NRSC-R30
FM Subcommittee Task Force
Report on FM Receiver Interference Rejection Capability
July 24, 1981

Part II – Test Data
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NRSC-R30

FOREWORD

NRSC-R30, FM Subcommittee Task Force Report on FM Receiver Interference Rejection Capability, describes FM receiver tests conducted by the NRSC and submitted to the Federal Communications Commission (FCC) into Docket 80-90, in the matter of Modification of FM Broadcast Station Rules to Increase the Availability of Commercial FM Broadcast Assignments.

The RF protection ratios for seventeen (17) FM broadcast receivers were measured and documented in this report along with receiver sensitivity in mono and stereo modes of operation. The NRSC chairman at the time of original adoption of NRSC-R-30 was James D. Kearney.

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 over-the-air radio broadcasting systems in the United States.
CONSUMER
F-M RECEIVER
TEST DATA

NATIONAL RADIO SYSTEMS COMMITTEE

BY

F. David Harris
April 4, 1981

UNIVERSITY OF HARTFORD
HARTFORD, CONNECTICUT
FORWARD

The data in this file were taken at the University of Hartford as an activity of the National Radio Systems Committee. Participants in assembling the test equipment and in testing were:

F. David Harris, Test Leader
J. Gros Jean
H. L. Lester

All tests were conducted using noise modulation techniques of CCIR 315-4, draft February 1980. This included specified "pink noise" filters and "Radio II" Psophometer. An exception are a few tone tests, specifically noted, using IEEE method.

F.D.H.
April 4, 1981
MONOPHONIC F-M SENSITIVITY: Composite of all Receivers Tested

R-F Input to 300 ohm Antenna Terminals (Microvolts)

NRSC F-M Rec Tests
F.D. Harris 4/3/81
STEREO F-M SENSITIVITY: Composite of all Receivers Tested

R-F Input to 300 ohm Antenna Terminals (Microvolts)

NRSC F-M Rec Tests
F.D. Harris 4/3/81
COMPOSITE - All Radios
R-F Signal Protection
required for audio
S/N = 30 dB

Desired signal is Stereo
Undesired signal is Stereo
Desired signal level = 65 dBf
COMPOSITE - All Radios
R-F Signal Protection required for audio
S/N = 50 dB

Desired signal is Stereo
Undesired signal is Stereo
Desired signal level = 65 dBf

Noise Modulation per CCIR 315-4 Feb '80
NRSC F-M Receiver Tests
April 3, 1981 F.D. Harris
<table>
<thead>
<tr>
<th><strong>RECEIVER</strong></th>
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<tr>
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<td><strong>RETAIL $</strong></td>
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SENSITIVITY
Mode: MONOPHONIC

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)

RCVR: A
TYPE: Component
RETAIL: $430
SENSITIVITY
Mode: STEREO PHONIC

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)

RCVR: A
TYPE: Component
RETAIL: $430
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO - TONES (IEEE)

Kilocycles from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO - Tone (1000)

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

deemed by

of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO

Undesired Carrier: MONO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: A
TYPE: CONSTANT
RETAIL: 430

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf Mono
Undesired Carrier: Stereo

KILOHERTZ from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 35 dB
Undesired Carrier: Stereo
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: A
TYPE: Compliant
RETAIL: $430

Desired Carrier: 35 dB
Undesired Carrier: Mono

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: A
TYPE: component
RETAIL: # 430

Desired Carrier: 65 dBf stereo
Undesired Carrier: stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 35 dBf Stereo
Undesired Carrier: Stereo

KILLOHERTZ from DESIRED
RECEIVER  "B"
TYPE      Portable
RETAIL    $82
SENSITIVITY
Mode: MONOPHONIC

RF Input Level (microvolts in 300 ohms)

RGVR: B
TYPE: PORTABLE
RETAIL: $82
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

RCVR: B
TYPE: PORTABLE
RETAIL: $82.00

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO, 1000 Hz Tones

RF PROTECTION RATIO (dB)

KILOHERTZ from DESIRED
RCVR: B
TYPE: PORTABLE
RETAIL: $82.00

RF PROTECTION RATIOS to yield

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO, 1000 Hz TONE

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO

Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: STEREO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: **35 dBf** MONO

Undesired Carrier: **STEREO**
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: B
TYPE: PORTABLE
RETAIL: $82.00

