



NANO 3G

Engineers Manual

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Version 1.0

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www.webwayone.co.uk
www.webwayworld.com

Quick start for Communicator Nano

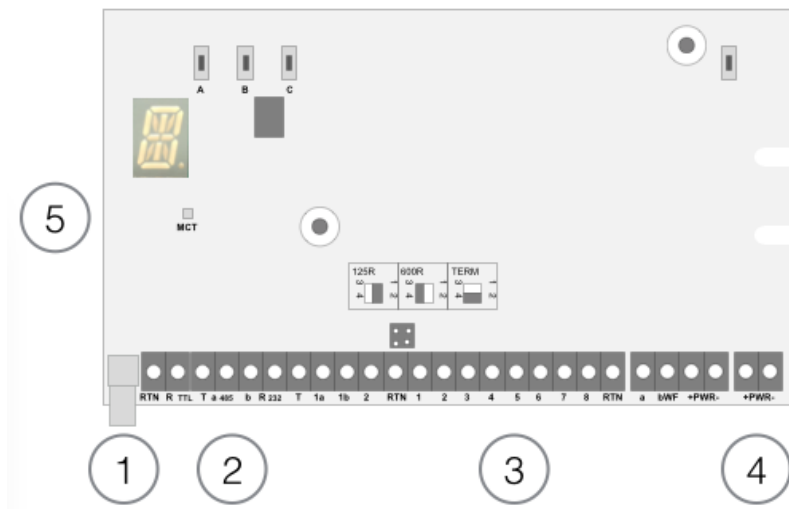
First configure your WebWay Communicator Nano using www.webwayworld.com. If you are not using WebWay World go to Page 10 for manual configuration. Follow the instructions below and when the status lights are green you are connected to the WebWay World platform.

You can use your Nano for just remote management of your alarm panel, or send alarms to your preferred ARC.

Connecting the Nano using your panel's serial data bus output enables UDL over 3G/GPRS.

To add alarm signalling you must have selected your preferred ARC and obtained a Site ID/Chip Number from your ARC. This information must be entered into the Site Creation form in WebWay World.

Instruction	3G/GPRS
Fit antenna.	1
Wire panel connection (serial connection shown).	2
Connect any hardwire pins required.	3
Connect 12V or 24V power supply.	4
Check for green LED lights.	5



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Terminology

SPT	Secure Premises Transceiver. Your WebWay signalling device.
RADIO	Your SPT is 3G single path. It is provided with a Radio Module (hardware) that supports all 3G/EDGE/GPRS Radio networks and frequencies. Connected to the Radio Module is our Micro SIM which is registered to all mobile/radio network providers.
ROAMING	Your SPT will automatically hunt across the available 3G/EDGE/GPRS networks to achieve an acknowledged poll from the WebWay receivers. WebWay's unique network scanning protocol is designed to ensure that the WebWay can achieve bi-directional communication with the WebWay receivers.
ATS	Alarm Transmission System (ATS). Your Nano 3G is a single path ATS using 3G/GPRS communications as the Alarm Transmission Path (ATP).
ATP	Alarm Transmission Path. A Single Path SPT has 2 routes to the WebWay receivers. (e.g. you Nano has 2 3G/GPRS delivery routes). A route is called an Alarm Transmission Path.
MCT	Monitoring Centre Transceiver. WebWay's connection management and alarm routing platform.
RCT	Receiving Centre Transceiver. WebWay's receiving servers installed within an ARC which uses our hosted platform.

Product description

WebWay Nano is a single path 3G/EDGE/GPRS communications device. Nano can be used for remote panel servicing only (UDL), without the need for an ARC connection, or UDL with alarm signalling to your preferred ARC. The Nano polls the WebWay servers every 30 minutes. Configure your network reporting time in WebWay World Site Creation to Grade 2 24 hour, Grade 3 5 hour or Grade 3 1 hour.

Basics of site surveys ... Radio

<p>WebWay Nano 3G is provided with a Radio Module which operates GSM/GPRS/EDGE/3G.</p> <p>The SIM is registered to local network (check on line for a full list of partners) e.g. UK O2, Vodafone, Orange, T-Mobile.</p>	
<p>3G services operates at frequencies which penetrate material/buildings better than 2G (EDGE/GPRS).</p> <p>Signal strength readings are less important with 3G than 2G.</p>	
<p>Electronic Radio Signal Survey</p>	<p>Open Signal is a free of charge website/mobile application.</p> <p>Open Signal provides signal strength readings from users mobile phone Apps. You can check 3G and 2G services for the site post code on line (remotely) or via the Open Signal App (free download). The site and App will show you the base stations locally, their geographic position etc. The App will record your data to benefit all Open Signal App users.</p> <p>www.opensignal.com</p> <p>You can also check the coverage of individual operators using their website links.</p>
<p>Interference</p>	<p>Check the location in which the SPT will be installed. Avoid installation next to other electronic/wireless devices and in basements/underground.</p> <p>A range of antenna are available.</p>

SIZE

Check the size (mm)	<ul style="list-style-type: none">- Nano platform is 70W x 110L x 14H, weight is 110 grams <p>Other WebWay SPTs are:</p> <ul style="list-style-type: none">- Pro platform is 89 x 157mm, weight is 175 grams.- Mini platform is 89 x 107 mm, weight is 125 grams.
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Physical Installation, Auto Take On and Troubleshooting

Installation, Auto Take On and trouble shooting procedures are identical for Pro and Mini formats.

