NATIONAL RADIO SYSTEMS COMMITTEE

NRSC-R58 Digital Audio Radio IBOC Laboratory Tests Transmission Quality Failure Characterization and Analog Compatibility August 11, 1995

Part VI – Appendices AH through AL



REPORT

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Co-sponsored by the Consumer Electronics Association and the National Association of Broadcasters http://www.nrscstandards.org

NRSC-R58

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NATIONAL ASSOCIATION OF BROADCASTERS Science and Technology Department 1771 N Street, NW Washington, DC 20036

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NRSC-R58

FOREWORD

NRSC-R58, *Digital Audio Radio IBOC Laboratory Tests – Transmission Quality Failure Characterization and Analog Compatibility*, documents the first comprehensive testing of in-band/on-channel digital radio systems. This report was prepared for Working Group B and the Combined EIA DAR and NRSC DAB Subcommittees.

The NRSC is jointly sponsored by the Consumer Electronics Association and the National Association of Broadcasters. It serves as an industry-wide standards-setting body for technical aspects of terrestrial overthe-air radio broadcasting systems in the United States.

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Digital Test Results USA Digital Radio FM 1	AH
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Digital Test Results USA Digital Radio FM 1 Revision B	AL

APPENDIX AH

Digital Test Results USA Digital Radio FM 1

Proponent: U	SADR FM1 Rev A	
Code:	Н	
Digital Band Width:	2.00E+05 Hz	
Composite Band Width:	4.50E+05 Hz	
Peak/Average Composite:	3.51 dB	
Peak/Average Digital:	8.58 dB	
		3
	·····	

File Name: DAR30808.XLS Cover

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Test	B-1		
Proponent		Gaussian Noise	
Code:	н	Guussian Moise	
			Units
Glockenspiel		TOA POF	
	Attenuator	16.50 14.50	
	Co/No	10.51 8.51	dB
			3D
	TOA	Small pops and some high cut.	
EO&C		Shian pops and some mgn cut.	
	POF	Severe high cut and warbles.	
			-
Soprano		TOA POF	
	Attenuator	16.00 14.50	ďB
	Co/No	10.01 8.51	dB
	TOA	Small pops.	
EO&C			
	POF	Excessive noise and high cut.	
Clarinet		TOA POF	
	Attenuator	16,50 14,50	dB
	Co/No	10.51 8.51	dB
	TOA	Small pop or click.	
EO&C		Shall pop of thek.	
	POF	Severe high cut and warbles.	
		5	
	Recording 1		
Notes:	Testers:	DML,DS,EB	
	Date:	8-Aug-94	

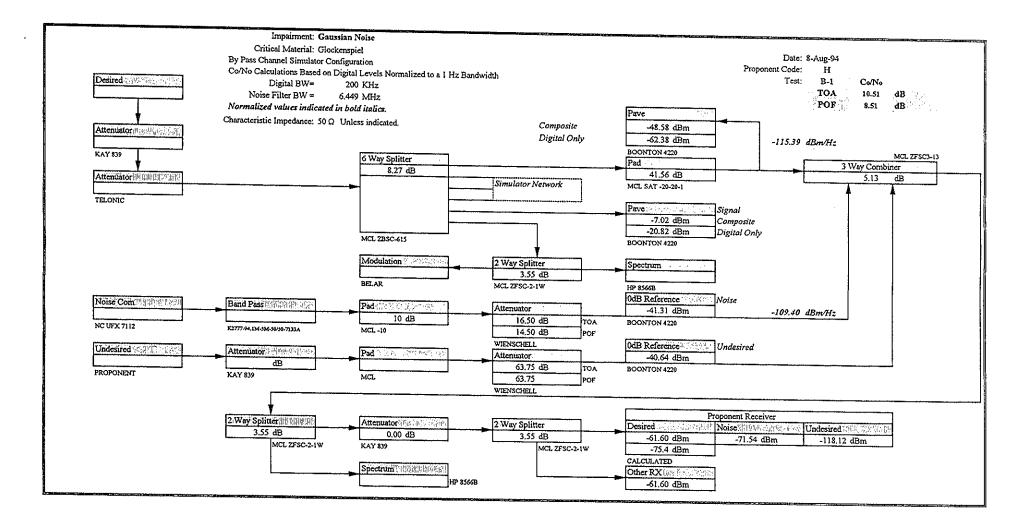
File Name: DAR30808.XLS B-1

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EIA Digital Audio Radio DAT Recording Log

DAT File Number	Time Start	Code Stop		P	rogr ID /	am I		Description	
DAR30218.DAT			1	2		<u> </u>		Glockenspiel Clear Channel	Attn 63.75
8-Aug-94		ļ	3	4					18.00
*****		ļ	5	6					17.50
	****		7	8					17.00
*****			9	10	11			TOA lab	16.50
*****			12	13					16.00
*******			14	15					15,50
*****		**********************************	******	17			Hermon		15.00
***********				19	20	14400/001		POF lab	14.50
******	****		21	22				Sync	63.75
***********			23	24					14.00
**********									14.00
	*****		25	26				Soprano Clear Channel	63,75
*****	*****		27	28					17.50
*****			29	30					17.00
			31	32		*****			16.50
************	******		33	32 34 36				TOA lab	16.00
******	***		35	36					15.50
*****				38					15.00
*****		************************		40		*****		POF lab	14,50
		*************************		42				Sync	63.75
******	*****		43	44					14.00
*****									**********************
******	********		45 47	40 48				Clarinet Clear Channel	63.75
			4/	48		********			18.00
***************************************			49	20	55				17.50
******************			21	24					17.00
******	******		53 57	58	22	. 20		TOA lab	16,50
	*****			28 60					16.00
**********									15.50
*****	*14*******	******************		62					15.00
				64				POF lab	14.50
			*******	66				Sync	63.75
****			67	68		*****			14.00
******		·······					.,		
*****	*****								*************
		<u> </u>							*****

Code: H Impairment: Gaussian Noise

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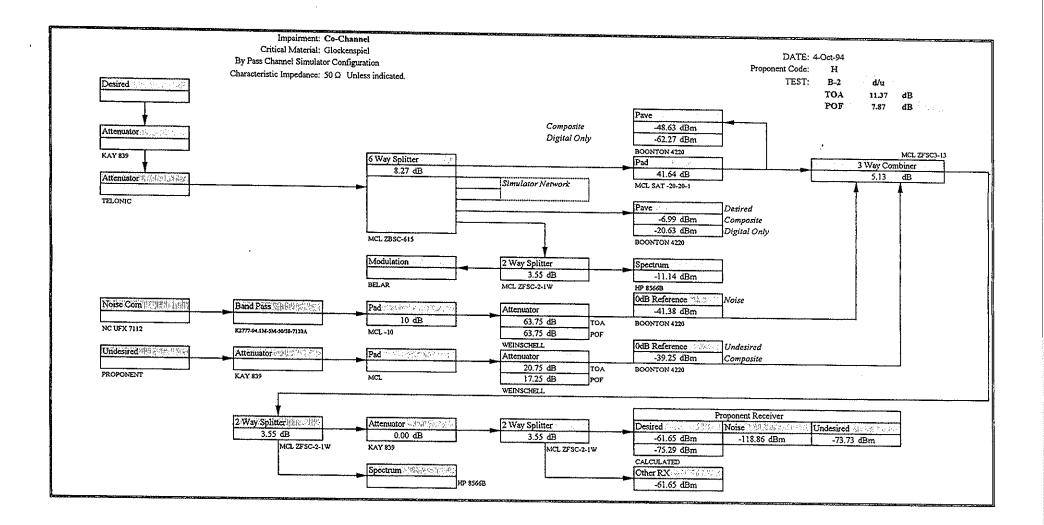
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Test	B-2			
Proponent		Co-Channe	ai ai	
Code:	н	Co-Channe	51	
Glockenspie	1			Units
Glockenspie	Attenuator	TOA	POF	
	Attenuator d/u	1 20115	17.25	dB
	u/u	11.37	7.87	dB
	TOA	Small pops in left ear.		
EO&	С			
	POF	High cut, warbles and some muting.		
		e v v v v v v v v v v v v v v v v v v v		
Soprano		ΤΟΑ	POF	L
	Attenuator	20.25	16.75	dB
	d/u	10.87	7.37	dB
	TOA	Q		
EO&0		Small pops.		
	POF	Excessive noise, high cut and some muting		
		bloosive holse, ligh cut and some muting		
				ĺ
Clarinet		ΤΟΑ	POF	
	Attenuator	20.25	16.25	dB
	d/u	10.87	6.87	dB
	ТОА	C. 111		
EO&C		Small background pops and clicks.		
EOR	1	Executive and a state of		
	100	Excessive noise and high cut.		
			······································	<u></u>
	Recording I	Reference: DAR30238.DAT		
Notes:	Recording F Testers:	Reference: DAR30238.DAT DML,RMc		

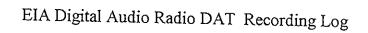
File Name: DAR30808.XLS B-2

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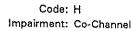


DAT File Number	Time Start	Code Stop		P	rogr ID #			Description	
DAR30238.DAT			1	2				Glockenspiel Clear Channel	Attn
4-Oct-94	*******		3	4		[1		63.75
	****		5	6					22.25
			7	8		*********			21.75
*****			9	10	11	12	********	TOA lab	21.25
******			13	14	**********	********		·	20.75
******			15	16				•	20.25
			17	18		*******			19.75
			19	20					19.25
			21	22	*****	********	********	***************************************	18,75
		*****************************	23	24	*********	**********	******	***************************************	18.25
			25	26	****	*******	P	POF lab	17.75
	**********	**********	27	28	*******	********			17.25
	**********	*****			********	*****			16.75
	*******	***********	29	30	********	••••	****	Soprano Clear Channel	
	****		31	32					63.75
			33		••••				21.75
***************************************	*********		35	34 36	********				21.25
	******************************		37	38	39	40	41	TOA lab	20.75
*********	********		42	43			41		20.25
***************************************			44	45		•••••			19.75
******	***********	********	46	47		**********			19.25
***************************************	******	***********************	48	49	********		·		18.75
************	*****		50	51		*******		***************************************	18.25
*********			52	*********	****	*********			17.75
**********************			******	53		·····	••••••••		17.25
******			54	55	*********			POF lab	16.75
*****	******		56	57					16.25

						******			*****
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		***********************	*****	*********		*******	•••••	***************************************	****



EIA Digital Audio Radio DAT Recording Log

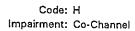
Number	Time Start	Code Stop		P	rogra ID:#	m		Description	
DAR30238.DAT	14+1+++++++++++++++++++++++++++++++++++		58	49				Clarinet Clear Channel	Atm 63.75
4-Oct-94	*****		60	61					21.75
******	·····		62	63					21.25
****	********		64	65					20.75
*******	********	*******	66	67	68			TOA lab	20.75
***************************************	****	************************	69	70					19.75
			71	72					19.25
	*****		73	74	******				18.75
	*****	ļ	75	76					18.25
	******		77	78			******		17.75
	*****		79	80	**********				17.25
			81	82					16.75
*****	**********		83	84				POF lab	16.25
	*****		85	86	·····				15.75
	********								••••••••••••••••••••••••••••••••••••••
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******	*****					**********			*****
****	******************************					********	********		*****
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	*****				•••••		****		******
	***********	*****		••••			••••		*****
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Test	B-3		Ur	ban Slow Ray	leigh				
Proponent Code:	н	Impairment Level							
Glockenspiel			TOA		POF	1	Units		
	Attenuator		63 75		63.75		dB		
	Co/No		58.44		58.44		dB		
EO&C	TOA	Small burst of 1	10ise, high cut	and small pop in	left car.	••••••••••••••••••••••••••••••••••••••			
EU&U	POF		<u></u>	<u> </u>					
Soprano	<u> </u>		TOA	T	POF				
	Attenuator		63.75		FOF		dB		
	Co/No		58.44				dB		
EO&C		High frequency	roll off.						
	POF								
Clarinet	Production and all concerns		TOA		POF	<u> </u>			
	Attenuator		63 75				dB		
	Co/No		58.44				dB		
5040		High frequency	roll off.						
EO&C	·								
	POF								
Notes:	Recor	ding Reference: Testers: Test Date:	DML,RMc	AT	<u></u>	<u> </u>	<u></u>		

File Name: DAR30808.XLS B-3 US

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ator No 99.5% Mute, v		Fast Rayleigh rment Level POF 63.75 58.44 audio.	Units dB dB
/No	63.75 58.44	63.75 58.44	dB
/No	63.75 58.44	63.75 58.44	
/No	58.44	58.44	
·····			dB
		······	
	TOA	POF	
	63.75		dB
/No	58.44		dB
Due to perform this test was no	ance as indicated about necessary.	ove	
	TOA	POF	1
ator	63.75		dB
	a server the second		an la
/No	58,44		dB dB
/No	58.44	ove	100 0000000000000000000000000000000000
	ator /No Due to perform this test was no ator	Ator 63 75 No 58.44 Due to performance as indicated aborthis test was not necessary.	Ator 63 75 No 58.44 Due to performance as indicated above this test was not necessary. TOA POF

File Name: DAR30808.XLS B-3 UF

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Test	B-3		Rui	ral Fast Rayl	eigh		
Proponent Code:	Н			pairment Le	-		TT 1
Glockenspiel			TOA	<u> </u>	POF		Units
	Attenuator		63.75		63.75		dB
	Co/No		58.44		58.44		dB
EO&C	τολ	No recovered au re-acquisition to	idio. System so occur in a clea	ftware had to be ir channel.	re-loaded for	·	
	POF					<u> </u>	
Soprano			TOA		POF	1	
	Attenuator		63 75				dB
	Co/No		58.44				dB
	TOA	Due to performa this test was not		d above			
EO&C				····			-
	POF						
Clarinet		<u> </u>	TOA	T	POF		<u></u>
	Attenuator		63 75				dB
	Co/No		58.44				dB
EO&C	ТОА	Due to perform this test was not		ed above		·····	
	POF						
Notes:	Recor	ding Reference: Testers: Test Date:	DML,RMc	ΔŢ			

File Name: DAR30808.XLS B-3 RF

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Test	B-3	Ter	rain Obstructed	Ravleigh		
Proponent						
Code:	Н					
			Impairment Le	vel		
			1			Units
Glockenspiel		TO/	λ	POF		Onto
	Attenuator	63.7		63 75		dB
	Co/No	58.4	4	58.44	F	dB
EO&C		Virtually no recovered au audio.	dio. Small burst of hea	avilly distorted		
LOQU			······			
	POF					
Soprano	<u> </u>	TO	<u> </u>	POF		
••••• <u> </u>	Attenuator	63.7		POr		ar
	Co/No	58.4				dB dB
EO&C		Due to performance as in this test was not necessar	dicated above y.			
	POF				· · · · · · · · · · · · · · · · · · ·	<u> </u>
Clarinet		TO	X	POF		
	Attenuator	63.7	5			dB
	Co/No	58.4	4			dB
EO&C	L	Due to performance as in this test was not necessar	dicated above y.			····
	POF			· · · · · · · · · · · · · · · · · · ·	<u> </u>	
Notes:	Recor	ding Reference: DAR302 Testers: DML,RN Test Date: 27-Oct-9	1c			

File Name: DAR30808.XLS B-3 TO

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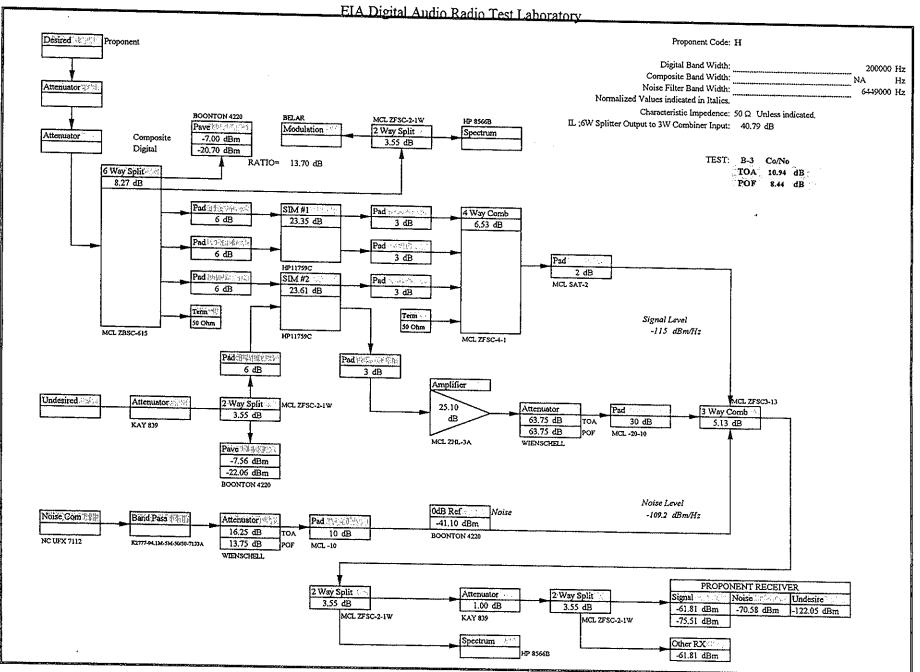
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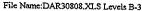
DAT File Number	Time Start	Code Stop		Pro	græn	IDs			
DAR30277.DAT			1	2	3	4	5	Description Glockenspiel Urban Slow	Attn
27-Oct-94	***************************************	***********************						Utockenspici Utban Slow	63.75
		************************	6			*****	*****	Disregard	
			·····	*********		• • • • • • • • • • • • • • • • • • • •		DISICBAID	
			7	8	9	10	11	Soprano Urban Slow	
	**********	************			····		· · · ·	ISOPIANO UTDAN SIOW	63.75
	******	**********	12	13	14	15	16	Clarinet Urban Slow	
******	*********	*****			1-7 N-1-1	····		Clainict Urban Slow	63,75
************			17	18			*******		.+
*************		************************		10		******		Disregard	
*************			19	20	21				
*******		*******************	17	20	<u> </u>	22	23	Glockenspiel Urban Fast	63.75
*******			24	25	26				**
	*********	*******		23	20	27	28	Glockenspiel Rural Fast	63.75
*********	******	************	29	30	31				
********				30		32	33	Glockenspiel Terrain Obstructed	63.75
*************		*****	·····						**********
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**************	**********		*****	····			•••••		
********			******				1		

Proponent Code: H Impairment: Urban Slow Rayleigh

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SADR FM1 Rev A. ogram Material	Impulse Respon Glockenspiel			1.00 Vp-p at atten 10.00 ns wide pulse	uator input.	
Pulse Repetition (Hz)	a	Attn t TOA	(Vp-p)	Attn at POF	(Vp-p)	EO&C
100		0.00	1.00	0.00	1.00	Could not achieve TOA or POF with this configuration.
200		1.75	0.82	0.00	1.00	TOA small pop, click / high cut, POF could not attain.
333		0.75	0.92	0.00	1.00	TOA small pop, click / high cut, POF could not attain.
666		5.25	0.55	1.75	0.82	TOA small pop, click / high cut, POF excessive noise with muting.
1000		8.25	0.39	4.50	0.60	TOA small pop, click / high cut, POF excessive noise with muting.
Additional Comments	:					the second of th
Test Date: 25-Jul-94						
Testers: TK, DS						

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Test	C-2	CW Respons	se						
USADR FM	1 Rev A.								
Program Mat		Mozart (track	67 SQAM E) isk)					
	Frequency	LEV I	LEV 2	LEV 3		Frequency	LEV I	LEV 2	LEV 3
Test Point	MHz	POF	POF+6	POF+12	Test Point	MHz	POF	POF+6	POF+12
1	93.85	0	0	0	27	94.11	0	0	0
2	93.86	0	0	0	28	94.12	0	0	0
3	93.87	2	2	2	29	94.13	0	0	0
4	93.88	2	2	2	30	94.14	0	0	0
5	93.89	2	2	2	31	94.15	0	0	- ů
6	93.90	2	2	2	32	94.16	0	0	0
7	93.91	2	2	2	33	94.17	0	0	0
8	93.92	2	2	2	34	94.18	0	0	0
9	93,93	2	2	2	35	94.19	0	0	0
10	93.94	1	2	2	36	94.20	0	0	i
11	93.95	2	2	2	37	94.21	0	2	2
12	93.96	2	2	2	38	94.22	0	0	0
13	93.97	2	2	2	39	94.23	2	2	2
14	93.98	0	0	2	40	94.24	2	2	2
15	93,99	0	0	2.	41	94.25	2	2	2
16	94.00	0	0	2	42	94.26	1	1	2
17	94.01	0	0	2	43	94.27	2	2	2
18	94.02	0	0	2	44	94.28	2	2	2
19	94.03	0	0	2	45	94.29	2	2	2
20	94.04	0	0	2	46	94.30	1	1	1
21	94.05	0	0	2	47	94.31	2	2	2
22	94.06	0	0	0	48	94.32	2	2	2
23	94.07	0	0	0	49	94.33	2	2	2
24	94.08	0	0	0	50	94.34	0	0	0
25	94.09	0	0	0	51	94.35	0	1	0
26	94.10	0	0	0				-	
Test Date:	17-Oct-94	<u> </u>		dR Attances	tor Reference:	22.04	dD		
Testers:	DML, RMc		0=CLEAN A			02.00	овт		
I USICIS.	DML, RNC		POF Attn=2		I=APPROX	IMATE TOA POF d/u≕	14.13	2 ≥ POF dB	

File Name: DAR30808.XLS C-2

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Test	C-3 Airplane Fl	utter	
USADR I	FM1 Rev A.		
Program I	Material Glockenspie	1	
Scenario	Reflected Pa	th	EO&C
#1	100 K		
<i>7</i> 1	400 Km/h Doppler		Excessive noise and high cut.
	27.5 μs Delay		Level of impairment approaching POF.
		TOA	
	8.00 dB	8.00 dB	DAR30500.DAT
10			PI # 16,17 and 18
#2	200 Km/h Doppler		Virtually no recovered audio.
	13.7 μs Delay		Beyond POF level of impairment.
		TOA	Small drop out or flutter.
	6.00 dB	6.00 dB	
			Not recorded.
#3	100 Km/h Doppler		Virtually no recovered audio.
	6.8 μs Delay		Had to reload receiver software after
		TOA	this simulation .
	4.00 dB	4.00 dB	
			Not recorded.
Test Date	: 27-Oct-94		
Testers	: DML, RMc		

File Name: DAR30808.XLS C-3

Test C-4	Weak Signal Sensitivity
USADR FM1 Rev A.	
Program Material	Glockenspiel
	TOA (dBm)POF (dBm) $-86 \le TOA < -85$ $-89 < POF \le -88$
Test Date: 27-Oct-9	
Testers: DML,RMc	

File Name: DAR30808.XLS C-4

.

	C-5	Delay	y Spr	ead /	Dop	pler		- <u> </u>						
	н	Bad I												
Program Ma	aterial	Moza	irt (T	rack (57 on	SQAI	M dis	k)						
Delay Sprea	d	L												
(us)		A .												
-	0.10													
-	0-40			2		2		2		2		2		
-	0-36		2		2	<u> </u>	2		2		2		2	
-	0-32	· · · ·		2		2		2		2		2		
+	0-28 0-24		1		2		1	<u> </u>	2		2		2	
-	0-24			2		1		2		2		2		
-	0-20		1		1		1		2	<u> </u>	2		2	·
-	0-12		0	1	1	1	1	1	2	2		2		
	0-12		- U	0	1	1		2	4	2	2		2	
-	0-4		0	<u> </u>	0	<u> </u>	1	2	2	4	2	2		·
-	• •	· · · · · ·	· ·		–	<u></u>	<u> </u>		<u> </u>		2		2	
			1	3	5	10	15	30	50	75	100	150	225	
				1 2	5	[10	1.2	1 30	1 00	1,2	1100	120	223	Doppler (km/h)
EO&C		30 se	c mir	imun	a liste	ning 1	ime.							
	0 =	Unin						Smal	l Imn	airme	ents co	meien	to be	
	1 -	Smal	I Imp	airme	nt									ropouts.
		POF				ment				,	. (ropouis.
Test Date:	27-Oct-94		<u></u>				• • • • • • • • • • • • • • • • • • • •							
	DML, RM													
	,													

File Name: DAR30808.XLS C-5 BU1

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Test	C-5	Dela	y Spr	·cad /	Dop	pler								
Code:	н		Urbai											
Program	Material	Moz	art (T	rack (57 on	SQA	M dis	k)						
Delay Sp	read												<u></u>	
(น	s)	Â												
	0-80		 	<u> </u>	<u> </u>		ļ			<u> </u>	L			
	0-80		<u> </u>	2		2	<u> </u>	2		2	<u> </u>	2		
	0-73		2	2	2		2	<u> </u>	2		2		2	
	0-68	_	2	4		2		2		2		2		
	0-64		<u>.</u>	2	2	_	2		2		2		2	
	0-60		2	. 2	2	2	2	2	<u> </u>	2		2		
	0-56			2	4	2	- <u> </u>	2	2		2		2	
	0-52		2		2	<u></u>	2		2	2	<u> </u>	2		•
	0-48		<i>*</i>	2		2	2	2	<u> </u>	2	2	2	2	<u> </u>
	0-44		2		2	4	2	<u> </u>	2	2	2	2		
	<u> </u>				<u> </u>	<u> </u>	<u> </u>		2		2		2	
		L	1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
				•	•	1	,	,			1.00	100	1 222	
EO&C			ec mir		n liste	ning (time.							
		= Unir									nts co			
		= Sma						occat	tional	, brief	(shoi	rt dun	ation) d	ropouts.
		≥ PO	Leve	i ot li	npair	ment			<u></u>					
	e: 27-Oct-													
Tester	s: DML, R	Mc												

File Name: DAR30808.XLS C-5 BU2

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Test	C-5	Dela	y Spi	ead /	Dop	pler					· · · · · ·			
Code:	H		cal U		•									
Program	Material	Moz	art (T	rack	57 on	SQA	M dis	k)						
Delay Sp	rcad													
(u	s)	A												
	<u> </u>		\bot	L					1		1	1		
	0-10		ļ	1		1		2		2	<u> </u>	2	†	·
	0-9		0	L	1		1		2		2		2	
	0-8			1	L	1		2		2		2		
	0-7		0		1		1		2		2		2	
	0-6 0-5		<u> </u>	0		1		2	L	2		2		
	0-3	—- <u>-</u>	0		1	ļ	1	Ļ	2		2		2	
	0-4			0	<u> </u>	1		2		2		2		
	0-3		0		1	- <u>-</u> -	1	<u> </u>	2	ļ	2	L	2	
	0-2		0	1		1		2	L	2	<u> </u>	2		
		·			1				2	<u> </u>	2	<u> </u>	2	
		L		3	6	10								
			I T	د	5	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C		30 a	∞ mir	•	1									
		0 = Unin	io nin ionica	umun A	i fiste	ning	ume.	e						
		l = Smal			nt						ents co			
		2≥ POF	Leve	l of I	nnair	ment		occar	lional,	Driel	(sno)	n aur	ation) c	dropouts.
Test Dat	e: 27-Oct													
	s: DML, I													
	<u></u>													

File Name: DAR30808.XLS C-5 TU

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Test	C-5	Delay	y Spr	cad /	Dopt	ler								
Code:	н	Hilly			••									
Program I	Material	Moza			7 on	SQAI	M dis	k)						
Delay Spr (us							<u> </u>			<u></u>				
	0-50		1				2							
	0-48		1	2	1		. 2	2	2	_	2		2	
	0-44			2		1		2		2	-	2		
	0-40		1		1		1	-	2		2		2	
	0-40		-	2		1		2		2		2		
			2		1		2		2		2		2	
	0-32	_		2		1	<u> </u>	1		2		2		
	0-28		0		2	-	2		2	<u> </u>	2		2	
	0-24		-	2	<u> </u>	2		2		2		2		
	0-20		0		1		1		2		2		2	
		L	1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C		30 %	ec mir	imin	n liste	ning	time							
	C) = Unin						Smal	II	airme	ents co	meiet	ad of	
]]		l = Smal			nt									dropouts and
		2 ≥ POF				ment			dic fl				auonj	dropouts allu
Teat Det	e: 27-Oct-				mpan	inciil		peric		uners	•			
11														
1 ester	s: DML, R	MC												

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Test	C-5	Dela	y Spr	ead /	Dop	pler								
Code:	Н		I Area			•								
Program	Material	Moz	art (T	rack (57 on	SQAJ	M dis	k)						
Delay Sp	read	4												
(u:	s)	A												
										[
	0-1.0			1		1		2		2		2		
	0-0.9		0		1		2		2		2		2	
	0-0.8			1		1		2		2		2		
	0-0.7		0		1		1		2		2		2	
	0-0.6	_		1	L	1		2		2		2		
	0-0.5		0		1		1		2	L	2		2	
	0-0.4	<u> </u>	<u> </u>	0		1		2		2		2		
	0-0.3		0		1	<u> </u>	1		2		2		2	
	0-0.2		1	1		1		2		2		2		····
	0-0.1		- <u>-</u>		0		1		2		2		2	
		L	1	3	5	10	16							
			1	3	2	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C		30 %	ec mir	imur	a lieta	ning	ima							
	0	= Unin			ii nste	anng	unie,	Smal	1 7	.:	ents co			
		= Smal			nt									4
		≥ POF				ment		occa	uonai	, one,	(snoi	n aur	ation)	dropouts.
Test Dat	e: 27-Oct-9				mpun	mont								
	s: DML, RN													
2 00001														

File Name: DAR30808.XLS C-5 RA

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Test	C-6	Additional	Multipath	Dop	pler Sin	nulations			
USADR FM1 Rev A.					-				
Program Material:	Glockenspie	<u>sl</u>							1
Scenario	I								
Scenario	Level						······		
#1	Level	Attn	Co/No	Unit	.s	EO&C	· · · · · · · · · · · · · · · · · · ·		
Urban Slow	TOA	32.50	27.31	dB		High cut a	nd other pop:	s and clicks.	
	POF	22.50	17.31	dB		Excessive	noise and mu	iting.	
#2 Urban Fast	TOA	63.75	58.56	dB		Backgrour	nd noise and l	high cut.	
	POF	21.50	16.31	dB		Excessive	noise.		
#3 Rural Fast	TOA	63.75	58.56	dВ		System ne Total mute	ver re-acquire	: \$.	
	POF	63.75	58.56	dB					
#4 Terrain Obstructed	TOA	63.75	58.56	dB			ind other pop ing POF level		
Fast	POF	63.75	58.56	dB				·	
Test Date:	26-Oct-94			1	Desired	<u></u>		Noise	
Testers:	DML, RMc	;	Signal			dBm		110130	i
DAT Reference:	,		IL		40.79		BW	6.45E+06	Hz
			3WIN		-47.79		0dB Ref		
DAI Kelerence:	DAK30552	.DAI							

File Name: DAR30808.XLS C-6

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EIA Digital Audio Radio Test Laboratory

