Hub Manual

THANK YOU FOR CHOOSING IDS

Thank you for purchasing an IDS Bi-directional Xwave² Wireless system. The IDS X-Series Bi-directional Wireless system offers an additional 16 wireless supervised zones per installed Hub, with two programmable current sink outputs. Each output is a 12V DC output that can carry 80mA of current.

For more information on IDS products please visit: www.idsprotect.com

Note: Read the entire manual before attempting to install the Xwave² Wireless system.

Xwave² devices are not compatible with Xwave devices

Features

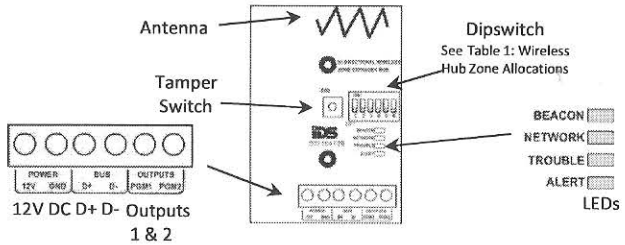
- 16 Bi-directional Wireless Zones with constant supervision, tamper and battery monitoring
- Remote transceiver
- Xwave² I/O module with two zones and one relay driven output
- Integrated Optex detectors
- IDS Xwave² Wireless Door Mags
- Remote receiver built in

Installation

Communication Bus wiring

The Xwave² wireless hub must receive its 12V power from the X-Series alarm panel or be connected via the X-Series RS485 Bus Isolator 860-06-0557 when connected to a separate power source, to remove any chance of ground loops on the keypad bus which will cause communication errors.

Figure 1: Wireless Hub Bus Connection



Addressing via Dipswitch

To address the Xwave² wireless hub, set the dipswitches as per the Table below. The hubs address will determine the zone numbers of that hub.

Note: The unit must be powered down when selecting the units address.

Table 1: Wireless Hub Zone Allocations

Binary value on switch	Expander's 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

Note: Wireless zones take precedent over wired zones. If you learn a detector onto a zone with a wired detector the wired detector will be ignored.

Hub Manual

LED Status Indicators

There are 4 LEDs on the board marked "BEACON", "NETWORK", "TROUBLE" and "ALERT". (See **Figure 1: Wireless Hub Bus Connection**)

BEACON: LED will flash when transmitting information.

NETWORK: LED will show if there are any errors on Xwave² wireless network of devices. If it is ON there are no errors on the Xwave² wireless network but if it is flashing then errors have been detected. See table 2.

Table 2: Network LED Display

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: LED that indicates current operating errors. If the LED is OFF continuously then there are no errors. However if there are errors it will start pulsing the error number. (See Table 3: Trouble LED Display).

Table 3: Trouble LED Display

Pulse	Error	Description
1	Dead keypad bus	No keypad bus detected
2	Unregistered	Xwave² Hub not registered on the X-Series alarm panel
3	Registered but no communication	Xwave² Hub has registered with the X-Series alarm panel but not receiving any messages from the alarm panel
4	Invalid Dip Switch	The dip switches are in an invalid configuration. See table 1.

ALERT: LED will pulse to indicate a message is being received.

Outputs

The Xwave² Hub has two outputs, rated at 12V 80mA, on board that can be used to trigger external devices. The Xwave² Hub outputs follow the wired zone expander outputs of the same ID.
EG: Zone Expander 1 outputs are six and seven and if a wireless expander 1 is added its outputs would also be six and seven.

Defaulting the Xwave² Wireless Hub

If a hub has been registered to a panel it would have received a unique network ID and to remove the hub and attach 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

Default via the keypad. (**Note:** Will default all wireless devices including Xwave devices)

1. Enter installer mode, [9][9][9][9][*]
2. Enter location 0, [0][*]
3. Enter value 7, [7][*]
4. All LEDs on the Xwave2 hub will light up indicating that the memory is being cleared

ID the Xwave² Hub (See Table 1: Wireless Hub Zone Allocations)

Device Battery Voltage Check

Each Xwave² devices battery voltage can be checked via the keypad to determine if the batteries will require changing in the near future giving you peace of mind when going away on holiday.
The system will begin to notify you of a low battery, when the battery voltage reaches 2.5V.
To check battery voltage of a device:

1. Enter the Master User Menu: Hold down [*] for 3 seconds
2. Enter the Master code: [1][2][3][4] [*]
3. Scroll using the [Panic >>] key to "View Bidir Batt" menu or enter [1][5][*]
4. Enter the hub number whose devices you want to check: [1][*]
5. Scroll using the [Panic >>] or [Medical <<] keys to the zone.

