignored until the answer wait time has expired. This is useful when connecting with a mobile data network where unnecessary additional characters are output immediately after modem connection.

The Answer Wait time is also used as the PABX dial tone wait in Callback operation and is best left at its default value (000/10) if Callback is utilised.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will “take-over” the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make “smart” decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed “Attempting Dialer Connection” below.

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the “Look Ahead” option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either “Smart dial” or “Dumb dial” can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.

3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

“PC Direct” Comms Task Format

This communication format allows the 3000/4000 system to connect to the PC Direct or WDirect Upload / Download programme.

NOTE: Only available in V1 to V5.7.

In V6 or later firmware, the PCDirect Comms Task format has been superseded by a new Comms Task format named “WDirect”.
To communicate with WDirect Software, the “WDirect” Comms Task format must be used, and the WDirect software must also be V6 or later.

The older PCDirect software and other PC Software and Interface applications that utilize the PCDirect Comms Task format cannot communicate with V6 or later Control Modules.
i.e. For PC and Interface applications that utilize the PCDirect Comms Task, the Control Module Firmware will not be able to be upgraded past V5.7.
Alternatively, the PC or Interface application will need to utilize an alternative Comms Task format, or the Terminal Emulation Module.

In circumstances where V6 or later firmware is required on sites where it is intended to utilize the PCDirect Comms Task format, contact Inner Range for advice.

CT001 Idle ->
PC Direct

Programming options are found by pressing HELP, “9” at this screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the PC will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 0 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.
Port “O” should only be used as a temporary connection as the on-board dialer is disables whilst Port “O” is connected. Ports 1 to 4 are on the UART board and should be used for permanent or frequent connection.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended for normal use but 19200 may be used for Upload/Download.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1] for further details.

Return to the first screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.

**CT001 ..R.
Status -> nnnn**

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be Reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

. Spare

Spare for future development.

R Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the distributor's Technical Support.

“IRfast” Comms Task Format

Dialer Operation - IRfast

The Model 3000 and Access 4000 panels can communicate in IRfast dialer format to a suitably equipped Central Station. IRfast can be used to report Area opens/closes and Zone/Input isolations, tampers, alarms and restores to a Central Station equipped with an FE100 or FE900 digital receiver. No input or user mapping is required because **all** Model 3000 and Access 4000 alarm reports and events can be reported uniquely, including optional review text if desired.

IRfast format features include:

- Very fast reporting
- Compatible with all other formats
- Unique reporting of all events
- Optional Review text for alarm clarification
- Optional Contact ID Interpretation
- Optional Panel system information
- Up to 65000 users
- Up to 250 Areas
- Encrypted Communications
- Supports panel remote control

Dialer Options

Options are reached by pressing HELP, “9” at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed.

Special options are reached by pressing HELP, “9” twice at the Active / Idle screen.

CT001 Client
Code: 0000

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the “Multiple Area Client Code” is set, it is possible for a different client code to be used.

CT001 PABX No.->
None

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

CT001 PABX No.->
TN000

CT001 1st No.->
None

This screen allows the Installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present, up to the maximum number of attempts specified. (Default is 8 attempts)

**CT001 2nd No. ->
None**

If different telephone numbers are needed for subsequent attempts, the 2nd, 3rd and 4th telephone numbers may also be defined.

If a dial attempt on the 1st telephone number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, it is skipped and the next number in the above sequence is tried.

After an initial 4 attempts, the Holdoff time between attempts is then varied to enhance the chances of a successful call and help protect against blocking.
(The Holdoff time never exceeds 120 Seconds)

Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number.
See Telephone Number Programming.

**CT001 Dial PpDFTMA6
Options -> nnnnnnnn**

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See "Introduction to Dialer Formats" at the end of this chapter.</i>
F	Forces 300 Baud	Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only).
T	Test Mode	This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are: -Do not dial the Telephone Number -Do not wait for initial handshake -Do not require an acknowledgement -Shorten inter-round time from 500ms to 300ms
M	Maximum Count	This enables the Maximum Count option. This option allows the maximum call time in Contact ID to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options.
A	Abort Pre-dial (S in V1 & V2)	If set to "Y", when connection is attempted, any pre-dial error (e.g. no line) will cause the attempt to be aborted and go straight to the Backup Task (If programmed) (Formerly Single Hit in V1 & V2. This option now in Process Groups.)
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 MLGPND..
Ropts -> nnnnnnnn

This screen sets various reporting options:

- M

Multiple Area Codes

If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not “0000”. If the Area Client code is “0000”, the Comms Task client code will be used. If this option is set to “n” then the Comms Task client code will always be used. (See Area Programming for more details of this application)
- L

Look Ahead

Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if 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 multibreaking detectors.
- G

General O/C

This option selects general open and close reporting. Whenever **all** Areas (programmed for Open/Close reporting) 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 as “Not General Area” and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming “Not General Area” option for details.
- P

Prevents Restores

This option prevents restores from triggering this Comms Task. Restores will be buffered and will be sent with the next report.
- N

No Area Still Open

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.
- D

Delay Reports
(V5 or later)

This option enables Delayed Reporting (Dial Holdoff) for this Comms Task.

See “Delay Report” in Process Group Extra Options (RNED...L screen) for details.

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

**CT001 EOA.....
Efilt-> nnnnnnnnn**

The "Extra Filter" screen option allows a Comms Task to only respond to certain types of events.

E	Extra Filter	This option enables Extra Filter options. If left at "n", no extra filtering is used. ie. normal operation.
O	Opens/Closes	This option enables Opens/Closes reports to be sent via this Comms Task. This option only applies if the "E" option above is set to "Yes".
A	Alarms	This option allows Alarms/Tampers/Isolations to be sent via this Comms Task. This option only applies if the "E" option above is set to "Yes".
.	Spare	Spare options for future filters. Leave set to "n".

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Contact ID, set the Securitel Comms Task with the "E" and "O" Extra Filter options and the Contact ID Comms Task with the "E" and "A" Extra Filter options.

**CT001 Mapping ->
Standard**

This screen determines the input mapping for this Comms Task. This is only relevant if sending Contact ID messages via the IRfast format. The (C)ontact ID option must be set to "Yes" under Special Options for this feature to operate correctly.

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 as follows:

-Standard	-MAP-1
-School 30	-School 19
-SIMS II	-Access-1 (V3 or later)
-Pacom (V3 or later)	-Standard-2 (V3.5 or later)
-School 19B (V3.5 or later)	

For more details of Mapping options refer to "Comms Task Formats" at the beginning of this section and to the tables at the rear of this manual.

Because IRfast format doesn't require mapping, this mapping selection is used to determine the Contact ID mapping to be used when Contact ID information is to be sent in addition to native IRfast information.

Dialer formats - Special Options

Special options are reached by pressing HELP, "9" twice at the Active/Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options when programming of special options is complete.

**CT001 Maximum
Attempts: 008**

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, Austel specify a maximum of 10 attempts). In "UK" firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 003**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.

**CT001 Seize Aux
C01:X08**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
C01:X08**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 030**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 010 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

If the "Maximum Count" option in the Dial Options is set to Yes, this screen is used to program the maximum number of packets sent (1 to 255).

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

IRfast Special Options

If IRfast format has been chosen, the previous special options will be followed by two more special option screens only relevant to the IRfast format. These screens will not appear if other dialer formats are selected.

CT001 RCT24LIU
Sopts-> nnnnnnnn

This screen specifies a number of send options.

If any of these options are enabled for IRfast format in the FE100 Receiver, they do not need to be enabled in this screen. i.e. The function will be performed if the option is enabled in either the FE100 or in this screen.

See additional notes under the "Update Clock" option below for exception.

R	Review Text	Setting this option to "Y" will cause the Model 3000 panel to send review text for each event reported.
C	Contact ID	Setting this option to "Y" will cause the Model 3000 panel to send an equivalent Contact ID string for each event reported, using the mapping option selected above. This is useful when the FE100 is being used to receive IRfast format but the automation system cannot understand native IRfast information.
T	Time/Date	Setting this option to "Y" will cause the Model 3000 to send a text string of the Time/Date the event was recorded into review on the Model 3000 panel.
2 / 4		Not used in this format.
L	Link to PC	Setting this option to "Y" will cause the FE100 to hand on to the line for a short period to allow the Automation to send commands back to the panel. Only set this option after consultation with the Central Station.
I	Information	Setting this option to "Y" will cause the Model 3000 panel to send miscellaneous panel information before hanging up, including panel serial number, software version and security option settings.
U	Update Clock	Setting this option to "Y" will cause the FE100 to Update the Model 3000 panel time and date from the FE100 system clock prior to hanging up. <u>V4.5 or later.</u> This option must be enabled in the Model 3000 panel for the function to be enabled. This option can then be set to "n" to disable the function regardless of the setting in the FE100, for panels being monitored in a different Time Zone.

NOTE: An FE100 can set any of the above options to Yes on a per receiver basis. The above options should only be enabled upon instruction from the Central Station.

CT001 IU...DXA
Eopts-> nnnnnnnn

This screen configures various panel remote control options.

Remote Control options are only relevant where the appropriate facilities exist at the Central Monitoring Station.

I	Installer	This option causes the system to consider the Central Station as the Installer as far as panel control is concerned.
U	User	This option causes the system to consider the Central Station as a normal User as far as panel control is concerned.
D	Doors	Setting this option to "Y" will allow Doors to be unlocked and locked by the Central Station. (Not yet implemented)

X	Auxiliaries	Setting this option to "Y" will allow Auxiliaries to be turned on and off by the Central Station. (Not yet implemented)
A	Areas	Setting this option to "Y" will allow Areas and Area Lists to be turned on and off by the Central Station.
.	Spare	This option has been reserved for future developments and must be set to "n".

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will "take-over" the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ♦ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ♦ **Dumb Dial** This setting does not make "smart" decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed "Attempting Dialer Connection".

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the "Look Ahead" option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial-tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.

6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
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NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

“Contact ID” Comms Task Format

Dialer Operation - Contact ID

Contact ID is used to report Area opens/closes and Zone /Input isolates, tampers, alarms and restores using the Ademco Contact ID format to a Central Station Digital Alarm Receiver. All the Model 3000 Zones / Inputs are mapped to particular Contact ID points. Because Contact ID cannot support a fully featured Model 3000 system certain reporting restrictions apply when using Contact ID. Some of these restrictions will vary depending on the Contact ID “Mapping” option chosen.

The restrictions applicable to “Standard Mapping” are:

- Up to 99 Areas
- Up to 999 Input Points
- Up to 900 Users
- Up to 9 LCD Terminals and up to 9 LED Terminals
- Up to 9 Zone Expanders
- Up to 9 Reader Modules

For restrictions applying to other Mapping options refer to the tables at the rear of this manual.

If you attempt to report information outside this range, a specific Contact ID report will be sent to indicate incorrect programming.

Although most receivers will receive the raw information correctly, many automation systems cannot handle large Contact ID systems or partition information. Check with your Central Station service provider.

Each event in Contact ID is sent as a string of 16 DTMF digits. For example, an alarm followed by a restore and then an opening would be 3 events. This makes this format slower than some others such as Ademco fast format, particularly for multiple alarms. All Contact ID strings follow the format below:

CCCC 18 SXYZ GG PPP K				where
CCCC	is the 4 digit client code that identifies the panel.			
18	is always the digits “18”			
SXYZ	is the event code for the type of event			
GG	is the Group Byte which signifies the Area being opened/closed		or the Area in which the alarm occurred. (Often = 00)	
PPP	is the Point ID. This refers to either the point number or the user		ID depending on the type of event.	
K	is the checksum.			

Some receivers will display a “U” or a “C” in front of the PPP, depending on whether the PPP represents a User ID or an alarm point.
U=User C=Alarm point

Dialer Options

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Special options are reached by pressing HELP, “9” twice at the Active / Idle screen.

Please read the “Introduction to Dialer formats” provided on the following page.

Introduction to Dialer Formats

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5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
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1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time -out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

CT001 Client
Code: 0000

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the “Multiple Area Client Code” is set, it is possible for a different client code to be used.

CT001 PABX No.->
None

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

CT001 PABX No.->
TN000

CT001 1st No.->
None

This screen allows the Installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present, up to the maximum number of attempts specified. (Default is 8 attempts)

CT001 2nd No.->
None

If different telephone numbers are needed for subsequent attempts, the 2nd, 3rd and 4th telephone numbers may also be defined.
If a dial attempt on the 1st telephone number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, it is skipped and the next number in the above sequence is tried.

etc.

After an initial 4 attempts, the Holdoff time between attempts is then varied to enhance the chances of a successful call and help protect against blocking. (The Holdoff time never exceeds 120 Seconds)

Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number.
See Telephone Number Programming.

CT001 PpDFTMA6
Dial -> nnnnnnnn

This screen sets various dialling options:

- | | | |
|---|----------------------------|--|
| P | Pulse Dial (Tel) | Selects Pulse (“decadic”) dial when dialling the main Telephone Number. |
| p | Pulse Dial (PABX) | Selects Pulse (“decadic”) dial when dialling the PABX phone number if present. |
| D | Dumb Dialling | Selects Dumb dialling. If “n” then Smart dialling is selected (default).
<i>See “Introduction to Dialer Formats” at the end of this chapter.</i> |
| F | Forces 300 Baud | Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only). |
| T | Test Mode
(V2 or later) | This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are:
-Do not dial the Telephone Number.
-Do not wait for initial handshake.
-Do not require an acknowledgement.
-Shorten inter-round time from 500ms to 300ms.
NOTE: The PSTN/Direct Links on the Control Module must be set to the “Direct Line” setting: Type 0/1: LK104 & LK105. Type 2: LK12 & LK13. |

M	Maximum Count	This enables the Maximum Count option. This allows the maximum call time in Contact ID to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options.
A	Abort Pre-dial (S in V1 & V2)	If set to "Y", when connection is attempted, any pre-dial error (e.g. no line) will cause the attempt to be aborted and go straight to the Backup Task (If programmed) (Formerly Single Hit in V1 & V2. This option now in Process Groups.)
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 MLGPNPND..
Ropts -> nnnnnnnnn

This screen sets various reporting options:

M	Multiple Area Codes	If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)
L	Look Ahead	Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if 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 multibreaking detectors. If an Opening Event occurs, it will be reported immediately and Zone/Input events for that Area that are still stored in the report buffer will be cleared.
G	General O/C	This option selects general open and close reporting. Whenever all Areas that are programmed to report Open/Close 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 as "Not General Area" and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.
P	Prevents Restores	This option prevents restores from <u>triggering</u> this Comms Task. Restores will be buffered and will be sent with the next report.

- N

No Area Still Open

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.
- D

Delay Reports
(V5 or later)

This option enables Delayed Reporting (Dial Holdoff) for this Comms Task.
See “Delay Report” in Process Group Extra Options (RNED...L screen) for details.

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA.....
Efilt-> nnnnnnnn

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

- E

Extra Filter

This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.
- O

Opens/Closes

This option enables Opens/Closes reports to be sent via this Comms Task.
- A

Alarms

This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.
- .

Spare

Spare options for future filters. Leave set to “n”.
For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Contact ID, set the Securitel Comms Task with the “E” and “O” Extra Filter options and the Contact ID Comms Task with the “E” and “A” Extra Filter options.

CT001 Mapping ->
Standard

This screen determines the 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 as follows:

- Standard

-School 30

-SIMS II

-Pacom (V3 or later)

-School 19B (V3.59 or later)

-MAP-1

-School 19

-Access-1 (V3 or later)

-Standard-2 (V3.5 or later)

NOTE: When the SIMS II Map is used, Inputs will always report using the default Contact ID Event Codes shown in the SIMS II Mapping Table. Any CID Message (Event Code) programmed in the Process Group assigned to an Input will be ignored.

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

Dialer formats - Special Options

Special options are reached by pressing HELP, "9" twice at the Active/Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options when programming of special options is complete.

NOTE: The values shown in the following 10 screen examples are the default values

**CT001 Maximum
Attempts: 008**

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, the ACA specifies a maximum of 10 attempts).
In "UK" firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 004**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup Comms Task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.
Backup Comms Tasks are available in IRFast, Contact ID and GSM modem formats. (GSM requires V3.5 or later)

**CT001 Seize Aux
:X**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
:X**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 030**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 010 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used. If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

If the "Maximum Count" option in the Dial Options is set to Yes, this screen is used to program the maximum number of packets sent (1 to 255).

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

**CT001 RCT24LIU
Efilt-> nnnnnnnn**

This screen allows a number of special send options to be selected.

- | | | |
|----------|--------------------|--------------------------------------|
| R | Review Text | IRfast format only. Leave set to No. |
| C | Contact ID | IRfast format only. Leave set to No. |
| T | Time/Date | IRfast format only. Leave set to No. |

DTMF Tone time.
These options allow the DTMF tone time to be increased in increments of 20mS to compensate for delays introduced when reporting in the Contact ID format over VOIP networks.
Setting the "2" option to "Y" will increase the DTMF tone time by 20mS.
Setting the "4" option to "Y" will increase the DTMF tone time by 40mS.
Setting both options to "Y" will increase the DTMF tone time by 60mS.

- | | | |
|----------|-------------------------|--|
| 2 | 20mS | |
| 4 | 40mS | |
| L | Link to PC | IRfast format only. Leave set to No. |
| I | Info / Init | IRfast / Earthnet format only. Leave set to No. |
| U | Use SIA checksum | Setting this option to "Y" will cause the Contact ID message to use an alternate Contact ID checksum scheme to comply with the SIA Contact ID document. This may be necessary if it is noticed that the central station receiver fails to acknowledge some messages. |

NOTES

“EMS” Comms Task Format

This communication format allows the Concept 4000 system to connect to a Lift Controller via a High Level Lift Interface.

To enable the EMS Comms Task, the High Level Lift Interface upgrade kit (P/N: 995016P4) must be fitted to the Control Module.

Depending on which High-level Lift protocol is employed, the Concept 4000 IP Lift Interface unit may also need to be installed.

IMPORTANT NOTE: *Before attempting to implement this Comms Task format, read “Lift Control with High Level Interface” in the Applications section of this manual for full details and the list of protocols currently supported. Contact your distributor or the manufacturer for the latest version of the documentation.*

CT001 Idle ->
EMS

Programming options are found by pressing HELP, “9” at this screen.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the Lift controller. 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.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended. See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

Return to the first screen by pressing HELP, “0” either one or twice and toggle the Comms task On and Off by pressing the “9” Key.

Special options are found by pressing HELP, “9” *twice* at the first EMS screen.

CT001 Number of
EMS Floors 000

This screen determines the maximum number of floors to which any one lift may go. It directly determines the packet size sent by the EMS Comms Task to the EMS Lift Controller.

CT001 Grp 1
Floors: FL000

V
V

CT001 Grp 8
Floors: FL000

These screens allow up to 8 EMS Groups to be configured. (In Lift Car programming, an EMS Group ID is assigned to a Lift Car to determine the manner in which the Lift Car is to be controlled via the EMS High Lift Interface)

An optional Floor List may be assigned to each EMS lift group. This restricts the scope of service for Lift Cars in that Group. This may be necessary, depending on the EMS programming.

In some high rise buildings, certain Lift Cars service specific ranges of Floors. eg. Lifts 1-5 service floors 1 to 20 and Lifts 6-10 service Floors 1, 2 and 21 to 30.

EMS Group configuration allows the Installer to specify an optional Floor List. If a Floor is not included in this Floor List, the User cannot select that Floor, regardless of the User's permissions. The User should take the appropriate Lift Car for the desired Floor and Floor access is only then granted if all other User permissions are in order.

Refer to “Lift Control with High-level Interface” in the Application Programming section of this manual.

CT001 KT.....D
Opts -> nnnnnnnn

This screen allows the Installer to select options which affect the operation of the EMS Comms Task. Place a "Y" under the option to enable it.

See the Application note "Lift Control with High Level Interface" for details of protocols supported.

K Kone Protocol

If enabled, this option causes the Kone HLI Security Protocol to be used. (V5.0 or later)

T Thyssen Krupp Protocol.

If enabled, this option causes the Thyssen Krupp DSC Security Protocol to be used. (V7.82 or later)

If both options above are set to No, the Otis E.M.S. - Security Protocol is used.

D Detail Review

This option enables detail review for the EMS Comms Task. This setting is for diagnostic use and should only be enabled if instructed by the Manufacturer or Distributors Technical Support/Engineering personnel.

Diagnostics

CT001 .R..
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

. Spare

Spare for future development.

R Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

. Spare

Spare for future development.

. Spare

Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

Technical Specifications

Null Poll Time (one group at a time)	1 second
Security mask refresh rate with no activity (one lift car at a time)	30 seconds
Minimum time from end of response to next null or set mask command	50ms
Maximum wait for reply	300ms
Maximum retries before error registered	5
Low level error logging	Yes
Button feedback saved	Yes
Send all Masks on CT start	Yes
Send all masks on reception of watchdog flag	Yes
Preferred Baud Rate	2400 Baud
Data Format	8,0,1

“EarthNet” Comms Task Format

EarthNet

The “EarthNet” Direct Line communications format allows Model 3000 and Access 4000 panels to be monitored via an EarthNet direct line system to a Central Station. **All** alarm information can be reported including Area opens/closes and Zones/Inputs isolations, tampers alarms and restores, plus optional review text if desired. No input or User mapping is required if the 3000/Access 4000 system is to only interface with an FE100 Receiver as this combination enables all events to be reported uniquely. If, however, the FE100 is to relay events to an automation package via Contact ID protocol, a suitable Contact ID map may be used.

Refer to the Standard and Access-1 “Contact ID Maps” in the Tables section of this manual.

3000/4000 EarthNet features include:

- Unique Reporting of all events
- Optional Review text for alarm clarification
- Optional Contact ID Interpretation
- Optional Panel time/date stamp
- Optional Panel system information
- Up to 65000 Users
- Up to 250 Areas
- Encrypted Communications
- Easier panel commissioning
- Supports panel remote control

Direct Line Programming

CT001 Idle -> EarthNet

Programming options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need be programmed.

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen.

CT001 Client Code: 0000

This screen sets the client code to be used for **EarthNet**. The client code is programmable in decimal from 0001 to 9998. (Client codes of 0000 and 9999 should be avoided) In the EarthNet system, a panel is identified by a client code stored in the Node to which the panel is connected. The client code programmed at the Node should be programmed the same as the client code programmed in the panel. If the “Multiple Area client code” option is set then it is possible for a different panel client code to be reported, based upon Area. If this occurs both the Node client code and the panel client code will be reported.

**CT001 MLGPN...
Ropts -> nnnnnnnn**

This screen sets various reporting options:

- | | | |
|----------|---------------------|--|
| M | Multiple Area Codes | This option selects Multiple Area Client Codes. In this mode, whenever a report from an Area is performed (open/close/alarms/tampers/isolates/restores), the client code defined in Area programming will be used if it is not "0000". If the Area client code is "0000", the Comms Task client code will be used. If the option is set to "n", the Comms Task client code will always be used. (See Area Programming for more details) |
| 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 dialer 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 Area 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 Area List
Filter: AL002**

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in this specified Area List will be sent using this Comms Task.

**CT001 EOA.....
Efilt-> nnnnnnnn**

The "Extra Filter" screen options allow a Comms Task to only respond to certain types of events. For example, to configure a Model 3000 so that only the alarms / tampers/isolates go via Direct Line, set the Direct Line Comms Task with the "E" and "A" options set to "Y". Opens/Closes will not be sent.

- | | | |
|----------|--------------|---|
| E | Extra Filter | This option enables the Extra filter options. If set to "n", no extra filtering is used. |
| O | Opens/Closes | This option enables Opens/Closes to be sent via this Comms Task. "E" flag must also be set to "Y". |
| A | Alarms/T/I | This option enables Alarms/Tampers and Isolations to be sent via this Comms Task. "E" flag must also be set to "Y". |
| . | Spare | Spare for future developments. Set to "n". |

CT001

Mapping
Standard

This screen determines the input mapping for this Comms Task. To cater for different types of system configurations within the limitation of the number of points available within the Contact ID format, several input mapping options have been provided.

Because EarthNet format does not require mapping, this mapping selection is used to determine the Contact ID mapping to be used if Contact ID information is to be sent in addition to EarthNet information. See EarthNet Special options for more details.

For more details on Mapping Options, refer to the Tables at the rear of this manual.

EarthNet Special Options

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001

RCT . . LIU
Sopts-> nnnnnnnn

This screen sets up various send options:

R	Review Text	Setting this option to “Y” will cause the Model 3000 panel to send review text for each event reported.
C	Contact ID	If set to “Y”, the panel will send an equivalent Contact ID string for the message or event being sent
T	Time/Date	This option causes the Model 3000 to send a text string of the Time/Date the event was recorded into review on the Model 3000 panel.
L	Not Applicable	This option only applies to IRfast. Set to “n” for EarthNet.
I	Initialise Encryption	Setting this option to “Y” whilst the Comms Task is idle, then starting the Comms Task, will cause the encryption key to be reset to the manufacturer’s default. The panel can now be connected to the EarthNet system and an “Initialise panel” option can be performed at a node to allow communications to proceed.
U	Update Time	This option allows the panel time to be updated by the remote Receiver.
.	Spare	Spare. Set to “n”.

NOTE: An FE100 receiver can set any of the above options to Yes on a per receiver basis. The above options should only be set to Yes on instruction from the Central Station.

**CT001 IU...DXA
Eopts-> nnnnnnnn**

This screen sets up various panel control options. Remote control options are only relevant where the appropriate facilities exist at the Central Monitoring Station.

I	Installer	This option causes the system to consider the Central Station as the Installer as far as panel control is concerned.
U	User	This option causes the system to consider the Central Station as a normal User as far as panel control is concerned. (User03)
D	Doors	This option will allow Doors to be unlocked and locked by the Central Station. (Not currently operational, for future use)
X	Auxiliaries	This option will allow Auxiliaries to be turned on and off by the Central Station. (Not currently operational, for future use)
A	Areas	This option allows Areas and Area Lists to be turned on and off by the Central Station.
.	Spare	Spare. Set aside for future development.

**CT001 Polls
Before Test: 000**

This screen sets the number of polls the system will receive before initiating a test message. A test message is sent regularly to the node to check that encryption is operational and that the panel has not been substituted. If left at 000, the default is 20 polls. If the node does not receive a test message after about 3 minutes, a line tamper is generated by the node. This means that the number of polls before test needs to be set in conjunction with how often the panel is polled, allowing for longer poll times when data is present. This field should not be altered unless advised by your Central Monitoring Station.

**CT001 Max alarms
per poll: 000**

This screen sets the maximum number of alarms that can be sent by the panel following each poll received from the Central Station. This field should not be altered unless advised by your Central Monitoring Station.

Remote EarthNet Nodes

Remote EarthNet Nodes using the Port 3 Back up line **must not** be on a telephone line which has a Message Bank or similar service connected. The differential dial tones used as indicators for such services will impede the operation of back up communication.

“WDirect” Comms Task Format

This communication format supercedes the PCDirect format and allows the 3000/4000 system to connect to the WDirect V6 or later Upload / Download software programme.
This Comms Task format is available in V6 or later only. To communicate with WDirect software with Control Module Firmware prior to V6, the “PCDirect” Comms Task is used.

CT001 Idle ->
PC Direct

Programming options are found by pressing HELP, “9” at this screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the PC will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 0 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.
Port “O” should only be used as a temporary connection as the on-board dialer is disabled whilst Port “O” is connected. Ports 1 to 4 are on the UART board and should be used for permanent or frequent connection.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended for normal use but 19200 may be used for Upload/Download.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1] for further details.

Return to the first screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.

CT001 ..R.
Status -> nnnn

Diagnostics
Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be Reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

- . Spare
- R Retry

Spare for future development.

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the distributor’s Technical Support.

“Securitel” Comms Task Format

Overview

Selecting the Comms Format “Securitel” allows communication events to be reported via the Securitel network. A 1, 2 or 4 Port UART board, Securitel Interface Cable and an MCM STU are required for Securitel operation.

Only the Securitel Serial data channel is used to report information, the pin data returned will always be “all normal”. The Model 3000 uses the serial channel according to the ASIAL ratified “Serial Protocol Agreement-1990”. **Refer to the Tables section of this manual for full details of the Zones and system inputs which may be reported via Securitel.** There is no programming of mapping required as a fixed map has been chosen at this time. The following are examples of the type of information that can be reported:

- All Control Module Zones
- The first 16 Zones on the first 6 “B” Type Zone Expanders
- The first Zone on the first 8 LCD Terminals
- The first Zone on the first 8 Readers

Any Zone reported outside the above will be reported according to the Area to which it belongs as a General Area Zone Alarm. After Area 30 the Zone will be reported as a General Zone Alarm for Areas Above 30.

NOTE: A restore on a general Area Zone alarm does not indicate that all Zones are sealed in that Area.

All External module System Inputs are reported as general Inputs. For example, a General Zone Expander Cabinet Tamper will be reported if any cabinet tamper is alarmed on any expander, but will not send a restore until all Zone Expander cabinet tampers are sealed.

Openings and Closings can be reported up to Area 30 uniquely, alternatively a general open/close can be used where you can nominate what Areas are to belong to the general open/close calculation. User ID can be reported uniquely up to User 238.

For further details on Zone and event mapping, refer to the “Tables” section in this manual.

Securitel Programming Summary

The following Comms Task items must be programmed for Model 3000 to operate on Securitel:

1. Programme the Comms Task to “Securitel”
2. Programme the Hard ID in HEX. The Hard ID is provided by the Central Monitoring Station. Note that while the Hard ID is a HEX number, the number provided by the Cenral Station will normally only contain Decimal characters. Simply enter the number as it is provided by the Central Station.
3. Choose the UART Port which is going to connect to the MCM STU (Port 1 to 4)
4. Select the Baud Rate (must be 9600 Baud)
5. Select what report options are desired:
 - Look Ahead Option
 - Single Hit Reporting
 - General Open/Close Option

The Multiple Area Client Code option has no effect when selected for Securitel

6. Now set the Comms Task to Active

Under Special Programming options you can select an Auxiliary that can be controlled via the Securitel interface from the Central Station. This Auxiliary can be used to operate external devices or turn on Areas, if desired.

Other Programming

- Programme what Areas and Zones/Inputs are going to report
- Programme which Areas are to report openings/closings and whether the Area is to be ignored in a general open/close calculation.
- Programme the Area alarm action for a UART Fail (C01:S13 to C01:S16) which will occur if the Model 3000 does not get a poll from the STU within 10 seconds.
- Programme the Area alarm action for a Comms Fail (C01:S21) which will occur if the STU informs the Model 3000 of a Scanner (Exchange) - STU communication problem. (If the STU provides this information)

The UART DTR line will go high whilst the Securitel Comms Task is running. The UART RTS line will remain high whilst the Model 3000 is being polled by the STU and will go low after the polling is absent for more than 10 seconds.

Review Messages

All Securitel oriented review messages are explained below. “nn” represents the Comms Task number. All but the “On-Line” and the “Off-Line” messages are only saved when the detail mode is selected for review.

CTnn - On Line	This message means that the Model 3000 can “hear” polls from the STU. The UART Fail Input will be restored.
CTnn - Off Line	This message means that the Model 3000 has not received polls from the STU for 10 seconds. The UART Fail Input will be set to the alarm condition.
CTnn - STU Data-I	This message means that the Model 3000 is sending the hard ID to the STU.
CTnn - STU Data-DN	This message means the Model 3000 is about to send report information via the serial channel. The N signifies how many reports are being transferred at this time and can be a value between 1 and 4 inclusive.
CTnn - STU Data-DN (old)	This message means the Model 3000 is about to re-send N reports via the serial channel where N can a value between 1 and 4 inclusive. This can occur if an error occurs between the Model 3000 and the STU or if the serial data channel is full at the time of transmission. Only one review entry is saved if multiple (old) reports are sent.
CTnn - STU Info <text>	This review entry is saved when a change is detected in the STU status as sent by the STU to the Concept 3000.