DAT File Number	Time Start	Code		S	art I	Ds			
DAR30552.DAT		 	1	2	3	<u></u>		Description	Attn
26-Oct-94	****	*****	4	5	<u> </u>			Urban Slow	63.75
			7	8	9	•••••••		Urban Slow	63.75
***************************************	******							Urban Slow with noise	32.50
***************************************	*****		10	11	12			Disregard	
••••••••••••••••••••••••••••••••••••••	***********	*******		· · · · ·				1//IST C2/31/0	63.75
***************************************	*********	*****	13	14	15		••••••	Urban Fast	
***************************************	*****	***********************					*****3#****		63.75
******	********	******	16	17	18			Rural Fast	
		************		******					63.75
		*************************************	19	20	21	†	*********	Obstructed Fast	63.75
						†	**********		03./3
						_			
******						[*****		••••••••••••••••
******	******	*******							******
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y14444 + press + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 +		*******							*****
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***************	*********	••••••••••••••••••••••					•••••		
**********		***************************************	*******						
***************************************		**********************	**********		·····				
					<u> </u>	1	<u> </u>	Additional Multicath Denales Simulation	

Additional Multipath Doppler Simulations

Code: H Test C-6

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Test	D-Series	Co-Channe	l, 1st and 21	nd Adjace	:nt	
USADR FM1 Rev	A.			-		
Program Material:	Glockenspie	[
					1	
	Level	Attn	D/U	Units	EO&C	
D-1						
Co-Channel	TOA	30.50	11.96	dB	Small pop.	
				-	P-P-	
					<u> </u>	
	POF	26.00	7.46	dB	Excessive noise	and high cut.
						J
D-2	TOA	50.00	31.46	dB	Small drop outs	or flutters.
Lower						
1st Adjacent	POF	38.00	19.46	dB	Excessive Mutin	ng.
T Immon	TOA	49.75	31.21	dB	Small pop.	
Upper 1st Adiasant						
1st Adjacent D-3	POF	37.75	19.21	dB		, high cut and crackling.
Lower	TOA	28.00	9.46	dB	Small pop.	
2nd Adjacent	POF	19.75	1 21	10		
and rajacent	TOA	19.75	1.21	dB	Excessive noise	, high cut and mute.
	IUM					
	POF				Not necessary d	lue to symmetry.
	1 101				L	
r)AT Reference; I	ጋልጽዓብፈስሩ	рат			
-			ulator Confi	guration	•	
Test D	ate: 17-Oct-94			Desired		Undesired
	ers: DML, RMc		6WOUT		dBm	Undesired
1030			IL	-0.99 41.49		
			3WIN	-48.48		20.04.15
			7 YY 114	-40.48	man	-29.94 dBm

File Name: DAR30808.XLS D

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DAT File Number	Code Stop	Start IDs								
DAR30405.DAT			0	1	2	1	<u>00000000</u> T	Description	Attn	
17-Oct-94		*****		ļt	<u> </u>			USADR FM1 Co-Channel TOA	30.50	
***********	***********		3	4	5	 		I and the second s		
******************	**********	·····	ž					Upper 1st Adjacent, TOA	49.75	
*******	*****	*****	6	7	8			Lower 2nd Adjacent TOA		
	************************************	**********	****				<u> </u>	Lower 2nd Aujacent 10A	28.00	
		*******		.	····			******		
*************************************	******				·					
********	*******	********								
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Test	E-1	Co-Channe	el with Mul	tipath (Ray	leigh)	
USADR FM1 Rev A.						
Program Material:	Glockenspie	3				
Scenario						
	Level	Attn	D/U	Units	EO&C	
#1						
Urban Slow	TOA	63.75	67.38	dB	High cut and small pop.	
	POF	27.25	30.88	dB	Excessive noise and muting	5.
#2 Urban Fast	TOA	63.75	67.38	dB	Never re-acquires.	
#3 Rural	ТОА	63.75				
Fast			67.38	dB	Never re-acquires.	
#4						
Terrain Obstructed	TOA	63.75	67.38	dB	Never re-acquires.	
Test Date:	27-Oct-94			Desired	L	desired
Testers: DML, RMc			Signal		dBm	
			IL	40.79	dB	
			3WIN	-47.79	dBm	-51.42 dBm

File Name: DAR30808.XLS E-1 R

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Test USADR FM1 Re	E-2 I	ower 1st A	djacent wi	th Multipa	th (Rayleigh)	
Program Material:			-			
Scenario					-	
·	Level	Attn	D/U	Units	EO&C	
#1 Urban Slow	TOA	63.75	67.38	dB	Small pop.	
	POF	41.25	44.88	dB	Excessive noise and h	igh cut.
#2 Urban Fast	TOA	63.75	67.38	dB	Never re-acquires.	<u> </u>
#3 Rural Fast	TOA	63.75	67.38	dB	Never re-acquires.	
#4 Terrain Obstructed	τοα	63.75	67.38	dB	Never re-acquires.	
Test Date: 27-Oct-94 Testers: DML, RMc			Signal IL 3WIN	Desired -7.00 40.79 -47.79		Undesired -51.42 dBm

File Name: DAR30808.XLS E-2 R

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Test	E-3	Lower 2nd	Adjacent w	ith Multip	ath (Rayleigh)	
USADR FM1 Re Program Material:	v A.					
Scenario						
	Level	Attn	D/U	Units	EO&C	
#1 Urban Slow	TOA	63.75	67.38	dB	Small pop.	
	POF	19.75	23.38	dB	Excessive noise and	small mute.
#2 Urban Fast	TOA	63.75	67.38	dB	Never re-acquires.	
#3 Rural Fast	ΤΟΑ	63.75	67.38	dB	Never re-acquires.	
#4 Terrain Obstructed	ΤΟΑ	63.75	67.38	dB	Never re-acquires.	
Test Date: 27-Oct-94 Testers: DML, RMc			Signal IL 3WIN	Desired -7.00 40.79 -47.79	dB	Undesired -51.42 dBm

File Name: DAR30808.XLS E-3 R

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Test	E-1	Co-Channe	l with Mult	ipath (Doj	opler)	
USADR FM1 Rev A.						
Program Material:	Glockenspi	el				
					[
Scenario						
ocenano		······································	·····	· · · · · · · · · · · · · · · · · · ·		
¥1	Level	Attn	D/U	Units	EO&C	
Urban	тоа	32.00	26.01			
Slow	IUM	32.00	35.81	dB	Small pop.	
	<u>├</u> ────				DAR30552.DAT #2	
	POF	18.00	21.81	dB	Excessive noise and high cut.	
			21.01	υØ		
#2						······································
Urban	TOA	63.75	67.56	dB	Background noise and high cut.	
Fast						0
			i l			
	POF	21.50	25.31	dB	Excessive noise.	
¥3		·		····		
Rural	TOA	63.75	67.56	175		
Fast	10/1	03.75	07.50	dB	Never re-acquires.	
			<u> </u> -	···	<u> </u>	
	,					
4						
Ferrain	TOA	63.75	67,56	ďB	Excessive noise and high cut. POF level of impairment.	
Obstructed						
				······································		······································
					2	
Test Date: 26-Oct-94 Testers: DML, RMc			Desire			Undesired
			Signal	-7.00		
			40.65			
			3WIN	-47.65	dBm	~51.46 dBm

File Name: DAR30808.XLS E-1 D

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Test	E-2	Lower 1st	Adjacent w	ith Multipa	ath (Doppler)
USADR FM1 Rev A.			•	•	(
Program Material:	Glockenspie	el			
Scenario					
Scenario	T				
#1	Level	Attn	D/U	Units	EO&C
Urban Slow	TOA	63,75	67.42	dB	High cut with small pops and clicks.
	POF	31.00	34.67	dB	Excessive noise, high cut and mutes.
#2 Urban		·			Background noise and high cut.
Fast		·			Dackground noise and nigh cut.
#3 Rural Fast					Never re-acquires.
		·····			
#4					· · · · · · · · · · · · · · · · · · ·
Terrain Obstructed					Excessive noise and high cut. POF level of impairment.
Fast				·	r or teres of impairment.
					<u> </u>
	21-Oct-94			Desired	Gildonida
Testers:	DML, RM,	ST	Signal	-7.00	
			IL 3WIN	40.79 -47.79	

File Name: DAR30808.XLS E-2 D

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Test USADR FM1 Re	E-3	Lower 2nd	Adjacent w	rith Multig	path (Doppler)	
Program Material		iel				
Scenario						
	Level	Attn	D/U	Units	EO&C	
#1 Urban Slow	ΤΟΑ	20,50	24.17	dB	Small click.	
	POF	10.50	14.17	dB	Excessive nois	c and mutes.
#2 Urban Fast					Background no	oise and high cut.
#3 Rural Fast					Never re-acqui	rcs.
#4 Terrain Obstructed					Excessive noise POF level of in	e and high cut. npairment .
Fast						······································
	Date: 26-Oct-94			Desired	<u>.</u>	Undesired
Tes	ters: DML, RMo		Signal	-7.00		o ndobrod
			IL 3WIN	40.79 -47.79		-51.46 dBm

File Name: DAR30808.XLS E-3 D

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Test J-1 Re-	Acquisition		<u></u>	
USADR FM1 Rev A. Program Material Moz	art (Track 67 or	SOAM dist		
		Re-Acquisition Time (s)		
Toff(s)	POF-2	POF-4	POF-6	
30	5	5	88	
	7	6	5	
	8	5	4	
	6	5	66	
	3			
Average	5.8	5.6	5.4	
POF Attenuator		12.00 dB	······································	
Desired Signal I		-48.48 dBm		
Noise 0 dB Refe	erence :	-41.41 dBm		
Additional Comments		time is the value listed ± 0.	.5 seconds,	
Test Date: 17-Oct-94				
Testers: DML, RMc				

File Name: DAR30808.XLS J-1

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SADR FM1 Rev A. Url	-Acquisition with oan Slow Rayleig ozart (Track 67 o	gh		
		Re-Acquisition Time (s)		
Tsim (s)	POF-2	POF-4	POF-6	
5	8	6	3	
10	6	3	3	
15	6	7	7	
20	12	6	6	
25	6	6	2	
Average	7.6	5.6	4.2	
POF Attenuato		26.75dB		
Desired Signal		-48.48 dBm		
Noise 0 dB Ret	ference :	-41.15 dBm		
Additional Comment				
	Re-Acquisition	n time is the value listed ± 1 se	cond.	
	Rayleigh Urba	an Slow is the only Rayleigh si	mulation where re-a	acquisition
	occurs. Other	environments not tested for th	is reason.	
est Date: 27-Sep-94				
Testers: DML, ST				

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Test J-2 Re	Acquisition with	Multipath		· · · · · · · · · · · · · · · · · · ·
USADR FM1 Rev A. Ur	oan Slow Doppler			
Program Material Mo	zart (Track 67 on S	SQAM disk)		
		Re-Acquisition Time (s	5)	
Tsim (s)	POF-2	POF-4	POF-6	
5	8	3	7	
10	8	6	4	
15	7	6	5	
20	6	10	5	
25	3	10	7	
Average	6.4	7	5.6	
POF Attenuate	r Setting :	22.5 dB	······································	
Desired Signal	Level :	-47.65 dBm		
Noise 0 dB Re	ference :	-41.15 dBm		
Additional Comment		ime is the value listed ±	l second.	
Test Date: 26-Oct-94				
Testers: DML, ST				

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		Re-Acquisition Time (s))	
Tsim (s)	POF-2	POF-4	POF-6	
5	3	4	9	
10	4	7	7	
15	5	6	6	
20	3	4	2	
25	5	10	10	
Average	4	6.2	6.8	
POF Attenuate		21.50 dB		
Noise 0 dB Pa	Level :			
Desired Signal Noise 0 dB Re	Level : ference :	21.50 dB -47.65 dBm -41.15 dBm		
Additional Comment		time is the value listed ± 1	annord.	
	re-nedaratitot	Tunne is the value fisted ± 1	second.	

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Test J-2 Re-Acquisition	n with Multipath	
JSADR FM1 Rev A. Terrain Obstru	acted Doppler	
rogram Material Mozart (Track	67 on SQAM disk)	
T ! ()	Re-Acquisition Time (s)	
Tsim (s)	POF	
5	14	
10	4	
15	5	
20	7	
25	5	
Average	7	
POF Attenuator Setting	: 63.75 dB	
Desired Signal Level	: -47.65 dBm	
Noise 0 dB Reference	: -41.15 dBm	
Additional Comments:		
Ke-Acqui	isition time is the value listed ± 1 second.	
Test Date: 21-Oct-94		
Testers: DML, ST		

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Test	B-1	•	Ancil	lary Data Cl	nannel		
Proponent				emonstratio			
Code:	H		G	aussian Noi	se		
				BER			
						Units	
			TOA		POF		
	Attenuator	16.25	15.75	14.75	13.75	dB	
	Co/No	11.10	10.60	9.60	8.60	dB	
	Log(BER)	⊷∞	-3.895	-2.517	-1.472		
	BER	0.00E+00	1.27E-04	3.04E-03	3.37E-02		
Test	B-2	Ancillary Data Channel					
			Demonstration				
				Co-Channel	I		
				BER			
						Units	
			ŢOA		POF		
	Attenuator		15.00		11.50	dB	
	d/u		11.02		7.52	dB	
	Log(BER)		- 00		-1.231		
	BER		0.00E+00		5.88E-02		
Testers:	DML, RMc		TOA				
Date:	12-Dec-94				approximated for		
Date.	12-1766-94		this demonstrat	ion.			

. File Name: DAR30808.XLS BER

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Page 39 of 41

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Test	B-3	Ancillary Data Channel	l l
Proponent		Demonstration	
Code:	н		
couc.		Multipath]
		BER	
		Doppler	Units
Urban Slow		No Added Noise	
	Attenuator	63.75	dB
	Co/No	58.60	dB
	Log(BER)	-1.785	
	BER	1.64E-02	
Urban Fast		No Added Noise	
	Attenuator	63.75	dB
	Co/No	\$8.60	dB
	Log(BER)	-1.186	
	BER	6.51E-02	
Rural Fast		No Added Noise	
	Attenuator	63.75	dB
	Co/No	58.60	dB
	Log(BER)		
	BER	No Valid data received.	
Terrain Obs	structed	No Added Noise	
	Attenuator	63.75	dB
	Co/No	58.60	dB
	Log(BER)	-0.918	
	BER	1.21E-01	
			<u></u>
Testers:	DML, RMc	TOA and POF levels have been approximated for	
Date:	12-Dec-94	this demonstration.	

File Name: DAR30808.XLS BER D

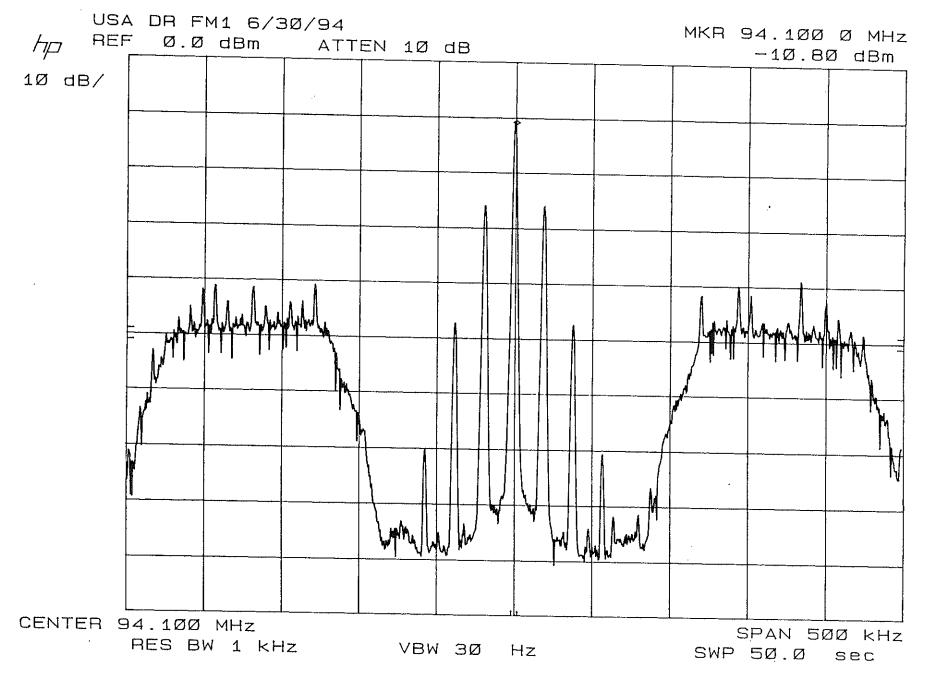
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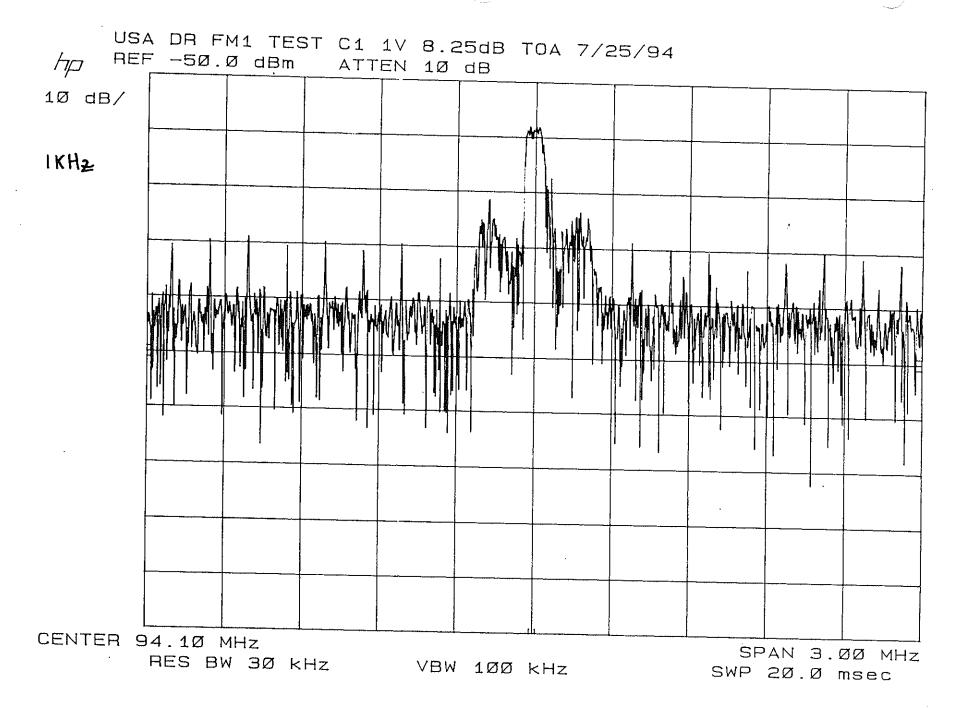
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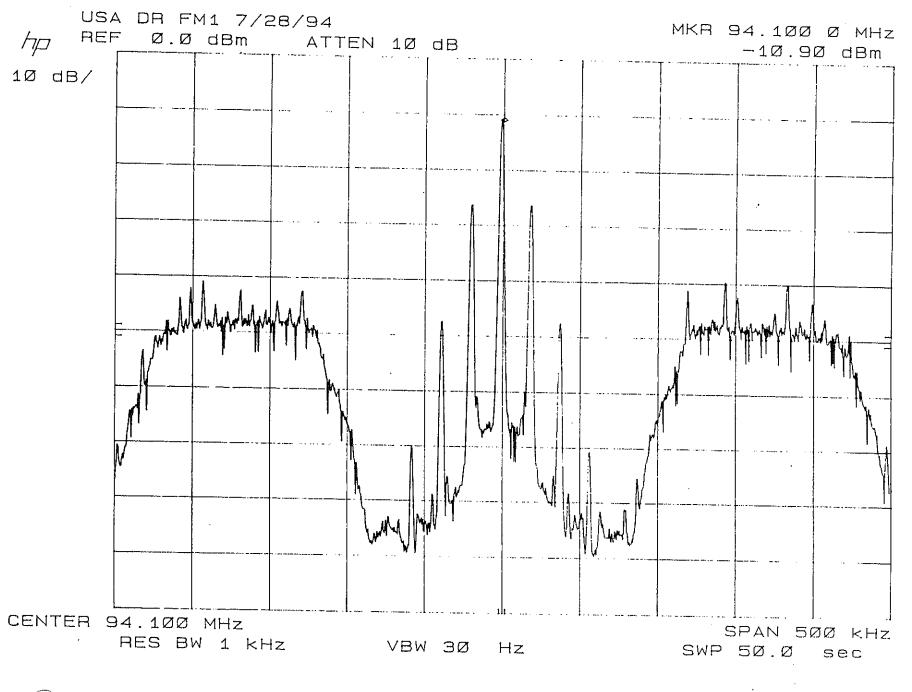
Page 40 of 41

2

Test	B-3	Ancillary Dat	a Channel	1		
Proponent		Demonstr				
Code:	н	Multip				
		-	BER			
Obstructed	Dadh	Speci	al		Units	
Obstructeu	Attenuator	No Added Noise		(San Fran 4)		
	Co/No	63.75			dB	
		58.60			dB	
	Log(BER)	-5.759				
	BER	1.74E-06				
Rural High		TOA	POF	(SLC)		
· ·	Attenuator	16.75	14.25		dB	
	Co/No	11.60	9.10		dB	
·	Log(BER)	-3.557	-1.446		_	
	BER	<u>2.77E-04</u>	3.58E-02			
Suburban		No Added Noise		(WSHW9)		
	Attenuator	63.75			dB	
	Co/No	58.60			dB	
	Log(BER)	-1.188				
	BER	6.49E-02				
Terrain Obs	structed	No Added Noise	POF	(NOVA 4)		
	Attenuator	63.75	28.75	(101/14)	dB	
	Co/No	58.60	23.60		dB	
	Log(BER)	-1.026	-1.725		GD	
	BER	9.43E-02	1.88E-02			
Testers:	DML, RMc	TOA and POF levels have	been approximated f	òr		
Date:	12-Dec-94	this demonstration.	- <u></u>			

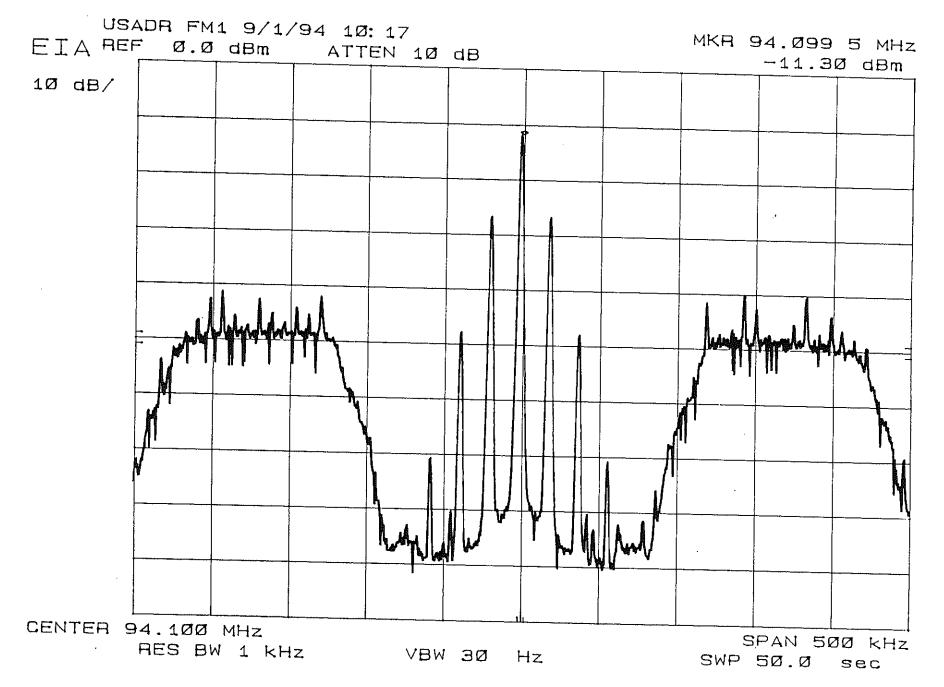


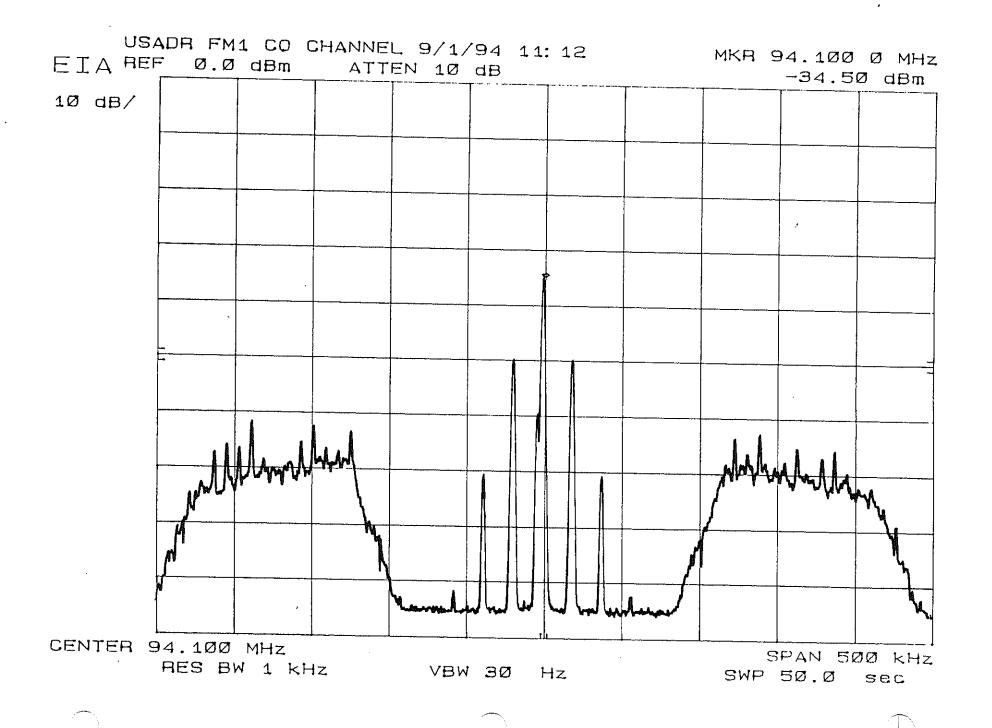


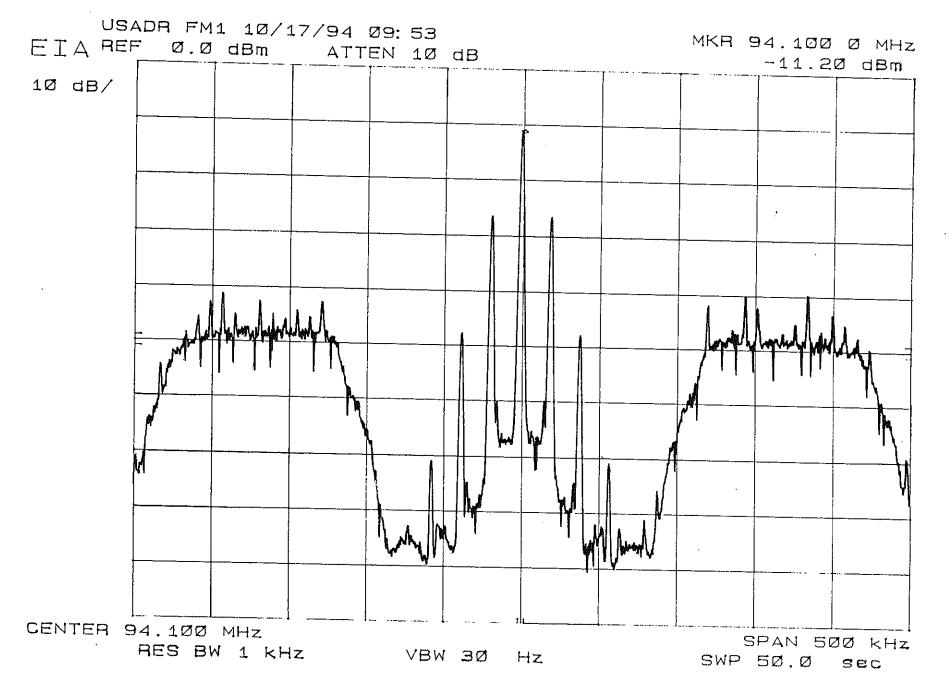


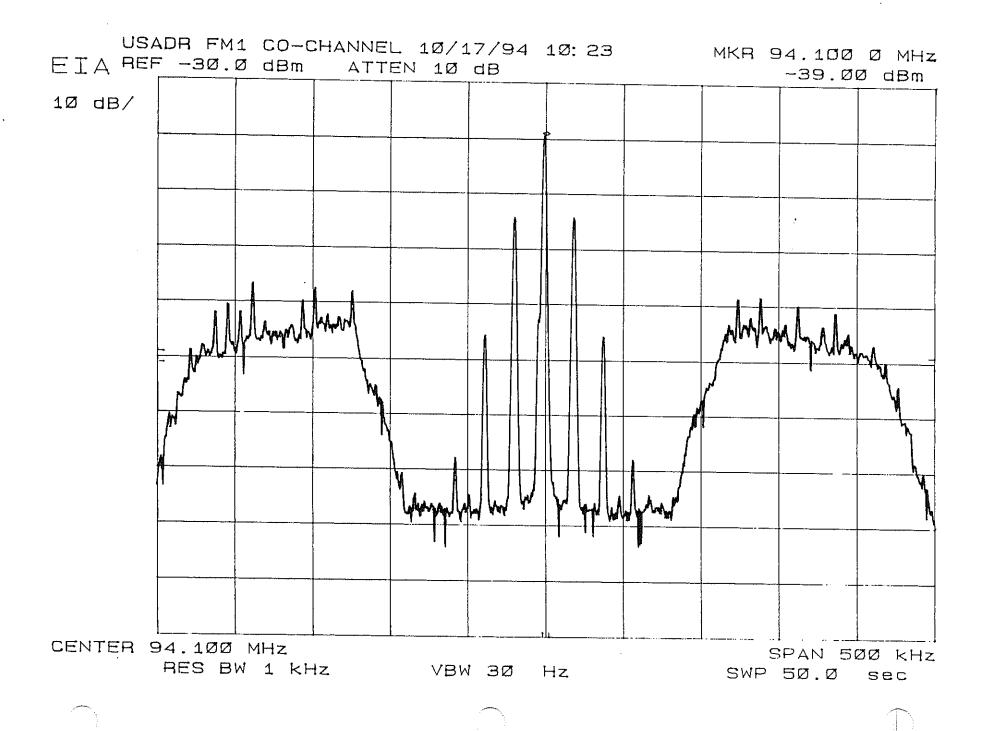
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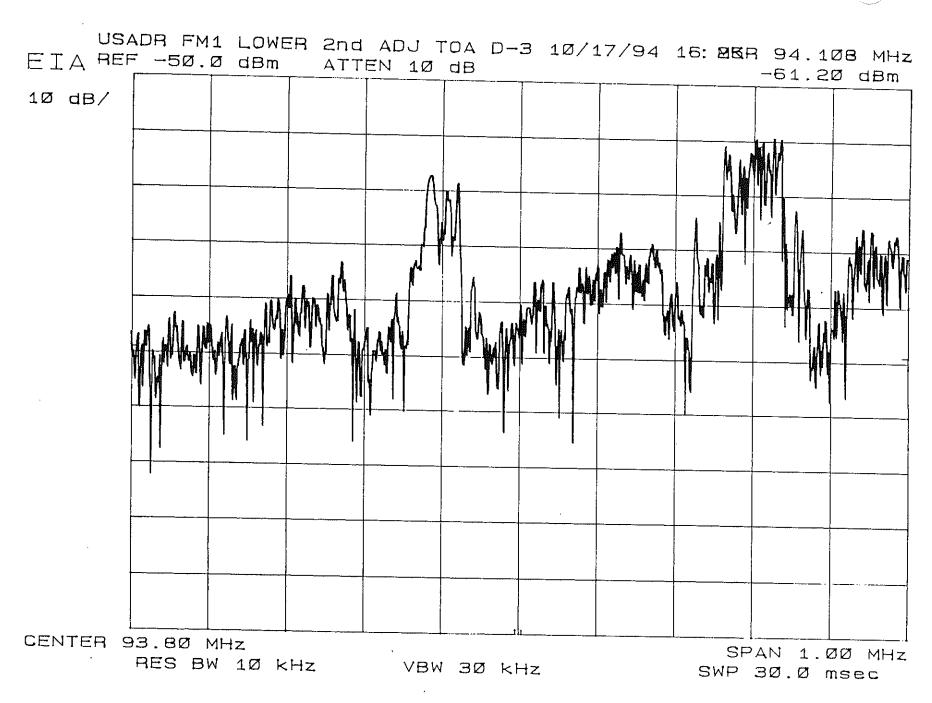
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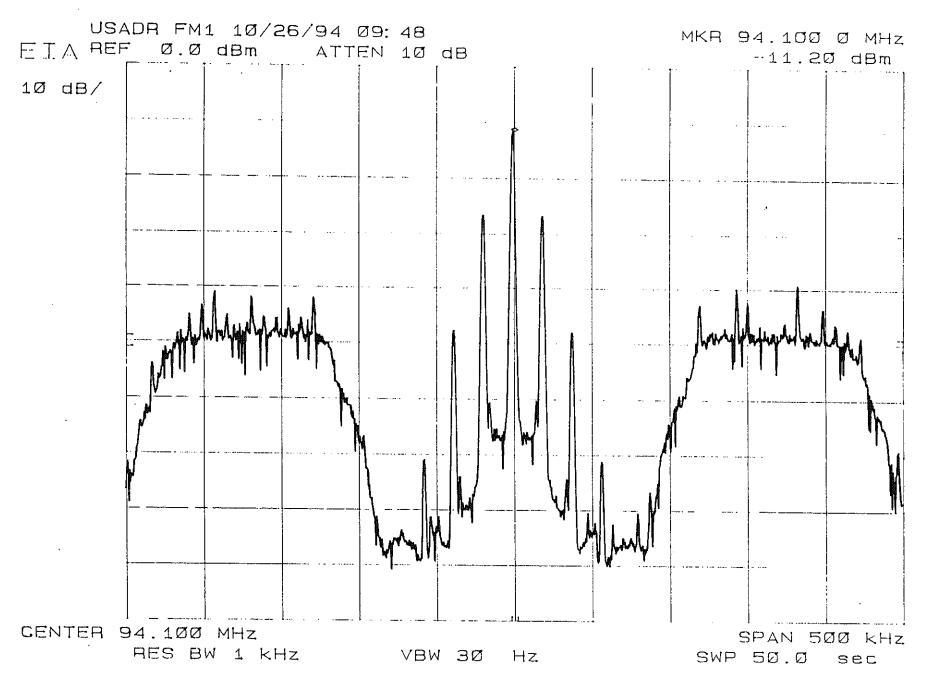




