

ADVANCED TELEVISION TECHNOLOGY CENTER

Digital Audio Broadcasting

**SCA Compatibility of the
iBiquity Digital IBOC System
in the FM Band**

Summary of Test Results

Document #01-16B

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1. Introduction

This report contains the results of tests conducted by the Advanced Television Technology Center (ATTC) on the **iBiquity Digital FM In-Band On-Channel (IBOC) Digital Audio Broadcasting (DAB) System** during the period of April through August 2001.

1.1. Scope

The results reported in this document are collectively referred to as *SCA Compatibility Testing*. The objective of SCA compatibility testing is to evaluate and characterize the impact that an IBOC DAB system would have on the existing analog radio SCA services within the FM broadcast band. These tests are performed under controlled laboratory conditions that simulate interference due to digital sidebands on both adjacent channels and the analog host channel. This report provides data on the analog compatibility performance of SCA subcarrier channels and supplements data on the main channel reported previously¹.

¹ Digital Audio Broadcasting, Analog Compatibility and Digital Performance of the iBiquity IBOC System in the FM Band, Document No. 01-13, July 31, 2001, Advanced Television Technology Center, Inc.

2. Description of the Test System and Parameters

2.1. Test Bed Description

The ATTC DAB Test Bed configured for Analog Compatibility Testing is described in detail in ATTC Document No. 01-03². The Test Bed was used to numerically quantify Signal-to-Noise (S/N) and Stereo Separation. The Test Bed was also used to produce digital audio recordings.

The performance of the ATTC Test Bed was verified according to the proof of performance plan detailed in ATTC Document No. 00-05³. The results of the proof are documented in ATTC Document No. 01-01⁴.

2.2. FM Band Signals

2.2.1. Desired Analog

In all cases, the desired analog FM signal had the following characteristics:

- 1) Main channel modulation:
 - a) Stereo transmission
 - b) 75 μ s pre-emphasis
 - c) 10% pilot injection
- 2) Main Carrier:
 - a) 97.9 MHz
- 3) Power
 - a) Moderate: -62dBm
 - b) Strong: -47dBm

The test dependent signal characteristics are summarized in Table 1 . The audio material and subcarrier channels varied according one of four test types (III through VI). The 67 and 92 kHz subcarriers, if present, had a deviation of 5 kHz and a 150 μ s pre-emphasis.

² Digital Audio Broadcasting, IBOC Laboratory Test Procedures – FM Band, Document No. 01-03, Revision 4.2, August 2001, Advanced Television Technology Center, Inc.

³ Digital Audio Broadcasting, Test Bed Proof of Performance Plan, Document No. 00-05, Revision 1.1, December 2000, Advanced Television Technology Center, Inc.

⁴ Digital Audio Broadcasting, Test Bed Proof of Performance Record, Document No. 01-01, Revision 1.0, January 2001, Advanced Television Technology Center, Inc.

Table 1 – Desired Test Signal Characteristics

Type	Evaluation Type	Main Channel Audio		Subcarriers		
		Signal	Dynamic Processing	Frequency	Injection	Signal
III	Objective	CPN	N/A	67 kHz	10 %	400Hz tone
				92 kHz	10 %	LPF USASSI
IV	Subjective	MMW cut	Medium	67 kHz	10 %	CLM
				92 kHz	10 %	MaleA11 cut
V	Objective	CPN	N/A	57 kHz	3.0 %	RDS
VI	Objective	CPN	N/A	76 kHz	10 %	DARC

CLM = Critical Listening Material

CPN = Clipped Pink Noise

2.2.2. Desired Hybrid

This signal is defined as the spectral sum of an analog desired signal and the digital carriers as generated by an iBiquity Digital IBOC exciter in hybrid mode. The digital carriers utilize OFDM modulation. The sum of *all* digital carriers in the hybrid signal has an average power that is 20 dB below the average analog power.

2.2.3. Undesired Analog Interferer

In all cases, an undesired analog FM interferer had the following characteristics:

- 1) Main channel modulation:
 - a) Stereo transmission
 - b) 75µs pre-emphasis
 - c) 10% pilot injection
 - d) Test dependent audio
 - i) **Objective Tests (Type I):** Clipped Pink Noise with peaks equal to 90% modulation (67.5 kHz deviation). Pilot contributes 10% for total modulation = 100%.
 - ii) **Subjective Tests (Type II):** Processed Rock with peaks equal to 90% modulation (67.5 kHz deviation). Pilot contributes 10% for total modulation = 100%.
- 2) Subcarriers: None
- 3) Main Carrier:
 - a) For upper 1st adjacent: 98.1 MHz
 - b) For upper 2nd adjacent: 98.3 MHz
 - c) For co-channel: 97.9 MHz
 - d) For lower 1st adjacent: 97.7 MHz
 - e) For lower 2nd adjacent: 97.5 MHz

2.2.3.1. Undesired Hybrid Interferer

In all cases, the undesired hybrid interferer was the spectral sum of an analog undesired signal and the digital carriers as generated by an IBOC exciter in hybrid mode. The analog portion of the signal had the same characteristics as outlined above. The sum of all digital carriers in the hybrid signal shall have an *average* power that is 20dB below the average analog power.

2.2.3.2. Additive White Gaussian Noise

For SCA compatibility tests, the channels of interest were subjected to Additive White Gaussian Noise (AWGN) at a level of 30,000 degrees Kelvin.

2.3. Baseband Audio

2.3.1. Standardized Interferer - Clipped Pink Noise

In order to approximate the program material of a typical FM rock station; a CD recording was made of a 'clipped pink noise' signal. For cases where two simultaneous interferers are required a second CD recording was made. Each recording is played on two different CD players so that the signals are not correlated with each other in time.

2.3.2. Standardized Interferer - Processed Rock

In addition to the clipped pink noise described above, a standard interferer was generated which simulates "processed rock" (which is assumed to be one of the worst interferers). While clipped pink noise does an excellent job of producing maximum deviation with a low peak to average ratio, as an interferer it is missing one critical component which many *human* listeners find objectionable – a beat. For this reason a processed rock interferer was used for the subjective tests.

As in the case of clipped pink noise, a CD recording of "processed rock" was made. For the cases of two simultaneous interferers, two sources were used with time offset from each other.

2.3.3. Standardized Interferer - LPF USASSI

In addition to the clipped pink noise and processed rock signals described above, another signal was developed, and labelled *LPF USASI*. This LPF USASI signal was designed to simulate program material that may be found on typical FM SCA services.

Basic USASI noise was developed by the United States of America Standards Institute. Its intended purpose is to simulate unprocessed program material. Since SCA services typically do not employ external processors, it was decided that USASI noise was appropriate to simulate program material that may be found on an SCA service. However, in order to simulate the bandwidth typically found on an SCA service, the USASI noise was passed through an additional 5kHz low pass

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filter. This combination of USASI noise and low pass filtering results in a repeatable noise signal, which represents program material on a severely band-limited service. The resultant audio was termed *LPF USASI* for the purposes of these tests.

3. Description of Test Receivers

The following FM subcarrier receivers were used for the SCA compatibility tests:

Radio Model No:	Type	Serial No:
Mc Martin TR-E5/55M	67 kHz	286834
Norver 67 kHz	67 kHz Reading services	A0012461
CozmoCom 92 kHz	92 kHz	0073696
ComPol SCA-BL 92 kHz	92 kHz	Sample 1001
Audemat RDS Analyzer	57 kHz RDS	-
Sectra DRB-3000	76 kHz DARC	340002576

These receivers were provided to ATTC by the National Radio Systems Committee (NRSC). The objective tests (NRSC F/SC.1, F/SC.2, and J.4) were repeated for the Mc Martin receiver after the receiver was repaired by iBiquity Digital.

4. Results Summary

4.1. Objective Results Summary

The Weighted Quasi-Peak Signal-to-Noise Ratio (WQP SNR) of each receiver was objectively measured under various interference scenarios over a range of D/U signal ratios⁵. The test results are presented in the following series of tables. Each row of the tables represents one test designated by an ATTC test number. In the *Desired* column, the strength of the desired analog signal is indicated: *Strong* (-47 dBm) or *Moderate* (-62 dBm). In the interferer columns, the mode of the interferer is indicated: *Analog* or *Hybrid*. Each interferer also has a fixed D/U number (e.g. +6) next to it indicating that the strength of this interferer is fixed at that particular D/U ratio. The *AWGN* column indicates the presence or absence of a broadband noise floor. The *WQP SNR* column indicates the test result in dB.

The results for the RDS subcarrier channel receivers are expressed in terms of the measured Block Error Rate (BLER). The results for the DARC subcarrier channel receivers are expressed in terms of the measured Block Error Rate (BLER) before and after correction by the DARC receiver software. The two types of BLER measurements are presented as mean values, accompanied by a 95% confidence interval.

⁵ Throughout the remainder of this document, the following conventions are used: D refers to a desired analog signal; U refers to a single undesired interferer (which could be analog, or hybrid). If a D/U ratio is positive, then the desired signal has *more* power than the undesired signal.

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4.1.1. Single Interferers into the 67 kHz and the 92 kHz FM Analog SCA Subcarrier Channels (NRSC F/SC.1 and F/SC.2)

Table 2 summarizes the results of the objective compatibility tests for single interferers into the 67 kHz FM analog SCA subcarrier channel (NRSC F/SC.1 and F/SC.2) of the Mc Martin TR-E5/55M receiver. iBiquity Digital discovered a problem with the Mc Martin receiver and repaired the receiver. Table 3 summarizes the results of the objective compatibility tests for the repaired Mc Martin receiver. The subjective test recordings from the Mc Martin receiver, described in Section 4.2, were made prior to the receiver repair.

Table 4 summarizes the results of the objective compatibility tests for single interferers into the 67 kHz FM analog SCA subcarrier channel of the Norver 67 kHz receiver. Table 5 summarizes the results of the objective compatibility tests for single interferers into the 92 kHz FM analog SCA subcarrier channel of the CozmoCom 92 kHz receiver. Table 6 summarizes the results of the objective compatibility tests for single interferers into the 92 kHz FM analog SCA subcarrier channel of the ComPol SCA-BL 92 kHz receiver.

Table 2 - Objective Test Results - Single Interferer into the 67 kHz SCA Subcarrier Channel of the Mc Martin TR-E5/55M Receiver (NRSC F/SC.1 and F/SC.2)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1701		Analog: +16dB	67kHz: Moderate			None	27.8
1702		Hybrid: +16dB	67kHz: Moderate			None	27.5
1703		Analog: +6dB	67kHz: Moderate			None	17.2
1704		Hybrid: +6dB	67kHz: Moderate			None	17.1
1705		Analog: +16dB	67kHz: Moderate			30,000K	26.9
1706		Hybrid: +16dB	67kHz: Moderate			30,000K	26.8
1707		Analog: +6dB	67kHz: Moderate			30,000K	17.1
1708		Hybrid: +6dB	67kHz: Moderate			30,000K	17.1
1709			67kHz: Moderate	Analog: +16dB		None	21.9
1710			67kHz: Moderate	Hybrid: +16dB		None	21.8
1711			67kHz: Moderate	Analog: +6dB		None	8.3
1712			67kHz: Moderate	Hybrid: +6dB		None	9.2
1713			67kHz: Moderate	Analog: +16dB		30,000K	21.7
1714			67kHz: Moderate	Hybrid: +16dB		30,000K	21.8
1715			67kHz: Moderate	Analog: +6dB		30,000K	8.7
1716			67kHz: Moderate	Hybrid: +6dB		30,000K	7.8
1717	Analog: 0dB		67kHz: Moderate			None	35.8
1718	Hybrid: 0dB		67kHz: Moderate			None	35.8
1719	Analog: -10dB		67kHz: Moderate			None	35.7
1720	Hybrid: -10dB		67kHz: Moderate			None	35.7

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1721	Analog: -20dB		67kHz: Moderate			None	35.3
1722	Hybrid: -20dB		67kHz: Moderate			None	34.0
1723	Analog: -30dB		67kHz: Moderate			None	31.5
1724	Hybrid: -30dB		67kHz: Moderate			None	4.0
1725	Analog: 0dB		67kHz: Moderate			30,000K	30.7
1726	Hybrid: 0dB		67kHz: Moderate			30,000K	30.6
1727	Analog: -10dB		67kHz: Moderate			30,000K	30.6
1728	Hybrid: -10dB		67kHz: Moderate			30,000K	30.6
1729	Analog: -20dB		67kHz: Moderate			30,000K	30.5
1730	Hybrid: -20dB		67kHz: Moderate			30,000K	30.1
1731	Analog: -30dB		67kHz: Moderate			30,000K	28.8
1732	Hybrid: -30dB		67kHz: Moderate			30,000K	3.3
1733			67kHz: Moderate		Analog: 0dB	None	35.8
1734			67kHz: Moderate		Hybrid: 0dB	None	35.7
1735			67kHz: Moderate		Analog: -10dB	None	35.7
1736			67kHz: Moderate		Hybrid: -10dB	None	35.0
1737			67kHz: Moderate		Analog: -20dB	None	35.3
1738			67kHz: Moderate		Hybrid: -20dB	None	2.8
1739			67kHz: Moderate		Analog: -30dB	None	1.9
1740			67kHz: Moderate		Hybrid: -30dB	None	0.1
1741			67kHz: Moderate		Analog: 0dB	30,000K	30.6
1742			67kHz: Moderate		Hybrid: 0dB	30,000K	30.5
1743			67kHz: Moderate		Analog: -10dB	30,000K	30.6
1744			67kHz: Moderate		Hybrid: -10dB	30,000K	30.4
1745			67kHz: Moderate		Analog: -20dB	30,000K	30.5
1746			67kHz: Moderate		Hybrid: -20dB	30,000K	3.0
1747			67kHz: Moderate		Analog: -30dB	30,000K	1.9
1748			67kHz: Moderate		Hybrid: -30dB	30,000K	0.0

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Table 3 - Objective Results - Single Interferer into the 67 kHz SCA Subcarrier Channel of the repaired Mc Martin TR-E5/55M Receiver (NRSC F/SC.1 and F/SC.2)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1701		Analog: +16dB	67kHz: Moderate			None	27.6
1702		Hybrid: +16dB	67kHz: Moderate			None	27.1
1703		Analog: +6dB	67kHz: Moderate			None	16.5
1704		Hybrid: +6dB	67kHz: Moderate			None	16.3
1705		Analog: +16dB	67kHz: Moderate			30,000K	26.9
1706		Hybrid: +16dB	67kHz: Moderate			30,000K	26.4
1707		Analog: +6dB	67kHz: Moderate			30,000K	16.3
1708		Hybrid: +6dB	67kHz: Moderate			30,000K	16.2
1709			67kHz: Moderate	Analog: +16dB		None	24.4
1710			67kHz: Moderate	Hybrid: +16dB		None	24.0
1711			67kHz: Moderate	Analog: +6dB		None	12.2
1712			67kHz: Moderate	Hybrid: +6dB		None	13.7
1713			67kHz: Moderate	Analog: +16dB		30,000K	23.9
1714			67kHz: Moderate	Hybrid: +16dB		30,000K	23.9
1715			67kHz: Moderate	Analog: +6dB		30,000K	13.8
1716			67kHz: Moderate	Hybrid: +6dB		30,000K	12.9
1717	Analog: 0dB		67kHz: Moderate			None	37.5
1718	Hybrid: 0dB		67kHz: Moderate			None	37.4
1719	Analog: -10dB		67kHz: Moderate			None	37.3
1720	Hybrid: -10dB		67kHz: Moderate			None	37.2
1721	Analog: -20dB		67kHz: Moderate			None	35.7
1722	Hybrid: -20dB		67kHz: Moderate			None	30.7
1723	Analog: -30dB		67kHz: Moderate			None	28.0
1724	Hybrid: -30dB		67kHz: Moderate			None	3.7
1725	Analog: 0dB		67kHz: Moderate			30,000K	31.3
1726	Hybrid: 0dB		67kHz: Moderate			30,000K	31.3
1727	Analog: -10dB		67kHz: Moderate			30,000K	31.2
1728	Hybrid: -10dB		67kHz: Moderate			30,000K	31.2
1729	Analog: -20dB		67kHz: Moderate			30,000K	30.7
1730	Hybrid: -20dB		67kHz: Moderate			30,000K	28.8
1731	Analog: -30dB		67kHz: Moderate			30,000K	26.6
1732	Hybrid: -30dB		67kHz: Moderate			30,000K	3.7
1733			67kHz: Moderate		Analog: 0dB	None	37.5
1734			67kHz: Moderate		Hybrid: 0dB	None	37.5
1735			67kHz: Moderate		Analog: -10dB	None	37.5
1736			67kHz: Moderate		Hybrid: -10dB	None	36.8
1737			67kHz: Moderate		Analog: -20dB	None	37.0
1738			67kHz: Moderate		Hybrid: -20dB	None	31.2
1739			67kHz: Moderate		Analog: -30dB	None	31.8
1740			67kHz: Moderate		Hybrid: -30dB	None	0.3

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1741			67kHz: Moderate		Analog: 0dB	30,000K	31.2
1742			67kHz: Moderate		Hybrid: 0dB	30,000K	31.2
1743			67kHz: Moderate		Analog: -10dB	30,000K	31.3
1744			67kHz: Moderate		Hybrid: -10dB	30,000K	31.1
1745			67kHz: Moderate		Analog: -20dB	30,000K	31.1
1746			67kHz: Moderate		Hybrid: -20dB	30,000K	29.0
1747			67kHz: Moderate		Analog: -30dB	30,000K	29.1
1748			67kHz: Moderate		Hybrid: -30dB	30,000K	0.3

