



with with Things Consist Ind Edition Saturda out Sinon Ina inarscast Sarvice Talk of the Sci

World Radio Nutw

IBC AMSTERDAM SEP 07

On the Media ican IndioWorks

lia Network from NPFI

Accessible Digital Radio Broadcast Services Project

Developing and Demonstrating Specialized Digital Radio Services for:

> Deaf and Hard of Hearing & Blind and Print Handicapped



A Game Notekand Ling A Game On 1 Living on Barth Living on Barth

rican RadioWorks
Drning E
with
reath Air Westard
Things Consi

everseest Service manual sector Talk of the Sc

World Radio Notw

IBC

AMSTERDAM

On the Media 2

dia Metwork from NPFI

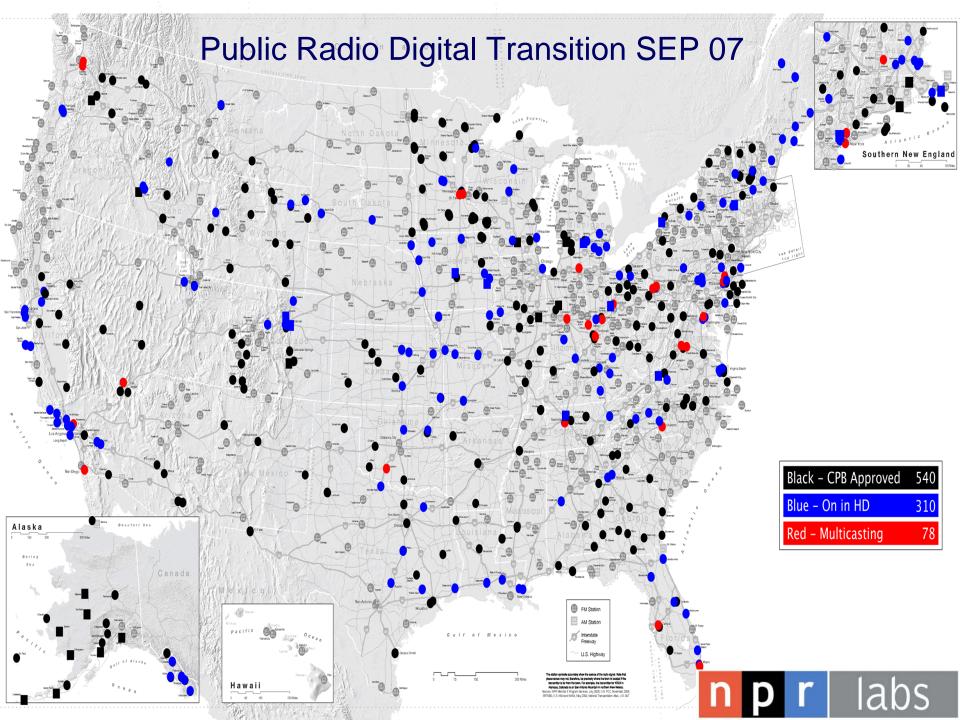
America's Only Not-for-Profit Radio Broadcast Technology R&D Center Established October, 2005

Evans

Andrews

Starling

Kean





A Game A Game Living on Barth scatt Santas The artican RadioWorks Drning [with control of the stard

Things Consi

entisting invescest Service materialized Talk of th Sc

World Radio Netw

IBC AMSTERDAM SEP 07

On the Medi

io Network from NPA

falk of the

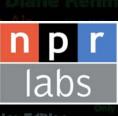
Why Accessible Radio?

Radio is immediate, companion medium
 Radio = hundreds of programs not on TV or web
 Radio works during emergencies with no power grid
 Since 1971 NPR has worked on extending signal reach to the public, now we're working on reaching the public better – accessibly, thanks to digital radio!

