

The Alcatel 7210 PowerRail Distribution Router (PDR), formerly the PowerRail 1000, is designed to provide the bandwidth that end stations need today and the scalability to support emerging applications. The Alcatel 7210 PDR shares the same high-performance architecture found in the Alcatel 7652 and 7622 PowerRail Distribution Routers (PDRs), formerly the PowerRail 5200 and 2200.

The Alcatel 7210 PDR policy-based management interface and hardware-based routing engine provide the intelligence and performance necessary for mission-critical, latency-sensitive multimedia applications. The Alcatel 7210 PDR combines a low-profile form factor with enterprise backbone performance.



Full wire-speed  
switching and routing



## Scalability

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The Alcatel 7210 PDR is designed to provide the bandwidth that end stations need today and the scalability to support emerging applications. It provides high-performance Layer 3 intelligence to off load and distribute IP and IPX routing from traditional routers. The Alcatel 7210 PDR has a non-blocking capacity of 10 Gb/s of bandwidth, supporting full loads on twenty auto sensing 10Base-T/100Base-TX Ethernet ports and two 1000Base-SX or 1000Base-LX Gigabit Ethernet ports.

As a member of the PowerRail family, the Alcatel 7210 PDR is built to address two of the fundamental issues foremost in the minds of network managers: improved performance and lower overall cost of ownership.

## High performance routing

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By delivering simultaneous, packet-by-packet routing at full line rates on each port, the Alcatel 7210 PDR eliminates routing as a bottleneck. The Alcatel 7210 PDR provides wire-speed routing throughput of nearly 6 Mpps and supports 16,000 Layer 2 and Layer 3 routes. The switch seamlessly routes IP and IPX traffic using RIPv1/v2, OSPFv2, IPX/RIP, IPX/SAP, and AppleTalk Phase 2.

## Parallel access shared memory

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PowerRail switches use Alcatel's reliable ASIC-based parallel access shared memory architecture, which allows them to deliver wire-speed multicast traffic without affecting overall performance. The parallel access shared memory architecture is superior to traditional shared memory architectures in that its non-blocking design provides every port with simultaneous full access to a central shared memory. Memory is allocated to each port according to demand, providing a highly efficient use of switch resources.

## Application-enabled networking

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The Alcatel 7210 PDR can protect and prioritize mission-critical and latency-sensitive traffic. Using its ability to perform wire-speed analysis of Layers 2, 3 and 4, and application attributes, the Alcatel 7210 PDR can route traffic according to administrative policies. The switch delivers QoS to the edge of the network using Layer 4 switching, standards-based IP TOS routing, 802.1p, and eight priority queues per port.

## Continuous investment protection

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The Alcatel 7210 PDR slides transparently into your network without any changes to the network architecture. It maximizes network availability with a broad range of resiliency features such as storing multiple images of the operating system, extensive support for Spanning Tree, load-sharing trunk groups, and redundant power supplies. Its standards-based software supports full SNMP, four groups of RMON (history, events, statistics and alarms) on every port, and wire-speed port mirroring. The switch can be managed with an intuitive Java-based management application, a command line interface (CLI), and Telnet. Additional support is offered for enterprise network management systems such as HP OpenView.

## Mission critical reliability

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Today, networks are carrying more business critical information than ever and it is essential that networks remain available to end users at all times. Like the Alcatel 7652 and 7622 PDRs, the Alcatel 7210 PDR is designed for mission-critical environments. The design offers future proofing, simple field serviceability, and product flexibility. The power supply is optionally redundant.

## High performance architecture

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The Alcatel 7210 PDR uses the same reliable, ASIC-based parallel access shared memory architecture as the Alcatel 7652 and 7622 PDRs, which allows it to deliver wire-speed multicast traffic without affecting overall performance. The Alcatel 7210 PDR handles full-duplex (Layer 2 or Layer 3) communications on all ports without risk of data loss.