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Table 4 - Objective Test Results - Single Interferer into the 67 kHz SCA Subcarrier Channel of the Norver 67 kHz Receiver (NRSC F/SC.1 and F/SC.2)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1701		Analog: +16dB	67kHz: Moderate			None	15.6
1702		Hybrid: +16dB	67kHz: Moderate			None	15.6
1703		Analog: +6dB	67kHz: Moderate			None	4.1
1704		Hybrid: +6dB	67kHz: Moderate			None	5.9
1705		Analog: +16dB	67kHz: Moderate			30,000K	15.3
1706		Hybrid: +16dB	67kHz: Moderate			30,000K	15.3
1707		Analog: +6dB	67kHz: Moderate			30,000K	5.1
1708		Hybrid: +6dB	67kHz: Moderate			30,000K	3.7
1709			67kHz: Moderate	Analog: +16dB		None	15.3
1710			67kHz: Moderate	Hybrid: +16dB		None	15.3
1711			67kHz: Moderate	Analog: +6dB		None	6.8
1712			67kHz: Moderate	Hybrid: +6dB		None	6.6
1713			67kHz: Moderate	Analog: +16dB		30,000K	15.4
1714			67kHz: Moderate	Hybrid: +16dB		30,000K	15.3
1715			67kHz: Moderate	Analog: +6dB		30,000K	7.1
1716			67kHz: Moderate	Hybrid: +6dB		30,000K	6.2
1717	Analog: 0dB		67kHz: Moderate			None	31.2
1718	Hybrid: 0dB		67kHz: Moderate			None	31.1
1719	Analog: -10dB		67kHz: Moderate			None	30.8
1720	Hybrid: -10dB		67kHz: Moderate			None	30.1
1721	Analog: -20dB		67kHz: Moderate			None	10.5
1722	Hybrid: -20dB		67kHz: Moderate			None	2.6
1723	Analog: -30dB		67kHz: Moderate			None	0.4
1724	Hybrid: -30dB		67kHz: Moderate			None	0.1
1725	Analog: 0dB		67kHz: Moderate			30,000K	24.8
1726	Hybrid: 0dB		67kHz: Moderate			30,000K	24.8
1727	Analog: -10dB		67kHz: Moderate			30,000K	24.8
1728	Hybrid: -10dB		67kHz: Moderate			30,000K	24.6
1729	Analog: -20dB		67kHz: Moderate			30,000K	10.0
1730	Hybrid: -20dB		67kHz: Moderate			30,000K	2.5
1731	Analog: -30dB		67kHz: Moderate			30,000K	0.4
1732	Hybrid: -30dB		67kHz: Moderate			30,000K	0.1
1733			67kHz: Moderate		Analog: 0dB	None	31.2
1734			67kHz: Moderate		Hybrid: 0dB	None	31.2
1735			67kHz: Moderate		Analog: -10dB	None	29.9
1736			67kHz: Moderate		Hybrid: -10dB	None	29.2
1737			67kHz: Moderate		Analog: -20dB	None	17.6
1738			67kHz: Moderate		Hybrid: -20dB	None	4.9
1739			67kHz: Moderate		Analog: -30dB	None	1.6
1740			67kHz: Moderate		Hybrid: -30dB	None	0.4

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1741			67kHz: Moderate		Analog: 0dB	30,000K	24.9
1742			67kHz: Moderate		Hybrid: 0dB	30,000K	24.9
1743			67kHz: Moderate		Analog: -10dB	30,000K	24.5
1744			67kHz: Moderate		Hybrid: -10dB	30,000K	24.3
1745			67kHz: Moderate		Analog: -20dB	30,000K	16.6
1746			67kHz: Moderate		Hybrid: -20dB	30,000K	5.0
1747			67kHz: Moderate		Analog: -30dB	30,000K	1.6
1748			67kHz: Moderate		Hybrid: -30dB	30,000K	0.5

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Table 5 - Objective Test Results - Single Interferer into the 92 kHz SCA Subcarrier Channel of the CozmoCom 92 kHz Receiver (NRSC F/SC.1 and F/SC.2)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1749		Analog: +16dB	92kHz: Moderate			None	17.2
1750		Hybrid: +16dB	92kHz: Moderate			None	13.3
1751		Analog: +6dB	92kHz: Moderate			None	8.2
1752		Hybrid: +6dB	92kHz: Moderate			None	7.9
1753		Analog: +16dB	92kHz: Moderate			30,000K	15.3
1754		Hybrid: +16dB	92kHz: Moderate			30,000K	15.4
1755		Analog: +6dB	92kHz: Moderate			30,000K	8.2
1756		Hybrid: +6dB	92kHz: Moderate			30,000K	7.9
1757			92kHz: Moderate	Analog: +16dB		None	18.4
1758			92kHz: Moderate	Hybrid: +16dB		None	16.8
1759			92kHz: Moderate	Analog: +6dB		None	8.1
1760			92kHz: Moderate	Hybrid: +6dB		None	7.8
1761			92kHz: Moderate	Analog: +16dB		30,000K	17.4
1762			92kHz: Moderate	Hybrid: +16dB		30,000K	17.5
1763			92kHz: Moderate	Analog: +6dB		30,000K	7.9
1764			92kHz: Moderate	Hybrid: +6dB		30,000K	7.9
1765	Analog: 0dB		92kHz: Moderate			None	29.0
1766	Hybrid: 0dB		92kHz: Moderate			None	29.0
1767	Analog: -10dB		92kHz: Moderate			None	29.0
1768	Hybrid: -10dB		92kHz: Moderate			None	28.6
1769	Analog: -20dB		92kHz: Moderate			None	28.6
1770	Hybrid: -20dB		92kHz: Moderate			None	13.2
1771	Analog: -30dB		92kHz: Moderate			None	4.3
1772	Hybrid: -30dB		92kHz: Moderate			None	0.6
1773	Analog: 0dB		92kHz: Moderate			30,000K	27.3
1774	Hybrid: 0dB		92kHz: Moderate			30,000K	27.2
1775	Analog: -10dB		92kHz: Moderate			30,000K	27.3
1776	Hybrid: -10dB		92kHz: Moderate			30,000K	27.0
1777	Analog: -20dB		92kHz: Moderate			30,000K	27.0
1778	Hybrid: -20dB		92kHz: Moderate			30,000K	16.1
1779	Analog: -30dB		92kHz: Moderate			30,000K	4.1
1780	Hybrid: -30dB		92kHz: Moderate			30,000K	0.7
1781			92kHz: Moderate		Analog: 0dB	None	29.0
1782			92kHz: Moderate		Hybrid: 0dB	None	28.9
1783			92kHz: Moderate		Analog: -10dB	None	28.9
1784			92kHz: Moderate		Hybrid: -10dB	None	28.0
1785			92kHz: Moderate		Analog: -20dB	None	27.4
1786			92kHz: Moderate		Hybrid: -20dB	None	22.7
1787			92kHz: Moderate		Analog: -30dB	None	6.5
1788			92kHz: Moderate		Hybrid: -30dB	None	2.1

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1789			92kHz: Moderate		Analog: 0dB	30,000K	27.3
1790			92kHz: Moderate		Hybrid: 0dB	30,000K	27.2
1791			92kHz: Moderate		Analog: -10dB	30,000K	27.1
1792			92kHz: Moderate		Hybrid: -10dB	30,000K	26.6
1793			92kHz: Moderate		Analog: -20dB	30,000K	26.2
1794			92kHz: Moderate		Hybrid: -20dB	30,000K	23.2
1795			92kHz: Moderate		Analog: -30dB	30,000K	6.5
1796			92kHz: Moderate		Hybrid: -30dB	30,000K	2.2

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Table 6 - Objective Test Results - Single Interferer into the 92 kHz SCA Subcarrier Channel of the ComPol SCA-BL 92 kHz Receiver (NRSC F/SC.1 and F/SC.2)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1749		Analog: +16dB	92kHz: Moderate			None	5.6
1750		Hybrid: +16dB	92kHz: Moderate			None	5.9
1751		Analog: +6dB	92kHz: Moderate			None	2.1
1752		Hybrid: +6dB	92kHz: Moderate			None	2.2
1753		Analog: +16dB	92kHz: Moderate			30,000K	5.2
1754		Hybrid: +16dB	92kHz: Moderate			30,000K	5.2
1755		Analog: +6dB	92kHz: Moderate			30,000K	2.1
1756		Hybrid: +6dB	92kHz: Moderate			30,000K	2.1
1757			92kHz: Moderate	Analog: +16dB		None	5.3
1758			92kHz: Moderate	Hybrid: +16dB		None	5.2
1759			92kHz: Moderate	Analog: +6dB		None	2.0
1760			92kHz: Moderate	Hybrid: +6dB		None	1.9
1761			92kHz: Moderate	Analog: +16dB		30,000K	5.1
1762			92kHz: Moderate	Hybrid: +16dB		30,000K	4.7
1763			92kHz: Moderate	Analog: +6dB		30,000K	2.1
1764			92kHz: Moderate	Hybrid: +6dB		30,000K	2.0
1765	Analog: 0dB		92kHz: Moderate			None	27.9
1766	Hybrid: 0dB		92kHz: Moderate			None	27.8
1767	Analog: -10dB		92kHz: Moderate			None	27.8
1768	Hybrid: -10dB		92kHz: Moderate			None	25.5
1769	Analog: -20dB		92kHz: Moderate			None	25.7
1770	Hybrid: -20dB		92kHz: Moderate			None	3.4
1771	Analog: -30dB		92kHz: Moderate			None	10.9
1772	Hybrid: -30dB		92kHz: Moderate			None	0.4
1773	Analog: 0dB		92kHz: Moderate			30,000K	18.5
1774	Hybrid: 0dB		92kHz: Moderate			30,000K	18.5
1775	Analog: -10dB		92kHz: Moderate			30,000K	18.4
1776	Hybrid: -10dB		92kHz: Moderate			30,000K	18.2
1777	Analog: -20dB		92kHz: Moderate			30,000K	17.8
1778	Hybrid: -20dB		92kHz: Moderate			30,000K	3.3
1779	Analog: -30dB		92kHz: Moderate			30,000K	9.3
1780	Hybrid: -30dB		92kHz: Moderate			30,000K	0.4
1781			92kHz: Moderate		Analog: 0dB	None	27.9
1782			92kHz: Moderate		Hybrid: 0dB	None	27.6
1783			92kHz: Moderate		Analog: -10dB	None	27.8
1784			92kHz: Moderate		Hybrid: -10dB	None	24.8
1785			92kHz: Moderate		Analog: -20dB	None	24.4
1786			92kHz: Moderate		Hybrid: -20dB	None	3.3
1787			92kHz: Moderate		Analog: -30dB	None	12.9
1788			92kHz: Moderate		Hybrid: -30dB	None	0.3

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1789			92kHz: Moderate		Analog: 0dB	30,000K	18.4
1790			92kHz: Moderate		Hybrid: 0dB	30,000K	18.5
1791			92kHz: Moderate		Analog: -10dB	30,000K	18.4
1792			92kHz: Moderate		Hybrid: -10dB	30,000K	18.1
1793			92kHz: Moderate		Analog: -20dB	30,000K	17.6
1794			92kHz: Moderate		Hybrid: -20dB	30,000K	3.4
1795			92kHz: Moderate		Analog: -30dB	30,000K	10.6
1796			92kHz: Moderate		Hybrid: -30dB	30,000K	0.3

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4.1.2. Single Interferers into the 57 kHz RDS Subcarrier Channel (NRSC F/SC.3 and F/SC.4)

Table 7 summarizes the results of the objective compatibility tests for single interferers into the 57 kHz RDS subcarrier channel of the Audemat RDS Analyzer receiver (NRSC F/SC.3 and F/SC.4).

Table 7 - Objective Test Results - Single Interferer into the 57 kHz RDS Subcarrier Channel of the Audemat RDS Analyzer Receiver (NRSC F/SC.3 and F/SC.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	BLER (%)
2101		Analog: +26dB	RDS: Moderate			None	0.00 ± 0.00
2102		Hybrid: +26dB	RDS: Moderate			None	0.00 ± 0.00
2103		Analog: +16dB	RDS: Moderate			None	0.00 ± 0.00
2104		Hybrid: +16dB	RDS: Moderate			None	0.00 ± 0.00
2105		Analog: +6dB	RDS: Moderate			None	0.00 ± 0.00
2106		Hybrid: +6dB	RDS: Moderate			None	0.00 ± 0.00
2107		Analog: +26dB	RDS: Moderate			30,000K	0.00 ± 0.00
2108		Hybrid: +26dB	RDS: Moderate			30,000K	0.00 ± 0.00
2109		Analog: +16dB	RDS: Moderate			30,000K	0.00 ± 0.00
2110		Hybrid: +16dB	RDS: Moderate			30,000K	0.00 ± 0.00
2111		Analog: +6dB	RDS: Moderate			30,000K	0.00 ± 0.00
2112		Hybrid: +6dB	RDS: Moderate			30,000K	0.00 ± 0.00
2113			RDS: Moderate	Analog: +26dB		None	0.00 ± 0.00
2114			RDS: Moderate	Hybrid: +26dB		None	0.00 ± 0.00
2115			RDS: Moderate	Analog: +16dB		None	0.00 ± 0.00
2116			RDS: Moderate	Hybrid: +16dB		None	0.00 ± 0.00
2117			RDS: Moderate	Analog: +6dB		None	0.00 ± 0.00
2118			RDS: Moderate	Hybrid: +6dB		None	0.00 ± 0.00
2119			RDS: Moderate	Analog: +26dB		30,000K	0.00 ± 0.00
2120			RDS: Moderate	Hybrid: +26dB		30,000K	0.00 ± 0.00
2121			RDS: Moderate	Analog: +16dB		30,000K	0.00 ± 0.00
2122			RDS: Moderate	Hybrid: +16dB		30,000K	0.00 ± 0.00
2123			RDS: Moderate	Analog: +6dB		30,000K	0.00 ± 0.00
2124			RDS: Moderate	Hybrid: +6dB		30,000K	0.00 ± 0.00
2125	Analog: 0dB		RDS: Moderate			None	0.00 ± 0.00
2126	Hybrid: 0dB		RDS: Moderate			None	0.00 ± 0.00
2127	Analog: -10dB		RDS: Moderate			None	0.00 ± 0.00
2128	Hybrid: -10dB		RDS: Moderate			None	0.00 ± 0.00
2129	Analog: -20dB		RDS: Moderate			None	0.00 ± 0.00
2130	Hybrid: -20dB		RDS: Moderate			None	0.00 ± 0.00
2131	Analog: -30dB		RDS: Moderate			None	0.00 ± 0.00
2132	Hybrid: -30dB		RDS: Moderate			None	0.00 ± 0.00
2133	Analog: 0dB		RDS: Moderate			30,000K	0.00 ± 0.00
2134	Hybrid: 0dB		RDS: Moderate			30,000K	0.00 ± 0.00
2135	Analog: -10dB		RDS: Moderate			30,000K	0.00 ± 0.00
2136	Hybrid: -10dB		RDS: Moderate			30,000K	0.00 ± 0.00
2137	Analog: -20dB		RDS: Moderate			30,000K	0.00 ± 0.00
2138	Hybrid: -20dB		RDS: Moderate			30,000K	0.00 ± 0.00
2139	Analog: -30dB		RDS: Moderate			30,000K	0.00 ± 0.00
2140	Hybrid: -30dB		RDS: Moderate			30,000K	0.00 ± 0.00
2141			RDS: Moderate		Analog: 0dB	None	0.00 ± 0.00
2142			RDS: Moderate		Hybrid: 0dB	None	0.00 ± 0.00
2143			RDS: Moderate		Analog: -10dB	None	0.00 ± 0.00
2144			RDS: Moderate		Hybrid: -10dB	None	0.00 ± 0.00
2145			RDS: Moderate		Analog: -20dB	None	0.00 ± 0.00
2146			RDS: Moderate		Hybrid: -20dB	None	0.00 ± 0.00
2147			RDS: Moderate		Analog: -30dB	None	0.00 ± 0.00
2148			RDS: Moderate		Hybrid: -30dB	None	0.00 ± 0.00

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#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	BLER (%)
2149			RDS: Moderate		Analog: 0dB	30,000K	0.00 ± 0.00
2150			RDS: Moderate		Hybrid: 0dB	30,000K	0.00 ± 0.00
2151			RDS: Moderate		Analog: -10dB	30,000K	0.00 ± 0.00
2152			RDS: Moderate		Hybrid: -10dB	30,000K	0.00 ± 0.00
2153			RDS: Moderate		Analog: -20dB	30,000K	0.00 ± 0.00
2154			RDS: Moderate		Hybrid: -20dB	30,000K	0.00 ± 0.00
2155			RDS: Moderate		Analog: -30dB	30,000K	0.00 ± 0.00
2156			RDS: Moderate		Hybrid: -30dB	30,000K	0.00 ± 0.00

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4.1.3. Single Interferers into the 76 kHz DARC Subcarrier Channel (NRSC F/SC.3 and F/SC.4).

Table 8 summarizes the results of the objective compatibility tests for single interferers into the 76 kHz DARC subcarrier channel (NRSC F/SC.3 and F/SC.4) for the Sectra DRB-3000. The desired signal strength is moderate.

