

COMPUTER-CONTROLLED MESSAGE HANDLING

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Although usage of computers in Amateur Radio is slowly increasing, some study should be given to methods of promoting this utilization. This paper will show two methods of increasing computer message handling in Amateur Radio. These two methods are increased availability in the middle-term future and increased use of present capacity.

AS was the case with single sideband, two things hinder widespread use of computers in ham radio: cost and complexity. Many hams are reluctant to buy equipment costing as much as an hf transceiver for which they see no immediate use and for which they have no training. Fortunately, both cost and complexity can be jointly attacked. Cost and complexity are attacked both by using equipment and skills already available and also by using dedicated microprocessor controllers. Most hams already possess the necessary input/output devices, a keyer and a TV set. These I/O devices combined with a transceiver form the basis of a simple but effective computer-based station. The missing ingredient is the computer, which can be a very simple machine. It must translate cw to ASCII, format ASCII for the TV, and properly process the incoming and outgoing messages. The most important feature of this small computer is standardized software in ROM. The operator

does not initially need much computer training and can take advantage of advances in program efficiency by changing a ROM, which can be reprogrammed by clubs or the ARRL for a fee.\* A very basic, low-cost, microprocessor-based message handler would be easy to construct, have an easily changed message format, and be compatible with any of the more powerful systems. Proliferation of these basic message handlers would lead to widespread use of computers in ham radio traffic work.

At the present time, there is not a lot of computer-assisted message handling. In order to steer clear of existing traffic circuits and simultaneously generate more traffic, work should be done to link several existing computer networks together. One group of hams per major city in which these existing phone-line networks are located could make their relay services available immediately. A daily relay between existing non-ham computer networks would enlarge the networks, provide message volume, and give operational experience to hams. The experience gained by years of commercial computer network operation can probably be applied to the linking of non-commercial computer networks via Amateur Radio.

\*Ed. Note: The ARRL does not presently offer this service.

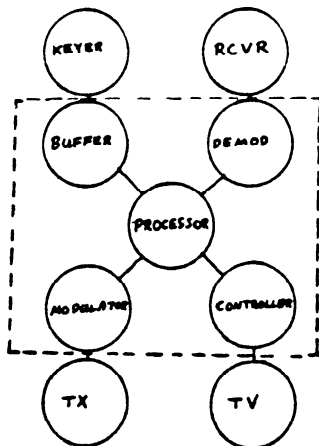


FIGURE 1.  
 JOE HAM NEEDS ALL INSIDE DASHED LINE.

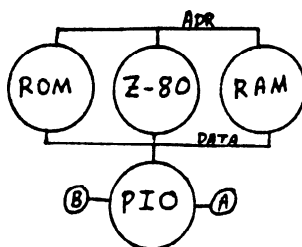


FIGURE 2.  
 Z80 CPU IS LOW COST, WIDELY AVAILABLE, SINGLE VOLTAGE.

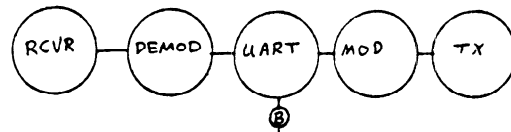


FIGURE 3.  
 MOD/DEMOM IS PLL AS PER QST, SEPT. 1981, P.32.

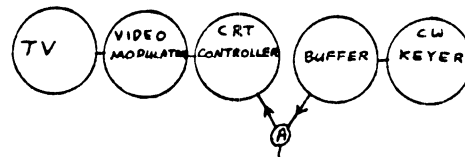


FIGURE 4.  
 CW TO ASCII CONVERSION VIA CPU. CONTROLLER COSTS QUITE VARIABLE.