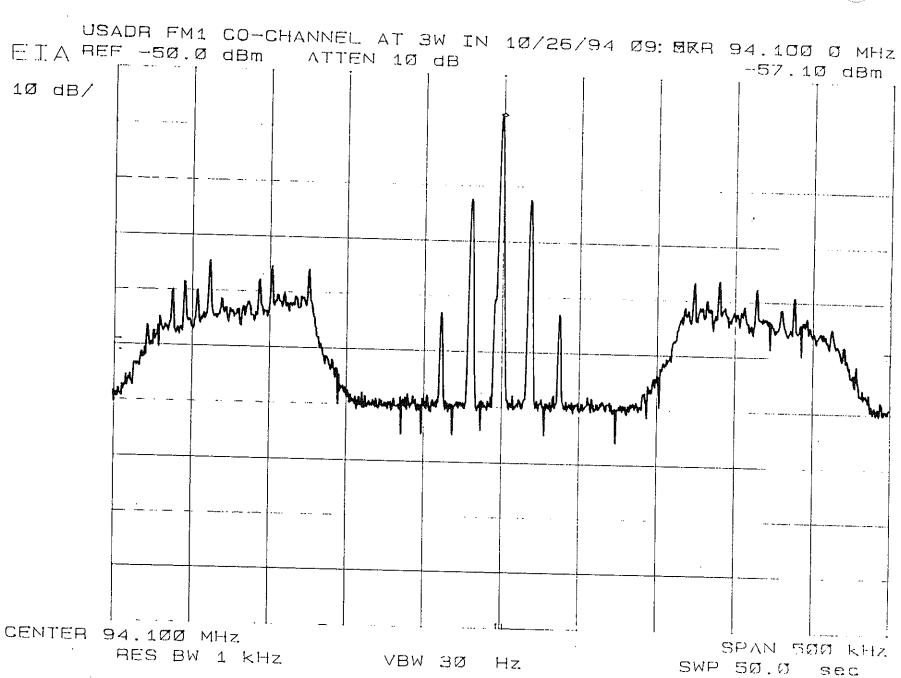




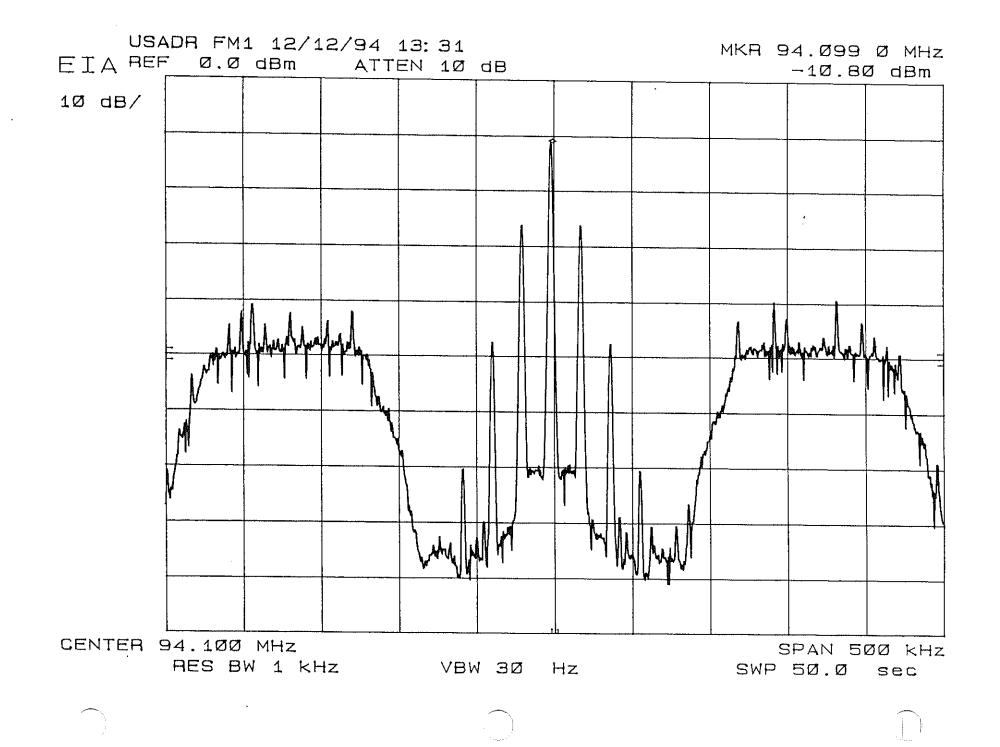




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SWP 50.0



APPENDIX AI

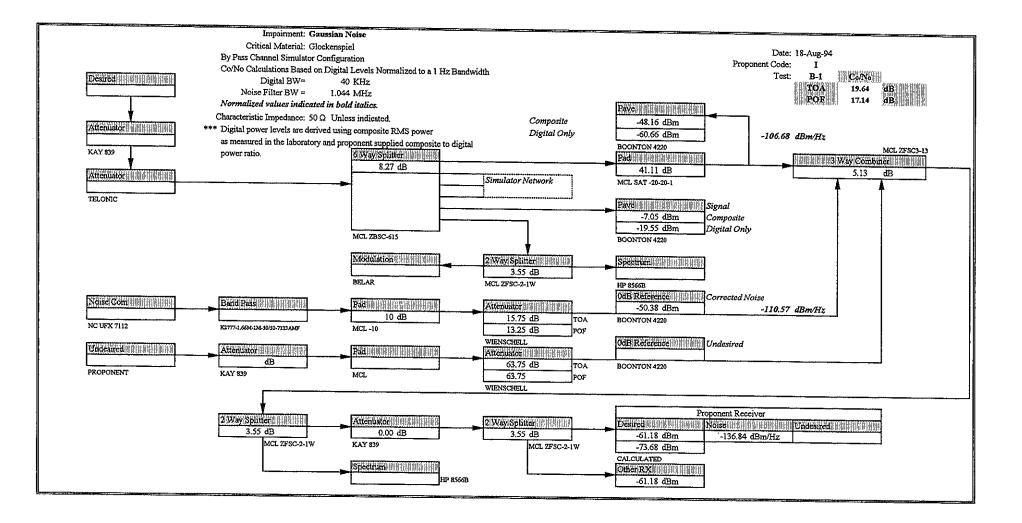
Digital Test Results USA Digital Radio AM

Proponent: U		
Code: Digital Band Width:	I	
Composite Band Width:	4.00E+04 Hz 4.00E+04 Hz	
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	······································	

Test	B-1		
Proponent		Gaussian Noise	
Code:	I	Gaussian 14015c	
	-		
			Units
Glockenspiel		TOA POF	Onits
	Attenuator	15.75 13.25	dB
	Co/No	19.64 17.14	dB
	TOA	Small pops and clicks.	
EO&C			
	POF	Muting as well as large pops and clicks.	
O			
Soprano	Attenuator	TOA POF	
	Co/No	15.75 13.75	dB
	Co/NO	19.64 17.64	dB
	TOA	Small pop or click.	
EO&C		blick pop of eller.	
	POF	Muting as well as large pops and clicks.	
		and the starge pops and there.	
Clarinet		TOA POF	
	Attenuator	16.00 14.00	dB
	Co/No	19.89 17.89	dB
-	TOA	Small pop.	
EO&C			
	POF	Muting as well as large pops and clicks.	
			<u> </u>
	Recording 1		
Notes:	Testers:		
	Date:	DML,DS,EB 18-Aug-94	
	Daw.	10-1218-24	

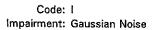
File Name: DAR3809A.XLS B-1

Page 2 of 23



EIA Digital Audio Radio DAT Recording Log

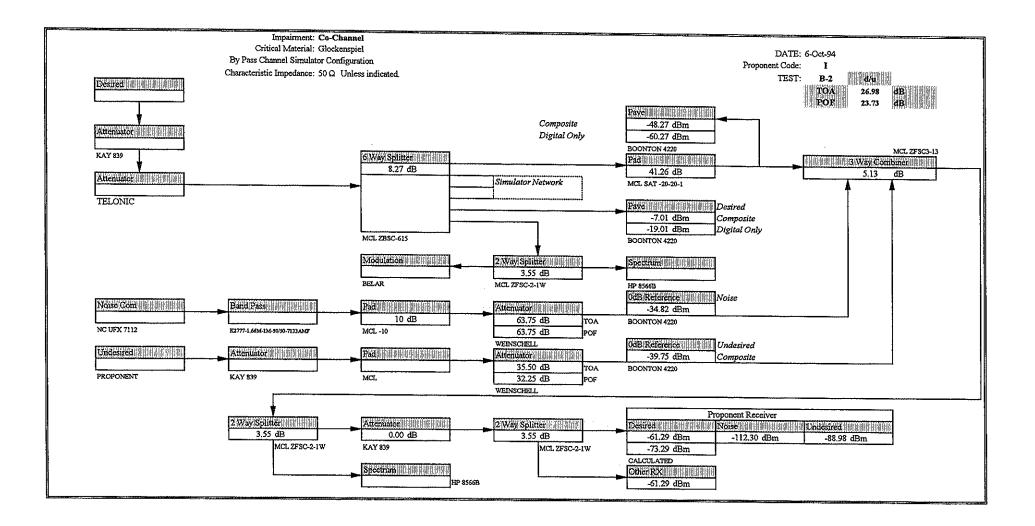
DAT File Number	Time C Start	Code Stop			rogram ID#		Description	Atta
DAR30222.DAT	*****		1	2			Glockenspiel Clear Channel	63.75
18-Aug-94			3	4				17.25
		******	5	6				16.75
			7	8				16.25
			9	10			TOA lab	15.75
	*****		11	12		ļ		15.25
*****	***	*******	13	14		ļ		14.75
*****			15	16				14.25
*****	***1*****		17	18	*******			13.75
			19	20			POF lab	13.25
	******		21	22			Sync	63.75
		******	23	24				12.75
		*****				ļ		*****
*****			25	26		ļ	Soprano Clear Channel	63.75
			27	28				17.25
			29	30				16.75
*****		*******	31	32				16.25
		*****	33	34			TOA lab	15.75
		******	35	36	******]		15.25
*****		****	37	38		ļ		14.75
			39	40				14.25
**********		**	41	42			POF 1ab	13.75
		*******	43	44			Sync	63.75
		******	45	46				13.25
						ļ]
		**	47	48		ļ	Clarinet Clear Channel	63.75
******	********		49	50				17.50
*****	······	*****	51	52				17.00
	••••••••••••••••••••••••••••	********	53	54				16.50
			55	56			TOA lab	16.00
*******			57	58				15.50
********			59	60				15.00
*****	*******		61	62				14.50
/	*****		63	64			POF lab	14.00
	• • • • • • • • • • • • • • • • • • • •	*****	65	66		ļ	Sync	63.75
*****	******	*****	67	68		_		13.50

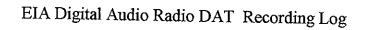


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Test	B-2			
Proponent		Co-Char		
Code:	I	Co-Cilai	mei	
	-			
				Units
Glockenspiel		TOA	POF	
	Attenuator	34.50	32.25	dB
	d/u	25.98	23.73	dB
	TOA	Small pops in left ear.		
EO&C		oman pops in tert car.		
	POF	High cut, warbles and some muting.		
		,		
			·	
Soprano		TOA	POF	
	Attenuator	34.75	32.25	dB
	d/u	26.23	23.73	dB
	TOA	Small pops.		
EO&C		onini popo.		
	POF	High cut, warbles and some muting.		
~				
Clarinet	Attenuator	TOA	POF	
	Attenuator d/u	35.25	32.75	dB
	d/u	26.73	24.23	dB
	TOA	Small background pops and clicks.		
EO&C				
	POF	High cut and warbles.		
	Recording 1	Reference: DAR30240.DAT		
Notes:	Testers:	DAR30240.DA1 DML,RMc		
	Date:	6-Oct-94		
	2410.	0-001-24		

File Name: DAR3809A.XLS B-2





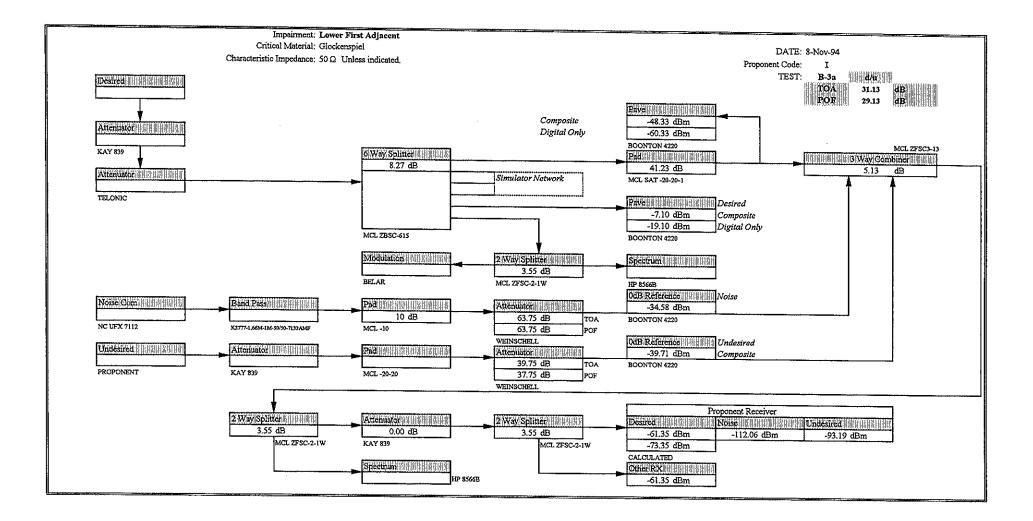
DAT File Number	Time Start	Code Stop		Р	rogra ID#			Description	
DAR30240.DAT			1	2				Glockenspiel Clear Channel	Attn
6-Oct-94			3	4	*********		1		63.75
*******	*****		5	6					36.00 35.50
************	***/******		7	8		*********			35.00
********	******		9	10			1	TOA lab	33.00
	*****		11	12					34.00 34.00
			13	14					33.50
	*******		15	16			1		33.00
********	******		17	18					32.50
········	*******		19	20				POF lab	32.30
	****		21	22			[31.75
	*****						[`` ``	***************************************	31.73
	****		23	24				Soprano Clear Channel	63.75
	****		25	26		****		*****	36,25
******	***	*****	27	28					35.75
******			29	30					35.25
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	****	****	31	32	33	34		TOA lab	34.75
7+++==++++++++++++++++++++++++++++++++			35	36					34.25
******			37	38					33.75
*******	******	*****	39	40					33.25
*****	***********		41	42					32.75
******	******		43	44				POF lab	32.25
*******			45	46					31.75
									51.75
*******		******	47	48				Clarinet Clear Channel	63,75
***********************************		*****	49	50					36,75
******	******		51	52					36.25
		******	53	54					35.75
*******			55	56	57	58		TOA lab	35.25
*******			59	60					34.75
			61	62					34.25
*11****			63	64					33,75
***********			65	66					33.25
*****			67	68				POF lab	32.75
			69	70					32.25
]							

Code: I Impairment: Co-Channel

Test	B-3a			
Proponent		Lower First Adj	acent	
Code:	I		acciit	
	-			
				Units
Glockenspiel		TOA	POF	
	Attenuator	39.75	37.75	dB
	d/u	31.13	29.13	dB
	TOA	Small chirp / burst of pops or clicks.		
EO&C	1011	onian onlig / burst of pops of cheks.		
	POF	Excessive background noise and muting.		
Soprano		TOA	POF	
	Attenuator	39.75	36.75	dB
	d/u	31.13	28.13	₫₿
	TOA	Small burst of pops.		
EO&C		Sman burst of pops.		
Louid	POF	Excessive background noise and muting.		
		and the stange of the noise and maning.		
Clarinet		TOA	POF	
	Attenuator	39.75	38.25	dB
	d/u	31.13	29.63	dB
	TOA	Drop out or mute.		
EO&C		Drop out of made.		
	POF	Excessive muting and background noise.		
	Departie -		DAD20220 DAT	
Notes:	Recording Testers:		DAR30279.DAT	
110105.	Date:	DML,RMc 8-Nov-94		
	van.	0-1107-24		

File Name: DAR3809A.XLS B-3a

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EIA Digital Audio Radio DAT Recording Log

Number	Time Start	Code Stop			togra ID#			Description	Attn
DAR30278.DAT			1	2	3			Glockenspiel Clear Channel	63.75
8-Nov-94			4	5	6				41.25
*********	******************************	*****	7	8	9				40.75
			10	11	12				40.25
*****		*****	13	14	15	16	17	TOA lab	39.75
		*****	18	19	20				39.25
·····		*****	21	22	23				38.75
*********	*****	******	24	25	26				38.25
*****		*****	27	28	29				37.75
*****	******		30	31	32		*****	POF lab	37.25
	*****	********	33	34	35				36.75
·····	NI	*****	36	37	38	*****		Glockenspiel Clear Channel	63.75
	******	*****	39	40	41				42.25
*****			42	43	. 44				41.75
**********			45	46	47				41.25
	******	****	48	49	50				40.75
		*****	51	52	53				40.25
*******		*****14******	54	55	56	57	58	TOA lab	39.75
	******		59	60	61	·····			39.25
		*****	62	63	64				38.75
		******	65	66	67	•••••			38.25
**************************************		*****	68	69	70	******		POF lab	37.75
		*****	71	72	73	*********			37.25
F1+F1 122-5-1444 (1414-12)	******	*****			*****	*******	*****		
******	·····	******			********				

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EIA Digital Aud	io Radio DAT	Recording Log
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Number	Time - Start	Code Stop			rogr <i>i</i> ID #			Description	Atta
DAR30279.DAT	*******	****	1	2	3	4		Soprano Clear Channel, Disregard #3	63.75
8-Nov-94			5	6	7				42.25
****************	********		8	9	10				41.75
	*****		11	12	13				41.25
			14	15	16				40.75
******	******		17	18	19 23	20			40.25
· 1000563			21	22		24	25	TOA lab	39.75
*****	*****1 **********************	***1>	26	27	28				39.25
	*****	*********	29	30	31				38.75
********			32	33	34				38.25
*****			35	36	37				37,75
******	*****	*****	38	39	40				37.25
******	*****		41	42	43	*******		POF lab	36.75
	******	****	44	45	46	*****			36.25
******	*****	*********				*****			
*****			47	48	49		*****	Clarinet Clear Channel	63.75
	<		50	51	52	*********			42.25
******	*****		53	54 57	55 58	**********			41.75
******	***********		56		********				41.25
*************	*****		59	60	61	********			40.75
********	*****		62	63	64		********		40.25
		******	65	66	67	68	69	TOA lab	39.75
**************			70	71	72		*****		39.25
			73	74	75		********		38.75
****			76	77	78	**,		POF lab	38.25
**********	****11*****	********	79	80	81				37.75
*******		******		*********	*****				
,	*******						********		
						*******			**********************************

							*****		***********************************
***********		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							******
**************	*****	*****							*******
*****	*****	***							****************



Test	C-1	Impulse Resp	onse			
USADR AM Program Materia	1	Glockenspiel			Vp-p at attenuator ir ns wide pulse	nput.
Pulse Repetition (Hz)		Attn at TOA (dB)	(Vp-p)	Attn at POF (dB)	(Vp-p)	EO&C
100		3.25	0.69	1.75	0.82	TOA small pop or click, POF Excessive noise with some muting.
200		4,50	0.60	3.25	0.69	TOA small pop or click, POF Excessive noise with some muting.
333		5.50	0.53	4.25	0.61	TOA small pop or click, POF Excessive noise with some muting.
666		9.25	0.34	8.25	0.39	TOA small pop or click, POF Excessive noise with some muting.
1000		11.50	0.27	10.25	0.31	TOA small pop or click, POF Excessive noise with some muting.
Additional C	omments:	:				
Test Date: Testers: DN	26-Jul-94 AL, TK, I		<u>, 1880 - Internet</u>	Signal Level at Receiver:	-70.00 dBm	

Test	C-2	CW Respon	se						
USADR AM		-							
Program Mat	erial	Mozart (trac	k 67 SQAM I	Disk)					
	Frequency	LEV 1	LEV 2	LEV 3		Frequency	LEV 1	LEV 2	LEV 3
Test Point	MHz	POF	POF+6	POF+12	Test Point	MHz	POF	POF+6	POF + 12
1	1.630	0	0	0	17	1.662	0	0	101+12
2	1.632	0	0	0	18	1.664	0	0	1
3	1.634	0	0	0	19	1.666	0	1	2
4	1.636	0	0	0	20	1.668	0	1	2
5	1.638	0	0	0	21	1.670	0	0	0
6	1.640	0	0	0	22	1.672	0	2	2
7	1.642	2	2	2	23	1.674	1	2	2
8	1.644	2	2	2	24	1.676	1	2	2
9	1.646	2	2	2	25	1.678	1	2	2
10	1.648	2	2	2	26	1.680	0	0	0
11	1.650	0	0	0	27	1.682	0	0	0
12	1.652	0	0	2	28	1.684	0	0	0
13	1.654	0	1	2	29	1.686	0	0	0
14	1.656	0	0	2	30	1.688	0	0	0
15	1.658	0	0	1	31	1.690	0	0	0
16	1.660	0	0	0					
Test Date:	7-Oct-94	<u> </u>	L) dB Attenuat	or Reference;	-39.5	dBm	L.,	<u> </u>
Testers:	DML, ST, E	В	0=CLEAN A			MATE TOA		$2 \ge POF$	
			POF Attn=5:	5.75 dB		POF d/u=	46.95		

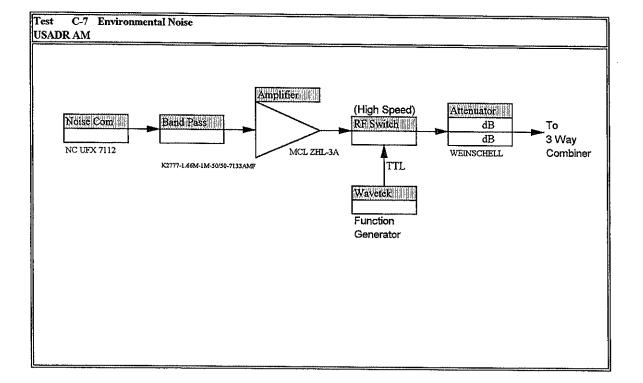
File Name: DAR3809A.XLS C-2

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SADR AM rogram Material	Weak Signal Sensitivity Glockenspiel				
rogram Material	Glockenspiel				
	TOA (dBm)		POF	(dBm)	
	-89 ≤ TOA < -88		-91 < P	OF ≤ -90	
					1
		· ·			
Test Date: 7-Oct-94		· ·			
Testers: DML, ST, E	В				

File Name: DAR3809A.XLS C-4

C-7	C-7	Environmen	ital Noise					
-1	M	A 1 1 1 1						
	Material	Glockenspie						
Pulse Width		Period	Digital	A	nalog			
500 us	500 us	1.33 s	No effect					
1 ms	l ms	128 ms	No effect					
1.8 ms	1.8 ms	68.5 ms	Pops and clicks. Level of impairment between TOA and POF.			Spark gap noise.		
3.3 ms	3.3 ms	1.33 s	Occasional mutes, pops and clicks. Level of impairment between TOA and POF.			Record Scatches		
6-Dec.94	10: 6-Dec.94							
	rs: DML, RMc		Noise	Desired			TO 1	
			-38.86 dBm			ATTN	10A 27,50	POI 25.00
		Dec-94 , RMc		, RMc Noise	, RMc Noise Desired	, RMc Noise Desired	, RMc Noise Desired	, RMc Noise Desired TOA



File Name: DAR3809A.XLS Gated Noise

Test	D-Series (Co-Channe	el, 1st and 2	nd Adjace	nt
USADR AM Program Material:	Glockenspiel				
	Level	Attn	D/U	Units	EO&C
D-1 Co-Channel	TOA	35.25	26.75	dB	Small pop or click.
	POF	32.25	23.75	dB	Excessive noise some muting.
D-2 Lower	TOA	41.25	32.75	dB	Small pop or click.
1st Adjacent	POF	37.50	29.00	dB	Excessive noise some muting.
Upper	TOA	40.25	31.75	dB	Small pop or click.
1st Adjacent	POF	36.50	28.00	dB	Excessive noise some muting.
D-3 Lower	TOA	39.75	31.25	dB	Small drop out.
2nd Adjacent	POF	36.75	28.25	dB	Excessive noise some muting.
Upper	TOA				Symmetry exists.
2nd Adjacent	POF				
Addition	al Comments:				
D	AT Reference: N				
Test Da		y rass Sin	nulator Conf	Desired	Undesired
	rs: DML, ST, EI		6WOUT IL		dBm
			3WIN	-48.30	dBm -39.8 dBm

Гest	E-1	Co-Channe	l with Fadin	ıg Simulat	or
USADR AM					
Program Material:	Glockenspi	al			
Scenario					
	Level	Attn	D/U	Units	EO&C
With out Fader	TOA	37.25	27.75	dB	Small warble or burst of pops.
RX RF Level -61.0 dBm	POF	33.00	23.50	dB	Excessive noise with some muting.
With Fader	TOA	40.25	30.75	dB	Small warble or burst of pops.
	POF	36.00	26.50	dB	Excessive noise with some muting.
Test Date	: 7-Dec-94			Desired	Undesired
Testers	: DML, RMc		Signal		dBm
			IL	41.40	dB
			3WIN	-48.50	dBm -39.0 dBm

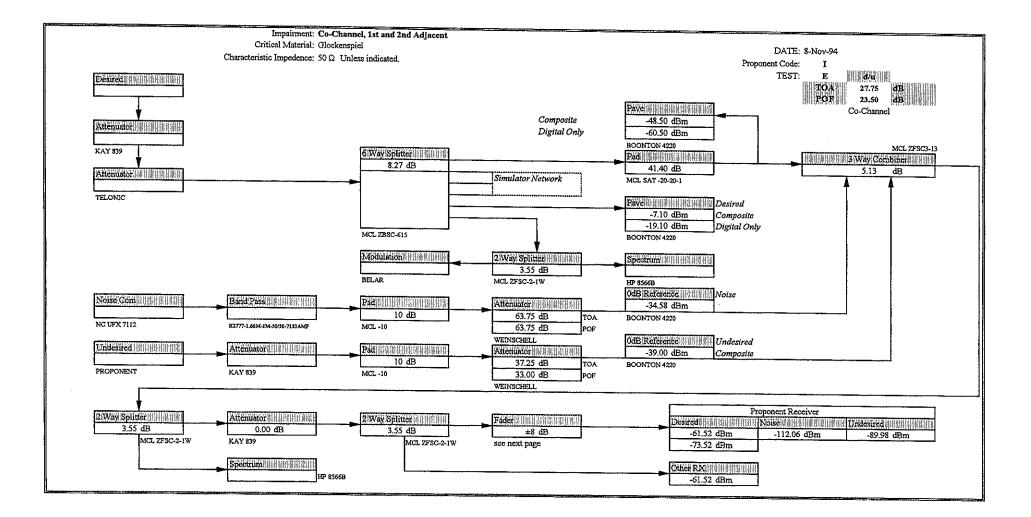
Test	E-2	Lower 1st	Adjacent wi	th Fading	g Simulator
USADR AM Program Material:	Glockensp	iel			
Scenario					
	Level	Attn	ע/ע	Units	EO&C
With out Fader	TOA	44.50	35.00	dB	Small burst of pops.
RX RF Level -61.0 dBm	POF	39.50	30.00	dB	Excessive noise with some muting.
With Fader	TOA	44.50	35.00	dB	Small burst of pops.
	POF	39.50	30.00	dB	Excessive noise with some muting.
Test Date:	7-Dec-94			Desired	d Undesired
Testers:	DML, RM	c	Signal	-7.10	0 dBm
			IL	41.4(
			3WIN	-48,50	0 dBm -39.0 dBm

