

BEFORE THE  
**Federal Communications Commission**  
WASHINGTON, D.C. 20554

In the Matter of )  
 )  
Digital Audio Broadcasting Systems ) MM Docket No. 99-325  
And Their Impact On The Terrestrial )  
Radio Broadcast Service. )

To: The Commission

**RESPONSE**

CBS Radio East Inc. (“*CBS East*”), licensee of WCBS(AM) New York, NY (Fac. ID No. 9636) (“*WCBS*”), hereby responds to a letter dated February 14, 2007 (the “*Letter*”) written on behalf of Polnet Communications, Ltd. (“*Polnet*”), licensee of Station WRKL(AM), Fac. ID No. 50057, New City, New York (“*WRKL*”) that was filed in the above captioned proceeding. The Letter alleges interference to WRKL’s signals from the digital signal sidebands of WCBS, although it concedes that the reception issues faced by WRKL may be caused by other independent factors.

CBS East is committed to complying with all applicable FCC regulations, including those related to WCBS’s digital signal. Not only does WCBS’s digital signal comply with the FCC’s current attenuation requirements by a significant amount, but its digital signal meets the more-stringent requirements proposed in the National Radio Systems Committee’s NRSC initial digital audio broadcast standard, “In-band/On-channel Digital Radio Broadcasting Standard NRSC-5” (“*NRSC-5*”). Rather than take the drastic steps suggested by Polnet of shutting down AM in-band, on-channel (“*IBOC*”) transmissions or requiring substantial reductions in power and curtailing listener access to

digital signals, the Commission should avoid actions that will impede or deter the conversion to digital audio service, particularly in this case, where the allegations of interference are speculative at best.

Under the FCC's current attenuation requirements, an AM station must achieve an attenuation of -35 dB for emissions that are 20 kHz to 30 kHz removed from the carrier frequency. Under the significantly more stringent attenuation standards set forth in the NRSC-5, an AM station must achieve an attenuation of -65 dB for emissions that are 15.8 kHz to 25 kHz offset from the carrier frequency. For frequencies that are 25 kHz – 30.5 kHz offset, the attenuation requirement varies based on the calculation  $-65 \text{ kHz} - (\text{frequency offset in kHz} - 25) * 1.273$ .

WCBS operates on a frequency 880 kHz and WRKL operates on a frequency of 910 kHz, with a frequency of 30 kHz separating the two carrier signals. WCBS has expended considerable time and made significant financial investments in adjusting and tuning its digital transmitter to further tighten the attenuation of its signal. An engineering study showing signal strength measurements taken March 1, 2007, following the most recent adjustments, is included as Attachment A. Those readings were taken at the same location as the readings in the engineering report submitted with the Polnet Letter.

Currently at frequencies offset by 25kHz, WCBS is operating with an attenuation of -67 dB for its upper sideband emissions and -69 dB for its lower sideband. *See* Attachment A, 3. This level of attenuation is significantly better than the -35 dB attenuation currently required by the FCC's rules and similarly meets the NRSC-5 proposed attenuation requirement of -65 dB for emissions at that frequency offset. At

frequencies offset by 30 kHz, WCBS is operating with an attenuation of -72 dB for its upper sideband emissions and -73 dB for its lower sideband. The attenuation at this frequency offset is also well above the -35 dB attenuation that is currently required and is even more attuned than would be required by the NRSC-5 proposed requirement of -71.4 dB ;  $-65 - (30 \text{ kHz} - 25\text{kHz}) * 1.273$ .

CBS Radio Inc. and all of its subsidiary radio stations have long been champions of the transition to digital radio and are at the forefront of implementing new technologies. As digital broadcasting technology continues to develop, and as CBS Radio Inc. adopts this improved technology, even greater levels of attenuation should be achieved by WCBS. However, as WCBS is in compliance with both the current FCC attenuation standards and the more-restrictive NRSC-5 proposed standards, the Commission should not take any action against the station pursuant to Polnet's Letter.

Indeed, the engineering study submitted with Polnet's Letter indicates uncertainty as to whether any of the issues Polnet complains of actually result from the WCBS signal. The study notes that the digital "hash" that can be heard on WRKL's signal "*may be produced* by the upper spectral regrowth sideband of WCBS, which is approximately 3 dB out of specification."<sup>1</sup> This statement not only fails to conclusively determine that WCBS's signal causes the "hash," but ignores the fact that, while the sideband was 3 dB out of compliance with the proposed NRSC-5 standard at the time Polnet measured it, the signal was significantly more attenuated than was actually required under the Commission's rules. Subsequent to the filing of the Polnet Letter, WCBS was able to

---

<sup>1</sup> Letter from Frank R. Jazzo, Counsel for Polnet Communications, Ltd. to Marlene H. Dortch, Sec., Fed. Communications Comm'n, Interference Study 13 (Feb. 14, 2007) (emphasis added).

further adjust the station's signal, which is now in compliance with the stricter NRSC-5 standard as well.

