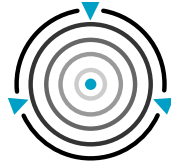


CONVERGENT HOME



TECHNOLOGIES LIMITED

DIANEMO HOME AUTOMATION & CONTROL SERVER

DIANEMO  At home *with* technology



The Dianemo Home Automation Server is designed to bring together all your digital services, media distribution and home control requirements in one flexible and easy to use system. It is built around a powerful Nerve Centre to provide the central control and interface to other “SmartHome”, Audio/Video and peripheral entertainment and control equipment. Most Dianemo Nerve Centres come with a minimum of 1TB of storage with around 800GB of this free for user media storage. Larger storage options can be specified or the media storage can be enhanced by the addition of a Network Attached Storage (NAS) device.

Control of the system can be achieved in a number of ways from the same user interface (UI) and we currently support the iPod Touch, iPhone, iPad, iPad Mini and Android devices using our Free Apps. It is also possible to access the UI via a web browser on any PC, Apple computer or of course a traditional in wall touch panel. Secure remote access to the system is also available from anywhere there is an Internet connection.



The Dianemo User Interface

In-built Features:

Audio Server

All Dianemo Nerve Centres (except the NC25) come with a minimum of 4 line level stereo outputs which, once connected to a suitable amplifier or active speakers, provides 4 independent audio zones. Up to 8 zones can be fitted into our largest Nerve Centre and external add-on audio servers can provide additional zones. All Dianemo Nerve Centres come with a built-in audio server which can store music files and stream them to any device capable of playing music. The music library is iTunes compatible and will update automatically whenever files or playlists are added, deleted, or changed in any way in iTunes. You can also store Internet Radio stations and stream these to any audio zone. Dianemo’s audio server can even integrate Sonos players and control them from within our own UI.

Video Server

All Dianemo Nerve Centres have an in-built video server capable of streaming ripped DVD's, downloaded music videos (non copy protected) or home movies to any Internet enabled TV, or Media Player with a suitable media renderer. Using the Universally Unique Identifier (UUID) of the device Dianemo can incorporate these devices seamlessly into the installation and provide full control via the Dianemo UI.

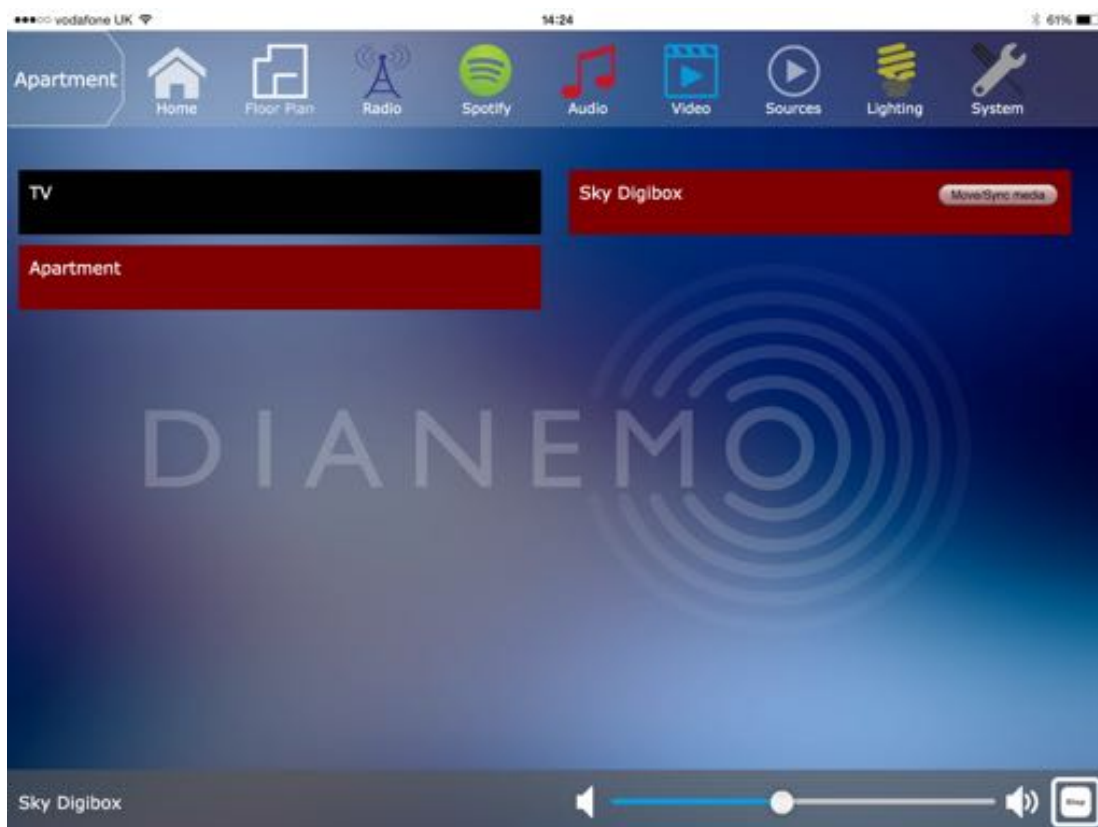
For dedicated Home Theatre areas we recommend the use of a Dianemo Media Manager. Media Managers provide high-resolution video playback, DVD chapter control, digital audio interfaces to surround amplifiers and a HDMI interface to connect to projectors or HD TV's.

