



**The Future of Broadcasting
An Opportunity for Manufacturing**

Powered by iBiquity

October 2007

HD Radio Market Facts

HD Radio technology in a nutshell

- Digital radio signals ride same airwaves as analog AM/FM
- Digital FM offers CD quality sound
- Digital AM offers stereo FM quality sound
- Current radios will still receive analog signals
- New receivers will tune to both HD Radio signals and current analog broadcasts

Broadcast snapshot

- + 3000 stations committed to HD = 90% US coverage
- \$20B in annual revenues
- + 1,500 On-Air today, + 50 per major markets
 - 81% of population currently served
 - 220 M Americans listen to radio every week
 - Average person listens 19.5 hrs / week

Receiver market snapshot

- 70 million radios / receivers sold per year
- + 70 HD models currently available
- 51 HD Automotive OEM Models by 2008MY (fall '07)
- '07 est. units approx. 500k-1M



dio

HD Radio Broadcast Status Today

1,991 Licensees

239 Markets
 96 Top 100 Markets
 52 States Served (incl. DC & PR)

Population Served 247M (85%)
 Listeners Served 132M (46%)

1,504 On The Air

208 Markets
 94 Top 100 Markets
 51 States Served*

Population Served 240M (83%)
 Listeners Served 123M (42%)

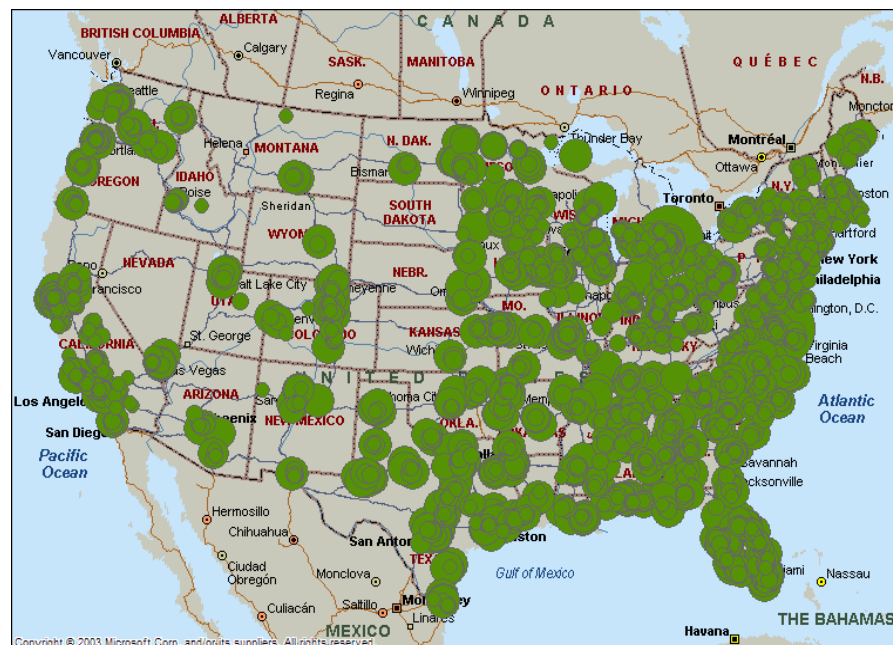
713 Multicasts

686 Stations
 123 Markets
 48 Top 50 Markets

Population Served 188M (65%)
 Listeners Served 75M (26%)

Rnk	Market	Lic	On	HD2
1	New York	29	26	15
2	Los Angeles	43	40	18
3	Chicago	41	36	18
4	San Francisco	29	26	17
5	Dallas	36	30	15
6	Philadelphia	28	27	15
7	Houston	27	24	10
8	Washington, DC	25	25	12
9	Detroit	27	26	15
10	Atlanta	30	25	15
11	Boston	27	25	15
12	Miami	29	24	11
13	Puerto Rico	9	2	0
14	Seattle	30	25	17
15	Phoenix	17	15	5
16	Minneapolis	18	16	12
17	San Diego	11	11	6
18	Nassau-Suffolk	4	3	2
19	Tampa	22	22	15
20	St. Louis	22	21	14
21	Baltimore	10	8	6
22	Denver	33	28	12
23	Pittsburgh	13	13	10
24	Portland, OR	17	14	9
25	Cleveland	18	15	8

Rnk	Market	Lic	On	HD2
26	Sacramento	18	15	7
27	Riverside, CA	5	4	1
28	Cincinnati	18	17	10
29	Kansas City	8	8	5
30	San Antonio	19	16	3
31	Salt Lake City	17	15	9
32	Las Vegas	13	9	7
33	Milwaukee	17	16	8
34	San Jose	5	5	3
35	Charlotte	23	20	10
36	Providence	11	9	3
37	Orlando	19	13	5
38	Columbus, OH	16	14	7
39	Middlesex, NJ	4	1	1
40	Norfolk, VA	11	10	6
41	Indianapolis	19	19	11
42	Austin	13	11	10
43	Raleigh-Durham	10	9	3
44	Nashville	13	13	5
45	Winston Salem	9	8	8
46	West Palm Beach	13	13	8
47	New Orleans	8	3	0
48	Jacksonville	14	12	7
49	Memphis	10	9	6
50	Hartford	13	11	8



