Claims

1. An embedded system for video processing with hardware for realizing the following functions in a betting agency comprising:

a) a server function, wherein for realizing the server function the following functions are realised:

a1) receiving of at least one data stream pertaining to betting, the at least one data stream having information content selected from ~~the~~ group consisting of: dynamic live betting odds, game statistics, and parallel TV live broadcasts of several sports events;

a2) compression of each of the at least one data stream yielding in each case a combined data stream;

a3) output of each of the combined data stream via a protocol based network;

b) a client function, wherein for realizing the client function the following functions are realized:

b1) receiving of at least one combined data stream from the protocol based network pertaining to the betting;

b2) decompression of the at least one combined data stream;

b3) output of the at least one combined data stream displayed in any order on one or several monitors;

c) wherein the hardware is adapted to compress and decompress a continuous combined data stream;

d) the hardware for realizing the server function and the client function are arranged on a joint circuit board;

e) hardware for accepting more than one combined data stream via the protocol based network;

f) hardware for decompression of more than one combined data stream;

hardware for scaling and/or rotating and/or merging and/or cross-fading of more than one decompressed image and audio data stream;

g) hardware for joint output of more than one decompressed image and audio data stream for simultaneous display on a monitor; and

h) hardware for separate output of one or more combined data streams on at least two monitors, which are arranged as a video wall;

wherein the compression and decompression of the continuous combined data stream is designed in such a way that they conduct an individual security with a hardware serial number and an individual activation code, and

comprise activation code monitoring means adapted to emit an activation code warning signal or an activation code approval signal, which conduct a monitoring and comparison of activation codes.

2. The embedded system according to claim 1 wherein the joint circuit board is designed as a PC plug-in card and is displayable in a PC operating system environment as a network card.

3. The embedded system according to claim 1 wherein the hardware adapted to compress and decompress the continuous combined data stream pertaining to the betting generates a continuous image- and audio-data stream with at least 60 frames per second and a resolution of at least 1920 x 1080 pixels without data jam.

4. The embedded system according to claim 1 wherein the compression of the data streams is carried out according to the H.264 or the H.265 standard.

5. The embedded system according to claim 1 wherein

the server function realizes a function for encrypting the combined data stream; and

the client function realizes a function for decrypting the at least one combined data stream.

6. The embedded system according to claim 1 wherein the hardware adapted to compress and decompress the continuous combined data stream is

adapted for converting an image data stream, which has been recorded by interlaced scanning, into progressive scanning.

7. The embedded system according to claim 1 further comprising:
a storage module with a BIOS;
a storage module with an operating system; and
means for receiving control signals via the protocol based network.

8. The embedded system according to claim 1 further comprising an output of control signals for remote control of connected devices

9. The embedded system according to claim 1 further comprising hardware for intermediate storage and repeated output of the at least one combined data stream; and
an interactive control of the embedded system by the observer of the at least one outputted data stream.

10. The embedded system according to claim 1 wherein the hardware adapted to compress and decompress the continuous combined data stream pertaining to the betting further comprises a Field Programmable Gate Array (FPGA), wherein the following functions are provided by the FPGA:
connection to the protocol based network;
firewall;
encryption of the combined data stream to be output, if the embedded system operates as a server; and
decryption of the at least one combined data stream, if the embedded system operates as a client.

11. The embedded system according to claim 10 wherein the configuration of the FPGA is individually encrypted.

12. The embedded system according to claim 1 wherein the hardware adapted to compress and decompress the continuous combined data stream pertaining to the betting further comprises digital signal processor (DSP), wherein the following functions are provided by means of the DSP:

compression of at least one of the image- and audio-data streams yielding in each case a combined data stream, if the embedded system operates as a server;

decompression of the at least one combined data stream, if the embedded system operates as a client; and

scaling and output of the decompressed image- and audio-data stream via an interface, if the embedded system operates as a client.

13. The embedded system according to claim 1 further comprising:

at least one network connection, and

at least one interface according to a video standard, and/or

at least one interface according to an audio standard, and/or

at least one interface to a data bus and/or

an infrared interface.

14. A video distribution system for receiving and distributing of at least one video data stream pertaining to betting, the at least one of data stream having information content selected from the group consisting of: dynamic live betting odds, game statistics, and parallel TV live broadcasts of several sports events from at least one video source comprising:

a protocol based network;

an embedded system for video processing with hardware for realising the following functions in a betting agency comprising:

a) a server function, wherein for realizing the server function the following functions are realized:

a1) receiving of at least one data stream pertaining to betting, the at least one of data stream having information content selected from the group consisting of: dynamic live betting odds, game statistics, and parallel TV live broadcasts of several sports events;

a2) compression of each of the at least one data stream yielding in each case a combined data stream;

a3) output of each of the combined data stream via a protocol based network;

b) a client function, wherein for realising the client function the following functions are realized:

b1) receiving of at least one combined data stream from the protocol based network pertaining to the betting;

b2) decompression of the at least one combined data stream;

b3) output of the at least one combined data stream displayed in any order on one or several monitors;

c) wherein the hardware is adapted to compress and decompress a continuous combined data stream;

d) the hardware for realising the server function and the client function are arranged on a joint circuit board;

e) hardware for accepting more than one combined data stream via the protocol based network;

f) hardware for decompression of more than one combined data stream;

hardware for scaling and/or rotating and/or merging and/or cross-fading of more than one decompressed image and audio data stream;

g) hardware for joint output of more than one decompressed image and audio data stream for simultaneous display on a monitor; and

h) hardware for separate output of one or more combined data streams on at least two monitors, which are arranged as a video wall;

wherein the compression and decompression of the continuous combined data stream is designed in such a way that they conduct an individual security with a hardware serial number and an individual activation code, and

comprise activation code monitoring means adapted to emit an activation code warning signal or an activation code approval signal, which conduct a monitoring and comparison of activation codes

wherein the embedded system receives and then compresses and outputs via the protocol based network at least one of the image data streams from the at least one video source; and

wherein the embedded system also receives from the protocol based network at least one compressed data stream, which is decompressed and outputted via an interface.

15. The video distribution system according to claim 14, wherein satellite television receivers, or cable television connections, or DVBT receivers, or PCs or media players are used as the at least one video source; and to the interface of the embedded system, which is operating as a client, by which the at least one decompressed data stream is outputted, monitors are connected.