256P AN-RAX
Rural Automatic Exchange

Communication has forever been a problem in the villages of the world. The world, as we know it, has been progressing rapidly, leaving these villages bereft of substantial social and economic gains.

The 256P AN-RAX from C-DOT is a world-class cost-effective communication solution for rural areas. Development with the sole purpose of transforming the villages by removing natural barriers to progress through its versatility in any environment-hot tropical areas, subzero mountainous regions, vast deserts and coastal areas, the 256P AN-RAX A is an Access Network product.

Salient Features

The 256P AN-RAX caters to 256 terminations and is based on the 256P RAX switch, development by C-DOT more than a decade ago. It avoids longer subscriber line loops and provides telecommunication facilities in remote areas. It interfaces to a Local Exchange (LE) over two E1 links, supporting V5.2 protocol, and automatically achieves network synchronization.

It provides a Man-Machine Interface (MMI) for local operations and maintenance. This MMI can also be remoted to LE over V5 links using modems. Apart from supporting all the subscriber features of the 256P RAX, the 256P AN-RAX also supports some additional features such as conferencing, distinctive ringing and call waiting, in conjunction with LE.

There are over 33,000 256P RAX switches installed in the Indian telecom network. All these switches can be easily converted to 256P AN-RAX.

Ideal for Rural Applications

The 256P AN-RAX is ideal for rural applications since it provides immediate basic telephone connections with minimal infrastructure. It is an easy to install fault-tolerant system with inbuilt redundancy. Besides requiring no air-conditioning, it can withstand dust, wide temperature fluctuations (-5^0 C to 50^0 C), humidity and salinity. Moreover, it consumes very little power, sustaining itself despite frequent power failures due to low battery drain.

A distinguishing feature of the 256P AN-RAX is its simple and flexible connectivity through a wide range of transmission systems such as UHF, VHF, radio and satellite. Because it is program-controlled it can be easily integrated as per the network requirements through man-machine commands, thus proving to be an extremely cost-effective and viable proposition.

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Transfer of Technology

The 256P AN RAX technology can be easily accessed through a manufacturer friendly transfer package that includes bill of material and audio visual documentation. It also incorporates basic training of the manufacturer's technicians and supports the development testing and evaluation of the prototype prior to the commencement of bulk production. Several manufacturer`s in the public, private and joint sectors have been the recipients of the technology so far. Backed by an exceptionally versatile design and widely distributed manufacturing base, C-DOT has been guiding the product from its conceptualization to the final field deployment.

Support Services

C-DOT's reservoir of trained and qualified manpower combined with its ability to handle large software projects, makes it easy for C-DOT to provide excellent post commissioning field support for fault analysis and on-site rectification.

It can also assist in the setting up of service centres in any country that imports its technology and provide training to their technicians with the objective of making them self reliant in handling technical problems.

256P AN RAX Features

System Features

Control	• 68302 Microprocessor based SPC
Capacity	• Maximum 248 subscriber lines
Termination Types Supported	• Normal /CCB/CCB with 16 KHz metering (CCM)
Signaling between Subscriber & Exchange	• Decadic /DTMF
Loop Resistance	• Subscriber line 1200 Ohm
Insulation Resistance	• 20 Ohm (minimum)
Metering Scheme (Done at LE) Subscriber meters	• Software meters
	• Subscriber traffic Service circuit traffic
Printouts	• Spontaneous /On command Periodic (Done at LE)
Traffic	• 4000 BHCA

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Tones/ Announcements	Tones /Announcements come from LE. Minimal resource required during Like failure towards LE is available at AN
Environmental Requirements	Follows QM 333 category B2 test standards
Power Supply	48V+/-4DC with battery backup Primary, 230+/- 10% AC 50 Hz +/-2Hz
Remoting	V5.5 interface

Subscriber Features

- Dynamic O/G restrictions
- Call queuing
- Call waiting
- Malicious call tracing
- Detailed call recording
- Hotline facility
- CLI presentation
- Call diversion
- Trunk offer
- Intrusion barring
- Home meter
- Conferencing
- Distinctive ringing
- Line hunting
- Alarm booking
- Priority line
- Detailed billing
- Subscriber observation
- CCB

Administrative Features

- Field programmability of parameters
- Password protection
- User-friendly MMI
- Service interception

Maintenance Features

- Remote monitoring
- Status and alarm display
- Automatic system recovery
- Diagnostics on cards
- Line testing

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