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Nova 6 Installation Instructions

Introduction

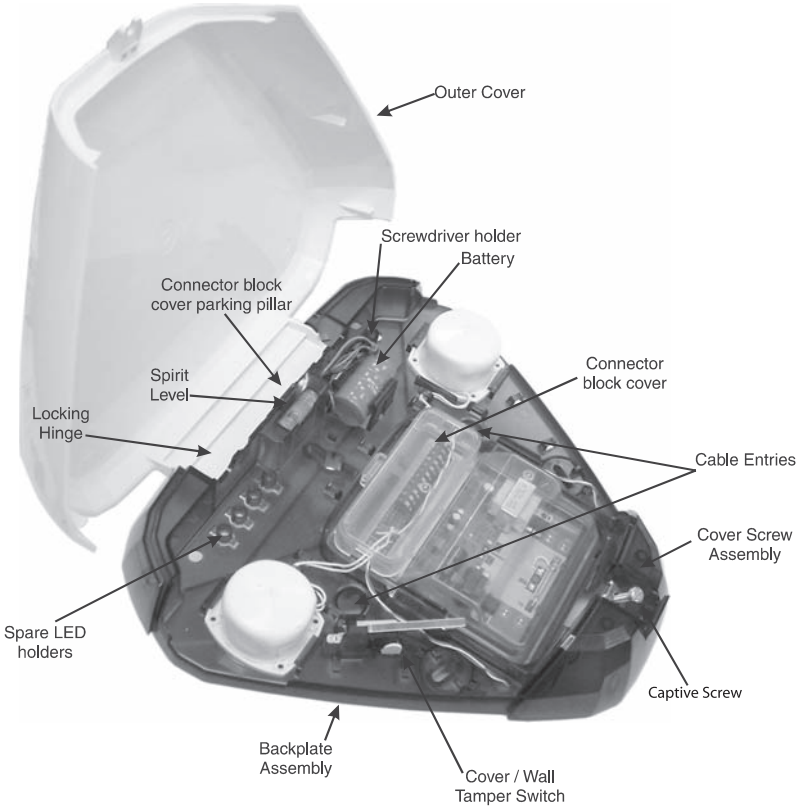
The Nova 6 external sounder may be used in two modes a) Standard Mode that allows the unit to be connected in the usual way to any control panel or b) Serial Mode. The unit must be connected to a Novagard Active compatible control panel when used in Serial Mode.

When connected in Serial mode, the unit communicates with the control panel on a serial data link allowing for remote / keypad diagnostics of the sounder. The sounder continually monitors the serial link connection, and will sound if any of the 4 connection wires are disconnected.

Sounder cut-off time is 15 minutes unless the supply voltage is less than 13V when triggered, the cut-off time will then be 5 minutes.

Strobe will flash at 1.25Hz unless the control panel appears to be running on battery, then the strobe will flash once every 5 seconds.

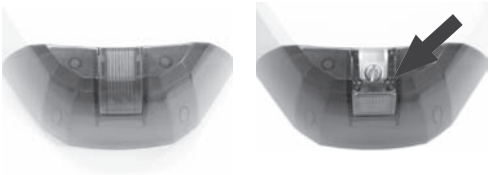
Fig 1. Nova 6 Layout.



Cover Screw Assembly

The screw cover is opened by asserting thumb pressure on it and pushing outward to reveal the cover screw .

Figs 2a & 2b Accessing the cover screw.



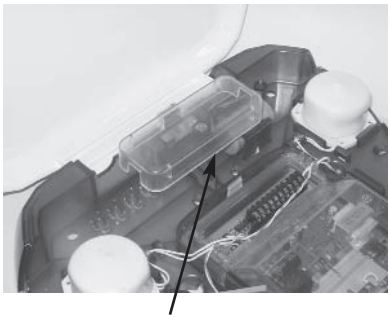
Unscrew the cover screw and hinge the lid open until it clicks into place.