The Polnet Letter also explicitly states that the channel selectivity capability of many "typical broadcast receivers" is so inadequate with regard to second-adjacent channels, that it is possible that the interference that WRKL's signal receives may continue regardless of what actions WCBS takes.<sup>2</sup> Thus, the Letter complains of a signal that complies with both the current and stricter, proposed attenuation requirements while the actual cause of concern may be poorly designed receivers.

In considering the Polnet Letter, the Commission should note that WCBS's digital signal complies with both current attenuation standards and the significantly more stringent proposed NRSC-5 standards. The Commission should also consider that the Polnet Letter and supporting study acknowledge that WCBS's signal may not be causing any of the complained of interference, and that regardless of any adjustments to the WCBS's signal, the digital "hash" heard on WRKL's signal may persist.

Therefore, CBS East respectfully requests that the Commission not cease all AM digital broadcasts or require significant power reductions as proposed by Polnet. Instead, the Commission should recognize the significant public interest in completing the

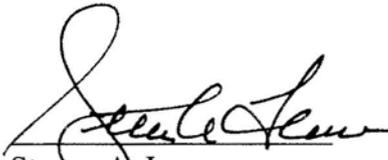
---

<sup>2</sup> *Id.* at 3 (citing Interference Study at 13).

transition to digital broadcasting in as expedient and efficient method possible and should refrain from actions which would retard this conversion.

Respectfully submitted,

**CBS Radio East Inc.**

By:   
Steven A. Lerman  
John W. Bagwell

Stephen A. Hildebrandt  
CBS Radio East Inc. Counsel

Leventhal Senter & Lerman PLLC  
2000 K Street, NW, Suite 600  
Washington, DC 20006  
(202) 429-8970

Its Attorneys

March 30, 2007

## WCBS Signal Strength Measurements Thursday, March 1, 2007



The single-turn loop antenna used for spectral measurements is positioned on a tripod approximately 1 KM away in the northwest corner of the Orchard Beach parking lot. Looking closely, the WCBS/WFAN main and auxiliary antennas are in the distance.



Mark Olkowski measures the field strength of the WCBS signal as well as the signal of WRKL using a Potomac Instruments FIM-41.

