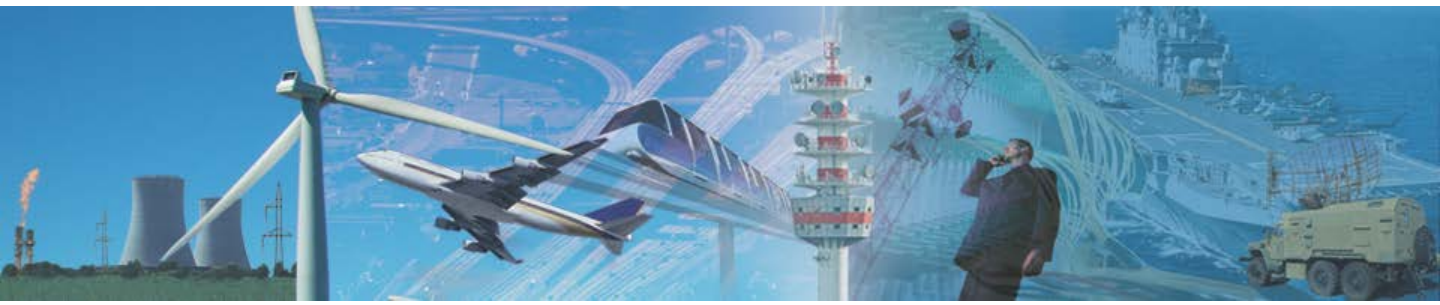
VERSION #6 – 14/10/2019
CATALOGUE

CXR Anderson Jacobson

Network Access & Transmission
Timing Systems
Test & Measure
FAT

Customer Service

www.cxr.com



CXR Anderson Jacobson - Rue de l'Ornette - 28410 Abondant – France
T +33 (0) 237 62 87 90 - @mail contact@cxr.com
www.cxr.com

Informations

Training session : 2 persons minimum per session.

Training places :

CXR ABONDANT (28)

Customer site (contact us for information).

Contact :

Benoît BATARDIERE - Tél. : +33 2.37.62.87.99
Email : benoit.batardiere@cxr.fr

VERSION #6 – 14/10/2019
CATALOGUE

Summary

PDH Access Multiplexer

GOALS

Trainees must be able to install and configure multiplexers from QX3440 series. Both aggregate and tributary cards are shown and described. Theoritical presentations are followed by practical workshops.

Training material is provided for every attendee.

WHO SHOULD ATTEND THIS COURSE?

This course is dedicated to telecom engineers and technicians involved in projects where transmission of voice and data over a PDH network is required.

PRE-REQUISITES

A prior knowledge in WAN networks (E1 G703 G704) and TCP/IP neworks is recommended. Short reminders on these technologies will be provided during the course.

Duration

3 days for 6 trainees as a maximum.

F-MUX-PDH-N2-2J
F-MUX-PDH-N2-3J

Training content

System overview

Interfaces overview :

- E1, G703/704, E3, T3 interfaces
- TDM links, PDH infrastructures
- PDH interconnection
- Subscriber's interfaces voice & data
- Ethernet bridge/router interfaces

CXR cross connect and multiplexing offering:

- Possible applications
- Choosing the right product and interfaces

Parameters and application cases

- First step, configuration of a multiplexer
- Setup of interfaces, power supplies and cabling
- monitoring, VT100 console, Telnet
- Learning of all parameters for the equipment, switching matrix, and all interfaces.
- Setup of a network composed of three multiplexers – put into application of all parameters seen previously.

SNMP management, actions analysis, practical workshops.

SNMP management & monitoring

- Built in SNMPc, CXRView, CXR View Plus service
- MIB compilation
- Equipments monitoring
- Types of TRAPS and actions
- Connection status

Practical workshops

- Commissioning of a simple network composed of multiplexers and of voice, data and Ethernet links.
- Set-up of management features
- Discussion and deepening into different configurations and foreseen use of the multiplexers.
- Preventive and corrective maintenance and diagnostics.

Products in use in this training :
QX3440

SDH Access Multiplexer

GOALS

Trainees must be able to install and configure multiplexers from HX series. Both aggregate and tributary cards are shown and described.
Theoritical presentations are followed by practical workshops.