Table 8 - Objective Test Results - Single Interferer into the 76 kHz DARC Subcarrier Channel of the Sectra DRB-3000 Receiver (NRSC F/SC.3 and F/SC.4)

#	Lower 2 nd adj	Lower 1 st adj	Desired	Upper 1 st adj	Upper 2 nd adj	AWGN	BLER Before Correction (%)	BLER After Correction (%)
2301		Analog: +26dB	DARC			None	0.00 ± 0.00	0.00 ± 0.00
2302		Hybrid: +26dB	DARC			None	0.00 ± 0.00	0.00 ± 0.00
2303		Analog: +16dB	DARC			None	1.85 ± 0.28	0.00 ± 0.00
2304		Hybrid: +16dB	DARC			None	1.97 ± 0.29	0.00 ± 0.00
2305		Analog: +6dB	DARC			None	80.03 ± 0.86	5.04 ± 0.31
2306		Hybrid: +6dB	DARC			None	81.56 ± 0.91	5.24 ± 0.58
2307		Analog: +26dB	DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2308		Hybrid: +26dB	DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2309		Analog: +16dB	DARC			30,000K	1.95 ± 0.36	0.00 ± 0.00
2310		Hybrid: +16dB	DARC			30,000K	1.97 ± 0.25	0.00 ± 0.00
2311		Analog: +6dB	DARC			30,000K	80.38 ± 1.02	5.00 ± 0.51
2312		Hybrid: +6dB	DARC			30,000K	81.13 ± 1.15	5.23 ± 0.48
2313			DARC	Analog: +26dB		None	0.00 ± 0.00	0.00 ± 0.00
2314			DARC	Hybrid: +26dB		None	0.00 ± 0.00	0.00 ± 0.00
2315			DARC	Analog: +16dB		None	0.79 ± 0.19	0.00 ± 0.00
2316			DARC	Hybrid: +16dB		None	0.95 ± 0.24	0.00 ± 0.00
2317			DARC	Analog: +6dB		None	70.62 ± 1.10	1.48 ± 0.27
2318			DARC	Hybrid: +6dB		None	72.34 ± 1.17	1.46 ± 0.27
2319			DARC	Analog: +26dB		30,000K	0.00 ± 0.00	0.00 ± 0.00
2320			DARC	Hybrid: +26dB		30,000K	0.00 ± 0.00	0.00 ± 0.00
2321			DARC	Analog: +16dB		30,000K	1.06 ± 0.22	0.00 ± 0.00
2322			DARC	Hybrid: +16dB		30,000K	1.19 ± 0.24	0.00 ± 0.00
2323			DARC	Analog: +6dB		30,000K	71.22 ± 1.03	1.50 ± 0.33
2324			DARC	Hybrid: +6dB		30,000K	72.58 ± 1.18	1.53 ± 0.18
2325	Analog: 0dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2326	Hybrid: 0dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2327	Analog: -10dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2328	Hybrid: -10dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2329	Analog: -20dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2330	Hybrid: -20dB		DARC			None	0.00 ± 0.00	0.00 ± 0.00
2331	Analog: -30dB		DARC			None	0.01 ± 0.03	0.00 ± 0.00
2332	Hybrid: -30dB		DARC			None	0.05 ± 0.05	0.00 ± 0.00
2333	Analog: 0dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2334	Hybrid: 0dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2335	Analog: -10dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2336	Hybrid: -10dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2337	Analog: -20dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2338	Hybrid: -20dB		DARC			30,000K	0.00 ± 0.00	0.00 ± 0.00
2339	Analog: -30dB		DARC			30,000K	0.07 ± 0.05	0.00 ± 0.00
2340	Hybrid: -30dB		DARC			30,000K	0.07 ± 0.05	0.00 ± 0.00
2341			DARC		Analog: 0dB	None	0.00 ± 0.00	0.00 ± 0.00
2342			DARC		Hybrid: 0dB	None	0.00 ± 0.00	0.00 ± 0.00
2343			DARC		Analog: -10dB	None	0.00 ± 0.00	0.00 ± 0.00
2344			DARC		Hybrid: -10dB	None	0.00 ± 0.00	0.00 ± 0.00
2345			DARC		Analog: -20dB	None	0.00 ± 0.00	0.00 ± 0.00
2346			DARC		Hybrid: -20dB	None	0.00 ± 0.00	0.00 ± 0.00
2347			DARC		Analog: -30dB	None	0.00 ± 0.00	0.00 ± 0.00

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#	Lower 2 nd adj	Lower 1 st adj	Desired	Upper 1 st adj	Upper 2 nd adj	AWGN	BLER Before Correction (%)	BLER After Correction (%)
2348			DARC		Hybrid: -30dB	None	0.00 ± 0.00	0.00 ± 0.00
2349			DARC		Analog: 0dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2350			DARC		Hybrid: 0dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2351			DARC		Analog: -10dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2352			DARC		Hybrid: -10dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2353			DARC		Analog: -20dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2354			DARC		Hybrid: -20dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2355			DARC		Analog: -30dB	30,000K	0.00 ± 0.00	0.00 ± 0.00
2356			DARC		Hybrid: -30dB	30,000K	0.00 ± 0.00	0.00 ± 0.00

Desired Signal: Moderate

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4.1.4. Baseband Spectral Plots for IBOC Interference into the Host 67 and 92 kHz SCA Subcarrier Channels (NRSC J.3)

Table 9 tabulates the subjective compatibility test scenarios that were used for IBOC interference into the Host 67 and 92 kHz SCA subcarrier channels (NRSC J.3). These scenarios used a wideband professional demodulator to produce baseband spectral plots shown in Figure 1 through Figure 16.

Table 9 –Objective Interference Test Scenarios – IBOC Interferers into Host 67 and 92 kHz SCA Subcarrier Channels – Baseband Plots (NRSC J.3)

#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Main Audio
1867			Analog: Strong			None	1kHz
1868			Hybrid: Strong			None	1kHz
1869			Analog: Moderate			None	1kHz
1870			Hybrid: Moderate			None	1kHz
1871			Analog: Strong			30,000K	1kHz
1872			Hybrid: Strong			30,000K	1kHz
1873			Analog: Moderate			30,000K	1kHz
1874			Hybrid: Moderate			30,000K	1kHz
1875			Analog: Strong			None	Silence
1876			Hybrid: Strong			None	Silence
1877			Analog: Moderate			None	Silence
1878			Hybrid: Moderate			None	Silence
1879			Analog: Strong			30,000K	Silence
1880			Hybrid: Strong			30,000K	Silence
1881			Analog: Moderate			30,000K	Silence
1882			Hybrid: Moderate			30,000K	Silence

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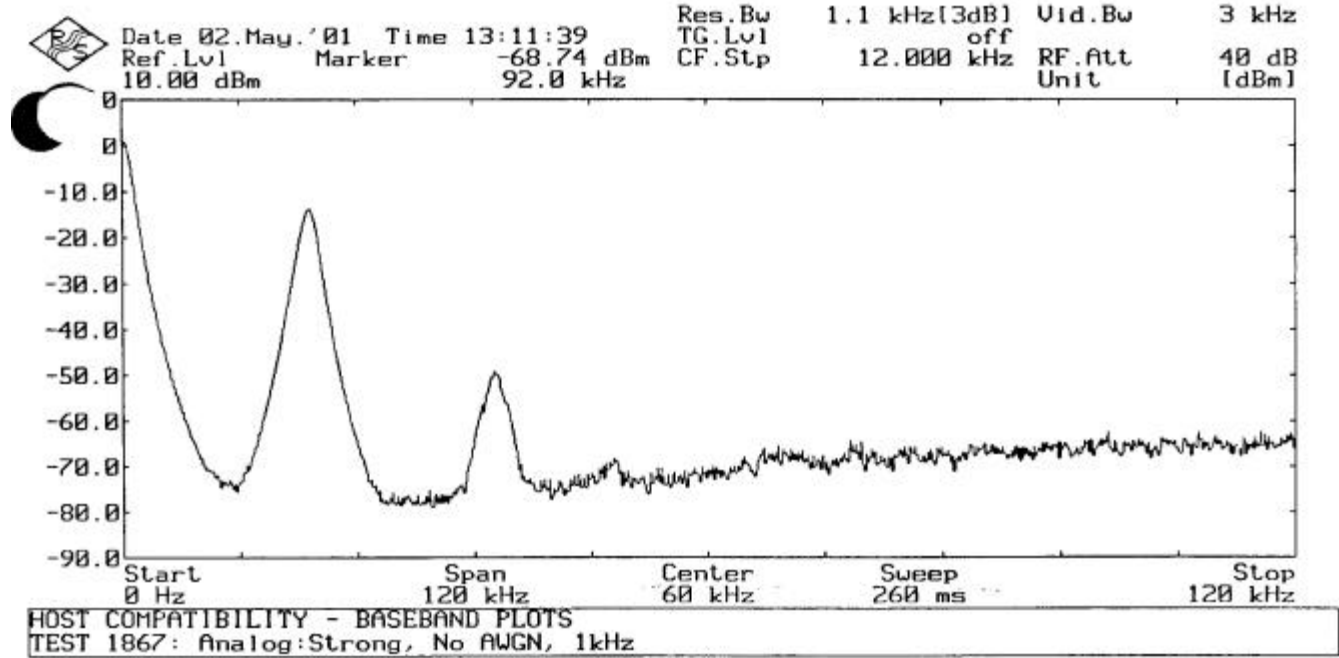


Figure 1 - Plot of Demodulator Composite Baseband Output with a Strong Analog Desired Signal, no AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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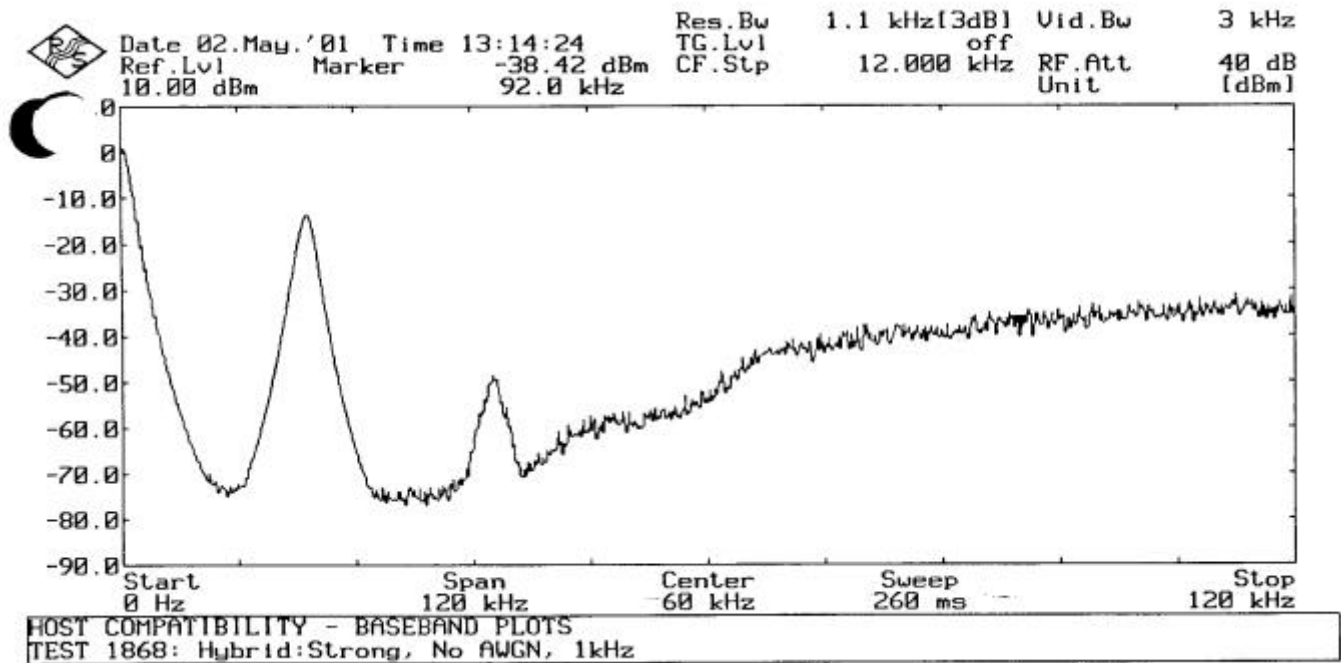


Figure 2 - Plot of Demodulator Composite Baseband Output with a Strong Hybrid Desired Signal, no AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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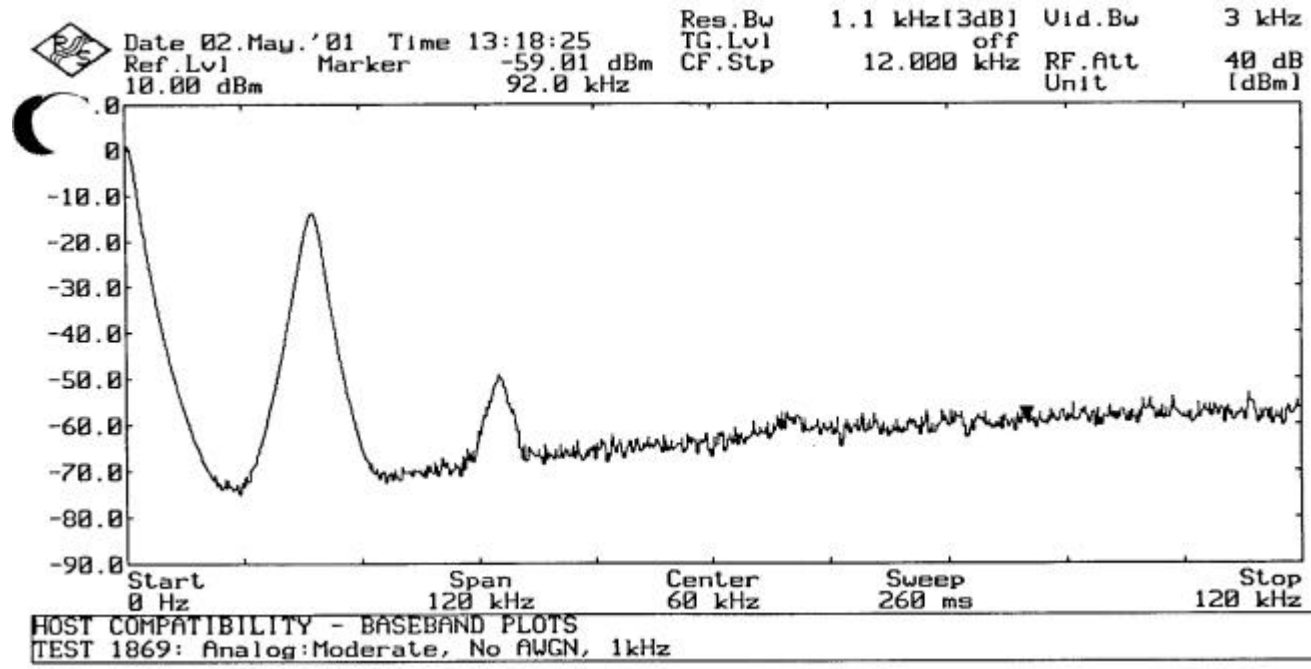


Figure 3 - Plot of Demodulator Composite Baseband Output with a Moderate Analog Desired Signal, no AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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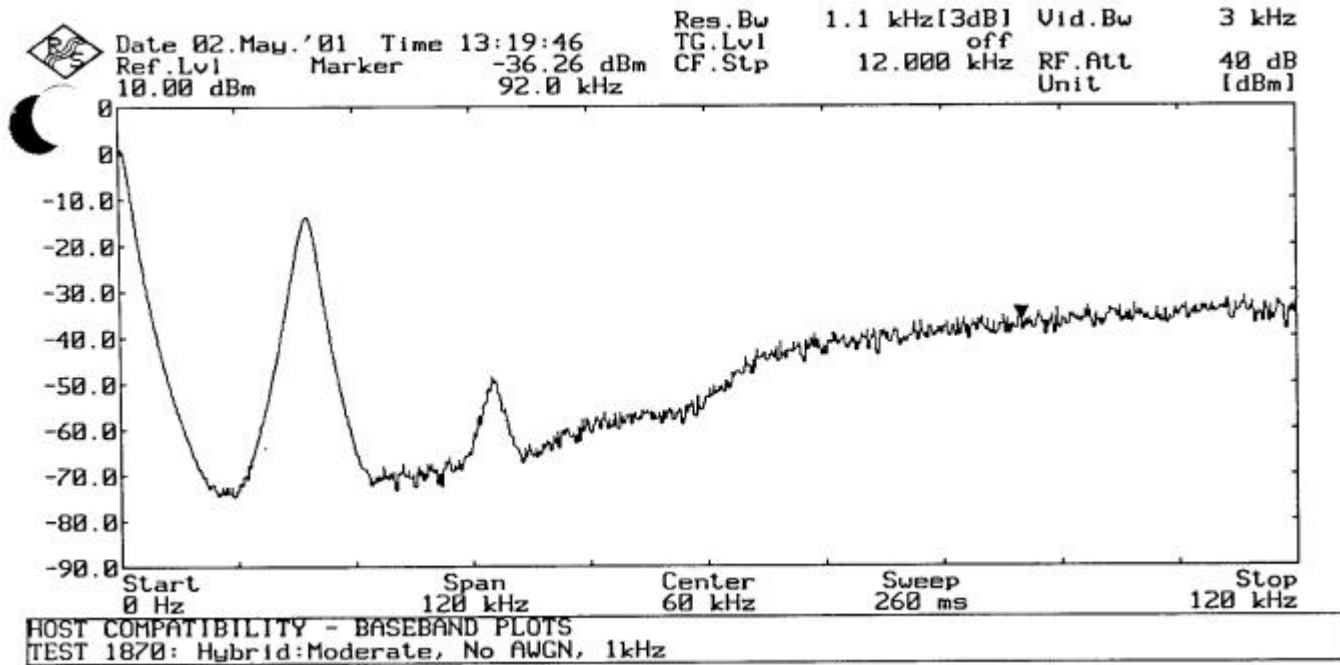


