Accused Sony Products: Direct Infringement Claim Charts

The term "Accused Headsets" refers to Premium Bluetooth Headphones (MDR-1RBT), Bluetooth and Noise Cancelling Headset (MDR-ZX750BN), Premium Bluetooth Wireless Headphones (MDR-10RBT), Bluetooth Headphones (DR-BTN200), and Stereo Bluetooth Headset (SBH80).

Each of the Accused Headsets implements Bluetooth version 2.1 or greater. Furthermore, each of the Accused Headsets implements Bluetooth Enhanced Data Rate (EDR). Furthermore still, each of the Accused Headsets implements Bluetooth Advanced Audio Distribution Profile (A2DP).

For example, Sony advertises that the Premium Bluetooth Headphones (MDR-1RBT), Bluetooth and Noise Cancelling Headset (MDR-ZX750BN), Premium Bluetooth Wireless Headphones (MDR-10RBT), Bluetooth Headphones (DR-BTN200), and Stereo Bluetooth Headset (SBH80) each supports Bluetooth 3.0.

U.S. Patent No. 8,131,391	Infringing Devices
1. A wireless digital audio headphone comprising:	Each Accused Headset is a wireless digital audio headphone.
a portable digital audio headphone receiver configured to receive a unique user code bit sequence and a original audio signal representation in the form of packets, said digital audio headphone receiver, capable of mobile operation and configured for direct digital wireless spread spectrum communication with a mobile digital audio transmitter;	Each Accused Headset comprises a portable digital audio headphone receiver configured to receive a unique user code bit sequence and a original audio signal representation in the form of packets, said digital audio headphone receiver, capable of mobile operation and configured for direct digital wireless spread spectrum communication with a mobile digital audio transmitter. For example, the Bluetooth Specification Version 2.1 + EDR [vol 2] at 63 describes 1.3 ACCESS CODES In the Bluetooth system all transmissions over the physical channel begin with an access code. Three different access codes are defined, see also Section 6.3.1 on page 98:

	• device access code (DAC) • channel access code (CAC) • inquiry access code (IAC) All access codes are derived from the LAP of a device address or an inquiry address. The device access code is used during page, page scan and page response substates and shall be derived from the paged device's BD_ADDR. The channel access code is used in the CONNECTION state and forms the beginning of all packets exchanged on the piconet physical channel. The channel access code shall be derived from the LAP of the master's BD_ADDR. Finally, the inquiry access code shall be used in the inquiry substate. There is one general IAC (GIAC) for general inquiry operations and there are 63 dedicated IACs (DIACs) for dedicated inquiry operations. The access code also indicates to the receiver the arrival of a packet. It is used for timing synchronization and offset compensation. The receiver correlates against the entire synchronization word in the access code, providing very robust signaling. *See also* Bluetooth Specification Version 2.0 + EDR [vol 3] at 67; Bluetooth Specification Version 3.0 + HS [vol 3] at 67; Bluetooth Specification Version 4.0 at 69. In addition, Bluetooth Specification Version 2.1 + EDR [vol 2] at 62 describes: 1.2 BLUETOOTH DEVICE ADDRESSING Each Bluetooth device shall be allocated a unique 48-bit Bluetooth device address (BD_ADDR). This address shall be obtained from the IEEE Registration Authority. The address is divided into the following three fields: • LAP field: lower address part consisting of 24 bits

• UAP field: upper address part consisting of 8 bits

• NAP field: non-significant address part consisting of 16 bits

The LAP and UAP form the significant part of the BD_ADDR. The bit pattern in Figure 1.5 is an example BD_ADDR.

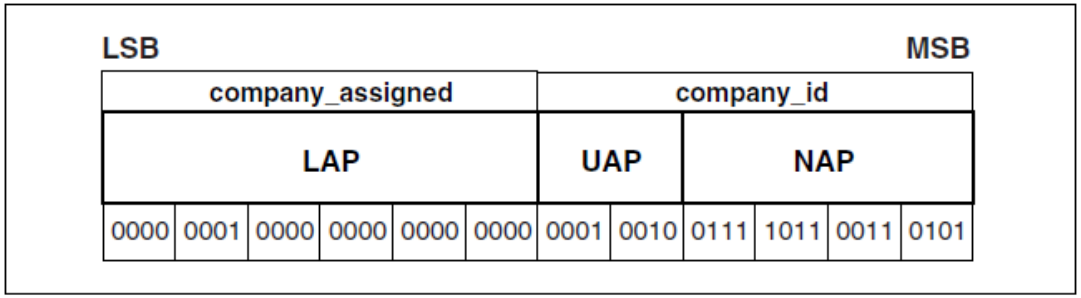

Figure 1.5: Format of BD_ADDR.

