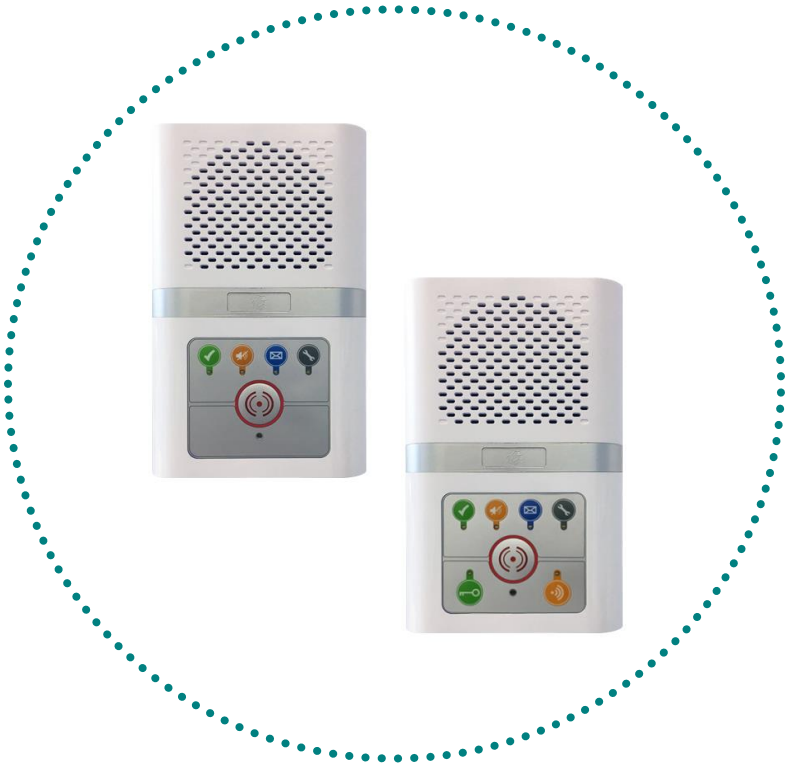
Advent XT

Assisted Living Call Management System

Installation Manual



Tynetec operates a policy of continual product improvement and Reserves the right to modify the specification of its products.

If any variation to the details in this document are suspected please contact Tynetec's Technical Support on 01670 352371.

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1. SAFETY INSTRUCTIONS

	Read and understand these instructions before commencing an installation. Keep these instructions for future reference.
	To reduce the risk of electric shock, do not disassemble this product unless you are qualified. Opening or removing covers may expose you to dangerous voltages or other hazards.
	No user serviceable parts inside. Refer all servicing to qualified service personnel.
	This product should only be connected to a 220-240VAC 50/60Hz mains supply. If you are unsure of the type of power supply consult your local power company.
	Danger of explosion if the internal batteries are incorrectly replaced. Use only manufacturer approved rechargeable batteries as identified in this manual.
	Only use manufacturer approved cable during installation. Refer to this manual for cable types, recommended colour codes and cable length restrictions.
	This product should be located at least 2 metres away from other electronic equipment. Failure to provide this separation may result in reduced radio range of Telecare products.
	Do not locate this product above a radiator or other heat source.
	Do not expose to direct sunlight.
	Do not expose this product to dripping or splashing water. As with any electronic equipment take care not to spill liquids into any part of the system. Liquids can cause a failure and/or a fire hazard.
	Clean with a hard-surface disinfectant wipe or a damp cloth and a non-abrasive cleaning product. Polish with a dry duster. DO NOT use a wet cloth.
	Avoid using harsh, abrasive or corrosive cleaning agents or detergents (e.g. scouring powders, bleaches, polishes, etc.) when cleaning this product.
	At the end of its life this product should be disposed of and recycled in accordance with the environmental regulations. See the Regulatory Information in section 3 below.

2. REGULATORY INFORMATION

CE	This symbol on the product indicates it complies with all relevant EU Directives as required by law. Radio & Telecommunication Terminal Equipment; R&TTE Directive 1999/5/EC Safety of Information Technology Equipment; EN 60950-1:2006+A12:2011 Electro Magnetic Compatibility; EMC 2004/108/EC Restriction of Hazardous Substances; RoHS 2011/65/EU A copy of the complete Declaration of Conformity is available from Tynetec.
	This symbol on the product indicates it is classed as Electrical or Electronic Equipment and should not be disposed of with other commercial waste at the end of its working life. The Waste of Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU) has been put in place to recycle products using the best available recovery and recycling techniques to minimise impact on the environment, treat hazardous substances and avoid increasing landfill. For product disposal please contact your supplier and check the terms and conditions of the purchase contract and ensure this product is not mixed with other commercial waste for disposal.
	This symbol on batteries indicates separate collection. Batteries contain chemicals that can be hazardous to health and the environment and should not be disposed of in the waste bin. The EU Directive (2006/6/EC) has been put in place to ensure the safe disposal and recycling of batteries. Return used batteries to your supplier or drop-off at your local municipal waste recycling depot.

3. MAINTENANCE & CARE

For peace of mind and to ensure your system is maintained to the highest standard Tynetec recommend an annual maintenance contract. This will provide vital assistance in times of need from a nationwide team of trained Service Engineers who specialise in Assisted Living systems.

A preventative maintenance visit (PMV) is also recommended, this covers the replacement of all batteries, a full system test, software updates (where applicable) and a Service Certificate.

For more information on Maintenance Contract Packages and PMV's please contact your local Tynetec Approved Installer, a list can be found on our website; www.tynetec.co.uk/installer-locator

MONTHLY MAINTENANCE

All user interface equipment i.e. intercoms, door entry telephones, pendants, cordless & desk handsets should be regularly cleaned with anti-bacterial wipes, at the same time they should be checked for signs of external physical damage. Broken or cracked plastic cases can trap dirt and contribute to the spread of germs.
Products needing repair can be returned via the website; www.tynetec.co.uk/returns-policy

ANNUAL MAINTENANCE

Although the XT controller batteries are monitored and a poor state of charge is reported automatically it is best practice to have the batteries tested every year and replaced every 5 years. The optional PA amplifier uses the same battery, and this should be tested/replaced at the same time - see sections 35 & 36 for the correct battery type. At the same time a full system test should be performed to ensure all equipment is operating correctly.

	In the unlikely event that the XT controller needs to be turned-off or reset, please ensure all active calls are actioned before proceeding.

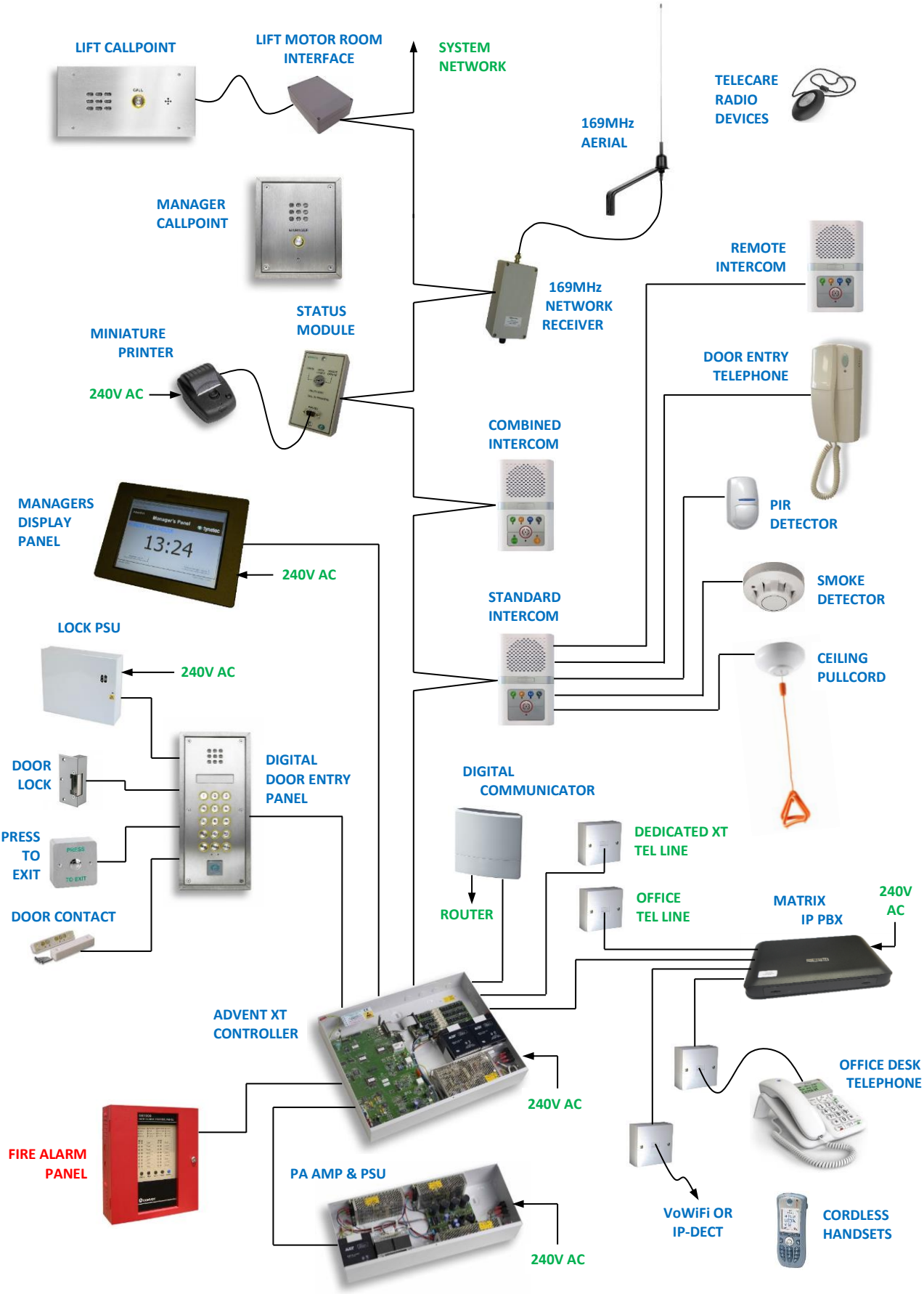
4. RELATED DOCUMENTATION

This manual provides information regarding the installation of the Advent XT system.
You can request copies of the related documentation listed below from Tynetec's customer support team or download from Tynetec's on-demand website: http://www.tynetec.co.uk/on-demand/technical-support/advent-xt/

- Wiring Diagrams with Spectalink IP-DECT (Drawing No. ZXT100 ISS M)
- Wiring Diagrams with Ascom VoWiFi/IP-DECT (Drawing No. ZXT100 ISS N→)
- System Block Diagram (Drawing No. WD0273 ISS M→)
- Spectralink IP-DECT Block Diagram (Drawing No. WD0301)
- Ascom IP-DECT Block Diagram (Drawing No. WD0299)
- Ascom VoWiFi Block Diagram (Drawing No. WD0300)
- Spectalink IP-DECT Installation Manual (Doc No. FM0814)
- Ascom IP-DECT Installation Manual (Doc No. FM0854)
- Ascom VoWiFi Installation Manual (Doc No. FM0855)
- Programming Manual (Doc No. FM0411)
- Operators Manual with Spectralink IP-DECT Handsets (Doc No. FM0420 ISS M)
- Operators Manual with Ascom IP-DECT/VoWiFi Handsets (Doc No. FM0420 ISS N)
- Manager's Panel User Guide (Doc No. FM0665)
- Printer User Guide (Doc No. FM0416)
- Intercom User Guide (Doc No. FM0729)
- Combined Intercom with 433MHz Remote Control User Guide (Doc No. FM0730)
- Combined Intercom with BLE Remote Control User Guide (Doc No. FM0856)
- Door Entry Telephone User Guide (Doc No. FM0585)
- Second PA Amplifier Wiring Diagram (Drg No. WD0276)
- Specification (Doc No. FM0413)

5. INTRODUCTION

The Advent xt is an alarm monitoring and communication system designed specifically for grouped housing schemes.
A typical installation will comprise of an Advent xt controller with intercom units and peripheral devices connected on a bus wiring network. Alarm calls are reported to an onsite manager via a cordless or desk telephone, calls may also be reported via a PSTN line to a mobile phone/remote Alarm Receiving Centre (ARC) or via the Ethernet to a digital ARC.



6. SYSTEM OVERVIEW

Part No.	Description	Notes
ZXT100	Advent xt Controller	inc battery standby & Digital Communicator
ZXT122	Advent xt Ethernet InterfaceMK3)	stores Telecare data for remote analysis
ZXT155	Advent xt PA Amplifier	typically 80 PA intercoms per PA amplifier
ZXT201	Standard Intercom	maximum 255 intercoms/callpoints per system
ZXT206	Standard Intercom + PA	
ZXT211	Extracare Intercom	
ZXT216	Extracare Intercom + PA	
ZXT280/82/84/86	Combined Intercom + PA/Extracare	
ZXT290	Combined Intercom + PA & BLE	
ZXT250	Manager Callpoint	
ZXT260/5	Lift Callpoint (Flush S/S)	
ZXT271	Lift Callpoint (Surface ABS)	
ZXT221	Remote Intercom	1 per intercom
ZXT226	Remote Intercom + PA	
S00600	Ceiling Pullcord	maximum 5 per intercom (with LED)
N/A	Smoke Detector	use mains powered detectors with integral standby battery & normally open relay output
N/A	PIR Movement Detector	use 12V DC PIR's with normally closed relay output (additional PSU may be required)
ZXT300	Status Module	1 per system
ZXT311	Miniature Thermal Printer	1 per Status Module
ZXT315	Managers Display Panel	1 per system
ZXT325	169MHz Network Receiver	Total 16 per system (maximum 12 zoned)
ZXT326	169MHz Zoned Network Receiver	
W06250	169MHz Aerial & 5m Coax	1 per ZXT325 Network Receiver
ZXT4xx	169MHz Radio Devices	maximum 2048 per system
ZXT935	BLE Remote Control	maximum 2 per ZXT290 combined intercom
ZSD411/422	Si Digital Door Panel	maximum 16 per system
ZFT220	Advent xt Telephone	1 per intercom
ZFT221	Advent xt Dual Telephone	slave telephone for above
W00525	12V/2A Power Supply Unit	1 per Door Panel (for lock supply)

WIRING REQUIREMENTS

On new installations the system wiring network should be a 6 pair CW1308 BT spec cable, on sites with existing cabling a minimum of 5 twisted pairs are required (or 4 pairs without PA or door entry).

The telephone wiring network should be a 2 pair CW1308 BT spec cable with BT master sockets. A dedicated PSTN line is required if the facility to report calls to a remote Control Centre is specified.

See separate manuals for the different IP-DECT and VoWiFi and telephone solutions and wiring requirements.

SYSTEM PROGRAMMING

A Laptop PC with Windows 98, 2000 or XP Internet Explorer and a serial data cable is required for all system programming. Windows 7 Laptops can be used with a MicroSoft application that runs XP mode *(only compatible with Windows 7 Professional, Enterprise or Ultimate editions).* See the Advent xt Programming Manual (Tynetec Doc No. FM0411).

6. SYSTEM OVERVIEW

INTERCOM UNITS
Up to 255 intercom units can be connected on the system network. Each intercom can have ceiling pullcords, smoke detectors and PIR's (for activity or intruder monitoring) connected as standard. An additional 4 inputs are available on intercoms without a door entry telephone connected.

REMOTE INTERCOM UNITS
One remote intercom can be connected per intercom if speech is required in 2 rooms. Remote intercoms are available with/without PA.

MANAGER/LIFT CALLPOINTS
Various vandal resistant callpoints (for external use) and lift speech units are available. These are addressed as intercom units and are therefore included in the 255 max limit.

RADIO DEVICES
A maximum of 16 network receivers (which can include a maximum of 12 zoned network receivers) can be connected on the system. Up to 2048 Altec radio devices can be registered per site. Radio devices include; personal pendants, fall detectors, flood detectors, temperature sensors, gas detectors, CO detectors, etc.

STATUS MODULE
One status module can be connected on the system network. This has a keyswitch & LED's to select the system operating mode. A miniature printer can be connected to the status module.

MANAGERS DISPLAY PANEL
One managers display panel can be connected on the system. This is a wall mounted 10.4" VGA touch screen monitor to display call information and the system status. It also has a 1GB memory to store system events. This requires connection to the Advent xt controller and a mains supply.

DOOR ENTRY OPTION
Up to 16 digital door entry panels can be connected to the Advent xt controller - additional PSU's will be required for door locks. Door panels have a "Manager" button as standard. Where one telephone is connected per dwelling use the ZFT220, if two telephones are required both must be ZFT221's. A range of combined warden call/door entry intercom options are also available (ZXT280/82/84/86 and ZXT290).

PA OPTION
A public address (PA) option is available to broadcast general announcements or a fire alarm tone through all intercoms. Special intercoms with PA facility must be fitted and one PA amplifier & SMPSU is required for every 80 intercoms. Each group of 80 intercoms must be on a separate network leg.

ETHERNET INTERFACE OPTION
The Ethernet Interface Kit will store all system activity for download and analysis using Tynetec's iCare software. A Broadband connection with a fixed IP address is required.

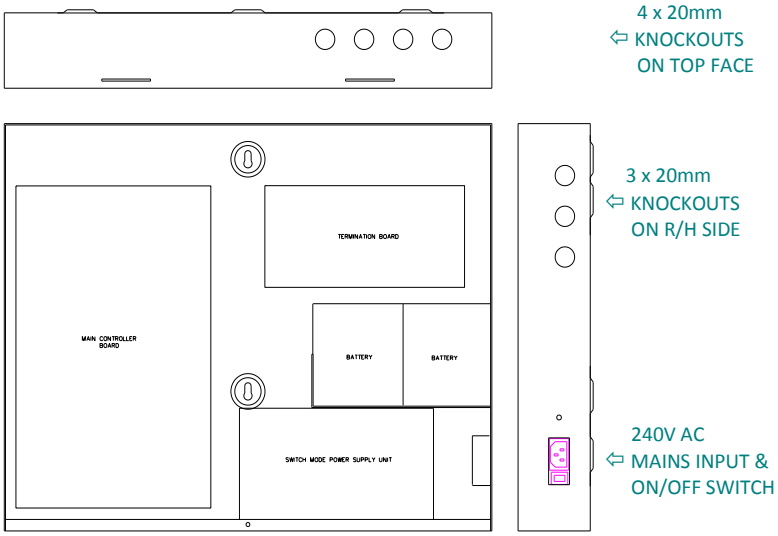
REMOTE CONTROL CENTRE (PSTN ARC)
The chosen PSTN Alarm Receiving Centre must support BS8521 or TT92 protocol.

DIGITAL COMMUNICATOR (IP ARC)
The optional Digital Communicator allows the Advent xt to connect with an IP Alarm Receiving Centre.

7. CONTROLLER INSTALLATION



The Advent xt controller is housed in a 400x500x75mm (HxWxD) steel enclosure with an integral power supply unit and 2 rechargeable standby batteries.

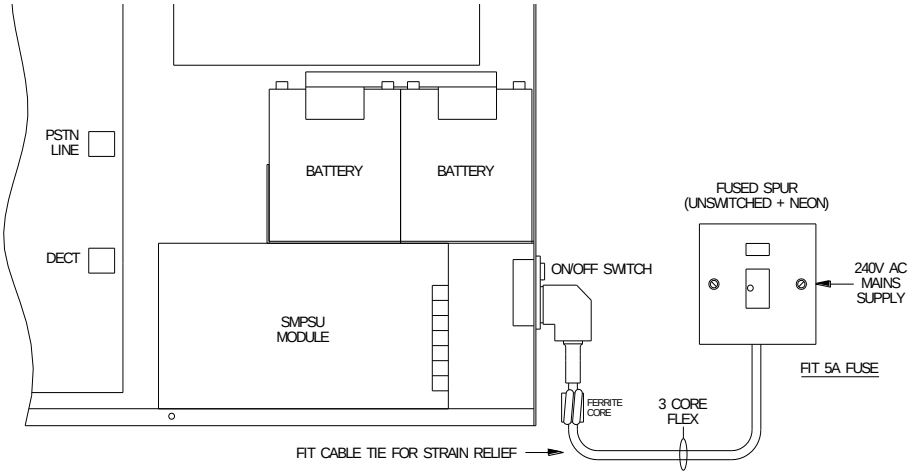


INSTALLATION

The controller should be located in a dry, secure area which is easily accessible for termination and future service. To remove the lid undo the single fixing screw and unhook off the top locating slots. Fix the controller to the wall using the two keyholes (228mm vertically between centres). All site wiring should enter the enclosure via the 20mm knockouts provided - under no circumstances should holes be drilled near the main circuit board area.

MAINS SUPPLY CONNECTION

The 240V AC mains connection should be taken from the landlords supply and terminated via an un-switched fused spur with neon alongside the controller. The typical power requirement for a basic 32 way Advent xt system is 15 Watts.



Mains Connection	
	
Colour	**Terminal**
Brown	Live
Blue	Neutral
Grn/Yel	Earth

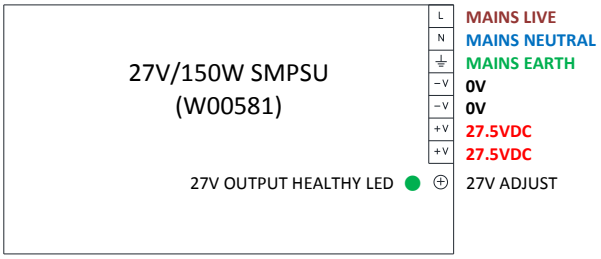
Connect the controller to the fused spur using the 3 core flex and IEC socket provided. Secure the flex to the chassis using the cable tie provided to prevent the mains lead being inadvertently unplugged. The spur should be fitted with a **5A** fuse. If the flex is replaced for any reason always ensure the ferrite core is re-fitted as close as possible to the IEC socket.

