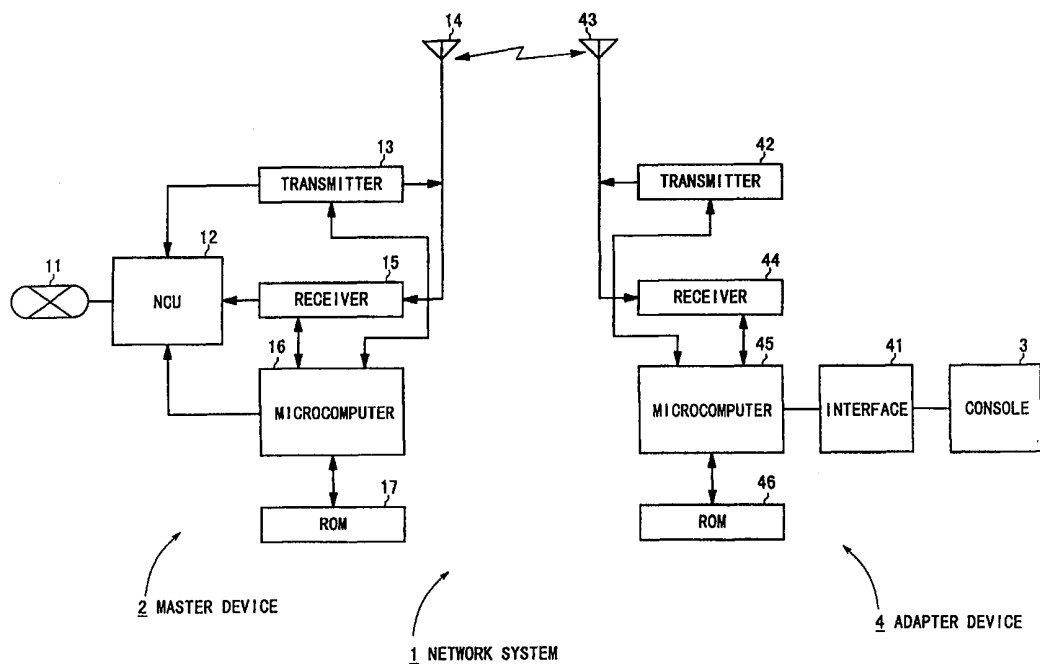




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(54) Title: ADAPTER DEVICE AND NETWORK SYSTEM



(57) Abstract

A network system (1) which is capable of promoting the use of networks and making the use of a console (3) valuable has an adapter device (4) that comprises an interface (41) for electrically connecting to a console (3) having a controller, a transmitter (42) for processing a signal representative of information from the console (3) which has been entered via the interface (41), and an antenna (43) for transmitting an analog signal generated by the transmitter (42).

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ADAPTER DEVICE AND NETWORK SYSTEM

Technical Field

The present invention relates to an adapter device for
5 transmitting an analog signal outputted from an electronic
device to a network, and a network system incorporating such
an adapter device.

Background Art

10 Console-type CPU systems including personal computers
for home use, TV game machines, and set-top boxes, which are
available in recent years, can be used while in communica-
tion with remote locations via telephone lines.

It is the general practice to connect such a console to
15 a network such as the Internet or the like with a cable via
an analog telephone line or a digital communication network.
For example, the console is connected by a modular cable to
an indoor modular jack that is connected to a network.

Recently, mobile telephone services including portable
20 telephone and PHS (Personal Handyphone system) as radio
telephone have been in widespread use. When the above con-
sole is connected to a radio telephone set, the console can
be connected to a network such as the Internet or the like.
In this case, the console is connected directly to the net-
25 work via the radio telephone set with an adapter such as a
dedicated modem, a connection adapter, or the like. Adap-
ters for use between radio telephone sets and consoles in-
clude an adapter that incorporates a mobile telephone func-

tion, as well as the dedicated modem and the connection adapter. These adapters are usually available as options.

Heretofore, connecting a console to a network has posed the following problems:

5 Since the console needs to be installed and used near the modular jack, the console suffers a limitation on its location.

 It is tedious and time-consuming to connect the console to the modular jack because a modular cable is required to
10 interconnect the console and the modular jack.

 A TV game machine or a set-top box is normally used in a certain fixed position, e.g., it is connected to a television set in a living room. Therefore, a modular jack needs to be installed near a TV game machine or a set-top box.

15 Portable telephone or PHS suffers other problems in that it covers limited geographical regions only, cannot pick up sufficiently strong radio waves in general residential areas other than municipal areas and outdoor environments, and cannot be used within buildings and condominiums.

20 The above problems have presented an obstacle to users' efforts to connect consoles for home use to public networks. Because of this obstacle, applications which use networks have been prevented from becoming widely used.

 It is therefore an object of the present invention to
25 provide an adapter device which is capable of promoting the use of networks and making the use of a console valuable, and a network system incorporating such an adapter device.

Disclosure of Invention

The adapter device according to the present invention is capable of transmitting an analog signal representative of information from the console, which has been processed by the transmission signal processing means, to the first telephone set, and the first telephone set can output the information from the console, which is obtained on the basis of the received analog signal, to the public telephone line. Therefore, the adapter device can utilize an existing analog communication system which has generally been in widespread use, making use of the communication system valuable.

The adapter device allows the console to be connected to the public telephone line regardless of where the modular jack is positioned, without concern over any cables, insofar as the console is located at home. The adapter device can be manufactured with ease.

In the network system according to the present invention, an adapter means can transmit an analog signal representative of information from the console, which has been processed by the transmission signal processing means of the adapter means, to the first telephone set, and the first telephone set can output the information from the console, which is obtained on the basis of the received analog signal, to the public telephone line. Therefore, the network system can utilize an existing analog communication system which has generally been in widespread use, making use of the communication system valuable.

Furthermore, the network system allows the console to

be connected to the public telephone line regardless of where the modular jack is positioned, without concern over any cables, insofar as the console is located at home. The adapter means can be manufactured with ease.

5 In the adapter device according to the present invention, a transmitting means can transmit an analog signal representative of information from the console, which has been processed by the transmission signal processing means, to the receiving means, and the receiving means can output
10 the information from the console, which is obtained on the basis of the received analog signal, to the public telephone line.

 Furthermore, the adapter device allows the console to be connected to the public telephone line regardless of
15 where the modular jack is positioned, without concern over any cables, insofar as the console is located at home. The adapter device can be manufactured with ease.

 Although certain preferred embodiments of the present invention have been shown and described in detail, it should
20 be understood that various changes and modifications may be made therein without departing from the scope of the appended claims.

 The above and other objects, features, and advantages of the present invention will become more apparent from the
25 following description when taken in conjunction with the accompanying drawings in which preferred embodiments of the present invention are shown by way of example.

