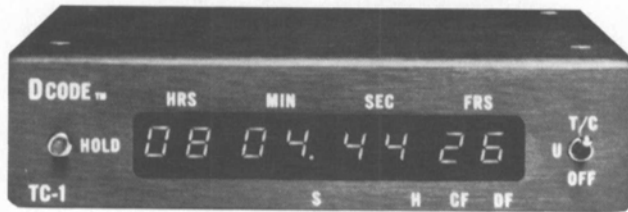


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Abstracts from Other Journals

Aspects of Conversion from HDTV Standards to Current Television Standards (in German), Andreas Ebner, and Rainer Schäfer, *Rundfunktechnische Mitteilungen*, p. 149, July/August 1988.

IRT's project, sponsored by the BMFT, principally attempts to address questions concerning HDTV standardization, and to contribute usefully to the choices of parameterization. This project particularly concerns conversion between television standards, notably between HDTV format and the current PAL and MAC standards, which have fewer lines, smaller picture formats, and different field frequencies. As it is almost certain that an HDTV production standard with a field frequency of 60 Hz will be adopted in the U.S. and Japan, at least, a start must be made to study and resolve the problems involved in converting from 1125/60/2:1 to 625/50/2:1.

The procedure involves both intraframe and interframe processing over several lines and pictures. Spurious temporal and spatial components are already present in the original picture as a result of horizontal and vertical scanning, and conversion will make these more annoying with both stationary and moving objects. Considering the spatiotemporal frequency situation, only motion-adaptive filtering will reduce these impairments.

The principles of real-time processing of the large volumes of data associated with HDTV signals are defined in the first phase. Then, the article shows how they are applied in actual construction, from discrete components, of the non-motion-adaptive part of a standards converter.

Transmission of MAC-Compatible Color-Difference Signals in a Future HDTV System (in German), Stephen Breide, *Rundfunktechnische Mitteilungen*, p. 173, July/August 1988.

The present article describes a method of transmitting color-difference signals in a wideband HDTV system which ensures compatibility with the reception of 625-line MAC signals. Different one- and multidimensional subsampling procedures for the reduction of bit rate, and also the scrambling designed to convert color-difference signals into a line-sequential MAC transmission format are explained.

Still Picture News Gathering, a New Application for ISDN (in German), Ulrich Esselborn and Herbert Lohscheller, *Rundfunktechnische Mitteilungen*, p. 197, September/October 1988.