Figure 4 - Plot of Demodulator Composite Baseband Output with a Moderate Hybrid Desired Signal, no AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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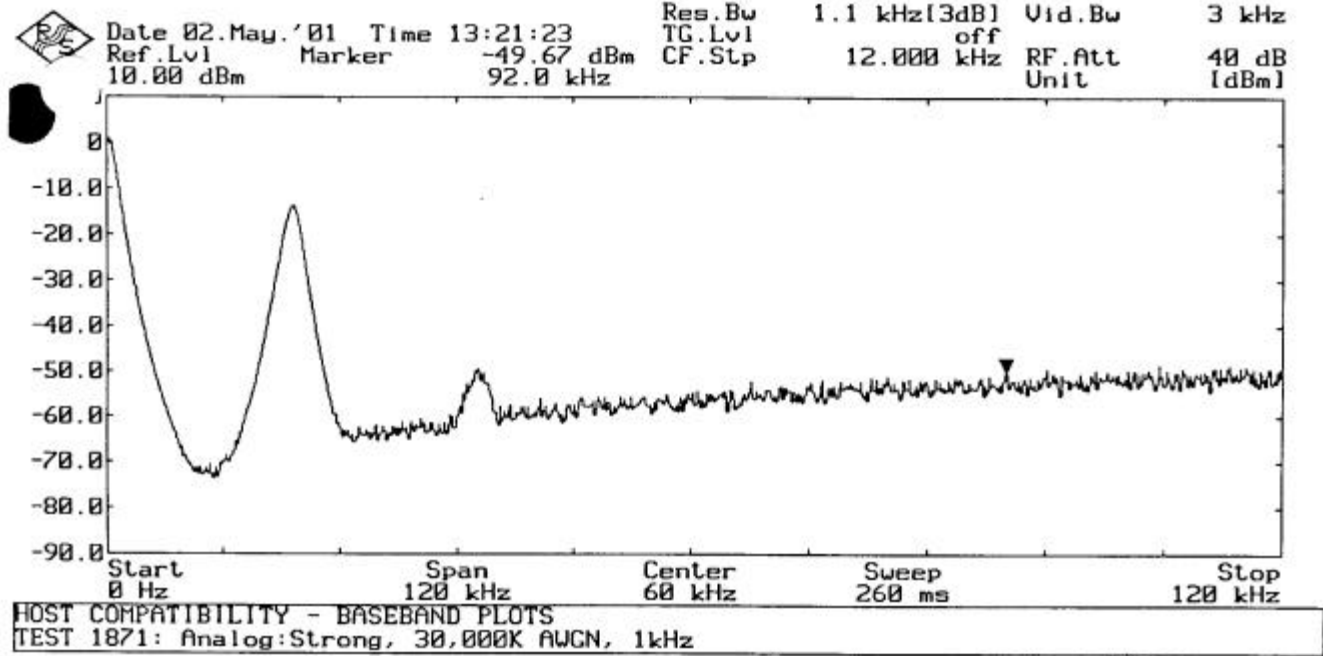


Figure 5 - Plot of Demodulator Composite Baseband Output with a Strong Analog Desired Signal, 30,000 K AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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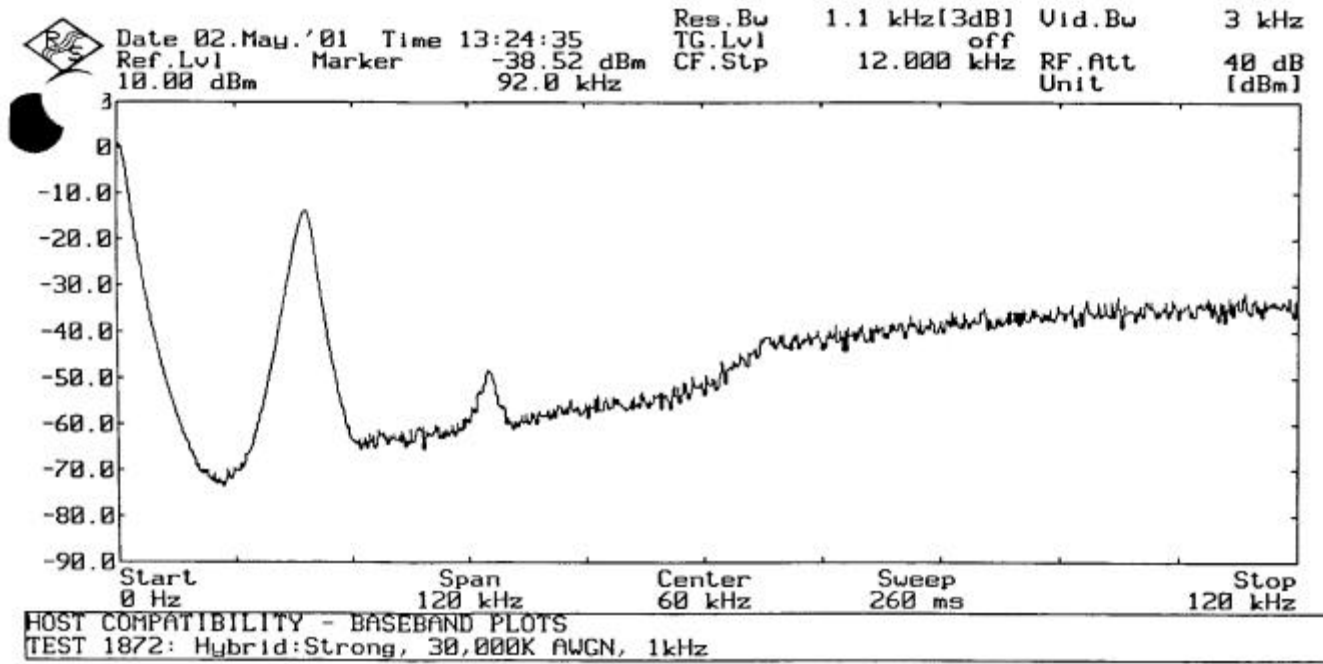


Figure 6 - Plot of Demodulator Composite Baseband Output with a Strong Hybrid Desired Signal, 30,000 K AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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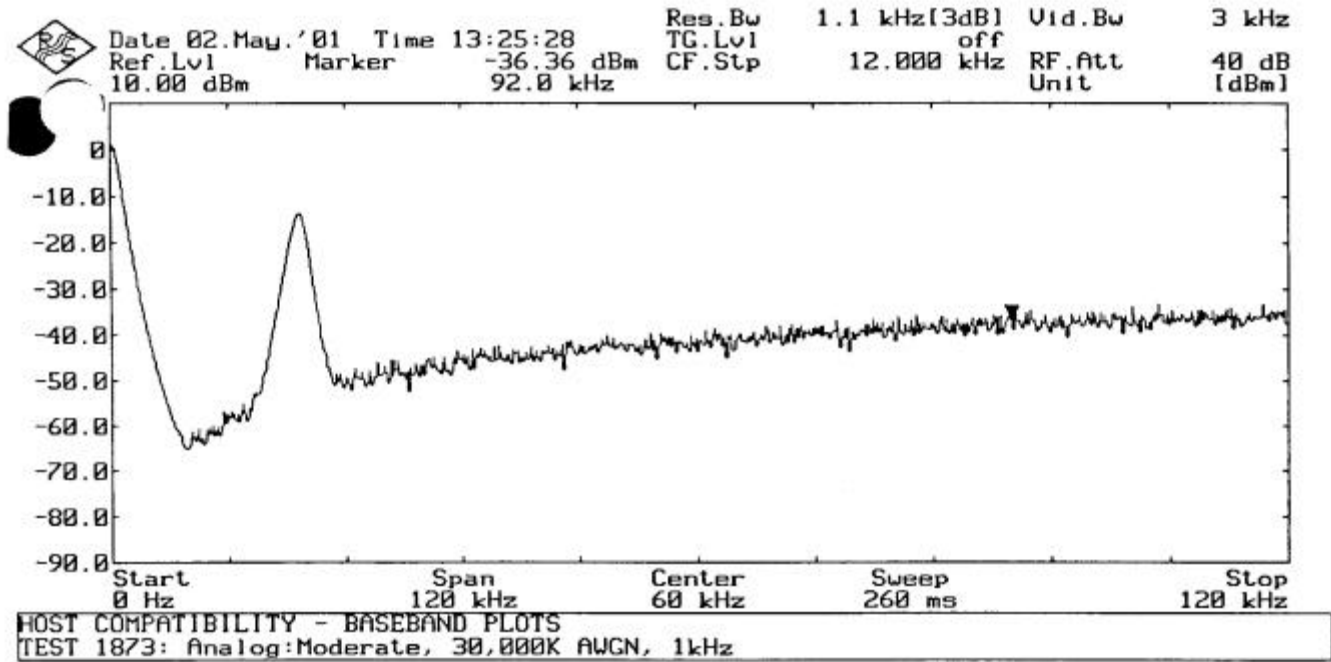


Figure 7 - Plot of Demodulator Composite Baseband Output with a Moderate Analog Desired Signal, 30,000 K AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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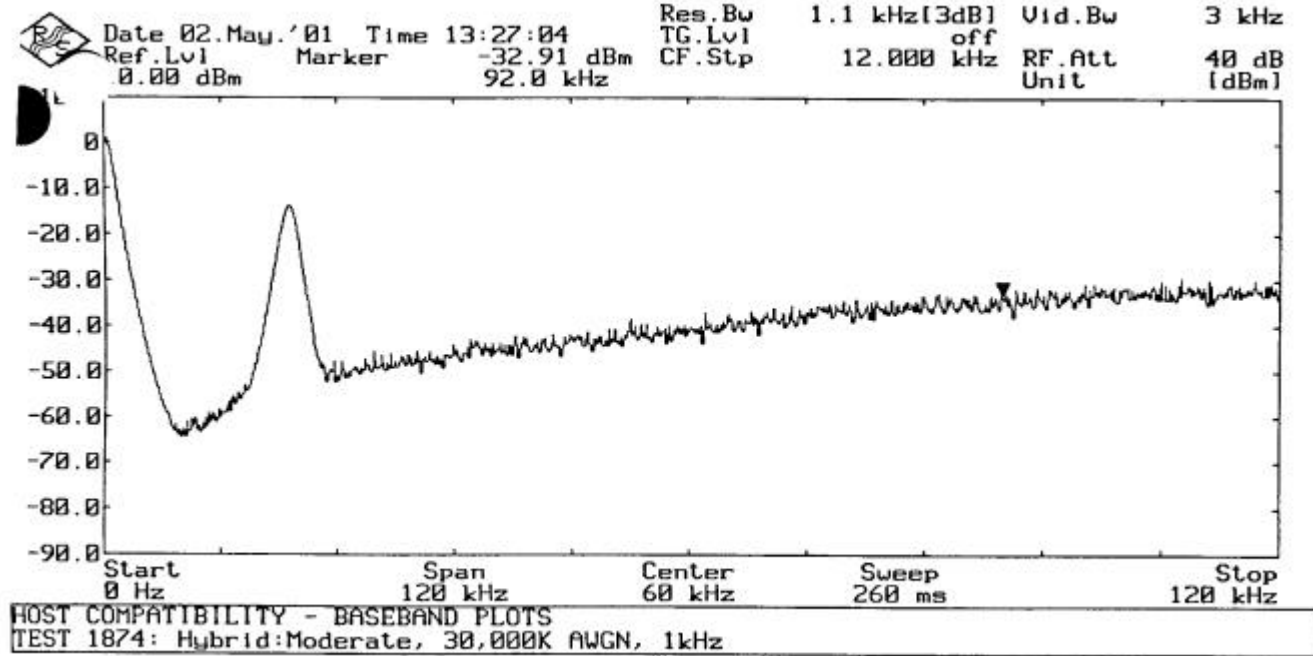


Figure 8 - Plot of Demodulator Composite Baseband Output with a Moderate Hybrid Desired Signal, 30,000 K AWGN, and 1 kHz Tone on the Main Audio (NRSC J.3)

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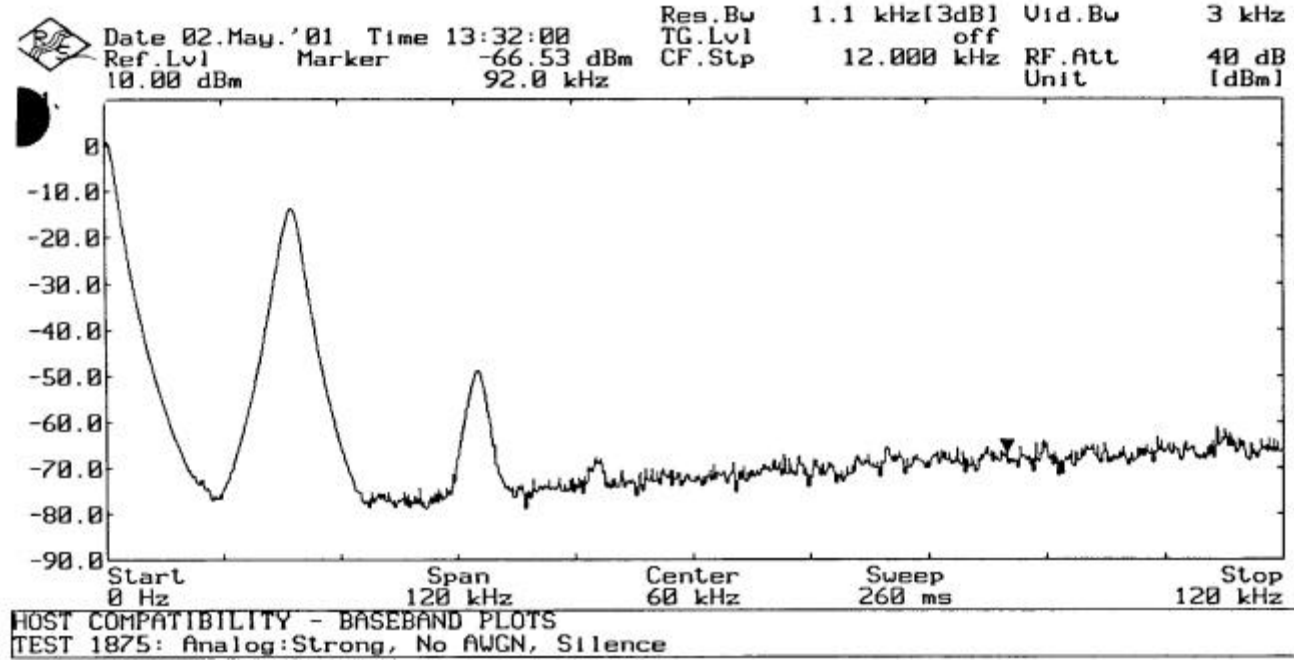


Figure 9 - Plot of Demodulator Composite Baseband Output with a Strong Analog Desired Signal, no AWGN, and Silence on the Main Audio (NRSC J.3)

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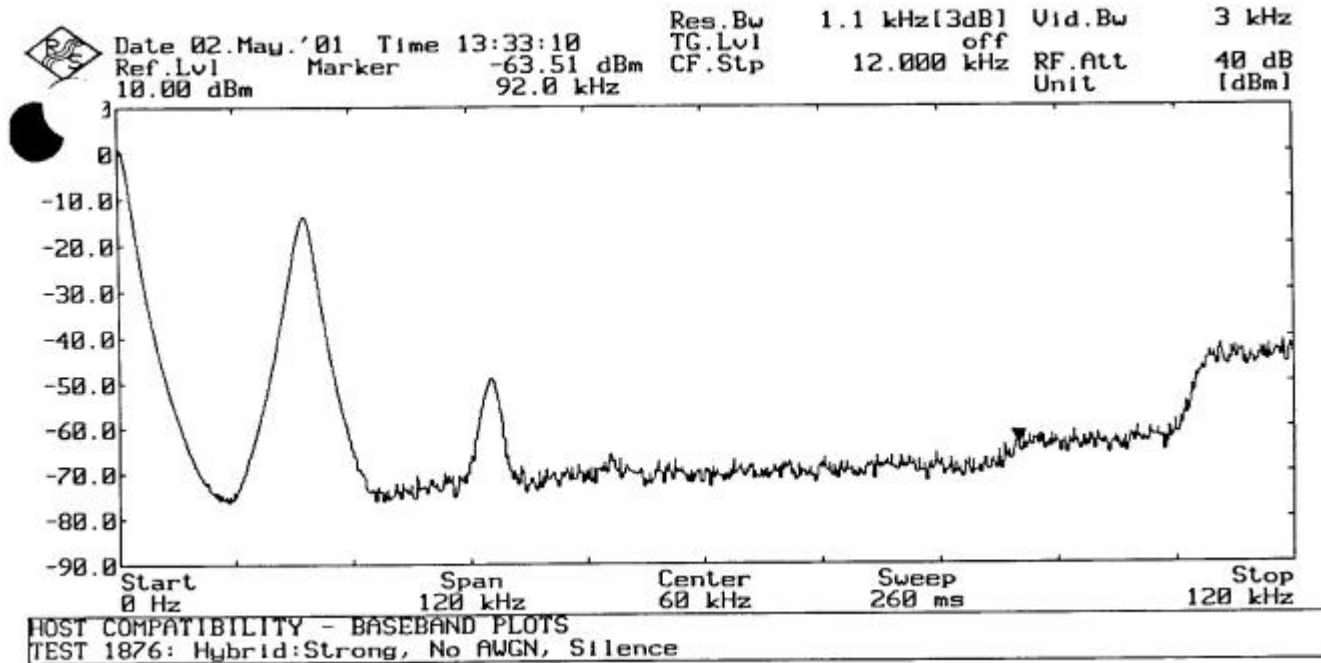


