

Summary of Changes to the Part 74 BAS Rules

By Dane E. Ericksen, P.E., CSRTE
Chairman, SBE FCC Liaison Committee

On November 13, 2002, the FCC issued the long-awaited Report & Order (“R&O”) to ET Docket 01-75. This rulemaking is intended to revise and update the Part 74 Broadcast Auxiliary Services (“BAS”) rules. It is the most fundamental restructuring of the BAS rules in at least the last 30 years, and the changes adopted will impact virtually all SBE members working in the broadcasting field. So, grab a cup of coffee, lock the office door, take the phone off the hook, and give this summary a good read, because you need to know about the changes that are coming your way.

Here is a summary of the changes:

- Digital modulation is *immediately* allowed in all TV and aural BAS bands by application for license modification.
- Harmonizes BAS emission masks to match Part 101 emission masks.
- Applies either the analog or digital emission mask depending on which modulation type uses the majority of the channel bandwidth (*e.g.*, an MRC “TwinStream” radio using 15 MHz bandwidth for the analog signal and 10 MHz bandwidth for the digital signal would be subject to the analog emission mask).
- Similarly adopts a “majority bandwidth” approach for the emission designator to be used for hybrid analog/digital microwave links such as the MRC TwinStream or the Nucomm DualStream. The emission designator applying to the majority bandwidth signal will be used. Therefore, unless overturned on reconsideration, the emission designator for *either* hybrid or composite dual-modulation radios will be 25M0F9W, as opposed to 15M0F3F/10M0D7W or 15M0F3W/10M0D7W.
- Clarifies that for *composite* dual-modulation radios (*i.e.*, the MRC TwinStream or the Nucomm DualStream, which are separate analog and digital transmitters in a single physical package, and use a combiner to produce a single RF output containing both signals), the TPO (and therefore the EIRP) is to be based on a power addition of the two signals. For example, a TwinStream radio with an analog TPO of 33 dBm (2.00 Watts) and a digital TPO of 25 dBm (0.316 Watts), would have its EIRP based on a combined TPO of 33.6 dBm (2.32 Watts). As with the single emission designator decision, SBE expects to file a Petition for Partial Reconsideration of this decision.
- Adopts *XXMXW7D* (*not* *XXMXD7W*) as the emission designator for TV Pickup stations using coded orthogonal frequency division multiplexing (“COFDM”); for example, a 2 GHz ENG COFDM transmitter having an occupied bandwidth of 8.5 MHz would use emission designator 8M50W7D.
- Eliminates the “step function” penalty for TV BAS paths that just fail to meet the minimum path length criteria (see Figure 1).
- Allows BAS transmitters to use automatic transmit power control (“ATPC”).

“Summary of Changes to the Part 74 BAS Rules” article

- Requires fixed, point-to-point TV BAS links at 2.5, 7, 13 and 18 GHz, and Aural BAS links at 950 MHz and 18 GHz, to use Part 101 prior coordination notice (“PCN”) frequency coordination protocols. “Major changes” to existing BAS links will also be subject to a PCN requirement. A change in modulation from analog to digital will be considered a major change, but the existing backlog of approximately 500 BAS waiver requests that had requested digital modulation, plus any applications for digital modulation filed before the effective date of the new rules, will be EXEMPT from the new PCN requirement.
- Adopts an entirely new 70 dBm (40 dBW) EIRP limit for 950 MHz aural BAS links.
- Adopts a 75 dBm (45 dBW) EIRP limit for fixed links at 2 & 2.5 GHz, and a 65 dBm (35 dBW) EIRP limit for TV Pickup operations in these bands (these are the same EIRP limits that have applied for many years to the 7 & 13 GHz TV BAS bands).
- Eliminates TPO restrictions for fixed link stations (but retained the existing TPO limits for TV Pickup stations).
- Adopts temporary conditional authority (“TCA”) for BAS, similar to Part 101 TCA: automatic temporary and conditional authority to commence operation is conferred as soon as an application is submitted. However, such TCA would not apply if the application requires any rule waiver(s), and would immediately terminate if the application is dismissed.
- Broadens Section 74.24 Short Term Authority rights to Broadcast Network Entities (“BNEs”), Cable Network Entities (“CNEs”), and LPTV stations. As suggested by SBE, BNE’s or CNE’s operating pursuant to Section 74.24 will be required to identify their operations using their network or cable name along with their base of operations city. Maintains the current 720-hour per year limit.
- Clarifies that an “unanticipated need” will never be deemed to exist for a scheduled event.
- Adopts an EIRP limit of 65 dBm (35 dBW), a maximum transmitting antenna beam width of 25 degrees, and requires the use of vertical polarization for TV STLs, TV Relay Stations and TV Translator Relay stations operating on UHF TV channels. Stations operating outside of these parameters may be allowed, but must submit a “detailed engineering analysis” showing compliance with the TV translator/LPTV technical rules. These stations would, however, continue to remain secondary to full-service UHF TV stations. These stations may also continue to use TV Channels 52 through 59 until the end of the DTV transition.
- Eliminates the eligibility of TV stations to use 950 MHz or 18 GHz aural BAS channels to relay the aural portion of their TV signal.
- Configures 160 MHz and 450 MHz Remote Pickup (“RPU”) channel bandwidths to match Part 90 Land Mobile Radio Services channel bandwidths (*i.e.*, stackable 7.5-kHz segments at 160 MHz and stackable 6.25-kHz segments at 450 MHz). A three-year transition period is allowed to adopt the new channel bandwidths. After the transition period any RPU operations on “old” channel width/bandplan center frequencies would still be allowed, but on a secondary basis to narrowband, co-channel and adjacent-channel facilities.

