

EXHIBIT M

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TELEVISION RECEIVER WITH A TV PHONE FUNCTION

5 INCORPORATION BY REFERENCE

This application is a Continuation of U.S. Application No. 15/631,298, filed June 23, 2017, which is a Continuation of U.S. Application No. 15/215,839, filed July 21, 2016, now U.S. Patent No. 9,723,268 which is a Continuation of U.S. Application No. 14/811,048, filed July 28, 2015, now U.S. Patent No. 9,432,618, which is a Continuation of U.S. Application No. 13/723,312, filed December 21, 2012, now U.S. Patent No. 9,124,758, which is a Continuation of U.S. Application No. 12/457,257, filed June 4, 2009, now U.S. Patent No. 8,363,087. The present application claims priority from U.S. Application No. 12/457,257 filed June 4, 2009, now U.S. Patent No. 8,363,087, which claims priority from Japanese application JP2008-246232 filed on September 25, 2008, the content of which is hereby incorporated by reference into this application.

20 BACKGROUND OF THE INVENTION

Field of the Invention

The present technology relates to a television (TV) receiver set with TV phone functionality added thereto, which is arranged to have a video telephone call enabling means to thereby make it possible to perform video/voice-based telecommunication with another machine. This technology also relates to a TV phone system using videophone function-added TV receivers of this type.

30 Description of the Related Art

A telephone communication system and TV broadcast system are independently established systems. Traditionally, a telephone equipment and TV receiver set

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are quite different apparatuses. In cases where a telephone receives an incoming call and generates a ring sound or melody (calling sound) signaling the incoming call, a called party fails to hear this sound from time to time. A technique for avoiding this risk is disclosed, for example, in JP-A-5-56190. With this technique, a telephone is communicatively connected by a signal transmission line to a TV receiver, wherein the TV receiver is arranged so that upon receipt of an incoming call at the telephone, the TV receiver displays a phone call arrival message on its display screen.

Alternatively, a video telephone apparatus is also known, which is arranged to enable a user to make a phone call with a distant party at the other end of a line by transmission and reception of video images and voices. This type of videophone typically has a camera, microphone, loudspeaker and image display device and is designed to transmit toward the distant party's videophone video and voice signals that are obtained by the camera and microphone of the videophone on the self side, receive video and voice signals from the distant party's videophone, and display this video by the image display device while reproducing the voice by the speaker. In a case where transmission is done to the distant party's videophone, a video image and voice are subjected to compression processing (encoding) for transmission while

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simultaneously performing expansion processing (decoding) of a video and voice that are received from the distant party's videophone, and reproducing them at the image display device and speaker (for detail, see JP-A-9-83983).

5 SUMMARY OF THE INVENTION

In the prior known technique as disclosed in JP-A-5-56190, the TV receiver and the videophone are arranged so that these are discrete devices which operate independently of each other. Upon receipt of an incoming
10 telephone call at the videophone during watching a TV broadcast program by the TV receiver, a message which notifies arrival of such phone call is displayed on the TV receiver's display screen so that a user easily knows that there is an incoming phone call. In this event, the user
15 must walk to a place at which this videophone is put and perform manual operations for startup of talking with a caller on the videophone. This is a time-consuming and troublesome work for the user who is watching his or her preferred TV broadcast program.

20 In the case of not only starting a telephone call but also ending the phone call, the user is required to perform a manual operation for the phone call completion (e.g., putting a transceiver handset on a base unit or "cradle"). This operation also is performed at
25 the location in which the videophone is placed.

In this way, traditionally, when there is an

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incoming phone call during watching a TV broadcast program by TV receiver, the user must move from a place at which he or she was there until then and perform manual operations for startup and completion of the phone call.

5 These operations are time-consuming and troublesome works to the user.

To provide a solution to the above-stated problem, this technology provides a new and improved TV receiver with TV function(referred to as videophone
10 function-added TV receiver hereafter) set having videophone call handling functionality, which performs both the reception of a digital broadcast program signal and the transmission and reception of a videophone signal between itself and another videophone function-added TV
15 receiver at the other end of a communication line, wherein the videophone function-added TV receiver is characterized by having a decoder which decodes a received digital broadcast program signal and videophone signal, a display panel to which is supplied a video signal that is decoded
20 by the decoder and which visually displays it on a screen, a loudspeaker module to which is supplied an audio/voice signal which is decoded by the decoder, a camera, a microphone, and an encoder which encodes output signals of the camera and microphone.

25 Another feature of the videophone function-added TV receiver lies in that it further includes an encoder

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