

**STAMP & RETURN**

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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Federal Communications Commission  
Office of Secretary

In the Matter of )  
)  
Modification of the Universal Licensing )  
System to Allow TV Pickup Stations )  
and Remote Pickup Stations to Document )  
the Locations and Heights of Their )  
Receive-Only Sites )  
)

RM No. \_\_\_\_\_

To: The Commission

**Petition for Rulemaking**

The Society of Broadcast Engineers, Incorporated (SBE), the national association of broadcast engineers and technical communications professionals, with more than 5,000 members world wide, hereby respectfully submits its Petition for Rule Making to modify the Universal Licensing System (ULS) to allow TV Pickup and Remote Pickup stations to document the location(s) and height(s) of their receive-only sites.

**I. TV ENG-RO Sites**

1. In the United States, broadcasters use Part 74, Subpart F, Broadcast Auxiliary Service (BAS) TV Pickup stations for electronic news gathering (ENG). In most TV markets with ENG operations stations typically construct multiple receive sites, near the tops of tall towers, on tall buildings, or on mountain tops. The purpose of these ENG-receive only (ENG-RO) sites, also known as "central receive sites," is to increase the likelihood that, no matter where a news event in the market occurs, an ENG truck<sup>1</sup> will have a useable path to at least one such receive site. When an incoming ENG feed is received at an ENG-RO site, it is then relayed to the station's main studio by a point-to-point Inter City Relay (ICR) fixed microwave link, or by hard-wired coaxial or fiber optic cable. Such central receive sites are critical to the viability of ENG.

2. As shown by the attached Figures 1 and 2, the 2,025–2,110 MHz TV BAS band (ENG Channels A1 through A7), and the 2,450–2,483.5 MHz TV BAS band (ENG Channels A8 and

<sup>1</sup> The term "ENG truck" is being used in the generic sense. ENG operations can include many platforms other than conventional ENG trucks with their tall telescoping masts, such as motorcycles, helicopters, SUVs, remote control planes, blimps, etc.

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A9), are bracketed by allocations allowing high-power terrestrial base stations with effective isotropic radiated powers (EIRPs) of up to 1,600 watts. These allocations include such diverse uses as Personal Communications Services (PCS) base stations, Third-Generation (3G) or Advanced Wireless Services (AWS) base stations, Nextel 2 GHz SMR base stations, Mobile Satellite Service (MSS) Ancillary Terrestrial Component (ATC) base stations, and Broadband Radio Service (BRS) Channel 1 base stations. Such high power adjacent-band base stations, if sufficiently close, have the ability to interfere with an operating ENG-RO site, either due to out-of-band emissions (OOBE), or due to brute force overload (BFO) to the sensitive low noise amplifiers (LNAs) often used by ENG central receivers, or both. This interference is particularly acute if the high power base station is within a few hundred meters of an ENG central receive site. As was documented in the December 8, 2004, SBE comments, and the February 8, 2005, SBE reply comments to WT Docket 04-356 (Service Rules for AWS Stations), OOBE is an interference threat to the ENG-RO sites at distances of up to about 7 km if a relatively lenient OOBE limit of -43 dBc is used. If a stricter -67 dBc OOBE limit is applied, the threat distance reduces to about 0.5 km. The BFO threat distance can also be substantial, especially when a remotely-steerable ENG-RO receiving antenna is aimed at a nearby, adjacent-band, base station transmitting antenna.

3. SBE believes that most PCS/AWS/Nextel SMR/MSS ATC/BRS licensees would attempt to avoid collocating a high power base station in the immediate vicinity of an ENG-RO site if they had some reasonably simple means of identifying the locations (and heights) of such sites. Unfortunately, the ULS does not presently allow TV Pickup licensees to enter this information.