Desired Carrier: 35 dBf STEREO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
Desired Carrier: 65 dBf STEREO

AUDI0 PROTECTION RATIOS
of 30 dB and 50 dB
Undesired Carrier: STEREO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: C
TYPE: AUTO
RETAIL: $320.00

Desired Carrier: 65 dBf
Undesired Carrier: MONO

Kilohertz from Desired
RF PROTECTION RATIOS to yield

Desired Carrier: 35 dBf MONO

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Undesired Carrier: MONO

KiloHertz from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: STEREO

<table>
<thead>
<tr>
<th>KILOHERTZ from DESIRED</th>
<th>RF PROTECTION RATIO (dB)</th>
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<tbody>
<tr>
<td>0</td>
<td>-60</td>
</tr>
<tr>
<td>+100</td>
<td>-40</td>
</tr>
<tr>
<td>+200</td>
<td>-20</td>
</tr>
<tr>
<td>+300</td>
<td>0</td>
</tr>
<tr>
<td>+400</td>
<td>20</td>
</tr>
<tr>
<td>+500</td>
<td>40</td>
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<tr>
<td>+600</td>
<td>60</td>
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</table>

RGVR: C
TYPE: Auto
RETAIL: $320.00
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO
Undesired Carrier: MONO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield
AUDI0 PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: MONO

KILOHERTZ from DESIRED
<table>
<thead>
<tr>
<th>RECEIVER</th>
<th>&quot;D&quot;</th>
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<tr>
<td>TYPE</td>
<td>Table</td>
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<tr>
<td>RETAIL</td>
<td>$109</td>
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</table>
RF PROTECTION RATIOS

AUDIO PROTECTION RATIOS

to yield

of 30 dB and 50 dB

Desired Carrier: 65 dB Monophone

Undesired Carrier: Mono, 1000Hz Tone

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO

Undesired Carrier: STEREO

RCVR: D
TYPE: TABLE
RETAIL: #109

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STERE
Undesired Carrier: MONO

RCVR: D
TYPE: TABLE
RETAIL: 8109

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf stereo
Undesired Carrier: stereo

RCVR: D
TYPE: TASC
RETAIL: 109

KILOHertz from DESIRED
<table>
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SENSITIVITY
Mode: MONOPHONIC

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)

RGGYR: E
TYPE: Compact
RETAIL: $430
SENSITIVITY
Mode: STEREO PHONIC

Audio Output Level (dB)

RF Input Level (microvolts in 300 ohms)

RCVR: E
TYPE: Compact
RETAIL: $430
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO, 500 Hz Tones

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield
Desired Carrier: 35 dBf MONO

AUDIO PROTECTION RATIOS of 30 dB and 50 dB
Undesired Carrier: MONO, 500 Hz Tone

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: E
TYPE: COMPACT
RETAIL: $430

Desired Carrier: 65 dBf MONO
Undesired Carrier: STEREO 5000 Hz

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDI0 PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO

Undesired Carrier: STEREO 500 Hz

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

<table>
<thead>
<tr>
<th>RF PROTECTION RATIO (dB)</th>
<th>KILOHertz from DESIRED</th>
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<tbody>
<tr>
<td>0</td>
<td>+100</td>
</tr>
<tr>
<td>-20</td>
<td>+200</td>
</tr>
<tr>
<td>-40</td>
<td>+300</td>
</tr>
<tr>
<td>-60</td>
<td>+400</td>
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</table>

Desired Carrier: 65 dBf STEREO
Undesired Carrier: MONO 500 Hz

RCVR: E
TYPE: COMPACT
RETAIL: $430

Tone
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO

Undesired Carrier: MONO SOON?
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Stereo, 500 Hz

RCVR: E
TYPE: COMPACT
RETAIL: $430

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: STEREO, 500 Hz

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 35 dBf Mono
Undesired Carrier: Stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dB
Undesired Carrier: Mono

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield Desired Carrier: 35 dBf stereo

AUDIO PROTECTION RATIOS of 30 dB and 50 dB Undesired Carrier: 10 kHz

RCVR: E
TYPE: COMPACT
RETAIL: $450
RF PROTECTION RATIOS
to yield
AUDI0 PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Stereo