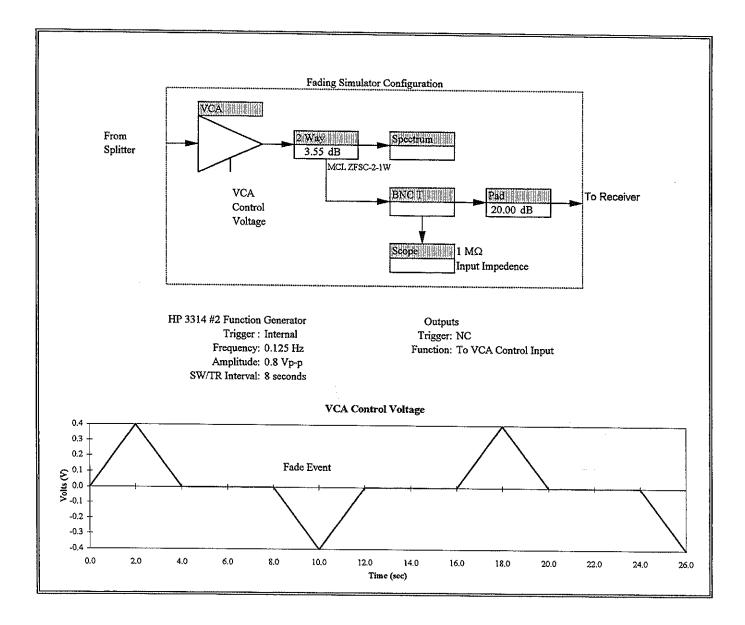
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Test	E-3	Lower 2nd	Adjacent w	ith Fading	Simulator
USADR AM Program Material:	Glockenspi	el			
Scenario					
	Level	Attn	D/U	Units	EO&C
With out Fader	TOA	40.50	31.00	dB	Small burst of pops.
RX RF Level -61.0 dBm	POF	35.50	26.00	dB	Excessive noise with some muting.
With Fader	TOA	42.50	33.00	dB	Small burst of pops.
RX RF Level ± 8 dB	POF	37.50	28.00	dB	Excessive noise with some muting.
Test Date:	7-Dec-94			Desired	Undesired
Testers:	DML, RM		Signal	-7.10	dBm
			IL	41.40	dB
			3WIN	-48.50	dBm -39.0 dBm

File Name: DAR3809A.XLS E-3

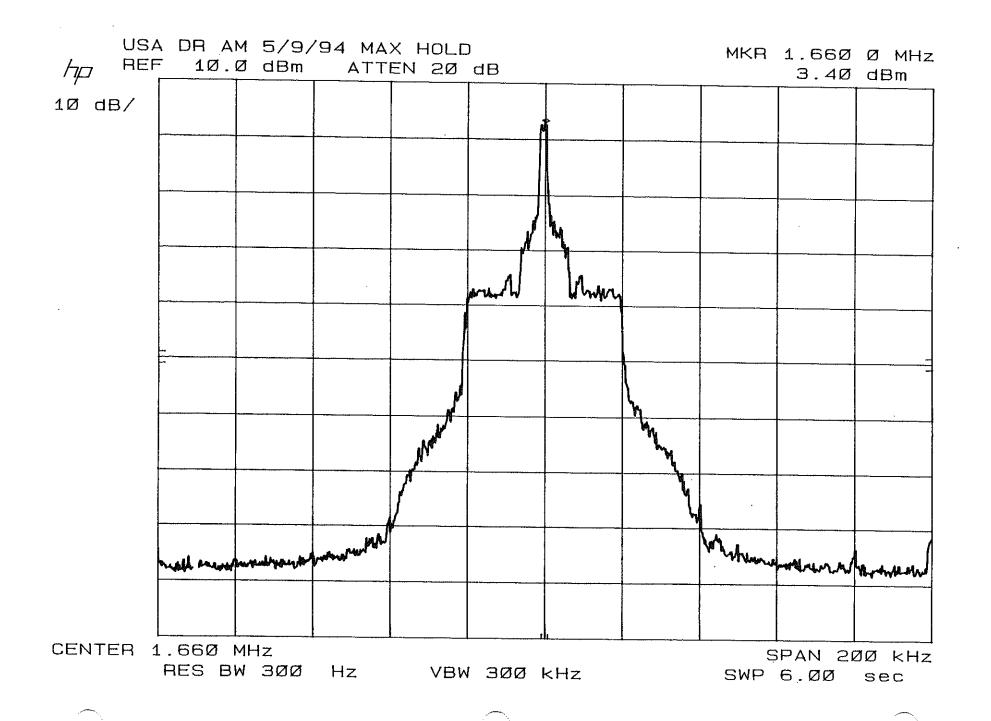
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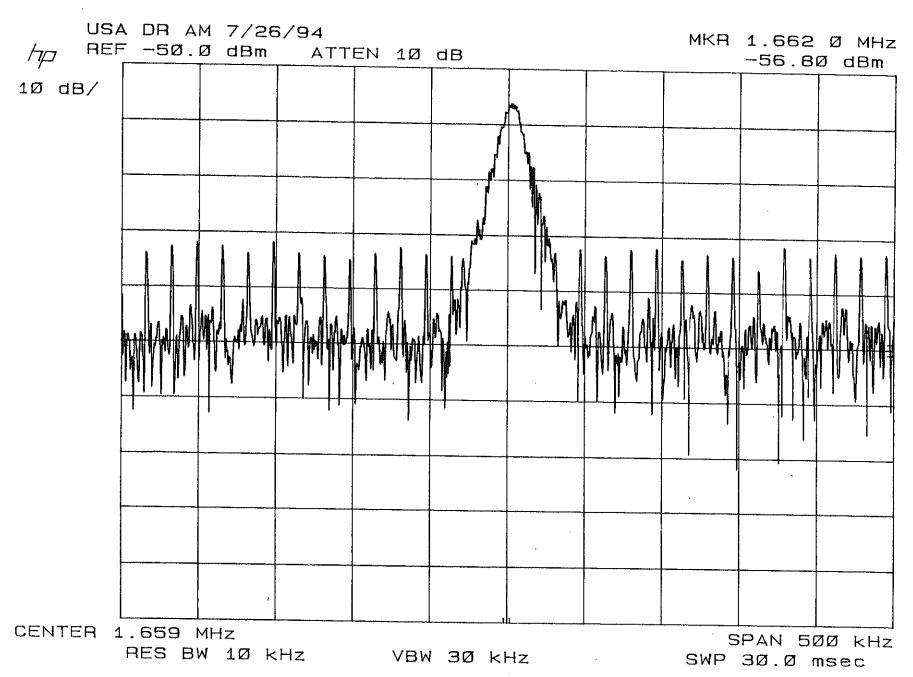




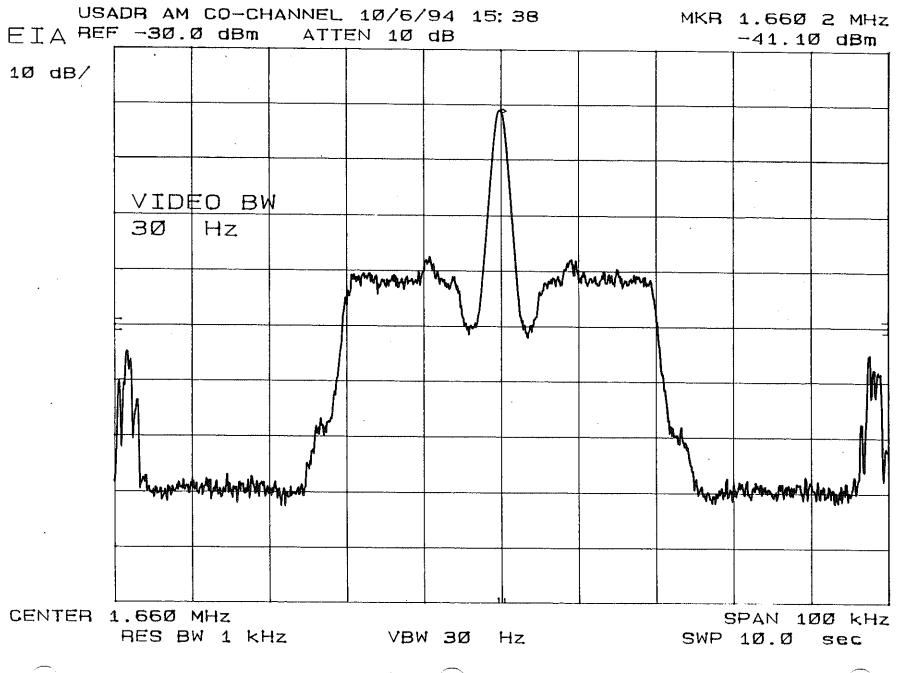
Test J-1 Re- USADR AM	Acquisition			
	zart (Track 67 on S	QAM disk)		
		Re-Acquisition Time (s	s)	
Toff (s)	POF-2	POF-4	POF-6	
30	3	3	4	
	6	3	3	
	4	5	3	
	3	3	4	
	6	3	4	
Average	4.4	3.4	3.6	
POF Attenuator		3.25 dB		
Desired Signal 1		-48.30 dBm		
Noise 0 dB Ref	erence :	-34.78 dBm		
Additional Comments	•			
	Re-Acquisition ti	me is the value listed ± 0	0.5 seconds.	
Pet Data di Cata				
Test Date: 7-Oct-94				
Testers: DML, ST, EB				

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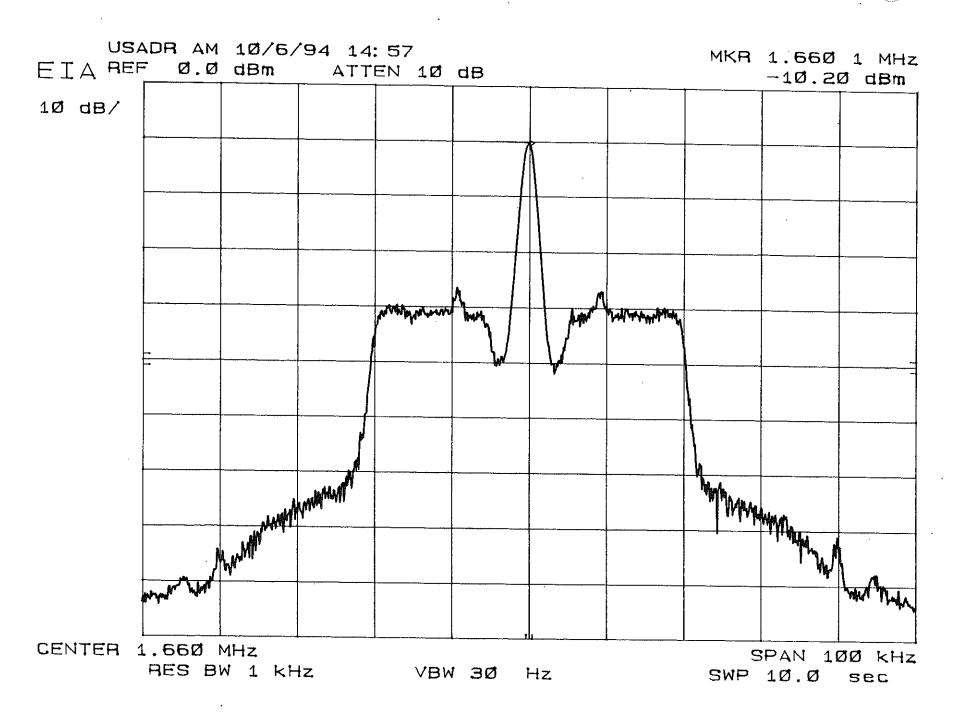
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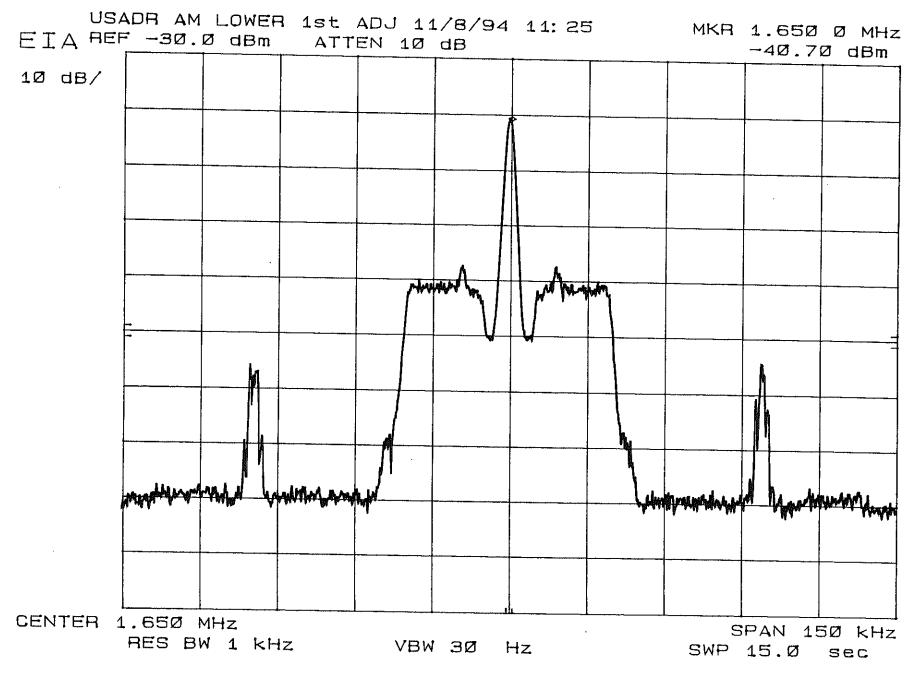


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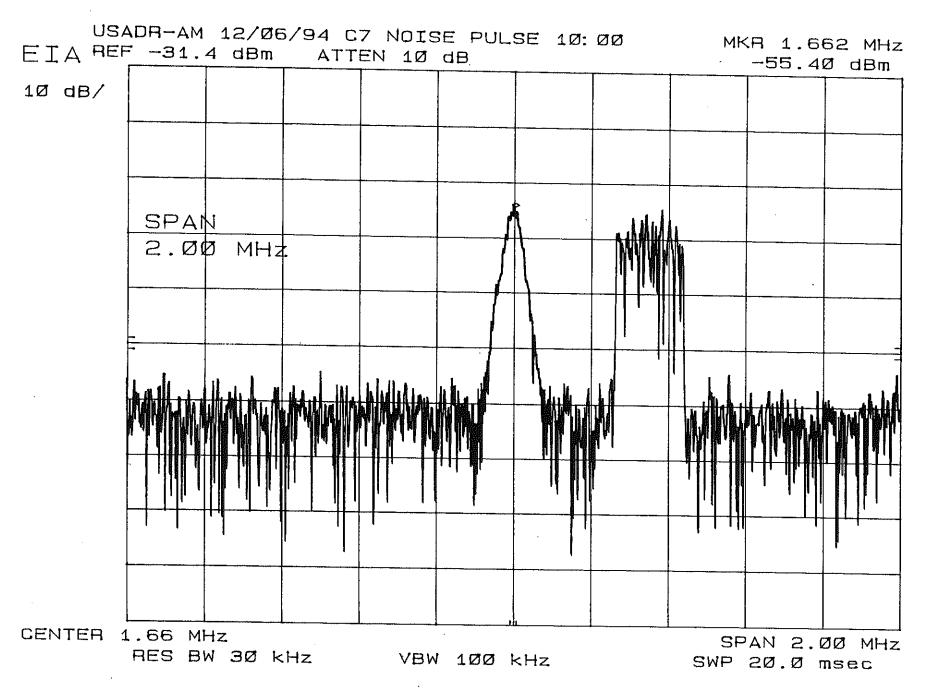
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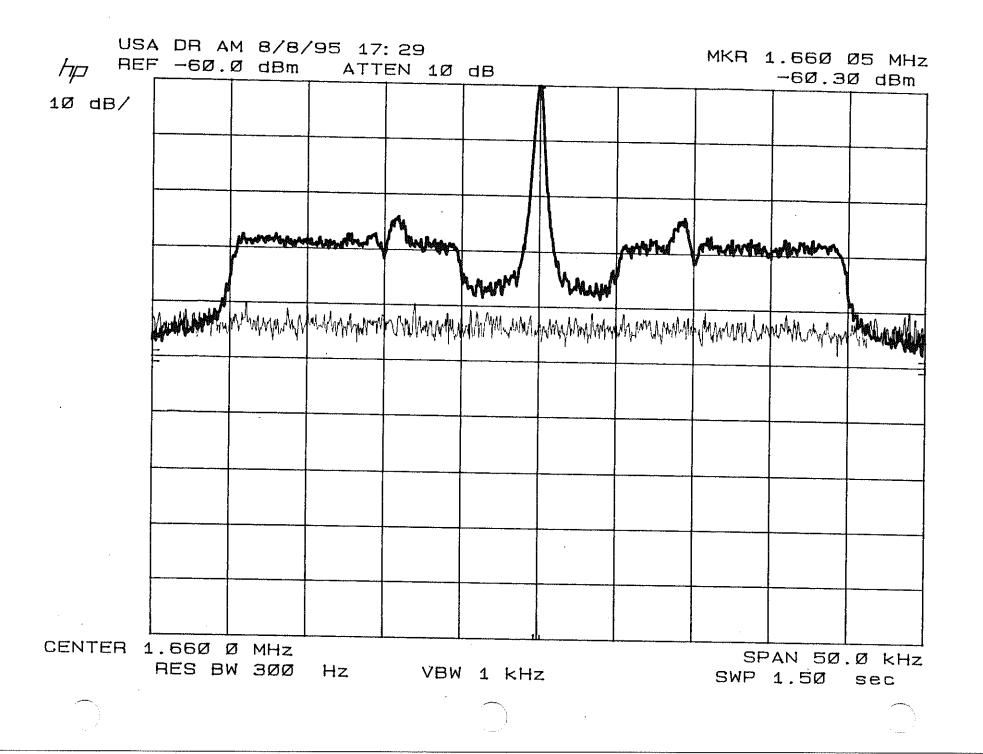


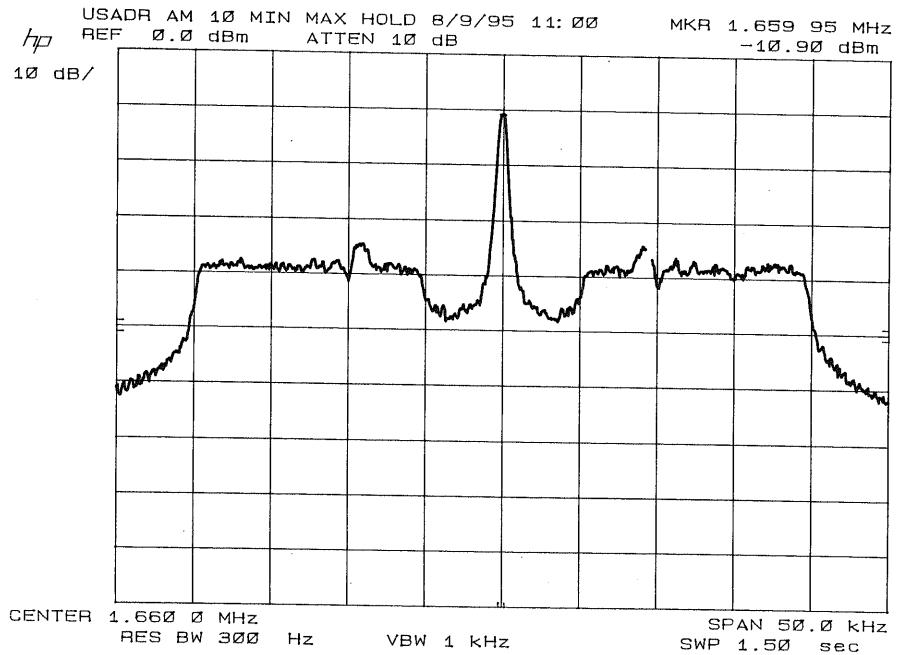
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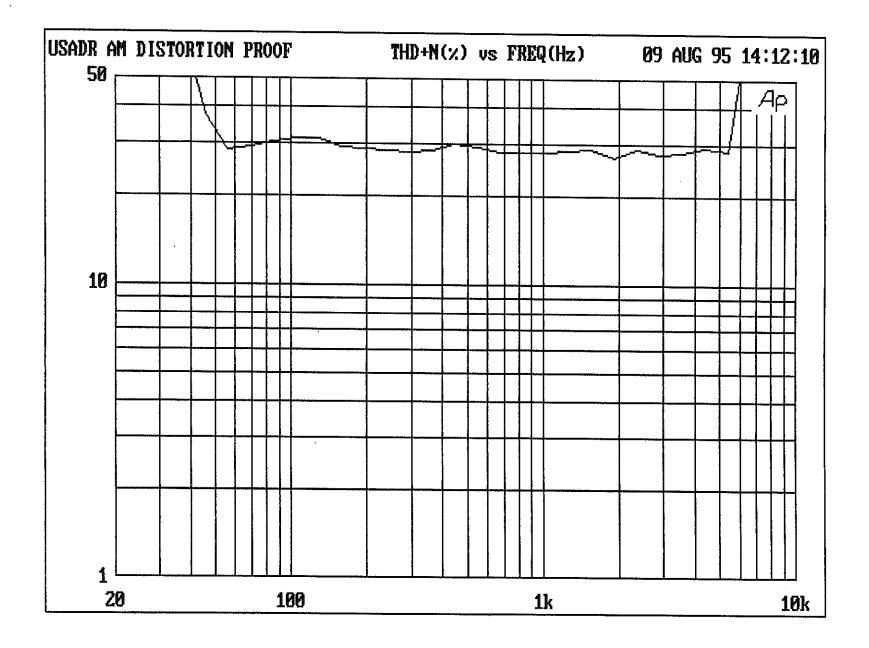


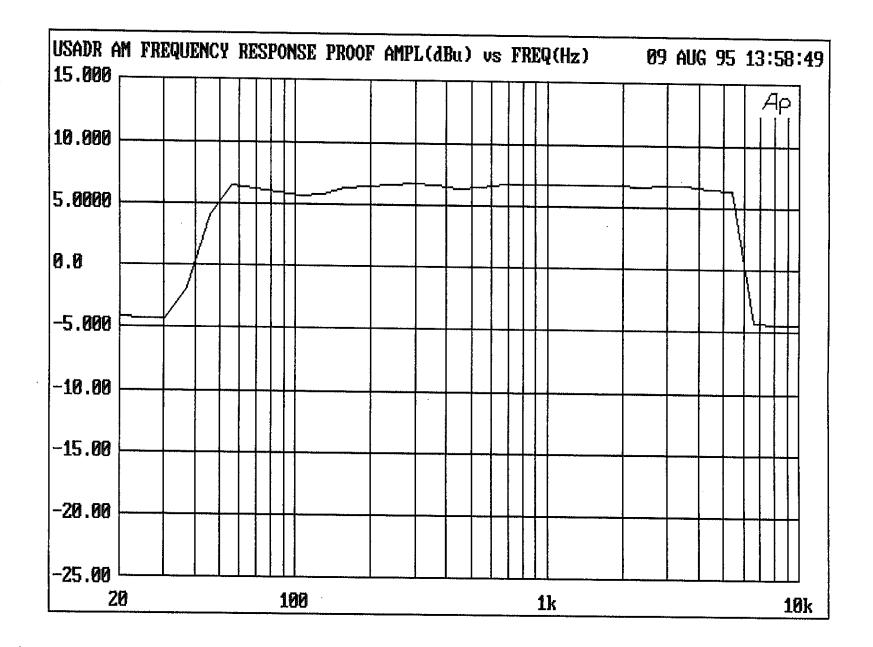
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APPENDIX AK

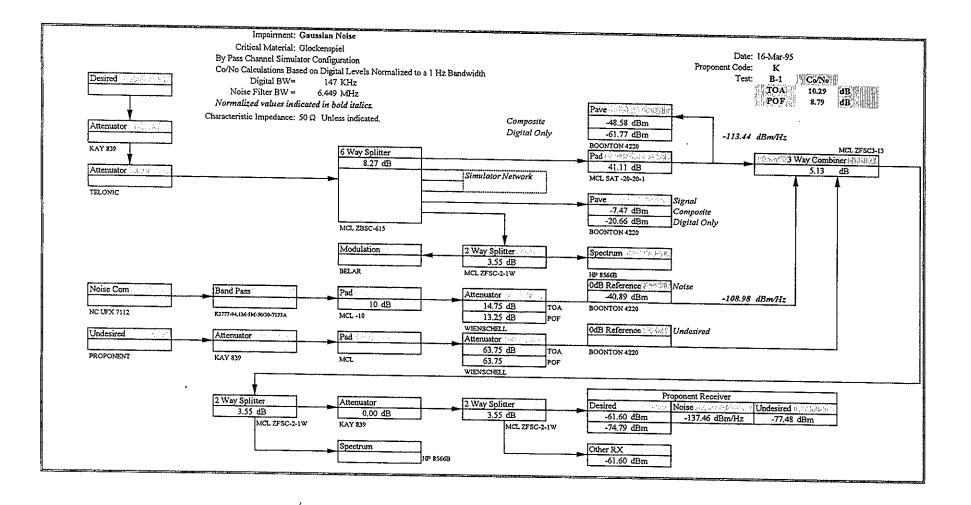
Digital Test Results AT&T/Amati IBOC DSB Revision B

Proponent: A	T&T Amati DSB Rev B		
Code:	K	•	li I
Digital Band Width:	1.47E+05 Hz		
Composite Band Width:	4.00E+05 Hz		
Peak/Average Composite:	3.09 dB		l l
Peak/Average Digital:	11.76 dB		
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Test	B-1			
Propnent Code:	ĸ	Gaussian Noise	2	
Material				
Glockenspie	1	ΤΟΑ	POF	Units
	Attenuator	14.75	13.25	
	Co/No		8.79	dB dB
EO&C	TOA POF	Small drop out. Many small and medium duration drop outs.		
Soprano				
	Attenuator	14.20	13.25	dB
	Co/No	10.04	8.79	dB
EO&C	TOA POF	Small drop out. Many small and medium duration drop outs.		
Clarinet				
	Attenuator	14.50	13.25	dB
	Co/No	10.04	8.79	dB
EO&C		Small drop out. Many small and medium duration drop outs.		
Notes:	Recording R Testers: Date:	eference: DAR30223.DAT DML,RMC 16-Mar-95		<u></u>



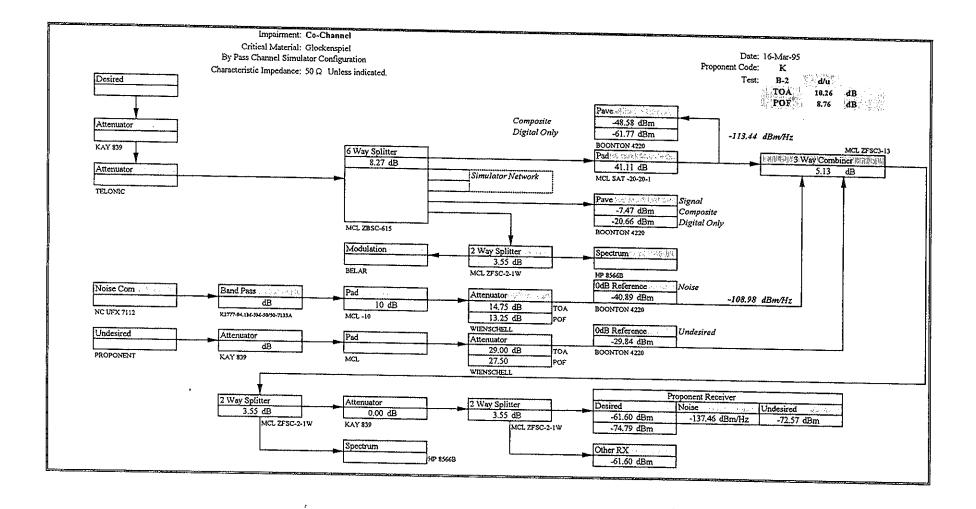
Number	Time C Start	Code Stop		St	art	Ds		Description	
DAR30223.DAT			1	2	3			Glockenspiel Clear Channel	Attn
16-Mar-95			4	5	6		†	Stories approved a channel	63.75
*** **********			7	8	9		1	•••••••••••••••••••••••••••••••••••••••	16.25
			10	11	12	1	1	•••••••••••••••••••••••••••••••••••••••	15.75
			13	14	15	16	17	TOA lab	15.25
			18	19	20	1	1		14.75
********	*******		21	22	23	,	,		14.25
			24	25	26	********	******	POF lab	13.75
********			27	28	29	******		*****	13.25
******						*******	*******	• • • • • • • • • • • • • • • • • • •	12.75
*******			30	31	32		********	Soprano Clear Channel	
*******				34	35	* ·····			63.75
			36	37	38	†	† ******	***************************************	16.00
			39	40	41			***************************************	15.50
**		************************************		43	44			TOA lab	15.00
*****		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		46	47				14.50
******				49	50				14.00
			51	52	53	İ		POF tab	13.50
			54	55	56	*******		***************************************	13.25
********						*******	******	***************************************	12.75
			57	58	59		******	Clarinet Clear Channel	
******			60	61	62				63.75
*******			63	64	65			***************************************	16.00
*****				67	68			*****	15.50 15.00
*****			69	70	71			TOA lab	
****			72	73	74		******		14.50
			75	76	77		******		14.00 13.50
********			78	79	80			POF lab	
			81	82	83	*****	*********	***************************************	13.25
+			/********				****	*****	12.75
			********	********				,	
			********				********		******
		*****	·*******	******				*****	******
	**********	*****************	•••••						*****
******	*********	*****		****					******
	***************	*******	••••				••••••	***************************************	*****
*****	***********************************	**************	•••••				*******	*****	Maaaa Maaaaaa aa aa aa aa aa aa aa aa aa
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	*********	*******	••••••	**********			********	*****	*****
	***************************************		•••••		••••	•••••		y y and f and to a base of the second s	,
				rone	nor	nt Co			

Proponent Code: K

Impairment: Gaussian Noise

Test	B-2			
Propnent Code:	K	Co-Cha	nnel	
Material				
Glockenspie	1	ΤΟΑ	Units	
	Attenuator	29.00	POF 27.50	
	d/u	10,26	8.76	dB dB
EO&C	D TOA POF	Small flutter or drop out. Many small to medium duration drop or	uts.	
Soprano		ТОА	POF	<u> </u>
	Attenuator	28.50	27.75	dB
	d/u	9.76	dB	
EO&C	TOA POF	Flutter or small drop outs. Many small to medium duration drop ou	its.	
Clarinet		ΤΟΑ	POF	
	Attenuator	28.75	27.75	,
	d/u	10.01	9.01	dB dB
EO&C		Small drop outs. Many small to medium duration drop ou		UD .
Notes:	Recording Re Testers: Date:	eference: DAR30245.DAT DML,RMC 16-Mar-95		<u> </u>

