

★★★ <第11回知的財産翻訳検定試験【第5回英文和訳】> ★★★

≪1級課題「電気・電子工学」≫

【解答にあたっての注意】

1. ***START***から***END***までを和訳してください。
2. 解答語数に特に制限はありません。
3. 課題文に段落番号がある場合、これを訳文に記載してください。
4. 課題に図面が添付されている場合、該当する図面を参照してください。★「課題図表の表示／非表示」リンクで表示
5. 課題は3題あります。それぞれの課題の指示に従い、3題すべて解答してください。

〔問1〕 次の米国特許明細書中のクレームを翻訳してください。参考資料として FIG. 1 と簡単な説明を添付していますが、これらは翻訳対象ではありません。

START

What is claimed is:

1. A wearable computer system, comprising:
 - a plurality of devices that are electrically networked together via a human body to form the wearable computer system, the human body serving as a transmission medium for the plurality of devices,
 - wherein a first of the plurality of devices automatically regulates the power of a data signal transmitted from the first device to a second of the plurality of devices based on a power measurement of a signal received from the second of the plurality of devices, and
 - wherein at least one of the plurality of devices transmits information regarding the at least one device's location on the human body and is supplied with an amount of power in accordance with the transmitted location information.
2. The wearable computer system of claim 1, wherein the at least one of the plurality of devices is further configured to transmit an audio signal through the human body.

3. The wearable computer system of claim 1, wherein at least one of the plurality of devices includes a kinetic power supply that converts kinetic energy generated by the human body into electrical energy, the electrical energy being transmitted via the human body to at least one of the plurality of devices to supply power to the device.

END

《参考》

In FIG. 1, the system 10 comprises a plurality of portable devices 20, 22, 24, 26, 28, 30, and 32, which are coupled together by the human body 11. The portable devices include a portable computer device 20, a pager device 22, a keyboard 24, a display 26, an audio input device 28, an audio playback device 30 and a power supply 32. Each of the devices is coupled to the human body by a pair of electrodes. Power and/or information may be transmitted between the portable devices 20, 22, 24, 26, 28, 30, and 32 by using the body 11 as a conductive medium. Body 11 serves as a bus to couple portable devices 20, 22, 24, 26, and 30 together. Portable devices can transmit and receive power and transmit and receive information, e.g., communications signals. In FIG. 2, the first through Nth portable devices, e.g., devices 20, 24, 26, each include a communications/power module 21, 21', 21" and device circuitry 23, 23', 23". Communications/power module 21 is responsible for interfacing with other devices in the network 10, communicating with them, and receiving/sending power over the bus 11. Device circuitry 23, 23', 23" is circuitry which implements the specific functions the portable devices 20, 24, 26 are designed to support.