Brief Description of Drawings

FIG. 1 is a block diagram of a network system according to the present invention, showing the manner in which signals are sent and received between a master device and an adapter device;

FIG. 2 is a block diagram of an analog cordless telephone system constructed on the basis of the network system shown in FIG. 1;

FIG. 3 is a block diagram of a video entertainment system as a console connected to the adapter device and a master device, constructed on the basis of the network system shown in FIG. 1;

FIG. 4 is a perspective view of the video entertainment system and the master device shown in FIG. 3;

FIGS. 5 and 6 are a flowchart of a processing sequence of the network system; and

FIG. 7 is a perspective view of a video entertainment system as a console and an adapter device which is shaped to match the video entertainment system.

Best Mode for Carrying Out the Invention

As shown in FIG. 1, a network system 1 according to the present invention comprises a first telephone set (master device) 2 connected to a public telephone line (public telephone network) 11 by a cable, for transmitting and receiving a radio analog signal representing desired information to and from a second telephone set (slave device) 21 (see FIG. 2) with transmitting/receiving means 13, 14, 15, a console 3

having a control means, and an adapter device 4 electrically connected to the console 3.

The components of the network system 1 will be described in detail below.

5 The first telephone set 2 is connected to the public telephone network 11 by a cable with a modular jack or the like, and serves as the master device. The second telephone set 21 is capable of transmitting and receiving desired information as a radio signal to and from the master device 2,
10 and serves as the slave device.

 The master device 2 comprises an NCU (Network Control Unit) 12, a transmitter 13, an antenna 14, a receiver 15, a microcomputer 16, and a ROM (Read-Only Memory) 17. The transmitter 13, the antenna 14, and the receiver 15 jointly
15 make up a transmitting/receiving means.

 The NCU 12 serves as a controller for connection to the public telephone line 11, and controls signals as they are inputted from and outputted to the public telephone line 11.

 The transmitter 13 processes a signal which has been
20 inputted from a remote party through the NCU 12. The transmitter 13 has a high-frequency transmission circuit, and modulates a signal from a sender according to an analog modulating process.

 The antenna 14 transmits and receives a radio signal to
25 and from the adapter device 4 or the slave device 21. For example, the antenna 14 transmits a signal processed by the transmitter 13 to the adapter device 4 or the slave device 21, and receives a signal transmitted from the adapter de-

vice 4 or the slave device 21.

The receiver 15 processes a signal received by the antenna 14, i.e., a signal transmitted from the adapter device 4 or the slave device 21.

5 The receiver 15 has a high-frequency reception circuit, and demodulates a signal received by the antenna 14. For example, the receiver 15 receives a modulated signal representing information from the console 3 via an antenna 43 of the adapter device 4 and the antenna 14 of the master device
10 2, and demodulates the received signal to obtain the information.

The signal (information) processed by the receiver 15 is outputted by the NCU 12 to the public telephone line 11.

15 The microcomputer 16 serves to control the components of the master device 2, i.e., the NCU 12, the transmitter 13, and the receiver 15.

The ROM 17 serves as a memory means for storing various items of information. For example, the ROM 17 stores programs for the microcomputer 16. The ROM 17 also stores a
20 slave device ID (identification) for identifying the slave device 21 which is the second telephone set 21. Specifically, the slave device ID is used for the master device 2 to check the slave device 21 that has sent a communication request to the master device 2.

25 The master device 2 of the above structure is able to transmit and receive analog signals to and from the slave device 21 and also to and from the adapter device 4 via wireless links.

The master device 2 is constructed as the master device of an analog cordless telephone system for home use or a device equivalent thereto. Only the microcomputer 16 and the ROM 17 are in the form of digital circuits, whereas the other components of the master device 2 are in the form of analog circuits.

The master device 2 and the slave device 21 transmit and receive analog signals of information therebetween according to a given protocol. The adapter device 4 has a plurality of protocols, and transmits and receives signals to and from the master device 2 according to a selected one of those protocols which matches the master device 2. Because the adapter device 4 has the plural protocols, it is not limited to use with the master device 2, but is compatible with a plurality of master devices having different protocols.

The slave device 21 which is the second telephone set 21 is constructed as shown in FIG. 2, for example. As shown in FIG. 2, the slave device 21 comprises a key pad (operating part) 22, a microphone 23, a speaker 24, a display unit 25, a battery 26, a CPU 27, a transmission/reception signal processor 28, and an antenna 29.

The key pad 22, which the user manually operates to enter various control signals, has buttons "0" through "9", "*", "#" as ten keys. When the key pad 22 is operated by the user, the CPU 27 controls various components of the slave device 21 according to control signals entered by the user via the key pad 22.

The microphone 23 detects a speech signal from the user. A speech signal detected by the microphone 23 is processed, e.g., modulated in an analog fashion, and then transmitted to the master device 2.

5 The speaker 24 outputs a speech signal. Specifically, the speaker 24 outputs a speech signal which has been inputted by a calling or called party to which the slave device 21 has been connected, and transmitted from the public telephone line 11 via the master device 2.

10 The display unit 25 serves to display various items of information. For example, the display unit 25 displays items of information depending on control signals entered by the user via the key pad 22, e.g., a telephone number.

The battery 26 supplies electric energy to the slave
15 device 21.

The transmission/reception signal processor 28 processes signals to be transmitted to the master device 2 via the antenna 29, and also processes signals received from the master device 2 via the antenna 29. The transmission/reception signal processor 28 has a high-frequency
20 transmission/reception circuit, and modulates and demodulates signals in an analog fashion.

The CPU 27 serves to control the components of the slave device 21. For example, the CPU 27 controls the components of the slave device 21, e.g., the display unit 25,
25 depending on control signals entered by the user via the key pad 22.

The slave device 21 of the above structure is able to

transmit and receive analog modulated signals to and from the master device 2 according to a given protocol.

The master device 2 may be may comprise a power supply 31, a CPU 32, and a transmission/reception signal processor 33, as shown in FIG. 2. The transmission/reception signal processor has the transmitter 13 and the receiver 15 shown in FIG. 1, for example. The master device 2 is generally connected to the public telephone line 11 via a cable with a modular jack 34.

10 The master device 2 and the slave device 21 jointly make up a so-called analog cordless telephone system. The adapter device 4 shown in FIG. 1 is added to and forms part of the analog cordless telephone system thus constructed.

The adapter device 4 which allows the master device 2 and the console 3 to transmit and receive analog signals representing desired information will be described below.

As shown in FIG. 1, the adapter device 4 has an interface 41 as a connecting means for electrically connecting to the console 3 which has a control means including a CPU (Central Processing Unit), not shown, a transmitter 42 as a transmission signal processing means for processing a signal representative of information inputted from the console 3 via the interface 41, and an antenna 43 as a transmission element for transmitting an analog signal generated by the transmitter 42.

