



AAI Asks FTC to Investigate RAND Issues Concerning Digital TV Standard

RICHARD STERN
rstern@khhte.com

.....The American Antitrust Institute (AAI), a Washington DC-based advocacy group, has asked the Federal Trade Commission (FTC) to begin an investigation of Rembrandt Inc., an owner of patents relating to the digital television broadcasting standard that the Federal Communications Commission (FCC) has mandated for use by TV broadcasters. The FCC has ordered the end of analog TV broadcasting by early 2009 and its complete replacement by digital TV. This will mean that all TV broadcasters and TV receivers will have to change over to digital systems within a year.¹

AAI's request to FTC

Because technology covered by one or more of Rembrandt's patents is apparently essential to compliance with the digital standard, broadcasters and equipment manufacturers may need to acquire patent licenses to use Rembrandt's technology. AAI asks the FTC to prohibit Rembrandt from enforcing its patents against TV networks—such as ABC, NBC, CBS, and Fox—that Rembrandt has sued for patent infringement.² The FTC action is needed, according to AAI, to prevent Rembrandt from “placing a massive tax on the transition to digital TV” by means of these infringement suits. AAI argues that Rembrandt violates the antitrust laws and commits unfair competitive acts that the FTC should prohibit.

Do assurance letters bind successors?

AAI considers two aspects of Rembrandt's licensing to be unfair. The first aspect is a replay of the N-Data controversy that a recent Micro Law column described (“FTC Sues N-Data for Violating Standards Commitment to IEEE,” *IEEE Micro*, vol. 28, no. 2, Mar.-Apr. 2008, pp. 66-69). Originally, the patents in question belonged to AT&T and Bell Labs. At the time that the digital standard was developed, AT&T participated in the standard-setting process and entered into a letter of assurance with the standard-setting organization—the Advanced Television Systems Committee (ATSC)—that AT&T would license users of the standard on reasonable and nondiscriminatory (“RAND”) terms under any of its patents essential to complying with the standard adopted. Later, AT&T spun off part of its operations and the patents to Lucent Technologies, which spun them off to Paradyne Corp., which later transferred the patents to Rembrandt. The first aspect of the controversy is whether the AT&T letter of assurance binds subsequent assignees of the patent, such as Rembrandt. This issue is in the main a reprise of what the N-Data Micro Law column discusses, and the present discussion will therefore not retrace that ground.³ This issue seems academic in any case, because Rembrandt has offered to

license the patent on what it contends are RAND terms.

What is RAND?

The second and much more interesting issue is what constitutes RAND licensing in the unusual circumstances of this case. The original assurance letter simply referred to RAND licensing without any more specific description, such as a given lump-sum royalty or a sales-percentage running royalty. In February 2007, Rembrandt wrote to the major networks, offering them a patent license at a royalty of one-half percent (0.5%) of all revenues derived from using the patented technology (presumably, this means 0.5% of advertising revenue).

Rembrandt is apparently willing to license equipment manufacturers, too, but it is unclear (at least from AAI's papers) what the royalty system would be. It is clear only that Rembrandt is unwilling to license transmitter manufacturers on a basis that would leave those manufacturers' broadcaster customers free to operate without paying a royalty of 0.5% of revenue. Therefore, that might mean that Rembrandt is willing to license transmitter manufacturers at 0.5% of the projected broadcast revenue (income stream) from the use of the sold transmitter. But that seems highly impracticable and unrealistic.⁴ More likely, it means that Rem-

continued on p. 70

continued from p. 72

brandt is willing to license equipment manufacturers at 0.5% of the sales price of the equipment, but the license is a "field of use" license limiting the licensee to practicing the technology in a defined field of use, such as manufacture and sale of transmitters but not their commercial use for broadcasting. That is a more reasonable assumption as to what is going on, for as will presently appear, that is essentially how Major Edwin Armstrong, the inventor of frequency modulation (FM), licensed his technology.⁵

