CLAIMS

[Claim 1]

A picture transmission device comprising:

a transmission section configured to send image data of ROIs (Regions Of Interest) in an image data frame, wherein the image data frame comprises a header region(R1), a packet region (R2) and a footer region (R3),

wherein the image data of the ROIs are in Payload Data of at least one Long Packet, wherein the Payload data is in the packet region of the image data frame, and

wherein the transmission section is further configured to send additional information about the ROIs in Embedded Data in the header region or the footer region of the image data frame, wherein the Embedded Data comprise information for determining which respective ROI has a region of overlap (ROO) omitted, wherein the region of overlap is a region in which two or more of the ROIs overlap each other,

wherein the transmission section assigns a priority to each of the ROIs and based on the assigned priorities, determines from which of the ROIs in the image data frame the region of overlap is to be omitted.

[Claim 2]

The picture transmission device according to claim 1, wherein the transmission section sends the image data of the respective ROIs through virtual channels different from each other.

[Claim 3]

The picture transmission device according to claim 1, wherein the transmission section sends the image data of the respective ROIs through a mutually common virtual channel.

[Claim 4]

The picture transmission device according to claim 3, wherein the transmission section puts data types of the respective ROIs in a packet header of the Payload Data, and sends the data types of the respective ROIs.

[Claim 5]

The picture transmission device according to claim 3, wherein the transmission section puts at least one of number of the ROIs included in the image, a region number of each of the ROIs,

a data length of each of the ROIs, or an image format of each of the ROIs in the Payload Data, and sends the at least one of the number of the ROIs included in the image, the region number of each of the ROIs, the data length of each of the ROIs, or the image format of each of the ROIs.

[Claim 6]

The picture transmission device according to claim 3, wherein the transmission section puts at least one of number of the ROIs included in the image, a region number of each of the ROIs, a data length of each of the ROIs, or an image format of each of the ROIs in a Short Packet, and sends the at least one of the number of the ROIs included in the image, the region number of each of the ROIs, the data length of each of the ROIs, or the image format of each of the ROIs.

[Claim 7]

The picture transmission device according to claim 1, wherein the transmission section sends a signal in MIPI (Mobile Industry Processor Interface) CSI (Camera Serial Interface)-2 specification, MIPI CSI-3 specification, or MIPI DSI (Display Serial Interface) specification.

[Claim 8]

A picture transmission device comprising:

a detector that detects a region of overlap (ROO) on a basis of information about respective ROIs (Regions Of Interest) in an image, the region of overlap (ROO) in which two or more of the ROIs overlap each other; and

a transmission section configured to send a plurality of pieces of third image data in an image data frame, wherein the image data frame comprises a header region(R1), a packet region (R2) and a footer region (R3), wherein the plurality of pieces of third image data are in Payload Data of at least one Long Packet, wherein the Payload data is in the packet region of the image data frame and to send additional information about the respective ROIs in the image in Embedded Data in the header region or the footer region of the image data frame, the plurality of pieces of third image data being obtained by omitting second image data of the region of overlap from a plurality of pieces of first image data of the ROIs in the image to avoid the second image data from being included redundantly in the plurality of pieces of first image data,

wherein the Embedded Data comprise information for determining which respective ROI

in the image has a region of overlap (ROO) omitted, wherein the region of overlap is a region in which two or more of the ROIs overlap each other,

wherein the transmission section assigns a priority to each of the ROIs and based on the assigned priorities, determines from which of the plurality of pieces of first image data and the second image data the region of overlap is to be omitted.

[Claim 9]

The picture transmission device according to claim 8, wherein the transmission section sends the respective ROIs through virtual channels different from each other.

[Claim 10]

The picture transmission device according to claim 8, wherein the transmission section sends the respective ROIs through a mutually common virtual channel.

[Claim 11]

The picture transmission device according to claim 10, wherein the transmission section puts data types of the respective ROIs in a packet header of the Payload Data, and sends the data type of the respective ROIs.

[Claim 12]

The picture transmission device according to claim 10, wherein the transmission section puts at least one of number of the ROIs included in the image, a region number of each of the ROIs, a data length of each of the ROIs, or an image format of each of the ROIs in the Payload Data, and sends the at least one of the number of the ROIs included in the image, the region number of each of the ROIs, the data length of each of the ROIs, or the image format of each of the ROIs.

[Claim 13]

The picture transmission device according to claim 10, wherein the transmission section puts at least one of number of the ROIs included in the image, a region number of each of the ROIs, a data length of each of the ROIs, or an image format of each of the ROIs in a Data Field of a Short Packet, and sends the at least one of the number of the ROIs included in the image, the region number of each of the ROIs, the data length of each of the ROIs, or the image format of each of the ROIs.

[Claim 14]

The picture transmission device according to claim 8, wherein the transmission section sends a signal in MIPI (Mobile Industry Processor Interface) CSI (Camera Serial Interface)-2 specification, MIPI CSI-3 specification, or MIPI DSI (Display Serial Interface) specification.

~~[Claim 15]~~

~~The picture transmission device according to claim 8, wherein the transmission section assigns a priority to each of the ROIs and based on the assigned priorities, determines from which of the plurality of pieces of first image data the second image data of the region of overlap is to be omitted.~~

[Claim ~~16~~15]

A picture reception device comprising:

a reception section configured to receive a transmission signal including an image data frame comprising image data of ROIs (Regions Of Interest) in an image and additional information about the ROIs, wherein the image data frame comprises a header region(R1), a packet region (R2) and a footer region (R3),

the image data of the ROIs being included in Payload Data of at least one Long Packet, wherein the Payload data is in the packet region of the image data frame,

the additional information about the ROIs being included in Embedded Data in the header portion or the footer portion of the image data frame,

wherein the Embedded Data comprise information for determining which respective ROI has a region of overlap (ROO) omitted, wherein the region of overlap is a region in which two or more of the ROIs overlap each other; and

an information processor that extracts the additional information about the ROIs from the Embedded Data included in the transmission signal received by the reception section, and extracts the image data of the ROIs from the Payload Data included in the transmission signal received by the reception section on a basis of the extracted additional information,

wherein the additional information includes priority assigned to each of the ROIs in the image, the assigned priorities for determining which respective ROI has the region of overlap (ROO) omitted.

[Claim ~~17~~16]

The picture reception device according to claim ~~16~~15, wherein the information processor detects a region of overlap in which two or more of the ROIs overlap each other on a basis of the extracted additional information, and extracts image data of the respective ROIs from the Payload Data included in the transmission signal received by the reception section on a basis of the extracted additional information and information of the detected region of overlap.

[Claim ~~18~~17]

The picture reception device according to claim ~~16~~15, wherein the transmission section receives a signal in MIPI (Mobile Industry Processor Interface) CSI (Camera Serial Interface)-2 specification, MIPI CSI-3 specification, or MIPI DSI (Display Serial Interface) specification.