



NAD Installation Manual

For Alarm Installer/Service Agent

Ver 1.5

Presented by

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Table of Contents

1.	INTRODUCTION	4
2.	NAD CONTENTS	5
3.	PRECAUTIONS	5
4.	LOCATION & MOUNTING.....	5
5.	WIRING	6-7
6.	COMMISSIONING NAD.....	8
7.	ALTERATIONS	9
8.	CONTACT	9

Table of Figures

1.	BUILDING SERVICES NAD OVERVIEW	4
2.	SERVICES NETWORK ACCESS DEMARCATION.....	5
3.	PFA, DBA SGD WIRING.....	7

Document History

Version	Status	Date	Comments
1	Draft	3 rd May 2007	First draft Boyd Robinson
1.1	Update	12th September 2007	Second draft
1.2	Update	14th September 2007	Third draft
1.3	Update	23 th December 2008	Testing/commissioning changes by Ben Wyness
1.4	Update	10 February 2009	Copy proof read and re-edited by N. Clifton
1.5	Update	7 th November 2012	Included Building services overview drawings

1. Introduction

The **NAD** (Network Access Device) is designed for connection of 3rd party broadband services equipment to any Telco network for within a corporate business site. The NAD normally includes dedicated xDSL, FTTx or xG wireless network gateway equipment that operates independently from the business network and is managed and supported by the Building Services ISP (ALARMNZ). This provides full network isolation from contractors equipment (Fig. 1), however can utilizes the same structured cabling within the business site. Those contractor services maybe, however are no limited to:

- Fire & Sprinkler Systems
- Security and Access Control Systems
- Refrigeration and HVAC Systems
- Audio & Visual Displays
- Emergency Telephones
- Elevator Alarms
- ATM
- General Vending Machines
- UPS & Power Generator Sets
- CCTV
- Lighting And Energy Monitoring

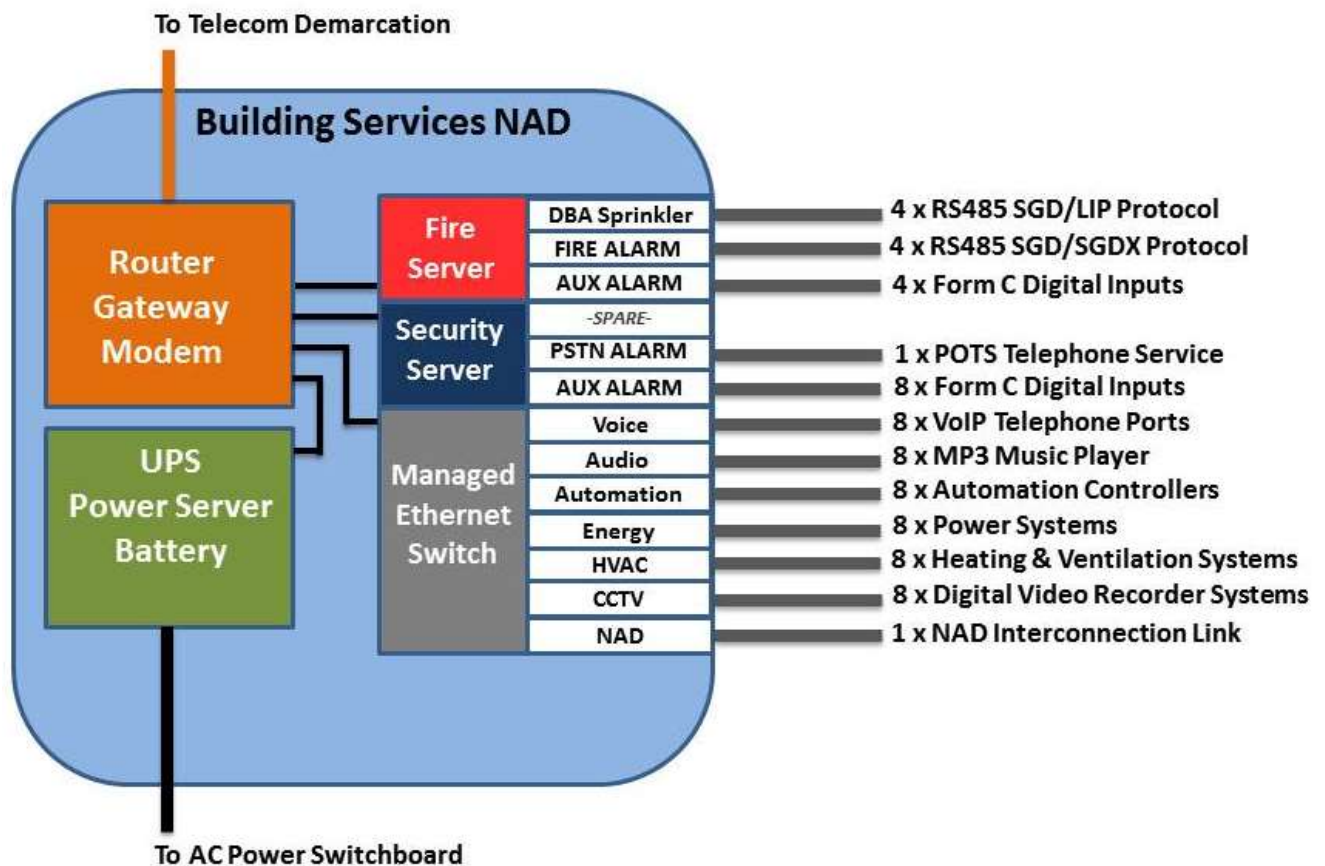


Fig. 1

2. NAD Contents

NAD cabinet normally comprises of:

- Power Server Unit
- Router/Switch/ATA/Modem
- Media Convertors
- Sealed Lead Acid battery (x2)
- Installation manual

3. Precautions

Observe Antistatic precautions. Isolate cabinet power and remove battery before mounting. Wear protective appropriate protective equipment while mounting cabinet

4. Location & Mounting

The NAD is normally located in the main IT Room, or near the Telecom Demarcation Point. If the UTP cable length exceeds 90 Meters for connection of building services equipment back to a NAD, then a second NAD may need to be located somewhere else on the site, allowing the building services equipment to connect to the closest point. (see fig 2)

Mount the NAD cabinet in clean dry area with adequate ventilation. Ensure suitable fixings sufficiently rated for the cabinet weight (approx 7Kg) are used. Ensure cabinet fixings attach to structural timber, concrete, or steel.

Services Network Access Demarcation

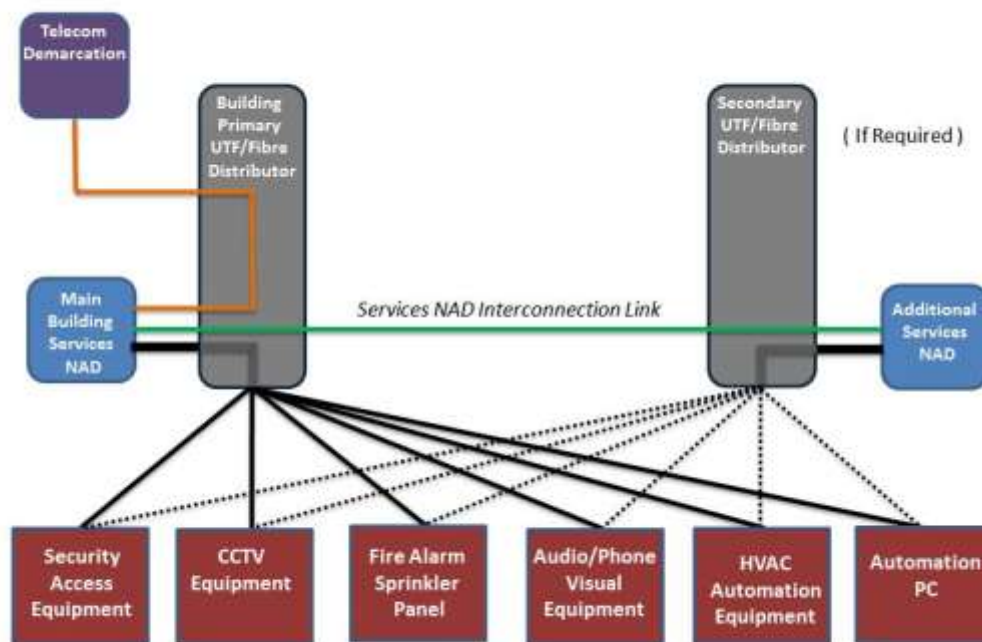


Fig. 2

Services Equipment

5. Wiring

5.1 Power

Ensure 230Vac 10A dedicated live power circuit is available for the NAD cabinet.

5.2 Local Network

Generally the NAD uses the existing building structured cabling, therefore the interconnection between NADs can be via UTP or Fibre depending what structured cabling has been provided. Fire Panels and sprinkler Alarm systems each need to have Fire resistant Cat5e/6 data cable run to the closest NAD. (see fig 1)

Normally an 8 way data outlet is required from either the building UTF distributor to the NAD which is mounted nearby. If a fibre interconnection is used either between NADs, or cabled to any building services equipment then a fibre outlet will be required at the NAD from that building distributor.

5.3 Wide Area Network

Generally there will be either Voice Grade copper cable suitable for a xDSL service available at the building distributor which where ALARMNZ will provision a connection to the Telco Network. Occasionally there will be an FTTx Optical Network Terminal (ONT) Layer 2 Ethernet handoff at the Telecom Demarcation and so in this case the wide area network connection will be via a UTP cable to the building distributor . Additionally the NAD normally includes a backup xG wireless connection that operates directly from the NAD cabinet.

5.4 Labelling

The NAD will include outlet number labels consistent with the building UTF distributor outlet numbering scheme.

5.5 Cable Specification

All services Network cabling is UTP Cat5e/6 except for the cables run from the Fire and Sprinkler system to either the BD & FD cabinets which is Fire Resistant UTP Cat5e/6 (BS 6387 cwz). Fire and Sprinkler Equipment patching NAD outlets within the IT room can be standard UTP Cat5e/6. If services equipment is greater than 90 meters from the NAD instead of UTP, a Fibre cable must installed and an additional Fibre outlet between the BD or FD to the nearby NAD.

