

QRC

AXX11 Release 1.0 Quick Reference Guide

61116-05AA



AXXESSIT®

The AXX11 is an Integrated Access Device for use in fibre optic networks. The AXX11 combines Ethernet-/IP- and TDM-traffic, by running IP- alongside with TDM-channels inside an SDH frame structure that can be easily carried across the network. The bandwidth of the IP-channel is configurable from 2Mbit/s to 100Mbit/s true wire-speed! in steps of 2Mbit/s, which provides the carrier with more flexibility to serve the customer needs, while the carrier only needs to transport the number of VC-12(s) actually containing traffic and being allocated to his customers.

The AXX11 has four E1 tributary ports, 4 Fast Ethernet LAN ports, 2 Legacy Data ports and one Ethernet WAN port. Each E1 interface, up to 4, is mapped into a VC-12 container while the Ethernet traffic is mapped into a configurable number of VC-12 containers. The AXX11 data interfaces are mapped into E1 before converted to VC-12 containers.

AXX11 is used in conjunction with the AXXEDGE, and is not a standalone SDH network element (NE). It provides an overall low cost connection of end users. The AXX11 is managed remotely, via AXXEDGE, by a management system that supervises both the IP- and TDM-parts of the unit. However, the AXX11 is provided with a RS232 interface for local supervision.



Credits

This quick reference guide could not have been created without the help from people involved in developing the AXX11.

V.Sebjørnsen
Technical author

Copyright

AXXESSIT ASA

All rights reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without the prior written consent of AXXESSIT ASA. AXXESSIT ASA reserves the right to make changes without further notices to any products or specifications referred to herein to improve reliability, functionality or design. AXXESSIT ASA does not convey any license under its intellectual property rights.

Reproduction, adaptation or translation without prior written permission is prohibited, except as allowed under the copyright laws.

Disclaimer

The information contained in this document is subject to change without notice.

AXXESSIT ASA makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties of merchant ability and fitness for a particular purpose.

AXXESSIT ASA shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material. AXXESSIT ASA assumes no responsibility for the use or reliability of its software on equipment that is not furnished by AXXESSIT ASA.

Blank pages

Any blank page present is to accommodate double-sided printing.



AXX11 QUICK REFERENCE GUIDE

1.1 SITE PREPARATION

Verify that the installation site meets the following criteria:

- The site conforms to all environmental specifications
- The floor or mounting area where you will install the equipment can support the equipment.



NOTE!

The following tables are based on typical AXX11 system configurations and may vary in specific customer configurations.

1.1.1 Requirements

1. Power supply for the AXX11 equipment must be available as described in Table 1.1.
2. Power consumption for the AXX11 equipment must be supported as described in Table 1.1.
3. Circuit breakers for the AXX11 equipment must be according to Table 1.1.
4. Recommended clearance for accessing the AXX11 equipment during and after installation must be as described in Table 1.2.

Equipment Type	Power Supply Requirements
-48 V DC	-36 to -72 V DC
Power consumption	13W
Circuit breaker	0.5A (slow)

Table 1.1. Power supply requirements by AXX11 equipment type

Item	Recommended Clearance
Bay access needed for maintenance	Front access only, 500 mm (19.7 in.)
Back clearance to bays (if necessary))	500 mm (19.7 in.)

Table 1.2. Recommended Access Clearance

1.2 UNPACK THE AXX11 BASE UNIT

1. Open the top of the cardboard shipping container.
2. Take the box containing the AXX11 accessory kit out of the shipping container.
3. Lift the AXX11 out of the packaging box and remove the anti-static bag and foam inserts.

1.3 GROUNDING CONSIDERATIONS FOR 48 V

It is vital that the AXX11 are properly grounded.

The AXX11 is grounded via the ground connector to the rack ground. The location of the ground connector on the AXX11 is shown in Figure 1-1.

1.4 AXX11 INSTALLATION

You can choose the front side to be the connectors side or the AXXESSIT branded side. The latter choice requires back access.

Use the following procedures to install AXX11 in an equipment rack. Verify that at least 3 RU of space is available.