“Summary of Changes to the Part 74 BAS Rules” article

- RPU on 166.25 MHz and 170.15 MHz, shared with the federal government, would have until January 1, 2005, to reduce their channel bandwidth to no greater than 12.5 kHz, and thus harmonize such operations with already reduced bandwidth operations of the federal government.
- Finally implements the channel splits adopted by MM Docket 85-36 for the 950 MHz aural BAS band.
- Converts all BAS licensing to the Universal Licensing System (“ULS”). Adopts a 12-month construction limit for RPU stations, and 18 months for TV and aural BAS stations. Makes Part 74 stations subject to the same “major” vs. “minor” change criteria that currently apply to Part 90 LMRS stations and to Part 101 Fixed Microwave stations. Clarifies that minor change modifications are still subject to PCN frequency coordination protocols.
- Allows the use of wireless assist video devices (“WAVDs”) on unused TV channels in the upper VHF and UHF bands on a secondary, non-interference basis. Affirmed the restriction that WAVDs cannot be used at live events or for ENG operations.
- Deletes obsolete references to 31 and 39 GHz TV BAS operations from the Rules, and grandfathers 39 GHz TV BAS incumbents.
- Prohibits *new* fixed links between 13.15–13.20 GHz within 50 kilometers of *all* TV markets. Grandfathers existing 13 GHz fixed links.
- Allows the FCC to designate, upon written request, a special event frequency coordinator. Once so designated, all Short Term Authority operation for the special event must be coordinated in advance through the designated coordinator.

What the R&O did NOT do:

- x Declined to adopt any minimum digital loading standards.
- x Declined to adopt lower EIRP limits for digitally modulated stations.
- x Declined to allow ENG transmitters that are capable of selecting between analog *or* digital modulation to be subject only to the analog emission mask; a dual mode ENG transmitter that is capable of operating as either *all* analog or *all* digital must meet the emission mask applying to the mode of operation that has been selected.
- x Declined to adopt an automatic station identification requirement for TV Pickup stations employing digital modulation.
- x Declined to allow TV BAS links that are now “grandfathered” under the minimum path length EIRP restriction from continuing to be so “grandfathered” if they convert from analog to digital, or make any other “major change” modification. WARNING: This could potentially have a significant impact on conversion of a long existing fixed link from analog to digital.
- x Declined to adopt minimum receiver selectivity standards for fixed links.
- x Declined to prohibit periscope antenna systems.
- x Declined to prohibit Short Term Operation using permanently installed antennas.
- x Declined to eliminate the requirement that co-channel or adjacent-channel CARS licensees be notified when a broadcaster operates under Short Term Authority.

“Summary of Changes to the Part 74 BAS Rules” article

- x Declined to change the Short Term Authority limit from 720 hours per year to a 30 calendar day limit (as suggested by SBE).
- x Declined to prohibit the operation of WAVDs by third party contractors, as requested by SBE.
- x Declined to adopt, as outside the scope of the rulemaking, a narrowband channel plan for digital BAS operations that might not occupy all of a standard 17 MHz or 25 MHz wide TV BAS channel.
- x Declined to adopt, as outside the scope of the rulemaking, eligibility and permissive use rules for wireless microphones for events communications.
- x Declined to adopt, as outside the scope of the rulemaking, rules addressing co-equal status of BAS and public safety use of the shared 2.5 GHz band.
- x Declined to adopt, as outside the scope of the rulemaking, a requirement that experimental grants specifying operation on broadcast or BAS frequencies have an “SBE frequency coordination clause,” requiring the experimental operator to contact any local SBE-affiliated frequency coordinator that might exist in the county (or parish) of operation, and provide a contact telephone number.
- x Declined to adopt, as outside the scope of the rulemaking, SBE’s proposal to allow Subpart H Low Power Auxiliary devices to continue to operate on Channels 52–69 on a secondary, non-interference basis.
- x Declined to adopt, as outside the scope of the rulemaking, a means for allowing the ULS to keep track of ENG receive sites.

Summary

Although every effort has been made to ensure the accuracy of this summary, parties should refer to the actual text of the ET Docket 01-75 R&O, and/or their communications counsel, when making decisions regarding their Part 74 BAS operations. As indicated for some of the items, SBE expects to file a Petition for Partial Reconsideration to address those areas where it believes the decisions were either not well founded or unclear.

Effective Date

The effective date of the rule change allowing digital modulation in all TV BAS and aural microwave bands was immediate; that is, November 13, 2002. The effective date of all other changes will not be until 30 days after the R&O is published in the Federal Register. As of February 3, 2003, that Federal Register publication had not yet occurred.

[approximately 1,800 words]