

# computers are bad

<https://computer.rip> - [me@computer.rip](mailto:me@computer.rip) - fax: +1 (505) 926-5492

---

## 2024-05-15 catalina connections

Some things have been made nearly impossible to search for. Say, for example, the long-running partnership between Epson and Catalina: a query that will return pages upon pages of people trying to use Epson printers with an old version of MacOS.

When you think of a point of sale printer, you probably think of something like the venerable Epson TM-T88. A direct thermal printer that heats small sections of specially coated paper, causing it to turn black. Thermal paper of this type is made in various widths, but the 80mm or 3 1/8" used by the TM-T88 is the most common. The thermally-reactive coating on the paper incorporates some, umm, questionable chemicals, but moreover, the durability of direct thermal prints is poor. The image tends to fade over not that long of a timespan. Besides, the need for special paper is an irritation.

So, there are other technologies available. Thermal transfer, in which a ribbon of ink (I suspect actually a thermoplastic) is pressed against the paper and heated to cause the ink to stick, is often used for more durability-sensitive applications like warehouse labeling. The greater flexibility of paper (or plastic) stock sees thermal transfer used in specialty applications as well, like conference attendee badges. Thermal transfer printers tend to be more expensive and more complex than direct thermal, though, and are rarely used at the POS.

Impact printers are actually fairly common in a POS-adjacent application. These printers punch metal pins against an inked ribbon, pushing it against the paper to leave a mark. Impact printers were actually the norm for receipt printing prior to the development of inexpensive thermal printers. They remain popular in restaurant kitchens: the plain paper they use is less readily damaged by oils, and won't turn entirely black if exposed to too much heat, as might happen when a ticket is clipped above a grill. Impact receipt printers today are often referred to as kitchen ticket printers as a result.

Impact receipt printers, and many impact printers in general, have a neat trick: you can manufacture an ink ribbon in two colors, say, black on one half and red on the other. By either using two sets of impact pins or shifting the position of the impact head, either black or red can be printed. Dual-color printers with black and red ribbons became ubiquitous for kitchen tickets, although the red doesn't tend to reproduce well from an old, dry ribbon.

The ability of impact printers to use plain paper had another advantage: slip printing. A slip printer is a device intended to print characters on a small piece of paper inserted into it. Historically they were often used by bank tellers to print account and reference numbers onto deposit slips, for later auditing. In other applications they functioned as more sophisticated "received" stamps, adding not just the time and date but customer account or transaction numbers to received paperwork. The legal profession has a tradition of "Bates numbering," which traces its history to a rather different printing device, but Bates numbers could be applied by slip printers as well. In this case, of course, we would need to refer to them as Generic Sequential Page Numbers, Compare to Bates (TM).

A variant of the slip printer, really a receipt printer (often thermal) and slip printer

(often impact) married into one box, is known as a check validator. Very common in grocery stores until recently, these printers both produced receipts and printed an audit number and endorsement on the back of the check a customer might offer in payment. It's difficult to imagine paying for groceries with a check, but it used to be a common practice. For many years, the practicalities of accepting checks were a major driver of POS technology. When a cashier rung you up, there were two options: they pushed the cash button, and the POS "bumped" the cash drawer open, or they pushed the check button, and the POS sent an endorsement to the check validator. The close coupling of these two features means that cash drawer bumping is traditionally the task of the receipt printer, and cash bump outputs are common to this day.

But where, exactly, is this tour of POS printing technology taking us? Well, you might notice the absence of the humble inkjet. It might seem surprising: inkjet mechanisms can actually be quite compact, and they tend to be a natural evolution of impact printing. Well, there are indeed inkjet printers in the receipt printer class, but there are some practical considerations. Moving a smaller print head across the paper in bands requires a more complex mechanism, and it's slow compared to printing in one pass. Inkjet heads large enough to span the whole width of the receipt tape are fairly expensive.