When installing the AXX11, you can also use the extension brackets, included in the AXX11 accessory kit, to convert a 485-mm (19-inch) rack to a 600-mm (23.6-inch) rack.



NOTE!

1 RU is 44.45 mm.



CAUTION!

Wear a grounding wrist strap while unpacking, handling and interconnecting the AXX11, to discharge any static buildup.

1.4.1 Mount the AXX11 in a 19" rack

1. Remove the two phillips screws on the left and right and install the brackets with longer phillips screws that are also in the plastic bag.
2. Move the AXX11 to the desired rack position
3. Align four M6 cage nuts in the equipment rack with the mounting holes on the front of the AXX11.
4. Align the AXX11 with the equipment rack and cage nuts.
5. Insert the AXX11 into the equipment rack.
6. Connect the AXX11 to the equipment rack with four M6 screws.

1.4.2 Mount the AXX11 in a 600 MM rack with ETSI brackets

The shelf assembly is also possible to install in a 600-mm (23.6-in.) rack, for this installation you can use extension brackets. You will need two 1 RU extension brackets for this procedure.

1. Remove the two phillips screws on the left and right and install the extension brackets with longer phillips screws that are also in the plastic bag.
2. Follow step 2-6 in “Mount the AXX11 in a 19” rack” on page 1-3.

1.5 CONNECT AXX11 TO AXXEDGE

1.5.1 Interconnection

An AXX11 can be connected to any STM-1 interface on the AXXEDGE modules. They are connected with a fiber. See Figure 1-1.

Please see user guide for AXXCRAFT or higher-level management systems within the AXXTMN product family for further details on management of AXX11.

Location of the ground connector on the AXX11



Figure 1-1. Connector side of AXX11

1.6 AXX11 – 48 VDC POWER

The following procedure explains how to install AXX11 48 VDC power connections.

1.6.1 Connection procedure



WARNING!

To prevent equipment damage and injury, do not reverse the polarity of the AXX11 power connections.



CAUTION!

Wear a grounding wrist strap while unpacking, handling and interconnecting the AXX11 equipment modules, to discharge any static buildup.

1. Insert the wires into the desired connector and fix the wire on the connector. The following colour-coding applies:





Wire colour coding		Wire carrying
	Brown wire	OV
	Blue wire	- 48 V DC
	Black wire	- 48 V DC
	Green/yellow wire	GND

Table 1.3. Power cable - wire colour coding

2. Be sure that the power cable is connected with the correct polarity and properly fused, see Table 1.1.
3. Connect the AXX11 power cable (with the ground) to power connector of the back of the AXX11. See Figure 1-1.

AC power

An optional AC/DC adapter is available from AXXESSIT;
100-240 VAC / 48 VDC 15W.

1.7 AXX11 COMMAND LINE INTERFACE

1. An AXXCLI session is invoked by typing **axxcli** in the terminal window. User authentication (password, 8-12 ASCII characters) is required, as the following session start-up sequence shows. Default password is AXXCLI.

```
>axxcli
```

```
-----  
                          AXXEDGE Command Line Interface  
-----
```

```
Enter AXXCLI password: *****
```

```
AXXCLI>
```

It is sufficient to type leading characters of the command name to avoid ambiguity – the same applies to keywords.

The BACKSPACE or DELETE key may be used to edit the command line. Commands and keywords are not case-sensitive.

1.7.1 Valid commands

```
AXXCLI>
```

```
AXXCLI>?
```

```
*** valid commands:
```

```
Alarm-Report: Alarm report
```

```
Device:       Device configuration
```

```
Inventory:    Inventory lists
```

```
Loopback:     Loopback configuration
```


1.7.2 Alarm Report

XXCLI>**Alarm-Report ?**

Usage:

Alarm-Report

[SOURCE=<DEVICE|SPI-RS-MS|AU4-VC4|TU12-VC12|E1|WAN|LAN>]