The LCD screen will show the battery voltage of the device allocated to the zone.
Note: Batteries must be changed when they have reached 2.5V or before
*****Any devices with an "ALARM & TROUBLE OUTPUT" dipswitch, set dipswitch to N.O. (ON) *****

Walk test mode

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 a device into walk test mode:

1. Enter the Master User Menu: Hold down [*] for 3 seconds
2. Enter the Master code: [1][2][3][4] [*]
3. Scroll using the [Panic >>] key to Walk Test menu or enter [1][9][*]
4. Enter the partition whose devices you want to walk test: [1][*]
5. 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

X-Series Installer Programming

Location 260 Zone Properties

Xwave² devices are learnt in a similar manner as Xwave devices
This location is broken up into different sub locations. Each sub location has a different function.

Sub location1 learning wireless devices
Sub location 2 deleting wireless devices
Sub location 3 checking signal strength. (Not used for Xwave²)
Sub location 4 Supervision Time. (Not used for Xwave²)

Sub Location 1: Adding Wireless Detectors

There are two methods of teaching a wireless device to the wireless receiver.

1. Insert the battery. **Note:** This step can be done with all types of keypads or go to step 2.
2. Typing in the serial number of the device when required. Note: This step can only be done with an LCD keypad.

LCD Keypad instructions

Upon Sub menu entry the user will notice the following:

Zone Names <*>
Zone No + *

The user now needs to specify which zone they want to add to the receiver by either:

- Pressing [<], [>] and scrolling through the zone names and then press [*] to select the zone.
- Enter the zone number then [*] and to select it press [*] again.
- [#] will return user to sub menu selection entry.

Note: When scrolling through the zones the user may be presented with one of the following:

Zone Names <*>
02 Zone 02 W

Zone Names <*>
02 Main Lounge W

Presence of the "W" after the zone name signifies the zone is a zone with a wireless detector.
Selecting a zone that has been pre-allocated will result in an error and the user will be alerted with 3 error beeps.
Upon selecting a valid unallocated zone the user will be presented with the following.

Tamper or Enter
SN:----------

The user must now either trigger the tamper on the detector or type in the serial number of the device, which is on the product label on the device.
Xwave² devices just need the battery inserted for the unit to be learnt into the zone.
Note: Do not place batteries into all Xwave² devices while learning, do one at a time and close the housing once learnt, if left open in the tamper state, each device will continuously send join requests.
When the user triggers the tamper the system will receive a notification and determine whether the detector has already been assigned to any other zones.
Incorrect or pre-allocated serial numbers will result in a 3 beep error tone and the menu will keep waiting for a valid entry.
Upon a valid serial number being entered or set via tampering the device the user will be presented with the following.

Serial No:
SN: 12345678 [*]

- The user needs to confirm the detector being added by pressing [*].

Sub Location 2: Deleting Wireless Detectors

This sub location is accessed the same as sub location 1.

Sub Location 3: Signal Strength of Detector

This sub location is accessed the same as sub location 1 and 2.
Note: Not used for Xwave²

Sub-Location 5: Xwave² Zone Properties

Two options can be set on integrated devices with the following options:

Table 4: Xwave² Zone Properties

Option	Default	Description
1	Y	Device LED can be enabled = Y or disabled = N
2	Y	Set sensitivity pulse count. See the detector manual that is allocated to the zone for options N = Default option Y =second option

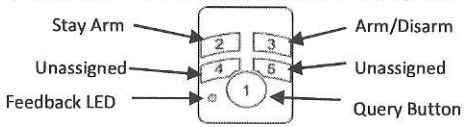
Remote Receiver

The wireless hub has a remote transceiver for all Xwave² remote transmitters built in. The receiver will communicate bi-directionally with learnt remote transmitters to give feedback on any instructions received.