RCVR: E
TYPE: COMPACT
RETAIL: $430

KILOHERTZ from DESIRED
RGVR: E
TYPE: Compact
RETAIL: 84.3

RF PROTECTION RATIOS
to yield
Desired Carrier: 35 dBf stereo

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB
Undesired Carrier: stereo

KILLOHERTZ from DESIRED
<table>
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RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf \text{ MONO}

Undesired Carrier: \text{ MONO}

RCVR: F
TYPE: Auto
RETAIL: $200

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: \( F \)
TYPE: \( A \)
RETAIL: \( \$200 \)

Desired Carrier: \( 65 \text{ dBf} \) \( \text{Mono} \)
Undesired Carrier: \( \text{Stereo} \)

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: F
TYPE: Auto
RETAIL: $200

Desired Carrier: 35 dBf Mono
Undesired Carrier: Stereo
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: F
TYPE: Auto
RETAIL: $200

Desired Carrier: 35 dBf stereo
Undesired Carrier: 10 dBf stereo

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf stereo
Undesired Carrier: stereo

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: F
TYPE: AUTO
RETAIL: $200

Desired Carrier: 35 dBf stereo
Undesired Carrier: stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: 6
TYPE: AUTO
RETAIL: 4.99

Desired Carrier: 35 dB
Undesired Carrier: 0 dB

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
Desired Carrier: 65 dBf MONO
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB
Undesired Carrier: STEREO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Mono

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO
Undesired Carrier: 50 dB

KILOHERTZ FROM DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: STEREO

KILOHertz from DESIRED
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RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf
Undesired Carrier: 10 dBf

RCVR: H
TYPE: Auto
RETAIL: $320

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf Mono

Undesired Carrier: Stereo

RCVR: H
TYPE: Auto
RETAIL: $380

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 35 dBf
Undesired Carrier: STEREO

KILLOHERTZ from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO

Undesired Carrier: MONO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: H
TYPE: Mono
RETAIL: $320

Desired Carrier: 65 dBf STEREO
Undesired Carrier: STEREO

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED

0 +100 +200 +300 +400

-60 -40 -20 0 20 40 60
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RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

do 30 dB and 50 dB

RCVR: 1
TYPE: PORTABLE
RETAIL: $210

Desired Carrier: 35 dB
Undesired Carrier: 120 dB

KILOHertz from DESIRED
RCVR: I
TYPE: PORTABLE
RETAIL: #210

RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield
AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf Mono
Undesired Carrier: 5 to 10 dB
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: STEREO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO
Undesired Carrier: MONO

KILOHertz from DESIRED
<table>
<thead>
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RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf Mono
Undesired Carrier: Mono

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf

Undesired Carrier: -160 dBf

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf

Undesired Carrier: Steico

RCVR: J
TYPE: PORTABLE
RETAIL: #130

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf Mono

Undesired Carrier: Stereo

Kilohertz from Desired
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBs STEREO
Undesired Carrier: MONO

KILOHertz from DESIRED
RECEIVER  "K"
TYPE       Component
RETAIL     $420
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS
to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: STEREO

RCVR: K
TYPE: COMPONENT
RETAIL: $750
RF PROTECTION RATIOS
to yield
AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf
Undesired Carrier: Stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf Stereo
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

RCVR: K
TYPE: COMPONENT
RETAIL: $420

Desired Carrier: 65 dBf STereo
Undesired Carrier: _______ STereo

Kilohertz from Desired
<table>
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SENSITIVITY
Mode: MONOPHONIC

RCVR: L
TYPE: COMPACT
RETAIL: $440

Audio Output Level (dB)

RF Input Level (microvolts in 300 ohms)
SENSITIVITY
Mode: STEREOphonic

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)

RCVR: L
TYPE: COMPACT
RETAIL: 8490
RF PROTECTION RATIOS

to yield

AUDI0 PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO

Undesired Carrier: MONO

RCVR: L
TYPE: COMPACT
RETAIL: $440

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 35 dBm MONO

Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield

Desired Carrier: 65 dBf MONO

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Undesired Carrier: STEREO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: L
TYPE: COMPACT
RETAIL: $440

 Desired Carrier: 85 dBf MONO
Undesired Carrier: 57 dB CO

KILOHertz from DESIRED
RP PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 85 dBf MONO

Undesired Carrier: 7 kHz
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: MONO

RF PROTECTION RATIO (dB)

KILohertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

RCVR: L
TYPE: COMPACT
RETAIL: $440

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Stereo

KILOHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO

Undesired Carrier: STEREO

RCVR: L
TYPE: COMPACT
RETAIL: $440
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf STEREO
Undesired Carrier: STEREO

