

In memoriam

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[54] **SYSTEM AND DEVICE FOR PACKAGE MULTIPLEXING IN TRANSMISSION OF MANY DATA FLOWS GENERATED BY A SOLE ALGORITHM**
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 [58] **Field of Search** **358/133, 141**

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ABSTRACT
 A system for transmission of signals coming from a source and processed by an algorithm that, to minimize data (values+parameters), generates values that are encoded, for example, with variable length. The data flows generated by the algorithm are each ordered in packages with the addition of information of source, of frame and of management before being multiplexed.
3 Claims, 2 Drawing Sheets

IMPLEMENTATION AND PERFORMANCE OF AN HDTV CODEC BASED ON THE DCT
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Abstract
 This paper updates the information provided in the previous ISCAS Symposium on the codecs developed in the framework of the European Project Eureka EU 256. The system for video compression is based on the hybrid DCT and characteristics of the coding system coincide with those of the codecs for transmission of digital signals with contribution quality being standardized by ETSI and CMTT. Both conventional Definition TV and HDTV codecs have been developed and demonstrated: field trials using HDTV signals were carried out during the FIFA WorldCup held in Italy in June 1990. New versions of the codec, adopting the motion evaluation and compensation, are available in the first half 1991. An evaluation of the present system is given and the future perspective of bit-rate reduction systems are analyzed.
 tribution, to the final viewer. This means that the emphasis in the design of the system is on the highest subjective picture quality.
 The goal of the EU 256 project is the development of codecs for the transmission of TV and HDTV signals for contribution-quality applications. However, the system can be suitably tailored to be used for other applications, e.g.: SNG (Satellite News Gathering) and distribution circuits.
 After an overview of the present status of the standardisation activities in the field of video compression, this paper briefly summarizes the main features of the system, reports on the current status of its implementation and presents the results of tests to evaluate its performance.
Standardisation Activities
 Development work on television systems is principally done in the framework of the Eureka Study Group 11 (Eureka 11), an ETSI Group dealing with the standardisation of contribution signals, and the Eureka Study Group CMTT/2, an ETSI Group dealing with the standardisation of TV signals.
 In the framework of Eureka 11, a study was carried out by CMTT/2 in 1990, on the development of contribution-quality TV signals, but some important features of the system are still missing. In order to complete the standardisation activity, a number of experts were asked to participate in the development of the European Broadcasting Union (EBU) contribution-quality video signal encoder.

United States Patent [19]
Cucchi et al.

[54] **METHOD AND SYSTEM FOR TRANSMITTING PACKAGES OF DATA**
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 [58] **Field of Search** **358/136, 135, 133, 358/134, 142, 146, 143; 375/33, 40, 370/83, 84, 118, 60, 58.1, 61**
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Gli articoli di Elettronica e Telecomunicazioni spesso rievocano le prime trasmissioni di immagini in alta definizione con tecniche digitali, avvenute 20 anni fa, in occasione dei campionati mondiali di calcio Italia '90.

Un evento che ebbe una grande risonanza e che definitivamente sancì il passaggio dalle tecniche analogiche a quelle digitali nel campo della diffusione televisiva.
 Tale realizzazione fu dovuta al contributo di molte persone, ma senz'altro un ruolo essenziale fu quello dell'ing. Silvio Cucchi, allora responsabile del team che progettò in Telettra il sistema. Purtroppo Silvio è mancato all'inizio di quest'anno, a 62 anni. Ci rimangono di lui, a testimonianza, le decine di brevetti (alcuni hanno un ruolo importante nei sistemi MPEG, che tutti oggi utilizziamo), articoli e realizzazioni, il ricordo della sua eccezionale cultura scientifica, tecnica e realizzativa (trasformava immediatamente le sue intuizioni in percorsi tracciati nel silicio), ma anche della sua cultura umanistica e, soprattutto, della sua umanità.

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At the time of publication, the encoder was in the final stages of development and was expected that the European standard would be adopted by the end of 1990. The activity in relation to HDTV that, when this issue went to press, was still in progress. The H.261 standard, H.262, H.263, H.264, H.265, H.266, H.267, H.268, H.269, H.270, H.271, H.272, H.273, H.274, H.275, H.276, H.277, H.278, H.279, H.280, H.281, H.282, H.283, H.284, H.285, H.286, H.287, H.288, H.289, H.290, H.291, H.292, H.293, H.294, H.295, H.296, H.297, H.298, H.299, H.300, H.301, H.302, H.303, H.304, H.305, H.306, H.307, H.308, H.309, H.310, H.311, H.312, H.313, H.314, H.315, H.316, H.317, H.318, H.319, H.320, H.321, H.322, H.323, H.324, H.325, H.326, H.327, H.328, H.329, H.330, H.331, H.332, H.333, H.334, H.335, H.336, H.337, H.338, H.339, H.340, H.341, H.342, H.343, H.344, H.345, H.346, H.347, H.348, H.349, H.350, H.351, H.352, H.353, H.354, H.355, H.356, H.357, H.358, H.359, H.360, H.361, H.362, H.363, H.364, H.365, H.366, H.367, H.368, H.369, H.370, H.371, H.372, H.373, H.374, H.375, H.376, H.377, H.378, H.379, H.380, H.381, H.382, H.383, H.384, H.385, H.386, H.387, H.388, H.389, H.390, H.391, H.392, H.393, H.394, H.395, H.396, H.397, H.398, H.399, H.400, H.401, 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