【1級/電気・電子工学 問1 図面】

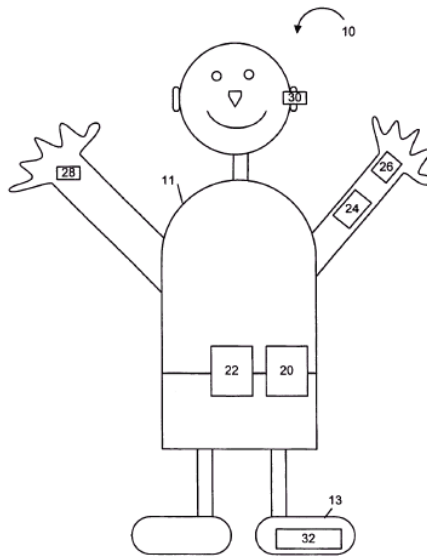


FIG. 1

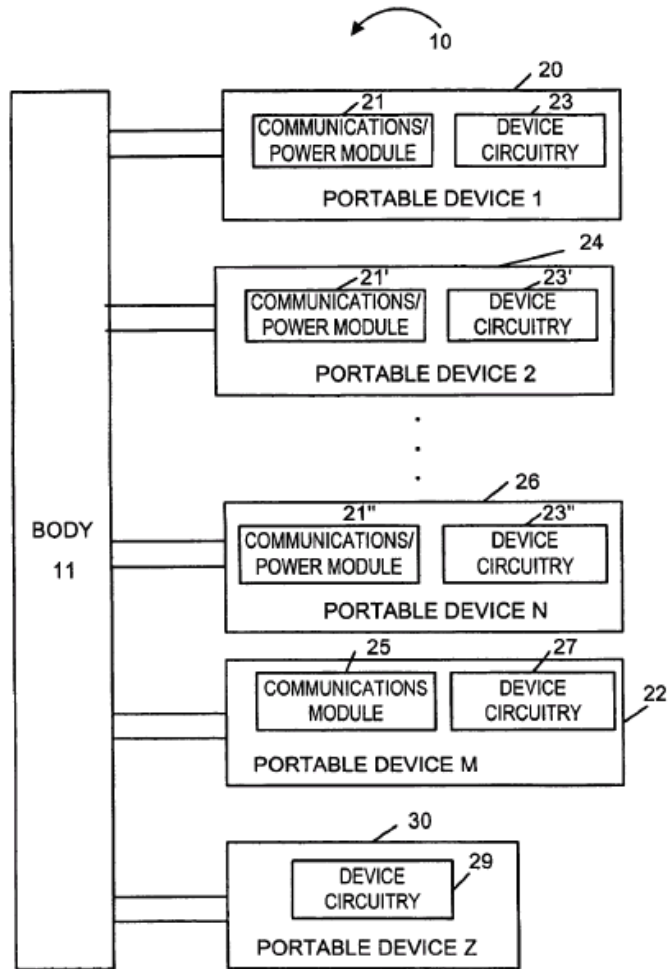


FIG. 2

〔問2〕 次の米国特許明細書中の背景技術にかかわる記載内容について翻訳しなさい。

START

Medical ultrasound devices commonly utilize a processing unit, a head that is passed over a region to be imaged, and a cable that connects the head to the processing unit. The head, in turn, typically includes a row of piezoelectric transducing elements that send ultrasonic vibrations into the region to be imaged, and receive ultrasonic vibrations back from the region after the vibrations have bounced off of internal structures within the region.

The clarity of an ultrasonic image is proportional to the number of piezoelectric transducing elements that are used in a row of transducing elements. As a result, the industry is moving to increase the number of piezoelectric transducing elements that are used in a row, along with increasing the number of rows of piezoelectric transducing elements that are used in a head.

One of the difficulties of increasing the number of piezoelectric transducing elements is that each piezoelectric transducing element has a corresponding signal processing path. Conventionally, the signal processing path includes a low noise amplifier (LNA), a variable gain amplifier (VGA), and an analog-to-digital (A/D) converter.

Thus, if an ultrasonic device includes 256 piezoelectric transducing elements in one or more rows, then the ultrasonic device also includes 256 LNAs, 256 VGAs, and 256 A/D converters that form 256 individual signal processing paths. 256 A/D converters, however, is a large number of A/D converters.

END

〔問3〕 次の米国特許明細書中の実施例にかかわる記載内容について翻訳しなさい。

START

The energy converter 110 includes active electrical circuitry such as a direct current to direct current (DC to DC) converter which converts energy from the batteries 106 to a form suitable for powering the device electrical circuitry 112. Where the device 100 is configured to accept both primary (non-rechargeable) and secondary (rechargeable) batteries, or otherwise having different chemistries, the converter 110 advantageously has an input dynamic range which accommodates the voltages produced by the relevant battery types. An alkaline battery, for example,

has a nominal open circuit voltage of about 1.5 volts direct current (VDC), whereas a nickel metal hydride (NiMH) battery has a nominal open circuit voltage of about 1.2 VDC. In an implementation in which the battery receiving region 104 is configured to receive two batteries connected electrically in series, the nominal open circuit input voltage would thus range between about 2.4 for a device containing two NiMH batteries and 3.0 VDC for a device containing two alkaline batteries. Depending on the requirements of a particular application, it is also desirable that the input dynamic range accommodate decreases in input voltage which occur as the battery(ies) 106 are loaded and/or become discharged.

* * * END * * *