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August 1, 2002

Hon. Michael K. Powell
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Mandatory ATSC Tuners, MMDocket No. 00-39; CS Docket No. 97-80

Dear Chairman Powell:

I write respectfully as Vice President, Marketing, of Mitsubishi Digital Electronics America ("MDEA"), on the subject of how the FCC might most appropriately encourage the use of ATSC tuners by consumers who need them, and can hasten the digital transition generally and the return of analog spectrum in particular. My responsibilities include the product development strategy for the company.

MDEA has bet its business on the digital transition. We no longer offer the "analog" televisions or small screen sizes that would be impacted most severely by an ATSC tuner mandate.¹ We are now introducing our 2002 - 2003 new product line, in which a number of receiver models include ATSC tuners and IEEE 1394 interfaces. We have spent millions (in direct grants, not advertising) underwriting over-the-air HDTV broadcasts. Yet I believe that an ATSC tuner mandate should not be the next step in the DTV transition. It would result in a fundamental resource misallocation and would harm most consumers, as they would be forced to pay a premium for a feature they do not need or use.

The broadcast world has been turned on its head since the All Channel Receiver Act of 1962. In 1962, consumers acquired most home video through roof-top antennas. Cable television had a tenuous foothold. Other media -- satellite, VCR, DVD, and the Internet -- were at least a decade away. In 1962, it made sense to spur investment in UHF broadcasting by establishing a baseline home antenna reception capability. (Some UHF spectrum is now being bought back, to be put immediately to other uses.)

Today, policy makers should face fact: for consumers the baseline is analog cable TV, followed by prerecorded media, digital cable, satellite antennas, and, finally, "TV" antennas. All of these categories are growing *except* for TV antennas, which now serve 7 - 10% of households. No government tuner mandate will whip back this tide or cause antennas to grow

¹ In 1998, MDEA chose to concentrate entirely on projection and flat panel televisions that could offer consumers the full benefits of HDTV. MDEA now offers *only* HDTV-capable displays. Of the HD-capable sets in consumers' homes, more than one in five is a Mitsubishi.

back on roofs.² (While secondary sets in the home use their analog tuners, it is primarily to tune analog cable channels, or the channel 3 and 4 RF output from satellite receivers.)

Facing these realities should not mean less support for or attention to digital terrestrial broadcasting. Local television is an essential service. The right to receive it through an antenna, free of any contractual obligation, is essential to our democracy. But because most consumers choose other means, the broadcast tuner in most cases simply gets in the way, or serves as an intermediary for a cable or satellite set-top-box. Mandating the inclusion of a second, digital, ATSC tuner will not drive consumers to cancel either their subscriptions to, or their reliance on, cable or satellite. Nor will it hold back the tide of newer services via the Internet.

What a tuner mandate would do is add to damage from a trend of which Senator Leahy warned in 1991: the redundancy of equipment for which consumers now are being forced to pay. Most of the circuitry in a "TV" tuner is replicated in a "cable tuner." The service provider's monopoly on reception devices forces the full-service subscriber to rent a box with a redundant second tuner. Half of cable subscribers do this today. All subscribers wanting digital cable must do it. A DTV tuner mandate will not change this; it will only force the consumer to pay for *yet another* tuner that cannot be conveniently used.

Congress acted in 1992 at the behest of Senator Leahy, and again in 1996 at the behest of Reps. Bliley and Markey and the House Energy & Commerce Committee.³ It instructed the Commission to assure the competitive commercial availability of all such "navigation devices." Congress made crystal clear that it intended for the Commission to assure competitive entry as to DTV and HDTV receivers that work directly on all cable systems.⁴ Channeling the Commission's resources into accomplishing this goal is what will really hasten the digital transition. Finishing this job will result, ultimately, in *more* ATSC tuners being provided to consumers at better prices, and a *faster* return of analog spectrum, than any ATSC tuner mandate.

A few essential points lead to this conclusion:

- (1) Competitive freedom of manufacturers to add a cable tuner will result in efficient market-based offerings of ATSC tuners and converters, but the opposite is not true.

² Even where a "rabbit ear" antenna can be added more easily, the Congress, the FCC and the courts have all accepted that switching antennas in and out of home viewing stations primarily reliant on other media is not a viable option, as a matter of either fact or policy. Cf. discussion by U.S. Supreme Court in *Turner Broadcasting System, Inc. v. F.C.C.*, 520 U.S. 180, 219 - 220 (1997): "Congress examined the use of A/B switches as an alternative to must-carry and concluded it was 'not an enduring or feasible method of distribution and ... not in the public interest.' *** Congress also had before it 'considerable evidence' ... that 'it is rare for [cable subscribers] ever to switch to receive an over-the-air signal' *** The reasonableness of its judgment was confirmed by additional evidence on remand that A/B switches can create signal interference and add complexity to video systems, factors discouraging their use."