25 The adapter device 4 also has a receiver 44 for processing a signal transmitted from the master device 2 and received by the antenna 43, a microcomputer 45 for controlling

various components of the adapter device 4, and a ROM 46 as a memory means for storing various data.

The interface 41 is electrically connected to the console 3 and transfers various items of information between the console 3 and the adapter device 4.

The transmitter 42 processes a signal from the console 3 and transmits the processed signal via the antenna 43. Specifically, the transmitter 42 has a high-frequency transmission circuit, and modulates a signal from the console 3 according to an analog modulating process, and transmits the modulated signal via the antenna 43. The transmitter 42 may be of substantially the same construction as the transmission/reception signal processor 28 of the slave device 21. Consequently, the adapter device 4 may be assembled using the transmission/reception signal processor 28 as the transmitter 42.

The antenna 43 serves to transmit and receive signals to and from the master device 2.

The receiver 44 processes a signal received by the antenna 43 and obtains information from the master device 2 based on the processed signal. The receiver 44 has a high-frequency reception circuit, and demodulates a signal received by the antenna 43 and obtains information from the master device 2 based on the demodulated signal. The receiver 44 may also be of substantially the same construction as the transmission/reception signal processor 28 of the slave device 21. Thus, the adapter device 4 may be assembled using the transmission/reception signal processor 28 as

the receiver 44.

The microcomputer 45 serves to control the components of the adapter device 4, i.e., the transmitter 42 and the receiver 44.

5 The ROM 46 serves as a memory means for storing various items of information. For example, the ROM 46 stores programs for the microcomputer 45.

10 The adapter device 4 thus constructed processes a signal representing desired information which have been generated by the console 3, e.g., modulates the signal in an analog fashion, and transmits the processed signal to the master device 2.

15 The master device 2 processes a signal transmitted from the adapter device 4 in the same manner as it processes a signal transmitted from the slave device 21. Specifically, the master device 2 receives a signal transmitted from the adapter device 4 and demodulates the received signal to obtain information generated in the console 3 based on the signal. The master device 2 outputs the signal from the console 3 to the public telephone line 11 in the same manner as it outputs a signal from the slave device 21.

25 In the adapter device 4 which is capable of transmitting and receiving signals to and from the master device 2, the microcomputer 45 and the ROM 46 are in the form of digital circuits, as with the master device 2. Other components of the adapter device 4 than the microcomputer 45 and the ROM 46 are in the form of analog circuits. The microcomputer 45 may be reduced in scale by giving the console 3

most of the functions which the adapter device 4 is to perform.

The console 3 comprises a system having a CPU, such as a personal computer for home use, a video game machine (TV
5 game machine) as a video entertainment system, or a set-top box.

FIGS. 3 and 4 show the manner in which the adapter device 4 allows the console 3 to transmit an analog signal to the master device 2 which is connected by a cable to the
10 public telephone line (public telephone network) 11.

The console 3 shown in FIGS. 3 and 4 is a video entertainment system or video game system, and comprises a many
body 52 having a built-in CPU and a controller 53 as a manual control means. The console 3 is energized by a power
15 supply 54. A display monitor 55 is connected to the main body 52. The console 3 reads a program recorded in a recording medium such as a CD-ROM (Compact Disk - ROM), not shown, and executes a video game or the like based on the program. The program may also be read into the main body 52
20 of the console 3 from the public telephone line 11 via the master device 2 and the adapter device 4.

The display monitor 55 comprises a television set capable of receiving general television broadcasts. For this reason, the display monitor 55 is often installed in a living
25 room.

The main body 52 serves to process data depending on control signals entered via the controller 53 by the user.

The controller 53 comprises various buttons and a

stick, and sends control signals to the main body 52 when the buttons and the stick are manually operated by the user.

The display monitor 55 serves to display video images of data that have been processed by the main body 52.

5 When the controller 53 is manually operated by the user, the console 3 outputs various items of information to the adapter device 4. For example, the user manually operates the controller 53 to generate information while viewing video images displayed on the display monitor 55. The generated information is transmitted from the console 3 via the
10 adapter device 4 to the master device 2.

 The adapter device 4 shown in FIG. 3 has a transmission/reception signal processor 51 for processing signals transmitted and received between the adapter device 4 and
15 the master device 2. The transmission/reception signal processor 51 comprises the transmitter 42 and the receiver 44 shown in FIG. 1.

 The network system 1 is constructed as described above. A process of transmitting and receiving data in the network
20 system 1 will be described below with reference to FIGS. 5 and 6. In the process, the slave device 21 requests the master device 2 to establish a telephone circuit.

 In step S1, the slave device 21 sends a connection request to the master device 2. In response to the connection
25 request, the master device 2 checks the slave device ID of the requesting slave device 21 against a slave device ID stored in the ROM 17 of the master device 2 in step S2. The master device 2 checks the slave device ID of the requesting

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slave device 21 in order to decide whether the requesting slave device 21 is permitted to be connected to the master device 2 or not.

If the slave device ID of the requesting slave device 21 does not agree with the slave device ID in the ROM 17, then the master device 2 does not permit the slave device 21 to be connected to the master device 2 in step S21.

If the slave device ID of the requesting slave device 21 agrees with the slave device ID in the ROM 17, then the master device 2 checks whether the circuit of the analog cordless telephone system is busy or not in step S3. The circuit of the analog cordless telephone system is busy when no secure connection has been made between the slave device and the circuit or the circuit is being used by another slave device.

If the circuit of the analog cordless telephone system is busy in step S3, then the master device 2 carries out a busy-circuit process in step S31. If the circuit of the analog cordless telephone system is not busy, i.e., can be used, then the master device 2 searches for an idle channel in step S4. Specifically, the master device 2 searches for an idle channel in a frequency band assigned to the analog cordless telephone system.

If no idle channel is available in step S4, then the master device 2 carries out a busy-channel process in step S41.

If an idle channel is available in step S4, then the master device 2 sets the idle channel as an active channel

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in step S5. The master device 2 can now communicate with the slave device 21 in step S6.

In step S7, a telephone number entered in the slave device 21 by the user is transmitted to the master device 2.

5 The master device 2 then dials the transmitted telephone number in step S8, and thereafter performs a connection check in step S9. If the dialed telephone number is busy in the connection check, then the master device 2 carries out a busy process in step S91.

10 If the master device 2 is connected to the party of the dialed telephone number in the connection check, then the master device 2 establishes a link with the dialed party via the public telephone line 11 in step S10.

15 Thereafter, information from the console 3 is transmitted to the master device 2 by the adapter device 4. The information from the console 3 is therefore transmitted from the master device 2 to the dialed party via the established link.