AAI's arguments

In any case, AAI objects to Rembrandt's licensing scheme as monopolistic and not RAND. According to AAI's estimates, 0.5% of broadcast revenue amounts to ten times the price of a digital TV transmitter for a TV broadcast station. (There seems to be a disconnect here, because presumably the 0.5% royalty is a running royalty during the life of the patent, while the sales price of a transmitter is a one-time payment. The two are incommensurable. To make them commensurable, you would need to do something like take the present value of a broadcaster-revenue royalty stream so that you could compare lump sums with one another.) AAI also says that the 0.5% royalty is unreasonable because it is "inconsistent with industry practice." To be RAND, AAI suggests, Rembrandt ought to license equipment manufacturers for 0.5% of equipment sales prices, and then just forget about trying to collect anything from downstream users such as TV broadcasters.

AAI also asserts this:

End-users are also being threatened with having to pay exorbitant royalties based on their use of such equipment, where demands for royalties from end-users are inconsistent with the RAND commitment both in terms of the identity of prospective licensees (i.e., end-users rather than manufacturers)

and in royalty amount. Those excessive royalties will be passed on to the ultimate consumer.

The so-called end users being threatened are not identified. They cannot be the members of the general public, because they do not take licenses or pay royalties. The unidentified, put-upon end users must be the TV networks—NBC, Fox, and so on. They are being mulcted because Rembrandt is trying to make them share their advertising revenue with it. Moreover, if Rembrandt mulcts them as described, then the "excessive royalties" they pay "will be passed on to the ultimate consumer," meaning (presumably) you and me. I don't see how that can happen. To the best of my knowledge, NBC and Fox have never passed any royalties on to me and I have never paid them one red cent for the pleasure of being subjected to their advertising, which I switch channels to avoid whenever I can. (I must be missing something here, and I am going to invite AAI's eminent Washington DC lawyers to contribute a guest column to *IEEE Micro* soon to give their side of this story, which must make more sense than appears as I have presented it here.)

AAI makes a separate pitch about injury to consumers. It says:

The effect of the non-RAND royalties will likely lead to increased costs to all television viewers, dramatically increasing the price they pay for viewing digital television. Those costs may also lead to increased costs for television advertisers.

Again, I don't see how that works out in real life. I don't pay anything to view TV, and I don't even buy what they advertise. As a lifelong engineer, I buy Brand X. I am an inveterate free rider on the broadcast content that the advertisers pay for, and I assume that I can speak for much of the IEEE membership when I say that. So, my TV viewing is

not going to cost me any more no matter what Rembrandt does to the networks, RAND or non-RAND.

What is RAND in two-tier markets?

But the merits of AAI's pitch to the FTC are not the point. What is far more interesting is the problem of what is a RAND royalty when you have a product A that is used to make a second product B, where A and B have radically different price structures. Here, A and B are a TV transmitter and the broadcasting of advertisements. The same issue would arise with any of the following two-tier market structures:

- an FM transmitter and FM radio receiver,
- a machine for making thread, and the thread,
- a steel mill for making girders,
- a machine for making shoes,
- a Xerox machine and the copies it makes.

In each case, we have a product that can be used in variable amounts to generate something of value, and the more of that something it generates, the more revenue it produces and the more value it has to its user. By the same token, where more value is generated, the user will pay more to get the benefit of using the device.⁶

Thus, Major Armstrong decided to charge a lump-sum royalty for FM transmitters based on transmitter wattage and independently to charge a running royalty for FM receivers based on sales. Motorola then challenged this arrangement as patent misuse and an antitrust violation, but the courts upheld his system as a reasonable way to make the royalty payment proportioned to the value of the benefit conferred. The courts refused to apply the doctrine that the sale of a product "exhausted" the patent monopoly and conferred on downstream customers the right to use the product freely. The court instead applied the doctrine that it is permissible to grant a

licensee only the right to manufacture goods for a limited field of use.

In the yarn industry, the courts upheld arrangements in which one royalty was charged for the yarn-making machine, as such, and each yarn maker had to pay a separate royalty per 100 feet of yarn that its machine produced. For the steel mill, one royalty was charged for the mill as such, and a separate running royalty for the number of feet of end product that the mill manufactured. Courts sustained the legitimacy of all of these arrangements.