³ Then named the "Commerce Committee."

⁴ Achieving such interoperability on *all* cable systems was stressed as recently as July 19, in a letter to the Commission from Chairman Tauzin and Rep. Dingell.

(2) While costs of ATSC tuner circuitry ultimately will fall with volume, a phase-in as presently contemplated will force the consumers who will use them the least to pay the most.

(3) A phase-in of the sort contemplated (without cable compatibility), if it has any effect on the broadcast world, will have one destructive of HDTV. Bluntly, it will reduce the volume of integrated televisions sold, not increase it.

(4) The best way to assure actual carriage of local broadcasts to most consumers is to relieve cable operators of capital requirements for converter boxes by accomplishing the deregulation of the DTV receiver and converter markets.

(5) A tuner mandate phased in according to *units* could pose impossible, possibly unconstitutional, problems for manufacturers, retailers, and consumers.

* * *

(1) Competitive cable tuners will lead to market offerings of ATSC tuners, but the opposite is not true.

The processing and memory circuitry necessary to support a digital cable-ready television can be very economically adapted to support tuning of ATSC broadcasts. Therefore, once the standards and licensing preconditions for competitive entry are met, the manufacturer is able to offer a receiver with circuitry that confers additional value (obviating the need, for many customers, for a converter box), which the consumer recognizes and for which she is willing to pay. Adding the ATSC tuner function to such a set is then a matter of adaptation at marginal cost, so is more in line with the value to the average consumer.

The reverse, however, is not true. Most consumers are not willing to pay for ATSC tuners, or else a mandate would not be necessary. Nor, as I discuss above, would most consumers change their equipment or habits to take advantage of the potential value received. Nor would a manufacturer have the option, when faced with an ATSC tuner mandate, of providing a cable tuner as an extra, desired feature (by adapting the ATSC-related circuitry to support cable functionality), unless and until the standards, licensing and interoperability issues, pending in CS Docket No. 97-80, have been resolved.

(2) A phase-in as apparently contemplated would force consumers who desire ATSC tuners the least to pay the most.

Unlike the case of closed captioning and the V-chip, a DTV tuner obligation imposes tangible and very significant costs for additional hardware that have been well documented in the record in MM Docket No. 00-39. It has been argued that, with mass production over time, these costs will come down, and this is true. Chairman Powell's April 4th letter, however, contemplates a phase-in starting with the largest screen sizes. In terms of percentage of unit cost, this has the least impact. In terms of equity to the consumer, however, this approach is *least* fair.

Consumers buying new televisions in the largest screen size (1) generally are cable or satellite subscribers, and (2) will place these displays in their "main" viewing area, which is best served by cable and satellite receiving equipment -- so they are the *least* likely to make use of the ATSC tuner. These consumers would be mandated, however, to buy the earliest and most expensive incorporations of the tuner circuitry, even though they have the least use for it.

It should not be assumed by the Commission that this inequity is acceptable because large-screen customers are richest, so are most able to afford to pay for value they don't receive. Anyone with experience in the television business will report that there is *minor correlation* between household income and screen size purchased.

(3) A phased-in ATSC tuner mandate, to the extent it affects viewing practices, would be destructive rather than supportive of HDTV.

The Commission has made clear that it does not regard an ATSC tuner mandate as one that also would mandate HDTV reception capability. Accordingly, in an effort to hold down the price disparity between the "50%" of TVs in a size category that must contain the tuner, and the 50% that need not, it seems likely that, even for sets in the 25" - 35" category, many manufacturers will not include HDTV capability. Instead, these sets would be built to display lower resolution, such as EDTV and SDTV. If I am correct that the tuner's presence will have little impact on viewing practices, then the only effect will be to slightly cheapen the price of redundancy. If, however, as the Commission apparently hopes, the presence of the tuner will lead to increased reception via antenna, the effect will be (1) to discourage HDTV broadcasts, in favor of lower resolution multi-channel presentations, and (2) to discourage programmers (particularly as to sports) from shooting and presenting programs in a way that takes full advantage of HDTV's aspect ratio and resolution.