Training material is provided to every attendee.

WHO SHOULD ATTEND THIS COURSE ?

This course is dedicated to telecom engineers and technicians involved in projects where transmission of voice and data over a SDH network is required.

PRE-REQUISITES

A prior knowledge in WAN networks (E1 G703 G704 & E3) and TCP/IP neworks is required.

DURATION

2 to 5 days for 6 trainees as a maximum

F-MUX-SDH-N2-2J
F-MUX-SDH-N2-3J
F-MUX-SDH-N2-5J

Training content

System overview

Interfaces overview :

- TDM E1, E3, DS3 interfaces
-, STM1 and STM4 interfaces
- SDH transport principles : Virtual Container VC-N, Pointers and tributaries TU/TUG
- SDH interconnections
- Ethernet transport over SDH
- TDM/PDH infrastructures transported over SDH
- Virtual Concatenation (VC, GFP, LCAS)

CXR cross connect and multiplexing offering:

- Possible applications
- Choosing the right product and interfaces

Parameters and application cases

- First step, configuration of a HX9400, HX9100, HX9500 multiplexer
- Setup of interfaces, power supplies and cabling
- Monitoring, VT100 console, Telnet
- Learning of all parameters for the equipment, switching matrix, and all interfaces.
- Ring topology
- UPSR/SNCP, MSP (1+1) protection
- Commissioning of a simple SDH network featuring various types of protections.
- Equipments synchronisation

SNMP management, actions analysis, practical workshops

SNMP management & monitoring

- Puting into service SNMPc, CXRView, CXR View Plus
- MIB compilation
- Equipments management
- Types of TRAPS and actions
- Connection status

Practical workshops

- Commissioning of a network composed of SDH & PDH multiplexers and of voice, data and Ethernet links.
- Set-up of management features
- Discussion and deepening into different configurations and foreseen use of the multiplexers.
- Preventive and corrective maintenance and diagnostics.

Products in use in this training :
HX9400 – HX9500 – HX9550

TDMoE PTN

GOALS

Trainees should be able to install and configure TDMoEthernet or PTN devices as described in the content.
Theoritical presentations are followed by practical workshops.

WHO SHOULD ATTEND THIS COURSE ?

This course is dedicated to telecom engineers and technicians involved in projects where transmission of voice and data over a Ethernet network is required.

PRE-REQUISITES

A prior knowledge in WAN networks (E1 G703 G704) and TCP/IP neworks is required.

DURATION

1 day ½ or 2 days for 6 trainees as a maximum

F-TDMoE-PTN-2J
F-TDMoE-PTN-5J

Training content

Theoritical presentation

- TDM over Ethernet concept
- CESoPSN, SAToP, TDMoE (AAL1)
- PseudoWire Network
- Clocking recovery
- QOS concept

System overview

- Presentation of IMX-M16E1T1 or CIP product
- Presentation of HX9500R-PTN
- Jitter, Buffer configuration
- Bandwith calculation with XLS tools
- SNCP / MSP protection

Parameters and application cases

- PDH transport over IP network
- SDH transport over IP network
- Point to multipoint applications
- RSTP for network protection and resilience
- Trunk for higher throughput and resilience
- SNCP, MSP, 1+1 protection

SNMP management

- SNMP commisionning & monitoring
- Types of TRAPS and actions
- Connection status

Practical workshops

- IMX TDMoE product configuration
- HX9500R-PTN configuration
- Commissionnng of a network composed of IMX or HX9500R-PTN
- QOS network environnement
- VLAN management
- Preventive and corrective maintenance
- Diagnostics tools.
- How to perform a network tuning, troubleshooting

Ethernet Switches and TCP/IP network

GOALS

Trainees should be able to install and configure ethernet switches as described in the content.
Theoritical presentations are followed by practical workshops.

WHO SHOULD ATTEND THIS COURSE ?

This course is dedicated to telecom engineers and technicians involved in projects where Ethernet network is required.

PRE-REQUISITES

A prior knowledge in TCP/IP neworks is required.

