What Will Happen?

As questioned by Ben Levy

As all of us know, recent dramatic advances in electronics have put pocket calculators, video games, sophisticated wristwatches, and many other hitherto impossible or extremely expensive devices within the reach of everyone. These developments have also made it possible to do virtually all the switching in the pipe organ electronically rather than electro-pneumatically as in the past. In a tiny fraction of the space formerly required, stop selection, combination setting, keying and signalling to the pipe chambers can be performed by a few magic silicon chips. Multi-conductor cables can be replaced by single wires. A touch of a button records stop combinations; a twist of a dial adjusts tremulants; and all with silent efficiency at the speed of light. Many theatre organ owners are converting their instruments to electronic control, to save space, to provide flexibility of operation not possible before, and (it seems to be widely believed) to increase reliability as well.

Is there a price to be paid for these miracles? Very few blessings in life are unmixed. Is this an exception? What problems, if any, are organ lovers likely to encounter by trading their instruments' brains for electronic ones?

Most theatre organs are fifty years or more old; yet, barring severe physical damage, they can be restored to full operation by the application of leather, glue, wire and labor (lots of the latter). There is nothing mysterious or technically difficult in their principles of operation. Fifty years from now, they can be playing as they were today, and as they were fifty years ago, without benefit of their long-gone builders. What about the electronic additions?

They can be relatively simple or extremely sophisticated. In either case, they are less obviously comprehensible than the original design. It is also possible for them to develop obscure and puzzling maladies not easy for a non-specialist to diagnose and cure. With the most complex, such as those employing strobing or sampling techniques, it is likely that. except for major component replacement, home servicing is out of the picture. In the event, however remote, of your pride and joy developing electronic indigestion, therefore, availability of replacement parts becomes an important consideration.

This branch of electronics is the most rapidly changing field in the history of technology. It is almost impossible for anyone but a specialist to be even aware of the rush of developments. In the January, 1978, issue of Spectrum, the professional engineering society, IEEE, (Institute of Electrical and Electronics Engineers) sums it up thus: "Every 18-24 months brings a new generation of equipment technology .... " How about maintenance of existing electronic systems? The IEEE states, "It is difficult or impossible to maintain these systems. Parts become obsolete, and manufacturers no longer produce them. Second and third sources are of no use when the entire industry has turned to entirely new parts."

The IEEE was discussing large complex systems such as military computers; however, the problem is not limited to them. Integrated circuits cannot be manufactured except by extremely sophisticated and expensive techniques not available to the small manufacturer, and once made, they cannot be repaired. There are only a few corporations in this business, and costs are so great that sales volume must be large to make the venture profitable. It seems unlikely that the demands for circuits used in theatre organs would keep them in production after they become obsolete. Thus, the particular system used in your organ could become unrepairable in the event of damage, or impossible to add to or modify, at some not too distant time.

No doubt the picture I have painted will seem excessively gloomy, expecially to the electronic enthusiast, or to those in the business of making and selling these devices. I hope they will rush to the defense of these marvels, and prove to everyone's satisfaction that, first, nothing will ever happen to cause one of them to fail; and second, that even should that impossible event occur, repairing or replacing them will be no problem. I hope so, for the sake of the future of the theatre organ. Would it be possible for the ATOS, or some committee, to come up with a standardized design to increase the likelihood of parts remaining available?

In the meantime, perhaps, throwing out all those beautiful, quaint old relays, switches and setter boards might at least be worth a second thought.



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