



3. SIGNAL, July 1974, Vol. XXVIII, Number 10  
 McEvoy, J. B., and N. J. Sturdevant, "DICEF-RADC's Digital Communications Experimental Facility", pp. 4-12.  
 This article describes various aspects of the Defense Communication Agency's communications systems as currently under development at Rome Air Development Center. The article proceeds to describe the details of the operational environments, the processors (both developed by ITT for communications), a special high order language COMTRAN, measurement philosophies, various simulators, and test and evaluation procedures developed for this project. The authors provide a description of the ongoing experimentation and RADC's future plans for the experiment.
4. IEEE SPECTRUM, September 1974, Vol. 11, Number 9.
  - a. H. Falk, "Linking Microprocessors to the real world", pp. 59-67  
 This article first establishes working definitions in the hardware and software used to establish the link between a microprocessor and the peripheral devices. The article quickly develops design characteristics of the interface. The rationale for an interface is developed and interfaces are explored in terms of function and packaging. The author develops a discussion on the design of single-chip communications interfaces. Details of the Asynchronous Communications Interface Adapter (ACIA) from Motorola Semiconductor and the Telecommunication Data Interface (TDI) are set down.
  - b. Russo, P. M., and M. D. Lippman, "Case history: store and forward" pp. 60-67.  
 Russo and Lippman's article describes a microprocessor-based store-and-forward system designed at RCA, for international leased line communications. At the center of the system is a 40-lead chip, the Universal Asynchronous Receiver-Transmitter (UART). The UART handles the basic conversion of data bytes from the microprocessor into a stream of serial bits for the communications link. The authors detail the strategies for moving messages throughout the system, the design of the communications interface (including interrupts), the hardware for the interface (UART), strategies for using the interface (i. e., cycle stealing operations), and they describe two peripherals: the floppy disk and a TV display.
5. IEEE SPECTRUM, July 1974, Vol. 11, No. 7.  
 Rosenthal, L. H., L. R. Rabiner, R. W. Schafer, P. Cummiskey, and J. L. Flanagan, "Automatic Voice response: interfacing man with machine", pp. 61-68.  
 This is an interesting description of a design effort at Bell Laboratories which will provide an interface for a digital speech encoding technique. The authors claim an all digital approach using existing off-the-shelf hardware and software. The input strategy is adaptive differential pulse-code modulation (ADPCM) method of speech encoding. Output strategy is based on "real-time multitask programming" in order to make use of up to 21 different tasks, interrupt services and data channel transfers. ADPCM is compared