4. SBE pointed out this ULS limitation in its July 9, 2001, ET Docket 01-75 comments; this rulemaking was created to undertake a general updating of the Part 74 BAS Rules, and to harmonize those rules, where practical, with FCC Part 90 and Part 101 Rules. However, in the November 13, 2002, ET Docket 01-75 Report & Order (R&O), the Commission ruled that aspect of the SBE comments as "outside the scope of the rulemaking." In its April 4, 2003, Petition for Partial Reconsideration of the ET 01-75 R&O, SBE argued that the ULS ENG-RO site issue was entirely within the scope of the rulemaking, and asked the Commission to reconsider its decision. In the October 20, 2003, ET 01-75 Memorandum, Opinion & Order (MO&O), the Commission declined to do so. However, in the MO&O the Commission invited SBE to submit a dedicated Petition for Rulemaking to make its desired changes to the ULS and FCC Form 601.<sup>2</sup>

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<sup>2</sup> MO&O, at Paragraph 11.

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5. SBE notes that, pursuant to the Commission's July 29, 2005, Public Notice "*Wireless Telecommunications Bureau (WTB) and Media Bureau Announce Licensing Procedures To Facilitate the Transition of BAS, CARS and LTTS Licensees to the 2,035–2,110 MHz Band and WTB Addresses SBE Petition for Declaratory Ruling*,"<sup>3</sup> all TV Pickup station licensees will have to submit Form 601 license modification applications, requesting the new 12 MHz wide digital channels, and requesting authority for digital (COFDM) operation. SBE notes that this would be an excellent opportunity for those TV Pickup licensees to also enter into the ULS the locations and heights of their central receive sites, although SBE now has concern whether it will be possible to modify the ULS in time for the required TV Pickup station modification filings.

6. Nevertheless, SBE is proceeding with its Petition for Rulemaking asking the Commission to modify the ULS and FCC Form 601 to allow TV Pickup station licensees (and Remote Pickup (RPU) station licensees, discussed later, in Section IV) to add to their station record the location(s) and height(s) of their central receive sites. This data must be searchable on a point radius basis by interested parties, such as PCS, 3G, Nextel SMR, MSS ATC and BRS licensees, can easily determine if there are any ENG-RO sites within X kilometers of a planned base station. If so, then perhaps a different base station location can be selected, or, if that is not feasible, at least it will be possible for the newcomer base station operator to notify the TV Pickup station licensee in advance of a potential interference problem. In that event, it would be possible for the newcomer service to conduct equipment tests, to see if interference is caused to a nearby ENG-RO site. If so, the equipment tests could be halted until the necessary special filters are installed. This could involve better OOB filtering by the newcomer base station, the addition of band pass and/or band reject filters to the ENG central receive site receiver, or both. The important point is that these mitigation measures could be done on a non-emergency basis, as opposed to an emergency basis where a critical ENG-RO site has been unexpectedly knocked out of service by a newcomer, high powered, adjacent band fixed base station.<sup>4</sup> Adding to the ULS ability to search the locations and heights of ENG-RO sites would further allow TV Pickup licensees a means to update their central receive site data when additional ENG-RO sites are added.

7. SBE is not proposing that the entering of ENG central receive site location and height data be made mandatory. If, for some reason, a TV Pickup licensee with one or more central receive sites elects not to enter the location(s) and height(s) of its central receive site(s) into its TV Pickup station record in the ULS, it would be free to not do so, and forfeit the protection

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<sup>3</sup> DA 05-2223.

<sup>4</sup> For an excellent treatment of this problem, see the Phillips Microtechnology web site, at <http://www.tvtower.com/index-FRAMES.html>.

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that the entering of such information would provide. However, SBE expects that virtually all TV Pickup licensees with ENG central receive sites would jump at the opportunity to enter this information into the ULS.

### **III. DoD Uplinks Sharing the 2 GHz TV BAS Band**

8. In the October 21, 2004, ET Docket 00-258 R&O, the Commission concluded that Department of Defense (DoD) satellite uplink stations at ten sites throughout the U.S.<sup>5</sup> (and an eleventh site in Guam) could share the 2,025–2,110 MHz TV BAS band with fixed link and TV Pickup stations. Unlike PCS, AWS, MSS ATC, and BRS1 base stations, this would be *co-channel* operation, not adjacent-channel operation. SBE has a pending Petition for Reconsideration regarding this decision, filed November 24, 2004. The SBE position is that DoD uplinks could only share the 2 GHz TV BAS band if 2 GHz TV BAS operations were converted from analog to digital, and if the side lobe suppression of the DoD uplink dishes was improved from the present -60 dBc to at least -90 dBc. These two changes, together, would alter the relationship from one of *frequency sharing* to *frequency re-use*. As a result of the WT Docket 02-55 decision, it now appears that all 2 GHz TV BAS operations will be converted to digital within the next three years (*i.e.*, by 2008). However, DoD has so far shown little interest in upgrading the side lobe suppression of their Space Ground Link System (SGLS) uplink antennas to ensure that no interference will be caused to ENG operations in such major TV markets as Boston, Denver, Los Angeles, Orlando and San Francisco.