20 For example, if the dialed party has a device with a display unit, then the information from the console 3 is displayed on the display unit.

25 For stopping the communication, the slave device 21 sends a disconnection request to the master device 2 in step S12, and the link is disconnected in response to the disconnection request in step S13.

The network system 1 incorporating the adapter device 4 has been described above.

With the adapter device 4 added to the analog cordless

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telephone system, the network system 1 provides a communication system for communication with the console 3. Therefore, if the adapter device 4 is added to an existing analog cordless telephone system, then there is provided a communication system for communication with the console 3. A system including the console 3 can easily be constructed because an existing infrastructure is employed.

The network system 1 allows the console 3 to be connected to the public telephone line 11 through the adapter device 4 and the master device 2 regardless of where the modular jack 34 is positioned, without concern over any cables, insofar as the console 3 is located at home.

The components of the adapter device 4, other than the microcomputer 45 and the ROM 46, are in the form of analog circuits, and the microcomputer 45 may be reduced in scale as most of the functions thereof can be performed by the console 3. Therefore, the adapter device 4 can be constructed as a simple analog circuit, and does not require a complex control circuit and an error-correcting circuit which may be found in digital cordless telephone systems. As a result, the adapter device 4 makes it possible to provide an inexpensive communication system.

For the reasons described above, the network system 1 allows a network to be constructed at a low cost as it requires no modem. The network system 1 will easily find widespread use in view of the fact that the public telephone line 11 has already been widely used. The adapter device 4 can easily be manufactured because it can be made of exist-

ing units and components that are already present in large quantities.

Even if the user does not have an analog cordless telephone set, i.e., even if the user does not have the master
5 device 2, the user can construct a communication system connected to the console 3 by using a reception adapter device connected to the public telephone line 11.

Specifically, a reception adapter device for receiving a signal from the adapter device 4 is provided, and the re-
10 ception adapter device comprises a reception element for receiving the signal from the adapter device 4 via a wireless link, a reception signal processing means for processing an analog signal received by the receiver to obtain information from the console 3, and a connecting means connected to the
15 public telephone line 11 for outputting the information, obtained by the reception signal processing means, from the console 3 to the public telephone line 11.

The reception element comprises an antenna, for example. The reception signal processing means comprises the
20 transmission/reception signal processor 33 of the master device 2 shown in FIG. 2, for example. The connecting means comprises the NCU 12 of the master device 2 shown in FIG. 1, for example.

Specifically, the reception adapter device may be identical in structure to a receiving means, provided in the
25 master device 2 connected to the public telephone line 11, for transmitting and receiving an analog signal representative of information to and from the slave device 21 via a

wireless link.

In the above modification, the reception adapter and the adapter device 4 transfer analog signals from the console 3 according to a single protocol.

5 Accordingly, it is possible to transfer information from the console 3 to the public telephone line 11 without using the master device 2. A communication network can easily and inexpensively be constructed by using the receiver of the existing master device 2 as the reception adapter de-
10 vice.

The adapter device 4 may be shaped to match the console 3. For example, if the adapter device 4 is incorporated in the video entertainment system shown in FIG. 4, then, as shown in FIG. 7, the adapter device 4 may be constructed
15 such that it can be mounted on the back of the main body 52 of the video entertainment system in a substantially unitary configuration. Since the adapter device 4 is mounted on the back of the main body 52, the user no longer pays attention to the fact that the adapter device 4 is mounted on the main
20 body 52, and can feel that the console 3, by itself, transmits information via the master device 2 to the public telephone line 11.

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CLAIMS

1. An adapter device comprising:

connecting means (41) for electrically connecting to a
5 console (3) having control means;

transmission signal processing means (42) for processing
a signal representative of information from the console which
has been entered via said connecting means;

a transmission element (43) for transmitting an analog
10 signal generated by said transmission signal processing
means,

wherein said adapter device establishes a wireless link
with a first telephone set (2) connected by a cable to a pub-
lic telephone line (11) and having transmitting/receiving
15 means (13, 14, 15) (33) for transmitting and receiving the
analog signal to and from a second telephone set (21) via a
wireless link, the arrangement being such that the informa-
tion from the console is transmitted as an analog signal from
said transmission element (43) to said transmitting/receiving
20 means (13, 14, 15) (33).

2. An adapter device according to claim 1, wherein said
console comprises a video entertainment system (52, 53).

25 3. An adapter device according to claim 1, wherein said
transmitting/receiving means includes receiving means (14,
15) comprising a reception element (14) for receiving the
analog signal from said transmission element (43) via a

wireless link, and signal processing means (15) for processing the analog signal received by said reception element.

4. An adapter device according to claim 1, having a plurality of protocols, wherein one of said protocols which matches said first telephone set (2) is selected, and said analog signal is transmitted to said first telephone set (2) according to the selected one of the protocols.

5. An adapter device according to claim 1, wherein said first telephone set and said second telephone set comprise a master device and a slave device, respectively, of an analog cordless telephone system.

6. A network system comprising:
a first telephone set (2) connected by a cable to a public telephone line (11) and having transmitting/receiving means (13, 14, 15) (33) for transmitting and receiving an analog signal representative of information to and from a second telephone set (21) via a wireless link;
a console (3) having control means; and
adapter means (4) having connecting means (41) for electrically connecting to said console, transmission signal processing means (42) for processing a signal representative of information from the console which has been entered via said connecting means, and a transmission element (43) for transmitting an analog signal generated by said transmission signal processing means.

7. A network system according to claim 6, wherein said console comprises a video entertainment system.

5 8. A network system according to claim 6, wherein said transmitting/receiving means includes receiving means (14, 15) comprising a reception element (14) for receiving the analog signal from said transmission element (43) via a wireless link, and signal processing means (15) for process-
10 ing the analog signal received by said reception element.

 9. A network system according to claim 6, wherein said adapter means (4) has a plurality of protocols, and wherein one of said protocols which matches said first telephone set
15 (2) is selected, and said analog signal is transmitted to said first telephone set (2) according to the selected one of the protocols.

 10. A network system according to claim 6, wherein said
20 first telephone set and said second telephone set comprise a master device and a slave device, respectively, of an analog cordless telephone system.

 11. A reception adapter device comprising:
25 receiving means connected by a cable to a public telephone line (11), wherein said receiving means further comprises a reception element for receiving an analog signal via a wireless link, reception signal processing means for proc-

essing the analog signal received by said reception element,
and connecting means connected to said public telephone line
(11), for outputting the information which has been obtained
by said reception signal processing means to said public
5 telephone line (11),

wherein said receiving means establishes a wireless link
for receiving an analog signal from a transmitting means (42,
43) for transmitting information from a console (3) having
control means, wherein said transmitting means (42, 43)
10 further comprises connecting means (41) for electrically con-
necting to said console, transmission signal processing means
(42) for processing a signal representative of information
from said console which has been entered via said connecting
means, and a transmission element (43) for transmitting an
15 analog signal generated by said transmission signal process-
ing means, and

wherein said reception element receives the analog sig-
nal from said transmission element via said wireless link,
said reception signal processing means processes the analog
20 signal to obtain the information from said console, and said
connecting means outputs the information from the console.