7. CONTROLLER INSTALLATION

27V SMPSU MODULE

The controller includes a 27V/150W (5.6A) switched mode power supply unit with solid state overload protection. With the mains supply ON the green output healthy LED should be illuminated. The output voltage is factory set to 27.5V DC (with the batteries disconnected) using a DVM across V+/V-.





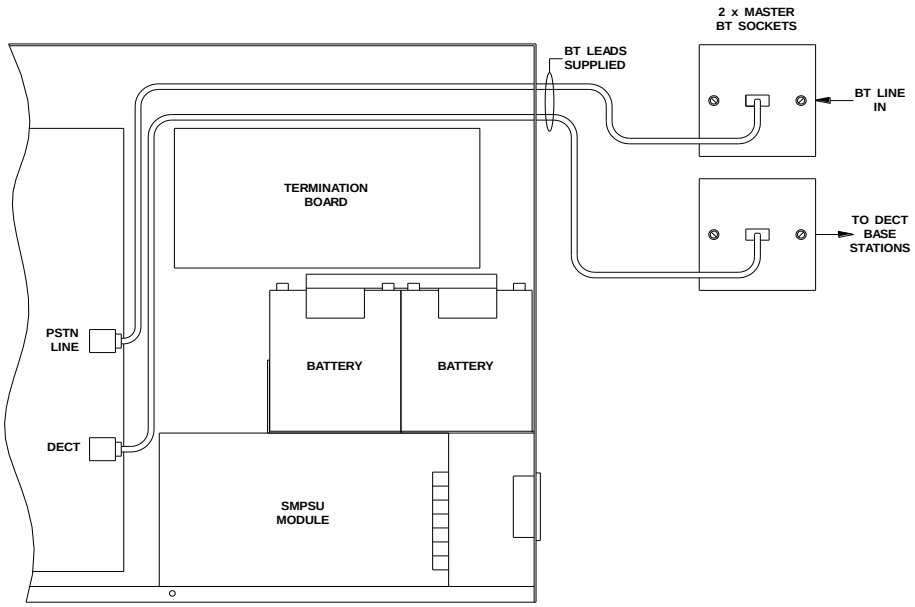
BATTERY STANDBY

In the event of a mains failure, two 12V 5Ah rechargeable batteries will maintain a typical system for approx. 8 hours. A protection circuit will disconnect the battery supply in the event of prolonged mains failure to prevent damage to the batteries. The mains supply must be applied first to energise the protection circuit, i.e. the system will not function by simply connecting the batteries alone.



TELEPHONE CONNECTION

Two BT master sockets (not supplied) are required to connect the external telephone line and the local DECT base stations/fixed CLI telephones to the controller.



The PSTN line should be terminated in a master socket by the telephone company. Connect a 2 pair CW1308 spec cable from the second master socket (terminals 2, 3 & 5) to the DECT base station, Matrix IP PBX or fixed telephone sockets on the scheme. Note a maximum of 4 devices can be connected to the Advent xt.

DATAFLASH CARD

Switch off the mains supply and disconnect the battery before removing the Dataflash card. Push down to release the SD card mechanical latch, to refit push down until the latch clicks into place.



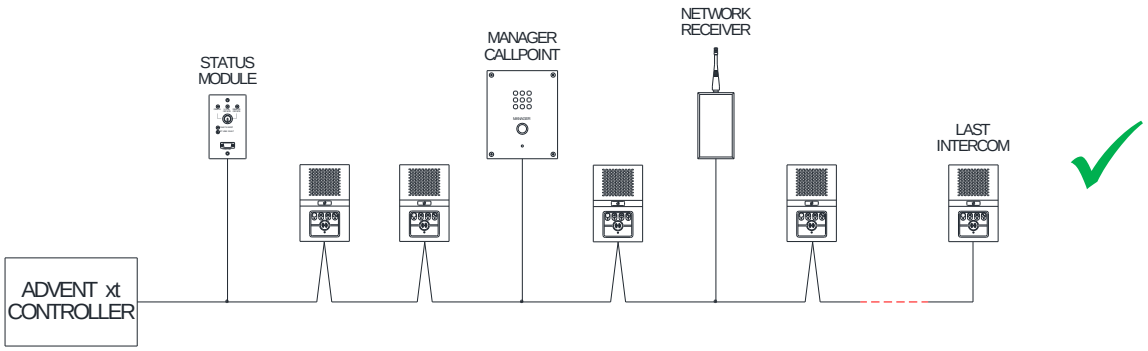
ATTENTION: Electrostatic Sensitive Device - observe precautions for handling.

Only use a Tynetec Dataflash card type: A00480

8. NETWORK WIRING

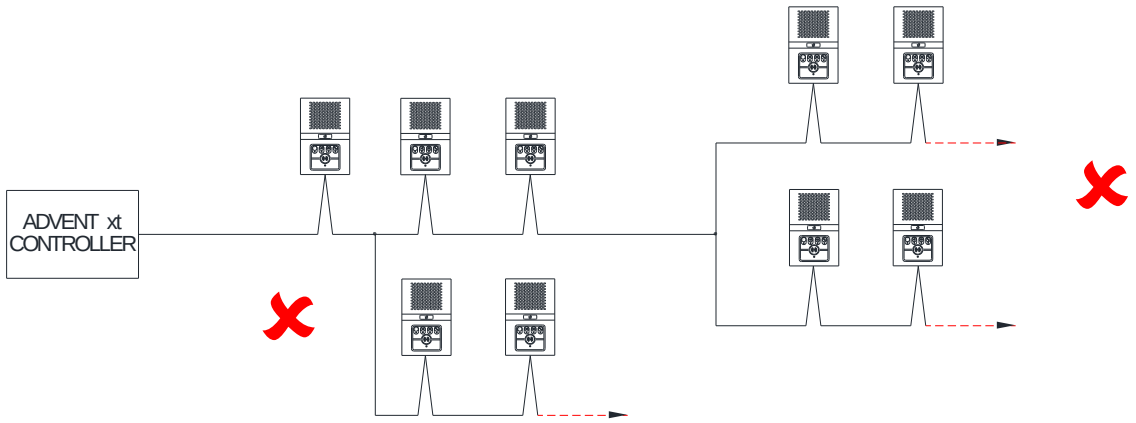
A basic Advent xt system requires a minimum of 4 twisted pairs common to all intercom units - if public address (PA) or door entry telephones are specified then 5 twisted pairs are required.

On new installations a 6 pair CW1308 BT spec cable is recommended. Plan the network route to minimise cable length using the intercom units to join the cable thereby avoiding additional joint boxes in corridors or roof areas etc. On large installations the network should be split into two or three smaller legs to reduce the effect of voltage drop and aid future service/fault finding. The network cable length should not exceed 1200 metres and the total number of network devices should not exceed 255. A data repeater (P/No. ZXT340) is available for extreme cases.

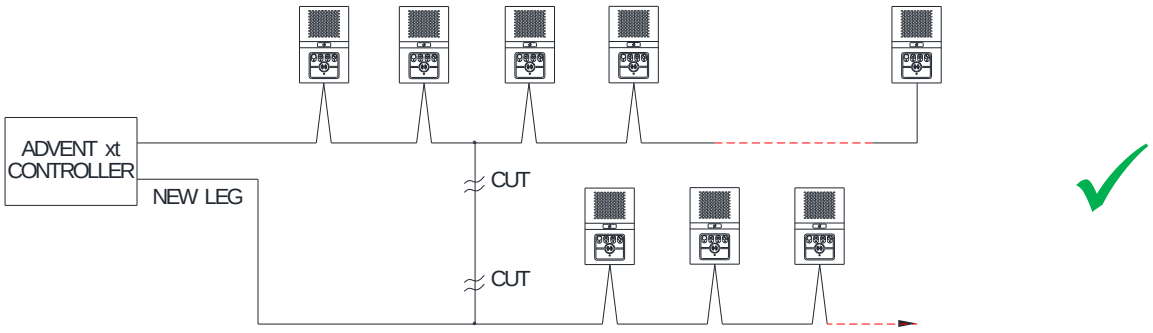


Single auxiliary devices such as the status module, manager callpoint, network receivers, etc. can be connected to the system network wiring as shown above.

To eliminate the possibility of data reflections and corruption the network should never be split into multiple legs from a mid-point in the wiring; small groups of intercoms spurred off at any point should also be avoided.



If an existing site wiring network has spurs of intercoms they should either be integrated into the main loop or isolated and connected back separately to the controller as additional legs.



Detailed site plans and existing wiring details are imperative before designing an installation.

9. NETWORK LOAD CONSIDERATIONS

It is very important to take voltage drop across the system network into consideration when planning an installation. It is the cable resistance on the power supply wiring that gives rise to voltage drop - the longer the cable run and the larger the current requirement, the larger the voltage drop. To perform a detailed assessment of voltage drop is complex; you need to know the current requirement of each device, the distance between each device and the resistance of the cable per metre. To estimate the worst case scenario simply take the maximum cable run and calculate the voltage drop as if all devices were at the end of the cable.

THE RESISTANCE OF CW1308 CABLE IS APPROX 100 Ω PER 1000 METRES

Typical current requirements of devices connected to the Advent xt network are given below:

24V Network Devices	Standby	Active
Standard Intercom Unit	2mA	10mA
Remote Intercom Unit	2mA	10mA
Ceiling Pullcord with 24V LED	0mA	10mA
Door Entry Telephone	3mA	15mA
Door Entry Telephone with LED on	4.5mA	N/A
Combined Intercom	2mA	70mA
Combined Intercom with LED on	7.5mA	N/A
Manager/Lift Callpoint	2mA	10mA
Network Receiver	10mA	10mA
Status Module	12mA	12mA

12V Auxiliary Devices	Standby	Active
Digital Door Panel	30mA	250mA

EXAMPLE

The estimated voltage drop on an installation with 40 intercoms, 1 status module, 1 manager callpoint, 1 lift callpoint and 6 network receivers on 400 metres of cable would be;

(40 x 2mA) + (1 x 12mA) + (2 x 2mA) + (6 x 10mA) = total current 156mA (0.156A) on 24V line

400 metres of CW1308 cable = 40Ω (10Ω per 100 metres)

using V = I x R: 0.156A x 40Ω = 6.24V drop on 24V line (leaving approx. 18V)

Devices on the 24V supply will work down to approx. 16V therefore the above drop is acceptable.

REDUCING VOLTAGE DROP

There are several means of reducing the voltage drop; site conditions will dictate which is used;

1. The best solution is to split the network into a number of short spurs rather than one long run. This has the advantage of smaller voltage drops per cable run and simplified fault finding.

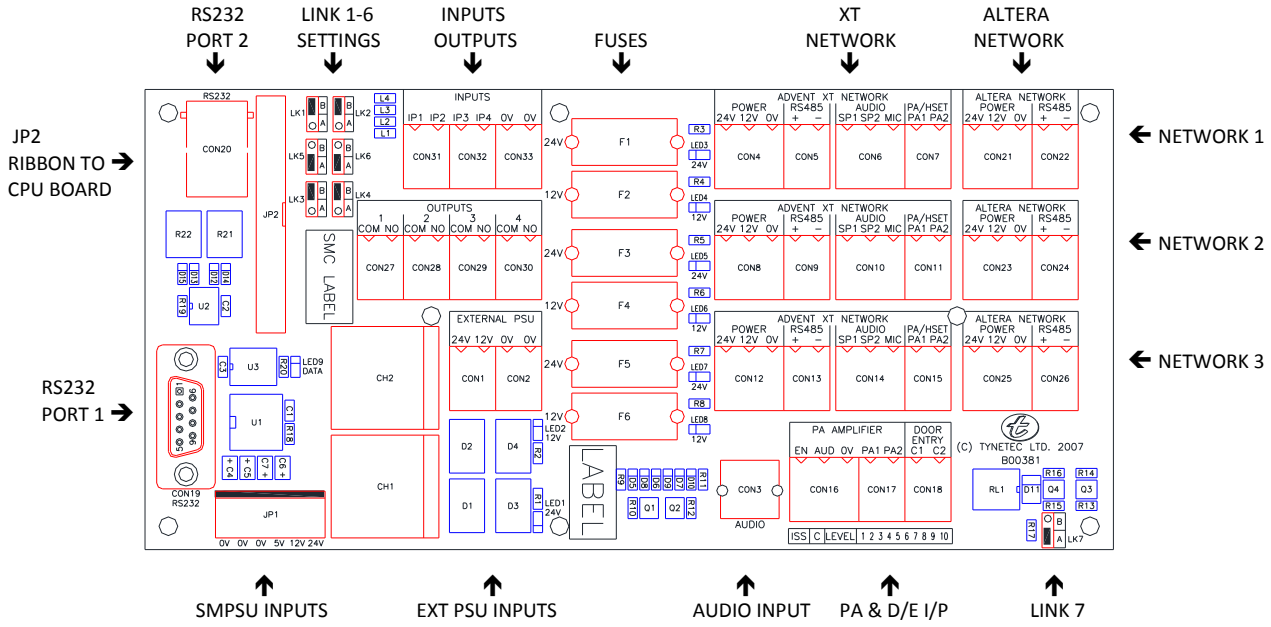
2. On large installations install a 1.0mm power pair or a CW1308 with additional spare pairs to allow “doubling-up” on power conductors. Increasing the cable cross section area will reduce its resistance therefore reducing the amount of voltage dropped.

3. Looping back the power conductors from the last intercom to the controller will form a ring circuit which will effectively halve the resistance.

4. An auxiliary power supply can be connected to the site wiring at a suitable point to “jack-up” the supply midway along the cable run. The disadvantage of this being future service engineers may not be aware of PSU’s presence and the network will remain powered when the controller is switched off.

10. NETWORK TERMINATION BOARD

The Advent xt termination board provides the interface between the main CPU board and the site wiring network.



RS232 PORTS

The standard 9 pin "D" RS232 port 1 is used to connect a laptop PC to monitor the network comms using Windows Hyper Terminal (19200 baud, 8 data bits, 1 stop bit, no parity). The second RS232 port 2 (MMJ data socket) is used to connect a Tynetec interface (P/No. ZXT295) to program network devices in-circuit (this is provided with a Windows utility which can also be used to monitor network comms). The correct link settings LK1-LK6 must be selected depending on what the RS232 port is being used for.

LINK SETTINGS

Links LK1 to LK6 will normally be fitted as shown on the drawing above. These settings allow either RS232 port to be used to monitor the Advent xt network data via Windows Hyper Terminal or the Tynetec interface. If the RS232 port 2 (MMJ data socket) is being used to program network devices then the link settings must be changed as below. Link 7 has no current function - leave fitted in position A.

RS232 Port Mode	Link Settings					
Monitor Advent xt Comms	LK1A	LK2A	LK3B	LK4B	LK5B	LK6B
Monitor Altera Comms	LK1B	LK2B	LK3B	LK4B	LK5B	LK6B
Program Advent xt Network	LK1A	LK2A	LK3A	LK4A	LK5B	LK6B
Program Altera I/O Units	LK1B	LK2B	LK3B	LK4B	LK5A	LK6A

INPUTS

There are 4 inputs which can be activated by switching 0V via normally open clean contacts into terminals IP1-IP4.

Input No.	Function
IP1	Spare
IP2	Spare
IP3	Spare
IP4	Fire Alarm Tone

The "Brigade output" relay on the building's Fire Alarm Panel can be connected to input 4 to report fire alarms via the Advent xt system.

10. NETWORK TERMINATION BOARD

FIRE ALARM INPUT (issue "A-D" A00415 Amp Board & V1.0x Firmware)

When 0V is applied to input 4 a "999" fire alarm call will be reported via the current operating mode. If input 4 is still active when this call has been answered and cleared a fire tone will start to sound through all intercoms (unless disabled in the General Set-up programming). The fire tone will continue until input 4 is removed, i.e. when the buildings Fire Alarm Panel is reset. If the system is operating in onsite mode it is possible to stop the fire tone and resume normal operation before the Fire Panel is reset by lifting the handset and pressing the "5" key in the gap between the bursts of tone. The fire alarm call will not re-report until the 0V signal is removed and reapplied to input 4. Note, the fire tone cannot be stopped (or parked) via Local or Remote Offsite mode - the Fire Alarm Panel must be reset. Relay output 2 can be set to energise for the duration input 4 is applied; this is normally used to override the main entrance door electric lock release allowing the Emergency Services to enter.

FIRE ALARM INPUT (issue "E" A00415 Amp Board onwards & V2.0x Firmware onwards)

When 0V is applied to input 4 a "999" fire alarm call will be reported via the current operating mode and at the same time a fire tone will start to sound through all intercoms (unless disabled in the General Set-up programming). The fire tone will continue until input 4 is removed, i.e. when the buildings Fire Alarm Panel is reset. All other Fire Alarm related features are as V1.0 described above.

OUTPUTS

There are 4 N/O clean contact outputs which can be programmed for a number of functions. The contacts are rated at 24V DC 500mA.

Output No.	Function	CPU LED
1	Any Alarm Output or DTMF Relay 1	LED 4
2	Fire Alarm Output or DTMF Relay 2	LED 5
3	BT Line Selector or DTMF Relay 3	LED 6
4	BT Line Fault or DTMF Relay 4	LED 7

When an output is activated the relevant LED4-7 will illuminate on the main CPU board.
Note; all outputs can be activated with DTMF keys or set as system outputs - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

EXTERNAL PSU INPUT

There are screw connectors provided for additional 12V & 24V DC power supplies if the network current requirement exceeds that of the system SMPSU. The power rating and standby battery capacity of additional PSU's must be calculated accordingly. Consideration should also be given to the power conductors on the site wiring network to ensure they are capable of carrying the increased current with minimum voltage drop. Fuses F1-F6 will need to be up-rated in line with the increased current capacity.

FUSES

There is fuse protection on the 12V and 24V DC supplies on each of the 3 network connections. The LED alongside each fuse will extinguish if a fuse is blown.

Fuse No.	Rating	Function	LED
F1	1.6A	24V Network 1	LED 3
F2	1.6A	12V Network 1	LED 4
F3	1.6A	24V Network 2	LED 5
F4	1.6A	12V Network 2	LED 6
F5	1.6A	24V Network 3	LED 7
F6	1.6A	12V Network 3	LED 8

If only one network leg is connected it is acceptable to increase both fuse ratings to 3A.

10. NETWORK TERMINATION BOARD

PA & DOOR ENTRY

The optional PA amplifier and/or door entry panels are connected to the termination board;

Terminal	Function	
EN	Enable signal connected to PA amplifier board	
AUD	DECT audio connected to PA amplifier input	
0V	DECT audio 0V reference	
RS485 +	RS485 bi-directional data bus	
RS485 -		
PA1	PA audio signal (100V line) from PA amp output	
PA2		
C1	door panel audio	C1 = audio to door
C2		C2 = audio to phone

See Tynetec wiring diagram Drg No. ZXT100 sheet 2.

SYSTEM NETWORK

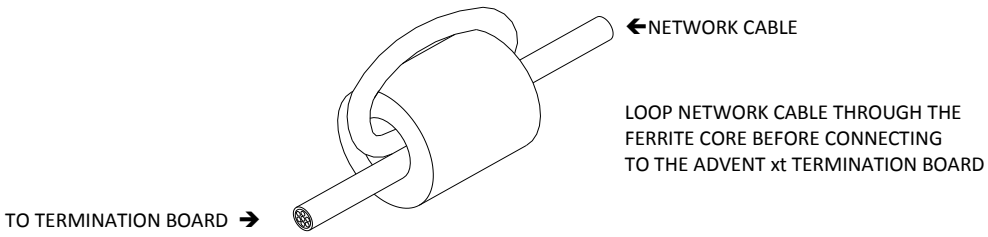
There are 3 blocks of pluggable XT network terminals - if there are more than 3 legs simply connect in parallel in any block. The terminals on the system network have the following functions;

Terminal	Function	
24V	24V DC supply for network devices - fused at 1.6A	
12V	12V DC supply for auxiliary devices - fused at 1.6A	
0V	system Earth reference	
RS485 +	RS485 bi-directional databus	
RS485 -		
SP1	intercom loudspeaker	
SP2		
Mic	intercom microphone	
PA1/C1	PA audio - 100V Line	C1 = door entry audio to door
PA2/C2		C2 = door entry audio to phone

On systems with public address and door entry telephones the PA1/PA2 pair is shared for PA audio or door entry C1/C2 audio depending on mode of operation.

FERRITE CORE

The network wiring should be looped through a ferrite core before being connected to the termination board. This will suppress any voltage transients induced on the network wiring and greatly reduce the likelihood of damage to the main CPU board.



Four ferrite cores are provided in the kit of parts with the Advent xt controller - for additional ferrite cores order Tynetec P/No. T06050.