“STU Info” Review Entry Table

This table provides details of the text messages used in the “STU Info” Review Entry.

Review Text	Normal State	Meaning
FAULT on(off)	off	If on, the STU has informed the panel that a Hard ID has not been downloaded or the STU has a hardware fault. The UART Fail Input will be alarmed.
NO COMMS on(off)	off	If on, the STU has informed the panel that communication has failed between the Scanner and the STU. The Comms Fail System Input will be alarmed.
FULL on(off)	off	If on, the STU has informed the panel that the serial channel is currently full and can accept no more alarm reports.
NO ACK on(off)	off	If on, the STU has informed the panel that it has alarms that have not been acknowledged by the Scanner.
POLL on(off)	on	
NO ID on(off)	off	If on, the STU has informed the panel that a Soft ID has not been downloaded.
ACK on(off)	off	If on, the STU has received an "Auxiliary On" command from the Scanner. If off, the STU has received an "Auxiliary Off" command from the Scanner.

Securitel Options**CT001 Idle ->
Securitel**

Options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or special options.

Usually only the common options need be programmed.

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen.

**CT001 Hard
ID: 0000**

This screen sets the Securitel Hard ID to be used for this Comms Task. The Hard ID is the Securitel equivalent to the client code used in other formats and is programmable in HEX from 0001 to FFFF. The Hard ID is provided by the Central Monitoring Station.

Note that while the Hard ID is a HEX number, the number provided by the Central Station will normally only contain Decimal characters. Simply enter the number as it is provided by the Central Station.

The “Multiple Area Client Code” option has no effect when selected for securitel. The Hard ID programmed here is always used.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the STU 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.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the STU. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is mandatory for the MCM STU.

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

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

M Multiple Area

Multiple Area client codes are not used in the Securitel format. This option should be set to "n".

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 dialer 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 that are programmed to report Open/Close 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 from triggering this Comms Task. Restores will be buffered and will be sent with the next report.

N No Area 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 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is selected, only the information from Areas in the specified Area List above will be sent using this Comms Task.

CT001 EOA.....
Efilt ->nnnnnnnn

The “Extra Filter” screen options allow a Comms Task to only respond to certain types of events. For example, to set up a Model 3000 so that only alarms/tampers/isolations go via Direct Line, set the Direct Line Comms Task with the “E” and “A” options set to “Y”. Opens/Closes will not be sent.

- | | | |
|---|---------------|---|
| E | Extra Filters | This option enables the Extra filter options. If left at “n”, no filtering is used. ie. normal operation. |
| O | Open/Closes | This option enables Open/Closes to be sent via this Comms Task. |
| A | Alarms/T/I | This option enables Alarms/Tampers/ Isolations to be sent via this Comms Task. |
| . | Spare | Spare for future developments. This option must be set to “n”. |

Securitel - Special Options

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001 Poll Wait
Time: 000 sec

This screen sets the time the task will wait to receive a poll from the STU before activating a System Input to indicate a UART fail condition. The time is programmable from 1 to 255 seconds. If this option is left at 000, the default time of 10 seconds will be used.

CT001 CmdBk Aux
C01:X09

This screen allows the Command-Back Auxiliary output to be specified. The Command-Back Auxiliary can be controlled via the Securitel interface from the Central Station and can be used to provide remote control of external devices and turn Areas On and Off, if required.

CT001 Backup
Task: CT000

This screen allows another Comms Task number to be specified as the “Backup Comms Task” that will be activated if this Comms Task fails to communicate with the Central Station.

Diagnostics

CT001 ..R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

- | | | |
|---|-------|---|
| . | Spare | Spare for future development. |
| R | Retry | A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind. |
| . | Spare | Spare for future development. |
| . | Spare | Spare for future development. |

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

"Printer" Comms Task Format

The Printer Comms Task provides a serial data output that can be connected to a Serial Printer, PC, etc. to continuously print &/or log review information.

A number of new options introduced in V5.6 also allow:

- EN Review to be printed in real-time.
- The entire Review log/EN Review log, or all events of selected types, to be dumped to a serial Printer or to a PC using software such as a Terminal emulation program. e.g. HyperTerminal.

See Special Options for details.

NOTE: EN Review is only applicable to firmware for countries where EN50131 compliance is required. (e.g. UK firmware)

IMPORTANT NOTES:

- 1) Normally, Printer Data will not be output unless CTS is high. CTS indicates to the Control Module that the Printer is ready to receive the data. i.e. It is turned on and is not out of paper, etc.

A new option in V5.6 allows the requirement for the CTS signal to be ignored. This option is designed to be used when the Printer Comms Task is outputting data to a PC program that does not have the ability to provide the required CTS state. Note that this option should not be used unless absolutely necessary, as data may be lost if the receiving device cannot accept the data.

See Special Options for details.

- 2) Maximum possible line length is 160 characters which includes <CR> <LF> at the start of the line, and <CR> <AT> at the end of the line.

Printer Comms Task Programming

CT001 Idle ->
Printer

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common options or *Special Options*. Usually only the common options need be programmed. Special Options are reached by pressing HELP, "9" twice at the Active/Idle screen.

Common Options.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the device 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 chosen by scrolling through the available options using the right arrow key.

Pressing HELP, "9" at this screen will jump to the Special Options screen.
See Special Options for details.

CT001 Baud ->
Rate: 300

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the device. The Baud Rate is selected by scrolling through the available options using the right arrow key. Settings will vary depending on the device being used.

Lower baud rates are usually acceptable for a logging Printer, while higher baud rates are recommended if a Review dump is being performed.

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

The following screens allow the Installer to define which types of review message will be sent to the Printer.

CT001 ATXSLOIM
Filter-> nnnnnnnn

First Filter Screen

A	Alarm/Tamper	If enabled, Input Alarm/Tamper messages will be sent to the Printer.
T	Triggers	If enabled, Comms Triggers will be sent to the Printer. i.e. Input and Area "Xmit" messages.
X	Auxiliaries	If enabled, Auxiliary events will be sent to the Printer
S	Siren	If enabled, Siren messages will be sent to the Printer.
L	Log On/Off	If enabled, Log On, Log Off and User access messages will be sent to the Printer.
O	Open/Closes	If enabled, Area Open/Closes will be sent to the Printer.
I	Isolations	If enabled, Input Isolations will be sent to the Printer.
M	Modules	If enabled, Module messages will be sent to the Printer

CT001 GTDCL..E
Filter-> nnnnnnnn

Second Filter Screen

G	General	If enabled, General system messages will be sent to the Printer.
T	Times	If enabled, Time messages will be sent to the Printer.
D	Details	If enabled, Details messages will be sent to the Printer
C	Communications	If enabled, Communication messages will be sent to the Printer.
L	Lift Control	If enabled, Lift control messages will be sent to the Printer.
.	Spare	Spare for future developments. This option must be set to "n".
.	Spare	Spare for future developments. This option must be set to "n".
E	Errors	If enabled, Error messages will be sent to the Printer.

CT001 Area List
Filter: AL000

This screen allows an optional Area List filter to be defined for the "Comms Trigger" ("Xmit") messages. (V4.5 or later)

If the "T"riggers option in the First Filter Screen is enabled and this option is left at the default "AL000" setting, then all Comms Trigger (Xmit) messages will be sent to the Printer.

If the "T"riggers option in the First Filter Screen is enabled and a non-zero Area List is chosen, only Comms Trigger (Xmit) messages relevant to the Area/s in the specified Area List will be sent to the Printer.

Special Options.

Special options are reached by pressing HELP, “9” at the “Port to Use” screen.

CT001 NAE.....
Opts -> nnnnnnnnn

This screen allows the Installer to define which Special options will be applicable to this Printer Comms Task.

N No CTS

If set to Yes, the Printer Comms Task will not check for the presence of a CTS signal before outputting data.
This may be necessary when the Printer Comms Task is outputting data to a PC program that does not have the ability to provide the required CTS state.
This option is not recommended for use with a logging printer, or software that does provide a CTS signal, as data may be lost if the receiving device cannot accept the data. e.g. If the Printer runs out of paper.

A All Review

If set to Yes, then when this Comms Task is set to “Active”, the Review log will be printed beginning at the oldest event up until the most recent event, according to the filter settings programmed in the Common options.
When the most recent event has been sent, the Comms Task will then continue to print in real-time.

This option allows the entire Review log (or selected types of events from the entire Review log) to be sent to a Printer or to a PC using software such as a Terminal emulation program. e.g. HyperTerminal.
Note that to obtain the complete Review log, all filter options must be set to Yes, and the Area List filter must be set to AL000.
If a printout or file of the EN Review log is required, the (E)N Review option must also be set to Yes.

IMPORTANT NOTES:

-If the (N)o CTS option above is set to no, the receiving device must be connected, and the CTS signal must be high, before the Comms Task is set to Active.
-When using this feature, select the highest baud rate at which reliable communications can be achieved. (Depending on the memory size and configuration chosen, and the filter options selected, there may be thousands of events.)

E EN Review

If set to Yes, the Printer Comms Task will use the EN Review Log as the source for printer data, instead of the normal Review Log.
This allows either real-time printing, or a dump of the entire EN Review log to be performed according to the filter settings programmed in the Common options.

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Ext. Modem” Comms Task Format

External Modem Comms Task

A Comms Task option is available which allows a high speed external modem to be connected to an external UART port for the purposes of upload/download via a telephone line.

IMPORTANT NOTE: If the external modem is being connected to a Model 3000/Access 4000 Ethernet UART board (Part No. 995090 or 995091), the modem must be connected to PORT 1.

External Modem Operations

When the Comms Task is started the RTS and DTR lines are placed in the high state and the modem is initialised to answer a ringing telephone line according to the programmed “Rings to answer” setting.

When a valid connection is made, a path through to the interpreter is established. At the end of the call the modem is instructed to hang up and await another call.

Modem Re-initialisation

If the modem is powered down, accidentally disconnected, or placed in the wrong state, you will probably need to re-initialise the modem.

All Versions: Abort and Re-start the Comms Task to re-initialise the modem.

V4 or later: Modem Initialisation string is automatically re-sent 5 seconds after the Control Module detects that the CTS line has gone High again. (The CTS line from the modem is normally High when the connection is OK.)

Note: The Ext Modem cable-993027 must be used and CTS must be High. If a modem or cable is used that does not support hardware flow control, then the Modem’s CTS line must be tied High in the interface cable.

Typical Review Messages:

CT001 Modem Connect	Modem has just connected at its preferred baud rate. The baud rate is a function of the UART Port Baud rate setting and the type of modem is not displayed.
CT001 Hang-up	The modem has hung up because of an error or because the remote PC has instructed that the connection be terminated.
CT001 Lost Carrier	The CD line on the modem has gone low, indicating the connection has been broken.
CT001 Modem Status nn	In detail mode only, the modem has returned a result code to the 3000. These codes are modem dependent but common ones are:
00 Modem is idle	06 No dial tone
01 Modem OK	07 Busy
02 Ring Signal detected	08 No Answer
03 No Carrier	90 Init string has been sent to the Modem.
04 Command string problem (Contact ID)	99 CTS has gone Low.

External Modem Options

Options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or Special options. Usually, only common options need be programmed.

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen.

CT001 Rings to
Answer: 000

This screen sets the number of rings to answer an incoming call. Legal values are between 001 and 015 rings.

CT001 Port ->
to use: 0

This screen sets the external port to be used in conjunction with the appropriate modem accessory cable. Legal port settings are 1 to 4 depending on the type of external UART Expander installed on the Control Module. Port 0 is not allowed. The port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Dataspeed) at which the UART will communicate with the modem. Depending on the modem type however, it is not necessarily the Baud rate of a modem connection. The setting will be chosen according to the type of modem being used and is selected by scrolling through the available options using the right arrow key. It is recommended that the Baud rate be set no higher than 9600 Baud.

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

External Modem Special Options

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options, when programming of special options is complete.

CT001 Dial PpDF
Options -> nnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default).
F	Force 300 Baud	Not used in "Ext. Modem" Comms Task.
T	Test Mode	Not used in "Ext. Modem" Comms Task.
M	Max Count	Not used in "Ext. Modem" Comms Task.
A	Abort Pre-dial	Not used in "Ext. Modem" Comms Task.
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 PABX No. ->
None

These screens allow the installer to define an optional PABX Access number and Call-back Telephone Number. When the Call-back number is defined, extra security is provided by forcing the task to ring back this number on a successful log-on sequence as an added precaution against "hacking".

CT001 PABX No. ->
TN000

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT001 Back No. ->
None

See Telephone Number Programming.

CT001 Back No. ->
TN000

NOTE: Callback **not** implemented in "Ext Modem" Comms Task Format.

CT001 Cust No.->
None

This screen allows the installer to specify the Telephone Number of the dialer line connected to the panel and is useful for reference purposes.

CT001 Cust No.->
TN000

CT001 Seize Aux
C01:X08

This screen allows an Auxiliary output to be specified that will turn on whenever the dialer line is seized and turn off whenever the dialer line is released.

CT001 DTMF Tone
Wait: 000/10 sec

This screen sets the time a task will wait to sense the DTMF tone when in fax bypass mode. The time is programmable from 1/10 second to 255/10ths of a second (25.5 secs). If this option is left at 000/10 then the default time of 5 seconds will be used.

The DTMF tone wait time is also used as the main dial tone wait time in Callback operation and is best left at its default value (000/10) if Callback is utilised.

If the phone is ringing whilst attempting a call back, the Model 3000 will wait till the ringing stops before trying to dial.

*NOTE: Fax Bypass **not** implemented in "Ext Modem" Comms Task Format.*

CT002 Single
DTMF Tone: 000

This screen allows the Installer to specify the DTMF tone which will be used to initiate the modem answer sequence in fax bypass mode and also selects the tone that will be used to initiate DTMF Control Mode. The programmed tone is the one that will initiate the modem connect sequence. The programmed tone plus one is the tone that will initiate DTMF Control Mode..

eg. if "005" is programmed, the DTMF digit 5 will be the Fax bypass tone in PC Direct and DTMF tone 6 will initiate DTMF Control Mode.

NOTE:

*DTMF Control mode **not** implemented in "Ext Modem" Comms Task Format.*

CT001 Line Test
Count: 000

This screen sets parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

CT001 Answer
Wait: 000/10 sec

This screen allows an answer wait time between 0 and 255/10ths of a second (25.5 seconds) to be programmed. The default is 0 seconds. When a non-zero answer wait time is programmed, upon answering the call and accessing the interpreter for upload/download, all incoming characters will be ignored until the answer wait time has expired. This is useful when connecting with a mobile data network where unnecessary additional characters are output immediately after modem connection.

The Answer Wait time is also used as the PABX dial tone wait in Callback operation and is best left at its default value (000/10) if Callback is utilised.

**CT001 .R..
Status -> nnnn**

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

“Inet” Comms Task Format

Purpose.

The purpose of the Inet Comms Task is to allow multiple panels to communicate alarm data and a limited amount of database editing commands to and from an automation package via an RS232 based network. The Inet Comms Task is available in Control Module firmware V3.5 or later.

Overview.

Inet is a Comms Task within the Model 3000/Access 4000. Inet is designed to allow up to 65000 panels to be addressed to a central point via RS232. Although 65000 panels can be individually addressed, the amount of traffic generated on a single RS232 link would exceed the practical limits of the communications network. Therefore a general limit of 300 panels per RS232 network is advised.

Inet can communicate alarm activity in both the IRfast and Contact ID formats (4+2 format NOT supported). When reporting via IRfast format Inet also provides the ability to send the raw text review event for that alarm activation. (Note that prior to V5, Inet was only supported in English language version)

Features.

- Full Duplex communications up to 9600 baud.
- Individual Alarm reporting from multiple panels to a single point via RS232.
- Individual reporting of all modules when using IRfast.
- Panel entity Control such as Areas, Doors and Auxiliaries.
- Permanent Connection.
- Automatic Backup task to IRFast and Contact ID via Dialer.

Connection.

The Inet format was initially developed to communicate via an ULTRAK RD19 Multiplexer to a PATRIOT II (V3) automation package. It has subsequently also been used to communicate to the PATRIOT automation software via:

- TCP/IP networks using a Thin Serial Server such as the Lantronix UDS-10.
- Corporate Wide Area Network via Microwave Modems.
- Corporate Wide Area Network via Satellite Modems.

Connection of the Model 3000/Access 4000 to the network is achieved via an RS232 UART Port.

See the current Product Catalogue for UART Interface board details including no. of Ports available on each version.

UART Interface board P/Ns: 995065, 995066, 995068, 995090 or 995091 for Type 2 Control Modules.

or P/Ns: 99065, 993066, 993068 for older Type 1 Control Modules.

The cable required will depend on the application.

See the Application Note “INET COMMS TASK AND PATRIOT AUTOMATION SOFTWARE” in the Applications section of the Programming and Reference Manual for details.

Configurations.

There are basically three typical system configurations, although the first is not practical it is the simplest method of using the Inet task.

1. A single Model 3000/Access 4000 panel is connected via RS232 to a PATRIOT PC. This is the most basic configuration and is given as an example only.
2. Multiple Model 3000/Access 4000 panels can communicate to PATRIOT via an RD19 MUX. When using a single RD19 up to 8 panels may be connected via RS232.
3. Up to 8 RD19 Multiplexers each supporting up to 8 Model 3000/Access 4000 panels can be connected to another RD19 which then connects to PATRIOT. By continuing this method in a “pyramid” style layout, it is possible to connect hundreds of panels back to the one common point.

Note that any of the above configurations can be extended by the use of protocol converters as discussed under “Network design considerations” on the following page.

Network design considerations.

Traffic.

Along with limitations of the protocol being used as discussed below, communications traffic is the biggest limitation of the Inet comms task. When designing a network that will involve the use of the Inet format, considerations must be made as to the expected levels of traffic during normal, peak and worst case scenarios of operation. For example, a small network of 10 panels, with less than 100 zones on each network would have a fairly minimal normal traffic level. Assuming a power failure occurred on every system at the same time, each panel would send up to 5 alarm message (depending on the number and type of expander used) back to the automation system at the same time. This would be a total of 50 messages that would all have to be processed and acknowledged. This is an example of a worst case scenario. To help deal with such a scenario, communication devices with their own internal buffers may be necessary. In addition to this the backup comms task may also be utilized to send the information via another Task.

RS232.

The RS232 protocol has a distance limitation by nature. The maximum reliable distance for RS232 is 15 metres (50 feet) @ 300 baud. Increases in baud rate will reduce this distance.

To increase the distance panels may be away from the device they are communicating with, converters are required. As to what type of converter is used depends mainly on application and cost.

Non RS232 Networks.

It is now more common for a TCP/IP network to be readily available in most installations.

In this case you would require a RS232 to TCP/IP converter such as a Lantronic UDS-10 or MSS100.

If a network is unavailable then a converter such as RS422, 485, or "short haul" type may be used. Such converters should firstly be checked for their specification and transparency for the signal they will carry.

Depending on the application, either the Model 3000/Access 4000, the Software and/or the communication protocol being used may be effected by any delays or infringement on the transmitted signal.

Comms Task format

CT002 Idle ->
Inet

Assign the “Inet” format to a spare Comms Task using the RIGHT ARROW key.

IMPORTANT NOTES:

- 1) Comms Task 1 is defaulted to “Insight” or “PCDirect” at the factory and should not be used for other formats.
- 2) A “Buffer” Comms Task is automatically configured in the next available spare Comms Task whenever the Inet Comms Task is set to Active. When Inet is used, ensure that another spare Comms Task is available. If no spare Comms Task is available, a “CTxx - Aborted. No Structure” message will be logged to Review when you attempt to set the Inet Comms Task to Active.

Inet Options

CT002 Idle ->
Inet

Options are reached by pressing HELP, “9” at the Active / Idle screen. Options are divided into common options and less common or Special options.

Special options are reached by pressing HELP, “9” twice at the Active / Idle screen.

A Backup Comms Task may be programmed by pressing HELP, “9” three times at the Active/Idle screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the Multiplexer or PC 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.

CT002 Baud ->
Rate: 2400

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Multiplexer or PC. The Baud Rate is selected by scrolling through the available options using the right arrow key. A maximum setting of 9600 Baud may be used, however a Baud rate of 2400 is recommended.

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

Inet Special Options

CT002 Client
Code: 0000

This screen sets the panels primary network address as well as the primary client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the “Multiple Area Client Code” is set, it is possible for a different client code to be used.

CT002 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

- M Multiple Area Codes
- If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not “0000”. If the Area Client code is “0000”, the Comms Task client code will be used. If this option is set to “n” then the Comms Task client code will always be used. (See Area Programming for more details of this application)

- L** **Look Ahead** Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if communication takes a long time to get through to the Central Station or if 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 O/C** This option selects general open and close reporting. Whenever **all** Areas that are programmed to report Open/Close, 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 as "Not General Area" and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.
- P** **Prevents Restores** This option prevents restores from triggering this Comms Task. Restores will be buffered and will be sent with the next report.
- N** **No Area Still Open** 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. If it is necessary that these events be reported, an additional Comms Task should be programmed using the IRfast format which supports them.

**CT002 Area List
Filter: AL002**

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

**CT002 EOA.....
Efilt-> nnnnnnnn**

The "Extra Filter" screen option allows a Comms Task to only respond to certain types of events.

- E** **Extra Filter** This option enables Extra Filter options. If left at "n", no extra filtering is used. ie. normal operation.
- O** **Opens/Closes** This option enables Opens/Closes reports to be sent via this Comms Task.
- A** **Alarms** This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.
- .** **Spare** Spare options for future filters. Leave set to "n".

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Inet, set the Securitel Comms Task with the "E" and "O" Extra Filter options and the Inet Comms Task with the "E" and "A" Extra Filter options.

CT002 Mapping ->
Standard

This screen determines the 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 as listed in the following table:

- Contact ID Mapping options:
- Standard
 - MAP-1
 - School 30
 - School 19
 - SIMS II
 - Access-1 (V3 or later)
 - Pacom (V3 or later)
 - Standard-2 (V3.5 or later)
 - School 19B (V3.59 or later)

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

Because IRfast format doesn’t require mapping, this mapping selection is used to determine the Contact ID mapping to be used when Contact ID information is to be sent in addition to native IRfast information.

Inet Extra Options

The Extra options may be programmed by pressing HELP, “9” three times at the Active / Idle screen.

CT002 T.....EN
Opts -> nnnnnnnn

The “Inet Options” screen sets the following specific Inet options.

- | | | |
|---|------------|--|
| T | Translate. | This option must be set to YES for the Inet Comms Task to operate correctly. |
| E | Encrypt. | This option is set to YES to allow an Encryption key (programmed in the next screen) to be sent with each data packet. Note that if set to Yes, encryption must be available and enabled in the Automation software that the Inet Comms Task is communication with. (V4 or later only) |
| N | No CRC | This option is for diagnostic purposes only and should not be enabled unless instructed to do so by the manufacturer. |

CT002 Encryption
Key: 00000000

This screen sets the Encryption key to be used when the “E”ncrypt option above is set to YES. The Encryption key is programmed as eight Hexadecimal digits and must be the same as the encryption key programmed in the Automation software that the Inet Comms Task is communicatint with. (V4 or later only)

CT002 Alarm
Format: 0

- This screen selects the primary reporting format to be used in this Inet installation.
- 0 IRfast.
 - 1 Text.
 - 2 Contact ID.
 - 3 Time Only (Not yet implemented)

**CT002 Ack Time
(sec) 000**

This screen sets the amount of time that Inet will wait for an acknowledge from the PC to an alarm transmission. Valid values of 5 to 255 seconds will be accepted. If left at 000, then a value of 20 seconds will be assumed.

**CT002 Test time
(sec) 000**

This screen sets the time between TEST reports that are sent to the automation system. When a valid communication is sent, this timer is reset. Valid values between 5 to 255 seconds will be accepted. If left at 000, then a value of 30 seconds will be assumed.

**CT002 Pace Time
(100mS) 000**

This screen is used for diagnostic purposes only and should be left at 000. Valid values are between 1 to 255 in 100mS increments. If left at 000, then a value of 5 seconds will be assumed.

**CT002 Backup
Task: CT000**

This screen allows the Installer to specify which Comms Task is to be used as the Backup Comms Task. A Backup Comms Task for Inet can be IRfast Backup, Contact ID Backup or GSM modem.

IMPORTANT NOTE: Whenever the Inet Comms Task is used, at least 1 spare Comms Task must be left available. Inet, when set to "Active" will automatically generate a "Buffer" Comms Task in the next available Comms Task position. While Inet is active this Task cannot be set to Idle or deleted.

Backup Tasks.

The Inet comms task allows a dialer backup task to be assigned should Inet fail to communicate successfully with the automation system. Inet will attempt to re-send any unacknowledged alarm message twice. If an acknowledge is still not received the alarm message will then be sent via the appropriate backup task if programmed. Backup Comms Tasks are available in IRFast, Contact ID and GSM modem formats. (GSM requires V3.5 or later)

Diagnostics**CT002 . . R.
Status -> nnnn**

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

R **Retry**

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

. **Spare**

Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Accept” Comms Task Format (Previously Comm-Pass)**Overview**

Selecting the Comms Task “Accept” allows communications with the Accept System Management Software. This Windows based software package is installed on a PC and allows Database maintenance, Control, System monitoring and alarm handling. A UART board option is required to provide the Serial Data port for connection to the PC Serial Port.

NOTE:

Only available in V2 to V5.7.

In V6 or later firmware, the Accept Comms Task format has been removed. To communicate with Accept or AcceptNet Software, the Control Module Firmware must be in the range of V2.0 to V5.7.

In circumstances where V6 or later firmware is required on sites where it is intended to utilize the Accept Comms Task format, contact Inner Range for advice.

Important

1. With V2 firmware only the Access 4000 model can connect to Accept V2. With V3 the Model 3000 and Access 4000 can connect to Accept V3.
2. The Model 3000 Control Module firmware must be at least V3.0.

Accept Options

CT001 Idle ->
Accept

Options are reached by pressing HELP, “9” on the Active/Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need be programmed.

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen. Changes will only take effect if the Comms Task is idle.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the PC 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.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the PC. The Baud Rate is chosen by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended.

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

Accept Special Options

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001 Client
Code : 0000

This screen sets the Client Code to be used for this Comms Task. The Client Code is programmable in decimal from 0001 to 9999. **A Client Code of “0001” must be used for ACCEPT.**

CT001 MLGPN...
Ropt s-> nnnnnnnn

This screen sets various reporting options:

These should all be set to “n” for ACCEPT.

M	Multiple Area	Multiple Area client codes are not used in the Accept format. This option should be set to “n”.
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 Area 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 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is selected, only the information from Areas in the specified Area List above will be sent using this Comms Task. **Leave set to AL000 for ACCEPT.**

CT001 EOA.....
Efilt ->nnnnnnnn

The “Extra Filter” screen options allow a Comms Task to only respond to certain types of events. For example, to set up a Model 3000 so that only alarms/tampers/isolations go via Direct Line, set the Direct Line Comms Task with the “E” and “A” options set to “Y”. Opens/Closes will not be sent.

These should all be set to “n” for ACCEPT.

E	Extra Filters	This option enables the Extra filter options. If left at “n”, no filtering is used. ie. normal operation.
O	Open/Closes	This option enables Open/Closes to be sent via this Comms Task.
A	Alarms/T/I	This option enables Alarms/Tampers/ Isolations to be sent via this Comms Task.
.	Spare	Spare for future developments. This option must be set to “n”.

Accept - Extra Options

Extra Options are reached by pressing HELP, “9” *three times* at the Active/Idle screen or by pressing HELP, “9” from the Special Options screen. HELP, “0” will take you back to the Special Options screen when programming of Extra Options is complete.

CT001 . . . SPCKD
Sopts ->nnnnnnnn

The Extra Options screen allows the programming of settings which are unique to Accept.

S	Single User	Set this option to “Y” . This option set to “Y”es by default in V4.0 or later.
P	Packet Numbers	This option enables packet numbers in Debug mode. Leave set to “n”.
C	CRC On	This option enables CRC in Debug mode. Leave set to “n”.
K	Key Default	This option defaults the Encryption Key. Set this option to “Y” on the first communication with ACCEPT. Having connected, the system will automatically reset this flag to “n”. This option set to “Y”es by default in V4.0 or later.
D	Debug Mode	This is a factory facility only. Leave set to “n”.
.	Spare	Spare for future use. Set to “n”.

Diagnostics

CT001 . . R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

"Poll-Data" Comms Task Format

The "Poll-Data" format allows an external intelligent system to obtain alarm information from the Model 3000 or Access 4000 using one of the UART Ports. The external system regularly polls the panel for alarm data, thereby ensuring that both systems are aware that the other is operational. A simple protocol provides for error free transfer of alarms. At this time, alarm information can be returned in the Contact ID format or as system text.

IMPORTANT NOTE: If the external system is being connected to a Model 3000/Access 4000 Ethernet UART board (Part No. 995090 or 995091), the cable must be connected to PORT 1.

Compatible external systems.

Guardall (New Zealand) Tripad.

Provides a supervised communications link for the transmission of Alarms & other Events to Alarm Monitoring Software via TCP/IP and Ethernet based local and wide area networks (LANs and WANs).

This allows existing Corporate or Public networks to be used for alarm monitoring.

The Tripad can also connect to a second 3000/Access 4000 UART Port to provide for connection of Upload/Download software over the same network.

Santana CCTV Camera Management System interface.

Provides a supervised communications link that allows 3000/Access 4000 Alarms and other Events to control operations on a CCTV Camera controller such as a MAX1000. The Santana interface translates the panel's Contact ID data into the required Camera Management System commands.

The RS232 connection between the 3000/Access 4000 UART Port and the Santana Interface can be via TCP/IP using suitable protocol converters.

Operation

All characters sent or received are displayable ASCII characters. All data from the external system begins with a line-feed and ends with a carriage return. The maximum number of characters that may be sent to the external system in one packet is 160 characters.

Communication is always initiated by the external system sending a single character command. The panel will reply with a multiple character packet within 2 seconds maximum. The 3000/4000 will discard any characters received whilst it is sending a reply.

The 3000/4000 expects a legal command every 30 seconds. If a command is not received within 30 seconds the panel considers communications to have failed and sets the panel Comms Fail system input to the alarm condition. A legal poll will restore the alarm condition.

Backup Comms Task

A backup Comms Task can be defined if desired. If no valid poll has been received for 30 seconds (60 seconds on startup), the UART problems input will be placed in alarm and the backup Comms Task will be triggered. Alarms will now be sent via the backup Comms Task. When a valid poll is next received, if the backup Comms Task has not caught up yet then a "No Data" reply will be given. If a backup Comms Task has caught up, it will be terminated and control will be returned to the Poll Data Comms Task. The UART problems input will then be restored.

Poll-Data Options

CT001 Idle ->
Poll-Data

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

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

A Backup Comms Task may be programmed by pressing HELP, "9" three times at the Active/Idle screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the Tripad 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.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Tripad. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended. *See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1]*

Poll-Data Special Options

CT001 Client
Code: 0000

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

M Multiple Area Codes

If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)

L Look Ahead

Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if communication takes a long time to get through to the Central Station or if 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 O/C

This option selects general open and close reporting. Whenever **all** Areas that are programmed to report Open/Close 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 as “Not General Area” and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming “Not General Area” option for details.
- P

Prevents Restores

This option prevents restores from triggering this Comms Task. Restores will be buffered and will be sent with the next report.
- N

No Area Still Open

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. If it is necessary that these events be reported, an additional Comms Task should be programmed using the IRfast format which supports them.

