

**GROWTH OF PERSONAL
COMMUNICATION SERVICES (PCS)**

Cellular growth within the United States has experienced phenomenal expansion rates during the past ten years. As this growth occurred, service providers were constantly looking for future competitive threats from a new undefined source known as PCS. Five years ago the communication industry's vision for PCS was a simple system which utilized micro cells placed in high traffic areas such as hotels, airports, etc. This system would not allow the ability to roam or receive calls. The handsets would operate much as a portable cordless telephone with no air time charges and a fixed monthly rate. These handsets were simple technically and the increased capacity needed through higher air time usage could occur primarily through frequency re-use because the micro cells would only have enough power for relatively small areas such as a few city blocks or perhaps only a single building.

Enter 1995 and all old concepts have been discarded with the Federal Communications Commission's plan for a spectrum auction. Although the auction was delayed, eventually the process was started and the spectrum cost buyers billions of dollars. In addition to the spectrum cost, new communication technologies were adapted for PCS such as CDMA and GSM (DCS 1900) and performance enhancements were made from components using state-of-the-art Gallium Arsenide MESFET and Gallium Arsenide HBT's. These systems were designed and tested and these technical factors plus the cost of the spectrum are providing the fuel for explosive growth for the PCS market.

Instead of being competitive to current cellular systems, these new PCS handsets and PCS systems will be transparent to the end customer and provide communication which include all services that are currently provided plus greatly reduce the factors which currently limit cellular growth. These factors being primarily poor quality, lost calls due to hard hand-off between cells, poor voice quality, and most importantly the high cost of air time.

The new PCS system will provide high quality communications and many experts believe will eventually allow for the elimination of air time charges in the home roaming areas. These developments will place PCS in direct competition with wired telephones. When this occurs, the PCS market will experience growth with the potential to exceed any previous consumer electronic device. Without doubt, PCS will exceed the growth rates of portable consumer electronic devices of all types.

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