

9800

Installation and User Guide



Compatible Equipment

9825	Remote Keypad
9827	Remote Keypad
9040	Internal loudspeaker (16 Ohm). 2 max, fit at least one.
9056	Plug-on Digital Communicator
9076-01/02	Signalling Relay Interface
960	Speech/Digital Communicator
9066	Self-Activating Bell (SAB) Module

Introduction

The 9800 Alarm Control Panel comprises a control unit in a shielded case, and up to four separate keypads.

The control unit provides:

- Connections for up to eight Closed Circuit zones.
- Connections for four outputs (external sounder, strobe, and two fully programmable outputs).
- Connections for up to four 9825 Keypads.
- Pins for fitting a plug-on communication device. Any device that complies with the Scantronic plug-on footprint can be fitted.
- Internal sounder loudspeaker output with electronically generated Chime, Alarm and Fire tones.

The programming interface is arranged as a set of two-digit numbered commands.

The system can provide for up to 4 separate users. User facilities include:

- Three different security levels (full set and two part sets) which can be programmed by the installer.
- User programmable Duress code.
- Keyswitch setting/unsetting.

Technical Specifications

General

Operating temperature	= -10 °C to + 40 °C.
Humidity	= Up to 80% non-condensing.
Dimensions	= h x w x d 300 x 300 x 75 mm.
Weight	= 4.85 Kg (excl battery).
Standby Battery	= 12 Volt, 6.0Ah rechargeable lead-acid, Gel Type battery.

Power Supply

The total current available from the control unit is as follows:

System output current	= 800mA (Ambient Temp. 20 °C).
Control unit pcb	= 60mA quiescent. = 500mA active (when driving standard external bell).
Each 9825 Remote Keypad	= 20mA quiescent. = 60mA active.

Standard 9066 SAB Module = 40mA.
 Plug-on 9056 Communicator = 40mA.

Keypad Wiring

Recommended maximum distances for the remote keypads from the control unit, using standard alarm cable is 100 metres for the star configuration.

Outputs

OP1, OP2, Bell, Strobe = 500mA. Transistorised outputs capable of driving a relay.

9825 Keypad Addressing

Before connecting the keypad(s) to the system, the engineer must set the address of each keypad. Each keypad in a system must have a different address number to ensure that the control unit can correctly identify them.

To set the address:

1. Ensure the system is powered down.
2. Open the keypad and identify the four position DIP switch on the keypad pcb, see Figure 1 below. Note that each switch is numbered 1 to 4. The numbers correspond to the keypad address.

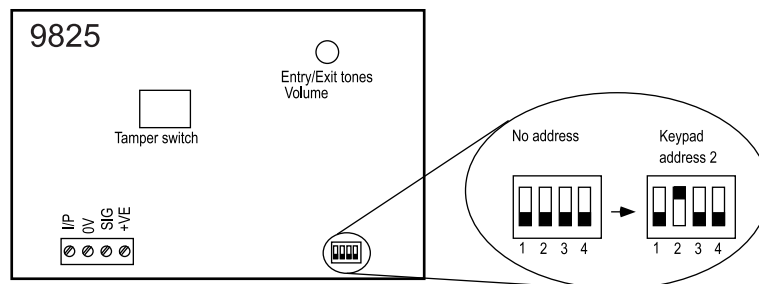


Figure 1. Keypad Address Switch

3. Select one switch and move it to the ON position (up). Make sure all the other switches are OFF (down). The keypad now has the address given by the switch that is ON.

Adjusting Keypad Sounder Volume

You can alter the volume of the keypad sounder by adjusting the potentiometer located next to the sounder. See Figure 1. When first installing the keypad set the potentiometer midway using a small screwdriver.

Wiring

Figure 2 shows the main connector on the control unit PCB. Subsequent sections describe how to wire keypads and closed circuit zones.