DURATION

2 or 3 days for 6 trainees as a maximum

F-TCP/IP-2J
F-TCP/IP-3J

Training Content

TCP / IP network concept

Network basic concept and definitions.
Ethernet network
IP, TCP and UDP Protocol.
IPV4/IPV6 concept.
IP address , subnetting.
Bridge and routing protocol.
Internet network. LAN VLAN WAN MAN network.

The range of Switches CXR

Level 2 Switch – SWM series
Level 3 Switch – SW3G, SW3L series
Features : VLAN, IGMP, STP , RSTP, MSTP, Trunk, VRRP, QOS, Rate limiting.
OSPF v2.
Ethernet and Access Control Lists (ACLs)

Configuration and management

Installation and configuration.
Switches management
VLAN Configuration.
SNMP traps

Troubleshooting

Method, tools, Network analyser.

Practical workshops

- Routing, bridging
- Level 2 and level 3 switches
- Access Security, Syslog, filtering
- VLAN , RSTP , STP, TRUNK, VRRP, DHCP server.
- Backup and upgrade procedure.
- Tests performances with Parascope EzTouch+ or Candella
- Practical workshops switches can be adapted according to customer requirements.

iNMS Commissioning

GOALS

Trainees should be able to use iNMS software management tool as described in the content.
Theoritical presentations are followed by practical workshops.

Training material and software GUI is provided to every attendee.

WHO SHOULD ATTEND THIS COURSE ?

This course is dedicated to telecom engineers or technicians involved in projects where transmission of voice and data over a SDH/PDH network is required.

PRE-REQUISITES

A prior knowledge in WAN networks (E1 G703 G704 & E3) and TCP/IP neworks is required.

DURATION

3 to 5 days for 6 trainees as a maximum

F-iNMS-3J
F-iNMS-4J
F-iNMS-5J

Training Content

System overview.

- iNMS installation overview
- iNMS services
- iNMS ressources , Performance, Diagnosis
- Node commissioning

- iNMS software component

- iNMS main core (based on Linux)
- Device Poller
- GUI Client
- Disaster recovery

iNMS basic function

- Topology management
- Configuration management
- Circuit management
- Alarm management
- User & security management
- Diagnosis management
- Performance monitor
- Report management
- iNMS self management
- Docket manager
- Automatic Circuit Auto-Rerouting manager
- Route cause analysis
- Clock distribution map

Parameters and application cases

- PDH / SDH node administration.
- based on QX3440, HX9100, HX9400, HX9500 devices

Troubleshooting

- Alarms and actions
- Performance report

Practical workshops

- iNMS administration
- iNMS circuit creation
- GUI installation
- Backup / restore (node and database)

CXR-iNET EMS management System

GOALS

Trainees should be able to use iNET software management tool as described in the content.
Theoritical presentations are followed by practical workshops.

Training material and software GUI is provided to every attendee.

WHO SHOULD ATTEND THIS COURSE ?

This course is dedicated to telecom engineers or technicians involved in projects where transmission of voice and data over a SDH/PDH network is required.

PRE-REQUISITES

A prior knowledge in WAN networks (E1 G703 G704 & E3) and TCP/IP neworks is required.

DURATION

3 to 5 days for 6 trainees as a maximum

F-iNET-3J
F-iNET-4J
F-iNET-5J

Training Content

System overview.

- iNET installation overview
- iNET services
- iNET ressources , Performance, Diagnosis
- Node commissioning

- iNMS software component

- iNET main core (based on Windows Server2K12)
- GUI client access overview

iNET basic function

- Topology management
- Configuration management
- Graphical Cross-connect configuration
- Circuit management
- Alarm management
- User & security management
- Diagnosis management
- Performance monitor
- Traps

Parameters and application cases

- PDH / SDH / PTN node administration.
- based on QX3440, HX9100, HX9400, HX9500 devices

Troubleshooting

- Alarms and actions
- Performance report

Practical workshops

- iNET administration
- Graphical circuit creation
- Backup / restore (node and database)

FAT description Trinity 800 PT7860A

GOALS

This document describe the Facrtory Acceptance Tests processus.

Products involved :

This FAT concern mainly :
- Trinity series
- PT7860A series

PRE-REQUISITES

No particular pre-requisite are requested for this FAT process.

DURATION

The FAT duration is originally based on 1 day.

FAT Contents

Packages inspection.