9. In any event, the October 21, 2004, ET Docket 00-258 R&O was clear that if DoD uplinks do ever operate in the 2,205–2,110 MHz TV BAS band, those uplinks will have to demonstrate protection of ENG-RO sites to SBE's satisfaction.<sup>6</sup> For example, and as shown by the attached Figure 3, taken from Figure 3B to the SBE's November 3, 2003, ET Docket 00-258 Fourth NPRM comments, every single one of the Denver area ENG-RO sites has line-of-site to the Buckley Air Force Base uplink. Figure 3 was created by contacting the Denver area TV stations and ascertaining the locations and heights of their ENG-RO sites. Instead of this laborious process, allowing TV Pickup stations the ability to add the locations (*i.e.*, latitude and longitude) and heights (both AGL and AMSL) of their central receive sites to the ULS record for their TV Pickup licenses would allow DoD to do their own interference calculations for demonstrating protection of each and every ENG-RO site (the R&O adopted a stringent criteria

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<sup>5</sup> Near Albuquerque, Boston, Colorado Springs, Denver, Honolulu, Los Angeles, Orlando, Oxnard, CA, Prospect Harbor, ME, and San Francisco.

<sup>6</sup> R&O, at Paragraph 27.

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of not degrading the noise floor of the ENG receivers at central receive sites by more than 0.5 dB).<sup>7</sup>

### **IV. RPU Receive-Only Sites**

10. In many areas broadcasters employ additional RPU receive-only (RPU-RO) sites for their RPU and related radio systems operating at 450 and 455 MHz. These are sometimes referred to as "satellite" or "voting" receivers. In some cases these types of RPU-RO sites are used because of border area coordination issues (for example, Seattle's proximity to the Canadian border), where an RPU transmitter is not allowed, but a remote receive site is permitted. Other applications include reception of permitted two-way radio signals by low power portable/handheld devices in the field, in addition to portable RPU program content. As with ENG-RO sites, these RPU-RO sites are similarly located on tall buildings, mountains, and other broadcast towers in and around the community of license. Therefore, as with ENG-RO sites, both the height as well as the location of RPU-RO sites is important information to define and record.

11. Allowing RPU licensees with receive-only sites to document the location(s) and height(s) of such sites in the ULS, as part of their RPU license, would allow interested parties, such as SBE-affiliated frequency coordinators, to more accurately determine whether frequency sharing of a particular RPU channel by a newcomer station would be likely to be successful. However, to have the full benefit of adding receive-only sites to an RPU station's record, that data must again be added on a searchable basis, so that interested parties specifying a set of coordinates, a search distance, and an RPU channel range will be able to determine if there are any RPU-receive only sites within the search area.

### **V. Summary**

12. SBE now acts on the offer made in the ET 01-75 MO&O, to submit a petition for rulemaking to implement changes to the ULS and to Form 601, to allow TV Pickup licensees (and RPU licensees) the option of modify their station records in the ULS to document the location(s) and height(s) of any receive-only sites that are employed. If this data is added to the ULS, in a manner that is searchable on a point-radius basis, interested parties will then be able to quickly ascertain if there is a receive-only site near a planned base station, in which case either a different (non-collocated) base station site could be selected, or mitigation measures to protect the existing, earlier-in-time receive-only site could be taken on a non-emergency basis, as part of

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<sup>7</sup> R&O, at Paragraph 29.

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the newcomer station's equipment testing. SBE hopes that the Commission will act on this petition with sufficient speed so that all TV Pickup licensees that must modify their licenses from the old to the new 2 GHz TV BAS band plan can also use those filings to at long last document the locations and heights of their ENG central receive sites. Doing so will get the ULS a step closer to truly being "universal."