File Name: DAR30811.XLS B-2



Ninnber	Time (Start	Code Stop		S	art [Ds		Description	
DAR30245.DAT			1	2	3		100000	Glockenspiel Clear Channel	Attn
16-Mar-95			4	5	6	*******			63.75
*****			7	8	9	*******			30.50
***********			10	11	12	A	*******	• • • • • • • • • • • • • • • • • • •	30.00
			13	14	15	•••••		TOA lab	29.50
*****			16	17	18	******			29.00
*********			19	20	21	********		**************************************	28.50
			22	23	24	******	••••••	POF tab	28.00
****			25	26	27	*****			27.50
******	-							**************************************	27.00
*****			28	29	30	********	********	Soprano Clear Channel	
			31 34	32	33	••••••			63.75
			34	35 38	36			***************************************	30.00
			37	38	39		******		29.50
*****			40	41	42		********	TOA lab	29.00
******			43	44 47	45		********		28.50
************			46	47	48		******		28.25
			49	50	51		******	POF lab	28.00 27.75
*****			52	53	54		*********		
*****	******							<u></u>	27.50
***************************************	******		55	56	57			Clarinet Clear Channel	63.75
*********	*****		58	59	60		******	***************************************	30,25
			61	62	63			***************************************	29.75
*****			64	62 65	66			***************************************	29.75
			67	68	69	1		TOA lab	29.25
	*******		70	71	72			***************************************	28.25
	*****		73	74	75			\\~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	28.00
		*************	76	77	78			POF lab	27.75
*****	******	*******	79	80	81			***************************************	27.50
* ******	**********	*****			I				<u>ل</u> ار ، <i>ن</i> ے
*****									******
*****		****		******					*****
		*****							******

*****								***************************************	******
******							*****	***************************************	

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Proponent Code: K

Impairment: Co-Channel

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Test	B-3			· · · · · · · · · · · · · · · · · · ·
Propnent		Urban Slow Rayle	eigh	
Code:	К			
Glockenspie				Units
Glockenspie	Attenuator	TOA 38.00	POF	
	Co/No		28.00	dB
		33.74	23.94	dB
EO&C	TOA	Small drop out.		
EUæC	POF	Excessive Muting		
Soprano		ТОА	POF	
	Attenuator	37.00	28.00	dB
	Co/No	32.94	23.94	dB
EO&C	toa Pof	#36 Unconfirmed flutter on "do", #39 obvious Excessive Muting	drop out.	
Clarinet		ΤΟΑ	POF	<u></u>
	Attenuator	37.00	28.00	dB
	Co/No	32.94	23.94	dB
EO&C	ΤΟΑ	Small drop out.		
	POF	Excessive Muting		
Notes:	Record	ing Reference: DAR30305.DAT Impairment: Multipath with Gaussian Noise Testers: DML,RMC Test Date: 21-Apr-95		<u></u>

Number	Time (Start	ode Stop		Pro	gram	IDs		Description	
DAR30305.DAT			1	2	3	4	5	Glockenspiel No Added Noise	Atm
21-Apr-95			6	2 7	3		********		63.75
****			9	10	11			TOA lab	39.00
********			12	13	14	******		******	38.00 37.00
*********			15	16	17	******			34.00
	·····	*****	18	19	20				31.00
********			21	22	23			POF lab	28.00
**********		******							20.00
****			24	25	26	27	28	Soprano No Added Noise	63.75
			29	30	31				39.00
			32	33	34				39.00
****			35	36	37	38	39	TOA lab	37.00
*****			40	41	42				34.00
]=====================================			43	44	45				31.00
******			46	47	48			POF lab	28.00
****				********	*****				20.00
***************************************		*****	49	50	51			Clarinet No Added Noise	63.75
*******			52	53	54	**********			39.00
*********			55	56 59	57	•••••••••••			38.00
****		******	58		•••••			DISREGARD 49-59	
*****************									********
***************************************			60	61	62	63	64	Clarinet No Added Noise	63.75
*******			65	66	67		,		39.00
******		·III ·····	68	69 72	70 73			TOA.lab	38.00
*****		·····	71	72	*******	*****			37.00
********			77	75	76				34.00
*****					79				31.00
*****				81				POF lab	28.00

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*********	*******	*****	••••			··			

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*****	*****			*******		•••••			
		L.,							

Proponent Code: K Impairment: Urban Slow Rayleigh

Test	B-3			
Propnent		Urban Fast Raylei	ah	
Code:	к	Orball Fast Rayles	gn	
				Units
Glockenspiel		ΤΟΑ	POF	
	Attenuator	27.00	23.00	dB
	Co/No	22.94	18.94	dB
	TOA	Small Flutter		
EO&C				ļ
	POF	Excessive Muting		
		-		
Soprano	Attenuator	ΤΟΑ	POF	
	Co/No	27.00 22.94	23.00	dB
	00/110		18.94	dB
	TOA	Small Break or Flutter		
EO&C				1
	POF	Excessive Muting	ľ	
Clarinet	·····	ΤΟΑ	DOD	
	Attenuator	27.00	POF 23.00	dB
	Co/No	22.94	18.94	dB dB
	TO (a		
EO&C	TOA	Small Drop Out		
LOWC	POF	Excessive Muting		
	101	Excessive Multing		
	Record	ing Reference: DAR30306.DAT		
Notes:		Impairment: Multipath with Gaussian Noise		
		Testers: DML,RMC		
L		Test Date: 21-Apr-95		

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DAT File Number	Time Code Start Sto	p	Pro	gran	i IDs		Description	
DAR30306.DAT		1	2	3	4	5	Glockenspiel No Added Noise	Atm
21-Apr-95	*****************	6	7	8			CIORONSPICI NO Added NOISE	63.75
		9	10	11			***************************************	29.00
		12	13	14			TOA lab	28.00 27.00
		15	16	17				·····
		18	19	20	********	********		26.00 24.00
		21	22	23		·[POF lab	
			1		*****		***************************************	23.00
		24	25	26	27	28	Soprano No Added Noise	63.75
	*******	29	25 30	31				29.00
		32	33	34	1	1	• + + + + + + + + + + + + + + + + + + +	29.00
		35	36				TOA lab	28.00
		38	39	40				26.00
		41	42	43			• • • • • • • • • • • • • • • • • • •	24.00
	*******	44	45	46			POF lab	23.00
******								23.00

		47			50	51	Clarinet No Added Noise	63.75
		52	53 56	54				29.00
***********		55	56					28.00
	*****	58	59	60			TOA lab	27.00
*****	******	61	62	63	*****			26.00
		64	65					24.00
		67	68	69			POF lab	23.00

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			<u> </u>	<u> </u>	1			

Proponent Code: K Impairment: Urban Fast Rayleigh

Test	B-3	1		
Propnent		Rural Fast Raylei	ab	
Code:	к	Nurai Fast Rayler	gu	
				Units
Glockenspiel		ΤΟΑ	POF	
	Attenuator		27.00	dB
	Co/No	27.94	22.94	dB
	TOA	Small Drop Out		
EO&C				
	POF	Excessive Muting		
l .		Ŭ		
Soprano	A	ТОА	POF	
	Attenuator Co/No	31.00	27.00	dB
	C0/N0	26.94	22.94	dB
	TOA	Small Drop Out		
EO&C				
	POF	Excessive Muting and Overloads.		
Clarinet				
Clarmer	Attenuator	TOA	POF	
	Co/No	31.00 26.94	27.00	dB
		20.94	22.94	dB
	TOA	Small Drop Out		
EO&C				
	POF	Excessive Muting and Overloads.		
	Depart	ing Defermant DAD20207 DAT	· ·····	
Notes:	Record	ing Reference: DAR30307.DAT Impairment: Multipath with Gaussian Noise		
		Testers: DML,RMC		
		Test Date: 21-Apr-95		

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DAT File Number	Time Start	Code Stop		Pro	gram	i IDs		Description	
DAR30307.DAT			1	2	3	4	5	Glockenspiel No Added Noise	Atm
21-Apr-95			6	2 7	3		********		63.75
			9	10	11		********	a	34.00
			12	13	14	*****		TOA lab	33.00
******		1	15	16	17	-+			32.00
*******			18	19	20	*******			31.00
******	[21	22	23	*******	·····	•	30.00
******		************************	24		26	******		•	29.00
		*******	27	25 28	29	*******		POF lab	28.00
		· ····································		1++++++++++++++++++++++++++++++++++++++	*******				27.00
			30	31	32	33	34	Soprano No Added Noise	
*****			35	36	32 37				63.75
			38	39	40	•••••	********		34.00
		******	41	42		*********			33.00
	[44	45	43 46	• • • • • • • • • • • • • • • •		TOA lab	32.00
******			47	48	49	**********			31.00
			50	51	52			• • • • • • • • • • • • • • • • • • •	30.00
			53		55		*******	•) > > > > > > > > > > > > > > > > > >	29.00
****			56	54 57	58		*******	POF lab	28.00 27.00
*****				*********	*****	******	******		
*******			59	60	61	62	63	Clarinet No Added Noise	
			64	65	66		*******		63.75
,			67	68	69	***********	******		34.00
*******			70	71	72	*********			33.00
			73	74	75	*******		TOA iab	32.00
			76	77	78	******	*******		31.00
	I	******************************	79	80	81	******	*******	**************************************	30.00
	l		82	83	84		****	***************************************	29.00
	[······	85	86	87	••••••••	••••	POF lab	28.00
	[27.00
	[******	*******	,	*******	*********			
	[******		•••••	*****	*******			
	[******	*******	******	******	*******	*******	***************************************	
	[*******		*********	*******	•••••	***************************************	
	***************************************	******	•••••		••••	•••••		()	
			****			*******			
**************	******	*****	·····					······································	
			<u></u>				L		

Proponent Code: K

Impairment: Rural Fast Rayleigh

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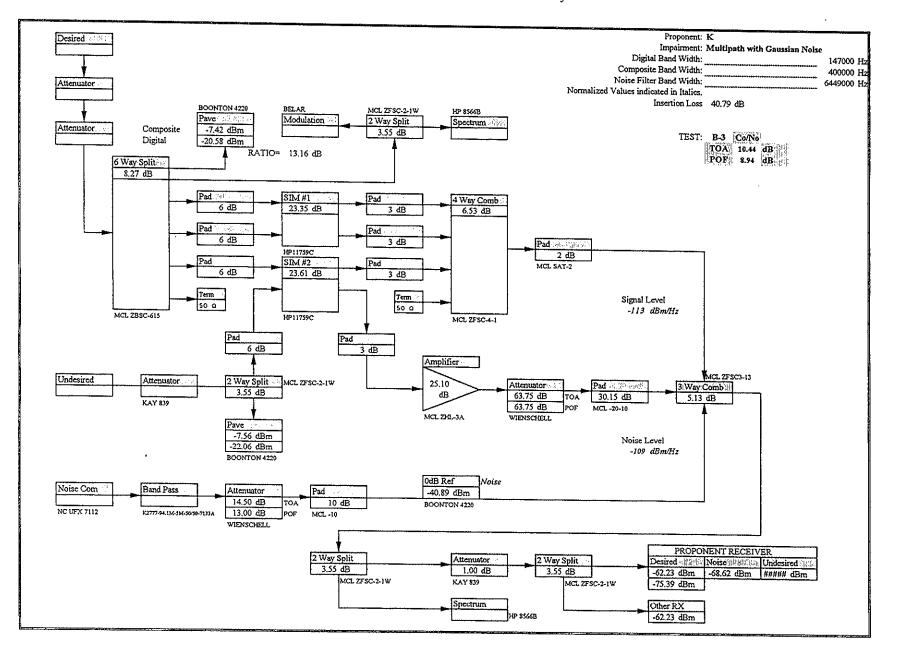
Test	B-3			l.
Propnent		Terrain Obstructed Ra	vleigh	
Code:	к		J g	
Material				Units
Glockenspiel		TOA	POF	
	Attenuator	30.00	26.00	dB
	Co/No	25.94	21.94	dB
	TOA	Small Flutter		
EO&C				
	POF	Excessive Muting, Overloads		
		—		
-				
Soprano	A.1.	TOA	POF	
1	Attenuator	29.00	25.00	dB
:	Co/No	24.94	20.94	dB
	TOA	Drop Out		
EO&C				
	POF	Excessive muting.		
Clarinet		ΤΟΑ	POF	
	Attenuator Co/No		25.00	dB
	C0/N0	25.94	20.94	dB
	TOA	Small Drop Out		
EO&C				
	POF	Many Drop Outs		
		· -		
	Record	ling Reference: DAR30308.DAT		
Notes:		Impairment: Multipath with Gaussian Noise		
		Testers: DML,RMC		
Į <u> </u>		Test Date: 21-Apr-95	·····	

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Number	Time 0 Start	lode Stop		Pro	gran	i IDs		Description	
DAR30308.DAT			1	2	3	4	5	Glockenspiel No Added Noise	Atm
21-Apr-95	****		6	2	8	*******	******		63.75 34.00
			9	10	11	******	*******	***************************************	33.00
******			12	13	14		*****	***************************************	32.00
******	******		15	16	17		*******	**************************************	31.00
	******		18	19 22	20		**********	TOA lab	30.00
*****			21	22	23	1			29.00
*****			24	25 28	26	******	********	 	29.00
P#####################################			27	28	29		*********		28.00
****			30	31	32		*******	POF lab	26.00
*****]		********			***************************************	20.00
			33	34	35	36	37	Soprano No Added Noise	63,75
*****			38	39	40	*******			33.00
****			41	34 39 42 45	43		1	· · · · · · · · · · · · · · · · · · ·	32.00
			44	45	46			***************************************	31.00
	-1		47	48	49	*******			30.00
******			50	51	52			TOA lab	**************
******			53	54	55		*******	***************************************	29.00 28.00
			56	54 57 60	58		******		28.00
*********			59	60	61	*********	******		26.00
			62	63	64			POF lab	25.00
******						1			25.00
******			65	66	67	68	69	Clarinet No Added Noise	63.75
*******	*****		70	71	72				31.00
******	*******		73	74	75			TOA lab	30.00
	*********	********	76	77	78				29.00
	****	*****	79	80	81				28.00
	*****	******	82	83	84				27.00
	*****		85	86	87				26.00
	*******		88	89	90			POF lab	25.00
		*****							22.00
	*****						[
						*********		/ ************************************	
				*******	******				
		***********************				*******			
	************	*******	· ·····	*******	******	**			

Proponent Code: K Impairment: Terrain Obstructed Rayleigh



File Name: DAR30811. XLS Levels B-3

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Test C-1 AT&T Amati DSB Re Program Material	Impulse Response v B. Glockenspiel		5 Vp-p at atter	uator input.	
Pulse Repetition (Hz)	Attn at TOA	(Vp-p)	Attn at POF	(Vp-p)	EO&C
100	0.00	5.00	0.00	5.00	Could not achieve TOA or POF with this repetition rate.
200	0.00	5.00	0.00	5.00	TOA level of impairment, Small drop outs or flutters.
333	6.25	2.43	0.00	5.00	TOA occasional drop outs. POF many drop outs.
666	6.75	2.30	6.00	2.51	TOA occasional drop out. POF many drop outs.
1000	6.75	2.30	6.50	2.37	TOA occasional drop out. POF many drop outs.
Test Date: 8-May-9	5				
Testers: DML,RM	5 C				
					· · · · · · · · · · · · · · · · · · ·

Test	C-2	CW Respor	ıse						
AT&T Ama	ti DSB Rev	B.							
Program Ma	terial	Mozart (trac	k 67 SQAM	Disk)					
	Frequency	LEV 1	LEV 2	LEV 3		Frequency	LEV 1	LEV 2	LEV 3
Test Point	MHz	POF	POF+6	POF+12	Test Point	MHz	POF	POF+6	POF+12
1	93.85	0	0	0	27	94.11	0	0	0
2	93.86	0	0	0	28	94.12	0	0	0
3	93.87	0	0	0	29	94.13	0	0	0
4	93.88	0	0	0	30	94.14	0	0	0
5	93.89	0	0	0	31	94.15	0	- o	0
6	93.90	0	0	2	32	94.16	0	0	0
7	93.91	0	1	2	33	94.17	0	0	0
8	93.92	0	2	2	34	94.18	0	0	0
9	93.93	1	2	2	35	94.19	0	0	0
10	93,94	0	2	2	36	94.20	0	0	0
11	93.95	0	2	2	37	94.21	0	0	0
12	93.96	2	2	2	38	94.22	0	0	0
13	93.97	0	0	0	39	94.23	0	0	0
14	93.98	0	0	0	40	94.24	2	2	2
15	93.99	0	0	0	41	94.25	0	2	2
16	94.00	0	0	0	42	94.26	0	0	2
17	94.01	0	0	0	43	94.27	1	2	2
18	94.02	0	0	0	44	94.28	1	2	2
19	94.03	0	0	0	45	94.29	0	0	2
20	94.04	0	0	0	46	94.30	0	0	2
21	94.05	0	0	0	47	94.31	0	0	0
22	94.06	0	0	0	48	94.32	0	0	0
23	94.07	0	0	0	49	94.33	0	0	0
24	94.08	0	0	0	50	94.34	0	0	0
25	94.09	0	0	0	51	94.35	0	0	
26	94.10	0	0	0					
Test Date:	8-May-95		0 (B Attenuate	r Reference:	-33.32	dBm		
			0=CLEAN A	UDIO	I=APPROX	IMATE TOA		$2 \ge POF$	
			POF at 93.9	6 MHz Attn⁼	≈29,75dB	POF d/u≂	14.57	dB	
L						Composite			
	,								I

File Name: DAR30811.XLS C-2

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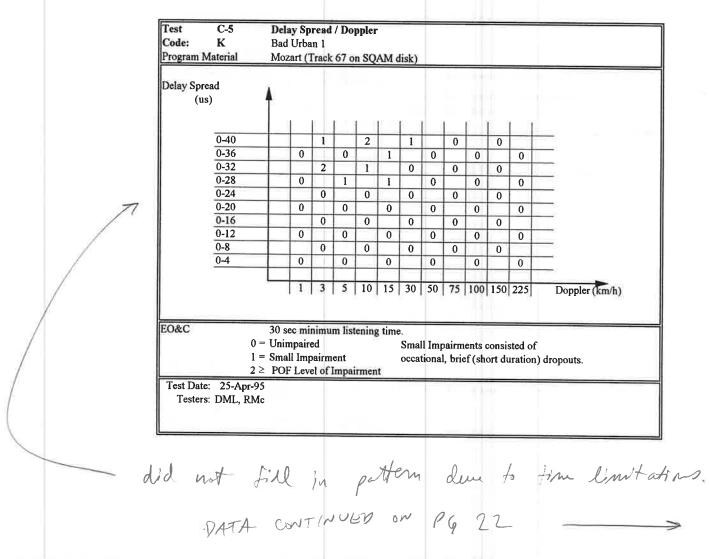
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Program M	laterial Glockenspie	[
Scenario	Reflected Pa	th	EO&C
#1	400 Km/h Doppler 27.5 μs Delay		Scenario as programmed has no defects in the recovered audio.
	8.00 dB	TOA 3.20	TOA small flutter or drop out # 36. 19:30 - 21:12 Recorded TOA PI #'s 34,35,36 DAR30500.DAT
#2	200 Km/h Doppler 13.7 μs Delay 6.00 dB	TOA	With the reflected path level maximized recorded for the record PI #'s 37,38 and 39.
20		0.00	No defects in the recovered audio. 21:17 - 23:01
#3	100 Km/h Doppler 6.8 μs Delay	TOA	With the reflected path level maximized recorded for the record PI #'s 40,41 and 42.
	4.00 dB	0.00	No defects in the recovered audio. 23:05 - 24:46

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Test AT&T Amat	C-4	Weak Signal Sensitivity	
Program Mat	crial	Glockenspiel	
		TOA (dBm) POF (dBm)	
		$-90 \le \text{TOA} < -89$ $-92 < \text{POF} \le -91$	
Test Date: Testers:	21-Apr-95 DML,RMc		



File Name: DAR30811.XLS C-5 BU1

	C-5	Delay Spi		/ Dop	pler								
Jours	K	Bad Urban		(7	504	Nr.d	(de)						
Program Mat	ternal	Mozart (T	rack	0/01	ISQA	uvi a	ISK)						
Delay Spread (us)	4	A									a		
	0-80		2		2		2		2		2	-	
1	0-76	2		2		2		2		2		2	
	0-72		2		2		2		2		2		
	0-68	2		2		2		2		2		2	
	0-64		2		2		2		2		2		
	0-60	2		2		2		2		2	. 1	2	
	0-56		2		2		2		2		1		_
	0-52	0		2		2		2		1		1	
2	0-48		2		2		2		1		0		
	0-44	2		2		2		1		1		0	
			3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C		30 sec mi = Unimpair	ed		tening	g time	Sma					sted of	dropouts.
		= Small Im ≥ POF Lev			irmer	nt	occa	tiona	I, DII	ei (sii	on a	landin)	diopouts.

< DATA CONTINUED FROM POS 21

File Name: DAR30811.XLS C-5 BU2

Test	C-5	Del	ay Sp	read	/ Do	ppler								
Code:	к		ical U											
Program 1	Material	Mo	zart (]	frack	67 o	n SQ.	AM d	lisk)						
Delay Spi														
(u	18)	f												
			1	1			,	,						
	0-10			0		0		0	<u> </u>		<u> </u>			
	0-9		0	+	0	0	0	0	0	0	0	0		
	0-8		Ť	1	<u> </u>	0		0		0		0	0	***
	0-7		0	+ <u>-</u> -	0	ا ر	0		Ő		0		0	
	0-6			1	<u> </u>	Ó		0	Ť	0	<u> </u>	Ö	~	<u> </u>
	0-5		0		0		0		0		0		0	
	0-4			0		0		0		0	—	0		
	0-3		0		0		0		0		0		0	
	0-2			0	<u> </u>	0		0		0		0		
	0-1		0		0		0		0	L	0	<u> </u>	0	
			$\frac{1}{1}$	3	6	10	16	20						
			1 1	6	1 2	10	12	30	50	75	100	150	225	Doppler (km/h)
0&C		30 -	ec mi	nimu	m list	tening	, time	<u>.</u>						
		0 = Uni	mpair	ed			5		11 Im	mirm	ente	onsi	sted of	f
		l ≕ Sma			ent			occa	tional	l. brie	ef (sh	ort di	tration	1) dropouts.
		2 ≥ PO				irmen	it			.,	\			ny diopouts,
Test Dat	te: 25-Aj													······
	rs: DML,													

Test	C-5		iy Sp		/ Doj	pler								
Code:	к		y Terr											
Program .	Material	Moz	art (T	rack	<u>67 o</u>	n SQ/	AM d	isk)						
					-									
Delay Spi	read	1												
(u	1S)	₽												
•			1					1					I	
	0-50		Ö		2		0		0		0		0	
	0-48			1		2		1		0		0		
	0-44		0		0		0		0		0		0	
	0-40			0		1		0		0	1	0		
	0-36		2		1		1		0		0		0	
	0-32			0		0		0		0		0	~	
	0-28		0		0		0		0		0		0	
	0-24			0		0		0		0		0		
	0-20		0		0		0		0		0		0	
			1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
										-			• •	
EO&C		30 s	ec mi	nimu	m lis	tening	g tim	e.						
		0 = Uni	mpair	ed					ll Imp	oairm	ents	consi	sted of	f
		1 ≃ Sma	all Imj	pairm	ent									i) dropouts and
		2≥ PO	F Lev	cl of	Impa	irmer	nt		odic f					, ,
Test Da	ite: 25-Ap	or-95												
	rs: DML,													

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Test	C-5	Del	ay Sp	read	/ Do	ppler								
Code:	к		al Are			••								
Program 1	Material	Mo	zart (]	Frack	<u>67 o</u>	n SQ.	AM c	lisk)						
Delay Spr		4												
(u	is)	₽												
			,											
	0-1.0		 											
	0-0.9			0	<u> </u>	0		0		0	<u> </u>	0		······
	0-0.9		0	0	0		0		0	<u> </u>	0		0	
	0-0.7		0	0	0	0		0	<u> </u>	0		0		
	0-0.6		+	0	<u> </u>	0	0	0	0		0		0	·······
	0-0.5		0		0		0	0	0	0	0	0		
	0-0.4		Ť	0	<u> </u>	0	· · ·	0	<u> </u>	0	<u> </u>	0	0	
	0-0.3		0	$\frac{1}{1}$	0	l õ	0	0	Ö		0		0	
	0-0.2			0	<u> </u>	ō	<u> </u>	ŏ	<u> </u>	0	ŀĽ	0		
	0-0.1		0		0		0		0	L.	0		0	
			1	<u> </u>	<u> </u>	<u> </u>	·				<u> </u>			
			1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
								•	•	•	4			
EO&C		30 :	sec mi	nimu	m lis	tening	z time							
		0 = Uni						Sma	il Imp	pairm	ents o	onsi	sted of	•
		1 = Sm:	ull Imj	pairm	ent			occa	tional	l, brid	ef (sh	ort di	ration) dropouts.
		2 ≥ PO	ł Lev	ci oi	impa	irmer	t							
	ie: 25-Ap													
Tester	s: DML,	RMc												

Test	C-6 Addit	ional N	fultipath De	oppler Si	mul	ations			
AT&T Amati DSB R									
Program Material:	Glockenspiel								
Scenario	Level	Attn	Co/No	¥ 1 (4		FORO			
#1		Aun	C0/N0	Units		EO&C	······		
Urban Slow						Recorded for the record No Added Noise #2 Static Pops. #4 Small drop out #5 Medium duration mi	ite		
#2 Urban Fast	TOA	21.00	16.80	dB		Small drop out or flutte			
	POF	17.00	12,80	dB		Excessive flutter / mutir	ıg.		
#3 Rural Fast	TOA	18.00	13.80	dB		Small drop out or flutte	r.		
	POF	15.00	10.80	dB		Excessive flutter / mutir	ng,		
#4 Terrain Obstructed	ΤΟΑ	24.00	19.80	dB		Small drop out or flutte	r.		••••••••••••••••••••••••••••••••••••••
Fast	POF	19.00	14.80	dB		Excessive flutter / muti	ng.		<u> </u>
Test Date:	26-Apr-95			Desired			No	ise	
Testers:	DML, RMc DAR30561.DAT		6WOUT IL 3WIN	-7 40	.79		V 6.	.45E+06	
			3WIN	-48	.23	dBm 0dB Re		-40.77	dBm

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DAT File Number	Fime C Start	ode Stop		St	art I	Ds		Description	Atm
DAR30561.DAT	0:12	3:02	1	2	3	4	5	Urban Slow Doppler No Added Noise	63.75
26-Apr-95	****	******							
	3:10	6:02	*********	7	8	9	10	Urban Fast Doppler No Added Noise	63.75
******			11	12	13				23.00
		******	14	15	16			Unconfirmed TOA # 15	22.00
		******	17	18	19			TOA #18 Small Flutter or drop out.	21.00
		******	20	21	22				20.00
*****	*****		23	24	25				19.00
		10.00	26	27	28	·····			18.00
*****	*****	18:20	29	30	31			POF, Excessive Muting	17.00
	18:28	21:19	20	33	34	35			
	10:20	21:19	37	33	34	35	30	Rural Fast Doppler No Added Noise	63.75
			40	41	42	*******		#42 TOA Small Flutter or drop out	19.00
************	*******	***************************************	43	44	42	•••••		142 TOA Small Flutter or drop out	18.00
***************************************	******	**********	46	47					17.00
****	*****	30:06		50	48 51			POF, many flutters and drop outs or mutes.	16.00 15.00
	*****								15.00
	30:14	37:25	52	53	54	55	56	Obstructed Path Doppler No Added Noise	63.75
			57	58	59				26.00
*********			60	61	62			***************************************	25.00
*****	***		63	64	65			TOA, #64 Flutter and Drop outs.	24.00
(*** / \ ** * \$ * * * * * * * * * * * * * * *	******	******	66	67	68				23.00
	********		69	70	71				22.00
	***		72	73	74				21.00
	****		75	76	77				20.00
*****	******		78	79	80	********		POF, excessive muting.	19.00
	······································					****			
*									
	********	·····							
		•••••••••••••••••••••••••••••							

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*********	**********		·	·[
********	*****				·				
		L	<u></u>	<u></u>	<u></u>	<u> </u>	1		1

Additional Multipath Doppler Simulations Code: K

Test: C-6

D-Series	Co-Channel,	lst and 2nd	Adjacent	······································		
Glockenspiel						
Level	Attn	DAT	T laite	FORC	·····	
TOA			Units	EURC		
	33.25	10.46	dB	Small drop out.		
POF						<u></u>
	31.75	8.96	dB	Excessive muting.		
TÓA	26.75	23.96	dB	Small drop outs or flue	tterc	
			20	ionian drop outs of the	ucis,	
POF	23.25	20.46	dB	Excessive Muting.		
TOA	27.00	24.21	dB		tters.	
				Excessive Muting.		
104	6.00	-16.79	dB	Small drop out or flutt	er.	
POF	2 25	-20 54	dB	Muting and flutter		
TOA	4.75					
					Gr.	
POF	1.00	-21.79	dB	Excessive muting,		
nal Commontes '	P	1.1 1.1			·	
nai Comments.	lesis conducte	a inrough t	he multipat	h simulators with one p	oath on the	
,	avanco and Ol	e paul ou th	e undesifed	i channels.		
AT Reference: 1	DAR30410.D.	AT				
te: 1-May-95			Desired		Undesired	
rs: DML, RMc			-7.44	dBm		
		-				
	3	WIN	-48.23	dBm	-45.44	dBm
	3 Rev B. Glockenspiel Glockenspiel Image: Constraint of the second s	3 Rev B. Glockenspiel Level Attn TOA 33.25 POF 31.75 TOA 26.75 POF 23.25 TOA 27.00 POF 23.00 TOA 27.00 POF 23.00 TOA 6.00 POF 2.25 TOA 4.75 POF 1.00 nal Comments: Tests conducted desired and on PAT Reference: DAR30410.D. te: 1-May-95 rs: DML, RMc S II II	B Rev B. Glockenspiel Level Attn D/U TOA 33.25 10.46 POF 31.75 8.96 TOA 26.75 23.96 POF 23.25 20.46 TOA 26.75 23.96 POF 23.25 20.46 TOA 27.00 24.21 POF 23.00 20.21 TOA 6.00 -16.79 POF 2.25 -20.54 TOA 4.75 -18.04 POF 1.00 -21.79 nal Comments: Tests conducted through t desired and one path on th PAT Reference: DAR30410.DAT te: 1-May-95	B Rev B. Glockenspiei Level Attn D/U Units TOA 33.25 10.46 dB POF 31.75 8.96 dB TOA 26.75 23.96 dB POF 23.25 20.46 dB POF 23.25 20.46 dB POF 23.00 20.21 dB POF 2.25 -20.54 dB POF 2.25 -20.54 dB POF 2.00 -18.04 dB POF 1.00 -21.79 dB nal Comments: Tests conducted through the multipat desired and one path on the undesired VAT Reference: DAR30410.DAT Te: 1-May-95 Desired rs: DML, RMe Signal -7.44 IL 40.79	Glockenspiel Level Attn D/U Units EO&C TOA 33.25 10.46 dB Small drop out. POF 31.75 8.96 dB Excessive muting. TOA 26.75 23.96 dB Small drop outs or flu POF 23.25 20.46 dB Excessive Muting. TOA 27.00 24.21 dB Small drop outs or flu POF 23.00 20.21 dB Excessive Muting. TOA 6.00 -16.79 dB Small drop out or flutt POF 2.25 -20.54 dB Muting and flutter. TOA 4.75 -18.04 dB Small drop out or flutt POF 1.00 -21.79 dB Excessive muting. nal Comments: Tests conducted through the multipath simulators with one p desired and one path on the undesired channels. PAT Reference: DAR30410.DAT Desired r.44 dBm IL 40.79 dB dB Signal -7.44 dBm	Rev B. Glockenspiel Level Attn D/U Units EO&C TOA 33.25 10.46 dB Small drop out. POF 31.75 8.96 dB Excessive muting. TOA 26.75 23.96 dB Small drop outs or flutters. POF 23.25 20.46 dB Excessive Muting. TOA 26.75 23.96 dB Small drop outs or flutters. POF 23.25 20.46 dB Excessive Muting. TOA 27.00 24.21 dB Small drop outs or flutters. POF 23.00 20.21 dB Excessive Muting. TOA 6.00 -16.79 dB Small drop out or flutter. POF 2.25 -20.54 dB Muting and flutter. POF 1.00 -21.79 dB Small drop out or flutter. POF 1.00 -21.79 dB Excessive muting. nal Comments: Tests conducted through the multipath simulators with one path on the desired and one path on the undesired channels. PAT Reference:

DAT File Number	Time (Start	ode Stop		St	art I	Ds		Description	
DAR30410.DAT					Ī				Atm
1-May-95	0:06	2:58	1	2	3	4	5	Lower 1st Adjacent TOA	26.75
*****	2.01	******							
*****	3:04	7:42	6	7 12	8	9	10	Lower 2nd Adjacent TOA, # 10 at very end small drop out.	6.00
*******************		/:42			13				5.75
*****	7:46	******	14	15			10		
4 64 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		*************************	10	20	21		23	Upper 2nd Adjacent TOA Nothing apparent	4.75
**************************************	********	16:30	24	15 20 25	21 26	22 27	20	437 Co. 11 June	4.50
		10.50	~~~				. 20	#27 Small drop out.	4.25
	16:33	19:26	29	30	31	37	33	Co-Channel TOA, #30 small flutter	******
***************************************	******	·····						Co-Channel TOA, #30 small hutter	33.25
********	********		*****	L#1>+#,	******	******		***************************************	
**********	******		**********	•••••••••	*********	••••••			****
	******************************	**********	*******	******	**********	******	********	****	
		*******	*****	******	********	••••		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
		*********		*****	*****	*****			
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			******						*****

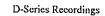
		****							*********
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*********									*****
******* *****************************			••••••			********			*****
				1-4++-1+++		***********			******

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		******				******			******************
		*****		******					*****

		*****	•••••••••••			********			······································

Code: K



Test	E-1	Co-Channel	with Multip	ath (Raylei	gh)	
AT&T Amati DSB 1	Rev B.		-			
Program Material:	Glockenspie	<u>l</u>				
Scenario						
Scenario	Level	Attn	D/U	Units	F0*0	
#1	20101	A.m		Onits	EO&C	······
Urban Slow	TOA	43.00	39.06	dB	Small drop out or flutter.	
	POF	30.00	26.06	dB	Excessive Muting.	
#2						
Urban Fast	TOA	29.00	25.06	dB	Small drop out.	
	POF	26.00	22.06	dB	Excessive muting.	
#3 Rural Fast	TOA	35.00	31.06	dB	Small Drop Out	
	POF	31.00	27.06	dB	Excessive muting	······
#4 Terrain Obstructed	TOA	35.00	31.06	₫B	Small drop out or flutter.	
	POF	30.00	26.06	dB	Excessive muting.	
Test Date	: 27-Apr-95			Desired	Aunan <u>1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999</u>	Undesired
Testers	: DML, RMc		Signal	-7.44	dBm	-6.61 dBm
			IL	40.79	dB	37.68 dB
			3WIN	-48.23	dBm	-44.29 dBm

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Page 30 of 44

Test	E-2 L	ower 1st A	djacent with	Multipath	(Rayleigh)	
AT&T Amati DS	SB Rev B.			•	(···· 2···· 8·· 7	
Program Materia	: Glockenspiel					
		· · · · · · · · · · · · · · · · · · ·	····			
~ ·						
Scenario						
<i>μ</i> 1	Level	Attn	D/U	Units	EO&C	······································
#1 Urban	TOA					······
Urban Slow		55.00	52.21	dB	Small flutter.	
Slow	POF			<u> </u>		
	POF	20.00		-		
		38.00	35.21	dB	Excessive muting.	
#2	TOA				l	
Urban		41.00	38.21	dB	Small flutter.	
Fast		41.00	50.51	uБ	Sman nutter.	
	POF				<u> </u>	······································
		34.00	31.21	dB	Excessive muting.	
					Shoosire manng.	
#3	TOA			··· ··· ··· ··· ··· ···		
Rural		45.00	42.21	dB	Small drop out or flutte	r.
Fast					• • • • • • • • • • • • • • • • • • • •	
	POF					······································
		37.00	34.21	dB	Excessive muting	
#4	TOA	· · · · · · · · · · · · · · · · · · ·				
Terrain	IUA	45.00	10.01	10		
Obstructed		45.00	42.21	dB	Small drop outs.	
Fast	POF					
		35.00	32.21	dB	Excessive muting.	
		55.00	52.21	uD	Excessive muting.	
Test D	ate: 1-May-95		l	Desired		Undesired
	ers: DML, RMc	9	Signal	-7.44	dBm	-7.76 dBm
			L	40.79		-7.76 dBm 37.68 dB
			SWIN	-48.23	- +*	-45.44 dBm
						-4J.44 UDIN

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Test		E-3	Lower 2nd	Adjacent wit	th Multipat	h (Ravlei	gh)
AT&T Am	ati DSB Rev B			-	•		. .
Program M	laterial: Gloc	kenspie	1				
Scenario							
	L	evel	Attn	D/U	Units	EO&C	······································
#1 Urban Slow	Ī	ΌΑ.	38.00	15.21	dB		n duration drop out and a small
	F	POF	21.00	-1.79	dB	Excessiv	e muting.
#2 Urban Fast	1	ΟA	22.00	-0.79	dB	Slight flu	utter or drop out.
	1	POF	14.00	-8.79	dB	Excessiv	e muting.
#3 Rural Fast	1	ΓΟΑ.	26.00	3.21	dB	Small dr	op out or flutter.
		POF	17.00	-5.79	dB	Excessiv	re muting
#4 Terrain Obstructed		ſOĄ	30.00	7.21	dB	Small dr	op outs.
Fast]	POF	17.00	-5.79	dB	Excessiv	e drop outs and an overload.
	Test Date: 1-	May-95			Desired		Undesired
	Testers: DM	-		Signal IL 3WIN	-7.44 40.79 -48.23		-7.76 dBm 17.68 dB -25.44 dBm

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Test	E-1	Co-Channe	l with Multip	ath (Dopp	ler)
AT&T Amati D					
Program Materia	l: Glockenspiel				
Scenario					
Coonario	Level	T aveal			
#1	Level	Attn	D/U	Units	EO&C
Urban	TOA				Second with M. O. Ch.
Slow					Scenario with No Co-Channel
			·	······	creates defects in the recovered audio. Defects consist of occasional mutes and
	POF				fluttere. The level of investigation of the
-					flutters. The level of impairment is between TOA and POF closer to TOA.
#2		······································			- Ortand tor closer to TOA.
Urban	TOA	27.00	24.06	dB	Small drop out.
Fast					
	DOD				
	POF	19.00	16.06	dB	Excessive muting.
#3				·····	
Rural	TOA	20.00	17.06	dB	
Fast		20.00	17.00	uБ	Small drop out or flutter.
					<u> </u>
	POF	17.00	14.06	dB	Excessive muting
¥4					
Terrain	TOA	26.00	23,06	dB	Small drop outs.
Obstructed					
Fast					
	POF	22.00	19.06	dB	Excessive muting.
Test D	ate: 28-Apr-95			Desired	1
	ers: DML, RMe		Signal	Jesirea -7.44	dPm Undesired
			IL	40.79	-7.01 UDIR
			3WIN	-48.23	57.08 UD
					dBm -45.29 dBm

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Test	E-2	Lower 1st A	djacent wit	h Multipati	h (Doppler)
AT&T Amati				-	
Program Mate	rial: Glockenspie	1			
Scenario					
	Level	Attn	D/U	Units	EO&C
#1 Urban Slow	TOA				Scenario with no 1st Adjacent creates defects in the recovered audio.
	POF			<u> </u>	Defects consist of occasional mutes and flutters. The level of impairment is between TOA and POF closer to TOA.
#2 Urban Fast	TOA	33.00	30.06	dB	Small drop out.
	POF	26.00	23.06	dB	Excessive muting.
#3 Rural Fast	TOA	32.00	29.06	dB	Small drop out or flutter.
	POF	26.00	23.06	ď₿	Excessive muting
#4 Terrain Obstructed	TOA	41.00	38.06	dB	Small drop outs.
Fast	POF	30.00	27.06	dB	Excessive muting.
Tes	t Date: 28-Apr-95			Desired	Undesired
	esters: DML, RMc		Signal IL		dBm -7.61 dBm
			3WIN	-48.23	

Page 34 of 44

Test	E-3	2nd Adjace	nt with Mult	ipath (Dop	pler)
AT&T Amati DS Program Material					
riogram wateria	: Glockenspie				
Scenario					
	Level	Attn	D/U	Units	EO&C
#1					
Urban Slow	TOA				Scenario with no 2nd Adjacent
Slow					creates defects in the recovered audio.
	DOF				Defects consist of occasional mutes and
	POF				flutters. The level of impairment is between
#2					TOA and POF closer to TOA.
Urban	TOA	12.00	-10,79	dB	S
Fast		12.00	-10.19	uБ	Small flutter or drop out.
				·	
	POF	5.00	-17.79	dB	Excessive muting.
#3					
Rural	тоа	12.00	-10,79	dB	
Fast		12.00	-10.79	ab	Small drop out or flutter.
	POF	6.00	-16,79	dB	Excessive muting
#4					B
#4 Terrain	ТОА				
Obstructed	IUA	20.00	-2.79	dB	Small drop outs.
Fast					
	POF	9.00	-13.79	dB	Excessive muting.
		2.00	-13.13	40	LACESSIVE muting.
Test Da	ate: 1-May-95		I	Desired	Undesired
Teste	ers: DML, RMc		Signal	-7.44	
			IL	40.79	
			3WIN	-48.23	

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	Toff(s)	POF-2	Re-Acquisition Time (s) POF-4) POF-6	
	30	4	2	2	
		2	3	5	
		5	2	6	
		2	3	2	
		5	3	4	
	Average	3.6	2.6	3.8	
	POF Attenuator Desired Signal 1 Noise 0 dB Refe	Level ;	13.25 dB -48.24 dBm -40.84 dBm		
D&C	Re-Acquisition	time is the value li	sted ± 0.5 seconds.	in a start of the second start of the second start of the second start of the second start of the second start	<u></u>

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	Tsim (s)	POF-2	Re-Acquisition Time (: POF-4	\$) POF-6	
	5	3	2	6	
	10	6	4	7	
	15	7	2	3	
	20	3	2	2	
	25	4	4	4	
	Average	4.6	2.8	4.4	
	POF Attenuator S Desired Signal Le Noise 0 dB Refer	evel :	28.00 dB -48.26 dBm -40.77 dBm		
&C	Re-Acquisition ti	me is the value li	sted ± 1 second.		

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	Tsim (s)	POF-2	Re-Acquisition Time (s) POF-4	POF-6	
	5 _	2	6	3	
	10 _	3	2	5	
	15	4	3	7	
	20	5	5	2	
	25	2	5	3	
	Average	3.2	4.2	4.0	
	POF Attenuator Se Desired Signal Lev Noise 0 dB Refere	rel :	23.00 dB -48.23 dBm -40.78 dBm		
D&C	Re-Acquisition tim	e is the value	e listed ± 1 second.	<u> </u>	

File Name: DAR30811.XLS J-2 UFR

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		n SQAM disk) Re-Acquisition Time (s)		
Tsim (s)	POF-2	POF-4	POF-6	
5	2	4	2	
10	8	6	3	
15	2	3	4	
20	6	5	2	
25	4	3	5	
Average	4.4	4.2	3.2	
POF Attenuator	Setting :	27.00 dB		
Desired Signal 1 Noise 0 dB Ref		-48.23 dBm -40.78 dBm		
THOISE U UD REL		-40.78 dom	,	
O&C Re-Acquisition	time is the value	listed ± 1 second.	And And And And And And And And And And	
Test Date: 27-Apr-95				

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	Tsim (s)	R. POF-2	e-Acquisition Time (s POF-4	s) POF-6	
	5	2	5	4	
	10	3	2	2	
	15	2	7	4	
	20	6	5	3	
	25	4	2	5	
	Average	3.4	4.2	3.6	
	POF Attenuator S Desired Signal Le Noise 0 dB Refere	vel : -4	5.00 dB 48.23 dBm 40.78 dBm		
V&C	Re-Acquisition tir	ne is the value list	red ± 1 second.		

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AT&T Ar Program N	J-2 Re-Acquisition v nati DSB Rev Urban Slow Dop Material Mozart (Track 67	pler 7 on SQAM disk)
	Tsim (s)	Re-Acquisition Time (s) POF
	5	5
	10	5
	15	5
	20	5
	25	3
	Average	4.6
	POF Attenuator Setting :	Defects without added noise
	Desired Signal Level : Noise 0 dB Reference :	-48.26 dBm -40.77 dBm
EO&C	Re-Acquisition time is the value	ue listed ± 1 second.
T		
	e: 26-Apr-95 s: DML, RMc	
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	Tsim (s)	POF-2	Re-Acquisition Time (s) POF-4	POF-6	
	(0)	101-2	r 0r-4	POP-0	
	5	6	5	6	
		<u> </u>			
	10	5	3	2	
	15	4	7		
	15	<u></u>		6	
	20	2	2	6	
				······	
	25	3	2	3	
	Average	4.0	3.8	4.6	
	POF Attenuator Setting : Desired Signal Level :		17.00 dB		
			-48.26 dBm		
	Noise 0 dB Refe	rence :	-40.77 dBm		
0&C					
Uac.	Re-Acquisition (ima is the value	listed ± 1 second.		
	No-Acquisition	and is the value	\pm instea \pm i second.		
Test Date	: 26-Apr-95				

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Tsim (s)	POF-2	Re-Acquisition Time (s) POF-4	POF-6
5	3	2	2
10	5	3	5
15	2	4	2
20	6	2	6
25	2	2	3
Average	3.6	2.6	3.6
POF Attenuator Desired Signal I Noise 0 dB Refe	Level :	15.00 dB -48.26 dBm -40.77 dBm	
Re-Acquisition 1	time is the value	listed ± 1 second.	

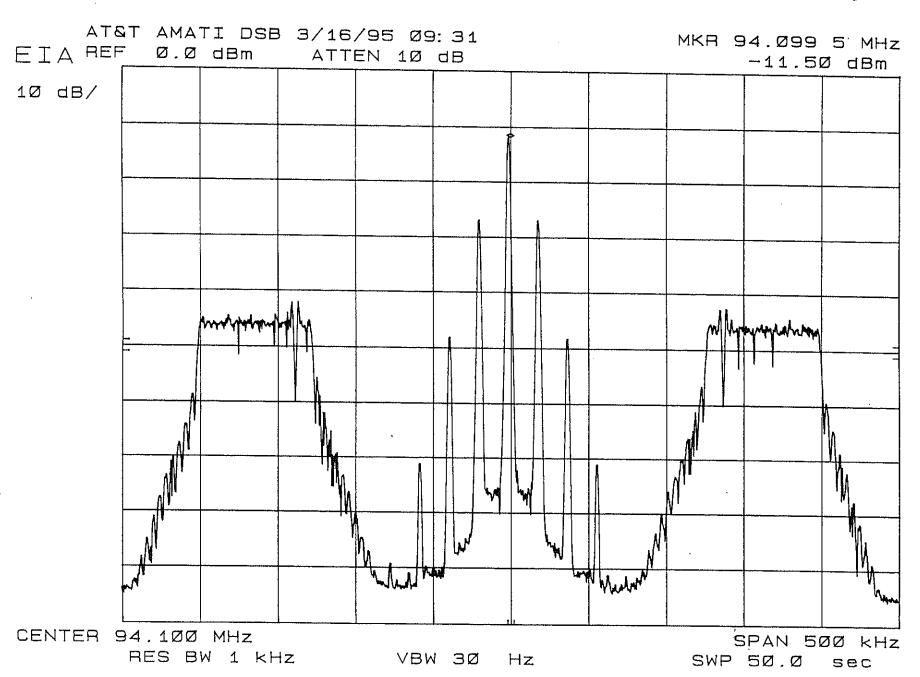
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Tsim (S	s) POF-2	Re-Acquisition Time	(s)	
5	(3) I OP-2	POF-4	POF-6	
-	8	2	6	
10	5	3	2	
15	3	3	4	
20		5	7	
25	5	3	3	
Average	5.0	3.2	4.4	
	tenuator Setting :	19.00 dBm		
	Signal Level :	-48.26 dBm		
Noise U	dB Reference :	-40.77 dBm		
0&C				
Re-Acq	uisition time is the valu	te listed ± 1 second.		
Cent Date: 26 Am	- 05			
Test Date: 26-Ap Testers: DML, F				

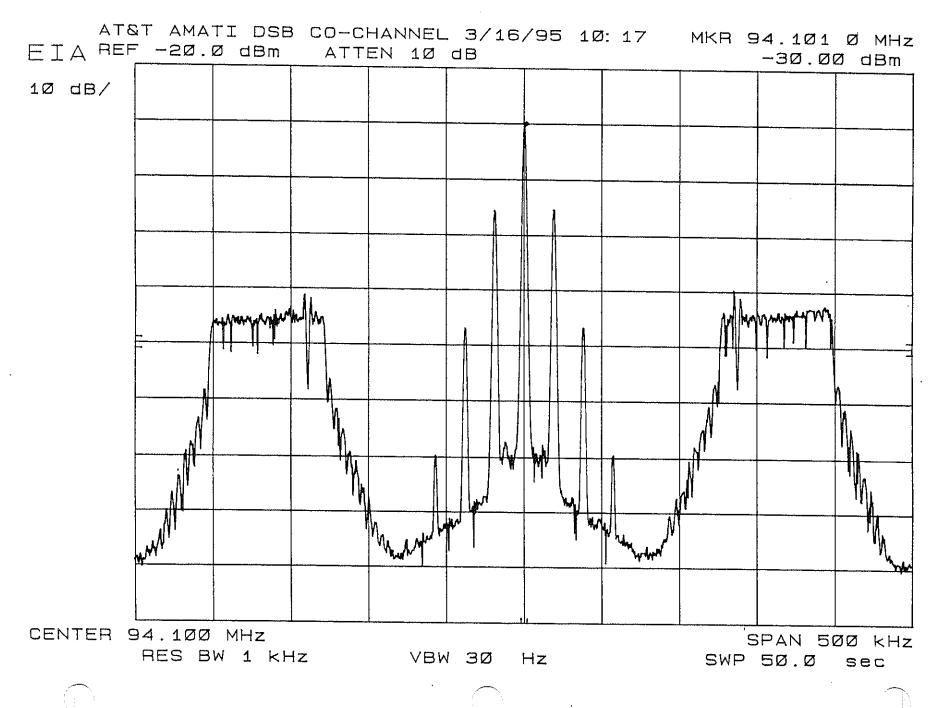
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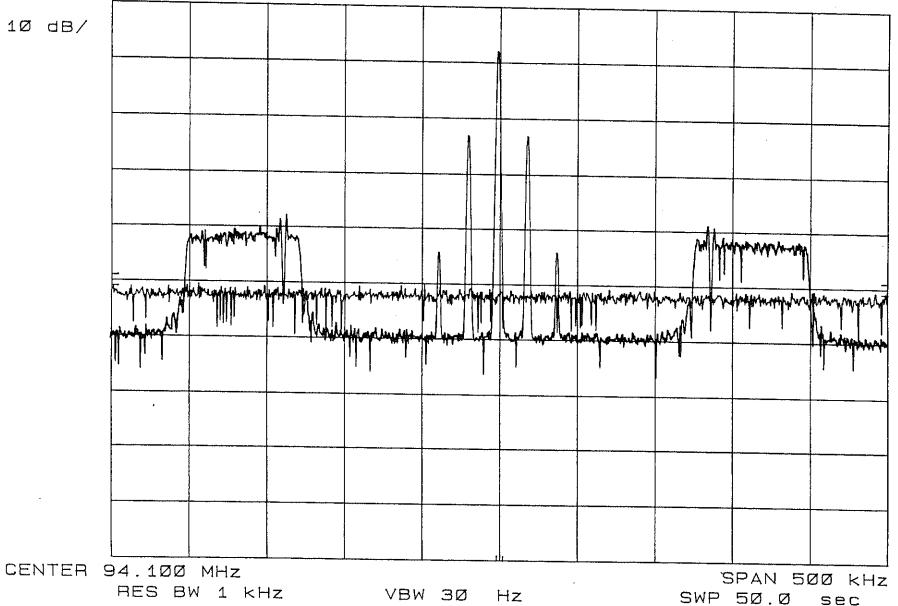
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AT&T AMATI DSB GAUSSIAN NOISE Co/No AT ATTN=14.5 3/16/95 1 EIA REF -50.0 dBm ATTEN 10 dB

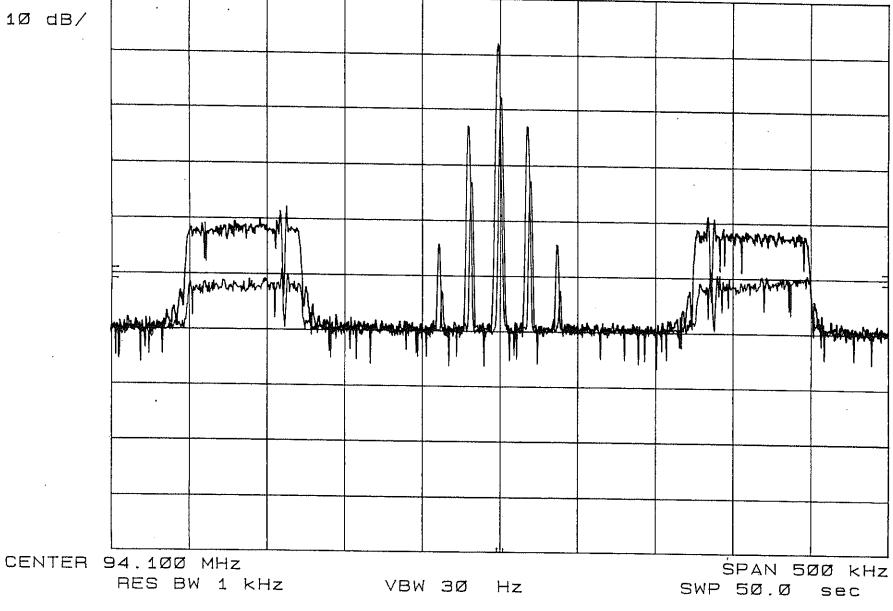
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AT&T AMATI CO-CHANNEL d/u AT ATTN = 28.75 3/16/95 18:44 EIA REF -50.0 dBm ATTEN 10 db

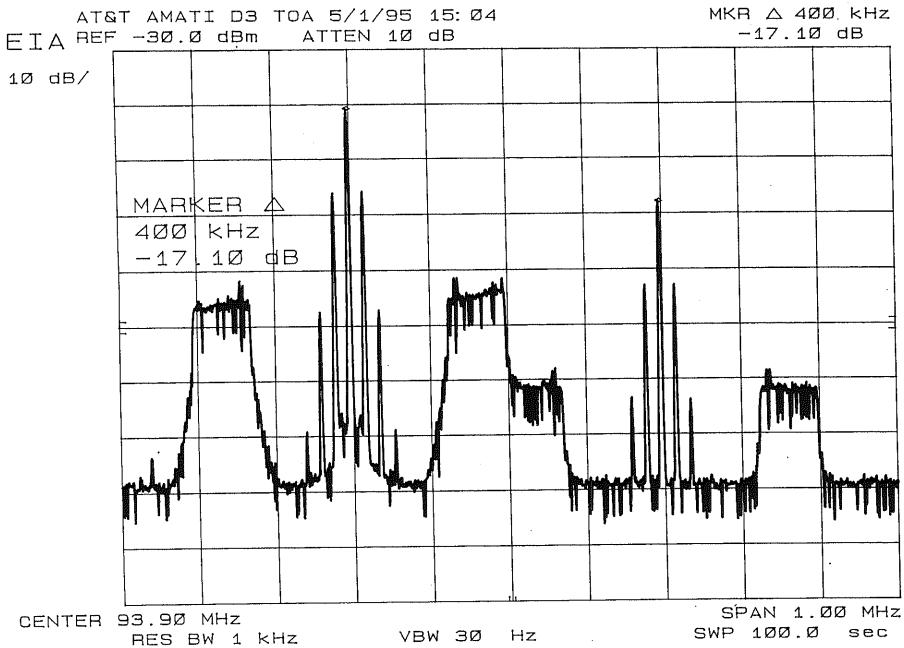
1Ø dB/

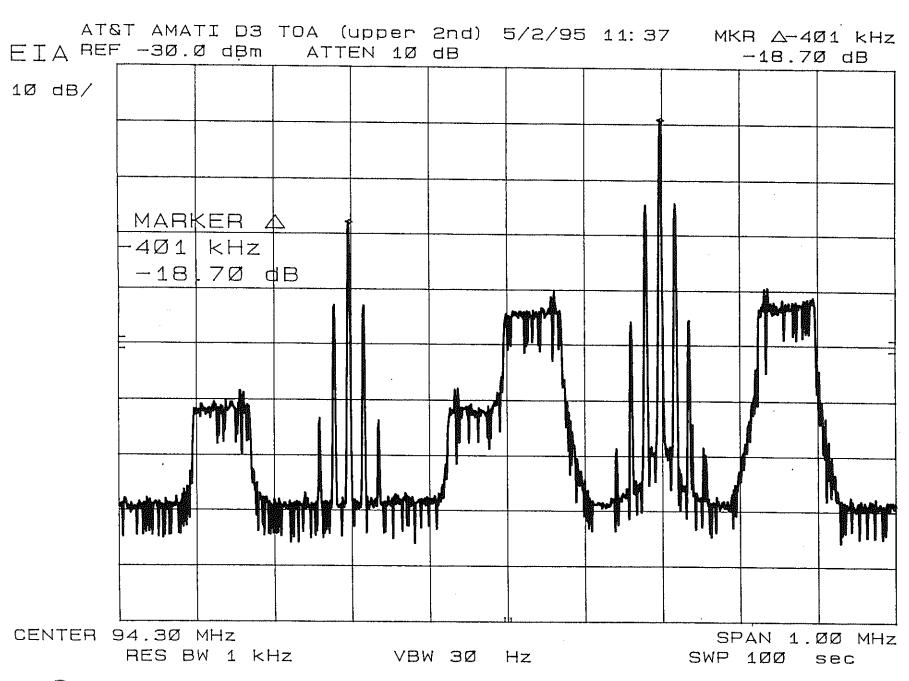


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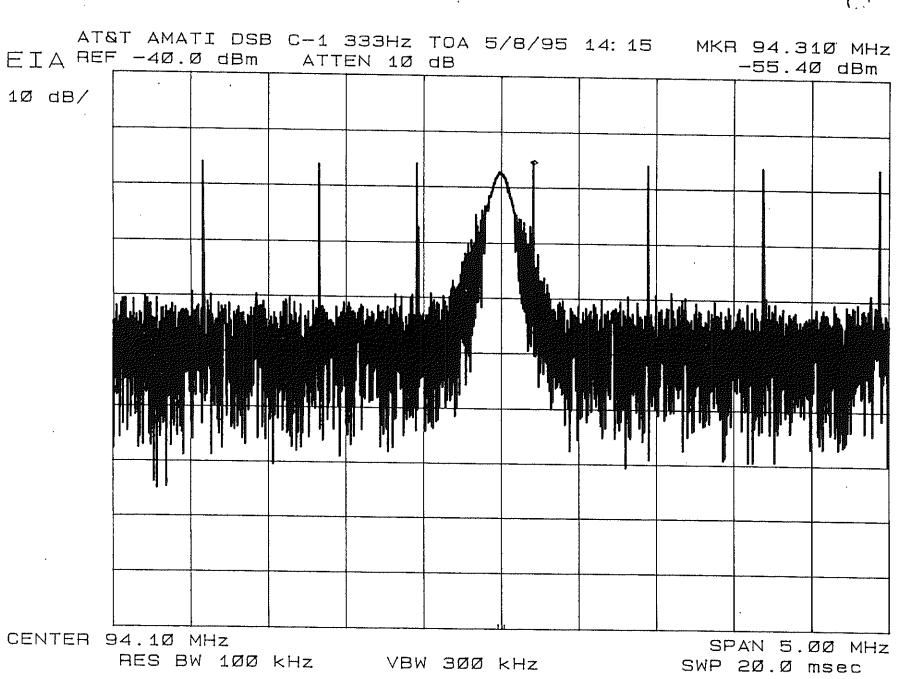


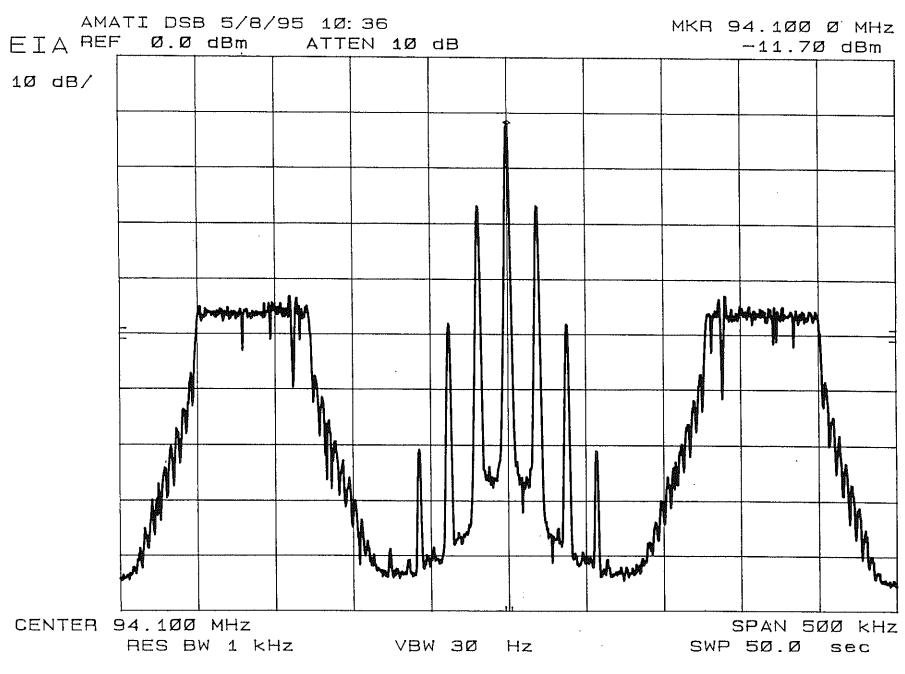
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APPENDIX AL