**WCBS Measured 1.4 Volts**

**WRKL Measured 700 microvolts (.0007 Volts)**

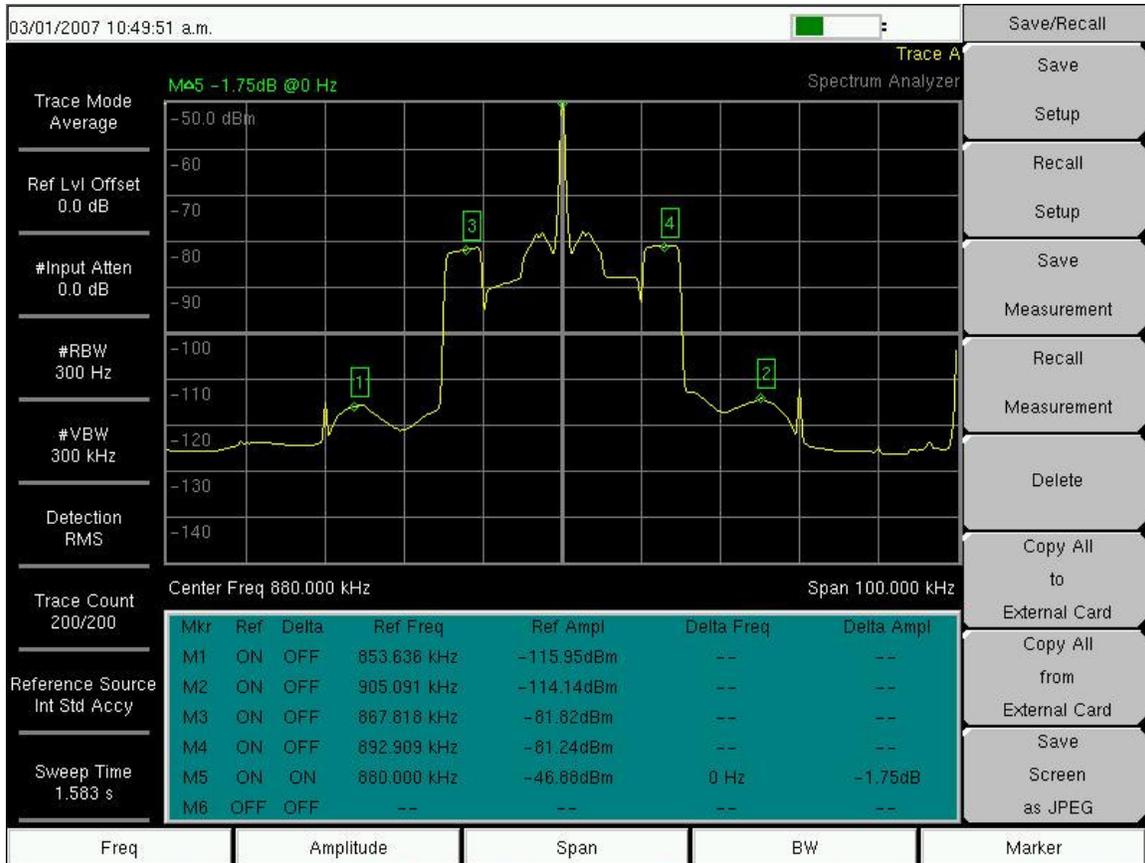


The tripod used for measurements with a clearer photo of the WCBS/WFAN towers in the distance.



## Spectral Measurements

All measurements were taken with an Anritsu MS2721A Spectrum Master  
Spectrum Analyzer, serial #627027



### A measurement taken from the Orchard Beach parking lot.

The Harris Dexstar was set for a phase delay of 11297 with the lower/upper sidebands set for -4 and -6 dB of reduction, respectively. This graph shows 200 traces of measurement swept at a rate of approximately 1.5 seconds.

**Marker 1** – Lower sideband third-order spectral regrowth

**Marker 2** – Upper sideband third order spectral regrowth

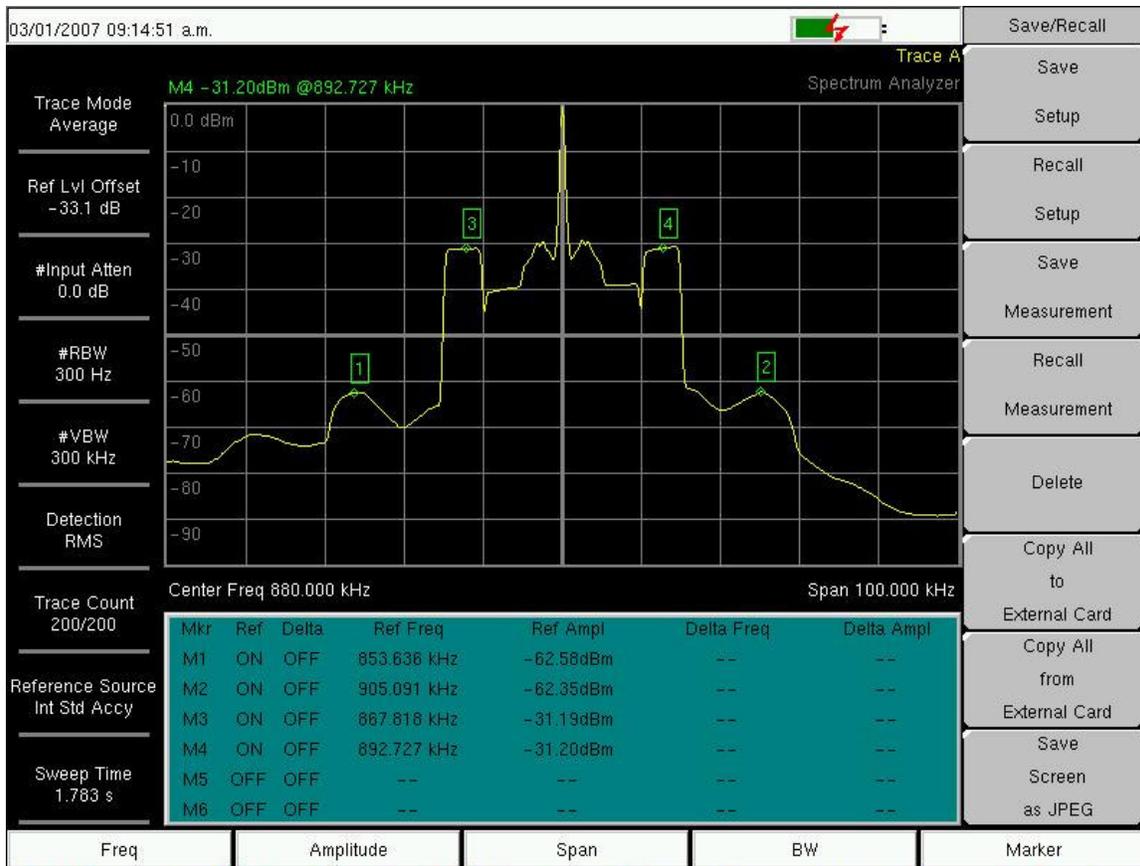
**Marker 3** – Lower IBOC carrier

**Marker 4** – Upper IBOC carrier

**Marker 5** – Center of carrier at peak (for reference)

**Lower sideband** third-order spectral regrowth shown at **-69.07 dB** down

**Upper sideband** third-order spectral regrowth shown at **-67.26 dB** down



**A measurement taken from the WCBS common point.**

The Harris Dexstar was set for a phase delay of 11297 with the lower/upper sidebands set for -4 and -6 dB of reduction, respectively. This graph shows 200 traces of measurement swept at a rate of approximately 1.5 seconds.