On the basis of these cases, therefore, the argument can be made that it is perfectly RAND to charge one royalty for the transmitter and a second for its use. Thus two TV transmitters may cost the same amount to make and may be sold at the same price to two different TV stations. But Station A may have twice the advertising revenue that Station B has, and their respective demand curves therefore suggest charging each one an amount proportioned to the value of the transmitter when used to broadcast advertisements. Is this a legitimate concept of RAND?

This case illustrates that what RAND means is not as simple as it may seem. AAI says it is a "patent hold-up" for Rembrandt to try to charge TV broadcasters on the basis of their advertising revenue. The argument is somewhat mechanical and formulaic. AAI says that its legal theory is this:

The patentee's rights are extinguished, under the doctrine of patent exhaustion, once the patentee has obtained royalties from the manufacturer, who allegedly uses the patent in making a product. Here, as explained above, Rembrandt is required to offer a license, on RAND terms, to the manufacturers; thus, any demand for royalties simultaneously from the manufacturers' customers arguably triggers the exhaustion doctrine.

But it is far from clear that the exhaustion doctrine applies to machines

or other products that are not resold as such but instead are used to make something completely different—in variable amounts, so that the value of the machine (or other product) depends on how much it is used. Cases such as that of Armstrong suggest that the patentee is entitled to charge on the basis of the amount or value of the use. It may assume too much to say that Rembrandt's duty (assuming it has one) to permit equipment manufacturers to use the patented technology on a RAND basis "triggers the exhaustion doctrine," so that downstream users can ignore the patent. You can call it "double dipping," but that does not, without more, make it illegal. One side here says "double dipping," while the other side says "free riding." The epithets are not a substitute for reasoned analysis. The FM, yarn, and steel-mill cases suggest that the policy that supports the exhaustion doctrine in its usual context does not carry over to the context of two-tier markets. The argument against finding patent exhaustion is that the patentee ought to be allowed to charge on the basis of the benefit conferred, absent some countervailing policy reason not to let it do so. There may be such a reason, but AAI does not appear to have articulated it in its papers to the FTC.

I will try to persuade AAI to provide a guest Micro Law column explaining why it is right.

Notes

1. TV broadcasters will switch to digital-only broadcasting on 17 Feb. 2009, after which analog TVs won't work without cable, satellite, or converter boxes (or users must instead replace old analog TV sets with new digital TV sets).
2. Rembrandt has also sued a transmitter manufacturer, several cable TV companies, and a manufacturer of TV sets.
3. For the purposes of this discussion, we can assume that everything that

AAI says about this aspect of the case is correct.

4. AAI makes an extended argument, however, that "Rembrandt's conduct is subjecting digital equipment manufacturers to the threat of having to pay royalties that would far exceed the entire cost of their equipment that implements the ATSC standard. Those increased costs will be passed on to the ultimate consumers in higher prices." I think this must be a straw-man argument, because I don't think any licensor would propose such a license. I don't see how the equipment manufacturers could fund payment of such royalties out of their equipment sales, so it makes no sense to try to impose such an arrangement on them—while the alternative field-of-use license approach is feasible and is a well-known expedient. We are necessarily handicapped, here, by not knowing the real facts, which do not appear to be public. But AAI's notional version of the facts seems highly implausible.
5. For more information about him, see http://www.ieee.org/web/aboutus/history_center/biography/armstrong.html and <http://ieeexplore.ieee.org/iel5/5/28470/1271407/1271407.html>.
6. The effort to capture the value of machine A by charging its user for it in terms of how much B it produces may lead to use of illegal tie-ins or other restrictive arrangements so that use can, in effect, be metered and charged for proportionately. A mimeograph machine manufacturer may require users to buy ink from it, at inflated (i.e., above-market) prices. Xerox may require users to buy paper from it. The excess price on the tied item makes the user pay in proportion to its use of the machine, which in turn is proportional to the value of the machine to the user.

For more information on this or any other computing topic, please visit our Digital Library at <http://computer.org/csdl>.