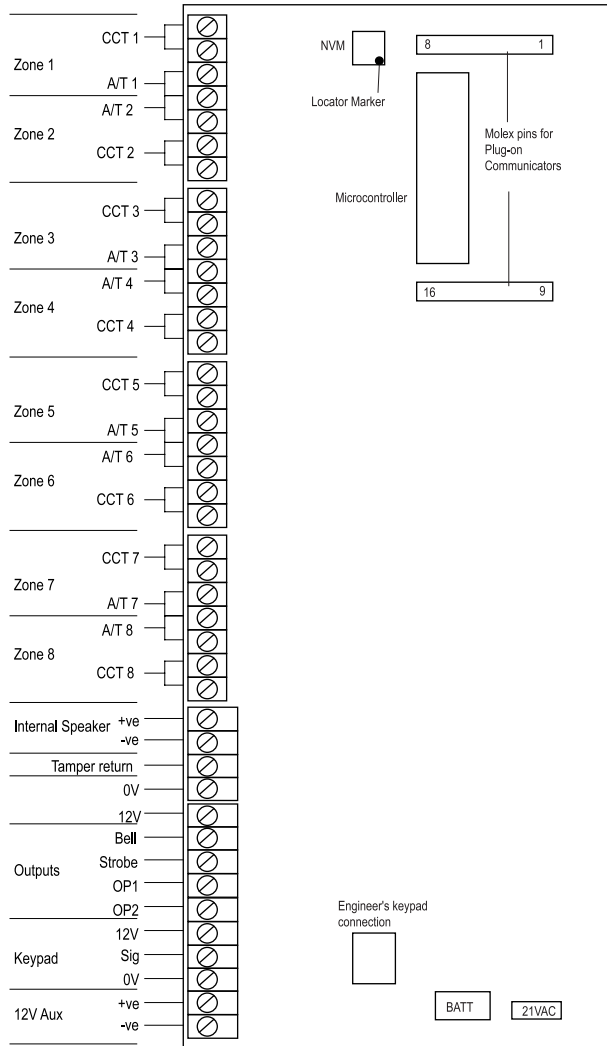


Figure 2. Main Connector

Wiring Keypads

All keypads must be connected to Keypad terminals on the control unit PCB or "daisy chained" to other keypads. Figure 3 shows the connections for each keypad using the 9825 as an example:

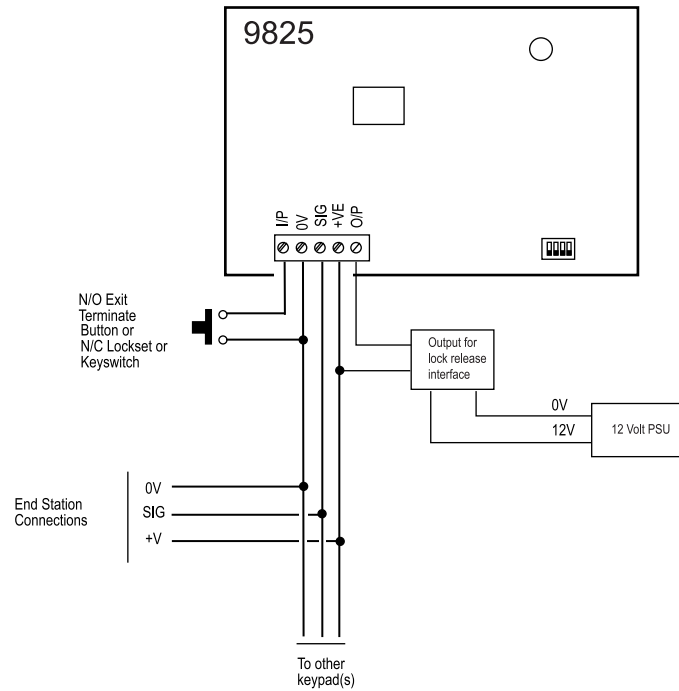


Figure 3. Wiring the 9825 Keypad

Note: The output for the lock release interface must be a transistorised type. A recommended type is RS Components 349-254. A SEPARATE 12 Volt DC supply is required. Contact rating is 10 A.