**List of Figures**

13. The following figures or exhibits have been prepared as a part of this Petition for Rulemaking to modify the ULS to allow TV Pickup stations to document the locations and heights of their ENG central receive sites:

1. Figure showing allocations adjacent to the 2 GHz TV BAS band
2. Figure showing allocations adjacent to the 2.5 GHz TV BAS band
3. Map showing the Denver Area ENG-RO sites.

Respectfully submitted,

Society of Broadcast Engineers, Inc.

/s/ Ray Benedict, CPBE  
SBE President

/s/ Dane E. Ericksen, P.E., CSRTE, CBNT  
Chairman, SBE FCC Liaison Committee  
Chairman, ATSC TSG/S3 Specialist Group on Digital ENG

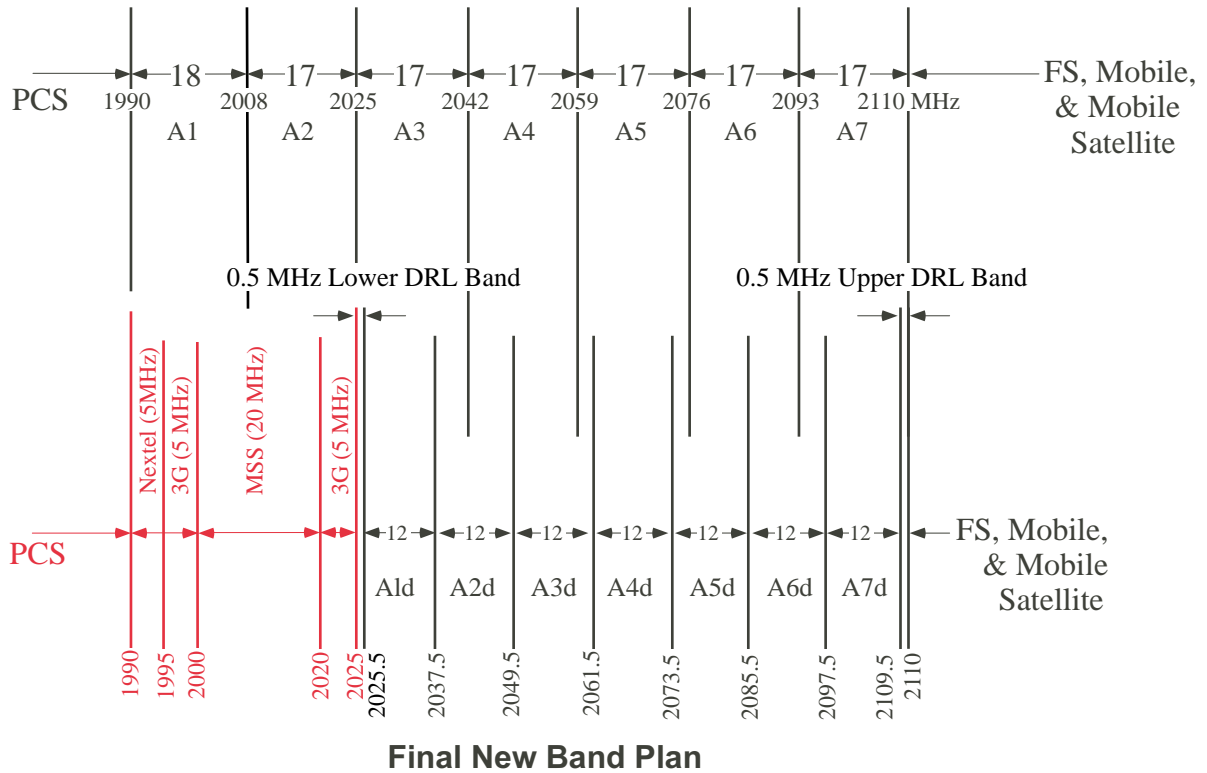
/s/ Christopher D. Imlay, Esq.  
General Counsel

September 6, 2005

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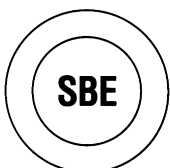
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## Existing vs. Final 2 GHz BAS Band Plan



