occurring in the marketplace, among them, Moddata-Scientific Atlanta, Ichtus-STM, Interpoint-Vitacom, Alfasat-Spar, Cidetron-Gilat/EF, Equitel-Fairchild and Villares-Comsat.

2.3.3.4 Modems and access devices

Embratel's Transdata and Renpac networks were the major markets for low-speed V-series modems u to 9.6 kbps. Embratel's procurement policies have also determined investment in R&D locally an establishment of good sales networks.

Local companies like Parks, Elebra, Moddata, Ichtus and Rhede have already delivered to Embrate and to users of non-dedicated private lines and of the PSTN for data communications, some 300,00 modems, in the 1985-1991 period. These same companies, and other newcomers, are now increasin the range of their products and services through agreements with foreign modem-suppliers, like Racal Milgo, AT&T/Paradyne, Microcom, GVC and RAD, distributing imported high-speed, compression based and digital modems.

Considering Embratel's and the Telcos expansion plans for the next 3 years, (Telesp alone is bidding on 150,000 modems this year), the aggregate demand for modems is expected to be an additional 300,000 units in this period. Embratel also plans to enhance the accessibility of its data services, besides the conventional copper line + modem medium, through extensive use of optical fiber links (2-34 Mbps), radio-modems (900 MHz, < 19.2 kbps), packet-radio (64 kbps) and digital radio(2-8 Mbps, 15/18/23 MHz). The Telcos are bound to follow suit. Consolidated sales forecasts are not yet available for these categories of equipment.

2.3.3.5 Summary remarks

Considering Embratel's forecasted investments of US\$ 350 million, the Telcos US\$ 400 million and the private networking and satellite stations US\$ 270 million, the total market for DC equipment could reach US\$ 1 billion over the 1992-1996 period.