Comfort Ultra Program Worksheet (FS24)

Customer: _____

Address : _____

_____

_____

Telephones: _____

Comfort Modules

No Of UCMs	**(Location 1672)**	_____	**(0 to 8) Needs RESET**
No of Slaves (SEM01/02)	**(Location 1673)**	_____	**(0 to 3) Needs RESET**
No of DoorStations	**(Location 1674)**	_____	**(0 to 3) Needs RESET**
No of Keypads	**(Location 1675)**	_____	**(0 to 8) Needs RESET**
No of RIO/SCS Modules	**(Location 1676)**	_____	**(0 to 8) Needs RESET**

The number of Comfort Peripherals (UCMs, SEMs, Door Stations, Keypads, RIOs in the system are in Locations 1672 to 1676 respectively. Their IDs are set according to the switch settings given in the respective installation manuals. The IDs of each device is the same type must be consecutive, i.e. starting with 1, with no missing IDs in between, otherwise a Communications Failure Trouble alarm will be reported. Comfort must be reset by pressing the RESET button to make this setting effective.

Only UCM ID 1 does not cause a trouble alarm when Comfort loses communications with it. UCM ID 1 is reserved for use with Comfigurator and any PC Interface software. This UCM can be removed at any time without causing a Communications Failure alarm.

Document Title	Comfort Ultra Program Worksheet and Guide (FS24)
Document Revision	1.0.4
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Firmware:	Version Action 4.218

Programming via Locations

Most of the configuration settings can be done in the Engineer Menu. However, some of the settings cannot be changed via Engineer Menu and will require programming by Locations. A Location is a memory address of the Nonvolatile memory U4 in Comfort where all the programmed settings are saved. Programming a value into a Location means that the value is written directly into the memory address. This can be dangerous data is written into the wrong Location as it may cause the system to behave in unexpected ways.

The Locations menu is in Engineer Menu 7,4,1.

> **Enter Location and # key**

Enter the Location address required followed by the # key. Locations in Comfort Ultra range from 0 to 32767. For example, if you enter 1234#, the voice menu will say

> **Location 12, 34**
> **Code 255**
> **Enter New Number and # key**

The location is announced two digits at a time. If a 5 digit location is entered, e.g. 12345 it will be announced as 01, 23, 45. Code 255 means that the data in the location is 255. To enter new data in the location, type in the value in the range 0 to 255 followed by the # key. The Voice menu will announce the value entered.

Table 1 - System Settings (7)

Menu	Parameter	Range	Value	Remarks
(7,2)	PABX Option	Yes/No	No	Set ON if connected as an extension of a PABX
(7,2,1)	PABX Digit	0-9,*	9	Key to access outside line on a PABX (if PABX Option is set to ON). Don't program the PABX access key in the telephone number.

Comfort is usually connected to the telephone line directly, through the TEL IN connector, with the house telephones connected to TEL OUT. This is necessary for alarm installations, so that Comfort can disconnect the house telephones during an alarm in order to dial out to the programmed telephone numbers. For non-alarm applications, Comfort TEL IN can be connected to an analog extension of a PABX or telephone systems. The PABX option (Engineer Menu 7,2) in such cases is turned on so that Comfort knows to dial the PABX digit before the main telephone number.

Table 2 - Status LED Output Assignments (Location Menu 7,4,1)

Outputs can be used to indicate the following system status.

Status LED	Location	Output (1-64)	Note
Armed/Alarm	45		Steady = Armed. Flash = Alarm
Off/Trouble	46		Steady = Off, Flash = Trouble
Dialout in progress	1693		ON = Dialout in progress (Outside version Only)
Not Used	1695		Unused from V4.71

This table gives the Locations in outputs (1 to 64) can be assigned to indicate the system conditions, shown. Enter the Output number in the locations given. For example, to indicate Phone Line Cut on output 4, program Location 1695 with 4.

Table 3 - Away Arming Method (Location Menu 7,4,1)

There are 3 methods of (local) arming to Away Mode.

Away Arming Method	Location 1692	Remarks
Final Door Arm	0 (Default)	Arm after Final Door closed
Arm After Exit Delay	1	Arm after exit delay and all zones closed
Exit Terminator (UK Only)	2	Arm after Exit Terminator push button

Comfort has 3 methods of arming to Away Mode, i.e. when no one is in the premises. In Final Door Arming, the exit delay is terminated and the system armed when the user exits via the designated Entry Door (Zone Type 2). In Arm after Exit Delay, the system is armed when the Exit time expires and all protected zones are closed. This is used when an Entry Door contact is not available. Exit Terminator is used for the UK only, and arms only when an Exit Terminator or Door station button is pressed.

Table 4 - Zone Settings (1)

Zone	Description (4 words max.)	Word 1	Word 2	Word 3	Word 4	Zone Type	Entry Path	Restore SMS	Zone Resp	Off Resp
		0-255	0-255	0-255	0-255	0-31	yes/no	yes/no	0-255	0-255
		Press 1				Press 2	Press 3	Press 4	Press 5	Press 6
1	Front Door	22	178			2	1	0		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

Zone	Description (4 words max.)	Word 1	Word 2	Word 3	Word 4	Zone Type	Entry Path	Restore SMS	Zone Resp	Off Resp
		0-255	0-255	0-255	0-255	0-31	yes/no	yes/no	0-255	0-255
		Press 1				Press 2	Press 3	Press 4	Press 5	Press 6
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
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53										
54										
55										
56										
57										
58										
59										
60										
61										

Zone	Description (4 words max.)	Word 1	Word 2	Word 3	Word 4	Zone Type	Entry Path	Restore SMS	Zone Resp	Off Resp
		0-255	0-255	0-255	0-255	0-31	yes/no	yes/no	0-255	0-255
		Press 1				Press 2	Press 3	Press 4	Press 5	Press 6
62										
63										
64										

For each zone in the system, enter the selected zone number and # key. The system announces the programmed zone settings. Select the submenus to program the following:

- 1 - Description, up to 4 words from the Wordlist. If less than 4 words are needed, enter 255# to terminate. If no description is entered for a zone, the Zone number is used as the default description.
- 2 - The Zone Type, which defines the type of detector or input. This is the only mandatory setting for a zone. Unused zones are set to Zone Type 0
- 3 - The Entry path setting (on/off). A zone on the Entry path does not cause an alarm when it is triggered after the Entry Door is opened when the system is armed.
- 4 - Restore Zone Report to SMS - If this is enabled, the zone restore event will be reported to a programmed SMS phone type 6 after an alarm has occurred. This is normally used for monitoring equipment, and not for Intruder Alarm zones
- 5 - The On Response (the optional Response or program which is activated when the Zone goes on). ON means open for a normally closed zone type and closed for a normally open zone type.
- 6 - The Off Response (the optional Response or program which is activated when the Zone goes off). OFF means closed for a normally closed zone type and open for a normally open zone type.

Zone Responses

Each zone can have an response assigned to it to alter its operation or to change it's function, such as changing a zone from an immediate type to entry / exit in Night Mode or adding a chime, placing a double knock filter or soak testing it. You can use the On or Off response of any zone to perform a function, or you may need to change the zone type, the possibilities are endless. Select your required response and enter its number into the relevant zone that is to have the attribute using Eng Menu 1, (zone number#), 5 . Refer to Table 33 for Responses.

53 Cancel Entry Delay in Night Mode

Circuits with this On response will perform an immediate alarm if activated during Night Mode and respond as normal when in Away Mode

54 Entry Delay in Night Mode

Circuits with this On response will initiate the entry procedure when the system is in Night Mode and respond as normal when in Away Mode. It is commonly used to change a Hall movement detector's behaviour.

59 Announce Zone Name

Circuits with this On Response will announce their zone name description from the Keypads on the system during all security modes. If this response is assigned to the Zone Off Response, the system

will announce (Zone Name) OFF when the zone is deactivated. The word number for “OFF” (i.e. 229) should be programmed in Location 1689. Alternatively, word number 70 (“Close”) may be suitable.

75 Chime

Circuits with this On response will cause a long two-tone ‘chime’ sound at the Keypads and speakers . This may be disabled by the user in Alert Menu 6 in Home Control.

116 Play Reminder Message 1 on Keypads

When the circuit is activated (normally an exterior movement detector), the recorded reminder message 1 is played on all keypads. This can be used to play a warning message to potential trespassers. This response can be changed to play the message on one particular keypad by specifying the keypad ID. See Application Manual 5.6 for more details

Table 5 -Output Assignments (Information only)

Output	Appliance	Output	Appliance
1		33	
2		34	
3		35	
4		36	
5		37	
6		38	
7		39	
8		40	
9		41	
10		42	
11		43	
12		44	
13		45	
14		46	
15		47	
16		48	
17		49	
18		50	
19		51	
20		52	
21		53	
22		54	
23		55	
24		56	
25		57	
26		58	
27		59	
28		60	
29		61	
30		62	
31		63	
32		64	

Table 6 - X10 Assignments (Information only)

Appliance	X10 Address	Appliance	X10 Address

Table 7 - Infrared Codes (Information only)

Each of Comfort's outputs are able to transmit Infrared codes. An Infrared (IR) transmitter must be connected to the output to send the IR signal. The IR signal to be sent has to be selected using the Comfigurator software tool. Table 7 lists the IR codes numbers which are available i.e. have been selected and loaded via Comfigurator. Up to 250 IR codes are stored in Comfort but not all are shown

IR Code	Appliance/Function	IR Code	Appliance/Function
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16		32	

Zone Types

There are 32 Zone Types available in the system. Zone Types define the characteristics of the Zone, what type of zone it is, how it is activated and in which security mode it is active, and what alarm it triggers if it is activated when it is active. Zone Types make it easy to program the system.

The 3 Zone Types tables show the default settings and how to change them using Locations. It is rarely necessary to change default Zone Types settings, unless there is a special requirement which is not catered for by the default values. It is necessary to Reset the panel after changing Zone Types, by pressing the reset button on the Comfort PCB. Press the Reset button after all changes are completed, rather than after each change

Zone Types cannot be programmed from the Engineer Voice Menu. They have to be programmed using Locations as shown in Tables 8 to 10, or from Comfigurator software.

Zone Types Characteristics

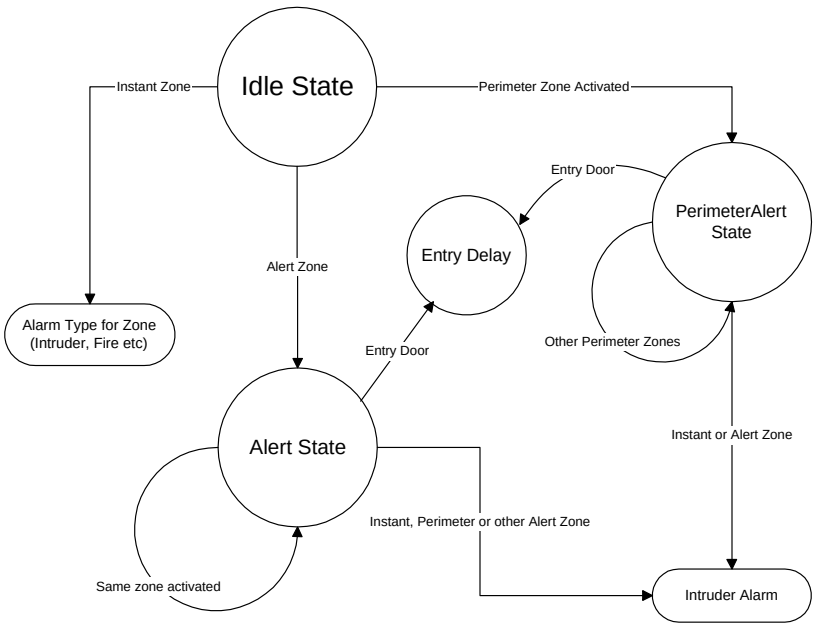
Characteristic	Value	Remarks
Away Mode	Instant, Alert, Perimeter, Inactive	Each zone type has a setting in each mode: Off, Night, Day and Away. This gives flexibility in defining the behaviour of the zone types. For example, a Zone Type may be Inactive in Off or Day Modes, Alert in Night Mode and Instant in Away Mode. See Flowchart for Instant, Alert and Perimeter Zone Activation (figure 3.2). Note: Inactive Zone types will trigger their ON/ OFF responses but not their alarm types. Thus, switches and other input devices which have no security function should be set to Inactive in all security modes. The only purpose of switches is to activate responses
Night Mode		
Day Mode		
Off Mode		
Trouble Alarm Type	0 to 31	The Trouble condition Alarm Type is activated when a non-Null (Instant, Alert or Perimeter) zone is in trouble condition (short circuit or open circuit) when the system is armed. When the system is not armed, the Zone Trouble alarm as programmed in the Non Detector Alarms is activated. For example, if the wiring for a door magnetic contact is broken or cut, in SECURITY OFF activates a Trouble Alarm, while in Away mode activates an Intruder Alarm as specified in table 9
Alarm Type	0 to 31	The Normal Alarm type is the Alarm which is triggered when the zone is activated when it is not Inactive (i.e. it is Instant, Alert, or Perimeter).
Entry Door	Yes/No	Determines if the zone type is an Entry Door, i.e. used for entry and exit for the premises. Closing an Entry door ends the exit sequence during arming, and opening the entry door starts the entry sequence when the system is armed for Final Door Away Arm.
Normally Open/Closed	NO or NC	Defines the behaviour of the sensor contacts to the zone. Most Security sensors are Normally Closed.
Sensitivity	20 ms to 850 ms	The Sensitivity setting determines how long a zone has to be activated before it is considered a genuine trip. A higher setting prevents false alarms, while a lower setting allows for detection of short action sensors like vibration sensors.
24-hour	Yes/No	A 24 hour zone is always active irrespective of the Off, Away, Night, Day settings. The Instant, Alert, Perimeter and Inactive settings do not apply if a Zone is defined as 24-hour. 24 hour zones cannot be bypassed. A zone type can be Instant in all 4 modes, but still have the 24 hour setting OFF to allow bypassing

There is normally no need to change the default settings for Zone Types, unless there is a special requirement which cannot be met by the default Zone Types.

Instant/Alert/Perimeter Zoning for False Alarm Filtering

Comfort has an advanced mechanism to help filter false alarms. Each Zone Type has one of 4 zone activation modes - Inactive, Instant, Alert and Perimeter. An Inactive Zone setting does not cause any

alarm when tripped. An Instant Zone activates its assigned Alarm Type when it is tripped. An Alert Zone causes the system to go into Alert State when tripped. If another non-Inactive zone is tripped (but not the same zone) within the next 10 minutes, an Intruder Alarm is activated. A Perimeter Zone causes the system to also go into Alert State. Tripping of an Alert or Instant zone, but not another Perimeter zone within the next 10 minutes will cause an Intruder Alarm to be activated. Each zone type can be assigned to any one of these filter settings for each security mode (Security off, Night, and Away/Vacation). The use of Alert and Perimeter Zones is a useful tool in preventing false alarms, but requires careful planning and design on the part of the installer. Refer to the table below for the flowchart which explains the sequence of zone activation to trigger an alarm.



Flowchart for Instant, Alert and Perimeter Zone Activation

Table 8 - Zone Types (Security Mode Assignments) - Needs RESET

No	Type	Security Off	Away Mode	Night Mode	Day Mode	Location	Value
		Inactive = 0 Alert=1 Perim=2 Instant=3	Inactive = 0 Alert=4 Perim=8 Instant=12	Inactive=0 Alert=16 Perim=32 Instant=48	Inactive=0 Alert=64 Perim=128 Instant=192		
1	Door/window	Inactive=0	INST=12	INST=48	INST=192	2568	252
2	Entry Door	Inactive=0	INST=12	INST=48	INST=192	2572	252
3	Alert Night/Away	Inactive=0	Alert=4	Alert=16	Inactive=0	2576	20
4	Alert Away	Inactive=0	Alert=4	Inactive=0	Inactive=0	2580	4
5	Instant Away/Night	Inactive=0	INST=12	INST=48	Inactive=0	2584	60
6	Alert Vibration	Inactive=0	Alert=4	Alert=16	Alert=64	2588	84
7	Vibration, armed	Inactive=0	INST=12	INST=48	IINST=192	2592	252
8	Switch (N/O)	Inactive=0	Inactive=0	Inactive=0	Inactive=0	2596	0
9	Monitor (N/O)	INST=3	INST=12	INST=48	INST=192	2600	255
10	Fire N/O	INST=3	INST=12	INST=48	INST=192	2604	255
11	Gas N/C	INST=3	INST=12	INST=48	INST=192	2608	255
12	Panic	INST=3	INST=12	INST=48	INST=192	2612	255
13	Tamper, Armed	Inactive=0	INST=12	INST=48	INST=192	2616	252
14	Perim Night/Away	Inactive=0	Perim=8	Perim=32	Inactive=0	2620	40
15	Glass Break	INST=3	INST=12	INST=48	INST=192	2624	255
16	Perim Vibr Night/Away	Inactive=0	Perim=8	Perim=32	Perim=128	2628	168
17	Monitor (N.C.)	INST=3	INST=12	INST=48	INST=192	2632	255
18	INST Away	Inactive=0	INST=12	Inactive=0	Inactive=0	2636	12
19	24 hr Vibr	INST=3	INST=12	INST=48	INST=192	2640	255
20	24 hour Tamper	INST=3	INST=12	INST=48	INST=192	2644	255
21	Doorbell	Inactive=0	INST=12	Inactive=0	Inactive=0	2648	12
22	Not Assigned	Inactive=0	INST=12	INST=48	Inactive=0	2652	60
23	Fire N/C	INST=3	INST=12	INST=48	INST=192	2656	255
24	Switch N/C	Inactive=0	Inactive=0	Inactive=0	Inactive=0	2660	0
25	Vibration 100 ms , armed	Inactive=0	INST=12	INST=48	INST=192	2664	252
26	24 hr Zone (N.C.)	INST=3	INST=12	INST=48	INST=192	2668	255
27	24 hr Zone (N.0)	INST=3	INST=12	INST=48	INST=192	2672	255
28	Vibr 100 ms Away/Night	Inactive=0	INST=12	INST=48	Inactive=0	2676	60
29	Vibr 20 ms Away/Night	Inactive=0	INST=12	INST=48	Inactive=0	2680	60
30	Digital N/C	Inactive=0	Inactive=0	Inactive=0	Inactive=0	2684	0
31	Digital N/O	Inactive=0	Inactive=0	Inactive=0	Inactive=0	2688	0