DRL = Data Return Link

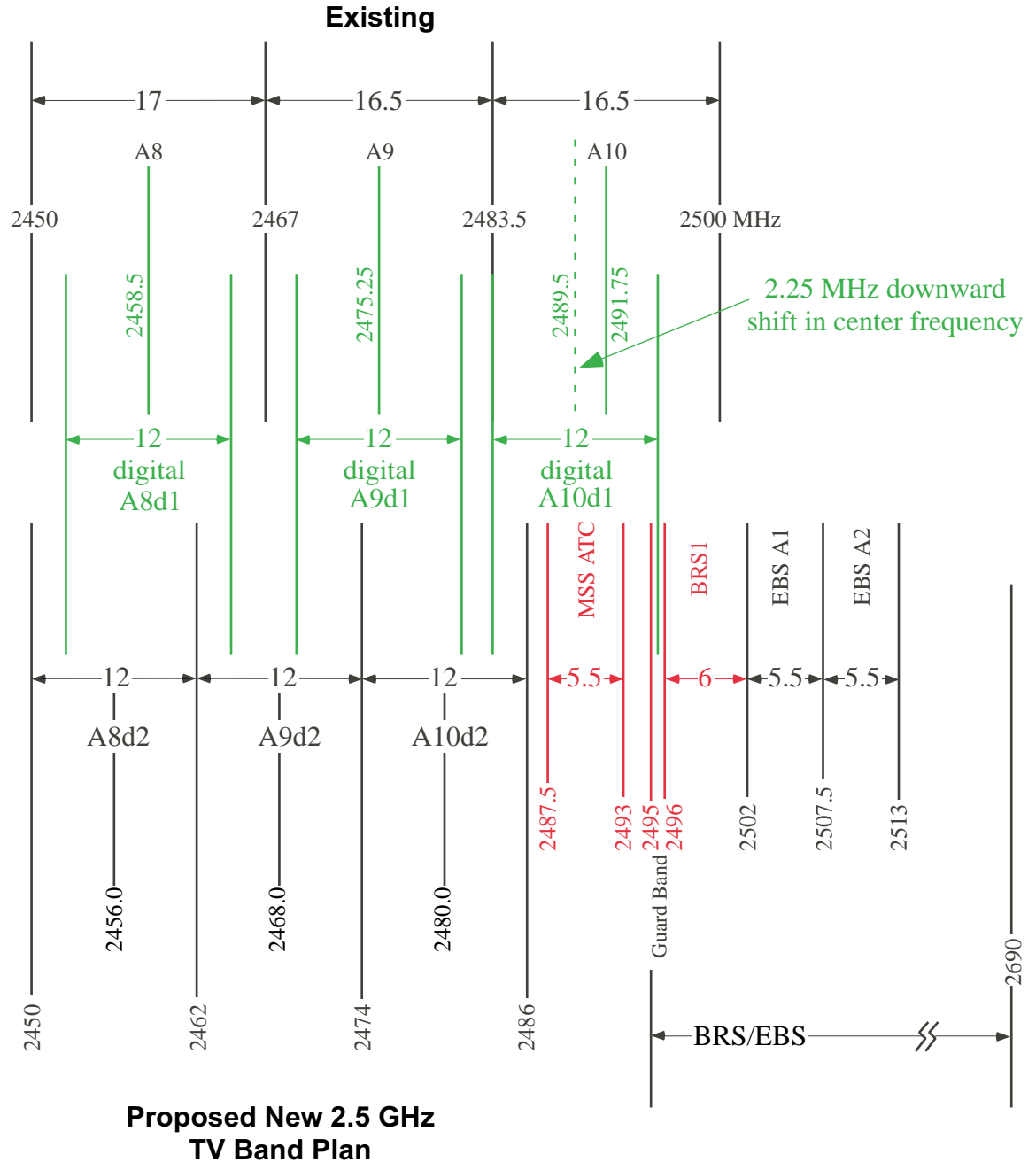
All frequencies and bandwidths are in MHz.



