

Intelligent Home Systems

Opportunities for the forward thinking installer



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New opportunities for the forward thinking installer

The integration of smart technologies in the home is now an affordable reality. Already, this integration is delivering real added value to developers and homeowners alike, ensuring that the new housing market will continue to be a significant growth area.

This exciting development provides new opportunities for both Electrical Contractors and Specialist Installers to service this growing market, and differentiate their business from traditional competitors. Central to delivering long term success in this area however is the selection of a manufacturing partner, equipped to supply and support these emerging technologies.

As part of the global Schneider Electric organisation Square D and Clipsal are well placed to be your partner for this exciting journey, delivering future ready homes, whilst adding valuable margins to your bottom line.



Solutions to build your business on

Square D and Clipsal are known throughout the industry for quality electrical solutions. Our aim is to help businesses thrive through innovation, and to make technology accessible, through a range of easy to install products. These new products bring to our customers an opportunity to offer smart systems as an affordable reality.





Entertainment Networking Systems

Fuelled by increased consumer investment in entertainment equipment such as flat screens, these systems are designed to share services such as TV, data, and telephone anywhere around the home, but more importantly allow these to be changed as the users needs or habits evolve.

A range of scalable solutions are available. These address the wide range of house types and functionality required including Delta 8, LexCom Home and LexCom Home AV.

Multi-room audio distribution

Building on the cabling infrastructure of a LexCom Home network the multi-room audio solution is based on a modular approach that delivers the many benefits of multi-room audio, with minimal installation and setting up. The discreet scalable solution can distribute up to 6 inputs to up to 8 different locations. Full infra-red control of the ceiling mounted speakers gives the user real flexibility in the control of their audio from wherever they choose.

Home Automation Solutions

Smart home solutions provide an enhanced lifestyle of entertainment, convenience, comfort and security, automating daily tasks and providing numerous lifestyle benefits.

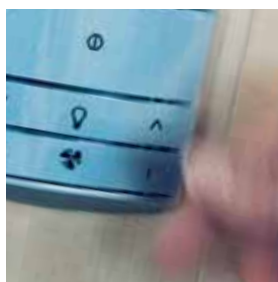
Again however there is no one size fits all solution. This is why Schneider Electric have a range of product solutions that provide anything from basic retrofittable wireless lighting solutions to advanced whole house systems providing functional yet stylish solutions in executive homes.

Training

Only Schneider Electric approved integrators are authorised to install certain more advanced systems, ensuring end users benefit from the knowledge and experience these installers bring to each installation. Enhanced Living training courses are designed to allow you to commission and support the range of systems offered.

Other ranges however, such as the ULTI wireless lighting system or the Delta 8 home networking system provide easy access to home automation or networking for general contractors, without the need for specialist training.

For more information visit www.schneider.co.uk or call 0870 608 8 608 and ask to speak to the residential team.



A person wearing a white shirt is sitting at a white desk, typing on a silver laptop. In front of the laptop is a small, white, rectangular network device with a glowing orange light. The background is blurred, showing a window with a view of a building. A large, light gray L-shaped graphic element is in the top left corner.

Entertainment Networking Systems overview

The principle of a networked home is to centralise all of the incoming services to the home, such as TV, Data, Telephone, and then distribute them around the home. This allows great flexibility in how and where these services can be used, enabling smart living to become a reality.



Delta 8 - The all-in-one solution

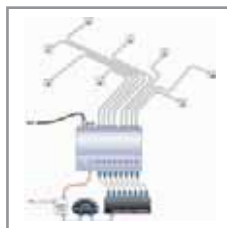
Delta 8 is a compact all in one solution for a residential network and is particularly suited to smaller properties such as flats and apartments. Using one single cable it distributes voice, data, image signals simultaneously to every connected outlet.

Central unit

The system is based on a central core unit into which incoming services are connected. Since every core unit can support 8 links, and the single cable carries 3 services, the system (with just one box) is equivalent in functionality to 24 outlets split across the three services.

