

# AXD 330 Frame Relay Switching System

Release Notes V6.0.2.

Issue 1

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# 1. Safety/Operational Notices

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## SAFETY WARNINGS in AXD 330 Installation Guide:

- This equipment is for installation in a "RESTRICTED ACCESS LOCATION" as defined in IEC 950. Only qualified "SERVICE PERSONNEL" should have access to the equipment. .... 20***
- When being installed into a rack or cabinet, care must be taken to ensure that the ventilation and air flow requirements of the equipment are maintained. The vents on the front underside of the equipment and the exhaust vent at the rear must not be obstructed and the fan must be allowed to vent into free space. .... 20***
- When installing units in a rack, always ensure that the rack remains stable and safe. It must be loaded in accordance with the instructions of the rack manufacturer. Ensure the rack does not become unstable due to uneven or top heavy loading. . 21***
- A suitable earth ground point can normally be found in the mains power centre feeding the installation. Check carefully that the earthing wire is of sufficient cross-sectional area, and that it cannot be disconnected accidentally. The product has to be earthed in compliance with "ETSI ETS 300 253. Equipment Engineering (EE); Earthing and bonding of telecommunication equipment in telecommunication centres; January 1995". (Note - for AC units the safety earth will be provided by the mains lead). .... 21***
- It is important that all earthing wiring is carried out with the shortest possible wire lengths. Splices in earthing wire must be permanently made by bolting or crimping the wires together. Connectors that can be disconnected without tools are NOT allowed in the ground wire. .... 22***
- This equipment is not for connection to an IT power system unless a suitable isolating transformer is used..... 23***
- This equipment is designed to permit connection between the earthed conductor of the DC supply and the earthing conductor at the equipment. .... 23***
- The power feed cables must be protected at source; e.g. by a suitable Listed Branch Circuit Protector. The circuit protector should not exceed 6A capacity. .... 24***
- When connecting DC cabling to the product, care must be taken to ensure that the cabling has adequate mechanical fixing and protection. Cables should be fixed in place by the use of approved UL cable fixings. .... 24***
- For safe operation, blanking plates must be fitted to any rear panel port positions which are not fitted with a POP PAK. .... 26***
- All serial ports should only be connected to SELV ports as defined in EN60950/IEC950. .... 26***

**OPERATIONAL WARNINGS in AXD 330 Installation Guide:**

<b><i>Damage to equipment by untrained personnel might render any warranty or maintenance contract invalid. Always power down before removing motherboards or PEBs. Do not remove the top cover from the equipment, only the front cover should be removed for possible board replacement/additions. Always observe anti-static precautions when removing front panels. Do not attempt to repair or carry out alterations to the equipment yourself other than by replacing the motherboard or PEBs, and then only if you have received the proper instruction. ....</i></b>	<b><i>19</i></b>
<b><i>The unit is rated to operate at a maximum ambient temperature of 40°C. Ambient temperatures in excess of this may cause the unit to malfunction. ....</i></b>	<b><i>20</i></b>
<b><i>Failure to adhere to correct earthing procedures will invalidate the CE MARK approval of the unit. ....</i></b>	<b><i>21</i></b>
<b><i>As part of the AXD 330 power-up sequence, the red rightmost LED (see Figure 3-1) will be lit red briefly. This is normal operation. ....</i></b>	<b><i>27</i></b>
<b><i>The installation of SIMMS obtained from other sources may cause memory errors. ....</i></b>	<b><i>49</i></b>
<b><i>To satisfy approval requirements, only Ericsson network cables and POP PAKS detailed in section 1 can be used. ....</i></b>	<b><i>57</i></b>
<b><i>In order to satisfy CE Mark approval requirements, all Ericsson network cables have protective ground and screen connected at both ends. ....</i></b>	<b><i>63</i></b>

## **2. Product Description**

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### **2.1 Introduction**

These release notes are intended to provide information related to the current release of the AXD 330 Frame Relay Switching System. The product characteristics are:

### **2.2 Hardware**

- Up to 18 serial ports (V.11, V.28, V.35, V.36, G.703 64 kbps co-directional, G.703/G.704 channeliser, n x 64 kbps Fractional E1/E1 (channelised/unchannelised), n x 64 kbps Fractional T1/T1 (channelised/unchannelised).
- 1 ATM port (34Mbps E3 or 45Mbps DS3)
- Hot-Swap Fan
- AC-AC or DC-DC PSU Redundancy

### **2.3 Protocols**

- Frame Relay SVC, sPVC and PVC (FUI/FDI/FNI/FII)
- ATM (AAL5 with Frame Relay FRF.5 Network Interworking)
- TCP/IP (RIP, SLIP, TIP, TELNET)
- Legacy (X.28, SDLC, X.75(E), X.25, TPAD)

### **2.4 Encapsulations**

- Frame Relay over ATM (FRF.5)
- TCP/IP over Frame Relay (PVC, sPVC or SVC)
- Ethernet Bridging over Frame Relay
- X.25/X.75 over Frame Relay (PVC or sPVC)
- SNA over Frame Relay Frame Relay (PVC or SVC)

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- TCP/IP over X.25/X.75
  - SDLC over LLC2

## **2.5 Miscellaneous Features**

- Frame Relay Virtual Call Preference (VCP)
- Traffic priorities
- Alarms
- Load Control
- Switched Access (with Dial Back)
- Statistics
- Traffic/Echo Ports
- Port Monitor
- SNMP/HTTP Network Management
- Line/Network Testing
- CUGs
- Call Barring

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## 3. Release Description

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This V6.0.2 release is the second release of the AXD 330 Frame Relay Switching System. New features for the AXD 330 are:

- Programmable FE1/E1 POP PAKs\*
- Programmable FT1/T1 POP PAKs\*
- New ATM daughter board (no functionality change from previous board).
- Bug fixes reported from V6.0.0.

\*These n x 64 kbps POP PAKs can operate in unchannelised as well as channelised mode.

The product components are as detailed in Section 3.1.

### 3.1 Product Components

AXD 330-AC-6	FAB 801 0825/1 R2A	AXD 330 chassis (AC) – 6 port Comprising: Cabinet, backplane, AXD330 motherboard, 2 x AC PSUs, LAN port, software, Customer Documentation CD-ROM, power cables. * interfaces are ordered separately.
AXD 330-AC-12	FAB 801 0825/2 R2A	AXD 330 chassis (AC) – 12 port Comprising: Cabinet, backplane, AXD330 motherboard, 2 x AC PSUs, LAN port, software, Customer Documentation CD-ROM, 1 Port Expansion Board (PEB), power cables. * interfaces are ordered separately.
AXD 330-AC-18	FAB 801 0825/3 R2A	AXD 330 chassis (AC) – 18 port Comprising: Cabinet, backplane, AXD330 motherboard, 2 x AC PSUs, LAN port, software, Customer Documentation CD-ROM, 2 Port Expansion Boards (PEB), power cables. * interfaces are ordered separately.
AXD 330-DC-6	FAB 801 0825/4 R2A	AXD 330 chassis (DC) – 6 port Consists of the following: Cabinet, backplane, AXD330 motherboard, 2 x DC PSUs, LAN port, software, Customer Documentation CD-ROM. * interfaces are ordered separately.
AXD 330-DC-12	FAB 801 0825/5 R2A	AXD 330 chassis (DC) – 12 port Consists of the following: Cabinet, backplane, AXD330 motherboard, 2 x DC PSUs, LAN port, software, Customer Documentation CD-ROM, 1 Port Expansion Board (PEB). * interfaces are ordered separately.
AXD 330-DC-18	FAB 801 0825/6 R2A	AXD 330 chassis (DC) – 18 port Consists of the following: Cabinet, backplane, AXD330 motherboard, 2 x DC PSUs, LAN port, software, Customer Documentation CD-ROM, 2 Port Expansion Boards (PEB). * interfaces are ordered separately.
AXD 330-ATM-E3	FAB 801 936/1 R1B	AXD 330 ATM E3 (ATM Daughter board and E3 interface)
AXD 330-ATM-DS3	FAB 801 936/2 R1B	AXD 330 ATM DS3 (ATM Daughter board and DS3 interface)
AXD 330-FE1-E1	ROA 219 648/1 R1A	Fractional FE1/E1 Programmable
AXD 330-FT1-T1	ROA 219 612/1 R1A	Fractional FT1/T1 Programmable