Table 9 - Zone Types (Alarm Type Assignments) - Needs RESET

No	Type	Normal Alarm		Alarm, Zone Trouble, Armed	
		Alarm Type	Location	Alarm Type	Location
1	Door/window	1, Intruder	2570	1, Intruder	2571
2	Entry Door	1, Intruder	2574	1, Intruder	2575
3	Alert Night/Away	6,Alert	2578	1, Intruder	2579
4	Alert Away	6,Alert	2582	1, Intruder	2583
5	Instant Away/Night	1,Intruder	2586	1, Intruder	2587
6	Alert Vibration	6,Alert	2590	1, Intruder	2591
7	Vibration, armed	1,Intruder	2594	1, Intruder	2595
8	Switch (N/O)	0	2598	5,Trouble	2599
9	Monitor (N/O)	14, Family Care	2602	5,Trouble	2603
10	Fire N/O	12,Fire	2606	5,Trouble	2607
11	Gas N/C	13,Gas	2610	5,Trouble	2611
12	Panic	9,Panic	2614	11, Tamper	2615
13	Tamper, Armed	11,Tamper	2618	11, Tamper	2619
14	Perim Night/Away	15,Perimeter	2622	1, Intruder	2623
15	Glass Break	1,Intruder	2626	1, Intruder	2627
16	Perim Vibr Night/Away	15,Perimeter	2630	1, Intruder	2631
17	Monitor (N.C.)	14, Family Care	2634	5, Trouble	2635
18	INST Away	1,Intruder	2638	1, Intruder	2639
19	24 hr Vibr	1,Intruder	2642	1, Intruder	2643
20	24 hour Tamper	11,Tamper	2646	11,Tamper	2647
21	Doorbell	25,Doorbell	2650	5,Trouble	2651
22	Not Assigned	14,Family Care	2654	5, Trouble	2655
23	Fire N/C	12,Fire	2658	5,Trouble	2659
24	Switch N/C	0	2662	5,Trouble	2663
25	Vibration 100 ms , armed	1,Intruder	2666	1, Intruder	2667
26	24 hr Zone (N.C.)	1,Intruder	2670	1, Intruder	2671
27	24 hr Zone (N.0)	1,Intruder	2674	1, Intruder	2675
28	Vibr 100 ms Away/Night	1, Intruder	2678	1, Intruder	2679
29	Vibr 20 ms Away/Night	1,Intruder	2682	1, Intruder	2683
30	Digital N/C	0	2686	0	2687
31	Digital N/O	0	2690	0	2691

Table 10 - Zone Types (Miscellaneous Settings) - Needs RESET

No	Type	Entry door	Normally Open	24 Hr	Digital	Sensitivity Number (ms)	Location	Value
	Add Value	Add 64	Add 32	Add 16	Add 8	Add 0 to 7		
1	Door/window	No	No	No	No	6 (500)	2569	6+128
2	Entry Door	Yes	No	No	No	6 (500)	2573	70 +128
3	Alert Night/Away	No	No	No	No	6 (500)	2577	6 +128
4	Alert Away	No	No	No	No	6 (500)	2581	6 +128
5	Instant Away/Night	No	No	No	No	6 (500)	2585	6 +128
6	Alert Vibration	No	No	No	No	2 (50)	2589	2 +128
7	Vibration, armed	No	No	No	No	2 (50)	2593	2 +128
8	Switch (N/O)	No	Yes	No	No	6 (500)	2597	35 +128
9	Monitor (N/O)	No	Yes	No	No	6 (500)	2601	38 +128
10	Fire N/O	No	Yes	No	No	6 (500)	2605	38 +128
11	Gas N/C	No	No	No	No	6 (500)	2609	6 +128
12	Panic	No	No	No	No	6 (500)	2613	6 +128
13	Tamper, Armed	No	No	No	No	6 (500)	2617	6 +128
14	Perim Night/Away	No	No	No	No	6 (500)	2621	6 +128
15	Glass Break	No	No	No	No	6 (500)	2625	6 +128
16	Perim Vibr Night/Away	No	No	No	No	2 (50)	2629	2 +128
17	Monitor (N.C.)	No	No	No	No	6 (500)	2633	6 +128
18	INST Away	No	No	No	No	6 (500)	2637	6 +128
19	24 hr Vibr	No	No	No	No	2 (50)	2641	2 +128
20	24 hour Tamper	No	No	No	No	6 (500)	2645	6 +128
21	Doorbell	No	Yes	No	No	4 (200)	2649	36 +128
22	Not Assigned	No	No	No	No	6 (500)	2653	6 +128
23	Fire N/C	No	No	No	No	6 (500)	2657	3 +128
24	Switch N/C	No	No	No	No	6 (500)	2661	6 +128
25	Vibration 100 ms armed	No	No	No	No	3 (100)	2665	3 +128
26	24 hr Zone (N.C.)	No	No	No	No	6(500)	2669	6 +128
27	24 hr Zone (N.0)	No	Yes	No	No	6(500)	2673	38 +128
28	Vibr 50 ms Away/Night	No	No	No	No	2 (50)	2677	2 +128
29	Vibration 20 ms armed	No	No	No	No	1 (20)	2681	1 +128
30	Digital N/C	No	No	No	Yes	3 (100)	2685	11 +128
31	Digital N/O	No	Yes	No	Yes	3 (100)	2689	43 +128

☎ **The value in the last column of the above table is normally increased by 128.**

☎ **See Table 11 for Sensitivity Number settings**

☎ **Digital Zone Type is applicable from version 4.166**

Standard Zone Types

To select the zone type for the zone enter * Engineer Code then #. You will hear 'Engineer Menu' . Press 1 for 'zone settings', select your Zone number followed by #. Press 2, you will hear the current zone type for that zone. Enter the zone type number required from the following list of zone types.

The term 'Instant' zone type is sometimes referred to as an immediate, burglar, night or intruder zone by other panel manufacturers.

0 Not Used

A totally disabled circuit for Alarm triggering. It cannot be used to activate responses

1 - Door / Window (NC, Intruder Alarm)

A circuit that will generate a full alarm in Away, Night and Day modes and is particularly intended for perimeter protection.

2 - Entry Door (NC, Entry Alert)

This type of circuit must be the first detector triggered when entering the protected area whilst the system is set. Once set, activation of the circuit will start the entry timer. The function of this circuit is determined by the type of Away Arming Method selected. If Final Door arming is programmed, then the system will not complete arming until the door is closed on the way out and all other protected circuits are clear.

3 - Alert Night/Away (NC, Alert)

A circuit that can be used to dial-out silently if activated during Night, Away Modes generating an Alert Alarm 'type 6'. A full alarm will be generated only when another alert zone, perimeter or immediate zone is activated within the next 10 minutes.

4 - Alert Away (NC, Alert)

This circuit is the same as zone type 3 except it is not active during Night and Day Mode.

5 - Instant Night/Away (NC, Intruder Alarm)

A circuit that will generate a full alarm during Night and Away Modes and not Day Mode. It is intended for PIRs in interior zones.

6 - Alert Vibration Night/Away (NC, Alert Alarm)

This circuit is the same as zone type 3 except it has an operating sensitivity of 50 ms and is suitable for use with non-electronic (mechanical) inertia shock detectors. A zone response may be needed to act as an analyser.

7 - Instant Vibration Armed (NC, Intruder Alarm)

A circuit that has an operating sensitivity of 50 ms which is suitable for use with non-electronic (mechanical) inertia shock detectors and will generate a full alarm in only Night , Day and Away Modes.

8 - Switch (N.O. Null Alarm)

A normally open circuit which will not activate an alarm but can be used to activate a response at all times. Responses may be applied to action of closing, opening or both. The circuit operating sensitivity is 500 ms and is suitable for use with detectors with a negative applied trigger output such as light sensors and some external movement detectors.

9 - Monitor (N.O, Alarm Type 14)

This is used to dial out to programmed phones whenever the zone is triggered. It can be used either to check detectors which cause false alarms ("soak test") or to monitor machinery breakdown. It activates Alarm Type 14, which must have the appropriate dialout settings. A similar N.C zone type is Zone Type 17

10 - Fire (N.O. Fire Alarm)

A normally open 24-Hr circuit which is usually connected to a smoke or heat detector. When activated it will generate a fire alarm sound from the speakers and pulse the 12v sirens for 10 minutes. A programmed response may be triggered in the zone setting or fire alarm type to switch lights on aiding an escape or to open an automatic gate to enable easier access for the fire services. Cannot be bypassed.

11 - Gas (N.C, Gas Alarm)

A 24-Hr circuit which will generate a gas alarm sound on the speakers and operate the siren for 10 minutes. A programmed response may be triggered in the zone setting or gas alarm type to switch the gas supply 'OFF' or open doors and windows. This zone type can be bypassed by default, but bypass can be disabled by setting 24 Hour ON in Table 10.

12 - Panic Alarm (N.C, Panic Alarm)

(N.C, 24-Hr circuit) A 24-Hr circuit that will generate a full audible alarm condition when activated. Can be bypassed, but bypass can be disabled by setting 24 Hr ON in Table 10.

Panic Silent

(Siren Type 0 in Alarm Type 9) To select a silent Panic alarm type that will just remotely signal to the Central Monitoring Station and other phone numbers, change the siren type in alarm type 9 to '0' (no siren sound). This is found in Eng Menu 2,9,5.

13 - Tamper Armed (N.C, Tamper Alarm)

A circuit that will generate a full tamper alarm only when the system is 'set'.

14 - Perimeter Away (N.C, Perimeter Alarm)

A circuit that can be used to dial-out silently if activated during Away Modes generating a perimeter alert 'Alarm Type 15'. A full alarm will be generated only when an alert zone, or immediate zone is activated within the next 10 minutes. A perimeter circuit response may be programmed to operate lighting sequences, camera switching, video recording or voice announcements. The circuit operating sensitivity is 500 ms.

15 - Glass-break (N.C, Intruder Alarm)

A 24-Hr circuit which is connected to a glass-break detector.

16 - Perimeter Vibration (N.C, Perimeter Alert)

This circuit is the same as zone type 14 being active only while the system is 'set' except it has an operating sensitivity of 50 ms and is suitable for use with non-electronic (mechanical) inertia shock detectors. A zone response may be needed to act as an analyser.

17 - Monitor (N.C, Alarm Type 14)

Similar to Zone Type 9, except it is Normally Closed

18 - Instant Away (NC, Intruder Alarm)

A circuit that will generate a full alarm during Away Modes only. It is commonly used where access is required to areas during night time such as a bedroom or landing.

19 - 24-Hr Vibration (NC, 50 ms, Intruder Alarm)

A circuit that has an operating sensitivity of 50 ms which is suitable for use with non-electronic (mechanical) inertia shock detectors and will generate a full alarm in all Modes. A zone response may be needed to act as an analyser. This circuit is active in only while the system is 'set'.

20 - 24-Hr Tamper (N.C, Tamper Alarm)

A circuit that will generate a full tamper during all modes. System cannot be armed when this zone type is active. Can be bypassed by default, but bypass can be disabled by setting 24 Hr ON in Table 10.

21 Doorbell (N.O., Door Station)

The doorbell of an independent intercom system can be linked to the Door Station by providing a normally open contact to a zone of this type. This can activate the Door Station which is mounted next to the intercom system so that the user can talk to the visitor at the door from a mobile phone when the system is armed to Away.

22 - Spare

23 - Fire (N.C, Fire Alarm Type 12)

A normally closed 24-Hr circuit which is usually connected to a smoke or heat detector. When activated it will generate a fire alarm sound from the speakers and pulse the 12v sirens for 10 minutes. A programmed response may be triggered in the zone setting or fire alarm type to switch lights on aiding an escape or to open an automatic gate to enable easier access for the fire services. Cannot be bypassed.

24 - Switch (N.C., Null Alarm Type 0)

This zone type is the same as type 8 except the switch used should be normally closed type circuit.

25 Vibration 100 ms (N.C, Intruder Alarm Type 1)

Similar to Zone Type 7, except that sensitivity is 100 ms

26 - 24 Hour Zone (N.C Intruder Alarm Type 1)

A circuit which will cause an Intruder Alarm in all modes

27 24-hour (N.O., Intruder Alarm Type 1)

A circuit which will cause an Intruder Alarm in all modes

28 - Away/ Night 100 ms (N.C. Intruder Alarm Type 1)

Similar to Zone Type 7, except that sensitivity is 100 ms and it is inactive in Day Mode.

29 - Away/Night 50 ms Vibration (N.C. Intruder Alarm)

Similar to Zone Type 7, except that it is inactive in Day Mode.

30,31 - Digital (Digital, Null Alarm))

The Digital Zone type is either Normally Open or Normally Closed. It does not cause any alarm when triggered. EOL shunts on the zone should be set to Double End-of-line. No Trouble alarm is activated if there is an open circuit or short circuit. An open/close contact can be connected. A 5 V logic-level signal can also be connected.

Table 11 - Zone Sensitivity

Sensitivity No	Sensitivity (ms)	Sensitivity No	Sensitivity (ms)
0	10 ms	4	200 ms
1	20 ms	5	70 ms
2	50 ms	6	500 ms
3	100 ms	7	850 ms

The Sensitivity Number for each zone type in Table 10 are listed in this table. Sensitivity numbers are from 0 to 7. Zone Sensitivity is the minimum time for a zone to be activated before it is recognised by the system.

Table 12 - Phone Numbers (4,1)

Dial Index	Phone Type (0 to 4)	Note: Phone Types	Phone Number (max. 20 digits)	Notes on special keys
1		0 for No Phone, 1 for Voice Phone 2 for Pager 3 for Alarm Message 4 for Monitoring Station (Dial Index 1 and 2 only)		* and <AWAY> key clears the digits entered <NIGHT> + key enters a dial pause in seconds <DAY> = key enters the following key * or # into the telephone number
2				
3				
4				
5				
6				
7				
8				

Up to 8 phone numbers may be assigned for dialout during alarms. The phone numbers may be assigned as Monitoring Station (1st 2 numbers only), Voice Phone (land line or cellular phone), numeric pager or Alarm Voice Message.

Central Monitoring Station must be assigned to Phone 1. Any backup or alternative Central Station must be assigned to Phone 2. If no monitoring is required, all 8 Phone settings may be assigned to other phone types.

Each Alarm Type can be programmed to dial to any combination of the 8 telephone numbers. To do this, go to the Alarm Types menu (Engineer Menu 2).

The assignment of phone types must be coordinated with the Dial Settings for the Alarm Types. Determine what phones or pagers are to be programmed for each alarm type, and program the phone types and numbers before programming the Dial settings for the Alarm Types. If an Alarm Type Dial Setting points to an index which has Phone Type 0 (No phone) programmed, no dial-out will be done for that number.

Central Monitoring Station (phone type 4) can be assigned to Dial Index 1 and 2 only. Dial Index 1 and 2 may also be assigned to other phone types if not assigned to CMS

Table 13 - Monitoring Station Settings - Phone Type 4 for Dial Indexes 1 and 2

CMS No.	Monitoring Station Code Account 3 to 4 digits	Monitoring Station Type (CMS Format -see table below)	Phone Number	CMS/Voice Station
Menu Ref.	Press 1	Press 2	Press 3	Press 4
Range	3 or 4 digits	1 to 13	up to 20 digits	ON/OFF
1		13 (Contact ID)		
2		13 (Contact ID)		

Phones 1 and 2 out of the 8 may be set as Phone Type 4, or Monitoring Station. Monitoring Station Code (submenu 1) is the Account number, which may be 3 to 4 digits.

Monitoring Station Type (submenu 2) means the Format. The list of formats supported is in Table 14. Use Contact ID format if possible as the Report and Restore Codes in all Alarm types are defaulted to this format. Contact ID is able to provide more information in its reporting, and being a DTMF format, is faster than traditional pulse type formats.

Phone Number (submenu 3) is for the phone number of the Central Monitoring Station receiver.

If Phone Type 1 or 2 is set to Monitoring Station Type in Engineer menu, the User Program Menu 4 will not be able to change it. The User Program menu is not able to set Monitoring Station phone type in Phones 1 and 2.

