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Certification

This is to certify that the foregoing translation for the document titled “**Wireless Headphones and Data Transmission Method** (WO 2006/042749)” was made from German to English by me, a competent translator with 25+ years of professional experience. I am well acquainted with both languages, and that, to the best of my knowledge and belief, it is a true and complete rendering into English of the original document.

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Wireless Headphones and Data Transmission Method

The present invention relates to wireless headphones, a wireless microphone, a wireless headset, and a method for data transmission.

Distribution of digitally compressed music, e.g. as MP3 files, has increased considerably in recent years. Audio files are digitalized and then stored, e.g. on a hard drive in a computer. As a result, computers are increasingly used as music sources in the private sector, where the computer is used to play the audio files stored thereon. This allows for a hardwired music playback, and if the computer contains a radio signal interface, it is possible to play the music wirelessly, or to transmit the audio files or audio signals through radio signals. Furthermore, there are also music sources connected to the internet, which provide audio files for free or for a fee. A user can download these audio files to a computer via the internet, and subsequently listen to these audio files. A user can also access the internet with a cellular telephone or PDA through HSCSD, GPRS, UMTS, etc. to likewise download audio files. One disadvantage with this is that a large amount of data frequently needs to be transferred at a low speed.

A PDA or a notebook with a WLAN interface (IEEE 802.11) can likewise access the internet wirelessly, as long as the PDA or notebook is located within the transmission range of a WLAN access point. This is particularly advantageous with regard to the data transfer speed in comparison with a cellular telephone connection.

DE 20 2004 005 111 U1 discloses wireless Bluetooth headphones that has an electroacoustic transducer and a transmitter/receiver unit for wireless signal reception of audio signals.

DE 101 14 670 A1 discloses a mobile multimedia device that contains one transmitter/receiver unit for communicating with a cellular network and second transmitter/receiver unit for receiving radio frequencies. Reception authorization received via the first transmitter/receiver unit is stored in a transmitter. The multimedia device also contains a decoder for decoding the encoded multimedia content received via the second transmitter/receiver unit. An authorization query for multimedia content is transmitted wirelessly via the first transmitter.

The downloading of data, in particular audio files, from the internet described above may involve copyright laws.

It is therefore the object of the present invention to enable mobile access to data stored in an internet server that does not infringe on copyright laws. It is also the object of the present invention to create wireless headphones, a wireless microphone, and a wireless headset that enable improved access to existing or available communication environments.

The invention relates to the idea of providing WLAN headphones or a WLAN receiver with a headphone connection for wireless audio file transfer, as long as the receiver is within the transmission range of a WLAN access point, for example. This involves establishing a connection between the headphones or receiver and a server and/or server service that supports the client functionalities. The server and/or server service can be a private server/service or an external server/service, for which the connection data are known, and for which the user has access rights. More precisely, a connection is established between the access point and the server or server service that contains the data that are to be downloaded, which can be hardwired or partially or entirely wireless. The data are then transferred from the access point to the headphones or

receiver via a WLAN interface (e.g. IEEE 802.11). This enables it to receive its own digitally stored music wirelessly within the transmission range of a WLAN access point. Because it is accessing its own music, a continuous verification of rights is enabled, such that it is not subject to copyright restrictions. WLAN headphones or a WLAN receiver can access their own data in the same manner, regardless of whether the headphones or receiver are within the transmission range of a private WLAN access point or a public WLAN access point.

It is not necessarily essential for a data medium to physically possess the audio data for an authorized access to its own audio data. Audio data that can be accessed in the allowed manner as set forth in this invention can be privately owned music data media, or it can be audio data that have been downloaded from an internet service, potentially for a fee, or it can be audio data copied to a specific server/service, potentially for a fee, from which it can then be retrieved as desired. In particular, the non-physical purchase of audio data should be noted in conjunction with this invention.

It may be the case that the necessary storage space in the private sector is insufficient for storing all of the audio data. An internet service or provider that stores this data and can be accessed in the conventional manner is also conceivable. This service may also involve fees, or it may be included in other service contracts.

The invention also relates to the concept of configuring headphones not only as passive audio receivers, but also as an active network element, or as a web client that provides an internet service such that other network elements can likewise access it. The same applies for a microphone and for the headset.

This results in wireless headphones that have at least one electroacoustic transducer and a transmitter/receiver unit for wireless reception of first signals, which contain audio signals that can be played back on the electroacoustic transducer, and a network identification unit for storing a network ID for the wireless headphones, wherein the transmitter/receiver unit is configured for wireless transmission of the network ID for the

headphones, wherein the network ID for the wireless headphones stored in the network identification unit represents an internet protocol address.

As a result, the wireless headphones form not only a passive receiver for audio signals, but also an active network element. This ensures that the wireless headphones can be clearly identified in a network. The wireless headphones can be accessed via the internet using IP address, i.e. the wireless headphones can be addressed worldwide.

According to another aspect of the present invention, the IP address is assigned to a network element in a wireless network in which the wireless headphones are located.

According to another aspect of the present invention, the headphones contain a buffer for temporarily storing the received signals. Brief interruptions in the reception of the first signals can be bridged with such a buffer, without having to stop playback of the audio signals via the electroacoustic transducer. The buffer can be a component of the streaming protocol, or it can be formed in the application software as a supplement to the streaming protocol.

According to another aspect of the present invention, the wireless headphones have a display for displaying second signals that have been received by the transmitter/receiver unit along with the first signals. As a result, supplementary information, e.g. a title and performer of a piece of music, can be displayed on the display.

According to another aspect of the present invention, the wireless headphones have control buttons. The user can use these control buttons to control the display and communicate with other network elements in the network. The user can thus select audio files stored on a server in the network, such that they can be transferred to the wireless headphones for playback.

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