

Delta 8 home networking system



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TV, radio, phone and broadband in every room.

A Delta 8 home is a home without visible trailing cables or leads between different rooms. In a Delta 8 home occupants are not restricted to accessing any service in any room only, as this all-in-one VDI solution delivers Voice, Data and Image signals via one single cable.

All signals are permanently transmitted to all outlets, in all rooms. Simply connect radios, TV's, phones, fax machines and computers – using the correct lead. Alternatively use all 3 services simultaneously in one location using the Triple Play Splitter.

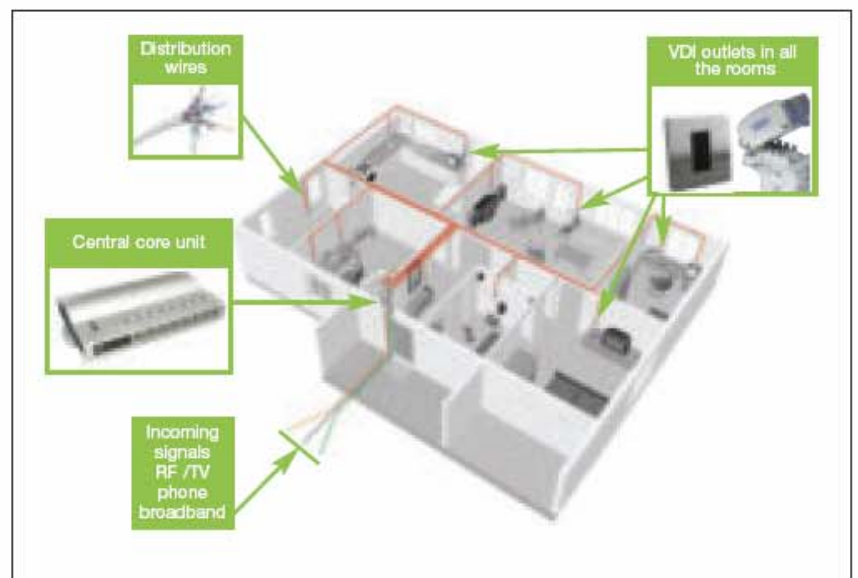


With the added benefit of handling a second phone line, this Delta 8 systems design handles existing and future applications including voice over IP and digital video.

For the developer it provides a cost effective and easily installed solution that offers a real value added opportunity, giving their properties affordable standout and a real competitive edge with broad consumer appeal. It is easy to install and inexpensive. Tool free connector at the outlet and Insulation Displacement Contact (IDCs) at the core unit for a fast and easy cable termination.

For the consumer the benefits are immediate. From the moment they move in they can simply access all of their services from any outlet, in the knowledge that they have a future proofed system in place to deliver real flexibility in how they use their space.

Need more than 8 outlets? Simply add a second or third core unit to gain access to additional points.

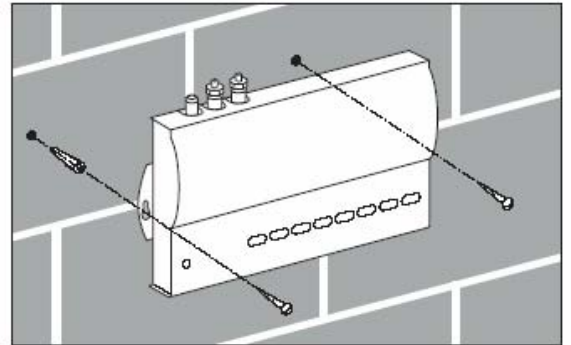


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Step-by-step installation

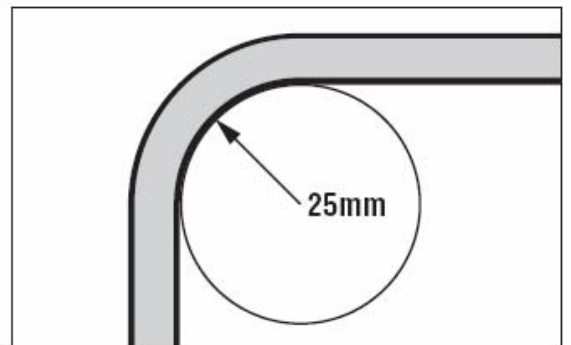
1. Locating and fitting the unit

- Locate as close as possible to telephone master
- Local power is required for Delta 8 unit and router
- Clean dry location is essential
- Wall, cabinet or din rail mountable