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA.....
Efilt-> nnnnnnnn

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

- E

Extra Filter

This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.
- O

Opens/Closes

This option enables Opens/Closes reports to be sent via this Comms Task.
- A

Alarms

This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.
- .

Spare

Spare options for future filters. Leave set to “n”.

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Poll Data, set the Securitel Comms Task with the “E” and “O” Extra Filter options and the Poll Data Comms Task with the “E” and “A” Extra Filter options.

CT001 Mapping ->
Standard

This screen determines the 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 as follows:

-Standard	-Access-1	(V3 or later)
-MAP-1	-Pacom	(V3 or later)
-School 30	-Standard-2	(V3.5 or later)
-School 19	-School 19B	(V3.59 or later)
-SIMS II		

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

Backup Comms Task

A Backup Comms Task may be programmed by pressing HELP, “9” three times at the Active / Idle screen.

**CT001 Backup
Task: CT000**

This screen allows the Installer to specify which Comms Task is to be used as the Backup Comms Task.

Diagnostics

**CT001 .R..
Status -> nnnn**

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

“PACOM” Comms Task Format

Overview:

The PACOM Comms Task format is used to transfer alarms to, and accept commands from, a Pacom RTU. Connection is via Serial RS232 from a Concept 4000 UART Port to the Pacom RTU “Network” Port.

The Pacom RTU regularly polls the panel for alarm data, thereby ensuring that both systems are aware that the other is operational. A simple protocol provides for error free transfer of alarms. The alarm information is returned in the Contact ID format.

Up to 255 unique Zone Inputs can be monitored. A special “Pacom” Contact ID map is utilized that caters for the Concept Modules normally installed in the types of sites that use the Pacom RTU product for alarm transmissions. *Details of the Contact ID mapping is provided in the tables at the rear of this document.*

The format also allows for Area arm/disarm and Zone isolate/de-isolate commands to be sent from the Central Monitoring station to the panel.

Enquiries regarding the PACOM format should be directed to your distributor or the manufacturer.

Concept 4000 Control Module Firmware:

EPROM Firmware (U8):	Must be V7.0 or later.	
Options Micro Chip (U14)	If 128k Memory fitted:	Must be CEPIC_18 V2.14 or later.
	If 512k Memory fitted:	Must be CEPIC_19 V2.14 or later.

Connections:

The UART Serial Port and the RTU are connected as follows:			Pin-out of Port 1 to 4 UART connectors. (Viewed from component side of PCB.)		
<u>Concept UART Port.</u>		<u>Pacom RTU “Network” Port.</u>			
10-way Header.		25-way “D” connector.			
3	Rx	-----	2	Tx	
5	Tx	-----	3	Rx	
6	CTS	-----	20	DTR	
9	Gnd	-----	7	Gnd	
			Pin	1. DCD	2 DSR
				3. RXD	4 RTS
				5. TXD	6 CTS
				7. DTR	8 RI
				9. GND	10 n.c

Pacom RTU settings:

The Pacom RTU Network Port must be programmed with the following settings:	
Protocol:	General Purpose Driver
Baud Rate:	Same as Pacom Comms Task Baud rate setting.
Data Bits:	8
Stop Bits:	1
Parity:	None
Receive Buffer Size:	Refer to Pacom RTU documentation.
Maximum Idle Time:	Refer to Pacom RTU documentation.
Physical Layer Protocol:	EIA RS232C
Callback Time:	Refer to Pacom RTU documentation.
Driver Type:	Challenger
SCC Reset Time when Offline:	Refer to Pacom RTU documentation.

Pacom Options

CT001 Idle ->
Pacom

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

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

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the Pacom RTU 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.

IMPORTANT NOTE:

If an Ethernet UART is used, Port 1 must be selected for the Pacom Comms Task.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Pacom RTU. The Baud Rate is selected by scrolling through the available options using the right arrow key. This option must be set to the same baud rate as that set for the Pacom RTU Network Port.

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

Pacom Special Options

CT001 Client
Code: 0000

This screen sets the client code to be used for this Comms Task.

This option is not used in the Pacom Comms Task.

CT001 MLGPND..
Ropts -> nnnnnnnn

This screen sets various reporting options:

These options should only be set in consultation with the Monitoring Station.

M Multiple Area Codes

Multiple Area client codes are not used in the Pacom Comms Task.

L Look Ahead

Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if communication takes a long time to get through to the Central Station or if 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 O/C

This option selects general open and close reporting. Whenever **all** Areas that are programmed to report Open/Close 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 as "Not General Area" and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.

- P

Prevents Restores

This option prevents restores from triggering this Comms Task. Restores will be buffered and will be sent with the next report.
- N

No Area Still Open

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. If it is necessary that these events be reported, an additional Comms Task should be programmed using the IRfast format which supports them.
- D

Delay Reports
(V5 or later)

This option enables Delayed Reporting (Dial Holdoff) for this Comms Task.
See “Delay Report” in Process Group Extra Options (RNED...L screen) for details.

**CT001 Area List
Filter: AL002**

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.
This option should only be set in consultation with the Monitoring Station.

**CT001 EOA.....
Efilt-> nnnnnnnn**

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.
These options should only be set in consultation with the Monitoring Station.

- E

Extra Filter

This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.
- O

Opens/Closes

This option enables Opens/Closes reports to be sent via this Comms Task.
- A

Alarms

This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.
- .

Spare

Spare options for future filters. Leave set to “n”.

For example: To configure a system so that all openings and closings are sent via one reporting format and all alarms/tampers/isolates are sent via another format, set one Comms Task with the “E” and “O” Extra Filter options and the other Comms Task with the “E” and “A” Extra Filter options.

**CT001 Mapping ->
Pacom**

This screen determines the Contact ID input mapping for this Comms Task. The “Pacom” map must be selected as this is the only map supported by the Pacom RTU.

For mapping details refer to the tables at the rear of this document.

**CT001 Network
Address: 000**

This screen determines the network address for communications with the Pacom RTU, and must be set to 000.

**CT001 Encryption
Key: 000**

This option is not used in the Pacom Comms Task.

Diagnostics

**CT001 Idle ->
Pacom**

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

**CT001 .R..
Status -> nnnn**

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Pacom” Contact ID Map.

The following pages show details of the Pacom Contact ID Map. This map is designed specifically to cater for the types of sites that utilize the Pacom RTU for alarm transmissions. The Pacom RTU limits reporting to 256 unique Zone Inputs, and also has limits on how System Inputs can be reported.

Zone Inputs.

The Pacom map reports unique Zone/Point numbers for the following Zones:

- All Control Module Zones.
- All Zones on Big Expanders 1 to 3.
- All Zones on Mini Expanders 1 to 8.
- Zones 1, 5, 6 & 7 on Reader Modules 1 to 20. (The “Reed” and “Tongue Sense/General Purpose” Zones)

The tables on pages 5 and 6 refer to these Modules as the “Primary Modules”. These are the Modules intended for use with this mapping scheme.

Other Modules may be used. However, care and planning must be exercised to ensure that Module numbers are chosen that do not conflict with Zone/Point numbers used for any of the primary Modules installed in the same system.

e.g. If an Analogue Module was installed, and only 2 Big Expanders were installed, then the Analogue Module could be made Module number 5 and report on Points 81 to 86. i.e. The Point numbers set aside for Big Expander no. 3. (Note that you would need to check that the memory configuration supports the higher Module number for the Analogue Module)

System Inputs.

System Input reporting is limited to a smaller number of alarm types and are generally reported on a “per Module” basis rather than as unique system inputs. In most cases, the Point numbers are used to identify the specific Module:

- Point 1 to 64: Up to 64 “Remote Arming Stations” (LCD Terminals, Reader Modules and Intelligent 4-Door Access Modules)
- Point 65 to 79: Up to 15 “Data Gathering Panels” (Big Expanders, Mini Expanders and all other Module types)
- Point 80: The Control Module.

As with Zone Input mapping above, if Modules other than the Primary Modules are installed, care must be taken to avoid Point numbers being used for more than one Module.

Zone Input Mapping. Points 1 to 144.

Point No	Zone Input Mapping		Point No	Zone Input Mapping		Point No	Zone Input Mapping	
	Primary Modules	Other Modules		Primary Modules	Other Modules		Primary Modules	Other Modules
1	C01:Z01		49	B02:Z01	?03:Z01	97	B03:Z17	?06:Z01
2	C01:Z02		50	B02:Z02	?03:Z02	98	B03:Z18	?06:Z02
3	C01:Z03		51	B02:Z03	?03:Z03	99	B03:Z19	?06:Z03
4	C01:Z04		52	B02:Z04	?03:Z04	100	B03:Z20	?06:Z04
5	C01:Z05		53	B02:Z05	?03:Z05	101	B03:Z21	?06:Z05
6	C01:Z06		54	B02:Z06	?03:Z06	102	B03:Z22	?06:Z06
7	C01:Z07		55	B02:Z07	?03:Z07	103	B03:Z23	?06:Z07
8	C01:Z08		56	B02:Z08	?03:Z08	104	B03:Z24	?06:Z08
9	C01:Z09		57	B02:Z09	?03:Z09	105	B03:Z25	?06:Z09
10	C01:Z10		58	B02:Z10	?03:Z10	106	B03:Z26	?06:Z10
11	C01:Z11		59	B02:Z11	?03:Z11	107	B03:Z27	?06:Z11
12	C01:Z12		60	B02:Z12	?03:Z12	108	B03:Z28	?06:Z12
13	C01:Z13		61	B02:Z13	?03:Z13	109	B03:Z29	?06:Z13
14	C01:Z14		62	B02:Z14	?03:Z14	110	B03:Z30	?06:Z14
15	C01:Z15		63	B02:Z15	?03:Z15	111	B03:Z31	?06:Z15
16	C01:Z16		64	B02:Z16	?03:Z16	112	B03:Z32	?06:Z16
17	B01:Z01	?01:Z01	65	B02:Z17	?04:Z01	113	M01:Z01	?07:Z01
18	B01:Z02	?01:Z02	66	B02:Z18	?04:Z02	114	M01:Z02	?07:Z02
19	B01:Z03	?01:Z03	67	B02:Z19	?04:Z03	115	M01:Z03	?07:Z03
20	B01:Z04	?01:Z04	68	B02:Z20	?04:Z04	116	M01:Z04	?07:Z04
21	B01:Z05	?01:Z05	69	B02:Z21	?04:Z05	117	M01:Z05	?07:Z05
22	B01:Z06	?01:Z06	70	B02:Z22	?04:Z06	118	M01:Z06	?07:Z06
23	B01:Z07	?01:Z07	71	B02:Z23	?04:Z07	119	M01:Z07	?07:Z07
24	B01:Z08	?01:Z08	72	B02:Z24	?04:Z08	120	M01:Z08	?07:Z08
25	B01:Z09	?01:Z09	73	B02:Z25	?04:Z09	121	M02:Z01	?07:Z09
26	B01:Z10	?01:Z10	74	B02:Z26	?04:Z10	122	M02:Z02	?07:Z10
27	B01:Z11	?01:Z11	75	B02:Z27	?04:Z11	123	M02:Z03	?07:Z11
28	B01:Z12	?01:Z12	76	B02:Z28	?04:Z12	124	M02:Z04	?07:Z12
29	B01:Z13	?01:Z13	77	B02:Z29	?04:Z13	125	M02:Z05	?07:Z13
30	B01:Z14	?01:Z14	78	B02:Z30	?04:Z14	126	M02:Z06	?07:Z14
31	B01:Z15	?01:Z15	79	B02:Z31	?04:Z15	127	M02:Z07	?07:Z15
32	B01:Z16	?01:Z16	80	B02:Z32	?04:Z16	128	M02:Z08	?07:Z16
33	B01:Z17	?02:Z01	81	B03:Z01	?05:Z01	129	M03:Z01	?08:Z01
34	B01:Z18	?02:Z02	82	B03:Z02	?05:Z02	130	M03:Z02	?08:Z02
35	B01:Z19	?02:Z03	83	B03:Z03	?05:Z03	131	M03:Z03	?08:Z03
36	B01:Z20	?02:Z04	84	B03:Z04	?05:Z04	132	M03:Z04	?08:Z04
37	B01:Z21	?02:Z05	85	B03:Z05	?05:Z05	133	M03:Z05	?08:Z05
38	B01:Z22	?02:Z06	86	B03:Z06	?05:Z06	134	M03:Z06	?08:Z06
39	B01:Z23	?02:Z07	87	B03:Z07	?05:Z07	135	M03:Z07	?08:Z07
40	B01:Z24	?02:Z08	88	B03:Z08	?05:Z08	136	M03:Z08	?08:Z08
41	B01:Z25	?02:Z09	89	B03:Z09	?05:Z09	137	M04:Z01	?08:Z09
42	B01:Z26	?02:Z10	90	B03:Z10	?05:Z10	138	M04:Z02	?08:Z10
43	B01:Z27	?02:Z11	91	B03:Z11	?05:Z11	139	M04:Z03	?08:Z11
44	B01:Z28	?02:Z12	92	B03:Z12	?05:Z12	140	M04:Z04	?08:Z12
45	B01:Z29	?02:Z13	93	B03:Z13	?05:Z13	141	M04:Z05	?08:Z13
46	B01:Z30	?02:Z14	94	B03:Z14	?05:Z14	142	M04:Z06	?08:Z14
47	B01:Z31	?02:Z15	95	B03:Z15	?05:Z15	143	M04:Z07	?08:Z15
48	B01:Z32	?02:Z16	96	B03:Z16	?05:Z16	144	M04:Z08	?08:Z16

Continued on the following page.

Zone Input Mapping. Points 145 to 255.

Point No	Zone Input Mapping		Point No	Zone Input Mapping		Point No	Zone Input Mapping	
	Primary Modules	Other Modules		Primary Modules	Other Modules		Primary Modules	Other Modules
145	M05:Z01	?09:Z01	193	R05:Z01	?12:Z01	241	R17:Z01	?15:Z01
146	M05:Z02	?09:Z02	194	R05:Z05	?12:Z02	242	R17:Z05	?15:Z02
147	M05:Z03	?09:Z03	195	R05:Z06	?12:Z03	243	R17:Z06	?15:Z03
148	M05:Z04	?09:Z04	196	R05:Z07	?12:Z04	244	R17:Z07	?15:Z04
149	M05:Z05	?09:Z05	197	R06:Z01	?12:Z05	245	R18:Z01	?15:Z05
150	M05:Z06	?09:Z06	198	R06:Z05	?12:Z06	246	R18:Z05	?15:Z06
151	M05:Z07	?09:Z07	199	R06:Z06	?12:Z07	247	R18:Z06	?15:Z07
152	M05:Z08	?09:Z08	200	R06:Z07	?12:Z08	248	R18:Z07	?15:Z08
153	M06:Z01	?09:Z09	201	R07:Z01	?12:Z09	249	R19:Z01	?15:Z09
154	M06:Z02	?09:Z10	202	R07:Z05	?12:Z10	250	R19:Z05	?15:Z10
155	M06:Z03	?09:Z11	203	R07:Z06	?12:Z11	251	R19:Z06	?15:Z11
156	M06:Z04	?09:Z12	204	R07:Z07	?12:Z12	252	R19:Z07	?15:Z12
157	M06:Z05	?09:Z13	205	R08:Z01	?12:Z13	253	R20:Z01	?15:Z13
158	M06:Z06	?09:Z14	206	R08:Z05	?12:Z14	254	R20:Z05	?15:Z14
159	M06:Z07	?09:Z15	207	R08:Z06	?12:Z15	255	R20:Z06	?15:Z15
160	M06:Z08	?09:Z16	208	R08:Z07	?12:Z16			
161	M07:Z01	?10:Z01	209	R09:Z01	?13:Z01			
162	M07:Z02	?10:Z02	210	R09:Z05	?13:Z02			
163	M07:Z03	?10:Z03	211	R09:Z06	?13:Z03			
164	M07:Z04	?10:Z04	212	R09:Z07	?13:Z04			
165	M07:Z05	?10:Z05	213	R10:Z01	?13:Z05			
166	M07:Z06	?10:Z06	214	R10:Z05	?13:Z06			
167	M07:Z07	?10:Z07	215	R10:Z06	?13:Z07			
168	M07:Z08	?10:Z08	216	R10:Z07	?13:Z08			
169	M08:Z01	?10:Z09	217	R11:Z01	?13:Z09			
170	M08:Z02	?10:Z10	218	R11:Z05	?13:Z10			
171	M08:Z03	?10:Z11	219	R11:Z06	?13:Z11			
172	M08:Z04	?10:Z12	220	R11:Z07	?13:Z12			
173	M08:Z05	?10:Z13	221	R12:Z01	?13:Z13			
174	M08:Z06	?10:Z14	222	R12:Z05	?13:Z14			
175	M08:Z07	?10:Z15	223	R12:Z06	?13:Z15			
176	M08:Z08	?10:Z16	224	R12:Z07	?13:Z16			
177	R01:Z01	?11:Z01	225	R13:Z01	?14:Z01			
178	R01:Z05	?11:Z02	226	R13:Z05	?14:Z02			
179	R01:Z06	?11:Z03	227	R13:Z06	?14:Z03			
180	R01:Z07	?11:Z04	228	R13:Z07	?14:Z04			
181	R02:Z01	?11:Z05	229	R14:Z01	?14:Z05			
182	R02:Z05	?11:Z06	230	R14:Z05	?14:Z06			
183	R02:Z06	?11:Z07	231	R14:Z06	?14:Z07			
184	R02:Z07	?11:Z08	232	R14:Z07	?14:Z08			
185	R03:Z01	?11:Z09	233	R15:Z01	?14:Z09			
186	R03:Z05	?11:Z10	234	R15:Z05	?14:Z10			
187	R03:Z06	?11:Z11	235	R15:Z06	?14:Z11			
188	R03:Z07	?11:Z12	236	R15:Z07	?14:Z12			
189	R04:Z01	?11:Z13	237	R16:Z01	?14:Z13			
190	R04:Z05	?11:Z14	238	R16:Z05	?14:Z14			
191	R04:Z06	?11:Z15	239	R16:Z06	?14:Z15			
192	R04:Z07	?11:Z16	240	R16:Z07	?14:Z16			

System Input Mapping. Control Module / LCD Terminal / Touchscreen.

System Input		Description	Event Code	Zone/Point No.	Notes
Module	Input				
		NOTES:			
		Group Byte = 00 for all system inputs.		Zone 1 to 64:	"RAS" 1 to 64 Event
				Zone 65 to 79:	"DGP" 1 to 15 Event
				Zone 80:	"Alarm Panel" Event
		Control Module			
C01	S01	Cabinet Tamper	145	80	
C01	S02	Internal Siren Tamper	320	80	
C01	S03	External Siren Tamper	320	80	
C01	S04	AC Fail - Mains Power	301	80	
C01	S05	Low Battery	302	80	
C01	S06	LAN Fuse Tamper	300	80	
C01	S07	Detector Fuse Tamper	300	80	
C01	S08	LAN Comms Status	143	80	
C01	S09	Battery Test Fail	309	80	
C01	S10	Checksum Alteration	304	80	
C01	S11	System Power on reset	305	80	
C01	S12	Line Fault	351	0	
C01	S13	UART 1 Problems	330	80	
C01	S14	UART 2 Problems	330	80	
C01	S15	UART 3 Problems	330	80	
C01	S16	UART 4 Problems	330	80	
C01	S17	Zone self test fail	307	80	
C01	S18	Time Report	602	0	
C01	S19	Manual Trigger	602	0	
C01	S20	Comms Backup	350	80	
C01	S21	Comms Fail	354	80	
C01	S22	Phone	351	80	
C01	S23	Module Substitution	303	80	
C01	S24	Pre-arm 1 Test Start	150	134	
C01	S25	Pre-arm 1 Test Fail	150	135	
C01	S26	Pre-arm 2 Test Start	150	137	
C01	S27	Pre-arm 2 Test Fail	150	138	
C01	S28	Request for Service	411	0	
C01	S29	Intell. Reader Problem	330	80	
C01	S30	GSM Problem	330	80	
C01	S31	Expander Power Test	150	80	
C01	S32	Spare	150	80	
		LCD Terminal			
Txx	S01	Cabinet Tamper	145	1 to 64	e.g.
Txx	S02	Panic	120	1 to 64	T01 = Zone 1
Txx	S03	Door Forced	145	1 to 64	T16 = Zone 16
Txx	S04	Door Held	145	1 to 64	
Txx	S05	Operator Duress	120	1 to 64	
Txx	S06	Deadman	102	143	
Txx	S07	Lockout	145	1 to 64	
Txx	S08	LAN Comms Problem	143	1 to 64	
		Touchscreen Terminal			
Kxx	S01	Cabinet Tamper	145	1 to 64	e.g.
Kxx	S02	Panic	120	1 to 64	K01 = Zone 1
Kxx	S03	Door Forced	145	1 to 64	K16 = Zone 16
Kxx	S04	Door Held	145	1 to 64	
Kxx	S05	Operator Duress	120	1 to 64	
Kxx	S06	Deadman	102	143	
Kxx	S07	Lockout	145	1 to 64	
Kxx	S08	LAN Comms Problem	143	1 to 64	

System Input Mapping. Expander / Access(Reader) Module / Wireless Network / Mini Exp.

System Input		Description	Event Code	Zone/Point No.	Notes
Module	Input				
		Big Expander Module (32 Zones)			
Bxx	S01	Cabinet Tamper	145	65 to 79	e.g.
Bxx	S02	Internal Siren Tamper	320	65 to 79	B01 = Zone 65
Bxx	S03	External Siren Tamper	320	65 to 79	B02 = Zone 66
Bxx	S04	AC Fail	301	65 to 79	B03 = Zone 67
Bxx	S05	Low Battery	302	65 to 79	B04 = Zone 68
Bxx	S06	LAN Fuse	300	65 to 79	
Bxx	S07	Detector Fuse	300	65 to 79	
Bxx	S08	LAN Comms Problem	143	65 to 79	
Bxx	S09	Battery Test	309	65 to 79	
Bxx	S10	Program Change	304	65 to 79	
		1 / 2 Door Access Module			e.g.
Rxx	S01	Cabinet Tamper	145	17 to 64	R01 = Zone 17
Rxx	S02	Low Volts	302	17 to 64	R16 = Zone 32
Rxx	S03	1st Door Forced	145	17 to 64	
Rxx	S04	1st Door Held	145	17 to 64	
Rxx	S05	2nd Door Forced	145	17 to 64	
Rxx	S06	2nd Door Held	145	17 to 64	
Rxx	S07	Illegal Card	145	17 to 64	
Rxx	S08	LAN Comms Problem	143	17 to 64	
		Wireless Network Module			e.g.
Nxx	S01	Timeout	143	65 to 79	N01 = Zone 65
Nxx	S02	Low Battery	302	65 to 79	N13 = Zone 77
Nxx	S03	Spare	140	65 to 79	
Nxx	S04	Spare	140	65 to 79	
		Mini Expander Module (8 Zone)			e.g.
Mxx	S01	Low Volts	302	69 to 79	M01 = Zone 69
Mxx	S02	Zone1 Extra	145	69 to 79	M08 = Zone 76
Mxx	S03	Zone2 Extra	145	69 to 79	
Mxx	S04	Zone3 Extra	145	69 to 79	
Mxx	S05	Zone4 Extra	145	69 to 79	
Mxx	S06	Zone5 Extra	145	69 to 79	
Mxx	S07	Zone6 Extra	145	69 to 79	
Mxx	S08	Zone7 Extra	145	69 to 79	
Mxx	S09	LAN Comms Problem	143	69 to 79	
		Expander Module (16 Zone)			e.g.
Exx	S01	Cabinet Tamper	145	65 to 79	E01 = Zone 65
Exx	S02	Internal Siren Tamper	320	65 to 79	E15 = Zone 79
Exx	S03	External Siren Tamper	320	65 to 79	
Exx	S04	AC Fail	301	65 to 79	
Exx	S05	Low Battery	302	65 to 79	
Exx	S06	LAN Fuse	300	65 to 79	
Exx	S07	Detector Fuse	300	65 to 79	
Exx	S08	LAN Comms Problem	143	65 to 79	
Exx	S09	Battery Test	309	65 to 79	
Exx	S10	Program Change	304	65 to 79	

System Input Mapping. IFDAM / Analogue Module / LAN PS / RF Expander.

System Input		Description	Event Code	Zone/Point No.	Notes
Module	Input				
		Intelligent 4-Door Access Module			e.g.
Ixx	S01	Lock Tamper. Door #1	145	33 to 64	I01 = Zone 33
Ixx	S02	Lock Tamper. Door #2	145	33 to 64	I32 = Zone 64
Ixx	S03	Lock Tamper. Door #3	145	33 to 64	
Ixx	S04	Lock Tamper. Door #4	145	33 to 64	
Ixx	S05	Door Forced. Door #1	145	33 to 64	
Ixx	S06	Door Forced. Door #2	145	33 to 64	
Ixx	S07	Door Forced. Door #3	145	33 to 64	
Ixx	S08	Door Forced. Door #4	145	33 to 64	
Ixx	S09	Door Open Too Long. D #1	145	33 to 64	
Ixx	S10	Door Open Too Long. D #2	145	33 to 64	
Ixx	S11	Door Open Too Long. D #3	145	33 to 64	
Ixx	S12	Door Open Too Long. D #4	145	33 to 64	
Ixx	S13	Invalid Card. Door #1	145	33 to 64	
Ixx	S14	Invalid Card. Door #1	145	33 to 64	
Ixx	S15	Invalid Card. Door #1	145	33 to 64	
Ixx	S16	Invalid Card. Door #1	145	33 to 64	
Ixx	S17	Cabinet Tamper.	145	33 to 64	
Ixx	S18	General Lock Fault.	145	33 to 64	
Ixx	S19	Battery Test Fail.	309	33 to 64	
Ixx	S20	AC Fail - Mains Power.	301	33 to 64	
Ixx	S21	Low Battery.	302	33 to 64	
Ixx	S22	LAN Fuse Tamper.	300	33 to 64	
Ixx	S23	Detector Fuse Tamper.	300	33 to 64	
Ixx	S24	LAN Comms Problem.	143	33 to 64	
		Analogue Module			
Qxx	S01	Cabinet Tamper	145	65 to 79	e.g.
Qxx	S02	Low Volts	302	65 to 79	Q01 = Zone 65
Qxx	S03	LAN Comms Problem	143	65 to 79	Q15 = Zone 79
		LAN Power Supply Module			
Pxx	S01	Cabinet Tamper	145	65 to 79	e.g.
Pxx	S02	AC Fail	301	65 to 79	P01 = Zone 65
Pxx	S03	Low Battery	302	65 to 79	P15 = Zone 79
Pxx	S04	Battery Fail	302	65 to 79	
Pxx	S05	Detector Fuse	300	65 to 79	
Pxx	S06	LAN Fuse	300	65 to 79	
Pxx	S07	Battery Fuse	300	65 to 79	
Pxx	S08	Aux 2 Fuse Fail	300	65 to 79	
Pxx	S09	Aux 2 Tamper	320	65 to 79	
Pxx	S10	Detector Over-current	145	65 to 79	
Pxx	S11	Battery Over-current	145	65 to 79	
Pxx	S12	Over-volts	145	65 to 79	
Pxx	S13	Low Volts	145	65 to 79	
Pxx	S14	Slave Fail	330	65 to 79	
Pxx	S15	Battery Test Fail	309	65 to 79	
Pxx	S16	LAN Comms Problem	143	65 to 79	
		RF Expander Module			
Fxx	S01	Cabinet Tamper	145	65 to 79	e.g.
Fxx	S02	Low Volts	302	65 to 79	F01 = Zone 65
Fxx	S03	RF Transmitter Low Battery	302	65 to 79	F15 = Zone 79
Fxx	S04	RF Transmitter Poll Fail	330	65 to 79	
Fxx	S05	RF Transmitter Jam	330	65 to 79	
Fxx	S06	LAN Comms Problem	143	65 to 79	

"IRfast Backup" Comms Task Format

This Comms Task format has been specifically designed to operate as a dialer communication backup to the primary reporting format. When triggered, the backup task monitors the status of the primary task and, provided all outstanding data has been sent, allows the means of reporting to resort back to the primary Comms Task when that task is once again operational.

**CT001 Idle ->
IRfast Backup**

As far as programming is concerned, this format is programmed in exactly the same manner as the normal IRfast format.

See "IRfast Comms-4" for programming options.

“CID Backup” Comms Task Format

This Comms Task format has been specifically designed to operate as a dialer communication backup to the primary reporting format. Once all data has been sent via the backup Task, communication will automatically revert to the primary task. In addition, if the primary Comms Task is “Securitel”, communications revert to using the designated UART port.

**CT001 Idle ->
CID Backup**

As far as programming is concerned, this format is programmed in exactly the same manner as the normal Contact ID format.

Refer to “Contact ID Comms-5” for programming options.

“GSM” Comms Task Format

INTRODUCTION

The Model 3000 / Access 4000 allows a GSM modem or Multipath IP STU to be connected via a UART port to provide the 3000/4000 system with GSM Digital Mobile facilities.

By using the GSM Comms task in conjunction with the required GSM Modem, the 3000/4000 is able to:

- Backup the hard-wired dialer with a wireless GSM transmission sending in Contact ID or IRfast* data.
- Send Contact ID or IRfast* 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.

*Note: IRfast data only available in V5.6 or later. GSM Modem must be FE3000 Premier V2.18 or later, and FE100 Receiver must have CPU Card Firmware V5.25 or later.

By using the GSM Comms Task in conjunction with the Multipath IP STU, the 3000/4000 is able to provide polled IP-based alarm reporting with monitoring plans that utilize one or more of the Ethernet, GPRS, Dialup ISP, PSTN Contact ID or GSM Contact ID paths. Control Module firmware must be V5.6 or later.

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.

IMPORTANT INSTALLATION NOTES.

GSM MODEM COMPATABILITY.

Check the tables below to determine which GSM Modem models are supported by each Version of Control Module Hardware & Firmware:

TYPE 1 CONTROL MODULE HARDWARE.

<u>Controller Firmware</u>	<u>GSM Modem</u>	<u>Notes</u>
V3.5 to V4.02	FE2000 only (P/N:994090)	IR version. This GSM Modem is no longer available.
V4.06 or later.	FE2000 OR FE3000.	Order IR Part No: 994101 for Upgrade chip.

TYPE 2 CONTROL MODULE HARDWARE.

<u>Controller Firmware</u>	<u>GSM Modem</u>	<u>Notes</u>
V4.00 to V4.39	FE2000 only (P/N:994090)	IR version. This GSM Modem is no longer available.
V4.5 to V4.76	FE3000 only.	Options Microchip (U14) must be V1.14 or later.
V4.77 to V5.0x	FE3000 only.	Options Microchip (U14) can be <u>any</u> Version or Type.
V5.10 or later	FE2000 OR FE3000.	Options Microchip (U14) can be <u>any</u> Version or Type.

UART.

Before a GSM Modem can be connected, one of the following UART board options must be fitted to the Control Module, and the correct interface cable used to connect from a UART Port to the RS232/Interface Port on the GSM Modem.