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AXD 330-703-DTE	ROA 219 548/1 R1A	G.703 Co-directional (64 kbps DTE)
AXD 330-V11-DCE	ROA 219 603/1 R1B	V.11 DTE
AXD 330-V11-DCE	ROA 219 604/1 R1B	V.11 DCE
AXD 330-V28-DCE	ROA 219 601/1 R1C	V.28 DTE
AXD 330-V28-DCE	ROA 219 602/1 R1C	V.28 DCE
AXD 330-V36-DCE	ROA 219 607/1 R1C	V.36 DTE
AXD 330-V36-DCE	ROA 219 608/1 R1C	V.36 DCE
AXD 330-V35-DCE	ROA 219 605/1 R2B	V.35 DTE
AXD 330-V35-DCE	ROA 219 606/1 R2B	V.35 DCE
AXD 330-CH-MASTER	ROA 219 614/1 R2A	Master Channeliser
AXD 330-CH-SLAVE	ROA 219 615/1 R2A	Slave Channeliser
AXD 330-RMK-19	NTM 144 230	Rack Mount Kit 19"
AXD 330-RMK-21	NTM 144 231	Rack Mount Kit 21"
AXD 330-SW-UG/602	LZY 214 1531 R1A	Upgrade diskette V6.0.2 (Includes 1 X software licence)

The AXD 330 products can be ordered from:

<http://webshop.ericsson.se/webshop/products.asp>

## 3.2 Numbering Conventions

### 3.2.1 Release Versions

The numbering of release versions in the AXD 330 is carried out as follows:

X.Y.Z

Where:

- X Version (e.g., 6). This X value would be incremented to indicate a major change in development, e.g. changing from Phase1 to Phase2 of a Product Development.
- Y Revision (e.g., 1). The Y value would be incremented in the event of major additional functionality being added to

the  
product.

Z Error Correction (e.g., 1). The Z value would be incremented if problems existed with the product to indicate a bug-fix release.

### 3.3 Corrected Problems

The problem numbers quoted are of the format ERlxaxxx where xxx is the problem number shown below, e.g. 0645.

Problem No.	Description
0645	DNA topology table can incorrectly show FUI port entries.
0914	FUI/FDI port goes to status AB when N1 is exceeded.
0941	LIPPOP command always wrongly shows ATM port status to be AB.
01266	Overlength frame errors on FE1 POP PAKs. This is resolved by replacement of FE1 POP PAK (ROA 219 611/1 R1A) with programmable FE1 POP PAK (ROA 219 648/1 R1A).
02383	Buffer not released when running IP/FR/ATM traffic.

### 3.4 Remaining Problems

The problem numbers quoted are of the format ERlxaxxx where xxx is the problem number shown below, e.g. 0465.

Problem No.	Description
0465	No STATR command for reset of ATM port statistics.
0484	X.21/V.11 POP PAK on Frame Relay port sometimes reports AB with the LIPPP command after both ends are reset at the same time.
0490	No password protection on TELNET ports.
0488	RIP2 Multicast addressing not supported. Workaround: If possible, configure other equipment to use broadcast addresses instead of multicast addresses.
0492	Rate enforcement discards long frames in Frame Relay.

