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Coaxial PCM Communication Systems

The introduction of Japan's first digital transmission system and the realization of even larger capacities for short-distance communications have led to great economic benefits. By combining new components and circuit technologies, such as ultra-high-speed transistors and hybrid ICs, with new system technologies, high-quality and economical transmission of 5,760 telephone lines and 4MHz television 60 lines has been realized.

PCM: Pulse Code Modulation

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Single Mode Optical Transmission Systems

The first communication system using optical fiber was realized. The relay interval, which was about 1 to 2 km in the conventional system, could be extended to several tens of kilometers, and it has been put into practical use as a transmission system across Japan.

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Digital Coherent Optical Transmission Systems

As a result of pioneering coherent communication with analog based on phase modulation for the first time and realizing the frequency stabilization of semiconductor lasers for the first time, digital signal processing has been put to practical use in the optical communication field, and a system capable of transmitting high-speed signals of 100G over long distances has been realized. In addition, the use of a waveform distortion compensating optical device has been eliminated, and an economical high-speed transmission system has been realized.