TYPE 1 CONTROL MODULE

993065 Single Port UART
993066 Dual Port UART
993068 Four Port UART

TYPE 2 CONTROL MODULE

995065 Single Port UART
995066 Dual Port UART
995068 Four Port UART
995090 Ethernet & UART
995091 Ethernet & 3 Port UART

FE3000.

The FE3000 must be defaulted to “Interface Mode” prior to connection.

SIGNAL STRENGTH.

The Model 3000 / Access 4000 can log GSM Modem Signal strength values to Review to assist with antenna positioning. For reliable communications, the signal strength should be better than -85dB.

Around -95dB, the Modem will fail to communicate.

-113 dB usually indicates no Antenna connected.

“BUFFER” COMMS TASK.

When the GSM Comms Task is set to Active, the system automatically creates an additional Comms Task named “Buffer” in the next available Comms Task location. This Comms Task handles background tasks relating to the GSM Comms Task and does not need to be programmed by the Installer.

Before programming a GSM Comms Task into the system, the Installer must check that there is at least one additional spare Comms Task available for the “Buffer” task.

e.g. With CT001 programmed for Insight, CT002 for Contact ID and CT003 for GSM. The system will automatically assign the Buffer Comms Task to CT004 whenever the GSM Comms Task is set to Active.

OPERATION

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

The GSM Comms task can send alarm information as Contact ID or IRfast 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 a backup task, including alarm reporting via SMS.

Note that a new dialling option has been added to all dialer 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. This feature can be used in conjunction with, or instead of, sending alarms via the GSM network using Contact ID.

“Xmit” type review entries are sent and can be filtered with event types (Open/Close Events and/or Alarm Events) and Area Lists. The text is displayed on the GSM mobile phone screen.

The System will send the specified messages to the nominated GSM Mobile phone with a validity period of 168 hours (1 week). i.e. The message will be discarded by the network if not received by the nominated Mobile phone within 168 hours. (Note: Validity time was 5 minutes in FE2000 GSM Modem firmware V1.04 or earlier shipped in June/July 2000. The firmware in these earlier units can be upgraded to V1.05 or later to provide 168 hours Validity time)

The SMS Alarm message text.

SMS Alarms are any “Xmit” Review entries that match the send criteria and are sent in a text format similar to review text. The send criteria are programmed in the Comms Task and also in the relevant Process Groups if V4.5 or later.

The text message comprises the following components:

- <Date & time>
- <“Xmit [input state] on”> Input State = alarm/tamper/isolate/restore
- <Input name>
- <Abbreviated input name>
- <“in”>
- <Area name>
- <Flags> For debugging purposes.
- <Alarm ID> V4.5 or later only. For SMS Alarm Acknowledgement.

For example:

Jan01 14:02:45.4

Xmit Alarm on FACTORY PIR (E02:Z09) in FACTORY saAo 01AA

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

Additional SMS Alarm messaging features available in Control Module Firmware V4.5 or later.

NOTE: These additional SMS alarm features are not available if FE2000 is used.

Filtering messages by Alarm Type.

Two new programming screens are provided in Process Group programming to allow the type of SMS Alarm Messaging and the nominated Telephone number/s to be defined. This allows SMS Alarm messages to be limited to specific types of alarms and also allows for different types of alarms to be sent to different Telephone numbers.

Sending SMS Alarms to multiple Mobile Phones.

The Process Group programming options allow the installer to select whether the SMS Alarms will be sent to a single Telephone number or a series of Telephone numbers.

SMS Alarm Acknowledgement feature.

One of the Process Group programming screens allows the installer to select whether SMS Alarms need to be acknowledged. If the SMS Alarm needs to be Acknowledged and is being sent to a series of Telephone numbers, once the Alarm is acknowledged, the message will not be sent to any more Telephone numbers in the series.

A 4 character ID string is attached to the end of every SMS Alarm message. The 1st two characters indicate which mobile phone in the series the message is being sent to, and the 2nd 2 characters are the actual Alarm ID.

This allows up to 576 unique Alarm IDs before wrap-around occurs.

e.g. 01AA = 1st phone number tried for Alarm ID "AA". 03AF = 3rd phone number tried for Alarm ID "AF"

NOTE: Open/Close messages also have an ID, but do not need to be acknowledged.

To acknowledge an Alarm, the phone user simply replies to the message sender with a "K", followed by the Alarm ID.

e.g. To acknowledge Alarm ID "AA". Send KAA. (No PIN number is required. The senders phone number is checked)

If there are multiple alarm messages to be acknowledged, the additional Alarm IDs can be added to this reply.

e.g. To acknowledge Alarm IDs "AF", "AG" and "AH". Send KAFAGAH

Up to 8 Alarms can be outstanding (waiting for acknowledgement) at any one time and each Alarm has its own Acknowledge timer. Subsequent Alarms (relevant "Xmit" review entries) are buffered and sent as soon as an Acknowledge timer is free.

NOTE: For diagnostic purposes, the operation of the 8 SMS alarm states can be monitored in Review by enabling Detailed Review mode in the General System options, MENU 7, 5, 1.

The "R" command can be sent to clear any pending SMS Alarms that have not begun to be sent. This can be sent from the "SMS 2" phone without a PIN code, or from any phone using a valid PIN code from the 1st 32 Users.

See "Process Groups" (MENU, 2, 4, 3) for more details and examples.

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.

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

V3.5 to V4. Commands may be received from either SMS1 or SMS2 GSM phones without a PIN number entered.

V4.5 or later. Commands may be received from the SMS2 GSM phone 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".

Additional Notes.

- 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 following table shows the available commands.

SMS Control Commands

Command	Description
HE	Returns a SMS message, listing the available commands. Any User may use this command.
AnnnN ("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 ("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 ("X" Option set)	Turn Home Auxiliary nnn On. Leading zeros are not required (e.g. 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 ("X" Option set)	Turn Home Auxiliary nnn Off. Leading zeros are not required. (e.g. 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.
HnnnNyyyS ("X" Option set)	Turn Home Auxiliary nnn On for yyy seconds. Leading 0's are not required. yyy can be from 1-255. (e.g. 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 ("X" Option set)	Turn Home Auxiliary nnn On for yyy minutes. Leading zeros are not required. yyy can be from 1-255. (e.g. 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 ("L" Option set)	Returns a SMS message, listing the names and states of 5 Areas beginning at Area nnn. (e.g. To return the name and on/off state of Areas 12,13,14,15,16 send <PIN>A12L.)
HnnnL ("L" Option set)	Returns a SMS message, listing the names & states of 5 Home Auxiliaries beginning at Home Auxiliary nnn. (e.g. To return the name & on/off state of Home Auxiliaries 45,46,47,48,49 send <PIN>H45L.)
ZTxxZyyI ("I" Option set)	Isolates Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (e.g. To Isolate Zone 12 on Big Expander 3 send <PIN>ZB03Z12I.) The reply is: <input name> isolated.
ZTxxZyyR ("I" Option set)	Restores Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (e.g. 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 in the main buffer to be sent via SMS and resets the SMS 5 minute timer used to pace SMS messages. If SMS List function is used this command will not clear any SMS Alarm that has already begun to be sent to the numbers in the List. (There can be up to 8 Alarms outstanding that have begun to be sent at any one time)
Kxx Kxxyyz	Acknowledge an Alarm message. xx = Alarm ID. Acknowledge multiple Alarm messages. xxyyz = 3 different Alarm IDs.

CT003 Idle -> GSM

IMPORTANT NOTE: "Buffer" Comms Task.

When the GSM Comms Task is set to Active, the system automatically creates an additional Comms Task named "Buffer" in the next available Comms Task location.

See "Buffer Comms Task" in the *Installation Notes at the beginning of this document for details.*

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.

CT003 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

CT003 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.

CT003 Baud -> Rate: 600

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 FE2000 GSM Modem up to V1.07. (Unit supplied in Black Plastic enclosure)
- A setting of 600 Baud is mandatory for FE2000 GSM Modem V8000 or later. (Unit supplied in metal enclosure)
- **This screen is not visible in V4.5 to V5.0x.** Baud rate is preset to 9600 for FE3000 only.
- This screen was re-introduced in V5.10 to support FE2000 operation, and is only used if the "2" option is set to "Y" in the "BCSAP2DR" screen.
i.e. If FE2000 interface is selected.

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

**CT003 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].

**CT003 SMS1 No. ->
None**

V3.5 to V4: (Also relevant to V5.1 or later if FE2000 is used) 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 if the "(P)IN required" option (*See Special Options*) is not enabled.

V4.5 or later: This screen sets the SMS mobile phone number that SMS Area Open/Close reports and FE3000 System Input Alarms are going to be sent to.

The selected Telephone number, must be programmed in international format starting with the country code. (Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Telephone Number Programming [MENU 7,3,2].

SMS TEXT COMMANDS

When SMS Text Commands are required from:

- 1 Phone only;
 Program "SMS2 No."
- 2 Phones only; (V3.5 to V4 only)
 Program "SMS1 No."
 and "SMS 2 No."
- Any GSM Mobile Phone;
 Enable "(P)IN Required".

IMPORTANT NOTES FOR V4.5 OR LATER:

(NOT APPLICABLE FOR FE2000)

1) If any SMS Alarm messaging is required, the "Tx SMS" option and "SMS No." must be programmed in the relevant Process Groups. MENU, 2, 4, 3.

The "Tx SMS" options include the following features.

- Different types of Alarms can to be sent to different Telephone numbers.
- Acknowledgement of SMS Alarm messages. (Process Group option)
- SMS Alarm messages can be sent to multiple Telephone numbers.

2) If these options are programmed, the "SMS 1 No." only needs to be programmed for receiving Area Open/Close reports and FE3000 System Input Alarms. No Acknowledgement is required for Open/Close reports.

3) If Alarm acknowledgement is required, the "SMS Ack Time" must also be programmed in this Comms Task.

4) If this Comms Task is programmed to report SMS text messages ("S" option in the BCSIP2DR screen) and the "SMS 1" Telephone number is not programmed, the SMS Event filtering must be programmed to Disable Open/Close reporting. e.g. Set to YnY If this is not done, a "No Ack" Review message and the "GSM Problems" System Input will be triggered.

**CT003 SMS2 No. ->
None**

V3.5 to V4: (Also relevant to V5.1 or later if FE2000 is used) This screen defines a 2nd SMS mobile phone number that can be used to send SMS text commands to the Concept 3000 if the "(P)IN required" option (*See Special Options*) is not enabled.

V4.5 or later: This number defines a single SMS mobile phone number that can be used to send SMS text commands if the "(P)IN required" option (*See Special Options*) is not enabled.

NOTE: Alarms cannot be paged to this number.

The selected Telephone number, must be programmed 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].

CT003 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].

CT003 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

CT003 BCSIP2UR
Opts -> nnnnnnnn

This 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 one or more other Comms Tasks.

IMPORTANT NOTE: When a GSM Comms Task is programmed for Backup only, there is no periodic testing performed to ensure that the GSM Modem Reporting is fully operational. (The GSM Task would only be used if the Primary Comms Task fails)

C Contact ID

If set to Yes, Contact ID alarm messages will be sent via this Comms Task when required. Note that the Multipath IP Server can manipulate the "Contact ID" option as 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 following screens. *See "SMS 1" Telephone number for more information.*

IMPORTANT NOTE: V4.5 or later. Process Group Options for "Tx SMS" and "SMS No." must also be programmed.

I IRfast Alarms
(V5.7 or later only)

If set to Yes, IRfast alarm messages will be sent via this Comms Task when required.

V5.7 to V7.62 Only the IRfast raw data can be sent via the GSM Comms Task.
V7.8 or later: The additional "Review Text" send option can also be enabled. The other additional send options provided via IRfast dialer (Contact ID string and Time/Date stamp) are not supported.

Note that the Multipath IP Server can manipulate the "IRfast Alarms" option as required. Once "IRfast alarms" is enabled, the Monitoring Station can enable the Review Text option in the Multipath IP STU, thereby enabling text transfer to their Central Station Receiver.

Compatibility - IRfast raw data:

-FE3000 must be "Premier" Model V2.18 or later.

-Multipath IP STU must be V2.01 or later.

(Feature not supported in "FE3000 Serial" at present)

-FE100 Central Station Receiver must have CPU Firmware V5.25 or later.

Compatibility - IRfast raw data + Review text option:

-FE3000 must be "Premier" Model V2.62 or later.

-Multipath IP STU must be V2.42 or later.

P	PIN Required	If set to Yes, this option forces all SMS command strings sent to the 3000/4000 that are preceded by the PIN number of any user between User1 and User32 to be accepted. The command can be sent from <u>any</u> GSM mobile phone. If the (P)in option is not set, then text commands can only be accepted by the 3000/4000 if they originate from the pre-programmed SMS2 number. (SMS1 or SMS2 if prior to V4.5)
2	FE2000 Interface (V5.1 or later only)	If set to Yes, this option allows an FE2000 GSM Modem to communicate with this Comms Task. For FE3000 this option <u>must be</u> set to “n”.
D	Debug (Prior to V5.6 only)	The (D)ebg option is for manufacturer use only and should be set to (n).
U	Update Time (V5.6 or later only)	If set to Yes, the Control Module’s Real-time clock will be updated from the FE3000 status packet every hour on the half-hour.
R	RSSI Level	If set to Yes, the (R)SSI display option will cause the Network Registration and RSSI level to be saved to review every 5 seconds to assist with antenna placement. (Normally this message is only saved when there is a change in Network Registration status. Permanently setting this option to Yes causes review to fill up very quickly.) For reliable communications, the signal strength should be better than -85dB. Around -95dB, the Modem will fail to communicate. -113 dB usually indicates no Antenna connected.

CT003 AXLI...N
SOpts-> nnnnnnnn

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. NOTE: “SMS Control” must also be selected in the Home Auxiliary Options; MENU, 7, 5, 5.
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.
.	Spare	
N	No Error replys	If set to Yes, SMS Error replys will not be sent back to unauthorised Users.

CT003 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.

CT003 EOA.....
SMS Evt:nnnnnnnn

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.

NOTE: See "SMS 1" Telephone number programming for more information.

**CT003 MLGPN...
Mopts-> nnnnnnnnn**

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

- M** **Mult. Client Codes** This option not relevant to SMS alarm messages.
- 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 that are programmed to report Open/Close 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 from triggering this Comms Task. Restores will be buffered and will be sent with the next report.
- 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".

**CT003 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.)

NOTE: V4.5 or later. Exercise caution if using this option in conjunction with SMS List operation where an SMS Acknowledge timer is used.

CT003 Client
Code: 0000

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

CT003 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 as follows:

- | | |
|------------|------------------------------|
| -Standard | -Access-1 (V3 or later) |
| -MAP-1 | -Pacom (V3 or later) |
| -School 30 | -Standard-2 (V3.5 or later) |
| -School 19 | -School 19B (V3.59 or later) |
| -SIMS II | |

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

CT003 CID Area
Filter: AL000

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

CT003 EOA.....
CIDEvt: nnnnnnnn

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

- E Event Filter On
- O Open/Close
- A Alarms

This option allows Contact ID Event Filtering.

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.

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.

CT003 MLGPN...
Copts-> nnnnnnnn

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

- M Mult. Client Codes
- L Look Ahead

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

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 that are programmed to report Open/Close 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 from <u>triggering</u> this Comms Task. Restores will be buffered and will be sent with the next report.
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: 002

Maximum Attempts. (V3.5 to V4 only)

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.

This screen is not shown in V4.5 or later as the number of attempts is determined by the FE3000.

CT001 SMS Ack Time: 000 min/4

SMS Acknowledge Time. (V4.5 or later)

Note: This option not relevant to FE2000 operation.

This screen allows the Installer to define the period of time that the Controller will wait for an acknowledgement to an SMS Alarm message.

The period is programmed as a number of "Minutes divided by 4" i.e. 15 second increments from 15 Seconds to 63.75 Minutes.

(The timer may run slightly longer if a lot of SMS or Contact ID activity occurs)

If left at the "000" setting, the default value of 8 (2 minutes) will be used.

IMPORTANT NOTES:

This timer is only required if one of the "Tx SMS" options with an Acknowledge requirement is selected in Process Group programming. (MENU, 2, 4, 3)

e.g. "One # with Ack" or "List with Ack".

If the Acknowledge time expires without an Ack. being received from the phone that the message was sent to, a "No Ack" message will be saved to Review, and the "GSM Problem" System Input (C01:S30) is set to the Alarm state.

If the "List with Ack" option is selected, the Controller will wait for the specified SMS Ack time before trying the next Telephone number. All the numbers in the list will be tried before the "No Ack" message and System Input are triggered.

**CT001 Backup
Task: CT000**

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

Note that the Backup Comms Task will not be triggered when SMS Alarms via GSM Data fail or are not Acknowledged. To report SMS Alarm report failure, program the system to report Alarms on the "GSM Problems" System Input (C01:S30) via another Comms Task format.

Pressing HELP "0" *twice* will take you back to the common options when you are finished with the Special options screens.

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. V3.5 to V4 only.

This screen is not available in V4.5 or later.

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

Starting / Stopping the Comms Task**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

Comms Task CT001 is defaulted in the factory to one of the Comms Task formats listed below and must not be used for the GSM Comms Task format.

- In V3 or later, Comms Task 1 (CT001) is defaulted to "PC Direct" format on Port 1 at 9600 Baud.
- In V5 or later, Comms Task 1 (CT001) is defaulted to "Insight" format on Port 1 at 9600 Baud.

System Inputs

The GSM Comms Task manipulates the following system inputs:

Input	Alarms when	Restores when
UART Problem C01:S13 to 16.	3 consecutive communications with the FE2000 have failed.	The GSM Modem is operational and a successful poll has been received.
Comms Fail C01:S21	A backup task has failed OR a backup task has failed to be triggered.	After successful transmission of CID data via GSM.
Comms Backup C01:S20	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.

“SpreadNet” Comms Task Format

The Model 3000 / Access 4000 can be connected directly to a C&K SpreadNet receiver via a simple three wire serial interface from a UART port. This allows all zone information from C&K SpreadNet transmitters to be interpreted as Model 3000 / Access 4000 zones. The SpreadNet system is viewed by the 3000/4000 as a **virtual** LAN Module called a Wireless Network Module (Nxx).
(Known as a SpreadNet Module from V2 to V3.5x)
Each group of 16 zones is allocated a virtual Wireless Network Module number and can share 4 System Inputs. There can be a maximum of 13 of these virtual Wireless Network Modules, allowing up to 208 SpreadNet transmitters to be individually monitored (13x16=208 Zones).

The following events can be actioned via inputs allocated to areas:

- Each transmitter “zone” (Nxx:Z01 to Nxx:Z16) can report seal, alarm or tamper individually.
- Separate Low Battery system alarm for each group of 16 transmitters.
- Separate No Poll system alarm for each group of 16 transmitters

Optional review of the following items can aid in debugging:

- Review of individual transmitter no poll timeouts.
- Review of individual transmitter low battery.
- Review of individual transmitter signal and noise levels.
- Review of communication problems with SpreadNet receiver.

All zone transmitters can be named continuing the Model 3000/4000 tradition of “user friendly” operation.

Zone Mapping

Each Wireless Network Module handles 16 SpreadNet transmitters and uses the prefix “N”. The SpreadNet Device # corresponds to a Wireless Network module number. e.g. A SpreadNet transmitter programmed to device #3, zone #12 would be referred to as “N03:Z12” within the 3000/4000 system. These inputs can now be used in any context where 3000/4000 inputs can be specified such as Areas, Function Zones etc.

There are 4 System Inputs per module:

S01	Timeout	This input is put into alarm whenever any one of the 16 zone transmitters for this module fails to report in the nominated time. The input will only be re-sealed at the low priority time check (every 40 minutes) if all modules have reported in, or by re-starting the Comms Task.
S02	Low Battery	This input is put into alarm whenever any one of the 16 zone transmitters for this module reports a low battery condition. The input can only be re-sealed by restarting the Comms Task.
S03	Spare	Spare for future development. Set to “n”.
S04	Spare	Spare for future development. Set to “n”.

Some communication formats are unable to report individual SpreadNet Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

Poll Times

The Model 3000/4000 system allows either 30 second or 300 second polls to be programmed for each C&K SpreadNet transmitter. The high priority flag is set in Comms Task programming for any module that is set to 30 second polling. Every 4 minutes the 3000/4000 system will check that all high priority modules have reported in the last 4 minute period. Similarly, low priority modules are checked every 40 minutes. If a module has not reported in, the "Timeout" system input is set to the alarm condition for that virtual module containing 16 zones.

SpreadNet Options

**CT001 Idle ->
SpreadNet**

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common or Special options. For the SpreadNet Comms Task, both the Common and Special options will have to be programmed.

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

**CT001 Port ->
to use: 0**

This screen allows the Installer to define the UART Port to which the SpreadNet Receiver 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.

**CT001 Baud ->
Rate: 9600**

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the SpreadNet receiver. The Baud Rate is selected by scrolling through the available options using the right arrow key. **A setting of 9600 Baud is mandatory for SpreadNet.**

See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1] for further details.

SpreadNet - Special Options

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen or by pressing HELP, "9" from any common options screen. HELP "0" will take you back to the common options when special options is complete.

**CT001 Property
Code : 00000**

This screen sets the Property Code to be used for this SpreadNet installation. It may be set from 0001 to 4048. See the C&K SpreadNet literature for more information. If the Property Code is set to 0, transmitters will be received regardless of their programmed Property Code.

**CT001 Channel
No : 0**

This screen sets the Channel Number to be used for this site. It may be set to 01 or 02. See C&K SpreadNet literature for more information.

CT001 LTEC.... Opts -> nnnnnnnnn		This screen allows review options to be selected:
L	Levels	This option allows all transmitter activity to be saved to review, including transmitter signal and noise level figures.
T	Timeouts	Timeouts allows all transmitters which exceed the poll timeout to be saved to review to allow individual transmitter identification.
E	Errors	This option allows all error attempts with the receiver to be saved to review.
C	Changes	This option allows transmitter activity to only be saved when a change in input status has occurred.
.	Spare	Spare for future development. Set to "n".

CT001 N01Poll	12345678 nnnnnnnnn	These screens allow the Installer to specify which transmitters will be checked to ensure that a poll has occurred within the correct time.
CT001 N01Poll	90123456 nnnnnnnnn	
CT001 N13Poll	12345678 nnnnnnnnn	
CT001 N13Poll	90123456 nnnnnnnnn	

CT001	12345678	These screens allow the Installer to nominate from which transmitters a poll will be expected at the high priority rate of once every 4 minutes. If transmitters are not nominated as high priority, they will be checked every 40 minutes.
N01High	nnnnnnnnn	
CT001	90123456	
N01High	nnnnnnnnn	
CT001	12345678	
N13High	nnnnnnnnn	
CT001	90123456	
N13High	nnnnnnnnn	

Diagnostics

CT001 . . R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development. The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate.

Multiple Receivers

Although multiple receivers may be connected, only 13 groups of 16 Zones may ever be received. If multiple receivers are used, transmitters must be specific to one receiver only. If a transmitter reports to multiple receivers, multiple activations will occur for every transmission and a comms fail will be generated if the transmitter goes out of range of any one receiver.

eg. A separate property code must be used for each receiver and the transmitter must be programmed accordingly.

"4+2 Pulse" Comms Task Format

The 4+2 Pulse format transmits 4 client code and 2 alarm digits to a Central Station using bursts of single frequency. Either 1800Hz or 1900Hz data tones can be used with either 1400Hz or 2300Hz acknowledge tones. Two speeds are available, 20pps or 40pps. Checksum or two round verification may be also specified and Hex compatibility is an option.

The two alarm digits used to report events are normally arranged so that the 1st digit represents the type of event (eg. open, close, alarm, restore etc.) and the 2nd digit represents the event detail (eg. user, zone number etc.). The digits allowed are the digits 0 to 9. (0 is actually sent as 10 pulses). If the Central Station can accept Hex digits, the Hex digits A, B, C, D, E, F are also allowed, with "A" being interpreted as "0". This provides 15 event codes (1st digit) and 15 event details (2nd digit) for a Hex compatible receiver.

Programming screens are very similar to those of the Contact ID format, with the addition of 2 extra screens.

4+2 Pulse Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed.

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

**CT001 Client
Code: 0000**

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

**CT001 PABX No.->
None**

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

**CT001 PABX No.->
TN000**

**CT001 1st No.->
None**

These screens allow the installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present.

**CT001 2nd No.->
None**

If subsequent attempts are needed with different telephone numbers, numbers are tried in the order 2nd, 3rd, 1st and so on. If a number is not present, it is skipped and the next number in the above sequence is tried. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number Programming.

CT001 Dial PpDFTM.6
Options -> nnnnnnnn

This screen sets various 4+2 Pulse options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See "Attempting Dialer Connections" at the end of this chapter.</i>
F	Forces 300 Baud	Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only).
T	Test Mode	This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are: -Do not dial the Telephone Number -Do not wait for initial handshake -Do not require an acknowledgement -Shorten inter-round time from 500ms to 300ms
M	Maximum Count	This enables the Maximum Count option. This option allows the maximum call time in 4+2 Pulse to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options.
A	Abort Pre-dial	If set to "Y", when connection is attempted, any pre-dial error (e.g. no line) will cause the attempt to be aborted and go straight to the Backup Task (If programmed)
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

M	Multiple Area Codes	If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)
L	Look Ahead	Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if 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 O/C** This option selects general open and close reporting. Whenever **all** Areas programmed to report Open/Close 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 as “Not General Area” and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming “Not General Area” option for details.

P **Prevents Restores** This option prevents restores from triggering this Comms Task. Restores will be buffered and will be sent with the next report.

N **No Area Still Open** 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.

**CT001 Area List
Filter: AL002**

This screen allows an **optional** Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

**CT001 EOA.....
Efilt-> nnnnnnnn**

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

E **Extra Filter** This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.

O **Opens/Closes** This option enables Opens/Closes reports to be sent via this Comms Task.

A **Alarms** This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.

. **Spare** Spare options for future filters. Leave set to “n”.

4+2 Pulse - Specific Options

These options are reached by pressing HELP, “9” twice at the Active/Idle screen, or by pressing HELP, “9” from any common options screen. HELP, “0” will take you back to the common options when programming of special options is complete.

**CT001 Open/Close
Codes: 00**

This screen allows the 1st alarm digit to be defined for opening events and separately for closing events. On the programming screen the 1st digit is the one that will be used for openings and the 2nd digit is the one that will be used for closings.

For example, if this screen is set to “56”, openings will be reported as “5X” and closings as “6X”, where “X” represents the event detail which, in this case, means the User who turned on/off the area.

See the section on mapping at the end of this section.

**CT001 214HC..B
Format->nnnnnnnn**

This screen allows the Installer to set some miscellaneous options. These options allow the Comms Task to be configured for compatibility with most proprietary pulse formats.
NOTE: The fastest operation is achieved at 40pps with Checksum verification. More unique events can be sent with a hex compatible format.

2	2300Hz Ack Tones	Normally 1400Hz acknowledge tones are used. This option allows 2300Hz acknowledge tones to be used instead.
1	1900Hz Data Tones	Normally 1800Hz data tones are used. This option allows 1900Hz data tones to be used.
4	40 Pps	Normally the reporting speed is 20 pulses per second. This option allows 40 pulses per second to be used.
H	Hex Compatible	All pulse formats can use the digits 0 to 9. Selecting this option allows the Hex digits A, B, C, D, E, F to also be used. ("A" is the same as "0")
C	Checksum	Normally the event is sent twice for dual round verification. This option allows a single checksum digit to be sent for verification.
.	Spare	Spare for future development. Leave set to "n".
B	Backup Task	Setting this option causes this Comms Task to act as a backup Comms Task to another task.

4+2 Pulse - Special Options

Special options are reached by pressing HELP, "9" three times at the Active/Idle screen, by pressing HELP, "9" twice from any common options screen or pressing HELP, "9" from any specific options screen. Pressing HELP, "0" will take you back to the specific options and pressing HELP "0" twice will take you back to the common options screen when programming of special options is complete.

**CT001 Maximum
Attempts: 000**

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, Austel specify a maximum of 10 attempts).
In "UK" firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 000**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.

**CT001 Seize Aux
C01:X08**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
C01:X08**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 000/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds).

If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 000/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds).

If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 000**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 000 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will "take-over" the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ Smart Dial This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ Dumb Dial This setting does not make "smart" decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed "Attempting Dialer Connection".

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the "Look Ahead" option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE: Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

Mapping

A flexible mapping scheme has been devised. The 3000/4000 system follows the basic philosophy of the 1st digit representing the type of event and the 2nd digit representing the event detail.

Before selecting which digits to use for reports, the Installer must decide which reports will be sent. The Installer must ensure that, if a particular event type has not been catered for, the panel cannot generate an Xmit entry for this event type, thereby causing the wrong digit to be used in the report.

The client code is determined by Comms Task programming. However, if an Area Client Code is defined, it will be used instead.

Openings and Closings

The 1st digit for openings and closings is programmed in the Open/Close Codes screen. The 2nd digit represents the User or operation that operated the Area.

<u>Entity that operated the Area</u>	<u>2nd Digit in non Hex mode</u>	<u>2nd Digit in Hex mode *</u>
User manual open/close	Last digit of User code	Last digit of User code
Power on arm	0	B
TimeZone	0	C
Function Zone	0	D
IRfast Command	0	F
Calculated Auxiliary	0	E
Unidentified User	0	B
CommPass Command	0	F
DTMF Command	0	F
Timed On	0	B

* Requires Hex option to be set on option screen.

Alarms, Tamperers, Isolates and Restores

The two report digits to be used for any particular event are determined from the "base" digits. The "base" digits are defined by the "4+2 Pulse Msg" option in the Process Group used to generate the Xmit entry. For example, if the Process Group "BURGLARY" has the 4+2 pulse message set to "28", then the "base" digits for any event with the Process Group "BURGLARY" will be "28".

For zones that have a programmable text description, the "base" digits determined by the Process Group can be optionally overridden by "base" digits programmed as part of the Zone description for that Zone only. If the text description contains a string in the form "<XY>" where XY are two Hex digits, then XY become the "base" digits for all events in this Zone.

For system alarms which have fixed text description, the “base” digits are always defined from the Process Group.

Having determined what the “base” digits are, the actual report digits to be used are determined by the type of event. The table below explains:

<u>Event with “base” digits “XY”</u>	<u>1st Report Digit</u>	<u>2nd Report Digit</u>
Alarm	X	Y
Restore	X+1	Y
Tamper	X+2	Y
Isolate	X+3	Y

For example, if the “base” digits were “28” :

- Alarms reported as “28”
- Restores reported as “38”
- Tamperers reported as “48”
- Isolates reported as “58”

Further Considerations

Having determined whether or not the format will use Hex digits (Hex gives greater flexibility), the programmer needs to decide which events are to be reported. For example, if a Process Group is programmed to send alarms, restores, tampers and isolates, 4 pairs of digits need be set aside for reports from that Process Group.(As per the previous table these would be 28, 38, 48 & 58.) Care must be taken to ensure that no other reports can inadvertently use the same digits.

If only alarms are to be reported, then ensure that:

- Process Group options are not programmed to send isolates, tampers or restores.
- The Comms Task has the (P)revent restore option set.

If no openings/closings are to be reported, ensure that:

- Area open/close report options are set to no.

NOTE:

You cannot send;

- An isolate without also mapping tampers and restores
- A tamper without also mapping a restore

By allowing individual Zones to have their own unique “base” digits, Zones can conveniently define unique 2nd digits when required. System Inputs are not quite as flexible, requiring different process groups if different 2nd digits are required for different system alarms.

