IDS Xwave²
Quick Guide

SOUTH AFRICA'S LEADING MANUFACTURER AND DISTRIBUTOR OF ELECTRONIC SECURITY PRODUCTS

Introduction

The IDS X-Series Bi-directional Xwave² Hub offers an additional 16 wireless supervised zones and two programmable outputs. The hub can also learn up to 16 Xwave² Bi-directional remote transmitters. It is wired to the X-Series panel in the same way as all other peripheral devices, on the keypad bus.

Bi-Direction

When a defaulted Xwave² Hub is powered up it will register a unique Network ID (NID), this ID cannot be changed unless the hub is defaulted. When a detector learns to a hub it joins that Network ID and will only talk to that hub.

When a detector is triggered it will send a signal to the Xwave² hub and it will keep sending until it gets an acknowledgement from the hub.

1.Installation

Xwave^2 works on the IDS X-Series panels, versions 2.7 and above.

When installing multiple Hubs you should learn the detectors to the Hub closest to it to avoid any interference.

1.1.   Addressing

To address the Xwave^2 Hub, set the dipswitches as per the table below. Depending on what address is used on the Hub will determine the zone numbers it uses.
Note: The unit must be powered down when selecting the unit's address.

Binary value on switch	Hub zones
Dipswitch 1 up	1 -16
Dipswitch 2 up	17 - 32
Dipswitches 1 + 2 up	33 – 48
Dipswitch 3 up	49 - 64
Dipswitch 6 up	3 second button panic disabled

1.2.   XWave^2 and Other Wireless Expanders

The Xwave^2 Hub can work in conjunction with Xwave/Duevi. You can either have the Xwave^2 operating with a different address to an Xwave/Duevi Expander using a different zone range or, if needed, with the same address as an Xwave/Duevi Expander in which case it will share the zone range.

Remember you can only have 1 wireless device learnt to a zone, so if you have a Xwave detector learnt to zone 4, you cannot learn an Xwave^2 detector to zone 4. You will have to use another zone number or delete the Xwave detector in zone 4.

1.3.   Xwave^2 Hub Outputs

The Xwave^2 Hub has two onboard programmable outputs. The address of these outputs are based on the hubs ID.

Binary value on switch	PGM Address
Dipswitch 1 up	6 + 7
Dipswitch 2 up	8 + 9
Dipswitches 1 + 2 up	10 + 11
Dipswitch 3 up	12 + 13

1.4.   Xwave² Hub LEDs

There are 4 LEDs on the board marked "BEACON", "NETWORK", "TROUBLE" and "ALERT".

BEACON: LED will flash when transmitting information.
NETWORK: LED will show if there is any activity on the keypad bus.
TROUBLE: LED indicates current operating errors. If the LED is ON
continuously then there are no errors. However if there are errors it will start
pulsing the error number.
ALERT: LED will pulse to indicate a message is being received.

BEACON ☐
NETWORK ☐
TROUBLE ☐
ALERT ☐

1.5.   Xwave² Hub Trouble Display

The Xwave² Hub will indicate any errors by pulsing the Network or Trouble LED. The LED will
pulse according to the error number shown below.

Network Pulse Number:

Pulse	Error	Description
1	Learn Mode	The hub is in learn mode to add new devices to its network.
2	Remote Panic	A panic has been received from a remote transmitter.
3	Low Detector Battery	A detector has reported that its battery needs to be replaced.
4	Detector Tamper	A device has reported a tamper.
5	Supervision Loss	A device has not checked in at the required time.
6	Low Signal Strength	A device on the network has a very low signal strength.
7	Signal Jam	A signal at the same frequency has been detected and could interfere with signals to and from detectors.

Trouble Pulse Number:

Pulse	Error	Description
1	Dead Keypad Bus	There is no activity on the bus.
2	Not Registered	The hub has not been able or is waiting for the X-Series panel to be registered.
3	Not Receiving Messages	The hub is registered on the bus but is not receiving messages.
4	Invalid Dipswitches	Dipswitches are set to an unrecognised setting.

1.6.   Defaulting

If an Xwave² Hub has been registered to a panel it would have received a unique network ID
and to remove the hub and attached it to a different X-Series panel it must be defaulted.

To default the Xwave² Hub:
1. Remove all power
2. Put all dipswitches ON
3. Power the unit up and wait three seconds
4. Power the unit down

2. Location 260

All Xwave2 programming is done in location 260. Here you can learn a detector, delete a detector and change a detectors configuration.

2.1.   Learning an Xwave² Detector (Sub Location 1)

If a detector is not learnt to a hub it will send out join requests every 20 seconds.

There are two ways you can learn an Xwave² detector:

1. Go to Location 260 Sub Location 1, select the zone number and type in the serial number of the detector.

If the detectors serial code is listed in the hub then the hub will learn the detector once it receives a join request from that detector.