***Note:** A slight amount of pressure will be needed to click the cover into place.*

Connector block cover

Access to the connector block and jumpers is gained by removing the connector block cover. Once the cover has been removed it may be slid onto the connector block parking pillar. *(See Figs 1 & 3).*

Fig 3. Connector block parking pillar.



Connector block cover on parking pillar

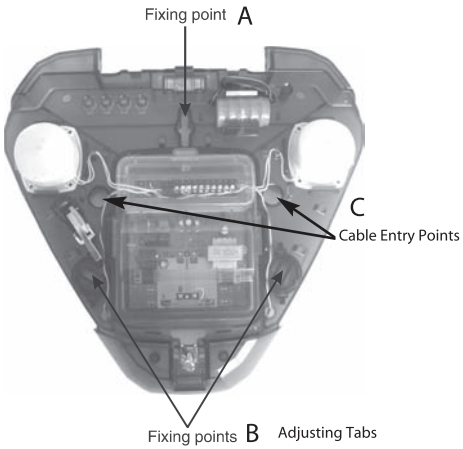
Cable Entry

Provision is provided on either side of the connector block for cable entry C. *(see Fig 4)*

1. Nova 6 Mounting

The Nova 6 may be mounted with the strobe light to the top or to the bottom. The LEDs can be mounted in numerous positions on the backplate. Position the LEDs to suit your individual requirements. The unit should be mounted to the wall using three 2" No10 screws and suitable rawl plugs.

Fig 4. Fixing points.



- Once the desired location and orientation of the sounder has been established, use the backplate of the unit as a template and mark the position of fixing point **A**.
Note: *Under no circumstances drill through the backplate.*

- Drill and plug the screw hole as marked and partially fit a 2" No 10 screw.

- Place the backplate into position,then use the spirit level to ensure the backplate is level.

- Mark the position of fixing points **B**.

- Drill and plug the screw holes as marked.

- Place the unit into position and secure to the wall using three 2" No 10 screws. Adjust the tabs (adjusting washers) as necessary.

- Configure the DIP Switches as required.

- Make the required connections to the connector block including the battery. **Note:** *The unit will sound for 3 seconds when the battery is connected.*

- Close the cover and tighten the screw.

2. DIP Switch Options - All switches must be positioned before powering up

S1 is used to select SAB or SCB mode for the device. **S1=OFF is SAB mode; S1=ON is SCB mode.** With the switch in the SAB position, current for the sounder will be drawn from the control panel. With the switch in the SCB position current for the sounder will be drawn from the sounder's rechargeable battery.

S5 is used to select Standard Mode (non NovActive) or Serial Mode (NovActive). With **S5=OFF,** the unit is in Standart Mode. With **S5=ON** the unit is in Serial Mode (NovActive).

Address switches S2 - S4 are used to select the unit number whilst in Serial Mode (NovActive). Please see Fig 5 below. Each unit will have its own identity (e.g Unit 1 to 8). **See Fig 5b** below.

Fig 5. Serial connection for Nova 6 to compatible panel.

	Nova 6 Terminals				
	SW-	12V	0V	TMPR	S5
NovActive Control Panel	BELL -	BELL +	BELL HOLD -	SAB TMP	ON

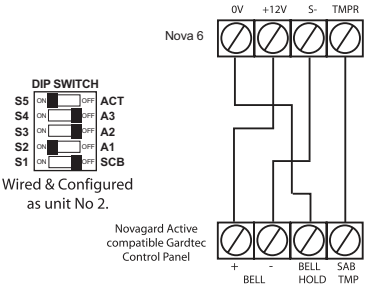
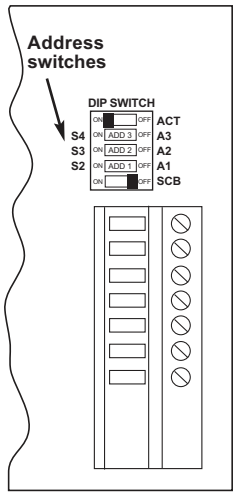


Fig 5b. Serial Mode Sounder Addressing via Address switches S2 - S4.