12. A reception adapter device according to claim 11,
wherein said receiving means is structurally identical to
25 receiving means (14, 15) of a first telephone set (2) con-
nected by a cable to said public telephone line (11), for
transmitting and receiving an analog signal representative
of information to and from a second telephone set (21) via a

wireless link.

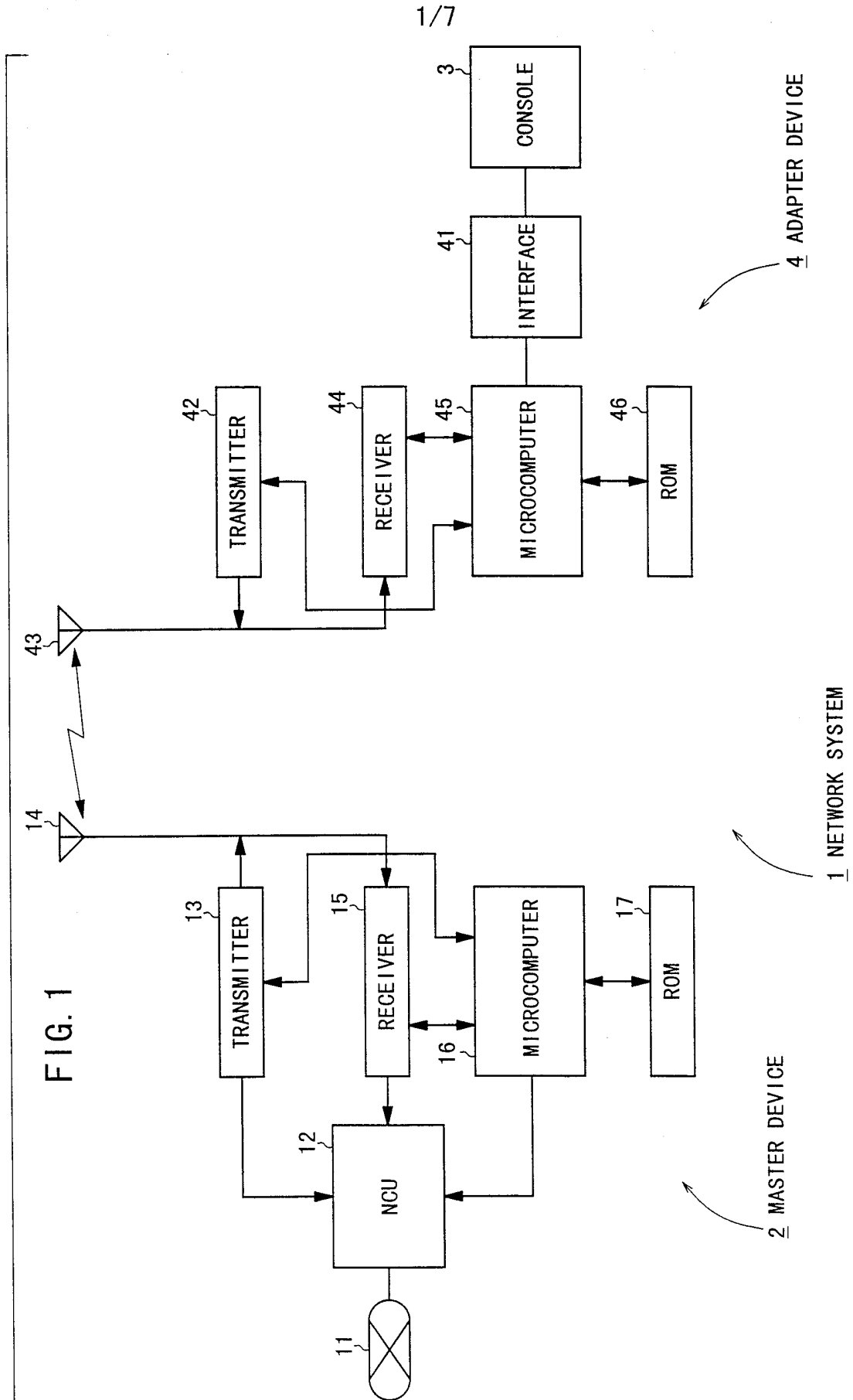
13. A reception adapter device according to claim 12,
wherein said console comprises a video entertainment system.