- Your WebWay is designed to automatically configure itself (Auto Take On).
- Submit your configuration online (using your www.webwayworld.com log in).
- Follow the steps in the Quick Start Guides and the WebWay will download it's configuration and commission ready for you to test signals to the ARC.

How to use the buttons

Use button A or B to scroll through menu's to select numbers or letters when in entry mode.

Use button C when a menu is selected to start entering data. Use button C again to finish data entry.

STEP	SELECTING A MENU AND ENTERING DATA	
	HOW TO SELECT A MENU	WHAT YOU SEE
1	Tapping A will scroll the menu backwards.	... D,C,B,A,9, 8,7,6 ...
2	Tapping B will scroll the menu forwards.	... 7,8,9,A, B,C,D ...
	HOW TO ENTER DATA	WHAT YOU SEE
3	Hold down C button when your preferred menu is displayed to select that menu.	The name of the menu scrolls in the display followed by underscore “_”.
4	Tap either A or B to scroll to the menu.	e.g. “... D,C,B,A,9, 8,7,6 ...”
5	Tap C to select and save the value you want.	Display returns to “_” for next value selection.
Repeat from Step 1 to select and enter all your data.		
	HOW TO FINISH DATA ENTRY	WHAT YOU SEE
6	Tap C twice	Display shows rotating dashes as your data is saved and return to the menu number.
You can check your data entry by tapping C again. Your saved data will scroll through the display.		

Installing your WebWay Nano

STEP	ACTION	HELP
<p>Once you have purchased your WebWay Nano you can configure it using www.webwayworld.com. Select either “Unmonitored (UDL only)” or “Monitored (UDL and alarm monitoring)”.</p>		
<p>PHYSICAL INSTALLATION</p>		
<p>The WebWay is fitted with a plastic base for installation in your chosen alarm panel using the adhesive pads provided and or/a single screw tab. In some cases the WebWay will be provided in its own boxed PSU, either fix the WebWay into the alarm panel using the adhesive pads or fix the box system to the wall following the instructions provided with the enclosure.</p>		
1	<p>Disconnect power/turn off power from the intended feed to the SPT.</p>	
2	<p>Fit supplied antenna.</p> <p>Tips:</p> <ol style="list-style-type: none"> i. Do not affix the aerial until you have confirmed radio path operation. ii. Do not coil the aerial cable tightly. iii. Take care not to crush the antenna cable with clips or tie wraps. iv. Do not put the aerial inside the panel enclosure. v. Where you are replacing a system with a WebWay we can provide an SMA to MMCX convertor so that you can reuse the existing antenna. 	
3	<p>Connect to panel serial data bus.</p>	
	<p>Connect any inputs/outputs.</p>	
	<p>Connect WebWay Remote Pins board(s).</p>	
5	<p>Connect to power and initialise. +ve feed to the SPT +PWR terminal. -ve feed to the SPT PWR- terminal.</p>	
	<p>Your WebWay is downloading it's configuration. The display will read out the messages below until you input more information, access a menu or leave the unit alone for 30 minutes.</p>	

Your WebWay Nano will display as follows on reboot

SPT will scroll through these messages in order until “All OK” or will stop and continue to scroll the message related to that status.	
Firmware version	The software version running on the SPT.
“-“	Simply separates the firmware version readout from the radio readout.
SIM not ready	The SIM is initialising.
0 to A or “no GSM”	The SIM has initialised. GSM signal strength is read as between 0 and A (representing a 10). “no GSM” indicates the device is not yet registered for GSM.
0 to A or “no GPRS”	The SPT has scanned the radio networks and will indicate whether it sees radio data services from the local cells. GPRS signal strength is read as between 0 and A (representing a 10). no GPRS indicates the device is not yet registered for radio data (3G/EDGE/GPRS).
0 to A 3G	E.g. Displays “4 3G” when the SPT is operating on 3G signal of 4. 3G signal strength is read as between 0 and A (representing a 10). no 3G indicates there are no 3G services locally.
0 to A 2G	E.g. Displays “4 2G” when the SPT is operating on 2G (EDGE/GPRS) signal of 4. 2G signal strength is read as between 0 and A (representing a 10). no 2G indicates there are no 2G services locally.
“2G All OK” or “3G All OK”	SPT is fully commissioned and signalling on all available paths. If showing “2G All OK” the device does not have local 3G services at this time. Displays after 30 minutes of no other inputs to the display.