AXXCLI>**Alarm-Report**

Optical-Rx-Level: -11 dB

Source	Count
--------	-------

DEVICE	0
--------	---

SPI/RS/MS	1
-----------	---

AU4-VC4	0
---------	---

TU12-VC12	0
-----------	---

E1	0
----	---

WAN	0
-----	---

LAN	4
-----	---

1.7.3 Device configuration

AXXCLI>Device

NAME: sysName

AXXCLI>**Device ?**

Usage:

Device

[NAME=<string[1:80]>]

AXXCLI>**Device NAME=HAL-9k**

NAME: HAL-9k

1.7.4 Inventory

```
AXXCLI>Inventory\?
```

```
*** valid commands:
```

```
Hardware-Inventory: Hardware inventory list
```

```
Software-Inventory: Software inventory list
```



NOTE

Software-Inventory not implemented: see Craft terminal.

```
AXXCLI>
```

```
AXXCLI>inv
```

```
AXXCLI>Inventory\
```

```
AXXCLI>Inventory\hard
```

```
EAN-NUMBER:      <No EAN>
```

```
NAME:
```

```
CODE-NUMBER:
```

```
ICS:
```

```
SERIAL-NUMBER:
```

```
BANK:           1
```

```
AXXCLI>Inventory\..
```

1.7.5 Loopback configuration

```
AXXCLI>Loopback ?
```

```
Usage:
```

```
    Loopback
```

```
        PORT=<integer[1:4]>
```

```
        [ADMINISTRATIVE-STATUS=<NONE | LL2 | LL3>]
```

```
AXXCLI>Loopback PORT=1 OPER=LL2
```

```
PORT:           1
```

```
ADMINISTRATIVE-STATUS:  NONE
```

```
OPERATIONAL-STATUS:    LL2
```

```
AXXCLI>Loopback port=1
```

```
PORT: 1
ADMINISTRATIVE-STATUS: NONE
OPERATIONAL-STATUS: LL2
```

```
AXXCLI>
```

1.8 MANAGEMENT USING AXXTMN

Management of AXX11 is performed through AXXEDGE using AXXTMN¹.

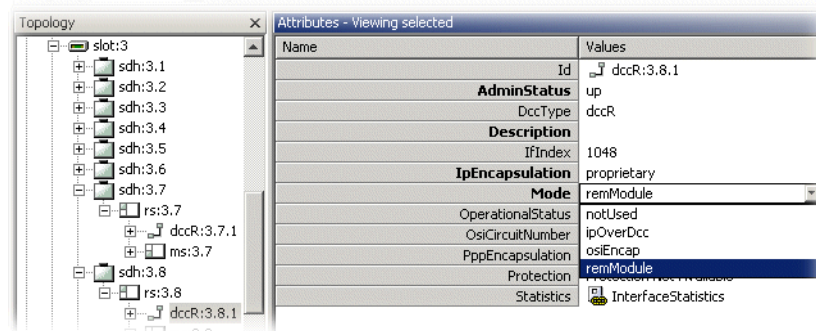
The AXX11 is handled as an integral part of AXXEDGE as it cannot function as a standalone network element.

1.8.1 Connect module

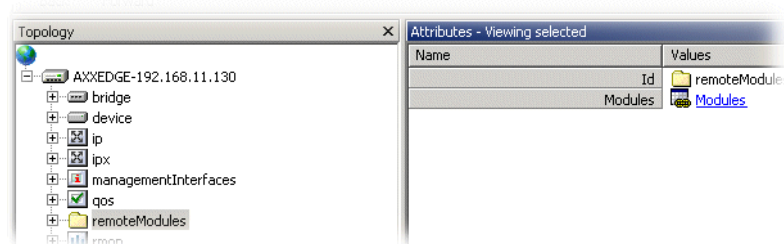
An AXX11 can be connected to any STM-1 interface on the AXXEDGE modules. See “Connect AXX11 to AXXEDGE” on page 4.

You can configure an expected module and assign it to a port without any physical module present. The system populates the topology browser according to the specified expected module. The system starts management of the new remote module, and the alarms from the newly connected remote module will be presented to you.

