April 6, 2009

An FAQ on TSID, PSIP and DTV Channel Moves

Do I need to change my TSID when I change RF channels?

No. The original assignment table does list the then-planned DTV RF channel with the DTV TSID number. The table that can be found at http://www.mstv.org/docs/TSID.pdf has not been updated to show current RF emission plans; but the number is actually for the broadcast station, not for the particular RF channel used. So a new number should not be requested when changing RF channels.

How do I find out what my TSID is?

The most official source is via an email to ntam@fcc.gov as the FCC maintains the list. However, for most stations the list found at http://www.mstv.org/docs/TSID.pdf should suffice. A TSID, once assigned to a station, does not change, but the RF channel can.

Is there a PSIP change we can make to the existing channels on the changeover day (for a multchannel swap) so that when viewers rescan, they only "see" the new channels?

Not really. Each station can put the major-minor channel for another station (along with that station's TSID) in the list of major-minor channels in the VCT. Then a typical receiver would get the channel number, and using the TSID attempt to tune to the frequency it got on the last forced scan or manual add. If the receiver has not found a RF channel with that TSID, behavior is not predictable, but some receivers may scan for it if a consumer has selected it. In general, the "tell consumers to re-scan" approach is what can be expected to work best.

What should be done with the PSIP data if I have two DTV transmissions on the air for some overlap period?

Just send the exact same DTV transport stream on both RF channels. Receivers that were built according to the CEA PSIP Recommended Practice will detect the new station, and then when the old one goes off the air, offer the option to delete it. Unfortunately the vast majority of DTV receivers do not conform to the Recommended Practice and were not designed to automatically detect new stations, ignoring the specific process that was documented to enable this transition to be automatic. Those sets will typically not detect the existence of both stations, and then when the old one is turned off, will not find the new one unless they are "rescanned" or a new station is manually added. Those stations that are changing DTV channels may wish to provide more than the minimum required on-air announcements to re-scan to minimize the service disruption and calls to the station.

I have a duopoly, what do I do about PSIP?

Each station can have the other station's major-minor channel number in their VCTs in addition to their major-minor channel numbers. So in the two channel case, there would be two TSIDs in the VCT, one with the emitting station's major-minor channel number and one with the other stations' major minor channel numbers.

Where do I find the document that states which PSIP tables are required by the FCC for over - the - air broadcast?

FCC 73.682(d) is the section that places the ATSC standards into the rules, legally making their contents the same as if they had actually been printed in the Code of Federal Regulations. The ATSC Standard A/65 is the document that contains the PISP rules. (See http://www.atsc.org/standards/a_65cr1_with_amend_1.pdf.) Annex B of A/65 is where the rules for major channel number assignments are found.

What kinds of stations need a TSID?

All DTV signals need to send a TSID, but not all need their own number. The ATSC standard requires the number to be unique by transport stream and be present in three places (the PAT, the VCT header, and for each virtual channel, the TSID where that signal is found). The key point is one TSID for one responsible "owner" of the stream. The FCC has not established the formal process to obtain this number, nor separately determined which transmitters are to be assigned one. New numbers are assigned by the FCC when they consider it appropriate to do so – with the only guidance being the rules that are in the PISP standard (as that is part of the regulations). TSID assignments to Class A stations are appropriate and consistent with the PSIP requirements, at least to cover those day-parts where they do not operate as translators. The system is designed so that the same TSID would be used for translators, so no TSID should be sent from such stations. This is to avoid the same virtual channel number appearing two times in the receiver's channel listing. When a Class A station is used as a translator for part of the day, each virtual channel in its VCT needs to be signaled as active for the periods when it is so operating with the EIT contents covering the right parts. The simplest approach is to have a different major-minor channel number for the Class A's programming, which means that at least two major channel numbers are in the VCT. The PSIP data from the station would need to be altered before transmitted from the Class A station. (The non-translator operating periods have not been addressed by the FCC, but the ATSC standards can and should apply.) If the Class A station and the broadcaster desire the major-minor channel number to be common across all day parts, the management of the PSIP data to maintain compliance with the standards is significantly more complex.