External Source Control

Dianemo Nerve Centres have IP, RS232, RS485 and if necessary Infra-Red interfaces and our own driver software to control a range of set-top boxes (such as Sky+HD & Apple TV) amplifiers, DVD and Blu-Ray players. When selecting one of these devices to control from the Sources menu in the Dianemo UI users are presented with an on-screen replica of the remote control for the device being controlled allowing them to do just about anything they would have done with the physical remote control from the manufacturer.

Home Floor Plan

We believe a unique feature of Dianemo systems is the Floor Plan views. The Floor Plan is a physical representation of what is going on in the home. When in the Floor Plan it is possible to see not only see what is going on but also have control of devices in that screen. For example, in the Media Floor Plan screen it is possible to view what media is playing in any zone (audio and video), turn the volume up or down in any room, synchronise music across multiple zones or even move music or video from one room to another.



Dianemo Floor Plan

IP Camera Server

Mid range Dianemo Nerve Centres have an IP camera server capable of supporting up to 4 IP video cameras. If there is a requirement for a larger number of cameras we have 2 dedicated camera servers which can be integrated and will support up to 24 IP cameras. The cameras are triggered to record on detection of any motion and also take a single snap shot every minute if no motion is detected. The cameras can be viewed live or as archived footage.

Lighting, Heating and HVAC Control

All Dianemo Nerve Centres have the ability to control all open control systems including Z-Wave based systems from MK (astral), MK PEHA, Lutron, Rako and BMS and HVAC control using the BACnet protocol via devices like the Honeywell Hawk.

Once a device (light, room stat etc) is configured in the system it can be programmed into set scenarios which will appear in the Dianemo UI or can be independently controlled from the Floor Plan or appropriate menu.

IP Telephony Server

All Dianemo Nerve Centres have an integrated Asterisk Voice over IP (VoIP) PBX. This allows full integration of SIP telephone trunks and internal IP telephone extensions. Using this facility Dianemo, can provide the interface to stand alone video door and gate entry systems or be integrated with building wide video entry systems like the iModo from Urmet.



The Urmet iModo Video Door Entry Panel

The primary function of the iModo is to provide residents with a video door phone service. A call can be received from an external call module where a clear image will appear, the resident can accept the call and have a two way (duplex) conversation with the visitor whereupon they can decide to release the door or gate allowing access to the building. The iModo also has an icon to link to a home automation system. When integrated with Dianemo, touching the Home Automation icon on the iModo screen will take you to the Dianemo UI and allow you full access to all the features and facilities of Dianemo from the iModo panel, thus enhancing the capabilities of the iModo and providing fixed station for video door entry and home control from a single interface.

