

## The Right to Repair

The world of electronics repair may be changing. The expectation used to be that a company making an electronic product would provide at least the basic service literature (description of function, block diagram, schematics) to those who owned the product and the repair personnel they might employ. When the companies no longer wanted to support the products they would allow that info to be shared among the users and repair techs. Ultimately as the company passed from the marketplace the information would go into the public domain.

With the development of the internet some companies (or at least owners of the *names* of those companies) decided there was money to be made by reselling that old information as "content" on the web. An example would be the Heathkit Company. After decades of disuse the company name was purchased by DataPro in California and cease-and-desist letters went out to prohibit user sharing of the service literature online.<sup>1</sup>

This situation might be a frustrating change from our past experience as engineers and technicians, but there is something even worse brewing. In recent years companies have increasingly been unwilling to even sell the basic service literature, even just schematics, because they claim the designs of their products are "proprietary". You can forget about these outfits providing it free to owners – you can't even buy it!

Among the companies taking this approach, the most well-known offender is Apple – they have gone so far as to try to make it illegal to repair their products if you are not an Apple Authorized Service Center. And they won't provide service info to anyone else. Engineers and technicians have pointed out that with a close look at the hardware one can see it is actually quite ordinary – the circuits are usually straight from the examples on the datasheets of the components.<sup>2</sup> In my view, the "proprietary" stuff might be the software inside the chips - which wouldn't be documented in the service literature anyway – not the hardware. Yet these companies hold that all the information is secret.

I've read lately that some automobile manufacturers are trying the legal approach as well. If they get their way we won't be able to get service info, and no one except dealers would be

allowed to repair the vehicles commercially. Some companies go so far as to claim the purchaser does not even own the product – we are only “licensed” to use it.<sup>3</sup>

These attitudes have spawned a growing movement among professional service technicians and home repair hobbyists called the "Right to Repair".<sup>4, 5, 6</sup> This philosophy holds that we should be able to repair our own equipment (or choose who to hire to do a repair), and that the same service documentation available to “authorized” repair facilities should be reasonably obtainable by end users or independent service shops.

An issue of this sort that I encounter as a broadcast engineer is the idea that there are "no user-serviceable parts inside". A well-known provider of uninterruptible power systems and power management devices was the most recent company to pull this one on me. We had one model of their products deployed at many of our studio and transmitter sites and after a year or two of service they all started to fail one after another. I analyzed the problem and saw that the same failure mode was common to them all - a Zener diode appeared to be slightly underrated and would eventually short.

I tried to work with the manufacturer to get the service info - even just to get the specs of the failing Zener diode – but they denied there was a problem and would provide no technical details of their product. Their excuse was "no user-serviceable parts inside". I traced out the circuit and made the repair – but it took longer than if I'd had the documentation. The failure to acknowledge a known problem, and the "no user-serviceable parts inside" statement, has soured me on this company's products and I will be far less likely to do business with them in the future.

Another personal example: A couple years ago I was going to purchase a number of new modulation monitors for my company's transmitter sites. I ordered one to try it out but there was no service info at all included - just a one-sheet "user guide". I asked for the service manual and was told that it was "proprietary" information and not available. I told them that if they didn't provide that info with their products I would not be buying it. The company chose to forego my order rather than release the information. I gladly placed my order with a competitor who provided a good manual with the basic service information I require.

Discussing this point with several broadcast equipment manufacturers I found attitudes mixed. Most companies make service documentation available to purchasers and encourage engineers to repair the equipment. But a few took a negative view, saying things like “Radio stations don’t repair stuff anymore” and “If I put that information out there my competitors will steal it.”

Access to basic service information is important to our industry. As broadcast engineers we should be able to decide if a failed device should be repaired or replaced, and to what level we will pursue a repair. The ability to service professional equipment to the component level is very important to me, even if we do not pursue it in every instance. I feel I have the right to repair anything I own, and for professional products I expect the manufacturer to provide the basic info that makes this practical.

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1. <http://www.d8apro.com/>
2. <https://www.youtube.com/user/rossmannngroup>
3. <http://www.wired.com/2015/04/dmca-ownership-john-deere/>
4. <http://ifixit.org/right>
5. <http://www.righttorepair.org/main/default.aspx>
6. <https://www.eff.org/issues/right-to-repair>