Digital Test Results USA Digital Radio FM 1 Revision B

		
Proponent: U	SADR FM1 Rev B.	
Code:	L	
Digital Band Width: Composite Band Width:	2.00E+05 Hz	
Peak / Average Composite:	4.50E+05 Hz	
Peak / Average Digital:	3.57 dB 8.58 dB	
v dak / Average Digitai,	8,38 dB	
		F
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File Name: DAR30812.XLS Cover

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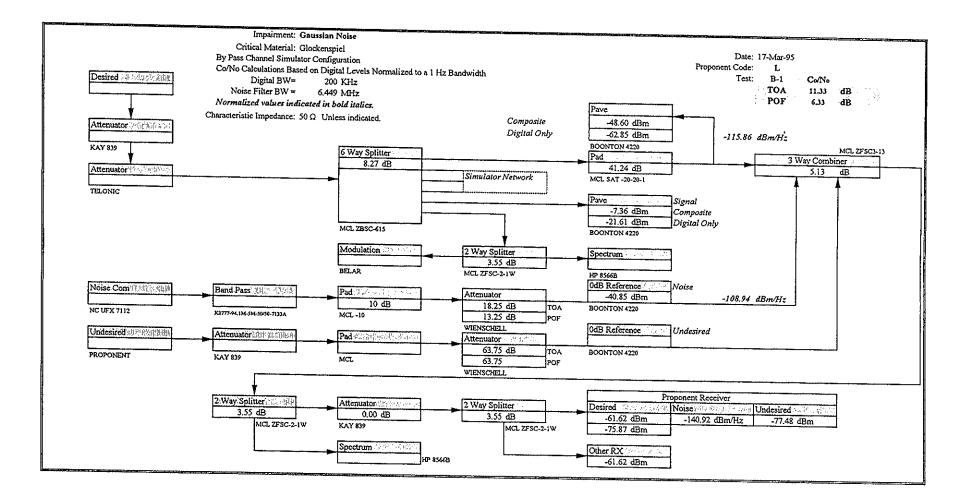
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Test	B-1		
Proponent		Gaussian Noise	
	L	Guussian Moise	
	_	,	
			Units
Glockenspiel		TOA POF	
	Attenuator	18.25 13.25	dB
	Co/No	11.33 6.33	dB
			dD
	TOA	Small burst of pops at end of first arpeggio. Small warble,	
EO&C	DOF		
	POF	High Frequency roll off, many pops and clicks, some muting.	
Soprano		TOA POF	
	Attenuator	17.75 13.75	dB
	Co/No	10.83 6.83	dB
	* • • • • • • • • • • • • • • • • • • •		a.b
	TOA	Small burst of pops.	
EO&C			
	POF	High Frequency Roll off, many pops and clicks and some muting.	
Clarinet		TOA POF	
Charmet	Attenuator		
	Co/No		dB
		0.38	dB
	TOA	Small bursts of pops or clicks.	
EO&C			
	POF	High Frequency roll off, many pops and clicks, some muting.	
	.	· · · · · · · · · · · · · · · · · · ·	
, ,	Recording R		
Notes:	Testers:	DML,RMC	
	Date:	17-Mar-95	
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EIA Digital Audio Radio DAT Recording Log

DAT File Number	Time Code Start Stop		P	'rogra ID#	m	Description	
DAR30224.DAT		1	2	3		Glockenspiel Clear Channel	Attn 63.75
17-Mar-95		4	5	6	******		19.75
******		7	8	9	*****	***************************************	19.75
********		10	11	12			
****		13	14	15	*****	TOA lab	18.75 18.25
*******		16	17	18	*******		17.25
		19	20	21		• /* / · · · · · · · · · · · · · · · · ·	16.25
		22	23	24		•	15.25
****		25	26	27	*****	***************************************	.14.25
******		28	29	30		POF lab	
********		31	32	33		•	13.25 12.75
							14.73
********		34	35	36		Soprano Clear Channel	63.75
******		37	38	39		•	19.25
	********	40	41	42			18.75
******	*****	43	44	45			18.25
******		46	47	48		TOA lab	17.75
		49	50	51			16.75
*********		52	53	54			15.75
*****		55	56	57			14.75
**********		58	59	60		POF lab	13.75
	*****	61	62	63			13.25
*****	******						
*1**********************************		64	65	66		Clarinet Clear Channel	63.75
***********		67	68	69			19.50
	········	70	71	72			19.00
*******	*****	73	74	75		TOA-0.5 #75 Unconfirmed TOA	18.50
******	*****	76	77	78	*****	TOA lab	18.00
*****	*****	79	80	81			17.00
		82	83	84			16.00
*****		85	86	87			15.00
*******	***************************************	88	89	90			14.00
******	*****	91	92	93		POF lab	13.50
	******	94	95	96			13.00

***************							*****

Code: L Impairment: Gaussian Noise

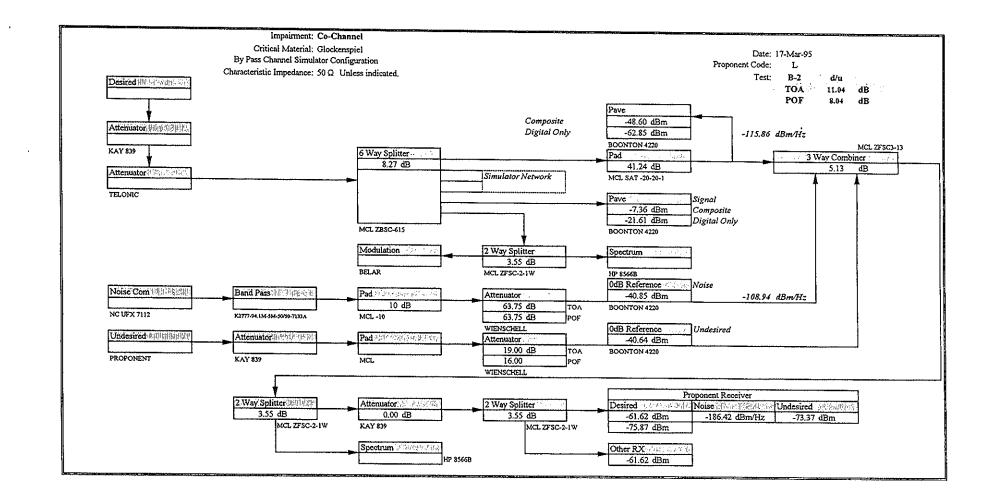
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Test	B-2			7
Proponent		Co-Cha	nnal	
Code:	L	C0-Clia	mici	
	~			
				Units
Glockenspiel		TOA	POF	
	Attenuator	19.00	14.00	dB
	d/u	11.04	6.04	dB
EO&C	TOA POF	Small burst of pops. Warble or chirp 1: Many pops and clicks with high cut an		
~			a some maang.	
Soprano	A 44	TOA	POF	
	Attenuator	18.50	14.00	dB
	d/u	10.54	6.04	dB
EO&C	TOA POF	High Cut and small burst of pops. Many pops and clicks with high cut an	d some muting.	
Clarinet		ΤΟΑ	POF	
······	Attenuator	19.00	14.75	dB
	d/u	11.04	6.79	dB
EO&C	TOA POF	Small burst of pops. Many pops and clicks with high cut an	d some muting.	
Notes:	Recording R Testers: Date:	eference: DAR30246.DAT DML,RMC 17-Mar-95		

File Name: DAR30812.XLS B-2

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EIA Digital Audio Radio DAT Recording Log

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DAT File Number	Time (Start	ode Stop		SI	art I	Ds		Description	
DAR30246.DAT	0:05	[Ī ī	2	3		Ī	Glockenspiel Clear Channel	Atto
17-Mar-95	**********	*****	4	5	3			Toroccellspici Clear Channel	63.75
	*******	*****	7	8	9	••••••	†		20.50
		***************************************	10	11	12		†		20.00
		************	13	14		16	17	TOA lab	19.50
		******	18	19	20				19.00
			21	22	23			• • • • • • • • • • • • • • • • • • •	18.00
		******************************	24	25	26	•••••••	†		17.00
		******	27	28	29		!	***************************************	16.00
			30	31	32			POF lab	15.00
******		20:27	33	34	35				14.00
			1		*****	**** }*****		***************************************	13.50
****	20:30		36	37	38	*****		Soprano Clear Channel	
******	****		39	40	41	*******	·····		63.75 20.00
			42	43	44				
	****	*****	45	46	47				19.50 19.00
*****	*******		48	49	50	51	52	TOA lab	19.00
	****		53	54	55				18.00
****************		*****	56	57	58	••••			17.00
			59	60	**********				16.00
			62	63	64			POF lab	15.00
******		37:48	65	66	67				14.50
	38:05	*****							*************
	58:05		68 71	69 72	70 73			Clarinet Clear Channel	63.75
***************************************	****		74	distances of	******	•••••			20.50
			74	75	76				20.00
·····			80	78	79	02			19.50
***************	****		80 85	81 86	82 87	83	84	TOA lab	19.00
			88 88	80 89	87 90				18.50
******		******	88 91	92	90	••••••			17.50
	******	***************************************	91	92 95		******			16.50
******		*****	94 97	93 98				DOE 1.1	15.50
	***********	57:15						POF lab	14.75
***********	***************************************	51.15	100	101	102	*****			14.25
*****	************	******	******			******			
	******	***********************							
		·····	ل	<u> </u>			L.,		

Code: L Impairment: Co-Channel

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Test	B-3	Urban Slow Rayleigh	
Proponent Code: Material	L		
Glockenspiel			Units
Glockenspiel	Attenuator C/N	TOA POF	dB dB
EO&C	TOA POF	Defects in recovered audio apparent without any added noise. Small bursts of pops and clicks and some High Frequency roll off. Level of impairment between TOA and POF.	
Soprano	··	TOA POF	
	Attenuator C/N		dB dB
EO&C	TOA POF	Defects in recovered audio apparent without any added noise. Small bursts of pops and clicks and some High Frequency roll off. Level of impairment between TOA and POF. Not as preceptible as with glockenspiel.	
Clarinet		TOA POF	
	Attenuator C/N		dB dB
EO&C	TOA POF	Defects in recovered audio apparent without any added noise. Small bursts of pops and clicks and some High Frequency roll off. Level of impairment between TOA and POF. Not as preceptible as with glockenspiel. More perceptible than Soprano.	
Notes:	Record	ing Reference: DAR30301.DAT Impairment: Multipath with Gaussian Noise Testers: DML,RMC Test Date: 13-Apr-95	•

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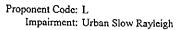
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DAT File Number	Time (Start	ode Stop		Pro	grai	n ID	5	Description	
DAR30301.DAT	0:12	3.05	1	2	2	1	िर	Glockenspiel	Attn
13-Apr-95			<u> </u>		<u> </u>	·····		Olockenspier	63.75
	3:08	5.40	6	7			177		
******		J.49		·····	- <u>-</u>		110	Soprano	63.75
****	5:53	0.26							**********************************
**********	50.0	8:30	111	12	13	14	15	Clarinet	63.75
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Test	B-3	Urban Fast Ra	yleigh	
Proponent		Impairment I		
Code:	L	•		
Material				Units
Glockenspiel		ΤΟΛ	POF	
	Attenuator	38.00	24.00	dB
	C/N	31.17	17.17	dB
EO&C	TOA	Click.		
EU&C	POF	High Cut, pops, clicks and occasional mu	tes.	
Soprano		TOA	POF	
	Attenuator	35.00	24.00	dB
	C/N	28.17	17.17	dB
	TOA	Small burst of pops.		
EO&C	POF	High Frequency Roll off, many pops and c	clicks and some muting.	
Clarinet		TOA	POF	
	Attenuator		24.00	dB
	C/N	31.17	17.17	dB
	TOA	Small warble or burst of pops or clicks.		
EO&C	POF	Many small duration mutes with backgrou	und noise.	
Notes:	Record	l ling Reference: DAR30302.DAT Impairment: Multipath with Gaussian N	Joise	<u>, ,,,,,,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,
		Testers: DML,RMC Test Date: 13-Apr-95		

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DAT File Number	Time C Start	ode Stop		Pro	gram	IDs		Description	Attn
DAR30302.DAT			I	2	3		<u> </u>	Glockenspiel No Added Noise	63.75
13-Apr-95			4	5	6	************	*********		40.00
*****			7	8	9 14	10	11	TOA Unconfirmed	39.00
	*****		12	13		15	16		38.00
******	*******		17	18	19			***************************************	34.00
		******	20	21	22				29.00
			23	24	25			POF lab	. 24.00
	*******		26	27	28	••••	·····	Soprano No Added Noise	63.75
	-1		29	30	31				39.00
******		*****	32	33	34				38.00
	••••••••••••••••••••••••••••••••••••••		35	36	37	* 1********			37.00
	****		38	39	40				36.00
*****	******	******	41	42 45	43	******		TOA lab	35.00
********			44		46			,	32.00
*******			47	48 51	49 52		******		28.00
	*******		53	54	52 55	*******			26.00
********	*******	*****	22					POF lab	24.00
*******	*********	• ••••••••••••••••••••••••••••••••••••	56	57	58			Clarinet No Added Noise	63.75
******			59	60	61			TOA Unconfirmed	39,00
*****	*****	,	62	63	64			TOA lab	38.00
******	********		65	66	67			TOA+4	34.00
*********	******	*****	68	69	70			TOA+9	28.00
*******			71	72	73			POFlab	24.00
*******	***************************************			*******					
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Proponent Code: L Impairment: Urban Fast Rayleigh

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Test Proponent	B-3	Rural Fast Rayleigh Impairment Level	
Code:	L		
Material			Units
Glockenspie	l Attenuator C/N		
EO&C	TOA POF	Defects in recovered audio apparent without any added noise. Small bursts of pops and clicks and some High Frequency roll off. Level of impairment approximately TOA.	
Soprano	Attenuator C/N		
EO&C	TOA POF	On "You" small burst of clicks. Other defects include high cut and various pops.	
Clarinet	Attenuator C/N		
EO&C	TOA POF	1st arpeggio high cut, pops and clicks (warbles)	
Notes;	Record	ling Reference: DAR30303,DAT Impairment: Multipath with Gaussian Noise Testers: DML,RMC Test Date: 14-Apr-95	. I

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Page 12 of 44

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DAT File Number	Time (Start	ode Ston		Pro	(Tan	: ID	\$		
DAR30303.DAT		 	1	<u> </u>	<u></u>			Description	Attn
14-Apr-95	*******		<u> </u>		<u>.</u>	4	2	Glockenspiel No Added Noise	63.75
									[
	******		6	7	8		10	Soprano No Added Noise	63.75
******	******								
********	*****		111	12	13	14	15	Clarinet No Added Noise	63.75
*****		*****]
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Proponent Code: L Impairment: Rural Fast Rayleigh

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Test	B-3	Terrain Obstructed Rayleigh	
Proponent		• •	
Code:	L		
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Material			Units
Glockenspiel	Attenuator C/N		
EO&C	TOA POF	Level of impairment detected between TOA and POF, closer to POF.	
Soprano			
	Attenuator C/N		
EO&C	TOA POF	POF level of impairment.	
Clarinet			
	Attenuator C/N		
EO&C	ΤΟΛ	POF level of impairment.	
	POF		
Notes: '	Record	ling Reference: DAR30304.DAT Impairment: Multipath with Gaussian Noise Testers: DML,RMC Test Date: 14-Apr-95	Anne 1991 A

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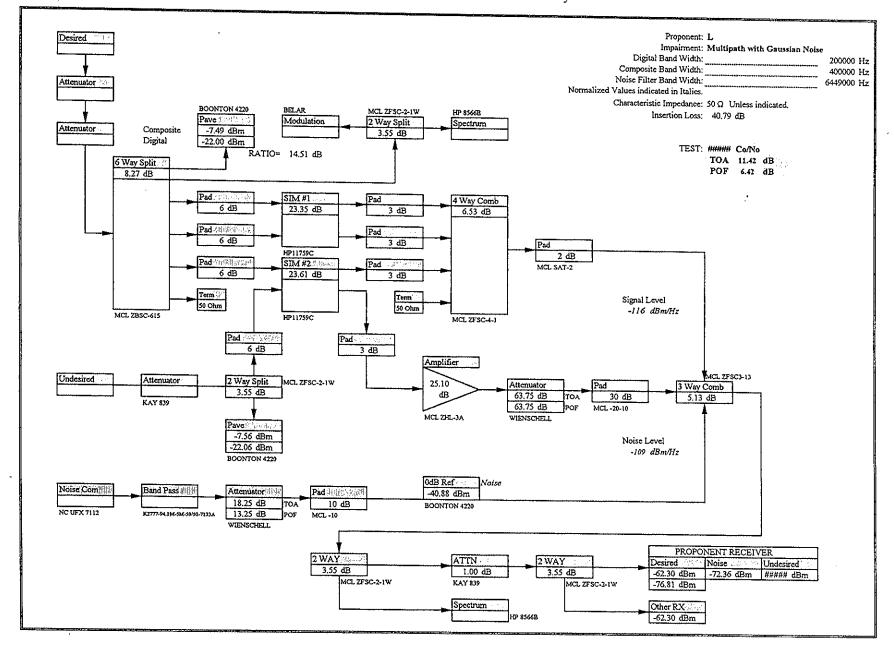
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Number	Time (Start	ode Stop		Pro	grai	n ID	s	Description	
DAR30304.DAT	0:07	3:00		2	3	4	5	Glockenspiel No Added Noise	Attn
14-Apr-95		**************************		†		<u> </u>		TOTOCKETISPICI NO Added Noise	63.75
	3:06	5:45	6	7	8	0	10	Soprano No Added Noise	
	******	****************************	1	T	[1	1		63.75
	5:47	8:30	111	112	13	14	15	Clarinet No Added Noise	****
	***********************		†	<u>† – –</u>	<u> </u>		<u> </u>	Total first two Auded Tyoise	63.75
	*****					•••••	•••••		
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Proponent Code: L Impairment: Terrain Obstructed Rayleigh

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Test C-1	Impulse Response				
USADR FM1 Rev B.			5 Vp-p at atter	nuator input.	
Program Material	Glockenspiel				
Pulse Repetition (Hz)	Attn at TOA dB	(Vp-p)	Attn at POF dB	(Vp-p)	EO&C
100	17.50	0.59	0.00	4.46	TOA, small warble. POF, not attainable.
200	20.50	0.42	15.00	0.79	TOA, small warble. POF, numerous warbles, high cut and mutes.
333	14.00	0.89	0.00	4.46	TOA, small warble. POF not attainable.
666	16.00	0.71	0.00	4.46	TOA, Buzz mute. POF, not attainable.
1000	21.00	0.40	17.50	0.59	
			<i></i>		
			<i>i</i> e		
Test Date: 9-May-9 Testers: DML,RMc					

File Name: DAR30812.XLS C-1

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Test	C-2	CW Respor	ise						
USADR FN	11 Rev B.	· · · · · ·							
Program Ma	terial	Mozart (trac	k 67 SQAM	Disk)					
	Frequency					Frequency	·		
Test Point	MHz	POF	POF+6	POF+12	Test Point	MHz	POF	POF+6	POF+12
1	93.85	0	0	0	27	94.11	0	0	0
2	93.86	0	0	0	28	94.12	0	0	0
3	93.87	0	0	1	29	94.13	0	0	
4	93.88	2	2	2	30	94.14	0	0	
5	93.89	2	2	2	31	94.15	0	0	ō
6	93.90	1	2	2	32	94.16	0	0	0
7	93.91	2	2	2	33	94.17	0	0	0
8	93.92	1	2	2	34	94.18	0	0	0
9	93.93	2	2	2	35	94.19	0	0	0
10	93.94	I	1	2	36	94.20	0	0	0
11	93.95	1	2	2	37	94.21	0	0	- ŏ
12	93.96	1	2	2	38	94.22	<u> </u>	0	0
13	93.97	1	2	2	39	94.23		2	2
14	93,98	0	0	0	40	94.24	2	2	2
15	93.99	0	0	0	41	94.25	1	2	2
16	94.00	0	0	0	42	94.26	1	2	2
17	94.01	0	0	0	43	94.27	2	2	2
18	94.02	0	0	0	44	94.28	1	2	2
19	94.03	0	0	0	45	94.29	2	2	2
20	94.04	0	0	0	46	94.30	2	2	2
21	94.05	0	0	0	47	94,31	2	2	2
22	94.06	0	0	0	48	94.32	2	2	2
23	94.07	0	0	0	49	94.33	0	0	1
24	94.08	0	0	0	50	94.34	0	0	0
25	94.09	0	0	0	51	94.35	0	0	0
26	94.10	0	0	0				· · · · ·	
Track Day	0.34			[[
Test Date:	9-May-95		0=CLEAN A POF at 93.9	AUDIO 6 MHz Attn	=38.50dB	-33.38 IMATE TOA nal buzz mut		2 ≥ POF	

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Test USADR F	C-3 Airplane Flutter M1 Rev B.	
Program N	Material Glockenspiel	
Scenario	Reflected Path	EO&C
#1	400 Km/h Doppler 27.5 μs Delay 8.00 dB	High Frequency roll off with background noise. Level of impairment approacing POF. No clear audio segmants. Recorded for the Record.
#2	200 Km/h Doppler 13.7 µs Delay	DAR30500.DAT PI #s 19, 20, 21, 22 and 23 High Frequency roll off with background noise. Level of impairment equal to POF.
	6.00 dB	No clear audio segmants. Recorded for the Record. DAR30500.DAT PI #s 24, 25,26, 27 and 28
#3	100 Km/h Doppler 6.8 μs Delay	High Frequency roll off with background noise. Level of impairment equal to POF.
	4.00 dB	No clear audio segmants. Recorded for the Record. DAR30500.DAT PI #s 29, 30, 31, 32 and 33
Test Date Testors	:: 14-Apr-95 s: DML, RMc	

Filename: DAR30812.XLS C-3

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Page 19 of 44

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est C-4	Weak Signal Sensitivity
SADR FM1 Rev B.	
ogram Material	Glockenspiel
	TOA (dBm) POF (dBm)
	$-87 \le \text{TOA} < -86$ $-92 < \text{POF} \le -91$
Test Date: 4-May-9	15
esters: DML, RM	lc

File Name: DAR30812.XLS C-4

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Test	C-5	Dela	y Spr	ead /	Dop	pler							<u> </u>	
Code:	L	Bad												
Program N	Aaterial	Moz	art (T	rack	67 oi	n SQ/	۸M d	isk)						
						<u>`</u>								
Delay Spr	ead	1												
(u	s)	₽												
	0-40			2		2		2		2		2		
	0-36	1	2	~	2	~~~~	2		2		2	2	2	
	0-32		~	2		2		2	~	2	-	2	~~	
	0-28	1.	2		2		2		2		2		2	——
	0-24	1		2		2		2		1		2		
	0-20	1	2		2		2		1	<u> </u>	2		2	
	0-16			2		1		1		1	<u> </u>	1		
	0-12		1		1		1		1		1		1	
	0-8			1		1		1		1		1		
	0-4	<u> </u>	1	L.	1	ļ	0		0		0		1	
			1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C							<u> </u>				····		<u></u>	
LUac														
Test Dat	te: 18-Apr-9	5												
	rs: DML, RM			∩ ∞	Uni	npair	ed				30 .			m listening time.
		•						ent			20.2	ee mi		in usteaung unte.
									rmen	•				
				1=	Sma	ill Im Leve	pairm		rmen	t				

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Test	C-5	Delay	Spr	cad /	Dop	oler						·					
Code:	L	Bad U	Jrbai	n 2													
Program M	laterial	Moza	rt (T	rack	67 oi	1 SQ/	AM d	isk)									

Delay Spre	ad																
(us)	₽															
	<u> </u>			_													
	0-80														-		
	0-76		2		2		2		2		2		2		_		
	0-72														_		
	0-68			2		2		2		2		2			_		
	0-64	_			L										_		
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	0-56				 						<u> </u>	L			-		
	0-52			2		2		2		2		2			-		
	0-48	_								ļ	<u> </u>				-		
	0-44	_	2		2	<u> </u>	2		2	<u> </u>	2	ļ	2		~		
						1	1.6	20		-		1.00				-	
1		I	1	3	5	10	172	30	50	175	100	150	225		Doppler	(km/h)	
																<u> </u>	
EO&C						~											
	System lo			recei	ver se	oftwa	re ha	d to t	be rel	oadeo	i onc	e dur	ing				
	this series	s of tests	•														
11.	e: 18-Apr-																
Tester	s: DML, RN	Иc				npair					30 s	ec mi	inimu	m lis	stening tir	ne.	
						վլ լա											
L					POI	Leve	el of l	mpai	rmen	t							

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Delay Spi (ນ	read is)	1												
	0-10	_	<u> </u>	2		1		1		1				
	0-9		1		1		1	· · · ·	1		Ö		1	······································
	0-8		ļ	1		0		1		0		1		
	0-7		1		1	<u> </u>	0		1		1		1	
	0-5	- <u> </u>	1	<u> </u>	1	1	I	0	0	0	0	0		
	0-4	+	<u> </u>	1		0		0	<u> </u>	Ö	U .	0	1	
	0-3		0	<u> </u>	0	<u> </u>	0	۴Ť	0	<u> </u>	0	<u> </u>	1	
	0-2			1		0		Ö		0		0		
	0-1		0		1		1		1		1	_	1	
			1	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
			,	•	•	•	,						1	coppier (kinnit)
EO&C							<u></u>							

File Name: DAR30812.XLS C-5 TU

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Test	C-5	Dela	y Spr	ead /	Dop	oler		<u> </u>						
Code:	L	Hilly				F								
Program M	aterial	Moz			67 o	n SO	AM d	isk)						
Delay Sprea (us)		A	<u></u>			<u> </u>			<u> </u>		<u></u>	<u> </u>		
	0-50		2		2		2		2		2		2	
	0-48			2		2		2		2		2		
	0-44	-	1		2		2		2		2		2	
	0-40			2		1		1		1		1		
	0-36		2		2		1		2		1		1	
	0-32			2		2		1		1		2		
	0-28		1	L	2	L	2		1		2		2	
	0-24			2		2		2		2		_2_		
	0-20		1	L	2		2		2		2		2	
		L	i	3	5	10	15	30	50	75	100	150	225	Doppler (km/h)
EO&C	System loc this series	ked up of tests	and	recei	ver se	oftwa	rc ha	d to t	oc rele	oadec	lonce	duri	ing	
	10.4 0													
	: 18-Apr-9			Δ.										
lesters	: DML, RM	c		1=	Sma	npair 11 Im	pairm				30 s	ec mi	nimun	i listening time.
				2⊸	POF	Leve	l of I	mpai	rmen	t				

File Name: DAR30812.XLS C-5 HT

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Test	C-5	Delay	Spr	cad /	Dop	pler									·····	
Code:	L	Rural			• •	•										
Program M	laterial	Moza	rt (T	rack	67 oi	n SQ/	AM d	isk)								
Delay Spre (us		Å														<u></u>
•	0-1.0		0		0		0		0		0		1			
	0-0.9			0		0		0		0	Ť	0				
	0-0.8															
	0-0.7		0		I		0		0		0		0			
	0-0.6												<u> </u>			
	0-0.5			0		0		0		0	· · ·	0				
	0-0.4															
	0-0.3		0		0		0		Ó		0		0	·		
	0-0.2			0		Ö		0		0	{	0				
	0-0.1		1		0		0		0		0		0			
		L	1	3	5	10	15	30	50	75	100	150	225	Do	ppler (k	m/h)
EO&C	System loci this series c	ced up : of tests.	and	recei	ver so	oftwa	re ha	d to b	e relo	oadec	l once	e duri	ng			an anna an anna anna anna anna anna an
	:: 18-Apr-95 :: DML, RMc			1=	Sma	npair 11 Imp ' Leve	oairm		rmen	t	30 s	ec mi	nimu	m listeni	ng time.	