In Comfort, unlike most other alarm panels, the Report and Restore codes are programmed for each Alarm type, not by Zone

Table 14 - CMS Formats supported

Format	Description	Characteristics
1	Ademco Slow	4x2, 10 pps, 1900 Hz data, 1400 Hz handshake 1400 Hz kissoff, 2 rounds
2	Ademco Slow	4x2, 10 pps, 1900 Hz data, 1400 Hz handshake 1400 Hz kissoff, checksum
3	Ademco Slow	3x1, 10 pps, 1900 Hz data, 1400 Hz handshake 1400 Hz kissoff, 2 rounds
4	Silent Knight	4x2, 14 pps, 1900 Hz data, 1400 Hz handshake 1400 Hz kissoff, 2 rounds
5	Franklin	4x2, 20 pps, 1800 Hz data, 2300 Hz handshake 2300 Hz kissoff, 2 rounds
6	Radionics	3x1, 40 pps, 1800 Hz data, 2300 Hz handshake 2300 Hz kissoff 2 rounds
7	Radionics	4x2, 40 pps, 1800 Hz data, 2300 Hz handshake 2300 Hz kissoff 2 rounds
8	Radionics	4x2, 40 pps, 1800 Hz data, 2300 Hz handshake 2300 Hz kissoff checksum
9	Radionics	3x1, 40 pps, 1800 Hz data, 2300 Hz handshake 2300 Hz kissoff checksum
10	Surgard	DTMF 4x3 2300 Hz handshake 2300 Hz kissoff 2 rounds
11	Surgard	DTMF 4x3 2300 Hz handshake 2300 Hz kissoff checksum
12	Ademco Express	DTMF 4x2 1400/2300 Hz handshake 1400 Hz kissoff
13	Contact ID	DTMF 4x3,3,2,3 1400/2300 Hz handshake 1400 Hz kissoff

This table gives the list of CMS Format supported in Comfort

Table 15 - Entry/Exit Time (4,2)

Menu Ref.	Parameter	Range	Value	Remarks
4,2,0	Entry Time	0-255 seconds	30	The Entry Time is the time given for the user to disarm the system after opening the Entry Door when the system is armed (Away, Night, Day, Vacation mode). If no valid sign-in is entered after the Entry Time, the system goes into Entry Warning Time, during which a local alarm sounds (only the internal speaker gives a pulsed tone).
4,2,1	Exit Time	0-255 seconds	30	The Exit time is the time given for the user to leave the home during local arming to Away or Vacation Mode, provided all zones are closed. At the expiry of Exit time, if the system is not armed, it gives an Arm Fail Alarm, which is a local warning on the speaker and siren consisting of a series of short beeps. For the Final Door Arm Option (Location 1692=0), the exit time is terminated and the system is armed when the Entry Door is closed. For Arm after Exit delay option (Location 1692=1), the system is armed after the Exit time is all protected zones are closed.
4,2,2	Entry Warning Time	0-255 seconds	15	After the Entry Warning Time expires and no sign-in is given, a full Intruder alarm is generated. If the Entry Warning Time is set to 0, the system goes into a full intruder alarm when the Entry Time expires.
4,2,3	Night Exit Time	0-255 seconds	5	Night Exit Time is the delay in seconds to allow the user to leave the protected area in when arming to Night Mode before the system is armed. The keypads will beep during the Night exit Time. The user can disarm during the countdown by signing in on the keypad or phone.

Table 16 - Security Options (4,3)

Menu Ref.	**Parameter**	**Range**	**Value**	**Remarks**
4,3,1	Force Arm	On/Off	Yes	To enable the user to force-arm the system when not all zones are closed, go to Engineer Menu 4,3,1 for Force Arm Options and press 1 for on. To disable this option, press 0 for off on the same menu.
4,3,3	Siren Reverse	On/Off	No	OFF to activate sounder by applying 12V. Yes to activate sounder by removing voltage (for self-actuating sirens).

Table 17 - General (non-detector) Alarm Conditions

Zone Types trigger Alarm Types. Alarm Types are also triggered by other conditions, for example, Power Failure, Low battery, Phone Line Cut, Arm Failure, New Message and so on, which are not related to zones. This group of Alarm conditions are termed General, or Non-Detector Alarms. The Table of General (Non-detector) alarms associate Alarm Types with the Alarm Condition. For example, Low Battery condition is assigned to Alarm Type 7. When low battery is detected, Alarm Type 5 is triggered. The behaviour of the low battery alarm is determined by the settings in Alarm Type 5. As another example, Telephone Line Fault is assigned to Alarm Type 3 in Location 7. This produces a Trouble alarm and trouble beeps.

The General Alarm, Intruder is triggered by two alert zones or perimeter-alert zone sequence, and not by directly by zone activation. It is assigned by default to Zone Type 1.

The General Alarm Zone Trouble is triggered by a zone trouble (open or short circuit wiring) when the security system is not armed (Security Off Mode). It is assigned by default to Alarm Type 5.

There is a fixed set of General Alarm Conditions which Comfort responds to, but each of these can be assigned to any of the Alarm Types. If the Alarm Type for a General Alarm is set to 0 (Null Alarm), there will be no alarm activated. For example, if the general Alarm Line Cut is set to Alarm Type 0 by setting Location 7 to 0, the Security off/Trouble led will not flash and there will be no trouble beeping sound from the speaker and Keypad when the phone line is cut. Comfort will still detect a line cut condition, and announce "Phone trouble" on the local phone when the handset is offhook, but will take no alarm action.

There is usually no need to change the default settings

General Alarm Condition	Location	Alarm Type	General Alarm Condition	Location	Alarm Type
Intruder	3	1	Siren Trouble	17	22
Zone Trouble	4	5	Bypass	18	16
Low Battery	5	7	Not Used	19	0
Power Failure	6	8	Dial Test	20	27
Line Cut	7	3	CMS Dial Test	21	18
Duress	8	2	Entry Alert	22	10
Arm Fail	9	4	Fire	23	12
Family Care	10	14	Panic	24	9
Disarm	11	17	Not Used	25	28
Arm	12	19	New Message	26	29
Tamper	13	11	Doorbell	27	25
Not Used	14	23	RS485 Comms Fail	28	24
Entry Warning	15	21	Sign In Tamper	29	31
Alarm Abort	16	20			

Alarm Types

Comfort provides 32 Alarm Types, which determines the alarm behaviour of siren, speaker, strobe, Monitoring Station report codes, dialouts, and other characteristics. Alarm Types are triggered either by **Zone Types** or by **General (Non-detector) Alarm** conditions.

The Alarm Types menu allows for change in the following settings for each of the 32 Alarm Types:

Item	Value	Menu	Remarks
Dial-out	Yes/No	2,1	Determines whether a dialout is done
Dial Indexes	On/Off	2,1,1	Determines which phone numbers 1 to 8 are dialled during the dial out Each Alarm type can dial to any combination of the 8 phone numbers.
Dial Delay	Yes/No	2,1,2	If Dial Delay is on, the dialout will start only after the dial delay expires. Dial Delay time (common) is in Location 161.
Report Code	2 digits	2,1,3	For Comfort, Monitoring Station reporting is determined by Alarm Types rather than individual zones. This is a more flexible system and easier to program, especially if Contact ID is used, as default report and restore codes are already programmed. The Report and Restore codes consist of 2 digits, each 0 to 15. For 4-2 type formats i.e. with 4 digit account code and 2 digit report codes, setting the 2nd digit to 0 will cause the zone or user number to be reported in place of the 2nd digit. For example for Intruder Alarm, if the Report Code is 3,0, and Zone 2 triggers a report, the Report code sent will be 32. To disable reporting of zone restores, set both 1st and 2nd digits to 15.
Restore Code	2 digits 0 to 15	2,1,4	
Monitoring Station Code (Class Code)	0 to 9	2,1,6	Class code (For Contact ID CMS format). This is defaulted to the correct standard setting. Do not change unless the Alarm Type definition is changed
Response	0-255	2,2	When an alarm is activated, a Response which performs actions like turning on lights and appliances may be activated. e.g.. when a fire breaks out, the lights in the exit path can be turned on.
Alarm Description	Sentence No	2,3	Alarm Sentence announced to a voice phone during dial out and in the event log. See table 20 for the list of Alarm phrases.
Strobe	Yes/No	2,4	Determines whether the strobe is turned on
Siren Type	0 to 20	2,5	Describes the speaker siren pattern (pulsed, steady, frequency) whether the 12V siren output is activated, the duration of the siren (see list of siren Types)
Siren Delay	Yes/No	2,5,1	If Siren Delay is on, the siren will go on only after the siren delay expires. . The Siren delay time in minutes is Location 51. The same Siren delay is used for all Alarm types which are set for Siren Delay.
Alarm State	0 to 3	2,8	0 = Idle 1 = Trouble - for trouble conditions 2 = Alert - for alert or perimeter states 3 = Alarm - for full alarm The alarm state defines the priority of the alarm.

☎ **It is normally not necessary to change the Alarm Type default programming, except to turn the dialout on or off, and to program which of the Dial settings 1 to 8 to dial to. If Contact ID format is chosen for the Monitoring Station, then it is not necessary to reprogram the Report and Restore codes.**

Table 18 - Alarm Types (Engineer Menu 2) - Dial Settings

No	Assigned To	Dial Out?	Dial Indexes								Dial Delay	CMS Report Code		CMS Restore Code		Class Code
			1	2	3	4	5	6	7	8		digit 1	digit 2	digit 1	digit 2	
		Yes/No										0 to 15				1-9
	Press ...	1,1									1,2	1,3		1,4		1,6
1	Intruder	Yes	1	1	1	1	1	1	1	1	No	3	0	3	0	1
2	Duress	Yes	1	1	1	1	1	1	1	1	No	2	1	15	15	1
3	Line Cut	No									No	15	15	15	15	3
4	Arm Fail	No	1	1	1	1	1	1	1	1	No	0	6	15	15	4
5	Zone Trouble	Yes	1	1	1	1	1	1	1	1	No	7	0	7	0	3
6	Zone Alert	Yes	1	1	1	1	1	1	1	1	No	3	2	15	15	1
7	Low Battery	Yes	1	1	1	1	1	1	1	1	No	0	2	0	2	3
8	Power Fail	No	1	1	1	1	1	1	1	1	No	0	1	0	1	3
9	Panic	Yes	1	1	1	1	1	1	1	1	No	2	0	15	15	1
10	Entry Alert	No	1	1	1	1	1	1	1	1	No	15	15	15	15	1
11	Tamper	Yes	1	1	1	1	1	1	1	1	No	3	7	3	7	1
12	Fire	Yes	1	1	1	1	1	1	1	1	No	1	0	15	15	1
13	Gas	Yes	1	1	1	1	1	1	1	1	No	5	1	15	15	1
14	Family Care	Yes	1	1	1	1	1	1	1	1	No	0	2	15	15	1
15	Perimeter	No	1	1	1	1	1	1	1	1	No	3	1	15	15	1
16	Bypass Zone	No	1	1	1	1	1	1	1	1	No	7	0	7	0	5
17	Disarm	No									No	0	1	15	15	4
18	CMS Test	Yes	1	1	1	1	1	1	1	1	No	0	1	15	15	6
19	Arm	No									No	0	1	15	15	4
20	Alarm Abort	No	1	1							No	0	6	15	15	4
21	Entry Warning	No									No	15	15	15	15	1
22	Siren Trouble	No	1	1	1	1	1	1	1	1	No	7	3	7	3	3
23	Not Used	No										5	0	15	15	4
24	RS485 Comms	No	1	1	1						No	15	15	15	15	3
25	Doorbell	No									No	15	15	15	15	6
26	Not Used	No									No	15	15	15	15	4
27	Dial Test	Yes	1	1	1	1	1	1	1	1	No	0	1	15	15	6
28	Not Used	No									No	15	15	15	15	3
29	New Message	Yes									No	15	15	15	15	6
30	Engineer Dial	No									No	15	15	15	15	6
31	Signin Tamper	Yes	1	1							No	1	3	15	15	4

CMS Report codes are set to Contact ID as default

Table 19 - Alarm Types (Engineer Menu 2) - Other Settings

No	Assigned To	Resp	Description	Strobe	Siren Type	Siren Delay	Allow Arm	Alarm State
		0-255	0-254	Yes/No	1-20	Yes/No	Yes/No	0-3
	Press ...	2	3	4	5	5	7	8
1	Intruder		101	Y	1	No	N.A.	3
2	Duress		103	N	0	No	N.A.	3
3	Line Cut		104	N	11	No	Yes	1
4	Arm Fail		8	Y	14	No	N.A.	3
5	Zone Trouble		105	N	7	No	Yes	1
6	Zone Alert		106	N	0	No	N.A.	2
7	Low Battery		108	N	7	No	No	1
8	Power Fail		109	N	7	No	Yes	1
9	Panic		107	Y	1	No	N.A.	3
10	Entry Alert		121	N	3	No	N.A.	2
11	Tamper		102	Y	1	No	N.A.	3
12	Fire		100	Y	2	No	N.A.	3
13	Gas		113	Y	13	No	N.A.	3
14	Family Care		110	Y	0	No	N.A.	0
15	Perimeter		111	N	0	No	N.A.	2
16	Bypass Zone		197	N	0	No	N.A.	0
17	Disarm		20	N	0	No	N.A.	0
18	CMS Test		238	N	0	No	N.A.	0
19	System Armed		191	N	0	No	N.A.	0
20	Alarm Abort		131	N	0	No	N.A.	0
21	Entry Warning		135	N	6	No	N.A.	2
22	Siren Trouble		229	N	11	No	Yes	1
23	Not Used		242	N	0	No	N.A.	0
24	RS485 Comms		248	N	7	No	N.A.	1
25	Doorbell		213	N	10	No	N.A.	0
26	Not Used		119	N	0	No	N.A.	0
27	Dial Test		238	N	0	No	N.A.	0
28	Not Used						N.A.	
29	New Message		74	N	0	No	N.A.	0
30	Engineer Dial		9	N	0	No	N.A	0
31	Sign-in Tamper		127	N	0	No	N.A	0

Table 20 - Alarm Description (Announcements) used in Engineer Menu 2,3

Alarm Erased	131	Entry Alarm	135	Perimeter Alarm	111
Alarm Voice Message	173	Family Care Mode	19	Phone Trouble	104
Arm Failure	8	Family Care Alarm	110	Phone Call, Please hang up	230
Away Mode	3	Fire Alarm	100	Power Failure	109
Battery Warning	108	Force Arm	242	Restore	134
Bypass	197	Gas Alarm	113	Sign In Tamper	127
Bypass Off	212	Security off	20	Siren Trouble	229
Communications Failure	248	HomeSafe Sign In Report	119	System Armed	191
Day Mode	246	Intruder Alarm	101	Tamper Alarm	102
Dial Failure	112	Invalid - Call Engineer	201	Vacation Mode	75
Dial Test	238	Monitoring Station	142	Voice Phone	140
Door Bell	213	New Message	74	Warning Alarm	198
Duress Alarm	103	Night Mode	23	Wrong Code	27
Engineer Sign In Option	9	Pager	141	Zone Trouble	105
Entry Alert	121	Panic Alarm	107	Zone Alert	106

Any of the Alarm Phrases in the table above may be assigned to each Alarm Type. The Alarm Phrase is announced during dialout to a Voice phone, in the event log, and in the Alarm History. There is usually no need to change assignment of Alarm Phrases to Alarm Types unless you are customizing an Alarm.

Table 21 - Other Dialout Parameters

Other Parameters	Location	Value	Description
Dial Delay (Seconds)	2,146	30	This is the common delay time in seconds which is applicable when Alarm Types are set for Dial delay.
Maximum tries for dial-out	264	5	This sets the maximum tries for dialing to each phone number if the outcome is not successful, i.e. busy, no answer, or no acknowledgment
Redial Time (seconds)	265	30	This is the delay after an unsuccessful
Delay after CMS kissoff in alarm	1,687	0	This is the delay after receiving a kissoff from a CMS receiver during an alarm and before dialing other programmed phones. A delay may be needed in order for the Central Station to call to verify the alarm with the key holder. If the Location is programmed to 0 or 255, there will be no delay.

☎ **NZ installations: To comply with Telepermit requirements, Maximum tries for dialout should be not more than 10, and Redial time should not be less than 30 seconds.**

Table 22 - Siren Types

Comfort has 20 Siren Types or patterns to cater for different audible indications. Each Alarm Type is assigned a Siren Type. Siren Type settings are not available directly in Engineer Menu, they can be changed using Locations, as given in the Worksheet. It is not necessary.

Siren Type		Sound Type	Location	Duration					System use
				Secs	1st Location	Value	2nd Location	Value	
1	Intruder	0	444	300	446	Any	447	23	Y
2	Fire	1	448	600	450	Any	451	46	Y
3	Arming Tone	2	452	300	454	Any	455	23	Y
4	Away Arm Trouble	3	456	600	458	Any	459	46	Y
5	Away Armed	4	460	1	462	20	463	0	Y
6	Warning	5	464	120	466	96	467	9	Y
7	Short Trouble	3	468	10	470	200	471	0	Y
8	Alternate Siren	7	472	300	474	Any	475	23	N
9	Test Siren	0	476	2	478	40	479	0	Y
10	Doorbell	6	480	1	482	20	483	0	Y
11	Trouble	3	484	32,768	486	Any	487	1,275	Y
12	Ring	10	488	255	490	Any	491	19	Y
13	Beep	11	492	300	494	Any	495	23	N
14	Arm Fail	8	496	60	498	Any	499	4	Y
15	Chime	6	500	2	502	40	503	0	Y
16	Night Armed	4	504	1	506	20	507	0	Y
17	Alternate Chime	11	508	3	510	60	511	0	N
18	Auto Arming	2	512	300	514	Any	515	23	Y
19	Auto Arm trouble	3	516	300	518	Any	519	23	Y
20	Not Assigned	0	520		522		523		N

Table 23 - Sound Type Definitions

Each Siren Type is assigned a Sound Type, which determines the frequency of the sound on the speaker (but not the 12V Siren), and the cadence or on-off pattern. The Sound Type of each Siren Type can be programmed in the Locations given in table 22. The list of available Sound Types is in Table 23. It is seldom necessary to change the default Sound Types

Sound Type	Description
0	Wailing 500 Hz to 2 kHz
1	1 kHz for 1 sec, 2 kHz for 1 sec, repeat 2 times, then pause 1.5 seconds
2	Beep 50 ms every second
3	Beep 200 ms, off 200 ms
4	Beep 100 ms off 400 ms
5	1 kHz tone 0.5 secs, off 0.5 secs
6	1 kHz tone 2 secs, 800 Hz 2 seconds
7	1 kHz 1 sec, 2 kHz 2 secs
8	1 kHz 50 ms, Off 200 ms
9	600 Hz 1 second, 800 Hz 1 second
10	700 Hz 400 ms, Off 200 ms repeat then 1.5 seconds off

Sound Type	Description
11	600 Hz 500 ms, off 500 ms

The Duration of each siren type is programmed in two consecutive locations in the above table. Refer to the table below for programming different durations.

