

Tiernan Communications Inc.

www.tiernan.com

Product	Model No.	Availability
HDTV and 8 Channel SDTV Encoder (4U)	THE1	<i>Currently Available</i>
ATSC-HDTV Broadcast Encoder (2U)	THE10	<i>Currently Available</i>
HDTV/SDTV Modular Receiver/Decoder (QPSK, 8PSK, 8VSB, QAM, COFDM Demodulator Options)	TDR6	<i>Currently Available</i>
4:2:2/4:2:0 Single or Multichannel Modular Encoder (ATSC & DVB)	TE60	<i>Currently Available</i>
Network Management Control System	TDM1	<i>Currently Available</i>
Dynamic PSIP Generator	TPG1	<i>Currently Available</i>
QPSK/8PSK Satellite Modulator	TVRM-75	<i>Currently Available</i>
QPSK/8PSK Satellite Demodulator	TVRD-75	<i>Currently Available</i>

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Toshiba America Consumer Products

www.toshiba.com

Product	Model No.	Availability
36" HDTV Ready Direct View Color TV (4:3)	CN36X81	<i>Available Sept '99</i>
50" HDTV Ready Projection TV (4:3)	TN50X81	<i>Available July '99</i>
55" HDTV Ready Projection TV (4:3)	TN55X81	<i>Available July '99</i>
61" HDTV Ready Projection TV (4:3)	TN61X81	<i>Available Aug '99</i>
40"W HDTV Ready Projection TV	TW40X81	<i>Available Aug '99</i>
56"W HDTV Ready Projection TV	TW56X81	<i>Available Sept '99</i>
65"W HDTV Ready Projection TV	TW65X81	<i>Available Sept '99</i>
56" W Integrated HDTV Projection TV	DW56X91	<i>Available Oct '99</i>
65" W Integrated HDTV Projection TV	DW65X91	<i>Available Aug '99</i>
HDTV Set-Top Box	DST3000	<i>Available 4th qtr '99</i>

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Tower Engineering Consultants

www.tower-engineering.com

Tower Engineering Consultants (TEC) is a structural engineering practice specializing in television, radio and communication tower analysis and full-climb tower evaluations performed by licensed engineers. TEC provides professional, independent engineering services to help TV stations evaluate their towers to determine the potential for the DTV conversion. The evaluation of the towers involves a field assessment of the tower, a review of any tower documents, and a computer analysis to determine the effect of adding or changing the antenna configuration. In many cases existing towers can be modified to allow for the addition of new DTV / NTSC antennas

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Wavetek Wandel Goltermann

<http://mpeg.wg.com>

Product	Model No.	Availability
ATSC Transport Stream Analyzer	WG DTS-A/ATSC	<i>Currently Available</i>
ATSC Transport Stream Multiplexer	WG DTS-M/ATSC	<i>Currently Available</i>
ATSC Transport Stream Generator	WG DTS-G/ATSC	<i>Currently Available</i>

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Wink Communications

www.wink.com

Product	Model No.	Availability
Set top client	GI DCT 1000 1.0	Available 1 st qtr '99
Set top client	GI DCT 2000 1.0	Available 1 st qtr '99
Set top client	GI DCT 5000 1.0	Available '99
Set top client	S-A Explorer 2000 1.0	Available '99
Broadcast Server	WBS 2.1	Available Sept '98
Response Server	WRS-D	Available 1 st qtr '99
Online Server	WOS 1.0	Available '99
Authoring Environment	Wink Studio 2.1	Available Dec '98
Web / Internet Access	Wink SMStudio 1.1	Available Dec '98

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Wohler Technologies Inc

www.wohler.com

www.panoramadt.com

Product	Model No.	Availability
Aspect Ratio Converter	SQ-1000 Panorama	Currently Available
ATSC 2U audio monitor	ATSC 2 Wohler	Currently Available
Dolby Digital AC-3 monitoring system	ATSC-3	Currently Available

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Zenith Electronics Corporation

www.zenith.com

Product	Model No.	Availability
ATSC VSB Modulator	DTVMOD	<i>Currently Available</i>

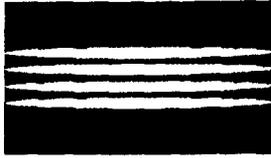
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Product	Model No.	Availability
ATSC Receiver / Decoder	IQADTV1W	<i>Currently Available</i>
Multiscan Video Projector	PRO900X	<i>Currently Available</i>

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Zenith Electronics is currently offering RF Evaluation of VSB receivers and modulators at the facilities in Glenview, IL.