And after all that, inkjet seems high maintenance compared to the almost bulletproof reliability of direct thermal printers. Consider the state of the average gas pump "CRIND" (Card Reader In Dispenser) receipt, and then consider that the small thermal mechanism is still managing to produce that output after many years in the harsh conditions of the outdoors. Inkjets tend to quickly malfunction without some sort of automated mechanical cleaning, and that's under office conditions.

So, to put it succinctly, inkjet receipt printers just aren't popular.

You could make similar comments about office printers, where inkjet suffers in many ways when compared to laser or LED printers. But they have been a tremendous success at the lower end of the market. There are a few reasons for this outcome, but one of the bigger ones is color: for a laser or LED printer to produce color used to be rather complicated. In the '00s, many inexpensive color laser printers were "four-pass" printers: the page had to be looped through the print engine four times, one for each color! It saved a lot of parts but made printing more than four times slower. Inkjets were far from this problem. It's a fairly simple matter to make an inkjet print head that serves multiple colors in one assembly!

The same ideas are applicable to receipt printers. If you, for some reason, want a full-color receipt, inkjet is the way to go. But no one wanted a full-color receipt. Even dual-color impact printers disappeared into the kitchen.

And then a company called Catalina came along. Catalina keeps a somewhat low profile among consumers, certainly lower than the MacOS release. Search results suggest lower even than the island off of Los Angeles, for which the company, and the MacOS release, are named. There's no Wikipedia article about Catalina, and their own About Us brief and made up mostly of nonsense like this:

Transforming data into insights, and insights into action through a seamless consumer experience that drives results.

Catalina is one of those companies that you never think about, but that is constantly thinking about you. Today we would call it ad-tech.

Catalina is tough to research. Obviously they did not intentionally choose a name that would become a MacOS release; they were using the Catalina name many years earlier. But it does seem

like they have participated in a bit of obfuscation. Today, they continue to advertise a charming phone number: 1-800-8-COUPON. This "translates," of course, to 1-800-826-8766. During the 1990s they ran numerous classified ads using this phone number, but the numeric version instead of the easier to remember "vanity" representation. The ads were for advertising associate positions, but curiously did not mention the name of the company at all.

Actually, some of these ads give a slightly different phone number, 1-800-826-8768. It is quite conceivable that both phone numbers were issued to the company, given the different toll-free number industry of the '90s. But the fact that OCR frequently confuses these two numbers leads one to suspect that some of the 8768 ads may have been a copy mistake.

Even better, a few of the ads for the 8768 number, and one ad with the 8766 number, do give the name of a company, but an unfamiliar one: Aquarius Enterprises.

Aquarius Enterprises was a "register tape advertising" or "receipt back advertising" venture. In other words, they sold advertising on the backs of receipts. Curiously, while Catalina mentions their 40-year history, Aquarius Enterprises calls themselves "the most successful register tape advertising" for "over 25 years"... in 1993. Are they the same company? Well, they used the same phone number. Catalina is headquartered in St. Petersburg, Florida today, but seems to have moved, as early articles describe then as Anaheim-based... rather closer to the El Segundo address often used by Aquarius Enterprises.

Perhaps it is a coincidence of similar phone numbers and similar industries, but I strongly suspect that Catalina was a spin-out of Aquarius Enterprises. I tried finding shared employees, but there is remarkably little information about Aquarius Enterprises outside of their classified ads for sales associates. But then, once again, it's not an easy name to search for.

Whatever its origins, Catalina launched in 1985 with "Coupon \$olutions." Besides the cringeworthy name, this venture was remarkably similar to what consumers will know them for today: Coupon \$olutions consisted of software that recorded a consumer's purchases at the POS, and then printed on-demand targeted coupons.

Early articles about Catalina describe the system as relatively simple. Coupons would be printed for "complimentary items." For example, the purchase of baby food would result in an coupon for diapers. The coupons themselves were also simple: printed in monochrome on tape with a distinctive printed edge.

