



Don Myers gives the organ a workout



Pat's Wurlitzer 210 console.

Pat's Pet Project

Story by Ray Yokoyama

Photos by Randy Rock

WARNING:
The following article contains references to "electronics" being added to pipe organs or replacing actual wind-blown pipes. It should not be read by those of weak heart or narrow mind.

Combining his enthusiasm for theatre pipe organs with his expertise in high technology, Patrick Lajko created a new concept in the electronic synthesis of musical notes — an innovative development which may open up pipe organ installations for those previously limited due to space or cost.

"I know the idea of replacing pipes with electronics offends many people. Pipe organ relays have evolved from tracker, to electro pneumatic, to direct electric, and now to solid-state. There are those who reject solid-state relays as not being how Wurlitzer did it. Well, I think if they were still making pipe organs they would have gone solid-state because it saves space, cost, and time to install or repair.

"I also think they would have added electronic tone generation. The whole idea behind unification was to make organs smaller and more versatile. Elec-

tronic tone generation is most beneficial when used in the pedal. Those are the biggest pipes and they take the most wind. Going electronic from 8' and below would allow organs to have many more pedal stops without having to increase the blower or chamber size.

"Most electronic organs are just too sterile sounding, unrealistic or just plain bad. I think my system now provides an alternative which should be heard."

His project, called **DIGITAL PIPES**, utilizes an IBM-PC to process individual notes sampled from a pipe organ. Each note wave shape is analyzed by a software program Lajko wrote and the results are transferred to a microprocessor chip.

The chips are then organized on circuit boards, each board representing a rank of pipes typically found in authentic pipe organ installations. The most obvious benefit between a 16-foot pipe and the circuit board used for Digital Pipes is space.

But there are other benefits for Digital Pipes besides saving space according to Lajko. This concept of capturing notes from real organs and transferring the wave shape on to a computer chip allows Lajko to assemble a library of notes from various organs throughout the country. A person could pick the ranks he likes or copy his favorite sounding organ.

Lajko began his project more than two years ago while living in southern California. He sampled 18 notes of a 16-foot

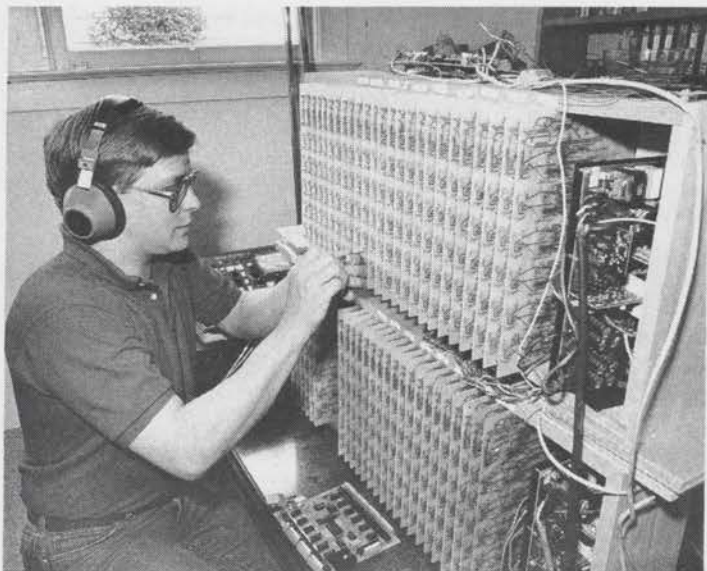
Ophacleide from the Fox Theatre organ which is presently installed at the Lantermann estate in LaCanada.

He tested his theory of digitizing organ notes on a PC and hooked up a prototype on his Thomas organ. It worked.

After moving to Seattle, Lajko installed in his home a two-manual, eight-rank Wurlitzer which he found in the classified section of the local newspaper. Many of the larger pipes could not fit in the extra room he dedicated as a pipe chamber, so it was an ideal time to proceed with a broader utilization of Digital Pipes.

At present, the following ranks are done electronically — Morton Tibia, Kimball Viol de Orchestre, Wurlitzer Vox, Wurlitzer Solo Brass Trumpet, and a Wurlitzer Tuba. He also has completed a small scale xylophone which has been described as "absolutely incredible." Although the entire organ could be done electronically, an 8' Morton Tibia, 4' Dulciana and the 8' octave of a Wurlitzer Flute are hooked up to a real wind. The Morton Tibia is the one which was "Cloned." By August, there should be a Celeste, Diapason and Clarinet and, hopefully, a wood Harp.

"The true test for electronics is to play it side-by-side with real pipes," Lajko says, "That is why I left the real Tibia hooked up. It is difficult to distinguish between the two. The volume, scaling and tremolos all match. Besides, you get a wonderful tibia celeste when playing both together."



All tuning and voicing can be done from one location. Headphones keep the cats from going crazy when the high notes are tuned.



Don Myers offers comments on the sound of the Digital Pipes. Note part of the Morton Tibia and Dulciana in back.

The ability to combine electronics with real pipes is another advantage of Digital Pipes. Adding more ranks and extensions can be done electronically giving more to play in the organ while saving both space and money. It is especially cost effective when adding more exotic and expensive ranks of pipes such as brass sax, wood harp, post horn or mu-sette. "Some things are just too expensive to buy, if you can find them. Then add to that the cost for installation and the space required. That is where people should seriously consider using electronics. Should someone have an electronic kinura, then they get a real one at a good price, they then have the electronics re-programmed for some other rank."

In order to test-drive the product before its debut at the ATOS Convention in Indianapolis, Lajko sent out tape recordings of Christmas songs played on the organ by Seattle organ enthusiast Don Myers. The feedback has been quite favorable.

Timothy Needler, Indianapolis Convention Chairman, said: "Pretty amazing. I did enjoy it and found it difficult to distinguish between the Morton Tibia and your own. I'll be eager to hear it in person at our convention." After playing the organ and comparing the Digital Pipes Tibia to the actual Morton Tibia it was cloned from, Bill Exner said "His Tibia Trem is particularly impressive. Absolutely realistic to my ear. If I hadn't heard it, I wouldn't believe it."

Preparations are being made to transport the console and electronics to Indianapolis for the convention. This entire project has been a labor of love, and Patrick has paid for everything himself. Patrick would appreciate any suggestions as to how to reduce the expense of transporting the organ from Seattle to Indianapolis and back again.

"My goal is to have an electronic sound so real that when played with the authentic organ, there is no difference," Lajko stated. "Pipe organ notes are imperfect and I went out of my way to reproduce the imperfections of real pipes. That is why I can play my electronics with pipes and it all blends together so well."

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