Table 24 - Siren Duration

Duration (secs)	1st Location Value	2nd Location Value	Duration (secs)	1st Location Value	2nd Location Value
0.5	10	0	50	232	3
1	20	0	60	176	4
2	40	0	120	Any	9
4	80	0	180	Any	14
5	100	0	240	Any	18
10	200	0	300	Any	23
20	144	1	600	Any	46
30	88	2	1,200	Any	93
40	32	3	Indefinite	Any	255

Each Unit in the 2nd Location represents a duration of 12.8 seconds (or 256 x 50 ms). Each unit in the 1st Location represents a duration of 50 ms. For Siren durations longer than 60 seconds, the 1st Location value is insignificant and may be ignored.

Table 25 - Siren Types (Output Settings)

Siren Type		Location	Priority	Door	Keypad	Spare	Hi SPK	SIREN	Value
		Add Value	Add 128	Add 64	Add 32	Add 16	Add 8	Add 4	Total
1	Intruder	445			32		8	4	44
2	Fire	449	128		32		8	4	172
3	Arming Tone	453		64	32				96
4	Away Arm Trouble	457		64	32				96
5	Away Armed	461		64	32		8	4	108
6	Warning	465			32		8		40
7	Short Trouble	469			32				32
8	Alternate Siren	473			32		8	4	44
9	Test Siren	477			32		8	4	44
10	Doorbell	481		64	32				96
11	Trouble	485			32				32
12	Ring	489			32				32
13	Beep	493			32				32
14	Arm Fail	497			32		8	4	44
15	Chime	501			32				32
16	Night Armed	505			32				32
17	Alternate Chime	509			32				32
18	Auto Arming	513			32				32
19	Auto Arm trouble	517			32				32
20	Not Assigned	521							

Each Siren type may be programmed to be output to any combination of the Keypads, Door Station, Siren (12V). All Siren Types will be output on the Speaker, but the Speaker level is programmable at a High level (maximum) or Low level which is adjustable using the onboard VR1 trimmer. HI SPK setting sets the Speaker output. to High Level for Alarms

Home Control Menu

For Outside version 1.20 and above, the Control menu can be organised into 3 “Control Groups”, for example,

> ***0 for Lights,***
> ***1 for Air-conditioners,***
> ***2 for Appliances***

. When one of the groups say “0 for Lights” is selected, another level of control keys is announced, e.g..

> ***0 for hall light***
> ***1 for master Bedrooom Light***
> ***2 for dining room light***
> ***...***
>
> ***9 for garage light***

When a control key is selected, the next menu level i.e. Operation, is announced

> ***0 for Off***
> ***1 for On***
> ***2 for (dim)***
> ***...***
>
> ***9 for ..***

This selects the operation intended for the device, i.e. on, off dim, bright, high, cool etc.

This 3-level menu structure allows 30 control keys 00 to 29, with each control key having a maximum of 10 operations, giving a maximum of 300 operations for the home control menu.

This 3-level Control menu applies only to Outside firmware (O4.120 and above) and not to Master or Entry versions which only have a 2-level menu structure without Control Groups

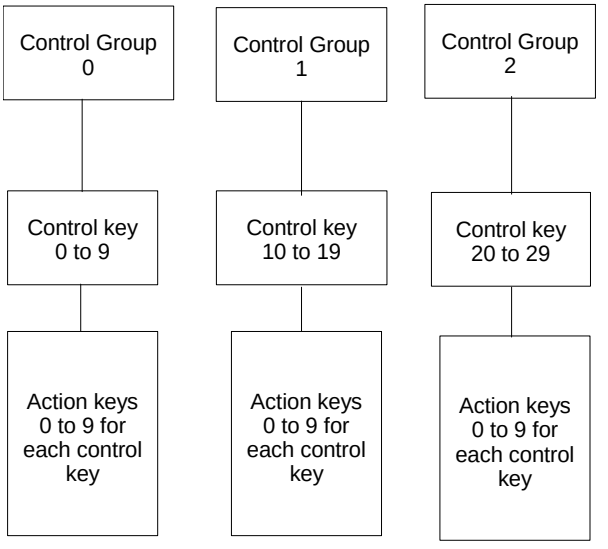
You can program up to 30 control keys 00 to 29. These Control keys can be grouped into 3 groups. Group 0 for Control keys 0 to 9, group 1 for Control keys 10 to 19, and Group 2 for Control keys 20 to 29. For each group, you can enter 4 words from the word list to describe the group, e.g. “Lights”, “Heating and air-conditioning”, Home entertainment”, “appliances” etc.. If a description is programmed for the control groups, the Home Control Menu will announce the group menu e.g. “Press 0 for Lights, 1 for air-conditioning, 2 for Appliances”. When the group number 0 to 2 is selected, the menu will announce the control keys in that group, e.g. for the Lighting group, “0 for Hall Lights, 1 for Bedroom Lights, 2 for kitchen light, ...” Selecting the control key will lead to the action keys e.g.. “0 for Off, 1 for On, 2 for dim, 3 for Bright,...” This allows 3 levels of control menu - Group, device and action.

If the words for the Group are not programmed (i.e. terminator only), then the selection for the group will not be announced. For example, if Control group 2 is not programmed, the group menu will be (e.g..) “0 for Lights, 2 for appliances”.

If none of the groups have words programmed, the control menu will announce control keys 0 to 9 only, i.e. Group 0. This corresponds to the old Home control menu with only 1 set of control keys 0 to 9.

Even if there are less than 10 devices to be controlled, splitting up the devices into 3 groups makes it easier to select the device, without having to listen to the whole list of devices from 0 to 9.

The diagram below illustrates the relationship between Control groups, Control keys and Action keys.



To program Control Group words, go to Engineer menu 3,0 for Control groups (This is a new menu).

Select Control Group

Press 0 to 2 (without the # key). The menu will announce either the programmed words for the control group, or if there are no words programmed,

Enter New Word and # Key

Each Control Group can be described by up to 4 words from the Wordlist (Table 40). To enter a word, enter the word number 0 to 254 and # key. The menu announces the word after each # key. If less than 4 words are used, enter 255 # as a terminator. Once a terminator or 4 words have been entered, the menu will announce the words entered, e.g..

"Lights"

If there is to be no words in the group, or to erase the words from the group, enter 255# as the first word. The group with no words programmed will not be announced in the Group menu.

To program the control keys (corresponding to devices) go to Control Settings (Engineer Menu 3,1). The system says;

Enter Control Code and # Key

Enter 00 to 29 and # key. The Menu says

Control Key, (00 to 29), (programmed words)
Press 1 for Description, 2 for Action Key

Press 1 to assign words to the Control Key. The programmed words for the Control key are announced, if any, then the menu says;

Enter New Word and # Key

Each Control Key can be described by up to 4 words from the Wordlist (Table 40). To enter a word, enter the word number 0 to 254 and # key. The menu announces the word after each # key. If less than 4 words are used, enter 255 # as a terminator. Once a terminator or 4 words have been entered, the menu will announce the words entered.

The menu goes back to the previous level, i.e.

Control Key, (00 to 29), (programmed words)
Press 1 for Description, 2 for Action Key

After assigning words to the Control key, press 2 for Actions. The menu says

Enter Control Action Key

This allows you to program the actions for each key , e.g.. “On”, “off”, “up”, “down” etc.. Enter 0 to 9 to program the Action Key. Usually 1 is for ON and 0 is for OFF.

To program 1 for ON, press 1 (without #). The menu says

No Action

if the Action key has not been programmed. Enter up to 3 words from the wordlist (Table 40). If less than 3 words are entered, enter 255# as terminator. "ON" is 230#. Enter 255# for terminator. The menu announces the Actions words ("ON"), and asks for the Response

Response 0
Enter Response and # key

Enter the appropriate Response number from Table 33, which performs the desired function. If no suitable default Response is available, program an unused Response or reprogram a Response which is not required.

Repeat for other Action Keys for this Control Key

Repeat the sequence for each Control Key, depending on how many appliances are to be controlled by Comfort.

☎ **Make sure that for each group which is used, control key 1 has words programmed (Control key 1 for Group 0, Control key 11 for group 1 and Control key 21 for group 2, otherwise Comfort assumes it is an empty group**

Notes on Control Menu Programming

1 If the Control Menu is not programmed, (or more precisely, Control Key 1 is not programmed), the User Menu will not announce "4 for Home Control"

2 If Control Key 11 is not programed, the user will not be able to access Control Keys 11 to 19. If Control Key 21 is not programmed, the user will not be able to access Control keys 20 to 29

Feedback Types and Feedback Locations

Each Control key is able to announce a feedback value. For example, if Control key 1 is programmed as :"Living Room Light, Press 0 for Off, 1 for On". If a Current Sensor CSM01 is connected to Zone (Input) 15 as Zone Type 8 to determine the state of the light (on or off), the Feedback Type in Location 6625 should be 1 (for Zone On/Off) , and the Feedback Value in Location 4799 should be 15 (zone 15). When these two locations are programmed accordingly, the control key will announce

:"Living Room Light ***is ON***, Press 0 for Off, 1 for On".
The control menu will announce the state based on the words programmed in action keys 0 and 1. If the feedback status is off, the word for action key 0 will be announced (in this case "off". If the feedback status is on, the word for action key 1 will be announced (in this case "on".
Feedback Types 1 for zone on/off, 3 for output on/off, and 5 for flags are binary, i.e. either on or off, and will take the words for action key 0 and 1. Feedback types 2 for analog input and 4 for counter are analog values ranging from 0 to 255 and will announce the value (0-255) instead of on/off. For example, if Counter 2 holds the temperature on degrees F, the control key can be programmed as :"Living Room temperature ***is*** 85, Press 0 for heat off, 1 for heat on". For control key 1, the feedback type should be 4 in Location 6625, and the feedback value should be 2 (counter 2) in Location 4799.
For the case of analog values, the values 0 and 255 are special cases, they are interpreted as binary values 0 and 1 respectively, so that they announce as action key 0 and 1 words. For example, if the counter 2 value is 255 in the heating example, the announcement will be
:"Living Room temperature ***is ON,*** Press 0 for heat off, 1 for heat on".

Feedback Type	**Meaning of Feedback Value**
0	No Feedback
1	Zone 1-64 on/off
2	Analog Input 1-64 value
3	Output 1-64 on/off
4	Counter 0-127 value
5	Flag 1-64
6	X10 Status

X10 Status Feedback

X10 Feedback Value																
House	Unit Code															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
A	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
C	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
D	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
E	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
F	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
G	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
H	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
I	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
J	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
K	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
L	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
M	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
N	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
O	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
P	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

The above table shows how to specify X10 status feedback. Each X10 address consisting of a housecode and unit code are assigned a number from 0 to 255 as shown in the table. Enter the number in the right column corresponding to the housecode/unit code combination as the feedback value for the X10 Feedback Type (i.e. Feedback Type 6).

For example to get feedback for X10 address H7, i.e. Housecode H, Unit code 7, the Feedback value is 118.

Limitations of X10 Status Feedback

1 X10 Status feedback will keep track of X10 commands transmitted by and received by Comfort.

2 The All Units Off, All Lights On and All Lights Off commands will affect the status of all 16 unit codes in belonging to the housecode regardless of whether the unit codes are Lamp or appliance modules, as Comfort has no knowledge as to which X10 modules are Lights or Appliances. Hence it is best not to monitor status for housecodes where these commands may be used.

3 The local switch if present on X10 Lamp Modules will not send any information onto the power line so the status will not be accurate when local switches are used.

Table 26A - Control Menu Groups (3,0)

Control Group	Description	Word 1	Word 2	Word 3	Word 4
0					
1					
2					

4 words from the wordlist are assigned to each Control group. If less than 4 words are used, the terminator 255 must be entered. If Control Group 0 has no words programmed, then the Control Groups are not announced, and the menu becomes 2-level, and the Control menu will announce Control keys 0 to 9 only.

Table 26B - Control Menu (3,1)

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
0	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6852				8					
	Feedback value				9					
	6752				*					
1	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6853				8					
	Feedback value				9					
	6753				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
2	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6854				8					
	Feedback value				9					
	6754				*					
3	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6855				8					
	Feedback value				9					
	6755				*					
4	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6856				8					
	Feedback value				9					
	6756				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
5	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6857				8					
	Feedback value				9					
	6757				*					
6	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6858				8					
	Feedback value				9					
	6758				*					
7	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6859				8					
	Feedback value				9					
	6759				*					
8	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6860				8					
	Feedback value				9					
	6760				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
9	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type Location				7					
	6861				8					
	Feedback value				9					
	6761				*					
10	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6862				8					
	Feedback value				9					
	6762				*					
11	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6863				8					
	Feedback value				9					
	6763				*					
12	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6864				8					
	Feedback value				9					
	6764				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
13	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6865				8					
	Feedback value				9					
	6765				*					
14	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6866				8					
	Feedback value				9					
	6766				*					
15	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6867				8					
	Feedback value				9					
	6767				*					
16	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6868				8					
	Feedback value				9					
	6768				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
17	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6969				8					
	Feedback value				9					
	6769				*					
18	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6870				8					
	Feedback value				9					
	6770				*					
19	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
	Feedback Type				6					
	6871				7					
	Feedback value				8					
	6771				9					
20	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6872				8					
	Feedback value				9					
	6772				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
21	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6873				8					
	Feedback value				9					
	6773				*					
22	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6874				8					
	Feedback value				9					
	6774				*					
23	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6875				8					
	Feedback value				9					
	6775				*					
24	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6876				8					
	Feedback value				9					
	6776				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
25	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5	i				
					6					
	Feedback Type				7					
	6877				8					
	Feedback value				9					
	6777				*					
26	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6878				8					
	Feedback value				9					
	6778				*					
27	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6879				8					
	Feedback value				9					
	6779				*					
28	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6880				8					
	Feedback value				9					
	6780				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
29	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6881				8					
	Feedback value				9					
	6781				*					
30	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6882				8					
	Feedback value				9					
	6782				*					
31	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6883				8					
	Feedback value				9					
	6783				*					
32	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6884				8					
	Feedback value				9					
	6784				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
33	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6885				8					
	Feedback value				9					
	6785				*					
34	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6886				8					
	Feedback value				9					
	6786				*					
36	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6888				8					
	Feedback value				9					
	6788				*					
37	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6889				8					
	Feedback value				9					
	6789				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
38	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6890				8					
	Feedback value				9					
	6790				*					
39	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6891				8					
	Feedback value				9					
	6791				*					
40	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6892				8					
	Feedback value				9					
	6792				*					
41	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6893				8					
	Feedback value				9					
	6793				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
42	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6894				8					
	Feedback value				9					
	6794				*					
43	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6895				8					
	Feedback value				9					
	6795				*					
44	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6896				8					
	Feedback value				9					
	6796				*					
45	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6897				8					
	Feedback value				9					
	6797				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
46	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6898				8					
	Feedback value				9					
	6798				*					
47	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6899				8					
	Feedback value				9					
	6799				*					
48	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6900				8					
	Feedback value				9					
	6800				*					
49	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6901				8					
	Feedback value				9					
	6801				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
50	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6902				8					
	Feedback value				9					
	6802				*					
51	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6903				8					
	Feedback value				9					
	6803				*					
52	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6904				8					
	Feedback value				9					
	6804				*					
53	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6905				8					
	Feedback value				9					
	6805				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
54	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6906				8					
	Feedback value				9					
	6806				*					
55	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6907				8					
	Feedback value				9					
	6807				*					
56	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6908				8					
	Feedback value				9					
	6808				*					
57	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6909				8					
	Feedback value				9					
	6809				*					

Key	Description				Action	Action Words				Resp
					0 to 9	Description	(0-255)	(0-255)	(0-255)	(0-1023
58	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6910				8					
	Feedback value				9					
	6810				*					
59	Word 1	Word 2	Word 3	Word 4	0					
	(0-255)	(0-255)	(0-255)	(0-255)	1					
					2					
					3					
					4					
					5					
					6					
	Feedback Type				7					
	6911				8					
	Feedback value				9					
	6811				*					

Table 27 - Holidays (3,2)

Comfort allows 24 Holidays to be programmed. Holidays are used in Time Programs and Reminder Messages.

Also, if Comfort is armed to Vacation Mode, the day of week is set to Holiday regardless of whether it is a holiday. This means that in Vacation Mode, Time Programs and Reminder Messages will operate as if it is a holiday.

No	Holiday Name	Month (1-12)	Day (1-31)	No	Holiday Name	Month (1-12)	Day (1-31)
1				13			
2				14			
3				15			
4				16			
5				17			
6				18			
7				19			
8				20			
9				21			
10				22			
11				23			
12				24			

Table 28 - Time Programs (3,3)

No	Description	Day of Week								Time		Resp
		Mon	Tue	Wed	Thu	Fri	Sat	Sun	Hol	Hour	Minute	
		1	2	3	4	5	6	7	8	0-23	0-59	0-1023
		Press 3								Press 2		Press 4
1	Auto arm to Night											69
2	Auto arm to night											63
3	Auto arm Night Wekend											69
4	Auto disarm											63
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

No	Description	Day of Week								Time		Resp
		Mon	Tue	Wed	Thu	Fri	Sat	Sun	Hol	Hour	Minute	
		1	2	3	4	5	6	7	8	0-23	0-59	0-1023
		Press 3								Press 2		Press 4
16												

16 Time Programs are available which can be activated at any time of day and for any combination of days of the week and holidays. These Time Programs can be used to turn appliances and lights on and off or for arming and disarming the security system.