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Test	C-6	Additional Mu	tipath Doppler	Simulations
USADR FM1 Re				
Program Materia	: Glockenspiel	<u> </u>		
	1			
Scenario		Attn	Co/No Units	EO&C
#1		······································		
Urban Slow	No Added N	oise		Mutes on severe fades. High Frequency roll off and warbleing. Level of impairment between TOA and POF closer to TOA.
#2	TOA			ТОА
Urban Fast		29.00	22.21 dB	Small Static pop on ID # 19
	POF	16.00	9.21 dB	POF Many warbles, High Cut and a mute.
#3	TOA			TOA
Rural Fast		24.00	17.21 dB	Small Static pop on ID # 49
	POF	14.00	7.21 dB	POF Many warbles, High Cut and a mute.
#4 Terrain Obstructed Fast	No Added N	oise		Mutes on severe fades. High Frequency roll off and warbleing. POF level of impairment.
Test	ate: 19-Apr-95 ers: DML, RMe nee: DAR30560.)	DAT		

File Name: DAR30812,XLS C-6

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DAT File Number	Time C Start	ode Stop		St	art	۱D».		Description	
DAR30560.DAT	0:20	3:13	1	2	3	4	5	Urban Slow Doppler No Added Noise	Atta
19-Apr-95		****	·····		····			Torban Slow Doppici No Added Noise	63.75
	3:17	6:11	6	7	8	9	10	Urban Fast Doppler No Added Noise	
	***********************	********		12			· · ·	orodit vast Doppici No Added Noise	63.75
		•••••	14	115	16				31.00
	**********	*******	17	18	30			TOA	30.00
	**********	*******	20	18 21 24 27	22		*****		29.00
	***************************************	******	23	24	25				25.00
	*******	******	26	27	28	*******	*******	POF	21.00
	********	**************							17.00
	********	*****	33	34	35	36	37	Rural Fast Doppler No Added Noise	
	****	******************************	38	39	40			Incurat a ast Louppler INO Added Noise	63.75
******		*******	41	42	47	44	4	TOA martine d	26.00
********	****	*************************	46	47	48	10	50	TOA unconfirmed TOA confirmed	25.00
***************************************		*****************************	51	52	40	8250.			24.00
**********	*****	********	54	52 55	55				21.00
**************	***********************	**********	57	58	50			POF	18.00
***************************************	*******	**********							14.00
******************		37.25	60	61	67	62	£ 4	Obstructed Path Doppler No Added Noise	
********			····			.03		Obstructed Path Doppler No Added Noise	63.75
***************		*****	***14***		•••••				
*********	*****	••••						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
*********	*********	**************	*******	••••••			••••		
********			******		********				
***************************************	*****		* 349.449.49		*******				
*******	*****		****		*******	*******			
**************	*****	*******			****				
********	******	***************************************		.,					
	******	******			•••••				
******	*****						******		
********		******			•••••				
******	*****			·····					

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Propnent Code: L

Additional Multi Path

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Test	D-Series	Co-Channel	1st and 2nd	Adjacent		
USADR FM1 Re	ev B.			•		
Program Material	: Glockenspie	l				
						······································
	Level	Attn	D/U	Units	EO&C	
D-1	TOA				0000	
Co-Channel		13.75	10.78	dB	Small warble.	
	POF					······································
		10.25	7.28	dB	Many pops, cli	cks and some muting.
					pops, on	end und some muting.
D-2	TOA	30.25	27.28	dB	Small chirp.	
Lower						
1st Adjacent	POF	25.75	22.78	dB	Many pops, clie	cks and some muting.
	TOA	29.75	26.78	dB	High Cut and v	varble.
Upper						
1st Adjacent	POF	25.75	22.78	dB	Many pops, clie	cks and some muting.
D-3	TOA	26.75	3.78	dB	Small warble of	
Lower						1
2nd Adjacent	POF	18.25	-4.72	dB	Many pops and	I clicks high cut and slight mute.
	TOA	28.25	5.28	dB	Small chirp.	
Upper						
2nd Adjacent	POF	21.50	-1.47	dB	Pops, clicks, hi	gh cut and mute.
Additi	onal Comments:	Tests conduc	ted through t	he multipat	h simulators wit	h one path on the
		desired and c	ne path on th	e undesired	l channels.	
	DAT Reference:	DAR30411.I	DAT			
	ate: 2-May-95		I	Desired		Undesired
Test	ers: DML, RMc		Signal	-7.40	dBm	-7.54
			IL	40.79	dB	37.68 dB
			3WIN	-48.19	dBm	-45.22 dBm

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DAT File Number	Time C Start	.ode Stop		St	art	Ds		-	
DAR30411.DAT			<u> </u>			<u></u>	<u></u>	Description	Attn
2-May-95	0:05	2:58	1	2	3	4	5	Co-Channel, #	
			6	7	8	9	10	Various defects in 7 and 10 unconfirmed.	14.25 14.00
****		8:11	11	12	13	14		Confirmed TOA	14.00
*****									13.75
*******	8:20		15	16	17	18	19	Lower 2nd Adjacent, #19 very end slight warble.	26.75
******	*****	14:05	.20	21	22	23	24	#23 2nd arpeggio at the end.	*******
*****	14:10	17:04	26	~	~~				
***********	1 4,10		[1			Lower 1st Adjacent, TOA #28 very end	30.25
*****	17:08	20:01	30	31	32	33	31	Upper 2nd Adjacent #33 TOA	
****		******		<u></u> ,					28.25
	20:04	22:57	35	36	37	38	39	Upper 1st Adjacent TOA #39 warble	29,75
		******						₩ 7 # 1 # 1 # 1 # 1 # 1 # 1 # 1 # 1 # 1 #	27,15

		******							******
*****		**********							
	*****			******					
*****	*****	*******	•••••		*******	•••••			
***********	****	******		••••					
	*****	*******					*****		
		******	******	*******			*******	*****	

		******	,						
*******		**********							******************

	****	••••••••							
***************************************			•••••						
***************************************		********	******	******					
		*******	h						
******				[````					
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Proponent Code: L

D-Series Recordings Co,1st and 2nd Adjacent

File Name: DAR30812.XLS D DAT

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Test	E-1	Co-Channel w	ith Multip	ath (Raylei	% h)	
USADR FM1 Rev	B.		•	(
Program Material:	Glockenspie	:1				
Scenario						
	Level	Attn	D/U	Units	EO&C	
¥1						
Urban					Scenario with No Co-Channel	
Slow					creates defects in the recovered au	idio
					Defects consist of high cut and wa	
					The level of impairment is betwee	
					TOA and POF closer to TOA,	••
#2						
Urban	TOA	37.00	34.03	dB	Small drop out.	
Fast						
	POF	24.00	21.03	dB	Excessive muting.	
#3						
Rural			1		Scenario with No Co-Channel	
Fast					creates defects in the recovered at	
					Defects consist of broken glass, h	ich cut and
					pops. The level of impairment is t	etween
	_				TOA and POF closer to TOA.	
#4						
Terrain					Scenario with No Co-Channel	
Obstructed					creates defects in the recovered at	
			1		Defects consist of mutes, pops an	d
					high cut. The level of impairment	is between
					TOA and POF closer to POF.	
Test Date	e: 2-May-95			Desired	Undes	ired
Tester	s: DML, RMc		Signal	-7.40	dBm -7	.54 dBm
			tion Loss	40.79	dB 37	7.68 dB
		Level at 3 way	combiner	-48.19	dBm -4	5.22 dBm

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Test	E-2	Lower 1st A	diacent with	1 Multinath	(Rayleigh)	
USADR FM1 Rev	B.				(ICH JICIGIT)	
Program Material:	Glockenspie	1				
Scenario						
	Level	Attn	D/U	Units	EO&C	
#1 Urban Slow					Scenario with no 1st A creates defects in the ro Defects consist of high The level of impairmen TOA and POF closer to	covered audio. cut and warbles. t is between
#2 Urban Fast	TOA	55.00	52.02	dB	Burst of pops.	JIOA.
	POF	40.00	37.02	dB	High Cut, pops, clicks	and buzz mute.
#3 Rural Fast #4					Scenario with no 1st A creates defects in the re Defects consist of brok pops. The level of impa TOA and POF closer to	covered audio. en glass, hich cut and irment is between
Terrain Obstructed					Scenario with no 1st A creates defects in the re Defects consist of mute high cut. The level of ir TOA and POF closer to	ecovered audio. es, pops and npairment is between
Test Date	:: 4-May-95			Desired		Undesired
Tester	s: DML, RMc		Signal ertion Loss y combiner	-7.46 40.79 -48.25	dB	-7.59 dBm 37.68 dB -45.27 dBm

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Test	E-3 Lower 2nd Adjacent with Multipath (Rayleigh)								
USADR FM1 Rev	В.			•					
Program Material:	Glockenspie	1							
	1								
Scenario					-				
	Level	Attn	D/U	Units	EO&C				
#1					· · · · · · · · · · · · · · · · · · ·				
Urban					Scenario with no 2nd Adjacent				
Slow		· .			creates defects in the recovered audio.				
					Defects consist of high cut and warbles.				
					The level of impairment is between				
110					TOA and POF closer to TOA.				
#2 Urban	TOA	62.00	00.00	17	01 1				
Urban Fast	TOA	53.00	29.99	dB	Shattering.				
rast		h		· · · · · · · · · · · · · · · · · · ·					
	POF	35.00	11.99	dB	Prove all the black of the st				
	FOr	55.00	11.99	db	Pops, clicks, high cut and muting.				
#3		····							
Rural					Scenario with no 2nd Adjacent				
Fast					creates defects in the recovered audio.				
		1	1		Defects consist of broken glass, hich cut and				
					pops. The level of impairment is between				
					TOA and POF closer to TOA.				
#4		1							
Terrain					Scenario with no 2nd Adjacent				
Obstructed					creates defects in the recovered audio.				
					Defects consist of mutes, pops and				
		1 1			high cut. The level of impairment is between				
					TOA and POF closer to POF.				
Test Dat	e: 3-May-95		•	Desired					
Tester	s: DML, RMc		Signal		dBm -7.54 dBm				
	•		rtion Loss	40.79	dB 37.68 dB				
		Level at 3 way	combiner	-48.23	dBm -45.22 dBm				

File Name: DAR30812.XLS E-3 R

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Test USADR FI		E-1	Co-Channel	with Multip	ath (Doppl	er)	
Program M	aterial:	Glockenspie	1				<u> </u>
Scenario							
#1		Level	Attn	D/U	Units	EO&C	
#1 Urban Slow #2						Defects consist of	the recovered audio. 'high cut, warbles and of impairment is between
#2 Urban Fast		TOA	26.00	23.03	dB	High cut, broken j	glass and warbleing.
10		POF	17.00	14.03	dB	Excessive high cu background noise.	t, muting and some
#3 Rural Fast		TOA	23.00	20.03	dB		glass and warbleing.
#4		POF	18.00	15.03	dB	Excessive high cur background noise	
Terrain Obstructed			-				the recovered audio. high cut and warbles.
נ	est Date:	2-May-95			Desired		Undesired
	Testers:	DML, RMc		Signal		dBm	-7.54 dBm
			Ins Level at 3 wa	ertion Loss y combiner	40.79 -48.19		37.68 dB -45.22 dBm

File Name: DAR30812.XLS E-1 D

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Test		E-2 Lower 1st Adjacent with Multipath (Doppler)							
USADR I Program M	MI Rev B. Material: Gl	ockenspie	1						
Scenario					<u> </u>		<u></u>		
		Level	Attn	D/U	Units	EO&C			
#1 Urban Slow						Scenario with no 1 st creates defects in the Defects consist of hig mutes. The level of in TOA and POF closer	recovered audio. h cut, warbles and npairment is between		
#2 Urban Fast		TOA	46.00	43.02	dB	Static Pop and warble	c.		
		POF	31.00	28.02	dB	Warbles, shatters, po high cuts and mutes.			
#3 Rural Fast		TOA	39.00	36.02	dB	Static Pop and warbl	¢.		
#4		POF	30.00	27.02	dB	Warbles, shatters, po high cuts and mutes.	ps, clicks,		
#4 Terrain Obstructe						Scenario with no 1st creates defects in the Defects consist of hig The level of impairme TOA and POF.	recovered audio.		
		4-May-95			Desired	······	Undesired		
	Testers: D	ML, RMc	Inse Level at 3 way	Signal rtion Loss combiner	-7.46 40.79 -48.25	dB	-7.59 dBm 37.68 dB -45.27 dBm		

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Test	E-3	2nd Adjacer	nt with Mult	ipath (Dopj	pler)	
USADR FM1 Re						
Program Material	: Glockenspie	1				
Scenario						
occuarity	Level	Atta				
#1		Aun	D/U	Units	EO&C	
Urban					Sconario with Ma	
Slow					Scenario with No 2	he recovered audio.
					Defects consist of	high cut, warbles and
					mutes. The level of	f impairment is between
					TOA and POF clos	ser to TOA.
#2 Urban						
Urban Fast	TOA	39.00	15.99	dB	Static Pop and war	rble.
rasi						
	POF	24.00	0.00			
		24.00	0.99	dB	Warbles, shatters,	
#3					high cuts and buzz	mutes.
Rural	TOA	36.00	12.99	ďB	Static Pop and war	ble
Fast					outo r op and wat	ole.
					·····	·····
	POF	24.00	0.99	dB	Warbles, shatters,	pops, clicks,
#4					high cuts and mute	\$\$.
#4 Terrain						
Obstructed					Scenario with No 2	2nd Adjacent
obstruction						he recovered audio.
					Detects consist of	high cut and warbles.
					The level of impair	ment is between
Test Da	ite: 3-May-95	<u>La constanta da la</u>		Desired	TOA and POF.	
	rs: DML, RMc		Signal	-7.44	dBm	Undesired
		Ins	sertion Loss	40.79		-7.54 dBm 37.68 dB
		Level at 3 wa		-48.23		-45.22 dBm
						-+J.22 UDM

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Test J-1 USADR FM1 Rev B.	Rc-Acguisition			
Program Material	Mozart (Track 67 c	on SQAM disk)		
Toff (s)	POF-2dB	Rc-Acquisition Time (s POF-4dB) POF-62dB	
30	7	9	10	
	5	6	3	
	14	2	3	
	11	10	7	
	10	9	5	
Average	9.4	7.2	5.6	
POF Atten Desired Sig Noise 0 dB	uator Setting : gnal Level : Reference :	13.00 dB -48.27 dBm -40.87 dBm	**************************************	
CO&C Re-Acquisi	tion time is the value	listed ± 0.5 seconds.		
Test Date: 8-May-9: Testers: DML, RM		1		<u></u>

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File Name: DAR30812.XLS J-1

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Test	J-2 I	Re-Acguisition with M	lultipath				
	FM1 Rev B. Urban Slow Rayleigh						
Program N	Material N	Mozart (Track 67 on St	QAM disk)				
		· · · · · · · · · · · · · · · · · · ·					
·	Tsim (s)	POF-2	-Acquisition Time POF-4	(s) POF-6			
	5	10	66	6			
	10 6 10 5						
	15 6 8						
	20 8 6 38						
	25 11 * 10 10						
	<u>Average 8.0 7.6</u> 13.4						
	POF Attenuator Setting : 28.00 dB						
	Desired Signal Level : -48.25 dBm						
	Noise 0 dB Reference : -40.87 dBm						
EO&C	The recovered audio exhibits high cut and warbleing while running the simulation by itself.						
	Approximately a TOA level of impairment.						
	Re-Acquisition time is the value listed ± 1 second.						
Test Date: 5-May-95							
Testers	s: DML, RMc	* Indicates	receiver software	was reloaded after			
		a one mi	nute period with si	ignal and with out recove	red audio.		

File Name: DAR30812.XLS J-2 USR

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Test J-2	Re-Acguisition w	vith Multipath			
USADR FM1 Rev B	FM1 Rev B. Urban Fast Rayleigh				
Program Material	Mozart (Track 6	7 on SQAM disk)		_	
		D			
Tsim (s	s) POF-2	Re-Acquisition Time			
13111 (3	s) r0r-2	POF-4	POF-6		
5	6	6	7		
10	9	11	9		
15	8	<u>,</u>	_		
1.7		8	7		
20	5	11	5		
			— <u> </u>		
25	11	11	11		
Average	7,8	9.4	7.8		
	enuator Setting :	22.00 dB			
Desired 2	Signal Level :	-48.25 dBm			
Noise 0 d	dB Reference :	-40.87 dBm	•		
EO&C					
Re-Acou	isition time is the val	ue listed ± 1 second.			
		at fished ± 1 second,			
Test Date: 5-May	-95				
Testers: DML, R					

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	Mozart (Frack 67 on SQAM		and the second second second second second second second second second second second second second second second	
Tsi	m (s)	Re-Acqu POF-2	isition Time (s) POF-4	POF-6	
	5	11	5	7	
	10	6	15	12	
	15	31	8	7	
:	20	11	6	7	
:	25	9		10	
Aver		13.6	9.0	8.6	
Desir	Attenuator Settin red Signal Level e 0 dB Reference	: -48.25 d	Bm		
with	the simulation ru	pproximately at a TC nning with no addee the value listed ± 1	l noise.	ent	<u></u>

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Test		sition with Multipath	
		bstructed Rayleigh	
Program I	Material Mozart (Tr	Track 67 on SQAM disk)	
	Tsim (s)	Re-Acquisition Time (s)	
	r sim (s)	POF	
	5	8	
	10	10	
	15	5	
	20	4	
	25	4	
	Average	6.2	
	POF Attenuator Setting	ig : <u>63.75 dB</u>	
	Desired Signal Level	: -48.25 dBm	
	Noise 0 dB Reference	: _40.87 dBm	
EO&C	The recovered audio ex	xhibits high cut and warbleing while running the simulation by itself.	
	Static and mutes (buzz	zing) also occur. Approximately a POF level of impairment.	
	Re-Acquisition time is	the value listed ± 1 second.	
Test Dat			
	*		
rester	rs: DML, RMc		

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Fest USADR FM Program Mat	1 Rev B. Ur	-Acguisition with M ban Slow Doppler ozart (Track 67 on S			
		<u> </u>	2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		
	Tsim (s)	POF-2	-Acquisition Time (POF-4	(s) POF-6	
	5	4	4	34	
	10	11	4	10	
	15	9	5	10	
	20	5	5	17	
	25	9	7	11	
	Average	7.6	5.0	16.4	
1	POF Attenuato Desired Signal Noise 0 dB Ref	Level : -4	.00 dB 8.25 dBm 0.87 dBm		
EO&C I	Recovered audi between TOA a	io exhibits defects wh and POF, closer to T(iich are consistent w DA.	vith a level of impairment	
Test Date:		time is the value liste	ed ± 1 second.		
	5-May-95 DML, RMc				

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est J-2	Rc-Acguisition with			
SADR FM1 Rev B				
rogram Material	Mozart (Track 67 o	m SQAM disk)		
		B 1 1 4 1 - 1		
	\	Re-Acquisition Time		
Tsim (s	s) POF-2	POF-4	POF-6	
5	8	5	11	
			<u> </u>	
10	11	6	14	
15	5	10	4	
	<u>_</u>			
20	8	7	37	
25	10		16	
Average	8.4	7.2	16.4	
	nuator Setting :	16.00 dBm		
	Signal Level :	-48.25 dBm		
Noise 0 d	IB Reference :	-40.87 dBm		
:0&C				
Re-Acqu	isition time is the value	listed ± 1 second.		
Test Date: 5-May				
Testers: DML, R				
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USADR FM1 Rev B. Rural Fast Doppler Program Material Mozart (Track 67 on SQAM disk) Re-Acquisition Time (s) Tsim (s) POF-2 POF-4 POF-6 5 7 9 11 10 7 6 5 15 5 8 33 20 9 * 6 10 25 7 10 8 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : 48.25 dBm Noise 0 dB Reference : 40.87 dBm EO&C Re-Acquisition time is the value listed ± 1 second.	est J-2	Re-Acguisition with M	ultipath				
Re-Acquisition Time (s) Tsin (s) POF-2 POF-4 POF-6 5 7 9 11 10 7 6 5 15 5 8 33 20 9 * 6 10 25 7 10 8 33 20 9 * 6 10 25 7 10 8 33 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB 13.4 POF Attenuator Setting : 40.87 dBm 33 30& : -40.87 dBm 33		Rural Fast Doppler					
Tsim (s) POF-2 POF-4 POF-6 5 7 9 11 10 7 6 5 15 5 8 33 20 9 6 10 25 7 10 8 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	rogram Material	Mozart (Track 67 on S	QAM disk)				
Tsim (s) POF-2 POF-4 POF-6 5 7 9 11 10 7 6 5 15 5 8 33 20 9 * 6 10 25 7 10 8 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm		р	- A		· · · · · · · · · · · · · · · · · · ·		
$ \begin{array}{ccccccccccccccccccccccccccccccccc$	Tsim (s)	POE 2					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1500 (5)	101-2	POF-4	POF-6			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5	7	0				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		<u> </u>					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	10	7	6	5			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		·····					
25 7 10 8 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	15	5	8	33			
25 7 10 8 Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm							
Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	20	9*	6	10			
Average 7.0 7.8 13.4 POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	25	~	••	_			
POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	2.2	/	10	8			
POF Attenuator Setting : 14.00 dB Desired Signal Level : -48.25 dBm Noise 0 dB Reference : -40.87 dBm	Average 7.0 7.8 13.4						
Noise 0 dB Reference : <u>-40.87 dBm</u> O&C	POF Attenuator Setting : 14.00 dB						
0&C	Desired Signal Level : -48.25 dBm						
Re-Acquisition time is the value listed ± 1 second.	0&C						
Re-Acquisition time is the value listed ± 1 second.							
Re-Acquisition time is the value listed ± 1 second.	D 4 4 4						
			$ed \pm 1$ second.				
Test Date: 5-May-95	•						
Testers: DML, RMc * Indicates receiver software was reloaded after	Testers: DML, RMc						
a one minute period with signal and with out recovered audio.		a one minute	period with signal	and with out recovered audio.			

File Name: DAR30812.XLS J-2 RFD

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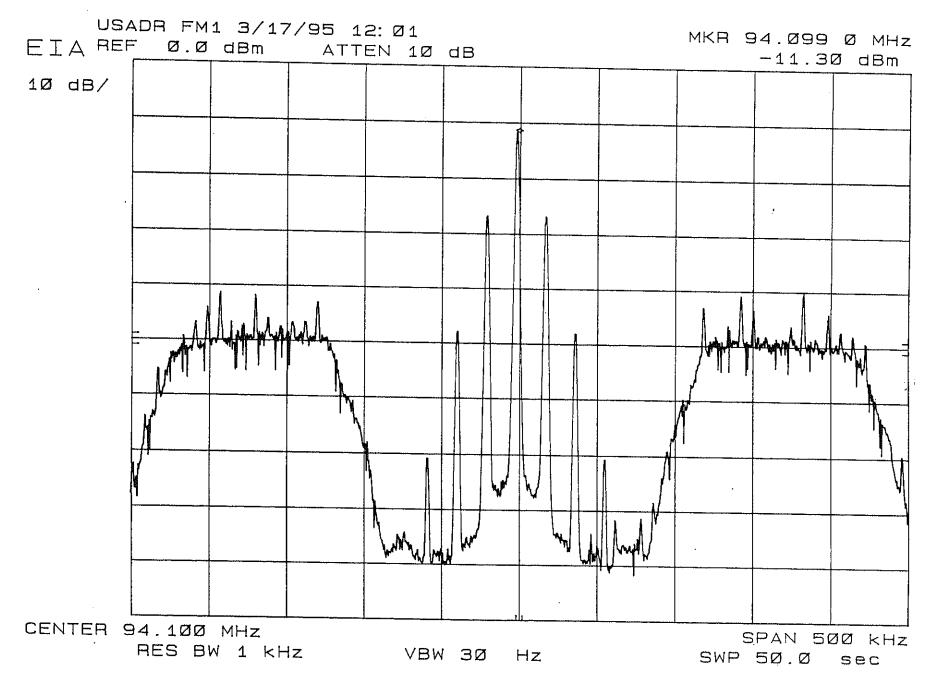
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Test	J-2 Rc-Acguisiti			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	M1 Rev B. Terrain Obs			
Program M	aterial Mozart (Tra	ck 67	on SQAM disk)	
	Tsim (s)		Re-Acquisition Time (s POF)
	5		5	
	10		5	
	15		2	
	20		4	
	25		3	
	Average		3.8	_
	POF Attenuator Setting	:	63.75 dB	
	Desired Signal Level Noise 0 dB Reference	:	-48.25 dBm -40.87 dBm	
EO&C	The recovered audio exhi Static and mutes also occ	bits hi ar, Ap	igh cut and warbleing whi oproximately a POF level of	le running the simulation by itself. of impairment.
	Re-Acquisition time is th	e valu	e listed ± 1 second.	
Test Date				
Testers	: DML, RMc			

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USADR FM1 CO-CHANNEL 3/17/95 11:52 MKR 94.099 5 MHz EIA REF -30.0 dBm ATTEN 10 dB -4Ø.8Ø dBm 1Ø dB/ .* they SPAN 500 kHz CENTER 94.100 MHz

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RES BW 1 KHZ VBW 30 HZ

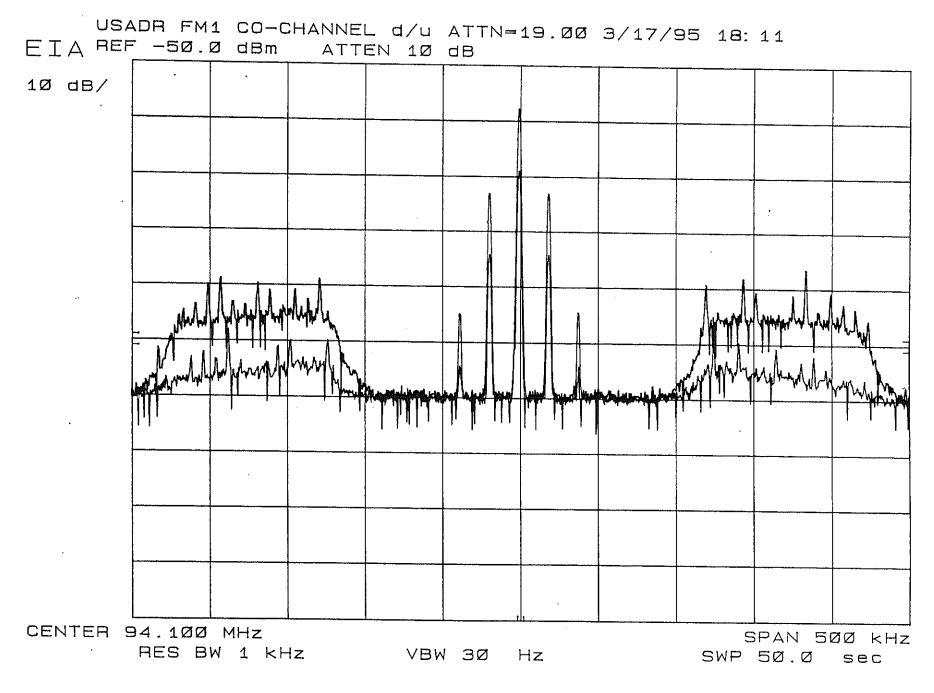
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USADR FM1 GAUSSIAN NOISE Co/No AT ATTN=18.00 3/17/95 18:25 EIA REF -50.0 dBm ATTEN 10 dB 1Ø dB/ Mhonin Travelar in the fight way we water and marked and the second CENTER 94.100 MHz SPAN 500 KHz RES BW 1 KHZ VBW 3Ø HZ SWP 50.0 sec

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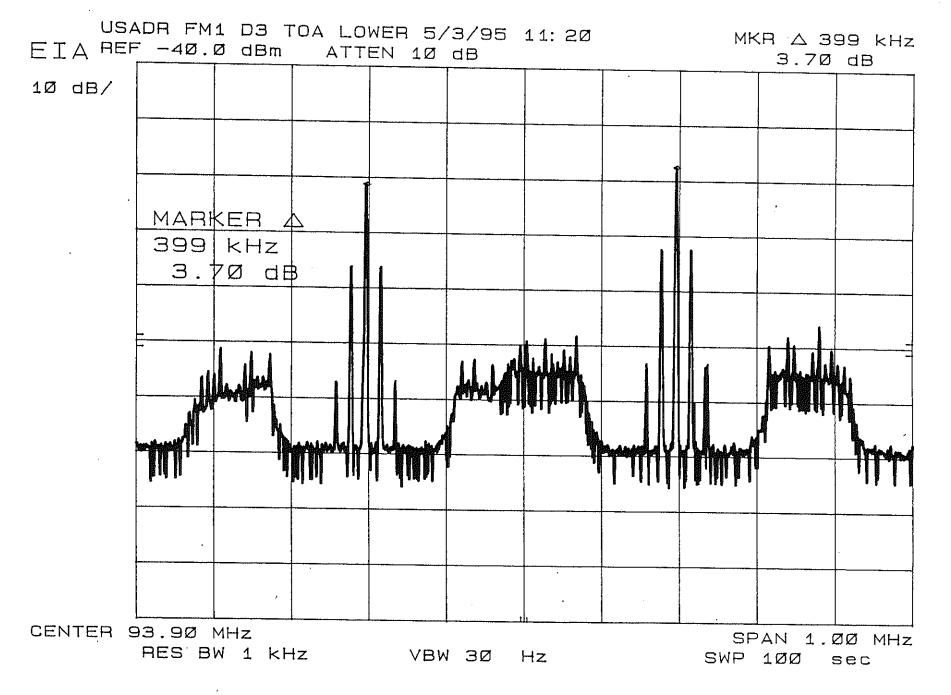
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USADR FM1 D3 (upper) TOA 5/4/95 15:09 MKR A-400 kHz EIA REF -50.0 dBm ATTEN 10 dB 4.30 dB 1Ø dB/ . MARKER A -4ØØ KHz 4. ЗØ dB CENTER 94.30 MHz SPAN 1.00 MHz RES BW 1 KHz VBW 3Ø Hz SWP 1ØØ sec

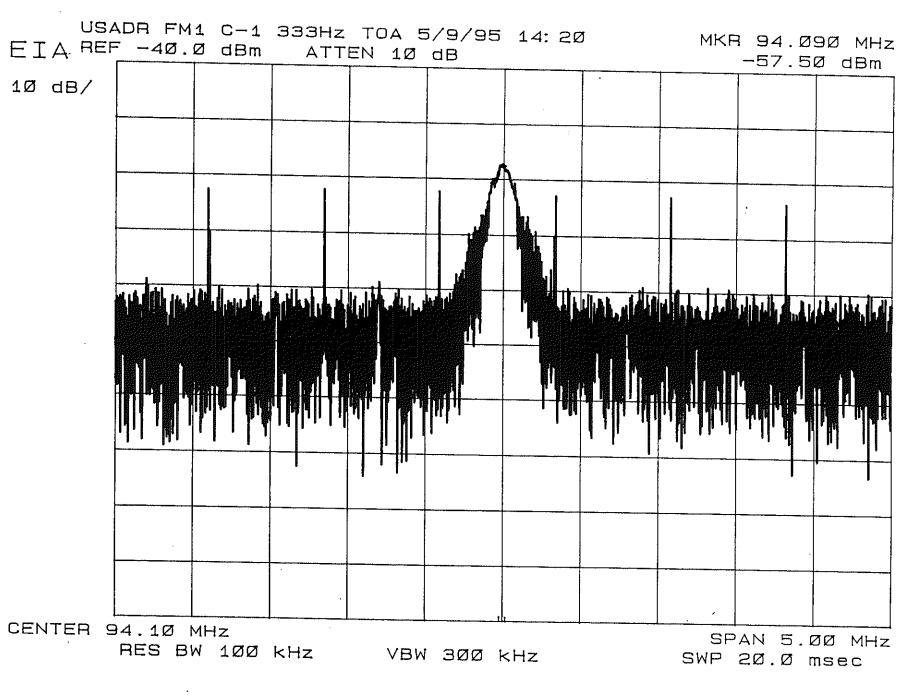
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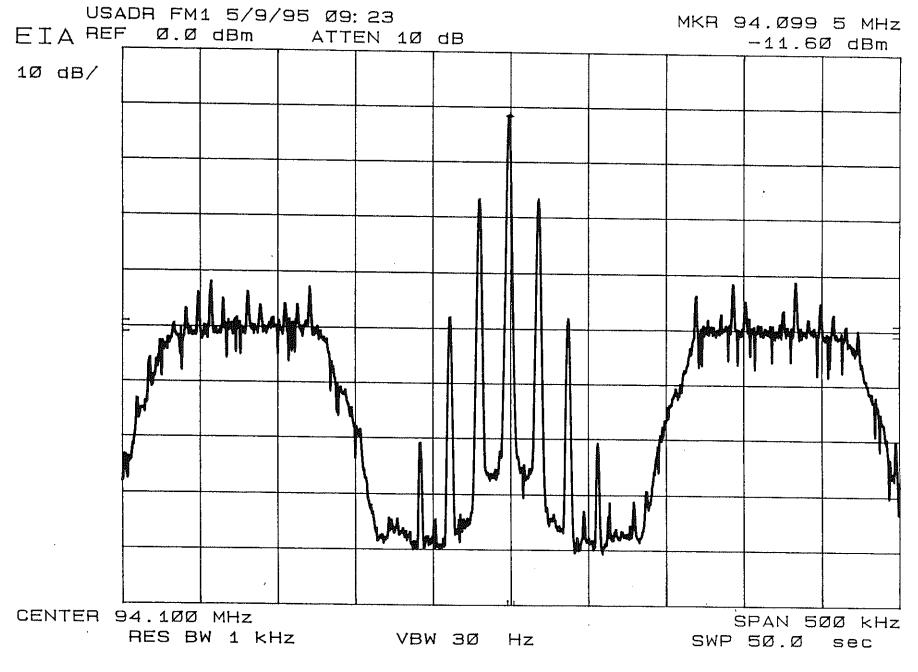
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NRSC Document Improvement Proposal

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