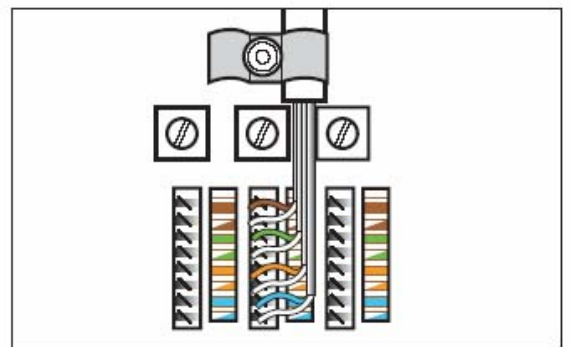
2. Run cables

- Cable runs of 2 to 50 metres
- Cables installed in star configuration
- Segregate from mains power
- Respect the bend radius recommendation



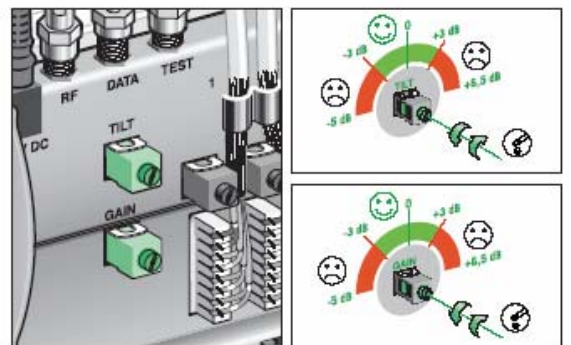
3. Termination and Wiring

- IDC connectors are colour coded to allow easy termination
- RJ45 connectors are colour coded to allow easy termination
- Fasten the cable using double strain relief (for cable shield termination)



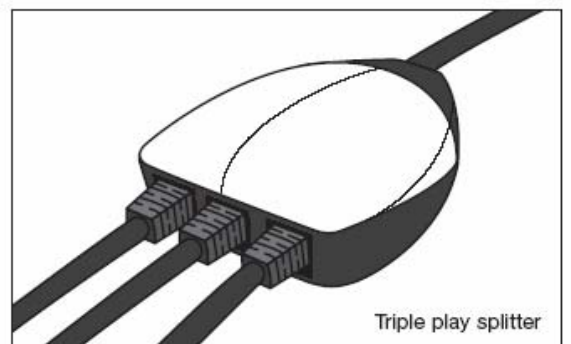
4. Testing and verification

- Wire map, short circuit
- TV aerial strength test
- Utilise dedicated Delta 8 test kit



5. Input and output services

- Input TV, phones, and data services
- Plug in dedicated cable for required service
- Use triple play splitter to simultaneously access all three services from one outlet



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Core system



| Code | Description | Qty |
|-----------|--------------------------------|-----|
| VDI533020 | Active central processing unit | 1 |

Distribution of voice, data & image signals

- 2 RJ11 telephone lines
- 8 data ports RJ45 STP
- gain forward -5/ +15dB
- tilt (equaliser): +/- 6db
- input voltage 12 Vdc
- dimension: 300 x 250 x 90 mm
- weight: 500g

Cable



| Code | Description | Qty |
|-----------|-------------------------|-----|
| VDI527005 | Cable white box – 120m | 1 |
| VDI527004 | Cable white drum – 300m | 1 |

Delta 8 installation cable, S/STP

- 4 twisted pairs individually shielded S/STP
- white outer jacket (RAL 9010), LSFROH
- international colour coding

Outlet connector



| Code | Description | Qty |
|-----------|-----------------------|-----|
| VDI552012 | Delta 8 STP connector | 1 |

RJ45 jack for Delta 8 terminal outlets

- screened wide band connector STP
- does not require tool for wiring
- international colour coding



| | | |
|----------|--|---|
| GU8450** | Ultimate screwless 1 module Euro plate | 1 |
|----------|--|---|