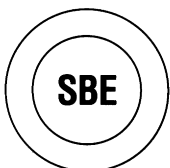
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 Indianapolis, Indiana

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## Existing vs. Proposed New 2.5 GHz TV BAS Band Plan

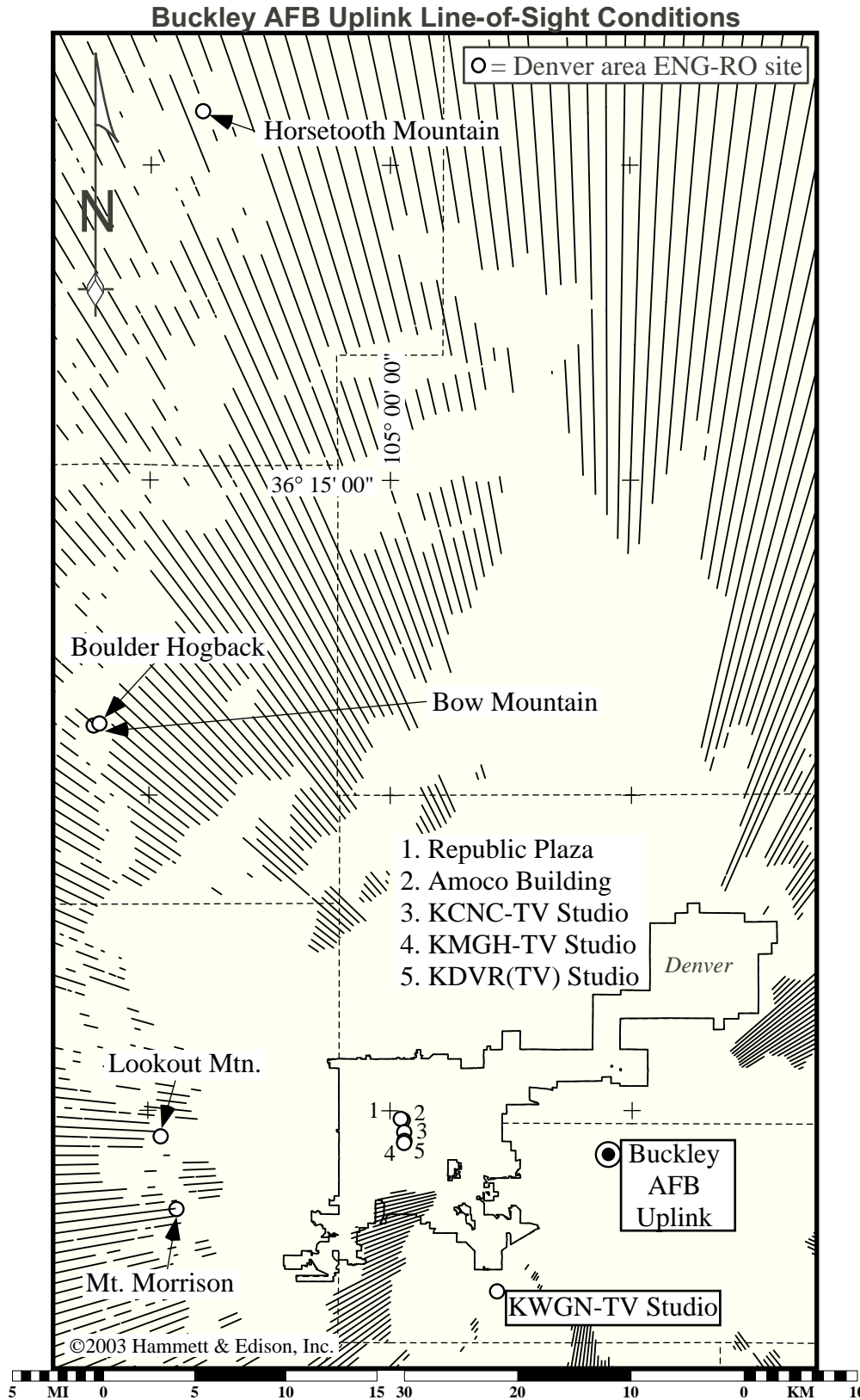


All frequencies and bandwidths are in MHz.

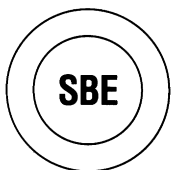


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Lambert conformal conic map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 15-minute increments. City limits shown taken from U.S. Census Bureau TIGER/Line 2000 data.



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