2. Go to Location 260 Sub Location 1, select the zone number and release the tamper of the detector.

A hub will only learn a detector if it receives the detectors join request with a tamper signal. If you have multiple defaulted detectors with their covers off then the hub will learn the first signal it gets. **NB: Only have 1 defaulted detector tampered at a time.**

There will be a slight delay when moving a detector from one hub to another. You can learn a learned detector to another hub by deleting the serial code from the existing hubs zone and then entering the serial code into the new hubs zone. The detector can take up to 3 mins to default once removed from the first hub, at which point it will join the new hub it is learned to.

2.2.   Deleting an Xwave² Detector

To delete a detector go to location 260 sub location 2, select the zone and press * to delete. The detector will default itself within 3 minutes allowing it to be learned to another hub.

2.3.   Xwave² Configuration Settings

Due to the intelligence of Xwave2 you can now change the detectors configuration settings, LED and Pulse count, from the X-Series panel.

Go to location 260 sub location 5, select the zone and enable/disable the bitmaps according to your needs. See bitmap values below.
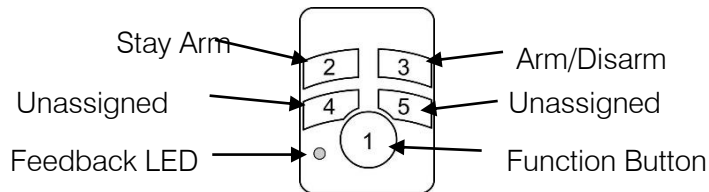
LED	Default	Action
1	ON	Detector LED
2	ON	On for a pulse count of 2 and Off for a pulse count of 4.

3.Remotes

The user menu is used to add/edit/delete remotes.

3.1. Remote Transmitter

Each remote transmitter has five buttons to control the alarm panel or query its status.

Stay Arm — 2 | 3 — Arm/Disarm
Unassigned — 4 | 5 — Unassigned
Feedback LED — 1 — Function Button

3.2. Defaulting

If the remote transmitter was learnt to a different bi-directional installation it must be defaulted before joining a new installation.

Defaulting procedure 1:
1. Remove the battery from the unit
2. Hold down button 1
3. Insert the battery while holding button 1
4. Release button 1.

Defaulting procedure 2:
1. Press and hold a remote transmitter button until it stops sending panics (Red Led comes on) when out of range or if the bi-directional hub is off.

3.3. Identifying a Remote Transmitter

To identify a bi-directional Xwave^2 remote transmitter.
1. Enter the Master User Menu
2. Scroll to menu [Identify BD Rmt] or enter [1][4][*]
3. Press a button on the remote
4. [#] to exit.

This feature will show you what user slot and what Hub the remote is learnt to. It is a great way to troubleshoot a remote and to see if it's already learnt to the system.

3.4. Adding the Remote Transmitter to a User code

To add a bi-directional Xwave^2 remote transmitter to a user code.
5. Enter the Master User Menu
6. Scroll to menu [Add Bidir Remote] or enter [1][6][*]
7. Enter the Hub that you are teaching the remote too
8. Enter the user code that will be paired with the remote
9. Press any remote button until the remotes ID is displayed
10. Press [*] to confirm
11. Enter the next user code if more than one remote is to be learnt or [#] to exit.

3.5. Allocating Remote Transmitter Buttons

To change the button functions:
1. Enter the Master User Menu
2. Scroll to menu [Edit BD Buttons] or enter [1][7][*]
3. Enter the Hub that the remote belongs too
4. Enter the user code that was paired with the remote
5. Scroll through the buttons until the button to be changed and press [*]
6. Scroll through until the function required and press [*] to confirm
7. Enter the parameter followed by [*] to confirm (The parameter will be the partition number or the output number.)

See a list of functions below:

Function	Parameter	Description
Unassigned	--	No function allocated.
Arm	Partition Number	Will only arm the partition allocated to button and user code.
Disarm	Partition Number	Will only disarm the partition allocated to button and user code.
Arm/Disarm	Partition Number	Will only arm or disarm the partition allocated to the user code.
Global Arm		Will only arm the partitions allocated to the user code.
Global Disarm		Will only disarm the partitions allocated to the user code.
Global Arm/Disarm		Will only arm or disarm the partitions allocated to the user code.
Stay Arm	Partition Number	Will arm the allocated partition in the current/last used stay profile.
Stay Arm Prof1	Partition Number	Will arm the allocated partition in stay profile 1 and then allow you to scroll to the next available profile if one is configured.
Stay Arm Prof2	Partition Number	Will arm the allocated partition in stay profile 2 and then allow you to scroll to the next available profile if one is configured.
Stay Arm Prof3	Partition Number	Will arm the allocated partition in stay profile 3 and then allow you to scroll to the next available profile if one is configured.
Stay Arm Prof4	Partition Number	Will arm the allocated partition in stay profile 4 and then allow you to scroll to the next available profile if one is configured.
Stay & Go	Partition Number	Will arm the allocated partition in the current/last used stay profile.
Stay & Go Prof1	Partition Number	Will arm the allocated partition in stay & Go in stay profile 1 and then allow you to scroll to the next available profile if one is configured.
Stay & Go Prof2	Partition Number	Will arm the allocated partition in stay & Go in stay profile 2 and then allow you to scroll to the next available profile if one is configured.
Stay & Go Prof3	Partition Number	Will arm the allocated partition in stay & Go in stay profile 3 and then allow you to scroll to the next available profile if one is configured.
Stay & Go Prof4	Partition Number	Will arm the allocated partition in stay & Go in stay profile 4 and then allow you to scroll to the next available profile if one is configured.
Duress Disarm	Partition Number	Will disarm the allocated partition and cause a duress condition in the alarm system and if configured the alarm will transmit the duress signal to the security company.
Panic	Partition	Will cause the alarm to go into a panic condition and if configured the alarm will transmit the panic signal to the security company.

Function	Parameter	Description
Medical	Partition	Will cause the alarm to send a medical alert signal to the security company if configured.
Fire	Partition	Will cause the alarm to send a fire alert signal to the security company if configured.
PGM Low	PGM Number	Will trigger the specified programmable output depending on the type of output, to switch from 12V to 0V or from a closed state to an open state.
PGM High	PGM Number	Will trigger the specified programmable output depending on the type of output, to switch from 0V to 12V or from an open state to a closed state.
PGM PulseL	PGM Number	Will trigger the specified programmable output depending on the type of output, to switch from 12V to 0V and back to 12V or from a closed state to an open state and back to a closed state. (Pulse length setup under the output properties.)
PGM PulseH	PGM Number	Will trigger the specified programmable output depending on the type of output, to switch from 0V to 12V and back to 0V or from an open state to a closed state and back to an open state. (Pulse length setup under the output properties.)
PGM Toggle	PGM Number	Will trigger the specified programmable output depending on the type of output, to the opposite of its current state. If at 0v will set to 12v, if at 12v will set to 0v. Toggling the PGM.

3.6.   Deleting Remote Transmitters

If a remote transmitter is lost or no longer used follow the following steps to delete the remote transmitter from the system.
1. Enter the Master User Menu
2. Scroll to menu [Delete BD Remote] or enter [1][8][*]
3. Enter the Hub that the remote belongs too
4. Enter the user code that was paired with the remote

3.7.   Remote Transmitter LED

The remote transmitter has bi-directional communication with the X-Series alarm panel and will display different information by changing the colour of the LED and flashing a number of times. The remote transmitter will respond with the status when you use a button or you can query the alarm panel and get feedback e.g. armed or disarmed, current stay profile, outputs.

To query status:
1. Press the function button. (Button 1)
2. Then press the button that is allocated to the function that is being queried
3. The LED will indicate the status.

Example to query the arm status of the alarm using the default button assignments:
Press button 1 (Function button) then button 3 (Arm/Disarm button). The led will flash white indicating transmitting message then blue if the alarm is ready to arm, red if armed or flash red if armed but a violation has occurred.

Colour	Description	Flash
White	Transmitting signal to the Xwave^2 Hub	
Alarm Status		
Blue	Ready to arm	
Yellow	Not ready to arm	
Red	Away Armed	Long
	Stay Armed in profile 1	1 short
	Stay Armed in profile 2	2 short
	Stay Armed in profile 3	3 short
	Stay Armed in profile 4	4 short
	Alarm has been triggered	15 flashes
Output Status		
Blue	Output is Off	
Red	Output is On	

4. Walk Test

The user menu is used to put the detectors in 'Walk Test'.

Walk test mode will put certain capable devices into walk test mode from the X-Series keypad. Once in walk test mode the device will trigger continuously when an object has been detected and the LED will come on to indicate the detection.

To enter devices into walk test mode:
1. Enter the Master User Menu
2. Scroll to [Walk Test] menu or enter [1][9][*]
3. Enter the partition whose devices you want to walk test
4. Enter the number of minutes the walk test must stay active, 1 to 15 minutes. The system will automatically exit walk test mode once the time entered expires.

5. I/O Module

5.1. I/O Module inputs and outputs

The Xwave^2 I/O Module is a wireless device with two physical zone inputs and one output.