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- 0494 NO CONIND\_CFM causes problems for incoming call when NP blocked on V25bis port.
- 0496 An incoming call with no PID signalling and no call priority set will not be assigned the box default priority.
- 0504 Fan/PSU SNMP traps not sent on power up.
- 0510 A dynamically created remote gateway, created by Inverse ARP for IP over Frame Relay, can be deleted with IPGAT command.
- 0515 LOCIP parameter in the IPGAP command accepts invalid local IP addresses.
- 0517 Frame Relay PVCs can be in Conditionally Blocked state (CB) when underlying FP port is Automatically Blocked (AB).
- 0534 The PSAGP command does not indicate what USER/ROT is used by async port.
- 0538 UIPDS command does not work for NALOS parameters.
- 0580 FNI port sends LINKUP trap when link not really up.
- 0849 SNMP getnext request on dnaInterfaceMyNeighbourIfName causes fault condition.
- 0859 A PVC with DLCI outside the configured PVC DLCI range can still become Working Order (WO).
- 0872 FRPCB command on deblocked sPVC with both ends set to SIDEA=X25SPVC causes permanent fault condition due to misconfiguration. Workaround: always connect sPVC with SIDEA=X25SPVC locally and SIDEB=X25SPVC remotely.
- 0931 FUI does not send async status (when PVCSTATUS=YES) for attached sPVCs when deblocked.
- 0940 Some frames <CIR are discarded during rate enforcement on FII port with X.25 sPVCs.
- 0942 IPNIB command on FRSVC NI does not clear active SVCs. Workaround: Clear all SVCs by blocking PFA port rather than the FRSVC NI. Alternatively, re-configure the remote gateway inactivity timer to expire.
- 02062 Multiple Netscape or Internet Explorer browser sessions may cause temporary unavailability of WWW-based management.
- 02340 Incorrect LIPPS TIMING parameter values can be set for FE1 POP PAKs.

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- 02353 Cloning of active software image to read-only software PROM image is only possible by using "PFA PROM IMAGE" rather than "AXD330 PROM IMAGE".
- 02384 Unit restart after ping (with PSPIP command) to IP address when IP address is the same at FR-NI and gateway.  
Workaround: Avoid misconfiguration when using IPNII and IPROI commands.
- 02386 The default value of 1-24 for LIPPx.TIMESLOTS cannot be changed correctly with the UIPDS command.
- 02441 Occasional SABMs transmitted from ports operating programmable FE1 and FT1 POP PAKs.
- 02428 Invalid time slot range can be configured for an FT1 POP PAK with the LIPPS command.
- 02474 Frame Relay ports go AB when operating non-programmable FE1 POP PAKs. This occurs after traffic has passed through the port for several minutes.
- 02475 Port monitor: A LIPMP or LIPMB command issued while heavy traffic is being transmitted causes a permanent fault condition.
- 02481 The RATE column in the LIPPP command incorrectly shows 2M when an unchannelised T1 port is operating.

## 4. Hardware

### 4.1 Displaying Hardware Status

The hardware status of the delivered AXD 330 product can be displayed by using the NAHSP command. Note that this may not indicate the minimum level of hardware but the hardware ordered according to customer requirements, e.g. an AXD 330 may be ordered with 32 Mbytes packet DRAM instead of 16 Mbytes.

### 4.2 Fractional POP PAKs

In V6.0.2, a new selection of fractional POP PAKs with unchannelised support are available. These are:

FE1/E1 POP PAK: Fractional E1 (n x 64 Kbps mode) or unchannelised E1 (2.048 Mbps) modes. This POP PAK operates with HDB3 line coding only.

FT1/T1 POP PAK: Fractional T1 (n x 64 Kbps mode) or unchannelised T1 (1.544 Mbps) modes. This POP PAK operates with B8ZS line coding only.