* Data for primary market stations only

As of Oct 2007
 More stations added daily



HD Radio Receiver Rollout Update

+ 70 Models available by 4Q 2007

Car Receivers

- Alpine (DVA-9965)
- Fujitsu/Eclipse (HDR-105 HD)
- JVC (KD-SHX900), (KD-HR1)
- Kenwood (KTC-HR100TR), (900)
- Panasonic (CQ-CB8901U)
- Sanyo (ECD HD 1990M)
- Visteon (HD Jump and HD Zoom)
- Sony (XT-100HD)

Home Receivers

- Boston Acoustics (Recepter Radio® HD)
- Polk Audio (i-Sonic Entertainment System)
- Radiosophy™ (Multistream™)
- Yamaha (RX-V4600)
- Cambridge Soundworks 820HD
- Denon DRA-697CI
- Niles
- Radio Shack Accurian HDX3
- Sangean America HDT-1
- Integra DTR-10.5, TUN-3.7 and RDC-7.1
- OnkyoTX-NR1000 and T-4555P
- Visteon HD Pulse
- Sony XDR-S3HD

Custom Receivers

- Audio Design Associates (Quadri-tune)
- Day Sequerra – (Models 2, 4)
- Rotel (RT-1084 HD)



Visteon



Visteon



Kenwood



Alpine



Fujitsu/Eclipse



Panasonic



JVC



Polk Audio



Rotel



Recepter Radio®



Sony



Onkyo



Audio Design Associates



Yamaha



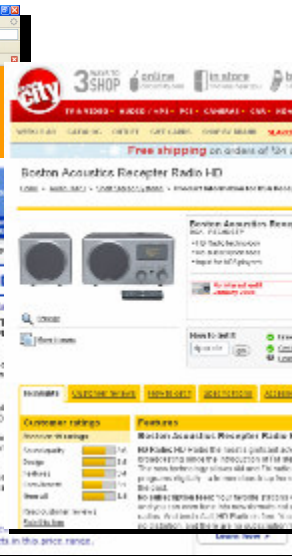
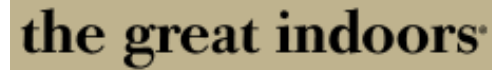
Denon



DaySequerra



Participating National Retailers



HD Radio System Capabilities - Current



Program Service Data – First generation HD Radio receivers support text based “ID3 Tag data” such as song title, artist, album, genre and commercial/promotional information.



Multicasting – The second generation of HD Radio receivers, now shipping, support multicasting, the ability to divide a digital broadcast to support more than one broadcast audio service.



Surround Sound – Second generation also supports surround sound encoded audio (ID tag). Many of the most popular surround solution such as Dolby, SRS and Neural Audio have been tested by iBiquity and are receiver compatible and decode encoded signals.



HD Radio Review – Also currently supported in advanced HD Radio ICs, the ability to rewind live audio broadcasts :45 sec. Also could be used to store a fixed :45 sec audio clip.



HD Radio Data – Currently supported in advanced HD Radio ICs, the ability to transmit and received non-audio digital content will enable new and valuable services such as the delivery of real-time traffic information to in-vehicle navigation systems.



HD Radio System Capabilities- Future



Multimedia Support – Currently supported in advanced HD Radio ICs, the ability to receive and render images such as album art, artist image or sponsor logo.



Conditional Access – Encrypted stream to deliver subscription-based audio and data. Provides the ability to offer premium or adult orientated material.



Electronic Program Guide – Station and program information delivered to a radio to support program identification, selection and tuning. Could support features like program reminders and time shifting.



Store & Replay – Ability to time shift broadcast audio programming. Audio programs would be stored in memory within the radio device for later replay. Potential to take protected material off-board to other playback devices.



On-Demand Audio Services – Enable the automatic storage and continuous update of time critical audio services such as traffic, weather, news and sports.



Summary

- Broadcast
 - Well ahead of plan for broadcaster deployment of basic and multicast services

- Radio
 - Large and growing base of radio manufacturing licensees,
 - Immediate need for volume based product introductions

- Cost / Manufacturing
 - Costs coming down
 - Ease of integration going up with available Reference Designs and iBiquity support

- Growing interest in international community
 - IBOC solution seen as viable for virtually all “Commercial Broadcasting” worldwide





Thank you!

For further information please contact:

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Additional information available at:

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www.hdradio.com