“Automation” and “Advanced Automation” Comms Task Formats

The “Automation” and “Advanced Automation” communication formats allow the Concept 4000 system to connect to a 3rd party Home/Building Automation system via an RS232 Serial connection. The protocol is ASCII based for ease of understanding and is designed primarily to enable home automation or building management system (BMS) connectivity. The Automation and Advanced Automation Comms Tasks can provide the following functions:-

1. Request state of Zone Inputs, System Inputs, Areas, Doors, Auxiliaries and Home Auxiliaries.
2. Request text names for all named entities. (e.g. Areas, Inputs, Users, Doors, Home Auxiliaries, Time Zones, etc.)
3. Control Area, Door, Auxiliary and Home Auxiliary states. (With PIN code option for Area control)
4. Isolate/De-isolate Zone Inputs and System Inputs.
5. Manipulate Zone Input states.

<u>Format</u>	<u>Zones</u>
Automation:	Control Module Zones only. (i.e. C01:Z01 to C01:Z16 only)
Advanced Automation:	All Control Module Zones and Big Expander Zones up to B08:Z32.
	<i>See Note 2 below, and the full description of the Advanced format on page 2.</i>
6. Access the Review log. (Includes options for streaming, acknowledgement, data format and pointer manipulation)

IMPORTANT NOTES:

1) Control Module Hardware/Firmware.

These Comms Task formats can only be used in Type 2 (CE) Control Module Hardware and:

- V7.0 Firmware or later for the “Automation” format.
- V7.8 Firmware or later for the “Advanced Automation” format.

2) Enabling the formats:

a) The “Automation” Comms Task format requires that the Multiport Ethernet UART board (P/No. 995091) be fitted to the Control Module. (The UART board firmware must be V4.01 or later) Without this version of the UART board fitted, the “Automation” Comms Task format cannot be set to “Active”.

b) The “Advanced Automation” Comms Task format can be used with any of the Type 2 Control Module UART board options (e.g. P/N: 995090 or 995091) but requires a special Memory Upgrade Option to be fitted. Without one of these Memory Upgrade options fitted, the “Advanced Automation” Comms Task cannot be set to “Active”.

<u>Part Number</u>	<u>Description</u>
995016P21.	512k Memory Upgrade with Advanced Automation 256 Zones.
995016P22.	512k Memory Upgrade with Advanced Automation 512 Zones. (Not yet available)

These special Memory Upgrade Options are not a normal catalogue item. Pricing and availability are only available on application to Inner Range.

The connection from the UART board serial port to the 3rd party device is then made using the DB9 Laptop Interface Cable, Part Number 993009; or the DB25 PC Interface Cable, Part Number 993025.

3) Communications monitoring.

An option is provided for Communications integrity to be monitored. A programming option allows the installer to set a “Max poll time” which defines the period of time that the Automation Comms Task will wait for a message from the 3rd party system before triggering the nominated “Auto OK Zone” to indicate loss of communications. V7.8 firmware or later allows the “Max poll time” to be set by the 3rd party application.

4) Security.

With the exception of the “Need PIN code” option for Area control, the Concept 4000 plays no role in verifying whether certain actions are allowed. It is up to the application to secure any actions that may change or compromise the level of security.

e.g. Area off, Door unlock and Zone Isolate commands, or other commands that result in these types of events. Such actions should be protected by PIN code or password access with appropriate database security. Interface cabling should also be suitably protected against interference and technical attack.

ADVANCED AUTOMATION FORMAT

The “Advanced Automation” format provides all the functionality of the “Automation” format with the addition of the ability to manipulate up to 256 or 512 “phantom” Zone Inputs on “virtual” Big Expanders.

When Advanced Automation is enabled, and a Memory Configuration is chosen that supports the required number of Big Expander Modules; then a range of Big Expander Zone Inputs will be available for control by the 3rd party system, without requiring the Big Expander Modules to be physically present on the Concept 4000 system.

- 256 Zone option: Enables Big Expander Zones B01:Z01 to B08:Z32.
- 512 Zone option: Enables Big Expander Zones B01:Z01 to B16:Z32. (Not yet available)

This allows a 3rd party BMS, Home Automation system, etc., to utilize Concept 4000 Zone Inputs to log, annunciate, process and/or report 3rd party system events.

- e.g.
- 1) Transfer BMS Plant alarms to the Concept 4000 to facilitate logging, local annunciation and off-site reporting to the relevant personnel via the relevant communications paths (e.g. SMS, Contact ID, GPRS, etc)
 - 2) Transfer alarms from a Portable Duress System to the Concept 4000 to allow reporting to on-site System Management software and/or a Remote Monitoring Station.

IMPORTANT NOTES:

- 1) The “virtual” Big Expander numbers (e.g. B01 to B08) cannot be used for physical Big Expanders. The next available number above the “virtual” Big Expander numbers must be used. i.e. B09 or higher.
- 2) System Inputs on the virtual Big Expanders may also be manipulated if necessary.
- 3) Auxiliaries on the virtual Big Expanders are not enabled and cannot be controlled.
- 4) The “Module Disable” operation (MENU, 6, 1 from an LCD Terminal) does not effect Zone Input control by the Advanced Automation Comms Task. Furthermore, the Module Disable operation is not supported in the Automation Comms Task command set.
- 5) The phantom Big Expander Zones can only be controlled via the Advanced Automation Comms Task. They cannot be controlled by functions such as Calculated Auxiliaries, or Comms Task “OK Zone” options in the Panel.

PROTOCOL

The Automation Comms Task protocol is an ASCII based, full duplex protocol. Data is sent in both directions as framed packets. Most packets sent to the Concept 4000 will generate a reply packet(s). The majority of communications comprises a packet sent to the Concept 4000 requesting a certain operation, and the Concept 4000 sending a reply packet to the sender. In some circumstances the Concept 4000 sends multiple reply packets in response to certain commands. The Concept 4000 can also be configured to asynchronously send packets to the other system such as review entries.

Although the Concept 4000 will receive characters whilst transmitting, processing is only half duplex, so new packets should not be sent to the Concept 4000 until the last packet has been actioned.

All data is sent in frames. All frames begin with a “{” character and end with a “}” character. These characters are unique in the data stream. A CR/LF may also be sent outside frames for formatting purposes but are ignored. The legal characters *within a frame* are all ASCII characters between 0x20 and 0x7f inclusive, except for 0x7b i.e. “{” and 0x7d i.e. “}”. The structure of a packet is as follows: {xddddddd.....~KK}

- where:
- “{” and “}” are the start and end of packet characters.
 - “xx” is a two character command.
 - “dddd...” is command dependent data.
 - “~KK” is an optional checksum.

Note that the “~” character (0x7e) indicates that an optional checksum is present, represented as 2 hexadecimal digits KK. The “~KK” must be the last characters before the end of packet character “}”. The checksum is a modulo 256 addition of all characters between the “{” and “~” characters. The checksum string “~KK” must be included for packets sent to the Concept 4000 if the Gopts option “R” is set (see below). If the “~KK” field is present, it must calculate correctly for the packet to be processed, even if the Gopts “R” option is not set. This allows the sender to the Concept 4000 to decide when a checksum is important to include.

There is no timeout for received bytes. To abort the current packet simply send another “{” character. The maximum packet size received by the Concept 4000 is 60 bytes. The maximum packet size sent by the Concept 4000 is 96 bytes.

Commands.

This table shows the available commands and their operation. Items within “[]” indicate a particular required syntax.

Command	Description	Reply
{STart}	Automation CT has started	None
{AX[aux_ref]?} {AX[aux_ref]=N} {AX[aux_ref]=F} {AX[aux_ref]=N[time]}	Request [aux_ref] state Turn on [aux_ref] Turn off [aux_ref] Turn on [aux_ref] for [time]	{AX[aux_ref]=N/F} {AX[aux_ref]=N} {AX[aux_ref]=F} {AX[aux_ref]=N}
{HXnnn?} {HXnnn=N} {HXnnn=F} {HXnnn=N[time]}	Request Home Auxiliary nnn state Turn on Home Auxiliary nnn Turn off Home Auxiliary nnn Turn on HA nnn for [time]	{HXnnn=N/F} {HXnnn=N} {HXnnn=F} {HXnnn=N}
{ACnnn?} {ACnnn=N} {ACnnn=F} {ACnnn=Npppppppp} {ACnnn=Fpppppppp}	Request Area nnn state Turn on Area nnn Turn off Area nnn Turn on Area nnn with PIN code Turn off Area nnn with PIN code	{ACnnn=N/F} {ACnnn=N/F} {ACnnn=N/F} {ACnnn=N/Fpppppppp} {ACnnn=N/Fpppppppp}
{DCnnn?} {DCnnn=L} {DCnnn=U}	Request Door nnn state Lock Door nnn Unlock Door nnn	{DCnnn=L/U} {DCnnn=L} {DCnnn=U}
{ZC[input_ref]?} {ZC[input_ref]=S/A/T/I/U}	Request [input_ref] state Set [input_ref] state S = seal A = alarm T = tamper I = Isolate K = Sticky Isolate U = UnIsolate	{ZC[input_ref]=S/A/T/I/U} {ZC[input_ref]=S/A/T/I/U}
{RS=A} {RS=A,xxx,yyy} {RS=L} {RS=L,xxx} {RS=F} {RP=S} {RP=E} {RP=#hhhh} {RC?} {RN?} {RA=[ID]}	Review Streaming = Ack Review Streaming = Ack with xxx pacing time and yyy repeat time. Review Streaming = List Review Streaming = List with xxx pacing time. Review Streaming = Off Set Review position = Start Set Review position = End Set Review position = hhhh Request current review event Request next review event Acknowledge event [ID]	{RS=A,xxx,yyy} {RS=A,xxx,yyy} {RS=L,xxx,yyy} {RS=L,xxx,yyy} {RS=F} {RP=hhhh} {RP=hhhh} {RP=hhhh} {RV=[ID][review_text]} {RV=[ID][review_text]} None
{GNiii,xxx?}	Request named entity xxx	{GNiii,xxx=[name]}
{IN[input_ref]?}	Request [input_ref] name	{IN[input_ref]=[name]}
{UNiiii?}	Request User iiiii name	{UNiiii=[name]}
{HB=nnn} {HB?}	Set "Max Poll Time" (Heart Beat) period (seconds) Request current "Max Poll Time" setting	{HB=nnn} {HB=nnn}

NOTES ON COMMANDS:General Notes.

- 1) AC (Area control) command. If the "Need PIN code" option (V7.1 or later) in the Automation Comms Task programming is set to Yes, a valid PIN code from a User in the range of U00001 to U00032 must be included in the Area Control command, and the User must have the appropriate Area control permissions.
Note that PIN codes in the Concept 4000 can be from 1 to 8 digits in length.
- 2) ZC (Zone control) command.
 - a) Any Input reference can be used in the "Request state", or "Isolate"/"Unisolate" commands.
 - b) In the "Automation" format, only the Control Module Zones can be manipulated using the "Set state" S, A, or T command. (To manipulate other Zone Inputs, Calculated Auxiliaries can be used to convert Auxiliary On/Off states to Zone Alarm/Seal states. Note that the Zones used must physically exist in the system and have the "Ignore Physical" option set to Yes.)
 - c) In the "Advanced Automation" format, additional Zones can be manipulated directly using the "Set state" S, A, or T command as follows:
 Advanced Automation 256 Zones: Big Expander Zones B01:Z01 to B08:Z32.
 Advanced Automation 512 Zones: Big Expander Zones B01:Z01 to B16:Z32. (Not yet available)
 NOTES: 1) System Inputs belonging to these Modules may also be manipulated if necessary.
 2) These Big Expander Module numbers cannot be enrolled on the LAN.
- 3) Item numbers for Home Auxiliaries, Areas, Doors and Users; and for Entities in the {GNiii,xxx?} command, do not require leading zeros to be inserted if the item number is less than the maximum number of digits available.
- 4) Timed unlock of Doors is achieved by controlling the Lock Auxiliary directly with the AX command.
 e.g. Unlock the 1st Door on Reader Module #2 for 5 seconds. {AXR02:X01=N5S}

Auxiliary Reference Syntax.

The Auxiliary reference used in Auxiliary commands {AX[aux_ref]...} is entered in the form; Tnn:Xyy where:

T = Module Type. See "Module Types" table below.

nn = Module number.

X = X

yy = Auxiliary number.

e.g. Auxiliary references.	Auxiliary 9 on the Control Module:	C01:X09
	Auxiliary 25 on Big Expander #3:	B03:X25
Auxiliary commands	Request state of Auxiliary 1 on Mini Expander #3	{AXM03:X01?}
	Turn on Auxiliary 4 on LCD Terminal #2	{AXT02:X04=N}

Input Reference Syntax.

The Input reference used in Zone commands {ZC[input_ref]...} is entered in the form; Tnn:Iyy where:

T = Module Type. See "Module Types" table below.

nn = Module number.

I = Input Type. Z; Zone Input. S; System Input.

yy = Zone or System Input number.

e.g. Input references	Zone 14 on the Control Module:	C01:Z14
	System Input 4 (AC Fail) on the Control Module:	C01:S04
	Zone 6 on Mini Expander #10:	M10:Z06
	System Input 9 (LAN Comms fail) on Mini Expander #10:	M10:S09
	System Input 2 (Panic) on LCD Terminal #3:	T03:S02
Input commands	Request state of Zone 18 on RF Expander #2	{ZCF02:Z18?}
	Set Zone 11 on the Control Module to the Alarm state	{ZCC01:Z11=A}

For details of the System Inputs for each Module type refer to "System Inputs" in the Tables section.

Time Syntax.

Auxiliary control and Home Auxiliary control commands provide the option of specifying an on time. The time value is simply expressed as a number between 1 and 255 and the time parameter as S (seconds) or M (minutes).

e.g. Turn Home Auxiliary 12 on for 25 seconds. {HX12=N25S}
 Turn Control Module Auxiliary 9 on for 10 minutes. {AXC01:X09=N10M}

Note that for timing in minutes up to a value of 4 mins, use the equivalent seconds value for accuracy.
 i.e. For a 3 minute time period, use 180 seconds, not 3 minutes.

Module Types

C	Control Module	M	Mini Expander (8 Zones/Auxiliaries)
T	LCD Terminal	E	16Z Expander (16 Zones/Auxiliaries)
K	Touchscreen keypad	I	Intelligent 4-Door Access Module
B	Big Expander (32 Zones/Auxiliaries)	Q	Analogue Module
R	Reader Module (1Door/2Door Access Modules)	P	LAN Power Supply Module
N	Wireless Network (Spreadnet & Inovonics)	F	RF Expander Module (32 Visonic Transmitters)

Refer to the following table for details of Module Zone Inputs and Auxiliaries.

Summary of Module Inputs and Outputs

Module Type			Zones	System Inputs †	Auxiliaries Ynn:Xnn*	
No.	Letter	Name	Ynn:Znn*	Ynn:Snn*	Total	Physical
0	C	Controller	16	32	32	10
1	T	LCD Terminal	2	8	8	4
2	K	Touchscreen Terminal Keypad	0	8	32	0
3	B	Big Expander (Universal Expander configured for 32 Zones)	32	10	32	32
4	R	Reader Module (1 / 2 Door Access Module)	8	8	8	8
5	N	Wireless Network (S'net/Inov. virtual module)	16	4	4	
6	M	Mini Expander	8	9	8	8
7	E	Expander (16Z) (Universal Expander configured for 16 Zones)	16	10	16	16
8	Q	Analogue Module	6	3	8	4
9	I	Intelligent 4 Door Access	16	24	16	12
10		Spare				
11	P	LAN Power Supply	2	16	4	2
12	F	RF Expander	32	6	4	0

IMPORTANT NOTES:

† For details of the names and functions of all System Inputs, refer to “T01 System Inputs” in the TABLES section of the Programming and Reference Manual.

* Input and Auxiliary references. Y = Module Type (See “Letter” column). Z, S or X = Entity Type.
 nn = Module number or Entity number.

Input and Auxiliary reference syntax is described in full on the previous page.

Request Named Entity.

For the GN command, iii (Entity to return) is as follows:

1	Floor List names (Not normally available)	13	Area list names
2	Lift Car List Names (Not normally available)	14	Door list names
3	Holiday names	15	Function Zone names (Not normally available)
4	Time zone names	16	Calculated Aux names (Not normally available)
5	Area names.	17	Telephone # names
6	Menu group names	18	Home Auxiliary Names
7	Process group names	19	Diary names
8	Siren list names (Not normally available)	20	Lift Car Names
9	Auxilliary list names	21	Floor Names
10	Door names		
11	User type names		
12	Access Group names		

e.g. Request the text name of Time Zone number 3. {GN4,3?}
 Request the text name of Home Auxiliary 10. {GN18,10?}

HB command. Set the “Maximum Poll Time”.

The HB (HeartBeat) command allows the Comms Task “Max Poll Time” to be set by the 3rd party application.

{HB=nnn} Sets the maximum poll time and returns the current setting in the same format {HB=nnn}. Where nnn is the poll time period from 1 to 255 seconds.

{HB=000} Disables the poll requirement and returns the current setting.

{HB?} Returns the current setting in the format above {HB=nnn}.

If the communications link is also to be monitored by the 3rd party application, then the HB command can be sent regularly to force the response, {HB=nnn}, from the Concept 4000 system. *See page 10 for more details.*

Review Access

There are a number of ways to access review using the Automation Comms Task formats:

- Request review events individually. The other device requests review information when desired, at its own pace.
- Stream review events with no acknowledge packet. New review events will continually output as they occur.
- Stream review events with an acknowledge packet for every review event. The Automation Comms Task will expect an acknowledge from the other device for each review event, or else the event will be repeated.

A Pointer is maintained in the Review buffer to indicate the next event to be sent by this Comms Task.

To provide additional control over the outputting of Review events, the position of the pointer can be adjusted.

The {RP...} command set allows the position of the pointer to be adjusted to the start or end of the review buffer, or to a specific event. *See “Adjust Review Pointer” for more details on the use of the {RP=#hhhh} feature.*

Request Review Events.

To read review events individually follow the steps below:

1. To start reading at the next review event send {RP=E}.
 To start reading at the start of the review buffer send {RP=S}.
 To start reading from a specific event in the review buffer send {RP=#hhhh}. Where hhhh is the review event ID.

Note that the pointer is set to the latest current event whenever the Comms Task is started. i.e. Set to "Active".

2. Request the next review event by sending {RN?}. If there is no new review the Comms Task will return {RV}. If there is a new event, the Comms Task will return {RV= [ID][review_text]}. If you want to re-request the same event then send {RC?} and the Comms Task will return {RV=[ID][review_text]}

Stream Review Events.

To stream review events from the Concept 4000 follow the steps below:

1. To start streaming at the current review event send {RP=E}.
To start streaming at the start of the review buffer send {RP=S}.
To start streaming from a specific event in the review buffer send {RP=#hhhh}. Where hhhh is the event ID.
Note that the pointer is set to the latest current event whenever the Comms Task is started. i.e. Set to "Active".
2. Now turn on streaming by sending either {RS=A} if you want to send an acknowledge packet to the Concept 4000 for each review event, or if not sending acknowledge packets, then send {RS=L}. The Concept 4000 will now automatically send new review messages as they occur in the form {RV=[ID][review_text]}.
3. If you have selected to send acknowledge packets, then for each review event sent from the Concept 4000, an acknowledge packet must be received before advancing to the next event. The acknowledge packet is of the form {RA=[ID]} where [ID] matches that of the review event being acknowledged. If an acknowledge is not received within 5 seconds, the event will be resent every 5 seconds ("Repeat time"). The fastest that review events can be initiated is one event every 500ms. ("Pacing time")
4. To stop streaming send {RS=F}

"Repeat time" and "Pacing time".

An alternate form of the {RS=} can be used to alter the timeouts above.

Sending {RS=A,xxx,yyy} or {RS=L,xxx} allows the Pacing time (xxx) and/or the Repeat time (yyy) to be altered.

The pacing time is set in 5ms increments (000 to 255 x 5ms = 1.28 seconds maximum).

The repeat time is set in 100ms increments (10 to 255 x 100ms = 25.5 seconds maximum).

Adjust Review Pointer.

Every Review event has an [ID] field comprising 4 hexadecimal digits, incrementing each event by 0x0A (Decimal 10). The Event ID is the 4 hexadecimal digits highlighted in bold text in the following example.

e.g.

{RV=**D4ED** Sep16 19:48:06.7 Cleaner Pin accepted at LCD Term. #001}

{RV=**D4F7** Sep16 19:48:13.7 .Area 003 On by Cleaner}

{RV=**D501** Sep16 19:48:14.3 Xmit .Area 003 Close by Cleaner}

The {RP=#hhhh} command can be used to adjust the position of the pointer to any valid Review event ID.

This may be useful if the Automation Comms Task has been caused to restart. e.g. A power-up reset has occurred on the Concept 4000 Control Module, or the Automation Comms Task has been set to Idle, then back to Active.

Note that if either of these events occurs, review streaming, if previously enabled, will not automatically re-start.

If the ID number of the last Review event received is known, then prior to requesting the next review event, or re-starting review streaming, the {RP=#hhhh} command can be sent, where hhhh is the event ID of the last review event received.

e.g. If the last review events received were the events shown in the example above, then sending {RP=#D501} will move the pointer back to the last event received. Once this is done the {RN?} command can be sent to request the next event, or the {RS=L} command can be sent to re-start review streaming.

If you need to obtain a number of the most recent events, the {RP=E} command can be used to return the event ID of

the last event. You can then calculate the event ID for the first event you want to see, and use the {RP=#hhhh} command to reset the pointer to that event. e.g. To see the last 10 events if the last event ID is D501, you would reset the pointer to D49D. The {RS=L} command can then be used to re-start the review streaming from that event. Alternatively, you can use the {RN?} command the appropriate number of times to request the events individually.

Abbreviated Review.

A new option introduced in V7.4 firmware allows an abbreviated form of the Review text to be outputted by the Automation Comms Task. This option reduces the normal review message down to just the system ID of the primary entity, and the new state. This gives the integrator a set of review event messages where the format is more consistent and each type of message is of a fixed number of characters. *See examples on page 10.*

Raw Review.

A new option introduced in V7.8 firmware allows the Review to be outputted in its raw hexadecimal format. The hexadecimal data string is inserted between the Review Event ID number and the Review text. Note that if this option is selected, the Review text will be in the abbreviated form regardless of the setting of the "Abbreviated Review" option described above. This option may be useful when the 3rd party application is better suited to interpreting Review events from raw hexadecimal data than from ASCII text. This feature requires additional documentation which is only available on application to Inner Range (conditions apply).

Automation Comms Task Review Messages

(Assume CT002 is the Automation Comms Task)

<u>Review text</u>	<u>Meaning</u>
CT02 – Online	The 1st packet has been received after a poll timeout or CT start.
CT02 – Offline	No packet has been received for the "Max poll time".

Errors

Protocol errors are returned by means of an error packet of the form {!nn} where nn is the error number or a packet of the form {cc!nn} where the error relates to a particular command cc. The table below lists the errors.

01	Expect a checksum but no tilde found in packet.	1c	Unmatched {ID} field for the RA command.
02	Checksum not valid hexadecimal.	1d	Received RA command but streaming turned off.
03	Checksum failed.	1e	Received RA command but no outstanding review event.
04	Unrecognized command in packet.	21	No Areas for AC command
05	Command not allowed.	22	Area too big for AC command
10	Command not allowed at this time.	23	Area already on for AC command
11	Illegal {aux_ref} syntax.	24	Area already off for AC command
12	Illegal operator (not "?" or "=").	25	Operation failed - try again.
13	[aux_ref] doesn't exist in the system.	28	Need PIN for Area control.
14	Syntax error after the "=" operator.	29	Illegal PIN for Area control.
15	Illegal syntax for a decimal field.	2a	User Cancelled. (User Type = "None")
16	Illegal Time units.	2b	Area not allowed for this User.
17	Area doesn't exist on the system.	2f	This [input_ref] not allowed.
18	Door doesn't exist on the system.	30	Illegal number index
19	Illegal {input_ref} syntax.	31	Home Auxiliary doesn't exist on the system.
1a	Input doesn't exist on the system.	32	Illegal review pointer
1b	Illegal syntax for a hexadecimal field.		

CT002 Idle ->
Automation

Programming options are found by pressing HELP, “9” at this screen.

CT002 Port ->
to use: 2

This screen allows the Installer to define the UART Port which is to be used for the interface. 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.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

Program the special options by pressing HELP, “9” from the “Port to Use” screen or return to the first screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.
(Special options are found by pressing HELP, “9” twice at the first screen.)

CT002 TRAP....
GOpts nnnnnnnn

This screen sets the Automation Comms Task General options.

- | | | |
|---|------------------------------------|--|
| T | Transmit Checksum. | If set to “Y”, the Automation Comms Task will insert a checksum field in all transmissions. A checksum field comprises a “~” character followed by two hexadecimal digits inserted just prior to the end of frame character “}”. |
| R | Receive Checksum. | If set to “Y”, the Automation Comms Task will expect a checksum field in all received packets, and will reject any packet that has a bad checksum. |
| A | Add Carriage return/
line feed. | If set to “Y”, the Automation Comms Task will insert a carriage return/line feed after every transmitted packet. |
| P | Need PIN Code.
(V7.2 or later) | If set to “Y”, a valid PIN code from any User in the range of U00001 to U00032 must be included in any Area Control command.
The User must also have the appropriate Area control permissions. |

CT002 EXAR....
ROpts nnnnnnnn

This screen sets the Automation Comms Task Review options.

- | | | |
|---|-----------------------------|---|
| E | Use EN Review
buffer. | If set to “Y”, then the Automation Comms Task will use the EN review buffer rather than the standard review buffer. This option is only relevant in countries where the firmware supplied supports an “EN Review” option. e.g. UK |
| X | Xmit Review Events
only. | If set to “Y”, the Automation Comms Task will only transmit “Xmit” type review events.
i.e. Input and Area events programmed to be reported. |

A	Abbreviated Review (V7.4 or later)	If set to "Y", the Review events will be sent in an abbreviated form. Any relevant entity names (if programmed) will be replaced with the entity ID. e.g. <u>Normal Review log entry:</u> Had alarm on Roller Door Reed in Garage Intruder Alarm On by John Smith R01:X01 On by John Smith (Door Lock) R01:X01 Off by Aux Timer	<u>Auto Comms Task O/P:</u> Alarm C01:Z15 A001 On R01:X01 On R01:X01 Off
R	Raw Review. V7.8 or later only.	If set to "Y", then Raw hexadecimal Review data will be inserted into the Review Event between the Event ID and the Review text. The Review text will be abbreviated regardless of the setting of the "A"bbreviated Review option above. <i>See additional information on page 8.</i>	
.	Spare.	Spare - Set to "n".	

CT002 Max Poll Time (sec): 000

This screen sets the maximum time allowed between received packets before the Automation Comms Task considers the link to have failed and triggers the "Auto OK Zone".

e.g. If the Max Poll time is set to 015, then the Comms Task expects to see a packet from the 3rd party application at least every 15 seconds.

If set to zero then there is no poll requirement. i.e. The feature is disabled.

See "Auto OK Zone" below and HB command notes on page 6.

CT002 Auto OK Zone: C01:Z01

This screen allows any unused input to be chosen to indicate the state of the Automation Comms Task.

If commands are being received at least every "Max Poll Time" (see above) then the zone remains sealed. If a command is not received within "Max Poll Time" then the zone is put in the alarm state.

This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.

If a Zone Input is assigned to this option, the "Ignore Physical Zone" option must be set to Yes in the programming options for that Zone Input.

See "Input programming". MENU 7, 0.

CT001 . . R. Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

.	Spare
R	Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“32 Pin” Comms Task Format

IMPORTANT NOTES:

Hardware Compatability.

The 32 Pin Comms Task can only be used in Type 2 (CE) Control Module Hardware.

Firmware Compatability.

This document refers to the operation of the 32 Pin Comms Task in V5.6 or later only.

This Comms Task was formerly called the “8 Pin” Comms Task. The 8 Pin format was introduced in V4.5, however the operation has changed significantly and use of the 8 Pin Comms Task in Versions prior to V5.6 is not recommended. Information on the operation of the 8 Pin Task in V4.50 to V4.9x can be found in V4.5 of the Programmers manual. Information on the operation of the 8 Pin Task in V5.0 to V5.2 can be found in V5.2 of the Programmers manual.

INTRODUCTION.

This communication format allows the 3000/Access 4000 system to report up to 32 different types of alarms and provide intruder alarm sequential confirmation logic. This type of alarm reporting logic may be required by an Alarm Receiving Centre (Central Monitoring Station), particularly when Police Response is provided for Intruder Alarms.

32 Pin differs from other alarm reporting Comms Task formats in that it uses changes to Area Pins rather than “Xmit” Review entries as its source of information.

This Comms task is primarily designed to provide Auxiliary outputs/Relays for a low-level interface with a STU (Subscriber Terminal Unit), but can also be used with any 3rd party communicators that support hardwired input terminals for reporting. e.g. Redcare STU, GSM STU, etc.

The 32 Pin Comms Task can also be used to apply alarm confirmation logic on industry standard Contact ID, SIA, proprietary IRfast dialer and other communication formats by using Calculated Auxiliaries to link the Pin Auxiliaries to Zone Inputs.

PROGRAMMING OVERVIEW.

The 32 Pin comms task utilises up to 32 consecutive Auxiliaries, selected in blocks of 8, which can control relays for the purpose of triggering the inputs on a remote STU.

Alternatively, the Auxiliaries can be used in Calculated Auxiliary programs to trigger Zone Inputs. These Zones can then be used for reporting the sequential confirmation logic outcomes via any of the Comms Task formats used for reporting alarms to a Alarm Receiving Centre (Central Monitoring Station). e.g. Contact ID, IRfast, SIA, etc.

The Sequential Confirmation Logic reported by the 32 Pin Comms Task is applied to Zone Inputs according to:

- 1) The Comms and Pin Type options programmed in the **Process Group** assigned to the Zone.
- 2) The Confirm Time, Confirm options and Confirm Group programmed in the **Area** that the Zone is assigned to.
- 3) The Area Group setting programmed in the **32 Pin Comms Task**.

Confirmation logic will only apply when the Process Group is programmed to trigger comms events.

There are currently 13 Pin Output Types each of which has a defined function.

The Pins are defined as follows:

1 Fire	6 Fault	11 Battery
2 PA	7 Confirmed Intruder	12 Mask
3 Unconfirmed Intruder	8 Power	13 Soak (Not currently used)
4 Open/Close	9 Tamper	14 Primary ATS (V5.7 or later)
5 Isolate	10 RF Jam	15 Secondary ATS (V5.7 or later)
		ATS = Alarm transmission system.

See the table following this overview for full descriptions of each Pin Type.

Pins 4, 5 and 7 cannot be assigned via a Process Group as they are an automatic function of the 32 Pin Comms Task and the Confirmation logic. If a different sequence is required for the Pins, the Installer simply needs to alter the associated interface wiring, or system programming (e.g. Calculated Auxiliaries) accordingly.

Where multi-Area systems require the use of individual STU's for additional PIN reporting or for individual Area reporting, multiple 32 Pin Comms Tasks may be programmed. In this case, separate Auxiliaries are used for each Comms Task and the Area Confirm Group is used to define which Areas will be reported by each 32 Pin Comms Task.

Once the Comms Task is set to "Active", the Pin Auxiliaries are now controlled by the Comms Task. Note that no other function should be programmed to turn these Auxiliaries on, however, they may be turned off by another function or a timer if necessary. e.g. For Auto re-setting of Pin 1 (Fire) by the Central Station. These Auxiliaries can also be used to trigger other functions such as Calculated Auxiliaries.