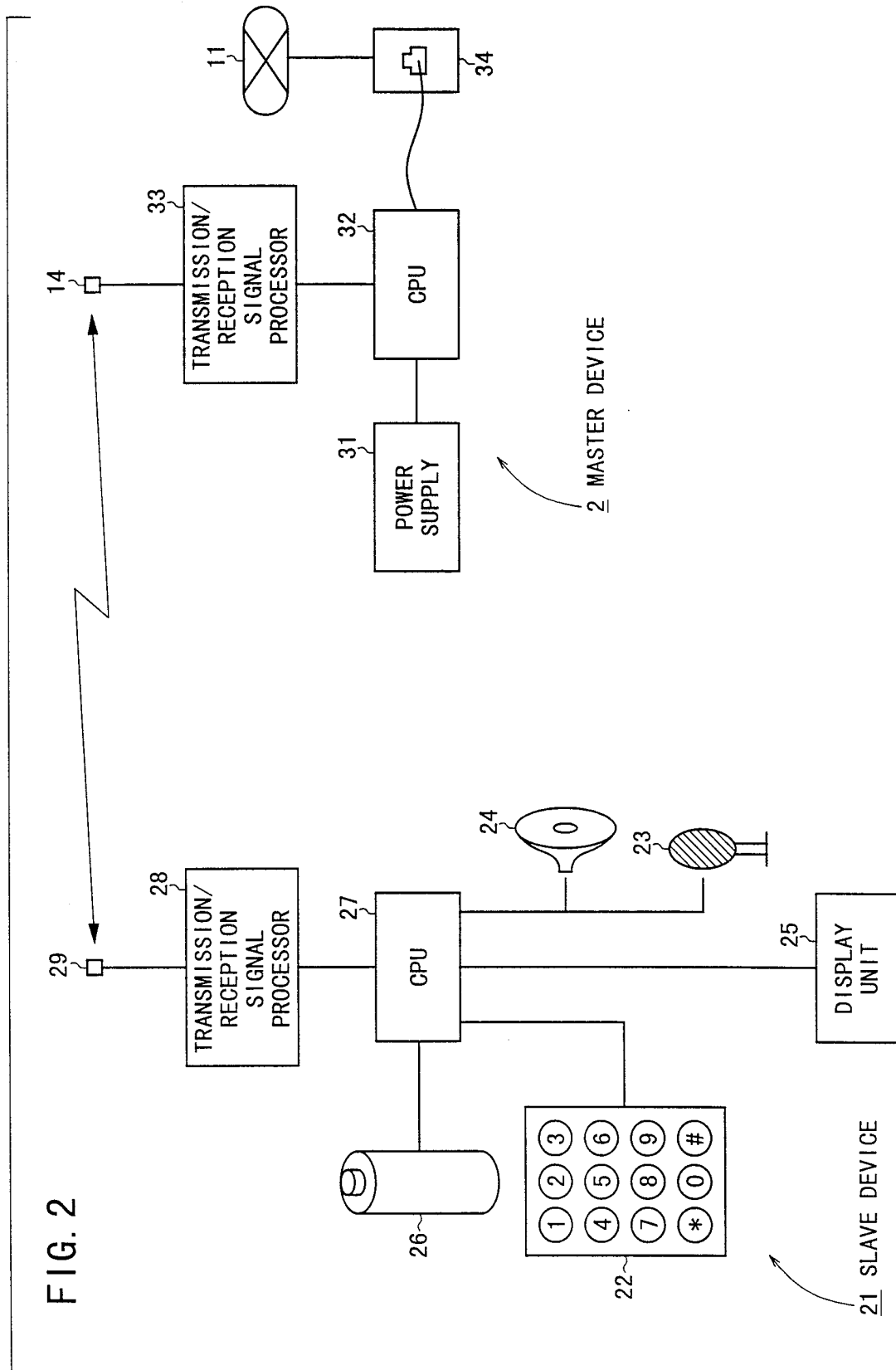
5

14. A reception adapter device according to claim 12,
wherein said transmitting means (42, 43) and said receiving
means transmit and receive analog signals according to a
single protocol.

10

15. A reception adapter device according to claim 12,
wherein said first telephone set and said second telephone
set comprise a master device and a slave device, respec-
tively, of an analog cordless telephone system.