11. NETWORK CABLE COLOUR CODE

CW1308 NETWORK CABLE

The recommended colour code using a 6 pair CW1308 BT spec cable is given below;

Pair No.	Diameter	Colour	Signal
1	0.5 mm	White/Blue	24V
		Blue/White	12V
2	2 x 0.5 mm	White/Orange Pair	0V
3	0.5 mm	White/Green	RS485+
		Green/White	RS485-
4	0.5 mm	White/Brown	SP1
		Brown/White	SP2
5	0.5 mm	White/Grey	Mic
		Grey/White	Spare
6	0.5 mm	Red/Blue	PA1
		Blue/Red	PA2

TUNSTALL NETWORK CABLE

If using an existing 5 pair Tunstall Telecom cable always ensure none of the original equipment is left connected before terminating the Advent xt system. Use the following colour code;

Pair No.	Diameter	Colour	Signal
1	0.8 mm	Red	24V
		Black	0V
2	0.5 mm	White	RS485+
		Blue	RS485-
3	0.5 mm	Grey	SP1
		Yellow	SP2
4	0.5 mm	Orange	Mic
		Brown	12V
5	0.5 mm	Violet	PA1
		Turquoise	PA2

Other cable networks from previous systems can be used provided there are a minimum of 4 x 0.5mm twisted pairs maintained throughout the site. Check the overall cable resistance from one end to another, check there is no resistance between cores and check the cables are voltage free.

NETWORK CABLE LIMITATIONS

The maximum network cable length is 1200 metres - beyond this it is likely you will experience problems relating to voltage drop, low audio levels and corrupt data.

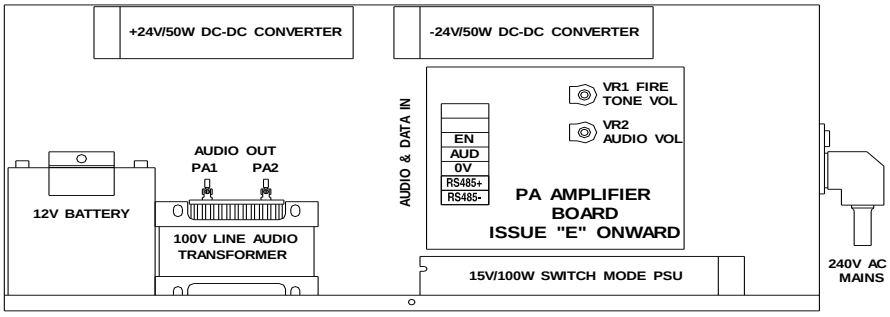
Voltage drop can be overcome by increasing cable conductor size and adding additional PSU's.
Low audio levels can only be overcome by increasing cable conductor size.
Corrupt data can be caused by cable length and/or too many devices on the network.
A Network Data Repeater (P/No. ZXT340) is available for extreme cases.

12. PA AMPLIFIER INSTALLATION



The optional PA amplifier & SMPSU (P/No. ZXT155) allows the onsite manager to broadcast public address announcements through all intercoms simultaneously.

Note; PA intercoms (P/No. ZXT206) must be fitted in all dwellings. One PA amplifier & SMPSU can drive approx. 80 intercoms, for larger systems a second ZXT155 will be required and the site PA wiring must be split into two legs.



Mains Connection	
	
Colour	**Terminal**
Brown	Live
Blue	Neutral
Grn/Yel	Earth

INSTALLATION

The PA amplifier & SMPSU is housed in a single steel enclosure 200x500x100 mm (HxWxD) designed for wall mounting below the Advent xt controller.

MAINS SUPPLY

The 240V AC mains supply should be taken from the same fused spur as the Advent xt controller. Fit the nylon strain relief to the socket to prevent the mains lead being inadvertently unplugged.

TERMINATION

3 cables are provided for connection to the Advent xt termination board - see table below for connections and colour codes. See Drg No. ZXT100 sheet 2, for larger systems with intercoms split over 2 legs see Drg No. WD0276.

Terminal	Colour	Cable	Connected To:
PA Amplifier EN	Red	3 Core	Advent xt Termination Board EN
PA Amplifier AUD	Blue		Advent xt Termination Board AUD
PA Amplifier 0V	Green		Advent xt Termination Board 0V
RS485+	Red	2 Core	Advent xt Termination Board RS485+
RS485-	Black		Advent xt Termination Board RS485-
Transformer PA1	Red	2 Core	Advent xt Termination Board PA1
Transformer PA2	Black		Advent xt Termination Board PA2

Note: the transformer PA1/PA2 connection is not polarity conscious.

SMPSU & DC-DC MODULES

The 15V/100W switch mode power supply unit (P/No. W00586) is factory set to 13.75V DC output to supply the two 24V DC-DC converters and the PA amplifier board. This voltage also charges the 12V standby battery.
The two 24V/50W DC-DC converter modules (P/No. W00590) are factory wired to provide +/- 24V DC supply for the PA amplifier board. The DC-DC converters have solid state overload protection and contain no user serviceable parts.

PROGRAMMING

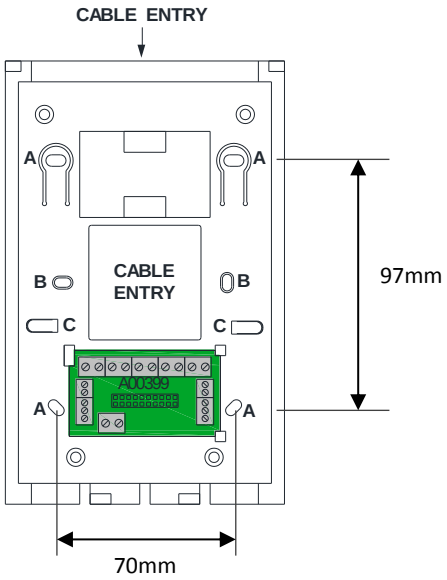
The All Call and Fire Tone options must be enabled in the “General Setup” programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

13. INTERCOM UNIT INSTALLATION

The intercom unit should be wall mounted in a central location within each dwelling. Screw fix the intercom rear securely to the wall using the 4 holes marked “A”. The 2 holes marked “B” can be used for an embedded box. Ensure the case is not twisted as this may prevent the lid fitting correctly.



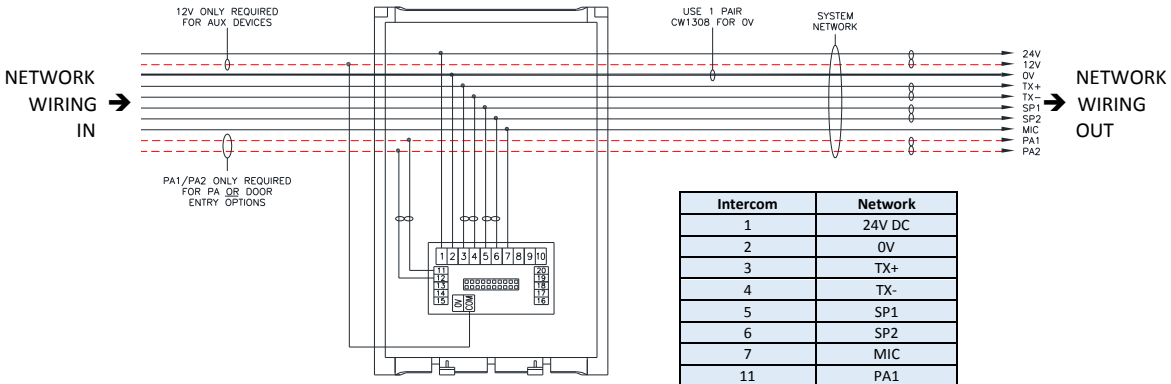
FIXING HOLES “B” ON 60mm CENTRES



The network cable should loop-in and out of each intercom via the cable entry channel on the top or the square cut-out in the rear. Wherever possible avoid cable entry from below as this may interfere with the operation of the emergency pullcord. The cable clips marked “C” can be used to retain spare cores and prevent possible short circuits when the intercom front is fitted.

INTERCOM TERMINATION

The network wiring is terminated on the interconnect board in the rear section of the intercom as shown below;



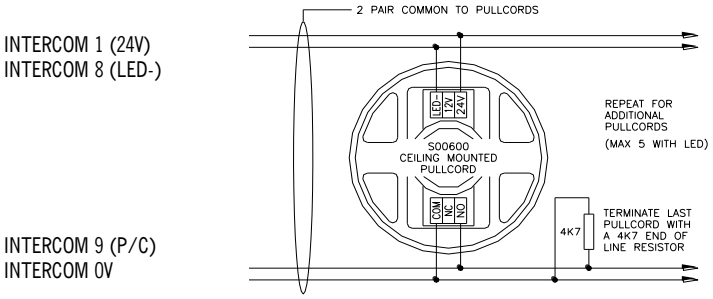
Intercom	Network
1	24V DC
2	0V
3	TX+
4	TX-
5	SP1
6	SP2
7	MIC
11	PA1
12	PA2
COM	12V DC

The 12V connection (COM) is only necessary if there are auxiliary devices within the dwelling that require a 12V DC supply. Likewise, the PA1/PA2 connection is only necessary for the public address option or if door entry telephones are fitted. If all cores are available in the network cable it is good practice to make all the connections for possible future upgrades.

14. INTERCOM UNIT AUXILIARY DEVICES

The intercom has the facility to connect ceiling mounted pullcords, smoke detectors, PIR detectors and a hard of hearing strobe light within each dwelling. Four additional inputs are available provided there is no door entry telephone or strobe light connected to the intercom.

CEILING PULLCORDS (NORMALLY OPEN)



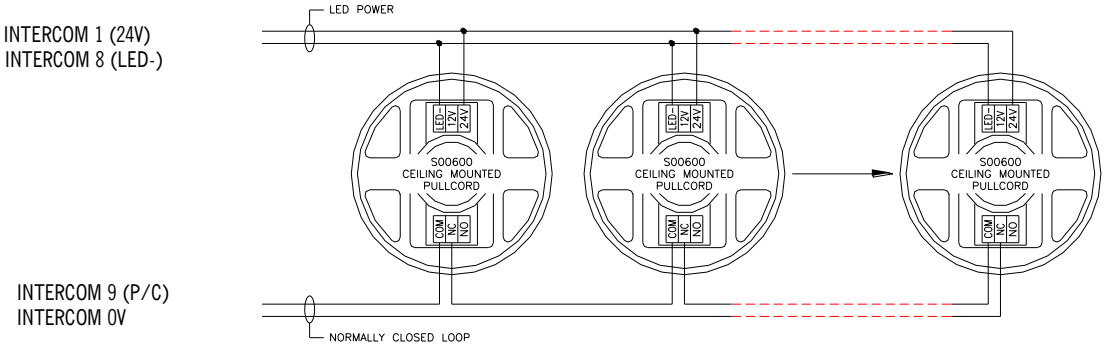
Tynetec P/No. S00600 shown.

Up to 5 pullcords with LED's can be connected in parallel within each dwelling.

An end of line 4K7 resistor must be fitted across the N/O contacts on the last pullcord.

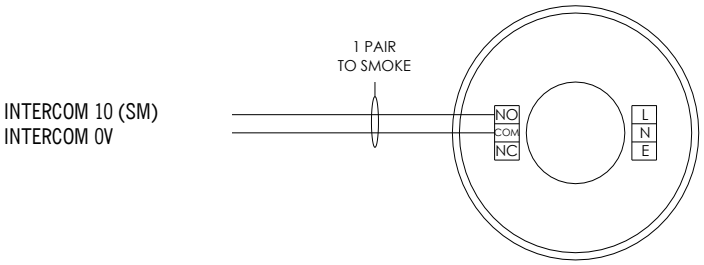
Existing pullcords with 12V LED's can be connected to the auxiliary 12V supply.

CEILING PULLCORDS (NORMALLY CLOSED)



For the normally closed connection the intercom must have EE1650 V2.01a firmware onwards.
Options DIL switch No. 6 in the intercom must be ON for normally closed pullcords.
Up to 5 pullcords with LED's can be connected in series within each dwelling.
An end of line 4K7 resistor is NOT required.
IMPORTANT: remote intercoms (ZXT220/ZXT225) CANNOT be connected if normally closed pullcords are used.

SMOKE/HEAT DETECTORS



Smoke/Heat detectors are supplied by others.

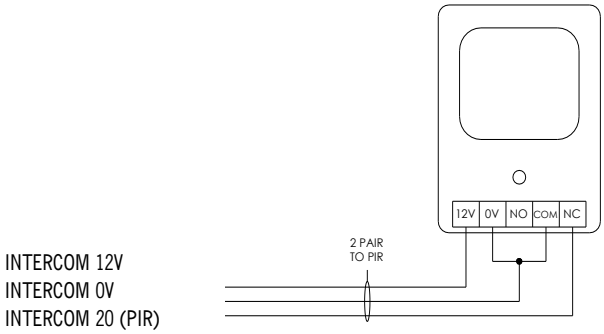
They should be mains powered with an internal battery back-up. They should have N/O clean contacts which close on alarm.

If low voltage detectors are used then these must be powered from an additional power supply unit. DO NOT POWER FROM THE ADVENT xt SYSTEM.

Multiple smoke/heat detectors can be connected in parallel within each dwelling.

14. INTERCOM UNIT AUXILIARY DEVICES

PIR DETECTORS



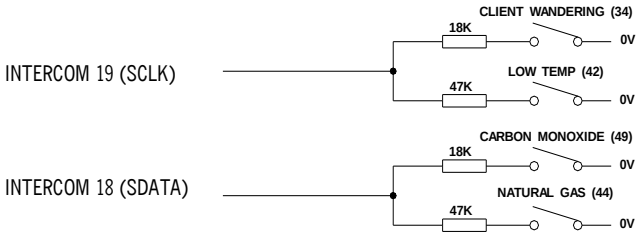
PIR detectors are supplied by others.

They can be powered from the network wiring auxiliary 12V supply.

They must have normally closed clean contacts which open when movement is detected.

If more than one PIR is installed in the same dwelling the normally closed contacts must be connected in series.

ADDITIONAL INPUTS

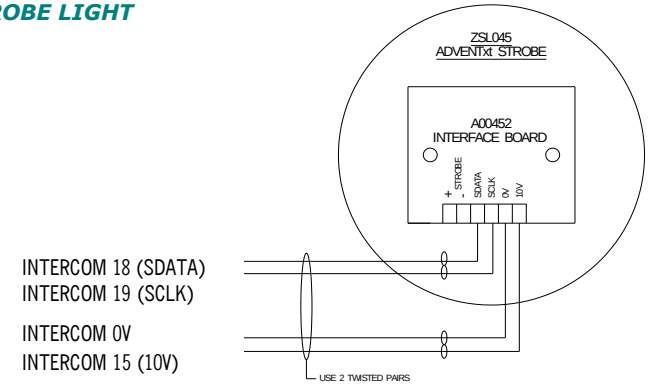


Four additional inputs can be wired to the intercom terminals 18 & 19 provided DIL switch 2 is OFF (no door entry/strobe).

The correct resistor value for the appropriate input device must be connected in series with N/O clean contacts to 0V.

The input types shown are the factory defaults. These are programmable with V2.0 firmware.

STROBE LIGHT



Tynetec P/No. ZSL045 shown.

Only one strobe per intercom (if a remote intercom is fitted a second strobe can be connected to that).

Set intercom DIL switch 2 ON when a strobe is connected.

The strobe will flash for 20 seconds when the intercom is called (in any operating mode).

IMPORTANT

To connect an Advent xt strobe light (ZSL045) the intercom unit must have **EE1650 V2.00a** firmware onwards. V2.0x and V1.0x intercom firmware can be mixed on the same installation.

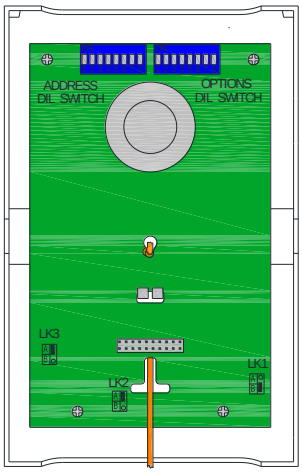
15. INTERCOM UNIT DIL SWITCHES & LINK SETTINGS

Before fitting the intercom front the “Address” and “Options” DIL switches must be set. The jumper links LK1, LK2 & LK3 must also be set in the correct position.

INTERCOM ADDRESS DIL SWITCH

The intercom Address must be set sequentially using an 8 bit binary code starting from “1” in the lowest flat number on the site.
Note: binary “0” (all DIL switches set OFF) is not used.

Address DIL Switch No.	ON = Binary Code
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128



INTERCOM OPTIONS DIL SWITCH

Any additional equipment connected to an intercom must be enabled via the Options DIL switch.

Options DIL Switch No.	Function	Options DIL Switch “OFF”	Options DIL Switch “ON”
1	I/O Expander Unit	N/A	N/A
2	Door Entry/Strobe	Disabled	Enabled
3	Door Entry Interface	N/A	N/A
4	PIR/Door Contact	Disabled	Enabled
5	Intercom Mode	Master	Remote
6	Pullcord Type	Normally Open	Normally Closed
7	Not Used	N/A	N/A
8	Not Used	N/A	N/A

When door entry/strobe is disabled (DIL SW 2 OFF) intercom terminals 18 & 19 are enabled as four additional alarm inputs - see section 14.

INTERCOM LINKS

Intercom Mode	LK1	LK2	LK3
Standard	A	A	A
N/O Relay Output Connected	B	A	A
Door Entry Phone Connected	A	A	A
Remote Intercom Connected	A	A	B
Remote & Phone Connected	A	A	B
Connected as a Remote	B	B	A

RELAY OUTPUT

A relay output is available on intercoms WITHOUT a door entry telephone connected. The N/O clean contact output can be activated by the manager/control centre when a speech channel is open. The N/O contacts are on terminals 16 & 17 - contact rating: 30VDC @500mA.

PROGRAMMING

The total number of intercom units and their ID’s must be set in the “General Setup & Tenants Unit Identity” programming.
See the Advent xt Programming Manual (Doc No. FM0411).

BEEPING INTERCOMS

If an intercom “beeps” every 10 seconds then its ID has been set greater than the number of intercoms set in the system programming. If an intercom beeps every few minutes it is not receiving data (or the data is corrupt).

16. REMOTE INTERCOM UNIT INSTALLATION

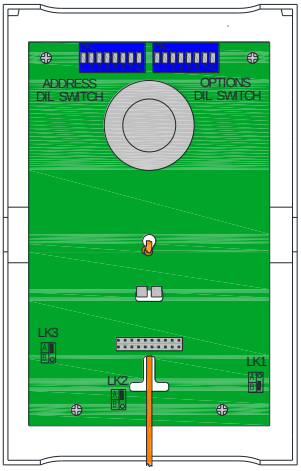
The remote intercom (P/No. ZXT221) can be connected to any standard intercom if a second speech unit is required within a dwelling. The remote intercom is also available with PA facility (P/No. ZXT226) if all call speech/fire tone is required through both intercoms. Note; the Extracare reset function is not available on a remote intercom.

INSTALLATION

A 6 pair CW1308 cable is required between the master intercom (connected to the network) and the remote. The cable run between the master and remote should not exceed 20 metres, only one remote can be connected per master. All auxiliary input devices such as pullcords, smoke detectors, PIR's, etc. are connected to the master intercom as normal, only the clean contact relay output is available on the remote. See wiring diagram Drg No. ZXT100 sheet 4 for connection details. DIL switch and link settings must be made to identify an intercom as a "master" or "remote".

DIL SWITCH & LINK SETTINGS

ADDRESS DIL SWITCH
SET THE SAME 8 BIT ADDRESS ON
BOTH MASTER & REMOTE INTERCOMS



OPTIONS DIL SWITCH 5
OFF = MASTER INTERCOM
ON = REMOTE INTERCOM

JUMPERS LK1/LK2/LK3
LINKS ARE SET DIFFERENTLY
FOR MASTER/SLAVE INTERCOMS
(SEE TABLE ON PREVIOUS PAGE)

OPERATION

The master or remote intercom can be used to initiate an alarm call and a speech link will be opened to both simultaneously. The orange cord on the master will report an "intercom alarm" whereas the orange cord (or the alarm button) on the remote will report a "pullcord alarm". The 4 smaller keypad buttons do not function on the remote unit therefore the master must be used to select privacy mode or to accept a "message waiting". When privacy mode is selected the amber LED will illuminate on both the master and remote, any alarm call will override privacy on both intercoms. When an alarm call is initiated the alarm button will illuminate bright red on both the master and remote. If the master intercom has Extracare then the alarm button will flash red on both intercoms until cancelled on the master. If there's a "message waiting" the blue LED will flash on both intercoms until accepted on the master.

PA LIMITATIONS

One PA amplifier & SMPSU (P/No. ZXT155) is capable of driving up to 80 intercoms therefore the total number of master and remote intercoms on any network leg must not exceed 80. On large installations a second ZXT155 PA amplifier will be required and separate network leg must be used.

4K7 PULLCORD RESISTOR

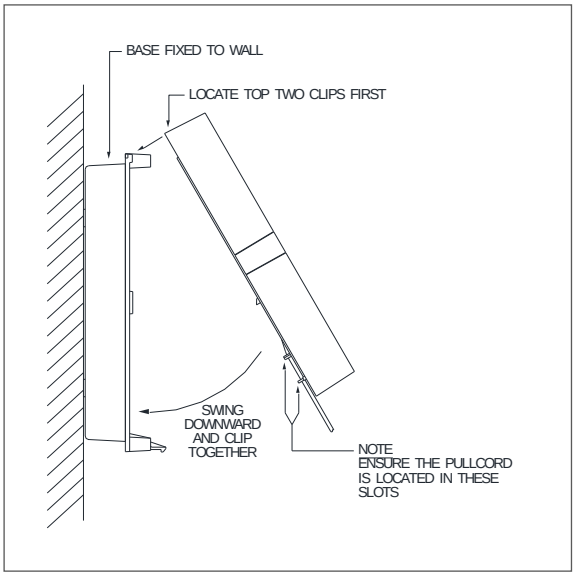
A remote intercom does NOT need a 4K7 end of line resistor between terminal 9 & 0V. The 4K7 must be fitted on the furthest normally open ceiling pullcord connected to the master intercom. NOTE: it is not possible to connect normally closed pullcords and a remote intercom to a master intercom.