The Accessible Digital Radio Service Project:

Digital radio reading services for the visually impaired and print handicapped

First ever Captioned Radio for the Deaf and Hard of Hearing



Weekend L A Game Living on Barth cart Santos

Drning E with Things Consi and Edition Saturda

iourseast Sarvice Talk of the Sc

IBC

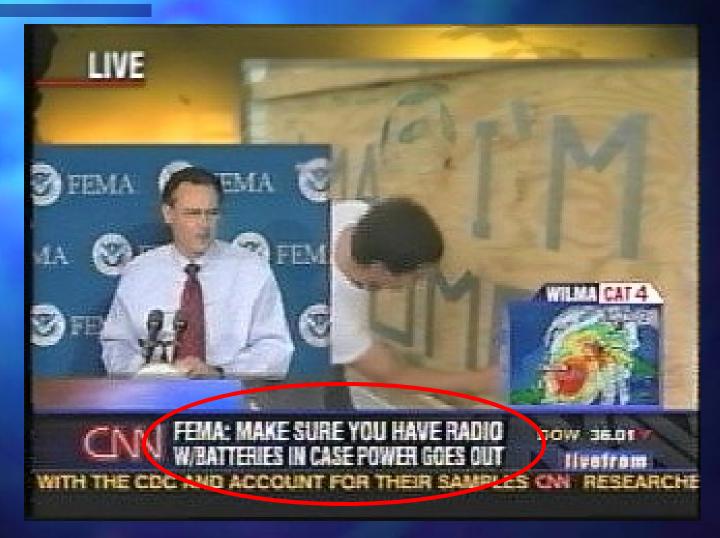
SEP 07

ican 115 dioNorka

ia Natwork from NPA

falk of the

Radio is Primary During Emergencies Accessible Emergency Information Important for 32 Million Visually and Hearing Impaired in US





est Weekend A Game Utving on Earth

The Territory Services

World Radio Net

IBC

AMSTERDAM SEP 07

6

ia Network from NPP



Accessible Radio Partners





Wéckend I A Game Utving on Earth

rican RadioWorks Drning E wit

nd Edition Saturd

imrecast Service Talk of t S

IBC AMSTERDAM

SEP 07

7

ia Natwork from NPA

Conditional Access Demonstration Configuration

Functionality:

Full HD Radio functionality – can receive "Free' over the air broadcasts

Plus the ability to receive and play-out locally generated scrambled audio service (test station KIBI).

Receiver A: Radio ID01 CA Entitled Receiver - HD4



x 88.3 HD1 − Free to air
 x 88.3 HD2 − Free to air
 x 88.3 HD2 − Free to air

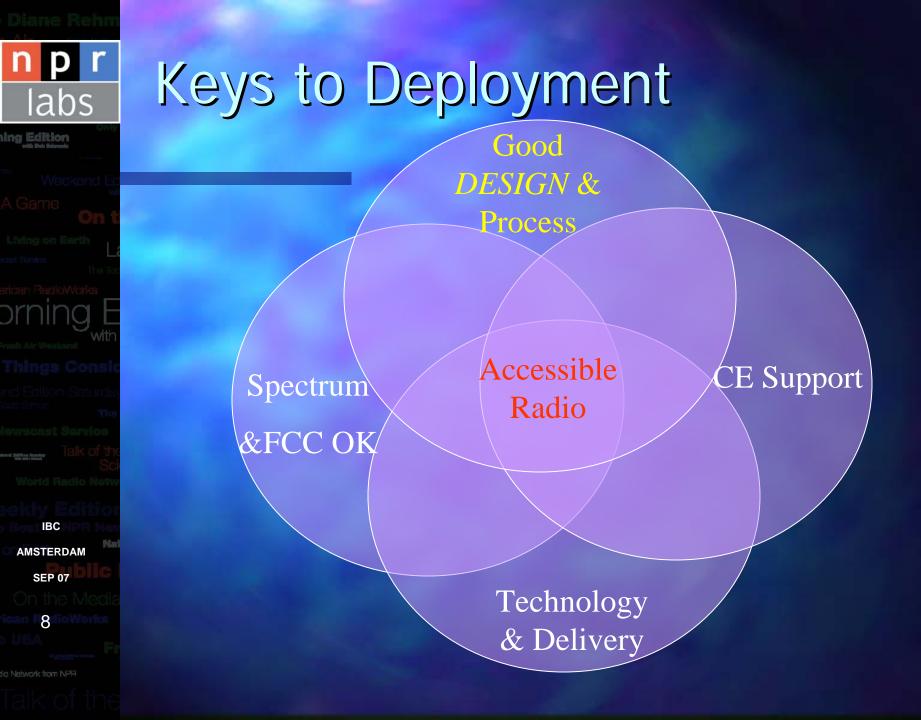
MDS

88.3 HD3 – CA audio service Not Authorized Pearl Jam

88.3 HD4 – CA audio service Authorized Radio Reading Receiver B: Radio ID02 CA Entitled Receiver – HD3



 88.3 HD1 - Free to air
 88.3 HD2 - Free to air
 88.3 HD3 - CA audio service Authorized Pearl Jam
 88.3 HD4 - CA audio service Not Authorized Radio Reading





