

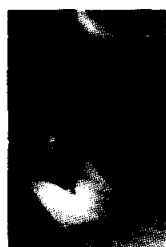
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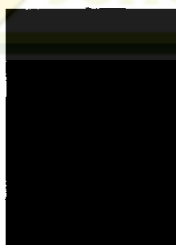
ASTRA MICROWAVE PRODUCTS LIMITED

What does knowledge give you... It gives you the power of technology, and translates that into a miracle called innovation. This knowledge comes from vital original research, and in the case of AMPL, provides the thrust that creates breakthrough technology for communication. This very communication brings the world closer, while enabling people to come together.

The shrinking of the world seems like a miracle. But it was innovation that made it happen.



KNOWLEDGE



SOLUTIONS



SUCCESS

A N N U A L R E P O R T 2 0 0 1 - 2 0 0 2

KNOWLEDGE

SOLUTIONS

SUCCESS

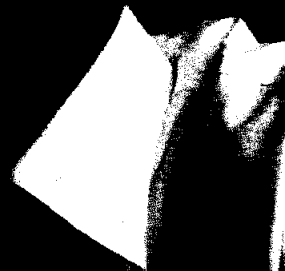
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ASTRA MICROWAVE PRODUCTS LIMITED



VISION



To be at the forefront of the telecommunication revolution through research and development.

Investing in technologies that can lead to leadership.

Employ the finest talent to reach the top through excellence.

Report



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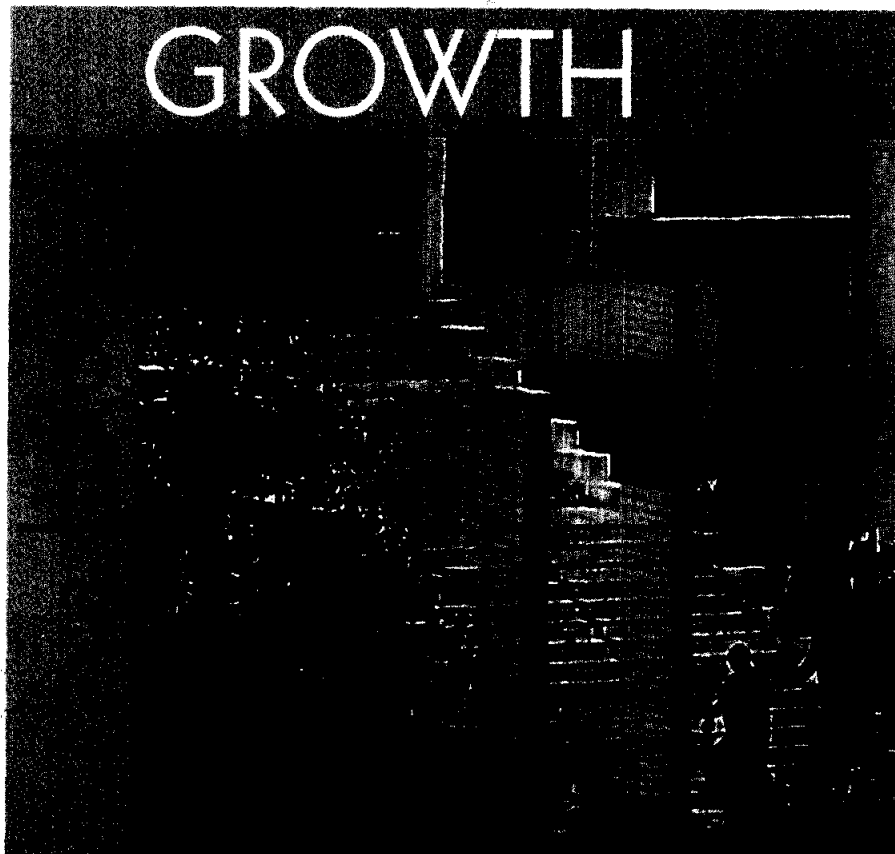
POWER

That Astra is a technology driven Company is easily proven by the success of its products in India and abroad, its highly qualified and accomplished people and its consistent financial performance. Because technology, the world over, is dynamic and ever-changing, keeping pace with the requirements of the market.