The module requires 12vDC power. You can wire two wired detectors into the zone inputs and it will transmit as a wireless device. The module learns to the hub in the same way as any other detector, however:
1. If you learn by tamper the module will learn its first input into the selected zone and the second input will automatically learn into the following zone.
2. If you learn by serial number the module will learn the first input into the selected zone and the second zone will be disabled.

The module has one programmable output, the address of the output is based on what zone the I/O Module is learned to.

Zone Range	I/O Module PGM Address
1 – 4	42
5 – 8	43
9 – 12	44
13 – 16	45
17 – 20	46
21 – 24	47
25 – 28	48
29 – 32	49
33 – 36	50
37 – 40	51
41 – 44	52
45 – 48	53
49 – 52	54
53 – 56	55
57 – 60	56
61 – 64	57

Example: If the I/O Module's input is learnt to zone 19 then the PGM address of the I/O Module's output is 46.

6. I/O Module PGM Settings

6.1.   Location 620: I/O Module Outputs Clear on Disarm

There are 16 Bitmap locations in this location, 1 for each I/O module output. Any outputs enabled in this location will be reset when the alarm system is disarmed.
The I/O Module outputs are:

Sub-Location	1	2	3	4	5	6	7	8
Output Address	42	43	44	45	46	47	48	49

Sub-Location	9	10	11	12	13	14	15	16
Output Address	50	51	52	53	54	55	56	57

6.2. Location 621 - 624: I/O Module Outputs Pulse Length

The pulse duration of each PGM output can change to the required time in minutes and seconds, if needed.

There is a location for each Xwave^2 Hub. These locations have 4 sub-locations representing the 4 outputs learnt to each Xwave^2 Hub.

[Installer Code] [*] [6] [2] [1] [*] [Output No.] [*] [m] [m] [s] [s] [*]

Data format: mmss
Valid Range: 0000 – 5959 (Output number is 1-4)
Default: 0002

Location	Sub-Location	PGM Address
621	Sublocation 1	42
	Sublocation 2	43
	Sublocation 3	44
	Sublocation 4	45
622	Sublocation 1	46
	Sublocation 2	47
	Sublocation 3	48
	Sublocation 4	49
623	Sublocation 1	50
	Sublocation 2	51
	Sublocation 3	52
	Sublocation 4	53
624	Sublocation 1	54
	Sublocation 2	55
	Sublocation 3	56
	Sublocation 4	57

6.3. Location 625 - 628: I/O Module Output On Time

The X-Series programmable outputs can be scheduled to turn on or off by time and day per output. Note that is important that the time and date is set for this feature to work correctly.

There is a location for each Xwave^2 Hub. These locations have 4 sub-locations representing the 4 outputs learnt to each Xwave^2 Hub.

[Installer Code] [*] [6] [2] [5] [*] [Output No.] [*] [h] [h] [m] [m] [*]

Data format: HHmm
Valid Range: 0000 – 2359 (2400 disables)
Default: 2400

Location	Sub-Location	PGM Address
625	Sublocation 1	42
	Sublocation 2	43
	Sublocation 3	44
	Sublocation 4	45
626	Sublocation 1	46
	Sublocation 2	47
	Sublocation 3	48
	Sublocation 4	49
627	Sublocation 1	50
	Sublocation 2	51
	Sublocation 3	52
	Sublocation 4	53
628	Sublocation 1	54
	Sublocation 2	55
	Sublocation 3	56
	Sublocation 4	57

6.4. Location 629 - 644: I/O Module Output On / Off Days

There are 16 locations for this setting, 1 for each I/O module output. Each output can be scheduled to switch on or off on certain days of the week.

Option	ON Days		Option	OFF Days
1	Monday		9	Monday
2	Tuesday		10	Tuesday
3	Wednesday		11	Wednesday
4	Thursday		12	Thursday
5	Friday		13	Friday
6	Saturday		14	Saturday
7	Sunday		15	Sunday
8	Disabled		16	Disabled

6.5.   Location 645 - 648: I/O Module Output Off Time

There is a location for each Xwave^2 Hub. These locations have 4 sub-locations representing the 4 outputs learnt to each Xwave^2 Hub.

[Installer Code] [*] [6] [4] [5] [*] [Output No.] [*] [h] [h] [m] [m] [*]

Data format: HHmm
Valid Range: 0000 – 2359 (2400 disables)
Default: 2400

Location	Sub-Location	PGM Address
645	Sublocation 1	42
	Sublocation 2	43
	Sublocation 3	44
	Sublocation 4	45
646	Sublocation 1	46
	Sublocation 2	47
	Sublocation 3	48
	Sublocation 4	49
647	Sublocation 1	50
	Sublocation 2	51
	Sublocation 3	52
	Sublocation 4	53
648	Sublocation 1	54
	Sublocation 2	55
	Sublocation 3	56
	Sublocation 4	57