Standardised connections

Outlets use standardised RJ45 connector systems, into which TV, data or telephones can be connected utilising a specific cord. Swapping the function of each outlet simply involves changing the outlet connecting cord as all 3 services are always present at each outlet.



Scalability - easy to upgrade and expand. Delta 8 has open interfaces to existing and future applications. Delta 8 supports wireless, voice over IP, digital video, etc.

Once the core unit has been connected to the incoming phone, TV and data cables – all those signals are permanently transmitted to all outlets, in all rooms. Simply connect radios, TV sets, phones, fax and computers – using the correct lead.

RJ45 jack. Fast termination and fully shielded.



Ease of installation

- Insulation displacement contacts (IDCs) with easy, fast connection using the universal termination tool.
- Switch for selecting phone lines on the links.
- The system is easy to adjust with the test kit; simply check the amplification level and the overall signal level.

Upgradability

The Delta 8 VDI system has open interfaces to existing and future applications (wireless, voice over IP, digital video, etc.), thus giving the user complete freedom of choice. The standard Delta 8 solution offers one unit for 8 telecommunication outlets, where a greater number of outlets are required, simply add a second unit.

Aesthetic and functional integration

The Delta 8 core unit, attractive and discreet, can be easily integrated into the home, due to:

- Limited space requirements.
- Installation on DIN rail within an enclosure such as the Pragma range.
- Attachment to 10" mounting for incorporation in 10" VDI rack.
- Side clips for wall mounting or any other horizontal mounting method.

Ease of use

- Once the core unit has been connected to the incoming phone line, the TV cable or aerial and the data switch, the user can access all supported services from the RJ45.
- Simply connect radios, TV sets, telephones and data applications with the correct cord to one of the available outlets.





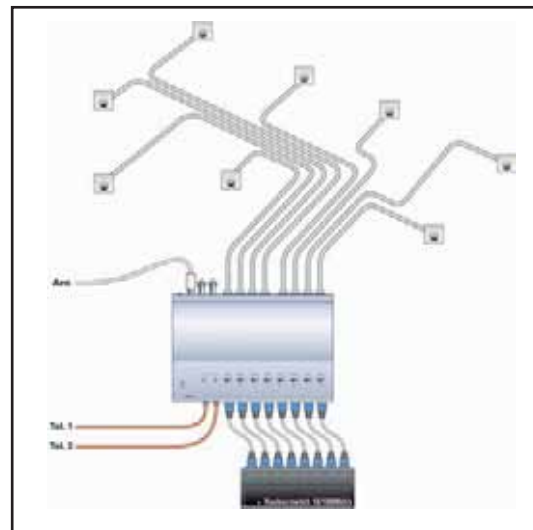
Standard configuration: TV aerial

Allows at each telecommunication outlet :

- A connection to the TV aerial
- The choice between the two phone lines
- Access to the local computer network

The diagram to the right consists of:

- 1 TV aerial connection
- 1 or 2 phone lines
- 1 data switch (not supplied)



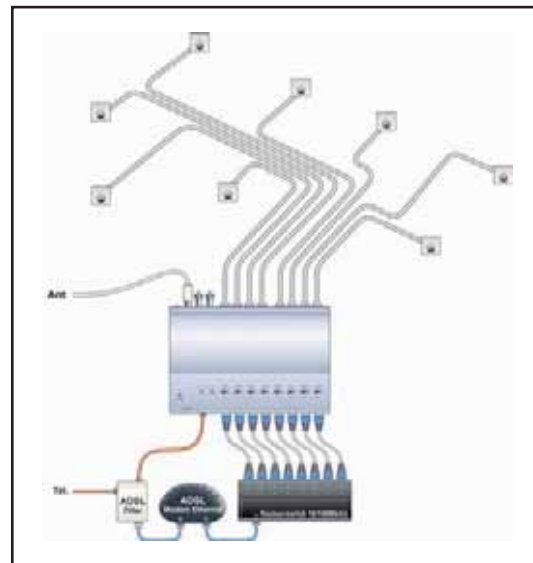
ADSL configuration

Allows at each telecommunication outlet :

