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Greetings #####

The Glasiers just returned. Haven't heard yet the details of the teachers' conference but suppose I will soon.

Meanwhile Doren Garcia left for Los Angeles and is gradually moving up there with his equipment, following in Brink's footsteps of course, heavy-industry district about four miles south of where Brink is.

This move will take quite a while.

Possibility that this Fall, Chalmers will be in San Diego for a position of some kind.

Read more in the Atari manuals and now I find that if the printer is SERIAL and the Epson printer says SERIAL on its nameplate in back, the cable CAN be plugged into the MODEM output, which means I don't have to get an adapter after all. This was not obvious from anything I read before nor from anything visitors said or found out. Finall, save money and more importantly, save hassle getting to ride all over town in search of something.

It will take a while to learn all the steps of using "1st Word" the wordprocessor program for which there is a manual here.

During August I should be able to find other San Diego Atari users.

A store 1/2 mile from here claims they have the printer ribbons, disks, and some other stuff. If not, then several places about 2 miles away in different directions.

Sore left shoulder still. Hard to lift and carry all the boxes and things around here.

Able to show the Theremin to some people, now that it is repaired. Latest issue of a E M I from Bart Hopkin has more stuff about instruments similar to the theremin in that they can be played without touching. So two people wrote in about the theremin article--why weren't these other things mentioned? Because they were unknown and not yet invented when the Theremin was at his height say 1928 or 1930.

One hybrid was the Air Drum which I got a chance to try a few years ago--inertia-operated switches inside its "drumsticks" that played back synthesizer timbres etc.

That, however, was not pure Untouchable since there was a cable running back to some control box.

Quite a number of photoelectric controls for instruments with no wire connections. But again--this was irrelevant to the Thereminvox story.

I do not believe the following was ever marketed, but it came very near it, and there was enough advance publicity in the press about it. The Hammond Co. patented an instrument that had a microphone so the performer did not touch it; he/she sang into the mike and whatever pitch was sung, the instrument compared it with the stored 12-tone scale and quantized it to 12-equal. An electronic instrument that must have been the Solovox or extremely close to it, generated the nearest standard 12-tone-tempered pitch and superimposed a standard machinelike vibrato thereon. It could of course play in lower or higher octave pitches than were sung, or play in octaves.

This instrument therefore, if it was ever made, did not have to be touched nor did the performer have to wear the mike.

It should have included a Breathalyzer to avoid having to serve drunken performers.

I wonder what happens at the new Karaoke places. Must be awful for some of the other customers to have to listen to certain singers.

---one puzzle I did not bring up when I wrote my recent Novachord affair:

Novachord affair: the vibrato mechanisms: On the Solovox and on the Novachord, therefore for most of the career of the Hammond Co., but not its competitors, vibrato was done with a MECHANICAL affair.

The vibrato used with most models of the Hammond Organ was NOT a case of frequency-modulating the output of the generatorz. This sort of was not made much of in the literature.

The first Hammond Organs sold had an amplitude modulation only, which shoulded very crude. Cheap cheap! Towdry.

Then they introduced a mechanical scanner. They had an audio frequency version of the Delay line--series of inductors and capacitors hooked up for phase-shifting what went through them. Each section of this delay line was connected to a sort of commutator like those on DC motors. Like the commutators on DC machinery, it was arranged in a circle, and the scanner brushes or maybe they ended using capacity scanning--scanned the delay line round and round and round at a vibrato rate, producing phase modulation. Not continuous phase-shift but discrete--we would now say, in digital steps. So it DID NOT SOUND QUITE THE REAL McCoy--something wrong about it. Phase shift, not frequency variation CONTINUOUSLY up and down in frequency. Of course PM and FM are similar, but not quite the same in this case.

To improve it more, they had a second set of gearwheel generators in many Hammond organs running slightly faster and/or slower than standard speed. This produced slow beats.

That was much more legitimate than the imitation-vibrato.

The Solovox had a vibrato mechanism something like an electric bell movement run on DC, which went at a 7 Hz rate or so, and either switched in a capacitor to lower the frequency, or plunged a ferrite rod into and out of a coil in the oscillator circuit--this latter would be more a true FM vibrato.

The Novator Novachord had six of these mechanisms, varying the frequencies each unit varying two of the oscillators at a time; i.e. one vibrato mechanism connected to two plungers or whatever, operating on coils in the C and C# oscillators say, then the next one on the D and D# oscillators; thus for six units doing their doorbell things at slightly different rates above and below 7 Hz and thus most chords played on a Novachord would have three or more different vibrati going on at once.

But WHY mechanical vibrators when every ordinary electronic organ after the Hammond had some kind of 7Hz vacuum tube oscillator such as the phase-shift oscillator?

The vibrato mechanisms in the Novachord had to be started. The motor (synchronous) driving the Hammond organ gearwheels also had to be started. Non-self-starting synchronous motor.

I never quite understood this.

Like the Model T Ford of 70 years ago that had to be hand-cranked. The good old days and all that nonsense.

Yours,