17. FITTING & REMOVING THE INTERCOM FRONT

Before fitting the intercom front; set the Address and Options DIL switches and check links LK1-3 are fitted in the correct positions. Ensure all cables are properly terminated and secure spare wires in the clips provided.

FITTING THE INTERCOM FRONT

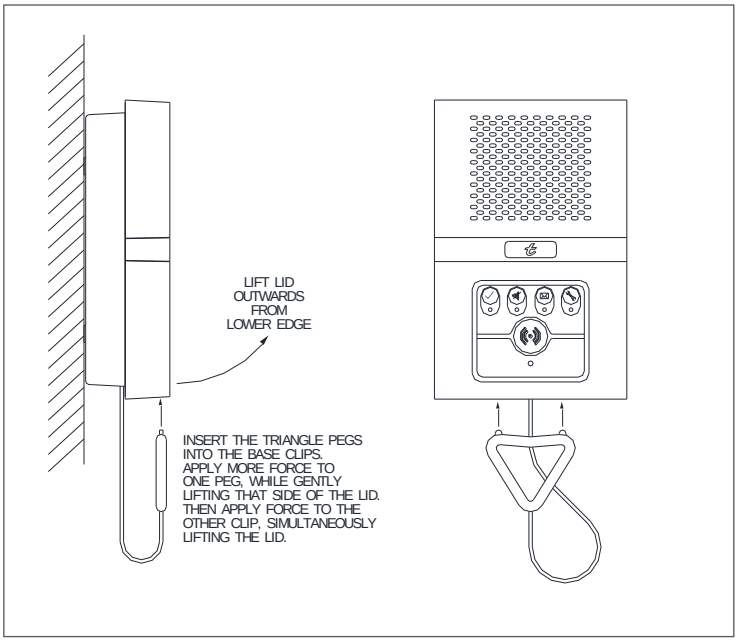
Locate the 2 top corners of the intercom front over the 2 top corners of the intercom back, swing downwards and clip together ensuring the pullcord is located in its slots.



ALWAYS CHECK THE PULLCORD OPERATES AFTER THE FRONT IS FITTED

REMOVING THE INTERCOM FRONT

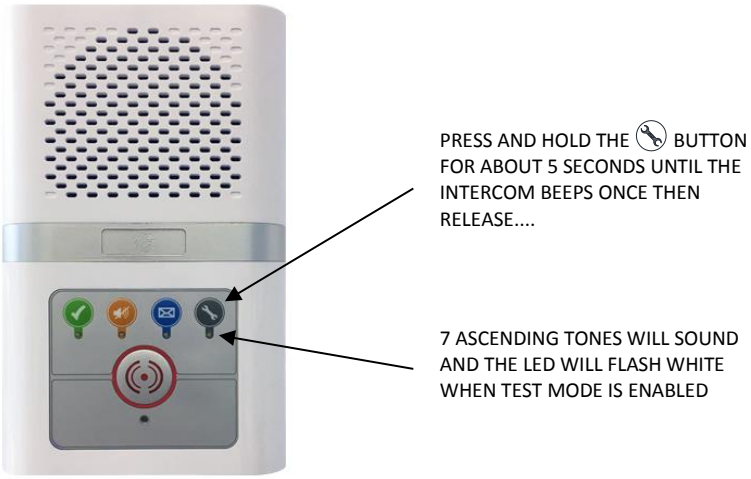
Use the pegs on the orange triangle to push the clips one at a time on the lower face whilst pulling the front outwards from the bottom edge.



18. INTERCOM UNIT TEST MODE

The intercom unit Test Mode allows all input devices to be tested on a per-flat basis without putting a call on the system. Once in Test Mode the intercom will beep as each device is activated, the system printer will log each test with the flat number, device type, time and date.

The intercom must be in a quiescent state to enter the Test Mode, i.e. not in privacy mode, no message waiting, no alarm call in progress and not awaiting Extracare cancellation.



TO ENTER TEST MODE

Press and hold the button for about 5 seconds until the intercom beeps once - then release within 2 seconds or the Test Mode will not be enabled.

When the intercom is in test mode the white LED will flash and a 7 tone ascending scale will play once.

Upon activation of each device the intercom will beep twice confirming that the controller has received the test alarm. Each test alarm is printed and/or recorded in the Manager's Panel "Event Log".

Once in Test Mode certain conditions have been set to cater for the activation of PIR's and radio devices. These are as follows;

Radio devices should be tested first - once any other hardwired device (excluding the PIR) is activated no further radio devices will be logged as tested.

Hardwired PIR's are only reported every 30 seconds - this is to allow movement through the accommodation to get to the next device without re-triggering the PIR.

When a ceiling pullcord is activated all pullcord reassurance LED's will be illuminated for 2 seconds.

TO TURN THE ALARM BUTTON "GLOW" OFF

In standby mode the alarm button will normally glow dim red and illuminate bright red when an alarm call is made. The standby glow can be turned on/off by pressing the button. Note the alarm button will always illuminate bright red when an alarm call is made – this cannot be turned-off.

TO EXIT TEST MODE

The Test Mode duration is set at 10 minutes or it can be terminated at any time by pressing the button once again. The intercom will then play 4 descending tones.

IMPORTANT

Only 1 intercom can be in Test Mode at any one time.

Test Mode cannot be entered via a Remote Intercom.

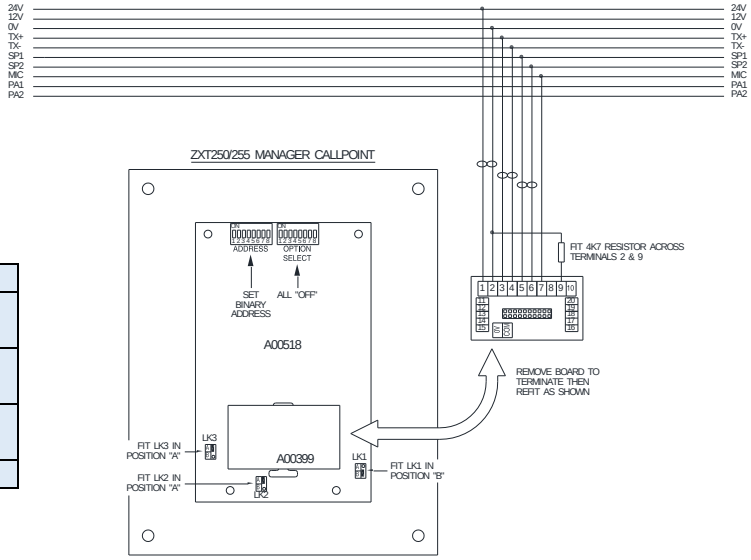
19. MANAGER CALLPOINT INSTALLATION



The Manager Callpoint (P/No. ZXT250) is an external speech unit used to initiate a call from outside the building.

It is connected to the system network similar to a standard intercom.

ADVENT xt NETWORK



Terminal	Network	Cable
1	24V DC	Pair 1
2	0V	
3	TX+	Pair 2
4	TX-	
5	SP1	Pair 3
6	SP2	
7	MIC	

INSTALLATION

The standard backbox is designed for flush mounting - a surface mount backbox (P/No. HM0821) or a stainless surface cowling (P/No. HM1125) is available separately. Do not cut a hole in the top face of the backbox for cable entry as this may allow water to enter and damage the electronic components. The cut-out dimensions given below will allow the backbox to fit flush into the wall or door screen with the bezel overlapping by approx. 14mm on all sides.

Part No.	Height	Width	Depth
ZXT250	210mm	170mm	60mm

The backbox should be sealed with suitable mastic to prevent water ingress. All backboxes must be earth bonded in line with current IEE regulations. The fascia is fixed by 4 off M5x12mm Allen key screws which require a 3mm Allen key tool.

TERMINATION

Carefully unplug the termination board off the back of the Manager Callpoint to gain access to the screw terminals. Connect to the system network wiring as shown above, fit a 4K7 resistor across terminals 2 & 9 to prevent an “open circuit fault” being reported, and then refit the termination board ensuring correct orientation. Note; there is no PA facility on a Manager Callpoint.

DIL SWITCHES & LINKS

The “OPTION SELECT” DIL switch should be set all OFF and the “ADDRESS” DIL switch should be set with the next available unique 8 bit binary address. Fit Links LK1 in position “B” & LK2/LK3 in position “A”.

DOOR LOCK CONNECTION

The N/O clean contact output on terminals 16&17 can be used to release an electric lock. Power for the lock release must be taken from an additional PSU - not the Advent xt network. Alternatively, an auxiliary relay output on the Advent xt controller can be programmed to activate with any DTMF character - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

20. LIFT CALLPOINT INSTALLATION

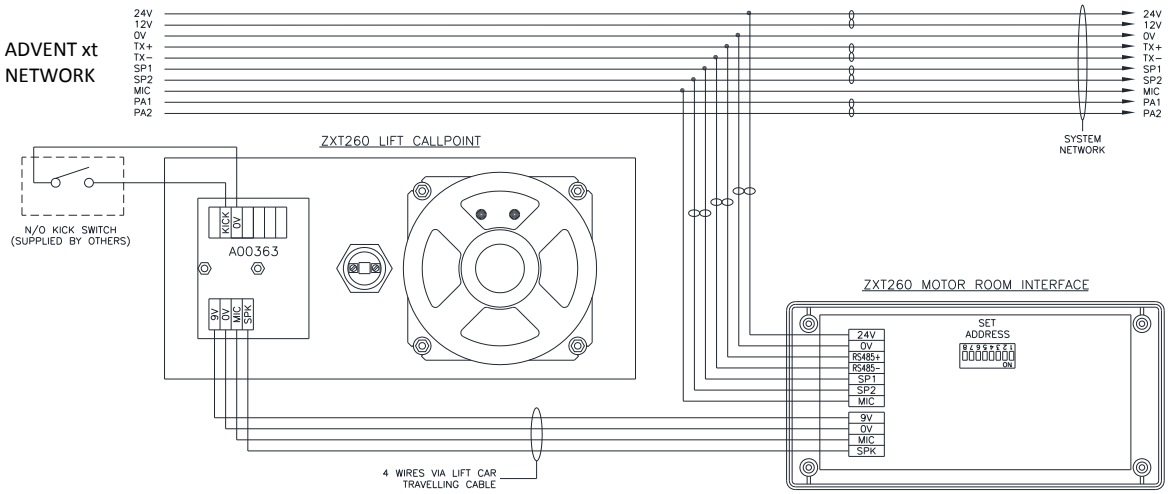




The Lift Callpoint (P/No. ZXT260) is used to initiate a call from inside a lift car.

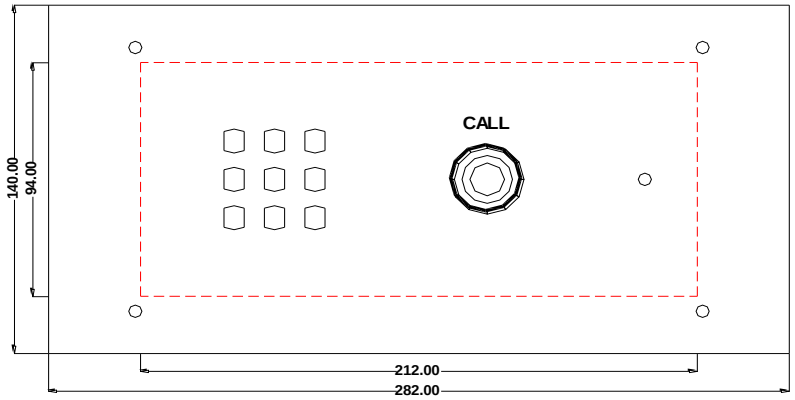
The callpoint requires four wires via the lift company's travelling cable to an interface unit in the motor room.

The interface unit is connected to the system network similar to a standard intercom.



INSTALLATION

The Lift Callpoint is designed to be retrofitted in place of an existing Tunstall Telecom lift unit. It requires a horizontal cut-out 212mm x 94mm with 4 fixing holes on 216mm x 106mm centres.



The fascia must be earth bonded in line with current IEE regulations.

TERMINATION

Connect the lift company's travelling cable between the Lift Callpoint and the Interface Unit in the motor room.
Connect the interface unit to the Advent xt network wiring as shown above.
A normally open momentary action low level Kick Switch (supplied by others) can be connected across the KICK & 0V terminals in the lift car as shown above.
Set the next available unique 8 bit binary address via DIL switch 1.

SURFACE MOUNT OPTION

The Lift Callpoint is also available in a standard Advent xt surface mount ABS intercom case with integral alarm pullcord (P/No. ZXT271). Connection of this unit is identical to the ZXT260 above.

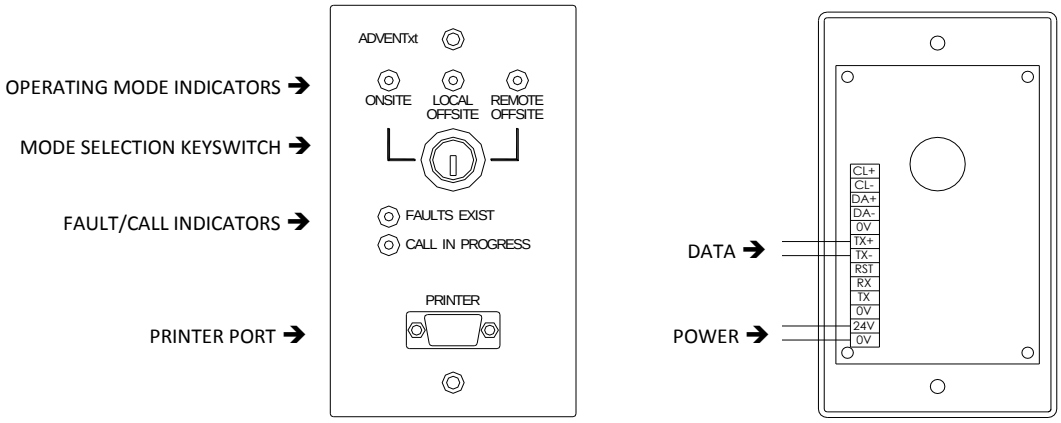
21. STATUS MODULE INSTALLATION



The Advent xt Status Module (P/No. ZXT300) is normally fitted in the Managers office and provides the facility to manually switch the system operating mode. Green, amber and red LED indicators identify the current mode; under certain conditions the system may change its mode automatically i.e. an unanswered call in Onsite Mode will revert to Local Offsite or Remote Offsite after a pre-set delay.

The red "FAULTS EXIST" LED indicator will illuminate if; (i) any intercom units or network devices are "parked" to prevent faults re-reporting or (ii) if the equipment telephone line is disconnected or goes open circuit preventing local/remote offsite modes from being selected. The system Fault Memory can be checked by dialling 1008✳ and listening to the message.

The green "CALL IN PROGRESS" LED will illuminate when there's a call is in progress - the operating mode cannot be changed until the call has ended.



NETWORK CONNECTION

The Status Module requires a power and data connection to the system network wiring - depending on location it may be simpler to connect direct to the Advent xt controller on its own 2 pair CW1308 cable.

PRINTER OPTION

An Advent xt printer (P/No. ZXT311) can be plugged into the Status Module to record all system activity with the time/date of each event. Note; the printer module also requires a 240V AC mains supply from a standard 13A wall socket.

The printer comes complete with a plug-top PSU module, a 1.5m comms lead, a 34m thermal paper roll and a wall mounting bracket.

To preserve paper, each event is printed on a single line of text in the following format:

Prefix	ID	Level	Date	Time	Mode
AL	0001	INTERCM	16/12	15:47	ON

e.g. intercom alarm from flat 1 at 15:47 on 16 December - system in onsite mode.

For full details of all text abbreviations see the Printer User Guide (Tynetec Doc No. FM0416).
For replacement 34 metre thermal paper rolls order Tynetec P/No. W00336.

PROGRAMMING

The Network Keyswitch Unit (Status Module) must be enabled in the "General Setup" programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

22. MANAGER'S DISPLAY PANEL INSTALLATION

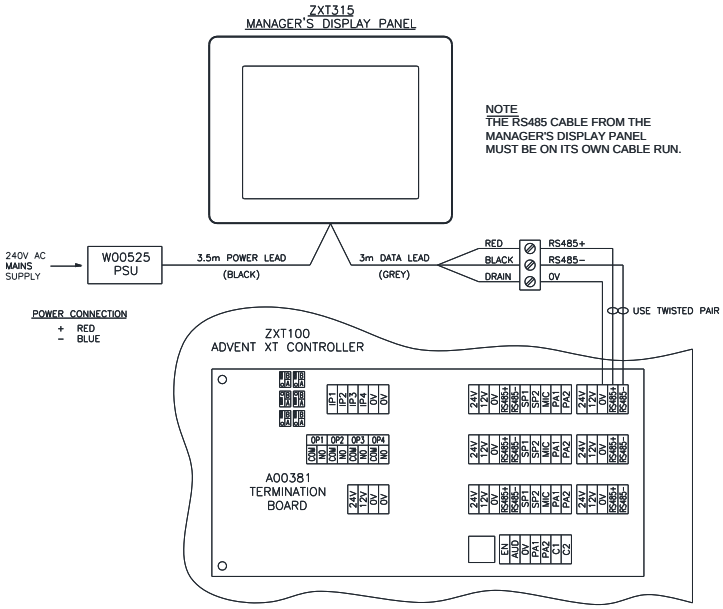


The optional Manager's Display Panel (P/No. ZXT315) is a wall mounted 10.4" touch-screen monitor used to display all system activity and log all events with the time and date.

Only one Manager's Panel can be connected per system.

From November 2014 the Manager's Panel is supplied with a battery backed 12V/2A DC PSU in a separate metal box.

The Manager's Display Panel can only be used with Advent xt Controller firmware **V2.03C** onwards (to check your firmware version see section 33).



INSTALLATION

The Manager's Display Panel is housed in a wall mounted ABS enclosure; dimensions 226x296x59mm (HxWxD).
Try and choose a location in the Managers Office within 3.5 metres cable run of the separate boxed power supply.
Fix the mounting bracket to the wall with the 4 fixing screws provided (100mm centres).
Ensure correct orientation so the monitor hooks onto the wall bracket.

POWER SUPPLY CONNECTION

The Manager's Panel has a 3.5 metre power cable factory fitted for connection to the battery backed 12V DC PSU.
The PSU requires connection to a mains power supply.
PSU dimensions: 205x240x85mm (HxWxD). Battery: 12V 3.4Ah.

Black Power Cable	Boxed PSU
Red	+12V DC
Blue	0V

RS485 DATA CONNECTION

The Manager's Panel has a 3 metre data cable factory fitted.
A junction box with screw terminals is provided to extend this connection to the Advent xt controller. The data connection must be made using a separate **twisted pair cable**.
The drain wire should be connected to the system 0V.

Grey Data Cable	Advent xt
Red	RS485+
Black	RS485-
Drain Wire	0V

PROGRAMMING

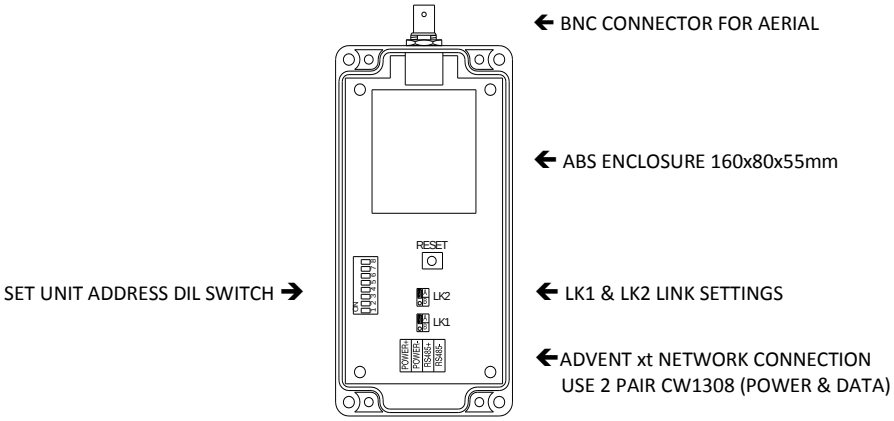
The Manager's Display Panel must be enabled in the "General Setup" programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

1GB SD CARD

The 1GB SD memory card, accessible on the lower rear face alongside the cable entry point, stores the display software and event log. If software upgrades become available in the future a new SD card will be supplied. Always turn off the mains supply before removing/replacing the memory card.

23. NETWORK RECEIVER INSTALLATION

Up to 16 x 169MHz Network Receivers (P/No. ZXT325) can be installed throughout a site to provide radio coverage for personal pendants or other Altec radio devices.



CONNECTION

Network Receivers require a power and data connection from the Advent xt system network using a 2 pair CW1308 cable.

LINK SETTINGS & SOFTWARE VERSIONS

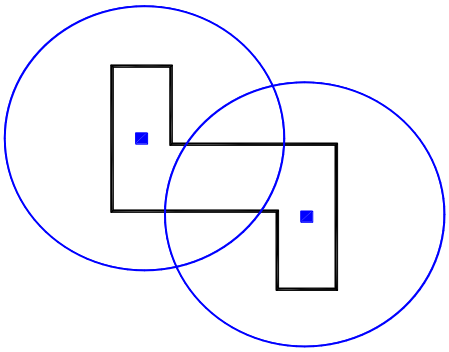
From September 2011 Network Receivers have 2 PCB link options LK1 & LK2. These are factory set to match the firmware version and model of Receiver.