Coupon \$olutions debuted at two Boys markets in Los Angeles. It grew fast. By 1990, Catalina's coupon printers were installed in 3,300 grocery stores nationwide. Newspaper coverage started to mention privacy concerns in the 1990s, waving them away with Catalina's assurances that there was no privacy concern because they tracked only purchases and not the shopper's identity. Of course, in the late '80s Catalina had trialed a shopper loyalty card program that would rather change that situation, but it seems to have been unsuccessful.

As time passed, Catalina expanded further into retail technology. They opened their own clearinghouse service for coupons, and marketed their on-demand coupon system to stores as an analytics product, since it provided real-time reporting on purchases (in this era even large retailers would often not have granular, fast reporting from their POS system).

The 1990s treated Catalina well, but they seem to have flown a little too close to technology, and the dot com bust hit them as well. In the early '00s, they weathered layoffs, an accounting probe, and a stock dive. Still, 2005 brought a big step forward: color.

Yes, we're finally back to the point. Catalina Marketing partnered with Epson to introduce a special variant of the TM-C610 color receipt printer, called the TM-C600. Called the CMC-6 by Catalina, the printer uses a full-width inkjet head to produce 360 DPI full color on 57.5mm

paper.

Lately, though, you may have noticed these printers yielding unsatisfactory results. When I've gotten Checkout Coupons at all, they've been barely legible or, increasingly, completely blank. Curious.

Catalina went bankrupt in 2018, and underwent a reorganization. The company emerged, but apparently not by that much, as it went bankrupt once again in 2023. Catalina offers a fully managed service, meaning that they ship stores new ink cartridges when remote monitoring of the printers indicates that it will be needed. I have a suspicion that Catalina's second bankruptcy has introduced some disruptions. And yet, in an article they claim:

Catalina is assuring clients and shoppers that its still business as usual, and ongoing promotions wont be affected. There will be no interruption in Catalinas ability to serve its customers or any impact on how it works with them, Catalina says.

I'm not sure that this is working out, even a year into the bankruptcy process. Safeway/Albertsons has apparently decided to remove the Catalina printers entirely. Smith's (Kroger) doesn't seem to maintain them at all. Walgreens is apparently more committed to the cause, as they are with the cooler screens, but even there checkout coupons have become inconsistent.

Besides, I don't think even Catalina views the printers as very important any more. They're relegated to a small corner of Catalina's website, with the vast majority of their marketing material dedicated to analytics, targeting, and digital marketing. Catalina seems to be a major player in the in-app digital coupons now emphasized by a lot of grocers, although I've personally found the system to be laughably unusable. But it's not surprising that you get a laughably unusable app from an industry that churns out this kind of copy:

84.51ř currently delivers personalized promotional offers to Krogers digitally engaged shoppers via its website, mobile app, and more broadly via its Loyal Customer Mailer. Catalina Reach Extender is a complementary solution to the way current offers are delivered and will expand the impact of promotional offers by aligning those offers to the way customers shop in-store, online or both.

As far as I can tell, this press release is just describing making digital coupons (managed by a company that is, improbably, called 84.51ř) also print out on the Catalina printers. The ones that barely work any more. Well, that was January of '23, they didn't know about the second bankruptcy yet.

Catalina may date to 1985, but it's sort of a case study in the advertising industry. It's a huge, publicly traded company, with a market cap that's reached at least \$1.7 billion, and two bankruptcies. They write such obtuse copy that it's hard to understand what exactly they do these days, which is probably mainly a way to distract from the fact that their main business is now collecting and selling consumer data. And I would say that no one likes them... subreddits of retail employees are full of comments expressing relief when the Catalina printers would break, since unplugging them would result in multiple phone calls a day from Catalina investigating the "problem."

BUT: there are couponers.

That's right, there's a whole internet subculture that is obsessed with these checkout coupons. They catalog the coupons on offer, and document the process for requesting a

replacement coupon from Catalina when the one you expected failed to print. So very strange to me, a reminder of the many people out there and their many strange hobbies.

Why would you ever waste your time on these coupons? I have real things to do, like collecting thermal printers.