

Testimony on HB2698

Greg Kromholtz

Manzanita, OR

Honorable Representatives,

As a retired Electrical Engineer, I wanted to express my strong support for HB 2698.

I have long known the importance of having access to critical materials like repair schematics to maintaining equipment. My specialty as a practicing engineer and engineering manager was design of Integrated Circuits (“Computer Chips”), or “ICs” for short. During the last 15 years of my career I worked for The Boeing Company in Seattle in a group that focused solely on Application-Specific Integrated Circuits.

One of my focus areas was using our design capabilities and fabrication access to develop drop-in replacements for old integrated circuits used on various military programs and which had become obsolete. We developed replacement parts for the F-22, F-18, C-17 and F-15 programs using newer IC processes than were originally used and tailoring the design of the parts so they behaved identically to the original parts, even though they were being implemented in newer and much faster processes.

Because we had access to repair documentation, we could create usable parts and keep this equipment running.

All of the above airplanes were designed over 30 years ago and their electronics used commercially-available integrated circuits that were readily available at the time of their respective design phases, but which had since been rendered obsolete by their original manufacturers, as the rapid pace of integrated circuit technology demanded that those companies focus on bleeding-edge semiconductor technology or face going out of business. In some cases, the integrated circuits used in those airplanes’ electronic systems became obsolete even before the airplanes entered production, which takes typically 10 – 15 years after initial design is done.

Many of those programs chose to go down the path of retrofitting electronics systems with entire new electronic boxes, rather than try to solve the parts problem. This is a more expensive approach than replacing integrated circuits when they fail. That is where our group’s capabilities came into play. We were able to help the Air Force and Sarnoff complete their collection of permanently available ICs used on F-15s and the Air Force is still using this approach to this day. Newer derivatives of the F-15 have since been developed and, of course, they used newer electronics, but the older f-15s are still in service protecting our collective security and safety, and are being maintained using this approach we helped develop. Many of those planes are 30 or more years old. This demonstrates that, where there is a will, there is a way in making older systems repairable.

In my personal life, I am a handyman and I repair all sorts of things, electrical, mechanical and otherwise. Although I was capable of making increasingly complex repairs as an engineer, manufacturers undermine my ability to do the most simple repairs because I’m not a “qualified” repair technician.

It has become increasingly frustrating over the years for me to repair things I have bought, from washing machines to computers to home security systems. These devices are being designed with no thought to repair-ability, which means that devices which may need some simple part replaced end up going into landfill either because the part is not available, or, in many cases the device has been assembled in a fashion that does not allow it to be disassembled without catastrophically damaging the unit.

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HB2698 will make a big difference in this dynamic. This bill and these efforts are as much about saving the planet as they are about saving money for consumers, which they also address. I urge your support for this bill.

Sincerely,

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