Remote Transmitter

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

Figure 2: Remote transmitter default button assignment



Buttons 2 to 5 can be programmed to any of the functions listed in Table 5: Button Assignable Functions
Note: Xwave² remote transmitters are not compatible with other any other IDS remote receiver

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 a remote transmitter button 10 times when out of range or if the bi-directional hub is off

Defaulting procedure 3

1. Press and hold button 1 until the red LED stops flashing approximately 15 seconds

Adding the Remote Transmitter to a User code

To add a bi-directional Xwave² remote transmitter to a user code:

1. Enter the Master User Menu: Hold down [*] for 3 seconds
2. Enter the Master code: [1][2][3][4] [*]
3. Scroll using the [Panic >>] key to menu 16 or enter [1][6][*]
4. Enter the Hub that you are teaching the remote to: [1][*]
5. Enter the user code that will be paired with the remote: [1][2][3][4] [*](User code must already be added to the system)
6. Hold down any remote button until the remotes ID is displayed
7. Press [*] to confirm
8. Enter the next user code if more than one remote is to be learnt or [#] to exit

Allocating Remote Transmitter Buttons

To change the button functions:

1. Enter the Master User Menu: Hold down [*] for 3 seconds
2. Enter the Master code: [1][2][3][4] [*]
3. Scroll using the [Panic >>] key to menu 17 or enter [1][7][*]
4. Enter the Hub that the remote belongs to: [1][*]
5. Enter the user code that was paired with the remote: [1][2][3][4] [*]
6. Scroll through the buttons using the [Panic >>] key until the button to be changed
7. Press [*]
8. Scroll through the buttons using the [Panic >>] key until the function required press [*] to confirm
9. Enter the parameter followed by [*] to confirm (See **Table 5: Button Assignable Functions**)
   The parameter value is dependent on the function, i.e. partition number, output number, etc.
10. Press [#] to exit

Table 5: Button Assignable Functions

Function	Parameter	Description
Unassigned	--	No function allocated
Arm	Partition	Will only arm the partition allocated to button and user code
Disarm	Partition	Will only disarm the partition allocated to button and user code
Arm/Disarm	Partition	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	Will arm the allocated partition in the current/last used stay profile
Stay Arm Prof1	Partition	Will arm the allocated partition in stay profile 1 and then allow you to scroll to the next available profile if one is configured

Function	Parameter	Description
Stay Arm Prof2	Partition	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	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	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	Will arm the allocated partition in the current/last used stay profile
Stay & Go Prof1	Partition	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	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	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	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	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
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 No.	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 No.	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 No.	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 No.	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 No.	This option allows you to use a single button to change the state of an output. E.G. If the output is low, 0V and the button is pressed the output will go hi, 12V. When the button is pressed again the output will go low, 0V, again

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: Hold down **[*]** for 3 seconds
2. Enter the Master code: **[1][2][3][4] [*]**
3. Scroll using the [Panic >>] key to menu 18 or enter **[1][8][*]**
4. Enter the Hub that the remote belongs to: **[1][*]**
5. Enter the user code that was paired with the remote: **[1][2][3][4] [*]**
6. Enter the next user code if more than one remote transmitter is to be deleted or Press [#] to exit

Querying the X-Series

The remote transmitter can query the alarm and feedback different information, e.g. Armed or disarmed, current stay profile, Alarm was activated, see Table 6: Remote Transmitter LED Colour Meaning.
To query status:

1. Press the function button. (Button 1 see Figure 2: Remote transmitter default button assignment)
2. Then press the button that is allocated to the function that is being queried
3. The LED will indicate the status. (See Table 6: Remote Transmitter LED Colour Meaning)

Example: 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.

Remote Transmitter LED

The remote transmitter has bi-directional communication with the X-Series alarm panel and can display different information by changing the colour of the LED and flashing a number of times.

Table 6: Remote Transmitter LED Colour Meaning

Colour	Description	Flash	Description
White	Transmitting signal to the Xwave² Hub		
Blue	Ready	Long	Ready to arm
		1 short	Stay Arm in profile 1
		2 short	Stay Arm in profile 2
		3 short	Stay Arm in profile 3
		4 short	Stay Arm in profile 4
	Output	Long	Not Triggered
Yellow	Not ready	Long	Not Ready to arm
		1 short	Not Ready to Stay Arm in profile 1
		2 short	Not Ready to Stay Arm in profile 2
		3 short	Not Ready to Stay Arm in profile 3
		4 short	Not Ready to Stay Arm in profile 4
Red	Armed	Long	Away armed
		1 short	Stay Armed in profile 1
		2 short	Stay Armed in profile 2
		3 short	Stay Armed in profile 3
		4 short	Stay Armed in profile 4
		15 flashes	Alarm has been triggered
	Output		Triggered