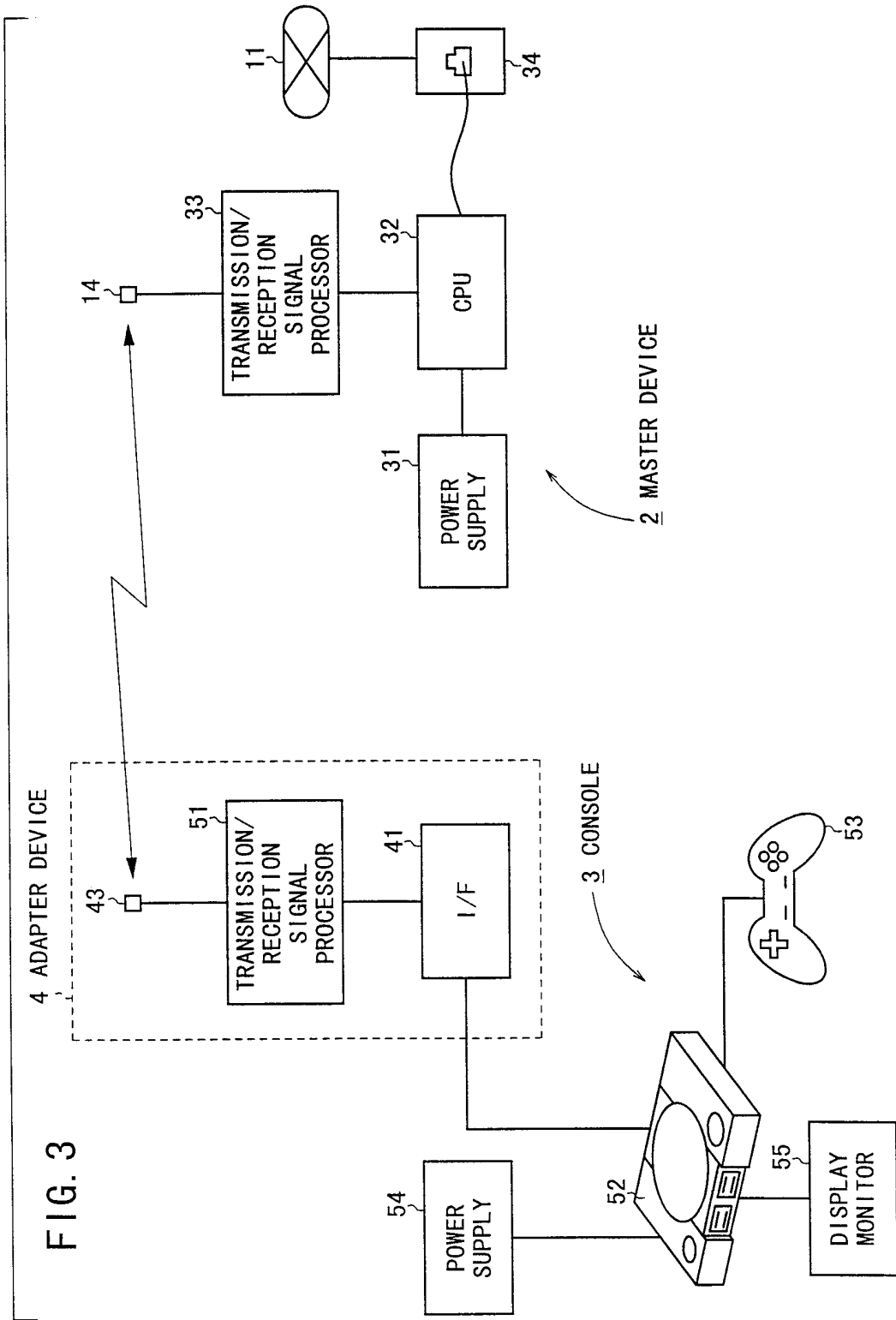


FIG. 3

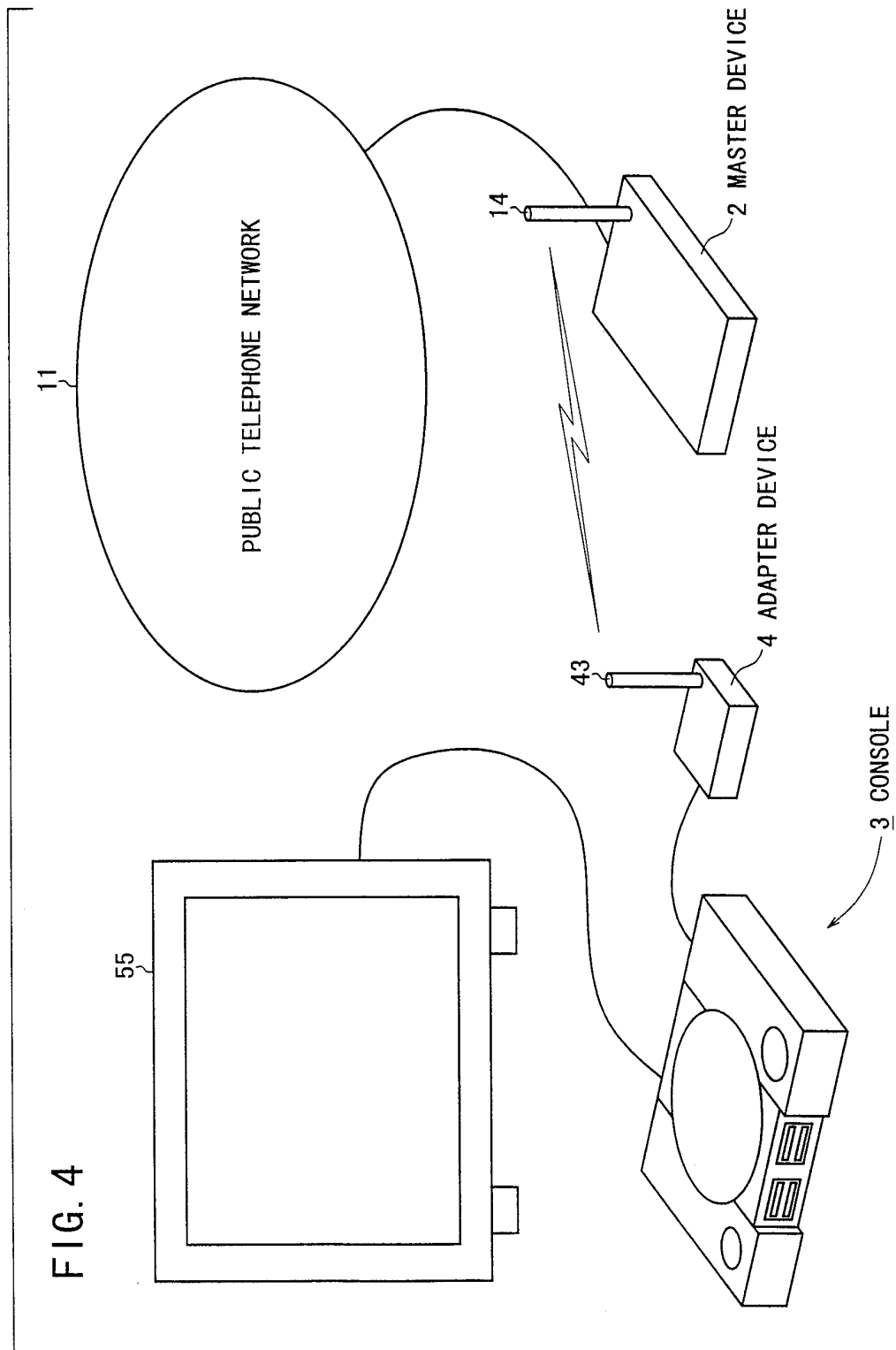


FIG. 4

FIG. 5

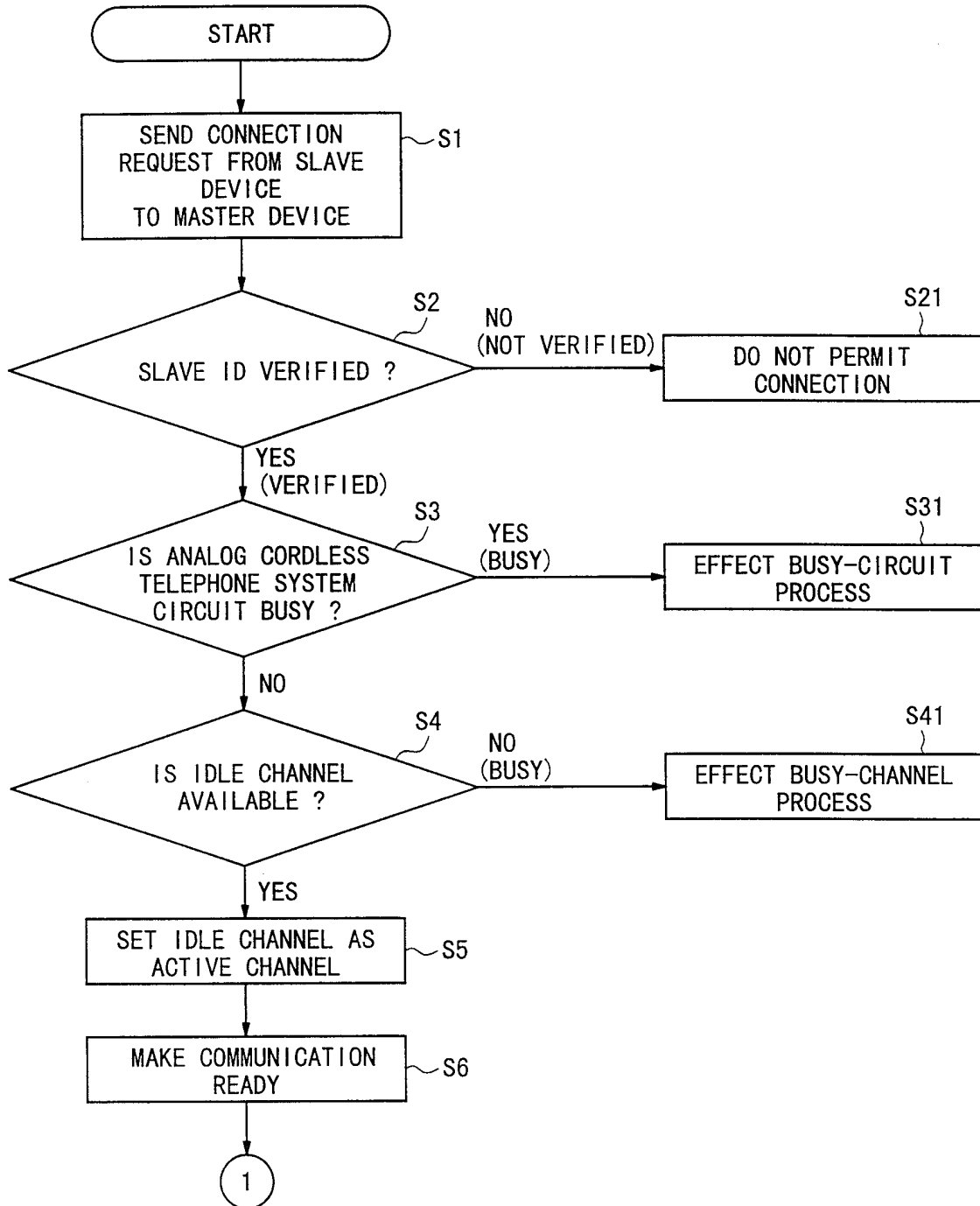


FIG. 6

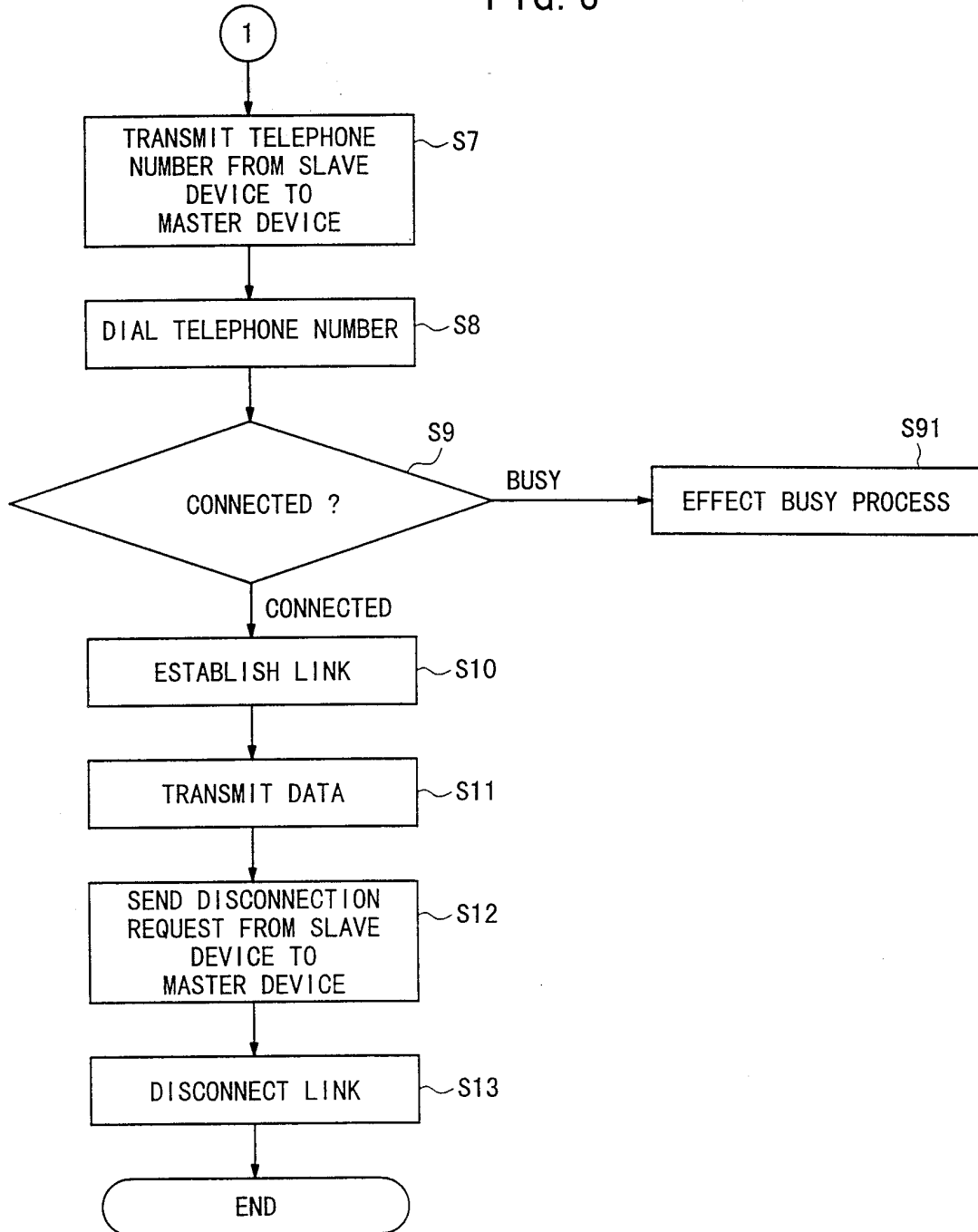
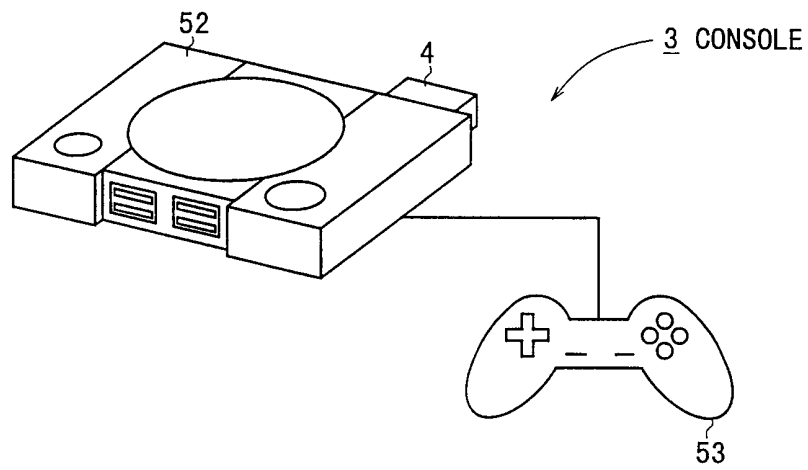


FIG. 7



INTERNATIONAL SEARCH REPORT

International Application No

PCT, JP 99/03996

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04M11/06 H04L12/28 H04M1/72

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L H04M H04Q A63F G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 683 573 A (COMPAQ COMPUTER CORP) 22 November 1995 (1995-11-22) abstract column 3, line 12 - line 19 column 7, line 48 - line 53 column 8, line 55 - line 58 column 10, line 7 - line 33 column 11, line 15 - line 43 claim 1; figures 2,9 ---	1-15
A	WO 96 15614 A (OKI TELECOM) 23 May 1996 (1996-05-23) abstract figures 1,4 ---	4,9
A	US 5 551 701 A (JUVE ERIC K ET AL) 3 September 1996 (1996-09-03) abstract ---	2,7,13
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

28 October 1999

Date of mailing of the international search report

05/11/1999

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INTERNATIONAL SEARCH REPORT

International Application No

PCT, JP 99/03996

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category ^a	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 790 732 A (IBM) 20 August 1997 (1997-08-20) abstract column 1, line 23 - line 31 column 2, line 3 - line 20 column 3, line 56 - line 57 column 5, line 11 - line 16 column 6, line 10 - line 17 claims 6,7; figures 4-6 -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

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