ble for scanners right out of the box. But by merely clipping a diode or other such tricks, many of its pre-1994 scanners could readily tune in cellular phones. Then in 1997 RadioShack controversially banned sales of service manuals for its scanners, which included schematics hobbyists studied to "hack" scanners for receiving cellular calls. RadioShack claimed the FCC requested this, while the FCC denied ever making such a request.

A decade later, in a post-9/11 political climate, on August 15, 2002, Congress passed the "Cyber Electronic Security Act" which increased the offense for anyone who monitors a cellular telephone call from a misdemeanor to a federal felony. This effectively removed the safe harbor created during negotiations over the ECPA in 1985–1986 that ensured any monitoring hobbyist's first offense of listening would be a misdemeanor with a sentence not exceeding one year in prison. The new penalty became up to five years in federal prison. Yet cellular carriers continued carrying millions of unencrypted analog cell phone calls that were easily overheard with millions of scanners and old TV sets.

Cellular Privacy In The Media

Despite smokescreen laws held up by the cellular industry as "proof" of their customers' communications privacy, the mid-1990s saw a fair amount of media attention to the subject of cellular telephone users' privacy—or the lack thereof. AMPS' utter lack of communications security became widely known and was parodied in such films as *Pulp Fiction* (1994) where heroin dealer Lance (Eric Stoltz) tells Vincent (John Travolta), "Are you calling me on the *cellular* phone? I don't know you. Who is this? Don't come here, I'm hanging up the phone! Prank caller, prank caller!"

Then in 1995 veteran TV news journalist David Brinkley chastised Bob Grove—yes, that Bob Grove—on *This Week With David Brinkley* for offering a service to modify and unblock scanners to receive cellular frequencies, even though it was legal to do so and Bob had already stopped offering the service. Everyone knew cellular telephone privacy was a joke, but the mainstream news media didn't seem to get it. Perhaps they were blinded by cellular industry lobbying into believing that analog FM transmissions in the 800 MHz band were somehow inherently private, and blamed and demonized hobbyists who already owned equipment for receiving 800 MHz signals for "creating" a lack of privacy.

In 1997 Florida Democratic party activists John and Alice Martin claimed to have "accidentally" intercepted a cellular conference call between Speaker of the House Newt Gingrich, House Republican Majority Leader Dick Armey, and Republican Conference Chairman John Boehner. The call included a discussion of Gringrich's ethically questionable activities, including plans to renege on an agreement he made with the House Ethics Committee.

The Martins said they stumbled across the communications with their new, unmodified RadioShack scanner—a physical impossibility since RadioShack had long since stopped selling cellular-capable scanners—and then recorded it. They gave that recording to the highest-ranking Democrat on the House Ethics Committee, Jim McDermott, who played it for reporters from *The New York Times* and the *Atlanta Journal-Constitution*. This made the front page in nearly every newspaper in the country. Eventually the Martins plea-bargained and each paid a $500 fine for unlawfully intercepting a cellular radiotelephone call. Ironically, the RNC had years earlier banned the use of cellular phones at their national conventions for communications security reasons, but apparently someone on that conference call in Florida was using an analog cell phone.

Curiously, the Martins' audio recording had no cellular handoff data bursts, pilot tones, or other AMPS audio artifacts, which would be consistent with their claimed method of interception (setting aside the fact that a unmodified RadioShack scanner couldn't receive cel-

The OKI 900—The Holy Grail Of Cell Phones For Communications Hobbyists

In the early 1990s OKI released its model 900 handheld cellular phone (**Photo E**). Also sold as the AT&T 3730, the OKI 900—by accident or design—soon became the most popular cellular handset for phone phreaks, hackers, and communications hobbyists. OKI's engineers factory-installed extraordinary diagnostic test firmware into this phone, which among other things let enlightened users scan and monitor communications on all 832 cellular channels right out of the box (*if* you entered the correct secret code quickly enough; it displayed "good timing!" if you did). Then the monitoring fun began.

While illegal to listen, few people who had this phone and knew the trick could resist listening to any cellular call in their area. Phone phreaks and hackers designed PC interfaces and circulated free DOS programs that allowed specific phone numbers to be targeted, tracked, and recorded, and even logged dialed DTMF digits (i.e., voicemail, etc.). Illicit firmware modifications further allowed manual or randomized entry of up to five ESN/MIN pairs to change your phone's identity to anything of your choosing—or generate random ones.

Government wiretappers were not amused, because this encroached on their turf and empowered average people to change their cell phone numbers with a few keystrokes. One FBI agent publicly complained these so-called "magic phones" were "unattributable, unbillable, untraceable and untappable." Not really—the FBI has always had ways to get around such things.

Ironically, after the FCC banned importation and sales of cellular-capable scanners, people could still legally purchase the OKI 900—arguably the most capable cellular scanner ever.

Photo E. The infamous OKI 900 cell phone, phone could scan and monitor all 832 cellular channels right out of the box if you entered the correct secret code quickly enough. Firmware modifications allowed randomized or manual entry of up to five ESN/MIN pairs. Government wiretappers were not amused.