- A connection to the TV aerial or ADSL TV
- High speed internet access
- Access to the local computer network
- Access to ADSL phone line

The diagram to the right consists of:

- 1 TV connection
- 1 ADSL filter (not supplied)
- 1 ADSL router/modem (not supplied)
- 1 data switch (not supplied)





Delta 8 product selector

Part No	Material description	Qty/Pack
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Core unit

VDI533020	Delta 8, active central processing unit Distribution of Voice, Data & Image signals - 2 RJ11 tele lines - security line RJ31X - 8 data ports RJ45 STP - gain forward -5/ +15dB - tilt (equaliser): +/- 6db - input voltage 12 Vdc - dimension: 300 x 250 x 90 mm - weight: 500 g	1
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VDI533020

Cable

	Delta 8 installation cable, S/STP, 4 pairs 4 pair wide band cable for Delta 8 installations	
VDI527005	120m	1
VDI527004	300m	1
	- 4 twisted pairs individually shielded S/STP - white outer jacket (RAL 9010), LSFROH - international colour coding - impedance: 100 Ω - offered in 120 m box and 300 m drum packing	



VDI527004

Dedicated cords

	TV cord	
VDI546031	Delta 8, TV / R cord connection cord between the wall outlet and the TV or Radio equipment - mixed cord TV/R IEC (male) / RJ45 with superior shielding construction - flame retardant PVC black cable - balun in the RJ45 plug - female IEC adapter included for Radio - provided in 3 meters length	1



VDI546031



Part No	Material description	Qty/Pack
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Accessories

VDI546033	<p>Delta 8, Stacking cord (Transfers Line 1 Telephone Services Only to second unit)</p> <p>Stacking cord to daisy chain two Delta 8 units</p> <ul style="list-style-type: none"> - mixed cord RJ11 / RJ45 unscreened - PVC black cable - overmoulded RJ45 plug - provided in 1 meter length 	1
VDI561014	<p>Delta 8, Tool kit</p> <p>The tool kit provides a small range of tools especially adapted</p> <p>It includes:-</p> <ul style="list-style-type: none"> - 1 cable jacket stripper - 1 LSA punch down tool - 1 straight screw driver for gain adjust - 1 cross screw driver for overall mounting - 1 wrench key for F-conn 	1



Tests

VDI560015	<p>Delta 8, Test kit</p> <p>A test system to verify the installation work and to enable correct configuration of the installation</p> <ul style="list-style-type: none"> - allows the 8 links to be tested - tests the wire map (continuity and shorts) - tests cable link length adjustments for TV output level - powered by Delta 8 core unit 	1
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LexCom Home overview

For larger properties or where an even greater level of functionality and flexibility is required LexCom Home is the ideal system, for an advanced entertainment networking solution.

Flexible and future proof

The principles of the LexCom Home system are founded on the single network cable used to distribute all signals around the home, removing the need for separate cables such as co-axial, telephone and cat 5.

This high capacity data cable has been designed to satisfy present and future transmission speed demands, ensuring the system will meet the future requirements of the client, a key consideration for anyone considering a home network.

The hub of the system is the distribution centre, or patch panel as it is generally called. Incoming signals for telephone, data and television are connected at this distribution centre. Using a star type wiring system, a number of cables are run from the central panel to each room where services are required. These cables are terminated in each room with wideband RJ45 outlets of the same type. Patch cables are then used at the central unit to route the incoming signals to individual outlets around the home.

This gives the LexCom Home system amazing flexibility, as it is simple to change any outlet in any room to receive whichever incoming signal you require. A telephone outlet can easily be switched to receive TV, radio or internet within seconds.





Enhancing the experience

A basic system provides significant benefits, however the addition of a system modulator will enhance the system further for the user, whilst providing installation contractors with one of a number of upgrade options.