CONNECTING TO A REMOTE STU.

The normal or sealed state for a Pin is Auxiliary Off. (With the exception of Pin 4 - See below)

When a Pin is triggered by an alarm, Area Open or Zone Isolate, the Auxiliary will turn on and the physical output will be switched to 0V. If a positive trigger output is required then a relay interface board must be fitted to the Auxiliaries, and the positive voltage switched via the relays.

For STU's that require an external pull-up resistor to keep the input high while inactive, a value of around 10K is recommended. (Check the STU's installation manual)

Always ensure that a common 0V (ground) connection is made between the STU and the 3000/4000 Module that the Auxiliaries belong to, especially if the STU is powered by a separate power supply.

INDIVIDUAL AREA OPEN/CLOSE.

To report individual Area Open/Close, additional STU Pin inputs are required. If the additional STU Pin inputs are available, additional Auxiliaries/Relays can be installed in the 3000/4000 System and assigned as "Close" Auxiliaries in the required Areas. Each Auxiliary/Relay can then be connected to a different STU Pin input to indicate Open/Close for that Area.

If General Open/Close reporting is not required, Pin 4 should not be connected.

PROGRAMMING AND OPERATION NOTES.

AREA PROGRAMMING

As Pin 4-Open/Close is used in the logic for resetting alarms on other Pins, any Area that is to transmit alarms via the 32 Pin Comms Task requires the following programming:

- a) If the 32 Pin Comms Task has an Area Confirm Group other than "00", the Area must have the same Area Confirm Group assigned. A 32 Pin Comms Task will only report Pin states from Areas which have the same Confirm Group assigned. If the Comms Task is only reporting on one Area, then assign a unique Confirm Group number to the Comms Task and to that Area.
- b) The Area must be programmed to transmit Open and Close reports.
i.e. The "O" and "C" options in the OCAN2S screen must be set to Yes in Area Programming; MENU, 7, 1.
- c) The Confirm Time and the Confirm Options must be programmed to the desired settings.

AREA GENERAL OPEN/CLOSE REPORTING.

General Open/Close reporting logic is automatically applied to all the Areas in the Area Confirm Group assigned to this Comms Task. i.e. “Open” pin (Pin 4) will turn On if any Area in the Group is turned Off.
 “Open” pin (Pin 4) will turn Off when all Areas in the Group are turned On.

AREA CONFIRM GROUP

The Confirm Group allows one Area, a Group of Areas or All Areas to be reported by this Comms Task. If there is more than one Area in the Group, this allows an alarm to be generated by a single “Unconfirmed Intruder” Pin occurring in two or more separate Areas that have the same Confirm Group assigned.

ACTIVATING PINS

When the 32 Pin Comms Task is set to Active, the state of the Pin Auxiliaries will be set to “All Pins normal, 4 outstanding”. i.e. All Pins will be set to Off, with the exception of Pin 4-Open/Close, which will be set to On. Note that on a new system, Pin 4 may not turn on until at least one Area has been turned On and back Off again.

When an alarm is generated and programmed to trigger one of these Pins, that Pin will not normally de-activate or turn off until the Area is turned Off or Re-armed (Depending on Pin Type).

See the “PIN Types” tables for full details and exceptions.

Pin Types 1, 2, 9, 10, 11, 12, 13, 14 & 15. The 32 Pin Comms Task will generate 1 Pin activation per arming period, unless the Pin is turned Off by another mechanism, such as a Calculated Auxiliary or other function.

Pin 3. See “Intruder Alarm Confirmation (Verify) logic” following.

Pin 4. See “Area General Open/Close reporting above.

Pin 5. See “Isolate Pin Logic” following.

Pin 6. See Fault Pin details in the “PIN Types” tables.

Pin 7. See “Intruder Alarm Confirmation (Verify) logic” following.

Pin 8. See Power Pin details in the “PIN Types” tables.

INTRUDER ALARM CONFIRMATION (VERIFY) LOGIC

In accordance with the UK requirements of DD243, confirmation logic can be applied to all inputs that are programmed to communicate an intruder alarm.

Inputs affected.

The Sequential Confirmation logic only applies to Zone Inputs or System Inputs that are assigned a Process Group that has the Pin type set to 3-Intruder. All other Pin types will report immediately (if Comms options are selected) and will not have Confirmation logic applied.

Unconfirmed Intruder and Confirmed Intruder (Verify) Pins.

When an alarm occurs on an Input programmed to trigger Pin 3-Unconfirmed Intruder, the “Unconfirmed Intruder” Pin is triggered and the Confirm Timer is started.

For the “Confirmed Intruder” Pin to be triggered, a second alarm from another Zone Input programmed to trigger the “Unconfirmed Intruder” Pin must occur within the programmed Confirm Time.

The Confirm logic will only accept 1 “hit” for each Input. Note that for each Zone, an Alarm is counted as one hit, and a Tamper is counted as a second hit in accordance with DD243 requirements. i.e. Alarms &/or Tamperers on any individual Input will only cause the Verify Count to increment once within the Confirm Time, regardless of the number of “hits” or “breaks” on that Input.

Note that Inputs may be prevented from contributing to the sequential confirmation logic during &/or after the Entry time depending on the Area Confirm options settings. These settings are programmed in accordance with the presence

and location of any Ancillary Control Equipment (ACE).

When the Confirm Timer expires the Unconfirmed Intruder Pin and Confirmed Intruder Pin (if triggered) are cleared in order that a subsequent alarm and/or confirmed alarm may be signalled.

Area Confirm Groups.

The Sequential Confirmation logic may be broken up into a number of individual groups.

By programming separate Areas that all have Inputs programmed to trigger Pin 3, but which all have a different Confirm Group assigned, it is possible to have a number of Groups all with their own Confirmation logic that will not affect any of the other Groups. A new 32 Pin Comms Task must then be programmed for each Group.

Confirmation Timers.

The Confirm Time is programmed separately for each Area. If there is more than one Area in a Confirm Group, the Confirm Time should be set to the same value for every Area in the Group. If the Area Confirm Timers are different, the longest Area Confirm Timer will be used for the Group Confirm Time.

Sequential Confirmation Logic.

Each 32 Pin Comms Task is assigned a Confirm Group. The Confirmation Logic operates for each 32 Pin Comms Task on all Areas with a matching Confirm Group assigned as follows:

- When the first alarm occurs on any Input with Process Group Pin type "Intruder", in any Area with the relevant Confirm Group:
 - 1) The Confirmation Timer will be started for the appropriate Area and Confirm Group.
 - 2) The Auxiliary output for Pin 3-Unconfirmed Intruder, in this Confirm Group, will be turned On.
- When another "Intruder" alarm occurs in the same Area or in the same Confirm Group:
 - 1) A check is made to see if the alarm is allowed to contribute to a confirmed alarm. This check is based on the Area Confirm options, "C" and "P", and whether an entry delay is running, or has expired.
 - 2) A check is made to see if any previous alarms are allowed to contribute to a confirmed alarm.
 - 3a) If Yes, then:
 - The Auxiliary output for Pin 7-Confirmed Intruder, in this Confirm Group, will be turned On.
 - The Confirm timers for this Area and Confirm Group will be re-started.
 - 3b) If No, no further action is taken. (Pin 3 remains on and the Confirm timer continues to run)
- If at any time, the confirm timer expires:
 - 1) The Auxiliary output for Pin 3 (Unconfirmed Intruder) is turned Off, ready for the next "Intruder" alarm.
 - 2) If On, the Auxiliary output for Pin 7 (Confirmed Intruder) is turned Off.
 - 3) All Inputs in all Areas in the Confirm Group are tested.
 - 4) Any Inputs with Process Group Pin type "Intruder" which are in the alarm state are automatically Isolated.
 - 5) If any Inputs are Isolated in the previous step, the Auxiliary output for Pin 5 (Isolate) is turned On.
- If the Area (or Areas) which generated the alarm (or alarms) are turned off while the Confirm timer is running.
 - 1) A check is made to see if an unconfirmed or confirmed alarm condition still exists in other Areas of the Confirm Group.
 - 2) The Auxiliary outputs for Pin 3 and 7 are adjusted accordingly.
 - e.g. If "Intruder" type alarms which are allowed to contribute to confirmed alarms have originated in 3 different Areas in the same Confirm Group:
 - When one of the Areas is turned off, Pin 3 and 7 will remain on because a confirmed alarm condition still exists in the Group from the other 2 Areas.
 - If a second Area is turned off, Pin 7 will turn off, but Pin 3 will remain on. This is because a confirmed alarm no longer exists, but an unconfirmed alarm still exists in the remaining Area.
 - When the last Area is turned off, Pin 3 will turn off.

- Pin 7 (Confirmed intruder) is only turned Off if:
 - 1) Pin 4 is On (At least one Area in the Confirm Group is OFF)
 - 2) AND One of the following occurs:
 - The Installer code is entered.
 - OR
 - A Coded Reset takes place (Logon, then Menu, 6, 2).
 - OR
 - A Redcare Reset takes place (via the reset alarms Calculated Auxiliary).

Example.

Comms Task 2 is programmed for the “32 Pin” Format and has Area Confirm Group 1 assigned.

The Area Confirm Time is programmed for 30 minutes.

Area 1 and 2 contain Inputs that are to report via the 32 Pin Comms Task.

Area 1 has Confirm Group 1 assigned & All Inputs in Area 1 have Process Groups that have Pin 3 - Intruder selected.

Area 2 has Confirm Group 2 assigned & All Inputs in Area 2 have Process Groups that have Pin 3 - Intruder selected.

An alarm in Area 1 will cause Pin 3 to be triggered in Comms Task 2.

A subsequent alarm in Area 2 will not cause the Confirmed Intruder Pin to be triggered as Area 2 Inputs have a different Confirm Group.

Should another Input be triggered in Area 1 within 30 minutes of the initial alarm in Area 1, then Pin 7 - Confirmed Intruder will be activated in Comms Task 2.

INDIVIDUAL ALARM REPORTING.

It is recommended that where practical, a second Comms Task such as Contact ID dialer, SIA dialer, IRfast dialer, GSM or IPfast be used to report individual alarm activations, especially on multi-area systems where only one STU will be utilized to report all Area alarms.

NOTE: Dialer Comms Tasks utilizing the Redcare telephone line. (UK)

Comms Tasks that utilize a Modem communications format (e.g. IRfast) should be set to “Force 300 Baud” by setting the “F” option to Yes in the “PpDFTMA6” screen. This will avoid a Comms Fail being reported to the Alarm Receiving Centre (Central Monitoring Station).

ISOLATE PIN LOGIC

In accordance with the DD243 (UK) Pin 5 - Isolate operates as follows:

- When the Confirm Timer expires in an Area, a test is performed on all Zones in the Area. Any Zones which are found to be in an Unsealed state at that time, are automatically Isolated until the next Arming period.
- If any Zones are Isolated either by the above process, or by any other process, the Comms Task Pin turns On Pin 5. This Pin will remain On until the Area in which a Zone was isolated, is turned Off or until it is turned Off by some other function. e.g. Calculated Auxiliary, Auxiliary Timer, etc.
- DD243 states that at the expiry of the confirmation timer, the IAS (Intruder Alarm System) must re-arm all Zones, except those which are unsealed at that time. It is therefore recommended that the “Siren Lockout” option be set to No, in any Process Group that has been designated as Pin Type “3-Intruder”. Please note that this is now the default setting for UK firmware.

PIN TYPES

Pin	Name	Turns On when	Turns Off when	Area Re-arm prevented (Lockout)	Notes
1	Fire	Get alarm edge from Input with PG Pin type FIRE.	The Area is re-armed or Installer Logon (After Trouble Zones cleared)	No	-Zone Inputs connected to Smoke Detectors, Heat-rise Detectors, etc. -Zone Input connected to monitor a Relay output from a Fire alarm system. (If allowed by relevant Fire Regulations. Check first) These Zones should be assigned to an Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.
2	Personal Attack (PA)	Get alarm edge from Input with PG Pin type PA.	The Area is re-armed or Installer Logon. (After Trouble Zones cleared)	No	-Zone Inputs connected to Panic Buttons. -"Duress" and "Panic" System Inputs from an LCD Terminal. -Portable Personal Emergency transmitters via RF Expander Zone Inputs. These Inputs should be assigned to an Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.
3	Intruder (Un-confirmed Intruder)	Get alarm edge from Input with PG Pin type INTRUDER.	The Area (or all Areas in the same Confirm Group which have had an "Intruder" alarm) is turned Off or Area confirm timer expires.	No	-Zone Inputs connected to PIRs, Door/Window Reeds and other Intruder detection devices. -"LAN Fail" System Inputs from Modules monitoring Intruder Zone Inputs. See Notes 1 & 3.
4	Open / Close	Any Area in the Confirm Group) is turned Off.	All Areas in the Confirm Group are On.	No	General Open / Close status for all Areas included in the Area Confirm Group assigned to the 32 Pin Comms Task.
5	Isolate	Get isolate edge from Input with PG Pin type not set to NONE.	The Area is turned Off or Installer Logon.	No	Isolate status for all Zones in all Areas included in the Area Confirm Group assigned to the 32 Pin Comms Task. See "Isolate Pin Logic" in this document for details.
6	Fault	Get alarm edge from Input with PG Pin type FAULT, POWER, RF JAM, BATT, MASK, SOAK, PRIM ATS OR SEC ATS. or Get tamper edge from Input with PG Pin type not set to NONE.	The Area is re-armed (May not be possible until Area Lockout is cleared) or Reset Alarms is performed. (After Trouble Zones cleared)	Yes, except when only triggered by Primary ATS &/or Secondary ATS Pins.	-"Battery Test Fail" and "Battery Fuse" System Inputs. -Other relevant System Inputs. See Notes 2 & 3. These Inputs should be assigned to a "System" Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.
7	Confirmed Intruder	When a sequentially confirmed Intruder alarm condition exists.	A Confirmed Intruder condition no longer exists. (See details on pages 3 to 5) or Area confirm timer expires.	Yes	Status of Intruder Alarm Confirmation logic. (Pin 7 is automatically generated by the system.) See "Intruder Alarm Confirmation Logic" in this document for more details.
8	Power	Get alarm edge from Input with PG Pin type POWER.	All Inputs in all Areas with POWER Pin type are sealed.	No	"AC Fail" System Inputs. See Notes 2 & 3. These Inputs should be assigned to a "System" Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.

Pin	Name	Turns On when	Turns Off when	Area Re-arm prevented (Lockout)	Notes
9	Tamper	Get tamper edge from Input with PG P'in type not set to NONE.	All Areas in the Confirm Group which contain the Inputs that caused the P'in to turn on are re-armed. or Installer Logon. (After Trouble Zones cleared)	Yes	
10	RF Jam	Get alarm edge from Input with PG P'in type RF JAM.	All Areas in the Confirm Group which contain the Inputs that caused the P'in to turn on are re-armed. or Installer Logon.	Yes	"RF Jam" System Inputs. These Inputs should be assigned to a "System" Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.
11	Low Battery	Get alarm edge from Input with PG P'in type BATT.	All Areas in the Confirm Group which contain the Inputs that caused the P'in to turn on are re-armed.	Yes	"Low Battery" System Inputs. These Inputs should be assigned to a "System" Area that is On 24Hrs or use a Process Group with "Action Alarms 24Hrs" set to Yes.
12	Mask	Get alarm edge from Input with PG P'in type MASK.	The Area is re-armed or Installer Logon.	No	
13	Soak	Get alarm edge from Input with PG P'in type SOAK.	The Area is re-armed.	Yes	Not currently used.
14	Primary ATS	Get alarm edge from Input with PG P'in type Prim ATS.	All Inputs in all Areas with Prim ATS P'in type are sealed.	No	Reports failure to communicate on the Primary Comms Task. Use for C01:S20 (Comms Backup) that alarms when the Backup Task is triggered (i.e. Primary path has failed) or Zones that monitor the Comms fail output/s of a 3rd party communicator providing the primary path.
15	Secondary ATS	Get alarm edge from Input with PG P'in type Sec ATS.	All Inputs in all Areas with Sec ATS P'in type are sealed.	No	Reports failure to communicate on the Backup Comms Task. Use for C01:S21 (Comms Fail) or Zones that monitor the Comms fail output/s of a 3rd party communicator providing the backup path.

NOTES:

- Pin 3. Intruder.** "LAN Comms Fail" System Inputs, on Modules that are monitoring Intruder Alarm Zone Inputs, should be assigned to the same Area as the Zone Inputs, using the "Intruder/Burglary" Process Group. This allows an Intruder Pin to be generated if a LAN fail occurs on a Module, and that Module is monitoring Zone Inputs that are in an Area which is currently Armed.
- Pin 6 & 8. System & Power.** "Low Battery", "Battery Test Fail" and "AC Fail" System Inputs should be assigned to a "System with Comms" Area (with the appropriate Pin Type) that is monitored by the 32 Pin Comms Task.
- 24Hr Local System Area.** These LAN Comms, Battery and AC Fail System Inputs should also be assigned to a "24Hr System" Area for local alarm annunciation in the normal manner. i.e. A System Area that is not monitored by the 32 Pin Comms Task.

CT002 Idle ->
None

Choose an unused Comms Task to program, and use the Right Arrow key to select the "32 Pin" Comms Task format.

IMPORTANT NOTE: Only Comms Tasks 001 to 008 can be used for 32 Pin.

CT002 Idle ->
32 Pin

Programming options are found by pressing HELP, "9" at this screen.

When programming is completed, you can return to this screen by pressing HELP, "0" and toggle the Comms task On and Off by pressing the "9" Key.

CT002
Gopts-> nnnnnnnn

This screen is not currently used.

Spare for future options that may be incorporated into this format.

These screens allow the Installer to specify the location and number of Pin Auxiliaries to be used.

CT002 Pin1 Aux
— :X

The first screen allows the Installer to specify the first Auxiliary to be used. i.e. The Pin 1 Auxiliary. The other Auxiliaries will be the next Auxiliaries immediately following this Auxiliary.

CT002 No, of
Pins: 08

The second screen allows the number of Pins required to be specified.

e.g. If the Pin 1 Aux is C01:X03, and the number of Pins is set to 8, then the Pin Auxiliaries will be as follows:

1	Fire	C01:X03	5	Isolate	C01:X07
2	PA	C01:X04	6	Fault	C01:X08
3	Intruder	C01:X05	7	Confirmed Intruder	C01:X09
4	Open/Close	C01:X06	8	Power	C01:X10

If the total number of Auxiliaries will not fit on a single Module, the Auxiliaries may be on consecutively numbered Modules of the same type.

CT002 Area
Group: 00

This screen allows an Area Confirm Group to be assigned to this Comms Task. A value of 00 to 15 may be entered.

00

The Comms Task will report Pin states from all Areas regardless of the Confirm Group assigned to the Area.

01 to 15

The Comms Task will only report Pin states from Areas which have the same Confirm Group assigned. i.e. The Confirm Group number assigned here must be the same Confirm Group number assigned to the Area/s to be reported via this Comms Task. If the Comms Task is only reporting on one Area, then assign a unique Confirm Group number to the Comms Task and to that Area.

Note that all Areas included in the Confirm Group assigned to a 32 Pin Comms Task must be programmed to report Open/Close. i.e. The "O" and "C" options in the "OCAN2S" screen must be set to Yes in Area Programming; MENU, 7, 1.

See the introduction for more details.

“C-Bus” Comms Task Format

Note: The C-Bus Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.00 Firmware or later.

This communication format allows the 3000/Access 4000 system to connect to a Clipsal C-Bus PC interface via an RS232 Serial connection.

IMPORTANT NOTES:

V4.5 Firmware or later:

The Control Module provides Automation (C-Bus) Auxiliaries as follows:

512k (4MBit):	Up to 64 depending on memory configuration chosen.
128k (1MBit):	Up to 16 depending on memory configuration chosen.
32k	NO Automation Auxiliaries provided.

V4 Firmware: The Control Module must be fitted with 512k (4MBit) Memory expansion which currently allows up to 64 C-Bus Auxiliaries to be defined, depending on the memory configuration chosen.

C-Bus Networks.

The C-Bus Comms Task is designed to share data with a single C-Bus Network, and is not designed to operate across C-Bus Network bridges.

Additional C-Bus products are available that may allow data to be sent and received across Network bridges. Contact Clipsal for more information.

Communications Baud Rate.

The Concept 4000 C-Bus Comms Task automatically adjusts the C-Bus PCI's baud rate. If set to a baud rate other than 9600, the PCI will then be unable to communicate with other applications that require a PCI baud rate of 9600.

- If the Control Module Firmware is V7 or later, the baud rate is adjustable and can be set back to 9600 when required.
- If the Control Module Firmware is V6.2 or earlier, the Concept 4000 sets the PCI's baud rate to 1200 baud and it cannot be set back to 9600 baud in the field.

See additional details under “Baud Rate” on Page 2.

The connection between the UART Port and C-Bus PC interface is made using the C-Bus Interface Cable, Part Number 993013.

Communications integrity is monitored by the 3000/Access 4000 system. Once communications is established, the system sends a “turn on monitor mode” command to the C-Bus PC interface once every minute to check that the interface is operational, and able to report network activity.

Any C-Bus network activity detected will cause any relevant programmed actions to be carried out. Any time a C-Bus command needs to be sent, the 3000/Access 4000 system will send it within 200mS.

In addition to the Comms Task, C-Bus Auxiliaries must also be programmed to establish the association between 3000/4000 Auxiliaries and C-Bus Group Addresses, and the operations required. *See “C-Bus Auxiliaries”, MENU, 7, 5, 9.*

C-Bus Auxiliaries can provide the following functions:-

1. Cause nominated C-Bus output devices to turn on, turn off, or ramp on/off to a specified level as defined 3000/Access 4000 Auxiliaries turn on or off.
2. Update the state of defined 3000/Access 4000 Auxiliaries as C-Bus functions turn C-Bus output devices on or off within the C-Bus network.
3. Save C-Bus activity to the 3000/Access 4000 Review Memory.
4. Allow two separate applications to be controlled simultaneously. e.g. Lighting and Heating.

CT002 Idle ->
CBus

Programming options are found by pressing HELP, "9" at this screen.

CT002 Port ->
to use: 2

This screen allows the Installer to define the UART Port which is to be connected to the C-Bus PC interface. 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.

Note that Port 1 is the default Port assigned to the Insight or PCDirect Comms Task and should not be assigned to other Comms Tasks if possible.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.

IMPORTANT NOTE: The Concept 4000 C-Bus Comms Task automatically adjusts the C-Bus PCI's baud rate. If set to a baud rate other than 9600, the PCI will then be unable to communicate with other applications that require a PCI baud rate of 9600.

- If the Control Module Firmware is V7 or later, the baud rate is adjustable and can be set back to 9600 when required.

See "Using the C-Bus PCI with other applications" below.

- If the Control Module Firmware is V6.2 or earlier, the Concept 4000 sets the PCI's baud rate to 1200 baud and it cannot be set back to 9600 baud in the field.

V7 Firmware or later: A setting of 9600 baud is recommended.

This maintains the default baud rate setting of the C-Bus PCI and therefore also allows it to be used with the C-Bus configuration software when necessary.

A lower baud rate (e.g. 4800 or 2400) may need to be selected if problems are encountered with overflow of the Concept 4000 C-Bus Comms Task buffer.

Using the C-Bus PCI with other applications.

If the C-Bus PCI baud rate has been set to a value other than 9600, and then needs to be used with another application, such as the C-Bus configuration software, the following steps must first be followed:

- Set the C-Bus Comms Task to "Idle".
- Change the Baud Rate to 9600.
- Set the Comms Task back to "Active" and wait for communications with the PCI to be re-established. (This sets the PCI's baud rate back to 9600)
- Set the Comms Task to "Idle". The PCI can now be disconnected from the Concept 4000 and used with another application such as the C-Bus configuration software.

Up to V6.2 Firmware: A setting of 1200 Baud must be used for C-Bus.

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

Note: When the C-Bus Comms Task is started, it will attempt to communicate with the PC interface at the programmed Baud rate. If the Baud rate is not 1200 Baud, the Concept 4000 will send a Baud rate shift command (to 1200 Baud) to the PC interface and re-program the Comms Task Baud rate to 1200 Baud.

Program the C-Bus options by pressing HELP, “9” from the “Port to Use” screen or return to the first C-Bus screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.
(C-Bus options are found by pressing HELP, “9” *twice* at the first C-Bus screen.)

CT002 PC Unit
Address: 000

This screen sets the C-Bus unit address for the C-Bus PC Interface unit. It is programmed in decimal digits from 000 to 254 and must be set to the same as the C-Bus PC Interface address.

CT002 App #1
00

This screen sets the primary application ID for the C-Bus system that the 3000/Access 4000 is communicating with.
This setting is programmed in Hexadecimal characters and is normally set to Application ID 38 (Lighting).
IMPORTANT NOTE: If the number of the Application ID you wish to assign has been provided as a Decimal number, it must be converted to Hexadecimal before entering it into this screen. (Use Windows Calculator in Scientific mode) e.g. Hexadecimal 38 (\$38) is Decimal 56.

CT002 App #2
00

This screen sets a secondary application ID for the C-Bus system that the 3000/Access 4000 is communicating with. It is programmed in Hexadecimal characters. If a secondary application is not required, this screen is normally programmed to the same ID as Application #1.
See notes for App #1 above.

CT002 CBus OK
Zone: C01:Z01

This screen allows any unused Zone Input in the 3000/Access 4000 system to be used to indicate changes in the status of the C-Bus communications.
This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.
Seal = C-Bus communications is considered operational.
Alarm = C-Bus communications is considered failed.
If a Zone Input is assigned, the “I”gnore Physical Zone option must be set to Yes in the programming options for that Zone Input.
See “Input programming”. MENU 7, 0.

CT002 R.....
Opts -> nnnnnnnn

R Review

This screen allows various C-Bus options to be selected:

The Review option causes C-Bus activity to be logged to the Review memory. This includes all On, Off and Ramp commands only. This option is useful if C-Bus network activity needs to be monitored, particularly for testing and de-bugging during system installation and commissioning. Note that enabling this option permanently may cause a large amount of additional review, thereby causing older review events to be discarded sooner.

NOTE: In earlier versions of firmware, this option may need to be set to Yes if the “Alarm Feedback” option is enabled in C-Bus Auxiliary programming (MENU, 7, 5, 9, 1). If using the Alarm Feedback feature, first test it with this option left at No. If it works, then setting this option to Yes will not be necessary for this purpose. (Note: V4.1x or earlier, C-Bus Auxiliary programming is accessed via MENU, 7, 5, 9)

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

- . Spare
- R** **R**etry
- . Spare
- . Spare

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

“Inovonics” Comms Task Format

The Model 3000 / Access 4000 can be connected to the Inovonics Wireless receivers, FA400 and MF4232 via the IR400 Inovonics interface board. Part No: 995075.
Note: The Inovonics Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

The IR400 is connected between the Serial Port of the Inovonics Receivers and a UART Port on the Model 3000/ Access 4000 Control Module. Ensure that the UART Expander board fitted to the Control Module has a suitable number of Ports to provide connection to the IR400 Inovonics interface as well as any other devices required. e.g. PC, Securitel STU, GSM modem, Printer, etc. On sites where the range offered by the Wireless transmitters is not adequate, Inovonics offers Repeaters to extend the range.

The Inovonics Receiver and IR400 interface are both powered by a 12V supply that is best sourced from a separate battery-backed 12V Power Supply giving longer battery backup times and a high level of Power Supply integrity. (The units may be powered from the Control Module “DET+” supply, however, if a short in the detector cabling, etc, causes the “DET” fuse to blow, power to the units will be lost)

This interface allows all zone information from Inovonics wireless transmitters to be interpreted as Model 3000 / Access 4000 Zone Inputs. The Inovonics system is viewed by the 3000/4000 as a **virtual** LAN Module called a Wireless Network Module (Nxx). Each group of 16 zones is allocated a virtual Wireless Network Module number and can share 4 System Inputs. There can be a maximum of 13 of these virtual Wireless Network Modules, allowing up to 208 Inovonics wireless transmitters to be individually monitored (13x16=208 Zone Inputs).

- The following events can be actioned via inputs allocated to areas:
- Each transmitter “zone” (Nxx:Z01 to Nxx:Z16) can report seal, alarm or tamper individually.
 - Separate Low Battery system alarm for each group of 16 transmitters.
 - Separate No Poll system alarm for each group of 16 transmitters.
 - The IR400 status can be monitored via an assigned Zone Input.
 - The receiver status can be monitored via an assigned Zone Input.

- Optional review of the following items can aid in commissioning and trouble-shooting:
- Review of individual transmitter “no poll” timeouts.
 - Review of individual transmitter low battery.
 - Review of individual transmitter signal and noise levels.
 - Review of communication problems with the receiver, or IR400 interface board.

All zone transmitters can be named, continuing the Model 3000/4000 tradition of “user friendly” operation.

Options Micro Chips

Refer to the following table to determine the correct Options Micro Chip and Memory requirements to support the number of Inovonics Zones you will need in your system.
See the “Memory Configurations” section for details of the number of Wireless Network Modules in each configuration..

No of Zones.	Requirements.
Up to 32 (2 Modules)	128k or 512k Memory must be fitted. A Memory configuration must be selected that has up to 2 Wireless Network Modules.
33 to 96 (6 Modules)	If 128k Memory is Fitted: A Memory configuration must be selected with more than 2 Wireless Network Modules. A special Options Micro Chip must be fitted; CEPIC_5 V1.15 or later. (Inner Range P/No: 995015P5)
33 to 208 (13 Modules)	If 512k Memory is Fitted: A Memory configuration must be selected with more than 2 Wireless Network Modules. A special Options Micro Chip must be fitted; CEPIC_6 V1.15 or later. (Inner Range P/No: 995016P6)

Zone Mapping.

A Wireless Network Module handles 16 Inovonics transmitters and uses the prefix "N". i.e. Wireless Network Zones are designated Nxx:Zxx. To enable the Inovonics transmitters to be used, the Transmitters must first be programmed or registered, so that each Transmitter is mapped to a specific Wireless Network Zone Input.

Once the Transmitters are mapped to Zones, these inputs can now be used in any context where 3000/4000 inputs can be specified such as Areas, Function zones, etc. Wireless Network Zones are programmed in exactly the same manner as normal physical Zone Inputs, thereby offering all the usual functionality offered by the system.

FA Series Transmitters.

NOTE: Inovonics FA series transmitters have programmable Transmitter ID, Application ID and System ID parameters that are used by the Model 3000/Access 4000 panel. Inovonics offers a number of options for programming these parameters into their transmitters, the values **must be known** to use the transmitters with the Model 3000/Access 4000.

Additional information on programming FA series Transmitters is available on the Website or your Inovonics supplier.

V4.5 or later.

The Inovonics Transmitter ID is programmed as a two digit Decimal number which maps to Wireless Network Module Zone Inputs with an offset of 1.

i.e. Tx ID "00" maps to N01:Z01. Tx ID "01" maps to N01:Z02, etc.

For example;

-An Inovonics Transmitter ID of "15" would map to Module 1, Zone 16.	i.e. "N01:Z16" within the 3000/4000 system
-An Inovonics Transmitter ID of "16" would map to Module 2, Zone 1.	i.e. "N02:Z01" within the 3000/4000 system
-An Inovonics Transmitter ID of "32" would map to Module 2, Zone 16.	i.e. "N02:Z16, within the 3000/4000 system
-An Inovonics Transmitter ID of "33" would map to Module 3, Zone 1.	i.e. "N03:Z01, within the 3000/4000 system
-An Inovonics Transmitter ID of "47" would map to Module 3, Zone 16.	i.e. "N03:Z16, within the 3000/4000 system

V4.00 to V4.4x.