Caution: Do not connect other devices (for example SAB, speakers and so on) in the same cable as the remote keypad wiring.

Wiring Keyswitches

Connect a keyswitch to the I/P and 0V terminals of the nearest keypad (see Figure 4). Make sure you use a two position, unbiased keyswitch.

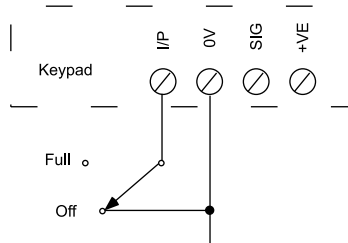


Figure 4. Keyswitch

Communications

The control unit can be fitted with communicators that conform to the standard Scantronic plug-on communicator footprint (for example, the 9056 and 9058 Plug-on Digital Communicators, a 960 Speech/Digital Communicator, or a Plug-on Red Care Transmitter). For communicators that do not conform the 9076-01 and 9076-02 can be used as interfaces to the system.

Programming

Initial Power Up

When all wiring is complete, power up the system for the first time as follows:

1. Ensure that the keypad(s) and detectors are securely fitted and their tamper switches closed.
2. Connect the battery and then close the case.
3. Switch on the mains power. Ignore any tones from the internal and keypad sounders.
4. Go to a keypad and key in 1234.
5. Key in 0 followed by 7890 (the default Engineer's code).
The keypad gives an intermittent tone.
6. Open the end station lid. (If the lid is already open, close and open the tamper switch.)
The displays shows "E" (engineer).

You are now in programming mode.

Programming Commands

When delivered from the factory the control unit already has default program settings. To change the default programming you must be in programming mode. Then:

1. Key in the appropriate command number.
The display shows the current value of the command.
2. Key in digits to select the value you require.
The display shows a code giving the new value.
3. Press Clear to store the new value of the command.

If at any time you change your mind, repeat step 1 to 3. The table on the following pages shows the commands and their options. (A ✓ next to a command value shows that it is the factory default.)

The factory default access codes are:

Engineer Code	7890
Access Code User 1	1234
Access Code 2 to 4	AAAA (inactive)
Access Code 3	BBBB (inactive)
Access Code 4	CCCC (inactive)
Duress Code	OMIT, OMIT, OMIT, OMIT (inactive)

Note: The factory default Access Codes 02 to 04 and the Duress Code must be changed by USER 1 to a four digit number to activate them.

Engineer Program Commands

To change:	Key-in:	Notes	Default
Zone n	0n x y	n = zone number 01 to 08 <u>x = Zone type, one of:</u> 0 = nu (not used) 1 = PA (panic alarm) 2 = Fr (fire zone) 3 = AI (normal alarm) 4 = 24 (24 hour zone) 5 = FE (final exit) 6 = ER (entry route) <u>y = Zone attributes, any of:</u> 7 = ch (chime) 8 = St (soak test) 9 = 2A (double knock) B = b (armed in part set B) C = c (armed in part set C) OMIT = OA (omit allow)	✓
Example: Zone 3 is a Normal Alarm, active in Part Set B and C, that is Omit Allowed. Type in: 03 Zone Number 3 Normal Alarm B Active in Part Set B C Active in Part Set C OMIT Omit Allow CLEAR to store the value of the command.			
Output 1	11 x y	<u>x = Output Type, one of:</u> 0 = Bell follow 1 = Exit/entry follow 2 = Set latch type 1 3 = Set latch type 2 4 = Shock sensor reset 5 = Walk test 6 = Entry system 7 = 24 hour alarm <u>y = Output state, one of:</u> 8 = positive applied 9 = positive removed	✓
Output 2	12 x y	(as for command 11)	4 9
Engineer Code	20 nnnn	Engineer code	7890
Bell Output Type	21 0 1	SAB, negative applied in alarm SCB, negative removed in alarm	✓
Loudspeaker Chime	22 1 0	Chime through loudspeaker & kypds Chime through keypads only	✓
RedCare reset †	23 0 1	Disabled Enabled	✓