This upgrade allows central equipment such as Satellite/Cable, DVD and Videos to be broadcast around the home, meaning they can be viewed and importantly, controlled from any room in the house via infra-red remote control.

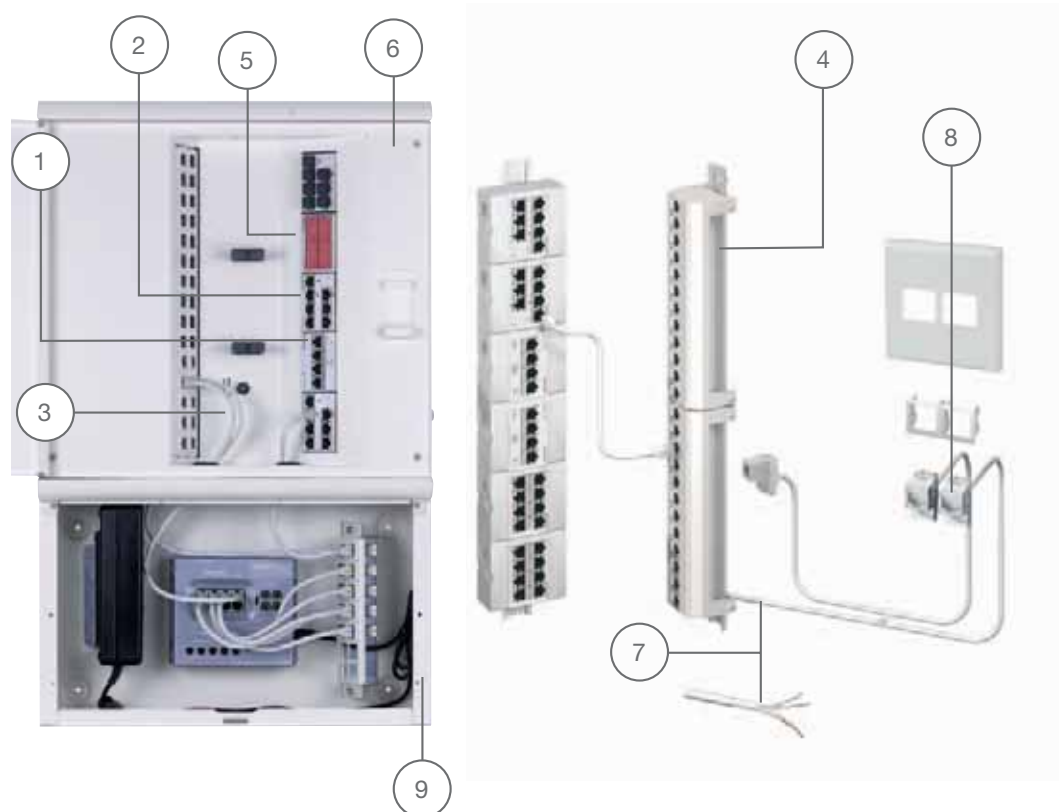
Other upgrade options include the PC Player which acts as an FM modulator, allowing centrally located music such as MP3 files on a PC to be played on any stereo in the house.





Installation and planning

There is a big difference between installing a LexCom Home network and conventional electrical and telecoms installations. If the installation is not completed correctly, the bandwidth and capacity of the network may be reduced, reinforcing the need for installers to have sufficient theoretical and practical training.



Basic components of the home network

- 1 Data module for computer networks, with four ports
- 2 TV / radio module for six TV connections plus AV input
- 3 Patch cables
- 4 Patching area
- 5 Distribution module for eight connection points for telephone / ISDN / fax / modem
- 6 Distribution centre, where incoming cables from aerial, telephone and the building network are connected to the home network
- 7 Shielded LexCom Home cable, eight wires
- 8 Universal outlet with two jacks to be mounted in Square D's Wiring Accessory product SQLXH2
- 9 Extension box & kit - used to house the audio hub or to provide extra patching ways (shown with front cover removed)

Certified installers are also able to verify the installation allowing Square D to issue the necessary certification to give an extended function and spare parts warranty. Testing and Verification requirements to qualify for these warranties are covered on the Square D training. This certification provides an assurance to the home owner that the completed installation satisfies the requirements and relevant standards for a LexCom Home network system.