Dimensions: 88 x 88mm (1 module)

| | | |
|----------|--|---|
| GU8550** | Ultimate low profile 1 module Euro plate | 1 |
|----------|--|---|

Dimensions: 88 x 88mm (1 module)

| | | |
|--------|--------------------------------------|---|
| GU8050 | Ultimate moulded 1 module Euro plate | 1 |
|--------|--------------------------------------|---|

Dimensions: 86 x 86mm (1 module)

| | | |
|--------|---------------------------------------|---|
| GEURO1 | Exclusive moulded 1 module Euro plate | 1 |
|--------|---------------------------------------|---|

Dimensions: 86 x 86mm (1 module)



| | | |
|----------|----------------------------|---|
| GUE7091* | Delta 8 data outlet module | 8 |
|----------|----------------------------|---|

To order a complete unit requires:

- Delta 8 connector
- Outlet module
- Euro plate

Triple play



| Code | Description | Qty |
|-----------|----------------------|-----|
| VDI518112 | Triple play splitter | 1 |

Enables all 3 services to be used simultaneously from one outlet

1 in RJ45 3 out RJ45 (supplied with input cord)

- flame retardant PVC black cable
- balun in the RJ45 plug

Note
Replace * with suffix code to denote module colour required
W - White B - Black





Note
Replace ** with suffix code to denote plate finish required

SS - Stainless steel
PW - White metal
PN - Pearl nickel
PB - Polished brass

PC - Polished chrome
BN - Black nickel

Delta 8 home networking system

Dedicated cords and accessories

|  | Code | Description | Qty | Connection cord between the wall outlet and the TV or Radio equipment |
|--|-----------|-----------------------|-----|--|
| | VDI546031 | TV / Radio cord | 1 | <ul style="list-style-type: none"> • 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 meter length |
|  | VDI546035 | Data cord, 0.5m | 1 | Connection and patch cord for data application <ul style="list-style-type: none"> • 2 pairs straight wiring • RJ45 to RJ45 screened cord • PVC grey cable • overmoulded RJ45 plug |
| | VDI546036 | Data cord, 1m | 1 | |
| | VDI546037 | Data cord, 2m | 1 | |
| | VDI546038 | Data cord, 3m | 1 | |
| | VDI546039 | Data cord, 5m | 1 | |
| | VDI546033 | Stacking cord | 1 | Stacking cord to daisy chain two Delta 8 units <ul style="list-style-type: none"> • mixed cord RJ11 / RJ45 unscreened • PVC black cable • overmoulded RJ45 plug • provided in 1 meter length |
|  | LXHSTOOL | Cable jacket stripper | 1 | |
|  | VDI561014 | Tool kit | 1 | The tool kit provides a small range of tools especially adapted <p>It includes:-</p> <ul style="list-style-type: none"> • 1 cable jacket stripper • 1 LSA punch down tool • 1 flat screw driver for gain adjust • 1 cross screw driver for overall mounting • 1 wrench key for F-conn |
|  | VDI560020 | Test kit | 1 | A test system to verify the installation work and to enable correct configuration of the installation <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 |

Delta 8 | Technical information

Ease of installation

- Insulation displacement contacts (IDCs) with easy, fast connection using the universal connector tool.
- The system is easy to adjust with the test kit; simply check the amplification level and the overall signal level.

Scalability

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 (some restrictions may apply).

The standard Delta 8 solution offers one unit for 8 telecommunication outlets. When greater resources or distribution capacity are needed, simply add a second unit daisy-chained to the first.

Aesthetic and functional integration

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

- limited space requirements.
- installation on DIN rail very appropriate for modular enclosures.
- attachment to 10" mounting for incorporation in 10" VDI cabinet (supplied by others).
- side clips for wall mounting or any other horizontal mounting method.

Ease of use

- No cross-connection required: once the core unit has been connected to the phone cable end, the TV cable or aerial and the data selector switch, the user can access all supported services from the telecommunication outlets.
- Simply connect radios, TV sets, telephones and data applications with the correct cord to one of the 8 predefined links to obtain the desired application.
- One of the two phone lines can be selected on each of the links at any time.