Manual configuration

STEP	ACTION	HELP
<p>Once you have purchased your WebWay Nano you can configure it using www.webwayworld.com. Select either “Unmonitored (UDL only)” or “Monitored (UDL and alarm monitoring)”.</p>		
<p>PHYSICAL INSTALLATION</p>		
<p>The WebWay is fitted with a plastic base for installation in your chosen alarm panel using the adhesive pads provided and or/a single screw tab. In some cases the WebWay will be provided in its own boxed PSU, either fix the WebWay into the alarm panel using the adhesive pads or fix the box system to the wall following the instructions provided with the enclosure.</p>		
1	<p>Disconnect power/turn off power from the intended feed to the SPT.</p>	
2	<p>Fit supplied antenna.</p> <p>Tips:</p> <ol style="list-style-type: none"> i. Do not affix the aerial until you have confirmed radio path operation. ii. Do not coil the aerial cable tightly. iii. Take care not to crush the antenna cable with clips or tie wraps. iv. Do not put the aerial inside the panel enclosure. v. Where you are replacing a system with a WebWay we can provide an SMA to MMCX convertor so that you can reuse the existing antenna. 	
3	<p>Connect to panel serial data bus.</p>	
	<p>Connect any inputs/outputs.</p>	
	<p>Connect WebWay Remote Pins board(s).</p>	
5	<p>Connect to power and initialise. +ve feed to the SPT +PWR terminal. -ve feed to the SPT PWR- terminal.</p>	

6	<p>Enter the Site ID from your ARC using the buttons. Enter the Site ID from your ARC using the buttons. Scroll to menu D.</p> <ul style="list-style-type: none"> - Press and hold button C until “_” is on the display to go to entry mode. - Enter your Site ID using A and B to select each digit, pressing button C each time to save. - After the final digit is saved press button C again. - A moving circle is displayed temporarily. - The display returns to menu D. 	
	<p>How to check the Site ID</p> <ul style="list-style-type: none"> - Press button C. - Scroll to Menu D. - Your Site ID will be played on the display. 	
8	<p>Press the Reset button.</p>	
	<p>Your WebWay is downloading it's configuration. The display will read out the messages below until you input more information, access a menu or leave the unit alone for 30 minutes.</p>	

Testing signals to the ARC

SIA signalling

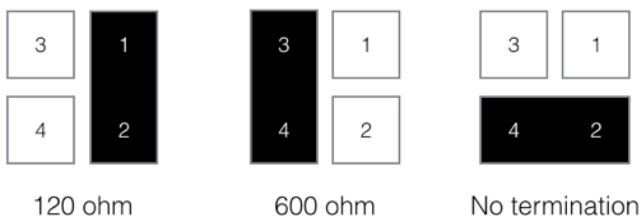
You will need to be connected to the panels serial bus. If you need help go to WebWay World for detailed instructions for your panel, including videos.

When using RS485 connectivity

Jumper 1 & 2 = Termination of the RS485 bus at 125ohms

Jumper 3 & 4 = Termination of the RS485 bus at 600ohms

Jumper 4 & 2 = No Termination of the RS485 (Default)

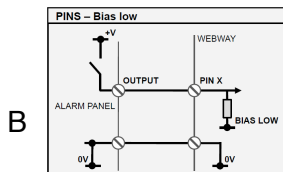
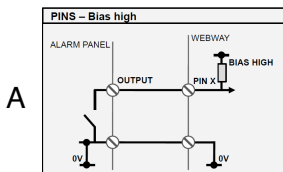


STEP	DESCRIPTION
1	Log out of the panel's Engineering Mode if required.
2	Activate the alarm system. Trigger all necessary signals as true alarms.
	<p>Tip If you have a WebWay World log in you can view all your alarms on your mobile phone, tablet, laptop or even the customers PC with internet connection.</p> <p>Call the ARC to verify when you are satisfied that alarms are being sent.</p>

Hardwire inputs (Nano)

Diagram A: Pins 1-8, high. Input threshold high-low 2.0V DC (max input: 30V DC)

Diagram B: Pins 1-8, low. Input threshold low to high 4.0V DC (max input 30V DC)

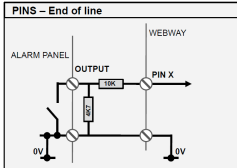


Standard input configuration

Pin	Code	Alarm text	Restore code	Restore text	Alarm number	Pin sense
1	FA	Fire alarm	FR	Fire restore	8001	-
2	PA	Panic alarm	PR	Panic alarm restore	8002	-
3	BA	Intruder alarm	BR	Intruder restore	8003	-
4	CL	Close	OP	Open	8004	-
5	BB	Burglar bypass	BU	Burglar unbypass	8005	-
6	IA	Equipment fault	IR	Equipment fault restore	8006	-
7	BV	Intruder confirm	BW	Intruder confirm restore	8007	-
8	LB	Engineer mode	LX	Engineer exit	8008	-

EOL inputs wiring

Alarm and restore conditions may be reversed.