- Visual inspection of packaging.

-Serial number inspection

- Verification of the package list and conformity to order list
- Serial number enumeration and conformity to order

Firmware version

- List of firmware release related to the project / interface

Interface configuration

- Interface configuration details
- Checking with customer requirements

Radio characteristics

- Checking radio frequency according to country

Fonctional tests

Implementation of a functional test between 2 PT7860A through a radio bridge.
- radio link
- PTP link
- check the IP bandwidth available across the radio
- qualification of links E1

Tests Results

- Fill a table with all tests results according to fonctional tests.
- Approved if tests results are conformed to the request.
- Tests summary.
- Signature and approval.

Registration sheet

To request additional information or registration for a training session, we ask that you complete the form below and return by fax to the attention of Benoit Batardière (**fax : +33 237 62 88 01**).

Company : _____

Name : _____

Surname : _____

Phone : _____

Fax : _____

E-Mail : _____

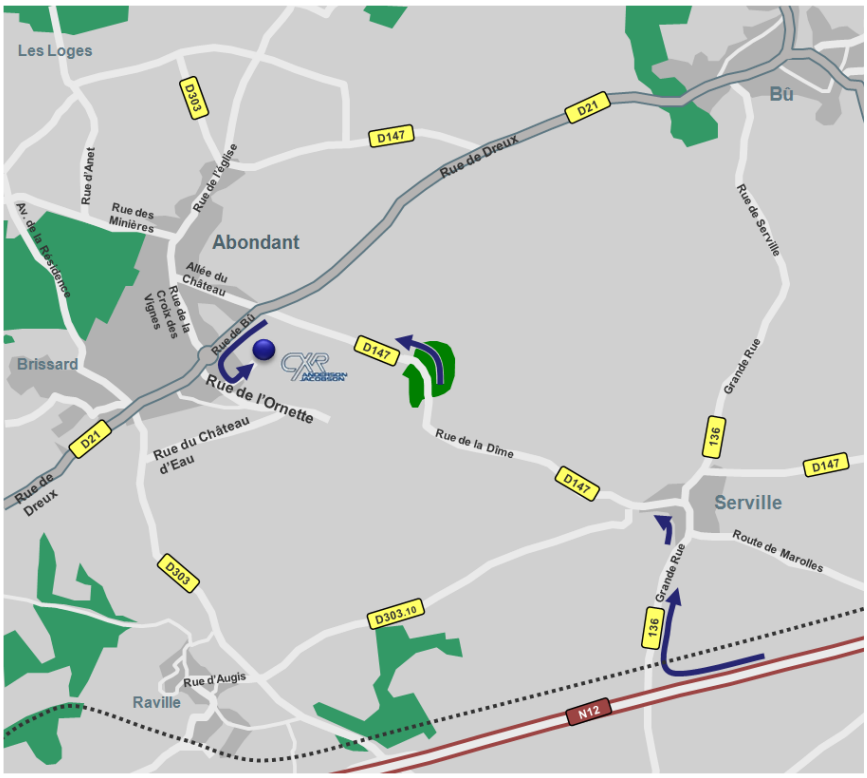
❑ Training session name : _____

_____

Date : _____

❑ Please recontact me at number above
to give me additional information on your training sessions.

Informations



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France

+33 (0)2.37.62.88.00

Latitude	48.7743849 N
Longitude	1.4536792 E

At « Porte de St Cloud » take the motorway **A13 for Rouen,**

Take the motorway **A12 for St Quenting – Dreux** (7km),

take the main road **N12 for Dreux** (42km).

Pass Pontchartrain and Houdan.

Take the exit towards Serville D136.

Continue along D136 « Grande Rue », take the road « Rue de la Dîme ».

Leave Serville, continue along D147.

At Abondant, take the left turning CXR Anderson Jacobson: D21 « Route de Dreux ».

At the **round about, take the 2nd exit**

and **immediately the left**

CXR Anderson Jacobson, "Rue de l'Ornette", 200m's drive on your left.

HOTEL-RESTAURANT

Near CXR ABONDANT (28)

Hotel Campanile –9 Av Winston Churchill
28100 Dreux
Tel 02.37.42.64.84 - Fax 02.37.42.86.99

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