If a Time Program Day of week is ON for Holidays, it will be active on any of the defined Holidays. The application for this is when things should happen at a different time from normal days, for example when a shop opens later or closes earlier.

Each Time program consists of an Activation Time, days of the week for activation, and a Response. A Time program can be specified for any combination of days of the week (Monday to Sunday) as well as Holidays. A Time program is activated if the current day of week is selected and the time matches the programmed time (to the minute). When this happens, the programmed Response is activated.

For example, in an office, Time Program 1 may be programmed for 9:00 am on Monday, Tuesday, Wednesday, Thursday, Friday to activate a Response which disarms the security system and turns on the lights, air-conditioning and photocopying machine. Time Program 2 may be programmed for 7 PM on the same days to arm the system to Away mode and turn off the lights, photocopying machine and air-conditioning. However, on Holidays, Time Program 1 should not take place. The Response for Time Program 1 should check that the day is not a holiday, and if it is, to exit without performing the other actions. Up to 24 Holidays in a year can be defined to handle situations like this.

Time Programs can also handle automatic Daylight Savings Time Adjustments.

Time Programs can be switched On or Off in the Time Program Menu (0 for Off, 1 for On).

☎ **From Version 4.109 onwards, Time Programs On/Off settings are maintained when Comfort is Reset or after power up**

Holidays in Time Programs

If a Time Program is set for days of week say Monday to Friday but not for Holiday, and a particular day is a Holiday (as defined in the Holidays table), the Time Program will be active on that day. If it is required that the Time Program/ Reminder should **not** be active on a Holiday then in the Time Program Response, the actions code sequence 73,19 (Get Holiday), 13 (Exit if NZ) should be used to bypass the Response on holidays (V4.21 above)

Table 29 - Vacation Programs (3,4)

The system has the ability to control lights and home appliances at semi-random times during the day or night in Vacation Mode. This is made possible by Vacation Programs. There are 8 Vacation programs available. See Worksheet Table 29.

Each Vacation Program consists of a Start Time in hours (0-23), a Duration in hours (0-23) , an ON Response, and an OFF Response.

The Start Time is when the ON Response is activated. Only the Start Hour (0 to 23) is specified in the Vacation program. The actual time within the hour is generated randomly by the system, and is different for each day that it is activated. The duration is specified in hours in the Vacation Program, but the actual duration minutes is also generated randomly, and is different each time that the Vacation program is activated. At the end of the Duration, the OFF Response is activated.

For example, Vacation Program 1 is programmed for Start Time of 7 PM, a duration of 1 hour, ON Response to turn on a light, and OFF Response to turn off the light. Each day, the light will turn on between 7 PM and 8 PM, for a duration of 1 hour to 1 hour 59 minutes. With this randomized pattern, it will not appear to be a programmed or automatic operation. All Vacation Programs may run simultaneously and overlap in time.

No	Description	Start Time	Hours	ON Response	Off Response
		Hours 0-23	Duration 0-23	0-1023	0-1023
		Press 1	Press 2	Press 3	Press 4
1					
2					
3					
4					
5					
6					
7					
8					

Table 30A - Security Mode Responses (3,5)

Mode	**Response (0-1023)**	**Description**	**Mode**	**Response (0-1023)**	**Description**
0 - Off			2 - Night		
1 - Away			3 - Day		

When the system changes from one of the Security Modes (Security off, Away, Night, Vacation) to another, a Response may be activated. When the system is armed to Away, Night or Vacation Mode, lights and appliances may be turned off. For Security Off Mode, heating or air-conditioning may be turned on or set to a comfortable temperature

Table 30B - Event Triggered Response Locations

When the Events in the table occur, the Responses programmed into the corresponding Location will be activated. Locations are accessed in Engineer Menu 7,4,1

Function	Location	Resp	Remarks
Startup Response	722, 723	0	Response activated at Startup (reset or Power on)
Phone Ring Response	724, 725	0	Response for Ring Detected (O4.55, outside only)
4 to Open Gate Response (Door Station Menu)	726, 727	0	If a Response number is programmed in this location, the Door Station Menu will announce "4 to Open Gate", and pressing 4 will activate this Response (hopefully, to open the gate)
Doorbell Response	728, 729	0	Response activated when Door Station button is pressed
Offhook Response	730, 731	0	Phone Offhook Response (O4.120 Outside only)
Onhook Response	732, 733	0	Phone Onhook Response (O4.120 Outside only)
Hourly Response	734, 735	0	Response activated each hour (v4.107)
AC Restore Location	736, 737	0	Response activated when AC is restored after power failure (v4.88)
Phone Trouble Restore	738, 739	0	Response activated when Line cut is restored after “phone trouble” (v4.88)
Start Arming Response	740, 741	0	Response activated when the system is being armed, after the desired security mode has been set, but before the arming process is completed. (v4.88)
7 to Open Door Response (Door Station Menu)	742, 743	0	If a Response number is programmed in this location, the Door Station Menu will announce "7 to Open Door", and pressing 7 will activate this Response (hopefully, to open the door)

Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for Doorbell Response, enter 123 in Location 728 and 0 in Location 729. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in the Doorbell Response, 1000/256 = 3+ 232/256. Enter 232 in Location 728 and 3 into Location 729.

Table 31 - Voice/Recording Settings

This table gives the locations for Voice and recording-related settings. Locations are accessed in Engineer Menu 7,4,1

Function	Location	Def	Range	Remarks
Gain for Telephone Voice Recording	1699	3	0-3	Gain for Telephone Voice Recording is the gain applied to the amplifier for the voice from the remote telephone to be recorded in the mailboxes. The range is from 0 to 3 with 0 being minimum and 3 being the maximum gain. If the premises is located further from the telephone exchange, the voice level may be low compared to a location which is nearer to a telephone exchange. The default value is 3 (maximum). Change this setting if the recorded voice level is too soft or if the recording is cut off before the message is completed. The minimum effective value is 2, as 0 and 1 are ignored and set to 2
Gain for Telephone to keypad for Voice Station Mode	1700	2	0-3	Gain for Telephone to Keypad in Voice Station Mode. This allows the level of the voice from the remote telephone to the keypad during the Voice Station or Door Station intercom mode to be adjusted. The range is 0 (minimum) to 3 (maximum) and the default value is 2. The keypad or door station volume adjustment knob will also affect the voice level, but the mechanical adjustment afffects the voice menu level as well, whereas this software setting affects only the intercom voice level and not the synthesized voice level. If this level is too low, there may be difficulty for the user on the telephone to “break through” to talk to the keypad. Conversely if the level is too high, the voice station may be in talk mode most of the time, making it difficult to hear what is going on at the keypad or Door Station. This setting works in conjunction with the MIC trimmer VR1 which determines the keypad/ door station microphone level. The minimum effective value is 2, as 0 and 1 are ignored and set to 2
Voice Menu Speed	1698	0	250 - 255 0 - 6	The Voice Menu Speed determines the speed of the voice menu and recorded messages. The default value is 0. A positive value from 1 to 6 will result in a slower pace. Values from 250 to 255 will result in faster speech with 250 being the fastest. Pitch of the voice is not affected. Reset the system after changing this location to put the new setting into effect.
Keypad Voice Menu Volume	54	6	0-12	Volume of Keypad Voice Menu. This is a software setting which can control the Keypad voice volume in addition to the Volume control knob on the Keypad. Reset is needed.
Phone Voice Menu Volume	1848	0	0-12	Voice menu volume on telephone. This is a software setting which can control the telephone voice volume. Reset is needed.

Table 32 - X10 Received Codes Responses

Comfort is able to receive X10 codes through the TW523/TW7223/XM10E X10 transceiver and activate Responses for 1 selected Housecode. This allows X10 switches or Controllers to trigger Comfort Responses. Comfort Ultra can receive all 16 housecodes from A to P

For example if Unit Code 5 ON and OFF is to switch Output 1 on and off respectively , program Location 1274 with Response 1 (Output 1 ON) and Location 1275 with Response 2 (Output 1 Off).

Locations for Responses to X10 Codes

X10 codes received with the programmed house code can activate programmed responses for each unit code off and on, as well as All Lights on and All Units Off. Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for X10 A1 On Response, enter 123 in Location 5664 and 0 in Location 5665. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in X10 A1 On Response, 1000/256 = 3+ 232/256. Enter 232 in Location 5664 and 3 into Location 5665.

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
A1 On	5,664		A9 Off	5,698	
A1 Off	5,666		A10 On	5,700	
A2 On	5,668		A10 Off	5,702	
A2 Off	5,670		A11 On	5,704	
A3 On	5,672		A11 Off	5,706	
A3 Off	5,674		A12 On	5,708	
A4 On	5,676		A12 Off	5,710	
A4 Off	5,678		A13 On	5,712	
A5 On	5,680		A13 Off	5,714	
A5 Off	5,682		A14 On	5,716	
A6 On	5,684		A14 Off	5,718	
A6 Off	5,686		A15 On	5,720	
A7 On	5,688		A15 Off	5,722	
A7 Off	5,690		A16 On	5,724	
A8 On	5,692		A16 Off	5,726	
A8 Off	5,694		All Units A Off	5,728	
A9 On	5,696		All Lights A On	5,730	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
B1 On	5,732		B9 Off	5,766	
B1 Off	5,734		B10 On	5,768	
B2 On	5,736		B10 Off	5,770	
B2 Off	5,738		B11 On	5,772	
B3 On	5,740		B11 Off	5,774	
B3 Off	5,742		B12 On	5,776	
B4 On	5,744		B12 Off	5,778	
B4 Off	5,746		B13 On	5,780	
B5 On	5,748		B13 Off	5,782	
B5 Off	5,750		B14 On	5,784	
B6 On	5,752		B14 Off	5,786	
B6 Off	5,754		B15 On	5,788	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
B7 On	5,756		B15 Off	5,790	
B7 Off	5,758		B16 On	5,792	
B8 On	5,760		B16 Off	5,794	
B8 Off	5,762		All Units B Off	5,796	
B9 On	5,764		All Lights B On	5,798	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
C1 On	5,800		C9 Off	5,834	
C1 Off	5,802		C10 On	5,836	
C2 On	5,804		C10 Off	5,838	
C2 Off	5,806		C11 On	5,840	
C3 On	5,808		C11 Off	5,842	
C3 Off	5,810		C12 On	5,844	
C4 On	5,812		C12 Off	5,846	
C4 Off	5,814		C13 On	5,848	
C5 On	5,816		C13 Off	5,850	
C5 Off	5,818		C14 On	5,852	
C6 On	5,820		C14 Off	5,854	
C6 Off	5,822		C15 On	5,856	
C7 On	5,824		C15 Off	5,858	
C7 Off	5,826		C16 On	5,860	
C8 On	5,828		C16 Off	5,862	
C8 Off	5,830		All Units C Off	5,864	
C9 On	5,832		All Lights C On	5,866	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
D1 On	5,868		D9 Off	5,902	
D1 Off	5,870		D10 On	5,904	
D2 On	5,872		D10 Off	5,906	
D2 Off	5,874		D11 On	5,908	
D3 On	5,876		D11 Off	5,910	
D3 Off	5,878		D12 On	5,912	
D4 On	5,880		D12 Off	5,914	
D4 Off	5,882		D13 On	5,916	
D5 On	5,884		D13 Off	5,918	
D5 Off	5,886		D14 On	5,920	
D6 On	5,888		D14 Off	5,922	
D6 Off	5,890		D15 On	5,924	
D7 On	5,892		D15 Off	5,926	
D7 Off	5,894		D16 On	5,928	
D8 On	5,896		D16 Off	5,930	
D8 Off	5,898		All Units D Off	5,932	
D9 On	5,900		All Lights D On	5,934	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
E1 On	5,936		E9 Off	5,970	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
E1 Off	5,938		E10 On	5,972	
E2 On	5,940		E10 Off	5,974	
E2 Off	5,942		E11 On	5,976	
E3 On	5,944		E11 Off	5,978	
E3 Off	5,946		E12 On	5,980	
E4 On	5,948		E12 Off	5,982	
E4 Off	5,950		E13 On	5,984	
E5 On	5,952		E13 Off	5,986	
E5 Off	5,954		E14 On	5,988	
E6 On	5,956		E14 Off	5,990	
E6 Off	5,958		E15 On	5,992	
E7 On	5,960		E15 Off	5,994	
E7 Off	5,962		E16 On	5,996	
E8 On	5,964		E16 Off	5,998	
E8 Off	5,966		All Units E Off	6,000	
E9 On	5,968		All Lights E On	6,002	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
F1 On	6,004		F9 Off	6,038	
F1 Off	6,006		F10 On	6,040	
F2 On	6,008		F10 Off	6,042	
F2 Off	6,010		F11 On	6,044	
F3 On	6,012		F11 Off	6,046	
F3 Off	6,014		F12 On	6,048	
F4 On	6,016		F12 Off	6,050	
F4 Off	6,018		F13 On	6,052	
F5 On	6,020		F13 Off	6,054	
F5 Off	6,022		F14 On	6,056	
F6 On	6,024		F14 Off	6,058	
F6 Off	6,026		F15 On	6,060	
F7 On	6,028		F15 Off	6,062	
F7 Off	6,030		F16 On	6,064	
F8 On	6,032		F16 Off	6,066	
F8 Off	6,034		All Units F Off	6,068	
F9 On	6,036		All Lights D On	6,070	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
G1 On	6,072		G9 Off	6,106	
G1 Off	6,074		G10 On	6,108	
G2 On	6,076		G10 Off	6,110	
G2 Off	6,078		G11 On	6,112	
G3 On	6,080		G11 Off	6,114	
G3 Off	6,082		G12 On	6,116	
G4 On	6,084		G12 Off	6,118	
G4 Off	6,086		G13 On	6,120	
G5 On	6,088		G13 Off	6,122	
G5 Off	6,090		G14 On	6,124	
G6 On	6,092		G14 Off	6,126	
G6 Off	6,094		G15 On	6,128	
G7 On	6,096		G15 Off	6,130	
G7 Off	6,098		G16 On	6,132	
G8 On	6,100		G16 Off	6,134	
G8 Off	6,102		All Units G Off	6,136	
G9 On	6,104		All Lights G On	6,138	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
H1 On	6,140		H9 Off	6,174	
H1 Off	6,142		H10 On	6,176	
H2 On	6,144		H10 Off	6,178	
H2 Off	6,146		H11 On	6,180	
H3 On	6,148		H11 Off	6,182	
H3 Off	6,150		H12 On	6,184	
H4 On	6,152		H12 Off	6,186	
H4 Off	6,154		H13 On	6,188	
H5 On	6,156		H13 Off	6,190	
H5 Off	6,158		H14 On	6,192	
H6 On	6,160		H14 Off	6,194	
H6 Off	6,162		H15 On	6,196	
H7 On	6,164		H15 Off	6,198	
H7 Off	6,166		H16 On	6,200	
H8 On	6,168		H16 Off	6,202	
H8 Off	6,170		All Units H Off	6,204	
H9 On	6,172		All Lights H On	6,206	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
I1 On	6,208		I9 Off	6,242	
I1 Off	6,210		I10 On	6,244	
I On	6,212		I10 Off	6,246	
I2 Off	6,214		I11 On	6,248	
I3 On	6,216		I11 Off	6,250	
I3 Off	6,218		I12 On	6,252	
I4 On	6,220		I12 Off	6,254	
I4 Off	6,222		I13 On	6,256	
I5 On	6,224		I13 Off	6,258	
I5 Off	6,226		I14 On	6,260	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
I6 On	6,228		I14 Off	6,262	
I6 Off	6,230		I15 On	6,264	
I7 On	6,232		I15 Off	6,266	
I7 Off	6,234		I16 On	6,268	
I8 On	6,236		I16 Off	6,270	
I8 Off	6,238		All Units i Off	6,272	
I9 On	6,240		All Lights i On	6,274	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
J1 On	6,276		J9 Off	6,310	
J1 Off	6,278		J10 On	6,312	
J2 On	6,280		J10 Off	6,314	
J2 Off	6,282		J11 On	6,316	
J3 On	6,284		J11 Off	6,318	
J3 Off	6,286		J12 On	6,320	
IJ On	6,288		J12 Off	6,322	
J4 Off	6,290		J13 On	6,324	
J5 On	6,292		J13 Off	6,326	
J5 Off	6,294		J14 On	6,328	
J6 On	6,296		J14 Off	6,330	
J6 Off	6,298		J15 On	6,332	
J7 On	6,300		J15 Off	6,334	
J7 Off	6,302		J16 On	6,336	
J8 On	6,304		J16 Off	6,338	
J8 Off	6,306		All Units J Off	6,340	
J9 On	6,308		All Lights J On	6,342	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
K1 On	6,344		K9 Off	6,378	
K1 Off	6,346		K10 On	6,380	
K2 On	6,348		K10 Off	6,382	
K2 Off	6,350		K11 On	6,384	
K3 On	6,352		K11 Off	6,386	
K3 Off	6,354		K12 On	6,388	
K4 On	6,356		K12 Off	6,390	
K4 Off	6,358		K13 On	6,392	
IK5 On	6,360		K13 Off	6,394	
K5 Off	6,362		K14 On	6,396	
K6 On	6,364		K14 Off	6,398	
K6 Off	6,366		K15 On	6,400	
K7 On	6,368		K15 Off	6,402	
K7 Off	6,370		K16 On	6,404	
K8 On	6,372		K16 Off	6,406	
K8 Off	6,374		All Units K Off	6,408	
K9 On	6,376		All Lights K On	6,410	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
L1 On	6,412		L9 Off	6,446	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
L1 Off	6,414		L10 On	6,448	
L2 On	6,416		L10 Off	6,450	
L2 Off	6,418		L11 On	6,452	
L3 On	6,420		L11 Off	6,454	
L3 Off	6,422		L12 On	6,456	
L4 On	6,424		L12 Off	6,458	
L4 Off	6,426		L13 On	6,460	
L5 On	6,428		L13 Off	6,462	
L5 Off	6,430		L14 On	6,464	
L6 On	6,432		L14 Off	6,466	
L6 Off	6,434		L15 On	6,468	
L7 On	6,436		L15 Off	6,470	
L7 Off	6,438		L16 On	6,472	
L8 On	6,440		L16 Off	6,474	
L8 Off	6,442		All Units L Off	6,476	
L9 On	6,444		All Lights L On	6,478	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
M1 On	6,480		M9 Off	6,514	
M1 Off	6,482		M10 On	6,516	
M2 On	6,484		M10 Off	6,518	
M2 Off	6,486		M11 On	6,520	
M3 On	6,488		M11 Off	6,522	
M3 Off	6,490		M12 On	6,524	
M4 On	6,492		M12 Off	6,526	
M4 Off	6,494		M13 On	6,528	
M5 On	6,496		M13 Off	6,530	
M5 Off	6,498		M14 On	6,532	
M6 On	6,500		M14 Off	6,534	
M6 Off	6,502		M15 On	6,536	
M7 On	6,504		M15 Off	6,538	
M7 Off	6,506		M16 On	6,540	
M8 On	6,508		M16 Off	6,542	
M8 Off	6,510		All Units M Off	6,544	
M9 On	6,512		All Lights M On	6,546	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
N1 On	6,548		N9 Off	6,582	
N1 Off	6,550		N10 On	6,584	
N2 On	6,552		N10 Off	6,586	
N2 Off	6,554		N11 On	6,588	
N3 On	6,556		N11 Off	6,590	
N3 Off	6,558		N12 On	6,592	
N4 On	6,560		N12 Off	6,594	
N4 Off	6,562		N13 On	6,596	
N5 On	6,564		N13 Off	6,598	
N5 Off	6,566		N14 On	6,600	
N6 On	6,568		N14 Off	6,602	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
N6 Off	6,570		N15 On	6,604	
N7 On	6,572		N15 Off	6,606	
N7 Off	6,574		N16 On	6,608	
N8 On	6,576		N16 Off	6,610	
N8 Off	6,578		All Units N Off	6,612	
N9 On	6,580		All Lights N On	6,614	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
O1 On	6,616		O9 Off	6,650	
O1 Off	6,618		O10 On	6,652	
O2 On	6,620		O10 Off	6,654	
O2 Off	6,622		O11 On	6,656	
O3 On	6,624		O11 Off	6,658	
O3 Off	6,626		O12 On	6,660	
O4 On	6,628		O12 Off	6,662	
O4 Off	6,630		O13 On	6,664	
O5 On	6,632		O13 Off	6,666	
O5 Off	6,634		O14 On	6,668	
O6 On	6,636		O14 Off	6,670	
O6 Off	6,638		O15 On	6,672	
O7 On	6,640		O15 Off	6,674	
O7 Off	6,642		O16 On	6,676	
O8 On	6,644		O16 Off	6,678	
O8 Off	6,646		All Units O Off	6,680	
O9 On	6,648		All Lights O On	6,682	