A Game A Game Con 1 Living on Earth Con 5 Con 1 Con

Drning roots Air Westword

nd Edition Saturd cat Stripp

Talk of t

World Radio Netv

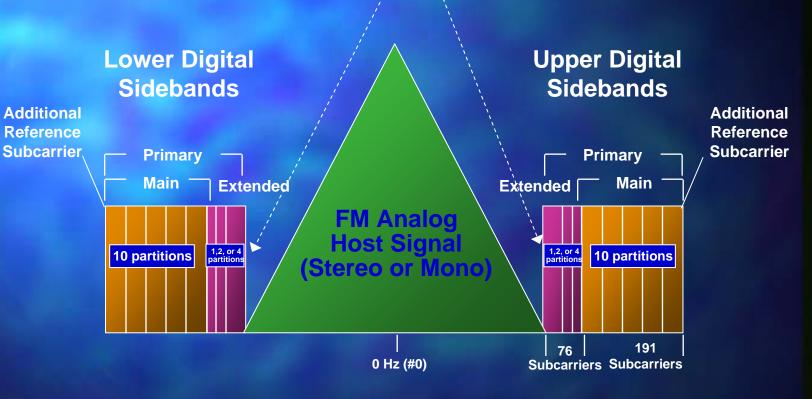
ekiy Editio

IBC AMSTERDAM SEP 07

On the Media

ia Network from NPA

Accessible Radio Resides as Advanced Applications Service in Recently Authorized Extended Hybrid Spectrum





Wecks A Game

Living on Eeri naat Sevice

Interning E with Things Consist Things Consist Ind Edition Saturda out Sanon The Internet Sanon Talk of the So

IBC AMSTERDAM SEP 07

10

ia Natwork from NPA

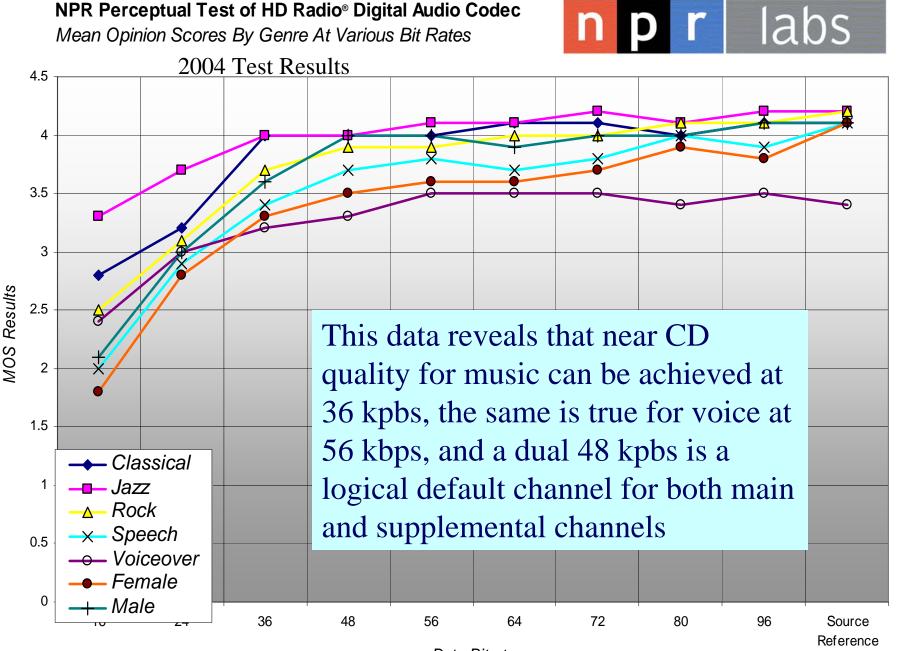
IBC 07 - First International Demonstration Protected & Accessible HD Radio Channels

Four Channel Extended-Hybrid HD Radio mode:

Jazz & Oldies-38 kbpsClassical-34 kbpsPay Per Listen Pearl Jam-24 kbpsBlind Reading Service-16 kbps122 kbps totalPlus: Captioned Radio for Deaf--