The Inovonics Transmitter ID is programmed as two Hexadecimal digits where:

-The 1st digit corresponds to a Wireless Network module no., with 0 mapping to Module 1, 1 mapping to Module 2, etc.
 -The 2nd digit corresponds to the Zone Input no., with 0 mapping to Zone 1, 1 mapping to Zone 2, etc.

i.e. The mapping corresponds one-to-one with an offset of 1.

For example;

-An Inovonics Transmitter ID of \$34 would map to Module 4, Zone 5. i.e. "N04:Z05" within the 3000/4000 system.
 -An Inovonics Transmitter ID of \$85 would map to Module 9, Zone 6. i.e. "N09:Z06" within the 3000/4000 system.
 -An Inovonics Transmitter ID of \$CA would map to Module 13, Zone 11. i.e. "N13:Z11, within the 3000/4000 system.

MF Series Transmitters.

The Inovonics MF series transmitters do not have programmable Transmitter ID and must be mapped to Zones by being registered into the Model 3000/Access 4000.

This process is explained in the Zone Registration section of this manual.

V4.5 to V5.0x:	MENU, 7, 2, 5
V5.1 or later:	MENU, 7, 2, 0, 0, 3

Repeaters.

CAUTION: Use of Repeaters in conjunction with an Inovonics Receiver connected to a Module 3000/Access 4000 is not recommended as this can cause multiple alarm events to be registered from a single transmission.
i.e. The Receiver treats the transmission from the original device and any Repeaters, as separate events.

If Repeaters must be used, careful planning should be exercised to ensure that adequate coverage is provided while minimising the incidences of multiple alarm messages.

Note that in order to provide adequate coverage for devices such as hand-held transmitters and pendants, some degree of multiple alarm messages will be inevitable.

System Inputs.

There are 4 System Inputs per Module:

S01 Timeout This input is put into alarm whenever any one of the 16 zone transmitters for this module fails to report in the nominated poll time. The input will only be re-sealed at the low priority time check if all modules have reported in, or by re-starting the Comms Task. (The details of the actual transmitter with the timeout is saved to Review if the "T"imeout option is set to Yes in the Review options)

Poll Times. Two poll rates, a high priority rate and a low priority rate can be programmed for the Inovonics Comms Task. The poll rates determine when the system will check that the transmitters have reported in. All transmitters are checked when the low priority poll timer expires. Only nominated "high priority" transmitters are checked when the high priority poll timer expires. Note: Poll times should be set in accordance with the Inovonics equipment manufacturers recommendations.

S02 Low Battery This input is put into alarm whenever any one of the 16 zone transmitters for this module reports a low battery condition. The input can only be re-sealed by restarting the Comms Task. (The details of the actual transmitter with the low battery condition is saved to Review)

S03 Spare Spare for future development.

S04 Spare Spare for future development.

Important Note: Some communication formats are unable to report individual Inovonics Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

Inovonics Options

CT002 Idle ->
Inovonics

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common or Special options. For the Inovonics Comms Task, both Common and Special options will need to be programmed.

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

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the IR400 interface 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.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Inovonics receiver. The Baud Rate is selected by scrolling through the available options using the right arrow key. **A setting of 9600 Baud is mandatory for Inovonics.**

See "Comms Task Baud Rates" in *Comms Task Programming [MENU 7,3,1]* for further details.

Inovonics - Special Options

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen or by pressing HELP, "9" from any common options screen. HELP "0" will take you back to the common options when special options is complete.

CT002 App ID
_00

This screen sets the **Application ID** to be used for this Inovonics installation. It may be set from 000 to 255. See the Inovonics literature for more information. (Note that changes may take up to 1 minute to be recognised by the FA-400)

CT002 Sys ID
_00

This screen sets the **System ID** to be used for this installation. It may be set from 000 to 255. See Inovonics literature for more information.

CT002 High Poll
Rate: _00min

This screen sets the High Priority Poll Rate. This is the rate at which all High Priority transmitters will be checked to see that they have reported in. The rate is programmable from 1 to 255 minutes in 1 minute increments. Note values below 120 will increase the signal traffic significantly.

CT002 Low Poll
_00 x HighPoll

This screen sets the Low Priority Poll Rate. This is the rate at which all Low Priority transmitters will be checked to see that they have reported in. The rate is programmable from 1 to 255 as a multiple of the High Poll rate. e.g. If the High Poll rate is set to 120 minutes, and the Low Poll count is 4, Low Priority transmitters will be polled every 8 hours. (120 x 4 = 480 minutes)
See *Inovonics literature for more information regarding poll rates.*

CT002 IR400 OK
Zone: _C01:Z01

These screens allow any unused Zone Inputs in the 3000/Access 4000 system to be used to indicate changes in the status of the Inovonics communications.

-The IR400 OK Zone will go into alarm if communications to the IR400 fails and will restore when communications is re-established.

CT002 FA400 OK
Zone: _C01:Z01

-The FA400 OK Zone will go into alarm if no supervisory messages are received from a Receiver for 90 seconds and will restore when a supervisory poll is received. These Zone Inputs can then be programmed in the same manner as normal Zone Inputs to generate the type of messages and/or alarms required.

IMPORTANT NOTE: If a Zone Input is assigned, the "Ignore Physical Zone option must be set to Yes in the programming options for that Zone Input. See "Input programming". MENU 7, 0.

CT002 ACTM...P
Opts -> nnnnnnnn

This screen allows Review options to be selected for this Comms Task:

- A

Always allow

This option allows all transmitter activity to be saved to Review, including transmitter signal and noise level figures, regardless of whether the Input is enabled. i.e. Whether the Area the Input is assigned to is On or Off.
- C

Changes

This option allows transmitter activity to only be saved when a change in input status for an enabled input has occurred. i.e. An Input in an Area that is On.
- T

Timeouts

Timeouts allows all transmitters which exceed the poll timeout to be saved to review to allow individual transmitter identification.
- M

Mismatch

This option allows any transmitter activity with an “Application ID” &/or “System ID” mismatch to be saved to Review.
- .

Spare

Spare for future development. Set to “n”.
- P

Save Poll

This option causes poll type messages between the FA400 and the Control Module UART board to be saved to review.

IMPORTANT NOTE: This option causes a large number of additional Review events to be generated and should only be enabled temporarily for debugging communications problems. When set to no, only comms errors are saved.

CT001 12345678
N01Poll nnnnnnnn

These screens allow the Installer to specify which transmitters will be checked to ensure that a poll has occurred within the correct time.

CT001 90123456
N01Poll nnnnnnnn

V
V

CT001 12345678
N13Poll nnnnnnnn

CT001 90123456
N13Poll nnnnnnnn

CT001 12345678
N01High nnnnnnnn

These screens allow the Installer to nominate from which transmitters a poll will be expected at the high priority rate as programmed earlier. If transmitters are not nominated as high priority, they will be checked at the low poll rate.

CT001 90123456
N01High nnnnnnnn

V
V

CT001 12345678
N13High nnnnnnnn

CT001 90123456
N13High nnnnnnnn

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

R **Retry**

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

. **Spare**

Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate.

Multiple Receivers

Although multiple receivers may be connected, only 13 groups of 16 Zones may ever be received. If multiple receivers are used, transmitters must be specific to one receiver only. If a transmitter reports to multiple receivers, multiple activations will occur for every transmission and a comms fail will be generated if the transmitter goes out of range of any one receiver.

e.g. A separate “Application ID” and “System ID” must be used for each receiver and the transmitter must be programmed accordingly.

"PosData DVR" Comms Task Format

IMPORTANT NOTE: The PosData DVR Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

Introduction

This communication format allows the 3000/4000 system to communicate with a PosData 4 Channel Model BX DVR (Digital Video Recorder) via an RS232 Serial connection.

This interface then provides DVR Control from a standard 3000/4000 LCD Terminal in conjunction with a display monitor connected to the DVR.

Operation.

By selecting the specified MENU options while logged off, the LCD Terminal can be used to perform the following operations:

**** DVR ACCESS ****
MENU=Change Mode

MENU, 4 selects User Access Mode or User Search Mode.
The MENU key is used to toggle the selection between the two modes.

**** DVR SEARCH ****
MENU=Change Mode

When the required mode is displayed, press the <OFF> key. The DVR monitor will prompt for your User ID. "Enter User ID:"
When your User ID is entered, the monitor will prompt for your password. "Enter Password: _ _ _ _ _"
Note that this is your PosData DVR User ID and password, not your Model 3000/Access 4000 User number and PIN Code.

The User Access or Search Mode can now be used according to the key functions shown in the table below.

**** DVR ADMIN ****

MENU, 5 selects Admin Mode.

The monitor will prompt for your password. "Enter Password: _ _ _ _ _"
Note that this is your PosData DVR Admin password, not your Model 3000/Access 4000 PIN Code.

The Admin Mode can now be used according to the key functions shown in the table below.

Key	Access Mode	Search Mode	Admin Mode
<	Split	Play Reverse	Left
^	Record	Up	Up
v	Status	Down	Down
>	-	Play	Right
HELP	Context sensitive help	Context sensitive help	Context sensitive help
MENU	Select mode	Select mode	-
END	Exit	Exit	Exit
OK	Select	Select	Select
OFF	Escape	Escape	Escape
ON	Search	Search	Stop
Digit keys 0-9	ID / Password entry	See below	Password / Data entry
1		Fast Play Reverse	
2		Stop	
3		Fast Play	
4		Frame Back	
6		Frame Forward	

CT002 Idle ->
PosData DVR

Programming options are found by pressing HELP, "9" at this screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the PosData DVR. 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.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.

A setting of 9600 Baud must be used for PosData DVR.

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

CT001 . . R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare
R	Retry
.	Spare
.	Spare

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

"Dynalite" Comms Task Format**IMPORTANT COMPATABILITY NOTES:**

Hardware: The Dynalite Comms Task can only be used in Type 2 (CE) Control Module Hardware or later.

Firmware: V4.91 Firmware or later should be used.

This communication format allows the 3000/4000 system to connect to a Dynalite Lighting Controller via an RS232 Serial connection.

AUTOMATION (DYNALITE) AUXILIARIES:**1) V4.5 Firmware or later:**

The Control Module supports Automation (Dynalite) Auxiliaries as follows:

512k (4MBit):	Up to 64 depending on memory configuration chosen.
128k (1MBit):	Up to 16 depending on memory configuration chosen.
32k	NO Automation Auxiliaries provided.

The connection between the UART Port and the Dynalite Lighting Controller is made using the Model 3000/Access 4000 Dynalite Interface; P/N: 993032.

(The interface consists of the Model 3000/Access 4000 Modem Cable and an RS232 - RS485 Converter cable)

The Rx, Tx, RTS and Gnd connections are utilized in the Modem Cable. (RTS is used to control DE on the RS485)

Any time a Dynalite command needs to be sent, the 3000/Access 4000 system will send it within 200mS.

In addition to the Comms Task, Dynalite Auxiliaries must also be programmed to establish the association between 3000/4000 Auxiliaries and Dynalite Areas, and the operations required. See "Dynalite Auxiliaries", MENU, 7, 5, 9,2.

A Dynalite Auxiliary provides for a nominated Dynalite Area to turn on or off over a timed period as defined 3000/Access 4000 Auxiliaries turn on or off.

**CT002 Idle ->
Dynalite**

Programming options are found by pressing HELP, "9" at this screen.

**CT002 Port ->
to use: 1**

This screen allows the Installer to define the UART Port which is to be connected to the Dynalite interface. 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.

**CT002 Baud ->
Rate: 9600**

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.

A setting of 9600 Baud must be used for Dynalite.

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

Program the Dynalite options by pressing HELP, "9" from the "Port to Use" screen or return to the first Dynalite screen by pressing HELP, "0" and toggle the Comms task On and Off by pressing the "9" Key.

(Dynalite options are found by pressing HELP, "9" twice at the first Dynalite screen.)

CT002 Dyna Panic
Zone: C01:Z01

This screen allows any unused Zone Input in the 3000/Access 4000 system to be used to indicate changes in the status of the Dynalite "Panic" mode.
V5.70 or later only.

This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.

Seal: Dynalite Panic mode is not activated.

Alarm: Dynalite Panic mode is activated.

If a Zone Input is assigned, the "Ignore Physical Zone option must be set to Yes in the programming options for that Zone Input.

See "Input programming". MENU 7, 0.

NOTE: While the Dynalite Network is in Panic mode, this Comms Task will not attempt to send any commands. Panic mode can only be cleared when an Unpanic command is received from the Dynalite network, or by setting the Comms Task to Idle, then back to Active again.

CT002 Dyna Ok
Zone: C01:Z01

This screen allows any unused Zone Input in the 3000/Access 4000 system to be used to indicate changes in the status of the Dynalite communications.

This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.

Seal: Commands sent via the Dynalite Comms Task are being echoed by the Dynalite system.

Alarm: A command sent via the Dynalite Comms Task is not echoed by the Dynalite system. The Zone restores when a command is echoed by the Dynalite system, or by setting the Comms Task to Idle, then back to Active again.

Note: Prior to V5.70, the Zone automatically restores after approximately 1 second.

If a Zone Input is assigned, the "Ignore Physical Zone option must be set to Yes in the programming options for that Zone Input.

See "Input programming". MENU 7, 0.

Diagnostics

CT001 . . R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

. Spare

R Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“HPM iControl” Comms Task Format

IMPORTANT COMPATABILITY NOTES:
Hardware: The HPM Comms Task can only be used in Type 2 (CE) Control Module Hardware or later.
Firmware: V5.6 Firmware or later must be used.

This communication format allows the 3000/4000 system to connect to a HPM H2U iControl RS232 Serial Interface. HPM iControl Auxiliaries (referred to as “Automation Auxiliaries” in the Memory Configuration tables) can then be programmed to link Concept Access 4000 Auxiliaries to HPM iControl Channels, Groups or Scenes.
Refer to “HPM iControl Auxiliaries” MENU, 7, 5, 9, 3 for details.

AUTOMATION AUXILIARIES.
1) V4.5 Firmware or later:

The Control Module supports Automation Auxiliaries as follows:
512k (4MBit): Up to 64 depending on memory configuration chosen.
128k (1MBit): Up to 16 depending on memory configuration chosen.
32k NO Automation Auxiliaries provided.

CONNECTION.
The connection between the UART Port and the H2U Serial Interface is made using the Model 3000/Access 4000 Automation Interface; P/N: 993013.
(The interface consists of a special UART cable and DB9 Male-Male adapter)
The Rx, Tx, and Gnd connections are utilized in the Cable.

Any time a HPM iControl command needs to be sent, the 3000/Access 4000 system will send it within 200mS.

In addition to the Comms Task, HPM iControl Auxiliaries must also be programmed to establish the association between 3000/4000 Auxiliaries and the iControl entities (i.e. Channels, Groups or Scenes), and the operations required.
See “HPM iControl Auxiliaries”, MENU, 7, 5, 9, 3.

CT002 Idle ->
HPM

Programming options are found by pressing HELP, “9” at this screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the HPM interface. 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.

The Baud Rate (Data speed) at which the UART will communicate for this Comms Task is fixed at 4800 Baud.
This may need to be taken into account when selecting Baud Rates for other Comms Tasks utilizing UART Ports.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

CT002 R.....
Opts -> nnnnnnnn

This screen allows various HPM options to be selected:

R Review

The Review option causes all HPM activity to be logged to the Review memory. This includes all On, Off and Ramp commands only. This option must be set to Yes if the "Feedback" option in HPM Auxiliaries programming (MENU, 7, 5, 9, 3) is set to Yes.

CT002 HPM OK
Zone: C01:Z01

This screen allows any unused Zone Input in the 3000/Access 4000 system to be used to indicate changes in the status of the HPM communications. Communications is checked every second.

This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.

Seal = HPM communications is considered operational.

Alarm = HPM communications is considered failed.

If a Zone Input is assigned, the "Ignore Physical Zone option must be set to Yes in the programming options for that Zone Input.

See "Input programming". MENU 7, 0.

Return to the first HPM screen by pressing HELP, "0" and toggle the Comms task On and Off by pressing the "9" Key.

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

. Spare

R Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

. Spare

. Spare

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Insight” Comms Task Format

This communication format allows the 3000/4000 system to connect to the “Insight Pro” or “Insight Express” System Management software and/or “Insight Installer” Upload / Download software via one or more paths including Ethernet, Serial RS232, On-board PSTN modem and External PSTN modem.

IMPORTANT NOTES:

1. Control Module Firmware must be V5.0 or later.
2. If the Ethernet +3 Port UART is used (P/No: 995091), Control Module Firmware must be V5.22 or later.
3. The primary Insight Comms Task must always be assigned to Comms Task 1 (CT001).
4. If a second Insight Comms Task is required, it must always be assigned to Comm Task 2 (CT002).
V7.4 or later only. See “Two Insight Comms Tasks” below.
5. If the IPXmit feature is to be used, an Ethernet UART board must be fitted.
See “IPXmit alarm transfer protocol” below.
6. If the Panel communicates with Insight via RS232 on a UART Port, the relevant “UART Problems” System Input (C01:S13-S16) can now be used to monitor the Insight RS232 Comms status. (V7.0 or later)
7. “Insight Lite” Upload/Download software is now obsolete, and is replaced by “Insight Installer” software. Insight Installer is provided to Inner Range Certified Technicians free of charge, but requires online registration.

Two Insight Comms Tasks

V7.4 firmware or later now allows a 2nd Insight Comms Task to be programmed in Comms Task CT002 in addition to the default Insight Comms in CT001. This is primarily to allow the Installer to connect to the Panel with Insight Installer software, while Insight Pro or Insight Express is already connected.

Typically, Insight 1 (CT001) provides the connection for Insight Pro/Express via one or more of its nominated paths, while Insight 2 would provide the connection for Insight Installer via its RS232 (Serial), IModem or EModem path.

- NOTES:
1. Only CT001 can connect via the Ethernet path.
 2. If Insight 2 uses the RS232 (Serial) path, the “Port to use” must be a different UART Port number to the Insight 1 task, regardless of whether or not the Insight 1 task uses the RS232 path.

The two Insight Comms Tasks are programmed independently, allowing the path/s and communication parameters to be set according to the requirements for each connection.

If the connection path/s for either of the Insight Comms Tasks includes an IModem and/or EModem path, a new “2nd Insight” option in the programming for these Comms Task formats allows you to define which Insight Comms Task the IModem/EModem Comms Task is associated with. i.e. In the Answer options screen (F3CTSD.2)

- If the “2” option is set to “n”, the IModem/EModem Comms Task is associated with Insight 1 (CT001)
- If the “2” option is set to “Y”, the IModem/EModem Comms Task is associated with Insight 2 (CT002)

NOTE: If two Insight Internal Modem Comms Tasks are to be programmed (to be associated with two separate Insight Comms Tasks), only one of the Internal Modem Comms Tasks should be programmed to answer calls. Both can still be used to make calls if an IModem path is required for their associated Insight Comms Task.

New features have been implemented in V4 Insight software and V7.4 Panel firmware to manage database issues which arise from a Panel being able to communicate with multiple instances of Insight.

V4 Insight software:

- Has the ability to “lockout” another instance of Insight from making Panel database changes for a period of time.
 - Detects changes made to the Panel database at an LCD Terminal (as before) and also by another Insight instance.
- An older version of Insight (prior to V4):
- Will not be able to “lockout” another instance of Insight from making Panel database changes.
 - Should not be used to connect to Insight2 (CT002) as it will not be able to detect Panel database changes and the “Clear structure modified flags” operation will not function correctly.

NOTE: IF A CONTROL MODULE IS UPGRADED TO V7.4 OR LATER FROM AN EARLIER VERSION, A MEMORY DEFAULT MUST BE PERFORMED ON THE CONTROL MODULE BEFORE THE “2ND INSIGHT” FEATURE CAN BE IMPLEMENTED. Remember to backup the Panel database and note the Memory Configuration option used (via MENU, 2 while logged off) before performing the memory default procedure.

IPXmit Alarm Transfer Protocol

V7.4 firmware or later in conjunction with Insight V4 or later, supports the new IPXmit end-to-end, acknowledged alarm transfer protocol. This protocol allows alarm information to be sent from the Panel to an Automation System via Insight software.

This reporting technique requires that the Insight Server be installed in the monitoring station and is aimed at providing a suitable reporting solution for corporate clients.

NOTE: The IP-XMIT module requires a separate, special license, available for purchase on consultation only.

The alarm information can be sent in one of several different formats including IRfast, Contact ID or text. A Backup Comms Task can be nominated, which will be triggered if the IPXmit reporting fails. This allows a PSTN dialer or GSM format to be used as an alternate reporting path. Reporting options similar to those available in dialer formats can also be programmed such as Multiple Area Client Codes, Look ahead and General Open/Close reporting, etc.

When Xmit Review events are sent to Insight via this protocol, Insight will process the data packet and pass it on to the Automation system via a relevant Automation System protocol (Selected in the Insight software). Depending on the Automation System's response, Insight will then return one of the following packets:

- ACK All events in the packet have been acknowledged by the Automation System.
- BUSY More time is needed to process the current outstanding packet.
- NAK There is a problem communicating with the Automation System.

i.e. Insight does not inform the Panel that a packet is acknowledged, unless all events in that packet have been acknowledged by the Automation software, thereby providing true end-to-end acknowledgement.

When the Panel sends a packet to Insight, an Acknowledge timer is started. If a BUSY packet is received, the timer is restarted. If a NAK packet is received by the Panel, or the Acknowledge timer expires, the Panel will try an alternate reporting path if one has been programmed.

Serial Port "Walk-up start" connectivity. (V7.4 or later)

These changes allow a port 0 connection to Insight, regardless of the Insight serial port programming. The main reason for this feature is to allow an Insight connection to a panel with no Comms Task programming and only a Port 0 cable.

To implement this feature, two changes have been made to Insight programming:

- The Panel ID is now defaulted to 00999999
- A new option "(P)revent Port 0" has been added to the Insight general options.

FUNCTIONALITY.

Insight can be programmed to accept a serial (RS232) connection on port 0 to 4.

The factory default settings for this connection are: RS232 Path = Enabled / Port = 1 / Baud Rate = 9600.

If:

- The Serial Path is enabled and set to Port 1 – 4,
- Insight is not currently connected to the Panel, and
- Another Comms Task is not currently using Port 0,

then the Insight Comms Task will continuously check Port 0, as well as the programmed Serial Port, for an incoming connection at the specified Baud rate.

During this time another Comms Task can use port 0 for as long as it wants, during which time Insight connections are not possible on port 0. If Insight attempts a connection on port 0 during this time it will not succeed but may interfere with the Comms Task that is using port 0.

Once a connection is made to Insight on port 0, the port 0 is reserved and no other Comms Task can use it.

When Insight is disconnected, other Comms Tasks can once again use port 0

The new option "(P)revent port 0" can be set to Yes to disable this feature if required.

If the "(U)se dtr" option is selected and the (P)revent port 0 option is not set, then the "(U)se dtr" option will be ignored.

CT001 Idle ->
Insight

Programming options are found by pressing HELP, “9” at this screen.
Comms Task 1 (CT001) must be used for the primary Insight connection.
If a 2nd Insight connection is required (V7.4 or later only), Comms Task 2 (CT002) must be used for the 2nd Insight Comms Task.

CT001 Panel
ID: 00999999

This screen sets the Panel ID to be used for this Comms Task.

INSIGHT: The Panel ID is programmable in Hexadecimal from 00000001 to 00FFFFFF and must match the Panel ID for this panel in the Insight software.

Notes: -The first 2 digits are not used for Insight and **MUST** be left at 00.
-The default value of 00000000 cannot be used, and at least one of the last 6 digits must be non-zero.
-All Panels enrolled in a single installation of Insight must have a different Panel ID.

In V7.4 or later, the default setting is 00999999 for the walk-up start function.
See “Serial Port “Walk-up start” connectivity” on page 2.

IPfast: Not yet available.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the Insight Server will be connected if the “RS232” path is Enabled.
Depending on the version of UART Expander fitted to the Control Module, a Port number from 0 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

IMPORTANT NOTES:

- Port “0” should only be used as a temporary connection as the on-board dialer is disabled whilst Port “0” is in use. Ports 1 to 4 on the UART board should be used for permanent or frequent connection.
- If Insight 2 uses the RS232 (Serial) path, the “Port to use” must be a different UART Port number to the Insight 1 task, regardless of whether or not the Insight 1 task uses the RS232 path.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1] for further details.

CT001 ..EPNU..
Opts -> nnnnnnnn

This screen allows the programming of general Insight options.

CT001 NUIP
Opts -> nnnnnnnn

Note that this screen had two additional options (“I” and “P”) in V5.0 to V5.2:

- . Spare
- E Enable Fail Zone

- If set to Yes, the “Irip Fail Zone” feature will be enabled to indicate the Insight Comms Task communications status.
NOTE: This option available in V7.62 or later only. Prior to this version, the Irip Fail Zone feature (implemented at V7.4) was permanently enabled.

- P** **Prevent Port 0** - If set to Yes, the Walk-up start Port 0 connection function is disabled.
(V7.4 or later)
See "Serial Port "Walk-up start" connectivity" on page 2.
- N** **No Ping** - If set to Yes, the panel will discard TCP/IP Ping requests. This option should be selected when the Panel is installed on a non-secure TCP/IP network.
- If set to No, the panel will reply to pings so that it's reachability can be tested over the Internet without using Insight to connect.
- U** **Use DSR** -Setting this option to Yes, causes the Control Module to monitor the state of the "DSR" pin on the RS232 comms cable, which prevents phantom mouse detection. (In rare cases, older PC's can mistakenly identify the Panel as a Windows pointing device.)
NOTE: You can only enable this option if your Comms cable includes a DTR/DSR connection. If a legacy cable is used (without DTR/DSR connected), communications will fail!
-Setting this option to No means the Control Module ignores the DSR pin on the comms cable which, in rare cases, may lead to phantom mouse detection on older PC's and laptops.
- I** **IP Fast** V5.00 to V5.2 only. Not implemented.
- P** **Permanent** V5.00 to V5.2 only. Permanent Insight Connection.
-If set to Yes the Control Module will attempt to keep a connection open with the Insight server at all times, on any configured communication path. (See the "....IACE" options screens following.)
Insight calls this mode "Panel is Master". i.e. The onus is on the Panel to connect and maintain connection. The Panel will never hang-up.

-If set to No, the Control Module won't attempt to keep a connection permanently open with the Insight server. Insight calls this mode "Panel is Slave".
The Control Module will only attempt temporary connections for emergency conditions according to the communication path settings below. (i.e. To report an alarm, or dump Review if Review data that has not been sent is about to be over-written)

The following screens allow options to be selected for the different communications paths that the Insight Comms Task can use.

If more than one path is enabled, the Control Module will attempt to connect via each enabled path in their listed order according to the setting of the (P)ermanent option described above.

e.g. If the "RS232" and "IntMod" paths are enabled, the Controller will attempt to connect via the RS232 path first, and if unsuccessful, will then attempt to connect using the "IntMod" (Internal Modem) path.

CT001 IACE
EthNet ->nnnnnnnn

Ethernet: Connects to Insight Server via an Ethernet UART Port.
V5.1 or later. The "Ethernet" path utilizes the "Panel IP", "Router IP", "Subnet Mask" and "Announce Port" settings programmed in this Comms Task.

CT001 IACE
RS232 ->nnnnnnnn

RS232: Direct serial connection to Insight Server via UART Port.
The "RS232" path utilizes the "Port to use" and "Baud Rate" settings programmed in this Comms Task.

Note: V7.0 firmware or later now allows the relevant “UART Problems” Control Module System Input (C01:S13-S16) to be used to monitor Insight RS232 Comms status.

CT001 IACE
FE3000->nnnnnnnnn

FE3000 Uses FE3000 GSM modem.(Not yet implemented for Insight) The “GSM” Comms Task must also be programmed.

CT001 IACE
ExtMod->nnnnnnnnn

External Modem: Uses an External Modem to answer a PSTN call from the Insight Software. V7.0 or later only. The “Insight External-Modem” Comms Task must also be programmed. See “Two Insight Comms Tasks” on p1 for additional information.

CT001 IACE
IntMod->nnnnnnnnn

Internal Modem: Uses the Internal Dialer Modem. The “Internal-Modem” (IModem) Comms Task must also be programmed. See “Two Insight Comms Tasks” on p1 for additional information.

- . Spare
- I IP Fast Call
This option allows IP Fast to initiate a connection with the Central Monitoring Station using this path.
- A Answer Insight
This option allows the Control Module to answer an incoming connection request from an Insight server on this path.
NOTE: (V7.4 or later only) If two Insight Comms Tasks are programmed, and both have an “Internal Modem” path, only one of the Insight Internal Modem Comms Tasks can be programmed to answer calls.
- C Call Insight
This option allows the Comms Task to initiate a connection with the Insight Server using this path.
- E Path Exists
Set this option to Yes to allow this communications path to be used by Insight, subject to the settings of the other options listed above.
If set to No, the path will not be used by the Insight Comms Task.

CT001 Insight IP
000.000.000.000

This screen allows the IP address of the Insight Server to be defined for Paths that require TCP/IP.
i.e. Ethernet or Dialup connection via an Internet Service Provider.

CT001 Insight A
000000000000000000

The next 2 screens allow for a 128-bit encryption key to be defined for communications between the Control Module and an Insight Server.

CT001 Insight B
000000000000000000

The encryption key is entered as 32 hex digits.
The first 16 digits are entered in the “Insight A” screen, and the remaining digits are entered in the “Insight B” screen.
This key must match the settings specified for this Panel at the Insight Server.
(Panel Properties > Protocol > General Tab)

CT001 IPfast IP
000.000.000.000

This screen allows the IP address of the IPfast Server to be defined for Paths that require TCP/IP.
i.e. Ethernet or Dialup connection via an Internet Service Provider.

CT001 IPfast A
0000000000000000

The next 2 screens allow for a 128-bit encryption key to be defined for communications between the Control Module and a Central Monitoring Station Receiver. **NOTE:** The CMS Receiver must be capable of communication with the IPfast protocol.

CT001 IPfast B
0000000000000000

The encryption key is entered as 32 hex digits.
The first 16 digits are entered in the "Insight A" screen, and the remaining digits are entered in the "Insight B" screen.

Ethernet Path Settings.

The following four screens allow IP Address and Port number information to be entered for communicating with Insight software via the Ethernet Path.
The information for these screens is typically obtained from the System Administrator of the Ethernet LAN to which the Panel is connected.
NOTE: An Ethernet UART board must be fitted to the Control Module.

CT001 Panel IP
000.000.000.000

Panel IP Address. This screen allows the IP Address of the Panel (3000/4000 Control Module) to be defined.
Enter the Static IP Address provided by the System Administrator.
An Address of 000.000.000.000 must be programmed if the System Administrator has asked that the panel use DHCP to obtain its IP address automatically.

CT001 Router IP
000.000.000.000

Router IP Address: This screen allows the IP Address of the next-hop Router to be defined.
Enter the Static IP Address provided by the System Administrator.
An Address of 000.000.000.000 must be programmed if:
- The System Administrator has asked that the panel use DHCP to obtain its IP address automatically.
- If the Insight Server is on the same LAN as the Panel.