Figure 10 - Plot of Demodulator Composite Baseband Output with a Strong Hybrid Desired Signal, no AWGN, and Silence on the Main Audio (NRSC J.3)

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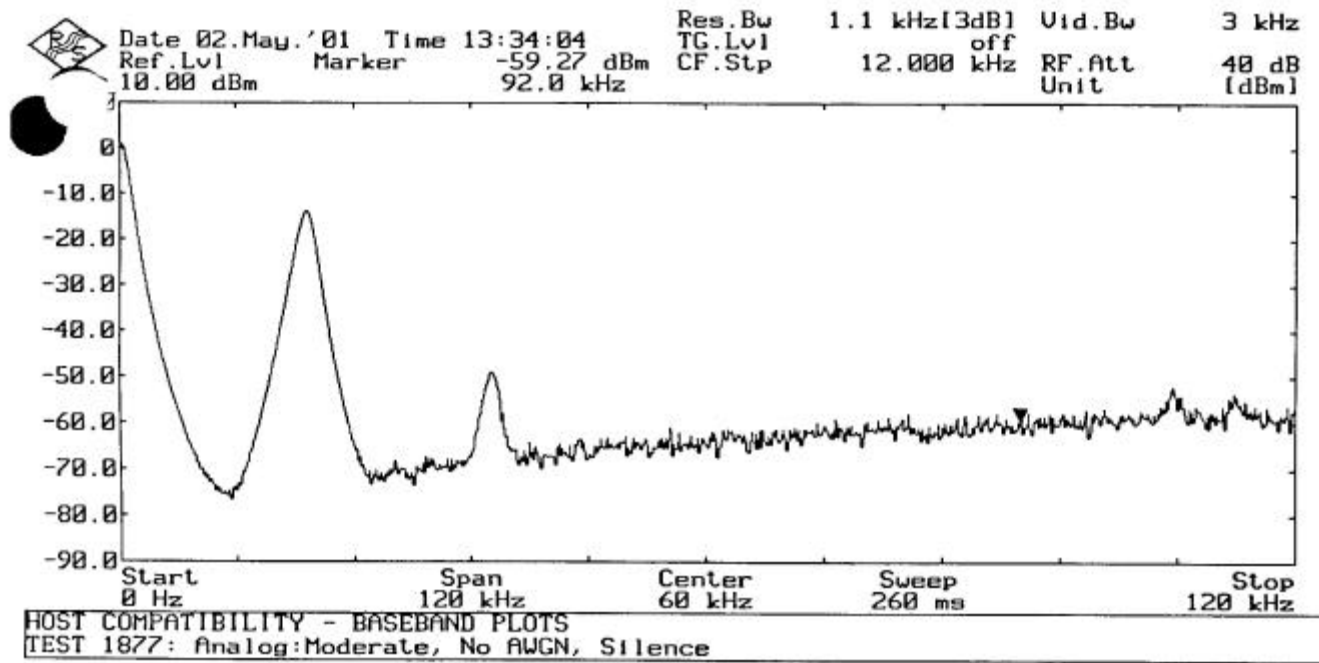


Figure 11 - Plot of Demodulator Composite Baseband Output with a Moderate Analog Desired Signal, no AWGN, and Silence on the Main Audio (NRSC J.3)

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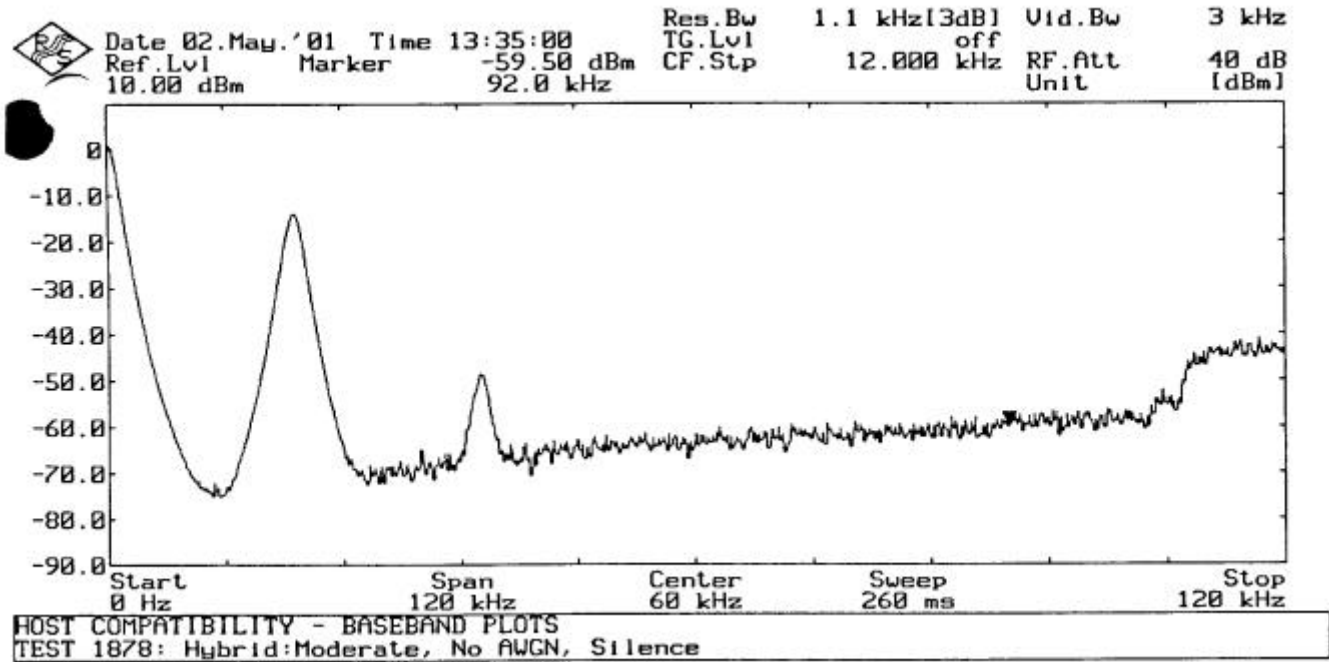


Figure 12 - Plot of Demodulator Composite Baseband Output with a Moderate Hybrid Desired Signal, no AWGN, and Silence on the Main Audio (NRSC J.3)

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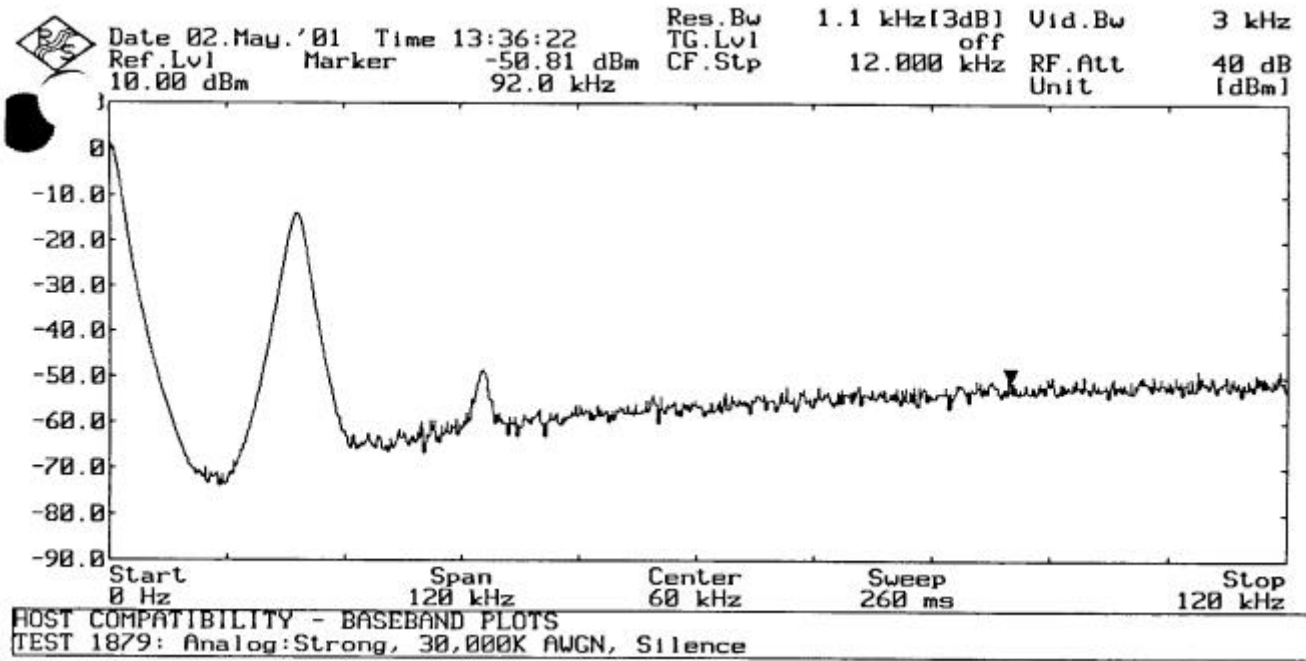


Figure 13 - Plot of Demodulator Composite Baseband Output with a Strong Analog Desired Signal, 30,000K AWGN, and Silence on the Main Audio (NRSC J.3)

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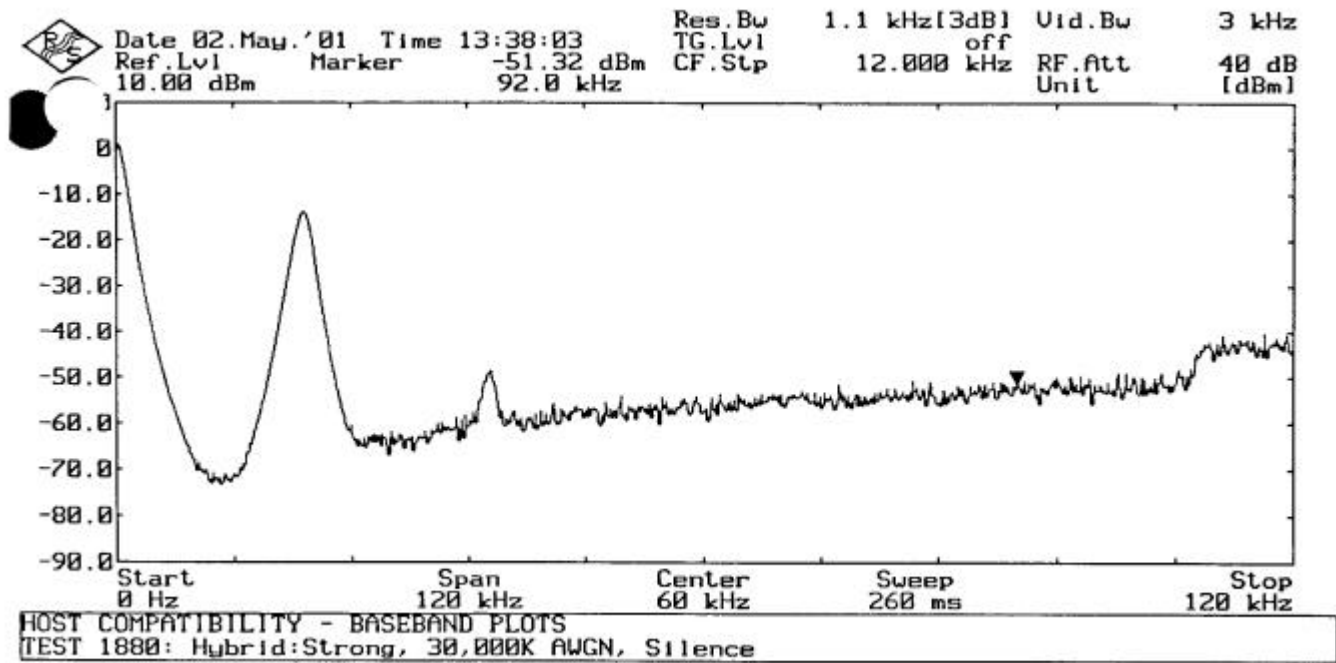


Figure 14 - Plot of Demodulator Composite Baseband Output with a Strong Hybrid Desired Signal, 30,000K AWGN, and Silence on the Main Audio (NRSC J.3)

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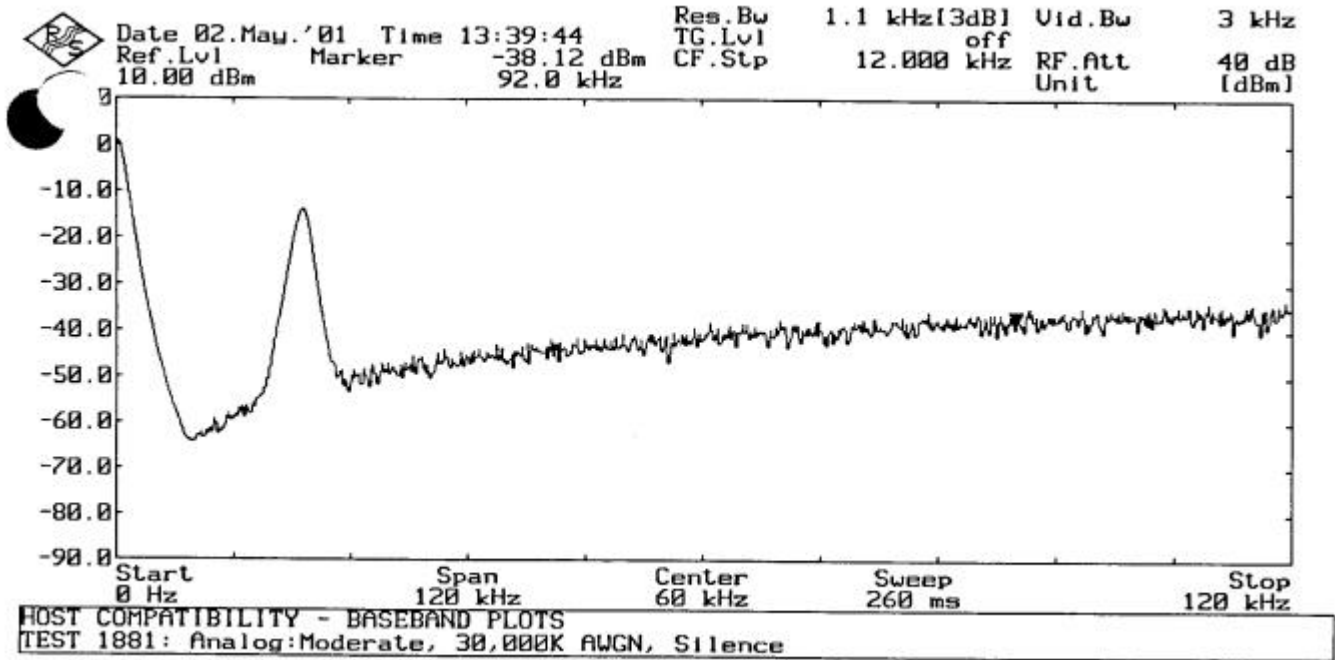


Figure 15 - Plot of Demodulator Composite Baseband Output with a Moderate Analog Desired Signal, 30,000K AWGN, and Silence on the Main Audio (NRSC J.3)

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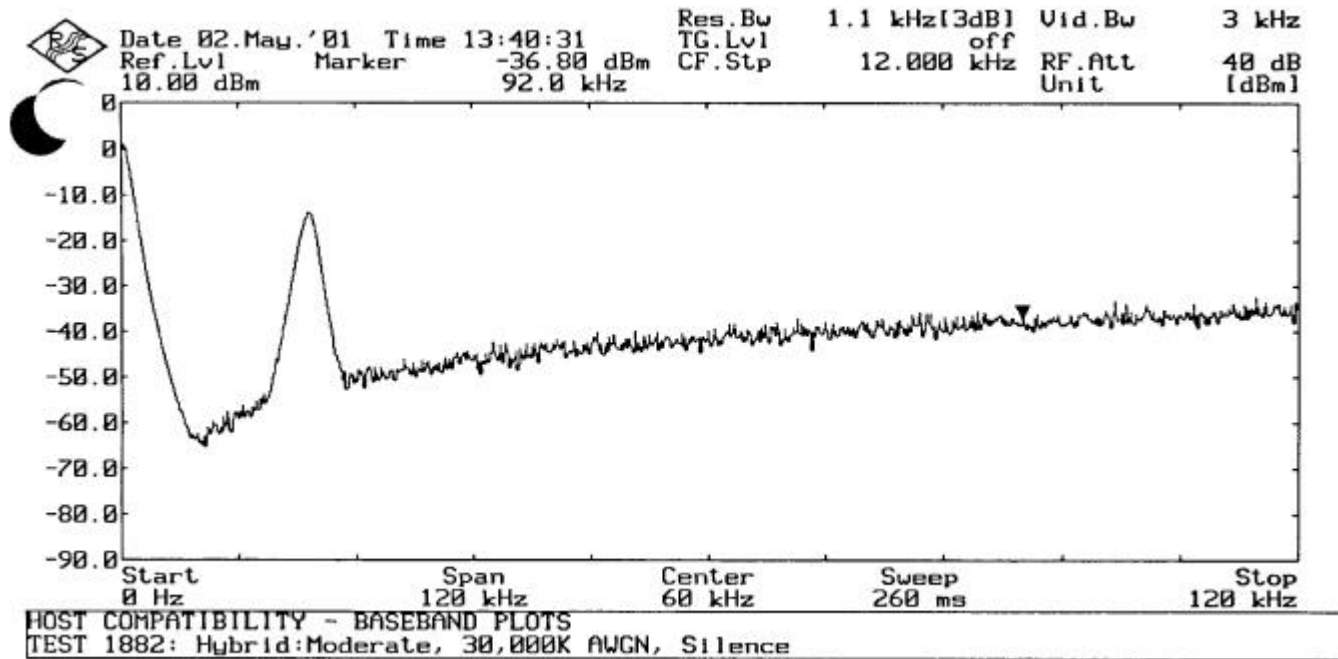


Figure 16 - Plot of Demodulator Composite Baseband Output with a Moderate Hybrid Desired Signal, 30,000K AWGN, and Silence on the Main Audio (NRSC J.3)

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4.1.5. IBOC Interference into the Host 67 and 92 kHz SCA Subcarrier Channels (NRSC J.4)

Table 10 summarizes the results of the objective compatibility tests for IBOC interference into the Host 67 kHz SCA subcarrier channels (NRSC J.4) of the Mc Martin TR-E5/55M receiver. iBiquity Digital discovered a problem with the Mc Martin receiver and repaired the receiver. Table 11 summaries the results of the objective Host compatibility tests for the repaired Mc Martin receiver. The subjective test recordings from the Mc Martin receiver, described in Section 4.2, were made prior to the receiver repair.