For hardware inputs 1-8 configured as EOL	
STATE	EOL WIRING
Alarm	10K +/- 5%
Restore	14k7 +/- 5%
Open circuit loop	> 100k ohms
Short circuit loop	< 5 ohms
Tamper conditions	Loop between > 5 ohms and < 10k ohms -5%
	Loop between > 10k ohms + 5% and < 14k7 ohms -5%
	Loop between > 14k7 ohms +5% and < 100k ohms

Testing paths

During a site inspection it is useful to be able to send “Test Alarms” over each path which do not get delivered to the ARC. You can instruct the SPT to send “Test Path” messages over each of it’s transmission paths using the buttons.

BUTTON	WHAT TO DO	WHAT IT DOES
A	Press until S appears in display	Selects Test Path mode.
C	Press and release	Sends test alarms over each path.

Simulating path faults/failures

You can fail the transmission paths without disconnecting the aerial.

Kill paths using buttons*

BUTTON	WHAT TO DO	WHAT IT DOES
A or B	Press either to scroll to menu N or O.	Scrolls you to the menu N:Primary interface failure control. O:Secondary interface failure control.
C	Press C when you have menu N or O on the display.	Selects the menu and displays the current state. “PRI Fail = Yes” or “PRI Fail = No”
C	Hold C and you will see “_” sign.	Ready to fail path.
A or B	Pressing A or B will toggle between “Y” or “N”.	Selecting Y will fail the path selected. N will restore the path.
C	Press C to confirm selection.	Display shows rotating dashes as your data is saved and return to the menu number.

*v1.10 - SPT Firmware (minimum)

Signalling ATS faults to the CIE using SPT outputs

Important note. Not all Outputs are used for each application. Wire as per table.

PIN OUTPUT	SIGNAL	DESCRIPTION
EN50131 I&HAS Mode 1		
1	Radio failure	Single signalling path failure.
EN50131 I&HAS Mode 2		
1	Catastrophic failure	<ul style="list-style-type: none"> - SPT failure. - No communications paths available.

Trouble shooting the Radio transmission path

The SPT provides detailed diagnostics using LEDs and the Display to prove the cause of a Radio network problem. If you have a WebWay World login you can see diagnostics in your browser. You can identify if the problem is with:

- The SPT configuration.
- SPT Radio Module, Micro SIM and it's configuration.
- Local cell signal strength.
- The communications between SPT and WebWay MCT receivers.

PART NUMBER	ANTENNA TYPE	DESCRIPTION
Supplied with SPT	T-Bar	<ul style="list-style-type: none"> - Provided as standard with the SPT. - 3.0 meter cable length. - Suitable for the majority of installations where Radio coverage is good. - Not suitable for outdoor use.
07-0049	Disc antenna	<ul style="list-style-type: none"> - Tuned antenna, 2.5m. - Suitable where the Radio coverage is known to fluctuate. - Not suitable for outdoor use. - A chargeable upgrade.
22-5049 - 5M 22-5049 - 10M 22-5049 - 15M 22-5049 - 20M	High gain antenna	<ul style="list-style-type: none"> - Use where the Radio reception at the installation site is poor. - Extends fixing point of antenna by 5, 10, 15 or 20 meters from the SPT. - Suitable for external use.

If you are replacing a signalling device which has an antenna and the signal reception is known to be good you can connect it to your SPT. You may require an SMA to MMCX convertor which can be purchased from WebWay.

Tips

- Avoid installation near
 - electrical conduits.
 - devices which may cause interference such as electrical/radio/wireless
- Installations below ground will require
 - a High Gain antenna or re-positioning of the SPT.
- Do not coil the antenna cable for T-Bar, Disc or High gain.
- Take care not to crush the antenna cable with clips or tie wraps.
- Do not extended or shorten the cable yourself.
- Do not put the aerial inside the panel enclosure.

Display readings for Radio transmission path

During installation the SPT's display will read out the messages in the order below. When attending site to fix a problem the SPT display will be reading out one of those messages. If the display is asleep (off), tap the A button once and the display will light up.

Tips

- Do not affix the aerial until you have confirmed radio path operation.
- Do not coil the aerial cable tightly, crush the antenna cable with clips or tie wraps or put the aerial inside the panel enclosure.
- If replacing a system with a WebWay order our SMA to MMCX convertor to use existing antenna.
- 3G Radio frequencies which provide improved material/building penetration.
- 3G Radio will operate well at signal strength readings below that of 2G.
- GPRS is a low frequency service.
- Without good reception performance may be poor.
- Attempt to achieve a signal strength indication of 3 or better.