X10 Unit Code	Location	Response	X10 Unit Code	Location	Response
P1 On	6,684		P9 Off	6,718	
P1 Off	6,686		P10 On	6,720	
P2 On	6,688		P10 Off	6,722	
P2 Off	6,690		P11 On	6,724	
P3 On	6,692		P11 Off	6,726	
P3 Off	6,694		P12 On	6,728	
P4 On	6,696		P12 Off	6,730	
P4 Off	6,698		P13 On	6,732	
P5 On	6,700		P13 Off	6,734	
P5 Off	6,702		P14 On	6,736	
P6 On	6,704		P14 Off	6,738	
P6 Off	6,706		P15 On	6,740	
P7 On	6,708		P15 Off	6,742	
P7 Off	6,710		P16 On	6,744	
P8 On	6,712		P16 Off	6,746	
P8 Off	6,714		All Units P Off	6,748	
P9 On	6,716		All Lights P On	6,750	

Table 33A - Default Responses (3,6)

There are 1023 responses or programs in the system. Each of these Responses may be assigned to Time Programs, Vacation Programs, Zone ON and OFF, Alarm activation, Security Modes, Control Menu, and Keypad Function Keys. Responses perform functions like Output on/off, transmission of Infrared Codes, transmission of X10 codes, auto arm and disarm etc... Most Responses are preprogrammed to default functions, but any Response may be redefined according to your requirements

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
1	Output 1 ON	128	1	1	255				
2	Output 1 OFF	128	1	0	255				
3	Output 2 ON	128	2	1	255				
4	Output 2 OFF	128	2	0	255				
5	Output 3 ON	128	3	1	255				
6	Output 3 OFF	128	3	0	255				
7	Output 4 ON	128	4	1	255				
8	Output 4 OFF	128	4	0	255				
9	Output 5 ON	128	5	1	255				
10	Output 5 OFF	128	5	0	255				
11	Output 6 ON	128	6	1	255				
12	Output 6 OFF	128	6	0	255				
13	Output 7 ON	128	7	1	255				
14	Output 7 OFF	128	7	0	255				
15	Output 8 ON	128	8	1	255				
16	Output 8 OFF	128	8	0	255				
17	IR 1 Output 1	129	1	1	255				
18	IR 2 Output 1	129	2	1	255				
19	IR 3 Output 2	129	3	2	255				
20	IR 4 Output 2	129	4	2	255				
21	IR 5 Output 3	129	5	3	255				
22	IR 6 Output 3	129	6	3	255				
23	IR 7 Output 4	129	7	4	255				
24	IR 8 Output 4	129	8	4	255				
25									
26									
27									
28									
29									
30									
31	**Disable Dialout in Night Mode**	73	0	68	2	100	0		
32		255							
33	X10 A1 ON (Downstairs)	195	65	1	5	255			

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
34	X10 A1 OFF	195	65	1	7	255			
35	X10 A2 ON	195	65	2	5	255			
36	X10 A2 OFF	195	65	2	7	255			
37	X10 A3 ON	195	65	3	5	255			
38	X10 A3 OFF	195	65	3	7	255			
39	X10 A4 ON	195	65	4	5	255			
40	X10 A4 OFF	195	65	4	7	255			
41	X10 B1 ON (Upstairs)	195	66	1	5	255			
42	X10 B1 OFF	195	66	1	7	255			
43	X10 B2 ON	195	66	2	5	255			
44	X10 B3 OFF	195	66	2	7	255			
45	X10 B3 ON	195	66	3	5	255			
46	X10 B3 OFF	195	66	3	7	255			
47	X10 L1 ON (outside Lights)	195	76	1	5	255			
48	X10 L1 OFF (outside lights)	195	76	1	7	255			
49	Flash X10 Lights housecodes A and B at 5 seconds intervals	74	96	74	122	194	7		
50		0	5	51	255				
51	Flash X10 Housecodes A and B (from Response 49)	74	66	74	123	194	7		
52		0	5	49	255				
53	Entry Delay in Day Mode	73	0	68	3	4	255		
54	Entry Delay in Night Mode	73	0	68	2	4	255		
55	Unbypass All Zones	10	255	255	3	4	255		
56	Momentary switch Keyarm/Disarm to Night mode	73	0	16	73	9	69		
57		2	72	2	193	72	0		
58		255							
59	Announce Zone if Flag 16=0	132	16	2	13	1	255		
60	Momentary switch Keyarm/Disarm to away mode	73	0	16	73	9	69		
61		2	72	1	193	72	0		
62		255							
63	Auto Disarm from Night Mode only and not in Alarm	73	0	68	2	73	9		
64		69	3	71	0	255			
65	X10 All Units A Off	195	65	0	13	255			
66	X10 All Lights 'A' Off	195	65	0	13	255			
67	Doorphone, Chime	9	6	1	64	10	255		
68	AUTO ARM Away	71	1	255					
69	AUTO ARM Night from Security Off only	73	0	13	71	2	255		
70	KEY ARM Vacation Mode from Security Off	73	0	13	71	4	255		
71	KEY ARM Day from Security Off	73	0	13	72	03	255		

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
72	KEY ARM Away from Security Off	73	0	13	72	01	255		
73	KEY ARM Night from Security Off or Day Mode	73	0	67	1	72	2		
74		255							
75	Chime Siren (Conditional) Operates if Flag16=0	132	16	2	13	64	15		
76		255							
77									
78									
79	Pulse Output 1 1 second	130	20	1	255				
80	Pulse Output 2 1 second	130	20	2	255				
81	Pulse Output 3 1 second	130	20	3	255				
82	Pulse Output 4 1 second	130	20	4	255				
83	Pulse Output 5 1 second	130	20	5	255				
84	Pulse Output 6 1 second	130	20	6	255				
85	Cancel Entry Delay in Night Mode (entry door)	73	0	68	2	5	255		
86	Vibration Analyser Apply with Zone Types 6,7,16,19,25 3 counts in 30 seconds triggers alarm Uses Counter 7 and Timer 8	86	8	16	194	8	0		
87		30	0	131	7	0	192		
88		83	7	70	3	85	8		
89		193	21	255					
90	Daylight Savings Time Used in Time Program 16 every Sunday at 2.00 am. +1 hour last Sunday March - 1 hr last Sunday October	73	4	69	25	193	73		
91		5	68	3	98	1	193		
92		68	10	98	2	255			
93	Intelligent Set (use in Zone Response for detector) If Landing detector triggered, arm to Night not Away/	73	10	12	72	0	72		
94		2	255						
95	Doorbell Recording M'box1 after 30s , use in Alrm Type 25	135	01	30	255				
96	X10 All Lights Housecode 'A' ON (Downstairs Lights)	195	65	0	3	255			
97	Flag 16 ON - Chimes, announce OFF	132	16	1	255				
98	Flag 16 OFF - Chimes, announce ON	132	16	0	255				
99	All Outputs Off	8	255						
100	**Arm Security System Menu**	91	1	255					
101	**Bypass Menu**	99	32	91	8	255			
102	**Home Control Menu**	99	64	134	31	4	255		
103	**Test Menu**	99	32	91	7	255			
104	**Record Memo Menu**	91	27	255					

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
105	**Event Log**	99	32	134	6	0	255		
106	**Change Phone Menu**	99	128	91	11	255			
107	**Change Code Menu**	91	24	255					
108	**Change Date and Time**	99	128	91	10	255			
109	**Answering Machine Menu**	99	128	91	09	255			
110	**Enable Engineer Code, activate Alarm 30**	92	1	88	30	255			
111	**User Codes Menu**	99	128	91	36	255			
112	Zone Monitor Keypad 1	94	1	255					
113	Zone Monitor Keypad 2	94	2	255					
114	**Assign Phone to Mailbox**	91	28	255					
115	**Change Time Program**	99	128	91	17	255			
116	**Reminder 8 on keypad 1**	133	8	1	255				
117	**Strobe Off**	66	0	255					
118	**Strobe on 3 secs (TMR 8), then Resp 117 (Strobe off)**	66	1	194	8	0	3		
119		117	255						
120	**Baby Monitor Keypad 2**	93	2	91	25	255			
121	**Intercom request**	22	255						
122	S12V Off, Start Timer	90	0	194	8	0	3		
123		124	255						
124	S12V On	90	1	255					
125	CMS Dial-Test	80	18	255					
126	External Lights ON for 5 Minutes, X-10 L1 Lux Dependent on Zone 13 (N.O when light)	79	13	12	74	47	194		
127		1	1	44	48	255			
128	Output 9 ON	128	9	1	255				
129	Output 9 OFF	128	9	0	255				
130	Output 10 ON	128	10	1	255				
131	Output 10 OFF	128	10	0	255				
132	Output 11 ON	128	11	1	255				
133	Output 11 OFF	128	11	0	255				
134	Output 12 ON	128	12	1	255				
135	Output 12 OFF	128	12	0	255				
136	Output 13 ON	128	13	1	255				
137	Output 13 OFF	128	13	0	255				
138	Output 14 ON	128	14	1	255				
139	Output 14 OFF	128	14	0	255				
140	Output 15 ON	128	15	1	255				
141	Output 15 OFF	128	15	0	255				
142	Output 16 ON	128	16	1	255				

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
143	Output 16 OFF	128	16	0	255				
144	Pulse Output 7 for 1 second	130	20	7	255				
145	Pulse Output 8 for 1 second	130	20	8	255				
146	Pulse Output 9 for 1 second	130	20	9	255				
147	Pulse Output 10 for 1 second	130	20	10	255				
148	Pulse Output 11 for 1 second	130	20	11	255				
149	Pulse Output 12 for 1 second	130	20	12	255				
150	Pulse Output 13 for 1 second	130	20	13	255				
151	Pulse Output 14 for 1 second	130	20	14	255				
152	Pulse Output 15 for 1 second	130	20	15	255				
153	Pulse Output 16 for 1 second	130	20	16	255				
154	X10 A11 ON	195	65	11	5	255			
155	X10 A11 OFF	195	65	11	7	255			
156	X10 A12 ON	195	65	12	5	255			
157	X10 A12 OFF	195	65	12	7	255			
158	X10 A13 ON	195	65	13	5	255			
159	X10 A13 OFF	195	65	13	7	255			
160	X10 A14 ON	195	65	14	5	255			
161	X10 A14 OFF	195	65	14	7	255			
162	X10 A15 ON	195	65	15	5	255			
163	X10 A15 OFF	195	65	15	7	255			
164	X10 A16 ON	195	65	16	5	255			
165	X10 A16 OFF	195	65	16	7	255			
166	X10 B4 ON (Upstairs)	195	66	4	5	255			
167	X10 B4 OFF	195	66	4	7	255			
168	X10 b5 ON	195	66	5	5	255			
169	X10 B5 OFF	195	66	5	7	255			
170	X10 B6 ON	195	66	6	5	255			
171	X10 B6 OFF	195	66	6	7	255			
172	X10 B7 ON	195	66	7	5	255			
173	X10 B7 OFF	195	66	7	7	255			
174	X10 B8 ON	195	66	8	5	255			
175	X10 B8 OFF	195	66	8	7	255			
176	X10 B9 ON	195	66	9	5	255			
177	X10 B9 OFF	195	66	9	7	255			
178	X10 B10 ON	195	66	10	5	255			
179	X10 B10 OFF	195	66	10	7	255			
180	X10 B11 ON	195	66	11	5	255			
181	X10 B11 OFF	195	66	11	7	255			

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
182	X10 B12 ON	195	66	12	5	255			
183	X10 B12 OFF	195	66	12	7	255			
184	X10 B13 ON	195	66	13	5	255			
185	X10 B13 OFF	195	66	13	7	255			
186	X10 B14 ON	195	66	14	5	255			
187	X10 B14 OFF	195	66	14	7	255			
188	X10 B15 ON	195	66	15	5	255			
189	X10 B15 OFF	195	66	15	7	255			
190	X10 All Units 'N' = Noise Off	195	78	0	1	255			
191	X10 All Lights Housecode ' A & B' ON (Up & down)	74	96	74	122	255			
192	Future expansion of areas e.g.. 'C'								
193	X10 All Lights Housecode ' A & B' OFF (Up & down)	74	66	74	123	255			
194									
195									
196									
197									
198	X10 A1 DIM 4 steps	109	4	195	65	1	9		
199		255							
200	X10 A1 Bright 4 steps	109	4	195	65	1	9		
201		255							
202	X10 A2 DIM 4 steps	109	4	195	65	1	9		
203		255							
204	X10 A2 Bright 4 steps	109	4	195	65	1	9		
205		255							
206	X10 A3 DIM 4 steps	109	4	195	65	1	9		
207		255							
208	X10 A3 Bright 4 steps	195	66	2	137				
209		195	66	2	139				
210	X10 A4 DIM 4 steps	195	66	3	137				
211		195	66	3	139				
212	X10 A4 Bright 4 steps	195	66	4	137				
213		195	66	4	139				
214	X10 H1 ON (Heater)	195	72	1	5	255			
215	X10 H1 OFF (Heater)	195	72	1	7	255			
216	Doorbell Macro (e.g switch cameras - vacuum off)								
217	Two way switch on, Output 1 Feedback on Input 9	79	9	13	78	1	255		

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
218	Two way switch off, Output 1 Feedback on Input 9	79	9	12	78	1	255		
219	Two way switch on, Output 2 Feedback on Input 10	79	10	13	78	2	255		
220	Two way switch on, Output 2 Feedback on Input 10	79	10	12	78	2	255		
221	Two way switch on, Output 3 Feedback on Input 11	79	11	13	78	3	255		
222	Two way switch on, Output 3 Feedback on Input 11	79	11	12	78	3	255		
223	Two way switch on, Output 4 Feedback on Input 12	79	12	13	78	4	255		
224	Two way switch on, Output 4 Feedback on Input 12	79	12	12	78	4	255		
225	Night Arm or Timed Exit/ & Rearm If not in alarm & Night Mode, start Beeping, Timer 7 for 30 secs then Resp 244. If Off or Day, Do Resp 74 to arm to Night	73	9	70	2	193	73		
226		0	68	2	64	3	75		
227		1	194	7	0	30	229		
228		193	74	73	255				
229	Unbypass Zone 1 (Door) and Siren Off if idle state (Used with Resp 225)	76	1	73	9	13	7		
230		255							
231	Entry Alert Response (7 pm to 7 am, A1 light On)	73	3	69	19	70	7		
232		193	74	33	255				
233									
234									
235	Heater X10 H1 ON if not Vacation Mode	73	00	68	04	74	214		
236		255							
237									
238									
239									
240									
241									
242									
243									
244									
245									
246									
247									
248									
249									
250									
251									

No	Description	Action Codes							
		1	2	3	4	5	6	7	8
252									
253									
254									

☎ **The Responses which are used by the system by default (e.g. For Keypad responses) are shown in bold. Unused Responses can be changed as required**

Table 33B - Custom Responses (3,6)

The table below is for recording of Custom Responses, i.e. Responses created for a particular installation.