Switch Positions

S4 ADD 3	S3 ADD 2	S2 ADD 1	Sounder Address
OFF	*OFF*	*OFF*	1
OFF	*OFF*	**ON**	2
OFF	**ON**	*OFF*	3
OFF	**ON**	**ON**	4
ON	*OFF*	*OFF*	5
ON	*OFF*	**ON**	6
ON	**ON**	*OFF*	7
ON	**ON**	**ON**	8

3. Terminal Descriptions

The terminal descriptions given below are for the range of sounders covered by this manual, availability of terminals will depend on the model being used.

Bat+ & Bat-

Connections for Ni-MH battery.

OV

The negative supply to this terminal should be permanent as it is the - hold off for the SAB/SCB function.

STR -

Negative trigger terminal for the strobe light. Power for the strobe is derived from the Ni-MH battery. **Note** - STR- connection is not required in Serial Mode

+12V

The supply to this terminal is normally taken from the Bell+ of the control panel (depending on manufacturer) and provides the + hold off for the SAB/SCB function.

S-

Sounder trigger terminal. Trigger options are, Unmonitored Negative Trigger, Unmonitored Positive Trigger, Monitored Negative Trigger and Monitored Positive Trigger (See section - Sounder Trigger Connection). If Switch **S1** is set for SAB, power for the sounder is derived from the 12V & 0V terminals. If Switch **S1** is set for SCB, power for the sounder is derived from the on-board battery. When used in Serial Mode this terminal will be used as a data input.

TMPR
Negative tamper return to the control panel. When used in Serial Mode this terminal will be used as a data input.

TMPF
In Standard Mode (non NovActive) link this terminal to 0V

FLT
Terminal will activate (0V low) for battery fault, low panel volts or Sounder Piezo Head Failure (also strobe flashes rapidly).

Set+
A positive signal to this terminal will activate the Setting Confirmation Sound. **Note:** For this feature to be enabled, the Switch **S4** must be set to ON (not in Active mode).

Flying Tamper Leads
Flying Tamper Leads are connected to a pivoting Tamper Switch that provides both Rear and Cover Tamper protection. If a Screw Tamper Switch is to be fitted, break into one of the flying tamper leads and wire the new switch in series with the existing switch.

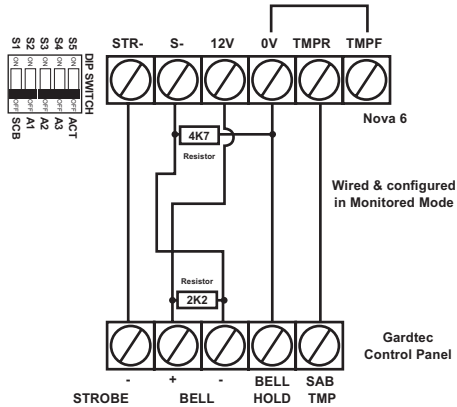
Sounder Trigger Connection
Monitored Trigger. Sounder will sound and a tamper will be generated if the Trigger wire is disconnected. **Note** :- The sounder will recognise a valid trigger when the voltage level at the S- terminal is less than 2V OR greater than 9V. A disconnected trigger wire will present a voltage of between 2V and 3.5V at the S- terminal. A healthy trigger wire connection (sounder not triggered) is a voltage between 3.5V and 9V.

Non Monitored Negative Trigger
Switch Negative (BELL-) Trigger signal from Control panel is wired directly to S-terminal on Sounder.

Non Monitored Positive Trigger
A Switched 12V Positive Trigger signal from Control Panel is wired directly to S-terminal on Sounder.

Monitored Negative Trigger
At the Control Panel a 2K2 resistor is fitted between the bell- output and the BELL+ terminal. At the Sounder a 4K7 resistor is connected between the S- terminal and the 0V terminal. Switched Negative (Bell-) Trigger signal from Control Panel is wired to the S- terminal on Sounder

Monitored Mode Wiring for
Gardtec 350/350+/360/370/580/800 Connections



Commissioning
Before powering the unit, ensure all DIP Switches are in the required positions. After the wiring has been completed, the system should be powered up. It should be noted that if the unit has a trigger (including tamper), it will sound for four seconds then it will cut off (engineer test). The sounder may then only be re-triggered by clearing the original trigger (or tamper). **Note**: This four second timer is only available at power up.

