D-40

Police Information System

Hiroshi Inose, Hiroyuki Okamoto, and Yoshifumi Miyano carried out a study of the traffic control center of the Tokyo Metropolitan Police Department and overcame many research challenges, contributing to the completion of the center in March 1974. The center needed high dependability under tough conditions—all-day operation/outdoor equipment. For this reason, in addition to high-reliability, they also overcame and made innovations on issues of the accurate measurement of traffic flows, the optimal control of traffic light machines, and the improvement of man-machine interfaces. At that time, this traffic center was the world's largest traffic control center having seven sets of computers which controlled about 3,000 traffic light machines and processed information from about 2,000 vehicle detectors, traffic information indicator panels, and control tables.

Nao Hada, Muneo Hagiwara, and Yasuhiro Morioka carried out research and development on the realization of a practical communication-instruction system for the Tokyo Metropolitan Police Department. This system was based on processes to effectively transfer or distribute information received on emergency calls in the form of picture information to command and control desks in charge and consisted of the Automatic Vehicle Monitoring (AVM) system of current locations of patrol cars and an automatic map display system; making this an epoch-making and effective comprehensive communication-instruction system.

Hiroshi Sugaya, Takashi Kawata, and Kouichi Ishii carried out the development of technology for a mobile police radio digital communication system, and considerably contributed to the practical implementation of the said system. Their technological achievements were as follows: 1) reduction in size and weight because of the introduction of LSI, 2) high dependability due to the improvement of the speech codec circuit, 3) efficient transmission of non-vocal communication, and 4) highly sophisticated confidential communication system.

Regarding the development of the patrol car referral and command system, Takaya Mizutani, Toshitane Yamauchi, and Kyou Kinoshita solved the challenges associated with data transmission in a digital direct mobile modulation radio system by comprehensively combining signal processing such as error correction, continuous transmission and interleaving and communication processes. In addition, they realized a reduction in the size/power consumption of in-vehicle terminal devices, thereby making significant contributions. From April 1986, this system operated in Tokyo and its four adjacent prefectures.

For the purpose of reading/checkup/reporting car registration plates of moving cars, Akiyuki Tajima, Kikuo Matsuda, and Seiji Nakayama developed technologies such as the position detection of vehicles, shooting optimal pictures, extraction of car registration plates and character recognition, contributing to the practical implementation of the automatic reading of car registration plates of moving cars in 1986.

For the smooth exchange of various information held by each police agency across the country, Makoto Funabashi, Hideo Ohno, and Hiroshi Ohno developed a large-scale distributed information and telecommunications network using multiple vendors covering a large number of personal computer terminals as subjects of protection. The feature of this system was the employment of an open system for connection with each police agency. They cleared problems associated with the open system by unifying various software versions and with the development/adoption of middleware. In January 1996, improvements were completed and operation began.

(Explanations above were summarized and excerpted from the excellent study database (http://abnst.nii.ac.jp/).