No	Description	Action Codes							
		1	2	3	4	5	6	7	8

No	Description	Action Codes							
		1	2	3	4	5	6	7	8

Table 34 - Locations Reference (7,4,1)

Not all settings are changed using the Engineer Menu. Those which cannot be changed in the menus can be changed using Locations (Engineer Menu 7,4,1). Enter the Location followed by #. The Location and current value at the location are announced, then "Enter new number and # key". when the number is entered and #, the new number is announced. Remember that Engineer Code access must be enabled by Program Menu 3,4,1. When some of the Locations are changed, it is necessary to press RESET or do a software reset in Engineer Menu 7,4,2). These Locations are indicated by the RESET column in the table below.

Loc.	Parameter	Range	Value	Units	Reset[1]
44	Alarm Abort Time	0 - 255	90	seconds	N
	If an alarm condition is disarmed with the Alarm Abort Time, an Abort Alarm (Misoperation) is activated, which can be used to signal to the Central Station indicating a false alarm This is applicable to the UK				
45	Armed/Alarm Output	1 - 64	0	Output	N
	Enter the output number to indicate Armed (Steady) or Alarm/Alert (Flash). An LED can be connected to the output with a suitable series resistor (1k to 2.2k) to provide a visual indicator. This is the same indication as the Red led on the main board				
46	Off / Trouble Output	1 - 64	0	Output	N
	Enter the output number to indicate Off (Steady) or Trouble (flash). An LED can be connected to the output with a suitable series resistor (1k to 2.2k) to provide a visual indicator. This is the same indication as the green led on the main board				
47	Incoming Call Release Time	0 - 255	45	Seconds	N
	This is the time in seconds for the telephone exchange to release the line during a call after the local phone is put on hook. If no dial tone is detected when Comfort is trying to call during an alarm, it will first try a hook flash to get dial tone (if 3rd party call facility is available). If no dial tone is obtained, it will go on hook for the time programmed in this location before trying to dial again. During this time, Comfort will not answer any incoming call. This protects against burglars who try to prevent a dialout by making a call and not hanging up. This is only effective if Wait for Dial Tone setting is enabled in Location 39				
48	Pager Upper Frequency	0-255	63	counts	N
49	Pager Lower Frequency	0-255	54	counts	N

Loc.	Parameter	Range	Value	Units	Reset[1]
	Applicable for dialing to automatic Pager systems (i.e. not answered by human operators). Comfort sends information to the pager when a series of beeping tones is detected. The upper and lower frequency counts determine the limits of the pager beep frequency. If the pager beep tone frequency falls within the limits defined by the pager upper and lower frequency locations, the pager data will be sent. The value in the location is calculated by the formula (Pager frequency)/33.33. e.g if the pager frequency is 2000 Hz, then the required count is 60. Setting pager upper frequency location as 70 and Pager lower frequency location as 50 will provide the necessary tolerance for detection. For paging system that have automatic voice answering but do not provide a distinctive beep which is not in the same frequency range as the answering voice, but allows the pager sequence to be sent while the voice is talking, program the pager frequency to detect voice. Use Lower Frequency = 17, Upper Frequency = 70. This range will not be triggered by busy or ringback tones.				
51	Siren Delay	0 - 255	3	Minutes	N
	This is the common delay in minutes for all alarms which have the Siren Delay setting enabled (Engineer Menu 2,5,1).. If the telephone line is cut during the Siren Delay, the siren is turned on immediately.				
52	Open Door Response in Door Station Menu 7 (See Other Response Locations, Table 31)				
54	Keypad Voice Level	0 - 12	6	-	N
	See Table 31				
80	DTMF Tone Level	0-12	10	-	Y
	For DTMF dialing. This parameter has been set according to the required value to operate with the telephone exchanges in your country. This setting has been tested by the telecommunications authorities. Do Not Change.				
90	Phone Voice Level	0-12	5	-	Y
	See Table 31				
102	DTMF Twist Level	-	50	-	Y
	For DTMF dialing. This parameter has been set according to the required value to operate with the telephone exchanges in your country. This setting has been tested by the telecommunications authorities. Do Not Change.				
260	Pager Start Key	0-9, *=11, # =12	11	-	N
261	Pager Separator Key		12	-	N
262	Pager 1st End Key		11	-	N
263	Pager 2nd End Key		11	-	N
	These are numeric pager setup parameters. The pager Start key is the number which starts the pager sequence. The Pager separator is the number which appears as a separator, i.e. '-' or space on the pager display. The Pager 1st End key is the number which terminates the pager data sequence. For some paging systems, 2 End keys are needed. If so, enter the second number in the Pager 2nd End Key Location. The pager data sent is in the sequence (Start Key), XXXX-YY-ZZ, (1st end key) (2nd end key.				
264	Maximum tries for dial-out	1 - 255	5	-	N
	This number in this location determines how many times the system will attempt to dial to this number, in case of a dial failure caused by busy, no answer, no sign in (for Voice phone), No acknowledgment (in case of Alarm Message Dialout, No pager beep acknowledgment for pager.				
265	Redial Time	1 - 255	30	Seconds	N
	This location is the time between redials in seconds to the same number				
720	Battery Test Interval	0 - 255	12	Hours	N
	This is the time in hours between Battery Tests Battery Test (User Menu 3,4,11 or Eng Menu 8,1) initiates an immediate Battery Test. For UL 985 (Fire) applications, program 4 or less into this location. During a battery test, the AC is turned off, leaving the system to be powered by the standby battery. The Duration of each battery test is in Location 721. Enter 0 in the Location to disable battery check.				

Loc.	Parameter	Range	Value	Units	Reset[1]
721	Battery Test Duration	1 - 255	2	Minutes	N
	This is the duration of each battery test in minutes. During a battery test, the AC is turned off, leaving the system to be powered by the standby battery. The Interval between each battery test is programmed in Location 720. To turn of the automatic battery Test, use Engineer 8,1,0 or User 3,4,1,0.				
724	Phone Ring Response. See Other Response Locations, Table 31	0-1023			
726	Open Gate Response for Door Station Menu 4. See Other Response Locations, Table 31	0-1023			
728	Doorbell Response. See Other Response Locations, Table 31	0-1023			
730	Offhook Response. See Other Response Locations, Table 31	0-1023			
732	Onhook Response. See Other Response Locations, Table 31	0-1023			
724	Hourly Response. See Other Response Locations, Table 31	0-1023			
736	AC Restore Response Location. See Other Response Locations, Table 31	0-1023			
738	Phone Trouble Restore Response Location See Other Response Locations, Table 31	0-1023			
740	Start Arming Response. See Other Response Locations, Table 31	0-1023			
742	Open Gate Response for Door Station Menu 4. See Other Response Locations, Table 31	0-1023			
1672	UCM Communications	0,1	1	-	Y
	Number of UCMs connected. The location can be left at 1 even if the UCM is not connected. A UCM is needed for the CSXpress software to upload and download to Comfort.				
1673	No Of Slave Expansion Modules	0-3	0	-	Y
	This location determines the number of SEPs which are connected to the Control Panel. Each SEP supports up to 16 zones and 16 outputs Maximum is 3 for a 64 zone system				
1674	No of Door Stations	0-1	0		Y
	This location gives the number of Door Stations which are connected (0 to 2). The id for each Door Station must be set correctly.				
1675	No of Keypads	0-4	0		Y
	This Location gives the number of Keypads which are connected (0 to 8). The ids for each Keypad must be set correctly				
1684	Line Cut Detection Time (v4.66)	0-255	60	seconds	N
	Time (secs) required to detect a Line cut				
1687	Delay after CMS kissoff in Alarm (V4.35)	0 to 255	0	seconds	N
1689	"OFF" Word Number	0 to 255	229		N
	Word number for "OFF" announced by Action 1 in Zone OFF Response				
1690	Zone Auto-shunt count	0 to 255	0	counts	N
	This is the number of **successive** activations of any zone in alarm state which will automatically shunt or disable the zone from causing any further alarms. The count is reset by arming, disarming, and activation of any other zone. If this feature is not required, set the Location to 0 or 255				
1692	Away Arming Method (See Table 3)				

Loc.	Parameter	Range	Value	Units	Reset[1]
1693	Dialout in Progress	1-16	0	Output	N
	Enter the output for indication that a dialout is in progress. An LED can be connected to the output with a suitable series resistor (1k to 2.2k) to provide a visual indicator.				
1695	Line Cut Output	1 - 64	0	Output	N
	Enter the output for indication that the telephone line has been cut or is faulty. An LED can be connected to the output with a suitable series resistor (1k to 2.2k) to provide a visual indicator.				
1698	Voice Menu Speed	0-6,250-255	0	-	Y
	The Voice menu speed can be changed to suit the customer. The normal speed is 0. Numbers 250 to 255 give faster speeds with the lower numbers being faster (250 is fastest). Numbers 1 to 6 give slower speeds with 6 being slowest. The pitch of the voice is not altered by this command. Reset is needed.				
1699	Phone Recording Level	0 (min) - 3	3	-	N
	See Table 31				
1700	Voice/Door Station talk level	0 (min) - 3	2	-	N
	See Table 31				
1703	Alert Time	1 to 60	10	minutes	N
	This is the window of the alert time started by the activation of an Alert or Perimeter zone type. During this time window another zone activation may cause an Intruder Alarm (see the flowchart for Alert and Perimeter zone activation in the Programming Manual. Prior to firmware 4.170, the alert time was fixed at 10 minutes, but after 4.170, the Alert time was made programmable up to 60 minutes. Any number greater than 60 minutes will cause a 60 minute alert time.				
1846	Time Adjust (seconds) Location	0 to 59	0	Seconds	N
	The time in seconds is added to or subtracted from the current time at 3:00 AM each day to correct for inaccuracy in the clock. Positive values are 1 to 29, negative values are 30 to 59. A value of 59 is equivalent to -1 second, and 30 is equivalent to -30 seconds.				
1849	Time given to press * after phone offhook for local phone access to Menu	0 to 255	6	Seconds	N
	The value in this location is the delay (secs) after local phone offhook for the * key to access Comfort				
2146	Dial Delay	0 to 255	30	seconds	N
	This is the dial delay in seconds which applies if the Dial Delay Setting for the Alarm Type is enabled (Engineer menu 2,1,2). When the Alarm Type is activated, the system will commence dialing only when the Dial delay time expires				
2150	Arm Abort Time	0 - 255	5	Minutes	N
	This is the time in Minutes to abort arming if not all protected doors and windows are not closed. During this time, the names of the zones are announced. When the time expires, there will be an ARM Fail Alarm, but the premises is not armed. The user must disarm and arm again				
3968-4223	IR Received Responses - See Table 36A				
4960 - 5471	Counter Responses - See Table 36B				
The RESET column indicates if it is necessary to reset the system after changing the value at this location. System Reset can be done by pressing the Reset switch on the board or remotely in the Engineer Menu (7, 4 , 2)					

Table 35 - Location 39 and 40 Flag Settings

Location 39 and 40 contain certain **flags** which determine some behavior of Comfort. Add up all the value in the ADD VALUE column for the flags to be enabled, and enter the sum in Location 39 or 40. RESET the system by the Reset button or Eng Menu 7,4,2 for the settings to take effect. Some of these flags are accessible in Engineer Menu, in which case the menu reference is given in the last column. When changing flags which are not in Engineer Menu, you must take into account the values of all the flags in the Location

Flag Setting Location 39	Location	Add Value	Value	Engineer Menu
Connected as PABX extension	39	2		7,2 (Table 1)
Force Arm Option enable		4	4	4,3,1 (Table 16)
Local Phone voltage from RGR02 (4.107)		8	8	On for Australia only
Hear Announcements on Phone		16	16	
Incoming Call Screening on Keypad		32	32	User 2,6,6
Pulse Dialing (removed V4.81)		64		
Wait for Dial Tone before dialing		128	128	Not Available
Total			188	

Flag Settings Location 40	Location	Add Value	Value	Engineer Menu
Siren Reverse (Self-actuated siren)	40	1		4,3,3 (Table 16)
Ignore Line Cut		2		
RGR02 Ringer		4	4	1 if RGR02 ringer
Seize Phone Line for all dialout (4.101)		8		
Disable Voice on Door Station		16	16	
LEM 16 input 0 output		32		0 if SEP installed
Repeat Alarm Zone announce on keypad		64	64	
Ext Answering machine bypass (v4.139)		128		Program 1,0
Total			84	

Wait for Dial Tone is the only flag which needs to be changed using Location 39. When enabled, Comfort will wait for a dial tone before dialing. If a dial tone is not detected, Comfort tries a Hook Flash to try to get dial tone (this works if 3rd party or Conference call) is available on the telephone line. If there is still no dial tone , it will wait for the Incoming Call Release time in Location 47 (See Table 34) before trying again. During this time, if an alarm is on, it does not answer any calls.

Local Phone voltage for RGR02 is used for Australian systems only. Set this flag On to generate the voltage for the local phone in the Voice Menu. This can be turned off for other countries, but will not cause any ill effects if left on.

Set Ignore Line Cut ON when it is not possible to connect the incoming telephone line to Comfort TEL IN and the house phones to TEL OUT. With this setting, house phones can be connected in parallel to TEL IN. The system will ignore Line Cut and will not report Phone Trouble. If there is a line cut, the house phones cannot be used to access the system. There is a loss of security, as the system will not be able to dial out if any house phone is offhook. **This is not to be used for UL installations or for a monitored system. It is only for Home Automation installations where security is not a concern.**

Seize Phone Line for all Dialouts: this causes the house phones to be cut off for all Comfort dialouts, including non-alarm situations like reporting system armed, disarmed, Dial Test and new messages. If this flag is not set, the house phones are cut off only for alarm dialouts. Set the flag if the number of

phones in the premises causes Dial test to be unsuccessful, and removing the phones from the TEL OUT connector allows the Dial test to complete.

Disable Voice on Door Station prevents the announcement of zones and "Away Mode" during away arming. If the flag is ON, the Door Station is only used for 2 way conversation. There will be no zone and armed announcements in Night or Day Mode irrespective of the flag.

LEM 16 input 0 output: This flag tells Comfort that a 16 zone (no outputs) Local Expansion Module (LEM) is installed. This means that the system capacity is 24 zones and 8 outputs. If a 8 zone 8 output LEM or no LEM is installed, this flag should be Off. Slave Expansion Panels (SEP) may not be used with the 16 input LEM

Repeat Alarm Zone on Keypad setting will keep announcing an activated zone until system is disarmed or another zone is activated.

RGR02 setting set to 1 if RGR02 ringer is used in the system instead of RGR01. For RGR03, the setting is ignored.

External Answering Machine Bypass> This flag allows external answering machines and fax machines to be bypassed. First, call to the telephone number to which the system is connected and let it ring exactly once. Hang up and call again within 5 to 20 seconds. The system will answer immediately on detecting the first ring.

Table 36A - IR Received Responses

IR No	Location	Resp	IR No	Location	Resp	IR No	Location	Resp	IR No	Location	Resp
0	3,968		32	4,032		64	4,096		96	4,160	
1	3,970		33	4,034		65	4,098		97	4,162	
2	3,972		34	4,036		66	4,100		98	4,164	
3	3,974		35	4,038		67	4,102		99	4,166	
4	3,976		36	4,040		68	4,104		100	4,168	
5	3,978		37	4,042		69	4,106		101	4,170	
6	3,980		38	4,044		70	4,108		102	4,172	
7	3,982		39	4,046		71	4,110		103	4,174	
8	3,984		40	4,048		72	4,112		104	4,176	
9	3,986		41	4,050		73	4,114		105	4,178	
10	3,988		42	4,052		74	4,116		106	4,180	
11	3,990		43	4,054		75	4,118		107	4,182	
12	3,992		44	4,056		76	4,120		108	4,184	
13	3,994		45	4,058		77	4,122		109	4,186	
14	3,996		46	4,060		78	4,124		110	4,188	
15	3,998		47	4,062		79	4,126		111	4,190	
16	4,000		48	4,064		80	4,128		112	4,192	
17	4,002		49	4,066		81	4,130		113	4,194	
18	4,004		50	4,068		82	4,132		114	4,196	
19	4,006		51	4,070		83	4,134		115	4,198	
20	4,008		52	4,072		84	4,136		116	4,200	
21	4,010		53	4,074		85	4,138		117	4,202	
22	4,012		54	4,076		86	4,140		118	4,204	
23	4,014		55	4,078		87	4,142		119	4,206	
24	4,016		56	4,080		88	4,144		120	4,208	
25	4,018		57	4,082		89	4,146		121	4,210	
26	4,020		58	4,084		90	4,148		122	4,212	
27	4,022		59	4,086		91	4,150		123	4,214	
28	4,024		60	4,088		92	4,152		124	4,216	
29	4,026		61	4,090		93	4,154		125	4,218	
30	4,028		62	4,092		94	4,156		126	4,220	
31	4,030		63	4,094		95	4,158		127	4,222	

The Comfort Keypad with Infrared receiver, KP02, Scene Control Switch SCS01/IR and RIO are able to receive any of 128 Comfort IR codes, numbered 0 to 127. When the IR code is received and recognised, the Response programmed in the Location in the above table is activated. For example, if IR code no. 89 is received by any KP02, the Response in Location 6237 is activated. Any universal remote control can be used to learn and transmit Comfort IR codes. A library file for the Pronto (rcir.mdb) which contains the Comfort IR codes is available from the Comfort web site

The RIO with Infrared Receiver IRR and the SCS/IR are able to receive X10 IR codes for any housecode. X10 IR Codes will cause the X10 code to be sent by Comfort to the Powerline through the XM10E two way interface. No programming is required for this.. The KP02 is not able to receive X10 IR codes.