HD Radio Demonstration Powered by



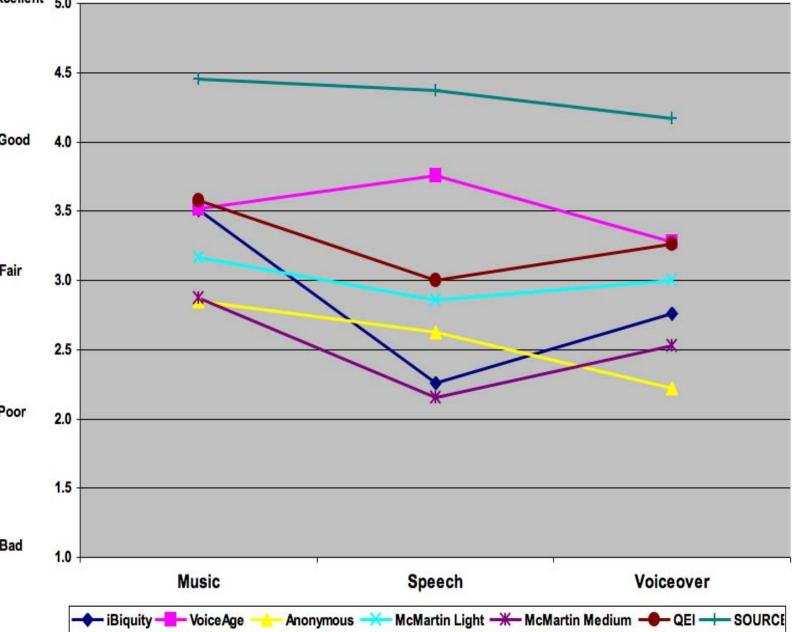


Data Bitrate

Diane Rehm



Quality Ratings at Very Low Bit Rates for Music, Speech and Voiceover





Captioned Radio Concept Demo



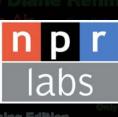
Network from NPH

13

IBC

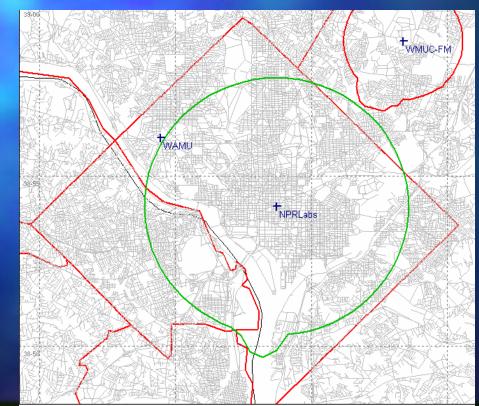
AMSTERDAM

SEP 07



WX3NPR – NPR Labs On-Air Test Station for Captioned Radio and Digital Radio Reading Services for Visually Impaired

50w Experimental FM+HD station on 87.9 FM Washington, D.C.



With Things Consi Ind Edition Saturds and Edition Saturds and Edition Saturds and Edition Saturds Talk of the Saturd Radio Notives World Radio Notives Saturds Back Park of the Saturds Back P

SEP 07

Un the Med

lia Network from NPA



Weckend A Game Living on Earth cout Santos

Things Considered Things Considered Things Considered Things Considered Things Considered Things Considered Structures The Structure Structure Structures The Structure Structure Structure Structures Structures

World Redio Netw

IBC AMSTERDAM

On the Media can 15 billorita UGA

SEP 07

ia Network from NPFI



1st Over-the-Air Captioned Radio Transmission Using Advanced Applications Services on HD Radio on WX3NPR - 10 AUG 07

> Terposta Inches In containers arbitrary reprinters successively, resolution;

of these evenest groups due toplicated over the over their even their evenesticate. All a

distances division formers para marchers

10.000



Next Steps for Deaf and Hard of Hearing Sharp[®] Dual View Display Technology

A Game On t I ving on Earth La It ving on Earth La It sets The Too The Too A Game On the Construction I construction Seturds of Edition Seturds of Edition Seturds of Edition Seturds of Edition Seturds was east Services World Redio Networks World Redio Networks Edition Redio Networks Solo

AMSTERDAM

16

ia Network from NPA

Front seat "Captioning" Concept
 driver can see traffic map, while listening to radio –

at the same time a D/HH passenger has same content on Captioned Radio view