To change:	Key-in:	Notes	Default
Duress mode	24 0	Audible	
	1	Silent	✓
Internal Sounder	25 0	Follows external bell	✓
	1	Continuous	
Sounder Delay on Entry	26 0	Normal	
	1	Delay always	✓
PA Response	30 0	Audible	✓
	1	Silent	
Night Line Fault Response	31 0	Full alarm	
	1	No alarm	✓
Day Line Fault Response	32 0	Audible	✓
	1	Silent	
System Reset	33 0	User reset	✓
	1	Engineer reset	
PA Reset	34 0	User reset	✓
	1	Engineer reset	
First circuit lockout	35 0	Lock out	✓
	1	Re-arm	
Entry Abort	36 0	Disabled	✓
	1	Enabled (90 seconds abort time)	
Day tamper comms † and Engineer on Site	37 0	Disable (local audibles only)	✓
	1	Enabled, communicator channel 5	
Keypad Input	38 0	Exit terminate	✓
	1	Keyswitch	
	2	Lockset	
Exit Mode	39 0	Timed or terminate set	✓
	1	Final door set	
	2	Lock set	
Auto Re-Arm	40 0	Never	
	1	Once	✓
	2	Twice	
	3	Three times	
Bell Delay	41 0	No delay	✓
	1	1.5 minutes	
	2	3 minutes	
	3	5 minutes	
	4	10 minutes	
	5	15 minutes	
	6	20 minutes	
7	Infinite delay		

To change:	Key-in:	Notes	Default	
Bell Duration	42	1	1.5 minutes	
		2	3 minutes	
		3	5 minutes	
		4	10 minutes	
		5	15 minutes	
		6	20 minutes	✓
		7	nil	
Entry Time	43	1	10 Seconds	✓
		2	20 seconds	
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	
Exit Time	44	0	Continuous (exit terminate only)	
		1	10 Seconds	✓
		2	20 seconds	
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
CSID Code	50	n...n	Seed code for remote reset	
Available from Jan 1993 on all models.				
Area B final exit response	60	0	Final exit	✓
		1	Normal alarm	
Area B Entry route	61	0	Entry route	✓
		1	Start entry timer	
Area B Exit mode	62	0	As full set	
		1	Quick set (10s)	✓
		2	Instant set	
		3	Deferred set	
Area B Alarm response	63	0	Keypad sounders only	
		1	Internal and keypad sounders	✓
		2	All sounders, no comms	
		3	Full alarm (comms and sounders)	
Area C final exit	70		see 60	
Area C Entry route	71		see 61	
Area C Exit mode	72		see 62	
Area C Alarm response	73		see 63	
Event log	90	1	View earlier events	
		3	View later events	
Test External Bells	91		Bell output operates Clear Bell test ends	
Test Strobe	92		Strobe output operates Clear Strobe test ends	
Test Internal sounder	93		Internal sounder operates Clear Internal sounder test ends	

To change:	Key-in:	Notes	Default
Test keypad sounder	94	Keypad sounder operates Clear Keypad sounder test ends	
Test output 1	95	Programmable output 1 operates Clear Output 1 test ends	
Test output 2	96	Programmable output 2 operates Clear Output 2 test ends	
Walk Test	97	Zone LED and sounder operate when circuit open Clear End walk test	
Load defaults	98	Load defaults	
Leave programming	99		

Leaving Programming Mode

When all programming has been completed:

1. Key-in '99' at the keypad.
The display clears and the Day LED is ON.

The system is now in user mode.