Health and Safety Advice
The Nova 6 sounder covered by this manual is capable of producing high volume sound. It is essential that suitable ear protection is worn when installing or testing the sounder.

Warning
The circuit board contained within the encapsulated module produces high voltages that may be present at the piezo head connections.

Additional Features whilst in Parallel Mode (non-NovActive)

Engineer Maintenance Mode.

The Engineer may disable the box tamper (built-in bell tamper ring) by removing the 12V+ for 3 seconds. This mode will be indicated by a single flashing LED. To return the sounder to the normal mode, remove the power for more than 10 seconds.

Note: For this feature to be enabled, the **DIP Switch S4** (ADD 3) must be ON. With **S4 OFF** application of 12V to the SET+ input will place the sounder in Engineer Maintenace Mode. Whilst in Engineer Mode the sounder tamper signal will be active.

Sounder Mode.

Whilst using the sounder in Parallel (non-NovActive) mode, two sounder modes are available via **DIP Switch S3** (ADD 2). With **Switch S3 ON**, sound mode 1 is selected (Hi - Lo Sweep Tone). With **Switch S3 OFF**, sound mode 2 is selected (Hi Sweep Tone).

Low Current Mode.

Whilst using the sounder in Parallel (non-NovActive) mode, **DIP Switch S2** (ADD 1) may be used to control the sounder current. With **S2 ON**, the sound output will be reduced to *106dB 150mA. With the **S2 OFF**, the sound output will be *112dB 350mA. (*Assuming single piezo head).

Additional Features whilst in Serial Mode (NovActive)

Low Current Mode.

Whilst using the sounder in Serial (NovActive) mode, linking TMPF to 0V may be used to control the sounder current. With TMPF connected to 0V, the sound output will be reduced to *106dB 90mA.

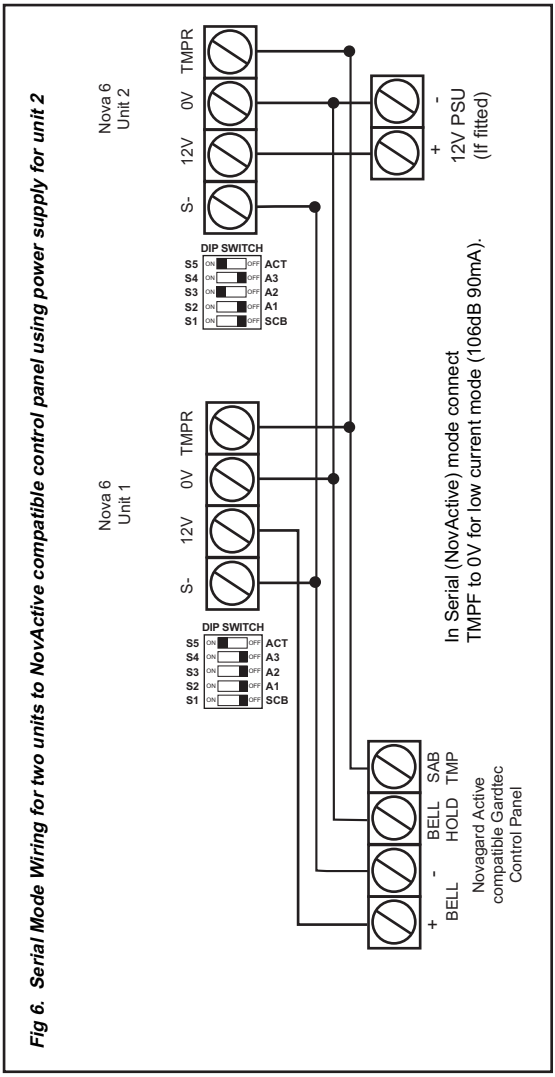


Fig 6. Serial Mode Wiring for two units to NovActive compatible control panel using power supply for unit 2