Satellite TV

Delta 8 will not transmit feeds from the LNB of a satellite receiver. To achieve the same satellite channel in multiple rooms you must use the RF output on the receiver and connect to RF in on the Delta 8 unit.

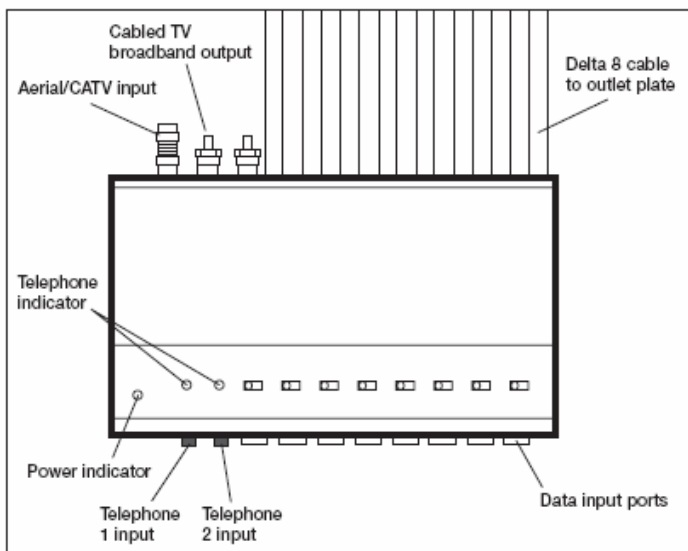
Cable TV

The Delta 8 system will allow the use of multiple cable receivers within the home. Restrictions to interactive services will apply as the Delta 8 does not accommodate for return path.

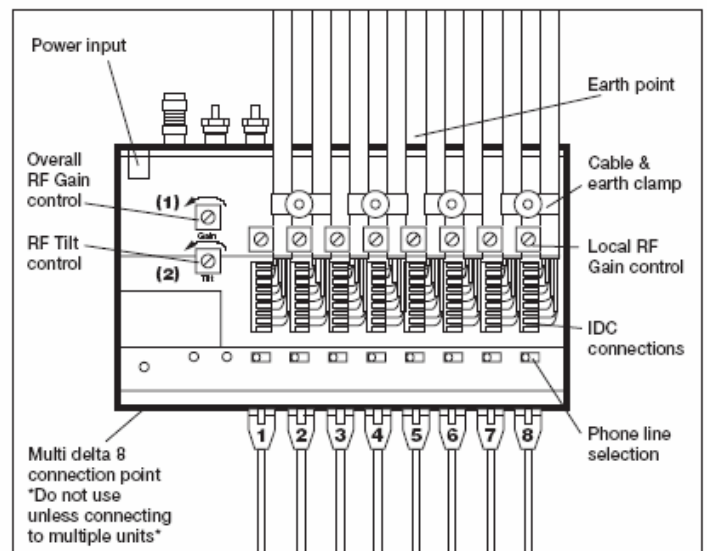
Broadband

With the Delta 8 system you can have access to a high speed broadband networks that can provide you video, entertainment, online gaming, plus the ability to download music and video. Other opportunities include VoIP (Voice over IP), SOHO (small office, home office), home schooling, and many more.

