Reference Documents
for the
NRSC In-Band/On-Channel
Digital Radio
Broadcasting Standard

Rev. 02

December 14, 2016

TRADEMARKS

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1.1   System Overview

iBiquity Digital Corporation's HD Radio™ system is designed to permit a smooth evolution from current analog amplitude modulation (AM) and frequency modulation (FM) radio to a fully digital in-band on-channel (IBOC) system. This system delivers digital audio and data services to mobile, portable, and fixed receivers from terrestrial transmitters in the existing medium frequency (MF) and very high frequency (VHF) radio bands. Broadcasters may continue to transmit analog AM and FM simultaneously with the new, higher-quality, and more robust digital signals, allowing themselves and their listeners to convert from analog to digital radio while maintaining their current frequency allocations.

1.2   Document Overview

iBiquity Digital Corporation's reference documents that support the description of the NRSC In-Band/On-Channel Digital Radio Broadcasting Standard are listed in this document.

2   Reference Documents

	Company / Document Title	Document / Revision
[1]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Layer 1 FM"	SY_IDD_1011s Revision G
[2]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Layer 1 AM"	SY_IDD_1012s Revision G
[3]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Layer 2 Channel Multiplex"	SY_IDD_1014s Revision J
[4]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Audio Transport"	SY_IDD_1017s Revision H
[5]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Advanced Application Services Transport"	SY_IDD_1019s Revision H
[6]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Station Information Service"	SY_IDD_1020s Revision J
[7]	iBiquity Digital Corporation "HD Radio™ FM Transmission System Specifications"	SY_SSS_1026s Revision G
[8]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Program Service Data"	SY_IDD_1028s Revision E
[9]	iBiquity Digital Corporation "HD Radio™ AM Transmission System Specifications"	SY_SSS_1082s Revision G
[10]	iBiquity Digital Corporation "HD Radio™ Air Interface Design Description – Program Service Data Transport"	SY_IDD_1085s Revision D
[11]	Federal Communications Commission (FCC) "Code of Federal Regulations", Title 47, Part 11	---
[12]	Federal Communications Commission (FCC) "Code of Federal Regulations", Title 47, Part 73	---
[13]	National Radio Systems Committee (NRSC) "NRSC AM Pre-emphasis/De-emphasis and Broadcast Audio Transmission Bandwidth Specifications" NRSC-1-B, September 2012	---
[14]	International Organization for Standardization (ISO) "English Country Names and Code Elements" ISO 3166-1 and corresponding ISO 3166-1-alpha-2 Code Elements Document published on: 2013-11-15	---

	Company / Document Title	Document / Revision
[15]	United States Department of Transportation "Uniform Time Act of 1966" Public Law 89-387, April 13, 1966, 80 Statute 107, 15 U.S.C §260a	---
[16]	United States Congress (United States Department of Energy) "Energy Policy Act of 2005" Public Law 109-058, August 8, 2005.	---
[17]	United States Federal Communications Commission (FCC) "Media Bureau Consolidated Database System (MB CDBS)" Web URL: http://www.fcc.gov/mb/cdbs.html 2016 Web Links https://www.fcc.gov/media/filing-systems-and-databases http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm	---
[18]	United States National Geospatial-Intelligence Agency (NGA) "Department of Defense World Geodetic System 1984, Its Definition and Relationships with Local Geodetic Systems" Third Edition, 4 July 1997, NIMA Technical Report TR8350.2 Web URL: http://earth-info.nga.mil/GandG/publications/tr8350.2/tr8350_2.html 2016 Web Links http://earth-info.nga.mil/GandG/publications/tr8350.2/tr8350_2.html	---
[19]	United States National Institute of Standards and Technology (NIST) "Information about the new Daylight Saving Time (DST)" Web URL: http://tf.nist.gov/timefreq/general/dst.htm 2016 Web Links http://www.nist.gov/pml/div688/dst.cfm https://www2.nist.gov/time-and-frequency-division/time-and-frequency-division-popular-links/daylight-saving-time-dst	---

	Company / Document Title	Document / Revision
[20]	EU European Parliament and Council "Proposal for a European Parliament and Council directive on summer-time arrangements" Web URL: http://europa.eu/bulletin/en/200012/p104047.htm 2016 Web Links http://ec.europa.eu/transport/summertime_en.htm http://ec.europa.eu/transparency/regdoc/rep/1/2007/EN/1-2007-739-EN-F1-1.Pdf Directive 2000/84/EC of the European Parliament and of the Council of 19 January 2001 on summer-time arrangements	---
[21]	International Earth Rotation and Reference Systems Service (IERS) "Bulletin C - Announcement of Leap Seconds in UTC" Web URL: http://www.iers.org/ 2016 Web Links https://www.iers.org/IERS/EN/Home/home_node.html	---
[22]	International Organization for Standardization (ISO) "Information Technology - 8-bit single-byte coded graphic character sets - Part 1: Latin Alphabet 1" ISO/IEC 8859-1:1998. Web URL: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28245 2016 Web Links http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28245	---
[23]	International Organization for Standardization (ISO) "Information Technology - Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane" ISO/IEC 10646-1:2000. Web URL: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=29819 2016 Web Links http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=29819	---
[24]	RFC 1662, Network Working Group "PPP in HDLC-like Framing" Web URL: http://www.ietf.org/rfc/rfc1662.txt 2016 Web Links http://www.ietf.org/rfc/rfc1662.txt	---

	Company / Document Title	Document / Revision
[25]	Martin Nilsson "ID3v2.3.0 Informal standard" Web URL: http://www.id3.org 2016 Web Links http://id3.org/id3v2.3.0	---
[26]	National Radio Systems Committee (NRSC) NRSC-G201-A, "NRSC-5 RF Mask Compliance: Measurement Methods and Practice", April, 2010.	---
	National Radio Systems Committee (NRSC) NRSC-G201-A, "NRSC-5 RF Mask Compliance: Measurement Methods and Practice", April, 2010.	---
[27]	iBiquity Digital Corporation "Transmission Signal Quality Metrics for FM IBOC Signals"	SY_TN_2646s Revision 03
[28]	Reserved	Reserved
[29]	National Radio Systems Committee (NRSC) NRSC-4-B, "United States RBDS Standard: Specification of the radio broadcast data system (RBDS)", April, 2011.	---
[30]	National Radio Systems Committee (NRSC) "Bandwidth Options for Analog AM Broadcasters" NRSC-G100-A, September, 2012.	---
[31]	OASIS "Common Alerting Protocol (CAP) Version 1.2". Web URL: http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.pdf 2016 Web Links http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.pdf	---
[33]	International Organization for Standardization (ISO) ISO/TS 18234-3:2013 Intelligent transport systems -- Traffic and travel information via transport protocol experts group, generation 1 (TPEG1) binary data format -- Part 3: Service and network information (TPEG1-SNI) Document published on: 2013-02-01	---

	Company / Document Title	Document / Revision
[34]	DTS, Inc. "NRSC Supplemental Information" Web URL: http://hdradio.com/broadcasters/us-regulatory/nrsc-supplemental-information	Dynamic
[35]	National Radio Systems Committee (NRSC) "Harmonization of RDS and IBOC Program Service Data (PSD) Guideline" NRSC-G200-A, March, 2010.	---