Fig 6b. Standard Mode Connection Details to control panel without Novagard Active
(Refer to Fig 1. for serial connection to a Novagard Active compatible control panel)

Sounder Terminals	0V	+12V	S -	TMPR	STR -	
Panel Models/Manufacturers						
Gardtec 350 / 350+	BELL HOLD	Bell+	Bell-	SAB TMP	STROBE-	*See Fig 7*
Gardtec 580 Series 360/370/800 & 59x Series	BELL HOLD	Bell+	Bell-	SAB TMP	STROBE-	*See Fig 7*
ADE Optima	A	D	B	T	Strobe-	
Scantronic	0V	+12V	Bell	TR	STR	
Menvier	HO-	HO+	Trig-	TR-	STB	
Digital Audio (DA Systems)	OV	HD	BT	AT	ST	
Pyronix	B-	B+	BA	BT	STB-	
Texecom	D	A	B	C	S	
A1 (Omnicron)	SCB OV	Bell Siren+	Bell Siren-	SCB RT	Strobe-	
Castle	HO-	HO+	B-	ST	S-	*See Fig 8*
Ademco	Bell Tamp-	Bell +	Bell -	Bell Tamp -R	STRB	

Fig 7 Standard Unmonitored Mode Wiring for Gardtec 350/350+/360/370/580/800 Connections.

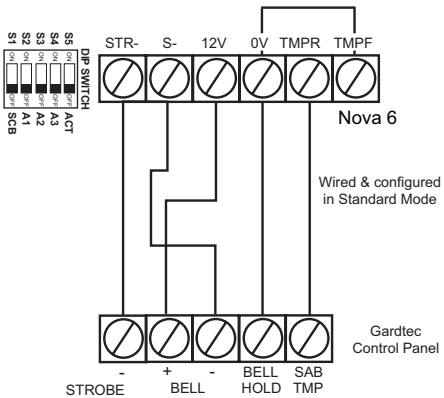
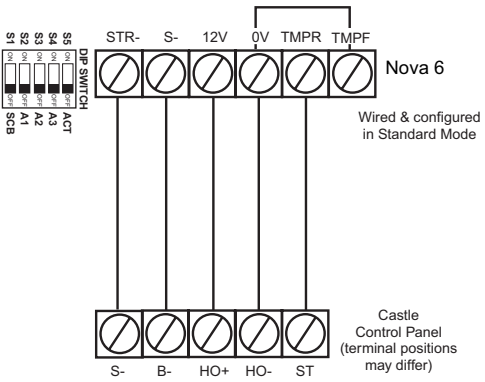