RADIO MESSAGE	DESCRIPTION
Not ready	- SIM is initialising.
0 to A or "NO GSM"	- SIM has initialised. - GSM signal strength is read as between 0 and A (10). - "NO GSM" indicates there is no GSM signal
0 to A or "NO GPRS"	- SPT sees GPRS services from the local cells. - GPRS signal strength is between 0 and A (10). - "NO GPRS" indicates there is no GPRS service.
0 to A 3G	- SPT sees 3G services from the local cells. - 3G signal strength is between 0 and A (10). - "NO 3G" indicates there is no GPRS service.
0 to A 2G	- SPT sees GPRS services from the local cells. - GPRS signal strength is between 0 and A (10). - "NO GPRS" indicates there is no GSM service.
All OK	SPT is fully commissioned and signalling on all available paths. Displays after 30 minutes of no other inputs to the display.
ATS LED	The Radio signalling paths status is represented by 2 flashes of the ATS LED. In 3G/PSTN or 3G single path configuration the Radio paths are displayed first. In IP/3G configuration the radio paths are shown second. If showing Red-Red the SPT has no working Radio ATPs.

Checking the status of the Radio module and hardware

MESSAGE	DESCRIPTION AND ACTION
Display off	<ul style="list-style-type: none"> - SPT has no power. - SPT has been inside the tamper proof enclosure, "Display Unlit" mode. - Tap any button and the display will light up.
All OK	<ul style="list-style-type: none"> - SPT is operational on all paths.
no module	<ul style="list-style-type: none"> - SPT Radio Module is missing/faulty. - Call WebWay.
no signal	<p>No radio signal is being received from any network on 3G/EDGE/GPRS.</p> <ul style="list-style-type: none"> - Re-position WebWay and/or antenna. - Purchase a Disc or High Gain antenna from WebWay.
phone fault	<ul style="list-style-type: none"> - SPT Radio module is in fault. - Call WebWay.
SIM error	<ul style="list-style-type: none"> - SPT SIM is in fault. - Call WebWay.
no PIN	<ul style="list-style-type: none"> - WebWay supplied SIM has been incorrectly configured. - Call WebWay. - Non WebWay SIM requires a PIN and none is configured. - Call the supplier of the SIM.
PIN error	<ul style="list-style-type: none"> - WebWay supplied SIM has been incorrectly configured. - Call WebWay. - Non WebWay SIM requires a PIN and it is incorrectly configured. - Call the supplier of the SIM.
PUK error	<ul style="list-style-type: none"> - An incorrect PIN has been sent to the SIM to unlock it. - SPT is now locked and will not operate over Radio. - SPT now requires a PUK code sent to it. - Call WebWay for our own supplied SIMs. - Call the supplier of the SIM if a non WebWay SIM.
not ready	<ul style="list-style-type: none"> - SPT Radio module is being initialised. - No action required.
unknown error	<ul style="list-style-type: none"> - SPT Radio module has received an unidentified/non standard network CME error message from the mobile network. - Call WebWay.

Trouble shooting sending signals

If signals are not being received at the ARC you can use the LEDs, display and WebWay World to check the configuration of the device and receivers for the following:

- SPT Power.
- SPT Commissioned state.
- Operation of ATPs.
- Message acknowledgement/queuing.
- Site ID

CHECK	DESCRIPTION
Power	<ul style="list-style-type: none"> - Display will light up and read out the radio service and signal strength. - If the display does not light up: <ul style="list-style-type: none"> - check the power supply feeding the SPT. - check the AUX fuses and power cables. - If the SPT does not respond the unit may be faulty. Call WebWay Support.
Commission state	<p>Alternative red/green</p> <ul style="list-style-type: none"> - The SPT is registering with the MCT. - No action required. - If the alternating state persists call WebWay Support. - We will check the site details on the WebWay receivers. <p>Flashing green</p> <ul style="list-style-type: none"> - The SPT is successfully registered with the MCT. - No action required. - If the Flashing green state persists call WebWay Support. <p>Red</p> <ul style="list-style-type: none"> - Registration has failed. - Check the Site ID by ... - Scroll to Menu D and press button C to select. - Site ID will be played on the display. If incorrect, call WebWay Support.

Trouble shooting Pins

If you have a WebWay World log in you can check your original configuration on line.

STATUS	DESCRIPTION
Pins not triggering	<ul style="list-style-type: none"> - Change the polarity of the Pins if this does not resolve.
Reversed alarms	<ul style="list-style-type: none"> - Change the polarity of the Pins if this does not resolve call WebWay to check the configuration.
Bias settings	<ul style="list-style-type: none"> - Confirm the bias settings are correct (you can check this in Menu L).
Voltage	<ul style="list-style-type: none"> - Use a multimeter to check that the panel is generating a change of polarity.
Polarity	<ul style="list-style-type: none"> - Some panels allow the Pin Polarity to be changed via the keypad. - If the panel does not allow a polarity change fit a relay.