1. Select and **enable** the AXXEDGE **SDH port** that shall be used for AXX11 interconnection.
2. Set the DCC-R channel to **RemModule**.

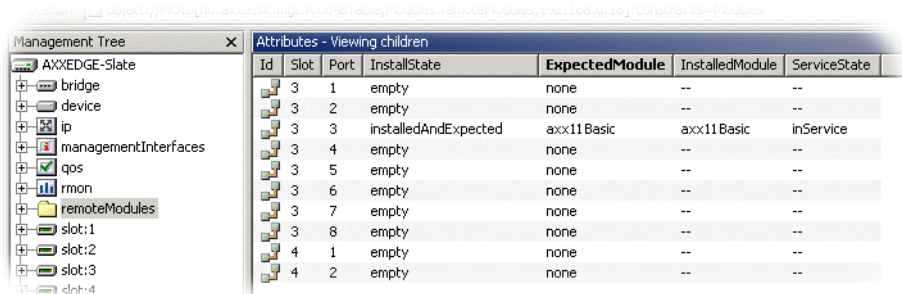


3. Click on **Remote Modules** in the topology browser



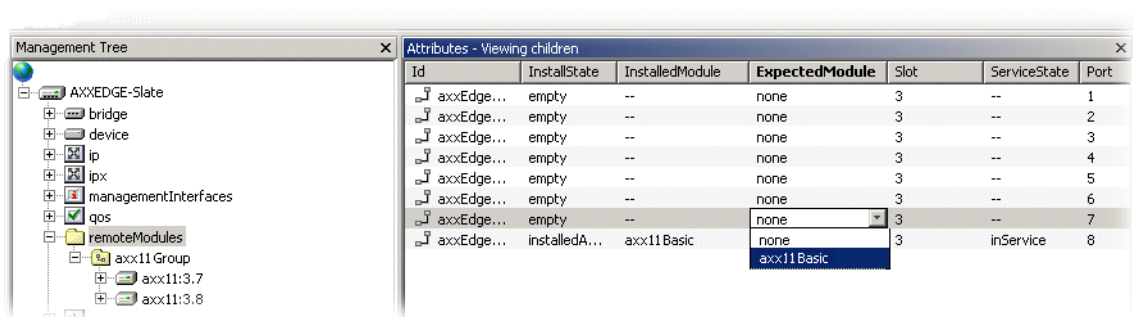
1. AXXCRAFT or higher-level management systems within the AXXTMN product family.

4. Select **Modules** to view available port and slots for AXX11.



Id	Slot	Port	InstallState	ExpectedModule	InstalledModule	ServiceState
3	1	empty	empty	none	--	--
3	2	empty	empty	none	--	--
3	3	installedAndExpected	installedAndExpected	axx11Basic	axx11Basic	inService
3	4	empty	empty	none	--	--
3	5	empty	empty	none	--	--
3	6	empty	empty	none	--	--
3	7	empty	empty	none	--	--
3	8	empty	empty	none	--	--
4	1	empty	empty	none	--	--
4	2	empty	empty	none	--	--

5. Select table entry according to **slot** and **port** number for the physical connection for the AXX11 you are adding.