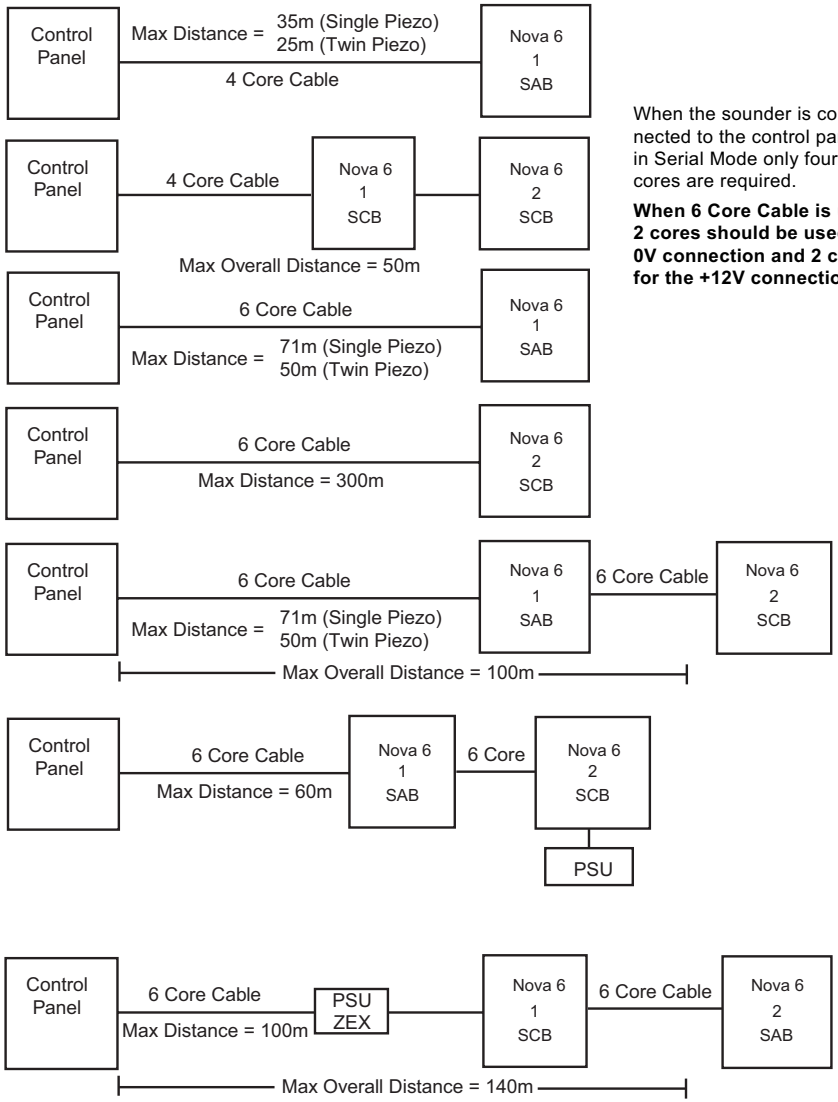
Fig 8 Standard Unmonitored Mode Wiring for Castle Connections.



In Standard Mode (non NovActive) the TMPF terminal must always be linked to 0V.

Recommended Cable Distances
Using 7/0.2 Alarm Cable
In Serial Mode

Standard 7/0.2 alarm cable gives some limitations to the distance that a sounder may be wired away from the control panel for reliable operation. This limitation may be overcome by increasing the number of cores used for the 0V and 12V feed to the sounder.

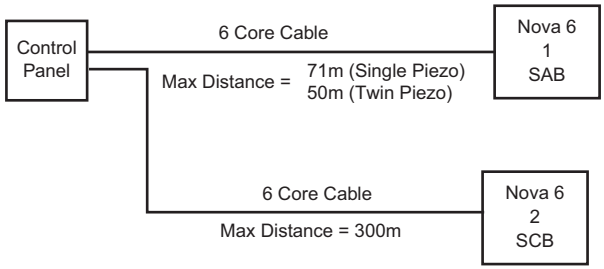


When the sounder is connected to the control panel in Serial Mode only four cores are required.

When 6 Core Cable is used, 2 cores should be used for 0V connection and 2 cores for the +12V connection.

Recommended Maximum Cable Distances (single sounder)			
Cable Type	**No. of Cores**	**Distance / SAB**	**Distance / SCB**
4 Core 7/0.2	1 x 0V ; 1 x 12V	35m(1PZ) / 25m(2PZ)	100m
6 Core 7/0.2	2 x 0V ; 2 x 12V	71m(1PZ) / 50m(2PZ)	300m
The above assumes a typical 10Ω per 100m			
using standard alarm 7 / .02mm cable			

A maximum of two Nova 6 sounders may be fitted to a single system, the illustration below is an example of a typical system using the maximum number of Nova 6 sounders.



Technical Specifications		
	Single Piezo	Twin Piezo
Quiescent Current	23mA	23mA
Sounder Current	350mA (Regulated)	450mA (Regulated)
Sounder Current (Quiet Mode)	114mA	184mA
Strobe Current	10mA	10mA

Wiring detail for two bell boxes wired in Standard Mode