Part No.	Description	LK1	LK2	Firmware
ZXT325	169MHz Network Receiver	A	A	EE1690
ZXT326	169MHz Zoned Network Receiver	B	B	EE1692

INSTALLATION

Network Receivers should be sited in a dry secure area; they are NOT suitable for outdoor locations.
As the fabric and layout of all buildings differ, an RF site survey is recommended for each installation to establish the best locations. A typical radio range of 75 metres radius can be expected for a Network Receiver with a 1/2 Wave Aerial, see building plan below with 2 receivers giving full coverage;

Network Receivers with 1/2 Wave Aerials give approx. 75m radius radio coverage

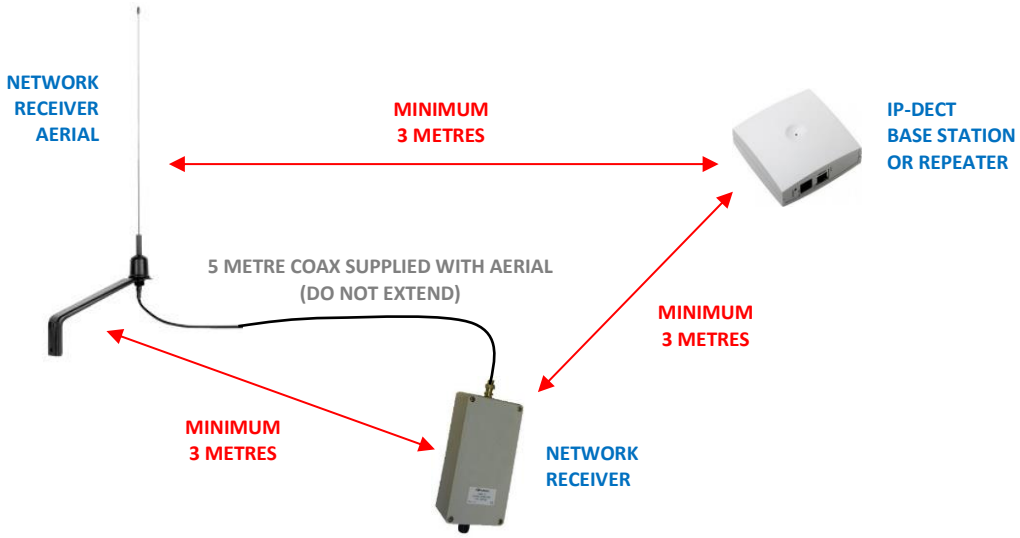


Construction materials such as foil backed plasterboard, reinforced concrete or stone walls will reduce range. Environmental conditions such as high levels of transmission at nearby frequencies or emissions from other electrical equipment may further reduce range. Clear line-of-sight will give best range.

23. NETWORK RECEIVER INSTALLATION

169MHz SEPARATION

To obtain maximum coverage it is very important that there is a minimum of **3 METRES SEPARATION** between the Network Receiver, its own Aerial and any DECT Base Station or Repeater. Failure to follow these recommendations will result in significantly reduced radio coverage.



AERIAL CONNECTION

The 169MHz 1/2 Wave Aerial (P/No. W06250) comes complete with a wall mounting bracket, 5 metre coax and BNC plug for connection to the Network Receiver.

Aerials should be mounted vertically, as high as possible and free of immediate obstruction from concrete, steel work or electrical equipment. Aerials are suitable for external mounting but DO NOT extend the 5 metre coaxial cable supplied.

ID SETTING

DIL switches 1 to 4 are used to set a unique ID (0 to 15) on each Network Receiver, DIL switches 5 to 8 are not used. ID's must run sequentially starting from zero.

Network Receiver No.	DIL Switch No: ON = Binary Code:	1 "1"	2 "2"	3 "4"	4 "8"	ID
1		OFF	OFF	OFF	OFF	**0**
2		**ON**	OFF	OFF	OFF	**1**
3		OFF	**ON**	OFF	OFF	**2**
4		**ON**	**ON**	OFF	OFF	**3**
5		OFF	OFF	**ON**	OFF	**4**
6		**ON**	OFF	**ON**	OFF	**5**
7		OFF	**ON**	**ON**	OFF	**6**
8		**ON**	**ON**	**ON**	OFF	**7**
9		OFF	OFF	OFF	**ON**	**8**
10		**ON**	OFF	OFF	**ON**	**9**
11		OFF	**ON**	OFF	**ON**	**10**
12		**ON**	**ON**	OFF	**ON**	**11**
13		OFF	OFF	**ON**	**ON**	**12**
14		**ON**	OFF	**ON**	**ON**	**13**
15		OFF	**ON**	**ON**	**ON**	**14**
16		**ON**	**ON**	**ON**	**ON**	**15**

PROGRAMMING

The total number of Network Receivers must be set in the "General Setup" programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

24. ZONED NETWORK RECEIVER INSTALLATION



Zoned Network Receivers help the onsite Manager to identify which area of the building a pendant alarm has come from.

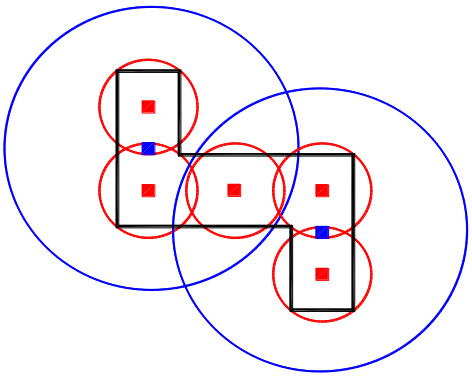
169MHz Zoned Network Receivers were introduced in September 2011 and can only be used with Advent xt Controller firmware **V2.03a** onwards.

Full radio coverage must first be achieved using standard ZXT325 Network Receivers with W06250 1/2 Wave Aerials, then a limited number of ZXT326 Zoned Network Receivers can be deployed around the site to give localised radio coverage.

IMPORTANT: the maximum number of Zoned Network Receivers per site is **12**, for example you could install the following maximum combinations; 4 standard + 12 zoned, or 6 standard + 10 zoned, or 8 standard + 8 zoned etc.

The building plan below shows two ■ **Standard Network Receivers** giving approx. 75 metres radius radio coverage and five ■ **Zoned Network Receivers** giving approx. 20 metres radius radio coverage;

Standard Network Receivers with 1/2 Wave Aerials give approx. 75m radius radio coverage



Zoned Network Receivers with 10dB BNC Attenuators and Helical Stub Aerials give approx. 20m radius radio coverage

When a pendant is activated the zone with the strongest Radio Signal Strength (RSSI) will be identified in the alarm message. If the pendant is not within range of any Zoned Receiver then the call will still be picked-up by the Standard Receivers and reported without any zone information.

ATTENUATOR & AERIAL

To give the reduced range, Zoned Network Receivers are supplied with a 10dB BNC Attenuator and a Helical Stub Aerial. Simply plug the BNC Attenuator between the Network Receiver and the Aerial. These 2 parts MUST BE fitted to Zoned Network Receivers - DO NOT fit 1/2 Wave Aerials (W06250).

CONNECTION

Zoned Network Receivers require a power and data from the Advent xt system network using a 2 pair CW1308 cable.

INSTALLATION

Zoned Network Receivers should be sited in a dry secure area, they are NOT suitable for outdoor locations. Choose locations central to the zone you intend covering. Try and space the Receivers to minimise radio overlap between neighbouring zones. See the following page for details of testing and RSSI attenuation.

ID SETTING

DIL switches 1 to 4 are used to set a unique ID on each Zoned Network Receiver, DIL switches 5 to 8 are not used. ID's must follow on sequentially after the Standard Network Receivers. See table on previous page.

PROGRAMMING

The ID's of the Zoned Network Receivers must be set in the "Zoning Setup" programming.
The total number of Standard + Zoned Network Receivers must be set in the "General Setup".
See the Advent xt Programming Manual (Tynetec Doc No. FM0411 issue "F" onwards).

24. ZONED NETWORK RECEIVER INSTALLATION

ENABLE RSSI PRINT-OUT

Firstly set the Advent xt system to print the Zoned Network Receiver Signal Strengh (RSSI) using the DECT handset;

1. Press the **LINE** key, enter **8 1** and wait for the **"Ready"** prompt in the earpiece
2. Enter the code **7004** followed by the ✶ key
3. Radio device RSSI print-out enabled/disabled will be heard in the earpiece
4. Press the **#** key to toggle between enabled/disabled - the new mode will be heard in the earpiece
5. Press the **LINE** key to clear the connection

IMPORTANT: remember to disable RSSI print-out when testing is complete to save paper.

TESTING

Perform a walk test around zone 1 and activate a pendant at all extremes where you expect radio coverage.
The print-out will show the RSSI values for all Zoned Network Receivers that pick-up the pendant transmission.
Typical print-out;

RP 0095 ZONE 01 20/05 13:16 ON (Received Power = 95 for Zone 1)
RP 0078 ZONE 02 20/05 13:16 ON (Received Power = 78 for Zone 2)
RP 0067 ZONE 03 20/05 13:16 ON (Received Power = 67 for Zone 3)
AL 0038 PENDANT 20/05 13:16 ON (Alarm from Pendant ID 0038)
CA 0038 PENDANT 20/05 13:16 ON (Call Answered from Pendant ID 0038)
CE 0038 PENDANT 20/05 13:16 ON (Call Ended from Pendant ID 0038)

This call would be reported as Zone 1 (the one with the strongest Received Power).
The RSSI values will typically range from 120 (max strength) down to about 40. Note: if a Zoned Network Receiver does not pick-up the transmission nothing will be printed for that zone.
If neighbouring zones are receiving similar RSSI values their signal strength should be attenuated to give the maximum RSSI value for the zone you are in. See "Attenuating RSSI values" below.
Repeat walk tests for all zones and attenuate RSSI values as necessary to try and achieve best coverage for each zone with minimum overlap. The Received Power will be prefixed with a * on the print-out when RSSI value is attenuated.

RP *068 ZONE 02 20/05 13:16 ON (* means Received Power has been attenuated)

Please note the set-up of Zoned Network Receivers is not an exact science as many factors affect radio range, in some cases a compromise will have to be made between range and overlap. Full site coverage using Standard Nework Receivers will always ensure no pendant alarm call goes un-detected.

ATTENUATING RSSI VALUES

Press the **RESET** button on the Advent xt controller and perform the procedure below within **60 seconds**.

1. Press the **LINE** key and enter **8 1** and wait for the **"Ready"** prompt in the earpiece
2. Enter the code **1060** followed by the ✶ key
3. Enter the Zone number to have its RSSI value attenuated followed by the ✶ key
4. The current attenuation value will be heard in the earpiece (zero = no attenuation, i.e. full strength)
5. If the setting is OK press the **LINE** key or enter a new attenuation value†
6. Press the ✶ key and the new attenuation value will be heard in the earpiece
7. Press the **LINE** key to clear the connection

†Start with attenuation value of 10 and repeat the same walk test, attenuate further if necessary.

RESETTING ALL ZONES TO FULL RSSI

To set all Zoned Network Receivers back to full strength (no attenuation) press the **RESET** button on the Advent xt controller and perform the procedure below within **60 seconds**.

1. Press the **LINE** key and enter **8 1**
2. Wait for the **"Ready"** prompt in the earpiece
3. Enter the code **1070** followed by the ✶ key
4. "***Radio Device Attenuation Values Disable - Please Wait***" will be heard in the earpiece
5. Wait for the **"Ready"** prompt in the earpiece
6. Press the **LINE** key to clear the connection

25. DIGITAL DOOR PANEL INSTALLATION

The Advent xt system can be upgraded to include a door entry facility with the addition of digital door panels and telephone handsets. Visitors can call residents direct from the door panels with full duplex speech via door entry telephones. The onsite Manager can be contacted via the DECT (or fixed CLI telephones) by pressing the door panel "Manager" button - this type of call will also operate in Local Offsite or Remote Offsite mode. In all modes of operation an electric lock release can be activated to allow visitors access.

The "Trade" button can allow access during 3 programmable time periods each day and the "Code" button can be used with a programmable 4 digit access code to allow access at any time (or during 3 programmable periods) each day.

The door entry mode can be set to allow calls to residents 24 hours a day or to automatically transfer all calls to the Manager during the evening and night. In addition, if a resident is away their calls can be temporarily transferred to a neighbour or the Manager.

DIGITAL DOOR PANELS

Up to 16 digital door panels (P/No. ZSD411) can be connected to the Advent xt controller. A local PSU is required at each door to provide power for the electric lock release. A "press to exit" pushbutton and a door status contact can also be connected locally into each door panel.





The backbox should be orientated with the single Earth stud in the top left hand corner.

Do not cut a hole in the top face of the backbox for cable entry - this may allow water to enter and

damage the electronic components or keypad.

Cable entry into the backbox should be through any of the 20mm knockouts provided.

Important: the backbox and fascia must be connected to the Mains Earth terminal using a minimum of 2.5 mm^2 cable.

INSTALLATION

The standard backbox is designed for flush mounting - a stainless steel surface cowling (P/No. HM1140) is available separately. The fascia is fixed by 6 No. M5 x 12mm screws which require a 3mm Allen key.

A cut-out 415mm high x 170mm wide x 70mm deep will allow the backbox to fit flush into the wall or door screen with the bezel overlapping by approx 10mm on all sides.

A separate 6 pair cable should be installed between each door panel and the Advent xt controller (ie. not looped-off the system network). A separate 1.0mm pair should be used for lock power. The backbox and fascia must be bonded to the fused spur Earth terminal with a minimum of 2.5 mm^2 cable in line with current IEE regulations.

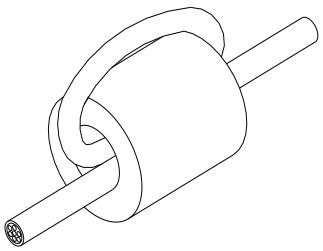
IMPORTANT NOTE: the door panel requires a **12V DC** supply - NOT 24V DC.

FERRITE CORE

The door panel wiring must be looped through the ferrite core inside the backbox.

This will suppress any voltage transients induced on the wiring and greatly reduce the likelihood of damage to the CPU.



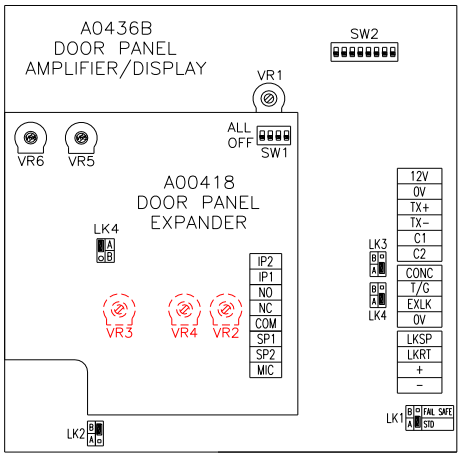


25. DIGITAL DOOR PANEL INSTALLATION

TERMINATION

See Tynetec Drg No. ZXT100 sheet 3 for detailed wiring connections;

DOOR PANEL AMPLIFIER BOARD



Terminal	Function	Connection
IP 1	Play Welcome Message	0V Trigger
IP 2	No Function	Not Connected
RELAY	Activates for duration of call	Not Connected
SP1	Warden Call Loudspeaker Audio	1 pair CW1308 to Advent xt Controller
SP2		
Mic	Warden Call Microphone Audio	1 wire CW1308 to Advent xt Controller
12V	12V DC Supply for Door Panel	2 pairs CW1308 to Advent xt Controller
0V	0V Supply for Door Panel	
TX+	RS485 Data +	1 pair CW1308 to Advent xt Controller
TX-	RS485 Data -	
C1	Door Entry Audio to Door	1 pair CW1308 to Advent xt Controller
C2	Door Entry Audio to Phone	
CONC	Concierge Call output	Not Connected
T/G	Tailgate input (N/C)	2 pairs CW1308 to PTE & Door Contact
EXLK	External Lock input (N/O)	
0V	Common for T/G & EXLK inputs	
LKSP	Lock Supply Voltage	1.0 mm pair to Door Lock
LKRT	Lock Return Voltage	
+	Lock Power Supply +12V	1.0 mm pair to local Lock PSU
-	Lock Power Supply 0V	

LINK SETTINGS

LK1 selects a standard or fail safe lock type; a standard lock requires power to unlock (fail-secure) whereas a fail-safe lock requires power to lock (fail open). See below for other link settings.

Link No.	Link Position "A"	Link Position "B"
A0436B - LK1	fit for fail-secure lock	fit for fail-safe lock
A0436B - LK2	no expander fitted	**expander board fitted**
A0436B - LK3	**A00418 type expander**	A00437 type expander
A0436B - LK4	**normal**	not used for Advent xt
A00418 - LK4	**normal**	no speech and no tones

The lock release duration is set in the "Door Entry Setup" programming; see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

8 WAY DIL SWITCH SETTINGS (SW2)

DIL switches 1 to 4 are used to set a unique door panel ID (1 to 16). Door panel ID's must start from 1 and run sequentially. DIL switches 5 to 8 select the door panel features should all be ON for Advent xt.

DIL SW	Door Panel ID															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
5	**ON** for Digital Door Panel - OFF for Functional Door Panel															
6	OFF	A-F Button (Normal)			ON	Concierge Button			OFF	A-F & Concierge Button			**ON**	Advent XT Manager Button		
7	OFF				OFF				ON				**ON**			
8	OFF = No Expander - **ON** = Expander Board Fitted															

4 WAY DIL SWITCH SETTINGS (SW1)

DIL switches 1 to 4 are normally all OFF. Set DIL Switch 1 ON to disable the voice reassurance and revert to standard reassurance tones. DIL switches 3 to 4 have no function.

25. DIGITAL DOOR PANEL INSTALLATION

PROGRAMMING

The number of door panels, Access Codes, Trade Times and Call Transfer Times must be set in the "Door Entry Setup" programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

VOLUME ADJUSTMENT

The 5 potentiometers VR2 - VR6 in each door panel are used to independently adjust the audio level to/from the door entry and warden call system. To reduce feedback the door panel microphone gain is automatically muted when the person in the flat (or the warden) speaks - the speed at which this mute is applied can be adjusted using the VOX sensitivity pot (VR4).

Pot No.	Function
VR2	audio to door entry phone
VR3	audio to door panel (from door entry phone)
VR4	door panel VOX sensitivity adjustment
VR5	audio to warden
VR6	wardens audio to door & voice messages

All adjustments should be made carefully to achieve optimum volume without feedback or echo. Call a door entry telephone via the digital keypad and adjust VR2/VR3/VR4. Press the "Manager" button to call the warden and adjust VR5/VR6. As adjustments are made, temporarily replace the panel in the backbox whilst performing the test call.

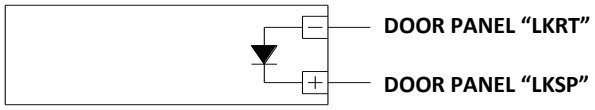
LCD CONTRAST

The potentiometer VR1 on the door panel board is used to adjust the LCD contrast.

LOCK CONNECTION

The lock release is connected directly to the door panel lock supply (LKSP) and lock return (LKRT) terminals using at least 1.0mm diameter cable.

DC LOCK ONLY



Diode Type: **1N4001** or MOV Type: **GNR07D330K**

IMPORTANT

An MOV or reverse bias diode must be fitted directly across all DC lock terminals to prevent back e.m.f. from the lock coil causing malfunction and possible long term damage to the door panel or controller.

EXLK CONNECTION

A "press to exit" (PTE) button is used to override the lock and allow egress from the building. The PTE button should be momentary action with both N/O and N/C contacts. The N/O contacts are connected across 0V & EXLK in the door panel to provide a fixed 10 second timed lock release. With constantly energised locks it is recommended that the N/C contacts are also connected in series with the lock supply to provide fail safe operation of the lock.

T/G CONNECTION

A N/C door contact can be connected across 0V & T/G in the door panel to detect when the entrance door is opened. When the contacts open the lock time is curtailed to reduce the likelihood of other visitors entering during the same lock release period (ie. tailgating). The telephone "door open" LED's will illuminate green when the door is open if enabled in the "Door Entry Setup" programming. If a door contact is not fitted then the T/G terminal must be linked to 0V.

26. DOOR ENTRY TELEPHONE INSTALLATION

Door entry telephones (P/No. ZFT220/221) are connected to the intercom unit within each dwelling. When called the telephone will ring for a preset time or until the handset is lifted. Speech is private between the door panel and the dwelling called and cannot be overheard by other users from their handsets or visitors at other door panels.



The telephone has a single pushbutton to release the door lock or select privacy mode.

The LED indicator will illuminate green for door open or red for privacy mode.

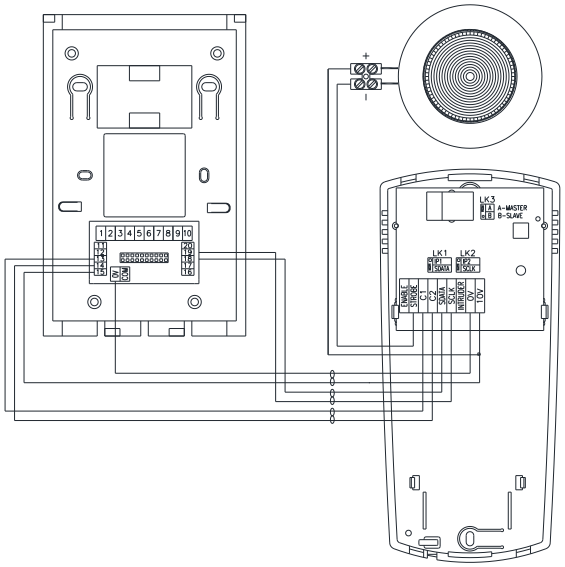
Privacy is programmable as a simple on/off action or with timed auto-reset (1 to 999 minutes).