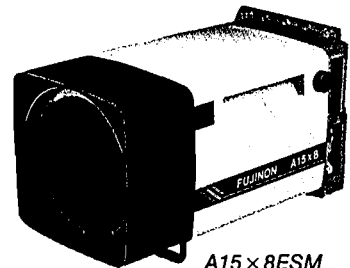
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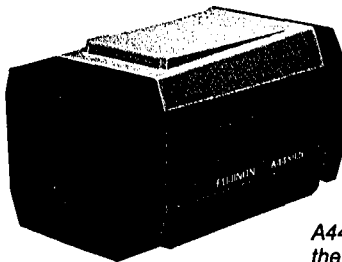
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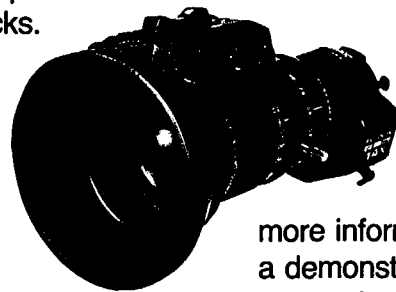
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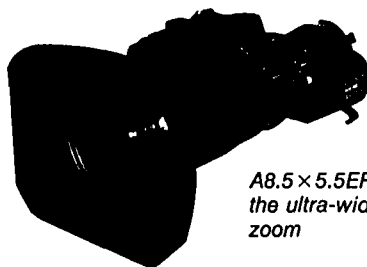
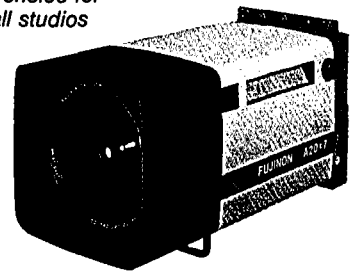
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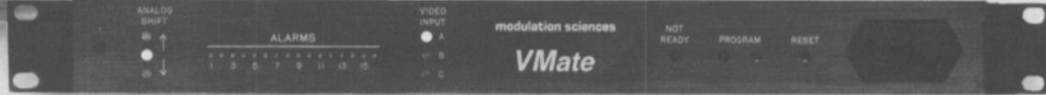
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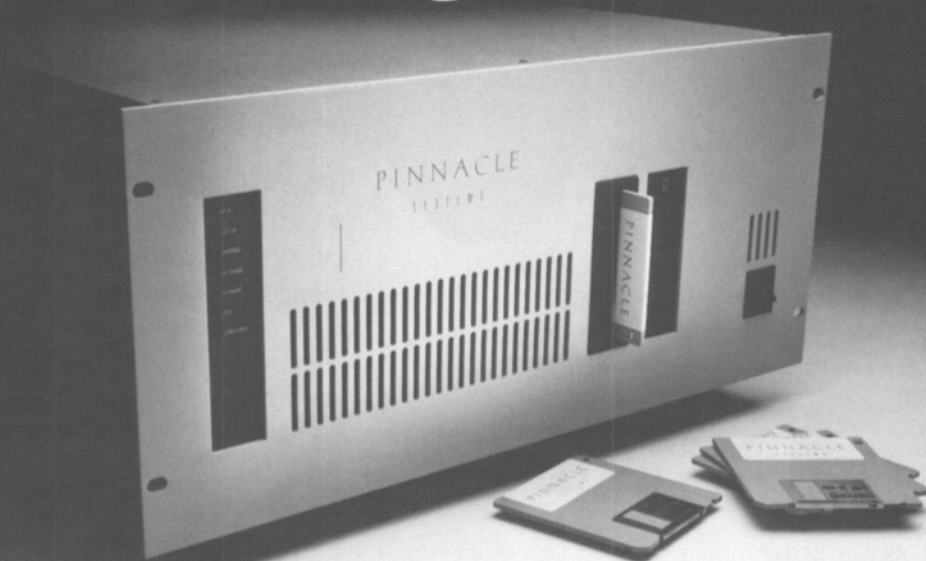
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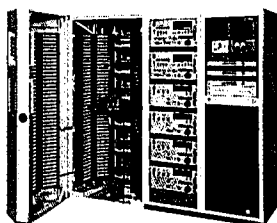
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features, the ISDN offers the possibility for a new kind of news gathering by giving the chance of transmitting still-picture information for the first time via a public communication network. Using a powerful still-picture coding and transmitting device with additional audio facilities, it will be possible to use the So interface of the ISDN to transmit still-picture information in high quality (corresponding to CCIR Rec. 601). The future extension of ISDN will, in connection with the application of highly mobile recording equipment (for example a still video camera), enable broadcasters to integrate news events more rapidly into live programs.

Thirty Years of Magnetic Image Recording in Germany (in German,) Wolfgang Weinlein, *Rundfunktechnische Mitteilungen*, p. 211. September/October 1988.

The article traces the history of developments in magnetic recording and underlines the technical problems that faced the pioneers of videotape recording. Starting with the initial projects of J. L. Baird, D. von Mihály, H. J. von Braunmühl, and B. Crosby, it goes on to discuss Charles Ginsburg's quadruplex system, which made the great breakthrough in the early fifties.

The technical report outlines the needs addressed by the revolutionary process of helicoidal recording, as well as the ongoing development of the quadruplex system, without, however, detailing the actual circuitry. A more substantial part is devoted to the application of this system 30 years ago in West Germany, initial operating tests, and the experience gained with this new technical process. Also described is the formerly complex editing of magnetic tapes, as well as the phasing in of the PAL color system or early electronic slow-motion devices.

This historic account concludes with the adoption of the tape formats and recording standards in use today, all of which are the result of the research and development undertaken at the turn of the century in this field of television.

Two-Level-Search Minimum Distance Decoding for Binary Block Codes, M. A. El-Agamy and E. Munday, *The Journal of the Institution of Electronic and Radio Engineers*, 58:299, September/December 1988.

A new reduced-search minimum distance decoding algorithm for binary block codes is proposed. The time taken in searching for the nearest code word is reduced when all code words are grouped into classes and then each class into subclasses. The first identification is performed using the code weight distribution while the second (or subclass) level uses the weight distribution in some N-coordinates. The order of search is determined from statistical data based on the weight of the received vector and channel statistics.