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**ADVANCED
TELEVISION
SYSTEMS
COMMITTEE**

FOR IMMEDIATE RELEASE

ATSC Issues New Satellite Transmission Standard for Digital TV Distribution

Washington, D.C., October 4, 1999 -- The Advanced Television Systems Committee has approved a new technical standard for the transmission of digital television signals over satellite transponders. The new standard was created to encourage the production of standardized satellite transmission and receiving equipment for use by digital television networks and DTV broadcast stations. Benefits of this standard are expected to include better DTV signal interoperability between networks and broadcast stations, and broad competition in the supply of professional DTV satellite transmission and receiving equipment.

The standard is entitled "Modulation and Coding Requirements for Digital TV Applications over Satellite". It is intended for contribution and distribution applications. "Contribution" refers to the satellite transport of a compressed digital TV program from a remote production site to a main distribution center, either for a national network or for a local DTV station, so that the program is "contributed" as one element of an overall program schedule. "Distribution" typically refers to satellite transport from a network origination center to affiliated broadcast stations.

The new ATSC satellite transmission standard describes techniques for the modulation and error correction coding of ATSC DTV bit streams to be transmitted via satellite. It allows a DTV service provider to select from a range of modulation techniques, including QPSK, 8PSK and 16QAM. Each of these modulation techniques provides a progressively higher payload data rate in a given satellite transponder, with attendant higher transponder power requirements.

The new ATSC standard also allows a range of Forward Error Correction (FEC) techniques to be selected for various applications. Forward Error Correction embeds additional bits in the transmitted DTV stream that allow a satellite receiver to detect and instantaneously correct any errors incurred in the transmission process.

Satellite transmission equipment built to this new ATSC standard can be used to transport multiple high-definition TV signals, as well as multiple standard-definition programs, along with data broadcast services.

The new standard is designated A/80 by the ATSC, and is available for free downloading at the ATSC web site: www.atsc.org

The Advanced Television Systems Committee (ATSC), established in 1982, is an international, non-profit organization developing voluntary standards for the entire spectrum of advanced television systems. Based in Washington, DC, the ATSC has approximately 200 member organizations, including broadcasters, broadcast and cable equipment suppliers, consumer electronics manufacturers, cable TV programmers, motion picture companies, computer hardware and software companies, telecommunications carriers, and other entities interested in advanced television systems.

(more)

On December 24, 1996, the United States Federal Communications Commission (FCC) adopted the major elements of the ATSC Digital Television (DTV) Standard. The ATSC DTV Standard has since been adopted by the governments of Canada (November 8, 1997), South Korea (November 21, 1997), Taiwan (May 8, 1998), and Argentina (October 22, 1998).

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A WHITE PAPER

FACING THE FINAL "SIGN OFF" WHY WE NEED A DIGITAL STANDARD

by

Nat Ostroff

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History

The proposed Grand Alliance (GA) Digital Broadcast Standard has been in the making for eight years. It represents the best efforts of American technology and compromise, as represented by the leading laboratories and companies in the United States. The efforts made to produce a workable technology were made as a result of an understanding that was reached between government and industry. Such an enormous task would not have been undertaken without the belief that the government's agreements would be honored at the conclusion of the task.

Today we are faced with the fact that at least \$100 million dollars has been expended to produce a fully tested and specified TV digital broadcast standard that has the support of the Broadcast industry.

The recent efforts by the computer industry to derail adoption of the GA standard and squander the collective efforts of a national industrial coalition may be the most blatant demonstration of anti-competitive behavior in recent memory.

The United States took a bold move in the early part of this decade and forced the rest of the world TV powers to abandon their analog HDTV efforts that were aimed at creating a market dominance for their country's hardware and program products. The U.S. digital proposals of 1990 were at first scorned by the Europeans and Japan. The United States push forward, never the less, under the sponsorship of the FCC and it's Chairman Al Sikes. In 1994 the rest of the world's players came to the conclusion that the U.S. approach was correct and began to develop their own different but digital standards. Today the European's are moving ahead with their deployment of a digital transmission system called Digital Video Broadcasting (DVB). They are also making inroads into the rest of the world to establish their standard as a world standard. This is progressing while we here, in the pioneering country for digital technology, can't bring ourselves to throw off the mantel of politics from the technology we invented. We are about to snatch defeat from the jaws of victory and in the process destroy any remaining opportunity for cooperation based on trust between government and industry in the future.

Technology: Domsday Scenario

What if the broadcast industry does not get a standard set by the FCC?