In other words, if customers cannot tell the difference between HDTV and standard-resolution DTV programming, there will be less HDTV and what there is will be of poorer quality. Even if manufacturers do not use cheaper tuners, extending the mandate to smaller screen sizes, in which the increased resolution cannot be appreciated and the enhanced aspect ratio cannot be used, will provide a disincentive to broadcasters to program HDTV, or to present it to best effect. Hence Mitsubishi, which does not offer smaller screen sizes, is very concerned over the effect of such a mandate, reaching to small and mid-size televisions, on the choices to be made by broadcasters.

(4) The Commission can best assure that consumers see local stations by deregulating the markets for cable-ready DTV receivers and cable converters, relieving cable operators of the drains on capital represented by providing digital converter boxes.

As elsewhere in the telecommunications sector, the digital conversion has required heavy capital burdens. The 25 million-plus converter boxes purchased to date by MSOs must account for a capital investment of about \$10 billion dollars that could have been put toward upgrading systems to carry additional channels. Moreover, a successful retail market in consumer electronics and information technology devices that provide cable tuning as a feature will allow

more and more channels and services to migrate to the digital tier exclusively, as more and more homes can be provisioned with several converters for older televisions.⁵

Expanded bandwidth, plus migration of non-broadcast services to digital tiers, should free up the "analog" cable channels to carry the digital broadcasts of all local channels, both digitally *and converted to analog*.⁶ It should matter not to the consumer, or to the Congress, whether a digitally broadcast ATSC signal viewed on an old analog TV is converted in the home, at the set-top, or in the headend, and then transmitted to the home. For the television and the viewer, the result is the same. From an efficiency standpoint, however, it is much more efficient to convert the signal once, in the headend, than 200 million times in the home. (Those consumers wanting a digital-to-the home experience, of course, can purchase a display with an ATSC tuner, or purchase a cable or broadcast converter for an older set, and rely on the digital channels.)

(5) A tuner mandate phased in according to *units* could pose impossible, possibly unconstitutional, problems for manufacturers.

The idea of imposing 50% obligations on manufacturers, and the idea of expressing these obligations in terms of *units*, are simply incompatible where, as here, (1) the price differential between the "with tuner" 50% and the "without tuner" 50% is so substantial, and (2) most consumers are not willing to pay anything more for the "with tuner" units. Economics 101 teaches that, with a sudden price rise of only the "with tuner" units, the price of the units "without tuner" must rise to meet increased demand (but driving demand well below prior levels). Conversely, the price of the units "with tuner" must then fall, so as to approach the same level, which, in a competitive market such as this -- at least for mid- and smaller screen sizes -- is likely to be well below even the *marginal cost* of the manufacturer.

This is grossly unfair to both consumer and manufacturer. The consumer winds up paying more *even for the set without the ATSC tuner*, which has now become artificially scarce. The manufacturer, under some sort of legal obligation to "include" tuners in 50% of his units, must do so even though the unit cannot be sold other than at a loss. Imposing an obligation in this manner would support the arguments, made by others in MM Docket No. 00-39, that the order would be arbitrary and capricious. Enforcement of such a requirement -- to sell products in a circumstance in which a loss is ensured -- could even constitute an unconstitutional taking. (More likely, the manufacturer would simply leave the market for that screen size, further driving up prices until few if any manufacturers remain.)

Such a system would impair the very competitive nature of the consumer electronics industry itself. Today retailers, operating on tight margins, keep a careful, market-driven watch on inventories and gauge their orders accordingly. The slightest deviation from a market response, resulting in too much or too little inventory, can be calamitous. A "50%" rule, applied to units,

⁵ By contrast, an ATSC tuner mandate does nothing to bring DTV viewing to the more than 200 million existing TV receivers now in homes.

⁶ In terms of fulfilling an MSO must carry obligation as to the analog signal, it should not matter whether the signal was originally broadcast as a digital signal or an analog signal, so long as it is carried to the home as an analog signal.

makes this sort of market response impossible for retailer and manufacturer alike. No matter how well intentioned, it implies contempt for the roles and choices of the producer, the vendor, and the consumer.

I urge the Commission to weigh carefully all of the consequences reviewed in this letter before proceeding with an ATSC tuner mandate as the next step in this fragile DTV transition.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Perry', with a stylized flourish at the end.

Robert A. Perry
Vice President, Marketing

CC:
Commissioner Kathleen Abernathy
Commissioner Michael J. Copps
Commissioner Kevin J. Martin