The following provides an overview on some of the considerations prior to designing a Lexcom Home system.

Customer needs

It is important to define at an early stage what is required of the cabling infrastructure. Up to 30 outlets can be connected at the standard distribution centre, however other options are available (please consult us). Evolving or future needs for new functions / applications can easily be met by changing or adding a module.

System planning stages:-

- Define number of outlets (consider planned and future usage – example bedroom becoming a home office application)
- Choose accessible position for panel
- Choose room outlet location and plan cable runs (consider room layout and length of cable runs – see cable lengths below)
- Define services to be distributed – data, telephone, TV (consider upgrades such as satellite or Audio distribution)
- Define parts list:-
 - Cable (300 or 500m drums)
 - Distribution cabinet (30 outlets, consult us for other options)
 - System components (such as power supplies)
 - Active modules (based on services being distributed)
 - Wideband RJ45 connectors and Outlet face plates
 - Patch leads and appliance connecting leads
- Optional products such as Modulators for distributed satellite/DVD/Video

Cable lengths

To maintain optimum signal performance between the distribution centre and the outlets, no cable must be more than 40 metres long. To avoid over-driving of the TV signal, no installation cable should be less than 8 metres long.

Positioning the distribution centre

Position the distribution centre as centrally as possible in order to minimise line lengths to the outlets. The centre requires a fused 230V supply therefore this should be provided in close proximity to the panel. Also locate the BT master socket as close as possible. Position the centre at a convenient height for operation and maintenance. The ambient temperature should be between ± 0 and $+40$ °C.

Positioning outlets

Plan for at least two outlets in each room to meet future demand and to provide flexibility. Square D recommend a telephone network socket in rooms such as the hall, lounge and master bedroom, and an aerial outlet in the main living areas, bedrooms and the kitchen.





LexCom Home integrated enclosure solutions

The need for an integrated audio option has resulted in an enclosure design, providing a number of benefits.

Enclosure specification

- 30 outgoing ways as standard
- 5 DIN rail module capability
- TV amplifier tap off and test point
- Reversible board orientation allowing door opening as required
- Removable and interchangeable gland plates (one plain, one with knockouts)

Options

- Door lock
- Stacking kit (for linking 2 boards together - 60 outlets)
- Extension box
- Audio/extension box kit



Extension box and kit will accept single or multisource audio hubs, plus power supply and 14 additional patching ways, patching between panels is also possible



For larger systems (greater than 30 outlets) an extension box and kit will provide an additional 14 ways and also provide additional space for third party components



The increased cabling space will make installation much quicker, especially on larger systems



LexCom Home product selector

Part No	Material description	Qty/Pack
Distribution centre and accessories		
LXHSNPANEL30	30 way LexCom Home patch panel	1
LXHSNEXTBOX	LexCom Home extension box Simply bolts onto main panel. Allows integration of third party components, or can be used in conjunction with LXHSNEXTKIT to house audio components or provide additional patching ways.	1
LXHSNEXTKIT	LexCom Home audio/extension kit Used in conjunction with the LexCom Home extension box, this kit comprises of a 14 way patching bracket and a mounting plate for fixing the 130W audio power supply module.	1
IHCSTACKKIT	LexCom stacking kit Used to vertically link 2 panels together and provide up to 60 outlets.	1
LXHSBLANK2040WH	Blank plate - provides additional shrouding for unused RJ45 outlets (pack of 50)	50
LXHSBLANKWH	Blanking plate - white, shrouds unused DIN rail cut-out	1
LXHSFRAMEBLK	Black LexCom frame w/out dust cover Replaces white frames supplied with LXHSNPANEL30 (secures RJ45 connector whilst aiding colour coding of services)	10
LXHSFRAMEBLU	Blue LexCom frame w/out dust cover Replaces white frames supplied with LXHSNPANEL30 (secures RJ45 connector whilst aiding colour coding of services)	10