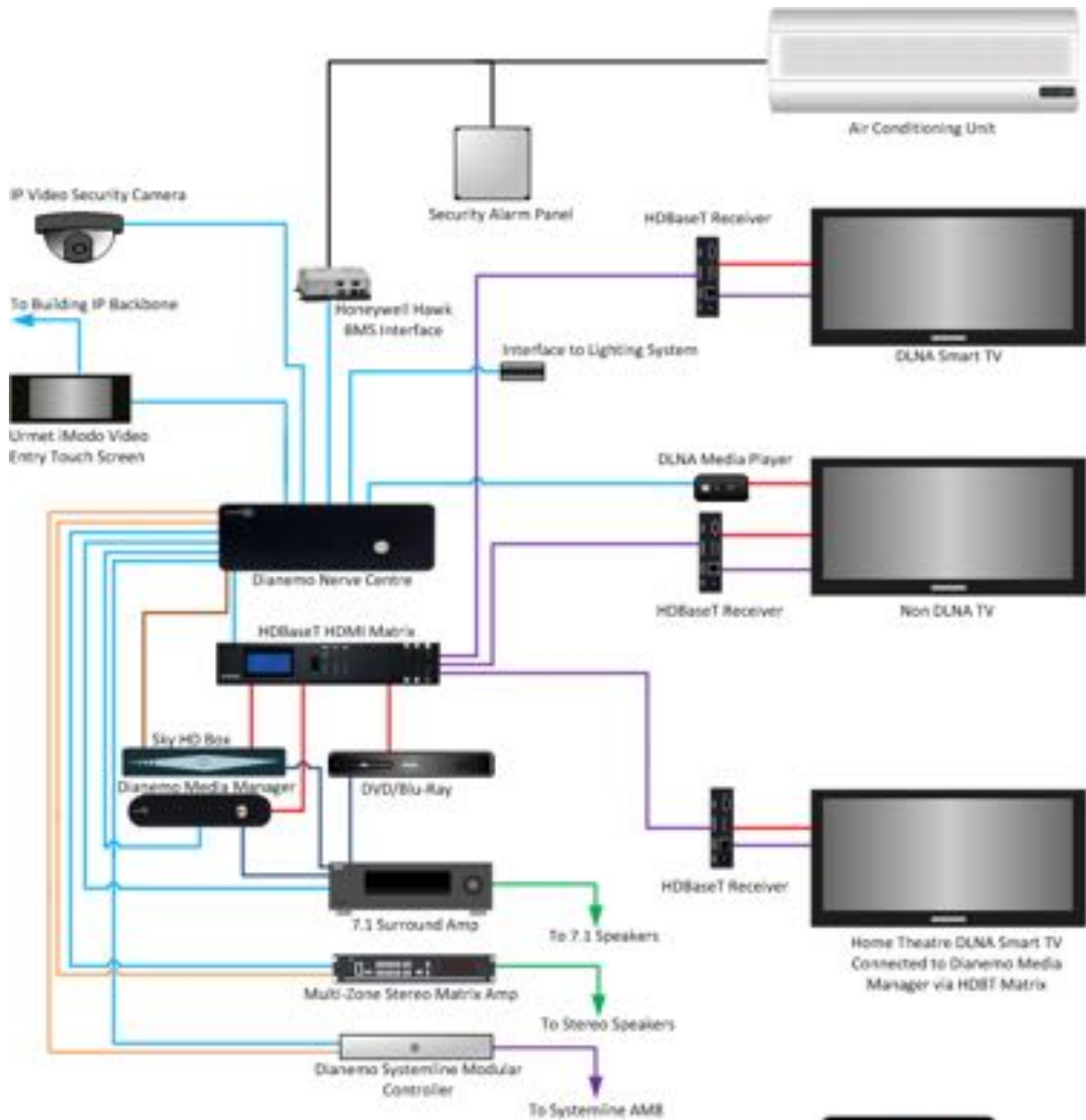
Alarm Control

Dianemo can provide an interface to alarm systems from Texecon. The Security Alarm interface allows homeowners easy access to the features of their alarm panel via the Dianemo system which makes them easily accessible from the Dianemo UI.



Dianemo Alarm Screen

DIANEMO HOME AUTOMATION & CONTROL EXAMPLE



| KEY | |
|---------------------------------------|---------------------------|
| — | CAT 5E/6 NETWORK |
| — | CAT 5E/6 - POINT TO POINT |
| — | HDMI |
| — | SPEAKER CABLE |
| — | AUDIO - LINE LEVEL |
| — | AUDIO - DIGITAL |
| — | BMS-BUS CABLE |
| — | Sky HD-CONTROL CABLE |

Notes:
 Cat5e/6 cables are connected to Dianemo through a network switch (not shown in diagram) a PoE switch can also be used to power wireless Access Points for internet access from all wireless devices. Control of equipment from Dianemo can be either RS232 or IP (connections not shown). Lighting control interface can be IP or RS232 and we support: NK Atraxi (Z-Wave), Lutron, Rako, MODUL, PDMA and KNX.
 A Single Point to Point Ethernet cable between the HDBaseT matrix and receiver carries the network and HDMI signal.