Both types of POP PAK are configured by using the LIPPS command, i.e.

```
LIPPS:PP=pp<,N1=n1><,&b>TIMING=timing><,RATE=
clockrate><,&b>ENCODING=encoding><,IFM=ifm>
<,&b>ACCESS=access><,&b>DUPLEX=duplex><,&b>BUFFERS=
buffers><,&b>CRC=crc><,&b>TIMESLOTS=timeslots><,&b>AIS=ais>
<,&b>LONGHAUL=longhaul><,&b>TAOS=taos>
<,&b>EQUALISATION=equalisation><,&b>ESF=esf><,&b>ACNTL=
acntl>**<,&b>ACL=acl>**<,&b>ALARMTIM=alarmtim>**
<,&b>DESTID=destid>**<,&b>RATEENFIN=rateenfin>
<,&b>RATEENFOUT=rateenfout><,&b>TRAPID=trapid>
<,&b>TRAPS=traps>*<,&b>LINKTRAP=linktrap>*<,&b>OBJTRAP=
objtrap>*<,&b>CONFTRAP=conftrap>*<,&b>POPTRAP=poptrap>*;
```

The parameters highlighted in bold are related to the FE1/E1 and FT1/T1 POP PAKs. These are explained as:

timing	clock type	DEFAULT (default), SPLIT, INTERNAL,
--------	------------	--

LOOP. INTERNAL and LOOP should only be set on FE1/E1 and FT1/T1 POP PAKs. INTERNAL sets master clock mode while LOOP sets slave clock mode. For AXD 330 – AXD 301 connections, clocking settings are usually set to TIMING=LOOP and Transmit clock source to local, respectively.

timeslots	Start and ending time slot	0 or 1..31-1..31; default=1-24. Note that setting timeslots=0 sets an unchannelised 1.544 or 2.048 Mbps connection.
ais	Set Alarm In Service signalling?	YES or NO; default=NO. When AIS=YES, an AIS signal is transmitted to indicate that the POP PAK has a fault. This is for diagnostic use.
taos	Transmit all ones	YES or NO; default=NO. When TAOS=YES, a continuous stream of 1's is transmitted. This is for diagnostic use.
*longhaul	Long/short haul operation	YES or NO; default=NO. For FE1/E1 POP PAKs only.
equalisation	Transmitter pulse power and receiver gain	0-7 (longhaul) or 11-15 (shorthaul); default=11. For FT1/T1

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POP PAKs in FT1 mode only.

esf	Enable Extended Super-Frame format	YES or NO; default=NO. For FT1/T1 POP PAKs in FT1 mode only.
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\* This parameter setting should be kept to NO for most instances. The long and short haul settings normally associated with channelised T1 interfaces are enabled with the EQUALISATION parameter.

The following parameters are reported, in addition to the above parameters, in the LIPPP command.

rxesf	Remote device ESF status	YES or NO. For FT1/T1 POP PAKs in FT1 mode only.
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framesync	Frame synchronisation status	YES or NO. Indicates whether the POP PAK is synchronised with the remote end of the connection. The status is indicated by the POP PAK LED colour. Red indicates that FRAMESYNC=NO and Green indicates that FRAMESYNC=YES.
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## 5. Approvals

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Please contact your Ericsson support organisation for AXD 330 approvals information.

If a Declaration of Conformity is required please contact either your local Ericsson company or Ericsson Intracom Ltd. at the address specified below.

Ericsson Intracom Ltd.  
1 Bede Island Road  
Leicester, LE2 7EU  
United Kingdom

Tel: +44 (0) 116 254 2400

Fax: +44 (0) 116 204 6111

E-mail: [intracom@terminus.ericsson.se](mailto:intracom@terminus.ericsson.se)

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## 6. User Documentation

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The following CD-ROM is required to install, operate and maintain the AXD 330. The CD-ROM is shipped with every AXD 330. However, please order extra CD-ROMs through the Webshop.

*AXD 330 Customer Documentation CD-ROM*  
(EN/LZY 214 1222 R2A). Contains User Guide, Installation Guide and AXD 330 datasheet.

Any errors existing in the user documentation are listed for each publication below.

### 6.1 AXD 330 Installation Guide Fault Log

No errors have been logged for this document.

### 6.2 AXD 330 User Guide Fault Log

p. 147. The LIPPS command does not include new or modified parameter descriptions for operation of programmable FE1/E1 and FT1/T1 POP PACKs. See Section 4.2 of this document.

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## **7. AXD 330 Product Support**

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All enquiries and requests for support in connection with this product must be directed to the local Ericsson company or distributor.