See also Bluetooth Specification Version 2.0 + EDR [vol 3] at 66; Bluetooth Specification Version 3.0 + HS [vol 3] at 66; Bluetooth Specification Version 4.0 [vol 2] at 68.

Bluetooth Specification Version 2.1 + EDR [vol 2] at 64, describes:

2 PHYSICAL CHANNELS

Given that the number of RF carriers is limited and that many Bluetooth devices could be operating independently within the same spatial and temporal area there is a strong likelihood of two independent Bluetooth devices having their transceivers tuned to the same RF carrier, resulting in a physical channel collision. To mitigate the unwanted effects of this collision each transmission on a physical channel starts with an access code that is used as a correlation code by devices tuned to the physical channel. This channel access code is a property of the physical channel. The access code is always present at the start of every transmitted packet.

See also Bluetooth Specification Version 2.0 + EDR [vol 3] at 69; Bluetooth Specification Version 3.0 + HS [vol 2] at 68; Bluetooth Specification Version 4.0 [vol 2] at 68.

For example, Bluetooth Specification Version 2.1 + EDR [vol 2] at 407, describes:

> **6.18 FLUSH TIMEOUT**
> The Flush_Timeout configuration parameter is used for ACL connections only. The Flush Timeout is defined in the Baseband specification section 7.6.3, "Flushing Payloads," on page 142. This parameter allows automatically-flushable ACL packets to be automatically flushed without the Host device issuing a Flush command. This provides support for isochronous data, such as **audio**. (emphasis added).

See also Bluetooth Specification Version 2.0 + EDR [vol 3] at 392; Bluetooth Specification Version 3.0 + HS [vol 2] at 427; Bluetooth Specification Version 4.0 [vol 2] at 444.

See Bluetooth Specification Advanced Audio distribution Profile (Adopted Version 1.0), at 9

The Advanced Audio Distribution Profile (A2DP) defines the protocols and procedures hat realize distribution of audio content of high-quality in mono or stereo on ACL channels. The term "advanced audio", therefore, should be distinguished from "Bluetooth audio", which indicates distribution of narrow band voice on SCO channels as defined in Chapter 12 of Bluetooth Baseband specification [1].

A typical usage case is the streaming of music content from a stereo music player to headphones or speakers. The audio data is compressed in a proper format for efficient use of the limited bandwidth. Surround sound distribution is not included in the scope of this profile.

Bluetooth Specification Version 2.1 + EDR [vol 1] at 77 describes:

> **2.2 STRCUTURE CHANGE**
> The Bluetooth Core Specification 1.2 was significantly restructured for better consistency and readability. The most important structure changes have been performed in Baseband, LMP, HCI and L2CAP. The text in these sections has been

	rearranged to provide: • Presentation of the information in a more logical progression • Removal of redundant text and requirements • Consolidation of baseband related requirements (for example, the Baseband Timers and **Bluetooth Audio** sections into the Baseband Specification). (emphasis added). *See also* Bluetooth Specification Version 2.0 + EDR [vol 1] at 75; Bluetooth Specification Version 3.0 + HS [vol 1] at 87; Bluetooth Specification Version 4.0 [vol 1] at 117. Bluetooth Specification Version 2.1 + EDR [vol 2] at 190 describes: **9.4.1 Signal levels** For A-law and μ -law log-PCM encoded signals the requirements on signal levels shall follow the ITU-T recommendation G.711. Full swing at the 16 bit linear PCM interface to the CVSD encoder is defined to be 3 dBm0. **9.4.2 CVSD audio quality** For Bluetooth audio quality the requirements are put on the transmitter side. The 64 ksamples/s linear PCM input signal should have negligible spectral power density above 4 kHz. The power spectral density in the 4-32 kHz band of the decoded signal at the 64 ksample/s linear PCM output, should be more than 20 dB below the maximum in the 0-4 kHz range. *See also* Bluetooth Specification Version 2.0 + EDR [vol 3] at 198; Bluetooth Specification Version 3.0 + HS [vol 2] at 193; Bluetooth Specification Version 4.0 [vol 2] at 195. Bluetooth Specification Version 2.1 + EDR [vol 2]at 196, describes:

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