INSTALLATION

The door entry telephone should be wall mounted alongside (or close to) the intercom unit within each dwelling. Unclip the lid and screw fix the telephone base to the wall using the holes provided, ensure the base is not twisted as this may prevent the lid fitting correctly.

TERMINATION

A 3 pair CW1308 cable is required between the telephone and the Advent xt intercom unit. An optional hard of hearing strobe light (P/No. ZSL047) can be connected to the telephone.



OPTIONAL HARD OF HEARING STROBE LIGHT P/No. ZSL047

MAXIMUM 2 STROBES PER FLAT:
1 TELEPHONE WITH 2 STROBES OR
2 TELEPHONES WITH 1 STROBE ON EACH

LK3 SHOULD BE IN THE “MASTER” POSITION UNLESS A SECOND HANDSET IS CONNECTED.

LK1 & LK2 SHOULD ALWAYS BE IN THE “SDATA” & “SCLK” POSITIONS.

IF TWO TELEPHONES ARE REQUIRED IN THE SAME DWELLING THEY MUST BOTH BE ZFT221 DUAL HANDSET MODELS.

See table on the following page for the recommended colour code.

26. DOOR ENTRY TELEPHONE INSTALLATION

TERMINATION

Intercom Terminal	Telephone Terminal	Function	Wire Colour	Cable
N/A	ENABLE	dual handset enable output	N/A	N/A
N/A	STROBE	strobe -ve output	N/A	N/A
13	C1	audio to door signal	white/blue	1 pair CW1308
14	C2	audio to phone signal	blue/white	
18	SDATA	data	white/green	1 pair CW1308
19	SCLK	clock	green/white	
0V	0V	0V supply reference	white/orange	1 pair CW1308
15	10V	10V DC supply & strobe +ve	orange/white	

Note, the Advent xt controller must be reset for it to detect a telephone handset has been connected.

DUAL HANDSETS

Normally only one telephone will be connected per channel, if a flat requires a second handset then both telephones should be ZFT221 Dual Handset models. Alternatively, dual handset interface boards (P/No. A00438) must be fitted in both ZFT220 telephones. The second handset MUST have link LK3 moved to position “B” (slave) - it is not possible to have more than 2 telephones per flat. For connection details see Tynetec Drg No. ZXT100 sheet 4.
Note: the RESET button on the Advent xt controller must be pressed for it to detect a second handset has been connected.

OPTIONAL HARD OF HEARING STROBE

A hard of hearing strobe light (P/No. ZSL047) can be connected across the telephone “STROBE” (-ve) and 10V (strobe +ve) terminals.

Note; a maximum of 2 strobes per flat is permitted.



TELEPHONE LINK SETTINGS

Links LK1 & LK2 should always be set in the “SDATA” & “SCLK” positions on Advent xt systems.

Link No.	Link Position “A”	Link Position “B”
LK1	not fitted	SDATA
LK2	not fitted	SCLK
LK3	MASTER (normal)	SLAVE (2nd handset only)

Link LK3 must be in position “A” (master) when only one telephone is fitted per flat.

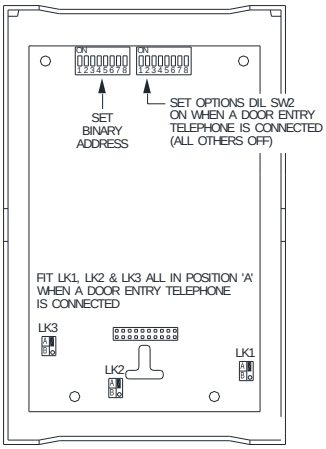
INTERCOM DIL SW & LINK SETTINGS

When a door entry telephone is connected to an intercom make the following settings;

Set the “Options” DIL switch number 2 “ON”

Set Links LK1/LK2/LK3 in position “A”

Note: the clean contact relay output is not available when a telephone is connected.



PROGRAMMING

The Speech Time, Lock Release Time, Privacy Time, No. of Ring Cycles and Door Open LED must all be set/enabled in the “Door Entry Setup” programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

27. COMBINED INTERCOM INSTALLATION



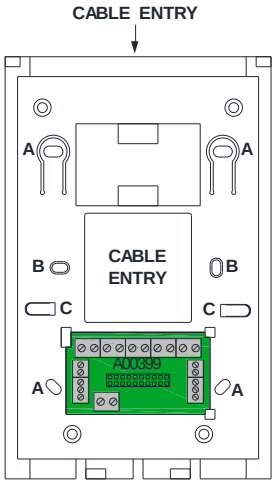
Combined intercoms provide both warden call and door entry functions in a single unit. The ZXT28x models are available with and without PA/Extracare,

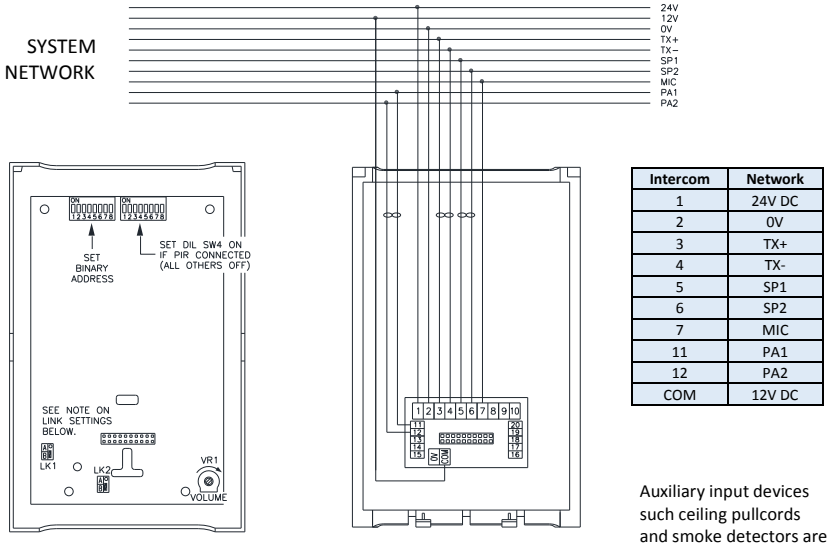
The ZXT290 model has PA as standard and Bluetooth for use with the optional BLE Remote Control – see section 28 for details.

Part No.	Description
ZXT280	Combined Intercom
ZXT282	Combined Intercom + PA
ZXT284	Combined Extracare Intercom
ZXT286	Combined Extracare Intercom + PA
ZXT290	Combined Intercom + PA + Bluetooth (BLE)

INSTALLATION

The Advent xt combined intercom unit should be wall mounted in the room most often used by the resident. Screw fix the intercom rear securely to the wall using the 4 holes marked “A” - the 2 holes marked “B” can be used for an embedded box. Ensure the case is not twisted as this may prevent the lid fitting correctly.





Intercom	Network
1	24V DC
2	0V
3	TX+
4	TX-
5	SP1
6	SP2
7	MIC
11	PA1
12	PA2
COM	12V DC

Auxiliary input devices such ceiling pullcords and smoke detectors are connected the same as a standard intercom.

TERMINATION

The network cable should loop-in and out of each combined intercom via the cable entry channel on the top or the square cut-out in the rear. Wherever possible avoid cable entry from below as this may interfere with the operation of the emergency pullcord. The cable clips marked “C” can be used to retain spare cores and prevent possible short circuits when the intercom front is fitted.

The network wiring is terminated on the interconnect board in the rear section of the Advent xt combined intercom as shown above.

Ceiling pullcords, smoke detector, PIR and auxiliary input devices are connected the same as a standard intercom, see section 14 of this manual or the Advent xt wiring diagram Drg No. ZXT100 sheet 5.

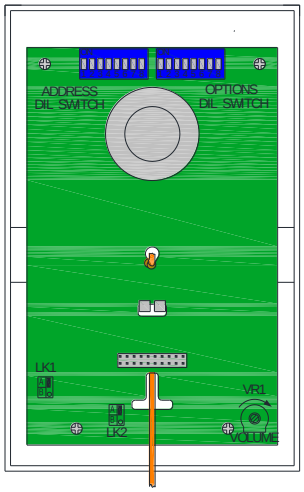
Before fitting the intercom front the “Address” and “Options Select” DIL switches must be set. The jumper links LK1 & LK2 must also be set in the correct position.

27. COMBINED INTERCOM INSTALLATION

ADDRESS DIL SWITCH

The combined intercom Address must be set sequentially using an 8 bit binary code starting from "1" in the lowest flat number on the site. Note: binary "0" (all DIL switches set OFF) is not used.

Address DIL Switch No.	ON = Binary Code
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128



OPTIONS DIL SWITCH

Any additional equipment connected to an intercom must be enabled via the Options DIL switch.

Options DIL Switch No.	Function	Options DIL Switch "OFF"	Options DIL Switch "ON"
1	I/O Expander Unit	N/A	N/A
2	Door Entry Mode	N/A	N/A
3	Door Entry Interface	N/A	N/A
4	PIR/Door Contact	Disabled	Enabled
5	Intercom Mode	N/A	N/A
6	Pullcord Type	Normally Open	Normally Closed
7	Trigger 3 Active Indication	No Indication	Green D/O LED+Tone
8	Not Used	N/A	N/A

Normally ALL Options DIL switches will be OFF. Set DIL switch 4 ON if a PIR is connected.

LINK OPTIONS

Intercom Mode	LK1	LK2
Standard	A	A
Remote Intercom Connected	B	A

RELAY OUTPUT

A relay output is ONLY available on a REMOTE INTERCOM connected as an extension to the combined intercom. The N/O clean contact output can be activated by the manager/control centre when a speech channel is open. The N/O contacts are on terminals 16 & 17 - contact rating: 30VDC @500mA.

TRIGGER 3 OUTPUT

An open collector output can be activated for 5 seconds when the OPEN button is pressed on the Remote Control with no other call in progress. Terminal 16 of the combined intercom can be connected to a Tynetec A00073 universal relay to give a clean contact output. The clean contacts can be used to release a local door lock. If DIL switch 7 is "ON" the green Door Open LED will illuminate and a tone will sound on the combined intercom when the Trigger 3 output is active.

PROGRAMMING

The total number of intercom units and their ID's must be set in the "General Setup & Tenants Unit Identity" programming. See the Advent xt Programming Manual (Doc No. FM0411).

BEEPING COMBINED INTERCOMS

If a combined intercom "beeps" every 10 seconds then its ID has been set greater than the number of intercoms set in the system programming. If an intercom beeps every few minutes it is not receiving data (or the data is corrupt).

REMOTE INTERCOMS

One remote intercom (P/No. ZXT221/226) can be connected per combined intercom, see the Advent xt wiring diagrams Drg No. ZXT100 sheet 5. **IMPORTANT:** combined intercoms (ZXT280-290) and door entry telephones (ZXT220/221) CANNOT be connected as a remote extension.

27. COMBINED INTERCOM INSTALLATION

HARD OF HEARING STROBES & VOLUME

Two hard of hearing strobes can be connected to a combined intercom. A clear strobe (P/No. ZSL047) can be connected to indicate a door entry call and a blue strobe (P/No. ZSL046) can be connected to indicate when the warden is calling. Note; a maximum of 2 strobes per flat is permitted. See the Advent xt wiring diagram Drg No. ZXT100 sheet 5.

The volume of speech at the combined intercom can be increased using VR1.

BUTTON FUNCTIONS AND LED COLOURS

The LED's on the front of the combined intercom unit indicate the following modes;



Button	Function	LED Colour/Pattern
	I'm OK	**Flashing Green** = I'm OK period
	Privacy	**Steady Amber** = Privacy Mode selected
	Play Message	**Flashing Blue** = Message Waiting
	Test Mode	**White** = unit in wardens Test Mode **Flashing White** = Remote Control battery low
	Door Open	**Steady Green** = Door Lock Released **Flashing Green** = Door Left Open
	Talk (Door Entry)	**Flashing Amber** = Door Entry "Speak to Door" mode **Steady Amber** = Door Entry "Listen to Door" mode
	Alarm	**Dim Red** = normal operating mode **Steady Bright Red** = Alarm Call in progress **Flashing Bright Red** = Awaiting Extracare cancellation

PRIVACY MODE

Press the Privacy button once to select privacy mode, the LED will illuminate **STEADY AMBER**. The Manager cannot hear the resident and the resident will not receive any door entry calls when privacy mode is selected. Press the Privacy button again to turn privacy mode off. Privacy can operate as a simple on/off action or with a timed auto-reset.
The privacy auto-reset time must be set in the "Door Entry Setup" programming - see the Advent xt Programming Manual (Tynetec Doc No. FM0411). Note: the privacy setting applies to both door entry and warden call mode.

28. BLE REMOTE CONTROL INSTALLATION



The BLE Remote Control can be used with the ZXT290 combined intercom to answer door entry calls and release the door lock.
It can also be used to select privacy mode, I'm OK and play a message waiting.

Part No.	Description
ZXT935	BLE Remote Control

SET ADDRESS DIL SWITCH

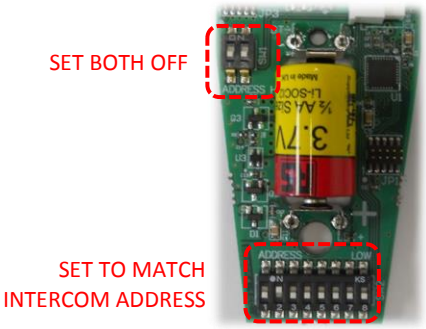
Undo the single screw on the rear of the Remote Control and remove the lid.

Identify the 2 way DIL switch (SW1 ADDRESS HI) and the 8 way DIL switch (SW2 ADDRESS LOW).

The 2 way DIL switch (SW1) is not used with Advent xt – both switches 1 & 2 should be **OFF**.

The 8 way DIL switch (SW2) must be set to match the 8 way Address DIL switch inside the ZXT290 combined intercom it is being paired with.

Fit the battery noting polarity (+ to bottom) and refit the lid being careful not to over-tighten the fixing screw.



LEARNING THE REMOTE CONTROL

1. Press and hold the Test Mode button for 5 seconds until the unit beeps once, release the button and an upward series of tones will play, the LED will illuminate STEADY WHITE.
2. Press the Lock Release button once, an upward series of tones will play and the LED illuminates **STEADY GREEN**. You now have 15 seconds to learn the Remote Control.
3. Press the **OPEN** button on the Remote Control, an upward series of tones will play, and the Speak/Listen button **AMBER** LED will flash once. If the Remote is already registered a downward series of tones will be heard.
4. Learn mode will be exited when the 15 second period times-out, or if the Lock button on the intercom is pressed. A downward series of tones will be heard.
5. Press the Test Mode button once to exit.

DELETING THE REMOTE CONTROL

1. Press and hold the Test Mode button for 5 seconds until the unit beeps once, release the button and an upward series of tones will play, the LED will illuminate STEADY WHITE.
2. Press the Lock Release button once, an upward series of tones will play and the LED illuminates **STEADY GREEN**. You now have 15 seconds to delete the Remote Control.
3. Press the Privacy button once, a downward series of tones will play, and the Remote Control is deleted.
4. Press the Test Mode button once to exit.

REMOTE CONTROL BATTERY LOW WARNING

If the Test Mode LED is FLASHING WHITE then the battery in the Remote Control needs replacing.
The low battery warning will continue until the battery is replaced and the Remote Control is used.
Remove the screw from the rear of the remote control case and replace the 3.7V ½ AA 1000mAh Lithium battery.
Press any button on the Remote Control to clear the flashing white light.

USING THE REMOTE CONTROL

During a door entry call the Remote Control **TALK**, **OPEN** & **PRIV** buttons operate the same as the equivalent buttons on the door entry intercom.
With no door entry call in progress the **TALK** button can be used to acknowledge I'M OK or play a message waiting.
With no door entry call in progress the **PRIV** button will toggle privacy mode on/off.
Note: changing the privacy mode also acknowledges "I'm OK" as it is seen as resident activity.

MULTIPLE REMOTE CONTROLS

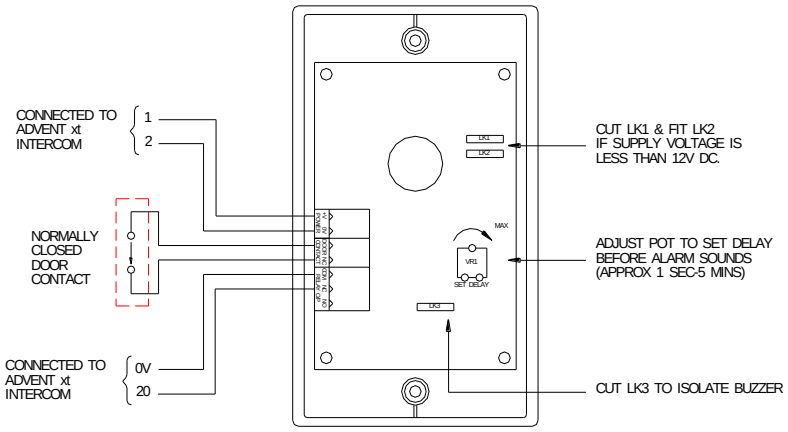
Multiple Remote Controls set with the same address can be used with the same intercom – **but please be aware only one can be used at a time**. When a Remote Control is used it pairs with the intercom via Bluetooth, it will remain paired for 1 minute, during this time other Remotes with the same address cannot be used.

29. DOOR OPEN ALARM INSTALLATION



The Door Open Alarm (P/No. ZDA025) can be connected to an Advent xt system to initiate an alarm call when an Emergency Exit door is left open.

The Door Open Alarm must be connected via an Advent xt intercom unit to provide an alarm location message and 2 way speech.



INSTALLATION

Fix the Door Open Alarm alongside the monitored door at a height where the isolation keyswitch can easily be reached.

TERMINATION

Connect 1 pair of wires to a standard N/C door contact (available separately P/No. W01120) fitted on the monitored door.

Connect 2 pairs of wires to a dedicated Advent xt intercom - 1 pair power and 1 pair alarm.

An alarm call will be activated if the door is left open exceeding the preset time. Adjust the “SET DELAY” pot from 1 second to 5 minutes for delay before alarm.

INTERCOM SETTINGS

The Advent xt intercom which the Door Open Alarm is connected to must have the Options DIL switch 4 set ON and intruder mode must be enabled using the DECT handset as described below;

1. Press the **LINE** key
2. Wait for the **“Ready”** prompt in the earpiece
3. Enter the code **3007** followed by the ✶ key
4. Enter the intercom number to have intruder mode enabled followed by the ✶ key
5. Press the **LINE** key to clear the connection

See the Advent xt Operators Manual (Tynetec Doc No. FM0420) for more intruder mode related codes.

PROGRAMMING

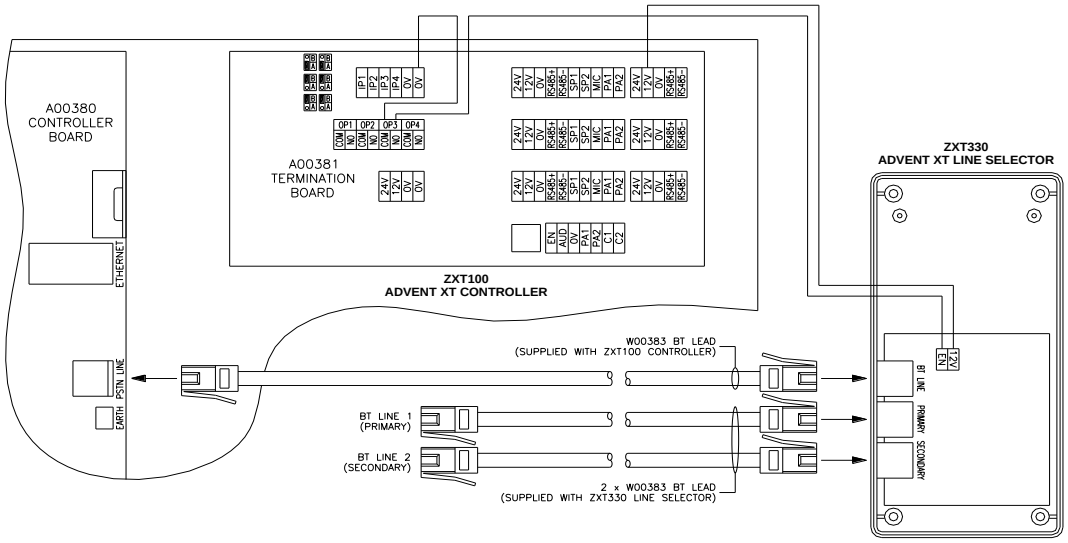
A custom speech message should be created to identify the door location - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

30. BT LINE SELECTOR INSTALLATION



The BT Line Selector (P/No. ZXT330) can be connected to the Advent xt controller if a second dedicated BT line or a GSM cellular terminal is specified for fail safe operation.

If the primary line fails the secondary line will automatically be selected, once the primary line is restored the system will automatically switch back.



INSTALLATION

The BT Line Monitor Unit is housed in a wall mounted ABS enclosure; 85 x 170 x 35 mm (HxWxD).

TERMINATION

Connect the BT LINE socket to the Advent xt controller PSTN LINE socket using the BT lead provided.
Connect the 12V & EN terminals to the Advent xt termination board OP3 using 1 pair CW1308 cable as shown above.
The PRIMARY and SECONDARY sockets are connected to the 2 BT lines using the BT leads provided.
If a GSM Cellular Terminal is being used then this should be connected to the SECONDARY socket – see below.