Table 12 summarizes the results of the objective compatibility tests for IBOC interference into the Host 67 kHz SCA subcarrier channels of the Norver 67 kHz receiver. Table 13 summarizes the results of the objective compatibility tests for IBOC interference into the Host 92 kHz SCA subcarrier channels of the CozmoCom 92 kHz receiver. Table 14 summarizes the results of the objective compatibility tests for IBOC interference into the Host 92 kHz SCA subcarrier channels of the ComPol SCA-BL 92 kHz receiver.

Table 10 - Objective Test Results – IBOC Interferer into Host 67 kHz SCA Subcarrier Channel for the Mc Martin TR-E5/55M Receiver Compatibility (NRSC J.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1851			67kHz:Analog: Strong			None	34.1
1852			67kHz: Hybrid: Strong			None	26.5
1853			67kHz: Analog: Moderate			None	35.7
1854			67kHz: Hybrid: Moderate			None	26.4
1855			67kHz:Analog: Strong			30,000K	34.0
1856			67kHz: Hybrid: Strong			30,000K	27.0
1857			67kHz: Analog: Moderate			30,000K	30.6
1858			67kHz: Hybrid: Moderate			30,000K	26.3

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Table 11 - Objective Test Results - IBOC Interferer into Host 67 kHz SCA Subcarrier Channel for the repaired Mc Martin TR-E5/55M Receiver Compatibility (NRSC J.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1851			67kHz:Analog: Strong			None	36.5
1852			67kHz: Hybrid: Strong			None	30.0
1853			67kHz: Analog: Moderate			None	37.6
1854			67kHz: Hybrid: Moderate			None	29.6
1855			67kHz:Analog: Strong			30,000K	36.2
1856			67kHz: Hybrid: Strong			30,000K	29.9
1857			67kHz: Analog: Moderate			30,000K	31.2
1858			67kHz: Hybrid: Moderate			30,000K	28.1

Table 12 - Objective Test Results - IBOC Interferer into Host 67 kHz SCA Subcarrier Channel for the Norver 67 kHz Receiver (NRSC J.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1851			67kHz:Analog: Strong			None	31.7
1852			67kHz: Hybrid: Strong			None	19.7
1853			67kHz: Analog: Moderate			None	31.3
1854			67kHz: Hybrid: Moderate			None	19.5
1855			67kHz:Analog: Strong			30,000K	31.2
1856			67kHz: Hybrid: Strong			30,000K	19.7
1857			67kHz: Analog: Moderate			30,000K	24.8
1858			67kHz: Hybrid: Moderate			30,000K	18.8

Table 13 - Objective Test Results - IBOC Interferer into Host 92 kHz SCA Subcarrier Channel for the CozmoCom 92 kHz Receiver (NRSC J.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1859			92kHz:Analog: Strong			None	28.9
1860			92kHz: Hybrid: Strong			None	21.5
1861			92kHz: Analog: Moderate			None	29.3
1862			92kHz: Hybrid: Moderate			None	22.2
1863			92kHz:Analog: Strong			30,000K	28.8
1864			92kHz: Hybrid: Strong			30,000K	21.4
1865			92kHz: Analog: Moderate			30,000K	27.4
1866			92kHz: Hybrid: Moderate			30,000K	21.8

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Table 14 - Objective Test Results - IBOC Interferer into Host 92 kHz SCA Subcarrier Channel for the ComPol SCA-BL Receiver (NRSC J.4)

#	Lower 2nd adj.	Lower 1st adj.	Desired	Upper 1st adj.	Upper 2nd adj.	AWGN	WQP SNR (dB)
1859			92kHz:Analog: Strong			None	27.9
1860			92kHz: Hybrid: Strong			None	8.5
1861			92kHz: Analog: Moderate			None	27.9
1862			92kHz: Hybrid: Moderate			None	9.0
1863			92kHz:Analog: Strong			30,000K	27.0
1864			92kHz: Hybrid: Strong			30,000K	8.6
1865			92kHz: Analog: Moderate			30,000K	18.5
1866			92kHz: Hybrid: Moderate			30,000K	8.8

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4.1.6. IBOC Interference into the Host 57 kHz RDS Subcarrier Channel (NRSC J.5)

Table 15 summarizes the results of the objective compatibility tests for IBOC interference into the Host 57 kHz RDS subcarrier channel of the Audemat RDS Analyzer receiver (NRSC J.5).

Table 15 - Objective Test Results – IBOC Interferer into Host 57 kHz RDS Subcarrier Channel of the Audemat RDS Analyzer Receiver (NRSC J.5)

#	Lower 2 nd adj	Lower 1 st adj	Desired	Upper 1 st adj	Upper 2 nd adj	RDS Inj	AWGN	Main Ch. Audio	BLER (%)
2201			RDS: Analog: Strong			3.00%	None	CPN	0.00 ± 0.00
2202			RDS: Hybrid: Strong			3.00%	None	CPN	0.00 ± 0.00
2203			RDS: Analog: Moderate			3.00%	None	CPN	0.00 ± 0.00
2204			RDS: Hybrid: Moderate			3.00%	None	CPN	0.00 ± 0.00
2205			RDS: Analog: Strong			3.00%	30,000K	CPN	0.00 ± 0.00
2206			RDS: Hybrid: Strong			3.00%	30,000K	CPN	0.00 ± 0.00
2207			RDS: Analog: Moderate			3.00%	30,000K	CPN	0.00 ± 0.00
2208			RDS: Hybrid: Moderate			3.00%	30,000K	CPN	0.00 ± 0.00
2209			RDS: Analog: Strong			3.00%	None	None	0.00 ± 0.00
2210			RDS: Hybrid: Strong			3.00%	None	None	0.00 ± 0.00
2211			RDS: Analog: Moderate			3.00%	None	None	0.00 ± 0.00
2212			RDS: Hybrid: Moderate			3.00%	None	None	0.00 ± 0.00
2213			RDS: Analog: Strong			3.00%	30,000K	None	0.00 ± 0.00
2214			RDS: Hybrid: Strong			3.00%	30,000K	None	0.00 ± 0.00
2215			RDS: Analog: Moderate			3.00%	30,000K	None	0.00 ± 0.00
2216			RDS: Hybrid: Moderate			3.00%	30,000K	None	0.00 ± 0.00
2217			RDS: Analog: Strong			10.00%	None	CPN	0.00 ± 0.00
2218			RDS: Hybrid: Strong			10.00%	None	CPN	0.00 ± 0.00
2219			RDS: Analog: Moderate			10.00%	None	CPN	0.00 ± 0.00
2220			RDS: Hybrid: Moderate			10.00%	None	CPN	0.00 ± 0.00
2221			RDS: Analog: Strong			10.00%	30,000K	CPN	0.00 ± 0.00
2222			RDS: Hybrid: Strong			10.00%	30,000K	CPN	0.00 ± 0.00
2223			RDS: Analog: Moderate			10.00%	30,000K	CPN	0.00 ± 0.00
2224			RDS: Hybrid: Moderate			10.00%	30,000K	CPN	0.00 ± 0.00
2225			RDS: Analog: Strong			10.00%	None	None	0.00 ± 0.00
2226			RDS: Hybrid: Strong			10.00%	None	None	0.00 ± 0.00
2227			RDS: Analog: Moderate			10.00%	None	None	0.00 ± 0.00
2228			RDS: Hybrid: Moderate			10.00%	None	None	0.00 ± 0.00
2229			RDS: Analog: Strong			10.00%	30,000K	None	0.00 ± 0.00
2230			RDS: Hybrid: Strong			10.00%	30,000K	None	0.00 ± 0.00
2231			RDS: Analog: Moderate			10.00%	30,000K	None	0.00 ± 0.00
2232			RDS: Hybrid: Moderate			10.00%	30,000K	None	0.00 ± 0.00

CPN = Clipped Pink Noise

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4.1.7. IBOC Interference into the Host 76 kHz DARC Subcarrier Channel (NRSC J.6)

Table 16 summarizes the results of the objective compatibility tests for IBOC interference into the Host 76 kHz DARC subcarrier channel for the Sectra DRB-3000 receiver (NRSC J.6).

Table 16 - Objective Test Results - IBOC Interferer into Host 76 kHz DARC Subcarrier Channel of the Sectra DRB-3000 Receiver (NRSC J.6)

#	Lower 2 nd adj	Lower 1 st adj	Desired	Upper 1 st adj	Upper 2 nd adj	AWGN	Main Ch.	BLER Before Correction (%)	BLER After Correction (%)
2401			DARC: Analog: Strong			None	CPN	0.00 ± 0.00	0.00 ± 0.00
2402			DARC: Hybrid: Strong			None	CPN	0.00 ± 0.00	0.00 ± 0.00
2403			DARC: Analog: Moderate			None	CPN	0.00 ± 0.00	0.00 ± 0.00
2404			DARC: Hybrid: Moderate			None	CPN	0.00 ± 0.00	0.00 ± 0.00
2405			DARC: Analog: Strong			30,000K	CPN	0.00 ± 0.00	0.00 ± 0.00
2406			DARC: Hybrid: Strong			30,000K	CPN	0.00 ± 0.00	0.00 ± 0.00
2407			DARC: Analog: Moderate			30,000K	CPN	0.00 ± 0.00	0.00 ± 0.00
2408			DARC: Hybrid: Moderate			30,000K	CPN	0.00 ± 0.00	0.00 ± 0.00
2409			DARC: Analog: Strong			None	None	0.00 ± 0.00	0.00 ± 0.00
2410			DARC: Hybrid: Strong			None	None	0.00 ± 0.00	0.00 ± 0.00
2411			DARC: Analog: Moderate			None	None	0.00 ± 0.00	0.00 ± 0.00
2412			DARC: Hybrid: Moderate			None	None	0.00 ± 0.00	0.00 ± 0.00
2413			DARC: Analog: Strong			30,000K	None	0.00 ± 0.00	0.00 ± 0.00
2414			DARC: Hybrid: Strong			30,000K	None	0.01 ± 0.03	0.00 ± 0.00
2415			DARC: Analog: Moderate			30,000K	None	0.00 ± 0.00	0.00 ± 0.00
2416			DARC: Hybrid: Moderate			30,000K	None	0.00 ± 0.00	0.00 ± 0.00

CPN = Clipped Pink Noise

4.2. Subjective Results Summary

The output of the receiver-under-test was digitally recorded for various interference scenarios over a range of D/U signal ratios. The scenarios are described in a series of tables in the following sections. Each row of the table represents one test designated by an ATTC test number. In the 'Desired' column, the strength of the desired analog signal is indicated: Strong (-47 dBm) or Moderate (-62 dBm). In the interferer columns, the mode of the interferer is indicated: Analog or Hybrid. Each interferer also has a fixed D/U number (e.g. +6) next to it indicating that the strength of this interferer is fixed at that particular D/U ratio. The AWGN column indicates the presence or absence of a broadband noise floor. The Audio Cut column indicates the audio material that was played on the desired channel, and ultimately recorded from the output of the analog receiver-under-test.

The digital recordings were edited by ATTC to remove extraneous material such as silence between the test samples. The test samples also edited to obtain constant perceptual loudness. The edited recordings were made available to Dynastat, Inc. for subsequent subjective evaluation.

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4.2.1. Single Interferers into the 67 kHz and the 92 kHz FM Analog SCA Subcarrier Channels (NRSC F/SC.5 and F/SC.6)

Table 17 tabulates the subjective compatibility test scenarios that were used for single interferers into the 67 kHz and the 92 kHz FM analog SCA subcarrier channels (NRSC F/SC.5 and F/SC.6). The *RX* column designates the following SCA receivers used in the test:

- 1 – Norver 67 kHz
- 2 - Mc Martin TR-E5/55M (prior to repair)
- 3 - CozmoCom 92 kHz
- 4 - ComPol SCA-BL 92 kHz

Table 17 - Subjective Compatibility Test Scenarios - Single Interferers into the 67 and 92 kHz SCA Subcarrier Channels (NRSC F/SC.5 and F/SC.6)

#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
1901		Analog: +16dB	67kHz: Moderate			None	Female A3	1
1902		Hybrid: +16dB	67kHz: Moderate			None	Female A3	1
1903		Analog: +16dB	67kHz: Moderate			None	Male A3	1
1904		Hybrid: +16dB	67kHz: Moderate			None	Male A3	1
1905		Analog: +16dB	67kHz: Moderate			None	Crowded	1
1906		Hybrid: +16dB	67kHz: Moderate			None	Crowded	1
1907		Analog: +16dB	67kHz: Moderate			30,000K	Female A4	1
1908		Hybrid: +16dB	67kHz: Moderate			30,000K	Female A4	1
1909		Analog: +16dB	67kHz: Moderate			30,000K	Male A4	1
1910		Hybrid: +16dB	67kHz: Moderate			30,000K	Male A4	1
1911		Analog: +16dB	67kHz: Moderate			30,000K	Crowded	1
1912		Hybrid: +16dB	67kHz: Moderate			30,000K	Crowded	1
1913		Analog: +6dB	67kHz: Moderate			None	Female A3	1
1914		Hybrid: +6dB	67kHz: Moderate			None	Female A3	1
1915		Analog: +6dB	67kHz: Moderate			None	Male A3	1
1916		Hybrid: +6dB	67kHz: Moderate			None	Male A3	1
1917		Analog: +6dB	67kHz: Moderate			None	Crowded	1
1918		Hybrid: +6dB	67kHz: Moderate			None	Crowded	1
1919		Analog: +6dB	67kHz: Moderate			30,000K	Female A4	1
1920		Hybrid: +6dB	67kHz: Moderate			30,000K	Female A4	1
1921		Analog: +6dB	67kHz: Moderate			30,000K	Male A4	1
1922		Hybrid: +6dB	67kHz: Moderate			30,000K	Male A4	1
1923		Analog: +6dB	67kHz: Moderate			30,000K	Crowded	1
1924		Hybrid: +6dB	67kHz: Moderate			30,000K	Crowded	1
1925			67kHz: Moderate	Analog: +16dB		None	Female A3	1
1926			67kHz: Moderate	Hybrid: +16dB		None	Female A3	1
1927			67kHz: Moderate	Analog: +16dB		None	Male A3	1
1928			67kHz: Moderate	Hybrid: +16dB		None	Male A3	1
1929			67kHz: Moderate	Analog: +16dB		None	Crowded	1
1930			67kHz: Moderate	Hybrid: +16dB		None	Crowded	1
1931			67kHz: Moderate	Analog: +16dB		30,000K	Female A4	1
1932			67kHz: Moderate	Hybrid: +16dB		30,000K	Female A4	1
1933			67kHz: Moderate	Analog: +16dB		30,000K	Male A4	1