LXHSNPANEL30



LXHSNEXTBOX



LXHSNEXTKIT



Part No	Material description	Qty/Pack
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Accessories

LXHA100OHMPLUG	100 Ohm termination plug - fit into unused outlets on TV modules	10
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LXHA100OHMPLUG

Outlet Plate Components

LXHSRJ45	Wideband RJ45 connector	1
LXHSFRAME	Modular housing to hold RJ45 in outlet plate (white)	50
LXHSFRAMEBL	Modular housing to hold RJ45 in outlet plate (black)	50
SQLXH1	1 gang LexCom home outlet plate	1
SQLXH2	2 gang LexCom home outlet plate	1

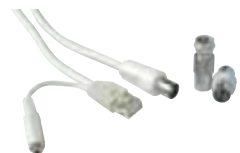


LXHSRJ45

Note: For use with other manufacturers faceplates please consult us

Appliance Cable Connectors

LXHUNTVIRBL	TV with IR link 3m balun black	1
LXHUNTVIRWH	TV with IR link 3m balun white	1
LXHUNTVBL	TV link 3m balun black	1
LXHUNRADBL	Radio link 3m black	1
LXHUNRADWH	Radio link 3m white	1
LXHLAPBX	Line Adaptor Unit (PABX RJ45 to BT - for use with LXHAT100)	1
LXHLASEC	Line Adaptor Unit (Secondary RJ45 to BT - for use with LXHAT101)	1



LXHUTVIRWH



LexCom Home multi room audio

Multi room audio further enhances the entertainment experience for the user, and can be installed as either a standalone system or as part of a LexCom Home network. A completely new concept in built-in multi-room audio systems, it has been designed for very high-quality music distribution throughout the home, using LexCom Home networking cable, and without the need for additional specialist loudspeaker and audio cables. The system is based on intelligent ceiling mounted active speakers that provide all the amplification and control needed. The system can be controlled either via wall keypads or by elegant infra-red remote handsets.

System structure

The system comprises of a single or multi-source audio hub housed within the LexCom Home patch panel extension box or mounted standalone. The hub processes audio source inputs from user equipment (Hi-Fi, DVD, MP3 players etc) and provides outputs to separate zones located around the home. Typically each zone has an active speaker pair fitted within the ceiling, providing on board amplification and quality high fidelity sound. Single source systems accept one audio source input and provide up to six outputs whilst multi-source systems accept up to 6 audio source inputs and provide up to eight outputs. This option allows users in different rooms to simultaneously listen to and control different audio sources.

Installer benefits include:

- Simple wiring infrastructure (respects LexCom Home parameters – i.e. maximum cable length of 40m)
- Simple installation and commissioning (plug and play approach)





Standard wiring & ease of installation

One of the most attractive features of the system, from an installer's perspective, is the use of LexCom Home cable throughout. This carries power, control signals, and left and right-channel balanced line audio. It is therefore very easy and extremely cost-effective to pre-wire an installation in a new property, using standard tools, materials, and techniques that would be familiar to most installers. All connections to loudspeakers, keypads, and wall sockets are via Katts type 110 punch-down connections allowing quick and easy termination.