Delta 8 core unit



Delta 8 external view



Delta 8 internal view

Set up and configuration

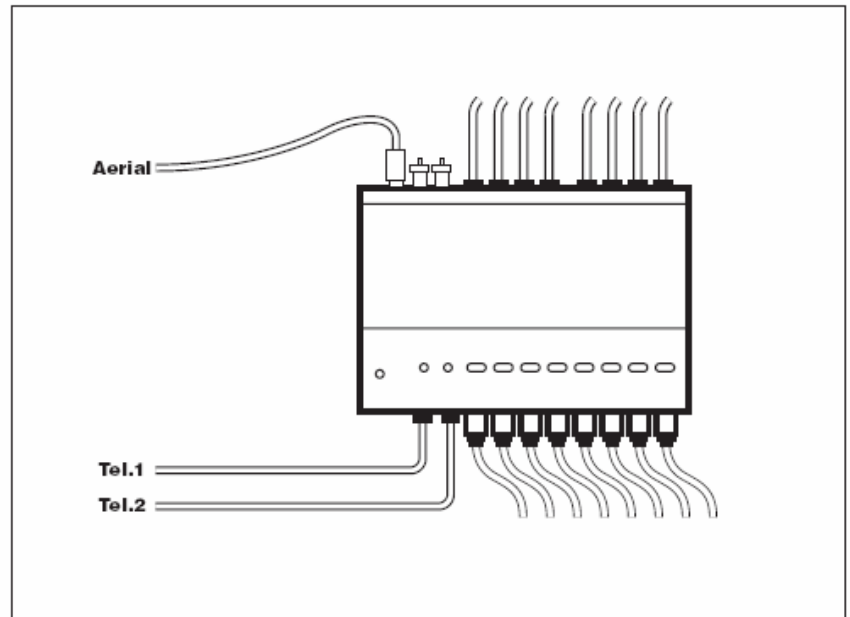
TV/RF input & data

Output will provide:

- a connection to the TV aerial and other RF signals
- choice between the two phone lines
- access to the local computer network

Consists of:

- 1 TV aerial connection
- 2 phone lines
- Data switch



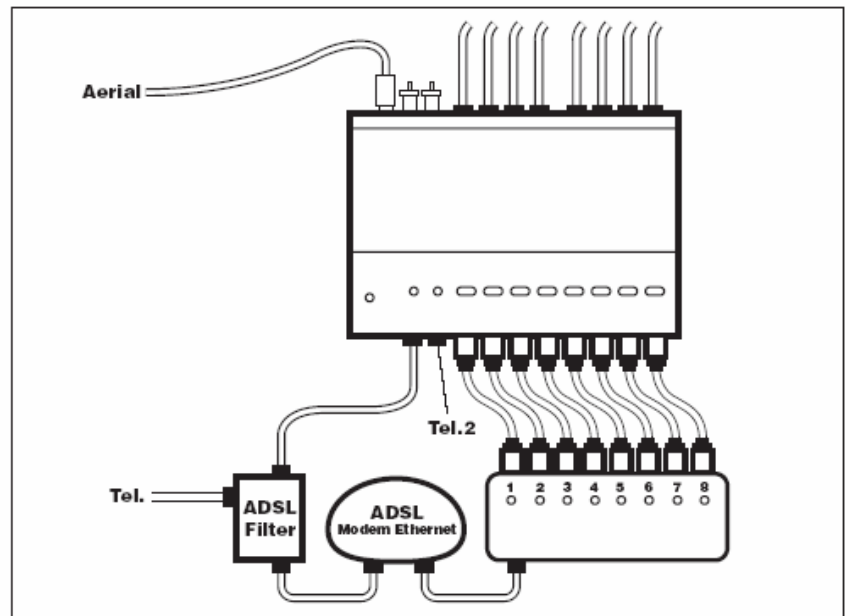
TV/RF input ADSL broadband plus

Output will provide:

- a connection to the TV aerial and other RF signals
- choice between the two phone lines
- access to internet

Consists of :

- 1 TV aerial connection
- 2 phone lines
- 1 ADSL filter
- 1 ADSL router/modem
- Data switch if insufficient output ports on router