KILOHertz from DESIRED
RECEIVER  "M"
TYPE       Component
RETAIL     $330
SENSITIVITY
Model: MONOPHONIC

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)

S+D+N

D+N

N

RCVR: M
TYPE: COMPONENT
RETAIL: $330
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO, 1KHz Tone

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO, 1KHz, Tones

KILOHertz FROM DESIRED
RF PROTECTION RATIOS

to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO

Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf mono
Undesired Carrier: stereo

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: STEREO

KILOHERTZ from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo

Undesired Carrier: Mono

Kilohertz from Desired
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf
Undesired Carrier: jejeo

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf Stereo
Undesired Carrier: Stereo

KILOHERTZ from DESIRED
RECEIVER: "N"
TYPE: Auto
RETAIL: $178
SENSTIVITY
Mode: STEREOPHONIC

RCVR: N
TYPE: AUTO
RETAIL: $179

RF Input Level (microvolts in 300 ohms)

Audio Output Level (dB)
RP PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO, 1KHz Tone

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dbf MONO
Undesired Carrier: MONO, 1kh Tone Level

RCVR: N
TYPE: HOTO
RETAIL: 1/78

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf MONO
Undesired Carrier: MONO

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf Stereo
Undesired Carrier: Stereo

KiloHertz from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

RCVR: N
TYPE: AUTO
RETAIL: #178

Desired Carrier: 35 dB STEREO
Undesired Carrier: STEREO

KILOHertz from DESIRED

RF PROTECTION RATIO (dB)
RECEIVER: "O"
TYPE: Table
RETAIL: $28
RF PROTECTION RATIOS to yield
AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 65 dBf STEREO
Undesired Carrier: STEREO

KCVR: 0
TYPE: TABLE
RETAIL: #28

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED
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<tr>
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TYPE: PORTABLE
RETAIL: [35.00]

RF PROTECTION RATIOS
to yield
AUDI0 PROTECTION RATIOS
of 30 dB and 50 dB

Desired Carrier: 65 dBf MONO
Undesired Carrier: MONO

RF PROTECTION RATIO (dB)

KILOHERTZ from DESIRED
<table>
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<tr>
<th>RECEIVER</th>
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<td>TYPE</td>
<td>Portable</td>
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<td>RETAIL</td>
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</tbody>
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RCVR: Q
TYPE: PORTABLE
RETAIL: $43.00

RF PROTECTION RATIOS
to yield
Desired Carrier: 65 dBf MONO

AUDIO PROTECTION RATIOS
of 30 dB and 50 dB
Undesired Carrier: MONO, 1000 Hz

RF PROTECTION RATIO (dB)

KILOHertz from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf
Undesired Carrier: 0 dB, 1000 Hz

KILOHERTZ from DESIRED
RF PROTECTION RATIOS

to yield

AUDIO PROTECTION RATIOS

of 30 dB and 50 dB

Desired Carrier: 65 dBf
Undesired Carrier: 110 dBf

KILOHERTZ from DESIRED
RF PROTECTION RATIOS to yield AUDIO PROTECTION RATIOS of 30 dB and 50 dB

Desired Carrier: 35 dBf
Undesired Carrier: MOKO

KILOHERTZ from DESIRED
NRSC Document Improvement Proposal

If in the review or use of this document a potential change appears needed for safety, health or technical reasons, please fill in the appropriate information below and email, mail or fax to:

National Radio Systems Committee
c/o Consumer Electronics Association
Technology & Standards Department
1919 S. Eads St.
Arlington, VA 22202
FAX: 703-907-4190
Email: standards@ce.org

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| SUBMITTER’S NAME: | TEL: |
| COMPANY: | FAX: |
| ADDRESS: |

| URGENCY OF CHANGE: |
|_____ Immediate | _____ At next revision |

PROBLEM AREA (ATTACH ADDITIONAL SHEETS IF NECESSARY):

a. Clause Number and/or Drawing:
b. Recommended Changes:
c. Reason/Rationale for Recommendation:

ADDITIONAL REMARKS:

| SIGNATURE: | DATE: |

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Date forwarded to NAB S&T: ____________________________
Responsible Committee: ____________________________
Co-chairmen: ____________________________
Date forwarded to co-chairmen: ____________________________