Learning the buttons, display menu and LEDs

How to use the buttons

Use button A or B to scroll through menu's to select numbers or letters when in entry mode. Use button C when a menu is selected to start entering data. Use button C again to finish data entry.

STEP SELECTING A MENU AND ENTERING DATA		
	HOW TO SELECT A MENU	WHAT YOU SEE
1	Tapping A will scroll the menu backwards.	... D,C,B,A,9, 8,7,6 ...
2	Tapping B will scroll the menu forwards.	... 7,8,9,A, B,C,D ...
	HOW TO ENTER DATA	WHAT YOU SEE
3	Hold down C button when your preferred menu is displayed to select that menu.	The name of the menu scrolls in the display followed by underscore “_”.
4	Tap either A or B to scroll values.	e.g. “... D,C,B,A,9, 8,7,6 ...”
5	Tap C to select and save the value you want.	Display returns to “_” for next value
Repeat from Step 1 to select and enter all your data.		
	HOW TO FINISH DATA ENTRY	WHAT YOU SEE
6	Tap C twice	Display shows rotating dashes as your data is saved and return to the menu number.
You can check your data entry by tapping C again. Your saved data will scroll through the display.		

Menu structure

MENU	MESSAGE	DESCRIPTION	CONFIGURABLE
1	IP-Addr =	SPT's local (LAN) IP address.	Yes
2	IP-Port =	SPT's local (LAN) IP port.	No
3	GW-IP-Add =	IP address of the destination WebWay receiver.	No
4	GW-IP-Port=	IP port at the destination WebWay receiver.	No
5	Router=	Local router IP address.	Yes
6	NetMask=	Local network subnet mask.	Yes
7	GSM-Pin=	SIM card PIN number.	No
8	GSM-PUK=	SIM PUK code.	No
9	Panel=	Alarm panel type for connection.	Yes
<p>If a panel type is selected but the SPT and panel are not connected (serial bus or modem capture) this menu will read out "Panel Lost".</p>			
A	Path=	Networks that the SPT will use in priority order.	No
B	PINS=	Status of each Pin. R=Restore. A=Alarm.	No
C	Rem-Access=	Remote access value.	No
D	Account=	ARC account number.	Yes
<p>This is the Chip Number or Site ID provided by the ARC to monitor this premises.</p>			

E	SerialNum=	Serial number of the SPT.	Locked
F	GPRS-Access=	Access Point Name for Radio paths.	No
G	GPRS-User=	User name for the APN configured in F.	Locked
H	GPRS-Pass=	Password for the APN configured in F.	Locked
I	Callback=	PSTN callback number for SPT commissioning.	Locked
J	GSR-Code=	Sets the GSR code for Guardall panels.	Yes
K	HKC-Code=	Sets the security code for HKC panels.	Yes
L	Pin-Bias=	Reads and sets the inputs bias.	Yes
M	Alt-Disp=	Change display to show alternative transmission path statuses.	Yes
N	Pri-Fail=	Fails the primary transmission path. Times out after 15 minutes if not manually cleared.	Yes
O	Sec-Fail=	Fails the secondary transmission path. Times out after 15 minutes if not manually cleared.	Yes
P	Pri-Status=	Reads out status of primary interface.	Yes
Q	Sec-Status=	Reads out status of secondary interface.	Yes
R	Panel-Status=	Reads out status of panel interface.	Yes
S	Paths-Test=	Sends signals over all paths for testing.	Yes

LED Lights & their meanings

STATUS	DESCRIPTION
MCT LED	<ul style="list-style-type: none"> - Located under the 3 buttons on the left hand side of the SPT. - The third bi-colour LED, just under and between buttons B and C. - Labelled "MCT" (Monitoring Centre Transceiver). - See arrow "Communications indicators", Quick Start.
Alternative red/green	The SPT is registering with the MCT.
Flashing green	The SPT is successfully registered with the MCT.
Red	Registration has failed.

Annex A - Compliance statement - SPT - EN 50136

WebWay Nano shares the same core software and hardware as our Pro and Mini solutions. Nano is designed to comply with all European standards.

EN 50136-2:2013 requires the following information is to be provided.

1. The WebWayOne range of SPTs are manufactured and supplied by WebWayOne Ltd whose registered address is:

11 Kingfisher Court
Hambridge Road
Newbury
Berks RG14 5SJ
United Kingdom

2. The product description is provided elsewhere in this document.

3. The WebWayOne range of SPTs are compatible with the WebWayOne Alarm Transmission System RCTs.

4. The WebWayOne range of SPTs are compliant with the requirements of EN 50136-1:2012 and EN 50136-2:2013 and all relevant standards referred to from these documents.