Note: If there is a fault on the system, for example an open tamper circuit, the display shows this and will not return to Day mode. Press ✓ (Clear) and rectify the faults.

Engineer Reset

To perform an Engineer Reset:

1. Check that the display is showing the alarm condition. (Note: if the display shows "rr", Press Clear twice.)
2. Key in 0 followed by the Engineer's code (default 7890), followed by 99.
The display goes blank and the Day LED glows.

Re-Entering Programming Mode

"Initial Power Up" describes how to enter programming mode for the first time in a new installation. If you wish to enter programming mode at any other time:

1. Make sure the system is unset.
2. Press 0, then key in the Engineer's code (default 7890).
The keypad gives an intermittent tone.
3. Open the end station lid.
The display shows "E" (for 'engineer') and the intermittent tone stops.
You are now in programming mode.

Refreshing the NVM

If the user and/or engineer codes are lost, or you want to revert to the factory default programming, then:

1. First remove mains power before opening the case and then disconnecting the battery.
2. Identify and remove the NVM chip (IC4) on the main pcb (see Figure 1).
3. Reconnect the battery, then re-apply mains power.
4. Refit the NVM chip (note the locator marker position, see Figure 1).
The end station loads the factory default access codes (User 1: 1234, engineer: 7890).
5. Carry on to re-program the system.

Testing

You may test parts of the system by entering commands at the keypad. To carry out a test make sure the system is in programming mode and then key in one of the following commands. Press Clear to end each test:

- 91** To test the external sounder/bell.
- 92** To test strobe output.
- 93** To test the internal sounder output.
- 94** To test the keypad sounder.
- 95** To test programmable output No. 1.
- 96** To test programmable output No. 2.
- 97** To carry out a system walk test. This allows the engineer to test all alarm devices. When a circuit is opened, the internal sounder(s) will emit a tone and the appropriate circuit LED lights.

Reading the Log

The control unit keeps a 60 event log of recent events. Each event is represented by a two digit code, shown on the next page. To review the event log, make sure the system is in programming mode, then:

1. Key in 90.
The display shows the most recent event in the log, for example "c7".
For a list of the log codes see the next page.
2. Key in 1 to show earlier events or 3 to see more recent events.
3. Press Clear to leave the log.

The table below shows all the messages that can appear in the event log. The left hand column shows the codes that appear on a keypad display.

Event Log Displays

Keypad	Meaning
AA	Arm area A (full set)
Ab	Arm area B (part set)
Ac	Arm area C (part set)
AE	Installer access
AP	Auxiliary power failure
bF	Battery fault
c1 to c8	Zone violation
cc	Communication successful
cF	Communications failure
E1 to E8	Entry via zone circuit
EA	Entry alarm
EF	Exit fault
Lb	Low battery
Lf	Telephone line failure
Lt	End station lid tamper
o1 to o8	Zone omitted
PF	Mains power failure
r1 to r4	Remote keypad back tamper
rP	Remote keypad missing
rr	Installer reset required
rt	Remote keypad excess key presses tamper
S1 to S8	Zone soak Test
Sr	System reset (total power failure)
t1 to t8	Zone tamper violation
tr	Tamper return fault
u1 to u9	Access user (u5 = Duress, u9 = keyswitch)

User Commands

Set/Unset System	User code + A
Part Set	User code + B or C
Omit zone (1-8)	User code + A, B or C + OMIT + Zone number
Omit 24 hour zone	User code + OMIT + Zone number
Reinstate omitted 24 hour zone	User code + OMIT + CLEAR
Change User code	User code + 4 + old code + new code + CLEAR
Read Log	User code + 5 + 1 to see earlier events or 3 to see later events + CLEAR + CLEAR
Chime On/Off	User code + 7 + CLEAR
Bell Test	User code + 8 + CLEAR to end test
Walk Test	User code + 9 + CLEAR to end test

Note: Duress code default is OMIT OMIT OMIT OMIT and is inactive until changed.