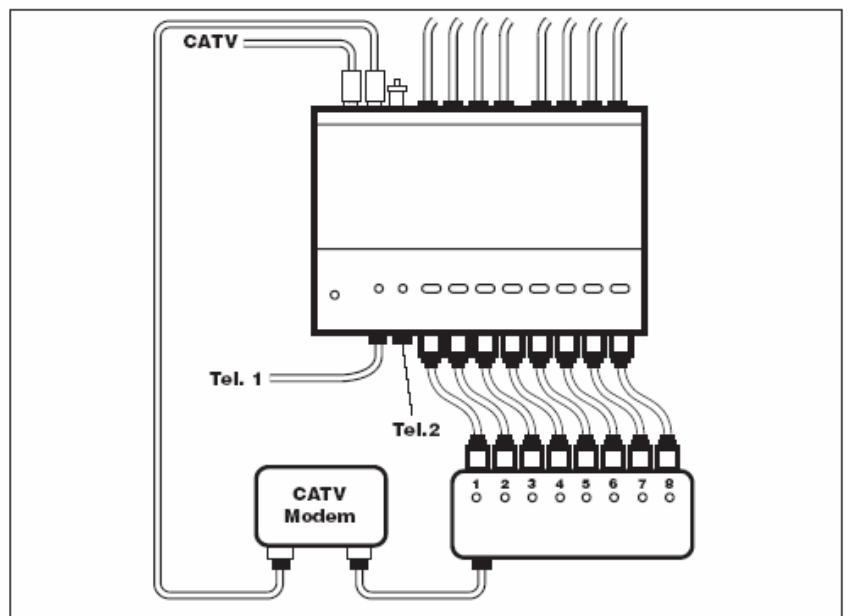
Cable TV and broadband internet configuration

Output will provide:

- a connection to the cable TV
- the choice between the two phone lines
- access to internet

Consists of :

- 1 CATV connection
- 1 or 2 phone lines
- 1 CATV modem
- Data switch



Delta 8 | Technical information

Delta 8 core unit

The active all-in-one module provides the interface for the Delta 8 system. The incoming services are distributed into the cable links on individual pairs by the dedicated features of the core unit, such as;

- broadband amplifier for TV/Radio with separate output stages
- data panel with true cat.6 link performance
- telephone line splitter with support of 2 different lines (maximum of 4 ren per line)

The system requires Delta 8 cable in its use to accommodate a link length from 2 to 50 metres.

Below the cover, the links are terminated to the unit, and turning-adjustment of each output stage is done per link to adapt for the lengths. Also global adjustments for Gain and Tilt of the incoming CATV line is possible.

If more than 8 outlets are needed in an installation, 2 or more core units can be daisy chained to achieve 16, 24,..outlets capacity

The core unit includes power supply and connection cords for the telephone line inputs.

Electrical and technical data

| | |
|-----------------------|--|
| Power consumption | 14W max |
| Bandwidth | 47-862 MHz (CATV on all links) |
| Gain forward | Global = -5 / +15 dB |
| Tilt (equalizer) | Global = + / - 6 dB |
| Input level | 60-77 dB μ V (CATV RF input) |
| Return loss | -10 dB min. (CATV RF input) |
| Insertion loss | RF input to DATA = 4 dB RF input to TEST = 10 dB DATA to RF input = 4 dB |
| Screening attenuation | > 90 dB (class A) |
| Impedance input | 75 Ohm (CATV RF input) |
| Input voltage | 12 Vdc |

Construction and material data

| | |
|------------------|---|
| Input interface | Tele lines: 2 x RJ11 Data ports: 8 x RJ45 STP CATV RF: F-conn. (fe-male) Security line: RJ3 1X Power supply: 5.5mm jack (+ on centre) |
| Output interface | Cable links: LSA punch down (TIA568B) CATV test: F-conn. (fe-male) CATV data: F-conn. (fe-male) |

Standards and approvals

| | |
|----------------------|----------------------------------|
| Application standard | EN50083-2: emission and immunity |
| Cabling standards | EN50173:2002 Cat.6 PL |

Delta 8 Installation cable

A 4-pair high bandwidth and double shielded installation cable for Delta 8 applications. It offers Superior shielding with each pair individually shielded in metal foil and the overall tinned copper wire braid (S/STP).

The cable is specifically matching the applications in the Delta 8 system, using the well known colour coding from LAN installations.

The Delta 8 installation cable can be used in both surface and flush mounted installations and shows excellent resistance to damage and reduction of performance due to stress from the installation work.

The cable is offered in both 120 m box and 300 m drums, where the box is matching the average cable need for an apartment installation.