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
1934			67kHz: Moderate	Hybrid: +16dB		30,000K	Male A4	1
1935			67kHz: Moderate	Analog: +16dB		30,000K	Crowded	1
1936			67kHz: Moderate	Hybrid: +16dB		30,000K	Crowded	1
1937			67kHz: Moderate	Analog: +6dB		None	Female A3	1
1938			67kHz: Moderate	Hybrid: +6dB		None	Female A3	1
1939			67kHz: Moderate	Analog: +6dB		None	Male A3	1
1940			67kHz: Moderate	Hybrid: +6dB		None	Male A3	1
1941			67kHz: Moderate	Analog: +6dB		None	Crowded	1
1942			67kHz: Moderate	Hybrid: +6dB		None	Crowded	1
1943			67kHz: Moderate	Analog: +6dB		30,000K	Female A4	1
1944			67kHz: Moderate	Hybrid: +6dB		30,000K	Female A4	1
1945			67kHz: Moderate	Analog: +6dB		30,000K	Male A4	1
1946			67kHz: Moderate	Hybrid: +6dB		30,000K	Male A4	1
1947			67kHz: Moderate	Analog: +6dB		30,000K	Crowded	1
1948			67kHz: Moderate	Hybrid: +6dB		30,000K	Crowded	1
1949	Analog: -10dB		67kHz: Moderate			None	Female A5	1
1950	Hybrid: -10dB		67kHz: Moderate			None	Female A5	1
1951	Analog: -10dB		67kHz: Moderate			None	Male A5	1
1952	Hybrid: -10dB		67kHz: Moderate			None	Male A5	1
1953	Analog: -10dB		67kHz: Moderate			None	CSNY	1
1954	Hybrid: -10dB		67kHz: Moderate			None	CSNY	1
1955	Analog: -10dB		67kHz: Moderate			30,000K	Female A6	1
1956	Hybrid: -10dB		67kHz: Moderate			30,000K	Female A6	1
1957	Analog: -10dB		67kHz: Moderate			30,000K	Male A6	1
1958	Hybrid: -10dB		67kHz: Moderate			30,000K	Male A6	1
1959	Analog: -10dB		67kHz: Moderate			30,000K	CSNY	1
1960	Hybrid: -10dB		67kHz: Moderate			30,000K	CSNY	1
1961	Analog: -30dB		67kHz: Moderate			None	Female A5	1
1962	Hybrid: -30dB		67kHz: Moderate			None	Female A5	1
1963	Analog: -30dB		67kHz: Moderate			None	Male A5	1
1964	Hybrid: -30dB		67kHz: Moderate			None	Male A5	1
1965	Analog: -30dB		67kHz: Moderate			None	CSNY	1
1966	Hybrid: -30dB		67kHz: Moderate			None	CSNY	1
1967	Analog: -30dB		67kHz: Moderate			30,000K	Female A6	1
1968	Hybrid: -30dB		67kHz: Moderate			30,000K	Female A6	1
1969	Analog: -30dB		67kHz: Moderate			30,000K	Male A6	1
1970	Hybrid: -30dB		67kHz: Moderate			30,000K	Male A6	1
1971	Analog: -30dB		67kHz: Moderate			30,000K	CSNY	1
1972	Hybrid: -30dB		67kHz: Moderate			30,000K	CSNY	1
1973			67kHz: Moderate		Analog: -10dB	None	Female A5	1
1974			67kHz: Moderate		Hybrid: -10dB	None	Female A5	1
1975			67kHz: Moderate		Analog: -10dB	None	Male A5	1
1976			67kHz: Moderate		Hybrid: -10dB	None	Male A5	1
1977			67kHz: Moderate		Analog: -10dB	None	CSNY	1
1978			67kHz: Moderate		Hybrid: -10dB	None	CSNY	1
1979			67kHz: Moderate		Analog: -10dB	30,000K	Female A6	1
1980			67kHz: Moderate		Hybrid: -10dB	30,000K	Female A6	1
1981			67kHz: Moderate		Analog: -10dB	30,000K	Male A6	1
1982			67kHz: Moderate		Hybrid: -10dB	30,000K	Male A6	1
1983			67kHz: Moderate		Analog: -10dB	30,000K	CSNY	1
1984			67kHz: Moderate		Hybrid: -10dB	30,000K	CSNY	1

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
1985			67kHz: Moderate		Analog: -30dB	None	Female A5	1
1986			67kHz: Moderate		Hybrid: -30dB	None	Female A5	1
1987			67kHz: Moderate		Analog: -30dB	None	Male A5	1
1988			67kHz: Moderate		Hybrid: -30dB	None	Male A5	1
1989			67kHz: Moderate		Analog: -30dB	None	CSNY	1
1990			67kHz: Moderate		Hybrid: -30dB	None	CSNY	1
1991			67kHz: Moderate		Analog: -30dB	30,000K	Female A6	1
1992			67kHz: Moderate		Hybrid: -30dB	30,000K	Female A6	1
1993			67kHz: Moderate		Analog: -30dB	30,000K	Male A6	1
1994			67kHz: Moderate		Hybrid: -30dB	30,000K	Male A6	1
1995			67kHz: Moderate		Analog: -30dB	30,000K	CSNY	1
1996			67kHz: Moderate		Hybrid: -30dB	30,000K	CSNY	1
1997		Analog: +16dB	67kHz: Moderate			None	Female B3	2
1998		Hybrid: +16dB	67kHz: Moderate			None	Female B3	2
1999		Analog: +16dB	67kHz: Moderate			None	Male B3	2
2000		Hybrid: +16dB	67kHz: Moderate			None	Male B3	2
2001		Analog: +16dB	67kHz: Moderate			None	Simon	2
2002		Hybrid: +16dB	67kHz: Moderate			None	Simon	2
2003		Analog: +16dB	67kHz: Moderate			30,000K	Female B4	2
2004		Hybrid: +16dB	67kHz: Moderate			30,000K	Female B4	2
2005		Analog: +16dB	67kHz: Moderate			30,000K	Male B4	2
2006		Hybrid: +16dB	67kHz: Moderate			30,000K	Male B4	2
2007		Analog: +16dB	67kHz: Moderate			30,000K	Simon	2
2008		Hybrid: +16dB	67kHz: Moderate			30,000K	Simon	2
2009		Analog: +6dB	67kHz: Moderate			None	Female B3	2
2010		Hybrid: +6dB	67kHz: Moderate			None	Female B3	2
2011		Analog: +6dB	67kHz: Moderate			None	Male B3	2
2012		Hybrid: +6dB	67kHz: Moderate			None	Male B3	2
2013		Analog: +6dB	67kHz: Moderate			None	Simon	2
2014		Hybrid: +6dB	67kHz: Moderate			None	Simon	2
2015		Analog: +6dB	67kHz: Moderate			30,000K	Female B4	2
2016		Hybrid: +6dB	67kHz: Moderate			30,000K	Female B4	2
2017		Analog: +6dB	67kHz: Moderate			30,000K	Male B4	2
2018		Hybrid: +6dB	67kHz: Moderate			30,000K	Male B4	2
2019		Analog: +6dB	67kHz: Moderate			30,000K	Simon	2
2020		Hybrid: +6dB	67kHz: Moderate			30,000K	Simon	2
2021			67kHz: Moderate	Analog: +16dB		None	Female B3	2
2022			67kHz: Moderate	Hybrid: +16dB		None	Female B3	2
2023			67kHz: Moderate	Analog: +16dB		None	Male B3	2
2024			67kHz: Moderate	Hybrid: +16dB		None	Male B3	2
2025			67kHz: Moderate	Analog: +16dB		None	Simon	2
2026			67kHz: Moderate	Hybrid: +16dB		None	Simon	2
2027			67kHz: Moderate	Analog: +16dB		30,000K	Female B4	2
2028			67kHz: Moderate	Hybrid: +16dB		30,000K	Female B4	2
2029			67kHz: Moderate	Analog: +16dB		30,000K	Male B4	2
2030			67kHz: Moderate	Hybrid: +16dB		30,000K	Male B4	2
2031			67kHz: Moderate	Analog: +16dB		30,000K	Simon	2
2032			67kHz: Moderate	Hybrid: +16dB		30,000K	Simon	2
2033			67kHz: Moderate	Analog: +6dB		None	Female B3	2
2034			67kHz: Moderate	Hybrid: +6dB		None	Female B3	2
2035			67kHz: Moderate	Analog: +6dB		None	Male B3	2
2036			67kHz: Moderate	Hybrid: +6dB		None	Male B3	2

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2037			67kHz: Moderate	Analog: +6dB		None	Simon	2
2038			67kHz: Moderate	Hybrid: +6dB		None	Simon	2
2039			67kHz: Moderate	Analog: +6dB		30,000K	Female B4	2
2040			67kHz: Moderate	Hybrid: +6dB		30,000K	Female B4	2
2041			67kHz: Moderate	Analog: +6dB		30,000K	Male B4	2
2042			67kHz: Moderate	Hybrid: +6dB		30,000K	Male B4	2
2043			67kHz: Moderate	Analog: +6dB		30,000K	Simon	2
2044			67kHz: Moderate	Hybrid: +6dB		30,000K	Simon	2
2045	Analog: -10dB		67kHz: Moderate			None	Female B5	2
2046	Hybrid: -10dB		67kHz: Moderate			None	Female B5	2
2047	Analog: -10dB		67kHz: Moderate			None	Male B5	2
2048	Hybrid: -10dB		67kHz: Moderate			None	Male B5	2
2049	Analog: -10dB		67kHz: Moderate			None	Travis	2
2050	Hybrid: -10dB		67kHz: Moderate			None	Travis	2
2051	Analog: -10dB		67kHz: Moderate			30,000K	Female B6	2
2052	Hybrid: -10dB		67kHz: Moderate			30,000K	Female B6	2
2053	Analog: -10dB		67kHz: Moderate			30,000K	Male B6	2
2054	Hybrid: -10dB		67kHz: Moderate			30,000K	Male B6	2
2055	Analog: -10dB		67kHz: Moderate			30,000K	Travis	2
2056	Hybrid: -10dB		67kHz: Moderate			30,000K	Travis	2
2057	Analog: -30dB		67kHz: Moderate			None	Female B5	2
2058	Hybrid: -30dB		67kHz: Moderate			None	Female B5	2
2059	Analog: -30dB		67kHz: Moderate			None	Male B5	2
2060	Hybrid: -30dB		67kHz: Moderate			None	Male B5	2
2061	Analog: -30dB		67kHz: Moderate			None	Travis	2
2062	Hybrid: -30dB		67kHz: Moderate			None	Travis	2
2063	Analog: -30dB		67kHz: Moderate			30,000K	Female B6	2
2064	Hybrid: -30dB		67kHz: Moderate			30,000K	Female B6	2
2065	Analog: -30dB		67kHz: Moderate			30,000K	Male B6	2
2066	Hybrid: -30dB		67kHz: Moderate			30,000K	Male B6	2
2067	Analog: -30dB		67kHz: Moderate			30,000K	Travis	2
2068	Hybrid: -30dB		67kHz: Moderate			30,000K	Travis	2
2069			67kHz: Moderate		Analog: -10dB	None	Female B5	2
2070			67kHz: Moderate		Hybrid: -10dB	None	Female B5	2
2071			67kHz: Moderate		Analog: -10dB	None	Male B5	2
2072			67kHz: Moderate		Hybrid: -10dB	None	Male B5	2
2073			67kHz: Moderate		Analog: -10dB	None	Travis	2
2074			67kHz: Moderate		Hybrid: -10dB	None	Travis	2
2075			67kHz: Moderate		Analog: -10dB	30,000K	Female B6	2
2076			67kHz: Moderate		Hybrid: -10dB	30,000K	Female B6	2
2077			67kHz: Moderate		Analog: -10dB	30,000K	Male B6	2
2078			67kHz: Moderate		Hybrid: -10dB	30,000K	Male B6	2
2079			67kHz: Moderate		Analog: -10dB	30,000K	Travis	2
2080			67kHz: Moderate		Hybrid: -10dB	30,000K	Travis	2
2081			67kHz: Moderate		Analog: -30dB	None	Female B5	2
2082			67kHz: Moderate		Hybrid: -30dB	None	Female B5	2
2083			67kHz: Moderate		Analog: -30dB	None	Male B5	2
2084			67kHz: Moderate		Hybrid: -30dB	None	Male B5	2
2085			67kHz: Moderate		Analog: -30dB	None	Travis	2
2086			67kHz: Moderate		Hybrid: -30dB	None	Travis	2
2087			67kHz: Moderate		Analog: -30dB	30,000K	Female B6	2

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2088			67kHz: Moderate		Hybrid: -30dB	30,000K	Female B6	2
2089			67kHz: Moderate		Analog: -30dB	30,000K	Male B6	2
2090			67kHz: Moderate		Hybrid: -30dB	30,000K	Male B6	2
2091			67kHz: Moderate		Analog: -30dB	30,000K	Travis	2
2092			67kHz: Moderate		Hybrid: -30dB	30,000K	Travis	2
2093		Analog: +16dB	92kHz: Moderate			None	Female C3	3
2094		Hybrid: +16dB	92kHz: Moderate			None	Female C3	3
2095		Analog: +16dB	92kHz: Moderate			None	Male C3	3
2096		Hybrid: +16dB	92kHz: Moderate			None	Male C3	3
2097		Analog: +16dB	92kHz: Moderate			None	Simon	3
2098		Hybrid: +16dB	92kHz: Moderate			None	Simon	3
2099		Analog: +16dB	92kHz: Moderate			30,000K	Female C4	3
2100		Hybrid: +16dB	92kHz: Moderate			30,000K	Female C4	3
2101		Analog: +16dB	92kHz: Moderate			30,000K	Male C4	3
2102		Hybrid: +16dB	92kHz: Moderate			30,000K	Male C4	3
2103		Analog: +16dB	92kHz: Moderate			30,000K	Simon	3
2104		Hybrid: +16dB	92kHz: Moderate			30,000K	Simon	3
2105		Analog: +6dB	92kHz: Moderate			None	Female C3	3
2106		Hybrid: +6dB	92kHz: Moderate			None	Female C3	3
2107		Analog: +6dB	92kHz: Moderate			None	Male C3	3
2108		Hybrid: +6dB	92kHz: Moderate			None	Male C3	3
2109		Analog: +6dB	92kHz: Moderate			None	Simon	3
2110		Hybrid: +6dB	92kHz: Moderate			None	Simon	3
2111		Analog: +6dB	92kHz: Moderate			30,000K	Female C4	3
2112		Hybrid: +6dB	92kHz: Moderate			30,000K	Female C4	3
2113		Analog: +6dB	92kHz: Moderate			30,000K	Male C4	3
2114		Hybrid: +6dB	92kHz: Moderate			30,000K	Male C4	3
2115		Analog: +6dB	92kHz: Moderate			30,000K	Simon	3
2116		Hybrid: +6dB	92kHz: Moderate			30,000K	Simon	3
2117			92kHz: Moderate	Analog: +16dB		None	Female C3	3
2118			92kHz: Moderate	Hybrid: +16dB		None	Female C3	3
2119			92kHz: Moderate	Analog: +16dB		None	Male C3	3
2120			92kHz: Moderate	Hybrid: +16dB		None	Male C3	3
2121			92kHz: Moderate	Analog: +16dB		None	Simon	3
2122			92kHz: Moderate	Hybrid: +16dB		None	Simon	3
2123			92kHz: Moderate	Analog: +16dB		30,000K	Female C4	3
2124			92kHz: Moderate	Hybrid: +16dB		30,000K	Female C4	3
2125			92kHz: Moderate	Analog: +16dB		30,000K	Male C4	3
2126			92kHz: Moderate	Hybrid: +16dB		30,000K	Male C4	3
2127			92kHz: Moderate	Analog: +16dB		30,000K	Simon	3
2128			92kHz: Moderate	Hybrid: +16dB		30,000K	Simon	3
2129			92kHz: Moderate	Analog: +6dB		None	Female C3	3
2130			92kHz: Moderate	Hybrid: +6dB		None	Female C3	3
2131			92kHz: Moderate	Analog: +6dB		None	Male C3	3
2132			92kHz: Moderate	Hybrid: +6dB		None	Male C3	3
2133			92kHz: Moderate	Analog: +6dB		None	Simon	3
2134			92kHz: Moderate	Hybrid: +6dB		None	Simon	3
2135			92kHz: Moderate	Analog: +6dB		30,000K	Female C4	3
2136			92kHz: Moderate	Hybrid: +6dB		30,000K	Female C4	3
2137			92kHz: Moderate	Analog: +6dB		30,000K	Male C4	3
2138			92kHz: Moderate	Hybrid: +6dB		30,000K	Male C4	3
2139			92kHz: Moderate	Analog: +6dB		30,000K	Simon	3