Amateur Radio Operators Reception – an NAB Tradition

The annual Amateur Radio Operators Reception, more affectionately known as the *HAM Reception*, is a free-of-charge event at the 2009 NAB Show which is open to all attendees. This year's event will be held in Ballroom B of the Las Vegas Hilton on Wednesday, April 22, 2009 from 6 – 8 p.m.

NAB's HAM Reception is a big draw for both amateur radio operators as well as those who have never "pushed-to-talk" nor learned Morse code, with hundreds lining up outside hours before the doors open. Typically over 600 people pack the ballroom, each hoping that they will be the lucky winner of one of the fabulous (and sometimes very expensive) door prizes (over $15,000 worth of prizes in all this year!). Shown in photos above are the eager crowd (at left) and at right, John Marino and David Layer of NAB up on the prize podium (with their helpers from Baylor University who provide operational support at the show each year for the NAB Technology Conferences). This year the HAM Reception is co-sponsored by Heil Sound Ltd. (www.heilsound.com) and BSW (www.bswusa.com).

Everyone attending the HAM Reception is eligible to win a door prize, and is handed a raffle ticket upon entering the ballroom. This year there are over 100 prizes to be handed out which have been generously donated by broadcast equipment manufacturers, engineering consulting firms, the American Radio Relay League (ARRL), and others–many of these prizes are listed below along with who they were donated by (in parentheses, including a link to the donor's Web page). If you are interested in becoming part of this tradition and donating a prize, please contact David Layer at dlayer@nab.org.

Amateur radio-related prizes:
- The ARRL Operating Manual – 9th edition (ARRL – 3 of these)
- Vertex Standard VX-110/150 VHF FM transceiver (Cavell, Mertz & Associates, Inc.)
- ICOM IC-V82 handheld transceiver (Cavell, Mertz & Associates, Inc. – 2 of these)
- 100' 7977A RF-600 coax gift certificate (Belden – 2 of these)
- The ARRL Repeater Directory 2007/08 (ARRL – 12 of these)
- Yaesu FT-60R VHF/UHF dual band FM transceiver (Cavell, Mertz & Associates, Inc. – 2 of these)
- Dataworld HAM contact locator map 34" x 44" (Dataworld)
- Kenwood TS-480SAT HF/50 MHz all-mode transceiver (Harris Broadcast Communications)
- 3CX1500A7 tube (Eimac – 2 of these)
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- The ARRL HF Digital Handbook 4th edition (ARRL – 10 of these)
- The ARRL Handbook – 2009 edition (ARRL – 8 of these)
- RFI book – 2nd edition (ARRL – 3 of these)

- The ARRL Antenna Book – 21st edition (ARRL – 6 of these)
- Jetstream JTCE1G center insulator for dipole (R&L Electronics)
- Jetstream HT antenna – 144-148, 222-225, 440-450 MHz (R&L Electronics)
- Jetstream 13.8V 25A DC power supply (R&L Electronics)
- Jetstream 9-15V 25A DC power supply w/meters (R&L Electronics)
- Yaesu VX-3R handheld transceiver (Cavell, Mertz & Associates, Inc.)
- 100' 7976A RF-500 coax gift certificate (Belden – 2 of these)
- Yaesu VX-170 VHF FM transceiver (Cavell, Mertz & Associates, Inc.)
- Yaesu Model VR-500 w/NC-60B battery charger (Hammett & Edison, Inc.)
- CQ calendars (CQ Magazine – 10 of these)
- Kenwood TS-480SAT HF/50 MHz all-mode transceiver (Kenwood Americas Corp.)
- Amateur Electronics Supply $50 gift certificate (Wegener Communications)
- CQ Magazine subscription (CQ Magazine – 5 of these)
- 100' 7810A RG8 coax gift certificate (Belden – 2 of these)

