

voltage by the output from the transmitter worn on the arm that touches to the input device 2, becomes dominant therein.

[0140] FIG. 23 shows an example of construction in which a transmitter can perform both transmission and reception. In is noted that a construction of system connected to the other linear electrodes 21X2 to 21X4 and 21Y1 to 214 of the input device 2 is substantially as same as that of the linear electrode 21X1.

[0141] A communication device 310 is worn on the human body 1. An amplifier 324 is connected to a linear electrode 21X1 of the input device 2. A receiving high input impedance amplifier 331 and a transmitting high input impedance amplifier 332 constructs the amplifier 324. The receiving high input impedance amplifier 331 amplifies the inducing voltage generated at the linear electrode 21X1 and supplies the amplified voltage to the coordinate detecting unit 232 and the modulation circuit 234. The coordinate detecting unit 232 detects a coordinate from the supplied signal and outputs the detection coordinate to an output terminal 235. The modulation circuit 234 demodulates the signal supplied from the amplifier section 324 and outputs the demodulated signal to an input and output terminal 321.

[0142] The input and output terminal 321 is connected to a personal computer (not shown in the figure), outputs the output signal to the personal computer, obtains a signal transmitted from the personal computer, and supplies the obtained signal to a microprocessor 322 in demodulation circuit 234.

[0143] The microprocessor 322 converts the signal obtained by way of the input and output terminal 321 into a predetermined-formatted signal and outputs the formatted signal to a modulator 323. The modulator 323 modulates the inputted signal in an FM manner and outputs the modulated signal to a transmitting high inputting impedance amplifier 332 in the amplifier section 324. The transmitting high input impedance amplifier 332 amplifies the inputted signal and outputs the amplified signal to the linear electrode 21X1 of the input device 2. The signal supplied to the linear electrode X1 is received by the communication device 310 by way of the human body 1.

[0144] FIG. 24 shows a view of outline of an example of construction of the communication device 310. In this example, the communication device 310 is worn on the arm 1A of the user (human body 1) using a band 161. The transmission electrode 162, the ground electrode 163, and the reception electrode 351 are provided on a surface where the communication 310 and the arm 1A are touched. Further, the communication device 310 has an LED 164 that is illuminated corresponding to-a transmission state of the communication 310.

[0145] FIG. 25 shows an example of construction of inside of the communication device 310. A signal source 251, a modulator 252, a band-pass filter 253, an amplifier 254, a transmission electrode 162, and an LED 164 are substantially as same as those of the transmitter of FIG. 19. Therefore, the explanation is omitted.

[0146] A reception electrode 351 outputs a signal received by way of the human body 1 to an amplifier 352. The amplifier 352 amplifies the input signal and outputs the amplified signal to a demodulator 353. The demodulator 353

demodulates the signal supplied from the amplifier 352 and supplies the demodulated signal to a signal processor 354. The signal processor 354 applies a predetermined process to the inputted signal.

[0147] One end of a battery 255 is grounded. A required electrical power is supplied to the signal source 251, the modulator 252, the band-pass filter 253, the amplifiers 254 and 352, the demodulator 353, and the signal processor 354 from the other end of the battery 255. A ground electrode 163 is connected to each of the grounds point of the signal source 251, the modulator 252, the band-pass filter 253, the amplifiers 254 and 352, the battery 255, demodulator 353, and the signal processors 354.

[0148] Following will be explained about the operation. The operation of transmission of the communication 310 is substantially as same as that of the system of FIG. 18. The explanation is omitted. Namely, the following will be done about an operation of reception.

[0149] A signal transmitted by the personal computer is supplied to the microprocessor 322 of the demodulation circuit 234 by way of the input and output terminal 321. The microprocessor 322 converts the inputted signal into a predetermined-formatted signal and outputs the formatted signal to the modulator 323.

[0150] The modulator modulates the signal inputted from the microprocessor 322 in an FM manner and supplies the modulated signal to the transmitting high input impedance amplifier 332 of the amplifier section 324. The transmitting high input impedance amplifier 332 amplifies a transmission signal modulated by the modulator 323 and outputs the amplified signal to the linear electrode 21X1 of the input device 2.

[0151] When the arm 1A of the human body 1 touches the linear electrode 21X1, the reception electrode 351 of the communication device 310 by way of the arm 1A receives the signal outputted from the linear electrode 21X1. The signal received by the reception electrode 351 is supplied to the amplifier 352. The amplifier 352 amplifies the supplied signal and outputs the amplified signal to the demodulator 353. The demodulator 353 demodulates the amplified signal by the amplifier 352 and supplies the modulated signal to the signal processor 354. The signal processor 354 processes the signal inputted from the demodulator 353.

[0152] Thus, the transmission and the reception processing is performed, by way of the human body 1, between the ambience-side communication device whose transmission and reception terminal is the input device 2 and the communication device 310 regarded as a wearable communication device worn on the human body 1.

[0153] Referring to a flowchart of FIG. 26, it will be explained about a half-duplex communication processing through the ambience-side communication device whose transmission and reception terminal is the input device 2 of FIG. 23.

[0154] At Step S1, the ambience-side communication device outputs a marker signal from the linear electrodes 21Xi and 21Yi of the input device 2. The marker signal is periodically transmitted, in which detection is performed whether or not the user (human body 1) touches the input