In Telecommunications, all this becomes ever so important, due to the speed of technology advancement. Astra has proven to be as agile as the best and right at the forefront of the revolution. Striving for leadership through research and development. Employing the finest talent in the land to play the role of the eternal seeker.



GROWTH

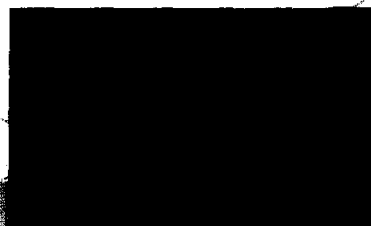
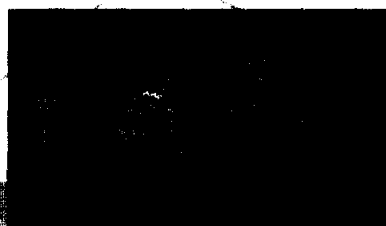


Astra was established in 1991 by a group of experts in the field of Microwave Engineering. The Company established a strong research, design and manufacturing base for microwave components, sub-systems and systems in VHF, UHF and microwave bands for all applications. The Company's expertise in design was instrumental in establishing a strong vendor relationship with reputed establishments.

Today 60-70% of the Company's electronic systems using microwave

components find use in the Telecommunication and Defense sector, while it is poised to enter the low - frequency Private sector market which hitherto imported all microwave components.

With the vast experience of the team, and their combined design strength of over 300 man years, the Company is confident that its growth rate will match or exceed that of the previous years.

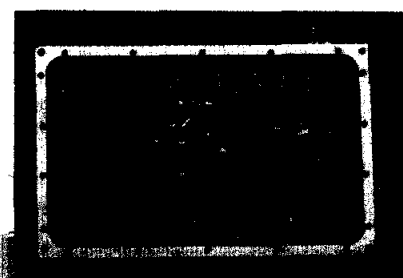
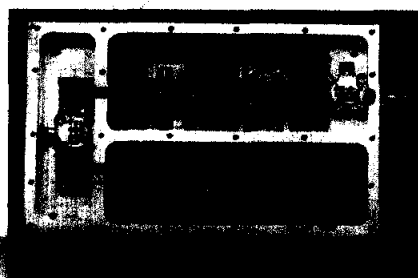




Astra has nurtured a culture of scientific curiosity within the organization, which leads to an unending quest of the unknown. Today the Company plays the role of an innovator, determining future trends in RF and Microwave Communication systems and standards.

Astra encourages ideas that come from an understanding of client and market requirements. It believes that innovations based on insight will surely

find a place in subsequent product development. Meanwhile the development process itself is democratic, open and participatory. All are welcome to contribute, as innovation is not the prerogative of the innovator, it is the destination of the seeker. This is the culture and attitude Astra brings to the table to translate customer requirements into perfect solutions.