Specifications

| | | |
|--------------|---|--|
| <p>NC50</p> |  | <ul style="list-style-type: none"> • Case: Aluminium slimline case with silent passive cooling • Intel Celeron 2955U 64-bit dual core 1.4GHz processor • Storage: 1TB (enough for around the equivalent of 120 DVD's or 10,000 MP3's or 700 hours of TV) • Audio: 4 x stereo zones (1 on-board) • Networking: 2 x Gigabit Ethernet • USB: Supports 4 devices • Serial Port: 3 • Operating Temp: 0 ~ 50 deg Celsius • Typical Power Consumption: 15w • EMC: CE/FCC Class B • Dimensions: 190 (W) x 160 (D) x 40 (H) mm |
| <p>NC100</p> |  | <ul style="list-style-type: none"> • Case: Aluminium slimline case with silent passive cooling • Intel i3-4010U 64-bit dual core 1.7GHz processor • Storage: 1TB (enough for around the equivalent of 120 DVD's or 10,000 MP3's or 700 hours of TV) • Audio: 4 x stereo zones (1 on-board) • Networking: 2 x Gigabit Ethernet • USB: Supports 4 devices • Serial Port: 3 • Operating Temp: 0 ~ 50 deg Celsius • Typical Power Consumption: 15w • EMC: CE/FCC Class B • Dimensions: 190 (W) x 160 (D) x 40 (H) mm |
| <p>NC200</p> |  | <ul style="list-style-type: none"> • Case: Aluminium slimline case with silent passive cooling • Intel i5-4300U 64-bit dual core 1.9GHz processor • Storage: 1TB (enough for around the equivalent of 120 DVD's or 10,000 MP3's or 700 hours of TV) • Audio: 4 x stereo zones (1 on-board) • Networking: 2 x Gigabit Ethernet • USB: Supports 4 devices • Serial Port: 3 • Operating Temp: 0 ~ 50 deg Celsius • Typical Power Consumption: 15w • EMC: CE/FCC Class B • Dimensions: 190 (W) x 160 (D) x 40 (H) mm |
| <p>MM100</p> |  | <ul style="list-style-type: none"> • Case: Aluminium slimline case with silent passive cooling • Display: HDMI 1.3, DVI • Resolution: 1080/720p • Audio: 1 x stereo zones or 1 x SPDIF (optical) • Networking: 1 x Gigabit Ethernet • USB 2.0: Supports 2 devices • Operating Temp: 0 ~ 45 deg Celsius • Typical Power Consumption: 20w • EMC: CE/FCC Class B • Dimensions: 245 (W) x 58 (H) x 194 (D) mm |

Dianemo has in-house software driver support for the following products:

LIGHTING PRODUCTS

Z-Wave
Rako
Lutron
Mode
LightwaveRF

AV EQUIPMENT

Denon AV amps (all models with RS232 or IP)
Onkyo AV amps (all models with RS232 or IP)
Arcam AV amps (all models with RS232 or IP)
Sonos
RTI AD4 & AD8
Sony UPnP/DLNA Internet TV's (models with media renderer)
Samsung Internet TV's (models with media renderer)
Panasonic Internet TV's (models with media renderer)
LG Internet TV's (models with media renderer)
Sony Internet enabled DVD/Blu-Ray players (models with media renderer)
Samsung Internet enabled DVD/Blu-Ray players (models with media renderer)
Western Digital Media Players
Apple TV (IR control only)

HD VIDEO DISTRIBUTION

Triax HMX HD Matrix (4x8 & 8x8)
Wyrestorm HDMI/HDBT Matrix (all models with external control interface)
HD Connectivity HDMI/HDBT Matrix (all models with external control interface)

Building Management Systems

Honeywell Hawk
Trend
BACnet
KNX
PEHA
Clipsal C-BUS

Alarm Systems

Texacon

Additional drivers can be written to support any device with an IP or serial interface and an open protocol.