Electrical and technical data

| | |
|-----------------------------------|--|
| Attenuation | 47 dB @ 600 MHz / 100 meter |
| Bandwidth | 0 - 900 MHz |
| Impedance | 100 Ohm nom. |
| NEXT | 93 dB @ 100MHz 80 dB @ 300 MHz 75 dB @ 600 MHz |
| Signal Velocity | 0.8 c |
| Bending radius under installation | Min. 65 mm. |
| Bending radius Installed | Min. 30 mm. |
| Temperature, Installation | 0 °C to +50 °C |
| Temperature, Operation | -20 °C to +60 °C |

Construction and material data

| | |
|-------------------|--|
| Material | LSFROH |
| Weight | 55 kg/km |
| Printing | Home installation cable 2x4xAWG23 SSTP |
| Calorific Value | 0.55 MJ/m |
| Cable Ø | 7.1 mm |
| Colour: conductor | White/Blue, white/orange, white/green, white/brown |
| Colour: sheath | White RAL 9010 |

Standards and approvals

| | |
|----------------------|------------------|
| Absence of halogens | ISO 60754-2 |
| Flame Retardance | ISO 60332-1 / -3 |
| Application standard | EN 50173-1 |
| Cable standards | EN 50288-5-1 |
| Application Standard | ISO 11801 |

Delta 8 | Technical information

| Trouble shooting | Recommendations and installation |
|---|---|
| Telephone Connections | For all telephone connections, you have to use a two wire line adaptor in order to avoid any short circuit or non-functioning of other services (TV & data). |
| Security Input | Do not use the Security Input unless used with the stacking cord. Failure to do so will cause permanent damage of line one. |
| Non-functioning telephone | If the telephone line 1 does not work, but that the telephone line 2 still works, the line 1 could have been damaged by the RJ11 plug connected in the security socket. If it is the case, please contact Schneider Electric Ltd. |
| PABX | Where a PABX is in use, you must use 1Pair telephone cord between the PABX and line 1 or line 2. If the PABX requires more than 1Pair, it will not be compliant with the Delta 8 system with the potential risk of damaging the PABX. |
| Noise on the telephone line 1 or line 2 | If noise on the telephone line 1 or 2, check the system : * without the ADSL filter, * by plugging directly the telephone on the telephone line from the operator (disconnection of the Delta 8). If no noise occurs when doing these operations separately, the problem should come from the mismatch impedance between the used telephone and the Delta 8. |
| Poor TV picture | Adjust Gain and Tilt to improve signal |
| Poor/No TV signal using triple play | Ensure the correct input cable is used from wall outlet plate to triple play |
| Data/broadband cable | The dedicated Delta 8 cables must be used for all data and broadband services |
| Data input to Delta 8 | Cat 5, Cat 5E, Cat 6 or dedicated Delta 8 cables can be used as inputs |

| Frequently asked questions | Answers |
|--|--|
| Can I distribute HDMI over Delta 8? | Delta 8 will distribute RF television, data and telephone |
| What is the minimum and maximum single length I can run Delta 8 cable? | min. 2m, max. 50m |
| Can I use Cat. 5 or Cat. 6 cable? | No, bandwidth is insufficient on Cat. 5 and Cat. 6 cable |
| Is it possible to receive more than one signal from one outlet? | Yes. Incorporating a Tripleplay splitter enables you to connect to TV, Data and telephone at one Delta 8 outlet. |
| Do I need to run 3 cables to each wall outlet? | One of the many advantages of Delta 8 is that you only need to run one cable to each Delta 8 outlet |
| Can I have infra-red control over my equipment? | Yes, by using a separate RF to IR Converter (available separately from retail outlets) |
| Can I distribute cable or satellite broadcast? | Delta 8 will not transmit feeds from the LNB of a satellite receiver. To achieve the same satellite channel in multiple rooms you must use the RF output on the receiver and connect to RF in on the Delta 8 unit. The Delta 8 system will allow the use of multiple cable receivers within the home. Restrictions to interactive services will apply as the Delta 8 does not accommodate for return path. With the Delta 8 system you can have access to a high speed broadband networks that can provide you video, entertainment, online gaming, plus the ability to download music and video. Other opportunities include VoIP (Voice over IP), SOHO (small office, home office), home schooling, and many more. |



GETplc Key Point 3-17 High Street Potters Bar EN6 5AJ

t: 01707 601 601 | f: 01707 601 701 | gb.get.sales@gb.schneider-electric.com | www.getplc.com