In the table above, Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for IR Code 31 Response, enter 123 in Location

4030 and 0 in Location 4031. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in IR Code 31 Response, 1000/256 = 3+ 232/256. Enter 232 in Location 4030 and 3 into Location 4031.

Table 36B - RIO/SCS Responses

The SCS (Scene Control Switch) and RIO (Remote input/output Modules) activate Comfort Responses when their Inputs are opened and closed. SCS inputs have ON Responses but not OFF Responses, i.e. the buttons activate Responses when they are pressed, but not when they are released. These tables list the Locations associated with each of the switches or inputs for each ID of the SCS or RIO Module. RIO and SCS modules cannot be used as alarm inputs - their only function is to activate responses when their inputs are opened or closed.

In the table below, Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for SCS/RIO ID 1, Input 2 - ON Response, enter 123 in Location 4484 and 0 in Location 4485. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in SCS/RIO ID 1, Input 2 - ON Response, 1000/256 = 3+ 232/256. Enter 232 in Location 4484 and 3 into Location 4485.

ID	**1**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,480		4,482	
2	4,484		4,486	
3	4,488		4,490	
4	4,492		4,494	
5	4,496		4,498	
6	4,500		4,502	
7	4,504		4,506	
8	4,508		4,510	

ID	**2**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,512		4,514	
2	4,516		4,518	
3	4,520		4,522	
4	4,524		4,526	
5	4,528		4,530	
6	4,532		4,534	
7	4,536		4,538	
8	4,540		4,542	

ID	**3**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,544		4,546	
2	4,548		4,550	
3	4,552		4,554	

4	4,556		4,558	
5	4,560		4,562	
6	4,564		4,566	
7	4,568		4,570	
8	4,572		4,574	

ID	**4**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,576		4,578	
2	4,580		4,582	
3	4,584		4,586	
4	4,588		4,590	
5	4,592		4,594	
6	4,596		4,598	
7	4,600		4,602	
8	4,604		4,606	

ID	**5**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,608		4,610	
2	4,612		4,614	
3	4,616		4,618	
4	4,620		4,622	
5	4,624		4,626	
6	4,628		4,630	
7	4,632		4,634	
8	4,636		4,638	

ID	**6**			
Input	**Switch Code Response Location**			
	ON - Closed (0V)		**OFF - Open (5V)**	
1	4,640		4,642	
2	4,644		4,646	
3	4,648		4,650	
4	4,652		4,654	
5	4,656		4,658	
6	4,660		4,662	
7	4,664		4,666	
8	4,668		4,670	

ID	7			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,672		4,674	
2	4,676		4,678	
3	4,680		4,682	
4	4,684		4,686	
5	4,688		4,690	
6	4,692		4,694	
7	4,696		4,698	
8	4,700		4,702	

ID	8			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,704		4,706	
2	4,708		4,710	
3	4,712		4,714	
4	4,716		4,718	
5	4,720		4,722	
6	4,724		4,726	
7	4,728		4,730	
8	4,732		4,734	

ID	9			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,736		4,738	
2	4,740		4,742	
3	4,744		4,746	
4	4,748		4,750	
5	4,752		4,754	
6	4,756		4,758	
7	4,760		4,762	
8	4,764		4,766	

ID	10			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,768		4,770	
2	4,772		4,774	
3	4,776		4,778	
4	4,780		4,782	
5	4,784		4,786	
6	4,788		4,790	
7	4,792		4,794	
8	4,796		4,798	

ID	11			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,800		4,802	
2	4,804		4,806	
3	4,808		4,810	
4	4,812		4,814	
5	4,816		4,818	
6	4,820		4,822	
7	4,824		4,826	
8	4,828		4,830	

ID	12			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,832		4,834	
2	4,836		4,838	
3	4,840		4,842	
4	4,844		4,846	
5	4,848		4,850	
6	4,852		4,854	
7	4,856		4,858	
8	4,860		4,862	
ID	13			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,864		4,866	
2	4,868		4,870	
3	4,872		4,874	
4	4,876		4,878	
5	4,880		4,882	
6	4,884		4,886	
7	4,888		4,890	
8	4,892		4,894	
ID	14			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,896		4,898	
2	4,900		4,902	
3	4,904		4,906	
4	4,908		4,910	
5	4,912		4,914	
6	4,916		4,918	
7	4,920		4,922	
8	4,924		4,926	

ID	15			
Input	Switch Code Response Location			
	ON - Closed (0V)		OFF - Open (5V)	
1	4,928		4,930	
2	4,932		4,934	
3	4,936		4,938	
4	4,940		4,942	
5	4,944		4,946	
6	4,948		4,950	
7	4,952		4,954	
8	4,956		4,958	

Table 37A - User Timers

Timer	In Responses	Comments	Timer	In Responses	Comments
1			9		
2			10		
3			11		
4			12		
5			13		
6	195	Doorbell Macro	14		
7	49,51	Flashing Lights in alarm	15		
8	86,118	Vibration Analyser, Strobe Flash	16		

16 User Timers can be used to do general timing functions. Action Codes 194 (Start Timer), 85 (Stop Timer), 86 (Check timer) handle timers. This table is for reference, so that a Timer is used for only one function

Table 37B - Counter Responses

Outside Comfort Ultra has 256 Counters. The UCM can set Counters to any value using the C! Command. From Outside 4.120, each Counter has a Response which is activated by a C! command from the UCM. Action 31 (Get last counter value) allows the last counter value received from the UCM C! Command into any counter address to be obtained, to be used in a Response. Counter Responses are used for activating Responses from C-BUS and EIB UCMs.

In the table below, Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for Counter 130 Response, enter 123 in Location 5220 and 0 in Location 5221. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in Counter 130 Response, 1000/256 = 3+ 232/256. Enter 232 in Location 5220 and 3 into Location 5221.

Ctr No	Location	Response	Comments	Ctr No	Location	Response	Comments
0	4960			128	5216		
1	4962			129	5218		
2	4964			130	5220		
3	4966			131	5222		
4	4968			132	5224		
5	4970			133	5226		
6	4972			134	5228		
7	4974		Resp 86,Vibration	135	5230		
8	4976			136	5232		
9	4978			137	5234		
10	4980			138	5236		
11	4982			139	5238		
12	4984			140	5240		
13	4986			141	5242		
14	4988			142	5244		
15	4990			143	5246		
16	4992			144	5248		
17	4994			145	5250		
18	4996			146	5252		
19	4998			147	5254		
20	5000			148	5256		
21	5002			149	5258		
22	5004			150	5260		
23	5006			151	5262		
24	5008			152	5264		
25	5010			153	5266		
26	5012			154	5268		
27	5014			155	5270		
28	5016			156	5272		
29	5018			157	5274		
30	5020			158	5276		
31	5022			159	5278		
32	5024			160	5280		
33	5026			161	5282		
34	5028			162	5284		
35	5030			163	5286		
36	5032			164	5288		

Ctr No	Location	Response	Comments	Ctr No	Location	Response	Comments
37	5034			165	5290		
38	5036			166	5292		
39	5038			167	5294		
40	5040			168	5296		
41	5042			169	5298		
42	5044			170	5300		
43	5046			171	5302		
44	5048			172	5304		
45	5050			173	5306		
46	5052			174	5308		
47	5054			175	5310		
48	5056			176	5312		
49	5058			177	5314		
50	5060			178	5316		
51	5062			179	5318		
52	5064			180	5320		
53	5066			181	5322		
54	5068			182	5324		
55	5070			183	5326		
56	5072			184	5328		
57	5074			185	5330		
58	5076			186	5332		
59	5078			187	5334		
60	5080			188	5336		
61	5082			189	5338		
62	5084			190	5340		
63	5086			191	5342		
64	5088			192	5344		
65	5090			193	5346		
66	5092			194	5348		
67	5094			195	5350		
68	5096			196	5352		
69	5098			197	5354		
70	5100			198	5356		
71	5102			199	5358		
72	5104			200	5360		
73	5106			201	5362		
74	5108			202	5364		

Ctr No	Location	Response	Comments	Ctr No	Location	Response	Comments
75	5110			203	5366		
76	5112			204	5368		
77	5114			205	5370		
78	5116			206	5372		
79	5118			207	5374		
80	5120			208	5376		
81	5122			209	5378		
82	5124			210	5380		
83	5126			211	5382		
84	5128			212	5384		
85	5130			213	5386		
86	5132			214	5388		
87	5134			215	5390		
88	5136			216	5392		
89	5138			217	5394		
90	5140			218	5396		
91	5142			219	5398		
92	5144			220	5400		
93	5146			221	5402		
94	5148			222	5404		
95	5150			223	5406		
96	5152			224	5408		
97	5154			225	5410		
98	5156			226	5412		
99	5158			227	5414		
100	5160			228	5416		
101	5162			229	5418		
102	5164			230	5420		
103	5166			231	5422		
104	5168			232	5424		
105	5170			233	5426		
106	5172			234	5428		
107	5174			235	5430		
108	5176			236	5432		
109	5178			237	5434		
110	5180			238	5436		
111	5182			239	5438		
112	5184			240	5440		

Ctr No	Location	Response	Comments	Ctr No	Location	Response	Comments
113	5186			241	5442		
114	5188			242	5444		
115	5190			243	5446		
116	5192			244	5448		
117	5194			245	5450		
118	5196			246	5452		
119	5198			247	5454		
120	5200			248	5456		
121	5202			249	5458		
122	5204			250	5460		
123	5206			251	5462		
124	5208			252	5464		
125	5210			253	5466		
126	5212			254	5468		
127	5214			255	5470		

Table 37C - User Flags

User Flags are a programming device. Flags have one of 2 values 1 (ON) or 0 (OFF), Outside firmware 4.144 has 64 flags (prior to 4.144, 16 flags) while Entry and Master versions have 16 flags. Flags are set to 1 or 0, or checked using action using action 132. Flags are used for conditional branching of Responses.

FLAG	In Responses	Comments	FLAG	In Responses	Comments
1			33		
2			34		
3			35		
4			36		
5			37		
6			38		
7			39		
8			40		
9			41		
10			42		
11			43		
12			44		
13			45		
14			46		
15			47		
16	59,75,97	Chimes announce	48		
17			49		

FLAG	In Responses	Comments	FLAG	In Responses	Comments
18			50		
19			51		
20			52		
21			53		
22			54		
23			55		
24			56		
25			57		
26			58		
27			59		
28			60		
29			61		
30			62		
31			63		
32			64		

Table 38 - User Authorization Settings

Each of the 8 User Codes may be assigned authorization for Local Disarm, Local Arm, Remote Disarm, Remote Arm, Disarm on Alarm only, Security Menu (User Menu 3) Access, Home Control Menu (User Menu 4) Access, and Program Authorization. These User authorizations settings can also be programmed in the Comfigurator software.

User Authorizations for each user are set using Locations according to the table below. For example, to set user 5 to allow Home Control, Local arm and disarm only, add the values under Home Control (64) Local Arm (2) and Local Disarm (1). The sum obtained (64+2+1 = 67) is entered into the location for User 5 (2106).

When assigning Control Station Function Keys (next section) ,each of the above access privileges may be applied to the Response on each Function key. This involves the use of action code **99** followed by the cumulative weights shown in Table 38. which set the type of authorization level allowed to enter certain menu types or perform arm/disarm functions.

User	**Location**	**Local Disarm**	**Local Arm**	**Remote Disarm**	**Remote Arm**	**Alarm Disarm**	**Security Menu**	**Home Control**	Program	**Value**
		Add 1	Add 2	Add 4	Add 8	Add 16	Add 32	Add 64	Add 128	
1	2102	1	2	4	8	16	32	64	128	255
2	2103	1	2	4	8	16	32	64	0	127
3	2104	1	2	4	8	16	32	64	0	127
4	2105	1	2	4	8	16	32	64	0	127
5	2106	1	2	4	8	16	32	64	0	127
6	2107	1	2	4	8	16	32	64	0	127
7	2108	1	2	4	8	16	32	64	0	127
8	2109	1	2	4	8	16	32	64	0	127
9	2110	1	2	4	8	16	32	64	0	127
10	2111	1	2	4	8	16	32	64	0	127
11	2112	1	2	4	8	16	32	64	0	127

12	2113	1	2	4	8	16	32	64	0	127
13	2114	1	2	4	8	16	32	64	0	127
14	2115	1	2	4	8	16	32	64	0	127
15	2116	1	2	4	8	16	32	64	0	127
16	2117	1	2	4	8	16	32	64	0	127

Table 39 - Keypad Control Station Menu (Engineer Menu 4,4)

Key	Response		Code Required?			Function
	Location	Response	Yes/No?	Location	Add	
0	Use Eng Menu 4,4 (Control Station)	110	No	Use Eng Menu 4,4 (Control Station)		Engineer Sign In Enable, do Alarm 30
1		101	Yes			Bypass Zone Menu
2		102	No			Home Control menu
3		103	No			Test Menu
4		104	No			Record Memo Menu
5		105	No			Event Log
6		106	Yes			Change Phones Menu
7		107	Yes			Change Sign in Code
8		121	No	1834	1	Intercom
9		115	Yes		2	Time Program Menu
*		109	Yes		8	Answering Machine menu
F	1821	0	Yes		4	
#	1825	111	Yes		16	User Codes
Away	1827	72	No		32	Arm to Away Mode
Night	1829	73	No		64	Arm to Night Mode
Day	1831	71	No		128	Arm to Day Mode

Function Keys 0 to 9 and * can be programmed using Engineer menu 4,4. Function Keys Away, Night, Day, #, F functions must be programmed using Locations (Engineer menu 7,4,1).
To program F, #, and one touch keys for CODE required, Add the values in the ADD column if a code is required, including those for the 8,9,* keys for Location 1834.

In the table above, Response Numbers have to be entered in 2 successive Locations. If the Response number is less than 256, enter the Response number in the 1st location and enter 0 in the next location. For example to enter Response 123 for # key Response, enter 123 in Location 1825 and 0 in Location 1826. If the Response number is greater than 255, divide the number by 256, and enter the remainder in the first location and the quotient in the 2nd location. For example, to enter Response 1000 in # key Response, 1000/256 = 3+ 232/256. Enter 232 in Location 1825 and 3 into Location 1826.

Table 40 - Word List (E19)

Word	No	Word	No	Word	No	Word	No
(SILENCE)	0	Control	172	Garage	23	Message	214
Action	156	Cool	10	Garden	24	Messages	213
Aquarium	59	Corridor	11	Gas	244	Mode	216
Airconditioner	1	Curtain	12	Gate	241	Monitoring	217
Alarm	157	Date	174	Greeting	194	Movement	219
Alert	158	Day	175	Ground	92	Music	38
All	85	Degrees	105	Guest	93	New	221
And	160	Delay	197	Hall	27	Next	222
Answering	161	Delete	176	Hangup	195	Night	223
Area	80	Detector	13	Hear	196	Number	227
Arm	162	Dial	177	Heater	29	Numbers	226
Attic	82	Dim	83	Help	198	Nursery	110
Away	165	Dining	14	Hi-fi	30	Off	229
Awning	89	Door	178	High	31	Office	39
Back	2	Down	15	Holiday	199	Oh	163
Balcony	3	Downstairs	16	Home	200	On	230
Basement	4	Dressing	106	Hot	19	Open	231
Bath	47	Drive	18	Hours	201	Options	232
Battery	166	Duress	179	Indoor	108	Output	234
Beam	5	End	180	Intruder	204	Outside	40
Bedroom	6	Enter	181	Jacuzzi	28	PABX	235
Bell	193	Entertainment	72	Key	205	Panic	237
Blind	17	Entry	182	Kitchen	32	Party	41
Breakfast	99	Erase	183	Lamp	81	Path	238
Breakglass	7	Event	184	Landing	67	Pelmet	97
Bright	84	Exit	185	Last	206	Perimeter	239
Bypass	203	Failure	186	Left	75	Phone	240
Call	167	Family	187	Level	8	Play	78
Camera	9	Fan	65	Light	34	Pool	42
Carporch	117	Fence	20	Lights	33	Porch	43
Ceiling	102	Fire	188	Living	35	Power	210
Chandelier	98	First	189	Lobby	94	Previous	190
Change	168	Flood	21	Location	209	Print	191
Channel	103	Floor	90	Lounge	69	Program	215
Check	169	Foot	113	Low	36	Projector	111
Children's	79	Fountain	101	Lower	95	Pulse	164
Cinema	109	Foyer	107	Machine	207	Radio	66
Close	70	Front	22	Maids	74	Rain	44
Code	170	Full	192	Main	211	Record	159
Coffee	104	Function	26	Master	37	Reset	202
Comms	236	Games	91	Menu	212	Response	208

Word	No
Reverse	252
Right	76
Roof	45
Room	46
Safe	228
Scene	112
Screen	114
Security	242
Select	243
Sensor	25
Settings	245
Shunt	71
Side	48
Siren	246
Sleep	49
Smoke	50
Speaker	247
Sprinkler	51
Staircase	96
Start	253
Station	225
Store	52
Strobe	248
Study	53
Switch	68
System	249
Tamper	250
Temperature	54
Test	233
Time	218
Toggle	116
Toilet	73
Tone	224
Trouble	171
TV	55
Up	56
Upstairs	57
Utility	58
Vacation	251
Video	60

Word	No
Voice	254
Volume	61
Wall	115
Warm	62
Warning	220
Washing	77
Water	63
Window	64
Yard	100
Zero	128
Zone	173
1st	86
2rd	87
3rd	88
1	129
2	130
3	131
4	132
5	133
6	134
7	135
8	136
9	137
10	138
11	139
12	140
13	141
14	142
15	143
16	144
17	145
18	146
19	147
20	148
30	149
40	150
50	151
60	152
70	153
80	154
90	155

Word	No
<terminator>	255

Word	No

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