Seattle; KSL-TV in Salt Lake City; and WETA-TV in Washington, D.C. In Canada, commercial teletext systems include the Canadian Broadcasting Corp.'s IRS service (500 subscribbers) and TV Ontario's teletext (about 100 viewers).

AS INDICATED IN THE preceding descriptions, teletext technology can take several forms:

1. VBI teletext is the variety offered by CBS, NBC, and Keyset. It is broadcast along with conventional TV signals, or transmitted by satellite to cable operators, and then relayed to the home decoder.

2. Full channel teletext is the variety offered by Time Inc.'s Time Video Information Services. Rather than using the VBI portion of the TV signal, the teletext information is transmitted over cable lines to a dedicated cable channel. This type of teletext offers a relatively low level of viewer interaction.

3. Scrolling alphanumeric text channels are offered by some cable companies and local TV stations. The frames of information are transmitted continuously and the viewer has no control over which frames are shown on the TV screen. Videocon's teletext channel in San Francisco is basically a scrolling service, although viewers can use their push-button phones to achieve a specific level of interaction.

Teletext, with the exception of the Time Inc.'s Time Text, is primarily a one-to-one medium. The information frames are transmitted in a continuous cycle. Using a remote-control keypad, the viewer selects the frame he wants from a menu or index. For example, sports scores could be represented by the number 14. If the viewer wants to see sports scores, he presses 14 on his keypad and in a few seconds the decoder extracts the sports frames from the videotext cycle and displays them on the TV screen. Teletext, with the exception of the Time Inc.'s Time Text, is primarily a one-to-one medium. The information frames are transmitted in a continuous cycle. Using a remote-control keypad, the viewer selects the frame he wants from a menu or index. For example, sports scores could be represented by the number 14. If the viewer wants to see sports scores, he presses 14 on his keypad and in a few seconds the decoder extracts the sports frames from the videotext cycle and displays them on the TV screen. To operate, videotex is a two-way medium in which users can not only call up and read, but also engage in transactional activities such as telebanking and teleshopping. Using a so-called "smart decoder" and teletext software, Time Inc.'s TimeTeext service allows viewers to play video games (with a joystick) and access specific information such as personal investment portfolios.

ON THE NATIONAL scene, the major players are CBS, NBC, Khyco, and eventually Time Inc. It's difficult to determine at this point, but it appears that CBS and NBC may emerge as the dominant forces, at least in the short term. Advertising and technical standards could be the deciding factors in the teletext derby. CBS and NBC are definitely going after the mass market with their teletext operations. They want teletext to be a national medium, with both national and regional services. Since, according to the American Newspaper Publishers Association (ANPA), more than 30 newspapers are offering electronic versions of their products on cable, the ANPA report:

"On the other hand, Keycom and Time Inc. are going after both advertising income and subscriber fees. Of course, Keycom and Time are distributing through cable operators while CBS and NBC are offering teletext through their affiliates."

Since NBC and CBS can "off-label" coverage of the U.S. through their affiliated stations, it would appear that their teletext services might be more attractive to national advertisers. However, if cable penetration reaches 90% of U.S. homes by the end of the decade, as many industry analysts predict, Keycom and Time Inc. could compete favorably with CBS and NBC.

But technical standards also could prove important. Although Keycom officials don't want to argue the point, they maintain that their release on the British graphics standard would be problematic down the road. The other major players, NBC, CBS, and Time, have adopted the North American standard, and ABC said it will, too, if it enters the teletext field. But technical standards can buy. North American-style decoding capability in sets with built-in decoders, they will be standard, while CBS teletext, but not Keyset. Whether a significant number of consumers will want to buy or lose two types of decoders, and pay $25-$30 million service fee for Keyset on top of their regular cable TV-charges, remains to be seen.

"I think it's the (North American version) as far as cost goes. People left with their technologies will have to change," Barbara L. Watson, general manager, NBC Teletext, has said. In other words, Keyset can be left out in the cold if a TV set and decoder manufacturers opt for the North American standard. "virtually all of the major players are using the North American standard," said John Wolfe, assistant editor of "International Videotex Teletext News.", published by Videocon Communications Inc., Bethesda, Md. "But negotiated copyright issues currently lead right now because they have decoders."

"But in the future, there is a real possibility that Keycom could be left behind. I think it's interesting that Keycom chose the North American standard for its videotext service. They realize the need for higher resolution graphics for advertising."

"It all depends on the cost of decoders, but at this point, Keycom is the closest to it," said Wolfe. "It's highly likely that the North American standard will be adopted. It's being used in the North American standard, which means some one of their decoders could access the CBS and NBC teletext services."

While Time Inc. will, at first, market Videotex only to its affiliates, they plan to offer the service to other cable companies in the future. "It's exciting," Wolfe said, "but initially, could be a real sleepy in the long term."

"ALEN COMMUNICATIONS predicts that 20 million U.S. households will have video, if manufacturers can offer reasonably priced decoders and TV sets with built-in decoders. Also, the continued growth of cable TV will create opportunities for teletext to be incorporated into local cable operations. Ailen notes.

"It is entirely logical and relatively inexpensive to add (teletext) decoding capability to a standard converter in existing decoders," agrees Larry T. Pillett, vice president, Consumer Products, Videocon Communications Inc., New York, and president of the Videotex Industry Association. Eventually the marketplace will iron out some of the problems of incompatible decoders. Until then, however, all the major players agree that their efforts should focus on common technical standards, not the technology.

"The initial stage, which we are in now, is one of demonstrating the capabilities. The aim is to achieve maximum utilization and acceptance because we need to sell decoders," said Barbara L. Watson of NBC Teletext.

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