Broadcasting-related prizes:
- Bird Model 43 Thruline wattmeter, plug-in element (Bird)
- SMT-1000 Mobile Tester (Kathrein, Inc., Scala Division)
- IBOC Handbook (Broadcast Signal Lab)
- SBE bookstore $40 gift certificate (SBE)
- Telewave 44A RF wattmeter (Telewave)
- Novelty RF Sign ("Engineer at play") (Broadcast Signal Lab)
- Combination laptop lock w/SBE logo (SBE)

- Dorrough Electronics loudness meter (Dorrough Electronics – 3 of these)

Miscellaneous:
- $50 Honeybaked ham gift certificate (ATSC – 2 of these)
- Apple iPod shuffle 2 Gb (CEA – 4 of these)
- Samson Zoom-H4 Digital Audio Recorder (The Durst Organization)
- HD Car Connect radio (CBS Radio – 2 of these)
- CCRadio-SW AM/FM/shortwave radio w/ AM antenna (C. Crane Co.)
- Radio Shack digital soldering station (Larcan)
- Sony XDR-S10HdiP tabletop HD Radio w/iTunes tagging (iBiquity Digital Corp.)
- VISA gift card - $25 (Henry Engineering – 2 of these)
- CC Witness MP3 recorder-player w/AM-FM radio (C. Crane Co.)
- 256 Mbyte flash drive (IEEE Broadcast Technology Society – 8 of these)
- CC Wi-Fi Internet Radio (C. Crane Co.)
- VISA gift card - $50 (Henry Engineering – 2 of these)
- CCRadio – SWP AM/FM/shortwave pocket radio (C. Crane Co.)
- Logo shirt and 1 Mbyte flash drive (Broadcast Electronics)
- Zenith DTT901 HDTV converter box w/Silver Sensor antenna (LG Electronics)
- LG-VX8800 Venus cell phone for Verizon (LG Electronics)
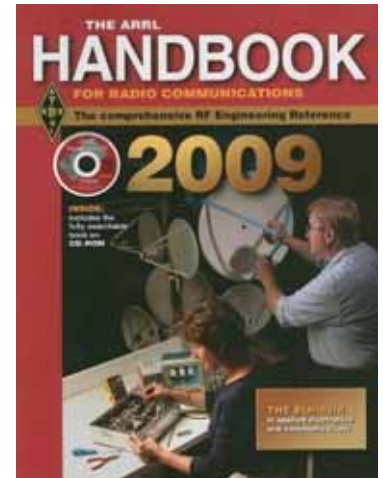
Media Professionals To Recruit Job Seekers During NAB Show Career Day

The NAB Education Foundation, in partnership with the Broadcast Education Association (BEA) and Radio-Television News Directors Association (RTNDA), will host their annual Career Day at the Las Vegas Hilton on Wednesday, April 22 during the 2009 NAB Show. Sponsored by Edge Technology Services, Career Day will allow students and entry-level job seekers to meet with media industry professionals.

Career Day has expanded to include a new "Career Services" component that will provide job seekers, both professional and entry-level, with resume critiquing, one-on-one mini career coaching sessions to help prepare prospective employees for career advancement. For additional information visit the NABEF Web site.

Radio Heard Here exhibit at NAB Show to feature FM Radio in cell phones

While you are at the 2009 NAB Show (April 18 - 23, 2009) www.nabshow.com be sure to check out the Radio Heard Here exhibit in the north hall of the Las Vegas Convention Center, booth N6138. A number of cell phones that have built-in FM radios will be on display including those with integrated FM antennas. Register for a daily drawing for either a Motorola Cell Phone with Integrated FM Radio or a Sony HD Radio.

NABSHOW — Where Content Comes to Life™   April 18–23, 2009 / Las Vegas, NV USA

FREE NAB Exhibit Passport! Use **CODE X104.**

Tower Leasing Revenue Sessions
Tuesday, 4/21/09 - Room N238/240 - Las Vegas Convention Center
NAB Tower Leasing Program with TowerSource — Program Overview, 7:45 am - 8:45 am
Vertical Real Estate: Tall Towers Mean Tall Dollars, 9:00 am - 10:15 am