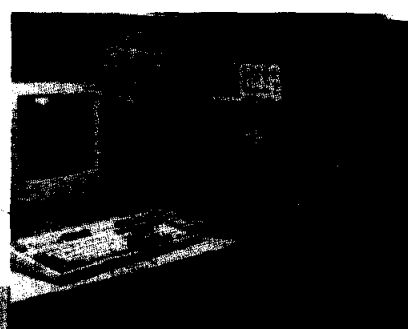
MANUFACTURING

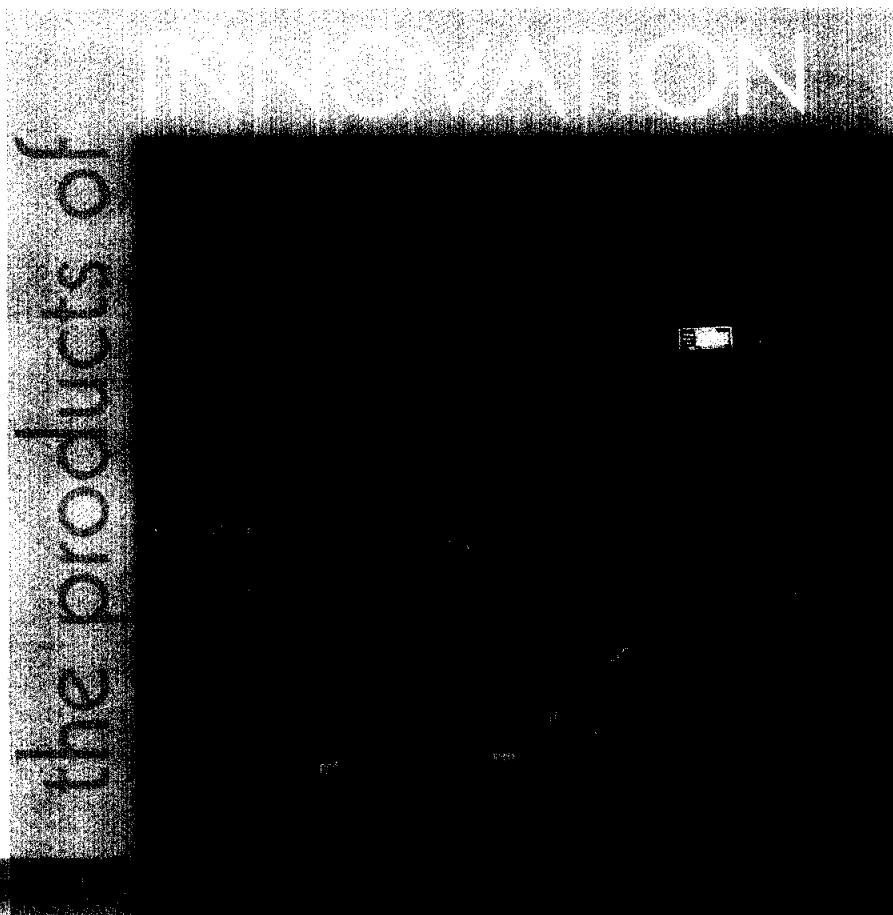
world class



Astra's fully integrated production facility has the capacity to deliver the quickest 'idea to market' time. The unit features state of the art equipment for manufacturing and testing such as CADD stations, Environmental Chambers, Vector and Scalar Network Analyzer, Spectrum Analyzers, Power Meters, Plotters, Function and Pulse Generators and an Antenna Test Range.

The test facility has helped Astra gain significant share in the VSAT market, competing with established overseas Companies. With all this it can easily be claimed that Astra provides world class manufacturing and testing facilities under one roof. With a single objective, of course - products with 100% reliability.





Astra's Product Range finds application in three areas : Radio Transmission, VSAT & Cellular Communication and Defence. Besides these, Astra has a product range for export.

Radio Transmission

- Ferrite products like Isolators / Circulators.
- Filters of all types and configuration including Duplexers and Diplexers.
- Passive components like Power Dividers, Monitors, Samplers, Couplers and Dummy Loads.
- Custom-built RF hardware in 100 MHz to 18GHz frequency range.

VSAT & Cellular Communication

- Antennas including C-band, Extended C-band and Ku-band, VSAT dish antennas, Collinear omni, Directional, Para-grid antennas, Yagi antennas and Panel antennas.
- Bi-directional amplifiers for GSM, WLL and PCS band.
- Transmitter combiners and receive multi-couplers for cellular and radio trunking.

Defense Applications

- Sources - VCOs, PLOs, Comb Generators, DROs, SRD Multipliers, STALO's, CGU's, RPF's, Radio Altimeter EDLVAS etc.





QUALITY

Quality is always built into a Company's mindset, when supplying core sector industries like defence and telecommunications. These are critical application sectors, and customers have stringent guidelines and parameters that have to be adhered to. This has helped foster a quality culture within the Company, wherein quality is not an external factor but one that resides in the heart of every employee and every product.

Astra has received ISO 9001 Certification from KPMG Peat Marwick, USA covering all processes, from manufacturing to marketing. The certification is recognized worldwide.

But the true spirit behind Astra's quality movement are the senior Engineering professionals, who brought with them a culture of high quality and are today responsible for percolating this quality philosophy down to the last person on the shop floor.