PROGRAMMING

The “Secondary BT Line” must be enabled (01) in the “Remote Offsite” programming.
DTMF Channel 003 must be disabled (FF) in “DTMF Channels” programming.
If you are using Local Offsite Mode then the GSM Line Enable must be set (01) in the “Local Offsite” programming and Local Offsite Mode must also be enabled using the telephone; enter code **5007** followed by the ✶ key.
See the Advent xt Programming Manual (Tynetec Doc No. FM0411).

GSM CELLULAR TERMINAL

The GSM Cellular Terminal (P/No. W02121) is connected to the SECONDARY output of the BT Line Selector using the BT lead and RJ11/BT adapter - see below.





Plug the RJ11/BT adapter provided with the GSM module into the TEL Socket then connect to BT Line Selector SECONDARY Socket using the BT lead. Connect the USB Charger and antenna provided with the GSM module then plug into a mains supply. Refer to the Burnside Telecom TX-2LR user guide for setup details.

31. NETWORK DATA REPEATER INSTALLATION

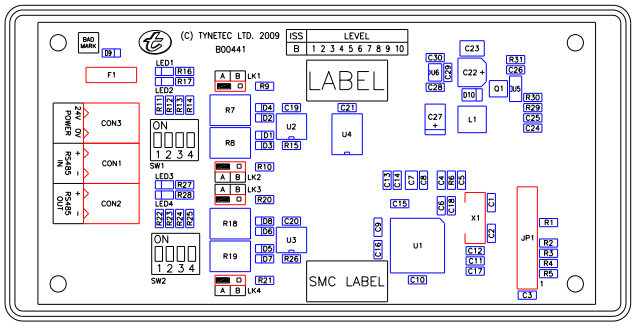


The Network Data Repeater (P/No. ZXT340) can be connected into the Advent xt RS485 network to boost the data signal on cable runs over 1200 metres.

POWER IN ➔

RS485 DATA IN ➔

RS485 DATA OUT ➔



INSTALLATION

The Network Data Repeater is housed in a wall mounted ABS enclosure; 85 x 170 x 35 mm (HxWxD).

TERMINATION

The 24V & 0V power connection can be taken from the Advent xt network.
Cut the Advent xt network data wires (TX+/TX-) at a point before the signal begins to fail.
Connect TX+/TX- FROM the Advent xt controller into the RS485 IN terminals
Connect the remaining Advent xt network data wires TX+/TX- into the RS485 OUT terminals.

LINK SETTINGS

LK1-LK4 will normally be fitted in position “A”. Only move if advised by Tynetec Technical Support.

Link No.	Function	Link Position “A”	Link Position “B”
LK1	RS485 IN +	1K2 pull-up	open circuit
LK2	RS485 IN -	1K2 pull-down	open circuit
LK3	RS485 OUT +	1K2 pull-up	open circuit
LK4	RS485 OUT -	1K2 pull-down	open circuit

DIL SWITCH SETTINGS

SW1 allows a different end of line (EOL) resistance to be set on the **RS485 IN** terminals depending on the number of network legs connected to the Advent xt controller.

DIL SW1	Function	DIL Switch OFF	DIL Switch ON
1	RS485 IN EOL 1 Leg	open circuit	120 ohm
2	RS485 IN EOL 2 Legs	open circuit	270 ohm
3	RS485 IN EOL 3 Legs	open circuit	390 ohm
4	RS485 IN EOL 4 Legs	open circuit	680 ohm

SW2 allows a different end of line (EOL) resistance to be set on the **RS485 OUT** terminals. This is normally left open circuit. Only move if advised by Tynetec Technical Support.

DIL SW2	Function	DIL Switch OFF	DIL Switch ON
1	RS485 OUT EOL 1 Leg	open circuit	120 ohm
2	RS485 OUT EOL 2 Legs	open circuit	270 ohm
3	RS485 OUT EOL 3 Legs	open circuit	390 ohm
4	RS485 OUT EOL 4 Legs	open circuit	680 ohm

32. ETHERNET INTERFACE KIT INSTALLATION

The optional Ethernet Interface Kit stores all alarm and Telecare data with the time and date of each event on a local Memory Card. The stored data can be downloaded and analysed using Tynetec's I-Care software. There are 3 generations of interface kits as the Rabbitcore Module/Memory Card has changed over the years.

ZXT120 KIT (MK1)	ZXT121 KIT (MK2)	ZXT122 KIT (MK3)
A00382 Expander	A00382 Expander	A00382 Expander
RCM3365 Rabbitcore Module	RCM3900 Rabbitcore Module	RCM3900 Rabbitcore Module
128MB XD Memory Card	1GB **Mini** SD Memory Card	1GB **Micro** SD Memory Card
RJ45 Crossover Lead	RJ45 Crossover Lead	RJ45 Crossover Lead

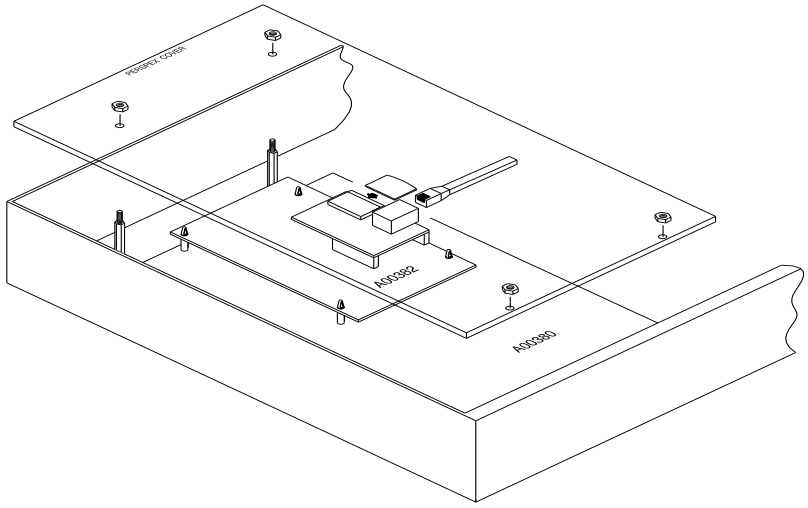
Any of the above kits can be used with Advent xt Controller V1.05 firmware onwards. V1.05 only stores alarm calls and PIR activity, with V2.0 onwards all Telecare and Telehealth data is also stored. The ZXT121 or ZXT122 kit is recommended for V2.0 as it has almost 8 times the memory capacity of the ZXT120 for the increased volume of data stored on the card.

LOCAL/REMOTE CONNECTION

A 2 metre RJ45 Crossover Lead is provided for direct connection to a local PC - this can be extended up 100 metres using CAT5e cable and RJ45 outlet sockets.
A standard RJ45 Patch Lead (not supplied) and Broadband with a fixed IP address is required for remote connection.

INSTALLATION

The Ethernet Interface Kit will normally be factory fitted, however it can be fitted on site as an upgrade.
Turn the mains supply off the Advent xt controller and disconnect the standby batteries before starting.
IMPORTANT: always observe anti-static precautions when working on the controller motherboard.



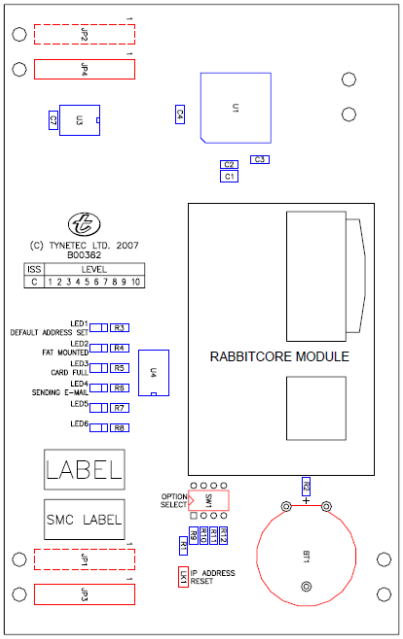
Remove the lid and clear perspex cover from the Advent xt controller, plug the A00382 Expander Board into the sockets JP5 & JP6 on the A00380 motherboard. Plug the Memory Card and RJ45 lead into the Rabbitcore Module then refit the cover and power-up the controller.

PROGRAMMING

The Advent xt controller requires no special programming; however the Rabbitcore Module must be set-up using the manual provided (Doc No. FM0552).

32. ETHERNET INTERFACE KIT INSTALLATION

A00382 EXPANDER BOARD



THE RCM3365/RCM3900 RABBITCORE MODULE IS PLUGGED ON TOP OF THE A00382 BOARD

LED's 1 - 6
SEE TABLE BELOW ➔

OPTION SELECT DIL SWITCH
SEE TABLE BELOW ➔

➔ MEMORY CARD SLOT

➔ RJ45 ETHERNET PORT

➔ LK1 - IP ADDRESS RESET
SEE NOTE BELOW

LED INDICATORS

LED No.	Label	Function
LED1	DEFLT ADDR SET	Will be lit when the factory default IP address is set. Will be out when a site specific IP address is set.
LED2	FAT MOUNTED	Should be lit to confirm the File Allocation Table (FAT) has been mounted. If not lit contact Tynetec's Customer Support.
LED3	CARD FULL	Will be lit when the Memory Card is down to its last 5% of storage capacity. Download the data and reformat the card.
LED4	SENDING EMAIL	Will be lit when an Email is being sent to notify system administrators that site parameters have been changed.
LED5	-	No Function
LED6	-	No Function

DIL SWITCHES

DIL No.	Function
1	Normally OFF - only switch ON when un-mounting the Memory Card
2	No Function
3	No Function
4	No Function

LK1 – IP ADDRESS RESET

Short the 2 pins "LK1" to reset the default IP address.

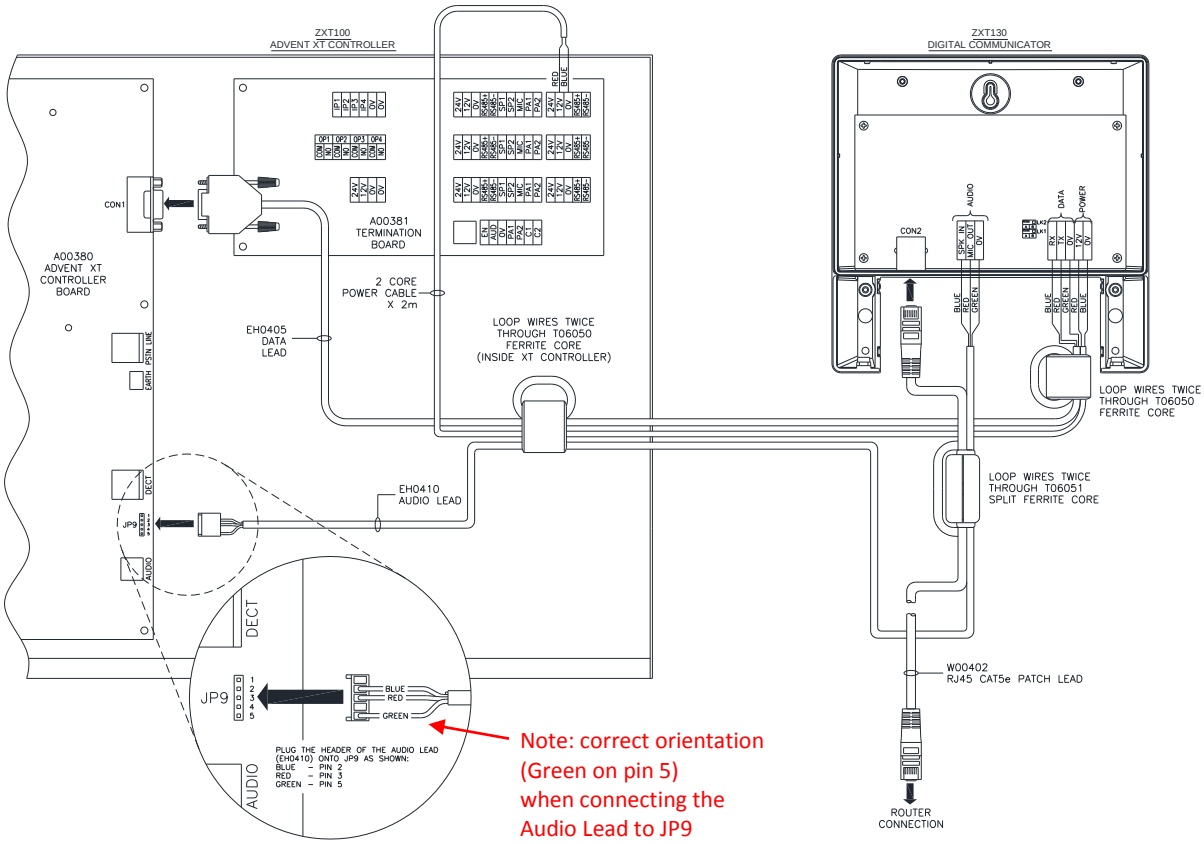
33. DIGITAL COMMUNICATOR INSTALLATION



The optional Digital Communicator (P/No. ZXT130) allows the Advent xt to communicate digitally via the internet to a digitally enabled Alarm Receiving Centre (ARC).

The Advent xt can also retain the PSTN analogue connection which will then be used as a secondary connection.

The Digital Communicator can only be used with;
Advent xt motherboard issue A-G and firmware **V3.01A** onwards or
Advent xt motherboard issue H and firmware **V4.01A** onwards
To check your firmware version see section 33.



INSTALLATION

The Digital Communicator is housed in a wall mounted ABS enclosure; 180 x 180 x 48 mm (HxWxD).
IMPORTANT: fit the 3 Ferrites provided to the cables as shown above.

TERMINATION

Connect POWER from the Advent xt termination board 12V/0V terminals using the 2 metre 2 core cable provided.
Connect RS232 from the Advent xt controller 9 pin D socket (CON1) using the 2 metre data lead provided.
Connect AUDIO from the Advent xt controller JP9 using the 2 metre audio lead provided.
IMPORTANT: see above drawing for correct orientation when connecting the audio lead to JP9.
Connect the ETHERNET port to a Router using the 2 metre RJ45 patch lead provided.

PROGRAMMING

The Alarm Receiving Centre IP address and SIP account details must be entered in the “IP & SIP Setup” - see the Advent xt Programming Manual (Tynetec Doc No. FM0411).

33. DIGITAL COMMUNICATOR INSTALLATION

ETHERNET CONNECTION

The Ethernet port (CON2) on the Digital Communicator should be connected to an ADSL router if offsite calls are being reported to a digital ARC.

The following must be specified when setting-up the Ethernet connection to a digital ARC;

1. A static IP address and corporate network termination point within close proximity to the Advent XT Controller*.
2. A static IP address and corporate network termination point within close proximity to the ARC and the additional SIP Server.
   **Note: the static IP addresses at both locations should be assigned to allow IP communication between the Advent XT system and the ARC SIP Server.*
3. The network connection between these two locations should also support VOIP, i.e. SIP messaging and an RTP audio stream requiring a 100Kb bandwidth. The communication between the Advent XT system and the ARC SIP Server uses "Simple" SIP messaging and the "G711 aLaw codec".
4. It is recommended to configure Quality of Service for VOIP calls between the Advent XT system and the ARC SIP Server.

34. CONTROLLER FIRMWARE LEVEL REPORT

The Advent xt controller can be interrogated via the DECT handset to confirm its firmware versions;

1. Press the **LINE** key and enter **8 1**
2. Wait for the **"Ready"** prompt in the earpiece
3. Enter the code **4009** followed by the ✶ key
4. Three firmware versions will be announced (see below) and logged on the system printer.
5. Wait for the **"Ready"** prompt in the earpiece
6. Press the **LINE** key to clear the connection

The 3 firmware levels are announced in the following order;

04	**01**	**A**	ARM Firmware Version 4.01A (Main Processor)
04	**00**	**A**	PIC Firmware Version 4.00A (Co-Processor)
04	**01**	**A**	DSP Firmware Version 4.01A (Digital Speech Processor)

Contact Tynetec's customer support for advice on upgrades available.

35. SPECIFICATION - CONTROLLER

Tynetec Part No.	ZXT101
EMC Approval	EN 55022
Safety Approval	EN 60950
Social Alarm Standard	EN 50134
System	
Removable Memory	Tynetec Dataflash Card (Part No. A00480)
Real Time Clock	Auto-DST adjustment
LED Indicators	Power/Data/Line Seize
Protocols	BS8521/BS7369/TTNew/TT92 (+NOW IP with Digital Communicator)
I/O	
Inputs	4 x N/O inputs (switched 0V)
Outputs	4 x N/O relay outputs (125VAC/60VDC/1A rated)
RS232 Ports	2
RS485 Ports	1
Ethernet Port	1 x 10/100 BASE-TX (with Digital Communicator)
DECT Port	1
PSTN Port	1
Features	
No. of Network Nodes	255 (includes intercoms, lift/ext call points, door panels & NTR's)
No. of Managers Panels	1
No. of Door Panels	16
No. of Network Receivers	16
No. of Speech Channels	1
Audio Control	Warden Call: HVS (Hands Free Voice-switching) Door Entry: simplex combined intercoms, half duplex telephones.
No. of Local Offsite Tel. No's	6
No. of Remote Offsite Tel. No's	3
Power Supply	
Manufacturer/Model No.	Ecopac RSP-150-27 (Tynetec P/No. W00581)
Input	85-264VAC 47/63Hz
Output	27V DC @ 5.6A (150W)
Efficiency	89.5%
Protection	Overload/Over Voltage/Over Temperature (auto shutdown/recovery)
Mains Lead	1.5m x 2183Y white 0.5mm 3 core cable with IEC 90° Free Socket
Rechargeable Battery Type	2 x 12V 5Ah Sealed Lead Acid (Tynetec P/No. F00050)
Battery Standby Time	8 Hours (based on 5 calls/hour on a typical 40 way system)
Mechanical	
Enclosure	Polyester Powder Coated 18 SWG Mild Steel (RAL7035)
Mounting	Wall Mount
Ingress Protection Rating	IP40
Dimensions	400mm x 500mm x 80mm (HxWxD)
Weight	11.60 kg
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	20% to 90% RH
Relative Humidity	Non-condensing

36. SPECIFICATION - PA AMPLIFIER

Tynetec Part No.	ZXT155
EMC Approval	EN 55022
Safety Approval	EN 60950
System	
Amplifier Power Output	68W Max
Audio Transformer	100V Line Step-up
LED Indicators	Power/Data
Data	RS485
Power Supply	
Manufacturer/Model No.	Ecopac SE-100-15 (Tynetec P/No. W00586)
Input	176-264V AC 47/63Hz
Output	15V DC @ 7A (105W)
Efficiency	84%
Protection	Overload/Over Voltage (auto shut-down/recovery)
Mains Input	IEC 90° Free Socket
Rechargeable Battery Type	1 x 12V 5Ah Sealed Lead Acid (Tynetec P/No. F00050)
Battery Standby Time	8 Hours Typical
DC-DC Converter	
Manufacturer/Model No.	Ecopac SD-50A-24 (Tynetec P/No. W00590)
Input	9.2-18V DC
Output	24V DC @ 2.1A (50.4W)
Efficiency	74%
Protection	Overload/Over Voltage/ (auto shut-down/recovery)
Mechanical	
Enclosure	Polyester Powder Coated 18 SWG Mild Steel (RAL7035)
Mounting	Wall Mount
Ingress Protection Rating	IP40
Dimensions	200mm x 500mm x 105mm (HxWxD)
Weight	9.40 kg
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	20% to 90% RH
Relative Humidity	Non-condensing

37. SPECIFICATION - INTERCOM

Tynetec Part No's	ZXT201/206/211/216/221/226/280/282/284/286/290
EMC Approval	EN 55022
Safety Approval	EN 60950
Max No. Intercoms	255
Data Connection	RS485 (19200 Baud)
Power Requirement	24V DC @ 2mA (standby)
Audio Channel	Handsfree Voice Switched
8 Way Address DIL Switch	Set Binary ID
8 Way Options DIL Switch	Enable Auxiliary Devices
3 Jumpers	LK1/LK2/LK3 fit to select different Master/Slave combinations
Loudspeaker	35 Ohm 0.5 Watts
Features	
Wipe-clean Tactile Keypad	Standard 5 Buttons (7 Buttons on Combined Door Entry range)
Emergency Pull Cord	1.7 metres long Orange Polypropylene with 2 Orange Triangular Grips
Emergency Call Button	Red Halo with red LED illuminated symbol
I'm OK Button	Green with white symbol & green LED indicator
Privacy Button	Amber with white symbol & amber LED indicator
Message Waiting Button	Blue with white symbol & blue LED indicator
Test Mode Button	Grey with white symbol & white LED indicator
Talk Button	ZFT28x/290 only: Amber with white symbol & amber LED indicator
Door Open Button	ZFT28x/290 only: Green with white symbol & green LED indicator
All Call Speech	PA models only - optional ZXT155 PA Amplifier required
All Call Fire Tone	PA models only - optional ZXT155 PA Amplifier required
Extracare Cancellation Mode	Extracare models only (Magnetic Fob required – Part No. YW9970)
Activity Monitoring	Yes - optional PIR detector required
Away Mode	Yes - optional PIR detector required
Intruder Mode	Yes - optional PIR detector required
Visual Call Indication	Yes - optional ZSL045 Master Blue Strobe required
Audible Reassurance	Yes - integral Piezo Beeper 4kHz 75dB @ 1m
Smoke Alarm Input	Yes - N/O
Pullcord Input	Yes - selectable for N/O or N/C
Pullcord Monitoring	Yes - 4K7 EoL resistor required on N/O type (not required on N/C)
Pullcord LED Reassurance	Yes - max 5 Pullcords with LED reassurance
PIR Input	Yes - N/C
Additional Inputs	Yes - 4 x N/O (default: client wandering/low temp/CO/Gas)
Relay Output	Yes - 1 x N/O (contacts rated 30V DC @ 1A)
Bluetooth Option	Yes - ZXT290 model only
Mechanical	
Enclosure Material	White Polycarbonate base & lid, Silver ABS trim
Flammability Rating	UL 94 V-0 (GWFI 850°C)
Ingress Protection Rating	IP20
Dimensions	174mm x 112mm x 49mm (HxWxD)
Weight	388 grams (PA model)
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