## Technical Summary

### Key Features

- ▼ High-performance routing: cacheless Layer-3 wire-speed, packet-by-packet routing throughput of nearly 6 Mpps for IP and IPX traffic
- ▼ Enterprise performance: twenty auto-sensing 10/100 Mb/s Ethernet ports and two Gigabit Ethernet ports
- ▼ Application-enabled networking: comprehensive unified management of application-level QoS, security, traffic accounting, and configuration
- ▼ System Resiliency: Optional redundant power supply

### Flow Control

- ▼ More than 64,000 addresses
- ▼ Eight hardware queues per port
- ▼ IEEE 802.3x

### Node Management

Alcatel 7210 PDR can be managed with an intuitive Java-based management application, a command line interface (CLI), and Telnet. Additional support is offered for enterprise network management systems such as the HP OpenView platform.

### Management (abridged)

- ▼ RFC 1157 SNMP
- ▼ RFC 1213 MIB-II
- ▼ RFC 1493 Bridge MIB
- ▼ RFC 1643 Ethernet MIB
- ▼ RFC 1757 RMON (4 groups)
- ▼ RFC 1724 RIPv2 MIB
- ▼ RFC 1850 OSPF MIB
- ▼ RFC 1567 BGP-4 MIB
- ▼ RFC 2037 Entity MIB
- ▼ RFC 2096 IP Forwarding Table MIBs
- ▼ RFC 1112 IGMPv2
- ▼ RFC 1075 DVMRP
- ▼ RFC 2117 PIM
- ▼ Multicast Routing MIBs
- ▼ Alcatel Enterprise MIB

### RMON

- ▼ Four groups: statistics, history, alarms and events.

### Link Aggregation

- ▼ Four trunk groups of four load-sharing, resilient interswitch links

### Physical Characteristics

#### Ports

- ▼ 20 10Base-T/100Base-TX
- ▼ 2 1000Base-LX or SX

#### Physical dimensions

- ▼ Fits in standard 19 inch rack; occupies 1 rack unit (RU)
- ▼ Height: 4.3 cm (1.68 in.)
- ▼ Width: 43.2 cm (17 in.)
- ▼ Depth: 44.5 cm (17.5 in.)
- ▼ Weight: 7.73 kg (17 lb.)

### Operating Environment

- ▼ 0 to 45° C
- ▼ 85% maximum relative humidity, non-condensing
- ▼ Maximum altitude: 0 to 3,000 m (0 to 10,000 ft.)

### Agency Approvals

- ▼ FCC Part 15, Class A, CE Mark, VCCI Class
- ▼ A, EN50082-1, EN55052, UL, cUL, TUV

### Power and Thermal

- ▼ 100 to 240 V AC
- ▼ Power dissipation at 150 watts (maximum)

### Standards and Protocols (abridged)

- ▼ IEEE 802.3u 100Base-T
- ▼ IEEE 802.3z 1000Base-X
- ▼ IEEE 802.3x Full-Duplex with Flow Control
- ▼ IEEE 802.1d Spanning Tree Protocol
- ▼ IEEE 802.1p Priority and Dynamic, Multicast Filtering
- ▼ IEEE 802.1Q VLAN Tagging
- ▼ RFC 1058, 1723, 2082 RIP and RIPv2
- ▼ RFC 2080 RIPng
- ▼ RFC 1583, 2178 OSPF
- ▼ RFC 1883, 1884, 1885
- ▼ RFC 1112 IGMP and IGMPv2
- ▼ RFC 1256 Router Discovery Protocol
- ▼ RFC 1812 Router Requirements
- ▼ RFC 1122 Host Requirements
- ▼ RFC 783 TFTP
- ▼ RFC 1075 DVMRP
- ▼ RFC 2117 PIM-SM, IPX/RIP and IPX/SAP, AppleTalk Phase 2
- ▼ NTP client and server

For more information [www.cid.alcatel.com](http://www.cid.alcatel.com)

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