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IBOC Update

Model: E6x, E70, E9x

Production: From 3/2007 Production (4/2007 E70)

OBJECTIVES

After completion of this module you will be able to:

- Explain the operation of the HD Radio multicasting feature
- Identify the components utilized in a vehicle with RTTI and HD Radio

Introduction

In August 2005, BMW announced the first OEM availability of HD Radio technology in its 2006 7 Series models. BMW then followed up in November 2005 by extending the HD Radio option to drivers of its 2006 6 Series vehicles. This past June, the company announced that HD Radio would be offered in its 2007 5 Series models.

BMW continues to expand its pioneering position in providing high-quality audio systems by offering a factory-installed digital HD Radio receiver with FM multicasting capability. HD Radio technology is one of the most significant advances in radio broadcasting history, providing listeners with enhanced digital audio quality and clear, noise-free reception, as well as multicasting and on-screen text information. The HD Radio multicasting feature allows FM stations to broadcast multiple channels of digital programming simultaneously on a single frequency.

Of the more than 1,000 stations across the country broadcasting with HD Radio technology, more than 500 FM stations are offering a second (HD2) and, in many cases, a third (HD3) multicast channel.

For example, WAMU in Washington, DC, offers three channels: 88.5-1, a simulcast of its news/talk analog channel; 88.5-2, a simulcast of an innovative Baltimore music station not available in DC; and 88.5-3, bluegrass music.

These channels are free but can only be found on HD Radio receivers. As with all HD Radio programming, there are no fees or additional costs associated with multicast channels.

The number of HD Radio stations is growing daily and expected to exceed 3,000 within the next few years. A current list of HD Radio stations and multicast stations can be found at: www.hdradio.com.

HD Radio and RTTI

Until 3/2007 it was not possible to order a vehicle equipped with both RTTI and HD Radio together.

This was due to the fact that only one antenna connection was available. It was used for either of the two options.

In March 2007 production vehicles, an antenna splitter will become available that allows the antenna connection to be split. In this manner, both the HD Radio control unit and the CCC will have the FM signal that comes from the antenna amplifier diversity unit.

Components

Antenna Splitter

The antenna splitter is necessary in order to split the FM line output from the antenna amplifier/diversity unit.



It is mounted to the rear of the HD Radio control unit and is comprised of the electronics housing, and three connectors.



Principles of Operation

In order to utilize the multicasting option of the HD Radio, the HD Radio option must be set to on. This can be selected/performed from the settings menu under the sub-menu audio settings.

The multicasting option uses the the HD Radio technology to its fullest potential. A radio station can broadcast more than one radio program on the same frequency digitally while still broadcasting its primary radio station in analog format.

In order for the multicasting option to be selected, the HD Radio control unit has to be in the "digital" mode at the moment. In other words, the CID has to confirm that the HD Radio digital signal is being used at the moment. If the digital mode is not on/active, only the primary analog signal can be heard.

The best way to know if the radio is in the "digital" mode is to observe the HD icon/symbol in the CID.



In the illustration above, we can see that the radio is in the "digital" mode and that it is in WKTU-HD1. in order to select the WKTU-HD2, the forward seek button on the face panel of the head unit should be selected.



Note: Multicasting can only operate in the digital mode.

If the HD Radio control unit switches over to the analog mode (usually due to poor reception), the unit will revert back to the primary analog signal that is broadcast by the radio station (i.e HD1 will be played).

For a comprehensive listing of radio stations that are transmitting using multicasting technology please refer to www.ibiquitydigital.com.