38. SPECIFICATION - BLE REMOTE CONTROL

Tynetec Part No.	ZXT935
EMC Approval	EN 55022
Safety Approval	EN 60950
Compatibility	ZXT290 Combined Intercom with PA & Bluetooth (BLE)
Protocol	Bluetooth Low Energy (BLE) V4.1
Frequency/Data Rate	2.4GHz 1 Mbit/s
Transmit Power	2.5mW (Class 2)
Range	10 metres Max
Features	
Wipe-clean Keypad	Autotex XE F200 Polyester Coated
Privacy Button	Amber Halo with black symbol and text
Door Open Button	Green Halo with black symbol and text
Talk Button	Amber Halo with black symbol and text
LED Indicator	Red
Neck Cord	780mm long Black Polypropylene with Anti-ligature Safety Break
Power	
Replaceable Battery	Yes
Battery Type	3.7V ½ AA Size 1000mAh Lithium Thionyl Chloride
Mechanical	
Enclosure Material	ABS
Colour	Black (RAL 9005)
Flammability Rating	UL 94 HB
Ingress Protection Rating	IP40
Dimensions	96mm x 47mm x 24mm (LxWxH)
Weight	58 grams (including battery)
Environmental	
Operating Temperature	5°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

39. SPECIFICATION - MANAGERS CALLPOINT

Tynetec Part No's	ZXT250 Standard, ZXT255 Custom Engraved
EMC Approval	EN 55022
Safety Approval	EN 60950
Data Connection	RS485 (19200 Baud)
Power Requirement	24V DC @ 2mA (standby)
Audio Channel	Handsfree Voice Switched
8 Way Address DIL Switch	Set Binary ID
8 Way Options DIL Switch	Set 1-8 OFF (not used)
3 Jumpers	Fit LK1 in Position B & LK2/LK3 both in Position A
Loudspeaker	35 Ohm 0.5 Watts
Features	
Flush Mount	Standard
Surface Mount	Optional HM1125 Surface Cowling required
Rain Hood	Optional HM1116 Flush Cowling required
Pushbutton	Vandal Resistant (Bulgin Type MP0037)
Loudspeaker	Protected by Fine Mesh Stainless Steel Grill
Microphone	Protected by Fine Mesh Stainless Steel Grill
DDA Compliance	High Visibility Yellow Halo around Pushbutton
Engraving	ZXT250: MANAGER (Black infill, 5mm high), ZXT255: Custom Engraved
Audible Reassurance	Yes - integral Piezo Beeper 4kHz 75dB @ 1m
Relay Output	Yes - 1 x N/O (contacts rated 30V DC @ 1A)
Fixings	4 No. M5 x 12mm Countersunk Allen Head Bolts
Fixing Tool	3mm Allen Key
Mechanical	
Fascia Material	12 SWG Stainless Steel
Fascia Dimensions	200mm x 160mm x 2.64mm (HxWxD)
Bezel Material	18 SWG Stainless Steel
Bezel Dimensions	14mm Wide
Backbox Material	16 SWG Galvanized Mild Steel
Backbox Dimensions	200mm x 160mm x 50mm (HxWxD)
Ingress Protection Rating	IP44
Weight	1.72 kg (inc Backbox)
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

40. SPECIFICATION - LIFT CALLPOINT (FLUSH STAINLESS STEEL)

Tynetec Part No's	ZXT260 Standard, ZXT265 Custom Engraved
EMC Approval	EN 55022
Safety Approval	EN 60950
Data Connection	RS485 (19200 Baud)
Power Requirement	24V DC @ 2mA (standby)
Audio Channel	Handsfree Voice Switched
8 Way Address DIL Switch	Set Binary ID
Loudspeaker	35 Ohm 0.5 Watts
Lift Speech Unit	
Flush Mount	Standard (Horizontal) – for Vertical Mount use ZXT265
Backbox	Not Available
Pushbutton	Illuminated Vandal Resistant (Bulgin Type MPI002/28/RD)
Loudspeaker	Protected by Fine Mesh Stainless Steel Grill
Microphone	Protected by Fine Mesh Stainless Steel Grill
DDA Compliance	High Visibility Yellow Halo around Pushbutton
Engraving	ZXT260: CALL (Black infill, 5mm high), ZXT265: Custom Engraved
Audible Reassurance	No
Visual Indication	Red Call LED
Kick Switch Input	Yes - N/O
Lift Company Travelling Cable	4 Core
Lift Speech Unit Mechanical	
Fascia Material	12 SWG Stainless Steel
Fascia Dimensions	140mm x 282mm x 2.64mm (HxWxD)
Cut-out Dimensions	94mm x 212mm (HxW)
Fixings	4 No. on 106mm x 216mm Centres
Ingress Protection Rating	IP20
Weight	860 grams
Lift Interface Mechanical	
Enclosure Material	Light Grey ABS (RAL 7035)
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP54
Dimensions	170mm x 85mm x 34mm (LxWxD)
Weight	208 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

41. SPECIFICATION - LIFT CALLPOINT (SURFACE ABS)

Tynetec Part No's	ZXT271
EMC Approval	EN 55022
Safety Approval	EN 60950
Data Connection	RS485 (19200 Baud)
Power Requirement	24V DC @ 2mA (standby)
Audio Channel	Handsfree Voice Switched
8 Way Address DIL Switch	Set Binary ID
Loudspeaker	35 Ohm 0.5 Watts
Lift Speech Unit	
Surface Mount	Yes
Flush Mount	Not Available
Wipe-clean Tactile Keypad	Yes
Emergency Pull Cord	1.7 metres long Orange Polypropylene with 2 Orange Triangular Grips
Emergency Call Button	Red Halo with red LED illuminated symbol
I'm OK Button	No Function
Privacy Button	No Function
Message Waiting Button	No Function
Test Mode Button	No Function
Audible Reassurance	None
Visual Indication	Red Call LED
Kick Switch Input	Yes - N/O
Lift Company Travelling Cable	4 Core
Lift Speech Unit Mechanical	
Enclosure Material	White Polycarbonate base & lid, Silver ABS trim
Flammability Rating	UL 94 V-0 (GWFI 850^{o}C)
Ingress Protection Rating	IP20
Dimensions	174mm x 112mm x 49mm (HxWxD)
Weight	280 grams
Lift Interface Mechanical	
Enclosure Material	Light Grey ABS (RAL 7035)
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP54
Dimensions	170mm x 85mm x 34mm (LxWxD)
Weight	208 grams
Environmental	
Operating Temperature	0^{o}C to +40^{o}C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

42. SPECIFICATION - 169MHz NETWORK RECEIVER

Tynetec Part No.	ZXT325 Standard & ZXT326 Zoned
EMC Approval	EN 55022
Safety Approval	EN 60950
Radio Approval	R&TTE 1999/5/EC
Radio Frequency	169.48125MHz
Radio Range	75 metres typical (indoor)
Max No. NTR's per Site	16
Data Connection	RS485
Power Requirement	24V DC @ 10mA
Antenna	169MHz ½ Wave (900mm high) Unity Gain, 50Ω Impedance
Antenna Connection	5 metres RG58 cable with BNC plug
8 Way DIL Switch	1 to 4 = Binary ID, 5-8 Not Used
2 Jumpers	LK1/LK2 Factory Set to match Firmware
Mechanical	
Enclosure Material	Light Grey ABS (RAL 7035)
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP60
Dimensions	160mm x 80mm x 55mm (LxWxD)
Weight	280 grams (exc Antenna)
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

43. SPECIFICATION - MANAGER'S DISPLAY PANEL

Manager's Display Panel	
Tynetec Part No.	ZXT315
EMC Approval	EN 55022
Safety Approval	EN 60950
Display	
Size	10.4"
Type	VGA TFT Colour
Resolution	640 x 480 pixels
Backlight	LED
Touch Type	Resistive
Memory	1GB Industrial SLC SD Card
Operating System	Windows CE 6.0
Power	12V DC (3.5m Lead)
Data	Half Duplex RS485 (3.0m Lead)
Power Supply	
Manufacturer/Model	Elmdene G13802N-A (Tynetec Part No. W00525)
EMC Approval	2014/30/EU
LVD Approval	2014/35/EU
Environmental Approval	RoHS2: 2011/65/EC, WEEE: 2012/19/EU
Type	Switch Mode PSU with Electronic Overload Protection
Input Voltage	100V to 240V AC 50/60Hz
Output Voltage/Current	13.8V DC @ 2A
Output Ripple	150mV peak to peak
LED Indicators	Green = Mains Present and Red = Fault (Output/Battery Fuse Fail)
Mains Fuse Protection	T2.0A 20mm HRC
Load Fuse Protection	F2.0A 20mm Glass
Battery Protection	Re-settable PTC
Enclosure Material	White powder coated 18 SWG steel with hinged lid
Ingress Protection Rating	IP41 (indoor sheltered)
Dimensions	200mm x 230mm x 80mm (HxWxD)
Weight	1.85 kg (excluding battery)
Operating Temperature Range	-10°C to 40°C
Operating Humidity	75% RH, Non-condensing
Standby Battery	
Manufacturer/Model	Yuasa NP3.4-12 (Tynetec Part No. F00040)
Type	12V 3.4Ah Rechargeable Lead Acid
Dimensions	133mm x 66mm x 60mm (LxWxH)
Weight	1.00 kg
Operating Temperature Range	-15°C to 50°C
Display Mechanical	
Enclosure	Black ABS
Mounting	VESA (100mm x 100mm wall fixing centres)
Dimensions	226mm x 296mm x 59mm (HxWxD)
Weight	1.85 kg (excluding PSU)
Display Environmental	
Operating Temperature	5°C to 40°C
Operating Humidity	0% to 90% RH
Relative Humidity	Non-condensing

44. SPECIFICATION - DOOR ENTRY PANEL

Tynetec Part No's	ZXT411 Standard, ZXT422 with Emergency Button (AHA Only)
EMC Approval	EN 55022
Safety Approval	EN 60950
Data Connection	RS485
Power Requirement	24V DC @ 30mA standby (250mA active)
Audio Channel	Handsfree Voice Switched (simplex with combined intercoms)
8 Way DIL Switch	1 to 4 = Set Binary ID, 5/6/7/8 all ON
4 Jumpers	LK1 = Fail Secure or Fail Safe Lock Type, LK2 = Expander Fitted, LK3 = Expander Type, LK4 = Mute Speech Messages and Tones
Loudspeaker	Mylar Cone 8 Ohm 2 Watts
Audio Controls	VR2: Audio to phone, VR3: Audio to door, VR4: VOX sensitivity VR5: Audio to warden, VR6: Warden audio to door & speech messages
Features	
Flush Mount	Standard
Surface Mount	Optional HM1140 Surface Cowling required
Rain Hood	Optional HM1105 Flush Cowling required
Pushbuttons	20mm Diameter Stainless Steel
Loudspeaker	Protected by Fine Mesh Stainless Steel Grill
Microphone	Protected by Fine Mesh Stainless Steel Grill
DDA Compliance	High Visibility Yellow Halo around Pushbuttons, Pip on No. 5
Speech Messages	Yes (can be disabled with LK4 in position B)
Display	2 Line x 16 Character Backlit LCD (8mm High Characters)
Display Contrast	Adjustable (VR1)
Display Window	5mm Clear Makralon Polycarbonate
Panel Mount Reader Option	Yes - standard 40mm square cut-out with 4 studs on 48.5mm centres
Lock Output	Relay Contacts rated 30V DC @ 1A
Lock Type Options	LK1A = Fail Secure, LK1B = Fail Safe
Lock Fuse	20mm 1A
Lock Release Time	Adjustable 1 to 255 Seconds (default 10 Secs)
Telephone Ring Cycles	Adjustable 1 to 99 (default 8 Cycles)
Speech Time	Adjustable 1 to 255 Seconds (default 60 Secs)
Access Codes	4 Programmable 4 Digit Access Codes
Trade Times	3 Programmable Trade Time Periods Per Day
Tailgate Input	Normally Closed Door Contact required
External Lock Input	Normally Open Press to Exit Button required
Fixings	6 No. M5 x 12mm Countersunk Allen Head Bolts
Fixing Tool	3mm Allen Key
Mechanical	
Fascia Material	12 SWG Stainless Steel
Fascia Dimensions	406mm x 160mm x 2.64mm (HxWxD)
Bezel Material	18 SWG Stainless Steel
Bezel Dimensions	14mm Wide
Backbox Material	16 SWG Galvanized Mild Steel
Backbox Dimensions	406mm x 160mm x 60mm (HxWxD)
Ingress Protection Rating	IP44
Weight	3.60 kg (inc Backbox)
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

45. SPECIFICATION - DOOR ENTRY TELEPHONE

Tynetec Part No's	ZFT220 for Single Handset, ZFT221 for Master and Extension
EMC Approval	EN 55022
Safety Approval	EN 60950
Data Connection	SDATA & SCLK
Power Requirement	10V DC @ 3mA standby (15mA active)
3 Jumper Setting	LK1/LK2 = SDATA & SCLK, LK3 = Master/Extension
No. of Telephones per flat	1 x ZFT220 or 2 x ZFT221 (Configured as Master & Extension)
Features	
Wall Mount	Standard
Desk Mount	Yes - optional desk mount kit required (Part No. E00710)
Pushbutton	1 Button for Privacy and Lock Release Functions
LED Indicator	1 Tricolour LED: Red = Privacy on, Green = Door Open, Amber = Privacy on and Door Open
Audio	Handsfree Voice Switched
Call Visual Indication	Yes - optional ZSL047 Strobe required
Privacy Mode	On/Off (default) or Timed Auto-Reset (adjustable 1-999 Minutes)
Telephone Ring Cycles	Adjustable 1 to 99 (default 8 Cycles)
Speech Time	Adjustable 1 to 255 Seconds (default 60 Secs)
Lock Release Time	Adjustable 1 to 255 Seconds (default 10 Secs)
Mechanical	
Enclosure Material	White ABS
Enclosure Dimensions	215mm x 95mm x 60mm (HxWxD)
Ingress Protection Rating	IP20
Weight	351 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

46. SPECIFICATION - LINE SELECTOR

Tynetec Part No.	ZXT330
EMC Approval	N/A
Safety Approval	N/A
Features	
Power Requirement	12V DC @ 40mA active (0mA standby)
BT47 Relay	Fully sealed DPDT contacts rated 2A @ 30V DC
Telecom Connectors	3 x BT Type 431A Sockets
Screw Terminals	12V & 0V Enable
Telecom Leads (2 No.)	1 metre long 6 core FCC68 flat cable with BT Type 431A Plugs
Mechanical	
Enclosure Material	Light Grey ABS (RAL 7035)
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP54
Dimensions	170mm x 85mm x 34mm (LxWxD)
Weight	178 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

47. SPECIFICATION - DATA REPEATER

Tynetec Part No.	ZXT340
EMC Approval	N/A
Safety Approval	N/A
Features	
Power Requirement	24V DC @ 10mA (standby)
4 Jumpers	Pull-up/pull-down resistors on RS485 IN/OUT terminals
4 DIL Switch SW1	Switchable end of line resistors on RS485 IN terminals
4 DIL Switch SW2	Switchable end of line resistors on RS485 OUT terminals
RS485 IN LED Indicators	LED1: Yellow RX, LED2: Red TX
RS485 OUT LED Indicators	LED3: Yellow RX, LED4: Red TX
Mechanical	
Enclosure Material	Light Grey ABS (RAL 7035)
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP54
Dimensions	170mm x 85mm x 34mm (LxWxD)
Weight	202 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

48. SPECIFICATION - DOOR OPEN ALARM

Tynetec Part No.	ZDA025
EMC Approval	N/A
Safety Approval	N/A
Features	
Power Requirement	24V DC @ 50mA (standby)
Jumpers LK1&LK2	Cut LK1 and fit LK2 for 12V DC supply
Jumper LK3	Cut to isolate Piezo sounder
Potentiometer VR1	Adjust delay before alarm 1 second to 5 minutes
Piezo Sounder	4kHz 80dB @ 10cm
Relay Output	Changeover contacts rated 30V DC @ 1A
Door Contact	Normally Closed Type (not supplied)
Keyswitch	2 position/key removeable in both positions, Key No. 900
Mechanical	
Lid Material	White ABS
Backbox	RRP M2DP2 2 Gang Surface Pattress Box
Flammability Rating	UL 94 V-0
Ingress Protection Rating	IP40
Dimensions	146mm x 86mm x 40mm (HxWxD)
Weight	221 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

49. SPECIFICATION - MASTER STROBE

Tynetec Part No.	ZSL045
EMC Approval	N/A
Safety Approval	N/A
Features	
Power Requirement	10V DC @ 2mA (standby) 90mA active
Data Connection	SDATA & SCLK
Max No. Strobes	1 per intercom
Strobe Lens Colour	Blue
Strobe Lamp	Xenon
Strobe Flash Rate	100 per minute
Strobe Power Output	1 Watt
Strobe Flash Duration	20 Seconds
Mechanical	
Enclosure Material	Off White ABS (RAL 9002)
Flammability Rating	UL 94 HB
Ingress Protection Rating	IP40
Dimensions	110mm diameter x 57mm deep
Weight	135 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

50. SPECIFICATION - SLAVE STROBE

Tynetec Part No.	ZSL046
EMC Approval	N/A
Safety Approval	N/A
Features	
Power Requirement	12V DC @ 0mA (standby) 90mA active
Max No. Strobes	1 per combined intercom
Strobe Lens Colour	Blue
Strobe Lamp	Xenon
Strobe Flash Rate	100 per minute
Strobe Power Output	1 Watt
Strobe Flash Duration	20 Seconds
Mechanical	
Enclosure Material	Off White ABS (RAL 9002)
Flammability Rating	UL 94 HB
Ingress Protection Rating	IP40
Dimensions	110mm diameter x 57mm deep
Weight	115 grams
Environmental	
Operating Temperature	0°C to +40°C
Operating Humidity	10% to 90% RH
Relative Humidity	Non-condensing

51. AMENDMENTS RECORD

The table below lists significant changes to this manual;

Issue	Amendments	Date
A	Connection details for hard of hearing strobe option added to door entry telephone.	03/04/06
B	169MHz Network Receivers and Door Open Alarm connection details added. Controller requires V1.03a firmware for 169MHz Network Receivers.	07/07/06
C	BT/Siemens DECT equipment changed to Kirk Telecom.	31/10/06
C-1	Programming information added for Kirk Telecom.	23/11/06
C-2	Door Panel connections amended for ESD mods and Kirk Distybase Duo programming updated.	19/12/06
D	Distybase configuration changed, Kirk 1500 option added, Door Panel changed to ZSD410, new issue telephone board.	09/03/07
E	Distybase removed, Door Panel changed to ZSD411, ZXT121 MK2 Ethernet Interface added, V2.0 firmware mods, issue H intercom, issue E PA Amp.	07/08/08
F	Normally closed Ceiling Pullcord added, ZSL045 Strobe Light added, Door Open Alarm changed to ZDA025, ZXT340 Network Data Repeater added.	14/09/09
G	ZXT230 Apartment Station & Remote Control added.	24/03/10
H	Kirk 500/1500 DECT replaced by Kirk 300/6000. New ZFT220/221 Telephones. ZXT325 Network Receiver RSSI information removed.	23/09/10
I	ZXT326 Zoned Network Receivers added (433MHz option removed). Number of Kirk 6000 Repeaters reduced to 3 per Base Station. ZXT122 MK3 Ethernet Interface added.	04/07/11
J	New ZXT240-247 Combined Intercoms and ZXT315 Managers Display Panel added. Network Receiver link options added.	10/01/12
J-1	Note added ref. intercom DIL switch 2 must be ON when an Advent xt strobe is connected.	07/06/12
K	New 2013 intercom range and new Kirk 400/6500 DECT added. Activity Monitor and Apartment Station removed.	24/10/13
K-1	Earth connection added to Fortivoice IP PBX. IP 12 Channel Base Station can be P/No. ZXT546 or ZXT536. New firmware V3.00D in firmware level report.	11/02/14
K-2	Combined intercom “Link Options” corrected; when a combined intercom has a remote intercom connected move LK1 to “B” and leave LK2 in “A”.	07/08/14
K-3	Manager’s Panel is now provided with a battery backed 12V/2A PSU.	02/12/14
K-4	Manager’s Panel now shows the RS485 data cable drain wire connected to 0V on the Advent xt termination board.	04/12/15
L	Kirk 4020/4040 & Butterfly DECT replaced by Spectralink 7202/7212	20/01/16
M	New V4.01 firmware. Digital Communicator added. Fortivoice PBX replaced by the Matrix. Caller ID Display removed. Kick Switch input on Lift Callpoint.	16/03/17
M-1	BT Line Selector now shows the connection of an optional GSM Cellular Terminal.	22/09/17
N	Spectralink DECT removed. ZXT290 BLE Combined Intercom added. Revisions in-line with XT2.	20/09/19