Don’t memorize the following string of characters; if you do, the FBI may come knocking on your door to demand you undergo a lobotomy:

09 F9 11 9D E3 D8 56 63 88 C0 02 74 5B 41 C5 56

For those not conversant with hexadecimal notation, that’s a compact way of representing a particular sequence of 128 zeros and ones.

What’s so special about those 128 bits? They’re the “key” that unlocks the encryption preventing high-definition video disks from being copied and redistributed. In mid-February 2007, a hacker figured out the key and posted it to Doom9, a bulletin board that calls itself “the in-place to be for everyone interested in DVD conversion.” Inevitably, the secret spread around the Internet, trailed by the equally inevitable take-down demands from AACS LA, the agency that licenses the now hopelessly compromised disk-protection technology.

The game of Internet whack-a-mole continued without much fanfare until the beginning of May, when it reached the large and vocal Digg community. When Digg CEO Jay Adelson announced that he was removing Digg news items containing or linking to the offending key, his users gave the world a lesson in twenty-first-century cyber civil disobedience: they embedded the key in all of their subsequent Digg postings. Hundreds of postings. Thousands of comments. All containing the “09 F9” string. A few hours later, Adelson reversed his decision. No longer would Digg be a “09 F9”–free zone.

But it was too late; the bits had hit the fan. The revolution spread like Internet wildfire. The key is now enshrined in the names of Web sites and YouTube videos. It is captured in song lyrics and yoga mantras. Want a T-shirt emblazoned with the decryption key? A coffee mug? A thong? They’re all only a couple of clicks away. As of this writing, Google reports well over 1.5 million instances of “09 F9,” and the number is rising. We have here a prime example of the Internet law of unintended consequences: official demands for concealment caused a secret once shared by only a few cognoscenti to become more widely viewed than Paris Hilton’s privates.

There’s an old saying: “Never pick a fight with someone who buys ink by the barrel and paper by the carload.” This was meant as a warning not to underestimate the power of the press. What’s the appropriate caution for the Internet age, when anyone with fingers long enough to straddle a keyboard has a cyber-reach equal to that of the New York Times? “Remember 09 F9” may become the new meme.

This brings me to the subject of Digital Rights Management, or DRM, of which the “09 F9” key is but one example. When the Internet was new and the Web even newer, someone famously called the Internet “the world’s largest photocopier.” That statement was both profoundly true and profoundly false. In an important sense, the only thing the Internet does is copy digital content from one place to another, and so the photocopier comparison is apt. But a photocopier operates on pieces of paper—physical artifacts made of atoms and molecules—whereas the Internet operates on bits. And bits are fundamentally different from atoms. Physical objects can be seen, touched, manipulated, marked, distinguished from each other, ripped to shreds, burned. And most important, physical objects can be moved. But bits have none of these properties, and they cannot be moved. They can be copied infinitely, often with no degradation, but in the world of bits, there is no “move.” There is
only “copy and erase.” And therein lies the
dfundamental dilemma for copyright in
the digital age: bits are not atoms.

DRM technology represents an at-
tempt to treat bits like atoms. “Water-
marks” allow two otherwise identical col-
lections of bits to be viewed as different
objects. Biometric-based encryption can
restrict access to only the current “holder”
of the bits. Elaborate check-in/check-out
schemes constrain a particular set of
bits to “exist” in only one place at a time.
Rather than rethinking their approach
to copyright and developing new busi-
ness models appropriate to the digital
world, proponents of DRM technology
are devoting their ingenuity and energy
to trying to make bits behave like atoms in
order to preserve the old ways.

To the general public, the impact of
DRM goes beyond these metaphysical
musings. DRM is what prevents people
from using their PC to listen to music
downloaded to their iPod and vice-
versa. DRM is what prevents them from
skipping over the advertisements and
previews at the start of the DVD they’ve
rented. DRM is what prevents them from
viewing the video they purchased in
Europe last summer on their player back
home in America. For tens of thousands
of people, DRM is synonymous with
“rootkit,” the flawed software that was
included on 20 million Sony BMG CDs in
order to prevent copying but that instead
corrupted the computers on which the
disks were loaded.

The very idea of DRM is under attack
from many quarters, including activist
organizations such as the Electronic
Frontier Foundation and trade groups
such as the Consumer Electronics As-
sociation. Earlier this year, Apple’s Steve
Jobs issued a widely circulated letter
urging music publishers to abandon
DRM, and in April, EMI—one of the four
surviving major record labels—agreed.
Even Walt Disney Chairman Bob Iger has
said, “The best way to combat piracy is to
bring content to market on a well-timed,
well-priced basis.”

Appearing at a copyright conference
at McGill University in March 2007,
Bruce Lehman recognized the enormous
changes brought about by digital tech-
nology when he observed: “I think we’re
entering a post-copyright era.” Extreme?
Perhaps. But Lehman was assistant secre-
tary of commerce in the Clinton adminis-
tration and the person generally credited
with authorship of the Digital Millenni-
un Copyright Act (DMCA). When he
says copyright is a thing of the past, ears
prick up.

If Bruce Lehman, Steve Jobs, Bob Iger,
and many, many others are right, someday
we’ll tell the tale of the “09 F9” insurrec-
tion with the same sage eye-twinkle that
will accompany the story of how we once
distributed music on pieces of plastic that
were themselves packaged in additional
layers of plastic, all wrapped up in still
more plastic that was impossible to open.
Those were the days!

Oh, one more thing: remember that
string of characters at the start of this
article? And the FBI? And the lobotomy?
Don’t worry. I lied. That’s not the real key.

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