5. The WebWayOne range of SPTs are suitable for use in ATS security grades 1, 2, 3 and 4 as defined in EN 50131-1:2006+A1:2009.

6. The WebWayOne range of SPTs are suitable for use in environmental classes 1 and 2 as defined in EN 50131-1:2006+A1:2009.

7. Information on the power requirements for the product range is provided elsewhere in this document

8. The WebWayOne range of SPTs support the following Alarm System (AS) interfaces as defined in EN 50136-2:2013:

Parallel interface (hardwire pin inputs) - supervised (EOL) and non-supervised operation supported. Full details provided elsewhere in this document

Serial interface - the following serial interface types are supported:

RS485

2 wire multi-drop RS485 interface - SPT operates as a slave device as defined by the RS485 interface specification. The interface supports data rates up to and including 115 200bps. The messaging protocol is defined by the AS model connected. AS interface failure determined by failure of the AS messaging protocol.

RS232

3 wire (Tx data/Rx data/signal reference) point to point interface. The interface supports data rates up to and including 115 200bps. The messaging protocol is defined by the AS model connected. AS interface failure determined by failure of the AS messaging protocol.

TTL

3 wire (Tx data/Rx data/signal reference) point to point interface. The interface supports data rates up to and including 115 200bps. The messaging protocol is defined by the AS model connected. AS interface failure determined by failure of the AS messaging protocol.

Modem Capture (via the ModemCaptureModule)

Interface emulating a 2 wire POTS (plain old telephone service) providing line voltage, ring and all necessary supervisory signals. DTMF dial signalling only supported. AS interface failure detected by a break in the 2 wire connection. Alarm signalling modes supported:

Ademco FastFormat (BSIA Form No. 255),
Contact ID (SIA DC-05-1999.09),
SIA level 1/2/3/4 (SIA DC-03-1990.01 (R2003.10))

9. The WebWayOne range of SPTs are compatible with the EN 50136-3:2013 compliant WebWayOne Alarm Transmission System (ATS).

10. In all configurations the WebWayOne range of SPTs can signal ATS faults to the AS via a parallel output conforming to the requirements of EN 50136-2:2013 Annex A1.3.3. In addition where it is supported by an AS connected via a serial type interface the SPT can signal the ATS status across the interface in the messaging protocol specific to that AS type and model.

Options are also available for the SPT to signal individual transmission path type faults in accordance with the requirements of EN 50136-1:2012 Table 5 (ATP status reporting is optional for DPx configurations).

11. The WebWayOne SPT supports three transmission interface types - Ethernet(Broadband), GSM/GPRS (2G/Edge/3G) and POTS/PSTN. The SPT can be configured to operate with the following transmission interface configurations:

Ethernet(Broadband) only

GSM/GPRS/EDGE/3G (2G/Edge/3G) only

Ethernet(Broadband) with GSM/GPRS (2G/Edge/3G) as alternate

GSM/GPRS/EDGE/3G (2G/Edge/3G) with POTS/PSTN as alternate

Ethernet(Broadband) with POTS/PSTN as alternate

For each transmission interface type a set of parameters are monitored to ensure that the interface is operating within the reporting time requirements for the configured ATS category.

Ethernet (Broadband)

Wired Ethernet interface, 10BaseT/100BaseT, full/half duplex, auto MDI/MDIX. SPT local interface monitoring to confirm connection to a LAN. End to end polling between SPT and RCT interfaces to confirm working transmission network. Interface status timeouts and end to end polling rates appropriate to the reporting time requirements configured.

GSM/GPRS (2G/Edge/3G)

GSM radio interface supporting worldwide interface standards across all appropriate radio bands. SPT local interface monitoring to confirm connection a valid and operational GSM service. Includes monitoring of signal strength, service registration, IP address assignment and active data service session. End to end polling between SPT and RCT interfaces to confirm working transmission network. Interface status timeouts and end to end polling rates appropriate to the reporting time requirements configured.

POTS/PSTN

Wired POTS interface. SPT local interface monitoring to confirm connection to serviceable telephone line. End to end polling between SPT and RCT interfaces to confirm working transmission network. Interface status timeouts and end to end polling rates appropriate to the reporting time requirements configured.

12. The WebWayOne SPT and alarm transmission system operates in the store-and-forward mode of operation as defined in EN 50136-2:2013 section 6.1.2.

13. Substitution security - Communications between the RCT and the SPT are protected from substitution by including an SHA-1 hash in every message with the content of the message hashed together with a shared secret known only to the SPT and the RCT. The shared secret is unique to each SPT irrespective of the RCT it is signalling to.

