

AXE Survey



LZU 108 775 R3A

Description

Do you want to know the AXE 810 system and concepts? Many new terms are included in AXE 810 system, both hardware and software concepts as well. With this course, the attendees will be able to learn the AXE 810 platform used in mobile and fixed telephony. It also describes applicable features and businesses communication.

Learning module objectives

On completion of the following module, the participants will be able to:

1 Introduction to AXE

- 1.1 Underline today's communications network and the transport system that forms this network
- 1.2 Underline the trends in current communications networks and describing how AXE has developed in response to those trends
- 1.3 List terms that apply to the AXE system
- 1.4 List the AXE structure
- 1.5 List how the AXE system meets customer requirements
- 1.6 List the main benefits of AXE 810
- 1.7 List the different product lines that are available in the fixed and mobile network

2 Signaling in the AXE System

- 2.1 List the differences between access and inter-exchange signalling
- 2.2 List the characteristics of subscriber line signalling
- 2.3 Underline the differences between CAS and CCS
- 2.4 Set Channel Associated Signaling in a signalling diagram
- 2.5 Set the Common Channel Signalling in a signalling diagram
- 2.6 List the equipment used by CAS and its implementation in AXE810
- 2.7 List the structure of CCS
- 2.8 Underline the implementation of CCS in AXE 810
- 2.9 Set the Signalling Transport in IP networks in a signalling diagram
- 2.10 List the equipment used by SIGTRAN in the AXE810



3 AXE Control System

- 3.1 Underline the Processor hierarchy in the AXE system
- 3.2 State the main APZ subsystems
- 3.3 List the function of the Central Processor Subsystem (CPS)
- 3.4 List the hardware units in APZ 212 30/33/40/50
- 3.5 List the new functions in APZ 12.0
- 3.6 Underline what is System Backup
- 3.7 List the improvements in the APZ supporting IPN
- 3.8 Underline the function of the APG40
- 3.9 List the function of the Regional processor subsystem (RPS)
- 3.10 Identify the RPP, RPG3, GARP
- 3.11 Underline how Regional Processors are connected to the Central processor

4 Operation, maintenance and management systems in AXE

- 4.1 List the evolution of operation, maintenance and management systems in today's communications networks
- 4.2 List what is distributed and centralized control
- 4.3 List what is meant by operation and maintenance activities
- 4.4 List the different alarm types
- 4.5 Underline the main features of Ericsson's Network traffic management (NTM) solution
- 4.6 Underline the Operation and Management system in WCDMA network

5 Hardware in the AXE system

- 5.1 Identify the hardware in the AXE system
- 5.2 Underline the hardware and mechanical structure of AXE
- 5.3 Underline the BYB 501 Packaging Structure
- 5.4 List equipments in the access network in general
- 5.5 Underline the two principles for digital switching
- 5.6 Understand how the synchronization is performed
- 5.7 Underline different synchronization methods
- 5.8 Identify the new hardware in AXE810
- 5.9 List the structure of the new GS890 in AXE810
- 5.10 Identify how switching is performed in AXE810
- 5.11 Identify the generic AXE magazine, GEM and GDM in APT 1.5
- 5.12 Identify the different type of equipment connected to GS
- 5.13 Identify the procedure to update GS from previous AXE versions to GS890
- 5.14 Identify the ATM hardware implementation in the AXE system

6 AXE fixed network in general

- 6.1 Understand the network in general
- 6.2 Mention some PSTN and ISDN services
- 6.3 Explain how the basic traffic analysis functions in TCS are performed
- 6.4 Underline how the telecommunications services are analyzed
- 6.5 List the basic, call management, business support, CLASS and operator support services provided in PSTN
- 6.6 List the ISDN services: Bearer, Tele and supplementary services
- 6.7 List the basic call setup procedures in the TeS application

7 AXE architecture in mobile networks

- 7.1 Understand the architecture of cellular mobile networks
- 7.2 Name the development of cellular mobile communications
- 7.3 Identify Ericsson and AXE with regard to cellular mobile communications
- 7.4 Outline how Application modularity (AM) is implemented in AXE for digital mobile systems
- 7.5 Understand what is meant by the mobile core
- 7.6 List the different mobile systems
- 7.7 Relate in an overview level the WCDMA networks
- 7.8 Outline the function of the AXE server
- 7.9 Outline the MGW function of AXE
- 7.10 List the SIGTRAN implementation

8 Components and terms in the wireline network

- 8.1 List the basic terms for wireline networks
- 8.2 List different types of access
- 8.3 List ISDN access
- 8.4 List the V5.2 access
- 8.5 List the different TSS Solutions
- 8.6 List the general system structure of Ericsson Access Ramp.
- 8.7 Underline how the EAR is implemented
- 8.8 Understand the V5 access
- 8.9 Underline the Telephony Server

9 Services and features offered by business communications in AXE

- 9.1 List some of the advanced services and features offered by business communications in AXE
- 9.2 Describe the Business Group concept
- 9.3 Describe the management of business communications in AXE
- 9.4 Describe the Virtual private network (VPN) concept and outline how it is implemented in AXE
- 9.5 Describe the access methods to business communications in AXE
- 9.6 Describe the main functions of the Business communications manager (BCM)
- 9.7 Describe the service types offered by business communications in AXE



10 Intelligent network services and AXE

- 10.1 List the benefits of Intelligent network services
- 10.2 List the architecture of the Ericsson Intelligent network
- 10.3 Underline the fixed and mobile network convergence
- 10.4 List examples of some intelligent network services

11 AXE in the packet switched architecture

- 11.1 List the AXE in the packet switched architecture
- 11.2 List the access network evolution
- 11.3 Explain the TSS evolution network
- 11.4 List the Telephony Server (TeS) applications

12 Mobile features in the AXE Systems

- 12.1 List examples of mobile features

13 Interworking functionality

- 13.1 Underline the interworking functionality
- 13.2 List the interworking function's hardware and structure

Target audience

The target audience for this course is: System Technician, Service Technician, System Engineer, Service Engineer and/or Field Technician.

Prerequisites

The participants should have equivalent knowledge to the course "GSM System Survey", LZU 108 852.

Duration and class size

The length of the course is 3 days and the maximum number of participants is 16.

Learning situation

The course is based on instructor-led lessons and theoretical exercises in the classroom.

**Time schedule**

The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

For **Mobile Network** customers:

Day	Module	Estimated time
1	1. Introduction to AXE System	1.5h
	2. Signaling in AXE	1.5h
	3. AXE Control System	2.0h
	Exercises	1.0h
2	4. AXE Operation & Maintenance & Management	2.5h
	5. Hardware in AXE 810	2.5h
	Exercises	1.0h
3	7. AXE in Mobile	2.0h
	10. AXE IN	1.0h
	12. Mobile Features	1.0h
	13. AXE Data calls	1.0h
	Exercises	1.0h

For **Fixed Network** customers:

Day	Module	Estimated time
1	1. Introduction to AXE System	1.5h
	2. Signalling in AXE	1.5h
	3. AXE Control System	2.0h
	Exercises	1.0h
2	4. AXE Operation & Maintenance & Management	2.5h
	5. Hardware in AXE 810	2.5h
	Exercises	1.0h
3	6. Access and Traffic Handling	1.0h
	8. AXE in Wireline Networks	1.0h
	9. AXE and Business Application	1.0h
	10. AXE IN	1.0h
	11. AXE in Packet Switched Data	1.0h
	Exercises	1.0h