5.6 ADSL NAD

1. Install NAD adjacent to Telecom ADSL demarcation point or BT jack
2. Replace the standard BT jack with the captive BT jack supplied in installation Kit.
3. Install the filter as per supplied ADSL wiring diagram and connect to the line or number specified on connection datasheet at Telecom Demarcation point. Ensure cable pair is terminated on pins 2 and 5 (center connector on each 3 way connector) of Krone terminals in captive BT socket.

5.7 WIRELESS 3G NAD

If possible check GSM/CDMA signal strength at proposed NAD location with a mobile. If insufficient signal is available relocate NAD to higher level in building away from steel and steel reinforced concrete structures if possible.

5.8 PFA-DBA /SGD's

When ready, connect PFA-DBA/SGD's RS485 data cable to NAD as per Fig.3. Connect each PFA-DBA/SGD individually and test correct signalling to Alarm New Zealand. Only connect additional PFA-DBA/SGD's when correct signalling has been confirmed with Alarm New Zealand staff.

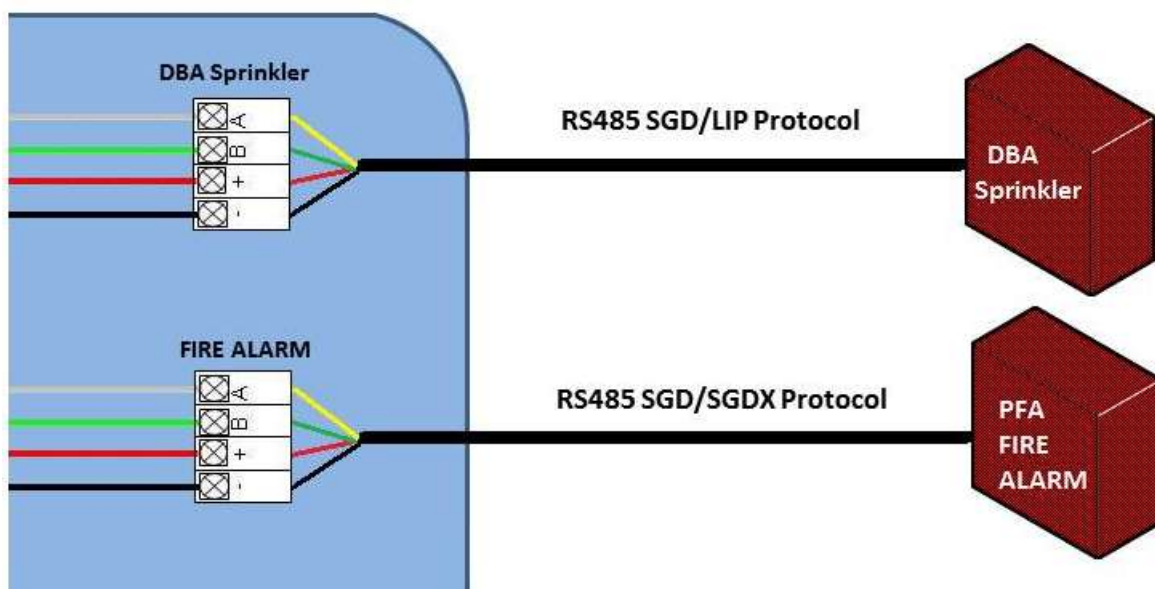


Fig. 3

6. Commissioning NAD

The NAD is commissioned by ALARMNZ and those building service contractors who require external network access to remotely program equipment need to contact the AlarmNZ help desk to arrange testing.

NAD 3G wireless Commissioning check-list

- NAD mounted in best signal location (near the Fire Alarm equipment)
- NAD secured to wall with appropriate fasteners
- Dedicated 230VAC feed – Switchboard, breaker, and location labelled at outlet.
- Batteries dated and initialled – connected observing correct polarity
- Connected Fire SGD's are being polled
- Signals are being received by Alarm New Zealand
- Connection documentation completed and returned to Alarm New Zealand

NAD ADSL Commissioning check-list

- ADSL Ph, number of NAD ADSL line confirmed same as connection documentation
- NAD mounted near Telecom Demarcation point.(ADSL BT Jack installed)
- Captive BT jack-point upgraded on the Telco Demarcation point.
- ADSL splitter installed at Telco Demarcation as per ADSL wiring diagram
- NAD secured to wall with appropriate fasteners
- Dedicated 230VAC feed – Switchboard, breaker, and location labelled at outlet.
- Batteries dated and initialled – connected observing correct polarity
- Connected Fire SGD's are being polled
- Signals are being received by Alarm New Zealand
- Connection documentation completed and returned to Alarm New Zealand

7. Alterations

Contractors must contact Alarm New Zealand helpdesk before altering or connecting equipment to the services network.

8. Contact

All enquiries regarding connection and installation of this unit should be directed to: helpdesk@alarmnz.com, Phone 09 3030303