CT001 Subnet Msk
000.000.000.000

Subnet Mask of the IP Address: This screen allows the Subnet Mask, of the local Subnet to which the Panel is connected, to be defined.
Enter the Subnet Mask provided by the System Administrator.
An Address of 000.000.000.000 must be programmed if:
- The System Administrator has asked that the panel use DHCP to obtain its IP address automatically.
- If the Insight Server is on the same LAN as the Panel.

CT001 Announce
Port: 00000

UDP Announce Port: This option is only programmed when two or more Servers live behind the same gateway and share the same external address. (In this case, only one of the Servers may have the default Announce Port number of 17185.)
If the Panel is to communicate with a Server that has an alternative UDP Announce Port number, then enter the UDP Port number provided by the System Administrator.
In other cases, this should be left at the default value of 17185.

CT001 Maximum Attempts: 000

This screen sets the maximum number of attempts this task will use to connect to the Insight Server or IPfast Receiver when using a Dialer path. (External-Modem or Internal-Modem)

This prevents excessive dial-up calls in circumstances when the Insight Comms Task cannot establish a dial-up connection.

If connection is still not achieved after the Maximum number of attempts, the Internal or External Modem Comms Task will give up trying to connect. When this occurs, the only ways to attempt to connect are via another path, by answering an incoming call, or by re-starting the Insight Comms Task.

Once the Insight Comms Task establishes a connection via any communications path, the Maximum attempts counter is reset, allowing the specified number of attempts to be tried again.

If (P)ermanent mode has been selected, the Panel will not normally answer an incoming call on an I-modem or E-modem Comms Task. However, if the maximum number of attempts is reached an Insight Comms Task with the Permanent option enabled will allow incoming calls to be answered. Incoming calls will be answered at any time if the Permanent option is not selected and the line is available.

If left at 000, the default of 10 attempts will be used.

CT001 Answer Defer Time: 000

This screen allows an Answer Defer Time to be programmed for the Insight External Modem Comms Task. V7.0 or later only. The Answer Defer Time can be programmed from 0 to 255 seconds.

Normally, the External Modem Comms Task will answer as soon as ringing is detected. This option allows the answer to be deferred for a nominated time and can be used when necessary to allow time for another device to answer the phone before the Insight External Modem does.

Whilst deferring the answer, Insight will not consider that path if an outgoing call needs to be initiated.

If the ringing stops before the answer defer time has expired, the call will not be answered and a new incoming call will have to wait the full answer defer time before answering.

Setting:

0 seconds.

1 to 89 seconds.

90 to 255 seconds.

Operation.

Insight will answer an incoming call as quickly as possible.

The answer of an incoming call will be deferred by the programmed defer time.

A setting of 90 seconds or more should not be programmed as the incoming call will normally time out after this time.

Note: Check with the telephone service provider, or test by calling the number and not answering the call, to determine the actual timeout period.

CT001 Irip Fail Zone: C01:Z01

This option allows any unused zone input to be chosen to indicate the state of this Insight Comms Task.

Seal = Insight communications is considered operational.

Alarm = Insight communications is considered failed.

This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.

If a Zone Input is assigned to this option, the "I"gnore Physical Zone option must be set to Yes in the programming options for that Zone Input.

See "Input programming". MENU 7, 0.

CT001 DNS Page1

—

These 4 screens (64 characters) are the hostname of the DNS server when using DNS.

To use DNS:

- The Ethernet UART board must be PCB 935091, Revision B or later.
- The Ethernet UART Firmware must be V4.21 or later.
- The Control Module Firmware must be V7.40 or later.

CT001 DNS Page2

—

CT001 DNS Page3

—

If a DNS capable Ethernet UART board is fitted and these fields are non-blank, the Panel will ignore the Insight server IP address and try to resolve an address via DNS.

If a DNS capable Ethernet UART board is not fitted, the Panel will ignore all DNS related fields and function as before.

CT001 DNS Page4

—

When programming these screens, do not leave any spaces or gaps. i.e. If more than 1 screen (page) is needed, each screen must have a character in all 16 positions before advancing to the next screen.

CT001 Prim DNS 000.000.000.000

These screens allow the IP address of the primary and secondary DNS server

The DNS resolver will first try the Primary DNS server address if non-zero. If this is unsuccessful it will try the Secondary DNS server.

CT001 Sec DNS 000.000.000.000

If both of these are unsuccessful, and the panel is set-up for DHCP, it will try the first two DNS addresses returned by the DHCP server in order.

IPXmit Alarm Forwarding Service settings.

The following five screens allow settings to be programmed for the IPXmit Alarm Forwarding Service. (V7.4 or later)

This service is a special feature of Insight that allows use of Insight as a primary route for forwarding alarms from Concept 4000 Control Modules to an alarm monitoring automation system, co-located with the Insight Server.

The information for these screens is typically obtained from the Monitoring Station to which the Panel is to report.

NOTE: An Ethernet UART board must be fitted to the Control Module.

CT001 **..PE**
IPOpts -> nnnn

This screen sets the general IPXmit options.

. Spare

P Preserve Pointer

Not currently supported.

E Enable IPXmit

Set this option to Yes to enable the IPXmit alarm reporting feature.

CT001 IPXmit ID
Code: 0000

This screen allows you to program the Client Code that will be used with any alarm forwarded via IPXmit in the IRfast &/or Text formats.

This Client Code will not be used for the Contact ID format, or if the 'Multiple Area Codes' option is set to Yes. *See note below.*

Note: If using the Contact ID format, this client code is not used. The 'Multiple Area Client Codes' option must be set to Yes, and Client Codes must be programmed for each Area (MENU, 7, 1) in which Alarms &/or Open/Close reporting is required.

CT001 IPXmit ->
Format: IRfast

This screen allows the reporting format to be selected.

The monitoring station will advise which format/s are supported by their Automation System.

IRfast

Selects the IRfast reporting format.

CID

Selects the Contact ID reporting format.

Note: If this format selected "Multiple Area Client Codes" must be set to Yes.

Text

Selects Concept 4000 Review Text reporting format. ("Xmit" Review Events)

IR+Text

Selects the IRfast reporting format with addended Review Text.

CT001 Backup
Task: CT000

This screen allows another Comms Task number to be specified as the "Backup Comms Task" that will be activated if this Comms Task's communications with the Monitoring Station is compromised.

The Backup Comms Task will be triggered under either of the following conditions:

1. An alarm packet is not acknowledged by the Automation System after 5 attempts.
2. The overall report timer (250 seconds) expires before an alarm packet is successfully transmitted.

In addition to hardware failure, these conditions could be caused by:

- a) Loss of comms between the Control Module and Insight.
- b) Loss of comms between Insight and the Automation system.
- c) Extreme congestion in the Automation system.

When the Backup CT is triggered, all outstanding events will be sent via the Backup CT. When all alarms sent via the Backup CT are acknowledged, a "Purge" packet is sent to Insight to tell it to discard any outstanding packet. Note that the Automation system may still receive the same alarm event from both Insight and the Backup CT prior to the "Purge" packet being received.

NOTE: THE NOMINATED BACKUP COMMS TASK MUST BE RESERVED FOR INSIGHT'S EXCLUSIVE USE.

CT001 MLGPND..
Ropts-> nnnnnnnn

This screen sets various reporting options.

M Multiple Area
Client Codes

IRfast &/or Text formats: This setting is optional.
 Contact ID format: This option must be set to Yes.

If set to Yes, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores), the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used.

If set to No, the IPXmit ID will be used for all Areas.

See Area Programming for more details of this option.

L Look Ahead

Not currently supported. Reserved for future development. Leave set to No.

G General O/C

Not currently supported. Reserved for future development. Leave set to No.

P Prevents Restores

Not currently supported. Reserved for future development. Leave set to No.

N No Area Still Open

Not currently supported. Reserved for future development. Leave set to No.

D Delay Reports
(V5 or later)

Not currently supported. Reserved for future development. Leave set to No.

Return to the first screen by pressing HELP, "0" and toggle the Comms task On and Off by pressing the "9" Key.

CT001 .R..
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be Reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

. Spare

Spare for future development.

R Retry

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the distributor's Technical Support.

Internal Modem Comms Task Format

Internal Modem (with Callback & Fax Bypass option)

The Internal Modem format is used if you wish the Model 3000 to be able to answer the dialer line (or call back the computer) and provide:

- A modem connection to Insight upload / download software.
- A modem connection to an IPfast Central Station Receiver.
- Panel remote control from any "touch-tone" (DTMF) telephone or mobile phone.

It can also be used to automatically monitor the status of the dialer line by periodically checking for DC voltage.

IMPORTANT NOTES:

- 1) You cannot have more than one Comms Task assigned to answer the phone. If more than one "Answer Call or "Internal Modem" Comms Task has been programmed in error, the Comms Task with the **lower** Comms Task number will answer the call (CT001 will take priority over CT002).
- 2) Insight connection. If the "Internal Modem" Comms Task is required to answer calls from Insight software, the appropriate "IACE" options must be programmed for the Internal Modem path in the "Insight" Comms Task.

OPERATION.

Normal operation.

The task will periodically test the dialer line for DC voltage and will alarm/restore the Control Module System Input "Phone" (C01:S22) as required.

In addition, the task will monitor the dialer line for a ringing phone and after the required amount of rings, will answer the dialer line and attempt a modem connection at the highest baud rate available (300 or 1200 Baud).

NOTE: If the "Insight" Comms Task has been programmed to Answer via Internal Modem:

- V5.00 to V5.03. This CT will ignore the "Number of Rings" specified, and answer the call as soon as possible.
- V5.04 or later. This CT will answer the call after the "Number of Rings" specified.

Callback.

The Callback feature is not supported in the current version of Insight Software.

Fax (Answering Machine) Bypass & DTMF Remote Control.

V5.00 to V5.03: "Fax Bypass" option only.

If Fax Bypass is programmed and rings are sensed but cease before the required number of rings is reached, the Comms Task will loop the line in parallel with whatever may have answered the dialer line and wait 5 seconds for a single pre-defined "Single DTMF tone". If the correct DTMF tone is sensed, the Comms Task will disconnect the line and wait for 60 seconds. If the Computer calls again within this 60 second period, the panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer.

If DTMF tone is not sensed within the required time, the Comms Task will un-loop the line. This allows fax machines and the like to be bypassed by simply sending a specific DTMF tone when the fax machine answers.

If DTMF Remote Control is programmed, and the "Insight" Comms Task has not been programmed to Answer via Internal Modem, the Internal Modem Comms Task will answer the call after the required number of rings and wait 5 seconds for a single pre-defined DTMF tone. This tone is 1 digit above the programmed "Single DTMF tone". e.g. If the "Single DTMF tone" is programmed to 5 for Fax Bypass, then DTMF tone 6 is used to initiate DTMF Remote Control. If the correct DTMF tone is sensed, the Comm Task will send the "Start tone" (3 short beeps) to indicate that the system is ready to receive DTMF Remote Control codes.

V5.04 or later: "Timed Bypass" option only.

If Timed Bypass is programmed and rings are sensed but cease within 5 rings, the Comms Task will start a timer running. If rings are sensed again after 60 seconds (but before 120 seconds) the panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer.

If DTMF Remote Control is programmed, when the Internal Modem Comms Task answers a call, it will then wait 5 seconds for a single pre-defined DTMF tone. This tone is the programmed "Single DTMF tone".

If the correct DTMF tone is sensed, the Comm Task will send the "Start tone" (3 short beeps) to indicate that the system is ready to receive DTMF Remote Control codes.

Internal Modem Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed, however, Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

CT002 Rings to Answer: 000

This screen sets the number of rings before the Internal Modem Task answers the incoming call for communication with Insight software, an IPfast Central Station Receiver or DTMF Telephone Remote Control.

Set to 000 if this Comms Task is not required to answer calls.

For this Comms Task to answer calls, set to a value between 001 and 019 rings.

NOTE: If two Insight Internal Modem Comms Tasks are to be programmed (to be associated with two separate Insight Comms Tasks), only one of the Internal Modem Comms Tasks should be programmed to answer calls. Both can still be used to make calls if an IModem path is required for their associated Insight Comms Task. See "2nd Insight" option below.

CT002 Ans.F3CTSD.2 Options-> nnnnnnnn

This screen allows some call answer options to be programmed:

F Fax bypass
V5.00 to V5.02 only

NOTE: Not used in V5.04 or later. This option enables Fax Bypass by sensing if the phone stops ringing before the required amount of rings. If detected the Comms Task will then loop the line in parallel with whatever answered the phone and wait a pre-determined time for a DTMF tone to be sensed. This option allows the PC Operator to achieve Fax Bypass by dialling the panel, sending the required DTMF tone after the fax has answered and then dialling the panel again within 1 minute. The panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer.

3 300 Baud

Not used in the Internal Modem Comms Task.

C Call back

Not currently supported in the Internal Modem Comms Task.

T Timed bypass
V5.04 or later only.

This option enables Fax Bypass by sensing if the phone stops ringing within 5 rings. If detected, the Comms Task will start a timer running. If rings are sensed again after 60 seconds (but before 120 seconds) the panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer.

S Single DTMF

Not used in the Internal Modem Comms Task.

D DTMF Control

This option enables DTMF Control, once the system has answered a call and the correct DTMF tone has been detected. The "Single DTMF Tone" must also be programmed in special options below.

Note: V5.00 to V5.02 only. DTMF cannot be used if the Insight Comms Task has been programmed to Answer via the Internal Modem.

See "DTMF Control Programming" [MENU 7,3,3].

. Spare

This option has been left spare for future development.

2	2nd Insight	This option allows you to select which Insight Comms Task instance this Internal Modem Comms Task will be associated with. (V7.4 firmware or later only)
	<u>Setting.</u>	<u>Description.</u>
	no	This Internal Modem Comms Task is associated with Insight1 (CT001)
	Yes	This Internal Modem Comms Task is associated with Insight2 (CT002)

V7.4 firmware or later now allows a 2nd Insight Comms Task to be programmed in Comms Task CT002 in addition to the default Insight Comms in CT001. This is to allow the Installer to connect to the Panel with Insight Installer software, while Insight Pro or Insight Express is already connected.
See Insight Comms Task programming for more details.

CT002 Line Test
Time: 000 min

This screen sets the time between automatic dialer line tests. Dialer line tests are performed by detecting line voltage. If the line voltage is not detected then C01:S22 will be set to the alarm condition. Setting a time of 000 minutes disables line testing. The maximum time is 255 minutes (4 hours, 15 minutes).

CT002 Insight #>
None

This screen is used to select the Telephone number of the Insight Server. This number will be used if the Internal Modem Comms Task is required to establish a connection to Insight:
-To maintain connection if the (P)ermanent connection option is selected in the Insight Comms Task.
-Review data that has not been sent to Insight is about to be over-written.
-An Alarm exists and Insight is configured for Alarm Management.

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT002 IPfast #->
None

This screen is used to select the Telephone number of the IPfast Server for IPfast Alarm reporting via Dialup connection.

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT002 ISP Accnt
—

This screen allows the User name of the Dial-up ISP Account to be defined for TCP/IP connection via an Internet Service Provider.

CT002 ISP Passwd
—

This screen allows the Password of the Dial-up ISP Account to be defined for TCP/IP connection via an Internet Service Provider.

Internal Modem Special Options

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options, when programming of special options is complete.

CT002 PpDFTMA6
Dial -> nnnnnnnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See the section on "Introduction to Dialer formats" at the end of this chapter for more details.</i>
F	Force 300 Baud	Not used in "Internal Modem" Comms Task.
T	Test Mode	Not used in "Internal Modem" Comms Task.
M	Max Count	Not used in "Internal Modem" Comms Task.
A	Abort Pre-dial	When connection is attempted, if <u>any</u> Pre-dial error is detected, then the attempt will immediately be aborted and the Backup Task (if defined) will be invoked. e.g. If no Line is present the attempt will go straight to the Backup Task.
6	60 sec Redial	Not used in "Internal Modem" Comms Task.

CT002 PABX No. ->
None

These screens allow the installer to define an optional PABX Access number and Call-back Telephone Number. When the Call-back number is defined, extra security is provided by forcing the task to ring back this number on a successful log-on sequence as an added precaution against "hacking".

CT002 PABX No. ->
TN000

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT002 Back No. ->
None

See Telephone Number Programming.

CT002 Back No. ->
TN000

CT002 Cust No. ->
None

This screen allows the installer to specify the Telephone Number of the dialer line connected to the panel and is useful for reference purposes. It is not required for programming or panel functionality.

CT002 Cust No. ->
TN000

**CT002 Seize Aux
C01:X08**

This screen allows an Auxiliary output to be specified that will turn on whenever the dialer line is seized by this Comms Task and turn off whenever the dialer line is released.

**CT002 Single
DTMF Tone: 000**

This screen allows the Installer to specify the DTMF tone which will be used to initiate special functions:

V5.00 to V5.02. This tone initiates the modem answer sequence in Fax Bypass mode and also selects the tone that will be used to initiate DTMF Control Mode. The programmed tone is the one that will initiate the modem connect sequence. The programmed tone **plus one** is the tone that will initiate DTMF Control Mode.. e.g. if "005" is programmed, the DTMF digit 5 will be the Fax bypass tone in Insight software and DTMF tone 6 will initiate DTMF Control Mode.

V5.04 or later. This tone initiates DTMF Control Mode.

"(D)TMF Control" option must be set to "Yes" under "Answer Options" above. See "DTMF Control Programming" [Menu 7,3,3] for more details.

**CT002 Line Test
Count: 000**

This screen sets parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will "take-over" the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make "smart" decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed "Attempting Dialer Connection".

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the "Look Ahead" option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

Insight External Modem Comms Task Format

Insight External Modem Comms Task

A Comms Task option is available which allows a high speed external modem to be connected to an external UART port for the purposes of establishing a PSTN line connection to Insight software. V7.0 or later Control Module firmware is recommended if utilizing this Comms Task format.

Insight External Modem Operations

In the "Insight" Comms Task, the External Modem path must be enabled for answering calls. (*See below*)

When the Insight External Modem Comms Task is started, the RTS and DTR lines are placed in the high state and the modem is initialised to answer a ringing telephone line. The modem will normally answer as soon as ringing is detected, however a programming option in the Insight Comms Task allows an "Answer Defer Time" to be programmed. This option can be used when necessary to allow time for another device to answer the phone before the Insight External Modem does.

If Insight software is not currently connected via another path, then when a valid connection is made, a path through to the Insight Comms Task is established.

At the end of the call the modem is instructed to hang up and await another call.

Callback and Fax Bypass facilities are not supported in this Comms Task.

Modem Re-initialisation

If the modem is powered down, accidentally disconnected, or placed in the wrong state, you will probably need to re-initialise the modem.

Modem Initialisation string is automatically re-sent 5 seconds after the Control Module detects that the CTS line has gone High again. (The CTS line from the modem is normally High when the connection is OK.)

Note: The Ext Modem cable-993027 must be used and CTS must be High. If a modem or cable is used that does not support hardware flow control, then the Modem's CTS line must be tied High in the interface cable.

Typical Review Messages:

CT001 Modem Connect	Modem has just connected at its preferred baud rate. The baud rate is a function of the UART Port Baud rate setting and the type of modem is not displayed.
CT001 Hang-up	The modem has hung up because of an error or because the remote PC has instructed that the connection be terminated.
CT001 Lost Carrier	The CD line on the modem has gone low, indicating the connection has been broken.
CT001 Modem Status nn	In detail mode only, the modem has returned a result code to the 3000. These codes are modem dependent but common ones are:

00	Modem is idle	01	Modem OK
02	Ring Signal detected	03	No Carrier
04	Command string problem (Contact ID)		
06	No dial tone	07	Busy
08	No Answer		
90	Init string has been sent to the Modem.	99	CTS has gone Low.

Insight Comms Task programming

```
CT001      ....IACE
ExtMod->nnnnnYnY
```

Before the Insight External Modem Comms Task can be used, the External Modem “path” must be enabled for answering calls in the Insight Comms Task programming. This is done by setting the “A” (Answer Insight) and “E” (Path Exists) options to Yes in the “ExtMod” options screen.

```
CT001 Answer
Defer Time: 000
```

An optional Answer Defer Time may also be programmed. This causes the answer to be deferred for a nominated time and can be used when necessary to allow time for another device to answer the phone before the Insight External Modem does. (Normally, the External Modem Comms Task will answer as soon as ringing is detected)

See “Comms28 Insight Comms Task Format” for details.

Insight External Modem Options

Options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or Special options. Usually, only common options need be programmed.

```
CT002      Port ->
to use:    0
```

This screen sets the UART Port to be used in conjunction with the appropriate modem accessory cable. Legal port settings are 1 to 4 depending on the type of external UART Expander installed on the Control Module. Port 0 is not allowed. The Port number is selected by scrolling through the available options using the right arrow key.

```
CT002      Baud ->
Rate:      9600
```

This screen allows selection of the Baud Rate (Dataspeed) at which the UART will communicate with the modem. Depending on the modem type however, it is not necessarily the Baud rate of a modem connection. The setting will be chosen according to the type of modem being used and is selected by scrolling through the available options using the right arrow key. It is recommended that the Baud rate be set no higher than 9600 Baud.

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

```
CT002      Insight #>
None
```

This screen allows the installer to define the telephone number of the Insight Software. This number is for reference purposes only and is not used by this Comms Task.

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

See Telephone Number Programming.

NOTE: Callback is **not** implemented in “Insight Ext Modem” Comms Task Format.

CT001 F3CTSD.2
Opts -> nnnnnnnn

This screen allows some call answer options to be programmed.

F3CTSD

Not used in the Insight External Modem Comms Task format.

2 2nd Insight

This option allows you to select which Insight Comms Task instance this External Modem Comms Task will be associated with. (V7.4 firmware or later only)

Setting.	Description.
no	This External Modem Comms Task is associated with Insight1 (CT001)
Yes	This External Modem Comms Task is associated with Insight2 (CT002)

V7.4 firmware or later now allows a 2nd Insight Comms Task to be programmed in Comms Task CT002 in addition to the default Insight Comms in CT001. This is to allow the Installer to connect to the Panel with Insight Lite software, while Insight Pro is already connected.
See Insight Comms Task programming for more details.

CT002 .R..
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

. Spare

R Retry

Spare for future development.

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

“SIA Dialer” Comms Task Format

Dialer Operation - SIA Dialer Format, Level 1. (V5 or later only)

SIA Dialer format is used to report Area opens/closes and Input alarms/tampers/isolates/restores to a Central Station Digital Alarm Receiver. The baud rate is fixed at 300 baud, and tonal acknowledgements are supported.

At present the SIA Comms Task cannot be used as a Backup Task.

The SIA format provides a number of advantages over Contact ID reporting:

- 6-digit Client Codes. (Compared to 4 digits in Contact ID)
- 4 digit Address field allowing up to 65,535 (Hex) or 10,000 (Decimal) Point IDs.
- Flexible “Modifiers”, allow reporting of up to 250 Areas, All Module Types (1-12) & Numbers (1 to 99) and an optional Time stamp.
- Up to 9989 Users and 10 System Users can be uniquely identified.
- An ASCII block is also supported, allowing optional text names to be inserted after the Event Code & Address data.

If intending to utilize this format, check for compatibility with the Central Station service provider.

Account Codes. The 6-digit Client Code is sent to uniquely identify the Account, and multiple accounts (Client Codes) are allowed in one call.

To maintain compatibility with other programming options in the 3000/4000 product, (e.g. Area Programming) the Client Code is divided into a 2-digit “Account prefix” and a 4-digit “Client Code”. The 2-digit Account Prefix remains fixed for all communications via this Comms Task. A 4-digit Client Code is also assigned to the Comms Task as the default, however if the “Multiple Area Client Codes” option is enabled, a unique Client Code may be programmed for each Area.

Address field. A 4-digit address field is used to uniquely identify the Module type/number and input number. The address field mapping is consistent no matter what block code is used, meaning that an automation system can rely on the address field alone to identify an input from a 3000/4000 system.

If Hexadecimal address fields are utilized, any input on any Module type/number in the 3000/4000 system can be uniquely identified.

If Decimal address fields are utilized (“Use Decimal” option selected), any input on any Module type up to Module number 32 can be uniquely identified.

Block Codes. Block Codes for Zone Inputs are determined by the “SIA Type” assigned to the Input’s Process Group. Appropriate Block Codes for System Inputs are predefined. Some Block Codes for System Inputs do not specify an address field. An option is available to disable address fields being appended to these Block Codes for automation systems that cannot process them.

More than one alarm event can be sent in a “New Event” data block and Data blocks are supported up to a 190 Byte packet resulting in considerable savings in on-line time.

Alarm Transmission.

-After the Account block is sent and acknowledged, the 3000/4000 system will build a data block as big as possible to send as many alarms as possible in one packet.

-A single 3000/4000 “Xmit” entry is represented as follows: N [<M><CA><A>]

Where: N New event Block Code “N”

<M> One or more Modifiers for that event.

<CA> One or more 2 letter data codes plus the 4-digit Address field.

<A> Optional ASCII text for this event.

-If more than one event needs to be sent and the packet size limit has not been reached, then that event may be appended in a new event block: N [<M><CA><A>] N [<M><CA><A>]

-If ASCII text was not sent, and the block size limit has not been reached, then that event may be appended in the same block: N [<M><CA>] [<M><CA>]

-The Modifiers will only be re-stated if they altered with the new event. If the block size limit (66 bytes) can be exceeded, then subsequent alarms are sent in a new block, with the Modifiers re-stated.

For details of Data Codes and Input Mapping refer to the tables section at the rear of this manual.

SIA Options

SIA Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into SIA Options, Common Dialer options and less common or Special options. Usually only the SIA options and common options need to be programmed.

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

**CT001 Account
Prefix: 00**

This screen sets the Account Prefix to be used for this Comms Task. The Account Prefix is programmable in decimal from 00 to 99. This prefix is appended to the beginning of the Client Code for all transmissions via this Comms Task to make up the 6-digit Account Code used in the SIA format.

**CT001 DNATO...
SiaOpts nnnnnnnn**

This screen sets various options unique to the SIA format:

D Use Decimal

If set to Yes, Decimal digits will be used for the Address field. Normally, Hex digits are used for the Address field. Note that if this option is selected, the address mapping alters and the maximum number of Modules of any one type is limited to 32. *See the Tables section of the rear of this manual for SIA address mapping.*

N No Address

If set to Yes, the Address field will not be appended to Event Block Data Codes where an address field is not defined in the SIA Standard. If set to No, the address field is appended to all Event Block Data Codes.

A Load Ascii

If set to Yes, an ASCII text block is appended to the data to provide textual information from the 3000/4000 system.

NOTES:

- 1) This option may considerably slow down the rate of alarm transmission.
- 2) When this option is selected, the appropriate text for the first event will be sent in an ASCII block. Each subsequent event in the same phone call will only have ASCII text sent if it varies from the previous events. i.e. Only differences are sent to save on transmission time.
- 3) This option also has the effect of forcing one alarm event per packet.
- 4) With an opening/closing event, the following ASCII text may be appended if the related Area Communications options are selected.
 "Sys still open" At least one nominated System Area is Open (Off).
 "24Hr Partition" The 24 Hour (Tamper) part of the Area is Open (Off).

T Load RTC

If set to Yes, a time modifier (ti) prefixes every Event Data Code to provide the historical time stamp of the event. Note that this option may considerably slow down the rate of alarm transmission.

O One Alarm

If set to Yes, this option forces only one alarm event to be sent per packet. Note that each alarm event may need a number of Data Codes to represent it fully.

. Spare

Dialer Options

Dialer Options are reached by pressing HELP, “9” twice at the Active / Idle screen.

Special options are reached by pressing HELP, “9” three times at the Active / Idle screen.

CT001 Client
Code: 0000

This screen sets the default client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the “Multiple Area Client Code” is set, it is possible for different clients code to be used for different Areas.

CT001 PABX No. ->
None

CT001 PABX No. ->
TN000

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

CT001 1st No. ->
None

CT001 2nd No. ->
None

etc.

This screen allows the Installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present, up to the maximum number of attempts specified. (Default is 8 attempts)

If different telephone numbers are needed for subsequent attempts, the 2nd, 3rd and 4th telephone numbers may also be defined. If a dial attempt on the 1st telephone number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, it is skipped and the next number in the above sequence is tried.

After an initial 4 attempts, the Holdoff time between attempts is then varied to enhance the chances of a successful call and help protect against blocking. (The Holdoff time never exceeds 120 Seconds)

Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number Programming.

CT001 PpDFTM.6
Dial -> nnnnnnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse (“decadic”) dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse (“decadic”) dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If “n” then Smart dialling is selected (default). See “Introduction to Dialer Formats” at the end of this chapter.
F	Forces 300 Baud	Not relevant to SIA format. (SIA Format fixed at 300 baud).
T	Test Mode	Not relevant to SIA format. (Contact ID only)

- | | | |
|----------|-----------------------|--|
| M | Maximum Count | This enables the Maximum Count option. This allows the maximum call time to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options. |
| A | Abort Pre-dial | When connection is attempted, if <u>any</u> Pre-dial error is detected, then the attempt will immediately be aborted and the Backup Task (if defined) will be invoked.
e.g. If no Line is present the attempt will go straight to the Backup Task. |
| 6 | 60 sec Redial | This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations. |

CT001 MLGPN . . .
Ropts -> nnnnnnnn

This screen sets various reporting options:

- | | | |
|----------|--|--|
| M | Multiple Area Codes | If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application) |
| L | Look Ahead | Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if 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 multibreaking detectors. |
| G | General O/C | <p>This option selects general open and close reporting. Whenever all Areas programmed to report Open/Close are turned ON a general Area close is reported. As soon as the first Area is turned OFF, a general Area open is reported.</p> <p>In Area programming, some Areas can be nominated as "Not General Area" and are 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. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.</p> |
| P | Prevents Restores | This option prevents restores being reported via this Comms Task. |
| N | No Area Still Open | 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. |
| D | Delay Reports
(V5 or later) | This option enables Delayed Reporting (Dial Holdoff) for this Comms Task.
<i>See "Delay Report" in Process Group Extra Options (RNED...L screen) for details.</i> |

**CT001 Area List
Filter: AL002**

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

**CT001 EOA.....
Efilt-> nnnnnnnn**

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

- | | | |
|----------|---------------------|---|
| E | Extra Filter | This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation. |
| O | Opens/Closes | This option enables Opens/Closes reports to be sent via this Comms Task. |
| A | Alarms | This option allows Alarms/Tampers/Isolations to be sent via this Comms Task. |
| . | Spare | Spare options for future filters. Leave set to “n”. |

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via SIA, set the Securitel Comms Task with the “E” and “O” Extra Filter options and the Contact ID Comms Task with the “E” and “A” Extra Filter options.

Dialer formats - Special Options

Special options are reached by pressing HELP, “9” three times at the Active/Idle screen, or by pressing HELP, “9” from any common Dialer options screen. HELP, “0” will take you back to the common options when programming of special options is complete.

NOTE: The values shown in the following 10 screen examples are the default values

**CT001 Maximum
Attempts: 008**

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, the ACA specifies a maximum of 10 attempts).
In “UK” firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 004**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup Comms Task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.
Backup Comms Tasks are available in IRFast, Contact ID and GSM modem formats. (GSM requires V3.5 or later)

**CT001 Seize Aux
:X**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
:X**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 030**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 010 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

If the "Maximum Count" option in the Dial Options is set to Yes, this screen is used to program the maximum number of packets sent (1 to 255).

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will “take-over” the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make “smart” decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed “Attempting Dialer Connection”.

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the “Look Ahead” option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save

review message and continue. If do not get dial tone, dial PABX number anyway.

4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time -out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.