14. Information security - the SPT/RCT message payload is encrypted using AES128 in counter mode where the nonce is recalculated and is unique for each message. The session key is negotiated between SPT and RCT when communication is established and is created from the SPTs unique key, known only to the SPT and RCT, and other random sources. The key is unique to each SPT irrespective of the RCT it is signalling to.

Availability classification

In all configurations the WebWay Alarm Transmission System will identify ATS that do not meet availability classification as specified in the EN50136-1:2012 ATS Category that has been selected or configured.

The WebWay Alarm Transmission System provides management information systems so that ATS's not meeting the necessary performance levels can be identified and steps taken to resolve the causes. WebWayOne issues regular reports for Alarm

Companies to maximise the availability of all ATP and ATS

Fault detection and reporting - General

The WebWay SPT shall detect all appropriate fault conditions within the times specified in EN 50136-2:2013. These include failure of the interconnection between the SPT and the CIE. Typically fault conditions are detected in less than 10 seconds and reported within the normal alarm transmission times.

Input and output signal requirements

The specification of the various inputs and outputs to the WebWay SPT are as follows:

GSM/GPRS/3G interface - In compliance with the statutory requirements for this type of interface.

Serial panel interface – RS232 configuration – compliant with the electrical specification for this type of interface (RS232 – V24/V28) at the data rate for the panel configuration used.

Serial panel interface – RS485 configuration - compliant with the electrical specification for this type of interface (RS485/RS422) at the data rate for the panel configuration used.

Serial panel interface – TTL configuration – compliant with a TTL type interface running on a 3.3V supply rail but tolerant to 5.0V logic levels at the data rate for the panel configuration used.

Hardwired outputs – open collector outputs requiring an external pull up load or volt free relay contacts depending on the model of SPT. Maximum current sink per output is 30mA. Maximum voltage, output terminal to ground, is 30VDC.

WebWay Pro – 3 x Volt free relay outputs

WebWay Mini – 3 outputs: 1 is Volt free and 2 are Open collector

WebWay Nano

Hardwired inputs 1 to 8 – In ‘End of Line’ mode the inputs will detect and report open circuit, short circuit, alarm and restore states.

Open circuit	loop >100k
Short circuit	loop <5R
Alarm state	10k +/-5%
Restore state	14k7 +/-5%
Tamper	5R < loop < 10k-5%
	10k+5% < loop < 14k7-5%
	14k7+5% < loop < 100k

Power requirements - General

The WebWay SPT will operate from any power source in the range 10 to 35VDC. It will not operate from an AC voltage source.

Current consumption

Average current quoted is a typical figure measured over a 30minute period.

Pro - 24V - Ethernet/GPRS (no MCM) (3G)

Idle - average 60mA, Max 95mA (peak with GPRS active)

Annex C - Compliance statement - SPT - EN 50131-10:2012

EN 50131-10:2012 requires the following information is to be provided.

- 1) The product description is provided elsewhere in this document.
- 2) In order to meet the requirements of EN 50131-10 the SPT must be mounted in a EN 50131-3 or EN 50131-6 compliant housing.
- 3) Refer to the section on labelling and marking for details of the relevant certification bodies
- 4) The product is compliant for operation within the limits of Environmental Class II. This implies an operating temperature range of -10degC to +55degC, 93% humidity maximum.
- 5) Weights and dimensions are given elsewhere in this document
- 6) Details for fixing the SPT in its host enclosure are given elsewhere in this document
- 7) The product contains no user serviceable parts
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- 8) For terminal identifications refer to the diagrams and notes provided elsewhere in this document
- 9) Details for the average current consumption of the SPT are provided elsewhere in this document
- 10) Details of the peak current consumption of the SPT are provided elsewhere in this document.
- 11) ATS categories:

3G only SP5, SP4, SP3, SP2, SP1

12) Cable limits

In order to maintain compliance with the requirements of EN 50131-10 the following cabling limits apply to the installation of the Pro and Mini formats.

Connections to the following ports are limited to 30 metres maximum:

- Power connection
- GSM/GPRS/3G transmission interface (antenna cable)
- Hardwire outputs
- RS 485 alarm system (AS) interface
- RS 232 alarm system (AS) interface
- MCM alarm system (AS) interface

Connections to the following ports are limited to 3metres maximum:

- TTL alarm system (AS) interface
- Hardwire inputs (supervised and non-supervised configuration)

Connections to the following ports have no limit as far as compliance with EN 50131-10 is concerned. Operational limits may apply:

- Ethernet transmission interface
- PSTN/POTS transmission interface

Brands & Part Numbers

Brand	Part no.
Nano 3G + 1 month subscription	22-6089-NANO-1
Nano 3G + 6 month subscription	22-6089-NANO-6
Nano 3G + 12 month subscription	22-6089-NANO-12
Nano 3G + 24 month subscription	22-6089-NANO-24
Nano 3G + 36 month subscription	22-6089-NANO-36



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