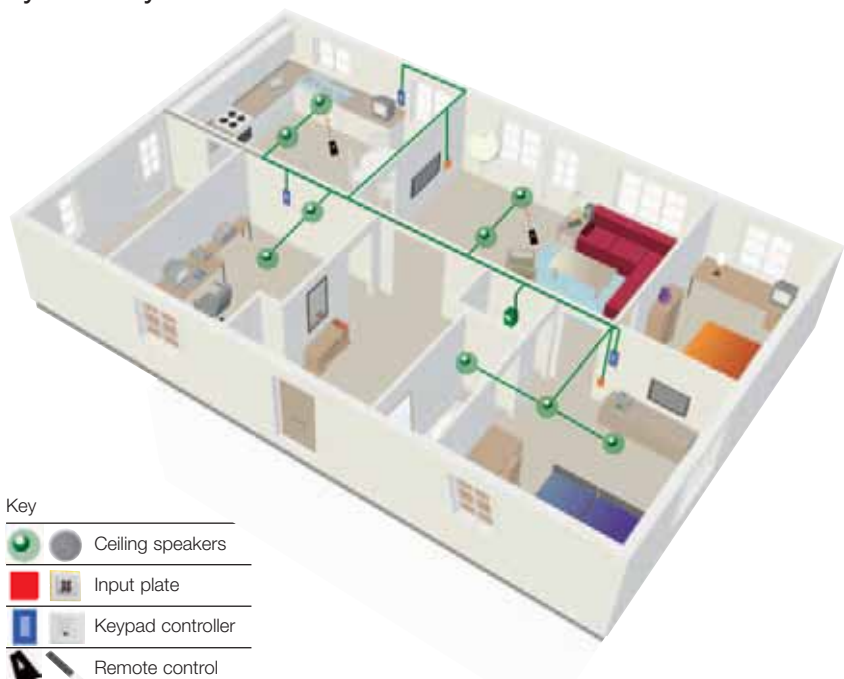


Control options










System control is offered by either an infra-red handset or wall-mounted keypad. Some models of the active speaker have built-in infra-red receivers, as do all keypads. The system includes an infra-red pass through, allowing most third-party hi-fi equipment to be controlled from any of the zones or subzones using the manufacturer's original remote control.



System layout



Key

-   Ceiling speakers
-   Input plate
-   Keypad controller
-  Remote control
-   Audio hub



Multi room audio product selector

Part No	Description	Qty/Pack
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System components

Audio Hubs

LXHQM16	Distribution hub - single source Supplies balanced audio, IR and power via LexCom Home cable to up to 6 zones	1
LXHQM8	Distribution hub - multi source Supplies pro balanced audio, IR and power from up to 6 audio sources via LexCom cables to up to 8 zones	1



LXHQM16

Audio input devices

LXHQSIM	Source input module Source input module (audio with loop through)	1
LXHQCIM	Combined input module SIM plus IRM Connection plate for audio input from Hi-fi/home theatre system and IR control output	1
LXHQFAIM	Flexible audio input module (for use with LexCom outlets) Combined module with stereo phono inputs and modulated IR output	1
LXHQMIM4	Multi source input plate (for multi source systems) Allows connection of up to 4 audio sources in one location	1
LXHQHCCP	Home cinema connection plate 5.1 surround sound connection plate	1



LXHQCIM

Control devices

LXHQP1	Keypad Keypad with integral IR receiver	1
LXHQP7	Multi source keypad with IR receiver Allows full manual control of system from remote locations	1
LXHRM1	Remote control handset For use with either IR enabled speakers or via LXHP1 keypad. Controls volume, zone on, zone off and mute. If local source is fitted, it allows selection of local or system audio	1
LXHLRN7	Learning handset Remote control handset for use with either IR enabled speakers or via multi source keypad. Offers comprehensive AV control of up to seven sources	1
LXHLKPM7	Learning programmable keypad Learning and control of at least 7 infra-red devices. Visual feedback of system status. Built in IR receiver enables source commands to be sent from handset, without use of IR enabled speakers.	1



LXHQP7



LXHRM1



Part No Description Qty/Pack

Speakers & ZAM

LXHQALM2	Active loudspeaker pair First class quality hi fi sound via high efficiency class D amplifiers, Mono/Stereo switchable	1
LXHQALM2IR	Active loudspeaker pair with IR First class quality hi fi sound via high efficiency class D amplifiers, Mono/Stereo switchable (with IR capability)	1
LXHQSLM2	Single active speaker First class quality hi fi sound via high efficiency class D amplifiers, Mono/Stereo switchable	1
LXHQSLM2IR	Single active speaker with IR First class quality hi fi sound via high efficiency class D amplifiers, Mono/Stereo switchable with IR capability	1
LXHQZAM40	Zone amplifier module Zone amplifier module to drive passive in-wall, in ceiling or free standing hi fi speakers. Powered from central hub or can be powered locally using LXHQPSM130 for higher power output	1