The setting of a standard creates the economic confidence in the market place to invest in the creation of hardware for the consumer. Unlike the telephone, computer and cable industry the broadcast industry does not control the entire process. The broadcasters must send a signal out into the market with the confidence that there is equipment in place to receive it. We do not supply the end use instruments like the telephone companies nor do we supply the set top decoders like the cable companies. We must rely on the TV set manufacturers to make instruments that can receive what we send. Our industry is based on a belief that no matter where you go in our county the TV receiver will receive and display the available

TV signals in that area. This can only occur if the TV set manufacturers build to a standard that is ubiquitous. Multiple standards would not only create chaos but would so fragment the market so that no serious business could invest in the tooling to produce multiple standard receivers into such a market. The effect on the consumer would be to drive up their cost and perhaps render their TV set useless in anyplace but their current home town. The concept of "NO STANDARD" invites such chaos and confusion. It also sets the stage for the eventual downward spiral of the great broadcast industry that has provided the diversity of programs and viewpoints that has sustained our democracy in this highly technical society delivered free to everyone who can receive the signals.

How Would it Happen?

Without a standard set by a central authority like the FCC the broadcast industry could conceivably decide to go ahead on a defacto standard set up by itself. This would require a binding agreement among the majority of broadcasters as well as the TV set manufactures. This could conceivably be accomplished. It would not be easy but it might be done. Unfortunately, it would not be enough.

If there is not an FCC standard then there can not be a table of channel allotments. The table of allotments MUST be based on a known transmission standard in order to establish interference criteria. Without actual laboratory and field testing no interference data would be available. If multiple standards were to be adopted there would be no data on how these standards would interfere with each other. Thus, there would be no way to determine the effects of interference and thus no way to assign channels. This is the position of the computer industry's Bill Gates and the Chairman of the FCC, Reed Hunt today. Without a table of channel allotments there would be every reason to auction off the unused spectrum space.

IT IS CLEARLY THE RESPONSIBILITY OF THE FEDERAL GOVERNMENT TO DETERMINE THE CHANNEL ASSIGNMENTS (FREQUENCY USE) FOR TELEVISION STATIONS in this country. The FCC is not willing to let the "market decide" on who will operate on what frequency. Therefore, if it is the FCC's obligation to determine channel assignments, it follows that they MUST SET A STANDARD!. This point could possibly become the basis for a suite for specific performance by the Broadcasters.

If there is no standard forthcoming from the FCC, the broadcasters must face the fact that there will not be any channels assigned for digital television. This will have at least two major negative effects on the industry. The first negative effect will be the opening up of the unassigned frequencies for auction. The other effect will be the permanent relegation of over the air TV to the back water of an analog service, in an ever increasing digital world, populated by the computer, cable, telephone and DBS industries, with no potential for growth into the future. With ever increasing competitive pressures from digital delivery services the over the air broadcast assets will be viewed by the investment community as seriously devalued. This is a downward spiral that leads to a very unhappy place.

What to do?

The current situation is perhaps the most dangerous that the broadcast industry has ever faced. It is in fact a life or death situation. When the issue of auctions was on the table, a loss of that issue only involved money. The standards issue cannot be solved with money. It is in fact the end game play by the computer industry to push the broadcaster out and replace him with a software controlled entertainment appliance. Such an appliance would then fit the computer industry's model of constant updates in software and hardware forcing the consumer to ever increasing expenditures to keep up with the artificial technology changes. If the computer industry should win this battle the diversity and localism that has been the mainstay of our broadcasting industry for 50 years will come under monolithic software control. Digital transmission will become the main method of information dissemination and it would be delivered by wire or it's equivalent, if the Broadcasters fail to get a digital standard set by the FCC. Such "wired" delivery systems are in the control of a few powerful forces today and further concentration is likely. The very diversification that makes the broadcast industry such a valuable national resource is working against it when it is time to confront the monolithic computer and cable industries.

Now is the time for the Broadcast industry to set aside it's internal competitive conflicts and band together in an industry wide effort to reverse the momentum that has been built up by the competitive forces of the computer industry lead by Microsoft and Bill Gates. A grass roots personalized effort by all of the broadcast industry could start with a summit meeting that leads to a White House meeting that is fully covered in our media. Continued over the air educational spots aimed at telling the public what they are about to lose could be the next step.

We are at a crossroads in the history of the Broadcast Industry. The forces aligned against the Broadcaster are highly technical and ruthless competitors who have spent a lot of resources on long term strategic planning. The Broadcaster has not been a strong strategic planner and as a result has been ambushed. The broadcaster needs to not continue to make that mistake. Time is of the essence. Delay and indecision on the Industry's part could result in a loss of our businesses and a major change in the way information and entertainment is delivered and created in this country. Action is needed and it is needed now!

This article was sent by Mark Aitken via Compuserve