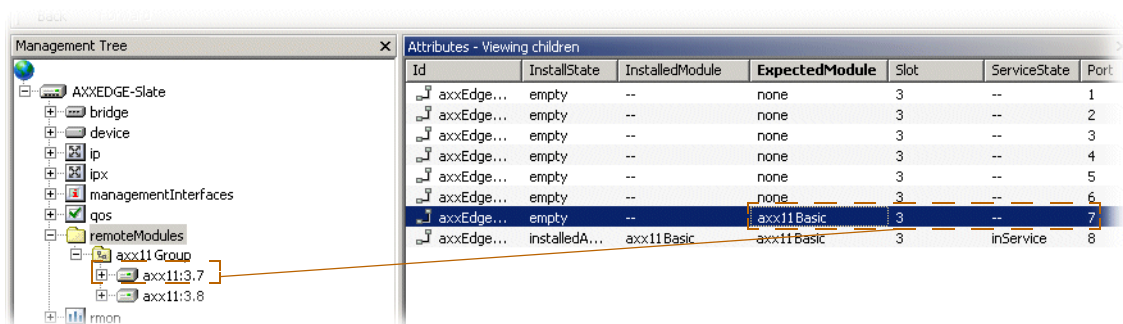


Id	InstallState	InstalledModule	ExpectedModule	Slot	ServiceState	Port
axxEdge...	empty	--	none	3	--	1
axxEdge...	empty	--	none	3	--	2
axxEdge...	empty	--	none	3	--	3
axxEdge...	empty	--	none	3	--	4
axxEdge...	empty	--	none	3	--	5
axxEdge...	empty	--	none	3	--	6
axxEdge...	empty	--	none	3	--	7
axxEdge...	installedA...	axx11Basic	axx11Basic	3	inService	8

6. Set **Expected Module** to AXX11Basic

7. Press 

View the topology browser to see the added AXX11.

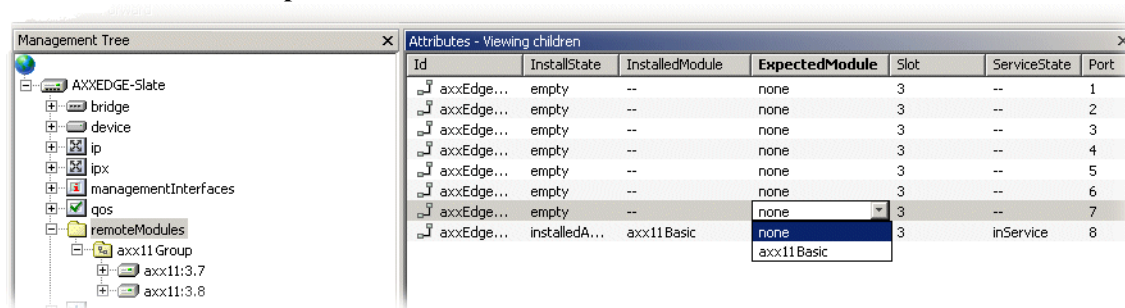




Id	InstallState	InstalledModule	ExpectedModule	Slot	ServiceState	Port
axxEdge...	empty	--	none	3	--	1
axxEdge...	empty	--	none	3	--	2
axxEdge...	empty	--	none	3	--	3
axxEdge...	empty	--	none	3	--	4
axxEdge...	empty	--	none	3	--	5
axxEdge...	empty	--	none	3	--	6
axxEdge...	empty	--	axx11Basic	3	--	7
axxEdge...	installedA...	axx11Basic	axx11Basic	3	inService	8

8. Press  to update Attribute Viewer

1.8.2 Remove AXX11 from management

1. Select **Modules**
2. Select **desired AXX11** to be removed from management.
3. Set **Expected Module** to **none**.



4. Press  and view the topology browser to see the AXX11 being removed.
5. Press 

Please see user guide for AXXCRAFT or higher-level management systems within the AXXTMN product family for further details on management of AXX11.

AXXESSIT

AXXESSIT develops, produces and sells cost efficient Integrated Access Devices (IAD) for the Next Generation Access Network (NGAN).

The organisation has more than 25 years of industry experience from design, development, production, marketing and distribution of Telecom equipment within the access market. Our history together with our innovative future combine into a number of competitive features when moving into NGAN by means of AXXESSIT IADs:



- Hi-end, real broadband solutions
- Open solutions in a multi-vendor environment
- Highly flexible and scalable solutions enable seamless migration towards NGAN
- All Telecom- and networking services over one single link regardless of infrastructure
- Willingness to understand customer needs and ability to meet them
- Support of Remote Network Management makes AXXESSIT's equipment simple to install, maintain and upgrade

We believe that our key success factors; the best quality awareness in all parts of the service chain, high customer confidence and the right competence is the best basis for success when supplying Integrated Access Devices (IADs) for the Next Generation Access Network (NGAN).

AXXESSIT is ISO 9001 certified for its research and development processes and manufacturing facilities.

Visit us at www.axxessit.no