LXHQSLM2IR



LXHQZAM40

Power supplies

LXHQPIM	Power input module Power input module is typically used to allow the connection of a LXHQPSM45 locally within a sub zone	1
LXHQPIM3	Power input module 3 way Used to supply multiple sub zones	1
LXHQPMS130	PSU with bracket Powers main hub and 6 zones	1
LXHQPMS45	PSU with bracket Powers expanded zones and sub zones	1

Accessories

LXHQCSCAB15	Audio input connecting Audio input connecting cable 1.5m	1
LXHQLSE	Super emitter spread spectrum with wink	1
LXHQIRM	IR module IR module output plate. This allows remote control in other zones to control the audio source for PLAY commands, etc.	1
LXHQHOOOD	LexCom audio acoustic fire hood	1



LXHQLRN7



LexCom Home AV composite distribution system

The LexCom Home AV hub is a multiroom audio and video solution using industry standard CAT5 cabling or better (e.g LexCom cable). The hub routes music and video around the home from all connected AV equipment. Connection to the TV uses a simple adaptor cable. The system is controlled from any room using a remote control.



System Layout

The system is particularly suited to installations where there is a requirement to centrally site a large number of AV sources, such as Satellite, DVD, sound servers etc. LexCom Home AV provides a superior audio and visual solution, with full stereo output.

As standard products are supplied in a kit form making the selection process very straight forward.

Features

- Up to 12 audio and video sources can be viewed, listened to from up to 18 rooms
- Plug-and-play
- AV equipment can be hidden away in a central cupboard or connected to any CAT5 or LexCom Home socket
- IR pass-through allows control of sources using their original remote control
- Based on industry standard CAT5 cabling or better
- Hub provides switching of balanced composite video and stereo audio
- Pre-amp volume control allows independent volume setting in every room and for every source
- Switched IR allows control of multiple identical sources in the same location without interference



AV hub product selector

Part No	Description	Qty/Pack
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Small Modular Hub Kit and Accessories

LXHAV240	LexCom Home AV Modular Hub Kit 6x6 (A 6 source 6 zone system complete with power supply, interconnecting cables controls and remote)	1
LXHAV227	LexCom Home AV hub 6x6 and PSU (6 source 6 room)	1
LXHAV241	LexCom Home AV remote (Controls source selection and volume)	1
LXHAV242	LexCom Home AV source cable (RJ45 - AV (phono) + IR emitter)	1
LXHAV243	LexCom Home AV passive output cable (RJ45 - AV (phono) + IR receiver)	1
LXHAV225	LexCom Home Av hub extension box mounting bracket (allows fitting of 6x6 hub within LXHSNEXTBOX)	1



Large Modular Hub Kit

LXHAV203	LexCom Home AV Modular hub kit 6x12 (A 6 source 12 zone system complete with power supply, interconnecting cables and remote controls)	1
LXHAV204	LexCom Home AV Modular hub kit 6x18 (A 6 source 18 zone system complete with power supply, interconnecting cables and remote controls)	1
LXHAV205	LexCom Home AV Modular hub kit 9x9 (A 9 source 9 zone system complete with power supply, interconnecting cables and remote controls)	1
LXHAV207	LexCom Home AV Modular hub kit 12x12 (A 12 source 12 zone system complete with power supply, interconnecting cables and remote controls)	1
LXHAV208	LexCom Home AV Modular hub kit 12x18 (A 12 source 18 zone system complete with power supply, interconnecting cables and remote controls)	1



Note: A range of associated multichannel amplifiers, ceiling/wall speakers and termination boxes are also available to support usage of the larger hub kits.