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2140			92kHz: Moderate	Hybrid: +6dB		30,000K	Simon	3
2141	Analog: -10dB		92kHz: Moderate			None	Female C5	3
2142	Hybrid: -10dB		92kHz: Moderate			None	Female C5	3
2143	Analog: -10dB		92kHz: Moderate			None	Male C5	3
2144	Hybrid: -10dB		92kHz: Moderate			None	Male C5	3
2145	Analog: -10dB		92kHz: Moderate			None	Travis	3
2146	Hybrid: -10dB		92kHz: Moderate			None	Travis	3
2147	Analog: -10dB		92kHz: Moderate			30,000K	Female C6	3
2148	Hybrid: -10dB		92kHz: Moderate			30,000K	Female C6	3
2149	Analog: -10dB		92kHz: Moderate			30,000K	Male C6	3
2150	Hybrid: -10dB		92kHz: Moderate			30,000K	Male C6	3
2151	Analog: -10dB		92kHz: Moderate			30,000K	Travis	3
2152	Hybrid: -10dB		92kHz: Moderate			30,000K	Travis	3
2153	Analog: -30dB		92kHz: Moderate			None	Female C5	3
2154	Hybrid: -30dB		92kHz: Moderate			None	Female C5	3
2155	Analog: -30dB		92kHz: Moderate			None	Male C5	3
2156	Hybrid: -30dB		92kHz: Moderate			None	Male C5	3
2157	Analog: -30dB		92kHz: Moderate			None	Travis	3
2158	Hybrid: -30dB		92kHz: Moderate			None	Travis	3
2159	Analog: -30dB		92kHz: Moderate			30,000K	Female C6	3
2160	Hybrid: -30dB		92kHz: Moderate			30,000K	Female C6	3
2161	Analog: -30dB		92kHz: Moderate			30,000K	Male C6	3
2162	Hybrid: -30dB		92kHz: Moderate			30,000K	Male C6	3
2163	Analog: -30dB		92kHz: Moderate			30,000K	Travis	3
2164	Hybrid: -30dB		92kHz: Moderate			30,000K	Travis	3
2165			92kHz: Moderate		Analog: -10dB	None	Female C5	3
2166			92kHz: Moderate		Hybrid: -10dB	None	Female C5	3
2167			92kHz: Moderate		Analog: -10dB	None	Male C5	3
2168			92kHz: Moderate		Hybrid: -10dB	None	Male C5	3
2169			92kHz: Moderate		Analog: -10dB	None	Travis	3
2170			92kHz: Moderate		Hybrid: -10dB	None	Travis	3
2171			92kHz: Moderate		Analog: -10dB	30,000K	Female C6	3
2172			92kHz: Moderate		Hybrid: -10dB	30,000K	Female C6	3
2173			92kHz: Moderate		Analog: -10dB	30,000K	Male C6	3
2174			92kHz: Moderate		Hybrid: -10dB	30,000K	Male C6	3
2175			92kHz: Moderate		Analog: -10dB	30,000K	Travis	3
2176			92kHz: Moderate		Hybrid: -10dB	30,000K	Travis	3
2177			92kHz: Moderate		Analog: -30dB	None	Female C5	3
2178			92kHz: Moderate		Hybrid: -30dB	None	Female C5	3
2179			92kHz: Moderate		Analog: -30dB	None	Male C5	3
2180			92kHz: Moderate		Hybrid: -30dB	None	Male C5	3
2181			92kHz: Moderate		Analog: -30dB	None	Travis	3
2182			92kHz: Moderate		Hybrid: -30dB	None	Travis	3
2183			92kHz: Moderate		Analog: -30dB	30,000K	Female C6	3
2184			92kHz: Moderate		Hybrid: -30dB	30,000K	Female C6	3
2185			92kHz: Moderate		Analog: -30dB	30,000K	Male C6	3
2186			92kHz: Moderate		Hybrid: -30dB	30,000K	Male C6	3
2187			92kHz: Moderate		Analog: -30dB	30,000K	Travis	3
2188			92kHz: Moderate		Hybrid: -30dB	30,000K	Travis	3
2189		Analog: +16dB	92kHz: Moderate			None	Female C9	4
2190		Hybrid: +16dB	92kHz: Moderate			None	Female C9	4

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2191		Analog: +16dB	92kHz: Moderate			None	Male A9	4
2192		Hybrid: +16dB	92kHz: Moderate			None	Male A9	4
2193		Analog: +16dB	92kHz: Moderate			None	Crowded	4
2194		Hybrid: +16dB	92kHz: Moderate			None	Crowded	4
2195		Analog: +16dB	92kHz: Moderate			30,000K	Female C10	4
2196		Hybrid: +16dB	92kHz: Moderate			30,000K	Female C10	4
2197		Analog: +16dB	92kHz: Moderate			30,000K	Male A10	4
2198		Hybrid: +16dB	92kHz: Moderate			30,000K	Male A10	4
2199		Analog: +16dB	92kHz: Moderate			30,000K	Crowded	4
2200		Hybrid: +16dB	92kHz: Moderate			30,000K	Crowded	4
2201		Analog: +6dB	92kHz: Moderate			None	Female C9	4
2202		Hybrid: +6dB	92kHz: Moderate			None	Female C9	4
2203		Analog: +6dB	92kHz: Moderate			None	Male A9	4
2204		Hybrid: +6dB	92kHz: Moderate			None	Male A9	4
2205		Analog: +6dB	92kHz: Moderate			None	Crowded	4
2206		Hybrid: +6dB	92kHz: Moderate			None	Crowded	4
2207		Analog: +6dB	92kHz: Moderate			30,000K	Female C10	4
2208		Hybrid: +6dB	92kHz: Moderate			30,000K	Female C10	4
2209		Analog: +6dB	92kHz: Moderate			30,000K	Male A10	4
2210		Hybrid: +6dB	92kHz: Moderate			30,000K	Male A10	4
2211		Analog: +6dB	92kHz: Moderate			30,000K	Crowded	4
2212		Hybrid: +6dB	92kHz: Moderate			30,000K	Crowded	4
2213			92kHz: Moderate	Analog: +16dB		None	Female C9	4
2214			92kHz: Moderate	Hybrid: +16dB		None	Female C9	4
2215			92kHz: Moderate	Analog: +16dB		None	Male A9	4
2216			92kHz: Moderate	Hybrid: +16dB		None	Male A9	4
2217			92kHz: Moderate	Analog: +16dB		None	Crowded	4
2218			92kHz: Moderate	Hybrid: +16dB		None	Crowded	4
2219			92kHz: Moderate	Analog: +16dB		30,000K	Female C10	4
2220			92kHz: Moderate	Hybrid: +16dB		30,000K	Female C10	4
2221			92kHz: Moderate	Analog: +16dB		30,000K	Male A10	4
2222			92kHz: Moderate	Hybrid: +16dB		30,000K	Male A10	4
2223			92kHz: Moderate	Analog: +16dB		30,000K	Crowded	4
2224			92kHz: Moderate	Hybrid: +16dB		30,000K	Crowded	4
2225			92kHz: Moderate	Analog: +6dB		None	Female C9	4
2226			92kHz: Moderate	Hybrid: +6dB		None	Female C9	4
2227			92kHz: Moderate	Analog: +6dB		None	Male A9	4
2228			92kHz: Moderate	Hybrid: +6dB		None	Male A9	4
2229			92kHz: Moderate	Analog: +6dB		None	Crowded	4
2230			92kHz: Moderate	Hybrid: +6dB		None	Crowded	4
2231			92kHz: Moderate	Analog: +6dB		30,000K	Female C10	4
2232			92kHz: Moderate	Hybrid: +6dB		30,000K	Female C10	4
2233			92kHz: Moderate	Analog: +6dB		30,000K	Male A10	4
2234			92kHz: Moderate	Hybrid: +6dB		30,000K	Male A10	4
2235			92kHz: Moderate	Analog: +6dB		30,000K	Crowded	4
2236			92kHz: Moderate	Hybrid: +6dB		30,000K	Crowded	4
2237	Analog: -10dB		92kHz: Moderate			None	Female C11	4
2238	Hybrid: -10dB		92kHz: Moderate			None	Female C11	4
2239	Analog: -10dB		92kHz: Moderate			None	Male A11	4
2240	Hybrid: -10dB		92kHz: Moderate			None	Male A11	4
2241	Analog: -10dB		92kHz: Moderate			None	CSNY	4
2242	Hybrid: -10dB		92kHz: Moderate			None	CSNY	4

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2243	Analog: -10dB		92kHz: Moderate			30,000K	Female C12	4
2244	Hybrid: -10dB		92kHz: Moderate			30,000K	Female C12	4
2245	Analog: -10dB		92kHz: Moderate			30,000K	Male A12	4
2246	Hybrid: -10dB		92kHz: Moderate			30,000K	Male A12	4
2247	Analog: -10dB		92kHz: Moderate			30,000K	CSNY	4
2248	Hybrid: -10dB		92kHz: Moderate			30,000K	CSNY	4
2249	Analog: -30dB		92kHz: Moderate			None	Female C11	4
2250	Hybrid: -30dB		92kHz: Moderate			None	Female C11	4
2251	Analog: -30dB		92kHz: Moderate			None	Male A11	4
2252	Hybrid: -30dB		92kHz: Moderate			None	Male A11	4
2253	Analog: -30dB		92kHz: Moderate			None	CSNY	4
2254	Hybrid: -30dB		92kHz: Moderate			None	CSNY	4
2255	Analog: -30dB		92kHz: Moderate			30,000K	Female C12	4
2256	Hybrid: -30dB		92kHz: Moderate			30,000K	Female C12	4
2257	Analog: -30dB		92kHz: Moderate			30,000K	Male A12	4
2258	Hybrid: -30dB		92kHz: Moderate			30,000K	Male A12	4
2259	Analog: -30dB		92kHz: Moderate			30,000K	CSNY	4
2260	Hybrid: -30dB		92kHz: Moderate			30,000K	CSNY	4
2261			92kHz: Moderate		Analog: -10dB	None	Female C11	4
2262			92kHz: Moderate		Hybrid: -10dB	None	Female C11	4
2263			92kHz: Moderate		Analog: -10dB	None	Male A11	4
2264			92kHz: Moderate		Hybrid: -10dB	None	Male A11	4
2265			92kHz: Moderate		Analog: -10dB	None	CSNY	4
2266			92kHz: Moderate		Hybrid: -10dB	None	CSNY	4
2267			92kHz: Moderate		Analog: -10dB	30,000K	Female C12	4
2268			92kHz: Moderate		Hybrid: -10dB	30,000K	Female C12	4
2269			92kHz: Moderate		Analog: -10dB	30,000K	Male A12	4
2270			92kHz: Moderate		Hybrid: -10dB	30,000K	Male A12	4
2271			92kHz: Moderate		Analog: -10dB	30,000K	CSNY	4
2272			92kHz: Moderate		Hybrid: -10dB	30,000K	CSNY	4
2273			92kHz: Moderate		Analog: -30dB	None	Female C11	4
2274			92kHz: Moderate		Hybrid: -30dB	None	Female C11	4
2275			92kHz: Moderate		Analog: -30dB	None	Male A11	4
2276			92kHz: Moderate		Hybrid: -30dB	None	Male A11	4
2277			92kHz: Moderate		Analog: -30dB	None	CSNY	4
2278			92kHz: Moderate		Hybrid: -30dB	None	CSNY	4
2279			92kHz: Moderate		Analog: -30dB	30,000K	Female C12	4
2280			92kHz: Moderate		Hybrid: -30dB	30,000K	Female C12	4
2281			92kHz: Moderate		Analog: -30dB	30,000K	Male A12	4
2282			92kHz: Moderate		Hybrid: -30dB	30,000K	Male A12	4
2283			92kHz: Moderate		Analog: -30dB	30,000K	CSNY	4
2284			92kHz: Moderate		Hybrid: -30dB	30,000K	CSNY	4

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4.2.2. IBOC Interference into the Host 67 and 92 kHz SCA Subcarrier Channels (NRSC J.4.4 and J.4.5)

Table 18 tabulates the subjective compatibility test scenarios that were used for IBOC interference into the Host 67 and 92 kHz SCA subcarrier channels (NRSC J.4.4 and J.4.5). The *RX* column designates the following SCA receivers used in the test:

- 1 – Norver 67 kHz
- 2 - Mc Martin TR-E5/55M (prior to repair)
- 3 - CozmoCom 92 kHz
- 4 - ComPol SCA-BL 92 kHz

Table 18 - Subjective Compatibility Test Scenarios - IBOC Interferers into the Host 67 and 92 kHz SCA Subcarrier Channels (NRSC J.4.4 & J.4.5)

#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2301			67kHz Analog: Strong			None	Female A1	1
2302			67kHz Hybrid: Strong			None	Female A1	1
2303			67kHz Analog: Strong			None	Male A1	1
2304			67kHz Hybrid: Strong			None	Male A1	1
2305			67kHz Analog: Strong			None	Clapton	1
2306			67kHz Hybrid: Strong			None	Clapton	1
2307			67kHz Analog: Strong			30,000K	Female A2	1
2308			67kHz Hybrid: Strong			30,000K	Female A2	1
2309			67kHz Analog: Strong			30,000K	Male A2	1
2310			67kHz Hybrid: Strong			30,000K	Male A2	1
2311			67kHz Analog: Strong			30,000K	Clapton	1
2312			67kHz Hybrid: Strong			30,000K	Clapton	1
2313			67kHz Analog: Moderate			None	Female A1	1
2314			67kHz Hybrid: Moderate			None	Female A1	1
2315			67kHz Analog: Moderate			None	Male A1	1
2316			67kHz Hybrid: Moderate			None	Male A1	1
2317			67kHz Analog: Moderate			None	Clapton	1
2318			67kHz Hybrid: Moderate			None	Clapton	1
2319			67kHz Analog: Moderate			30,000K	Female A2	1
2320			67kHz Hybrid: Moderate			30,000K	Female A2	1
2321			67kHz Analog: Moderate			30,000K	Male A2	1
2322			67kHz Hybrid: Moderate			30,000K	Male A2	1
2323			67kHz Analog: Moderate			30,000K	Clapton	1
2324			67kHz Hybrid: Moderate			30,000K	Clapton	1
2325			67kHz Analog: Strong			None	Female B1	2
2326			67kHz Hybrid: Strong			None	Female B1	2
2327			67kHz Analog: Strong			None	Male B1	2
2328			67kHz Hybrid: Strong			None	Male B1	2
2329			67kHz Analog: Strong			None	Fagen	2
2330			67kHz Hybrid: Strong			None	Fagen	2
2331			67kHz Analog: Strong			30,000K	Female B2	2
2332			67kHz Hybrid: Strong			30,000K	Female B2	2

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2333			67kHz Analog: Strong			30,000K	Male B2	2
2334			67kHz Hybrid: Strong			30,000K	Male B2	2
2335			67kHz Analog: Strong			30,000K	Fagen	2
2336			67kHz Hybrid: Strong			30,000K	Fagen	2
2337			67kHz Analog: Moderate			None	Female B1	2
2338			67kHz Hybrid: Moderate			None	Female B1	2
2339			67kHz Analog: Moderate			None	Male B1	2
2340			67kHz Hybrid: Moderate			None	Male B1	2
2341			67kHz Analog: Moderate			None	Fagen	2
2342			67kHz Hybrid: Moderate			None	Fagen	2
2343			67kHz Analog: Moderate			30,000K	Female B2	2
2344			67kHz Hybrid: Moderate			30,000K	Female B2	2
2345			67kHz Analog: Moderate			30,000K	Male B2	2
2346			67kHz Hybrid: Moderate			30,000K	Male B2	2
2347			67kHz Analog: Moderate			30,000K	Fagen	2
2348			67kHz Hybrid: Moderate			30,000K	Fagen	2
2349			92kHz Analog: Strong			None	Female C1	3
2350			92kHz Hybrid: Strong			None	Female C1	3
2351			92kHz Analog: Strong			None	Male C1	3
2352			92kHz Hybrid: Strong			None	Male C1	3
2353			92kHz Analog: Strong			None	Fagen	3
2354			92kHz Hybrid: Strong			None	Fagen	3
2355			92kHz Analog: Strong			30,000K	Female C2	3
2356			92kHz Hybrid: Strong			30,000K	Female C2	3
2357			92kHz Analog: Strong			30,000K	Male C2	3
2358			92kHz Hybrid: Strong			30,000K	Male C2	3
2359			92kHz Analog: Strong			30,000K	Fagen	3
2360			92kHz Hybrid: Strong			30,000K	Fagen	3
2361			92kHz Analog: Moderate			None	Female C1	3
2362			92kHz Hybrid: Moderate			None	Female C1	3
2363			92kHz Analog: Moderate			None	Male C1	3
2364			92kHz Hybrid: Moderate			None	Male C1	3
2365			92kHz Analog: Moderate			None	Fagen	3
2366			92kHz Hybrid: Moderate			None	Fagen	3
2367			92kHz Analog: Moderate			30,000K	Female C2	3
2368			92kHz Hybrid: Moderate			30,000K	Female C2	3
2369			92kHz Analog: Moderate			30,000K	Male C2	3
2370			92kHz Hybrid: Moderate			30,000K	Male C2	3
2371			92kHz Analog: Moderate			30,000K	Fagen	3
2372			92kHz Hybrid: Moderate			30,000K	Fagen	3
2373			92kHz Analog: Strong			None	Female C7	4
2374			92kHz Hybrid: Strong			None	Female C7	4
2375			92kHz Analog: Strong			None	Male A7	4
2376			92kHz Hybrid: Strong			None	Male A7	4
2377			92kHz Analog: Strong			None	Clapton	4
2378			92kHz Hybrid: Strong			None	Clapton	4
2379			92kHz Analog: Strong			30,000K	Female C8	4
2380			92kHz Hybrid: Strong			30,000K	Female C8	4
2381			92kHz Analog: Strong			30,000K	Male A8	4
2382			92kHz Hybrid: Strong			30,000K	Male A8	4
2383			92kHz Analog: Strong			30,000K	Clapton	4
2384			92kHz Hybrid: Strong			30,000K	Clapton	4

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#	Lower 2 nd adj.	Lower 1 st adj.	Desired	Upper 1 st adj.	Upper 2 nd adj.	AWGN	Audio Cut	RX
2385			92kHz Analog: Moderate			None	Female C7	4
2386			92kHz Hybrid: Moderate			None	Female C7	4
2387			92kHz Analog: Moderate			None	Male A7	4
2388			92kHz Hybrid: Moderate			None	Male A7	4
2389			92kHz Analog: Moderate			None	Clapton	4
2390			92kHz Hybrid: Moderate			None	Clapton	4
2391			92kHz Analog: Moderate			30,000K	Female C8	4
2392			92kHz Hybrid: Moderate			30,000K	Female C8	4
2393			92kHz Analog: Moderate			30,000K	Male A8	4
2394			92kHz Hybrid: Moderate			30,000K	Male A8	4
2395			92kHz Analog: Moderate			30,000K	Clapton	4
2396			92kHz Hybrid: Moderate			30,000K	Clapton	4

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