Additional rolloff occurs in the WCBS antenna system, achieving higher reduction in the third-order spectral regrowth than shown above.

**Marker 1** – Lower sideband third-order spectral regrowth

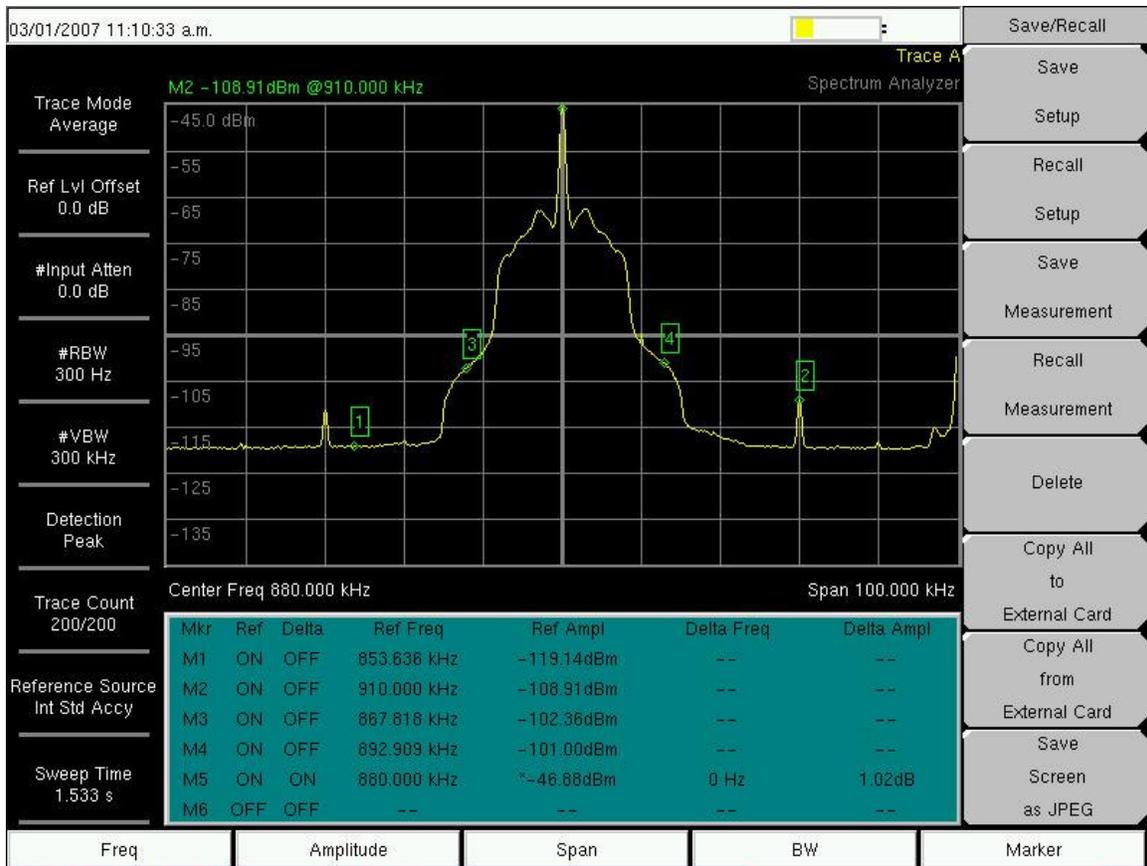
**Marker 2** – Upper sideband third order spectral regrowth

**Marker 3** – Lower IBOC carrier

**Marker 4** – Upper IBOC carrier

**Lower sideband** third-order spectral regrowth shown at **-62.58 dB down**

**Upper sideband** third-order spectral regrowth shown at **-62.35 dB down**



**A measurement taken from the Orchard Beach parking lot with no IBOC carriers.**

The spectrum analyzer was set for peak detection and ran 200 traces at a rate of approximately 1.5 seconds per trace.

**Marker 2** – WRKL signal at 910 kHz

**Marker 5** – Center of carrier at peak (for reference)

**Respectfully Submitted,**  
Robert Bertrand  
Engineer  
WCBS-AM  
March 2, 2007